MITSUBISHI ELECTRIC

Mitsubishi Electric AC Servo System

MITSUBISHI ELECTRIC SERVO SYSTEM MELSERVO-J5

Transition from MELSERVO-J4 Series to J5 Series Handbook

SAFETY INSTRUCTIONS

Please read the instructions carefully before using the equipment.

To ensure correct usage of the equipment, make sure to read through this Replacement Manual, manual, the Instruction Manual, the Installation Guide, and the Appended Documents carefully before attempting to install, operate, maintain, or inspect the equipment. Do not use the equipment until you have a full knowledge of the equipment, safety information and instructions.

In this Replacement Manual, the safety instruction levels are classified into "WARNING" and "CAUTION".

⚠ **WARNING**	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
⚠ **CAUTION**	Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight injury.

Note that the CAUTION level may lead to a serious consequence depending on conditions.

Please follow the instructions of both levels because they are important to personnel safety.

Forbidden actions and required actions are indicated by the following diagrammatic symbols.

	Indicates a forbidden action. For example, "No Fire" is indicated by  .
	Indicates a required action. For example, grounding is indicated by  .

In this Replacement Manual, precautions for hazards that can lead to property damage, instructions for other functions, and other information are shown separately in the "POINT" area.

After reading this manual, keep it accessible to the operator.

[Installation/wiring]

⚠WARNING

- To prevent an electric shock, turn off the power and wait for 15 minutes or more before starting wiring and/or inspection.
- To prevent an electric shock, ground the servo amplifier.
- To prevent an electric shock, ground the rotary servo motor securely.
- To prevent an electric shock, do not attempt to wire the rotary servo motor until it has been mounted.
- To prevent an electric shock, mount the servo amplifier before wiring.
- To prevent an electric shock, any person who is involved in wiring should be fully competent to do the work.
- To prevent an electric shock, connect the protective earth (PE) terminal of the servo amplifier to the protective earth (PE) of the cabinet, then connect the grounding lead wire to the ground.
- To prevent an electric shock, do not touch the conductive parts.

[Installation/wiring]

⚠CAUTION

- To prevent injury, do not touch the rotor of the rotary servo motor during operation.
- To prevent injury, transport the products correctly according to their mass.
- To prevent injury when handling the rotary servo motor, do not touch sharp edges such as the sharp edges of the rotary servo motor and the shaft keyway with bare hands.

[Setting/adjustment]

⚠WARNING

- To prevent an electric shock, do not operate the switches with wet hands.

[Operation]

⚠WARNING

- To prevent an electric shock, do not operate the switches with wet hands.

[Maintenance]

⚠WARNING

- To prevent an electric shock, any person who is involved in inspection should be fully competent to do the work.
- To prevent an electric shock, do not operate the switches with wet hands.

INTRODUCTION

Thank you for considering replacement of the existing system with the MELSERVO-J5 series. This manual describes review items for replacing a system used with the MR-J4 series with the MR-J5 series. For some machines, items not described in this manual must be reviewed. Please review those items after viewing the user's manual, Instruction Manual and the catalogs.

CABLES USED FOR WIRING

Wires mentioned in this manual are selected based on an ambient temperature of 40 °C.

GENERIC TERMS

Unless otherwise specified, this manual uses the following generic terms.

Term	Description
RD78G	Generic term for RD78G4/RD78G8/RD78G16
RnMTCPU	Generic term for R16MTCPU/R32MTCPU/R64MTCPU
Q17nDSCPU	Generic term for Q173DSCPU/Q172DSCPU
Q170MSCPU(-S1)	Generic term for Q170MSCPU/Q170MSCPU-S1
RD77MS	Generic term for RD77MS2/RD77MS4/RD77MS8/RD77MS16
QD77MS	Generic term for QD77MS2/QD77MS4/QD77MS16

U.S. CUSTOMARY UNITS

U.S. customary units are not shown in this manual. Convert the values if necessary according to the following table.

Quantity	SI (metric) unit	U.S. customary unit
Mass	1 [kg]	2.2046 [lb]
Length	1 [mm]	0.03937 [inch]
Torque	1 [N•m]	141.6 [oz•inch]
Moment of inertia	1 [(× 10^{-4} kg•m^2)]	5.4675 [oz•$inch^2$]
Load (thrust load/axial load)	1 [N]	0.2248 [lbf]
Temperature	N [°C] × 9/5 + 32	N [°F]

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PART 1 Outline of Replacement

Part 1 explains the basic flow of replacing the MELSERVO-J4 series with the MELSERVO-J5 series. After deciding the replacement policies, replace the products according to the flow of replacement.

1 REPLACEMENT POLICIES

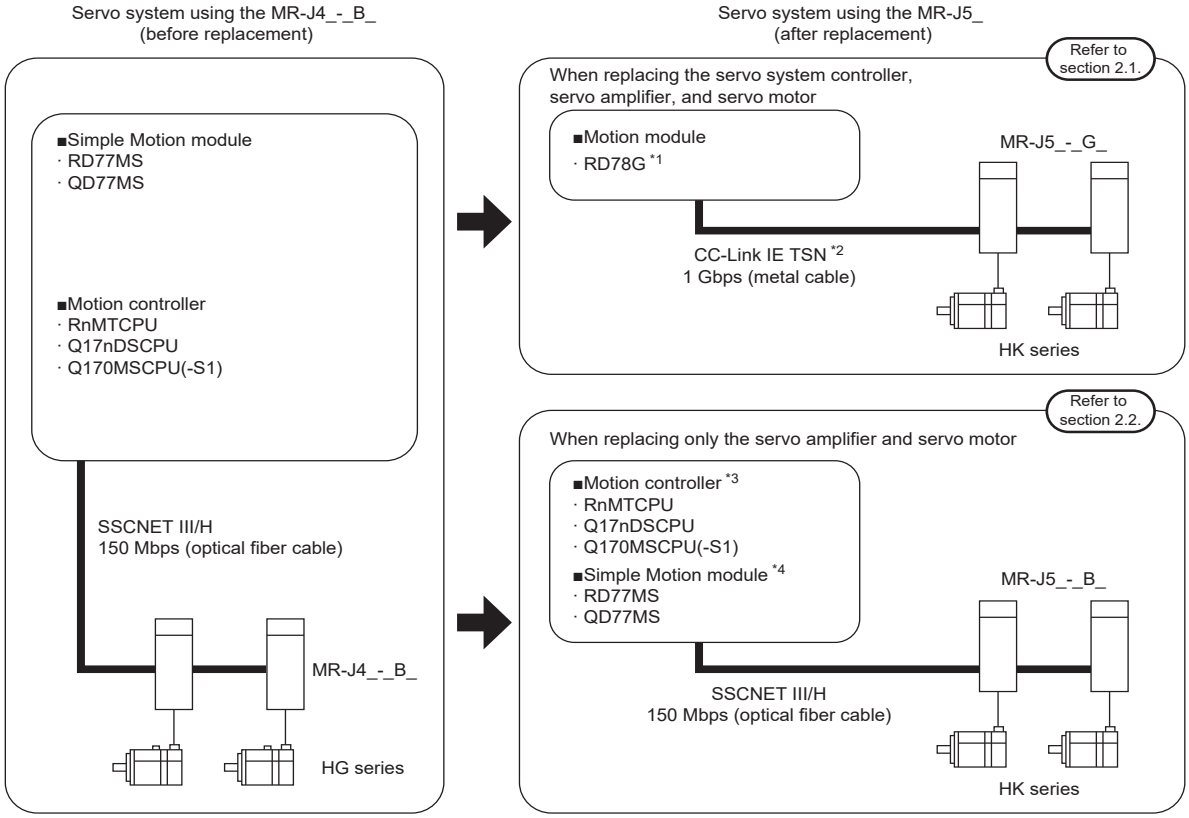
2 FLOW OF REPLACEMENT

3 RELATED MATERIALS

1 REPLACEMENT POLICIES

1.1 Replacement of an SSCNET III/H Servo System Using MR-J4_-_B_

An overview of the replacement of an SSCNET III/H servo system using the MR-J4_-_B_ is shown below. Review the replacement policies referring to the figure below.



*1 This manual is for replacement with a Motion module to be used in the Simple Motion mode. The Simple Motion mode is available for products with version 16 or later of the Motion system software. Replacement with a Motion module to be used in the PLCopen motion control FB mode is not applicable.

*2 For CC-Link IE TSN Class, CC-Link IE TSN Class B and CC-Link IE TSN Class A are available. This manual is for replacement with CC-Link IE TSN Class B.

*3 When connecting with the MR-J5_-_B_, the operation system of the Motion controller must be updated.

*4 When connecting with the MR-J5_-_B_, the Simple Motion module must be replaced.

Point

This manual is not applicable for replacement of FX5-SSC-S.

Replacement of each product

Servo amplifier

Point

This manual is for servo amplifiers with the following capacities.

- 200 V class: 0.1 kW to 7 kW
- 400 V class: 0.6 kW to 7 kW

This manual is not applicable for replacement of the following servo amplifiers.

- MR-J4-500B4-RJ
- MR-J4-700B4-RJ

The following models are to be replaced from the MR-J4 series to the MR-J5 series.

Series	Servo amplifier model	—	Series	Servo amplifier model
MR-J4 series	MR-J4-_B_	→	MR-J5 series	MR-J5-_G_ MR-J5-_B_
	MR-J4W_-_B			MR-J5W_-_G MR-J5W_-_B

Rotary servo motor

Replacement of the HG series with the HK series is as follows.

—		HG series	—	HK series
Small capacity	Low inertia	HG-KR_	→	HK-KT_
		HG-KR_ (with gear reducer)		HK-KT_ (with gear reducer)
	Ultra-low inertia	HG-MR_		HK-MT_
Medium capacity	Medium inertia	HG-SR_		HK-ST_
		HG-SR_ (with gear reducer)		HK-ST_ (with gear reducer)
	Low inertia	HG-JR_		HK-KT_
				HK-ST_
	Ultra-low inertia	HG-RR_		HK-RT_
	Flat type	HG-UR_		HK-ST_U

Refer to the following for details.

☞ Replacement of MR-J4-_A_ with MR-J5-_A_

Linear servo motor/direct drive motor

If linear servo motors and direct drive motors are used in the MR-J4 series, they can be used even after replacement with the MR-J5 series.

If using the linear servo motor or direct drive motor with the MR-J5 series, refer to the following manuals.

MR-J5 User's Manual (Hardware)

MR-J5 Partner's Encoder User's Manual

Servo system controller

Replacement of the servo system controller is as follows.

■When changing to CC-Link IE TSN

Servo system controller			Servo amplifier	—	Servo system controller			Servo amplifier
Command interface	**Category**	**Model**	**Model**		**Command interface**	**Category**	**Model**	**Model**
SSCNETIII/H	Simple Motion module	RD77MS	MR-J4-_B_ MR-J4W_-_B	→	CC-Link IE TSN	Motion module	RD78G *1 (Simple motion mode)	MR-J5-_G_ MR-J5W_-_G
		QD77MS						

*1 This manual is for replacement with a Motion module to be used in the Simple Motion mode. The Simple Motion mode is available for products with version 16 or later of the Motion system software. Replacement with a Motion module to be used in the PLCopen motion control FB mode is not applicable.

■When using SSCNETIII/H without replacing

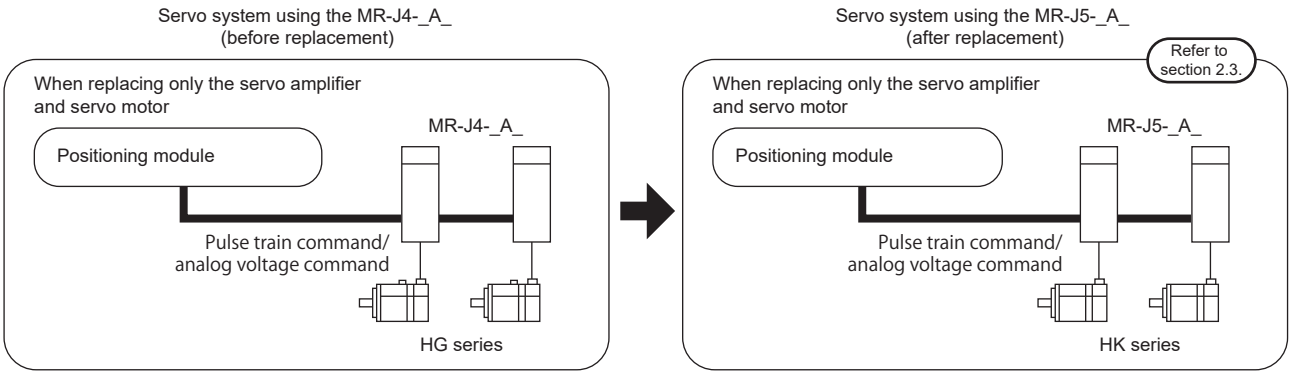
Servo system controller			Servo amplifier	—	Servo system controller			Servo amplifier
Command interface	**Category**	**Model**	**Model**		**Command interface**	**Category**	**Model**	**Model**
SSCNETIII/H	Motion controller	RnMTCPU	MR-J4-_B_ MR-J4W_-_B	→	SSCNETIII/H	Motion controller	RnMTCPU	MR-J5-_B_ MR-J5W_-_B
		Q17nDSCPU					Q17nDSCPU	
		Q170MSCPU(-S1)					Q170MSCPU(-S1)	
	Simple Motion module	RD77MS				Simple Motion module	RD77MS	
		QD77MS					QD77MS	

When connecting the MR-J5_-_B_, the operating system of the Motion controller needs to be updated.

When connecting the MR-J5_-_B_, the Simple Motion module needs to be replaced.

1.2 Replacement of a Servo System Using MR-J4-_A_

An overview of the replacement of a servo system using the MR-J4-_A_ is shown below. Review the replacement policies referring to the figure below.



Replacement of each product

Servo amplifier

Point

This manual is for servo amplifiers with the following capacities.

- 200 V class: 0.1 kW to 7 kW
- 400 V class: 0.6 kW to 7 kW

The following model is to be replaced from the MR-J4 series to the MR-J5 series.

Series	Servo amplifier model	—	Series	Servo amplifier model
MR-J4 series	MR-J4-_A_	→	MR-J5 series	MR-J5-_A_

Rotary servo motor

Replacement of the HG series with the HK series is as follows.

—		HG series	—	HK series
Small capacity	Low inertia	HG-KR_	→	HK-KT_
		HG-KR_ (with gear reducer)		HK-KT_ (with gear reducer)
	Ultra-low inertia	HG-MR_		HK-MT_
Medium capacity	Medium inertia	HG-SR_		HK-ST_
		HG-SR_ (with gear reducer)		HK-ST_ (with gear reducer)
	Low inertia	HG-JR_		HK-KT_
				HK-ST_
	Ultra-low inertia	HG-RR_		HK-RT_
	Flat type	HG-UR_		HK-ST_U

Refer to the following for details.

☞ Review on Replacement of Rotary Servo Motor

Linear servo motor/direct drive motor

If linear servo motors and direct drive motors are used in the MR-J4 series, they can be used even after replacement with the MR-J5 series.

If using the linear servo motor or direct drive motor with the MR-J5 series, refer to the following manuals.

MR-J5 User's Manual (Hardware)

MR-J5 Partner's Encoder User's Manual

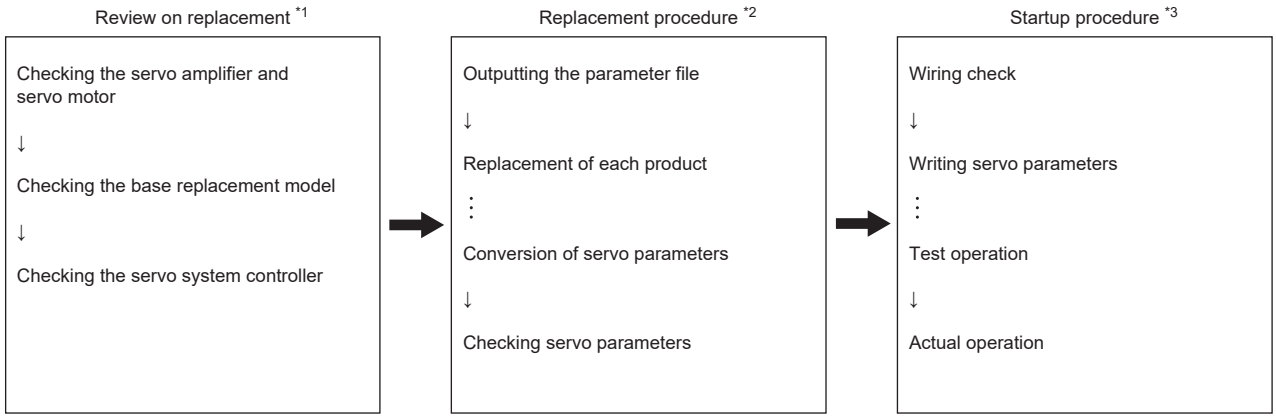
2 FLOW OF REPLACEMENT

This chapter describes the flow when replacing a system using the MR-J4 series with a system using the MR-J5 series.

2.1 Replacement of MR-J4_-_B_ with MR-J5_-_G_

Point

Confirm that the MR-J4-_B_/MR-J4W_-_B incorporated into the system before replacement is "J4 mode". This manual is not applicable for replacement of "J3 compatibility mode".



*1 Page 15 Review on replacement
*2 Page 23 Replacement procedure
*3 Page 244 Startup procedure

Review on replacement

The following shows the procedure for review on replacement.

Procedure	Reference
1. Checking the servo amplifier and servo motor	☞ Page 16 [Step 1] Checking the servo amplifier and servo motor
2. Checking the base replacement model	☞ Page 21 [Step 2] Checking the base replacement model
3. Checking the servo system controller	☞ Page 22 [Step 3] Checking the servo system controller

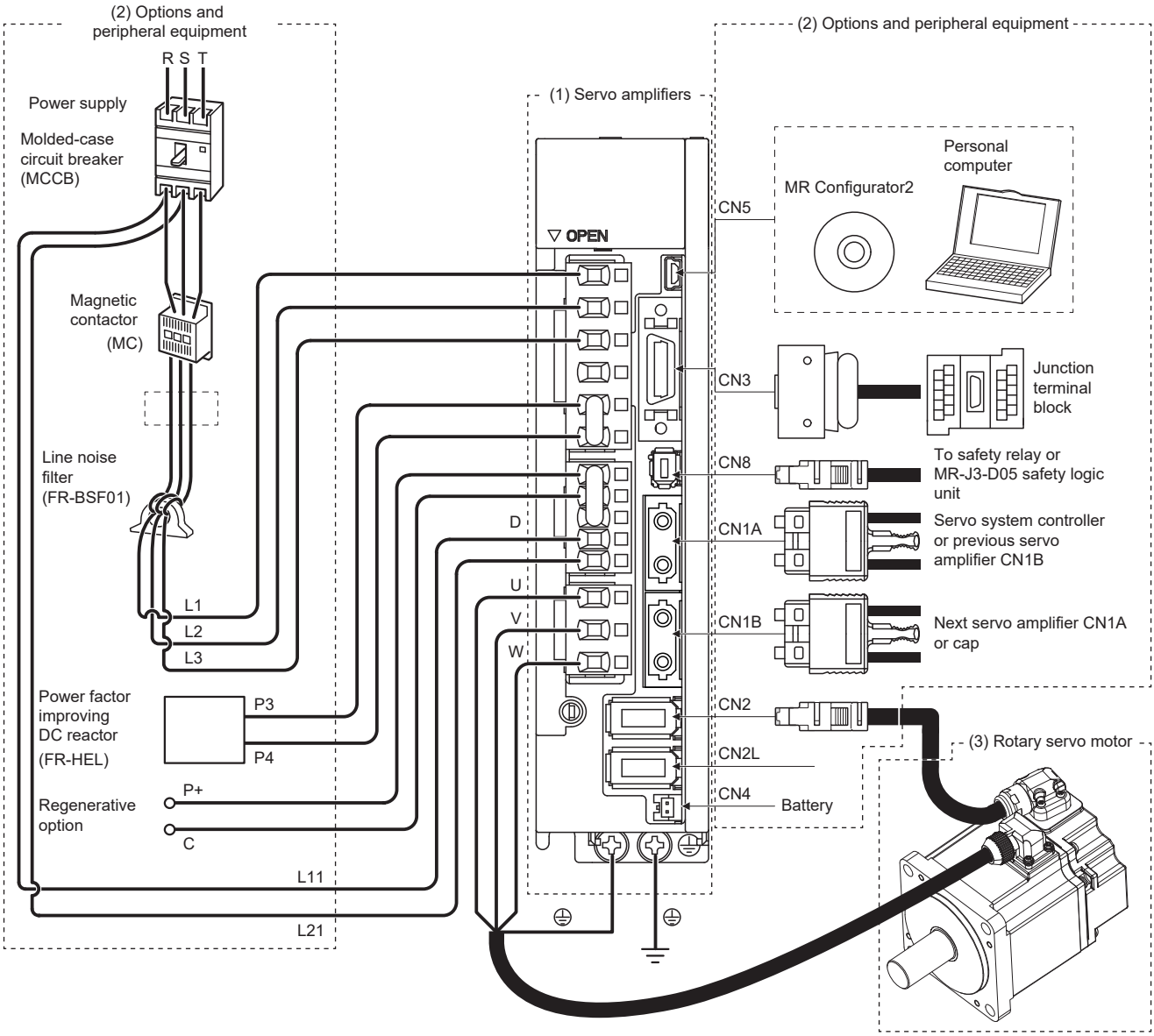
[Step 1] Checking the servo amplifier and servo motor

This section shows the items to be reviewed when replacing the MR-J4 series with the MR-J5 series.

No.	Review item
(1)	Servo amplifier
(2)	Options and peripheral equipment
(3)	Servo motor

Ex.

The following configuration diagram shows the parts to be reviewed when replacing a servo amplifier and servo motor.



■Replacement of a 1-axis servo amplifier

• Servo amplifier, options and peripheral equipment

The items to be reviewed when replacing the MR-J4-_B_ with the MR-J5-_G_ are as follows.

Review part	Review item	Differences	Reference document/items
			MR-J5-_G_
Servo amplifier	I/O connector	Connector locations are different.	☞ Page 59 List of Connectors
	Main circuit terminal block/control circuit terminal block	The terminal block was changed to connectors for the MR-J5-_G_. (200 V class: 5 kW, 7 kW, 400 V class: 5 kW, 7 kW)	☞ Page 59 List of Connectors
	Servo parameter	The servo parameters need to be changed. Servo parameters can be transferred using the parameter converter function of the engineering tool.	☞ Page 91 SERVO PARAMETER CONVERSION ☞ Page 124 SERVO PARAMETERS
	Dimensions	Some models have no dimensions and mounting compatibility.	☞ Page 68 Comparison of Servo Amplifier Dimensions and Mounting Dimensions
	Dynamic brake characteristics	The dynamic brake time constant and dynamic brake coasting distance differ.	📖MR-J5 User's Manual (Hardware)
	Overload protection characteristics	The "overload protection characteristics" may differ.	📖MR-J5 User's Manual (Hardware)
	Initializing time	The time it takes to reach servo-on from power-on is different.	☞ Page 88 Servo Amplifier Initializing Time
	Master-slave operation function	Because the responsiveness of servo amplifiers differs, review the gain settings and operation pattern as required.	📖MR-J5-G/MR-J5W-G User's Manual (Communication Function) 📖MR-J5 User's Manual (Adjustment)
	Load-side encoder Scale measurement encoder	A synchronous encoder (Q171ENC-W8) cannot be used as a load-side encoder or scale measurement encoder. Use the HK-KT/HK-MT series rotary servo motor as the load-side encoder and scale measurement encoder.	📖MR-J5 User's Manual (Hardware)
Options and peripheral equipment	Molded-case circuit breaker Fuse	Products for the MR-J4-_B_ can be used.	☞ Page 716 For 1-axis servo amplifiers
	Magnetic contactor	Use a product recommended for the MR-J5-_G_. Recommended products may differ between the MR-J4-_B_ and MR-J5-_G_.	☞ Page 716 For 1-axis servo amplifiers
	Regenerative option	Some regenerative options cannot be used with the MR-J5-_G_.	☞ Page 702 REGENERATIVE OPTIONS
	Absolute position encoder battery	To configure an absolute position detection system by using an HK series rotary servo motor or linear servo motor, the battery is not required. To configure an absolute position detection system by using a direct drive motor, the battery is required. Use the MR-BAT6V1SET, MR-BAT6V1SET-A, or MR-BT6VCASE.	📖MR-J5 User's Manual (Hardware)
	Encoder cable	Use a product recommended for the MR-J5-_G_.	☞ Page 705 CABLE OPTIONS
	Wire	An HIV wire is recommended for the MR-J5-_G_.	☞ Page 711 POWER SUPPLY WIRE SIZES
	EMC filter	Use a product recommended for the MR-J5-_G_.	☞ Page 726 MR-J5 Series EMC Filter (Recommended) (200 V/400 V Class)

• Rotary servo motor

The items to be reviewed when replacing the HG series with the HK series are as follows.

Review part	Review item	Differences	Reference document/items
Rotary servo motor	Mounting compatibility	Some models have no mounting compatibility.	☞ Page 634 Rotary Servo Motor Replacement Models and Compatibility
	Oil seal	The HG-JR/HG-RR/HG-UR series have an oil seal as standard, but the HK-KT/HK-RT series do not have an oil seal. When a product with an oil seal is required, specify "oil seal".	☞ Page 635 Replacement of the HG Series with the HK Series
	Dimensions	The total length may differ depending on the model.	☞ Page 644 Comparison of Servo Motor Mounting Dimensions ☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions ☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors
	Gear reducer	The actual reduction ratio is the same.	☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors ☞ Page 658 Comparison of Actual Reduction Ratios for Geared Servo Motors
	Moment of inertia	The moment of inertia may differ depending on the model. *1	☞ Page 659 Comparison of Moment of Inertia
	Load to motor inertia ratio	The range of the load to motor inertia ratio for the servo motor may differ depending on the model.	☞ Page 659 Comparison of Moment of Inertia
	Connector	The power connector, encoder connector, and electromagnetic brake connector may differ from one another in shape depending on the model.	☞ Page 669 Comparison of Servo Motor Connector Specifications
	Torque characteristics	The torque characteristics may differ depending on the model.	☞ Page 679 Comparison of Servo Motor Torque Characteristics
	Rated speed/maximum speed	The rated speed/maximum speed may differ depending on the model.	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Encoder resolution	The encoder resolution differs as follows. HG series: 22 bits HK series: 26 bits	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Keyed shaft	The keyed shaft may or may not have a key depending on the model.	☞ Page 635 Replacement of the HG Series with the HK Series

*1 This may change the motor inertia, making it necessary to adjust the servo gain.

■Replacement of a multi-axis servo amplifier

The items to be reviewed when replacing the MR-J4W_-_B with the MR-J5W_-_G are as follows.

- Servo amplifier, options and peripheral equipment

Review part	Review item	Differences	Reference document/items
			MR-J5W_-_G
Servo amplifier	I/O connector	Connector locations are different.	☞ Page 59 List of Connectors
	Servo parameter	The servo parameters need to be changed. Servo parameters can be transferred using the servo parameter converter function of the engineering tool.	☞ Page 91 SERVO PARAMETER CONVERSION ☞ Page 124 SERVO PARAMETERS
	Dimensions	Some models have no dimensions and mounting compatibility.	☞ Page 68 Comparison of Servo Amplifier Dimensions and Mounting Dimensions
	Dynamic brake characteristics	The dynamic brake time constant and dynamic brake coasting distance differ.	📖MR-J5 User's Manual (Hardware)
	Overload protection characteristics	The "overload protection characteristics" may differ.	📖MR-J5 User's Manual (Hardware)
	Initializing time	The time it takes to reach servo-on from power-on is different.	☞ Page 88 Servo Amplifier Initializing Time
	Load-side encoder Scale measurement encoder	A synchronous encoder (Q171ENC-W8) cannot be used as a load-side encoder or scale measurement encoder. Use the HK-KT/HK-MT series rotary servo motor as the load-side encoder and scale measurement encoder.	📖MR-J5 User's Manual (Hardware)
Options and peripheral equipment	Molded-case circuit breaker Fuse	Products for the MR-J4W_-_B can be used.	☞ Page 720 For multi-axis servo amplifiers
	Magnetic contactor	Use a product recommended for the MR-J5W_-_G_. Recommended products may differ between the MR-J4W_-_B and MR-J5W_-_G.	☞ Page 720 For multi-axis servo amplifiers
	Regenerative option	Some regenerative options cannot be used with the MR-J5W_-_G.	☞ Page 702 REGENERATIVE OPTIONS
	Absolute position encoder battery	To configure an absolute position detection system by using an HK series rotary servo motor or linear servo motor, the battery is not required. To configure an absolute position detection system by using a direct drive motor, the battery is required. Use the MR-BAT6V1SET, MR-BAT6V1SET-A, or MR-BT6VCASE.	📖MR-J5 User's Manual (Hardware)
	Encoder cable	Use a product recommended for the MR-J5W_-_G_.	☞ Page 705 CABLE OPTIONS
	Wire	An HIV wire is recommended for the MR-J5W_-_G.	☞ Page 711 POWER SUPPLY WIRE SIZES
	EMC filter	Use a product recommended for the MR-J5W_-_G_.	☞ Page 726 MR-J5 Series EMC Filter (Recommended) (200 V/400 V Class)

• Rotary servo motor

The items to be reviewed when replacing the HG series with the HK series are as follows.

Review part	Review item	Differences	Reference document/items
Rotary servo motor	Mounting compatibility	Some models have no mounting compatibility.	☞ Page 634 Rotary Servo Motor Replacement Models and Compatibility
	Oil seal	The HG-JR/HG-RR/HG-UR series have an oil seal as standard, but the HK-KT/HK-RT series do not have an oil seal. When a product with an oil seal is required, specify "oil seal".	☞ Page 635 Replacement of the HG Series with the HK Series
	Dimensions	The total length may differ depending on the model.	☞ Page 644 Comparison of Servo Motor Mounting Dimensions ☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions ☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors
	Gear reducer	The actual reduction ratio is the same.	☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors ☞ Page 658 Comparison of Actual Reduction Ratios for Geared Servo Motors
	Moment of inertia	The moment of inertia may differ depending on the model. *1	☞ Page 659 Comparison of Moment of Inertia
	Load to motor inertia ratio	The range of the load to motor inertia ratio for the servo motor may differ depending on the model.	☞ Page 659 Comparison of Moment of Inertia
	Connector	The power connector, encoder connector, and electromagnetic brake connector may differ from one another in shape depending on the model.	☞ Page 669 Comparison of Servo Motor Connector Specifications
	Torque characteristics	The torque characteristics may differ depending on the model.	☞ Page 679 Comparison of Servo Motor Torque Characteristics
	Rated speed/maximum speed	The rated speed/maximum speed may differ depending on the model.	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Encoder resolution	The encoder resolution differs as follows. HG series: 22 bits HK series: 26 bits	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Keyed shaft	The keyed shaft may or may not have a key depending on the model.	☞ Page 635 Replacement of the HG Series with the HK Series

*1 This may change the motor inertia, making it necessary to adjust the servo gain.

[Step 2] Checking the base replacement model

■1-axis servo amplifier replacement model

• 200 V class

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4-10B(-RJ)	MR-J5-10G(-RJ)	○	☞ Page 68 1-axis servo amplifier 200 V class (7 kW or less)
MR-J4-20B(-RJ)	MR-J5-20G(-RJ)	○	
MR-J4-40B(-RJ)	MR-J5-40G(-RJ)	○	
MR-J4-60B(-RJ)	MR-J5-60G(-RJ)	○	
MR-J4-70B(-RJ)	MR-J5-70G(-RJ)	○	
MR-J4-100B(-RJ)	MR-J5-100G(-RJ)	○	
MR-J4-200B(-RJ)	MR-J5-200G(-RJ)	△	
MR-J4-350B(-RJ)	MR-J5-350G(-RJ)	△	
MR-J4-500B(-RJ)	MR-J5-500G(-RJ)	△	
MR-J4-700B(-RJ)	MR-J5-700G(-RJ)	△	

• 400 V class

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4-60B4(-RJ)	MR-J5-60G4(-RJ)	○	☞ Page 76 1-axis servo amplifier 400 V class (7 kW or less)
MR-J4-100B4(-RJ)	MR-J5-100G4(-RJ)	○	
MR-J4-200B4(-RJ)	MR-J5-200G4(-RJ)	△	
MR-J4-350B4(-RJ)	MR-J5-350G4(-RJ)	×	
MR-J4-500B4[*1]	MR-J5-500G4	△	
MR-J4-700B4[*1]	MR-J5-700G4	×	

*1 This manual is not applicable for replacement of MR-J4-500B4-RJ and MR-J4-700B4-RJ.

■Multi-axis servo amplifier replacement model

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4W2-22B	MR-J5W2-22G	○	☞ Page 84 Multi-axis servo amplifier
MR-J4W2-44B	MR-J5W2-44G	○	
MR-J4W2-77B	MR-J5W2-77G	○	
MR-J4W2-1010B	MR-J5W2-1010G	○	
MR-J4W3-222B	MR-J5W3-222G	×	
MR-J4W3-444B	MR-J5W3-444G	×	

■Combinations of servo amplifiers and servo motors

For details on combinations of the MR-J5-_G_/MR-J5W_-_G servo amplifiers and servo motors, refer to "Combinations of servo amplifiers and servo motors" in the following manual.

📖MR-J5 User's Manual (Hardware)

[Step 3] Checking the servo system controller

Check the differences in the servo system controller.

Before replacement			After replacement			Reference
Category	**Controller model**	**Servo amplifier model**	**Category**	**Controller model**	**Servo amplifier model**	
Simple Motion module	RD77MS	MR-J4-_B_ MR-J4W_-_B	Motion module	RD78G *1	MR-J5-_G_ MR-J5W_-_G	Refer to "DIFFERENCES BETWEEN RD77MS AND RD78G" in the following technical news. Migration Guide from RD77MS Simple Motion Module to RD78G Motion Module (Simple Motion Mode) (SSC-A-0005-A)
	QD77MS					Refer to "DIFFERENCES BETWEEN QD77MS AND RD78G" in the following technical news. Migration Guide from QD77MS Simple Motion Module to RD78G Motion Module (Simple Motion Mode) (SSC-A-0004-A)

*1 This manual is for replacement with a Motion module using the Simple Motion mode. The Simple Motion mode is available for products with version 16 or later of the Motion system software.

Replacement procedure

Projects and parameter files before replacement can be used.

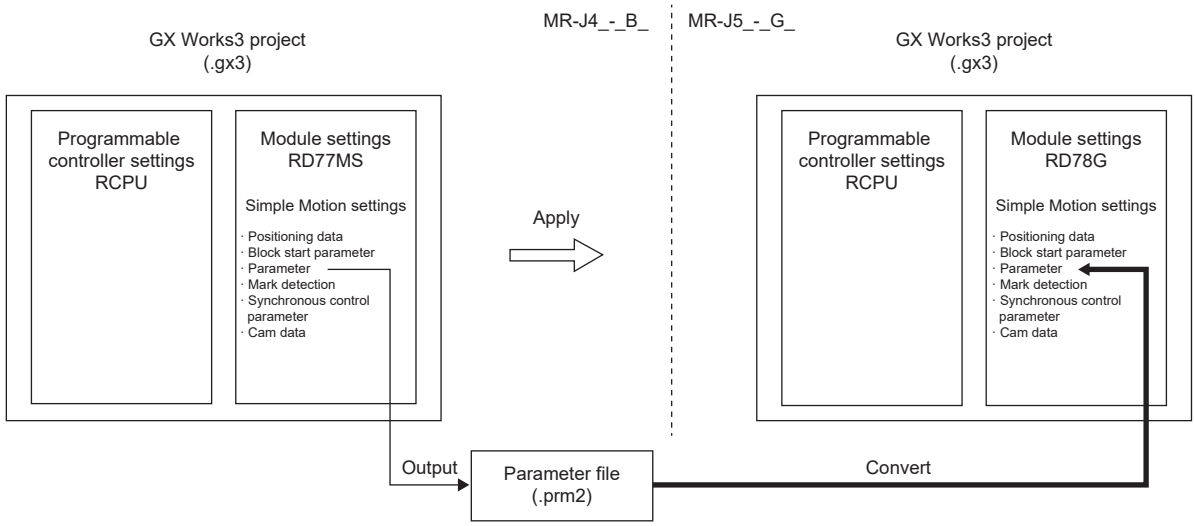
Note that the replacement procedure differs depending on the servo system controller used before replacement.

Engineering software

Target controller		Programmable controller engineering software	Servo engineering software
Motion module	RD78G	GX Works3 version 1.075D or later (Simple motion module setting function version 1.165X or later)	MR Configurator2 version 1.140W or later

Replacement of RD77MS with RD78G

The following shows the conversion flowchart.



The following shows the replacement procedure.

Point

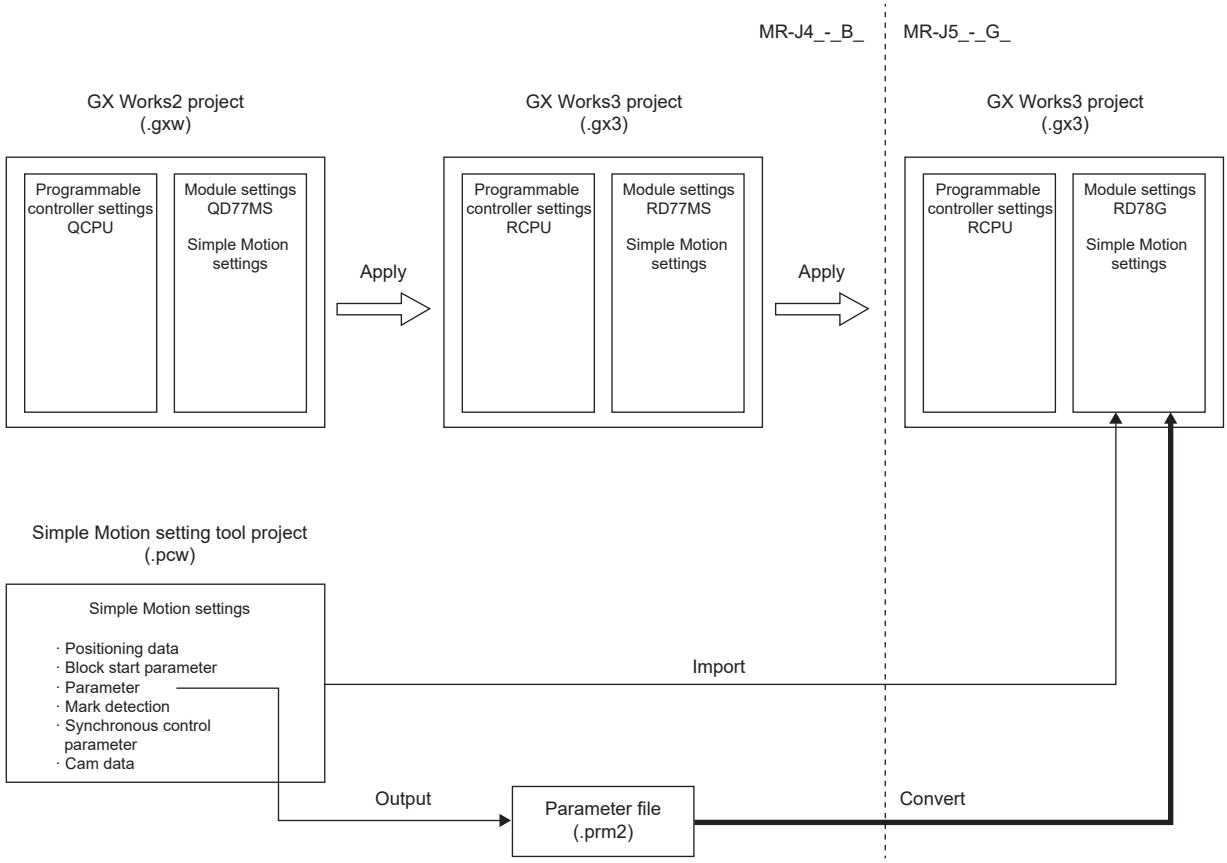
Some servo parameter setting values can be converted by using the servo parameter conversion described in this manual.

Procedure	Description	Reference
1. Outputting the parameter file	When using a parameter file before replacement with the parameter converter function, output the file for each axis in advance. Multiple axes can be output simultaneously.	Refer to the following when outputting multiple axes simultaneously. ☞ Page 25 Saving multiple axes simultaneously
2. Replacement of the servo system controller, servo amplifier, and servo motor	Replace each product in accordance with the review on replacement.	☞ Page 15 Replacement of MR-J4_-_B_ with MR-J5_-_G_
3. Use of a programmable controller project	Use a programmable controller project.	Refer to "PROJECT CREATION PROCEDURE" in the following technical news. Migration Guide from RD77MS Simple Motion Module to RD78G Motion Module (Simple Motion Mode) (SSC-A-0005-A)
4. Conversion of servo parameters	Convert the servo parameters of the MR-J4_-_B_ to the servo parameters of the MR-J5_-_G_ using the parameter converter function.	☞ Page 91 SERVO PARAMETER CONVERSION
5. Checking servo parameters	The MR-J4 series and MR-J5 series have different model specifications. Review the servo parameter settings as necessary.	☞ Page 125 Servo Parameters Required to be Set When Replacing

Procedure	Description	Reference
6. Startup	Run a test operation and make adjustments before performing any actual operations.	☞ Page 243 STARTUP

Replacement of QD77MS with RD78G

The following shows the conversion flowchart.



The following shows the replacement procedure.

Point

Some servo parameter setting values can be converted by using the servo parameter conversion described in this manual.

Procedure	Description	Reference
1. Outputting the parameter file	To use the parameter file before replacement with the parameter converter function, output the parameter file of each axis in advance. Multiple axes can be output simultaneously.	Refer to the following when outputting multiple axes simultaneously. ☞ Page 25 Saving multiple axes simultaneously
2. Replacement of the servo system controller, servo amplifier, and servo motor	Replace each product in accordance with the review on replacement.	☞ Page 15 Replacement of MR-J4_-_B_ with MR-J5_-_G_
3. Use of a programmable controller project	Use the programmable controller project and data in the format of the Simple Motion module setting tool.	Refer to "PROJECT CREATION PROCEDURE" in the following technical news. Migration Guide from QD77MS Simple Motion Module to RD78G Motion Module (Simple Motion Mode) (SSC-A-0004-A)
4. Conversion of servo parameters	Convert the servo parameters of the MR-J4_-_B_ to the servo parameters of the MR-J5_-_G_ using the parameter converter function.	☞ Page 91 SERVO PARAMETER CONVERSION

Procedure	Description	Reference
5. Checking servo parameters	Servo parameters of the MR-J5_-_G_ are not completely interchangeable. Review the settings as necessary.	☞ Page 125 Servo Parameters Required to be Set When Replacing
6. Startup	Run a test operation and make adjustments before performing any actual operations.	☞ Page 243 STARTUP

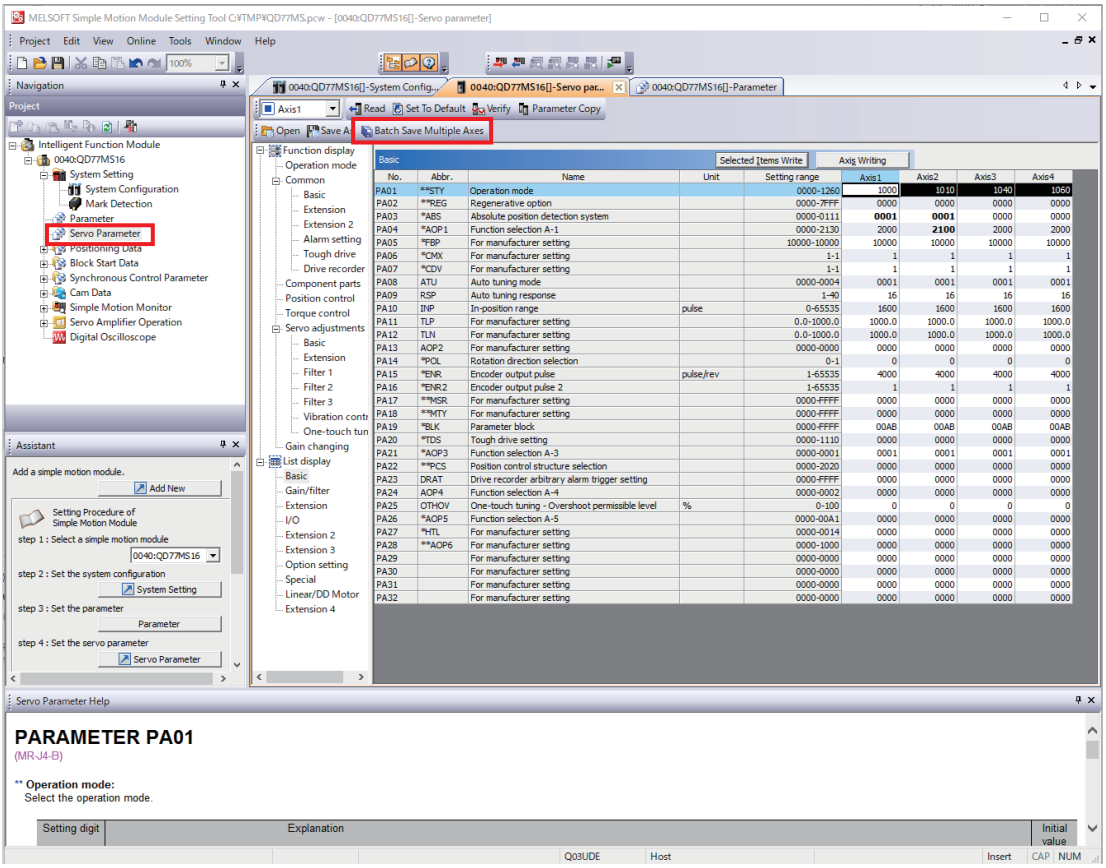
Saving multiple axes simultaneously

When outputting a parameter file before replacement using Simple Motion Module Setting Tool in GX Works2 or GX Works3 in advance, multiple axes can be saved simultaneously.

The following shows the operation procedure.

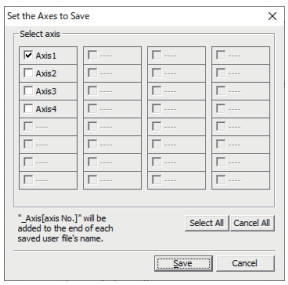
1. Open [Servo Parameter] in the project window.

Click [Batch Save Multiple Axes] in the servo parameter setting window.



2. Select the axis to be saved in the Set the Axes to Save window.

After selecting the axis, click [Save].

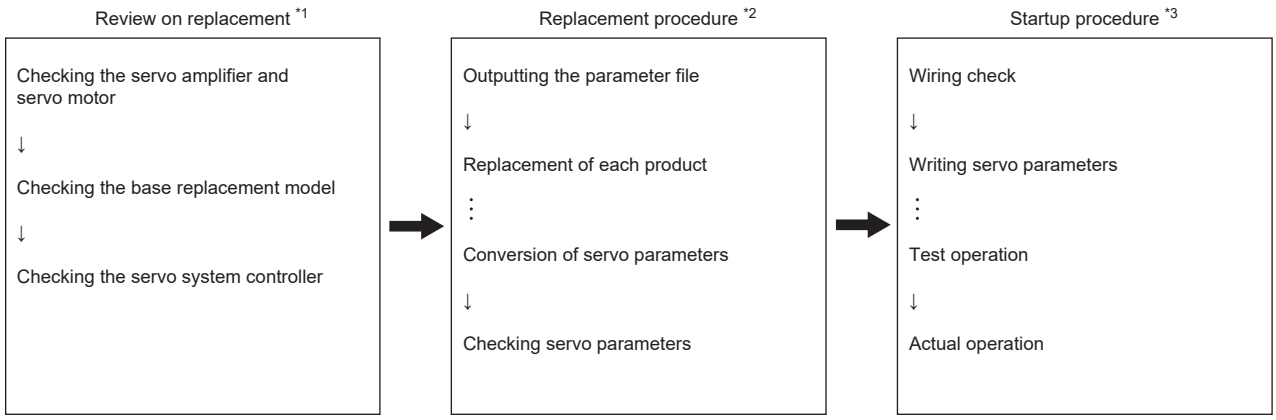


To save it with a new name, save the parameter file (.prm2) to which the axis number of the selected axis is automatically inserted at the end of the file name.

2.2 Replacement of MR-J4_-_B_ with MR-J5_-_B_

Point

Confirm that the MR-J4-_B_/MR-J4W_-_B incorporated into the system before replacement is "J4 mode". This manual is not applicable for replacement of "J3 compatibility mode".



*1 Page 26 Review on replacement
*2 Page 34 Replacement procedure
*3 Page 433 Startup procedure

Review on replacement

The following shows the procedure for review on replacement.

Procedure	Reference
1. Checking the servo amplifier and servo motor	☞ Page 27 [Step 1] Checking the servo amplifier and servo motor
2. Checking the base replacement model	☞ Page 32 [Step 2] Checking the base replacement model
3. Checking the servo system controller	☞ Page 33 [Step 3] Checking the servo system controller

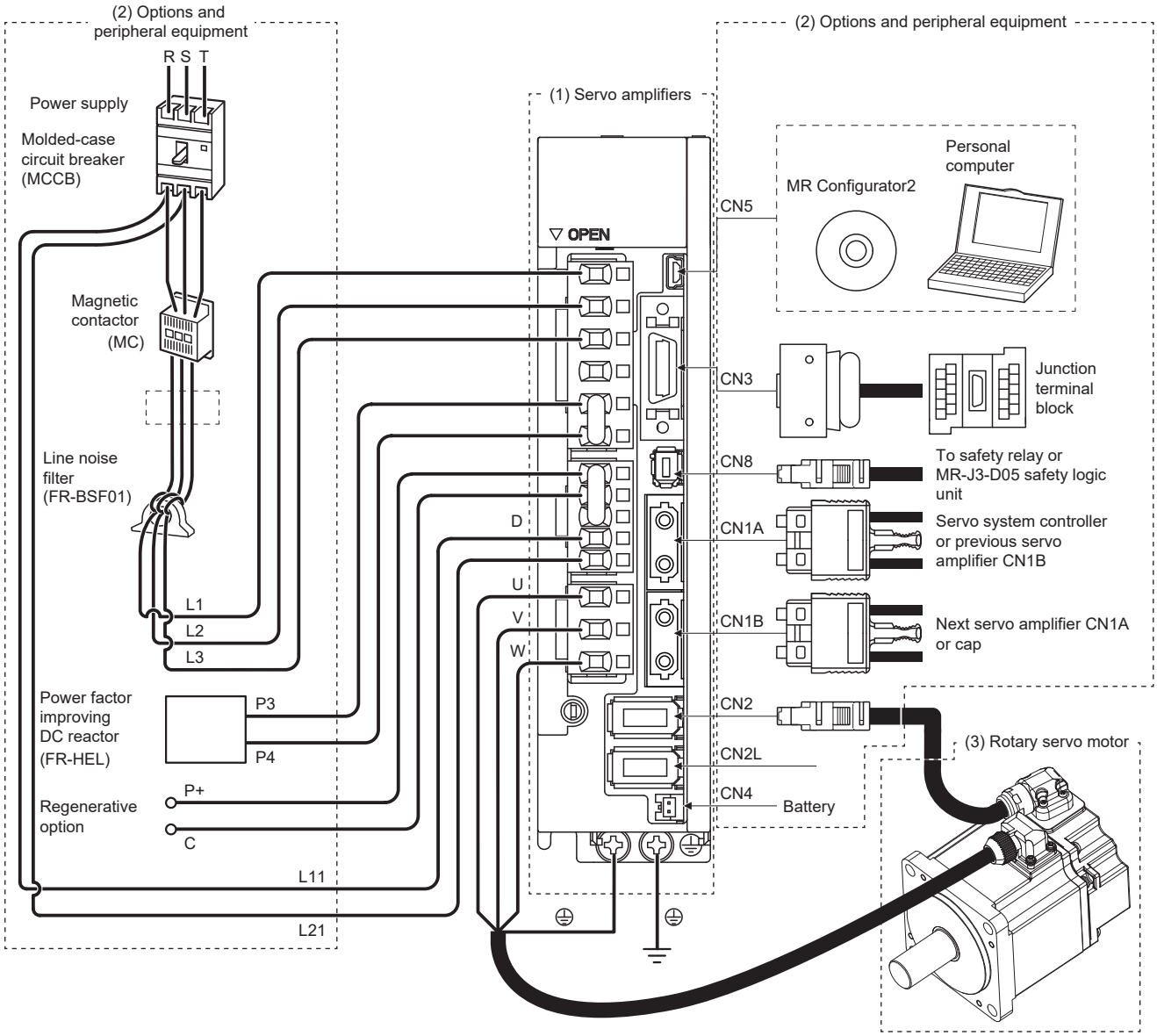
[Step 1] Checking the servo amplifier and servo motor

This section shows the items to be reviewed when replacing the MR-J4 series with the MR-J5 series.

No.	Review item
(1)	Servo amplifier
(2)	Options and peripheral equipment
(3)	Servo motor

Ex.

The following configuration diagram shows the parts to be reviewed when replacing a servo amplifier and servo motor.



■Replacement of a 1-axis servo amplifier

• Servo amplifier, options and peripheral equipment

The items to be reviewed when replacing the MR-J4-_B_ with the MR-J5-_B_ are as follows.

Review part	Review item	Differences	Reference document/items
			MR-J5-_B_
Servo amplifier	I/O connector	Connector locations are different.	☞ Page 257 List of Connectors
	Main circuit terminal block/control circuit terminal block	The terminal block was changed to connectors for the MR-J5-_B_. (200 V class: 5 kW, 7 kW, 400 V class: 5 kW, 7 kW)	☞ Page 257 List of Connectors
	Servo parameter	The servo parameters need to be changed. Servo parameters can be transferred using the parameter converter function of the engineering tool.	☞ Page 289 SERVO PARAMETER CONVERSION ☞ Page 320 SERVO PARAMETERS
	Dimensions	Some models have no dimensions and mounting compatibility.	☞ Page 266 Comparison of Servo Amplifier Dimensions and Mounting Dimensions
	Dynamic brake characteristics	The dynamic brake time constant and dynamic brake coasting distance differ.	🕮MR-J5 User's Manual (Hardware)
	Overload protection characteristics	The "overload protection characteristics" may differ.	🕮MR-J5 User's Manual (Hardware)
	Initializing time	The time it takes to reach servo-on from power-on is different.	☞ Page 286 Servo Amplifier Initializing Time
	Master-slave operation function	Because the responsiveness of servo amplifiers differs, review the gain settings and operation pattern as required.	🕮MR-J5 User's Manual (Function) 🕮MR-J5 User's Manual (Adjustment)
	Load-side encoder Scale measurement encoder	A synchronous encoder (Q171ENC-W8) cannot be used as a load-side encoder or scale measurement encoder. Use the HK-KT/HK-MT series rotary servo motor as the load-side encoder and scale measurement encoder.	☞ Page 247 Review items when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B
Options and peripheral equipment	Molded-case circuit breaker Fuse	Products for the MR-J4-_B_ can be used.	☞ Page 720 For multi-axis servo amplifiers
	Magnetic contactor	Use a product recommended for the MR-J5-_B_. Recommended products may differ between the MR-J4-_B_ and MR-J5-_B_.	☞ Page 720 For multi-axis servo amplifiers
	Regenerative option	Some regenerative options cannot be used with the MR-J5-_B_.	☞ Page 702 REGENERATIVE OPTIONS
	Absolute position encoder battery	To configure an absolute position detection system by using an HK series rotary servo motor or linear servo motor, the battery is not required. To configure an absolute position detection system by using a direct drive motor, the battery is required. Use the MR-BAT6V1SET, MR-BAT6V1SET-A, or MR-BT6VCASE.	🕮MR-J5 User's Manual (Hardware)
	Encoder cable	Use a product recommended for the MR-J5-_B_.	☞ Page 705 CABLE OPTIONS
	Wire	An HIV wire is recommended for the MR-J5-_B_.	☞ Page 711 POWER SUPPLY WIRE SIZES
	EMC filter	Use a product recommended for the MR-J5-_B_.	☞ Page 726 MR-J5 Series EMC Filter (Recommended) (200 V/400 V Class)

• Rotary servo motor

The items to be reviewed when replacing the HG series with the HK series are as follows.

Review part	Review item	Differences	Reference document/items
Rotary servo motor	Mounting compatibility	Some models have no mounting compatibility.	☞ Page 634 Rotary Servo Motor Replacement Models and Compatibility
	Oil seal	The HG-JR/HG-RR/HG-UR series have an oil seal as standard, but the HK-KT/HK-RT series do not have an oil seal. When a product with an oil seal is required, specify "oil seal".	☞ Page 635 Replacement of the HG Series with the HK Series
	Dimensions	The total length may differ depending on the model.	☞ Page 644 Comparison of Servo Motor Mounting Dimensions ☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions ☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors
	Gear reducer	The actual reduction ratio is the same.	☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors ☞ Page 658 Comparison of Actual Reduction Ratios for Geared Servo Motors
	Moment of inertia	The moment of inertia may differ depending on the model. *1	☞ Page 659 Comparison of Moment of Inertia
	Load to motor inertia ratio	The range of the load to motor inertia ratio for the servo motor may differ depending on the model.	☞ Page 659 Comparison of Moment of Inertia
	Connector	The power connector, encoder connector, and electromagnetic brake connector may differ from one another in shape depending on the model.	☞ Page 669 Comparison of Servo Motor Connector Specifications
	Torque characteristics	The torque characteristics may differ depending on the model.	☞ Page 679 Comparison of Servo Motor Torque Characteristics
	Rated speed/maximum speed	The rated speed/maximum speed may differ depending on the model.	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Encoder resolution	The encoder resolution differs as follows. HG series: 22 bits HK series: 26 bits	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Keyed shaft	The keyed shaft may or may not have a key depending on the model.	☞ Page 635 Replacement of the HG Series with the HK Series

*1 This may change the motor inertia, making it necessary to adjust the servo gain.

■Replacement of a multi-axis servo amplifier

• Servo amplifier, options and peripheral equipment

Review part	Review item	Differences	Reference document/items
			MR-J5W_-_B
Servo amplifier	I/O connector	Connector locations are different.	☞ Page 257 List of Connectors
	Servo parameter	The servo parameters need to be changed. Servo parameters can be transferred using the servo parameter converter function of the engineering tool.	☞ Page 289 SERVO PARAMETER CONVERSION ☞ Page 320 SERVO PARAMETERS
	Dimensions	Some models have no dimensions and mounting compatibility.	☞ Page 286 Servo Amplifier Initializing Time
	Dynamic brake characteristics	The dynamic brake time constant and dynamic brake coasting distance differ.	📖MR-J5 User's Manual (Hardware)
	Overload protection characteristics	The "overload protection characteristics" may differ.	📖MR-J5 User's Manual (Hardware)
	Initializing time	The time it takes to reach servo-on from power-on is different.	☞ Page 286 Servo Amplifier Initializing Time
	Load-side encoder Scale measurement encoder	A synchronous encoder (Q171ENC-W8) cannot be used as a load-side encoder or scale measurement encoder. Use the HK-KT/HK-MT series rotary servo motor as the load-side encoder and scale measurement encoder.	☞ Page 247 Review items when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B
Options and peripheral equipment	Molded-case circuit breaker Fuse	Products for the MR-J4W_-_B can be used.	☞ Page 720 For multi-axis servo amplifiers
	Magnetic contactor	Use a product recommended for the MR-J5W_-_B. Recommended products may differ between the MR-J4W_-_B and MR-J5W_-_B.	☞ Page 720 For multi-axis servo amplifiers
	Regenerative option	Some regenerative options cannot be used with the MR-J5W_-_B.	☞ Page 702 REGENERATIVE OPTIONS
	Absolute position encoder battery	To configure an absolute position detection system by using an HK series rotary servo motor or linear servo motor, the battery is not required. To configure an absolute position detection system by using a direct drive motor, the battery is required. Use the MR-BAT6V1SET, MR-BAT6V1SET-A, or MR-BT6VCASE.	📖MR-J5 User's Manual (Hardware)
	Encoder cable	Use a product recommended for the MR-J5W_-_B.	☞ Page 705 CABLE OPTIONS
	Wire	An HIV wire is recommended for the MR-J5W_-_B.	☞ Page 711 POWER SUPPLY WIRE SIZES
	EMC filter	Use a product recommended for the MR-J5W_-_B.	☞ Page 726 MR-J5 Series EMC Filter (Recommended) (200 V/400 V Class)

• Rotary servo motor

The items to be reviewed when replacing the HG series with the HK series are as follows.

Review part	Review item	Differences	Reference document/items
Rotary servo motor	Mounting compatibility	Some models have no mounting compatibility.	☞ Page 634 Rotary Servo Motor Replacement Models and Compatibility
	Oil seal	The HG-JR/HG-RR/HG-UR series have an oil seal as standard, but the HK-KT/HK-RT series do not have an oil seal. When a product with an oil seal is required, specify "oil seal".	☞ Page 635 Replacement of the HG Series with the HK Series
	Dimensions	The total length may differ depending on the model.	☞ Page 644 Comparison of Servo Motor Mounting Dimensions ☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions ☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors
	Gear reducer	The actual reduction ratio is the same.	☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors ☞ Page 658 Comparison of Actual Reduction Ratios for Geared Servo Motors
	Moment of inertia	The moment of inertia may differ depending on the model. *1	☞ Page 659 Comparison of Moment of Inertia
	Load to motor inertia ratio	The range of the load to motor inertia ratio for the servo motor may differ depending on the model.	☞ Page 659 Comparison of Moment of Inertia
	Connector	The power connector, encoder connector, and electromagnetic brake connector may differ from one another in shape depending on the model.	☞ Page 669 Comparison of Servo Motor Connector Specifications
	Torque characteristics	The torque characteristics may differ depending on the model.	☞ Page 679 Comparison of Servo Motor Torque Characteristics
	Rated speed/maximum speed	The rated speed/maximum speed may differ depending on the model.	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Encoder resolution	The encoder resolution differs as follows. HG series: 22 bits HK series: 26 bits	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Keyed shaft	The keyed shaft may or may not have a key depending on the model.	☞ Page 635 Replacement of the HG Series with the HK Series

*1 This may change the motor inertia, making it necessary to adjust the servo gain.

[Step 2] Checking the base replacement model

■1-axis servo amplifier replacement model

• 200 V class

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4-10B(-RJ)	MR-J5-10B(-RJ)	○	☞ Page 266 1-axis servo amplifier 200 V class (7 kW or less)
MR-J4-20B(-RJ)	MR-J5-20B(-RJ)	○	
MR-J4-40B(-RJ)	MR-J5-40B(-RJ)	○	
MR-J4-60B(-RJ)	MR-J5-60B(-RJ)	○	
MR-J4-70B(-RJ)	MR-J5-70B(-RJ)	○	
MR-J4-100B(-RJ)	MR-J5-100B(-RJ)	○	
MR-J4-200B(-RJ)	MR-J5-200B(-RJ)	△	
MR-J4-350B(-RJ)	MR-J5-350B(-RJ)	△	
MR-J4-500B(-RJ)	MR-J5-500B(-RJ)	△	
MR-J4-700B(-RJ)	MR-J5-700B(-RJ)	△	

• 400 V class

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4-60B4(-RJ)	MR-J5-60B4(-RJ)	○	☞ Page 274 1-axis servo amplifier 400 V class (7 kW or less)
MR-J4-100B4(-RJ)	MR-J5-100B4(-RJ)	○	
MR-J4-200B4(-RJ)	MR-J5-200B4(-RJ)	△	
MR-J4-350B4(-RJ)	MR-J5-350B4(-RJ)	×	
MR-J4-500B4(-RJ)	MR-J5-500B4(-RJ)	△	
MR-J4-700B4(-RJ)	MR-J5-700B4(-RJ)	×	

■Multi-axis servo amplifier replacement model

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4W2-22B	MR-J5W2-22B	○	☞ Page 282 Multi-axis servo amplifier
MR-J4W2-44B	MR-J5W2-44B	○	
MR-J4W2-77B	MR-J5W2-77B	○	
MR-J4W2-1010B	MR-J5W2-1010B	○	
MR-J4W3-222B	MR-J5W3-222B	×	
MR-J4W3-444B	MR-J5W3-444B	×	

■Combinations of servo amplifiers and servo motors

For details on combinations of the MR-J5-_B_/MR-J5W_-_B servo amplifiers and servo motors, refer to the following manual.

📖MR-J5 User's Manual (Hardware)

[Step 3] Checking the servo system controller

■When using a Motion controller

Confirm that the software version is the same as the one shown in the following table. If the current state is different from the description in Check items, the Motion controller operation system must be updated.

Compatible controller		
Name	**Model**	**Check items** *1
Motion controller	RnMTCPU	Available for products with software version 24 or later.
	Q17nDSCPU	Available for products with software version 00Y or later.
	Q170MSCPU(-S1)	Available for products with software version 0AA or later.

*1 For how to check the software version, refer to the manual for the controller being used.

■When using a Simple Motion module

Confirm that the software version or serial number is the same as the one shown in the following table. If the current state is different from the description in Check items, the Simple Motion module must be replaced.

Compatible controller		
Name	**Model**	**Check items** *1
Simple Motion module	RD77MS	Available for products with software version 13 or later.
	QD77MS	Available for products whose first five digits of the serial number is 23092 or later.

*1 For how to check the software version and serial number, refer to the manual for the controller being used.

Replacement procedure

Note that the replacement procedure differs depending on the servo system controller used before replacement.

Engineering software

Target controller		Motion controller engineering software Programmable controller engineering software	Servo engineering software
Motion controller	RnMTCPU	MT Developer2 version 1.175H or later	MR Configurator2 version 1.134Q or later
	Q17nDSCPU	MT Developer2 version 1.170C or later	MR Configurator2 version 1.130L or later
	Q170MSCPU(-S1)	MT Developer2 version 1.187V or later	MR Configurator2 version 1.145B or later
Simple Motion module	RD77MS	GX Works3 version 1.085P or later	MR Configurator2 version 1.134Q or later
	QD77MS	GX Works2 version 1.610L or later	MR Configurator2 version 1.130L or later

For a Motion controller

The following shows the replacement procedure.

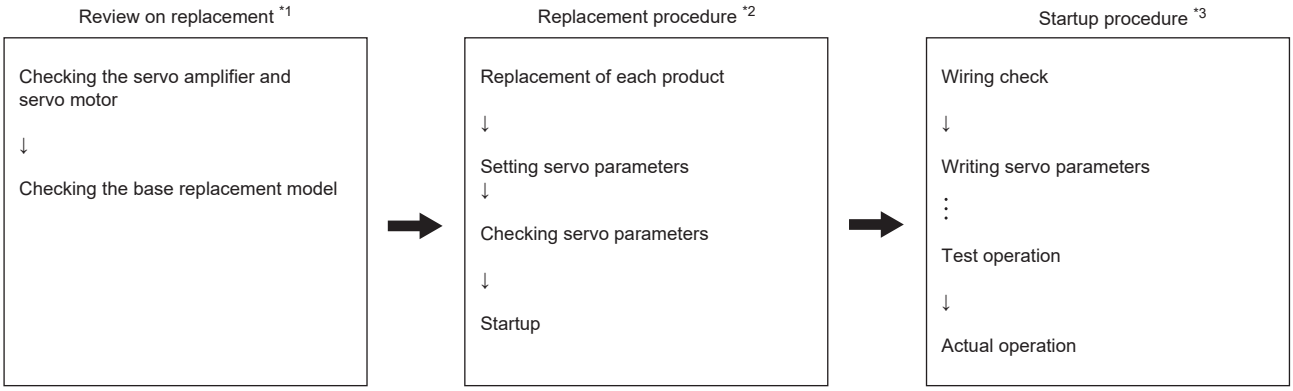
Procedure	Description	Reference
1. Updating the Motion controller	• RnMTCPU Confirm that the software version of the Motion controller operation system is 24 or later. If the software version is earlier than 24, update the operation system.	Refer to "Installing the Operating System Software" in the following manual. MELSEC iQ-R Motion Controller Programming Manual (Common)
	• Q17nDSCPU Confirm that the software version of the Motion controller operation system is 00Y or later. If the software version is earlier than 00Y, update the operation system.	Refer to "Operating System Software Installation Procedure" in the following manual. Q173D(S)CPU/Q172D(S)CPU Motion Controller User's Manual
	• Q170MSCPU(-S1) Confirm that the software version of the Motion controller operation system is 0AA or later. If the software version is earlier than 0AA, update the operation system.	Refer to "Operating System Software Installation Procedure" in the following manual. Q170MSCPU Motion Controller User's Manual
2. Replacement of the servo amplifier and servo motor	Replace each product in accordance with the review on replacement.	☞ Page 26 Replacement of MR-J4_-_B_ with MR-J5_-_B_
3. Conversion of servo parameters	Convert the servo parameters of the MR-J4_-_B_ to the servo parameters of the MR-J5_-_B_ using the parameter converter function.	☞ Page 290 When Converting from MT Developer2 Using the Parameter Converter Function
4. Checking servo parameters	The MR-J4 series and MR-J5 series have different model specifications. Review the servo parameter settings as necessary.	☞ Page 321 Servo Parameters Required to be Set When Replacing
5. Startup	Run a test operation and make adjustments before performing any actual operations.	☞ Page 432 STARTUP

For a Simple Motion module

The following shows the replacement procedure.

Procedure	Description	Reference
1. Replacement of the Simple Motion module	• RD77MS Confirm that the software version of the Simple Motion module is 13 or later. If the software version is earlier than 13, replace the module.	—
	• QD77MS Confirm that the first five digits of the serial number of the Simple Motion module is 23092 or later. If the serial number is earlier than 23092, replace the module.	—
2. Replacement of the servo amplifier and servo motor	Replace each product in accordance with the review on replacement.	☞ Page 26 Replacement of MR-J4_-_B_ with MR-J5_-_B_
3. Conversion of servo parameters	Convert the servo parameters of the MR-J4_-_B_ to the servo parameters of the MR-J5_-_B_ using the parameter converter function.	☞ Page 293 When Converting From GX Works3 Using the Parameter Converter Function ☞ Page 297 When Converting From GX Works2 Using the Parameter Converter Function
4. Checking servo parameters	The MR-J4 series and MR-J5 series have different model specifications. Review the servo parameter settings as necessary.	☞ Page 321 Servo Parameters Required to be Set When Replacing
5. Startup	Run a test operation and make adjustments before performing any actual operations.	☞ Page 432 STARTUP

2.3 Replacement of MR-J4-_A_ with MR-J5-_A_



*1 Page 36 Review on replacement
*2 Page 41 Replacement procedure
*3 Page 631 Startup procedure

Review on replacement

The following shows the procedure for review on replacement.

Procedure	Reference
1. Checking the servo amplifier and servo motor	☞ Page 37 [Step 1] Checking the servo amplifier and servo motor
2. Checking the base replacement model	☞ Page 40 [Step 2] Checking the base replacement model

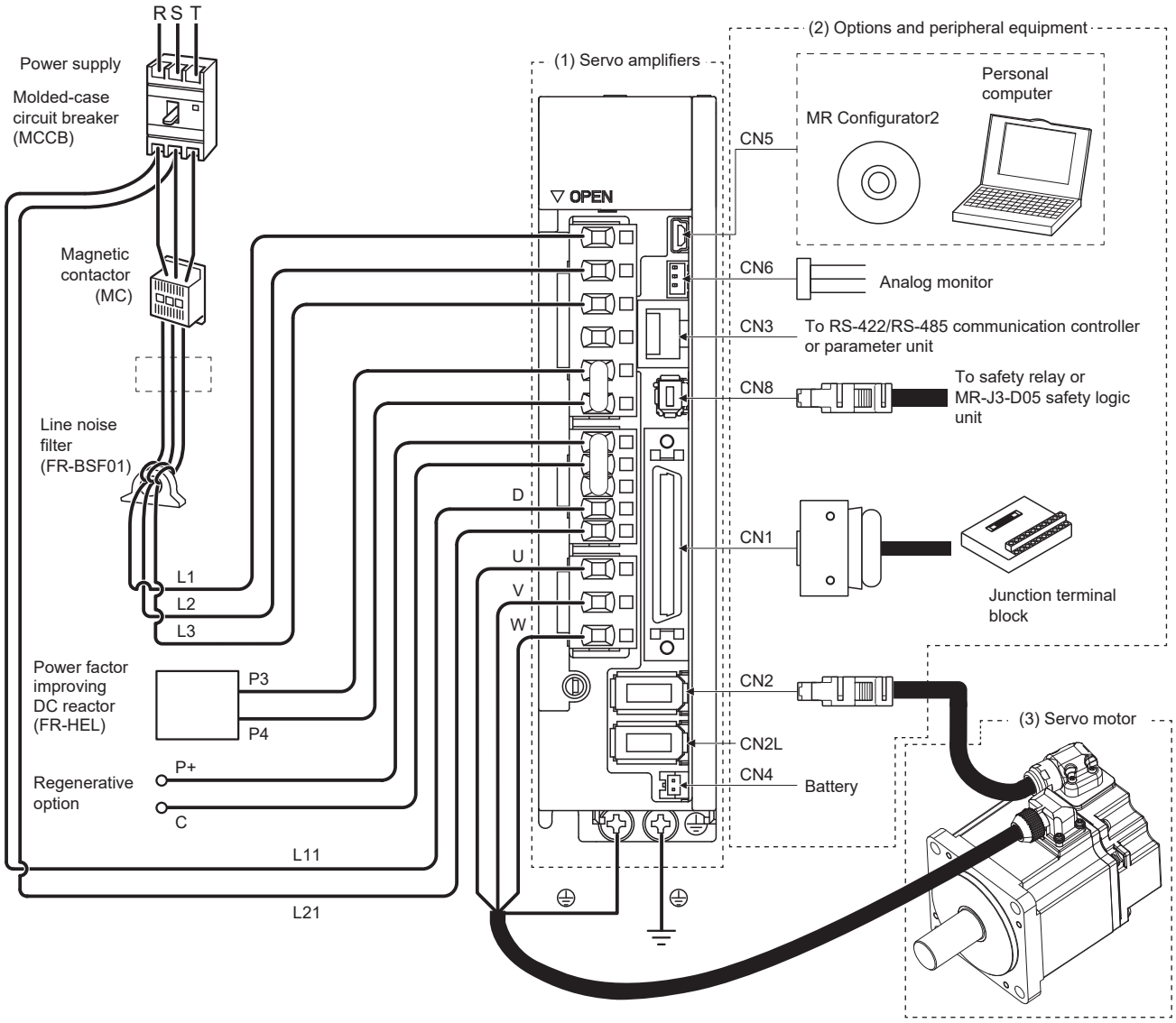
[Step 1] Checking the servo amplifier and servo motor

This section shows the items to be reviewed when replacing the MR-J4 series with the MR-J5 series.

No.	Review item
(1)	Servo amplifier
(2)	Options and peripheral equipment
(3)	Servo motor

Ex.

The following configuration diagram shows the parts to be reviewed when replacing a servo amplifier and servo motor.



■Replacement of a 1-axis servo amplifier

• Servo amplifier, options and peripheral equipment

The items to be reviewed when replacing the MR-J4-_A_ with the MR-J5-_A_ are as follows.

Review part	Review item	Differences	Reference document/items
			MR-J5-_A_
Servo amplifier	I/O connector	Connector locations are different.	☞ Page 59 List of Connectors
	Main circuit terminal block/control circuit terminal block	The terminal block was changed to connectors for the MR-J5-_A_. (200 V class: 5 kW, 7 kW, 400 V class: 5 kW, 7 kW)	☞ Page 59 List of Connectors
	Servo parameter	The servo parameters need to be changed.	☞ Page 124 SERVO PARAMETERS
	Dimensions	Some models have no dimensions and mounting compatibility.	☞ Page 68 Comparison of Servo Amplifier Dimensions and Mounting Dimensions
	Dynamic brake characteristics	The dynamic brake time constant and dynamic brake coasting distance differ.	🕮MR-J5 User's Manual (Hardware)
	Overload protection characteristics	The "overload protection characteristics" may differ.	🕮MR-J5 User's Manual (Hardware)
	Initializing time	The time it takes to reach servo-on from power-on is different.	☞ Page 473 Servo Amplifier Initializing Time
	RS-422 communication function	The connector was changed from the RJ45 connector to the miniature delta ribbon for the MR-J5-_A_.	🕮MR-J5 User's Manual (Hardware) 🕮MR-J5 User's Manual (Function)
Options and peripheral equipment	Molded-case circuit breaker Fuse	Products for the MR-J4-_A_ can be used.	☞ Page 720 For multi-axis servo amplifiers
	Magnetic contactor	Use a product recommended for the MR-J5-_A_. Recommended products may differ between the MR-J4-_A_ and MR-J5-_A_.	☞ Page 720 For multi-axis servo amplifiers
	Regenerative option	Some regenerative options cannot be used with the MR-J5-_A_.	☞ Page 702 REGENERATIVE OPTIONS
	Absolute position encoder battery	To configure an absolute position detection system by using an HK series rotary servo motor or linear servo motor, the battery is not required. To configure an absolute position detection system by using a direct drive motor, the battery is required. Use the MR-BAT6V1SET, MR-BAT6V1SET-A, or MR-BT6VCASE.	🕮MR-J5 User's Manual (Hardware)
	Encoder cable	Use a product recommended for the MR-J5-_A_.	☞ Page 705 CABLE OPTIONS
	Wire	An HIV wire is recommended for the MR-J5-_A_.	☞ Page 711 POWER SUPPLY WIRE SIZES
	EMC filter	Use a product recommended for the MR-J5-_A_.	☞ Page 726 MR-J5 Series EMC Filter (Recommended) (200 V/400 V Class)

• Rotary servo motor

The items to be reviewed when replacing the HG series with the HK series are as follows.

Review part	Review item	Differences	Reference document/items
Rotary servo motor	Mounting compatibility	Some models have no mounting compatibility.	☞ Page 634 Rotary Servo Motor Replacement Models and Compatibility
	Oil seal	The HG-JR/HG-RR/HG-UR series have an oil seal as standard, but the HK-KT/HK-RT series do not have an oil seal. When a product with an oil seal is required, specify "oil seal".	☞ Page 635 Replacement of the HG Series with the HK Series
	Dimensions	The total length may differ depending on the model.	☞ Page 644 Comparison of Servo Motor Mounting Dimensions ☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions ☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors
	Gear reducer	The actual reduction ratio is the same.	☞ Page 649 Comparison of Mounting Dimensions for Geared Servo Motors ☞ Page 658 Comparison of Actual Reduction Ratios for Geared Servo Motors
	Moment of inertia	The moment of inertia may differ depending on the model. *1	☞ Page 659 Comparison of Moment of Inertia
	Load to motor inertia ratio	The range of the load to motor inertia ratio for the servo motor may differ depending on the model.	☞ Page 659 Comparison of Moment of Inertia
	Connector	The power connector, encoder connector, and electromagnetic brake connector may differ from one another in shape depending on the model.	☞ Page 669 Comparison of Servo Motor Connector Specifications
	Torque characteristics	The torque characteristics may differ depending on the model.	☞ Page 679 Comparison of Servo Motor Torque Characteristics
	Rated speed/maximum speed	The rated speed/maximum speed may differ depending on the model.	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Encoder resolution	The encoder resolution differs as follows. HG series: 22 bits HK series: 26 bits	🕮Rotary Servo Motor User's Manual (For MR-J5)
	Keyed shaft	The keyed shaft may or may not have a key depending on the model.	☞ Page 635 Replacement of the HG Series with the HK Series

*1 This may change the motor inertia, making it necessary to adjust the servo gain.

[Step 2] Checking the base replacement model

■1-axis servo amplifier replacement model

• 200 V class

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4-10A(-RJ)	MR-J5-10A(-RJ)	○	☞ Page 68 1-axis servo amplifier 200 V class (7 kW or less)
MR-J4-20A(-RJ)	MR-J5-20A(-RJ)	○	
MR-J4-40A(-RJ)	MR-J5-40A(-RJ)	○	
MR-J4-60A(-RJ)	MR-J5-60A(-RJ)	○	
MR-J4-70A(-RJ)	MR-J5-70A(-RJ)	○	
MR-J4-100A(-RJ)	MR-J5-100A(-RJ)	○	
MR-J4-200A(-RJ)	MR-J5-200A(-RJ)	△	
MR-J4-350A(-RJ)	MR-J5-350A(-RJ)	△	
MR-J4-500A(-RJ)	MR-J5-500A(-RJ)	△	
MR-J4-700A(-RJ)	MR-J5-700A(-RJ)	△	

• 400 V class

○: Compatible ×: Incompatible △: Partially compatible

Model	Replacement model example	Mounting compatibility	Check items
MR-J4-60A4(-RJ)	MR-J5-60A4(-RJ)	○	☞ Page 76 1-axis servo amplifier 400 V class (7 kW or less)
MR-J4-100A4(-RJ)	MR-J5-100A4(-RJ)	○	
MR-J4-200A4(-RJ)	MR-J5-200A4(-RJ)	△	
MR-J4-350A4(-RJ)	MR-J5-350A4(-RJ)	×	
MR-J4-500A4(-RJ)	MR-J5-500A4(-RJ)	△	
MR-J4-700A4(-RJ)	MR-J5-700A4(-RJ)	×	

■Combinations of servo amplifiers and servo motors

For details on combinations of the MR-J5-_A_ servo amplifiers and servo motors, refer to "Combinations of servo amplifiers and servo motors" in the following manual.

📖MR-J5 User's Manual (Hardware)

Replacement procedure

Point

Manually set the servo parameters because the parameter converter function that converts the parameters of the MR-J4-_A_ into the ones of the MR-J5-_A_ is not supported.

The following shows the replacement procedure.

Procedure	Description	Reference
1. Replacement of the servo amplifier and servo motor	Replace each product in accordance with the review on replacement.	☞ Page 36 Replacement of MR-J4-_A_ with MR-J5-_A_
2. Setting servo parameters	Set the servo parameters in the MR-J5-_A_.	☞ 16 SERVO PARAMETERS
3. Checking servo parameters	The MR-J4 series and MR-J5 series have different model specifications. Review the servo parameter settings as necessary.	☞ Page 477 Servo Parameters Required to be Set When Replacing
4. Startup	Run a test operation and make adjustments before performing any actual operations.	☞ Page 630 STARTUP

3 RELATED MATERIALS

The following table shows the manuals required for replacement.

3.1 User's Manual

Servo amplifier

MR-J5_-_G_

Manual name	Manual No.
MR-J5-G/MR-J5W-G User's Manual (Introduction)	SH(NA)-030294ENG
MR-J5 User's Manual (Hardware)	SH(NA)-030298ENG
MR-J5 User's Manual (Function)	SH(NA)-030300ENG
MR-J5 User's Manual (Adjustment)	SH(NA)-030306ENG
MR-J5-G/MR-J5W-G User's Manual (Communication Function)	SH(NA)-030302ENG
MR-J5-G/MR-J5W-G User's Manual (Parameters)	SH(NA)-030308ENG
MR-J5 User's Manual (Troubleshooting)	SH(NA)-030312ENG
MR-J5 Partner's Encoder User's Manual	SH(NA)-030320ENG

MR-J5_-_B_

Manual name	Manual No.
MR-J5-B/MR-J5W-B User's Manual (Introduction)	IB(NA)-0300578ENG
MR-J5-B/MR-J5W-B User's Manual (Parameters)	IB(NA)-0300581ENG
MR-J5 User's Manual (Hardware)	SH(NA)-030298ENG
MR-J5 User's Manual (Function)	SH(NA)-030300ENG
MR-J5 User's Manual (Adjustment)	SH(NA)-030306ENG
MR-J5 User's Manual (Troubleshooting)	SH(NA)-030312ENG
MR-J5 Partner's Encoder User's Manual	SH(NA)-030320ENG

MR-J5-_A_

Manual name	Manual No.
MR-J5-A User's Manual (Introduction)	SH(NA)-030296ENG
MR-J5-A User's Manual (Parameters)	SH(NA)-030310ENG
MR-J5 User's Manual (Hardware)	SH(NA)-030298ENG
MR-J5 User's Manual (Function)	SH(NA)-030300ENG
MR-J5 User's Manual (Adjustment)	SH(NA)-030306ENG
MR-J5 User's Manual (Troubleshooting)	SH(NA)-030312ENG
MR-J5 Partner's Encoder User's Manual	SH(NA)-030320ENG

Servo motor

Manual name	Manual No.
Rotary Servo Motor User's Manual (For MR-J5)	SH(NA)-030314ENG
Linear Servo Motor User's Manual (LM-H3/LM-U2/LM-F/LM-K2 series)	SH(NA)-030316ENG
Direct Drive Motor User's Manual	SH(NA)-030318ENG

Servo system controller

CC-Link IE TSN

■RD78G

Manual name	Manual No.
MELSEC iQ-R Motion Module User's Manual (Startup)	IB(NA)-0300406ENG
MELSEC iQ-R Motion Module User's Manual (Network)	IB(NA)-0300426ENG
MELSEC iQ-R Motion Module User's Manual (Application for Simple Motion Mode)	IB(NA)-0300572ENG
MELSEC iQ-R Motion Module User's Manual (Advanced Synchronous Control for Simple Motion Mode)	IB(NA)-0300575ENG
MELSEC iQ-R Motion Module (Simple Motion Mode) Function Block Reference	BCN-B62005-1040ENG

SSCNETIII/H

■RnMTCPU

Manual name	Manual No.
MELSEC iQ-R Motion Controller User's Manual	IB(NA)-0300235ENG
MELSEC iQ-R Motion Controller Programming Manual (Common)	IB(NA)-0300237ENG
MELSEC iQ-R Motion Controller Programming Manual (Program Design)	IB(NA)-0300239ENG
MELSEC iQ-R Motion Controller Programming Manual (Positioning Control)	IB(NA)-0300241ENG
MELSEC iQ-R Motion Controller Programming Manual (Advanced Synchronous Control)	IB(NA)-0300243ENG

■Q17nDSCPU

Manual name	Manual No.
Q173D(S)CPU/Q172D(S)CPU Motion Controller User's Manual	IB(NA)-0300133ENG
Q173D(S)CPU/Q172D(S)CPU Motion Controller Programming Manual (Common)	IB(NA)-0300134ENG
Q173D(S)CPU/Q172D(S)CPU Motion Controller (SV13/SV22) Programming Manual (Motion SFC)	IB(NA)-0300135ENG
Q173D(S)CPU/Q172D(S)CPU Motion Controller (SV13/SV22) Programming Manual (REAL MODE)	IB(NA)-0300136ENG
Q173D(S)CPU/Q172D(S)CPU Motion Controller (SV22) Programming Manual (VIRTUAL MODE)	IB(NA)-0300137ENG
Q173DSCPU/Q172DSCPU Motion Controller (SV22) Programming Manual (Advanced Synchronous Control)	IB(NA)-0300198ENG

■Q170MSCPU(-S1)

Manual name	Manual No.
Q170MSCPU Motion Controller User's Manual	IB(NA)-0300212

■RD77MS

Manual name	Manual No.
MELSEC iQ-R Simple Motion Module User's Manual (Startup)	IB(NA)-0300245ENG
MELSEC iQ-R Simple Motion Module User's Manual (Application)	IB(NA)-0300247ENG
MELSEC iQ-R Simple Motion Module User's Manual (Advanced Synchronous Control)	IB(NA)-0300249ENG
MELSEC iQ-R Simple Motion Module Function Block Reference	BCN-B62005-691ENG

■QD77MS

Manual name	Manual No.
MELSEC-Q QD77MS Simple Motion Module User's Manual (Positioning Control)	IB(NA)-0300185ENG
MELSEC-Q/L QD77MS/QD77GF/LD77MS/LD77MH Simple Motion Module User's Manual (Synchronous Control)	IB(NA)-0300174ENG

3.2 Technical News

Title	Issuance No.
Migration Guide from QD77MS Simple Motion Module to RD78G Motion Module (Simple Motion Mode)	SSC-A-0004-A
Migration Guide from RD77MS Simple Motion Module to RD78G Motion Module (Simple Motion Mode)	SSC-A-0005-A

3.3 MITSUBISHI ELECTRIC FA Global Website

http://www.mitsubishielectric.com/fa/

PART 2 Replacement of MR-J4_-_B_ with MR-J5_-_G_

This section describes the changes to be made when a system using the MR-J4_-_B_ is replaced with a system using the MR-J5_-_G_. Confirm that the MR-J4_-_B_ incorporated into the system before replacement is an SSCNET III/H system in "J4 mode".

4 REPLACEMENT OF MR-J4-_B_ WITH MR-J5-_G_

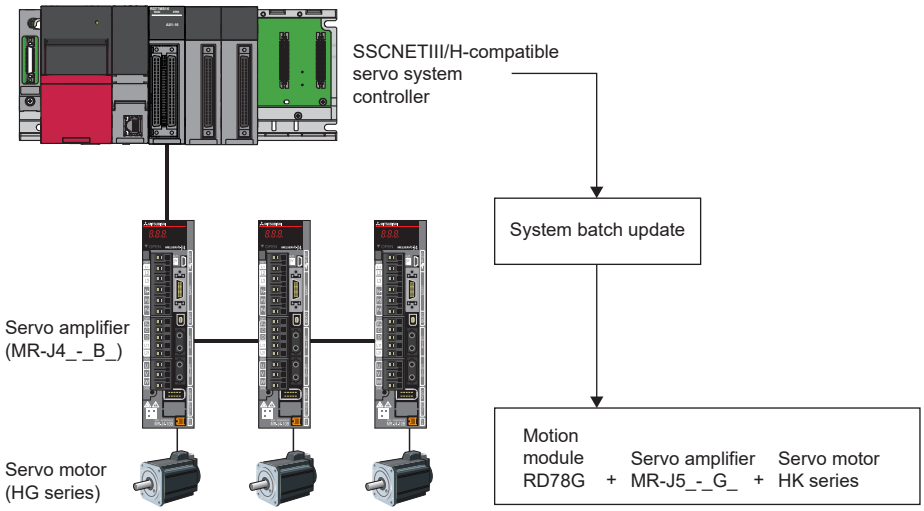
5 DIFFERENCES BETWEEN MR-J4_-_B_ AND MR-J5_-_G_

6 SERVO PARAMETER CONVERSION

7 SERVO PARAMETERS

8 STARTUP

4 REPLACEMENT OF MR-J4-_B_ WITH MR-J5-_G_



For controllers of the replacement destination, only a motion module RD78G (simple motion mode) is applicable.

MEMO

5 DIFFERENCES BETWEEN MR-J4_-_B_ AND MR-J5_-_G_

5.1 Function Comparison Table

Point

Changed descriptions are shown with "■".

This manual is for servo amplifiers with the following capacities.

- 200 V class: 0.1 kW to 7 kW
- 400 V class: 0.6 kW to 7 kW

1-axis servo amplifier (200 V class)

Item	MR-J4-_B_	MR-J5-_G_
Capacity range	0.1 to 7 kW	0.1 to 7 kW
Internal regenerative resistor	Built-in (0.2 to 7 kW)	Built-in (0.2 to 7 kW)
Dynamic brake	Built-in (0.1 to 7 kW)	Built-in (0.1 to 7 kW) ■The coasting distance may vary.*1
Main circuit power supply	At AC input: 0.1 kW to 2 kW 3-phase or 1-phase 200 to 240 VAC, 50 Hz/60 Hz *2 3.5 kW to 7 kW 3-phase 200 to 240 VAC, 50 Hz/60 Hz At DC input: 283 to 340 VDC	At AC input: 0.1 kW to 2 kW 3-phase or 1-phase 200 to 240 VAC, 50 Hz/60 Hz *2 3.5 kW to 7 kW 3-phase 200 to 240 VAC, 50 Hz/60 Hz At DC input: 283 to 340 VDC
Control circuit power supply	At AC input: 1-phase 200 to 240 VAC, 50 Hz/60 Hz At DC input: 283 to 340 VDC	At AC input: 1-phase 200 to 240 VAC, 50 Hz/60 Hz At DC input: 283 to 340 VDC
24 V DC power supply	External supply required	External supply required
Auto tuning	Auto tuning: 40 stages One-touch tuning	Auto tuning: 40 stages One-touch tuning ■Quick tuning
Number of DIO points (except for EM2)	DI: 3 DO: 3	■DI: 5 DO: 3
Encoder pulse output	A/B/Z-phase pulse (differential line driver)	A/B/Z-phase pulse (differential line driver)
DIO interface	Input/output: Sink/Source	Input/output: Sink/Source
Analog input/output	(Output) 10 bits or its equivalent × 2ch	(Output) 10 bits or its equivalent × 2ch
Servo parameter setting method	MR Configurator2 Controller	MR Configurator2 Controller
Rotary servo motor (encoder resolution)	HG series (22 bits)	■HK series (26 bits)
LED display	7-segment 3-digit	7-segment 3-digit
Advanced vibration suppression control II	Available	Available
Adaptive filter II	Available	Available
Notch filter	Available (5 pcs.)	Available (5 pcs.)
Tough drive	Available	Available
Drive recorder	Available	Available
Forced stop	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.
Machine diagnosis	Ball screw diagnosis	Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis
Disconnection detection	Not available	■Available (input open-phase detection, output open-phase detection)
Encoder communication diagnosis	Not available	■Available
Bus common connection (Simple converter MR-CM compatible)	Not supported	■Supported *3
Functional safety	For comparison of functions, refer to the following. ☞ Page 50 Functional safety	

*1 For details on the coasting distance, refer to the following manual.
MR-J5 User's Manual (Hardware)

*2 If using 1-phase power supply in combination with the rotary servo motor of 750 W or higher, operate the servo amplifier at 75 % or less of the effective load ratio.

*3 The connection is possible with a servo amplifier with a capacity of 2 kW or less. For details, refer to the following manual.
MR-J5 User's Manual (Hardware)

■Functional safety

• Replacement of MR-J4-_B with MR-J5-_G

Item		MR-J4-_B	MR-J5-_G
Servo amplifier alone	Safety sub-function	STO	STO
	Input device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Output device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Safety sub-function via network	Not supported	Not supported
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

• Replacement of MR-J4-_B-RJ with MR-J5-_G-RJ

Item		MR-J4-_B-RJ	MR-J5-_G-RJ
Servo amplifier alone	Safety sub-function	STO	■STO/SS1/SS2/SOS/SBC/SLS/SSM/SDI/SLI/SLT
	Input device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Output device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Safety sub-function via network	Not supported	■Supported (CC-Link IE TSN)
When combined with MR-D30	Safety sub-function	STO/SS1/SS2/SOS/SLS/SBC/SSM	■Not supported
	Input device (duplex wiring)	6 points (source/sink)	
	Output device	Source: 3 points (duplex wiring) and 1 point (single wiring) Sink: 1 point (single wiring)	
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

1-axis servo amplifier (400 V class)

Item	MR-J4-_B_	MR-J5-_G_
Capacity range	0.6 to 7 kW	0.6 to 7 kW
Internal regenerative resistor	Built-in (0.6 to 7 kW)	Built-in (0.6 to 7 kW)
Dynamic brake	Built-in (0.6 to 7 kW)	Built-in (0.6 to 7 kW) ■The coasting distance may vary.*1
Main circuit power supply	At AC input: 3-phase 380 to 480 V AC, 50 Hz/60 Hz	At AC input: 3-phase 380 to 480 V AC, 50 Hz/60 Hz
Control circuit power supply	At AC input: 1-phase 380 to 480 V AC, 50 Hz/60 Hz	At AC input: 1-phase 380 to 480 V AC, 50 Hz/60 Hz
24 V DC power supply	External supply required	External supply required
Auto tuning	Auto tuning: 40 stages One-touch tuning	Auto tuning: 40 stages One-touch tuning ■Quick tuning
Number of DIO points (except for EM2)	DI: 3 DO: 3	■DI: 5 DO: 3
Encoder pulse output	A/B/Z-phase pulse (differential line driver)	A/B/Z-phase pulse (differential line driver)
DIO interface	Input/output: Sink/Source	Input/output: Sink/Source
Analog input/output	(Output) 10 bits or its equivalent × 2ch	(Output) 10 bits or its equivalent × 2ch
Servo parameter setting method	MR Configurator2 Controller	MR Configurator2 Controller
Rotary servo motor (encoder resolution)	HG series (22 bits)	■HK series (26 bits)
LED display	7-segment 3-digit	7-segment 3-digit
Advanced vibration suppression control II	Available	Available
Adaptive filter II	Available	Available
Notch filter	Available (5 pcs.)	Available (5 pcs.)
Tough drive	Available	Available
Drive recorder	Available	Available
Forced stop	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.
Machine diagnosis	Ball screw diagnosis	Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis
Disconnection detection	Not available	■Available (input open-phase detection, output open-phase detection)
Encoder communication diagnosis	Not available	■Available
Bus common connection (Simple converter MR-CM compatible)	Not supported	Not supported
Functional safety	For comparison of functions, refer to the following. ☞ Page 52 Functional safety	

*1 For details on the coasting distance, refer to the following manual.
MR-J5 User's Manual (Hardware)

■Functional safety

• Replacement of MR-J4-_B4 with MR-J5-_G4

Item		MR-J4-_B4	MR-J5-_G4
Servo amplifier alone	Safety sub-function	STO	STO
	Input device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Output device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Safety sub-function via network	Not supported	Not supported
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

• Replacement of MR-J4-_B4-RJ with MR-J5-_G4-RJ

Item		MR-J4-_B4-RJ	MR-J5-_G4-RJ
Servo amplifier alone	Safety sub-function	STO	■STO/SS1/SS2/SOS/SBC/SLS/SSM/SDI/SLI/SLT
	Input device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Output device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Safety sub-function via network	Not supported	■Supported (CC-Link IE TSN)
When combined with MR-D30	Safety sub-function	STO/SS1/SS2/SOS/SLS/SBC/SSM	■Not supported
	Input device (duplex wiring)	6 points (source/sink)	
	Output device	Source: 3 points (duplex wiring) and 1 point (single wiring) Sink: 1 point (single wiring)	
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

Multi-axis servo amplifier

Item	MR-J4W_-_B		MR-J5W_-_G	
Capacity range	MR-J4W2-22B	200 W (A-axis)/200 W (B-axis)	MR-J5W2-22G	200 W (A-axis)/200 W (B-axis)
	MR-J4W2-44B	400 W (A-axis)/400 W (B-axis)	MR-J5W2-44G	400 W (A-axis)/400 W (B-axis)
	MR-J4W2-77B	750 W (A-axis)/750 W (B-axis)	MR-J5W2-77G	750 W (A-axis)/750 W (B-axis)
	MR-J4W2-1010B	1 kW (A-axis)/1 kW (B-axis)	MR-J5W2-1010G	1 kW (A-axis)/1 kW (B-axis)
	MR-J4W3-222B	200 W (A-axis)/200 W (B-axis)/200 W (C-axis)	MR-J5W3-222G	200 W (A-axis)/200 W (B-axis)/200 W (C-axis)
	MR-J4W3-444B	400 W (A-axis)/400 W (B-axis)/400 W (C-axis)	MR-J5W3-444G	400 W (A-axis)/400 W (B-axis)/400 W (C-axis)
Internal regenerative resistor	Built-in MR-J4W2-22B/-44B 20 W MR-J4W2-77B/-1010B 100 W MR-J4W3-222B/-444B 30 W		Built-in MR-J5W2-22G/-44G 20 W MR-J5W2-77G/-1010G 100 W MR-J5W3-222G/-444G 30 W	
Dynamic brake	Built-in		Built-in ■The coasting distance may vary. *1	
Main circuit power supply	Other than MR-J4W2-1010B 3-phase or 1-phase 200 to 240 VAC, 50 Hz/60 Hz MR-J4W2-1010B 3-phase 200 to 240 VAC, 50 Hz/60 Hz		Other than MR-J5W2-1010G 3-phase or 1-phase 200 to 240 VAC, 50 Hz/60 Hz MR-J5W2-1010G 3-phase 200 to 240 VAC, 50 Hz/60 Hz	
Control circuit power supply	1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz		1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz	
Interface power supply	External supply required (24 VDC)		External supply required (24 VDC)	
Auto tuning	Auto tuning: 40 stages One-touch tuning		Auto tuning: 40 stages One-touch tuning ■Quick tuning	
Number of DIO points (except for EM2)	[MR-J4W2-_B] DI: 6 DO: 4 [MR-J4W3-_B] DI: 9 DO: 5		[MR-J5W2-_G] ■DI: 7 DO: 4 [MR-J5W3-_G] DI: 9 DO: 5	
Encoder pulse output	A/B-phase (differential line driver) × 2 axes		A/B-phase (differential line driver) × 2 axes	
DIO interface	Input/output: Sink/Source		Input/output: Sink/Source	
Analog monitor output	Not supported		Not supported	
Servo parameter setting method	MR Configurator2 Controller		MR Configurator2 Controller	
Rotary servo motor (encoder resolution)	HG series (22 bits)		■HK series (26 bits)	
LED display	7-segment 3-digit		7-segment 3-digit	
Advanced vibration suppression control II	Available		Available	
Adaptive filter II	Available		Available	
Notch filter	Available (5 pcs.)		Available (5 pcs.)	
Tough drive	Available		Available	
Drive recorder	Available		Available	
Forced stop	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.		EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	
Machine diagnosis	Ball screw diagnosis		Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis	
Disconnection detection	Not available		■Available (input open-phase detection, output open-phase detection)	
Encoder communication diagnosis	Not available		■Available	
Bus common connection (Simple converter MR-CM compatible)	Not supported		■Supported	

Item	MR-J4W_-_B	MR-J5W_-_G
Functional safety	For comparison of functions, refer to the following. ☞ Page 54 Functional safety	

*1 For details on the coasting distance, refer to the following manual.
MR-J5 User's Manual (Hardware)

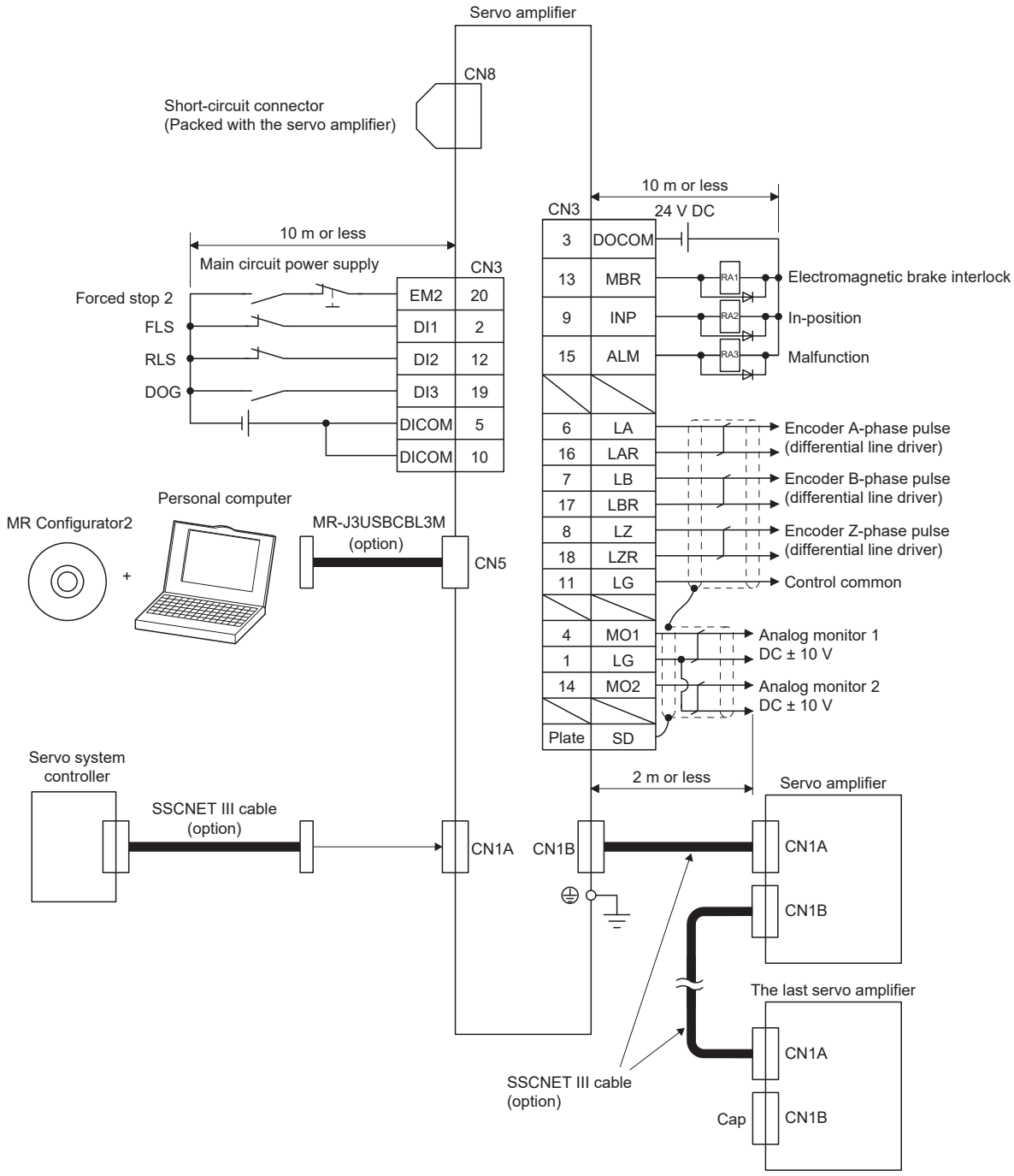
■Functional safety

Item		MR-J4W_-_B	MR-J5W_-_G
Servo amplifier alone	Safety sub-function	STO	■STO/SS1/SBC
	Input device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Output device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Supported safety function	STO	■STO/SS1/SBC
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

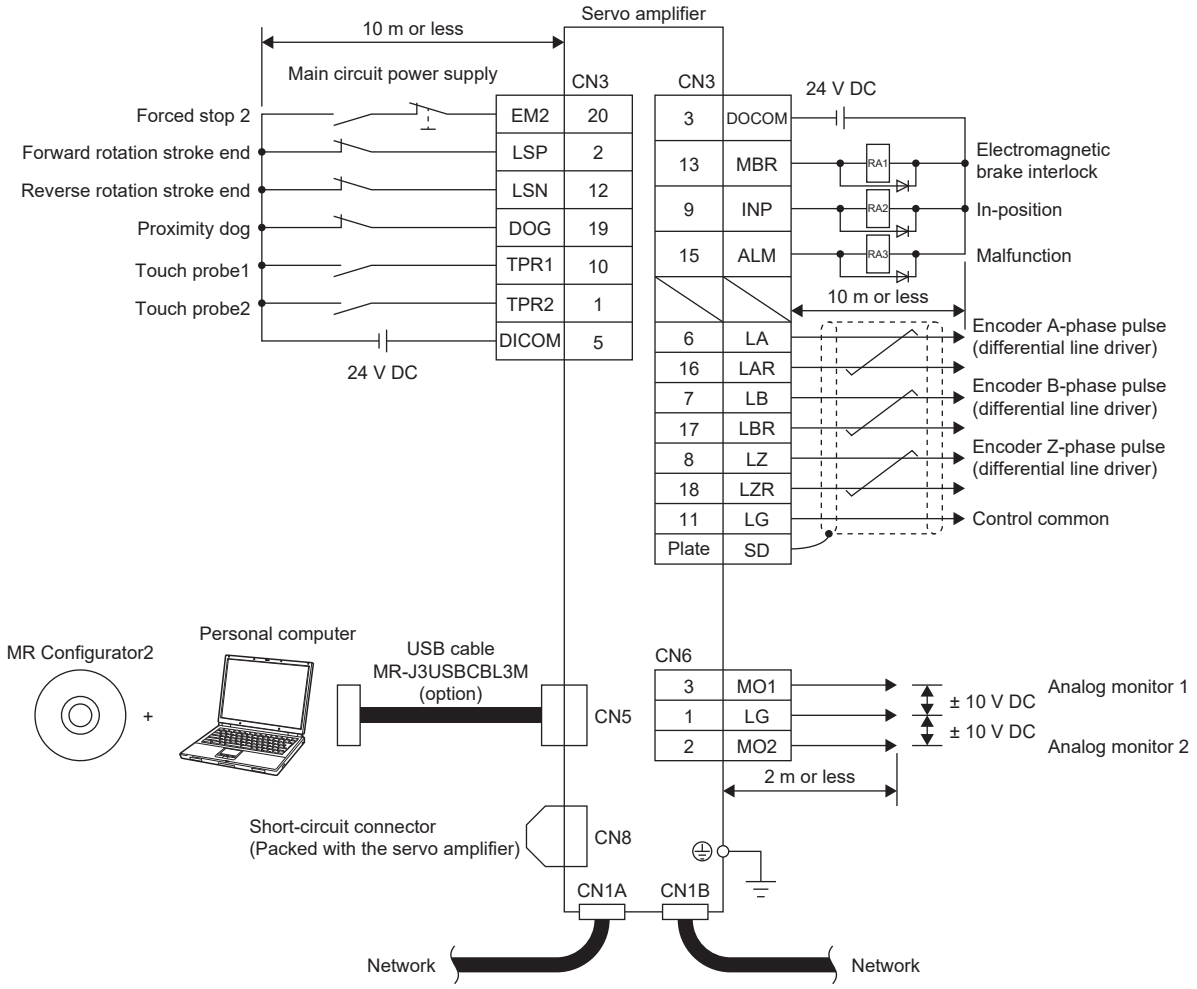
5.2 Comparison of Standard Connection Diagrams

1-axis servo amplifier

MR-J4-_B_

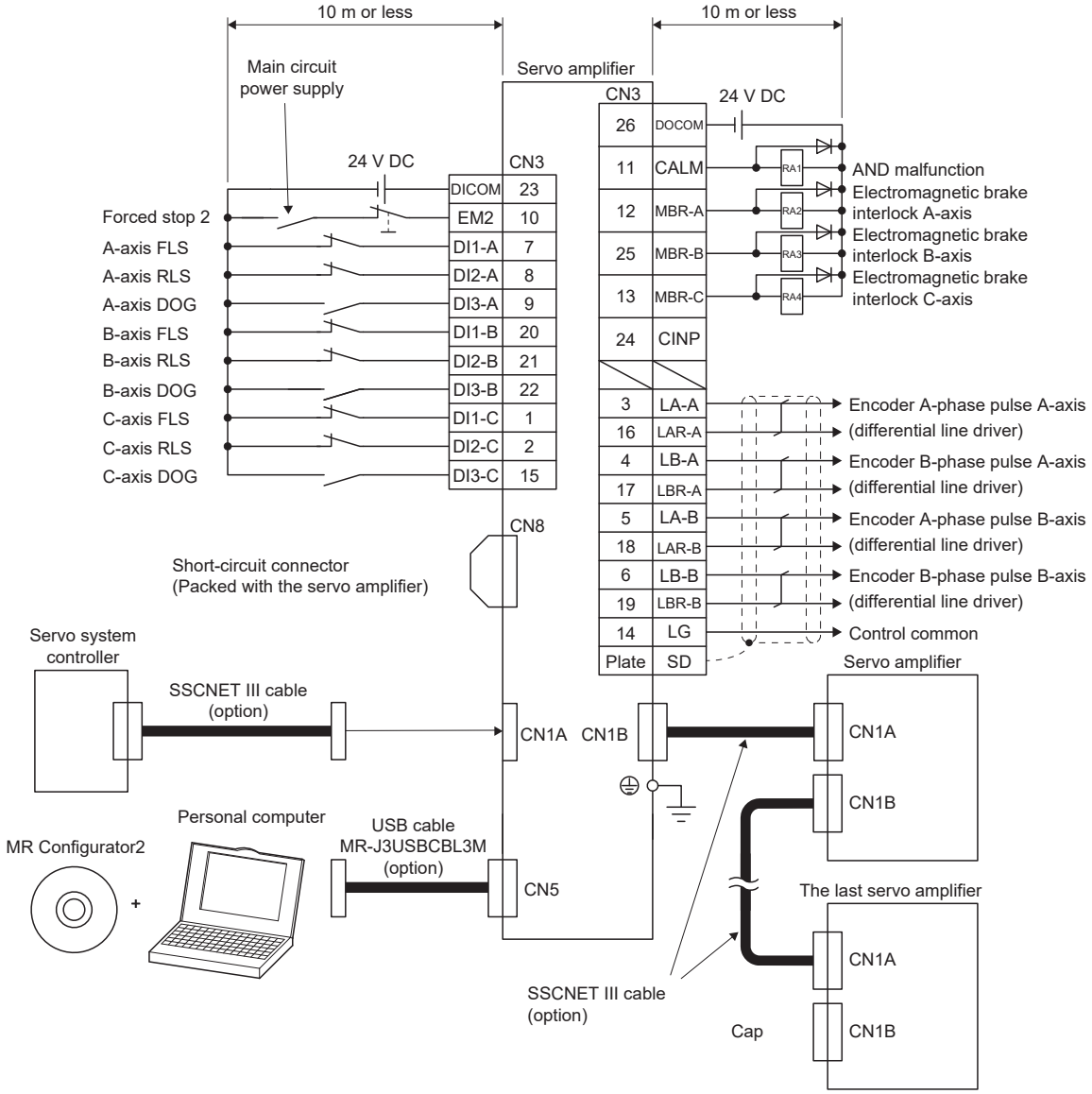


MR-J5-_G_

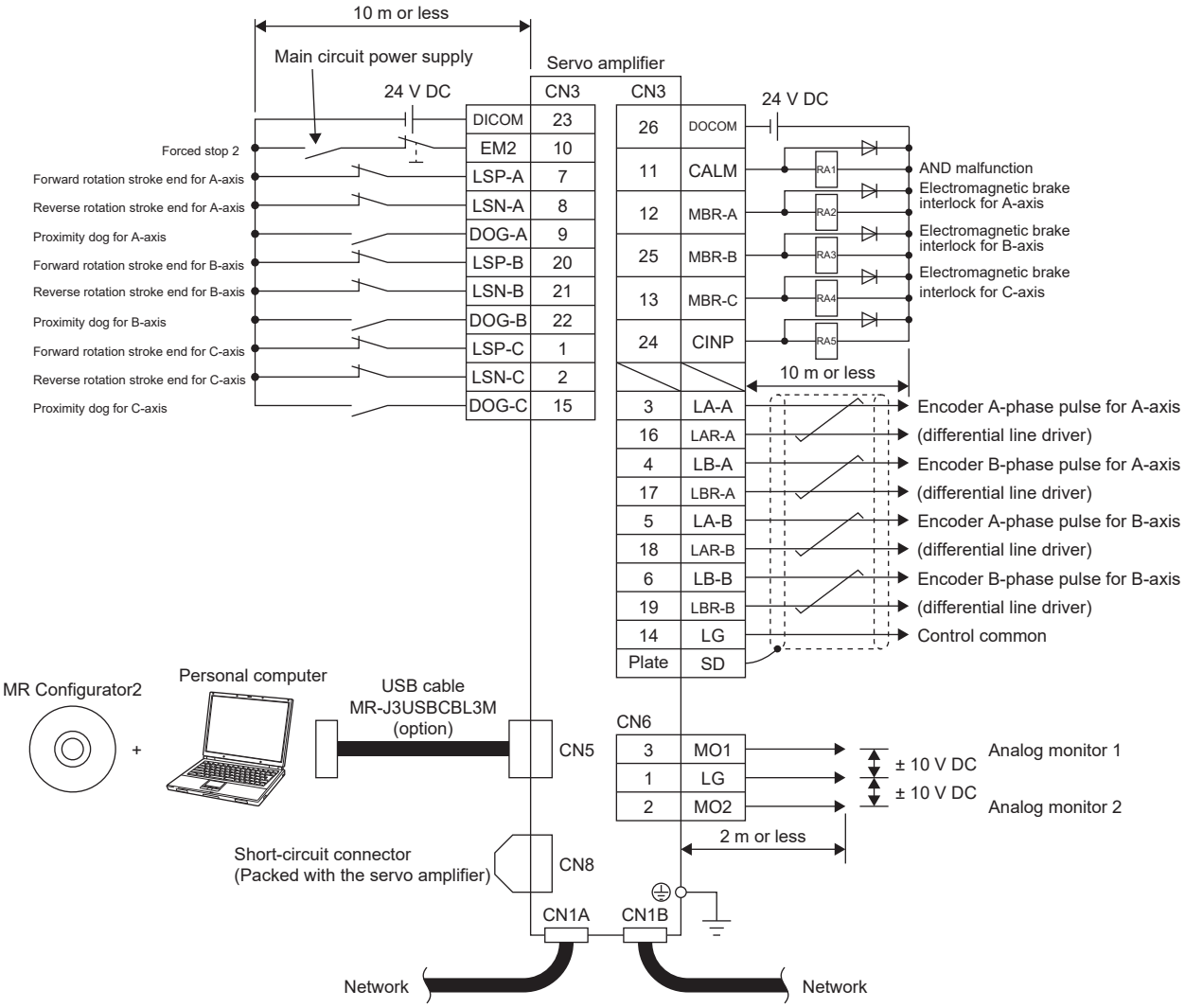

Servo amplifier
10 m or less
Main circuit power supply
CN3
CN3
24 V DC
Forced stop 2
Forward rotation stroke end
Reverse rotation stroke end
Proximity dog
Touch probe1
Touch probe2
EM2 20
LSP 2
LSN 12
DOG 19
TPR1 10
TPR2 1
DICOM 5
24 V DC
3 DOCOM
13 MBR
9 INP
15 ALM
RA1
RA2
RA3
Electromagnetic brake interlock
In-position
Malfunction
10 m or less
6 LA
16 LAR
7 LB
17 LBR
8 LZ
18 LZR
11 LG
Plate SD
Encoder A-phase pulse (differential line driver)
Encoder B-phase pulse (differential line driver)
Encoder Z-phase pulse (differential line driver)
Control common
MR Configurator2
Personal computer
USB cable
MR-J3USBCBL3M
(option)
CN5
CN6
3 MO1
1 LG
2 MO2
± 10 V DC
± 10 V DC
Analog monitor 1
Analog monitor 2
2 m or less
Short-circuit connector
(Packed with the servo amplifier)
CN8
CN1A
CN1B
Network
Network

Multi-axis servo amplifier

MR-J4W_-_B



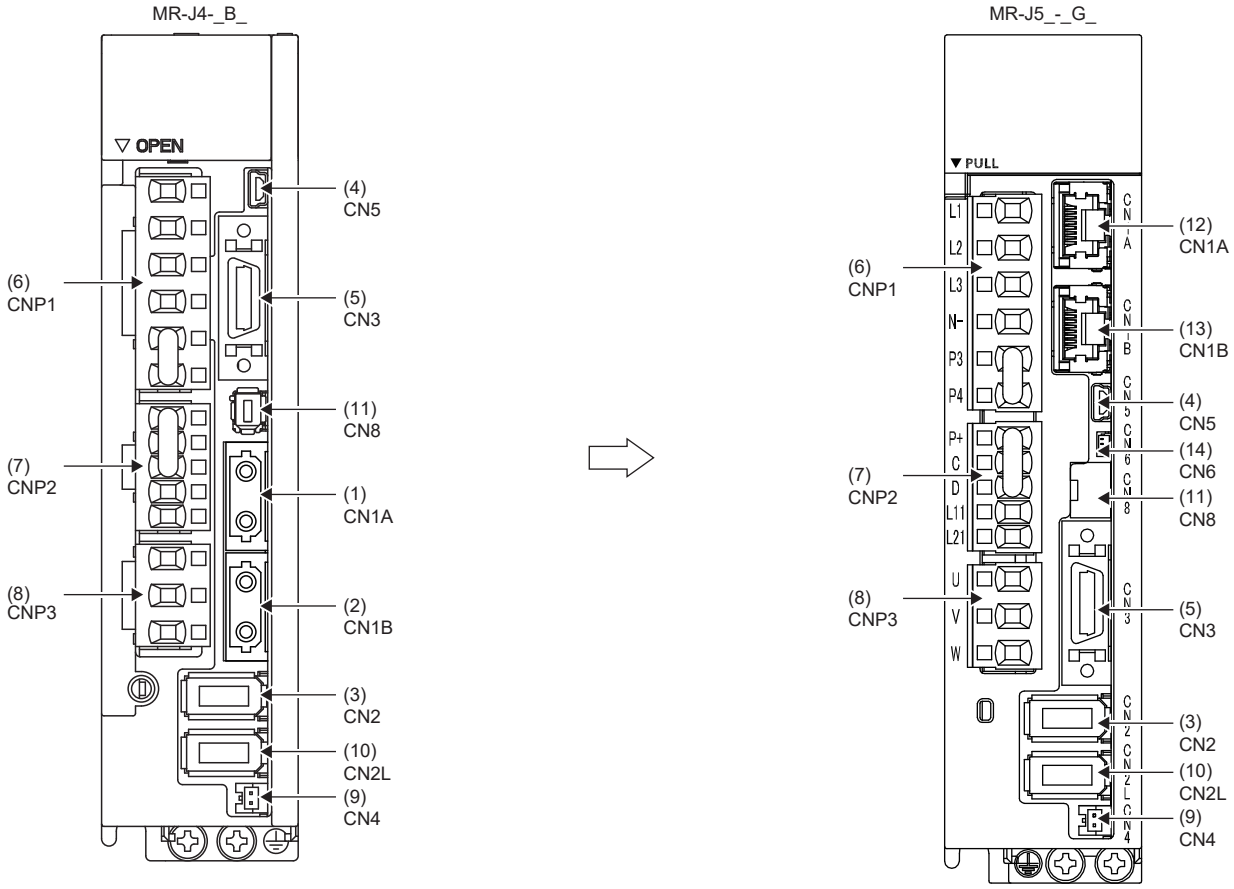
MR-J5W_-_G


10 m or less
Main circuit power supply
Servo amplifier
24 V DC
CN3
CN3
24 V DC
DICOM 23
EM2 10
LSP-A 7
LSN-A 8
DOG-A 9
LSP-B 20
LSN-B 21
DOG-B 22
LSP-C 1
LSN-C 2
DOG-C 15
26 DOCOM
11 CALM
12 MBR-A
25 MBR-B
13 MBR-C
24 CINP
Forced stop 2
Forward rotation stroke end for A-axis
Reverse rotation stroke end for A-axis
Proximity dog for A-axis
Forward rotation stroke end for B-axis
Reverse rotation stroke end for B-axis
Proximity dog for B-axis
Forward rotation stroke end for C-axis
Reverse rotation stroke end for C-axis
Proximity dog for C-axis
RA1
RA2
RA3
RA4
RA5
AND malfunction
Electromagnetic brake interlock for A-axis
Electromagnetic brake interlock for B-axis
Electromagnetic brake interlock for C-axis
10 m or less
3 LA-A
16 LAR-A
4 LB-A
17 LBR-A
5 LA-B
18 LAR-B
6 LB-B
19 LBR-B
14 LG
Plate SD
Encoder A-phase pulse for A-axis
(differential line driver)
Encoder B-phase pulse for A-axis
(differential line driver)
Encoder A-phase pulse for B-axis
(differential line driver)
Encoder B-phase pulse for B-axis
(differential line driver)
Control common
MR Configurator2
Personal computer
USB cable
MR-J3USBCBL3M
(option)
CN5
CN6
3 MO1
1 LG
2 MO2
± 10 V DC
± 10 V DC
Analog monitor 1
Analog monitor 2
2 m or less
Short-circuit connector
(Packed with the servo amplifier)
CN8
CN1A
CN1B
Network
Network

5.3 List of Connectors

From MR-J4-_B_ to MR-J5-_G_

Refer to each servo amplifier manual for details on signals.

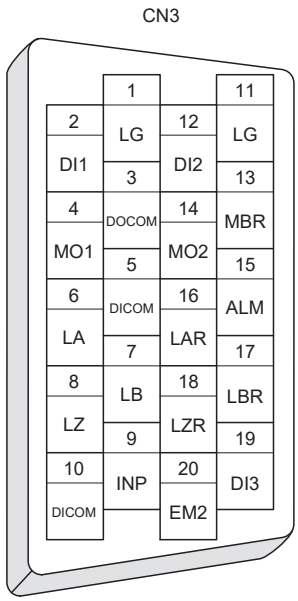
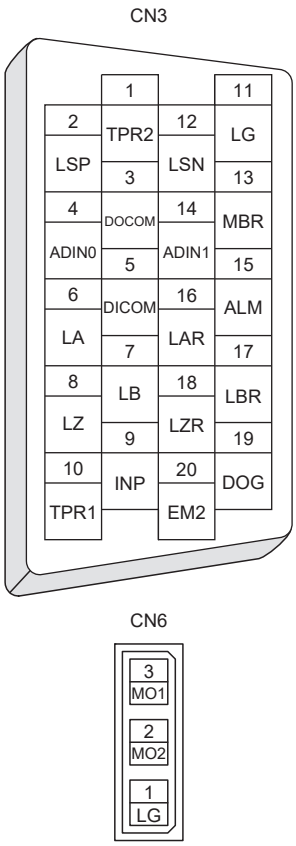


List of connectors

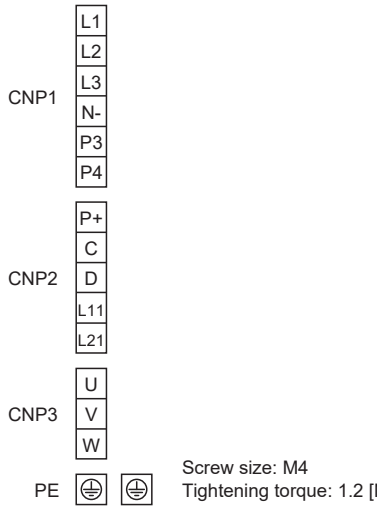
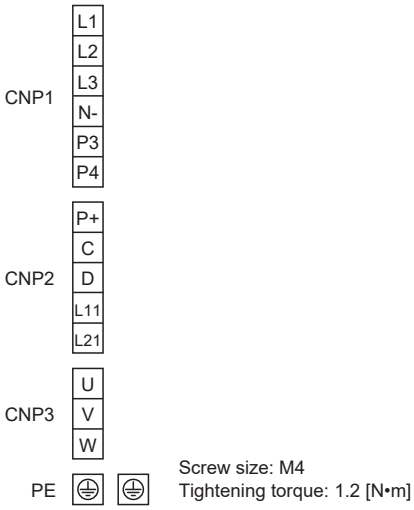
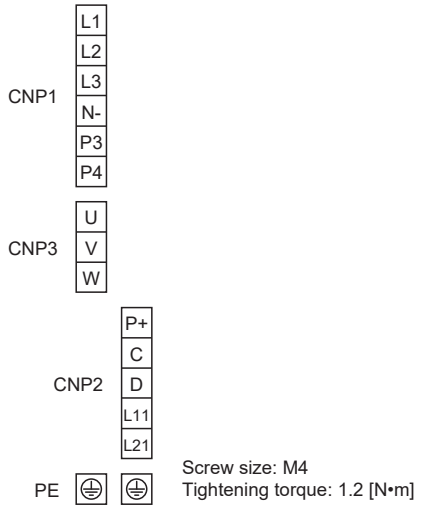
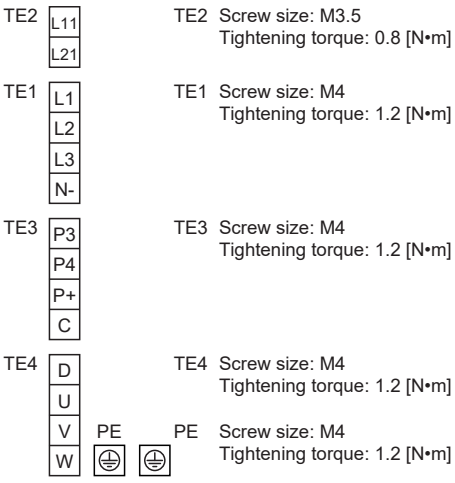
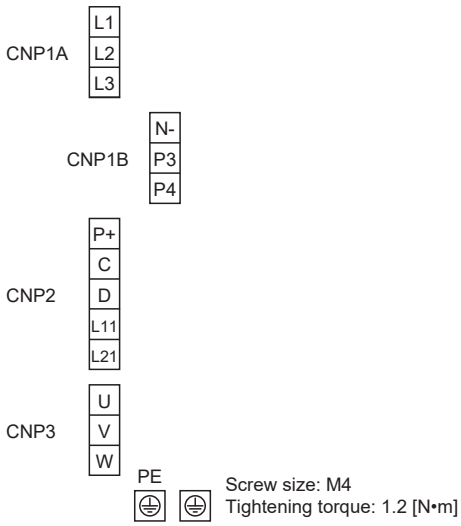
No.	Connector name	Connector number		Precautions
		MR-J4-_B_	MR-J5-_G_	
(1)	SSCNET III cable connector	CN1A	—	Not available.
(2)	SSCNET III cable connector	CN1B	—	
(3)	Encoder connector	CN2	CN2	You can use those used before replacement.
(4)	USB communication connector	CN5	CN5	
(5)	I/O signal connector	CN6	CN3	The pin arrangement for input/output signals is different. Review the wiring and cables as required. Refer to the following for details. ☞ Page 60 Comparison of control circuit system signals
(6)	Main circuit power connector	CNP1	CNP1	Use the connector that comes with the MR-J5-_G_.
(7)	Control circuit power connector	CNP2	CNP2	
(8)	Servo motor power output connector	CNP3	CNP3	
(9)	Battery connector	CN4	CN4	You can use those used before replacement. (If using together with a direct drive motor) The battery is not required if the HK series rotary servo motor is used together.
(10)	External encoder connector	CN2L	CN2L	You can use those used before replacement.
(11)	STO input signal connector	CN8	CN8	
(12)	Ethernet cable connector	—	CN1A	Newly required.
(13)	Ethernet cable connector	—	CN1B	

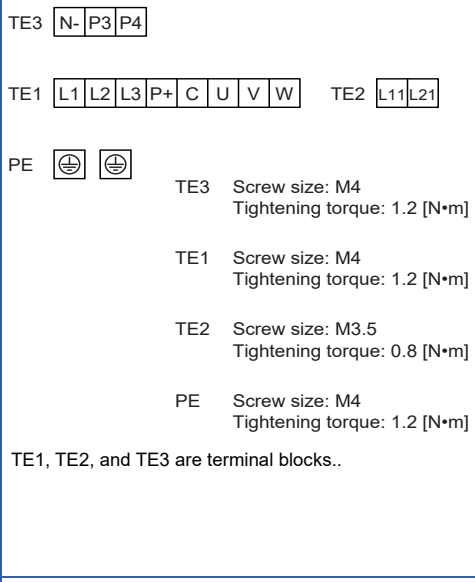
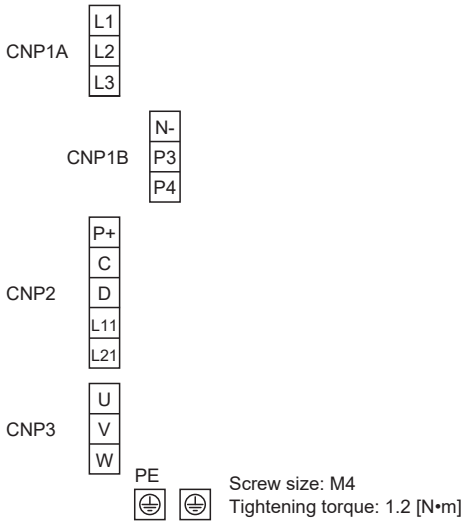
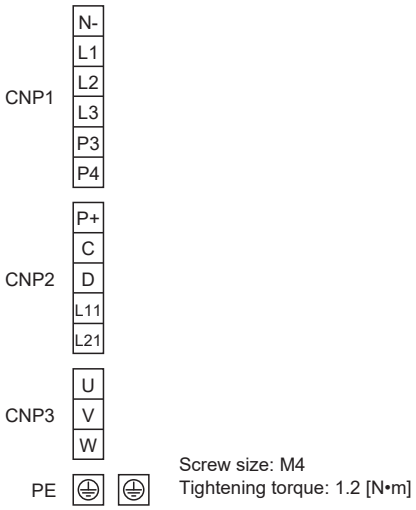
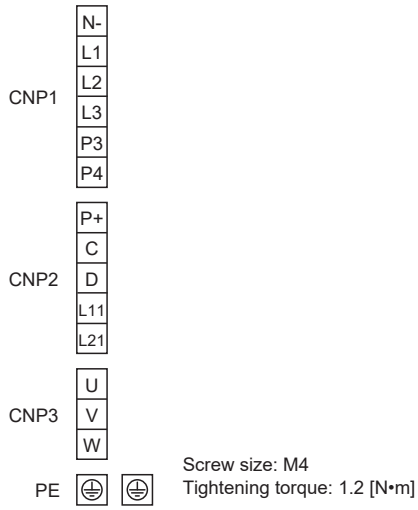
No.	Connector name	Connector number		Precautions
		MR-J4-_B_	MR-J5-_G_	
(14)	Analog monitor connector	—	CN6	An analog monitor can be used with CN6. Review the wiring and cables as required.

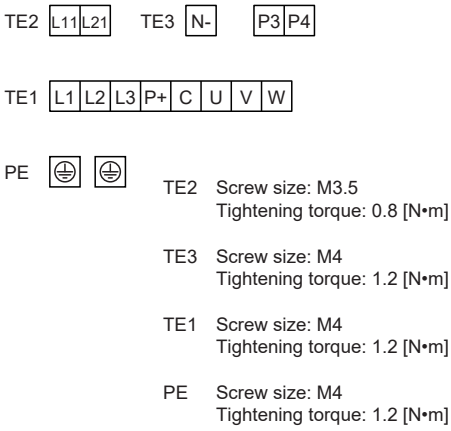
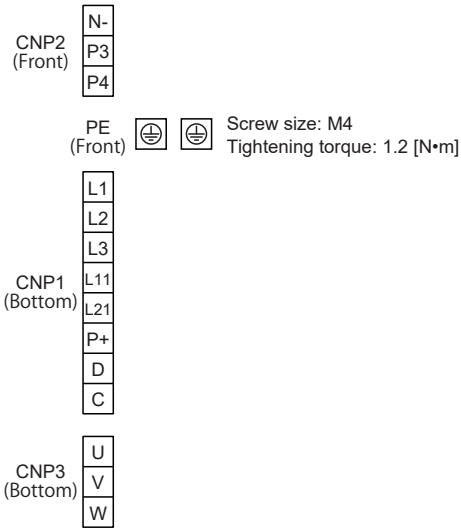
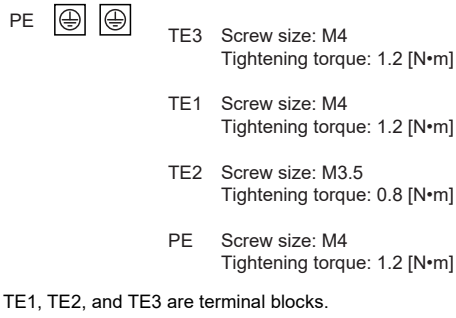
Comparison of control circuit system signals

MR-J4-_B_		Symbol	MR-J5-_G_	
Connector signal arrangement	Connector pin No.		Connector pin No.	
	CN3-1	LG	—	
	CN3-2	DI1	—	
	CN3-3	DOCOM	CN3-3	
	CN3-4	MO1	CN6-3	
	CN3-5	DICOM	CN3-5	
	CN3-6	LA	CN3-6	
	CN3-7	LB	CN3-7	
	CN3-8	LZ	CN3-8	
	CN3-9	INP	CN3-9	
	CN3-10	DICOM	—	
	CN3-11	LG	CN3-11	
	CN3-12	DI2	—	
	CN3-13	MBR	CN3-13	
	CN3-14	MO2	CN6-2	
	CN3-15	ALM	CN3-15	
	CN3-16	LAR	CN3-16	
	CN3-17	LBR	CN3-17	
	CN3-18	LZR	CN3-18	
	CN3-19	DI3	—	
	CN3-20	EM2	CN3-20	
	Plate	SD	Plate	

Comparison of main circuit power supply system signals

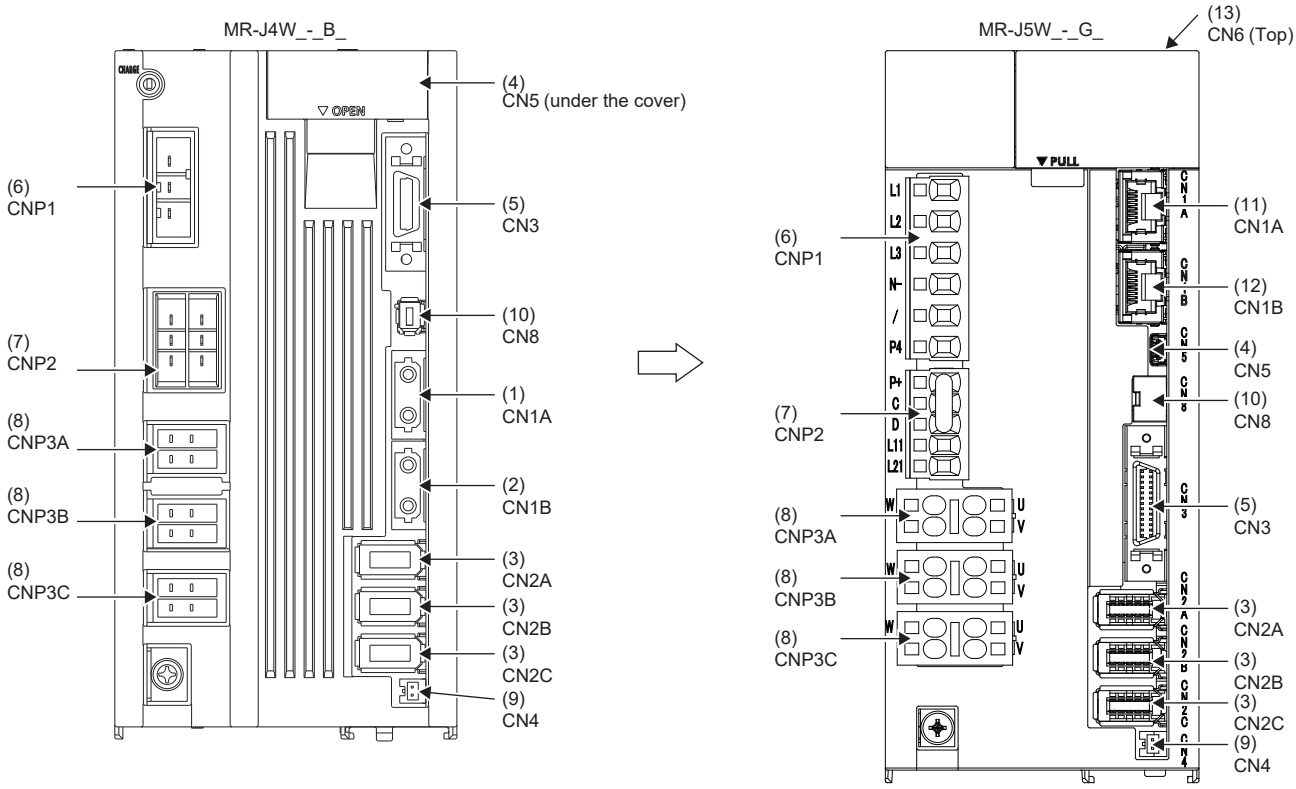
MR-J4-_B_	Main circuit power supply system signal	MR-J5-_G_	Main circuit power supply system signal
MR-J4-10B(-RJ) to MR-J4-200B(-RJ)		MR-J5-10G(-RJ) to MR-J5-350G(-RJ)	
MR-J4-350B(-RJ)			
MR-J4-500B(-RJ)	 TE1, TE2, TE3, and TE4 are terminal blocks.	MR-J5-500G(-RJ)	 CNP1A, CNP1B, CNP2, and CNP3 are connectors.

MR-J4-_B_	Main circuit power supply system signal	MR-J5-_G_	Main circuit power supply system signal
MR-J4-700B(-RJ)	 TE1, TE2, and TE3 are terminal blocks..	MR-J5-700G(-RJ)	 CNP1A, CNP1B, CNP2, and CNP3 are connectors.
MR-J4-60B4(-RJ) to MR-J4-350B4(-RJ)		MR-J5-60G4(-RJ) to MR-J5-350G4(-RJ)	

MR-J4-_B_	Main circuit power supply system signal	MR-J5-_G_	Main circuit power supply system signal
MR-J4-500B4	 TE1, TE2, and TE3 are terminal blocks.	MR-J5-500G4 MR-J5-700G4	 CNP1, CNP2, and CNP3 are connectors.
MR-J4-700B4	 TE1, TE2, and TE3 are terminal blocks.		

From MR-J4W-_B_ to MR-J5W-_G_

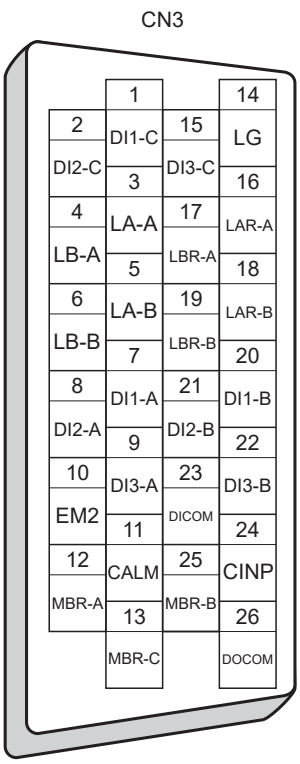
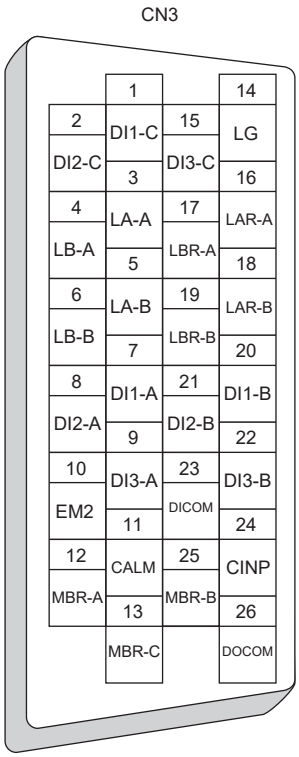
Refer to each servo amplifier manual for details on signals.



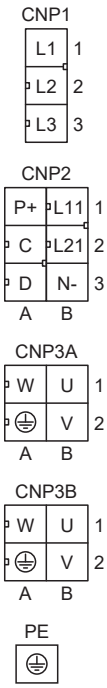
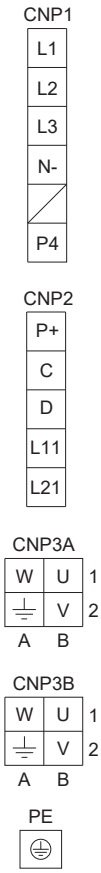
List of connectors

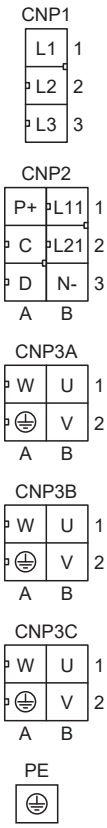
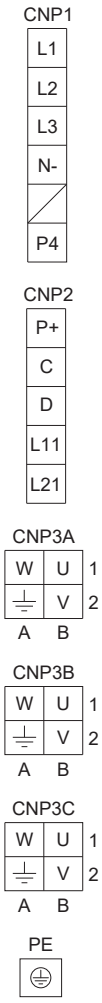
No.	Connector name	Connector number		Precautions
		MR-J4W-_B_	MR-J5W-_G_	
(1)	SSCNET III cable connector	CN1A	—	Not available.
(2)	SSCNET III cable connector	CN1B	—	
(3)	Encoder connector	CN2A CN2B CN2C	CN2A CN2B CN2C	You can use those used before replacement.
(4)	USB communication connector	CN5	CN5	
(5)	I/O signal connector	CN3	CN3	
(6)	Main circuit power connector	CNP1	CNP1	Use the connector that comes with the MR-J5W_-_G.
(7)	Control circuit power connector	CNP2	CNP2	
(8)	Servo motor power output connector	CNP3A CNP3B CNP3C	CNP3A CNP3B CNP3C	
(9)	Battery connector	CN4	CN4	You can use those used before replacement. (If using together with a direct drive motor) The battery is not required if the HK series rotary servo motor is used together.
(10)	STO input signal connector	CN8	CN8	You can use those used before replacement.
(11)	Ethernet cable connector	—	CN1A	Newly required.
(12)	Ethernet cable connector	—	CN1B	
(13)	Analog monitor connector	—	CN6	MR-J4W_-_B does not support analog monitors. For the MR-J5W_-_G, an analog monitor can be used with CN6. Perform the settings as required.

Comparison of control circuit system signals

MR-J4W_-_B		Symbol	MR-J5W_-_G	
Connector signal arrangement	Connector pin No.		Connector pin No.	Connector signal arrangement
	CN3-1	DI1-C	CN3-1	
	CN3-2	DI2-C	CN3-2	
	CN3-3	LA-A	CN3-3	
	CN3-4	LB-A	CN3-4	
	CN3-5	LA-B	CN3-5	
	CN3-6	LB-B	CN3-6	
	CN3-7	DI1-A	CN3-7	
	CN3-8	DI2-A	CN3-8	
	CN3-9	DI3-A	CN3-9	
	CN3-10	EM2	CN3-10	
	CN3-11	CALM	CN3-11	
	CN3-12	MBR-A	CN3-12	
	CN3-13	MBR-C	CN3-13	
	CN3-14	LG	CN3-14	
	CN3-15	DI3-C	CN3-15	
	CN3-16	LAR-A	CN3-16	
	CN3-17	LBR-A	CN3-17	
	CN3-18	LAR-B	CN3-18	
	CN3-19	LBR-B	CN3-19	
	CN3-20	DI1-B	CN3-20	
	CN3-21	DI2-B	CN3-21	
	CN3-22	DI3-B	CN3-22	
	CN3-23	DICOM	CN3-23	
	CN3-24	CINP	CN3-24	
	CN3-25	MBR-B	CN3-25	
	CN3-26	DOCOM	CN3-26	

Comparison of main circuit power supply system signals

MR-J4W_-_B	Main circuit power supply signal	MR-J5W_-_G	Main circuit power supply signal
MR-J4W2-22B/ MR-J4W2-44B/ MR-J4W2-77B/ MR-J4W2-1010B	 Screw size: M4 Tightening torque: 1.2 [N•m]	MR-J5W2-22G/ MR-J5W2-44G/ MR-J5W2-77G/ MR-J5W2-1010G	 Screw size: M4 Tightening torque: 1.2 [N•m]

MR-J4W_-_B	Main circuit power supply signal	MR-J5W_-_G	Main circuit power supply signal
MR-J4W3-222B/ MR-J4W3-444B	 Screw size: M4 Tightening torque: 1.2 [N•m]	MR-J5W3-222G/ MR-J5W3-444G	 Screw size: M4 Tightening torque: 1.2 [N•m]

5.4 Comparison of Servo Amplifier Dimensions and Mounting Dimensions

Point

Changed descriptions are shown with "■".

1-axis servo amplifier 200 V class (7 kW or less)

Comparison of dimensions

The following table shows comparison of the MR-J4-_B_ and MR-J5-_G_.

For 1 kW or less, there is no difference in the dimensions of the cabinet mounting surface.

For 2 kW/3.5 kW, the position of the mounting hole was changed from the top center to the top left.

For 5 kW/7 kW, wiring specifications of the power supply were changed from the terminal block to connector connection, and the wiring method is different.

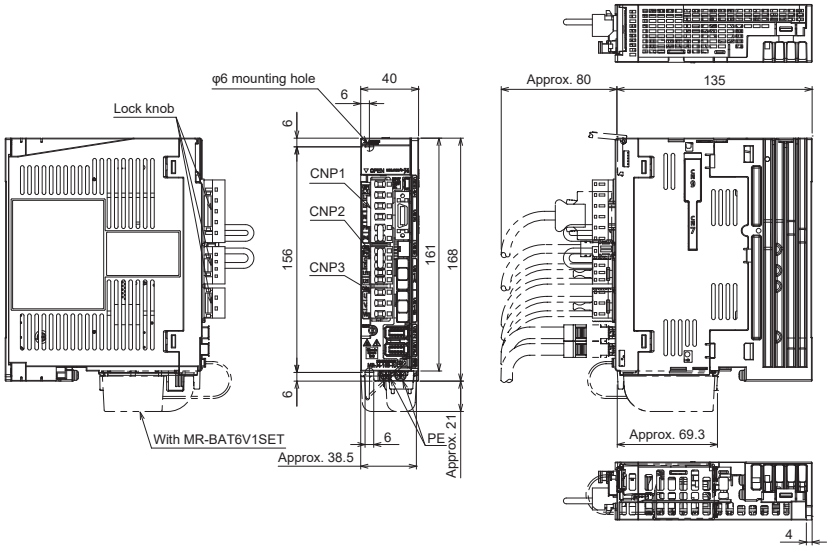
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4-_B_	Model MR-J5-_G_	Height		Width		Depth		Mounting screw pitch	
		J4B	J5G	J4B	J5G	J4B	J5G	J4B	J5G
MR-J4-10B(-RJ)	MR-J5-10G(-RJ)	168	■172	40	40	135	135	156 (Vertical) (2 screws)	156 (Vertical) (2 screws)
MR-J4-20B(-RJ)	MR-J5-20G(-RJ)								
MR-J4-40B(-RJ)	MR-J5-40G(-RJ)					170	■135		
MR-J4-60B(-RJ)	MR-J5-60G(-RJ)						170		
MR-J4-70B(-RJ)	MR-J5-70G(-RJ)			60	60	185	185	156 (Vertical)/42 (Horizontal) (3 screws)	156 (Vertical)/42 (Horizontal) (3 screws)
MR-J4-100B(-RJ)	MR-J5-100G(-RJ)								
MR-J4-200B(-RJ)	MR-J5-200G(-RJ)			90	90	195	195	156 (Vertical)/78 (Horizontal) (3 screws)	156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-350B(-RJ)	MR-J5-350G(-RJ)								
MR-J4-500B(-RJ)	MR-J5-500G(-RJ)	250	250	105	105	200	200	235 (Vertical)/93 (Horizontal) (4 screws)	235 (Vertical)/93 (Horizontal) (4 screws)
MR-J4-700B(-RJ)	MR-J5-700G(-RJ)	300	300	172	■170			285 (Vertical)/160 (Horizontal) (4 screws)	285 (Vertical)/160 (Horizontal) (4 screws)

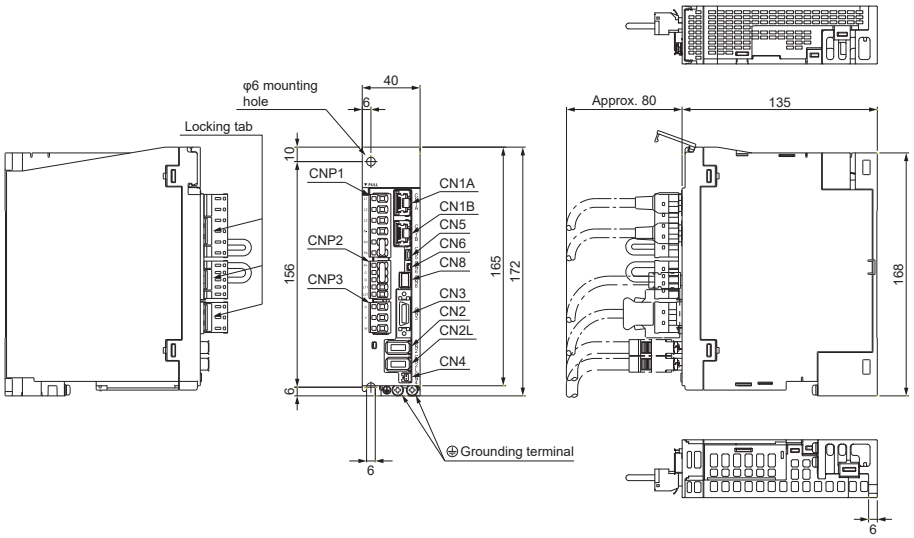
Comparison of dimensions

■Comparison of MR-J4-10B(-RJ)/MR-J4-20B(-RJ) and MR-J5-10G(-RJ)/MR-J5-20G(-RJ)/MR-J5-40G(-RJ)

MR-J4-10B(-RJ)/MR-J4-20B(-RJ)



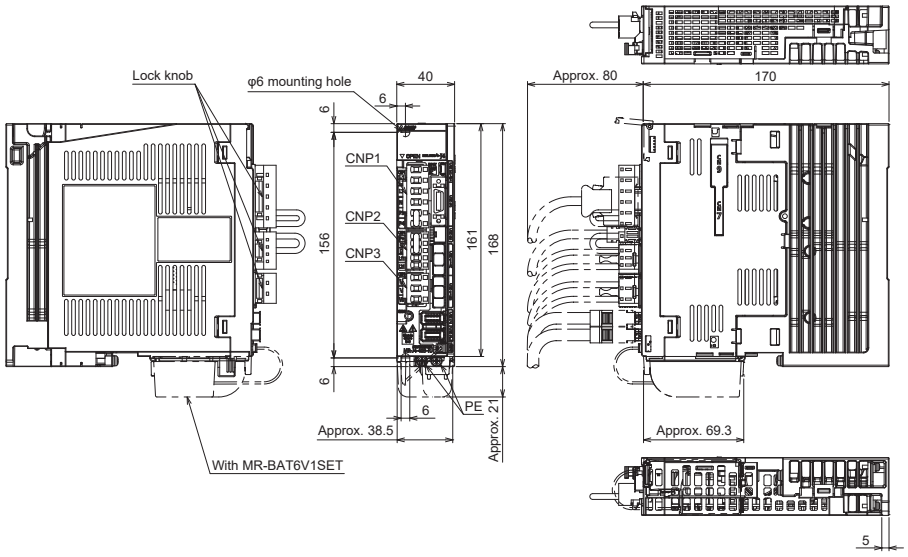
MR-J5-10G(-RJ)/MR-J5-20G(-RJ)/MR-J5-40G(-RJ)



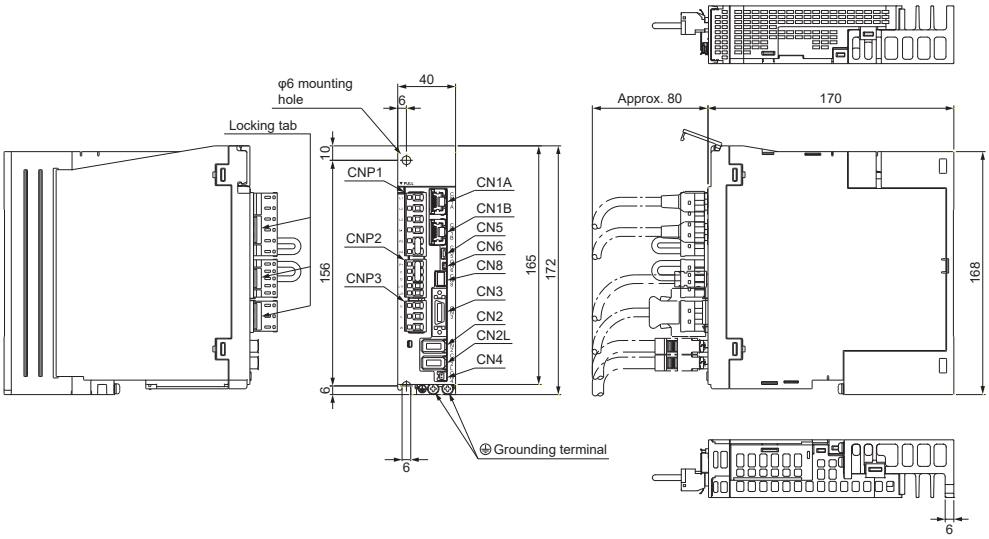
5

■Comparison of MR-J4-40B(-RJ)/MR-J4-60B(-RJ) and MR-J5-60G(-RJ)

MR-J4-40B(-RJ)/MR-J4-60B(-RJ)

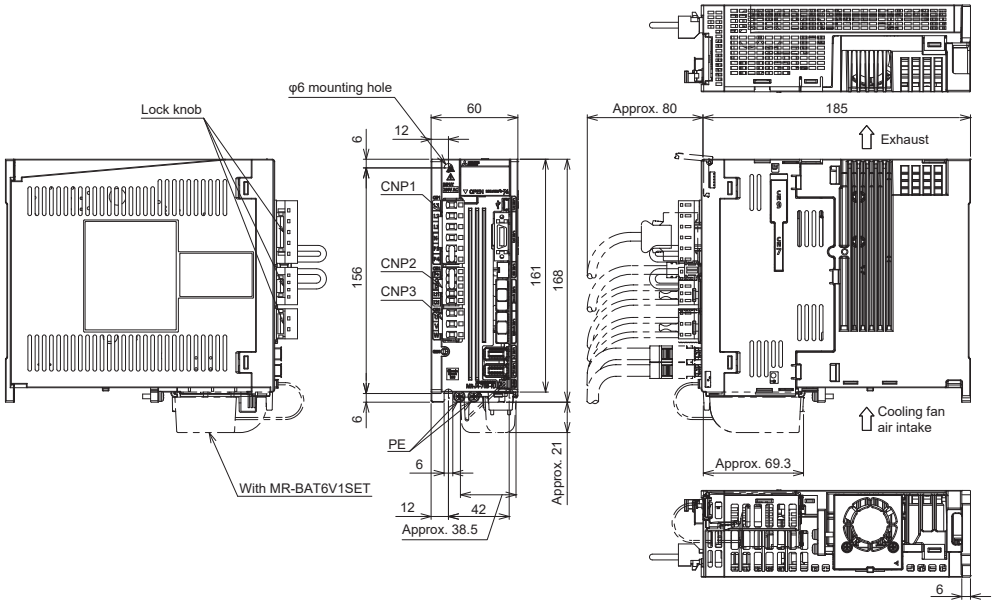


MR-J5-60G(-RJ)

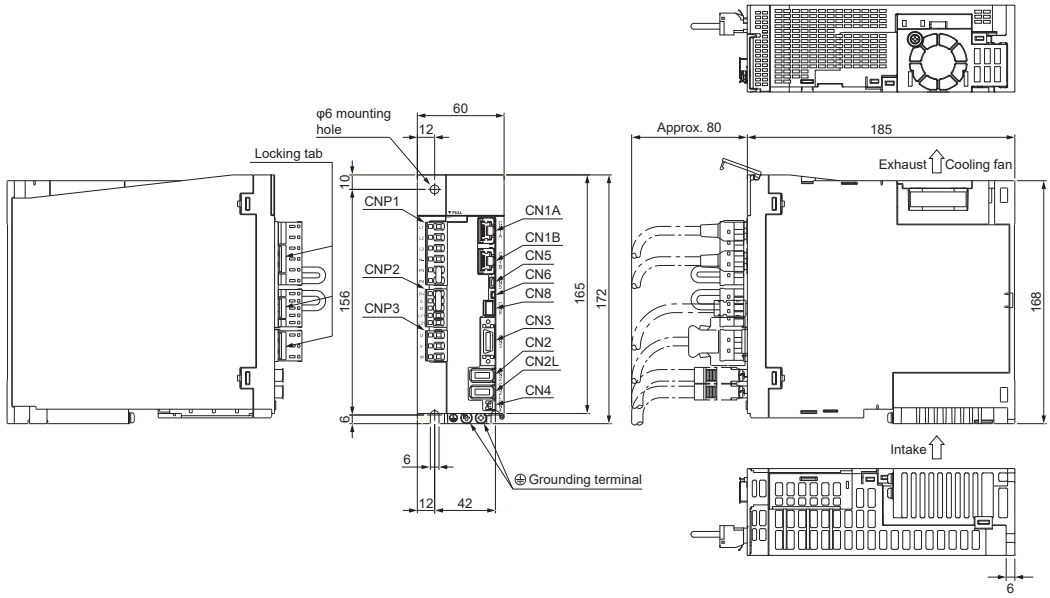


■Comparison of MR-J4-70B(-RJ)/MR-J4-100B(-RJ) and MR-J5-70G(-RJ)/MR-J5-100G(-RJ)

MR-J4-70B(-RJ)/MR-J4-100B(-RJ)

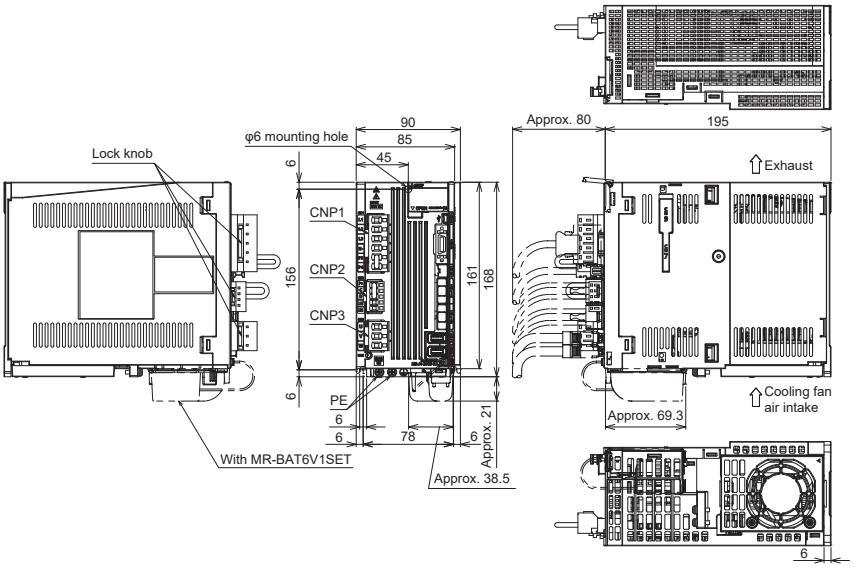


MR-J5-70G(-RJ)/MR-J5-100G(-RJ)

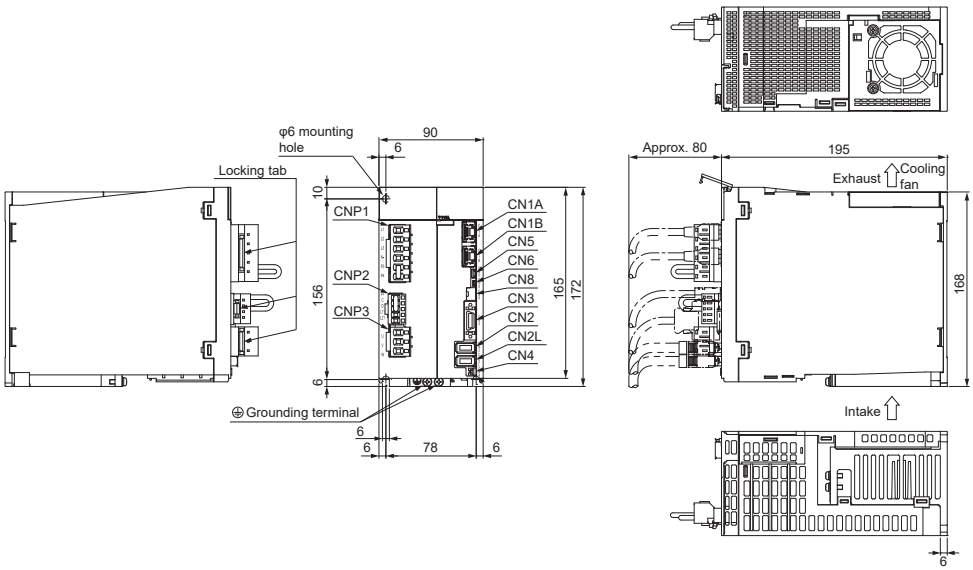


■Comparison of MR-J4-200B(-RJ) and MR-J5-200G(-RJ)/MR-J5-350G(-RJ)

MR-J4-200B(-RJ)

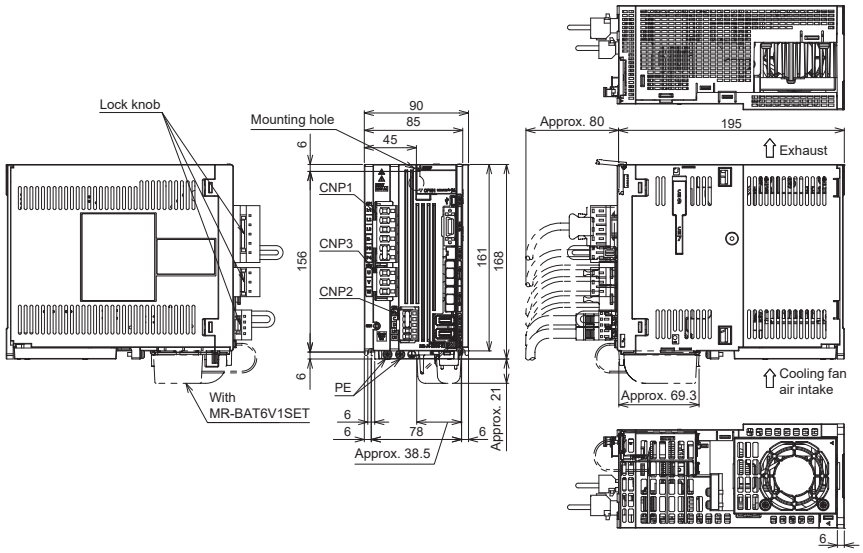


MR-J5-200G(-RJ)/MR-J5-350G(-RJ)

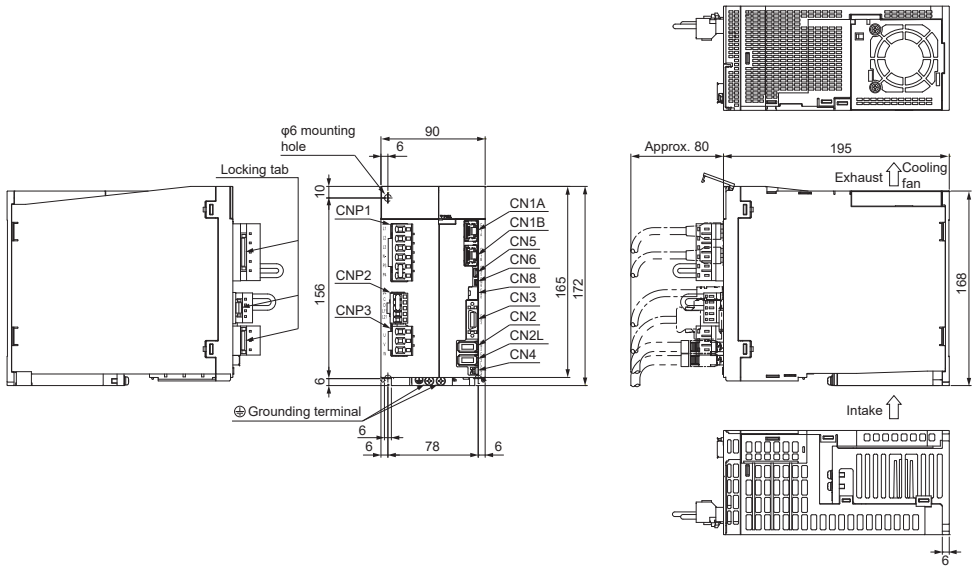


■Comparison of MR-J4-350B(-RJ) and MR-J5-200G(-RJ)/MR-J5-350G(-RJ)

MR-J4-350B(-RJ)



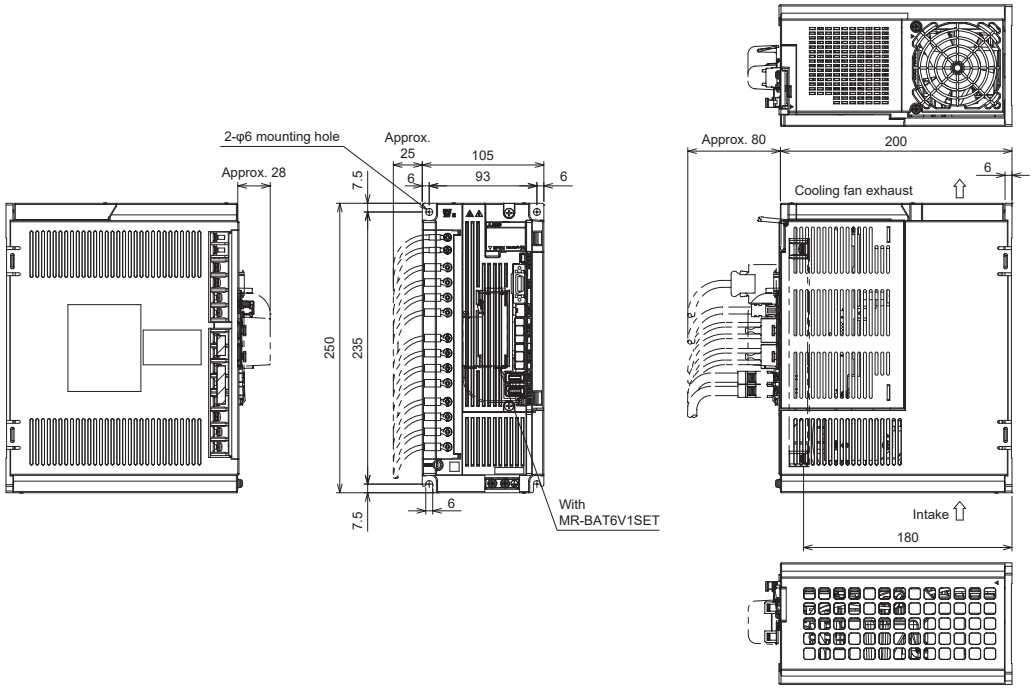
MR-J5-200G(-RJ)/MR-J5-350G(-RJ)



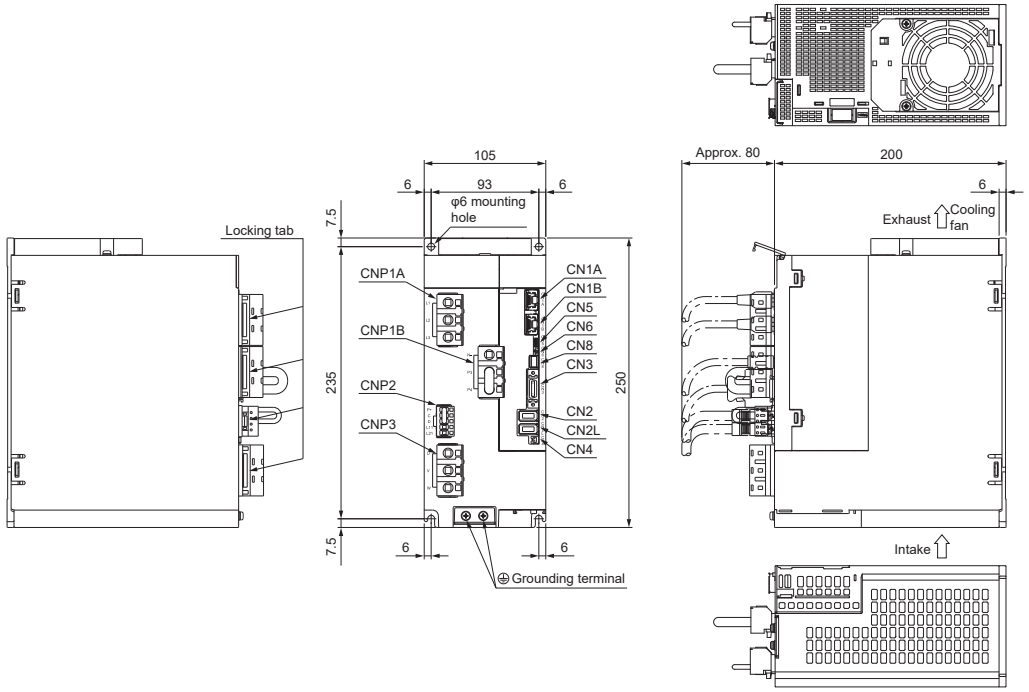
5

■Comparison of MR-J4-500B(-RJ) and MR-J5-500G(-RJ)

MR-J4-500B(-RJ)

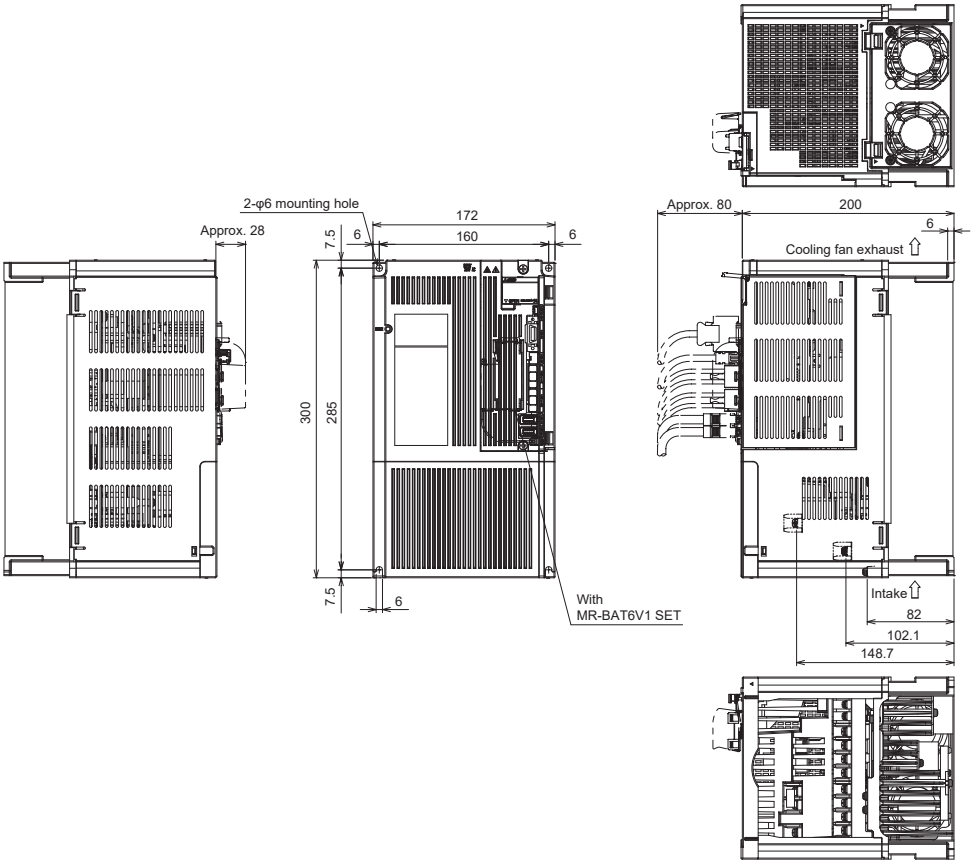


MR-J5-500G(-RJ)

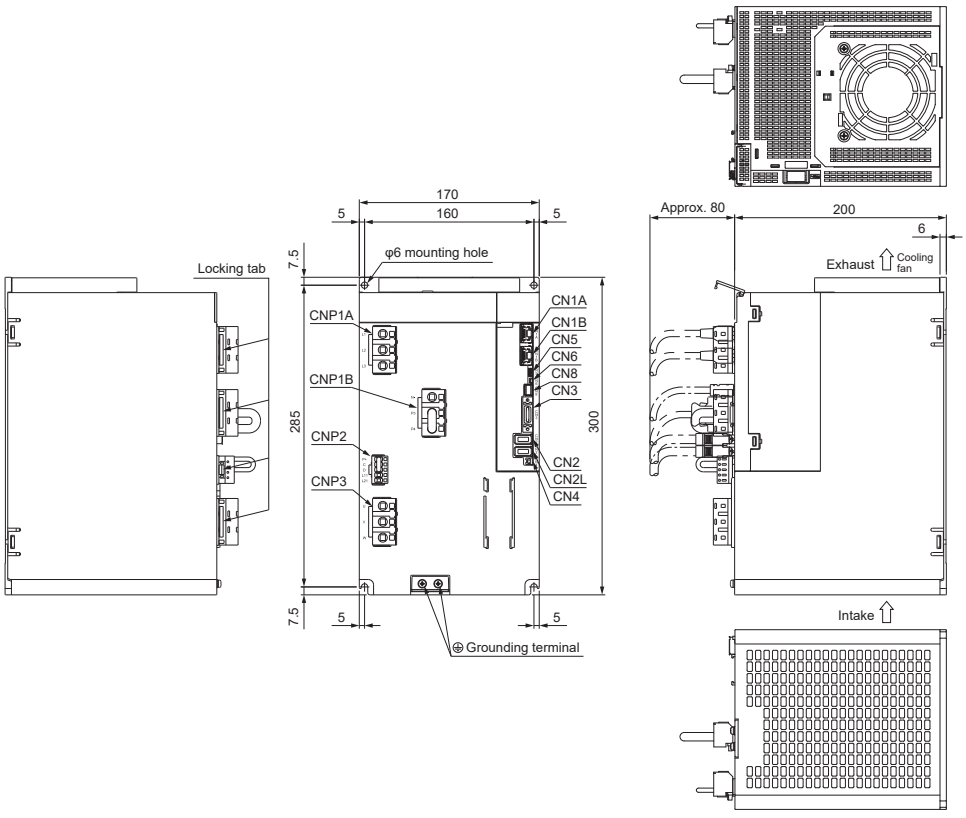


■Comparison of MR-J4-700B(-RJ) and MR-J5-700G(-RJ)

MR-J4-700B(-RJ)



MR-J5-700G(-RJ)



1-axis servo amplifier 400 V class (7 kW or less)

Comparison of dimensions

The following shows comparison of the MR-J4-_B_ and MR-J5-_G_ dimensions.

For 1 kW or less, there is no difference in the dimensions of the cabinet mounting surface.

For 2 kW, the position of the mounting hole was changed from the top center to the top left.

For 3.5 kW, the mounting is not compatible.

For 5 kW, there is no difference in the dimensions of the cabinet mounting surface, but the power supply system wiring is different.

Refer to the following for details on compatibility.

☞ Page 82 Compatibility of installation clearances (only from MR-J4-500B4 to MR-J5-500G4)

For 7 kW, the mounting is not compatible.

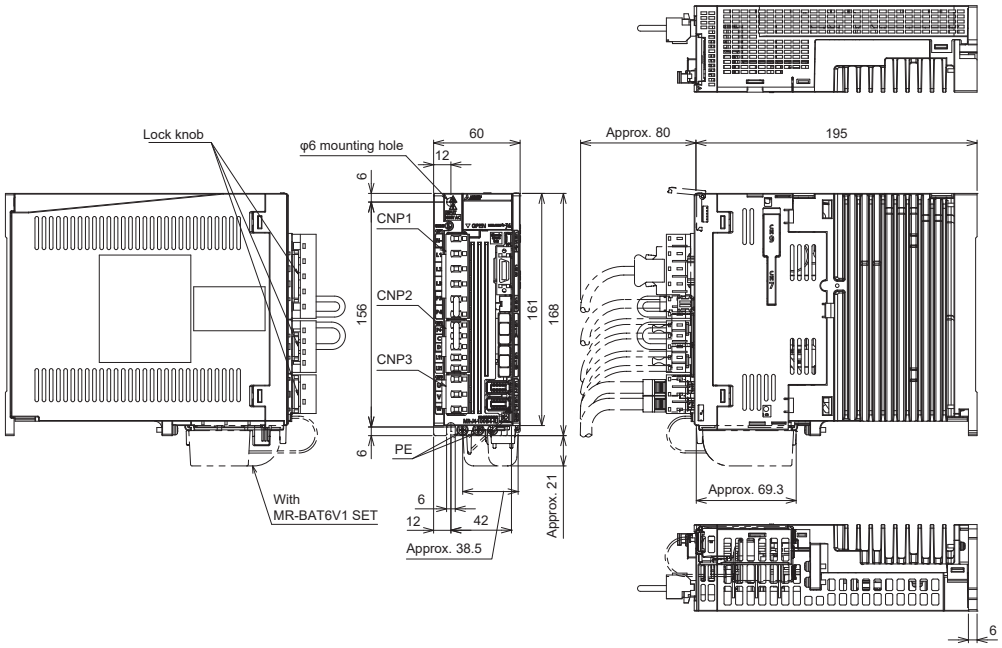
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4-_B_	Model MR-J5-_G_	Height		Width		Depth		Mounting screw pitch	
		J4B	J5G	J4B	J5G	J4B	J5G	J4B	J5G
MR-J4-60B4(-RJ)	MR-J5-60G4(-RJ)	168	■172	60	60	195	195	156 (Vertical)/42 (Horizontal) (3 screws)	156 (Vertical)/42 (Horizontal) (3 screws)
MR-J4-100B4(-RJ)	MR-J5-100G4(-RJ)								
MR-J4-200B4(-RJ)	MR-J5-200G4(-RJ)			90	90			156 (Vertical)/78 (Horizontal) (3 screws)	156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-350B4(-RJ)	MR-J5-350G4(-RJ)	250		105	■90	200	■195	235 (Vertical)/93 (Horizontal) (4 screws)	■156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-500B4	MR-J5-500G4	250	250	130	130	200	200	235 (Vertical)/118 (Horizontal) (4 screws)	235 (Vertical)/118 (Horizontal) (4 screws)
MR-J4-700B4	MR-J5-700G4	300	■250	172	■130			■285 (Vertical)/160 (Horizontal) (4 screws)	■235 (Vertical)/118 (Horizontal) (4 screws)

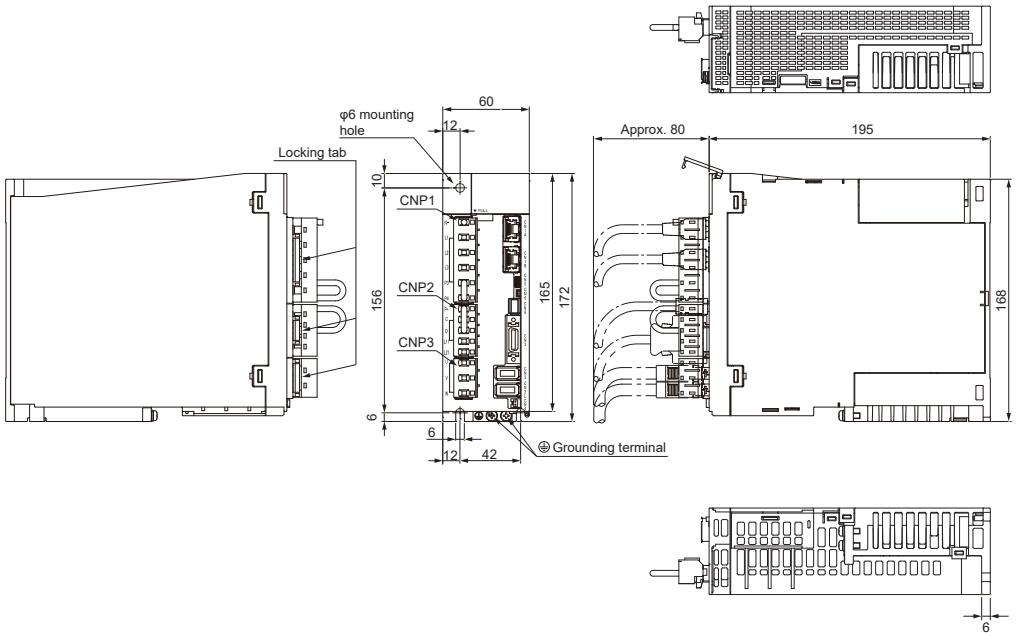
Comparison of dimensions

■Comparison of MR-J4-60B4(-RJ)/MR-J4-100B4(-RJ) and MR-J5-60G4(-RJ)/MR-J5-100G4(-RJ)

MR-J4-60B4(-RJ)/MR-J4-100B4(-RJ)

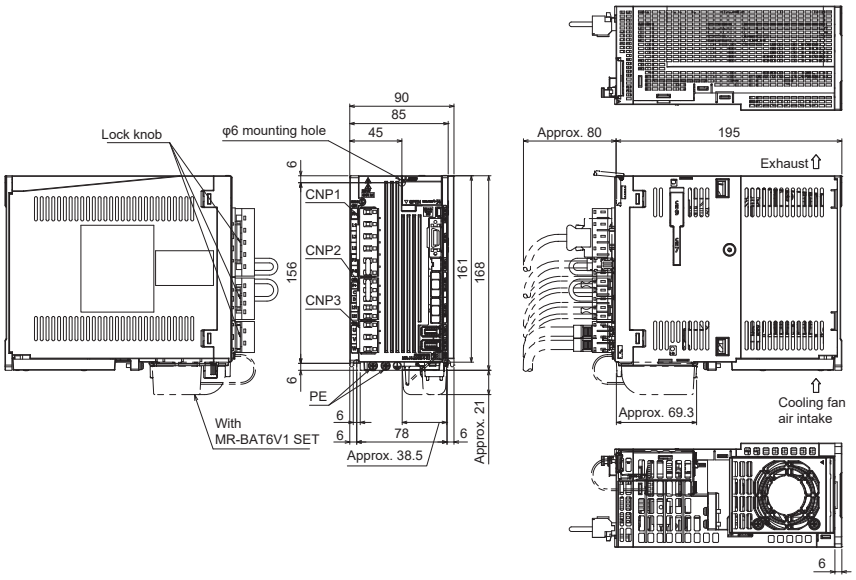


MR-J5-60G4(-RJ)/MR-J5-100G4(-RJ)

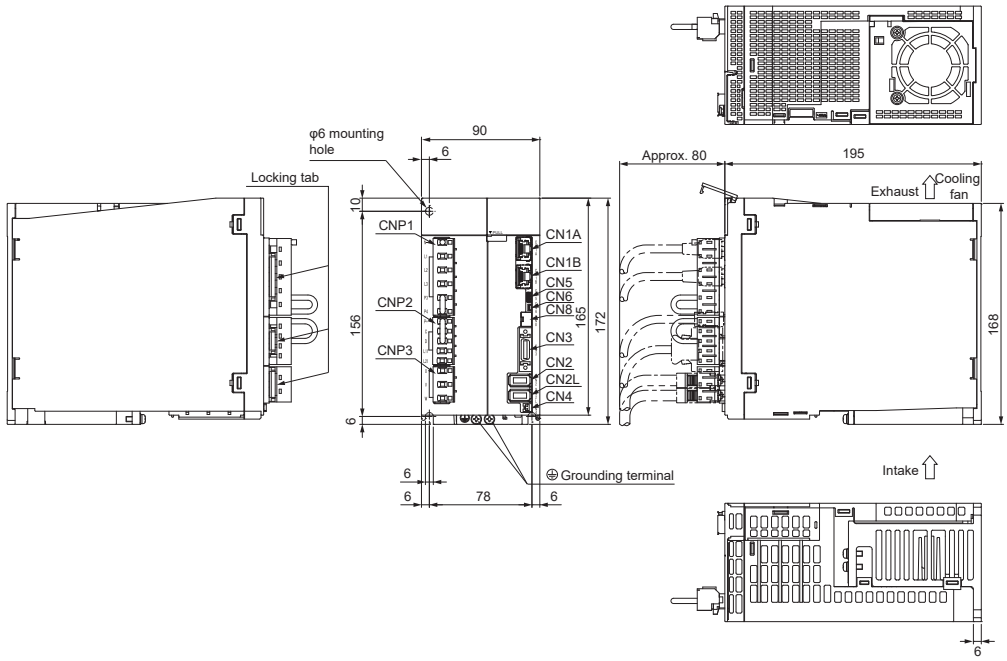


■Comparison of MR-J4-200B4(-RJ) and MR-J5-200G4(-RJ)/MR-J5-350G4(-RJ)

MR-J4-200B4(-RJ)

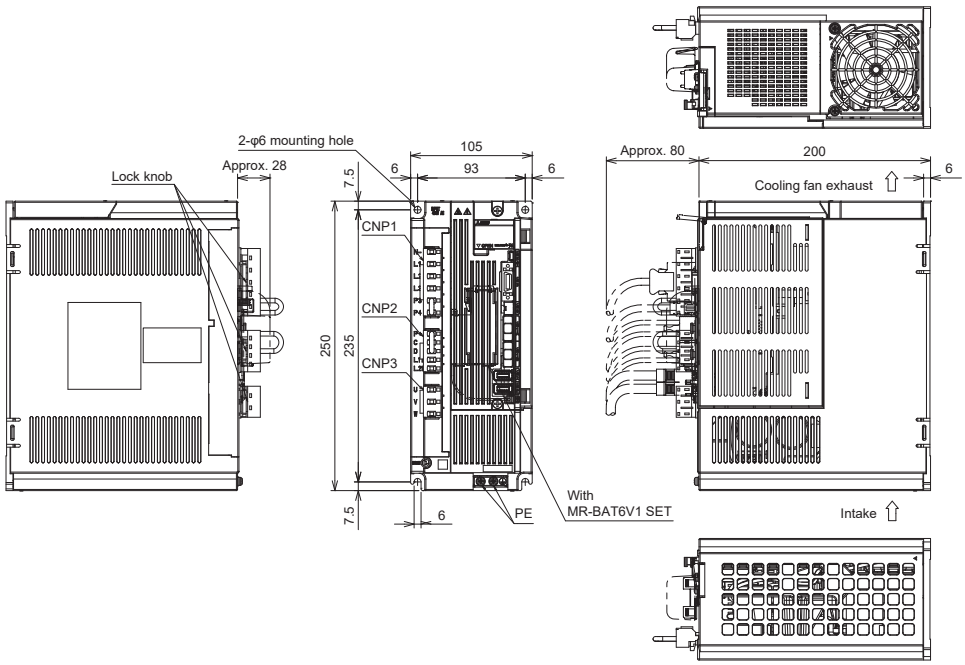


MR-J5-200G4(-RJ)/MR-J5-350G4(-RJ)

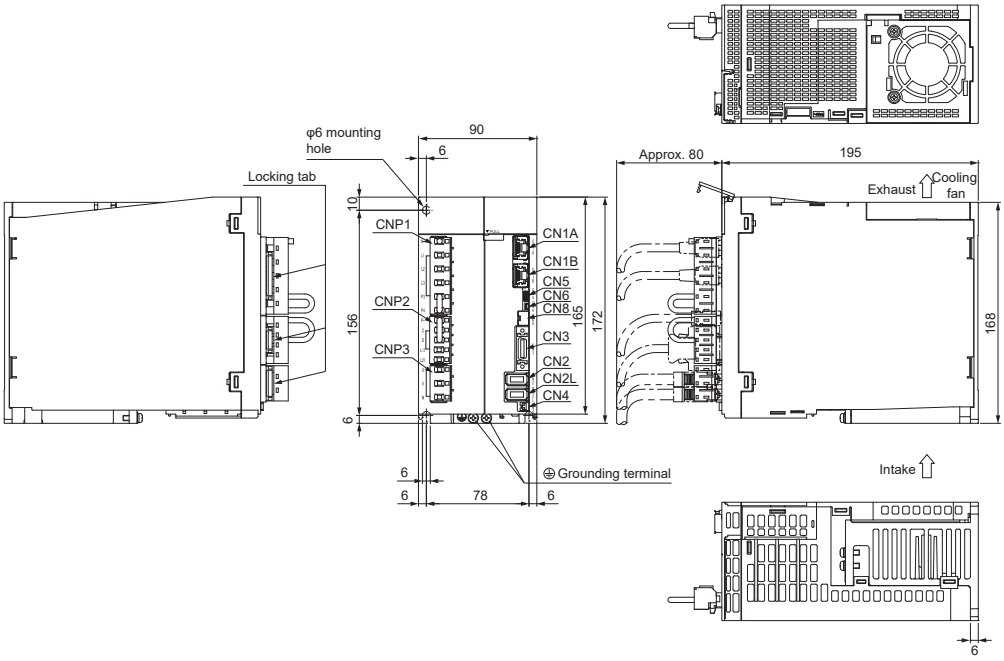


■Comparison of MR-J4-350B4(-RJ) and MR-J5-200G4(-RJ)/MR-J5-350G4(-RJ)

MR-J4-350B4(-RJ)



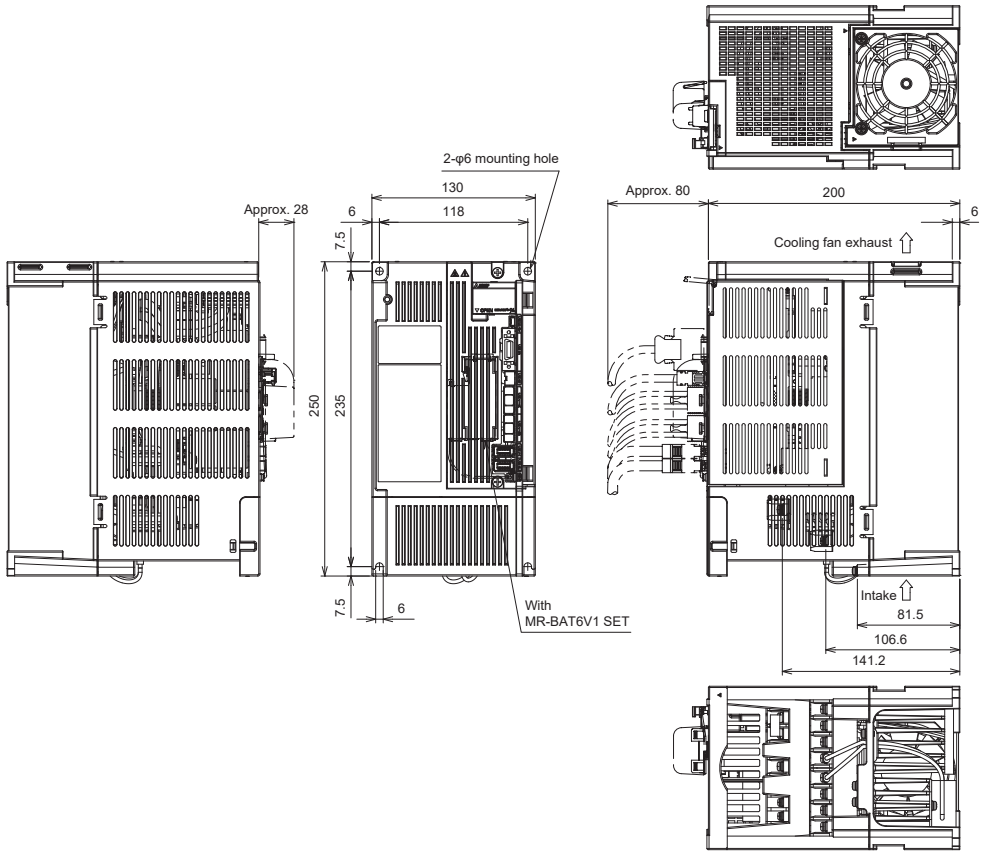
MR-J5-200G4(-RJ)/MR-J5-350G4(-RJ)



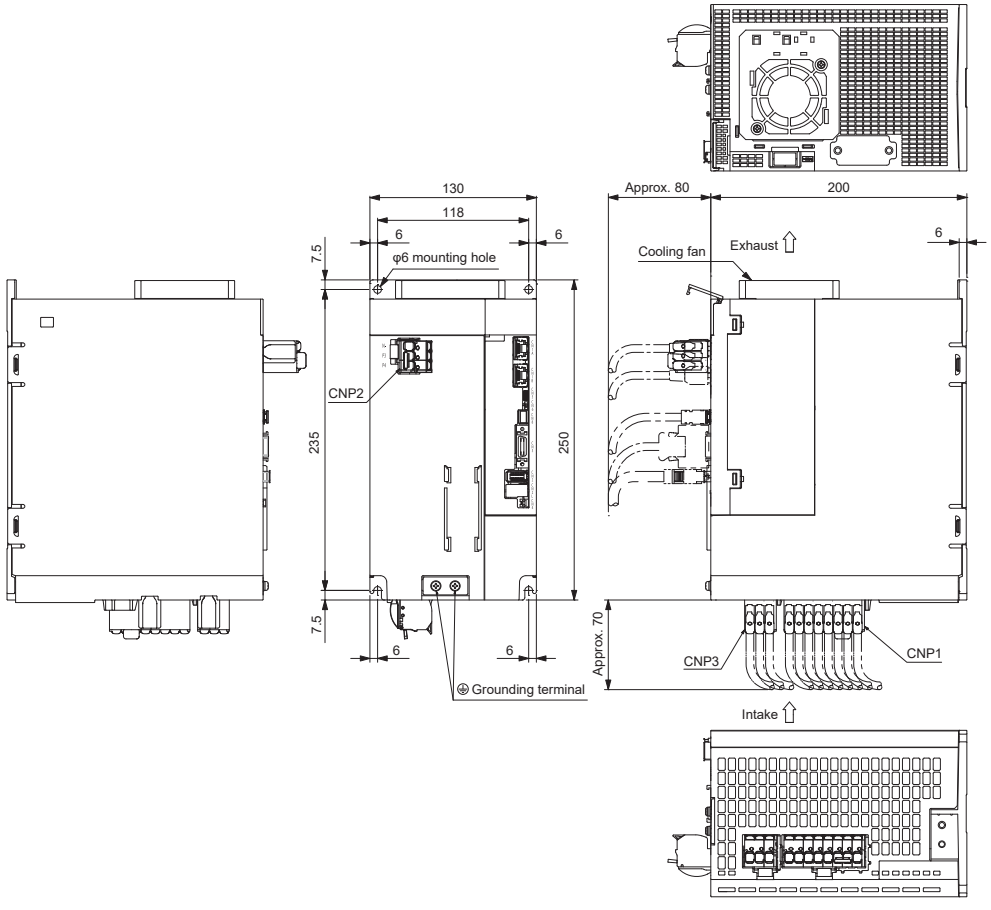
5

■Comparison of MR-J4-500B4 and MR-J5-500G4/MR-J5-700G4

MR-J4-500B4

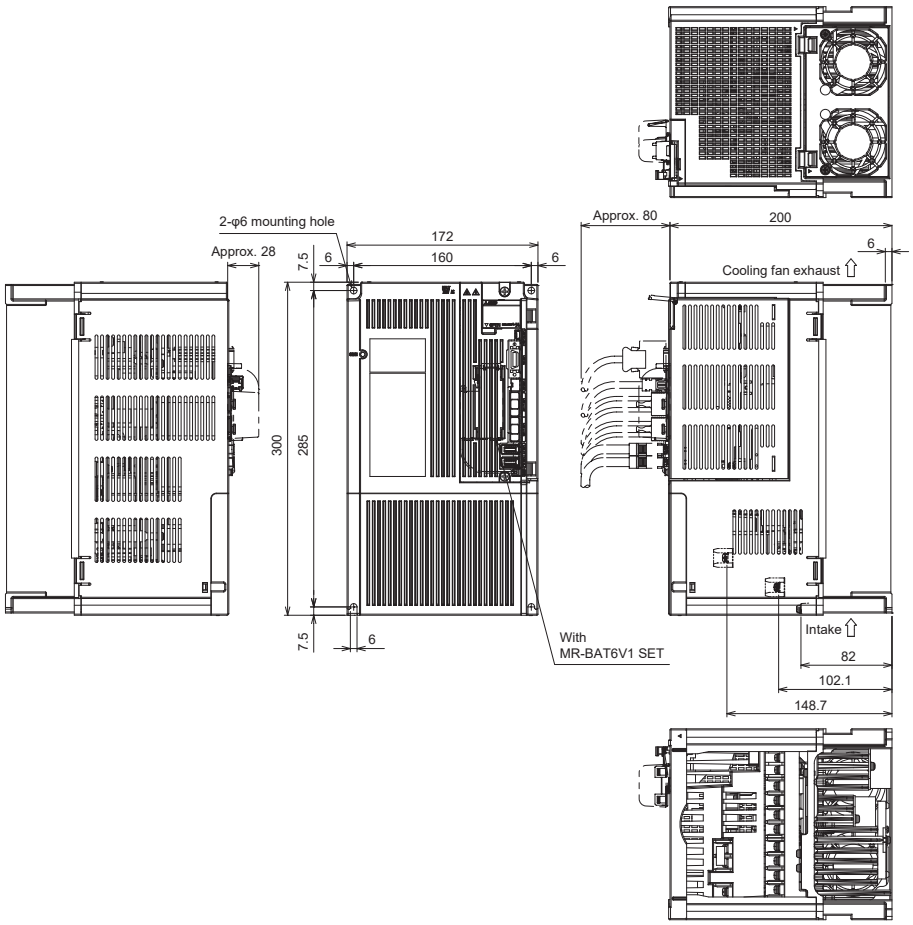


MR-J5-500G4/MR-J5-700G4

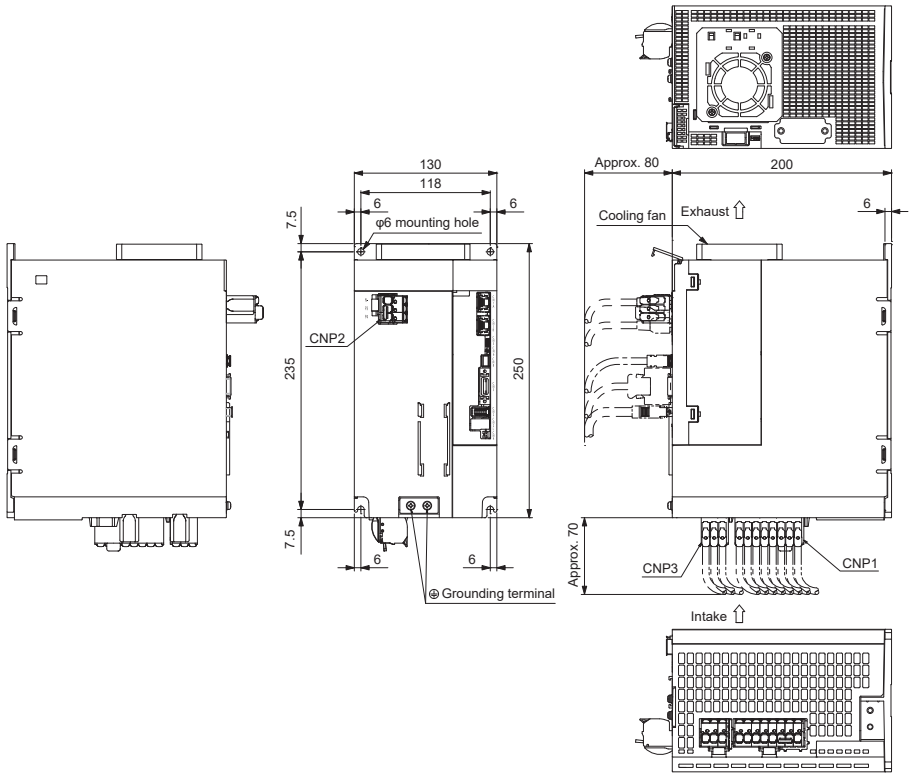


■Comparison of MR-J4-700B4 and MR-J5-500G4/MR-J5-700G4

MR-J4-700B4



MR-J5-500G4/MR-J5-700G4



Compatibility of installation clearances (only from MR-J4-500B4 to MR-J5-500G4)

Because MR-J4-500B4 and MR-J5-500G4 have different power wiring connections, the clearances between the bottom of the servo amplifier and the inside of the cabinet or other devices are different. When connecting or removing the bottom connectors (CNP1 and CNP3), ensure that the installation clearance is 70 mm or more.

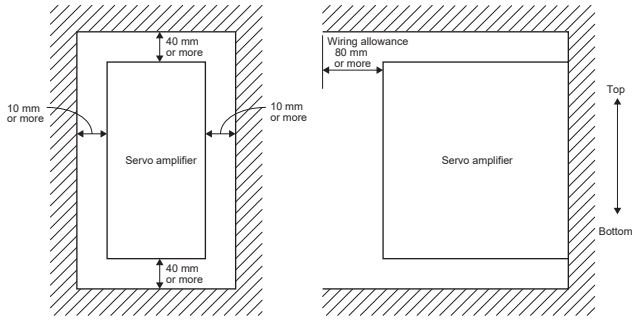
By using cables from Proterial, Ltd., the installation clearances become compatible. However, when connecting or removing the bottom connectors in the cabinet using cables, ensure that the installation clearance is 70 mm or more. To install the inverter with a narrow clearance such as 40 mm, connect the bottom connectors and then install the servo amplifier with the connectors inserted. Use the cable after removing the sheath from the cable bend.

■Comparison of installation clearances for the servo amplifier

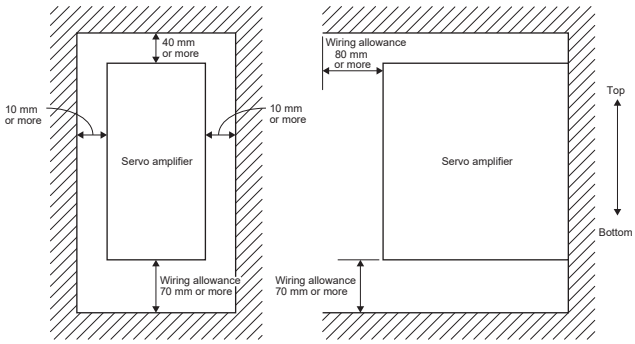
- Installation of one servo amplifier (comparison between the same capacity types)

Direction	MR-J4-500B4	MR-J5-500G4
Front	80 mm or longer	80 mm or longer
Left/right	10 mm or longer	10 mm or longer
Top	40 mm or longer	40 mm or longer
Bottom	40 mm or longer	70 mm or longer When using cables from Proterial, Ltd.: 40 mm or more

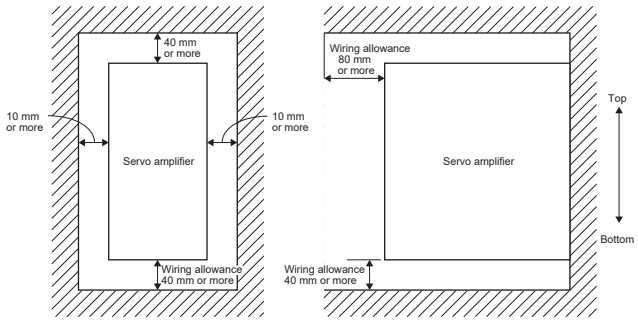
MR-J4-500B4



MR-J5-500G4



When using cables from Proterial, Ltd. for MR-J5-500G4

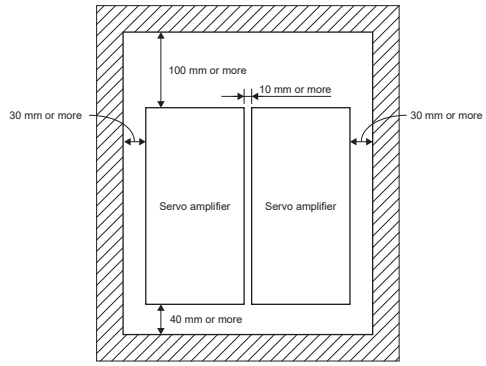


• Installation of two or more servo amplifiers (comparison between the same capacity types)

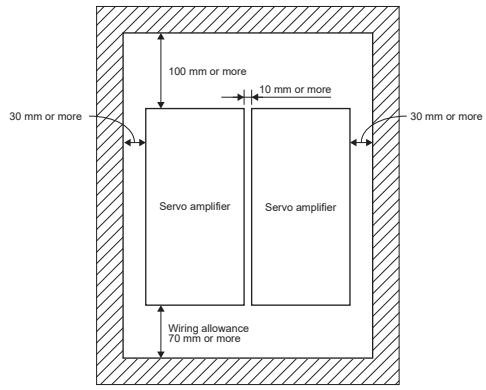
The 400 V class servo amplifiers cannot be closely mounted.

Direction	MR-J4-500B4	MR-J5-500G4
Front	80 mm or longer	80 mm or longer
Left/right	Between the servo amplifier and the inside of the cabinet or other devices: 30 mm or more Between the servo amplifiers: 10 mm or more	Between the servo amplifier and the inside of the cabinet or other devices: 30 mm or more Between the servo amplifiers: 10 mm or more
Top	40 mm or longer	40 mm or longer
Bottom	40 mm or longer	70 mm or longer When using cables from Proterial, Ltd.: 40 mm or more

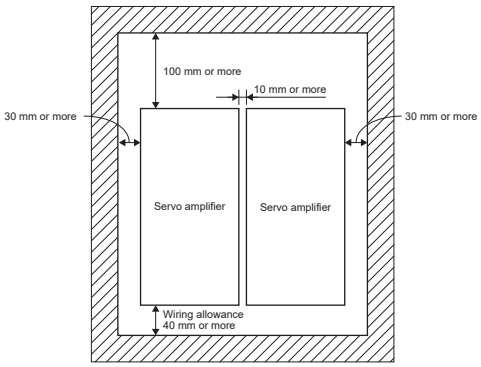
MR-J4-500B4



MR-J5-500G4



When using cables from Proterial, Ltd. for MR-J5-500G4



■ Cables from Proterial, Ltd. (recommended)

For information on purchasing cables, contact Proterial, Ltd. from their website.

https://www.proterial.com/e

When contacting Proterial, Ltd., please provide them with the following product name abbreviation and specification No.

Product name abbreviation	Specification No.	Size	Number of cores	Shield	Connection destination
UL2570 2X14AWG (41/0.26) LF	SP23-60528	AWG 14	2	Not available	L11, L21, P+, C
UL2570-SB 2X14AWG (41/0.26) LF				Available	
UL2570 3X12AWG (65/0.26) LF		AWG 12	3	Not available	L1, L2, L3, U, V, W, PE
UL2570-SB 3X12AWG (65/0.26) LF				Available	
UL2570 4X12AWG (65/0.26) LF			4	Not available	
UL2570-SB 4X12AWG (65/0.26) LF				Available	

Multi-axis servo amplifier

Comparison of dimensions

The following table shows comparison of the MR-J4W_-_B and MR-J5W_-_G dimensions.

For the MR-J4W2-_B, there is no difference in the dimensions of the cabinet mounting surface.

For the MR-J4W3-_B, the mounting is not compatible.

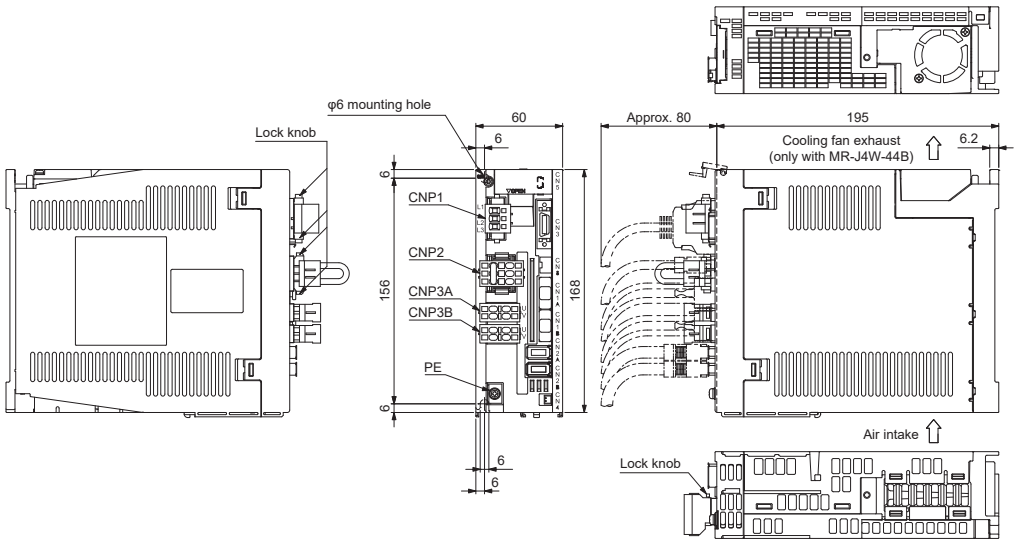
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4W_-_B	Model MR-J5W_-_G	Height		Width		Depth		Mounting screw pitch	
		J4WB	J5WG	J4WB	J5WG	J4WB	J5WG	J4WB	J5WG
MR-J4W2-22B	MR-J5W2-22G	168	■172	60	60	195	195	156 (Vertical) (2 places)	156 (Vertical) (2 places)
MR-J4W2-44B	MR-J5W2-44G								
MR-J4W2-77B	MR-J5W2-77G			85	85			156 (Vertical)/73 (Horizontal) (3 screws)	156 (Vertical)/73 (Horizontal) (3 screws)
MR-J4W2-1010B	MR-J5W2-1010G								
MR-J4W3-222B	MR-J5W3-222G				■75			156 (Vertical)/73 (Horizontal) (3 screws)	■156 (Vertical)/63 (Horizontal) (3 screws)
MR-J4W3-444B	MR-J5W3-444G								

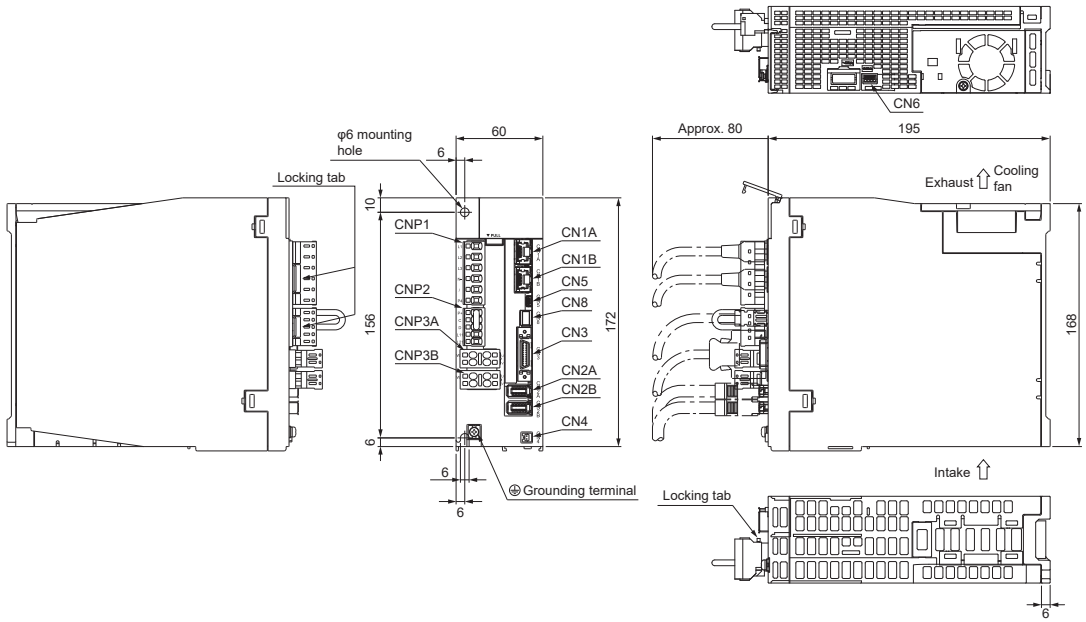
Comparison of dimensions

■Comparison of MR-J4W2-22B/MR-J4W2-44B and MR-J5W2-22G/MR-J5W2-44G

MR-J4W2-22B/MR-J4W2-44B



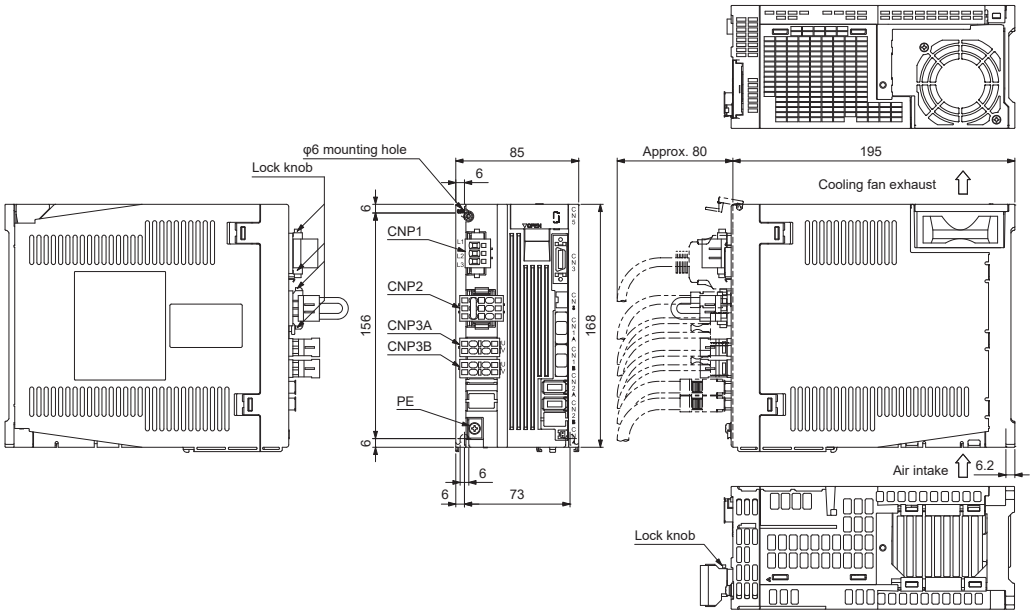
MR-J5W2-22G/MR-J5W2-44G



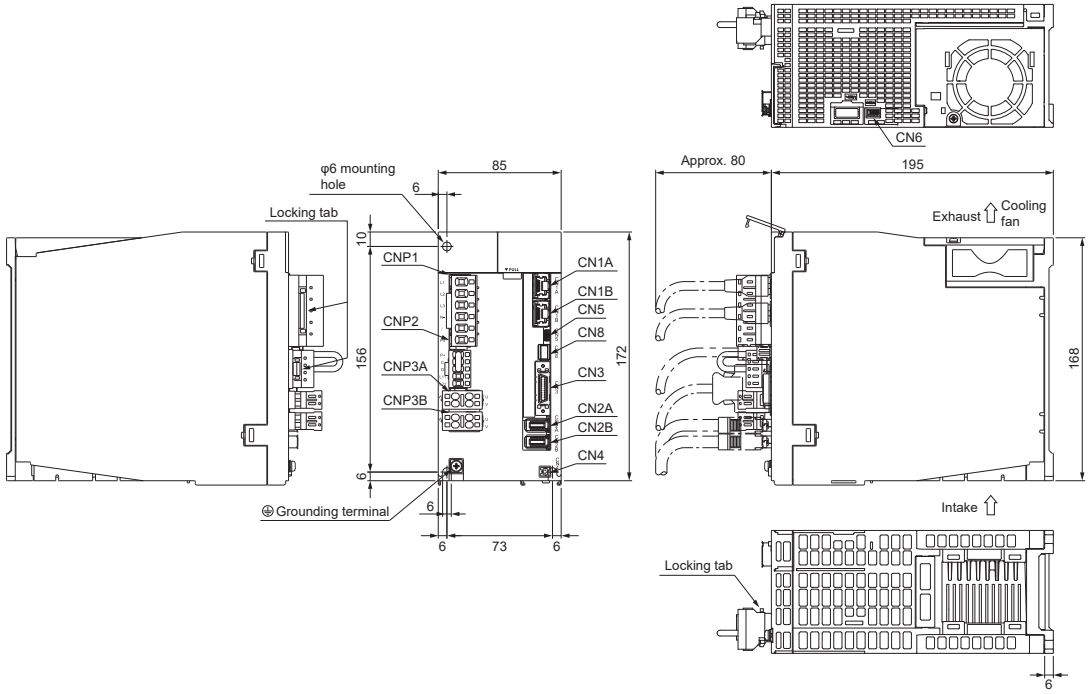
5

■Comparison of MR-J4W2-77B/MR-J4W2-1010B and MR-J5W2-77G/MR-J5W2-1010G

MR-J4W2-77B/MR-J4W2-1010B

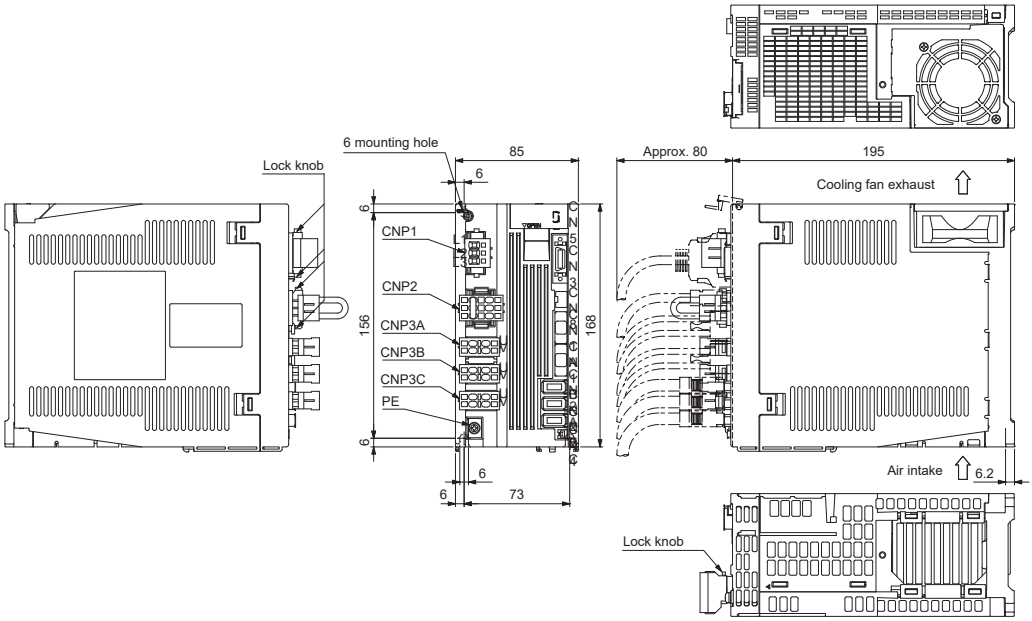


MR-J5W2-77G/MR-J5W2-1010G

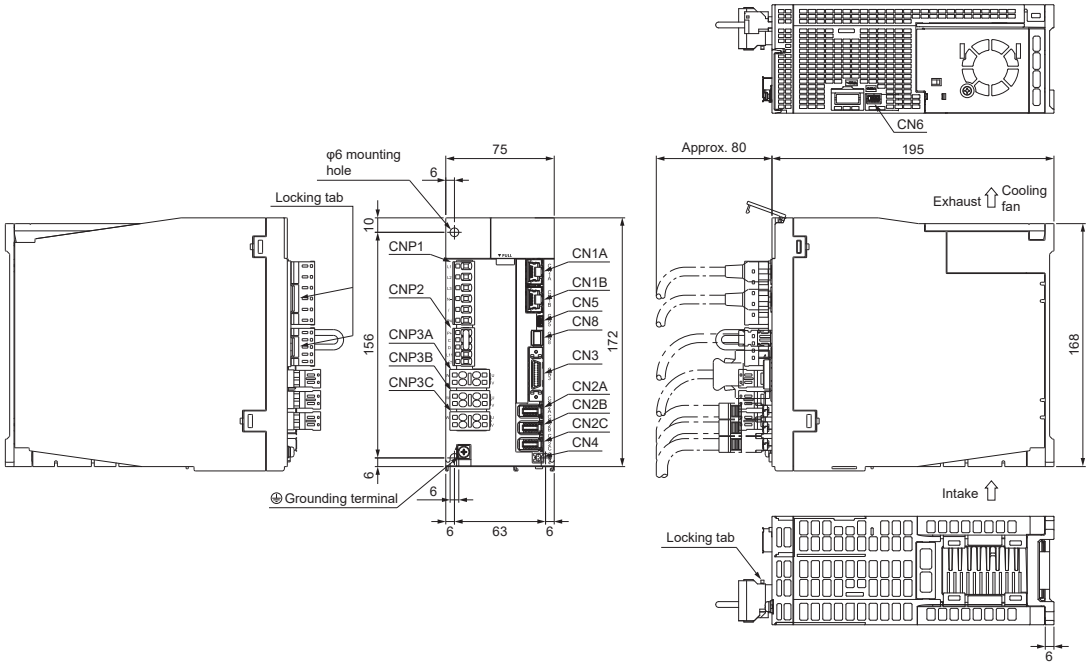


■Comparison of MR-J4W3-222B/MR-J4W3-444B and MR-J5W3-222G/MR-J5W3-444G

MR-J4W3-222B/MR-J4W3-444B



MR-J5W3-222G/MR-J5W3-444G



5.5 Servo Amplifier Initializing Time

This section shows the initializing time of the servo amplifier (time from when the power is turned on until the servo-on command is received). As the initializing time is different between the MR-J4 series and MR-J5 series, be careful with the difference in the initializing time.

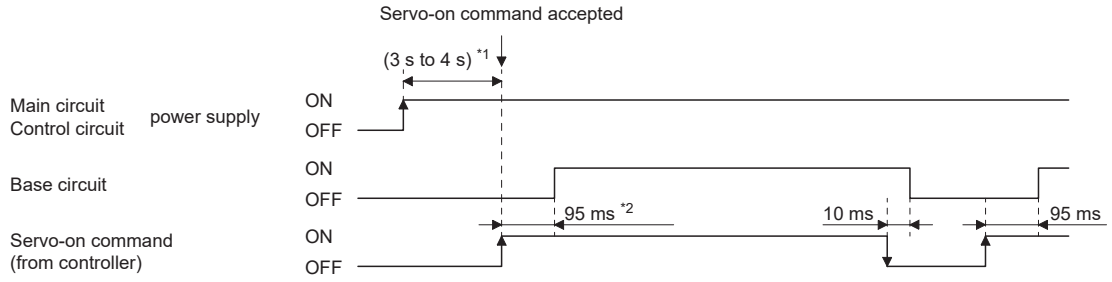
Precautions

- When using the electromagnetic brake to prevent a drop in a vertical lift application or the like with an external timer to adjust the brake release time, the lift may drop due to a longer servo-lock time. Adjust the brake release time as necessary or use MBR (electromagnetic brake interlock signal).
- A longer servo-on time at power-on may cause a delay in the servo motor starting time after power-up.

1-axis servo amplifier

MR-J4-_B_

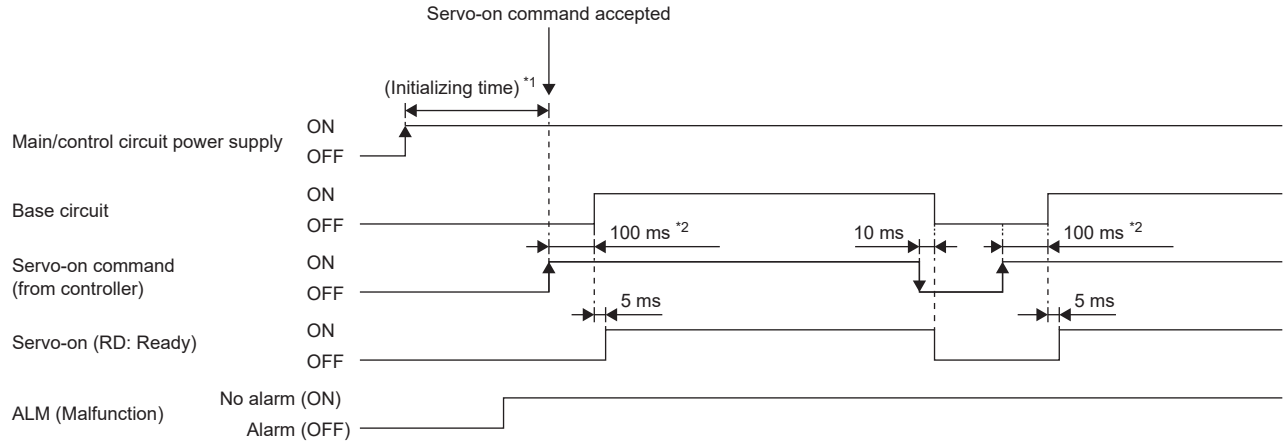
The initializing time is 3 to 4 s.



*1 The time will be 5 to 6 s in a linear servo system and fully closed loop system.
*2 The time will be longer in the magnetic pole detection of a linear servo motor and direct drive motor.

MR-J5-_G_

The initializing time is 2.5 s to 3.5 s and initial network communication.

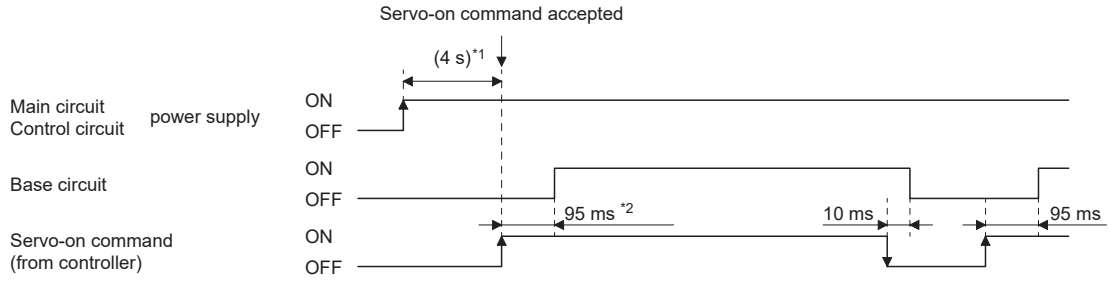


*1 For a linear servo system and fully closed loop system, this time is 2 s longer.
*2 The time will be longer in the magnetic pole detection of a linear servo motor and direct drive motor.

Multi-axis servo amplifier

MR-J4W_-_B

The initializing time is about 4 s.

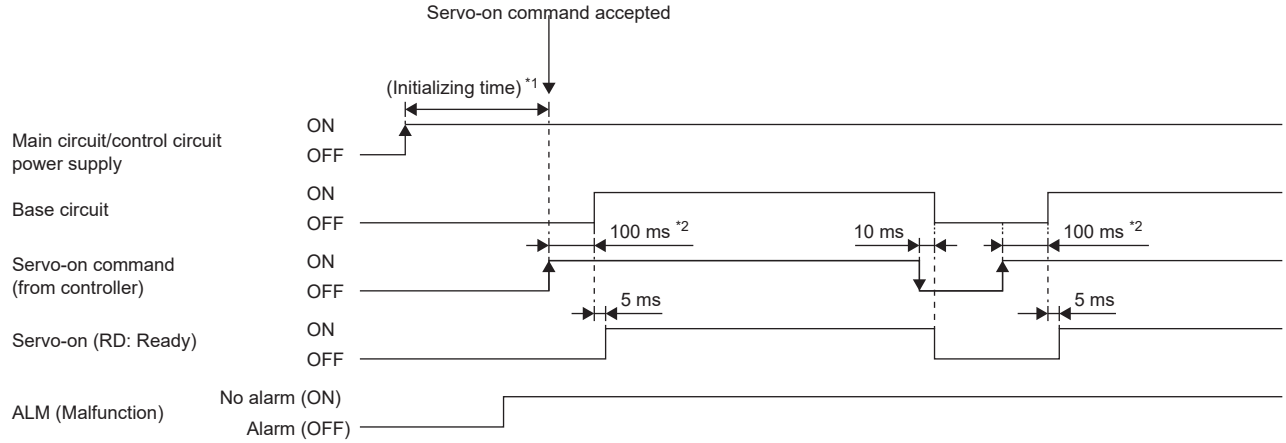


*1 The time will be about 6 s in a linear servo system and fully closed loop system.

*2 The time will be longer in the magnetic pole detection of a linear servo motor and direct drive motor.

MR-J5W_-_G

The initializing time is 3.5 s to 4.0 s and initial network communication.



*1 For a linear servo system, this time is 2 s longer.

*2 The time will be longer in the magnetic pole detection of a linear servo motor and direct drive motor.

5.6 Peripheral Equipment Compatibility Comparison

Refer to the following for details.

☞ Review on Replacement of Optional Peripheral Equipment

6 SERVO PARAMETER CONVERSION

6.1 Procedure for Servo Parameter Conversion

The parameter converter function converts the servo parameters of the MR-J4-_B_/MR-J4W_-_B to the servo parameters of the MR-J5-_G_/MR-J5W_-_G_.

The parameter converter function can be used with GX Works3 or MR Configurator2.

To convert servo parameters simultaneously with creating a programmable controller project, refer to the following.

☞ Page 92 When converting from GX Works3 using the parameter converter function

To convert servo parameters separately from creating a programmable controller project, refer to the following.

☞ Page 101 When converting from MR Configurator2 using the parameter converter function

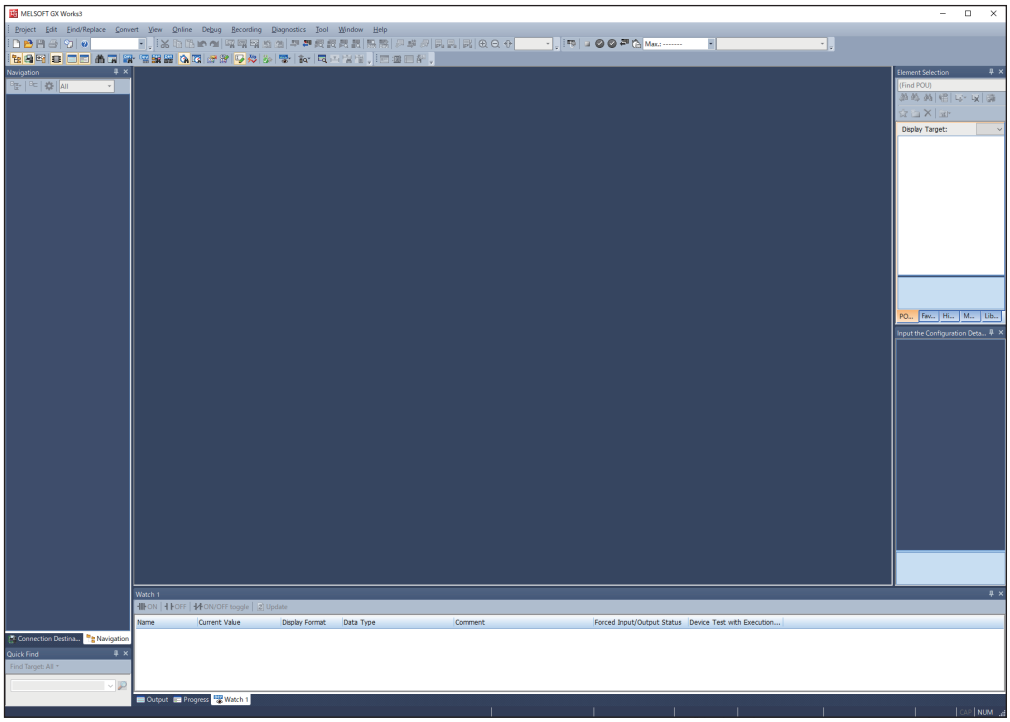
Point

- Only servo parameters that are common for the MR-J4-_B_/MR-J4W_-_B and MR-J5-_G_/MR-J5W_-_G_ can be converted. The values of the servo parameters that are newly added in the MR-J5-_G_/MR-J5W_-_G_ will be the initial values.
- Output the parameter file for the MR-J4_-_B_ in advance. Import the parameter file for each axis and convert it using the parameter converter function.

When converting from GX Works3 using the parameter converter function

The following gives an example when slot No. 0 of the base unit is mounted on a Motion module RD78G4(S).

1. Start up GX Works3.

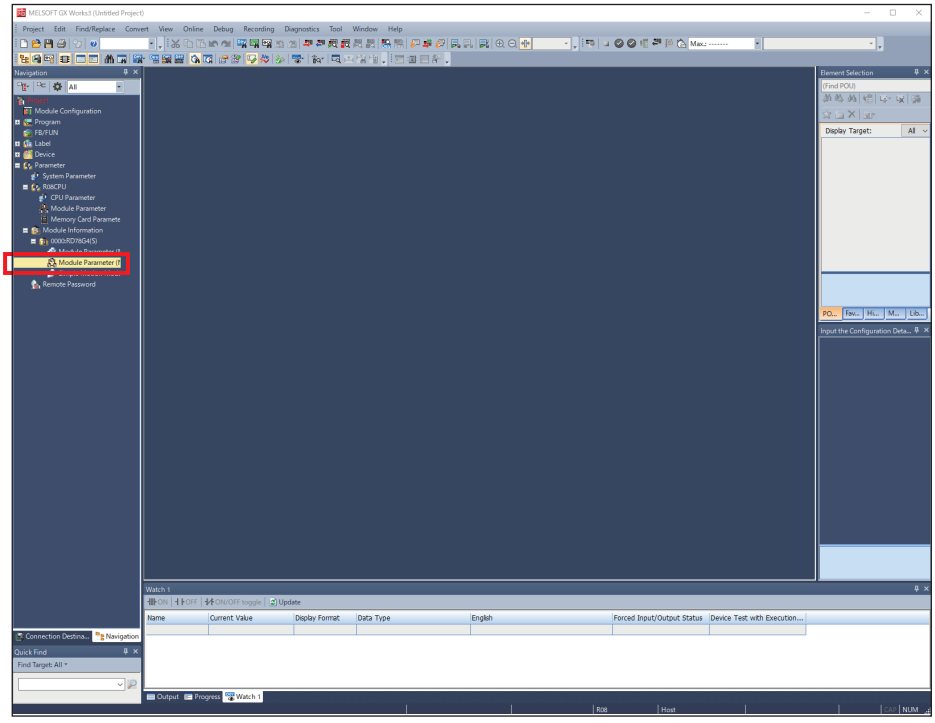


2. Open the programmable controller project converted to Motion module RD78G(S).

From the menu, select [Project] ⇨ [Open], select the converted project, and click [Open].

3. Open the Module Parameter window.

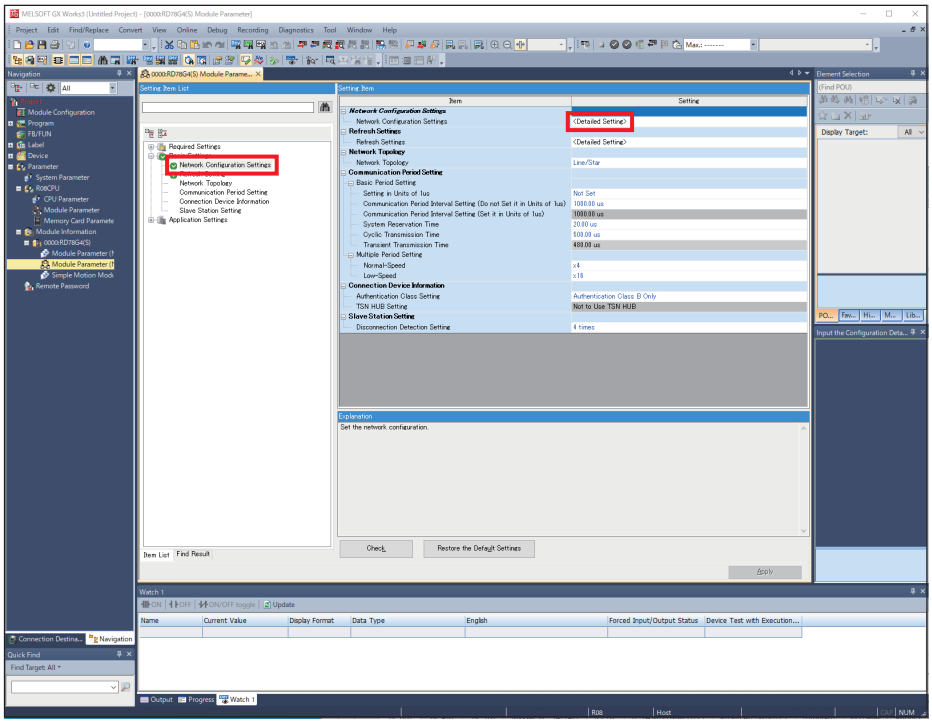
On the navigation window, go to [Parameter] ⇨ [Module Information] ⇨ [0000:RD78G4(S)], and double-click [Module Parameter (Network)].



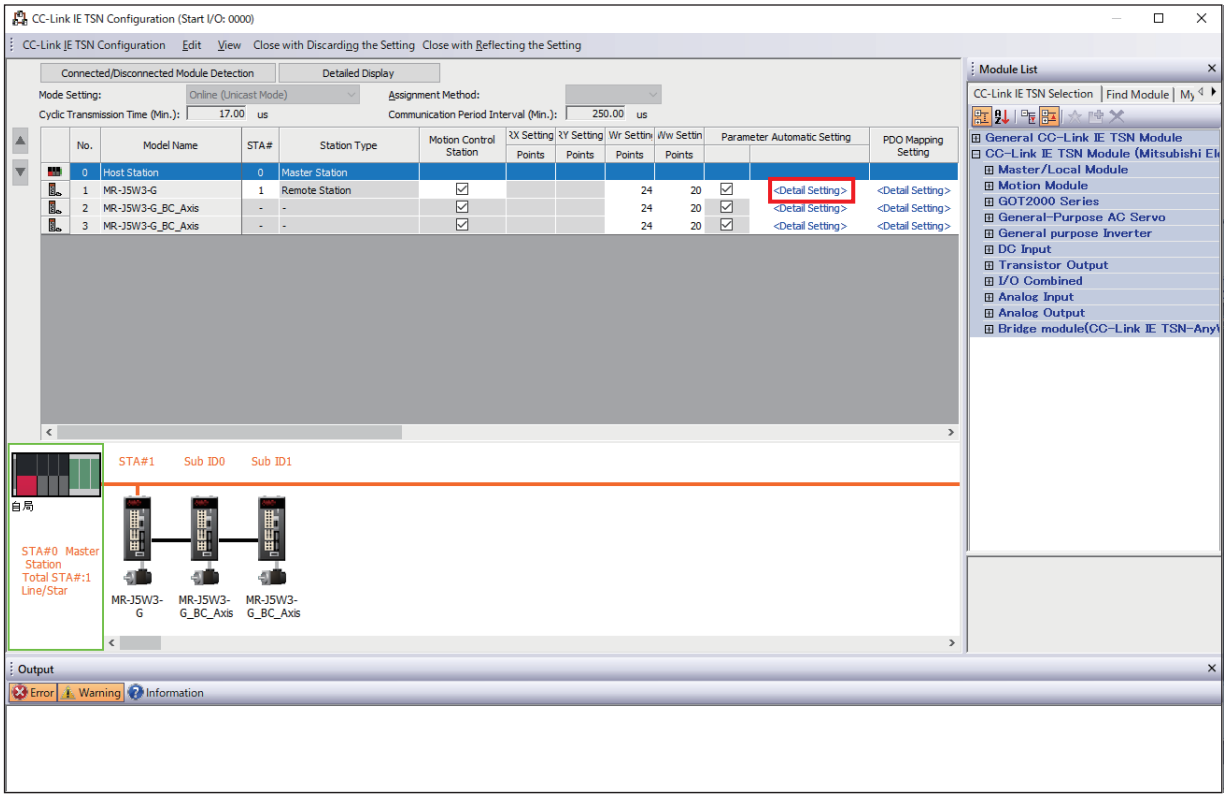
4. Open the CC-Link IE TSN configuration window.

From the setting item list in the module parameter window, click [Basic Settings].

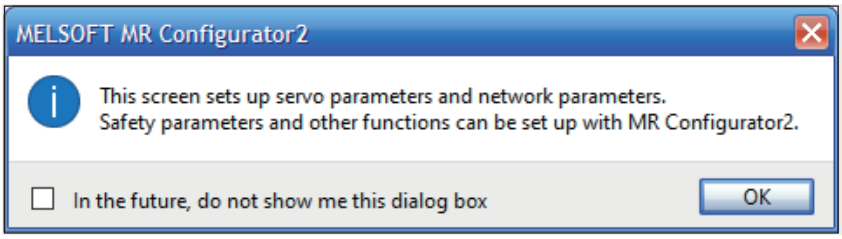
Select [Network Configuration Settings] in the setting item and double-click "<Detailed Setting>".



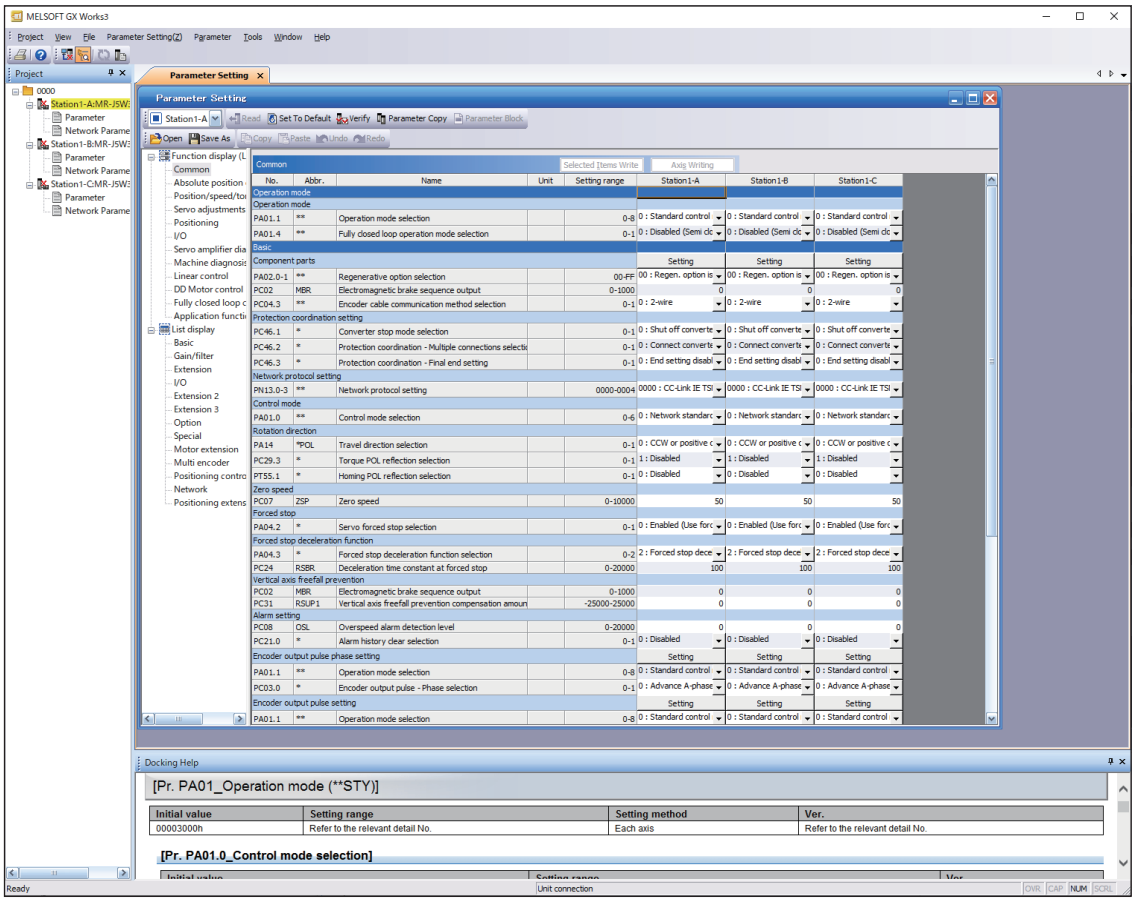
5. In the CC-Link IE TSN Configuration window, confirm that a check is placed in [Parameter Automatic Setting], then double-click "<Detail Setting>".



Once the following window is displayed, click [OK].

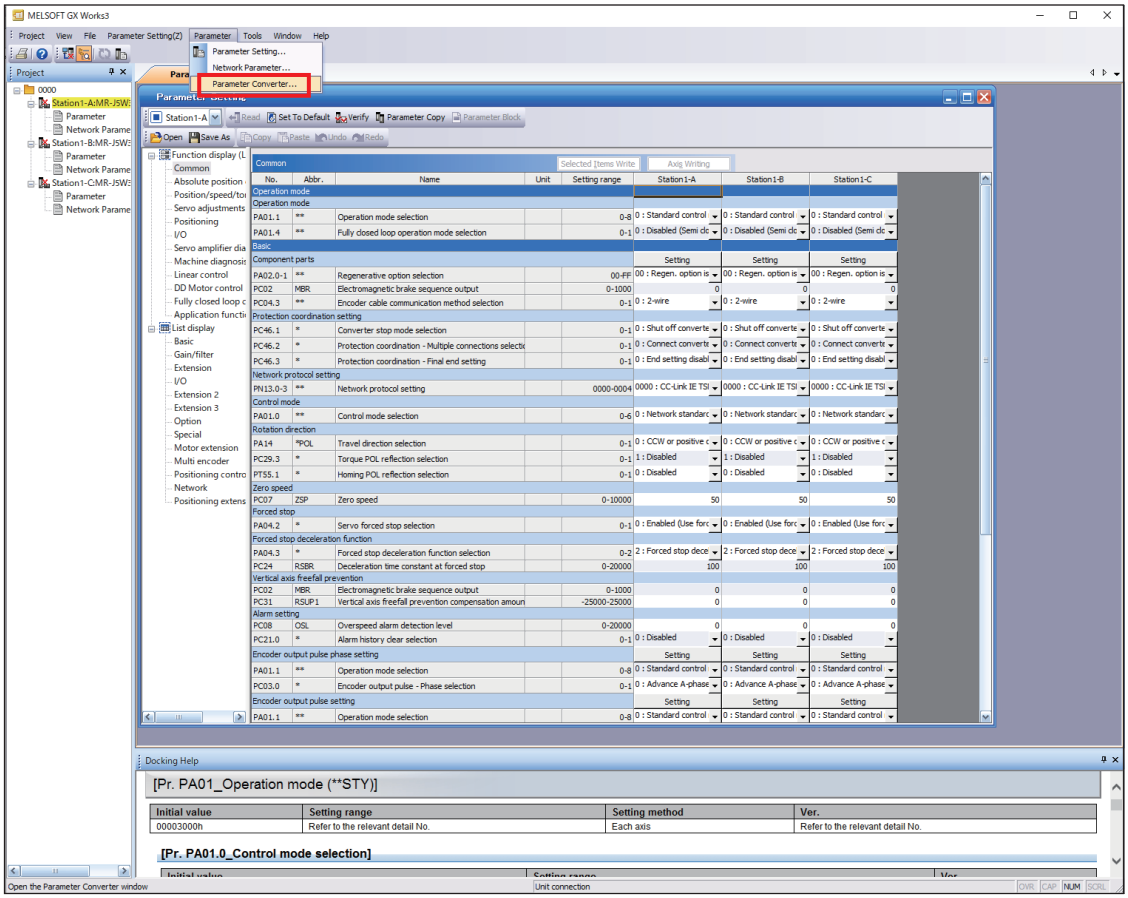


Clicking [OK] in the message window starts MR Configurator2.

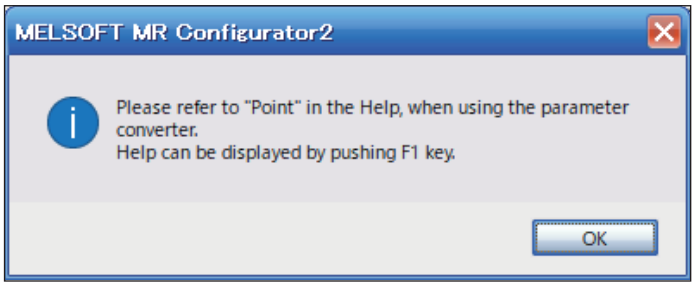


6. Display the parameter converter window.

From the menu, click [Parameter] ⇨ [Parameter Converter].

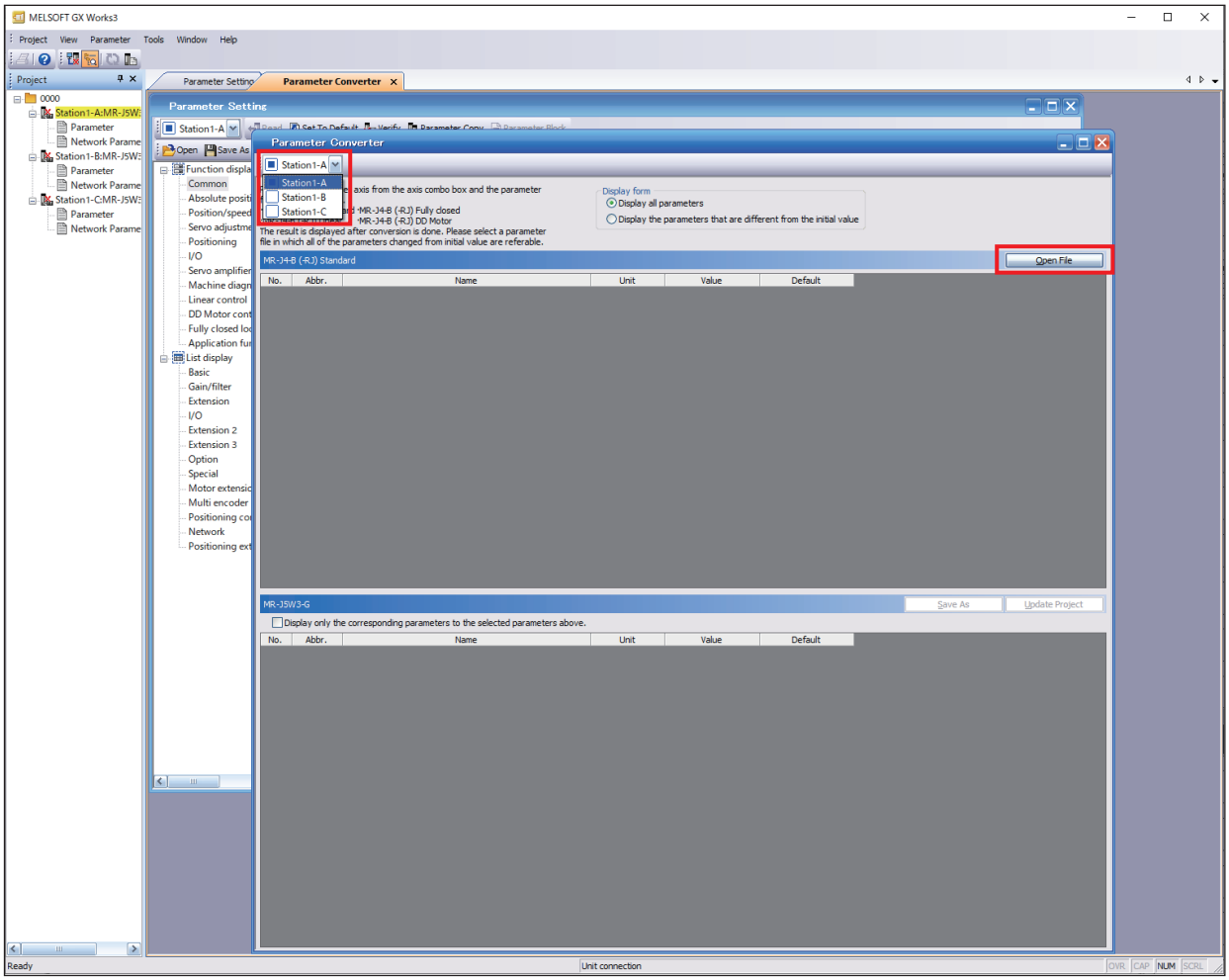


Once the following window is displayed, click [OK].

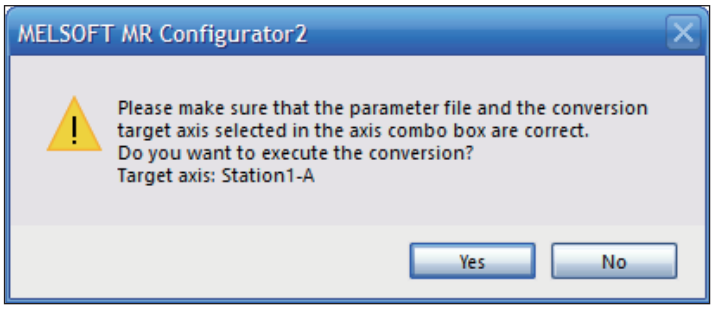


7. Convert the parameter file.

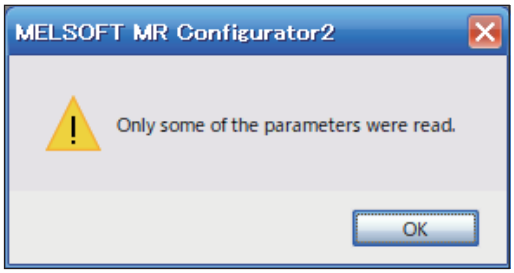
From the pull-down menu in the top left of the parameter converter window, select the axis to which the parameters are to be set. Next, click [Open File] and select the parameter file for the MR-J4_-_B_ that has been output in advance.



Once the following window is displayed, click [Yes].

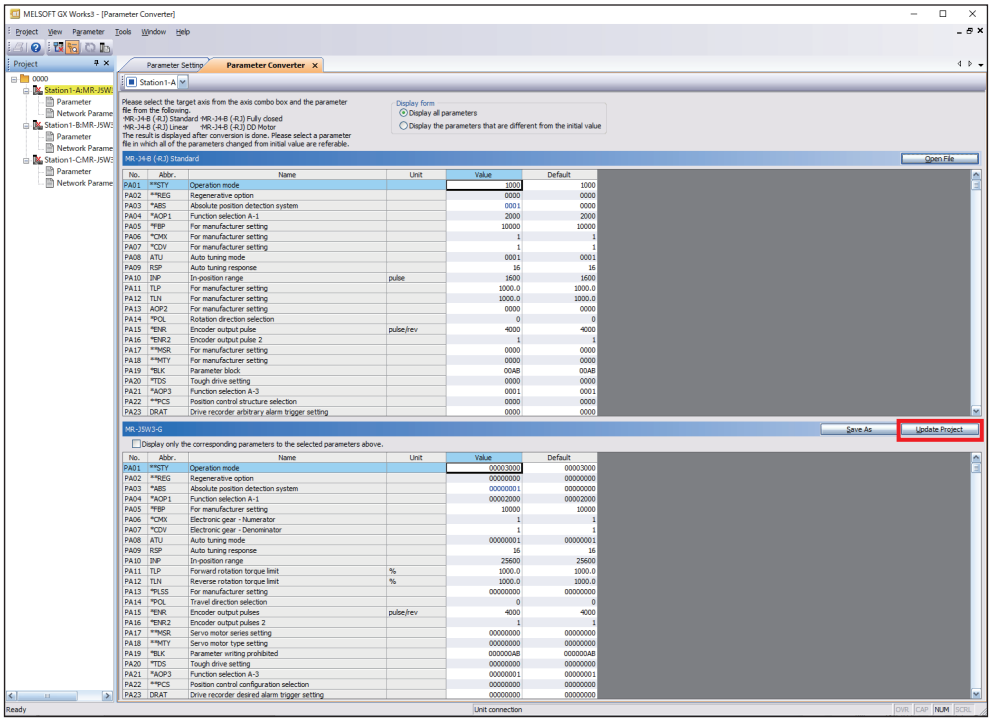


Once the following window is displayed, click [OK].

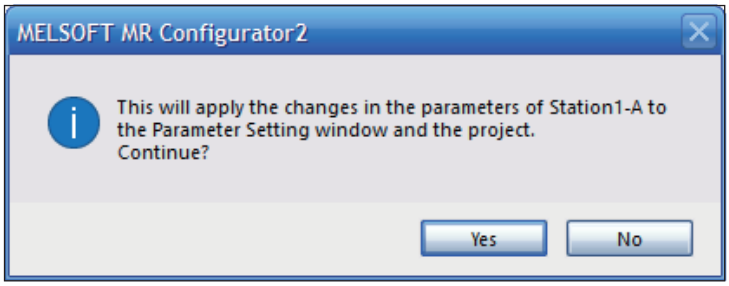


8. Reflect the servo parameters.

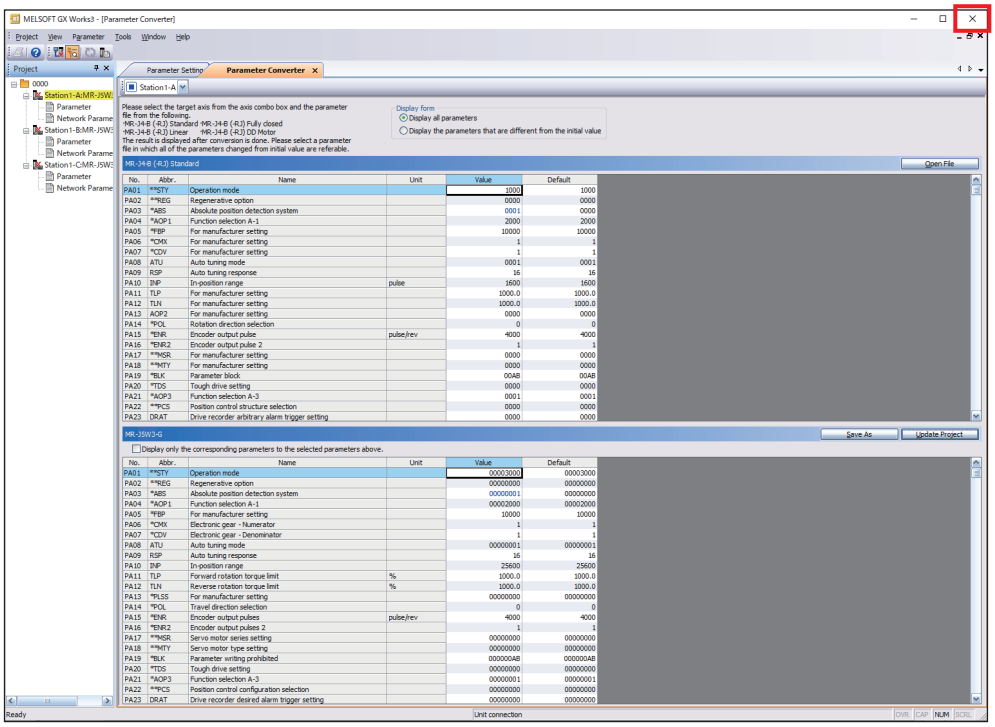
Click [Update Project] in the parameter converter window.



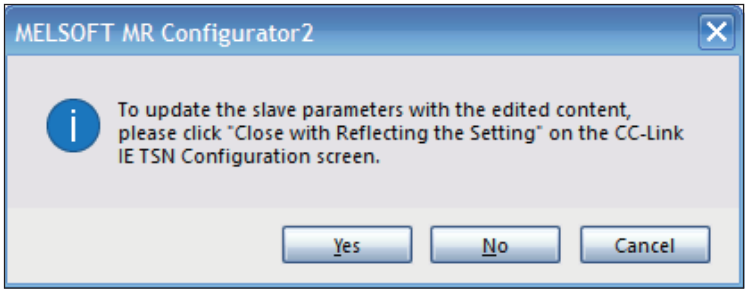
Check that the station No. shown in the following window message matches the intended station No. of the CC-Link IE TSN configuration, then click [Yes]. The servo parameters will be reflected to the servo amplifier whose station No. is displayed. If the displayed station No. does not match the intended one, click [No]. Select the intended station No. from the combo box in the top left of the Parameter Converter window and click [Update Project] to reflect the servo parameters.



9. Once the servo parameters are reflected, the parameters of the target axis will be updated. Check the parameter values and close the window shown below.

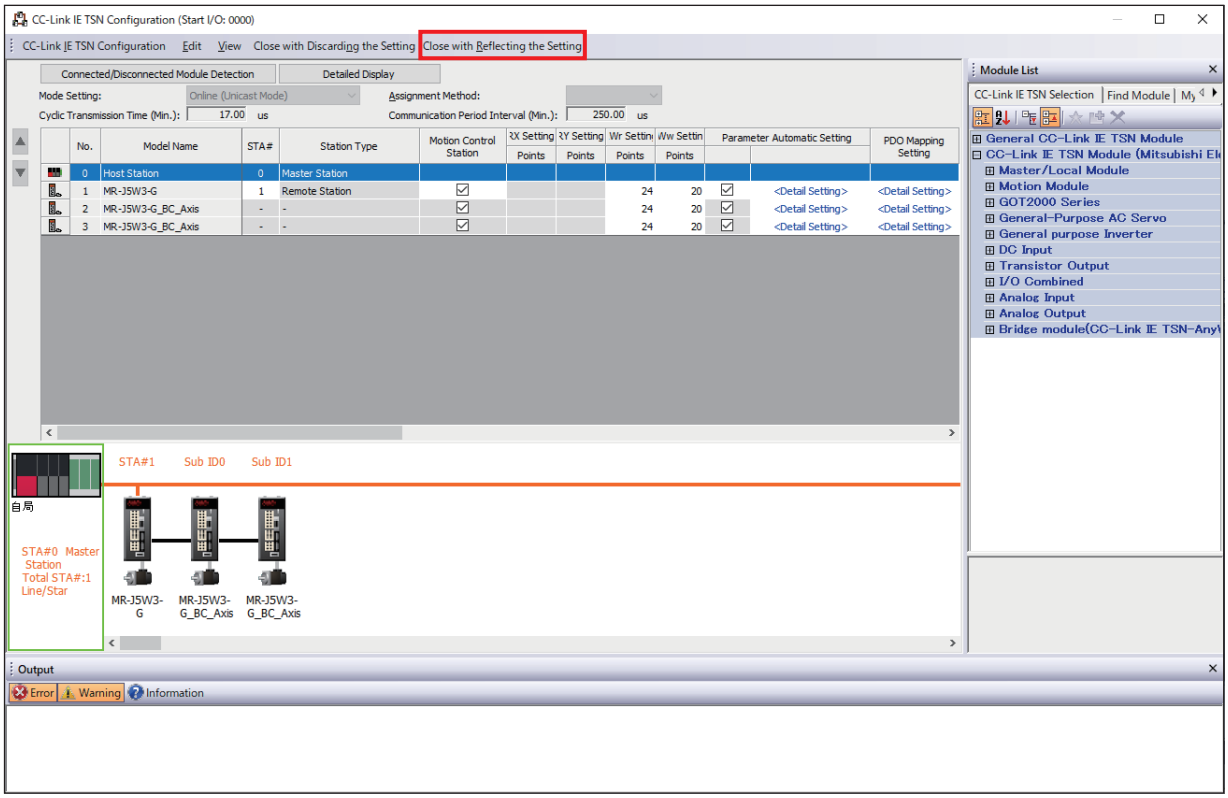


Once the following window is displayed, click [Yes].

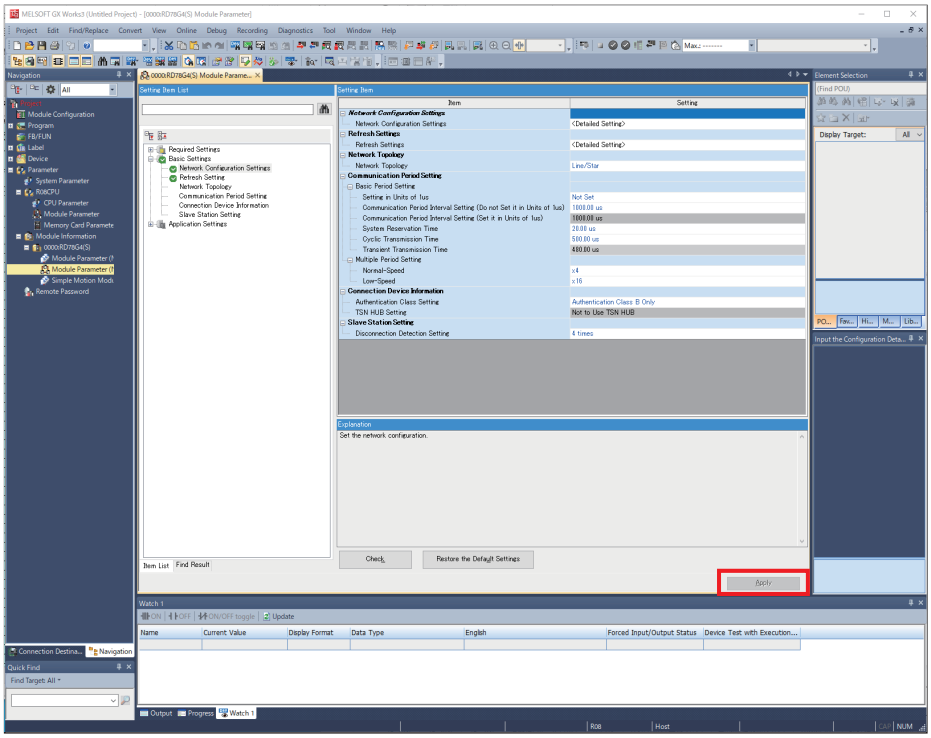


10. Reflect the servo parameters to the project.

In the CC-Link IE TSN Configuration window, confirm that a check is placed in [Parameter Automatic Setting], then click [Close with Reflecting the Setting].



11. Click [Apply] in the module parameter window.



12. From the menu, click [Project] ⇨ [Save].

When converting from MR Configurator2 using the parameter converter function

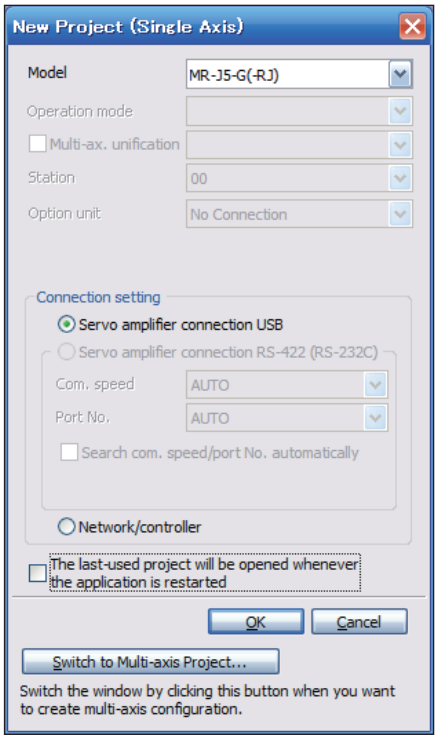
"MR-J5-G(-RJ)" project creation is used as an example for explanation.

1. Start MR Configurator2.



2. Create a new project for the MR-J5-_G_.

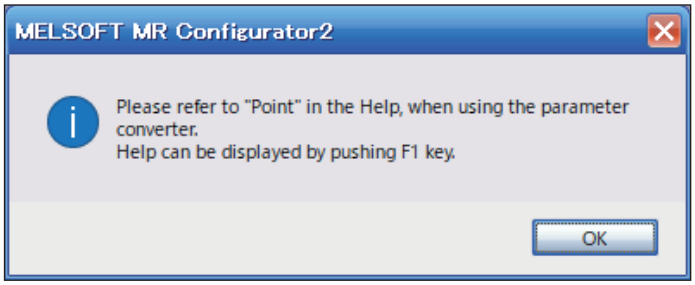
From the menu, click [Project] ⇨ [New]. In the [New Project (Single Axis)] window displayed, select "MR-J5-G(-RJ)" for [Model]. Then, click [OK] to create a new project.



3. Display the parameter converter window.

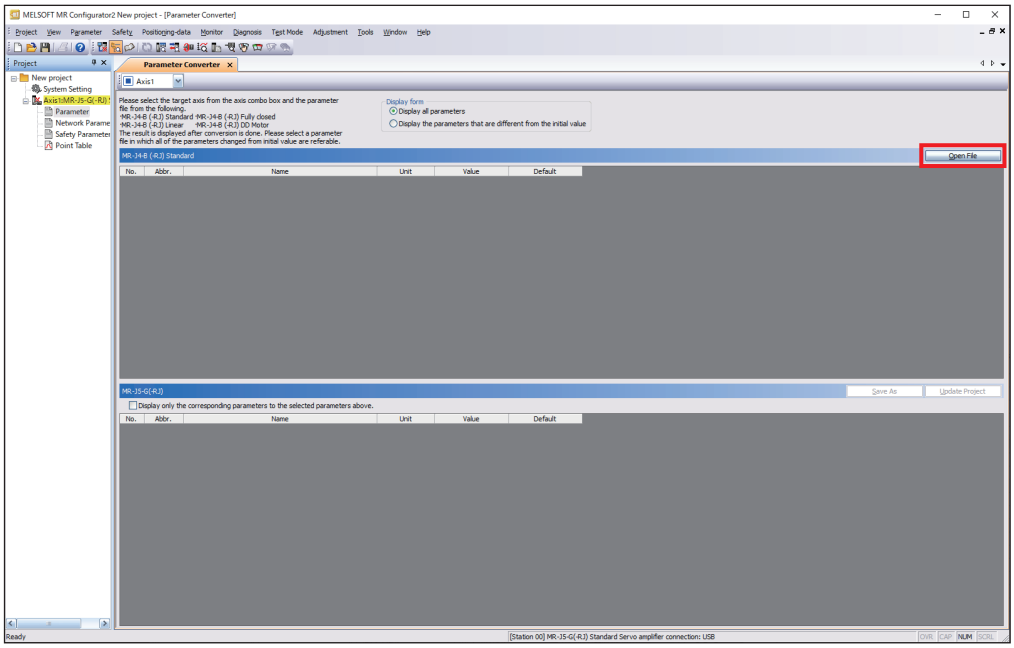
From the menu, click [Parameter] ⇨ [Parameter Converter].

Once the following window is displayed, click [OK].

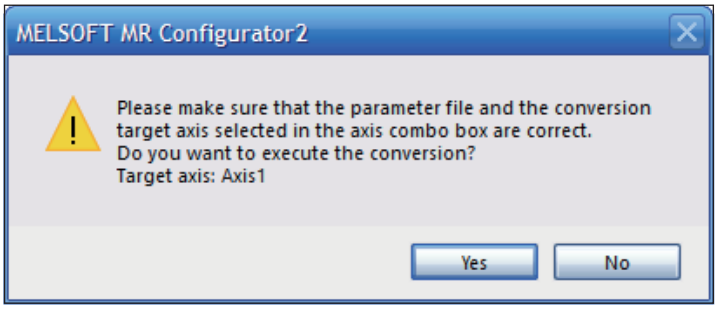


4. Convert the parameter file.

Click [Open File] in the parameter converter window and select the parameter file for the MR-J4_-_B_ that has been output in advance.



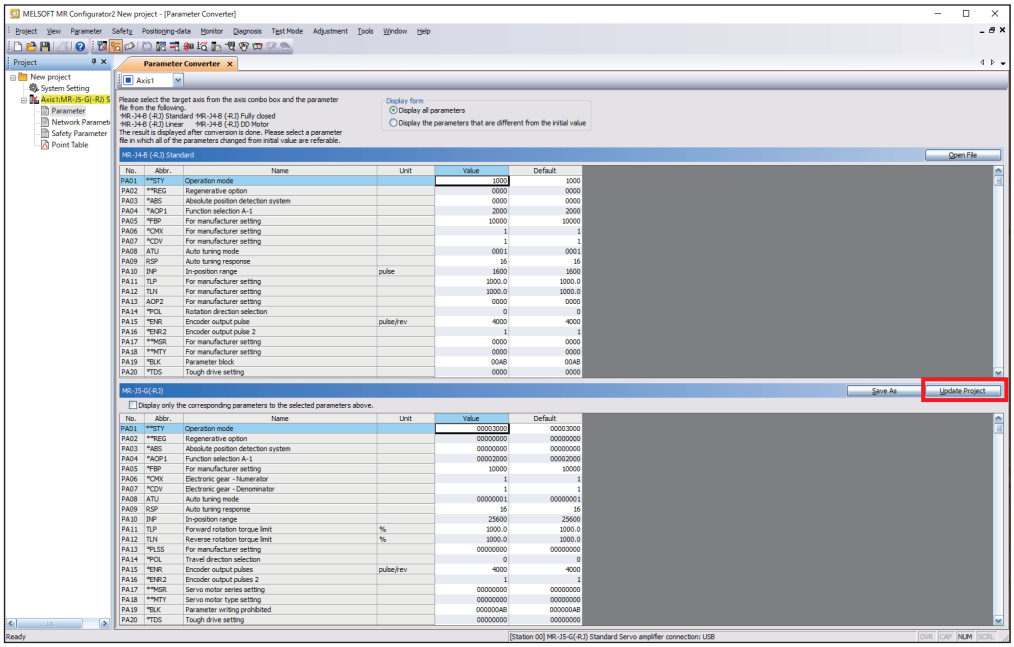
Once the following window is displayed, click [Yes].



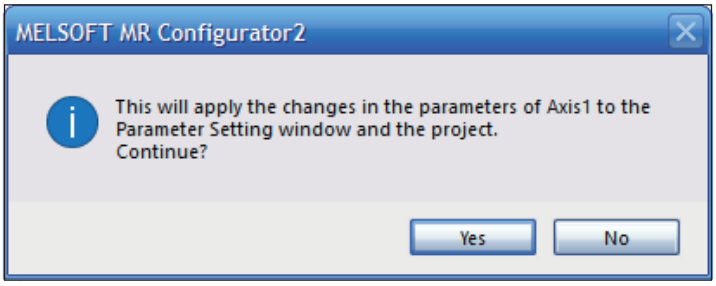
The "Target axis" displayed in the window indicates the axis number on the MR Configurator2 project. For a single axis project, "Axis1" is displayed for the target axis.

5. Reflect the servo parameters.

Click [Update Project] in the parameter converter window.

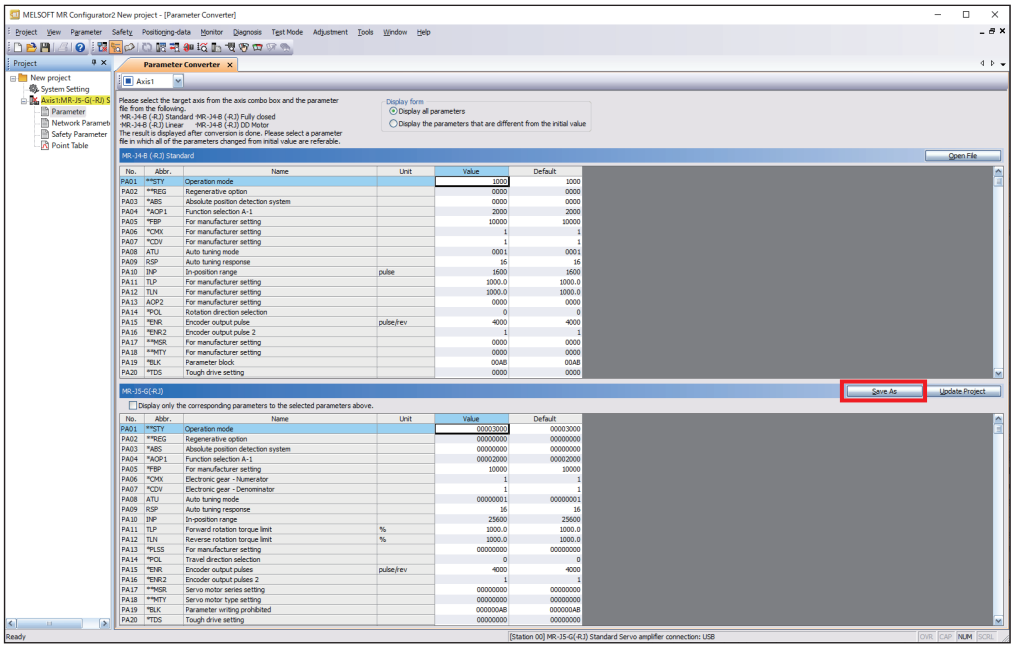


Once the following window is displayed, click [Yes]. Clicking [Yes] reflects the servo parameters.



6. Reflect the servo parameters to the project.

Once the servo parameters are reflected, the axis 1 parameters will be updated. Check the parameter values, click [Save As] and enter the file name, then click [Save].



The axis number of the original project cannot be distinguished in the parameter file. Manage each axis data by including the axis number in the file name or by other means.

After parameter conversion using MR Configurator2, reflect the servo parameters by reading the parameter file to the programmable controller project.

6.2 Conversion Rules

The following shows the rules for converting the MR-J4-_B_/MR-J4W_-_B to MR-J5-_G_/MR-J5W_-_G using the parameter converter function. Servo parameters that are not described in the table below will be set to their initial values.

Point

The MR-J4 series and MR-J5 series have different model specifications. Review the servo parameter settings as necessary.
When the geared servo motor is replaced, the reduction ratio may differ before and after the replacement. Check the specifications of the servo motor and review the electronic gear settings as necessary. Refer to the controller manual for the electronic gear setting method.

Basic setting servo parameters group ([Pr. PA_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PA02 Regenerative option]
- [Pr. PA04 Function selection A-1]
- [Pr. PA23 Drive recorder desired alarm trigger setting]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PA01	Operation mode			PA01	Operation mode			
	Operation mode selection	Hex	_ _ X _		Operation mode selection	Hex	PA01.1	When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to "_ _ 1_": The value will be converted to "0". For the values other than the above, the setting value will be maintained.
	Compatibility mode selection		X _ _ _		For manufacturer setting		PA01.3	The value will be converted to "3 (initial value)".
	—	—	—		Fully closed loop operation mode selection		PA01.4	When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to "_ _ 1_": The value will be converted to "1". When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to a value other than "_ _ 1_": The value will be converted to "0".
PA02	Regenerative option			PA02	Regenerative option			
	Regenerative option selection	Hex	_ _ XX		Regenerative option selection	Hex	PA02.0-1	The value will be converted to "00 (initial value)".
PA03	Absolute position detection system			PA03	Absolute position detection system			
	Absolute position detection system selection	Hex	_ _ _ X		Absolute position detection system selection	Hex	PA03.0	The setting value will be maintained.
PA04	Function selection A-1			PA04	Function selection A-1			
	Servo forced stop selection	Hex	_ X _ _		Servo forced stop selection	Hex	PA04.2	The setting value will be maintained.
	Forced stop deceleration function selection		X_ _ _		Forced stop deceleration function selection		PA04.3	When the setting value of the MR-J4-_B_/MR-J4W_-_B is "0 _ _ _ " or "2 _ _ _ ": The setting value will be maintained. For values other than the above, the value will be converted to "2".
PA08	Auto tuning mode			PA08	Auto tuning mode			
	Gain adjustment mode selection	Hex	_ _ _ X		Gain adjustment mode selection	Hex	PA08.0	The setting value will be maintained.
PA09	Auto tuning response	Dec	—	PA09	Auto tuning response	Dec	—	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PA10	In-position range	Dec	—	PA10	In-position range	Dec	—	When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 0_ (standard control mode): The value will be converted to a value 16 times the value of [Pr. PA10] in the MR-J4-_B_/MR-J4W_-_B. When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 1_ (fully closed loop control mode): The value will be converted to "25600". When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 4_ (linear servo motor control mode): The setting value will be maintained. When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 6_ (DD motor control mode): The setting value will be maintained.
PA14	Rotation direction selection/travel direction selection	Dec	—	PA14	Travel direction selection	Dec	—	The setting value will be maintained.
PA15	Encoder output pulses	Dec	—	PA15	Encoder output pulses	Dec	—	The servo parameters will be converted in accordance with the table below.
PA16	Encoder output pulses 2	Dec	—	PA16	Encoder output pulses 2	Dec	—	

Conversion rules for [Pr. PA15]/[Pr. PA16]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G	
Operation mode selection [Pr. PA01] _ _ x _	**Scale measurement function selection [Pr. PA22] x _ _ _**	**Encoder selection for encoder output pulse [Pr. PC03] _ x _ _**	**Encoder output pulse setting selection [Pr. PC03] _ _ x _**	**[Pr. PA15]**	**[Pr. PA16]**
0: Standard control mode	0	—	0	The setting value will be maintained.	The setting value will be maintained.
			1	The value of [Pr. PA15] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.	The setting value will be maintained.
			3	The setting value will be maintained.	The value of [Pr. PA16] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.
			Other than the above	The setting value will be maintained.	The setting value will be maintained.
	1 or 2	0	0	The setting value will be maintained.	The setting value will be maintained.
			1	The value of [Pr. PA15] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.	The setting value will be maintained.
			3	The setting value will be maintained.	The value of [Pr. PA16] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.
			Other than the above	The setting value will be maintained.	The setting value will be maintained.
		1	—	MR-J5-_G_/MR-J5W_-_G The value will be converted to the initial value of [Pr. PA15].	MR-J5-_G_/MR-J5W_-_G The value will be converted to the initial value of [Pr. PA16].
1: Fully closed loop control mode	—	—	—	MR-J5-_G_/MR-J5W_-_G The value will be converted to the initial value of [Pr. PA15].	MR-J5-_G_/MR-J5W_-_G The value will be converted to the initial value of [Pr. PA16].
4: Linear servo motor control mode	—	—	—	The setting value will be maintained.	The setting value will be maintained.
6: DD motor control mode	—	—	—	The setting value will be maintained.	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PA17	Servo motor series setting	Hex	XXXX	PA17	Servo motor series setting	Hex	PA17.0-3	The setting value will be maintained.
PA18	Servo motor type setting	Hex	XXXX	PA18	Servo motor type setting	Hex	PA18.0-3	The setting value will be maintained.
PA20	Tough drive setting			PA20	Tough drive setting			
	Vibration tough drive selection	Hex	_ _ X _		Vibration tough drive selection	Hex	PA20.1	The setting value will be maintained.
	SEMI-F47 function selection		_ X_ _		SEMI-F47 function selection		PA20.2	The setting value will be maintained.
PA21	Function selection A-3			PA21	Function selection A-3			
	One-touch tuning function selection	Hex	_ _ _ X		One-touch tuning function selection	Hex	PA21.0	The setting value will be maintained.
PA22	Position control composition selection			PA22	Position control configuration selection			
	Super trace control selection	Hex	_ _ X _		Super trace function selection	Hex	PA22.1	The setting value will be maintained.
	Scale measurement function selection		X _ _ _		Scale measurement function selection		PA22.3	The setting value will be maintained.
PA23	Drive recorder arbitrary alarm trigger setting			PA23	Drive recorder desired alarm trigger setting			
	Alarm detail number setting	Hex	_ _ XX		Alarm detail number setting	Hex	PA23.0-1	The value will be converted to "00".
	Alarm number setting		XX _ _		Alarm number setting		PA23.2-4	The value will be converted to "000".
PA24	Function selection A-4			PA24	Function selection A-4			
	Vibration suppression mode selection	Hex	_ _ _ X		Vibration suppression mode selection	Hex	PA24.0	The setting value will be maintained.
PA25	One-touch tuning - Overshoot permissible level	Dec	—	PA25	One-touch tuning - Overshoot permissible level	Dec	—	The setting value will be maintained.
PA26 *1	Function selection A-5			PA26 *1	Function selection A-5			
	Torque limit function selection at instantaneous power failure (Instantaneous power failure tough drive selection)	Hex	_ _ _ X		Torque limit function selection at instantaneous power failure	Hex	PA26.0	The setting value will be maintained.

*1 Available only for the MR-J4-_B_/MR-J5-_G_.

Gain/filter setting servo parameters group ([Pr. PB_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB01	Adaptive tuning mode (adaptive filter II)			PB01	Adaptive tuning mode (adaptive filter II)			
	Filter tuning mode selection	Hex	_ _ _ X		Filter tuning mode selection	Hex	PB01.0	The setting value will be maintained.
	Tuning accuracy selection		X _ _ _		Tuning accuracy selection		PB01.3	The setting value will be maintained.
PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)			PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)			
	Vibration suppression control 1 - Tuning mode selection	Hex	_ _ _ X		Vibration suppression control 1 - Tuning mode selection	Hex	PB02.0	The setting value will be maintained.
	Vibration suppression control 2 - Tuning mode selection		_ _ X _		Vibration suppression control 2 - Tuning mode selection		PB02.1	The setting value will be maintained.
PB03	Torque feedback loop gain	Dec	—	PB03	Torque feedback loop gain	Dec	—	The setting value will be maintained.
PB06	Load to motor inertia ratio/load to motor mass ratio	Dec	—	PB06	Load to motor inertia ratio/load to motor mass ratio	Dec	—	The setting value will be maintained.
PB07	Model loop gain	Dec	—	PB07	Model loop gain	Dec	—	The setting value will be maintained.
PB08	Position loop gain	Dec	—	PB08	Position loop gain	Dec	—	The setting value will be maintained.
PB09	Speed loop gain	Dec	—	PB09	Speed loop gain	Dec	—	The setting value will be maintained.
PB10	Speed integral compensation	Dec	—	PB10	Speed integral compensation	Dec	—	The setting value will be maintained.
PB11	Speed differential compensation	Dec	—	PB11	Speed differential compensation	Dec	—	The setting value will be maintained.
PB12	Overshoot amount compensation	Dec	—	PB12	Overshoot amount compensation	Dec	—	The setting value will be maintained.
PB13	Machine resonance suppression filter 1	Dec	—	PB13	Machine resonance suppression filter 1	Dec	—	The setting value will be maintained.
PB14	Notch shape selection 1			PB14	Notch shape selection 1			
	Notch depth selection	Hex	_ _ X _		Notch depth selection 1	Hex	PB14.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection 1		PB14.2	The setting value will be maintained.
PB15	Machine resonance suppression filter 2	Dec	—	PB15	Machine resonance suppression filter 2	Dec	—	The setting value will be maintained.
PB16	Notch shape selection 2			PB16	Notch shape selection 2			
	Machine resonance suppression filter 2 selection	Hex	_ _ _ X		Machine resonance suppression filter 2 selection	Hex	PB16.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB16.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB16.2	The setting value will be maintained.
PB17	Shaft resonance suppression filter			PB17	Shaft resonance suppression filter			
	Shaft resonance suppression filter setting - Frequency selection	Hex	_ _ XX		Shaft resonance suppression filter setting - Frequency selection	Hex	PB17.0-1	The setting value will be maintained.
	Notch depth selection		_ X _ _		Notch depth selection		PB17.2	The setting value will be maintained.
PB18	Low-pass filter setting	Dec	—	PB18	Low-pass filter setting	Dec	—	The setting value will be maintained.
PB19	Vibration suppression control 1 - Vibration frequency	Dec	—	PB19	Vibration suppression control 1 - Vibration frequency	Dec	—	The setting value will be maintained.
PB20	Vibration suppression control 1 - Resonance frequency	Dec	—	PB20	Vibration suppression control 1 - Resonance frequency	Dec	—	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB21	Vibration suppression control 1 - Vibration frequency damping	Dec	—	PB21	Vibration suppression control 1 - Vibration frequency damping	Dec	—	The setting value will be maintained.
PB22	Vibration suppression control 1 - Resonance frequency damping	Dec	—	PB22	Vibration suppression control 1 - Resonance frequency damping	Dec	—	The setting value will be maintained.
PB23	Low-pass filter selection			PB23	Low-pass filter selection			
	Shaft resonance suppression filter selection	Hex	_ _ _ X		Shaft resonance suppression filter selection	Hex	PB23.0	The setting value will be maintained.
	Low-pass filter selection		_ _ X _		Low-pass filter selection		PB23.1	The setting value will be maintained.
PB24	Slight vibration suppression control			PB24	Slight vibration suppression control			
	Slight vibration suppression control selection	Hex	_ _ _ X		Slight vibration suppression control selection	Hex	PB24.0	The setting value will be maintained.
	PI-PID switching control selection		_ _ X _		PI-PID switching control selection		PB24.1	The setting value will be maintained.
PB25	Function selection B-1			PB25	Function selection B-1			
	Model adaptive control selection	Hex	_ _ _ X		Model adaptive control selection	Hex	PB25.0	The setting value will be maintained.
PB26	Gain switching function			PB26	Gain switching function			
	Gain switching selection	Hex	_ _ _ X		Gain switching selection	Hex	PB26.0	The setting value will be maintained.
	Gain switching - Condition selection		_ _ X _		Gain switching - Condition selection		PB26.1	The setting value will be maintained.
	Gain switching time constant - Disabling condition selection		_ X _ _		Gain switching time constant - Disabling condition selection		PB26.2	The setting value will be maintained.
PB27	Gain switching condition	Dec	—	PB27	Gain switching condition	Dec	—	The servo parameters will be converted in accordance with the table below. When not applicable to the table, the setting value will be maintained.

[Pr. PB27] Rules for converting the MR-J4-_B_/MR-J4W_-_B to MR-J5-_G_/MR-J5W_-_G

MR-J4-_B_/MR-J4W_-_B PA01: _ _ X _	MR-J4-_B_/MR-J4W_-_B PB26: _ _ _ X	Connected servo motor	MR-J5-_G_/MR-J5W_-_G PB27
0: Standard control mode	2: Command frequency	HK series rotary servo motor	The value will be converted to a value 16 times the value of [Pr. PB27] in the MR-J4-_B_/MR-J4W_-_B.
0: Standard control mode	3: Droop pulses	HK series rotary servo motor	The value will be converted to a value 16 times the value of [Pr. PB27] in the MR-J4-_B_/MR-J4W_-_B.
1: Fully closed loop control mode	2: Command frequency	—	The value will be converted to "10 (initial value)".
1: Fully closed loop control mode	3: Droop pulses	—	The value will be converted to "10 (initial value)".

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB28	Gain switching time constant	Dec	—	PB28	Gain switching time constant	Dec	—	The setting value will be maintained.
PB29	Load to motor inertia ratio/load to motor mass ratio after gain switching	Dec	—	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio	Dec	—	The setting value will be maintained.
PB30	Position loop gain after gain switching	Dec	—	PB30	Position loop gain after gain switching	Dec	—	The setting value will be maintained.
PB31	Speed loop gain after gain switching	Dec	—	PB31	Speed loop gain after gain switching	Dec	—	The setting value will be maintained.
PB32	Speed integral compensation after gain switching	Dec	—	PB32	Speed integral compensation after gain switching	Dec	—	The setting value will be maintained.
PB33	Vibration suppression control 1 - Vibration frequency after gain switching	Dec	—	PB33	Vibration suppression control 1 - Vibration frequency after gain switching	Dec	—	The setting value will be maintained.
PB34	Vibration suppression control 1 - Resonance frequency after gain switching	Dec	—	PB34	Vibration suppression control 1 - Resonance frequency after gain switching	Dec	—	The setting value will be maintained.
PB35	Vibration suppression control 1 - Vibration frequency damping after gain switching	Dec	—	PB35	Vibration suppression control 1 - Vibration frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching	Dec	—	PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB45	Command notch filter			PB45	Command notch filter			
	Command notch filter setting frequency selection	Hex	_ _ XX		Command notch filter setting frequency selection	Hex	PB45.0-1	The servo parameters will be converted in accordance with the table below.
	Notch depth selection		_ X _ _		Notch depth selection		PB45.2	The setting value will be maintained.

[Pr. PB45.0-1] Rules for converting the MR-J4-_B_/MR-J4W_-_B to MR-J5-_G_/MR-J5W_-_G

Setting value before conversion MR-J4-_B_/MR-J4W_-_B PB45 _ _ xx	Setting value after conversion MR-J5-_G_/MR-J5W_-_G PB45.0-1	Setting value before conversion MR-J4-_B_/MR-J4W_-_B PB45 _ _ xx	Setting value after conversion MR-J5-_G_/MR-J5W_-_G PB45.0-1
00	00	20	1F
01	01	21	21
02	02	22	22
03	03	23	23
04	04	24	24
05	04	25	25
06	06	26	26
07	07	27	27
08	08	28	27
09	09	29	29
0A	0A	2A	2A
0B	0B	2B	2B
0C	0C	2C	2C
0D	0D	2D	2D
0E	0D	2E	2E
0F	0F	2F	2F
10	10	30	30
11	11	31	31
12	12	32	32
13	13	33	33
14	14	34	34
15	15	35	35
16	16	36	36
17	17	37	36
18	17	38	38
19	19	39	39
1A	1A	3A	3A
1B	1B	3B	3B
1C	1C	3C	3C
1D	1D	3D	3D
1E	1E	3E	3E
1F	1F	3F	3F
40	40	50	50
41	41	51	51
42	42	52	52
43	43	53	53
44	44	54	54
45	45	55	55
46	46	56	56
47	46	57	56
48	48	58	58
49	49	59	59
4A	4A	5A	5A
4B	4B	5B	5B
4C	4C	5C	5C
4D	4D	5D	5D
4E	4E	5E	5E
4F	4F	5F	5F

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB46	Machine resonance suppression filter 3	Dec	—	PB46	Machine resonance suppression filter 3	Dec	—	The setting value will be maintained.
PB47	Notch shape selection 3			PB47	Notch shape selection 3			
	Machine resonance suppression filter 3 selection	Hex	_ _ _ X		Machine resonance suppression filter 3 selection	Hex	PB47.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB47.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB47.2	The setting value will be maintained.
PB48	Machine resonance suppression filter 4	Dec	—	PB48	Machine resonance suppression filter 4	Dec	—	The setting value will be maintained.
PB49	Notch shape selection 4			PB49	Notch shape selection 4			
	Machine resonance suppression filter 4 selection	Hex	_ _ _ X		Machine resonance suppression filter 4 selection	Hex	PB49.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB49.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB49.2	The setting value will be maintained.
PB50	Machine resonance suppression filter 5	Dec	—	PB50	Machine resonance suppression filter 5	Dec	—	The setting value will be maintained.
PB51	Notch shape selection 5			PB51	Notch shape selection 5			
	Machine resonance suppression filter 5 selection	Hex	_ _ _ X		Machine resonance suppression filter 5 selection	Hex	PB51.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB51.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB51.2	The setting value will be maintained.
PB52	Vibration suppression control 2 - Vibration frequency	Dec	—	PB52	Vibration suppression control 2 - Vibration frequency	Dec	—	The setting value will be maintained.
PB53	Vibration suppression control 2 - Resonance frequency	Dec	—	PB53	Vibration suppression control 2 - Resonance frequency	Dec	—	The setting value will be maintained.
PB54	Vibration suppression control 2 - Vibration frequency damping	Dec	—	PB54	Vibration suppression control 2 - Vibration frequency damping	Dec	—	The setting value will be maintained.
PB55	Vibration suppression control 2 - Resonance frequency damping	Dec	—	PB55	Vibration suppression control 2 - Resonance frequency damping	Dec	—	The setting value will be maintained.
PB56	Vibration suppression control 2 - Vibration frequency after gain switching	Dec	—	PB56	Vibration suppression control 2 - Vibration frequency after gain switching	Dec	—	The setting value will be maintained.
PB57	Vibration suppression control 2 - Resonance frequency after gain switching	Dec	—	PB57	Vibration suppression control 2 - Resonance frequency after gain switching	Dec	—	The setting value will be maintained.
PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching	Dec	—	PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching	Dec	—	PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB60	Model loop gain after gain switching	Dec	—	PB60	Model loop gain after gain switching	Dec	—	The setting value will be maintained.

Extension setting servo parameters group ([Pr. PC_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PC18 Function selection C-5]
- [Pr. PC20 Function selection C-7]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PC01	Error excessive alarm level	Dec	—	PC01	Error excessive alarm level	Dec	—	The setting value will be maintained.
PC02	Electromagnetic brake sequence output	Dec	—	PC02	Electromagnetic brake sequence output	Dec	—	The setting value will be maintained.
PC03	Encoder output pulse selection			PC03	Encoder output pulses selection			
	Encoder output pulse phase selection	Hex	_ _ _ X		Encoder output pulse - Phase selection	Hex	PC03.0	The setting value will be maintained.
	Encoder output pulse setting selection		_ _ X _		Encoder output pulse setting selection		PC03.1	The setting value will be maintained.
	Encoder selection for encoder output pulse		_ X _ _		Encoder selection for encoder output pulse		PC03.2	The setting value will be maintained.
PC04	Function selection C-1			PC04	Function selection C-1			
	Encoder cable communication method selection	Hex	X _ _ _		Encoder cable communication method selection	Hex	PC04.3	The setting value will be maintained.
PC05	Function selection C-2			PC05	Function selection C-2			
	Motor-less operation selection	Hex	_ _ _ X		Motor-less operation selection	Hex	PC05.0	The setting value will be maintained.
PC06	Function selection C-3			PC06	Function selection C-3			
	Excessive error alarm and excessive error warning trigger level unit selection	Hex	X _ _ _		Excessive error alarm trigger level/excessive error warning trigger level - Unit selection	Hex	PC06.3	The setting value will be maintained.
PC07	Zero speed	Dec	—	PC07	Zero speed	Dec	—	The setting value will be maintained.
PC08	Overspeed alarm detection level	Dec	—	PC08	Overspeed alarm detection level	Dec	—	The setting value will be maintained.
PC09 *1	Analog monitor 1 output			PC09 *1	Analog monitor 1 output			
	Analog monitor 1 output selection	Hex	_ _ XX		Analog monitor 1 output selection	Hex	PC09.0-1	When the setting value of the MR-J4-_B_ is "_ _ 0A", "_ _ 0B", or "_ _ 0C": The value will be converted to "00". For the values other than the above, the setting value will be maintained.
PC10 *1	Analog monitor 2 output			PC10 *1	Analog monitor 2 output			
	Analog monitor 2 output selection	Hex	_ _ XX		Analog monitor 2 output selection	Hex	PC10.0-1	When the setting value of the MR-J4-_B_ is "_ _ 0A", "_ _ 0B", or "_ _ 0C": The value will be converted to "00". For the values other than the above, the setting value will be maintained.
PC11 *1	Analog monitor 1 offset	Dec	—	PC11 *1	Analog monitor 1 offset	Dec	—	Servo parameter conversion will not be performed as this is an offset function. Perform the settings again as required.
PC12 *1	Analog monitor 2 offset	Dec	—	PC12 *1	Analog monitor 2 offset	Dec	—	Servo parameter conversion will not be performed as this is an offset function. Perform the settings again as required.

*1 Available only for the MR-J4-_B_/MR-J5-_G_.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PC17	Function selection C-4			PC17	Function selection C-4			
	Homing condition selection	Hex	_ _ _ X		For manufacturer setting	Hex	—	The value will be converted to the initial value.
	Linear scale multipoint Z-phase input function selection		_ _ X _		Linear encoder multipoint Z-phase input function selection		PC17.1	The setting value will be maintained.
PC18	Function selection C-5			PC18	For manufacturer setting			
	[AL. E9 Main circuit off warning] selection	Hex	X _ _ _		For manufacturer setting	Hex	—	The value will be converted to the initial value.
PC20	Function selection C-7			PC20	Function selection C-7			
	Undervoltage alarm selection	Hex	_ X _ _		Undervoltage alarm selection	Hex	PC20.2	The setting value will be maintained.
PC21	Alarm history clear			PC21	Alarm history clear			
	Alarm clear history selection	Hex	_ _ _ X		Alarm clear history selection	Hex	PC21.0	The setting value will be maintained.
PC24	Forced stop deceleration time constant	Dec	—	PC24	Deceleration time constant at forced stop	Dec	—	The setting value will be maintained.
PC26	Function selection C-8			PC26	Function selection C-8			
	Load-side encoder cable communication method selection	Hex	X _ _ _		Load-side encoder cable communication method selection	Hex	PC26.3	The setting value will be maintained.
PC27	Function selection C-9			PC27	Function selection C-9			
	Encoder pulse count polarity selection	Hex	_ _ _ X		Encoder pulse count polarity selection	Hex	PC27.0	The setting value will be maintained.
	ABZ phase input interface encoder Z-phase connection assessment function selection		_ X _ _		ABZ phase input interface encoder ABZ phase connection assessment function selection		PC27.2	The setting value will be maintained.
PC29	Function selection C-B			PC29	Function selection C-B			
	POL reflection selection at torque control	Hex	X _ _ _		Torque POL reflection selection	Hex	PC29.3	The value will be converted to "1".
PC31	Vertical axis freefall prevention compensation amount	Dec	—	PC31	Vertical axis freefall prevention compensation amount	Dec	—	The setting value will be maintained.
PC38	Error excessive warning level	Dec	—	PC38	Error excessive warning level	Dec	—	The servo parameters will be converted in accordance with the table below.

[Pr. PC38] Rules for converting the MR-J4-_B_/MR-J4W_-_B to MR-J5-_G_/MR-J5W_-_G

MR-J4-_B_/MR-J4W_-_B			MR-J5-_G_/MR-J5W_-_G
PA01: _ _ X _ Operation mode selection	PC05: X _ _ _ [AL. 9B Excessive error warning] selection	PC38: Error excessive warning level	PC38: Excessive error warning trigger level
0: Standard control mode 1: Fully closed loop control mode 4: Linear servo motor control mode 6: DD motor control mode	0: Disabled	0 or a setting value other than 0	The value will be converted to "0 (initial value)".
Value other than 4 (Rotary servo motor and direct drive motor)	1: Enabled	0	The value will be converted to "1 (rev)".
		Setting value other than 0	The setting value will be maintained.
4: Linear servo motor control mode		0	The value will be converted to "50 (mm)".
		Setting value other than 0	The setting value will be maintained.

I/O setting servo parameters group ([Pr. PD_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PD08 Output device selection 2]
- [Pr. PD09 Output device selection 3]
- [Pr. PD11 Input filter setting]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PD02	Input signal automatic on selection 2			PD01	Input signal automatic on selection			
	BIN: _ _ _ x: FLS (Upper stroke limit) selection _ _ x _: RLS (Lower stroke limit) selection	Hex	_ _ _ X		BIN: _ x _ _: Upper stroke limit selection (FLS) x _ _ _: Lower stroke limit selection (RLS)	Hex	PD01.2	When [Pr. PD02] of the MR-J4-_B_/MR-J4W_-_B is _ _ _ 1 in BIN (FLS automatic on): The value will be converted to [Pr. PD01] in _ 1_ _ in BIN. When [Pr. PD02] of the MR-J4-_B_/MR-J4W_-_B is _ _ 1_ in BIN (RLS automatic on): The value will be converted to [Pr. PD01] in 1_ _ _ in BIN.
PD07	Output device selection 1			PD07	Output device selection 1			
	Device selection	Hex	_ _ XX		Device selection	Hex	PD07.0-1	When the setting value of the MR-J4-_B_/MR-J4W_-_B is "00", "02" to "0A", "0C", "0F" to "11", or "17": The setting value will be maintained. When the setting value is other than the above, the value will be converted to the initial value.
PD08	Output device selection 2			PD08	Output device selection 2			
	Device selection	Hex	_ _ XX		Device selection	Hex	PD08.0-1	When the setting value of the MR-J4-_B_/MR-J4W_-_B is "00", "02" to "0A", "0C", "0F" to "11", or "17": The setting value will be maintained. When the setting value is other than the above, the value will be converted to the initial value.
	All-axis output condition selection *1		_ X _ _		All-axis output condition selection *1		PD08.2	The setting value will be maintained.
	Output axis selection *1		X _ _ _		Output axis selection *1		PD08.3	The setting value will be maintained.
PD09	Output device selection 3			PD09	Output device selection 3			
	Device selection	Hex	_ _ XX		Device selection	Hex	PD09.0-1	When the setting value of the MR-J4-_B_/MR-J4W_-_B is "00", "02" to "0A", "0C", "0F" to "11", or "17": The setting value will be maintained. When the setting value is other than the above, the value will be converted to the initial value.
	All-axis output condition selection *1		_ X _ _		All-axis output condition selection *1		PD09.2	The setting value will be maintained.
	Output axis selection *1		X _ _ _		Output axis selection *1		PD09.3	The setting value will be maintained.

*1 Available only with multi-axis servo amplifiers.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PD11	Input filter setting			PD11	Input filter setting			
	Input signal filter selection	Hex	_ _ _ X		Input signal filter selection	Hex	PD11.0	The servo parameters will be converted in accordance with the table below.

[Pr. PD11] Rules for converting the MR-J4-_B_/MR-J4W_-_B to MR-J5-_G_/MR-J5W_-_G

MR-J4-_B_/MR-J4W_-_B PD11: _ _ _ X	MR-J5-_G_/MR-J5W_-_G PD11.0
0: No filter	0: No filter
1: 0.888 ms	1: 0.500 ms
2: 1.777 ms	3: 1.500 ms
3: 2.666 ms	5: 2.500 ms
4: 3.555 ms	7: 3.500 ms

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PD12	Function selection D-1			PD12	Function selection D-1			
	Servo motor or linear servo motor thermistor enabled/disabled selection	Hex	X _ _ _		Servo motor thermistor enabled/disabled selection	Hex	PD12.3	The setting value will be maintained.
PD13	Function selection D-2			PD13	Function selection D-2			
	INP (In-position) on condition selection	Hex	_ X _ _		INP output signal ON condition selection	Hex	PD13.2	The setting value will be maintained.
PD14	Function selection D-3			PD14	Function selection D-3			
	Output device status at warning occurrence	Hex	_ _ X _		Output device status at warning occurrence	Hex	PD14.1	The setting value will be maintained.
PD15	Driver communication setting			PD15	Driver communication setting			
	Master axis operation selection	Hex	_ _ _ X		Master axis operation selection	Hex	PD15.0	The value will be converted to the initial value.
	Slave axis operation selection		_ _ X _		Slave axis operation selection		PD15.1	The value will be converted to the initial value.
PD16	Driver communication setting - Master - Transmit data selection 1			PD16	For manufacturer setting	Hex	—	The value will be converted to the initial value.
	Transmission data selection	Hex	_ _ XX		—	Hex	—	The value will be converted to the initial value.
PD17	Driver communication setting - Master - Transmit data selection 2			PD17	For manufacturer setting	Hex	—	The value will be converted to the initial value.
	Transmission data selection	Hex	_ _ XX		—	Hex	—	The value will be converted to the initial value.
PD20	Driver communication setting - Slave - Master axis No. selection 1	Dec	—	PD20	For manufacturer setting	Dec	—	The value will be converted to the initial value.
PD30	Master-slave operation - Slave-side torque command coefficient	Dec	—	PD30	Master-slave operation - Slave-side torque command coefficient	Dec	—	The value will be converted to the initial value.
PD31	Master-slave operation - Speed limit coefficient on slave	Dec	—	PD31	Master-slave operation - Speed limit coefficient on slave	Dec	—	The value will be converted to the initial value.
PD32	Master-slave operation - Slave-side speed limit adjusted value	Dec	—	PD32	Master-slave operation - Slave-side speed limit adjusted value	Dec	—	The value will be converted to the initial value.

Extension setting 2 servo parameters group ([Pr. PE_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PE01	Fully closed loop function selection 1			PE01	Fully closed loop function selection 1			
	Fully closed loop function selection	Hex	_ _ _ X		Fully closed loop function selection	Hex	PE01.0	The setting value will be maintained.
PE03	Fully closed loop function selection 2			PE03	Fully closed loop function selection 2			
	Fully closed loop control error - Detection function selection	Hex	_ _ _ X		Fully closed loop control error - Detection function selection	Hex	PE03.0	The setting value will be maintained.
	Position deviation error - Detection method selection		_ _ X _		Position deviation error - Detection method selection		PE03.1	The setting value will be maintained.
	Fully closed loop control error - Reset selection		X _ _ _		Fully closed loop control error - Reset selection		PE03.3	The setting value will be maintained.
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	Dec	—	PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	Dec	—	The value will be converted to "1 (initial value)".
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	Dec	—	PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	Dec	—	The value will be converted to "1 (initial value)".
PE06	Fully closed loop control - Speed deviation error detection level	Dec	—	PE06	Fully closed loop control - Speed deviation error detection level	Dec	—	The setting value will be maintained.
PE07	Fully closed loop control - Position deviation error detection level	Dec	—	PE07	Fully closed loop control - Position deviation error detection level	Dec	—	The value will be converted to "100 (initial value)".
PE08	Fully closed loop dual feedback filter	Dec	—	PE08	Fully closed loop dual feedback filter	Dec	—	When the setting value of the MR-J4-_B_ is "0": The value will be converted to "1". For the values other than the above, the setting value will be maintained.
PE10	Fully closed loop function selection 3			PE10	Fully closed loop function selection 3			
	Fully closed loop control - Position deviation error detection level - Unit selection	Hex	_ _ X _		Fully closed loop control - Position deviation error detection level - Unit selection	Hex	PE10.1	The setting value will be maintained.
	Droop pulse monitor selection for controller display		_ X _ _		For manufacturer setting		—	The value will be converted to the initial value.
	Cumulative feedback pulse monitor selection for controller display		X _ _ _		For manufacturer setting		—	The value will be converted to the initial value.
PE41	Function selection E-3			PE41	Function selection E-3			
	Robust filter selection	Hex	_ _ _ X		Robust filter selection	Hex	PE41.0	The setting value will be maintained.
PE44	Lost motion compensation positive-side compensation value selection	Dec	—	PE44	Lost motion compensation positive-side compensation value selection	Dec	—	The setting value will be maintained.
PE45	Lost motion compensation negative-side compensation value selection	Dec	—	PE45	Lost motion compensation negative-side compensation value selection	Dec	—	The setting value will be maintained.
PE46	Lost motion filter setting	Dec	—	PE46	Lost motion filter setting	Dec	—	The setting value will be maintained.
PE47	Torque offset	Dec	—	PE47	Unbalanced torque offset	Dec	—	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PE48	Lost motion compensation function selection			PE48	Lost motion compensation function selection			
	Lost motion compensation selection	Hex	_ _ _ X		Lost motion compensation type selection	Hex	PE48.0	The setting value will be maintained.
	Unit setting of Lost motion compensation non-sensitive band		_ _ _ X		Lost motion compensation dead band unit setting		PE48.1	The setting value will be maintained.
PE49	Lost motion compensation timing	Dec	—	PE49	Lost motion compensation timing	Dec	—	The setting value will be maintained.
PE50	Lost motion compensation non-sensitive band	Dec	—	PE50	Lost motion compensation non-sensitive band	Dec	—	The setting value will be maintained.

Extension setting 3 servo parameters group ([Pr. PF_ _])

Point

For a multi-axis servo amplifier, the following parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PF02 Function selection F-2]
- [Pr. PF18 STO diagnosis error detection time]
- [Pr. PF21 Drive recorder switching time setting]
- [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PF02	Function selection F-2			PF02	Function selection F-2			
	Target alarm selection of the other axis error warning *1	Hex	_ _ _ X		Target alarm selection of the other axis error warning *1	Hex	PF02.0	The setting value will be maintained.
PF06	Function selection F-5			PF06	Function selection F-5			
	Electronic dynamic brake selection	Hex	_ _ _ X		Electronic dynamic brake selection	Hex	PF06.0	The value will be converted to "3 (initial value)".
PF12	Electronic dynamic brake operating time	Dec	—	PF12	Electronic dynamic brake operating time	Dec	—	The setting value will be maintained.
PF18	STO diagnosis error detection time	Dec	—	PF18	STO diagnosis error detection time	Dec	—	The setting value will be maintained. *2
PF21	Drive recorder switching time setting	Dec	—	PF21	Drive recorder switching time setting	Dec	—	The setting value will be maintained.
PF23	Vibration tough drive - Oscillation detection level	Dec	—	PF23	Vibration tough drive - Oscillation detection level	Dec	—	When the setting value of the MR-J4-_B_ is "0": The value will be converted to "50". For the values other than the above, the setting value will be maintained.
PF24	Vibration tough drive function selection			PF24	Function selection F-9			
	Oscillation detection alarm selection	Hex	_ _ _ X		Oscillation detection alarm selection	Hex	PF24.0	The setting value will be maintained.
PF25	SEMI-F47 function - Instantaneous power failure detection time	Dec	—	PF25	SEMI-F47 function - Instantaneous power failure detection time (instantaneous power failure tough drive - detection time)	Dec	—	MR-J5-_G_: The setting value will be maintained.
PF31	Machine diagnosis function - Friction judgment speed	Dec	—	PF31	Machine diagnosis function - Friction judgment speed	Dec	—	The setting value will be maintained.

*1 Available only with multi-axis servo amplifiers.

*2 Although the setting value will be maintained for the MR-J5-_G_-RJ or MR-J5W_-_G, the STO diagnosis error detection time is fixed to 10 seconds regardless of the setting value.

Motor extension setting servo parameters group ([Pr. PL_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_G_/MR-J5W_-_G				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PL01	Linear servo motor/DD motor function selection 1			PL01	Function selection L-1			
	Linear servo motor/DD motor magnetic pole detection selection	Hex	_ _ _ X		Servo motor magnetic pole detection selection	Hex	PL01.0	The setting value will be maintained.
	Homing stop interval selection		_ X _ _		Homing stop interval setting		PL01.2	The setting value will be maintained.
PL02	Linear encoder resolution - Numerator	Dec	—	PL02	Linear encoder resolution - Numerator	Dec	—	The setting value will be maintained.
PL03	Linear encoder resolution - Denominator	Dec	—	PL03	Linear encoder resolution - Denominator	Dec	—	The setting value will be maintained.
PL04	Linear servo motor/DD motor function selection 2			PL04	Function selection L-2			
	[AL. 42 Servo control error] detection function selection	Hex	_ _ _ X		[AL. 042 Servo control error] detection function selection	Hex	PL04.0	The setting value will be maintained.
	[AL. 42 Servo control error] detection controller reset condition selection		X _ _ _		[AL. 042 Servo control error] detection controller reset condition selection		PL04.3	The setting value will be maintained.
PL05	Position deviation error detection level	Dec	—	PL05	Position deviation error detection level	Dec	—	The setting value will be maintained.
PL06	Position deviation error detection level	Dec	—	PL06	Position deviation error detection level	Dec	—	The setting value will be maintained.
PL07	Torque/thrust deviation error detection level	Dec	—	PL07	Torque deviation error detection level	Dec	—	The setting value will be maintained.
PL08	Linear servo motor/DD motor function selection 3			PL08	Function selection L-3			
	Magnetic pole detection method selection	Hex	_ _ _ X		Magnetic pole detection method selection	Hex	PL08.0	When the setting value of the MR-J4-_B_ is "0" or "4": The setting value will be maintained. For values other than the above, the value will be converted to "0 (initial value)".
	Magnetic pole detection - Stroke limit enabled/ disabled selection		_ X _ _		Magnetic pole detection - Stroke limit enabled/ disabled selection		PL08.2	The setting value will be maintained.
PL09	Magnetic pole detection voltage level	Dec	—	PL09	Magnetic pole detection voltage level	Dec	—	The setting value will be maintained.
PL17	Magnetic pole detection - Minute position detection method - Function selection			PL17	Magnetic pole detection - Minute position detection method - Function selection			
	Response selection	Hex	_ _ _ X		Response selection	Hex	PL17.0	The setting value will be maintained.
	Load to motor mass ratio/load to motor inertia ratio selection		_ _ X _		Load to motor mass ratio/load to motor inertia ratio selection		PL17.1	The setting value will be maintained.
PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude	Dec	—	PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude	Dec	—	The setting value will be maintained.

7 SERVO PARAMETERS

Precautions

Never make a drastic adjustment or change to the servo parameter values as doing so will make the operation unstable.
Do not change the servo parameter settings as described below. Doing so may cause an unexpected condition, such as failing to start up the servo amplifier.

- Changing the values of the servo parameters for manufacturer setting
- Setting a value outside the range
- Changing the fixed value in each servo parameter

When writing servo parameters with the controller, make sure that the control axis No. of the servo amplifier is set correctly. Failure to do so may cause the servo parameter settings of another axis to be written and result in the servo amplifier being in an unexpected condition.
Some servo parameters are adjusted automatically. For example, auto tuning automatically adjusts gain servo parameters.

Point

For the MR-J4-_B_ and MR-J5-_G_, the servo parameter sizes are as follows.

- MR-J4-_B_/MR-J4W_-_B: 16 bits
- MR-J5-_G_/MR-J5W_-_G: 32 bits

The servo parameters in which the symbols are preceded by * are enabled by the following conditions.
*: After setting, turn off the power and turn it on again, or reset either the controller or the software.
**: After setting, turn off the power and turn it on again, or reset the software.
For how to interpret the servo parameter numbers of the MR-J5-_G_, refer to the following manual.
MR-J5-G/MR-J5W-G User's Manual (Introduction)
For replacement, always refer to the following manual for details on the servo parameter settings, and configure appropriate settings.
MR-J5-G/MR-J5W-G User's Manual (Parameters)
Settable servo parameters and values depend on the controller model being used, MR-J5-_G_ servo amplifier firmware version (MR-J4-_B_ servo amplifier software version), and MR Configurator2 software version. For details, refer to the manual for the controller being used. Refer to the Mitsubishi Electric FA site for the latest software version of MR Configurator2.
http://www.mitsubishielectric.com/fa/
In addition, the firmware version of the MR-J5-_G_ servo amplifier (software version of the MR-J4-_B_ servo amplifier) can be checked with MR Configurator2 or by other means.

7.1 Servo Parameters Required to be Set When Replacing

The servo parameters shown here are the servo parameters that need to be set at the minimum when replacing servo amplifiers all at once. Note that it may be necessary to set servo parameters other than the ones shown here depending on the settings of the servo amplifier before replacement.

Servo parameters related to encoder resolution

Point

The parameter converter performs conversion on the assumption that [Pr. PA06 Electronic gear numerator] : [Pr. PA07 Electronic gear denominator] = 1 : 1.
When changing the electronic gear settings, the servo parameters described in this section must be reviewed.

The servo parameters shown in this section are influenced by the difference in the resolution when an HG series servo motor is changed to an HK series servo motor.

MR-J5_-_G_ servo parameter	Name	Precautions
PA06	Electronic gear numerator	There are cases where the settings need to be changed according to the resolution setting for the controller and the motor to be connected. When the electronic gear numerator and denominator are changed, review the setting value for the following servo parameters. • [Pr. PA10 In-position range] • [Pr. PA25 One-touch tuning - Overshoot permissible level] • [Pr. PB27 Gain switching condition]
PA07	Electronic gear denominator	
PA10	In-position range	Review the setting value according to the servo motor to be connected and electronic gear settings.
PA15	Encoder output pulses	Review the setting value according to the servo motor to be connected.
PA16	Encoder output pulses 2	
PA25	One-touch tuning - Overshoot permissible level	Review the setting value according to the servo motor to be connected and electronic gear settings.
PB27	Gain switching condition	When [Pr. PB26.0 Gain switching selection] is set to "2" (Command frequency), this parameter setting is affected by the electronic gear setting and resolution. When [Pr. PB26.0] is set to "3" (Droop pulses), this parameter setting is affected by the resolution. Review the setting value according to the servo motor to be connected and electronic gear settings.
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	Review the setting value in accordance with the combination of the encoder being used.
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	
PE07	Fully closed loop control - Position deviation error detection level	Review the setting value according to the servo motor to be connected.

Servo parameters related to gain adjustment

Point

Conversion is performed on the assumption that the capacity of the servo motor used as well as the machine configuration are the same between the MR-J4_-_B_ and MR-J5_-_G_.
Adjust the gain as the performance of the servo amplifier and servo motor is different.

Although the servo parameters shown in this section maintain the setting values of the MR-J4_-_B_, gain adjustment is required again after conversion.

MR-J5_-_G_ servo parameter	Name	Precautions
PA08	Auto tuning mode	—
PA09	Auto tuning response	—
PB group	Gain·filter	Refer to "List of PB group parameters to be converted" below. ☞ Page 126 List of PB group parameters to be converted

List of PB group parameters to be converted

MR-J5_-_G_ servo parameter	Name	No.	Name
PB01	Adaptive tuning mode (Adaptive filter II)	PB28	Gain switching time constant
PB02	Vibration suppression control tuning mode (Advanced vibration suppression control II)	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio
PB03	Torque feedback loop gain	PB30	Position loop gain after gain switching
PB04	Feed forward gain	PB31	Speed loop gain after gain switching
PB06	Load to motor inertia ratio/load to motor mass ratio	PB32	Speed integral compensation after gain switching
PB07	Model loop gain	PB33	Gain switching - Vibration suppression control 1 - Vibration frequency
PB08	Position loop gain	PB34	Gain switching - Vibration suppression control 1 - Resonance frequency
PB09	Speed loop gain	PB35	Gain switching - Vibration suppression control 1 - Vibration frequency damping
PB10	Speed integral compensation	PB36	Gain switching - Vibration suppression control 1 - Resonance frequency damping
PB11	Speed differential compensation	PB45	Command notch filter
PB12	Overshoot amount compensation	PB46	Machine resonance suppression filter 3
PB13	Machine resonance suppression filter 1	PB47	Notch shape selection 3
PB14	Notch shape selection 1	PB48	Machine resonance suppression filter 4
PB15	Machine resonance suppression filter 2	PB49	Notch shape selection 4
PB16	Notch shape selection 2	PB50	Machine resonance suppression filter 5
PB17	Shaft resonance suppression filter	PB51	Notch shape selection 5
PB18	Low-pass filter setting	PB52	Vibration suppression control 2 - Vibration frequency
PB19	Vibration suppression control 1 - Vibration frequency	PB53	Vibration suppression control 2 - Resonance frequency
PB20	Vibration suppression control 1 - Resonance frequency	PB54	Vibration suppression control 2 - Vibration frequency damping
PB21	Vibration suppression control 1 - Vibration frequency damping	PB55	Vibration suppression control 2 - Resonance frequency damping
PB22	Vibration suppression control 1 - Resonance frequency damping	PB56	Vibration suppression control 2 - Vibration frequency after gain switching
PB23	Low-pass filter selection	PB57	Vibration suppression control 2 - Resonance frequency after gain switching
PB24	Slight vibration suppression control	PB58	Gain switching - Vibration suppression control 2 - Vibration frequency damping
PB25	Function selection B-1	PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching

MR-J5_-_G_ servo parameter	Name	No.	Name
PB26	Gain switching function	PB60	Gain switching - Model control gain
PB27	Gain switching condition	—	—

Parameters related to differences in model specifications

MR-J5_-_G_ servo parameter	Name	Precautions
PA02.0-1	Regenerative option selection	Applicable regenerative options may differ between the MR-J4_-_B_ and MR-J5_-_G_. Refer to the User's Manual (Hardware) and review the setting value in accordance with the regenerative option to be connected. MR-J5 User's Manual (Hardware)
PA11	Forward rotation torque limit	In the condition where [Pr. PA14 Travel direction selection] is set to "1" and [Pr. PC29.3 Torque POL reflection selection] is set to "0", the torque limit servo parameter applied to the command direction differs between the MR-J4_-_B_ and MR-J5_-_G_. When applying different limit values for forward rotation and reverse rotation, refer to the explanation on [Pr. PC29.3] and set an appropriate limit value.
PA12	Reverse rotation torque limit	
PA19	Parameter writing inhibit	The setting value "000000AB" is configured regardless of the setting value before conversion. After conversion, review the setting value as required.
PA23.0-1	Alarm detail number setting	It is not converted with the parameter converter function. Perform the settings as required.
PA23.2-4	Alarm number setting	
PB03	Torque feedback loop gain	The initial value of this servo parameter differs between the MR-J4_-_B_ and MR-J5_-_G_. • MR-J4_-_B_: 18000 [rad/s] • MR-J5_-_G_: 36000 [rad/s] When conversion is performed, the setting value of the MR-J4_-_B_ is maintained and the setting value of the MR-J5_-_G_ changes from the initial value. Review the setting value as necessary.
PE08	Fully closed loop dual feedback filter	The value will be converted to 1 rad/s when the setting of the MR-J4_-_B_ is 0 rad/s. Review the setting value as necessary.
PC03	Encoder output pulses selection	For 3-axis type models, the setting of the MR-J4W3-_B is maintained. However, there is a difference between A-axis and B-axis. • MR-J4W3-_B: Cannot be output • MR-J5W3-_G: Can be output For C-axis, output is disabled for both series. For 3-axis type models, check the output after conversion to prevent any unintended output of A-axis and B-axis.
PC09.3	Analog monitor 1 output axis selection	It is not converted with the parameter converter function. Perform the settings as required.
PC10.3	Analog monitor 2 output axis selection	
PC11	Analog monitor 1 offset	It is not converted with the parameter converter function. Perform the settings as required.
PC12	Analog monitor 2 offset	
PC29.3	Torque POL reflection selection	It is not converted with the parameter converter function. Perform the settings as required.
PC29.5	[AL. 0E3 Absolute position counter warning] selection	It is not converted with the parameter converter function. Perform the settings as required.
PD11.0	Input signal filter selection	Signal input timing changes between the MR-J4_-_B_ and MR-J5_-_G_. Perform the settings as required.
PD15	Driver communication setting	This is not converted by the parameter converter function as the specifications of the servo parameter of the master-slave operation function differ between the MR-J4-_B_ and MR-J5-_G_. Perform the settings as required.
PD22	Driver communication setting - Slave - Master axis 1 - Station No. setting	
PD23	Driver communication setting - Slave - Master axis 1 - Transmission and receive setting	
PD26	Master-slave operation simultaneous stop function operation setting	
PD30	Master-slave operation - Slave-side torque command coefficient	
PD31	Master-slave operation - Speed limit coefficient on slave	
PD32	Master-slave operation - Slave-side speed limit adjusted value	
PF06.0	Electronic dynamic brake selection	The setting value is converted to "3". Review the setting value as necessary.

MR-J5_-_G_ servo parameter	Name	Precautions
PF06.1	STO timing error selection	It is not converted with the parameter converter function. Perform the settings as required.
PF18	STO diagnosis error detection time	For the MR-J5-_G, the setting value will be maintained. Although the setting value will be maintained for the MR-J5-_G_-RJ or MR-J5W_-_G, the STO diagnosis error detection time is fixed to 10 seconds regardless of the setting value.
PT29.0	Device input polarity 1	When setting [Pr. PD41.3 Sensor input method selection] to "1: Input from controller (C_FLS/C_RLS/C_DOG)" in the servo parameter setting after conversion, set this servo parameter to "1: Dog detection with on".

7.2 Servo Parameter Comparison List

Basic setting servo parameters group ([Pr. PA_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PA02 Regenerative option]
- [Pr. PA04 Function selection A-1]
- [Pr. PA23 Drive recorder desired alarm trigger setting]

Use the setting value column to write notes for replacement.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PA01	**STY	Operation mode	1000h		PA01	**STY	Operation mode	00003000h	
PA02	**REG	Regenerative option	0000h		PA02	**REG	Regenerative option	00000000h	
PA03	*ABS	Absolute position detection system	0000h		PA03	*ABS	Absolute position detection system	00000000h	
PA04	*AOP1	Function selection A-1	2000h		PA04	*AOP1	Function selection A-1	00002000h	
PA05	—	For manufacturer setting	10000		PA05	—	For manufacturer setting	10000	
PA06	—	For manufacturer setting	1		PA06	*CMX	Electronic gear numerator	1	
PA07	—	For manufacturer setting	1		PA07	*CDV	Electronic gear denominator	1	
PA08	ATU	Auto tuning mode	0001h		PA08	ATU	Auto tuning mode	00000001h	
PA09	RSP	Auto tuning response	16		PA09	RSP	Auto tuning response	16	
PA10	INP	In-position range	1600		PA10	INP	In-position range	25600	
PA11	—	For manufacturer setting	1000.0		PA11	TLP	Forward rotation torque limit	1000.0	
PA12	—	For manufacturer setting	1000.0		PA12	TLN	Reverse rotation torque limit	1000.0	
PA13	—	For manufacturer setting	0000h		PA13	—	For manufacturer setting	00000000h	
PA14	*POL	Rotation direction selection/travel direction selection	0		PA14	*POL	Travel direction selection	0	
PA15	*ENR	Encoder output pulses	4000		PA15	*ENR	Encoder output pulses	4000	
PA16	*ENR2	Encoder output pulses 2	1		PA16	*ENR2	Encoder output pulses 2	1	
PA17	**MSR	Servo motor series setting	0000h		PA17	**MSR	Servo motor series setting	00000000h	
PA18	**MTY	Servo motor type setting	0000h		PA18	**MTY	Servo motor type setting	00000000h	
PA19	*BLK	Parameter writing inhibit	00ABh		PA19	*BLK	Servo parameter writing prohibited	000000ABh	
PA20	*TDS	Tough drive setting	0000h		PA20	*TDS	Tough drive setting	00000000h	
PA21	*AOP3	Function selection A-3	0001h		PA21	*AOP3	Function selection A-3	00000001h	
PA22	**PCS	Position control composition selection	0000h		PA22	**PCS	Position control configuration selection	00000000h	
PA23	DRAT	Drive recorder arbitrary alarm trigger setting	0000h		PA23	DRAT	Drive recorder desired alarm trigger setting	00000000h	
PA24	AOP4	Function selection A-4	0000h		PA24	AOP4	Function selection A-4	00000000h	
PA25	OTHOV	One-touch tuning - Overshoot permissible level	0		PA25	OTHOV	One-touch tuning - Overshoot permissible level	0	
PA26	*AOP5	Function selection A-5	0000h		PA26	*AOP5	Function selection A-5	00000000h	
PA27	—	For manufacturer setting	0000h		PA27	—	For manufacturer setting	00000000h	
PA28	—	For manufacturer setting	0000h		PA28	**AOP6	Function selection A-6	00000000h	
PA29	—	For manufacturer setting	0000h		PA29	—	For manufacturer setting	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PA30	—	For manufacturer setting	0000h		PA30	—	For manufacturer setting	0	
PA31	—	For manufacturer setting	0000h		PA31	—	For manufacturer setting	0	
PA32	—	For manufacturer setting	0000h		PA32	—	For manufacturer setting	00000001h	
—					PA33	—	For manufacturer setting	0.0	
—					PA34	QDIS	Quick tuning - Permissible travel distance	0	
—					PA35	—	For manufacturer setting	00000000h	
—					PA36	—	For manufacturer setting	00000000h	
—					PA37	—	For manufacturer setting	00000000h	
—					PA38	—	For manufacturer setting	00000000h	
—					PA39	—	For manufacturer setting	00000000h	
—					PA40	—	For manufacturer setting	00000000h	
—					PA41	—	For manufacturer setting	00000000h	
—					PA42	—	For manufacturer setting	00000000h	
—					PA43	—	For manufacturer setting	00000000h	
—					PA44	—	For manufacturer setting	00000000h	

Gain/filter setting servo parameters group ([Pr. PB_ _])

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB01	FILT	Adaptive tuning mode (adaptive filter II)	0000h		PB01	FILT	Adaptive tuning mode (adaptive filter II)	00000000h	
PB02	VRFT	Vibration suppression control tuning mode (Advanced vibration suppression control)	0000h		PB02	VRFT	Vibration suppression control tuning mode (Advanced vibration suppression control II)	00000000h	
PB03	TFBGN	Torque feedback loop gain	18000		PB03	TFBGN	Torque feedback loop gain	36000	
PB04	FFC	Feed forward gain	0		PB04	FFC	Feed forward gain	0	
PB05		For manufacturer setting	500		PB05		For manufacturer setting	500	
PB06	GD2	Load to motor inertia ratio/ load to motor mass ratio	7.00		PB06	GD2	Load to motor inertia ratio/ load to motor mass ratio	7.00	
PB07	PG1	Model loop gain	15.0		PB07	PG1	Model control gain	15.0	
PB08	PG2	Position loop gain	37.0		PB08	PG2	Position control gain	37.0	
PB09	VG2	Speed loop gain	823		PB09	VG2	Speed control gain	823	
PB10	VIC	Speed integral compensation	33.7		PB10	VIC	Speed integral compensation	33.7	
PB11	VDC	Speed differential compensation	980		PB11	VDC	Speed differential compensation	980	
PB12	OVA	Overshoot amount compensation	0		PB12	OVA	Overshoot amount compensation	0	
PB13	NH1	Machine resonance suppression filter 1	4500		PB13	NH1	Machine resonance suppression filter 1	4500	
PB14	NHQ1	Notch shape selection 1	0000h		PB14	NHQ1	Notch shape selection 1	00000000h	
PB15	NH2	Machine resonance suppression filter 2	4500		PB15	NH2	Machine resonance suppression filter 2	4500	
PB16	NHQ2	Notch shape selection 2	0000h		PB16	NHQ2	Notch shape selection 2	00000000h	
PB17	NHF	Shaft resonance suppression filter	0000h		PB17	NHF	Shaft resonance suppression filter	00000000h	
PB18	LPF	Low-pass filter setting	3141		PB18	LPF	Low-pass filter setting	3141	
PB19	VRF11	Vibration suppression control 1 - Vibration frequency	100.0		PB19	VRF11	Vibration suppression control 1 - Vibration frequency	100.0	
PB20	VRF12	Vibration suppression control 1 - Resonance frequency	100.0		PB20	VRF12	Vibration suppression control 1 - Resonance frequency	100.0	
PB21	VRF13	Vibration suppression control 1 - Vibration frequency damping	0.00		PB21	VRF13	Vibration suppression control 1 - Vibration frequency damping	0.00	
PB22	VRF14	Vibration suppression control 1 - Resonance frequency damping	0.00		PB22	VRF14	Vibration suppression control 1 - Resonance frequency damping	0.00	
PB23	VFBF	Low-pass filter selection	0000h		PB23	VFBF	Low-pass filter selection	00001000h	
PB24	*MVS	Slight vibration suppression control	0000h		PB24	*MVS	Slight vibration suppression control	00000000h	
PB25	*BOP1	Function selection B-1	0000h		PB25	*BOP1	Function selection B-1	00000000h	
PB26	*CDP	Gain switching function	0000h		PB26	*CDP	Gain switching function	00000000h	
PB27	CDL	Gain switching condition	10		PB27	CDL	Gain switching condition	10	
PB28	CDT	Gain switching time constant	1		PB28	CDT	Gain switching time constant	1	
PB29	GD2B	Load to motor inertia ratio/ load to motor mass ratio after gain switching	7.00		PB29	GD2B	Gain switching - Load to motor inertia ratio/load to motor mass ratio	7.00	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB30	PG2B	Position loop gain after gain switching	0.0		PB30	PG2B	Gain switching - Position control gain	0.0	
PB31	VG2B	Speed loop gain after gain switching	0		PB31	VG2B	Gain switching - Speed control gain	0	
PB32	VICB	Speed integral compensation after gain switching	0.0		PB32	VICB	Gain switching - Speed integral compensation	0.0	
PB33	VRF11B	Vibration suppression control 1 - Vibration frequency after gain switching	0.0		PB33	VRF11B	Gain switching - Vibration suppression control 1 - Vibration frequency	0.0	
PB34	VRF12B	Vibration suppression control 1 - Resonance frequency after gain switching	0.0		PB34	VRF12B	Gain switching - Vibration suppression control 1 - Resonance frequency	0.0	
PB35	VRF13B	Vibration suppression control 1 - Vibration frequency damping after gain switching	0.00		PB35	VRF13B	Gain switching - Vibration suppression control 1 - Vibration frequency damping	0.00	
PB36	VRF14B	Vibration suppression control 1 - Resonance frequency damping after gain switching	0.00		PB36	VRF14B	Gain switching - Vibration suppression control 1 - Resonance frequency damping	0.00	
PB37	—	For manufacturer setting	1600		PB37	—	For manufacturer setting	1600	
PB38	—	For manufacturer setting	0.00		PB38	—	For manufacturer setting	0.000	
PB39	—	For manufacturer setting	0.00		PB39	—	For manufacturer setting	0.000	
PB40	—	For manufacturer setting	0.00		PB40	—	For manufacturer setting	0.000	
PB41	—	For manufacturer setting	0		PB41	—	For manufacturer setting	00000000h	
PB42	—	For manufacturer setting	0		PB42	—	For manufacturer setting	00000000h	
PB43	—	For manufacturer setting	0000h		PB43	—	For manufacturer setting	00000000h	
PB44	—	For manufacturer setting	0.00		PB44	—	For manufacturer setting	0.00	
PB45	CNHF	Command notch filter	0000h		PB45	CNHF	Command notch filter	00000000h	
PB46	NH3	Machine resonance suppression filter 3	4500		PB46	NH3	Machine resonance suppression filter 3	4500	
PB47	NHQ3	Notch shape selection 3	0000h		PB47	NHQ3	Notch shape selection 3	00000000h	
PB48	NH4	Machine resonance suppression filter 4	4500		PB48	NH4	Machine resonance suppression filter 4	4500	
PB49	NHQ4	Notch shape selection 4	0000h		PB49	NHQ4	Notch shape selection 4	00000000h	
PB50	NH5	Machine resonance suppression filter 5	4500		PB50	NH5	Machine resonance suppression filter 5	4500	
PB51	NHQ5	Notch shape selection 5	0000h		PB51	NHQ5	Notch shape selection 5	00000000h	
PB52	VRF21	Vibration suppression control 2 - Vibration frequency	100.0		PB52	VRF21	Vibration suppression control 2 - Vibration frequency	100.0	
PB53	VRF22	Vibration suppression control 2 - Resonance frequency	100.0		PB53	VRF22	Vibration suppression control 2 - Resonance frequency	100.0	
PB54	VRF23	Vibration suppression control 2 - Vibration frequency damping	0.00		PB54	VRF23	Vibration suppression control 2 - Vibration frequency damping	0.00	
PB55	VRF24	Vibration suppression control 2 - Resonance frequency damping	0.00		PB55	VRF24	Vibration suppression control 2 - Resonance frequency damping	0.00	
PB56	VRF21B	Vibration suppression control 2 - Vibration frequency after gain switching	0.0		PB56	VRF21B	Gain switching - Vibration suppression control 2 - Vibration frequency	0.0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB57	VRF22B	Vibration suppression control 2 - Resonance frequency after gain switching	0.0		PB57	VRF22B	Gain switching - Vibration suppression control 2 - Resonance frequency	0.0	
PB58	VRF23B	Vibration suppression control 2 - Vibration frequency damping after gain switching	0.00		PB58	VRF23B	Gain switching - Vibration suppression control 2 - Vibration frequency damping	0.00	
PB59	VRF24B	Vibration suppression control 2 - Resonance frequency damping after gain switching	0.00		PB59	VRF24B	Gain switching - Vibration suppression control 2 - Resonance frequency damping	0.00	
PB60	PG1B	Model loop gain after gain switching	0.0		PB60	PG1B	Gain switching - Model control gain	0.0	
PB61	—	For manufacturer setting	0.0		PB61	—	For manufacturer setting	0.0	
PB62	—	For manufacturer setting	0000h		PB62	—	For manufacturer setting	00000000h	
PB63	—	For manufacturer setting	0000h		PB63	—	For manufacturer setting	00000000h	
PB64	—	For manufacturer setting	0000h		PB64	—	For manufacturer setting	00000000h	
—					PB65	CDL2	Gain switching 2 condition	10	
—					PB66	CDT2	Gain switching 2 time constant	1	
—					PB67	GD2C	Gain switching 2 - Load to motor inertia ratio/load to motor mass ratio	7.00	
—					PB68	PG2C	Gain switching 2 - Position control gain	0.0	
—					PB69	VG2C	Gain switching 2 - Speed control gain	0	
—					PB70	VICC	Gain switching 2 - Speed integral compensation	0.0	
—					PB71	VRF11C	Gain switching 2 - Vibration suppression control 1 - Vibration frequency	0.0	
—					PB72	VRF12C	Gain switching 2 - Vibration suppression control 1 - Resonance frequency	0.0	
—					PB73	VRF13C	Gain switching 2 - Vibration suppression control 1 - Vibration frequency damping	0.00	
—					PB74	VRF14C	Gain switching 2 - Vibration suppression control 1 - Resonance frequency damping	0.00	
—					PB75	VRF21C	Gain switching 2 - Vibration suppression control 2 - Vibration frequency	0.0	
—					PB76	VRF22C	Gain switching 2 - Vibration suppression control 2 - Resonance frequency	0.0	
—					PB77	VRF23C	Gain switching 2 - Vibration suppression control 2 - Vibration frequency damping	0.00	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PB78	VRF24C	Gain switching 2 - Vibration suppression control 2 - Resonance frequency damping	0.00	
—					PB79	PG1C	Gain switching 2 - Model control gain	0.0	
—					PB80	—	For manufacturer setting	177.0	
—					PB81	*CFIL	Command filter	00000001h	
—					PB82	PFT	Position command smoothing filter time constant	0.0	
—					PB83	—	For manufacturer setting	00000000h	
—					PB84	—	For manufacturer setting	00000000h	
—					PB85	—	For manufacturer setting	00000000h	
—					PB86	—	For manufacturer setting	00000000h	
—					PB87	—	For manufacturer setting	0	
—					PB88	—	For manufacturer setting	00000000h	
—					PB89	—	For manufacturer setting	00000000h	
—					PB90	—	For manufacturer setting	00000000h	
—					PB91	—	For manufacturer setting	00000000h	
—					PB92	—	For manufacturer setting	00000000h	

Extension setting servo parameters group ([Pr. PC_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PC18 Function selection C-5]
- [Pr. PC20 Function selection C-7]

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PC01	ERZ	Error excessive alarm level	0		PC01	ERZ	Excessive error alarm trigger level	0	
PC02	MBR	Electromagnetic brake sequence output	0		PC02	MBR	Electromagnetic brake sequence output	0	
PC03	*ENRS	Encoder output pulse selection	0000h		PC03	*ENRS	Encoder output pulses selection	00000000h	
PC04	**COP1	Function selection C-1	0000h		PC04	**COP1	Function selection C-1	00000000h	
PC05	**COP2	Function selection C-2	0000h		PC05	**COP2	Function selection C-2	00000000h	
PC06	*COP3	Function selection C-3	0000h		PC06	*COP3	Function selection C-3	00000000h	
PC07	ZSP	Zero speed	50		PC07	ZSP	Zero speed	50	
PC08	OSL	Overspeed alarm detection level	0		PC08	OSL	Overspeed alarm detection level	0	
PC09	MOD1	Analog monitor 1 output *1	0000h		PC09	MOD1	Analog monitor 1 output *1	00000000h	
PC10	MOD2	Analog monitor 2 output *1	0001h		PC10	MOD2	Analog monitor 2 output *1	00000001h	
PC11	MO1	Analog monitor 1 offset *1	0		PC11	MO1	Analog monitor 1 offset*1	0	
PC12	MO2	Analog monitor 2 offset *1	0		PC12	MO2	Analog monitor 2 offset*1	0	
PC13	MOSDL	Analog monitor - Feedback position output standard data - Low *1	0		PC13	—	For manufacturer setting	0	
PC14	MOSDH	Analog monitor - Feedback position output standard data - High *1	0		PC14	—	For manufacturer setting	0	
PC15	—	For manufacturer setting	0		PC15	—	For manufacturer setting	0	
PC16	—	For manufacturer setting	0000h		PC16	*COP3A	Function selection C-3A	00000000h	
PC17	**COP4	Function selection C-4	0000h		PC17	**COP4	Function selection C-4	00000000h	
PC18	*COP5	Function selection C-5	0000h		PC18	—	For manufacturer setting	00000000h	
PC19	—	For manufacturer setting	0000h		PC19	*COP6	Function selection C-6	00000000h	
PC20	*COP7	Function selection C-7	0000h		PC20	*COP7	Function selection C-7	00000000h	
PC21	*BPS	Alarm history clear	0000h		PC21	*BPS	Alarm history clear	00000000h	
PC22	—	For manufacturer setting	0		PC22	—	For manufacturer setting	0	
PC23	—	For manufacturer setting	0000h		PC23	—	For manufacturer setting	00000000h	
PC24	RSBR	Forced stop deceleration time constant	100		PC24	RSBR	Deceleration time constant at forced stop	100	
PC25	—	For manufacturer setting	0		PC25	—	For manufacturer setting	0	
PC26	**COP8	Function selection C-8	0000h		PC26	**COP8	Function selection C-8	00000050h	
PC27	**COP9	Function selection C-9	0000h		PC27	**COP9	Function selection C-9	00000000h	
PC28	—	For manufacturer setting	0000h		PC28	—	For manufacturer setting	00000000h	
PC29	*COPB	Function selection C-B	0000h		PC29	*COPB	Function selection C-B	00101000h	
PC30	—	For manufacturer setting	0		PC30	—	For manufacturer setting	0	
PC31	RSUP1	Vertical axis freefall prevention compensation amount	0		PC31	RSUP1	Vertical axis freefall prevention compensation amount	0	
PC32	—	For manufacturer setting	0000h		PC32	—	For manufacturer setting	0	
PC33	—	For manufacturer setting	0		PC33	—	For manufacturer setting	0	
PC34	—	For manufacturer setting	100		PC34	—	For manufacturer setting	100	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PC35	—	For manufacturer setting	0000h		PC35	—	For manufacturer setting	00000000h	
PC36	—	For manufacturer setting	0000h		PC36	—	For manufacturer setting	00000000h	
PC37	—	For manufacturer setting	0000h		PC37	—	For manufacturer setting	00000000h	
PC38	ERW	Error excessive warning level	0		PC38	ERW	Excessive error warning trigger level	0	
PC39	—	For manufacturer setting	0000h		PC39	—	For manufacturer setting	0.0	
PC40	—	For manufacturer setting	0000h		PC40	—	For manufacturer setting	0.0	
PC41	—	For manufacturer setting	0000h		PC41	*COPJ	Function selection C-J	00000000h	
PC42	—	For manufacturer setting	0000h		PC42	—	For manufacturer setting	00000000h	
PC43	—	For manufacturer setting	0000h		PC43	—	For manufacturer setting	0.0	
PC44	—	For manufacturer setting	0000h		PC44	—	For manufacturer setting	0.0	
PC45	—	For manufacturer setting	0000h		PC45	—	For manufacturer setting	00000000h	
PC46	—	For manufacturer setting	0000h		PC46	*DUOP2	Drive unit function selection 2	00000000h	
PC47	—	For manufacturer setting	0000h		PC47	—	For manufacturer setting	00000000h	
PC48	—	For manufacturer setting	0000h		PC48	—	For manufacturer setting	00000000h	
PC49	—	For manufacturer setting	0000h		PC49	—	For manufacturer setting	00000000h	
PC50	—	For manufacturer setting	0000h		PC50	—	For manufacturer setting	00000000h	
PC51	—	For manufacturer setting	0000h		PC51	—	For manufacturer setting	00000000h	
PC52	—	For manufacturer setting	0000h		PC52	—	For manufacturer setting	00000000h	
PC53	—	For manufacturer setting	0000h		PC53	—	For manufacturer setting	00000000h	
PC54	—	For manufacturer setting	0000h		PC54	—	For manufacturer setting	00000000h	
PC55	—	For manufacturer setting	0000h		PC55	—	For manufacturer setting	00000000h	
PC56	—	For manufacturer setting	0000h		PC56	—	For manufacturer setting	00000000h	
PC57	—	For manufacturer setting	0000h		PC57	—	For manufacturer setting	00000000h	
PC58	—	For manufacturer setting	0000h		PC58	—	For manufacturer setting	00000000h	
PC59	—	For manufacturer setting	0000h		PC59	—	For manufacturer setting	00000000h	
PC60	—	For manufacturer setting	0000h		PC60	—	For manufacturer setting	00000000h	
PC61	—	For manufacturer setting	0000h		PC61	—	For manufacturer setting	00000000h	
PC62	—	For manufacturer setting	0000h		PC62	—	For manufacturer setting	00000000h	
PC63	—	For manufacturer setting	0000h		PC63	—	For manufacturer setting	00000000h	
PC64	—	For manufacturer setting	0000h		PC64	—	For manufacturer setting	00000000h	
—					PC65	ZSP2L	Zero speed 2 level	50.00	
—					PC66	ZSP2F	Zero speed 2 filtering time	10	
—					PC67	FEW	Following error output level	00C00000h	
—					PC68	—	For manufacturer setting	00000000h	
—					PC69	FEWF	Following error output filtering time	10	
—					PC70	INP2R	In-position 2 - Output range	400	
—					PC71	INP2F	In-position 2 - Output filtering time	10	
—					PC72	SA2R	Speed reached 2 - Output range	20.00	
—					PC73	SA2F	Speed reached 2 - Output filtering time	10	
—					PC74	—	For manufacturer setting	10.0	
—					PC75	—	For manufacturer setting	10	
—					PC76	*COPE	Function selection C-E	00000001h	
—					PC77	—	For manufacturer setting	1000.0	
—					PC78	*COPF	Function selection C-F	00000000h	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PC79	*COPG	Function selection C-G	00000000h	
—					PC80	—	For manufacturer setting	00000000h	
—					PC81	—	For manufacturer setting	00000000h	
—					PC82	—	For manufacturer setting	0	
—					PC83	—	For manufacturer setting	0	
—					PC84	—	For manufacturer setting	00000000h	
—					PC85	—	For manufacturer setting	00000000h	
—					PC86	—	For manufacturer setting	00000000h	
—					PC87	—	For manufacturer setting	00000000h	
—					PC88	—	For manufacturer setting	00000000h	
—					PC89	—	For manufacturer setting	00000000h	
—					PC90	—	For manufacturer setting	00000000h	

*1 For a multi-axis servo amplifier, the servo parameter is disabled.

I/O setting servo parameters group ([Pr. PD_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PD08 Output device selection 2]
- [Pr. PD09 Output device selection 3]
- [Pr. PD11 Input filter setting]

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PD01	—	For manufacturer setting	0000h		PD01	*DIA1	Input signal automatic on selection	00000000h	
PD02	*DIA2	Input signal automatic on selection 2	0000h		PD02	—	For manufacturer setting	00000000h	
PD03	—	For manufacturer setting	0020h		PD03	— *DI1	Input device selection 1	0000000Ah	
PD04	—	For manufacturer setting	0021h		PD04	— *DI2	Input device selection 2	0000000Bh	
PD05	—	For manufacturer setting	0022h		PD05	— *DI3	Input device selection 3	00000022h	
PD06	—	For manufacturer setting	0000h		PD06	—	For manufacturer setting	00000000h	
PD07	*DO1	Output device selection 1	0005h		PD07	*DO1	Output device selection 1	00000005h	
PD08	*DO2	Output device selection 2	0004h		PD08	*DO2	Output device selection 2	00000004h	
PD09	*DO3	Output device selection 3	0003h		PD09	*DO3	Output device selection 3	00000003h	
PD10	—	For manufacturer setting	0000h		PD10	—	For manufacturer setting	00000000h	
PD11	*DIF	Input filter setting *1	0004h		PD11	*DIF	Input filter setting *1	00000007h	
PD12	*DOP1	Function selection D-1	0000h		PD12	*DOP1	Function selection D-1	00000101h	
PD13	*DOP2	Function selection D-2	0000h		PD13	*DOP2	Function selection D-2	00000000h	
PD14	*DOP3	Function selection D-3	0000h		PD14	*DOP3	Function selection D-3	00000000h	
PD15	*IDCS	Driver communication setting	0000h		PD15	*IDCS	Driver communication setting	00000000h	
PD16	*MD1	Driver communication setting - Master - Transmit data selection 1	0000h		PD16	—	For manufacturer setting	00000000h	
PD17	*MD2	Driver communication setting - Master - Transmit data selection 2	0000h		PD17	—	For manufacturer setting	00000000h	
PD18	—	For manufacturer setting	0000h		PD18	—	For manufacturer setting	00000000h	
PD19	—	For manufacturer setting	0000h		PD19	—	For manufacturer setting	00000000h	
PD20	*SLA1	Driver communication setting - Slave - Master axis No. selection 1	0		PD20	—	For manufacturer setting	0	
PD21	—	For manufacturer setting	0		PD21	—	For manufacturer setting	0	
PD22	—	For manufacturer setting	0		PD22	*SM1N	Driver communication setting - Slave - Master axis 1 - Station No. setting	0	
PD23	—	For manufacturer setting	0		PD23	—	Driver communication setting - Slave - Master axis 1 - Transmission and receive setting	00000000h	
PD24	—	For manufacturer setting	0000h		PD24	—	For manufacturer setting	0	
PD25	—	For manufacturer setting	0000h		PD25	—	For manufacturer setting	00000000h	
PD26	—	For manufacturer setting	0000h		PD26	*MSTO	Master-slave operation simultaneous stop function operation setting	00000000h	
PD27	—	For manufacturer setting	0000h		PD27	—	For manufacturer setting	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PD28	—	For manufacturer setting	0000h		PD28	—	For manufacturer setting	00000000h	
PD29	—	For manufacturer setting	0000h		PD29	—	For manufacturer setting	00000000h	
PD30	TLS	Master-slave operation - Slave-side torque command coefficient	0		PD30	TLS	Master-slave operation - Slave-side torque command coefficient	0	
PD31	VLC	Master-slave operation - Speed limit coefficient on slave	0		PD31	VLC	Master-slave operation - Slave-side speed limit coefficient	0	
PD32	VLL	Master-slave operation - Slave-side speed limit adjusted value	0		PD32	VLL	Master-slave operation - Speed limit adjusted value on slave	0.00	
PD33	—	For manufacturer setting	0000h		PD33	—	For manufacturer setting	00000000h	
PD34	—	For manufacturer setting	0000h		PD34	—	For manufacturer setting	00000000h	
PD35	—	For manufacturer setting	0000h		PD35	—	For manufacturer setting	00000000h	
PD36	—	For manufacturer setting	0000h		PD36	—	For manufacturer setting	00000000h	
PD37	—	For manufacturer setting	0000h		PD37	—	For manufacturer setting	00110001h	
PD38	—	For manufacturer setting	0000h		PD38		Input device selection 4	0000002Ch	
PD39	—	For manufacturer setting	0000h		PD39	*DI5	Input device selection 5	0000002Dh	
PD40	—	For manufacturer setting	0000h		PD40	—	For manufacturer setting	0	
PD41	—	For manufacturer setting	0000h		PD41	*DOP4	Function selection D-4	00000000h	
PD42	—	For manufacturer setting	0000h		PD42	—	For manufacturer setting	00000000h	
PD43	—	For manufacturer setting	0000h		PD43	—	For manufacturer setting	00000000h	
PD44	—	For manufacturer setting	0000h		PD44	—	For manufacturer setting	00000000h	
PD45	—	For manufacturer setting	0000h		PD45	—	For manufacturer setting	00000000h	
PD46	—	For manufacturer setting	0000h		PD46	—	For manufacturer setting	00000000h	
PD47	—	For manufacturer setting	0000h		PD47	—	For manufacturer setting	00000000h	
PD48	—	For manufacturer setting	0000h		PD48	—	For manufacturer setting	00000000h	
—					PD49	—	For manufacturer setting	0	
—					PD50	—	For manufacturer setting	0	
—					PD51	*DI3W2	Input device selection 3-2	00000062h	
—					PD52	—	For manufacturer setting	00000000h	
—					PD53	—	For manufacturer setting	00000000h	
—					PD54	—	For manufacturer setting	00000000h	
—					PD55	—	For manufacturer setting	00000000h	
—					PD56	—	For manufacturer setting	00000000h	
—					PD57	—	For manufacturer setting	00000000h	
—					PD58	—	For manufacturer setting	00000000h	
—					PD59	—	For manufacturer setting	00000000h	
—					PD60	*DIP	DI pin polarity selection	00000000h	
—					PD61	—	For manufacturer setting	00000000h	
—					PD62	—	For manufacturer setting	00000000h	
—					PD63	—	For manufacturer setting	00000000h	
—					PD64	—	For manufacturer setting	00000000h	
—					PD65	—	For manufacturer setting	00000000h	
—					PD66	—	For manufacturer setting	00000000h	
—					PD67	—	For manufacturer setting	00000000h	
—					PD68	—	For manufacturer setting	00000000h	
—					PD69	—	For manufacturer setting	00000000h	
—					PD70	—	For manufacturer setting	00000000h	
—					PD71	—	For manufacturer setting	00000000h	
—					PD72	—	For manufacturer setting	00000000h	

*1 For the settings of this servo parameter, refer to the servo system controller manual.

Extension setting 2 servo parameters group ([Pr. PE_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
PE01	**FCT1	Fully closed loop function selection 1	0000h		PE01	**FCT1	Fully closed loop function selection 1	00000000h	
PE02	—	For manufacturer setting	0000h		PE02	—	For manufacturer setting	00000000h	
PE03	*FCT2	Fully closed loop function selection 2	0003h		PE03	*FCT2	Fully closed loop control function selection 2	00000003h	
PE04	**FBN	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	1		PE04	**FBN	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	1	
PE05	**FBD	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	1		PE05	**FBD	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	1	
PE06	BC1	Fully closed loop control - Speed deviation error detection level	400		PE06	BC1	Fully closed loop control - Speed deviation error detection level	400	
PE07	BC2	Fully closed loop control - Position deviation error detection level	100		PE07	BC2	Fully closed loop control - Position deviation error detection level	100	
PE08	DUF	Fully closed loop dual feedback filter	10		PE08	DUF	Fully closed loop dual feedback filter	10	
PE09	—	For manufacturer setting	0000h		PE09	—	For manufacturer setting	00000000h	
PE10	FCT3	Fully closed loop function selection 3	0000h		PE10	FCT3	Fully closed loop control function selection 3	00000000h	
PE11	—	For manufacturer setting	0000h		PE11	—	For manufacturer setting	00000000h	
PE12	—	For manufacturer setting	0000h		PE12	—	For manufacturer setting	00000000h	
PE13	—	For manufacturer setting	0000h		PE13	—	For manufacturer setting	00000000h	
PE14	—	For manufacturer setting	0111h		PE14	—	For manufacturer setting	00000111h	
PE15	—	For manufacturer setting	20		PE15	—	For manufacturer setting	20	
PE16	—	For manufacturer setting	0000h		PE16	—	For manufacturer setting	00000000h	
PE17	—	For manufacturer setting	0000h		PE17	—	For manufacturer setting	00000100h	
PE18	—	For manufacturer setting	0000h		PE18	—	For manufacturer setting	00000000h	
PE19	—	For manufacturer setting	0000h		PE19	—	For manufacturer setting	00000000h	
PE20	—	For manufacturer setting	0000h		PE20	—	For manufacturer setting	00000000h	
PE21	—	For manufacturer setting	0000h		PE21	—	For manufacturer setting	00000000h	
PE22	—	For manufacturer setting	0000h		PE22	—	For manufacturer setting	00000000h	
PE23	—	For manufacturer setting	0000h		PE23	—	For manufacturer setting	00000000h	
PE24	—	For manufacturer setting	0000h		PE24	—	For manufacturer setting	00000000h	
PE25	—	For manufacturer setting	0000h		PE25	—	For manufacturer setting	00000000h	
PE26	—	For manufacturer setting	0000h		PE26	—	For manufacturer setting	00000000h	
PE27	—	For manufacturer setting	0000h		PE27	—	For manufacturer setting	00000000h	
PE28	—	For manufacturer setting	0000h		PE28	—	For manufacturer setting	00000000h	
PE29	—	For manufacturer setting	0000h		PE29	—	For manufacturer setting	00000000h	
PE30	—	For manufacturer setting	0000h		PE30	—	For manufacturer setting	00000000h	
PE31	—	For manufacturer setting	0000h		PE31	—	For manufacturer setting	00000000h	
PE32	—	For manufacturer setting	0000h		PE32	—	For manufacturer setting	00000000h	
PE33	—	For manufacturer setting	0000h		PE33	—	For manufacturer setting	00000000h	
PE34	**FBN2	Fully closed loop control - Feedback pulse electronic gear 2 - Numerator	1		PE34	—	For manufacturer setting	1	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
PE35	*FBD2	Fully closed loop control - Feedback pulse electronic gear 2 - Denominator	1		PE35	—	For manufacturer setting	1	
PE36	—	For manufacturer setting	0.0		PE36	—	For manufacturer setting	0.0	
PE37	—	For manufacturer setting	0.00		PE37	—	For manufacturer setting	0.00	
PE38	—	For manufacturer setting	0.00		PE38	—	For manufacturer setting	0.00	
PE39	—	For manufacturer setting	20		PE39	—	For manufacturer setting	20	
PE40	—	For manufacturer setting	0000h		PE40	—	For manufacturer setting	00000000h	
PE41	EOP3	Function selection E-3	0000h		PE41	EOP3	Function selection E-3	00000000h	
PE42	—	For manufacturer setting	0		PE42	—	For manufacturer setting	0	
PE43	—	For manufacturer setting	0.0		PE43	—	For manufacturer setting	0.0	
PE44	LMCP	Lost motion compensation positive-side compensation value selection	0		PE44	LMCP	Lost motion compensation positive-side compensation value selection	0	
PE45	LMCN	Lost motion compensation negative-side compensation value selection	0		PE45	LMCN	Lost motion compensation negative-side compensation value selection	0	
PE46	LMFLT	Lost motion filter setting	0		PE46	LMFLT	Lost motion filter setting	0	
PE47	TOF	Torque offset	0		PE47	TOF	Unbalanced torque offset	0	
PE48	*LMOP	Lost motion compensation function selection	0000h		PE48	*LMOP	Lost motion compensation function selection	00000000h	
PE49	LMCD	Lost motion compensation timing	0		PE49	LMCD	Lost motion compensation timing	0	
PE50	LMCT	Lost motion compensation non-sensitive band	0		PE50	LMCT	Lost motion compensation dead band	0	
PE51	—	For manufacturer setting	0000h		PE51	**EDV2	Load-side encoder resolution setting	0	
PE52	—	For manufacturer setting	0000h		PE52	—	For manufacturer setting	00000000h	
PE53	—	For manufacturer setting	0000h		PE53	TLMX1	Maximum torque limit 1	0.0	
PE54	—	For manufacturer setting	0000h		PE54	—	For manufacturer setting	00000000h	
PE55	—	For manufacturer setting	0000h		PE55	—	For manufacturer setting	00000000h	
PE56	—	For manufacturer setting	0000h		PE56	—	For manufacturer setting	00000000h	
PE57	—	For manufacturer setting	0000h		PE57	—	For manufacturer setting	00000000h	
PE58	—	For manufacturer setting	0000h		PE58	—	For manufacturer setting	00000000h	
PE59	—	For manufacturer setting	0000h		PE59	—	For manufacturer setting	00000000h	
PE60	—	For manufacturer setting	0000h		PE60	—	For manufacturer setting	00000000h	
PE61	—	For manufacturer setting	0.00		PE61	—	For manufacturer setting	0.000	
PE62	—	For manufacturer setting	0.00		PE62	—	For manufacturer setting	0.000	
PE63	—	For manufacturer setting	0.00		PE63	—	For manufacturer setting	0.000	
PE64	—	For manufacturer setting	0.00		PE64	—	For manufacturer setting	0.000	
—					PE65	—	For manufacturer setting	0.0	
—					PE66	—	For manufacturer setting	0.0	
—					PE67	—	For manufacturer setting	0.0	
—					PE68	—	For manufacturer setting	00000000h	
—					PE69	—	For manufacturer setting	00000000h	
—					PE70	—	For manufacturer setting	0.00	
—					PE71	—	For manufacturer setting	0	
—					PE72	—	For manufacturer setting	1.0000	
—					PE73	—	For manufacturer setting	00000000h	
—					PE74	—	For manufacturer setting	00000000h	
—					PE75	—	For manufacturer setting	00000000h	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
—					PE76	—	For manufacturer setting	00000000h	
—					PE77	—	For manufacturer setting	00000000h	
—					PE78	—	For manufacturer setting	0	
—					PE79	—	For manufacturer setting	0	
—					PE80	—	For manufacturer setting	00000000h	
—					PE81	—	For manufacturer setting	00000000h	
—					PE82	—	For manufacturer setting	00000000h	
—					PE83	—	For manufacturer setting	00000000h	
—					PE84	—	For manufacturer setting	00000000h	
—					PE85	—	For manufacturer setting	00000000h	
—					PE86	—	For manufacturer setting	00000000h	
—					PE87	—	For manufacturer setting	00000000h	
—					PE88	—	For manufacturer setting	00000000h	

Extension setting 3 servo parameters group ([Pr. PF_ _])

Point

For a multi-axis servo amplifier, the following parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PF02 Function selection F-2]
- [Pr. PF18 STO diagnosis error detection time]
- [Pr. PF21 Drive recorder switching time setting]
- [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)]

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PF01	—	For manufacturer setting	0000h		PF01	—	For manufacturer setting	00000000h	
PF02	*FOP2	Function selection F-2 *1	0000h		PF02	*FOP2	Function selection F-2 *1	00000000h	
PF03	—	For manufacturer setting	0000h		PF03	—	For manufacturer setting	00000000h	
PF04	—	For manufacturer setting	0		PF04	—	For manufacturer setting	0	
PF05	—	For manufacturer setting	0000h		PF05	—	For manufacturer setting	00000000h	
PF06	*FOP5	Function selection F-5	0000h		PF06	*FOP5	Function selection F-5	00000013h	
PF07	—	For manufacturer setting	0000h		PF07	—	For manufacturer setting	00000000h	
PF08	—	For manufacturer setting	0000h		PF08	—	For manufacturer setting	00000000h	
PF09	—	For manufacturer setting	0		PF09	—	For manufacturer setting	00000000h	
PF10	—	For manufacturer setting	0		PF10	—	For manufacturer setting	00000000h	
PF11	—	For manufacturer setting	0		PF11	—	For manufacturer setting	00000000h	
PF12	DBT	Electronic dynamic brake operating time	2000		PF12	DBT	Electronic dynamic brake operating time	2000	
PF13	—	For manufacturer setting	0000h		PF13	—	For manufacturer setting	00000000h	
PF14	—	For manufacturer setting	10		PF14	—	For manufacturer setting	10	
PF15	—	For manufacturer setting	0000h		PF15	—	For manufacturer setting	00000000h	
PF16	—	For manufacturer setting	0000h		PF16	—	For manufacturer setting	00000000h	
PF17	—	For manufacturer setting	0000h		PF17	—	For manufacturer setting	00000000h	
PF18	**STOD	STO diagnosis error detection time	0		PF18	**STOD	STO diagnosis error detection time	10	
PF19	—	For manufacturer setting	0000h		PF19	TSL	Friction failure prediction - Compensation coefficient 1	0	
PF20	—	For manufacturer setting	0000h		PF20	TIC	Friction failure prediction - Compensation coefficient 2	0	
PF21	DRT	Drive recorder switching time setting	0		PF21	DRT	Drive recorder switching time setting	0	
PF22	—	For manufacturer setting	200		PF22	—	For manufacturer setting	200	
PF23	OSCL1	Vibration tough drive - Oscillation detection level	50		PF23	OSCL1	Vibration tough drive - Oscillation detection level	20	
PF24	*OSCL2	Vibration tough drive function selection	0000h		PF24	*FOP9	Function selection F-9	00000000h	
PF25	CVAT	SEMI-F47 function - Instantaneous power failure detection time	200		PF25	CVAT	SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)	200	
PF26	—	For manufacturer setting	0		PF26	—	For manufacturer setting	0	
PF27	—	For manufacturer setting	0		PF27	—	For manufacturer setting	0	
PF28	—	For manufacturer setting	0		PF28	—	For manufacturer setting	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PF29	—	For manufacturer setting	0000h		PF29	*FOP10	Function selection F-10	00000000h	
PF30	—	For manufacturer setting	0		PF30	—	For manufacturer setting	0	
PF31	FRIC	Machine diagnosis function - Friction judgment speed	0		PF31	FRIC	Machine diagnosis function - Friction estimate area judgment speed at low speed	0	
PF32	—	For manufacturer setting	50		PF32	*VIBT	Oscillation detection alarm time	50	
PF33	—	For manufacturer setting	0000h		PF33	—	For manufacturer setting	00000000h	
PF34	—	For manufacturer setting	0000h		PF34	*MFP	Machine diagnosis function selection	00000000h	
PF35	—	For manufacturer setting	0000h		PF35	—	For manufacturer setting	00000000h	
PF36	—	For manufacturer setting	0000h		PF36	—	For manufacturer setting	00000000h	
PF37	—	For manufacturer setting	0000h		PF37	—	For manufacturer setting	00000000h	
PF38	—	For manufacturer setting	0000h		PF38	—	For manufacturer setting	00000000h	
PF39	—	For manufacturer setting	0000h		PF39	—	For manufacturer setting	00000000h	
PF40	—	For manufacturer setting	0000h		PF40	MFPP	Machine failure prediction servo parameter	00000000h	
PF41	—	For manufacturer setting	0000h		PF41	FPMT	Failure prediction - Servo motor total travel distance	0	
PF42	—	For manufacturer setting	0000h		PF42	PAV	Friction failure prediction - Average characteristics	0	
PF43	—	For manufacturer setting	0000h		PF43	PSD	Friction failure prediction - Standard deviation	0	
PF44	—	For manufacturer setting	0		PF44	—	For manufacturer setting	0	
PF45	—	For manufacturer setting	0000h		PF45	VAV	Vibration failure prediction - Average characteristics	0	
PF46	—	For manufacturer setting	0000h		PF46	VSD	Vibration failure prediction - Standard deviation	0	
PF47	—	For manufacturer setting	0000h		PF47	TMO	Servo motor total travel distance offset	0	
PF48	—	For manufacturer setting	0000h		PF48	—	For manufacturer setting	00000000h	
—					PF49	—	For manufacturer setting	100	
—					PF50	—	For manufacturer setting	100	
—					PF51	—	For manufacturer setting	00000000h	
—					PF52	—	For manufacturer setting	00000000h	
—					PF53	—	For manufacturer setting	0	
—					PF54	—	For manufacturer setting	0	
—					PF55	—	For manufacturer setting	0	
—					PF56	—	For manufacturer setting	0	
—					PF57	—	For manufacturer setting	00000000h	
—					PF58	—	For manufacturer setting	00000000h	
—					PF59	—	For manufacturer setting	00000000h	
—					PF60	—	For manufacturer setting	00000000h	
—					PF61	—	For manufacturer setting	00000000h	
—					PF62	FOP14	Function selection F-14	00000000h	
—					PF63	*FOP15	Function selection F-15	00000000h	
—					PF64	—	For manufacturer setting	0	
—					PF65	—	For manufacturer setting	00000000h	
—					PF66	BLG	Gear setting for backlash estimation	00000000h	
—					PF67	BLN	Backlash nominal value	0	
—					PF68	BLTT	Backlash threshold multiplication	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PF69	SPAV2	Static friction failure prediction - Average characteristics	0	
—					PF70	SPSD2	Static friction failure prediction - Standard deviation	0	
—					PF71	BFP	Belt failure prediction function selection	00000000h	
—					PF72	SBT	Belt tension on installation	0	
—					PF73	ABT	Belt tension when extended	0	
—					PF74	SSF	Static friction during installation	0	
—					PF75	ASF	Static friction when extended	0	
—					PF76	BTS	Belt tension irregular threshold	0	
—					PF77	—	For manufacturer setting	00000000h	
—					PF78	—	For manufacturer setting	00000000h	
—					PF79	—	For manufacturer setting	00110010h	
—					PF80	DRMC	Drive recorder - Operation condition selection	00000000h	
—					PF81	DRMS	Drive recorder - Sampling operation selection	00000000h	
—					PF82	DRTM	Drive recorder - Trigger operation selection	00000000h	
—					PF83	**DRTAX	Drive recorder - Trigger operation axis common selection	00000000h	
—					PF84	DRTC	Drive recorder - Trigger channel selection	005A8101h	
—					PF85	DRTL1	Drive recorder - Trigger level setting 1	0	
—					PF86	DRTL2	Drive recorder - Trigger level setting 2	0	
—					PF87	DRAC1	Drive recorder - Analog channel setting 1	00020201h	
—					PF88	DRAC2	Drive recorder - Analog channel setting 2	02040003h	
—					PF89	DRAC3	Drive recorder - Analog channel setting 3	00090205h	
—					PF90	DRAC4	Drive recorder - Analog channel setting 4	0000000Ch	
—					PF91	DRDC1	Drive recorder - Digital channel setting 1	00120000h	
—					PF92	DRDC2	Drive recorder - Digital channel setting 2	80058010h	
—					PF93	DRDC3	Drive recorder - Digital channel setting 3	8000800Ah	
—					PF94	DRDC4	Drive recorder - Digital channel setting 4	801D8015h	
—					PF95	*DRCLR	Drive recorder - Clear history	00000000h	
—					PF96	—	For manufacturer setting	00000000h	
—					PF97	—	For manufacturer setting	00000000h	
—					PF98	—	For manufacturer setting	00000000h	
—					PF99	—	For manufacturer setting	00000000h	

*1 Available only on multi-axis servo amplifiers.

Motor extension setting servo parameters group ([Pr. PL_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PL01	**LIT1	Linear servo motor/DD motor function selection 1	0301h		PL01	**LIT1	Function selection L-1	00000301h	
PL02	**LIM	Linear encoder resolution - Numerator	1000		PL02	**LIM	Linear encoder resolution setting - Numerator	1000	
PL03	**LID	Linear encoder resolution - Denominator	1000		PL03	**LID	Linear encoder resolution setting - Denominator	1000	
PL04	*LIT2	Linear servo motor/DD motor function selection 2	0003h		PL04	*LIT2	Function selection L-2	00000003h	
PL05	LB1	Position deviation error detection level	0		PL05	LB1	Position deviation error detection level	0	
PL06	LB2	Position deviation error detection level	0		PL06	LB2	Position deviation error detection level	0	
PL07	LB3	Torque/thrust deviation error detection level	100		PL07	LB3	Torque deviation error detection level	100	
PL08	*LIT3	Linear servo motor/DD motor function selection 3	0010h		PL08	*LIT3	Function selection L-3	00001010h	
PL09	LPWM	Magnetic pole detection voltage level	30		PL09	LPWM	Magnetic pole detection voltage level	30	
PL10	—	For manufacturer setting	5		PL10	—	For manufacturer setting	5	
PL11	—	For manufacturer setting	100		PL11	—	For manufacturer setting	100	
PL12	—	For manufacturer setting	500		PL12	—	For manufacturer setting	500	
PL13	—	For manufacturer setting	0000h		PL13	—	For manufacturer setting	00000000h	
PL14	—	For manufacturer setting	0		PL14	—	For manufacturer setting	00000000h	
PL15	—	For manufacturer setting	20		PL15	—	For manufacturer setting	20	
PL16	—	For manufacturer setting	0		PL16	—	For manufacturer setting	0	
PL17	LTSTS	Magnetic pole detection - Minute position detection method - Function selection	0000h		PL17	LTSTS	Magnetic pole detection - Minute position detection method - Function selection	00000000h	
PL18	IDLV	Magnetic pole detection - Minute position detection method - Identification signal amplitude	0		PL18	IDLV	Magnetic pole detection - Minute position detection method - Identification signal amplitude	0	
PL19	—	For manufacturer setting	0		PL19	—	For manufacturer setting	0	
PL20	—	For manufacturer setting	0		PL20	—	For manufacturer setting	0	
PL21	—	For manufacturer setting	0		PL21	—	For manufacturer setting	0	
PL22	—	For manufacturer setting	0		PL22	—	For manufacturer setting	0	
PL23	—	For manufacturer setting	0000h		PL23	—	For manufacturer setting	00000000h	
PL24	—	For manufacturer setting	0		PL24	—	For manufacturer setting	0	
PL25	—	For manufacturer setting	0000h		PL25	—	For manufacturer setting	0	
PL26	—	For manufacturer setting	0000h		PL26	—	For manufacturer setting	00000000h	
PL27	—	For manufacturer setting	0000h		PL27	—	For manufacturer setting	00000000h	
PL28	—	For manufacturer setting	0000h		PL28	—	For manufacturer setting	00000000h	
PL29	—	For manufacturer setting	0000h		PL29	—	For manufacturer setting	0	
PL30	—	For manufacturer setting	0000h		PL30	—	For manufacturer setting	00000000h	
PL31	—	For manufacturer setting	0000h		PL31	—	For manufacturer setting	00000000h	
PL32	—	For manufacturer setting	0000h		PL32	—	For manufacturer setting	00000000h	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_G_/MR-J5W_-_G servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PL33	—	For manufacturer setting	0000h		PL33	—	For manufacturer setting	00000000h	
PL34	—	For manufacturer setting	0000h		PL34	—	For manufacturer setting	00000000h	
PL35	—	For manufacturer setting	0000h		PL35	—	For manufacturer setting	00000000h	
PL36	—	For manufacturer setting	0000h		PL36	—	For manufacturer setting	00000000h	
PL37	—	For manufacturer setting	0000h		PL37	—	For manufacturer setting	00000000h	
PL38	—	For manufacturer setting	0000h		PL38	—	For manufacturer setting	00000000h	
PL39	—	For manufacturer setting	0000h		PL39	—	For manufacturer setting	00000000h	
PL40	—	For manufacturer setting	0000h		PL40	—	For manufacturer setting	00000000h	
PL41	—	For manufacturer setting	0000h		PL41	—	For manufacturer setting	00000000h	
PL42	—	For manufacturer setting	0000h		PL42	—	For manufacturer setting	00000000h	
PL43	—	For manufacturer setting	0000h		PL43	—	For manufacturer setting	00000000h	
PL44	—	For manufacturer setting	0000h		PL44	—	For manufacturer setting	00000000h	
PL45	—	For manufacturer setting	0000h		PL45	—	For manufacturer setting	00000000h	
PL46	—	For manufacturer setting	0000h		PL46	—	For manufacturer setting	00000000h	
PL47	—	For manufacturer setting	0000h		PL47	—	For manufacturer setting	00000000h	
PL48	—	For manufacturer setting	0000h		PL48	—	For manufacturer setting	00000000h	
—					PL49	—	For manufacturer setting	00000000h	
—					PL50	—	For manufacturer setting	0	
—					PL51	—	For manufacturer setting	0	
—					PL52	—	For manufacturer setting	12	
—					PL53	—	For manufacturer setting	0	
—					PL54	—	For manufacturer setting	00000000h	
—					PL55	—	For manufacturer setting	00000000h	
—					PL56	—	For manufacturer setting	00000000h	
—					PL57	—	For manufacturer setting	00000000h	
—					PL58	—	For manufacturer setting	00000000h	
—					PL59	—	For manufacturer setting	00000000h	
—					PL60	—	For manufacturer setting	00000000h	
—					PL61	—	For manufacturer setting	00000000h	
—					PL62	—	For manufacturer setting	00000000h	
—					PL63	—	For manufacturer setting	00000000h	
—					PL64	—	For manufacturer setting	00000000h	
—					PL65	—	For manufacturer setting	00000000h	
—					PL66	—	For manufacturer setting	00000000h	
—					PL67	—	For manufacturer setting	00000000h	
—					PL68	—	For manufacturer setting	00000000h	
—					PL69	—	For manufacturer setting	00000000h	
—					PL70	—	For manufacturer setting	00000000h	
—					PL71	—	For manufacturer setting	00000000h	
—					PL72	—	For manufacturer setting	00000000h	

7.3 Comparison of Servo Parameter Details

Point

The following servo amplifier capacities are applicable to the descriptions in this document.

- 200 V 1-axis: 0.1 to 7 kW/2-axis: 0.2 to 1 kW/3-axis: 0.2 to 0.4 kW
- 400 V 1-axis: 0.6 to 3.5 kW

The servo parameters of the MR-J5-_G_ described in this section are those of firmware version D4.

Basic setting servo parameters group ([Pr. PA_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA01	Operation mode		PA01	Operation mode	
	_ _ _ x: For manufacturer setting	0h		[Pr. PA01.0 Control mode selection] Select a control mode. 0: Network standard mode 6: Positioning mode (point table method) Setting a value other than "0" and "6" triggers [AL. 037 Parameter error]. For the control mode that can be used in each network, refer to the following. ☞ Page 150 Control mode	0h
	_ _ x _: Operation mode selection 0: Standard control mode 1: Fully closed loop control mode 4: Linear servo motor control mode 6: DD motor control mode Setting any value other than the above will trigger [AL. 37 Parameter error].	0h		[Pr. PA01.1 Operation mode selection] 0: Standard control mode 4: Linear servo motor control mode 6: Direct drive motor control mode	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA01.2 For manufacturer setting	0h
	x _ _ _: Compatibility mode selection This digit can be changed using the application "MR Mode Change". If it is changed without using the application, [AL. 3E Operation mode error] will occur. 0: J3 compatibility mode 1: J4 mode	1h		Pr. PA01.3 For manufacturer setting	3h
—				[Pr. PA01.4 Fully closed loop operation mode selection] Select whether to enable or disable the fully closed loop control mode. The external encoder communication method of four-wire type cannot be used in the fully closed loop control mode on the MR-J5-_G_. Use the MR-J5-_G_-RJ. Setting this servo parameter to "1" in the linear servo motor control mode triggers [AL. 037 Parameter error]. Setting "1" (enabled) on the MR-J5W3-_G triggers [AL. 037]. 0: Disabled (semi closed loop control mode) 1: Enabled (fully closed loop control mode)	0h
				Pr. PA01.5-6 For manufacturer setting	00h
				[Pr. PA01.7 High-speed mode selection] When using the servo amplifier in motion mode (high speed), set "1" (enabled). Setting "1" on the MR-J5W_-_G triggers [AL. 037 Parameter error]. 0: Disabled 1: Enabled When this servo parameter is set to "1" and the control mode is set to profile position mode (pp), profile speed mode (pv), or profile torque mode (tq), [AL. 19E Network warning 2] occurs. When this servo parameter is set to "1" and any of the conditions shown below is met for the other servo parameters, [AL. 037 Parameter error] occurs. ☞ Page 150 Settings that trigger [AL. 037 Parameter error]	0h

Control mode

Network	Corresponding control mode	
[Pr. PN13.0-3 Network protocol setting]	[Pr. PA01.0] = "0"	[Pr. PA01.0] = "6"
0000h (CC-Link IE TSN)	csp/csv/cst/pp/pv/tq/hm/ct/slt	pt/jg/hm
0004h (CC-Link IE Field Network Basic)	pp/pv/tq/hm	pt/jg/hm

Settings that trigger [AL. 037 Parameter error]

- [Pr. PA01.0 Control mode selection] = "6" (positioning mode (point table method))
- [Pr. PA01.4 Fully closed loop operation mode selection] = "1" (enabled (fully closed loop control mode))
- [Pr. PA22.3 Scale measurement function selection] = "1" (use with absolute position detection system)
- [Pr. PA22.3 Scale measurement function selection] = "2" (use with the incremental system)
- [Pr. PT01.1 Speed/acceleration/deceleration unit selection] = "1" (command unit/s)
- [Pr. PT01.2 Unit for position data] = "2" (degree)
- [Pr. PT02.7 Internal position command - Process speed selection] = "1" (high speed)
- [Pr. PD15.0 Master axis operation selection] = "1" (enabled (this servo amplifier is set as the master axis))
- [Pr. PD15.1 Slave axis operation selection] = "1" (enabled (this servo amplifier is set as the slave axis))
- [Pr. PN03.1 CC-Link IE TSN Class setting] = "1" (Class A ver. 2.0)

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PA02	Regenerative option		PA02	Regenerative option	
	Select a regenerative option. Incorrect setting may cause the regenerative option to burn. If a selected regenerative option is not for use with the servo amplifier, [AL. 37 Parameter error] occurs. _ _ x x: Regenerative option selection 00: Regenerative option is not used. • For 100 W servo amplifiers, the regenerative resistor is not used. • Built-in regenerative resistors are used on servo amplifiers with a capacity of 0.2 kW to 7 kW. 01: FR-RC/FR-CV/FR-BU2/FR-XC When using the FR-RC, FR-CV, and FR-XC, select "[AL. 10] occurring (_ _ _ 1)" for "Undervoltage alarm detection method selection" of [Pr. PC20]. 02: MR-RB032 03: MR-RB12 04: MR-RB32 05: MR-RB30 06: MR-RB50 (A cooling fan is required.) 08: MR-RB31 09: MR-RB51 (A cooling fan is required.) 0B: MR-RB3N 0C: MR-RB5N (A cooling fan is required.) 80: MR-RB1H-4 81: MR-RB3M-4 (A cooling fan is required.) 82: MR-RB3G-4 (A cooling fan is required.) 83: MR-RB5G-4 (A cooling fan is required.) 84: MR-RB34-4 (A cooling fan is required.) 85: MR-RB54-4 (A cooling fan is required.) 91: MR-RB3U-4 (A cooling fan is required.) 92: MR-RB5U-4 (A cooling fan is required.)	00h		[Pr. PA02.0-1 Regenerative option selection] Select a regenerative option. Incorrect setting may cause the regenerative option to burn. If a selected regenerative option is not for use with the servo amplifier, [AL. 037 Parameter error] occurs. Other regenerative options cannot be used together with the FR-XC-(H). 00: Regenerative option is not used. • For 100 W servo amplifiers, the regenerative resistor is not used. • Built-in regenerative resistors are used on servo amplifiers with a capacity of 0.2 kW to 7 kW. 01: FR-XC-(H) 02: MR-RB032 03: MR-RB12 05: MR-RB30 06: MR-RB50 (A cooling fan is required.) 08: MR-RB31 09: MR-RB51 (A cooling fan is required.) 0B: MR-RB3N 0C: MR-RB5N (A cooling fan is required.) 0D: MR-RB14 0E: MR-RB34 1C: MR-RB3Z 1D: MR-RB5Z (A cooling fan is required.) 80: MR-RB1H-4 81: MR-RB3M-4 (A cooling fan is required.) 82: MR-RB3G-4 (A cooling fan is required.) 83: MR-RB5G-4 (A cooling fan is required.) 84: MR-RB34-4 (A cooling fan is required.) 85: MR-RB54-4 (A cooling fan is required.) 91: MR-RB3U-4 (A cooling fan is required.) 92: MR-RB5U-4 (A cooling fan is required.) 93: MR-RB3Y-4 (A cooling fan is required.) 94: MR-RB5Y-4 (A cooling fan is required.)	00h
	_ x _ _: For manufacturer setting	0h		Pr. PA02.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA02.3 For manufacturer setting	0h
—				[Pr. PA02.4 Simple converter selection] When using the simple converter, set this servo parameter. The simple converter and external regenerative option can be used together. When using an external regenerative option, set the regenerative option to be used with [Pr. PA02.0-1]. When [Pr. PA02.0-1 Regenerative option selection] is set to "01" (FR-XC-(H)), setting this servo parameter to "1" (MR-CM3K) triggers [AL. 037 Parameter error]. On the MR-J5_-_G4_, setting this servo parameter to "1" (enabled) triggers [AL. 037 Parameter error]. 0: Simple converter is not used 1: MR-CM3K	0h
				[Pr. PA02.5 Excessive regeneration warning enabled/disabled selection] When [Pr. PA02.4] is set to "0" (simple converter is not used), setting this servo parameter to "1" (disabled) triggers [AL. 037 Parameter error]. When the simple converter is used, whether to enable or disable the detection of [AL. 0E0.1 Excessive regeneration warning] is selectable with this servo parameter. 0: Enabled 1: Disabled	0h
				Pr. PA02.6-7 For manufacturer setting	00h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA03	Absolute position detection system		PA03	Absolute position detection system	
	Set this servo parameter when using the absolute position detection system. The servo parameter cannot be used in the speed control mode and torque control mode. _ _ _ x: Absolute position detection system selection 0: Disabled (used in incremental system) 1: Disabled (used in incremental system)	0h		[Pr. PA03.0 Absolute position detection system selection] Set this servo parameter when using the absolute position detection system. If the absolute position detection system is switched to the incremental system, the home position is erased. Execute homing again when the absolute position detection system is enabled. 0: Disabled (incremental system) 1: Enabled (absolute position detection system) In the following case, enabling the absolute position detection system triggers [AL. 037 Parameter error]. • When an incremental type encoder is being used • When semi closed/fully closed switching is enabled By setting [Pr. PF63.0 [AL. 01A.5 Servo motor combination error 3] selection] to "1" (disabled) while the absolute position detection system is enabled, an in-use servo motor with a batteryless absolute position encoder can be replaced without changing the setting value of [Pr. PA03.1 Servo motor replacement preparation]. Connecting a servo motor that had not been connected at the startup of the absolute position detection system will cause [AL. 025 Absolute position erased], erasing absolute position data. Therefore, check if a correct servo motor is connected.	0h
	_ _ x _: For manufacturer setting	0h		[Pr. PA03.1 Servo motor replacement preparation] To replace an in-use batteryless absolute position encoder equipped servo motor while the absolute position detection system is in enabled status, set this servo parameter to "enabled". Selecting "1" (enabled) enables servo motor replacement. After servo motor replacement preparation is complete, the setting automatically changes to "0" (disabled) and the home position is erased. Execute homing again after replacing the servo motor. If [AL. 01A.5 Servo motor combination error 3] occurs after servo motor replacement, set this servo parameter to "1" (enabled), cycle the power, and then deactivate [AL. 01A.5]. 0: Disabled 1: Enabled	0h
	_ x _ _: For manufacturer setting	0h		[Pr. PA03.2 Scale measurement encoder replacement preparation] To replace an in-use batteryless absolute position scale measurement encoder while the absolute position detection system is in enabled status, set this servo parameter to "enabled". When "1" (enabled) is selected, the scale measurement encoder can be replaced. After scale measurement encoder replacement preparation is complete, the setting automatically changes to "0" (disabled) and the home position is erased. Execute homing again after replacing the scale measurement encoder. After setting this servo parameter to "enabled", cycle the power and then deactivate [AL. 01A.6 Servo motor combination error 4]. 0: Disabled 1: Enabled	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA03.3 For manufacturer setting	0h
—				Pr. PA03.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA04	Function selection A-1		PA04	Function selection A-1	
	_ _ _ x: For manufacturer setting	0h		Pr. PA04.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PA04.1 For manufacturer setting	0h
	_ x _ _: Servo forced stop selection 0: Enabled (the forced stop input EM2 or EM1 is used) 1: Disabled (the forced stop input EM2 and EM1 are not used)	0h		[Pr. PA04.2 Servo forced stop selection] 0: Enabled (the forced stop input EM2 or EM1 is used) 1: Disabled (the forced stop input EM2 and EM1 are not used)	0h
	x _ _ _: Forced stop deceleration function selection 0: Forced stop deceleration function disabled (EM1 is used) 2: Forced stop deceleration function enabled (EM2 is used)	2h		[Pr. PA04.3 Forced stop deceleration function selection] 0: Forced stop deceleration function disabled (EM1 is used) 2: Forced stop deceleration function enabled (EM2 is used)	2h
—				Pr. PA04.4-7 For manufacturer setting	0000h
PA08	Auto tuning mode		PA08	Auto tuning mode	
	_ _ _ x: Gain adjustment mode setting 0: 2 gain adjustment mode 1 (interpolation mode) 1: Auto tuning mode 1 2: Auto tuning mode 2 3: Manual mode 4: 2 gain adjustment mode 2	1h		[Pr. PA08.0 Gain adjustment mode selection] Select the gain adjustment mode. 0: 2 gain adjustment mode 1 (interpolation mode) 1: Auto tuning mode 1 2: Auto tuning mode 2 3: Manual mode 4: 2 gain adjustment mode 2 5: Quick tuning mode 6: Load to motor inertia ratio monitor mode For which servo parameter will be automatically adjusted, refer to the following. ☞ Page 154 Servo parameters adjusted automatically	1h
	_ _ x _: For manufacturer setting	0h		Pr. PA08.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA08.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA08.3 For manufacturer setting	0h
—				[Pr. PA08.4 Quick tuning - Load to motor inertia ratio setting] Set the load to motor inertia ratio at quick tuning. If the load connected to the servo motor is larger than the load to motor inertia ratio set in the servo parameter, an overshoot may occur in positioning operation after quick tuning. 0: Load to motor inertia ratio of 30 times or less 1: Load to motor inertia ratio of 100 times or less	0h
				[Pr. PA08.5 Quick tuning - Execution selection] Set when to execute quick tuning. 0: At initial servo-on after cycling the power 1: At every servo-on	0h
				[Pr. PA08.6 Quick tuning - Restore selection] Set whether to return servo parameters to the values from before quick tuning. 0: Disabled 1: Enabled By setting "1" (enabled), the following servo parameters return to the values from before quick tuning. ☞ Page 155 Servo parameters to be restored If quick tuning has never been performed after power on or software reset, setting "1" (enabled) only keeps the current servo parameter values.	0h
				Pr. PA08.7 For manufacturer setting	0h

Servo parameters adjusted automatically

Setting value of [Pr. PA08.0]	Gain adjustment mode	Servo parameters adjusted automatically
0	2 gain adjustment mode 1 (interpolation mode)	[Pr. PB06 Load to motor inertia ratio/load to motor mass ratio] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
1	Auto tuning mode 1	[Pr. PB06 Load to motor inertia ratio/load to motor mass ratio] [Pr. PB07 Model control gain] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
2	Auto tuning mode 2	[Pr. PB07 Model control gain] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
3	Manual mode	—
4	2 gain adjustment mode 2	[Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
5	Quick tuning mode	[Pr. PB07 Model control gain] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation] [Pr. PB13 Machine resonance suppression filter 1] [Pr. PB14 Notch shape selection 1] [Pr. PB15 Machine resonance suppression filter 2] [Pr. PB16 Notch shape selection 2] [Pr. PB18 Low-pass filter setting] [Pr. PB23 Low-pass filter selection] [Pr. PB50 Machine resonance suppression filter 5] [Pr. PB51 Notch shape selection 5] [Pr. PE41 Function selection E-3]
6	Load to motor inertia ratio monitor mode	[Pr. PB06 Load to motor inertia ratio/load to motor mass ratio]

Servo parameters to be restored

No.	Symbol	Name
PB01	FILT	Adaptive tuning mode (adaptive filter II)
PB07	PG1	Model control gain
PB08	PG2	Position control gain
PB09	VG2	Speed control gain
PB10	VIC	Speed integral compensation
PB11	VDC	Speed differential compensation
PB13	NH1	Machine resonance suppression filter 1
PB14	NHQ1	Notch shape selection 1
PB15	NH2	Machine resonance suppression filter 2
PB16	NHQ2	Notch shape selection 2
PB18	LPF	Low-pass filter setting
PB23	VFBF	Low-pass filter selection
PB50	NH5	Machine resonance suppression filter 5
PB51	NHQ5	Notch shape selection 5
PE41	EOP3	Function selection E-3

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA09	Auto tuning response Set the auto tuning response. ☞ Page 156 Auto tuning response (MR-J4_-_B_)	16	PA09	Auto tuning response Set the auto tuning response. ☞ Page 157 Auto tuning response (MR-J5_-_G_)	16

Auto tuning response (MR-J4_-_B_)

Setting value	Machine characteristic	
	Responsiveness	Guideline for machine resonance frequency [Hz]
1	Low response	2.7
2		3.6
3		4.9
4		6.6
5		10.0
6		11.3
7		12.7
8		14.3
9		16.1
10		18.1
11		20.4
12		23.0
13		25.9
14		29.2
15		32.9
16		37.0
17		41.7
18		47.0
19		52.9
20	Middle response	59.6
21		67.1
22		75.6
23		85.2
24		95.9
25		108.0
26		121.7
27		137.1
28		154.4
29		173.9
30		195.9
31		220.6
32		248.5
33		279.9
34		315.3
35		355.1
36		400.0
37		446.6
38		501.2
39	High response	571.5
40		642.7

Auto tuning response (MR-J5_-_G_)

Setting value	Machine characteristic	
	Responsiveness	Guideline for machine resonance frequency [Hz]
1	Low response	2.7
2		3.6
3		4.9
4		6.6
5		10.0
6		11.3
7		12.7
8		14.3
9		16.1
10		18.1
11		20.4
12		23.0
13		25.9
14		29.2
15		32.9
16		37.0
17		41.7
18		47.0
19		52.9
20	Middle response	59.6
21		67.1
22		75.6
23		85.2
24		95.9
25		108.0
26		121.7
27		137.1
28		154.4
29		173.9
30		195.9
31		220.6
32		248.5
33		279.9
34		315.3
35		355.1
36		400.0
37		446.6
38		501.2
39	High response	571.5
40		642.7

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA10	In-position range Set the in-position range in the command pulse unit.	1600	PA10	In-position range Set the in-position range in the command pulse unit. ☞ Page 158 In-position setting	25600

In-position setting

- In-position range setting

Control mode	In-position setting range
Profile mode/cyclic synchronous mode	Range where in-position (INP) is output
Positioning mode (point table method)	Range where MEND (traveling completion) and INP (in-position) are output

- In-position range control side selection

Setting value of [Pr. PA01.4 Fully closed loop operation mode selection]	In-position range unit
0 (semi closed loop control mode)	Command resolution unit (motor-side encoder)
1 (fully closed loop control mode)	Command resolution unit (load-side encoder)

- In-position range unit

Setting value of [Pr. PC06.0 In-position range unit selection]	Unit
0 (command unit)	Position command unit *1
1 (servo motor encoder pulse unit)	pulse

*1 The command unit can be changed to 0.001 mm, 0.0001 inch, 0.001 degree, or pulse in [Pr. PT01.2 Unit for position data].

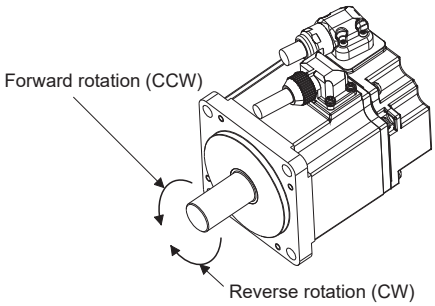
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA14	Rotation direction selection/travel direction selection Select the command input pulse rotation direction or travel direction for the rotary servo motor, linear servo motor, and direct drive motor. Refer to section 17.2 in "MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual" for the settings in the master-slave operation function. Refer to the following for the servo motor rotation direction. ☞ Page 159 Servo motor rotation direction/linear servo motor travel direction (MR-J4_-_B_)	0	PA14	Travel direction selection The rotation/travel direction can be changed without changing the polarity of the command from the controller. The polarities of the position and speed information are changed by the setting value of [Pr. PA14 Travel direction selection]. Torque information changes with the combination of [Pr. PA14] and [Pr. PC29.3 Torque POL reflection selection]. The rotation/travel direction is enabled regardless of the control modes. For example, when the torque polarity is changed with [Pr. PA14] and [Pr. PC29.3], the torque information polarity will also change both in the position mode and positioning mode. Refer to the following for the servo motor rotation direction. ☞ Page 160 Servo motor rotation direction/linear servo motor travel direction (MR-J5-_G_/MR-J5W_-_G)	0

Servo motor rotation direction/linear servo motor travel direction (MR-J4_-_B_)

Setting value	Servo motor rotation direction/linear servo motor travel direction	
	Positioning address increasing direction	Positioning address decreasing direction
0	CCW or positive direction	CW or negative direction
1	CW or negative direction	CCW or positive direction

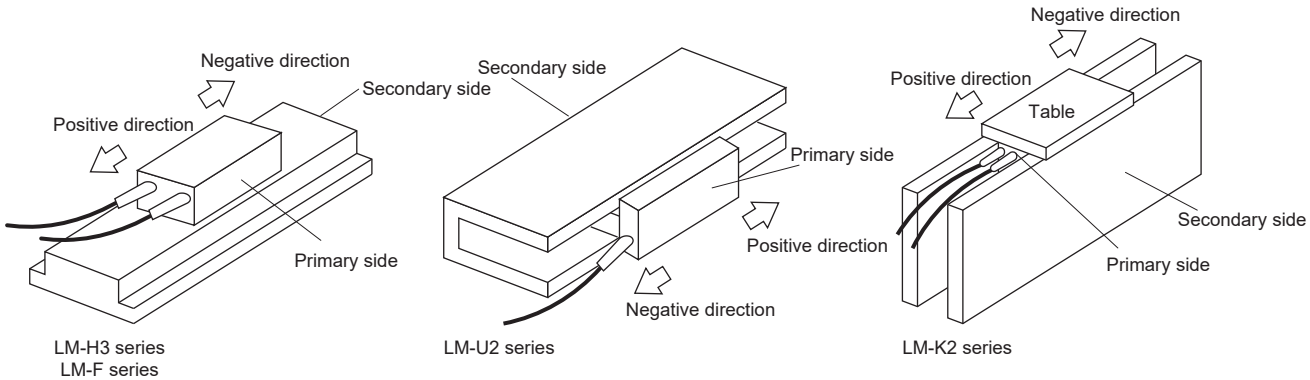
■Servo motor rotation direction

The servo motor rotation direction is as follows.



■Linear servo motor travel direction

The positive and negative directions of the linear servo motor are as follows.



Servo motor rotation direction/linear servo motor travel direction (MR-J5-_G_/MR-J5W_-_G)

• Position information

Setting value of [Pr. PA14]	Servo motor rotation direction/linear servo motor travel direction	
	Positioning address increasing direction	Positioning address decreasing direction
0	CCW or positive direction	CW or negative direction
1	CW or negative direction	CCW or positive direction

• Speed information

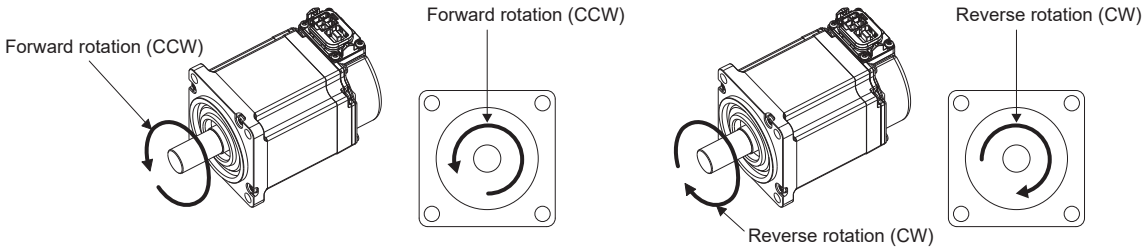
Setting value of [Pr. PA14]	Servo motor rotation direction/linear servo motor travel direction	
	Speed handled by the controller: positive	Speed handled by the controller: negative
0	CCW or positive direction	CW or negative direction
1	CW or negative direction	CCW or positive direction

• Torque information

Setting value		Servo motor rotation direction/linear servo motor travel direction	
[Pr. PA14]	[Pr. PC29.3]	Speed handled by the controller: positive	Speed handled by the controller: negative
0	0: Enabled	CCW or positive direction	CW or negative direction
	1: Disabled		
1	0: Enabled	CW or negative direction	CCW or positive direction
	1: Disabled	CCW or positive direction	CW or negative direction

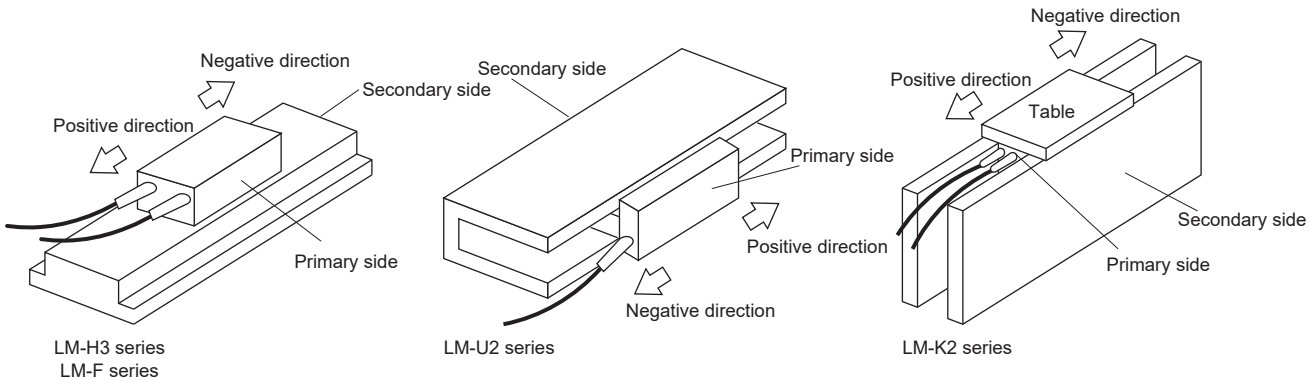
• Servo motor rotation direction

The servo motor rotation direction is as follows.



• Linear servo motor travel direction

The positive and negative directions of the linear servo motor are as follows.



MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PA15	Encoder output pulses Set the encoder output pulses outputted from the servo amplifier, by using the number of output pulses per revolution, dividing ratio, or electronic gear ratio. (after multiplication by 4) Set a numerator for the electronic gear when "A-phase/B-phase pulse electronic gear setting (_ _ 3 _)" is selected for "Encoder output pulse setting selection" of [Pr. PC03]. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	4000	PA15	Encoder output pulses Set the encoder output pulses outputted from the servo amplifier, by using the number of output pulses per revolution, dividing ratio, or electronic gear ratio. (after multiplication by 4) Selecting "1" (dividing ratio setting) in [Pr. PC03.1 Encoder output pulse setting selection] will divide the travel distance [pulse] by the setting value. Set a numerator for the electronic gear for the A/B-phase pulse output when selecting "3" (A-phase/B-phase pulse electronic gear setting) in [Pr. PC03.1]. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	4000
PA16	Encoder output pulses 2 Set the electronic gear denominator for the A/B-phase pulse output. Set a denominator for the electronic gear when "A-phase/B-phase pulse electronic gear setting (_ _ 3 _)" is selected for "Encoder output pulse setting selection" of [Pr. PC03]. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	1	PA16	Encoder output pulses 2 Set the electronic gear denominator for the A/B-phase pulse output. Set a denominator for the electronic gear when selecting "3" (A-phase/B-phase pulse electronic gear setting) in [Pr. PC03.1 Encoder output pulse setting selection]. When "1" (dividing ratio setting) is selected in [Pr. PC03.1 Encoder output pulse setting selection], the setting value is disabled. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	1
PA17	Servo motor series setting When using a linear servo motor, select any linear servo motor with [Pr. PA17] and [Pr. PA18]. Set this at the same time with [Pr. PA18]. Refer to the following table for setting values. ☞ Page 162 Linear servo motor list (MR-J4_-_B_)	0000h	PA17	Servo motor series setting To select the linear servo motor to be used, set this servo parameter and [Pr. PA18.0-3 Servo motor type setting]. Set this at the same time with [Pr. PA18.0-3]. Refer to the following table for setting values. ☞ Page 163 Linear servo motor list (MR-J5_-_G_)	00000000h

Linear servo motor list (MR-J4_-_B_)

Linear servo motor series	Linear servo motor (primary side)	Servo parameter	
		Setting value of [Pr. PA17]	Setting value of [Pr. PA18]
LM-H3	LM-H3P2A-07P-BSS0	00BBh	2101h
	LM-H3P3A-12P-CSS0		3101h
	LM-H3P3B-24P-CSS0		3201h
	LM-H3P3C-36P-CSS0		3301h
	LM-H3P3D-48P-CSS0		3401h
	LM-H3P7A-24P-ASS0		7101h
	LM-H3P7B-48P-ASS0		7201h
	LM-H3P7C-72P-ASS0		7301h
	LM-H3P7D-96P-ASS0		7401h
LM-U2	LM-U2PAB-05M-0SS0	00B4h	A201h
	LM-U2PAD-10M-0SS0		A401h
	LM-U2PAF-15M-0SS0		A601h
	LM-U2PBB-07M-1SS0		B201h
	LM-U2PBD-15M-1SS0		B401h
	LM-U2PBF-22M-1SS0		2601h
	LM-U2P2B-40M-2SS0		2201h
	LM-U2P2C-60M-2SS0		2301h
	LM-U2P2D-80M-2SS0		2401h
LM-F	LM-FP2B-06M-1SS0 (natural cooling)	00B2h	2201h
	LM-FP2D-12M-1SS0 (natural cooling)		2401h
	LM-FP2F-18M-1SS0 (natural cooling)		2601h
	LM-FP4B-12M-1SS0 (natural cooling)		4201h
	LM-FP4D-24M-1SS0 (natural cooling)		4401h
	LM-FP4F-36M-1SS0 (natural cooling)		4601h
	LM-FP4H-48M-1SS0 (natural cooling)		4801h
	LM-FP5H-60M-1SS0 (natural cooling)		5801h
	LM-FP2B-06M-1SS0 (liquid-cooling)		2202h
	LM-FP2D-12M-1SS0 (liquid-cooling)		2402h
	LM-FP2F-18M-1SS0 (liquid-cooling)		2602h
	LM-FP4B-12M-1SS0 (liquid-cooling)		4202h
	LM-FP4D-24M-1SS0 (liquid-cooling)		4402h
	LM-FP4F-36M-1SS0 (liquid-cooling)		4602h
	LM-FP4H-48M-1SS0 (liquid-cooling)		4802h
	LM-FP5H-60M-1SS0 (liquid-cooling)		5802h
LM-K2	LM-K2P1A-01M-2SS1	00B8h	1101h
	LM-K2P1C-03M-2SS1		1301h
	LM-K2P2A-02M-1SS1		2101h
	LM-K2P2C-07M-1SS1		2301h
	LM-K2P2E-12M-1SS1		2501h
	LM-K2P3C-14M-1SS1		3301h
	LM-K2P3E-24M-1SS1		3501h

Linear servo motor list (MR-J5_-_G_)

Linear servo motor series	Linear servo motor (primary side)	Servo parameter	
		Setting value of [Pr. PA17]	Setting value of [Pr. PA18]
LM-H3	LM-H3P2A-07P-BSS0	000000BBh	00002101h
	LM-H3P3A-12P-CSS0		00003101h
	LM-H3P3B-24P-CSS0		00003201h
	LM-H3P3C-36P-CSS0		00003301h
	LM-H3P3D-48P-CSS0		00003401h
	LM-H3P7A-24P-ASS0		00007101h
	LM-H3P7B-48P-ASS0		00007201h
	LM-H3P7C-72P-ASS0		00007301h
	LM-H3P7D-96P-ASS0		00007401h
LM-U2	LM-U2PAB-05M-0SS0	000000B4h	0000A201h
	LM-U2PAD-10M-0SS0		0000A401h
	LM-U2PAF-15M-0SS0		0000A601h
	LM-U2PBB-07M-1SS0		0000B201h
	LM-U2PBD-15M-1SS0		0000B401h
	LM-U2PBF-22M-1SS0		00002601h
	LM-U2P2B-40M-2SS0		00002201h
	LM-U2P2C-60M-2SS0		00002301h
	LM-U2P2D-80M-2SS0		00002401h
LM-F	LM-FP2B-06M-1SS0 (natural cooling)	000000B2h	00002201h
	LM-FP2D-12M-1SS0 (natural cooling)		00002401h
	LM-FP2F-18M-1SS0 (natural cooling)		00002601h
	LM-FP4B-12M-1SS0 (natural cooling)		00004201h
	LM-FP4D-24M-1SS0 (natural cooling)		00004401h
	LM-FP4F-36M-1SS0 (natural cooling)		00004601h
	LM-FP4H-48M-1SS0 (natural cooling)		00004801h
	LM-FP5H-60M-1SS0 (natural cooling)		00005801h
	LM-FP2B-06M-1SS0 (liquid-cooling)		00002202h
	LM-FP2D-12M-1SS0 (liquid-cooling)		00002402h
	LM-FP2F-18M-1SS0 (liquid-cooling)		00002602h
	LM-FP4B-12M-1SS0 (liquid-cooling)		00004202h
	LM-FP4D-24M-1SS0 (liquid-cooling)		00004402h
	LM-FP4F-36M-1SS0 (liquid-cooling)		00004602h
	LM-FP4H-48M-1SS0 (liquid-cooling)		00004802h
	LM-FP5H-60M-1SS0 (liquid-cooling)		00005802h
LM-K2	LM-K2P1A-01M-2SS1	000000B8h	00001101h
	LM-K2P1C-03M-2SS1		00001301h
	LM-K2P2A-02M-1SS1		00002101h
	LM-K2P2C-07M-1SS1		00002301h
	LM-K2P2E-12M-1SS1		00002501h
	LM-K2P3C-14M-1SS1		00003301h
	LM-K2P3E-24M-1SS1		00003501h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA18	Servo motor type setting When using a linear servo motor, select any linear servo motor with [Pr. PA17] and [Pr. PA18]. Set this at the same time with [Pr. PA17]. Refer to the following table for setting values. ☞ Page 162 Linear servo motor list (MR-J4_-_B_)	0000h	PA18	Servo motor type setting	
				[Pr. PA18.0-3 Servo motor type setting] When using a linear servo motor, select the linear servo motor to be used in [Pr. PA17 Servo motor series setting] and [Pr. PA18]. Set this at the same time with [Pr. PA17]. Refer to the following table for setting values. ☞ Page 163 Linear servo motor list (MR-J5_-_G_)	0000h
—				Pr. PA18.4-7 For manufacturer setting	0000h
PA19	Parameter writing inhibit Select a reference range and writing range for the servo parameter. Refer to the following table for setting values. ☞ Page 164 Setting value and read/write range of [Pr. PA19] (MR-J4_-_B_)	00ABh	PA19	[Pr. PA19 Servo parameter writing prohibited] Select a reference range and writing range for the servo parameter. The settings of this servo parameter are disabled if they are read/written via engineering tools (such as MR Configurator2). The settings of this servo parameter are disabled for parameter objects. Refer to the following table for setting values. ☞ Page 165 Setting value and read/write range of [Pr. PA19] (MR-J5_-_G_)	000000ABh

Setting value and read/write range of [Pr. PA19] (MR-J4_-_B_)

PA19	Setting value operation	PA	PB	PC	PD	PE	PF	PL
Setting values not listed below	Readable	○	—	—	—	—	—	—
	Writable	○	—	—	—	—	—	—
000Ah	Readable	19 only	—	—	—	—	—	—
	Writable	19 only	—	—	—	—	—	—
000Bh	Readable	○	○	○	—	—	—	—
	Writable	○	○	○	—	—	—	—
000Ch	Readable	○	○	○	○	—	—	—
	Writable	○	○	○	○	—	—	—
000Fh	Readable	○	○	○	○	○	—	○
	Writable	○	○	○	○	○	—	○
00AAh	Readable	○	○	○	○	○	○	—
	Writable	○	○	○	○	○	○	—
00ABh (initial value)	Readable	○	○	○	○	○	○	○
	Writable	○	○	○	○	○	○	○
100Bh	Readable	○	—	—	—	—	—	—
	Writable	19 only	—	—	—	—	—	—
100Ch	Readable	○	○	○	○	—	—	—
	Writable	19 only	—	—	—	—	—	—
100Fh	Readable	○	○	○	○	○	—	○
	Writable	19 only	—	—	—	—	—	—
10AAh	Readable	○	○	○	○	○	○	—
	Writable	19 only	—	—	—	—	—	—
10ABh	Readable	○	○	○	○	○	○	○
	Writable	19 only	—	—	—	—	—	—

Setting value and read/write range of [Pr. PA19] (MR-J5_-_G_)

PA19	Setting value operation	PA	PB	PC	PD	PE	PF	PO	PS	PL, PU	PT, PV	PN
Setting values not listed below	Readable	○	×	×	×	×	×	×	×	×	×	×
	Writable	○	×	×	×	×	×	×	×	×	×	×
0000000A	Readable	19 only	×	×	×	×	×	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000000B	Readable	○	○	○	×	×	×	×	×	×	×	×
	Writable	○	○	○	×	×	×	×	×	×	×	×
0000000C	Readable	○	○	○	○	×	×	×	×	×	×	×
	Writable	○	○	○	○	×	×	×	×	×	×	×
0000000D	Readable	○	○	○	○	×	×	×	○	×	×	×
	Writable	○	○	○	○	×	×	×	○	×	×	×
0000000E	Readable	○	○	○	○	×	×	○	○	×	×	×
	Writable	○	○	○	○	×	×	○	○	×	×	×
0000000F	Readable	○	○	○	○	○	×	○	○	○	×	×
	Writable	○	○	○	○	○	×	○	○	○	×	×
000000AA	Readable	○	○	○	○	○	○	×	×	×	×	×
	Writable	○	○	○	○	○	○	×	×	×	×	×
000000AB (initial value)	Readable	○	○	○	○	○	○	○	○	○	○	○
	Writable	○	○	○	○	○	○	○	○	○	○	○
0000100B	Readable	○	×	×	×	×	×	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100C	Readable	○	○	○	○	×	×	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100D	Readable	○	○	○	○	×	×	×	○	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100E	Readable	○	○	○	○	×	×	○	○	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100F	Readable	○	○	○	○	○	×	○	○	○	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
000010AA	Readable	○	○	○	○	○	○	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
000010AB	Readable	○	○	○	○	○	○	○	○	○	○	○
	Writable	19 only	×	×	×	×	×	×	×	×	×	×

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA20	Tough drive setting		PA20	Tough drive setting	
	_ _ _ x: For manufacturer setting	0h		Pr. PA20.0 For manufacturer setting	0h
	_ _ x _: Vibration tough drive selection 0: Disabled 1: Enabled Selecting "1" for this digit suppresses vibrations by automatically changing the setting values of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2] if the vibration exceeds the value of the oscillation level set in [Pr. PF23]. Refer to "MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual" for details.	0h		[Pr. PA20.1 Vibration tough drive selection] 0: Disabled 1: Machine resonance suppression filter change mode enabled 2: Machine resonance suppression filter automatic setting mode Selecting other than "0" for this servo parameter suppresses vibrations by automatically changing the setting values of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2] if the vibration exceeds the value of the oscillation level set in [Pr. PF23 Vibration tough drive - Oscillation detection level]. For "1", the vibration tough drive functions when [Pr. PB13] and [Pr. PB15] are enabled. For "2", the vibration tough drive functions even when [Pr. PB13] and [Pr. PB15] are disabled. When using the vibration tough drive, selecting "2" (machine resonance suppression filter automatic setting mode) is recommended.	0h
	_ x _ _: SEMI-F47 function selection 0: Disabled 1: Enabled Selecting "1" enables to avoid triggering [AL. 10 Undervoltage] by using the electrical energy charged in the capacitor in case that an instantaneous power failure occurs during operation. In [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time], the time until the occurrence of [AL. 10.1 Voltage drop in the control circuit power] can be set.	0h		[Pr. PA20.2 SEMI-F47 function selection] 0: Disabled 1: Enabled Selecting "1" enables to avoid triggering [AL. 010 Undervoltage] by using the electrical energy charged in the capacitor in case that an instantaneous power failure occurs during operation. In [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)], the time until the occurrence of [AL. 010.1 Voltage drop in the control circuit power] can be set. For the MR-J5W_-_G_, SEMI-F47 function cannot enable specific axis separately. Therefore, when using SEMI-F47 function, enable all axes.	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA20.3 For manufacturer setting	0h
—				Pr. PA20.4-7 For manufacturer setting	0000h
PA21	Function selection A-3		PA21	Function selection A-3	
	_ _ _ x: One-touch tuning function selection 0: Disabled 1: Enabled When this digit is set to "0", one-touch tuning from MR Configurator2 cannot be performed.	1h		[Pr. PA21.0 One-touch tuning function selection] 0: Disabled 1: Enabled When the servo parameter is set to "0", the one-touch tuning cannot be performed.	1h
	_ _ x _: For manufacturer setting	0h		Pr. PA21.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA21.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA21.3 For manufacturer setting	0h
—				Pr. PA21.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA22	Position control composition selection		PA22	Position control configuration selection	
	_ _ _ x: For manufacturer setting	0h		Pr. PA22.0 For manufacturer setting	0h
	_ _ x _: Super trace control selection 0: Disabled 2: Enabled	0h		[Pr. PA22.1 Super trace function selection] 0: Disabled 2: Enabled	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA22.2 For manufacturer setting	0h
	x _ _ _: Scale measurement function selection 0: Disabled 1: Use with absolute position detection system 2: Use with incremental system The absolute position detection system cannot be used when an incremental type encoder is used. At this time, enabling the absolute position detection system triggers [AL. 37 Parameter error]. This setting is valid only in the standard control mode. Setting any value other than "0" in other operation modes will trigger [AL. 37 Parameter error].	0h		[Pr. PA22.3 Scale measurement function selection] The absolute position detection system cannot be used when an incremental type encoder is used. At this time, enabling the absolute position detection system triggers [AL. 037 Parameter error]. In the fully closed loop control mode, setting a value other than "0" triggers [AL. 037]. If the absolute position detection system is disabled or switched to the incremental system, the home position is erased. Setting "1" or "2" on the MR-J5W3- _G_ triggers [AL. 037]. If this servo parameter is set to a value other than "0" while "0" (standard control mode) is selected in [Pr. PA01.1 Operation mode selection], [AL. 037] occurs. 0: Disabled 1: Use with absolute position detection system 2: Use with incremental system By setting [Pr. PF63.1 [AL. 01A.6 Servo motor combination error 4] selection] to "1" (disabled) while the absolute position detection system is enabled, an in-use batteryless absolute position scale measurement encoder can be replaced without changing the setting value of [Pr. PA03.2 Scale measurement encoder replacement preparation]. Connecting a scale measurement encoder that had not been connected at the startup of the absolute position detection system will cause [AL. 025 Absolute position erased], erasing absolute position data. Therefore, check if a correct scale measurement encoder is connected.	0h
—				Pr. PA22.4-7 For manufacturer setting	0000h
PA23	Drive recorder arbitrary alarm trigger setting		PA23	Drive recorder desired alarm trigger setting This servo parameter is enabled in the following conditions: • [Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) • [Pr. PF80.0] = "1" (manual setting mode) and [Pr. PF82.0 Drive recorder - Trigger mode selection] = "0" (alarm trigger)	
	_ _ x x: Alarm detail number setting Set this to execute the trigger with a desired alarm detail No. for the drive recorder function. When this digit is set to "0 0", only the desired alarm No. setting will be enabled.	00h		[Pr. PA23.0-1 Alarm detail number setting] Set this to execute the trigger with a desired alarm detail No. for the drive recorder function. When "00h" is selected, only the desired alarm No. setting will be enabled.	00h
	x x _ _: Alarm number setting Set this to execute the trigger with a desired alarm No. for the drive recorder function. When "0 0" is selected, the desired alarm trigger of the drive recorder will be disabled.	00h		[Pr. PA23.2-4 Alarm number setting] Set this to execute the trigger with a desired alarm No. for the drive recorder function. When "000h" is selected, the desired alarm trigger of the drive recorder is disabled.	000h
—				Pr. PA23.5-7 For manufacturer setting	000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PA24	Function selection A-4		PA24	Function selection A-4	
	_ _ _ x: Vibration suppression mode selection 0: Standard mode 1: 3 inertia mode 2: Low response mode If there are two lower resonance frequency, select "3 inertia mode (_ _ _ 1)". When the load to moment inertia ratio exceeds the recommended load to moment inertia ratio, select "Low response mode (_ _ _ 2)". When the standard mode or low response mode is selected, vibration suppression control 2 cannot be used. When 3 inertia mode is selected, feed forward gain cannot be used. Before changing the control mode in "3 inertia mode" or "low response mode" from the controller, stop the motor.	0h		[Pr. PA24.0 Vibration suppression mode selection] 0: Standard mode 1: 3 inertia mode 2: Low response mode 4: Path tracking mode When other than "3 inertia mode" is selected, vibration suppression control 2 cannot be used. Before changing the control mode in "3 inertia mode" or "low response mode", stop the motor. Before changing the control mode in "path tracking mode", stop the motor.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PA24.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA24.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA24.3 For manufacturer setting	0h
—				Pr. PA24.4 For manufacturer setting	0h
				[Pr. PA24.5 Load to motor inertia ratio/load to motor mass ratio estimation higher precision selection] Select whether to enable or disable estimation with higher precision for the load to motor inertia ratio/load to motor mass ratio. 0: Disabled 1: Enabled When this servo parameter is set to "0" (disabled), [Pr. PB06 Load to motor inertia ratio/load to motor mass ratio] may be estimated at a value smaller than the accurate estimation depending on the operation pattern. Therefore, this servo parameter is recommended to be set to "1" (enabled). Setting this servo parameter to "1" (enabled) with the equipment on which the gain is adjusted may change the actual movement. Check the movement of the equipment after changing the settings.	0h
				Pr. PA24.6-7 For manufacturer setting	00h
PA25	One-touch tuning - Overshoot permissible level Set a permissible value of overshoot amount for one-touch tuning as a percentage of the in-position range. If the setting value is "0", the level will be 50 %.	0	PA25	One-touch tuning - Overshoot permissible level Set a permissible value of overshoot amount for one-touch tuning as a percentage of the in-position range. When "0" is set, 50 % is applied.	0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA26	Function selection A-5		PA26	Function selection A-5	
	_ _ _ x: Torque limit function selection at instantaneous power failure (Instantaneous power failure tough drive selection) 0: Disabled 1: Enabled If an instantaneous power failure occurs during operation, limiting the torque at acceleration saves the electric energy charged in the capacitor in the servo amplifier. And consequently the time until [AL. 10.2 Voltage drop in the main circuit power] occurs can be delayed with instantaneous power failure tough drive function. Thus, the time to be set in [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time] can be extended. The torque limit function at instantaneous power failure is enabled when "SEMI-F47 function selection" in [Pr. PA20] is set to "Enabled (_ 1 _ _)".	0h		[Pr. PA26.0 Torque limit function selection at instantaneous power failure] 0: Disabled 1: Enabled By setting "1", if an instantaneous power failure occurs during operation, limiting the torque at acceleration saves the electric energy charged in the capacitor in the servo amplifier. And consequently the time until [AL. 010.2 Voltage drop in the main circuit power] occurs can be delayed with instantaneous power failure tough drive function. Thus, the time to be set in [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)] can be extended. The torque limit function at instantaneous power failure is enabled when [Pr. PA20.2 SEMI-F47 function selection] is "1" (enabled). This function cannot be used on the MR-J5W_-_G_. When this servo parameter is enabled, [AL. 037 Parameter error] occurs. This function is disabled in cyclic synchronous torque mode (cst), profile torque mode (tq), and slave axis torque mode (slt).	0h
	_ _ x _: For manufacturer setting	0h		Pr. PA26.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA26.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA26.3 For manufacturer setting	0h
—				Pr. PA26.4-7 For manufacturer setting	0000h

Gain/filter setting servo parameters group ([Pr. PB_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB01	Adaptive tuning mode (adaptive filter II)		PB01	Adaptive tuning mode (adaptive filter II)	
	_ _ _ x: Filter tuning mode selection Select the adjustment mode of the machine resonance suppression filter 1. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB01.0 Filter tuning mode selection] Setting of the adaptive tuning is performed. Select the adjustment mode of the machine resonance suppression filter 1. 0: Disabled 1: Automatic setting 2: Manual setting When the servo parameter is set to "automatic setting", [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB14 Notch shape selection 1] will be set automatically. The automatic setting of machine resonance suppression filter 1 cannot be used if quick tuning is in progress. While quick tuning is in progress, adaptive filter II (adaptive tuning) does not start even if the automatic setting of machine resonance suppression filter 1 is used. The results obtained from the quick tuning are applied to [Pr. PB13] and [Pr. PB14]. Do not use the automatic setting in torque mode.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PB01.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB01.2 For manufacturer setting	0h
	x _ _ _: Tuning accuracy selection 0: Standard 1: High accuracy In the high-accuracy mode, the frequency is estimated more accurately than in the standard mode, but the sound during adjustment is larger.	0h		[Pr. PB01.3 Tuning accuracy selection] 0: Standard 1: High accuracy In the high accuracy mode, the sound during tuning may be larger than in the standard mode, but the frequency is estimated more accurately.	0h
—				Pr. PB01.4-7 For manufacturer setting	0000h
PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)		PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)	
	_ _ _ x: Vibration suppression control 1 - Tuning mode selection Select the tuning mode of the vibration suppression control 1. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] Select the tuning mode of the vibration suppression control 1. 0: Disabled 1: Automatic setting 2: Manual setting	0h
	_ _ x _: Vibration suppression control 2 - Tuning mode selection Select the tuning mode of the vibration suppression control 2. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24 Function selection A-4], the setting value of this digit is enabled. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] Select the tuning mode of the vibration suppression control 2. To enable the setting value, set [Pr. PA24.0 Vibration suppression mode selection] to "1" (3 inertia mode). 0: Disabled 1: Automatic setting 2: Manual setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB02.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB02.3 For manufacturer setting	0h
—				Pr. PB02.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB03	Torque feedback loop gain Set the torque feedback gain in the continuous operation to torque control mode. Decreasing the setting value reduces the collision load during pressing. 6 rad/s is set when the setting value is 6 rad/s or less.	18000	PB03	Torque feedback loop gain Set the torque feedback gain. This function is enabled in the continuous operation to torque control mode. Decreasing the setting value of this servo parameter reduces the collision load during pressing. 6 rad/s is set when the setting value is 6 rad/s or less.	36000
PB04	Feed forward gain Set the feed forward gain. When 100 % is set and constant speed operation is performed, the droop pulses become almost zero. If the super trace control is enabled, the droop pulses are almost 0 in operation at uniform acceleration/deceleration, as well as at the constant speed. However, if sudden acceleration/deceleration is performed, overshoot becomes large. When the feed forward gain is set to 100 %, set a value not smaller than 1 s for the acceleration time constant until the rated speed is reached.	0	PB04	Feed forward gain Set the feed forward gain. When "100" is set, the droop pulses are almost 0 in operation at the constant speed. If the super trace control is enabled, the droop pulses are almost 0 in operation at uniform acceleration/deceleration, as well as at the constant speed. However, if sudden acceleration/deceleration is performed, overshoot becomes large. When the feed forward gain is set to 100 %, set a value not smaller than 1 s for the acceleration time constant until the rated speed is reached.	0
PB06	Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio or load to motor mass ratio. Setting a value greatly different from the actual load moment of inertia or load mass may cause an unexpected operation such as an overshoot. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 171 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J4_-_B_) When the servo parameter is set to automatic setting, the value varies within the range of 0.00 to 100.00.	7.00	PB06	Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio or load to motor mass ratio. Setting a value different from the actual load moment of inertia or load mass may cause an unexpected operation such as an overshoot. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 171 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5_-_G_) When the servo parameter is set to automatic setting, the value varies within the range of 0.00 to 100.00.	7.00

State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)

Pr. PA08	State of [Pr. PB06]
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	Manual setting
_ _ _ 3 (manual mode)	
_ _ _ 4 (2 gain adjustment mode 2)	

State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5_-_G_)

[Pr. PA08.0]	State of [Pr. PB06]
"0" (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
"1" (auto tuning mode 1)	
"2" (auto tuning mode 2)	Manual setting
"3" (manual mode)	
"4" (2 gain adjustment mode 2)	
"5" (quick tuning mode)	
"6" (load to motor inertia ratio monitor mode)	Automatic setting

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB07	Model loop gain Set the response gain to the target position. Increasing the setting value improves responsiveness to the position command, but increasing the value too much raises the likelihood of vibration and noise. The setting range of [Pr. PB07] is limited in the vibration suppression control tuning mode. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 172 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)	15.0	PB07	Model loop gain Set the response gain to the target position. Increasing the setting value improves responsiveness to the position command, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 172 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J5_-_G_) When the vibration suppression control is enabled, the settable range of [Pr. PB07 Model control gain] is limited. If [Pr. PB07] exceeds the settable range, the vibration suppression control is disabled.	15.0

State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)

Pr. PA08	State of [Pr. PB07]
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Manual setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	Automatic setting
_ _ _ 3 (manual mode)	
_ _ _ 4 (2 gain adjustment mode 2)	Manual setting

State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J5_-_G_)

[Pr. PA08.0]	State of [Pr. PB07]
"0" (2 gain adjustment mode 1 (interpolation mode))	Manual setting
"1" (auto tuning mode 1)	Automatic setting
"2" (auto tuning mode 2)	
"3" (manual mode)	Manual setting
"4" (2 gain adjustment mode 2)	
"5" (quick tuning mode)	Automatic setting
"6" (load to motor inertia ratio monitor mode)	Manual setting

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB08	Position loop gain Set the gain of the position loop. Set this servo parameter when increasing the position responsiveness to level load disturbance. Increasing the setting value improves responsiveness to the load disturbance, but increasing the value too much raises the likelihood of vibration and noise. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 173 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)	37.0	PB08	Position loop gain Set the gain of the position loop. Set this servo parameter when increasing the position responsiveness to level load disturbance. Increasing the setting value improves responsiveness to the load disturbance, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 173 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J5_-_G_)	37.0

State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)

Pr. PA08	State of [Pr. PB08]
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	
_ _ _ 3 (manual mode)	Manual setting
_ _ _ 4 (2 gain adjustment mode 2)	Automatic setting

State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J5_-_G_)

[Pr. PA08.0]	State of [Pr. PB08]
"0" (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
"1" (auto tuning mode 1)	
"2" (auto tuning mode 2)	
"3" (manual mode)	Manual setting
"4" (2 gain adjustment mode 2)	Automatic setting
"5" (quick tuning mode)	
"6" (load to motor inertia ratio monitor mode)	Manual setting

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB09	Speed loop gain Set the gain of the speed loop. Set this servo parameter when vibration occurs on machines with low rigidity or with large backlash. Increasing the setting value improves responsiveness, but increasing the value too much raises the likelihood of vibration and noise. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the table of [Pr. PB08] for details. If the value of this servo parameter is smaller than the initial value in the continuous operation to torque control mode, the equipment may not be able to follow the command torque.	823	PB09	Speed loop gain Set the gain of the speed loop. Set this servo parameter when vibration occurs on machines with low rigidity or with large backlash. Increasing the setting value improves responsiveness, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the table of [Pr. PB08] for details.	823
PB10	Speed integral compensation Set the integral time constant of the speed loop. Decreasing the setting value improves responsiveness, but raises the likelihood of vibration and noise. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the table of [Pr. PB08] for details.	33.7	PB10	Speed integral compensation Set the integral time constant of the speed loop. Decreasing the setting value improves responsiveness, but raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the table of [Pr. PB08] for details.	33.7
PB11	Speed differential compensation Set the differential compensation. This servo parameter is enabled when "Continuous PID control enabled (_ _ 3 _)" is set to "PI-PID switching control selection" in [Pr. PB24].	980	PB11	Speed differential compensation Set the differential compensation. The enabling conditions vary depending on the setting value in [Pr. PB24.1 PI-PID switching control selection]. ☞ Page 174 Enabling conditions for [Pr. PB11]	980

Enabling conditions for [Pr. PB11]

[Pr. PB24.1]	Enabling conditions for [Pr. PB11]
"0" (switching is enabled by PID switching signal (C_PC) from controller and the input device (PC))	Enabled by turning on the PID switching signal from controller (C_PC), or by turning on the PC (Proportional control)
"3" (Continuous PID control (proportional control) enabled)	Always enabled

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB12	Overshoot amount compensation Set a dynamic friction torque in percentage to the rated torque at servo motor rated speed. Alternatively, set a percentage of dynamic friction force against the continuous thrust at linear servo motor rated speed. If the response level is too low or if the torque/thrust is limited, the efficiency of the servo parameter may decrease.	0	PB12	Overshoot amount compensation Set a dynamic friction torque in percentage to the rated torque at servo motor rated speed. Alternatively, set a percentage of dynamic friction force against the continuous thrust at linear servo motor rated speed. If the response level is too low or if the torque/thrust is limited, the efficiency of the servo parameter may decrease.	0
PB13	Machine resonance suppression filter 1 Set the notch frequency of the machine resonance suppression filter 1. When "Automatic setting (_ _ _ 1)" is selected for "Filter tuning mode selection" in [Pr. PB01], the values obtained from adaptive tuning are applied. When "Manual setting (_ _ _ 2)" is selected for "Filter tuning mode selection" in [Pr. PB01], the setting value of this servo parameter is enabled.	4500	PB13	Machine resonance suppression filter 1 Set the notch frequency of the machine resonance suppression filter 1. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. When [Pr. PB01.0 Filter tuning mode selection] is set to "1" (automatic setting), the values obtained from adaptive tuning are applied to the setting value of this servo parameter. When [Pr. PB01.0] is set to "2" (manual setting), set the notch frequency with this servo parameter.	4500
PB14	Notch shape selection 1		PB14	Notch shape selection 1	
	_ _ _ x: For manufacturer setting	0h		Pr. PB14.0 For manufacturer setting	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB14.1 Notch depth selection 1] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB14.2 Notch width selection 1] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB14.3 For manufacturer setting	0h
—				Pr. PB14.4-7 For manufacturer setting	0000h
PB15	Machine resonance suppression filter 2 Set the notch frequency of the machine resonance suppression filter 2. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 2 selection" in [Pr. PB16], the setting value of this servo parameter is enabled.	4500	PB15	Machine resonance suppression filter 2 Set the notch frequency of the machine resonance suppression filter 2. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. When [Pr. PB16.0 Machine resonance suppression filter 2 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB16	Notch shape selection 2 Set forms of the machine resonance suppression filter 2.		PB16	Notch shape selection 2 Set forms of the machine resonance suppression filter 2. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning.	
	_ _ _ x: Mechanical resonance suppression filter 2 selection 0: Disabled 1: Enabled	0h		[Pr. PB16.0 Machine resonance suppression filter 2 selection] 0: Disabled 1: Enabled	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB16.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB16.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB16.3 For manufacturer setting	0h
—				Pr. PB16.4-7 For manufacturer setting	0000h
PB17	Shaft resonance suppression filter Set the shaft resonance suppression filter. Use this to suppress a high-frequency machine vibration. When "Shaft resonance suppression filter selection" in [Pr. PB23] is "Automatic setting (_ _ _ 0)", the value will be calculated automatically from the servo motor used and load to motor inertia ratio. Automatic setting is not carried out when the linear servo motor is used. When "Manual setting (_ _ _ 1)" is set, the value written for this servo parameter is used. If "Shaft resonance suppression filter selection" in [Pr. PB23] is "Disabled (_ _ _ 2)", the setting value is invalid. If "Enabled (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the shaft resonance suppression filter cannot be used.		PB17	Shaft resonance suppression filter Set the shaft resonance suppression filter. Use this to suppress a high-frequency machine vibration. When [Pr. PB23.0 Shaft resonance suppression filter selection] is set to "0" (automatic setting), the value will be calculated automatically from the servo motor used and load to motor inertia ratio. Automatic setting is not carried out when the linear servo motor is used. When "1" (manual setting) is selected, set the shaft resonance suppression filter with this servo parameter. When [Pr. PB23.0] is set to "2" (disabled), the setting of this servo parameter is disabled. Therefore, the filter performance may be reduced. When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), the shaft resonance suppression filter cannot be used.	
	_ _ x x: Shaft resonance suppression filter setting - Frequency selection Set the shaft resonance suppression filter. Refer to the following table for setting values. ☞ Page 177 Shaft resonance suppression filter setting - Frequency selection (MR-J4_-_B_) Set the value closest to the required frequency.	00h		[Pr. PB17.0-1 Shaft resonance suppression filter setting - Frequency selection] Refer to the following table for setting values. ☞ Page 178 Shaft resonance suppression filter setting - Frequency selection (MR-J5_-_G_) Set the value closest to the required frequency.	00h
	x _ _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB17.2 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB17.3 For manufacturer setting	0h
—				Pr. PB17.4-7 For manufacturer setting	0000h

Shaft resonance suppression filter setting - Frequency selection (MR-J4_-_B_)

Setting value	Frequency [Hz]
_ _ 0 0	Disabled
_ _ 0 1	Disabled
_ _ 0 2	4500
_ _ 0 3	3000
_ _ 0 4	2250
_ _ 0 5	1800
_ _ 0 6	1500
_ _ 0 7	1285
_ _ 0 8	1125
_ _ 0 9	1000
_ _ 0 A	900
_ _ 0 B	818
_ _ 0 C	750
_ _ 0 D	692
_ _ 0 E	642
_ _ 0 F	600
_ _ 1 0	562
_ _ 1 1	529
_ _ 1 2	500
_ _ 1 3	473
_ _ 1 4	450
_ _ 1 5	428
_ _ 1 6	409
_ _ 1 7	391
_ _ 1 8	375
_ _ 1 9	360
_ _ 1 A	346
_ _ 1 B	333
_ _ 1 C	321
_ _ 1 D	310
_ _ 1 E	300
_ _ 1 F	290

Shaft resonance suppression filter setting - Frequency selection (MR-J5_-_G_)

Setting value	Frequency [Hz]
00	Disabled
01	Disabled
02	4500
03	3000
04	2250
05	1800
06	1500
07	1285
08	1125
09	1000
0A	900
0B	818
0C	750
0D	692
0E	642
0F	600
10	562
11	529
12	500
13	473
14	450
15	428
16	409
17	391
18	375
19	360
1A	346
1B	333
1C	321
1D	310
1E	300
1F	290
20	Disabled
21	Disabled
22	Disabled
23	Disabled
24	Disabled
25	Disabled
26	Disabled
27	Disabled
28	4500
29	4000
2A	3600
2B	3272
2C	3000
2D	2769
2E	2571
2F	2400
30	2250
31	2117
32	2000

Setting value	Frequency [Hz]
33	1894
34	1800
35	1714
36	1636
37	1565
38	1500
39	1440
3A	1384
3B	1333
3C	1285
3D	1241
3E	1200
3F	1161
40	1125
41	1090
42	1058
43	1028
44	1000
45	972
46	947
47	923
48	900
49	878
4A	857
4B	837
4C	818
4D	800
4E	782
4F	765
50	750
51	734
52	720
53	705
54	692
55	679
56	666
57	654
58	642
59	631
5A	620
5B	610
5C	600
5D	590
5E	580
5F	571
60	562
61	553
62	545
63	537
64	529
65	521
66	514
67	507

Setting value	Frequency [Hz]
68	500
69	493
6A	486
6B	480
6C	473
6D	467
6E	461
6F	455
70	450
71	444
72	439
73	433
74	428
75	423
76	418
77	413
78	409
79	404
7A	400
7B	395
7C	391
7D	387
7E	382
7F	378
80	375
81	371
82	367
83	363
84	360
85	356
86	352
87	349
88	346
89	342
8A	339
8B	336
8C	333
8D	330
8E	327
9F	324
90	321
91	318
92	315
93	313
94	310
95	307
96	305
97	302
98	300
99	297
9A	295
9B	292
9C	290

Setting value	Frequency [Hz]
9D	288
9E	285
9F	283

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB18	Low-pass filter setting Set the low-pass filter. Refer to the table below for the status of this servo parameter and the setting values of the related servo parameter. ☞ Page 181 State of [Pr. PB18] depending on the related servo parameter (MR-J4_-_B_)	3141	PB18	Low-pass filter setting Set the low-pass filter. Refer to the table below for the status of this servo parameter and the setting values of the related servo parameter. ☞ Page 181 State of [Pr. PB18] depending on the related servo parameter (MR-J5_-_G_) When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), this servo parameter returns to the initial value.	3141

State of [Pr. PB18] depending on the related servo parameter (MR-J4_-_B_)

[Pr. PB23]	[Pr. PB18]
_ _ 0 _ (initial value)	Automatic setting
_ _ 1 _	Setting value enabled
_ _ 2 _	Setting value disabled

State of [Pr. PB18] depending on the related servo parameter (MR-J5_-_G_)

[Pr. PB23.1]	[Pr. PB18]
"0" (initial value)	Automatic setting
"1"	Setting value enabled
"2"	Setting value disabled

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB19	Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used. The setting range of this servo parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB19	Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the vibration frequency with this servo parameter. If [Pr. PB25.0 Model adaptive control selection] is set to "2" (disabled), the vibration suppression control cannot be used. The available range of [Pr. PB19 Vibration suppression control 1 - Vibration frequency] depends on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB19] exceeds the available range, the vibration suppression control is disabled.	100.0
PB20	Vibration suppression control 1 - Resonance frequency Set the resonance frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used. The setting range of this servo parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB20	Vibration suppression control 1 - Resonance frequency Set the resonance frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the resonance frequency with this servo parameter. If [Pr. PB25.0 Model adaptive control selection] is set to "2" (disabled), the vibration suppression control cannot be used. The available range of [Pr. PB20 Vibration suppression control 1 - Resonance frequency] changes depending on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB20] exceeds the available range, the vibration suppression control is disabled.	100.0
PB21	Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used.	0.00	PB21	Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the vibration frequency with this servo parameter.	0.00
PB22	Vibration suppression control 1 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used.	0.00	PB22	Vibration suppression control 1 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the resonance frequency with this servo parameter.	0.00

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB23	Low-pass filter selection		PB23	Low-pass filter selection	
	_ _ _ x: Shaft resonance suppression filter selection 0: Automatic setting 1: Manual setting 2: Disabled If "Enabled (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the shaft resonance suppression filter cannot be used.	0h		[Pr. PB23.0 Shaft resonance suppression filter selection] Select the shaft resonance suppression filter. 0: Automatic setting 1: Manual setting 2: Disabled When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), the shaft resonance suppression filter cannot be used.	0h
	_ _ x _: Low-pass filter selection 0: Automatic setting 1: Manual setting 2: Disabled	0h		[Pr. PB23.1 Low-pass filter selection] Select the low-pass filter. 0: Automatic setting 1: Manual setting 2: Disabled When "5" (quick tuning mode) is selected in [Pr. PA08.0 Gain adjustment mode selection], this servo parameter is set to "1" (manual setting).	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB23.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PB23.3 Shaft resonance suppression filter 2 selection] 0: Disabled 1: Automatic setting	1h
—				Pr. PB23.4-7 For manufacturer setting	0000h
PB24	Slight vibration suppression control		PB24	Slight vibration suppression control	
	_ _ _ x: Slight vibration suppression control selection 0: Disabled 1: Enabled The slight vibration suppression control is enabled when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. Slight vibration suppression control selection cannot be used in speed control mode.	0h		[Pr. PB24.0 Slight vibration suppression control selection] Select the slight vibration suppression control. 0: Disabled 1: Enabled The slight vibration suppression control is enabled when "3" (manual mode) is selected in [Pr. PA08.0 Gain adjustment mode selection]. The slight vibration suppression control selection can be used in the position mode and positioning mode.	0h
	_ _ x _: PI-PID switching control selection 0: PI control enabled (Switchable to PID control (proportional control) with the command of the servo system controller) 3: PID control (proportional control) is always enabled. If the servo motor at a stop is rotated even for a pulse due to any external factor, it generates torque to compensate for a position mismatch. When the servo motor shaft is to be locked mechanically after positioning completion (stop), enabling the PID control and completing positioning simultaneously will suppress the unnecessary torque generated to compensate for a position mismatch.	0h		[Pr. PB24.1 PI-PID switching control selection] 0: PI control enabled (switching is enabled by PID switching signal (C_PC) from controller and the input device (PC)) 3: PID control (proportional control) is always enabled. If the servo motor at a stop is rotated even for a pulse due to any external factor, it generates torque to compensate for a position mismatch. When the servo motor shaft is to be locked mechanically after positioning completion (stop), enabling the PID control and completing positioning simultaneously will suppress the unnecessary torque generated to compensate for a position mismatch.	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB24.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB24.3 For manufacturer setting	0h
—				Pr. PB24.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB25	Function selection B-1		PB25	Function selection B-1	
	_ _ _ x: Model adaptive control selection 0: Enabled (model adaptive control) 2: Disabled (PID control)	0h		[Pr. PB25.0 Model adaptive control selection] 0: Enabled (model adaptive control) 2: Disabled (PID control) When "Disabled" is set, vibration suppression control 1 and 2 cannot be used. The overshoot compensation will be disabled.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PB25.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB25.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB25.3 For manufacturer setting	0h
—				Pr. PB25.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB26	Gain switching function		PB26	Gain switching function	
	_ _ _ x: Gain switching selection 0: Disabled 1: Control command from controller is enabled 2: Command frequency 3: Droop pulses 4: Servo motor speed/linear servo motor speed	0h		[Pr. PB26.0 Gain switching selection] 0: Disabled 1: Signal (CDP/C_CDP) 2: Command frequency 3: Droop pulses 4: Servo motor speed 5: Command direction When "1" is selected, the gain changes to "Gain after gain switching" by using the control command (C_CDP) from the controller or input device CDP (gain switching). When "2" is selected, set [Pr. PT01.2 Unit for position data] to "3" (pulse). Setting [Pr. PT01.2] to a value other than "3" disables gain switching.	0h
	_ _ x _: Gain switching - Condition selection 0: Gain after switching is enabled with the condition value or more for gain switching. 1: Gain after switching is enabled with the condition value or less for gain switching.	0h		[Pr. PB26.1 Gain switching - Condition selection] 0: Gain after "Gain switching" is enabled with the condition value or more for gain switching 1: Gain after "Gain switching" is enabled with the condition value or less for gain switching	0h
	_ x _ _: Gain switching time constant - Disabling condition selection 0: Switching time constant enabled 1: Time constant disabled at switching 2: Time constant disabled at return	0h		[Pr. PB26.2 Gain switching time constant - Disabling condition selection] 0: Switching time constant enabled 1: Time constant disabled at switching 2: Time constant disabled at return	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB26.3 For manufacturer setting	0h
—				[Pr. PB26.4 Gain switching 2 selection] 0: Disabled 1: Signal (CDP2/C_CDP2) 2: The same condition as [Pr. PB26.0 Gain switching selection] When "1" is selected, the gain changes to "Gain after gain switching 2" by using the control command (C_CDP2) from the controller or input device CDP2 (gain switching 2). When "1" is set in [Pr. PB26.0] while "2" has been selected for this servo parameter, the gain changes to "Gain after gain switching 2" by using the control command (C_CDP2) from the controller or input device CDP2 (gain switching 2).	0h
				[Pr. PB26.5 Gain switching selection during a stop] 0: Gain switching 2 during a stop is disabled 1: Gain switching 2 during a stop is enabled This servo parameter is enabled in the following condition: [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]) and [Pr. PB26.0] is set to "5" (command direction) in the position mode and positioning mode.	0h
				Pr. PB26.6-7 For manufacturer setting	00h
PB27	Gain switching condition Set the value of the gain switching (command frequency, droop pulses, or servo motor speed/linear servo motor speed) selected in [Pr. PB26]. The set value unit differs depending on the switching condition item. The unit r/min will be substituted by mm/s for a linear servo motor.	10	PB27	Gain switching condition Set the value of the gain switching (command frequency, droop pulses, or servo motor speed) selected in [Pr. PB26 Gain switching function]. The set value unit differs depending on the switching condition item. The units are as follows: [kpulse/s] for command frequency, [pulse] for droop pulses, and [r/min] for servo motor speed. If using a linear servo motor, the unit of the servo motor speed is [mm/s].	10

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB28	Gain switching time constant Set the time constant until the gain switches in response to the conditions set in [Pr. PB26] and [Pr. PB27].	1	PB28	Gain switching time constant Set the time constant until the gain switches in response to the conditions set in [Pr. PB26 Gain switching function] and [Pr. PB27 Gain switching condition].	1
PB29	Load to motor inertia ratio/load to motor mass ratio after gain switching Set the load to motor inertia ratio/load to motor mass ratio for when gain switching is enabled. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	7.00	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio/load to motor mass ratio for when gain switching is enabled. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	7.00
PB30	Position loop gain after gain switching Set the position control gain for when the gain switching is enabled. If a value less than 1.0 rad/s is set, the value will be the same as the value set in [Pr. PB08]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	0.0	PB30	Gain switching - Position control gain Set the position control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "1.0", the setting value of [Pr. PB08 Position control gain] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0.0
PB31	Speed loop gain after gain switching Set the speed control gain for when the gain switching is enabled. If a value less than 20 rad/s is set, the value will be the same as the value set in [Pr. PB09]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	0	PB31	Gain switching - Speed control gain Set the speed control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "20", the setting value of [Pr. PB09 Speed control gain] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0
PB32	Speed integral compensation after gain switching Set the speed integral compensation for when the gain switching is enabled. If a value less than 0.1 ms is set, the value will be the same as the value set in [Pr. PB10]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	0.0	PB32	Gain switching - Speed integral compensation Set the speed integral compensation for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB10 Speed integral compensation] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0.0
PB33	Vibration suppression control 1 - Vibration frequency after gain switching Set the vibration frequency of vibration suppression control 1 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB19]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB33	Gain switching - Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB19 Vibration suppression control 1 - Vibration frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB34	Vibration suppression control 1 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB20]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB34	Vibration suppression control 1 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB20 Vibration suppression control 1 - Resonance frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0
PB35	Vibration suppression control 1 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB35	Gain switching - Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.00
PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.00

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB45	Command notch filter		PB45	Command notch filter	
	_ _ x x: Command notch filter setting frequency selection Refer to the following table for the relation of setting values to frequencies. ☞ Page 189 Command notch filter setting frequency selection (MR-J4_-_B_)	00h		[Pr. PB45.0-1 Command notch filter setting frequency selection] Refer to the following table for the relation of setting values to frequencies. ☞ Page 192 Command notch filter setting frequency selection (MR-J5_-_G_)	00h
	_ x _ _: Notch depth selection Refer to the following table for details. ☞ Page 191 Notch depth selection (MR-J4_-_B_)	0h		[Pr. PB45.2 Notch depth selection] Refer to the following table for details. ☞ Page 194 Notch depth selection (MR-J5_-_G_)	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB45.3 For manufacturer setting	0h
—				Pr. PB45.4-7 For manufacturer setting	0000h

Command notch filter setting frequency selection (MR-J4_-_B_)

Setting value	Frequency [Hz]
_ _ 0 0	Disabled
_ _ 0 1	2250
_ _ 0 2	1125
_ _ 0 3	750
_ _ 0 4	562
_ _ 0 5	450
_ _ 0 6	375
_ _ 0 7	321
_ _ 0 8	281
_ _ 0 9	250
_ _ 0 A	225
_ _ 0 B	204
_ _ 0 C	187
_ _ 0 D	173
_ _ 0 E	160
_ _ 0 F	150
_ _ 1 0	140
_ _ 1 1	132
_ _ 1 2	125
_ _ 1 3	118
_ _ 1 4	112
_ _ 1 5	107
_ _ 1 6	102
_ _ 1 7	97
_ _ 1 8	93
_ _ 1 9	90
_ _ 1 A	86
_ _ 1 B	83
_ _ 1 C	80
_ _ 1 D	77
_ _ 1 E	75
_ _ 1 F	72
_ _ 2 0	70
_ _ 2 1	66
_ _ 2 2	62
_ _ 2 3	59
_ _ 2 4	56
_ _ 2 5	53
_ _ 2 6	51
_ _ 2 7	48
_ _ 2 8	46
_ _ 2 9	45
_ _ 2 A	43
_ _ 2 B	41
_ _ 2 C	40
_ _ 2 D	38
_ _ 2 E	37
_ _ 2 F	36
_ _ 3 0	35.2
_ _ 3 1	33.1
_ _ 3 2	31.3

Setting value	Frequency [Hz]
_ _ 3 3	29.6
_ _ 3 4	28.1
_ _ 3 5	26.8
_ _ 3 6	25.6
_ _ 3 7	24.5
_ _ 3 8	23.4
_ _ 3 9	22.5
_ _ 3 A	21.6
_ _ 3 B	20.8
_ _ 3 C	20.1
_ _ 3 D	19.4
_ _ 3 E	18.8
_ _ 3 F	18.2
_ _ 4 0	17.6
_ _ 4 1	16.5
_ _ 4 2	15.6
_ _ 4 3	14.8
_ _ 4 4	14.1
_ _ 4 5	13.4
_ _ 4 6	12.8
_ _ 4 7	12.2
_ _ 4 8	11.7
_ _ 4 9	11.3
_ _ 4 A	10.8
_ _ 4 B	10.4
_ _ 4 C	10
_ _ 4 D	9.7
_ _ 4 E	9.4
_ _ 4 F	9.1
_ _ 5 0	8.8
_ _ 5 1	8.3
_ _ 5 2	7.8
_ _ 5 3	7.4
_ _ 5 4	7.0
_ _ 5 5	6.7
_ _ 5 6	6.4
_ _ 5 7	6.1
_ _ 5 8	5.9
_ _ 5 9	5.6
_ _ 5 A	5.4
_ _ 5 B	5.2
_ _ 5 C	5.0
_ _ 5 D	4.9
_ _ 5 E	4.7
_ _ 5 F	4.5

Notch depth selection (MR-J4_-_B_)

Setting value	Depth [dB]
_ 0 _ _	-40.0
_ 1 _ _	-24.1
_ 2 _ _	-18.1
_ 3 _ _	-14.5
_ 4 _ _	-12.0
_ 5 _ _	-10.1
_ 6 _ _	-8.5
_ 7 _ _	-7.2
_ 8 _ _	-6.0
_ 9 _ _	-5.0
_ A _ _	-4.1
_ B _ _	-3.3
_ C _ _	-2.5
_ D _ _	-1.8
_ E _ _	-1.2
_ F _ _	-0.6

Command notch filter setting frequency selection (MR-J5_-_G_)

Setting value	Frequency [Hz]
00	Disabled
01	2000
02	1000
03	666
04	500
06	400
08	285
09	250
0A	222
0B	200
0C	181
0D	166
0F	153
0F	153
10	142
11	133
12	125
13	117
14	111
15	105
16	100
17	95
19	90
1A	86
1B	83
1C	80
1D	76
1E	74
1F	71
21	66
22	62
23	58
24	55
25	52
26	50
27	47
29	45
2A	43
2B	41
2C	40
2D	38
2E	37
2F	35
30	34.5
31	33.3
32	31.3
33	29.4
34	27.8
35	26.3
36	25.0
38	23.8

Setting value	Frequency [Hz]
39	22.7
3A	21.7
3B	20.8
3C	20.0
3D	19.2
3E	18.5
3F	17.9
40	17.2
41	16.7
42	15.6
43	14.7
44	13.9
45	13.2
46	12.5
48	11.9
49	11.4
4A	10.9
4B	10.4
4C	10
4D	9.6
4E	9.3
4F	8.9
50	8.6
51	8.3
52	7.8
53	7.4
54	6.9
55	6.6
56	6.3
58	6.0
59	5.7
5A	5.4
5B	5.2
5C	5.0
5D	4.8
5E	4.6
5F	4.5
60	4.31
61	4.17
62	3.91
63	3.68
64	3.47
65	3.29
66	3.13
68	2.98
69	2.84
6A	2.72
6B	2.60
6C	2.50
6D	2.40
6E	2.31
6F	2.23
71	2.08

Setting value	Frequency [Hz]
72	1.95
73	1.84
74	1.74
75	1.64
76	1.56
78	1.49
79	1.42
7A	1.36
7B	1.30
7C	1.25
7D	1.20
7E	1.16
7F	1.12

Notch depth selection (MR-J5_-_G_)

Setting value	Depth [dB]
0	-40.0
1	-24.1
2	-18.1
3	-14.5
4	-12.0
5	-10.1
6	-8.5
7	-7.2
8	-6.0
9	-5.0
A	-4.1
B	-3.3
C	-2.5
D	-1.8
E	-1.2
F	-0.6

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB46	Machine resonance suppression filter 3 Set the notch frequency of the machine resonance suppression filter 3. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 3 selection" in [Pr. PB47], the setting value of this servo parameter is enabled.	4500	PB46	Machine resonance suppression filter 3 Set the notch frequency of the machine resonance suppression filter 3. When [Pr. PB47.0 Machine resonance suppression filter 3 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500
PB47	Notch shape selection 3 Set forms of the machine resonance suppression filter 3.		PB47	Notch shape selection 3 Set forms of the machine resonance suppression filter 3.	
	_ _ _ x: Mechanical resonance suppression filter 3 selection 0: Disabled 1: Enabled	0h		[Pr. PB47.0 Machine resonance suppression filter 3 selection] 0: Disabled 1: Enabled	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB47.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB47.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _:- For manufacturer setting	0h		Pr. PB47.3 For manufacturer setting	0h
—				Pr. PB47.4-7 For manufacturer setting	0000h
PB48	Machine resonance suppression filter 4 Set the notch frequency of the machine resonance suppression filter 4. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the setting value of this servo parameter is enabled.	4500	PB48	Machine resonance suppression filter 4 Set the notch frequency of the machine resonance suppression filter 4. When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500
PB49	Notch shape selection 4 Set forms of the machine resonance suppression filter 4.		PB49	Notch shape selection 4 Set forms of the machine resonance suppression filter 4.	
	_ _ _ x: Mechanical resonance suppression filter 4 selection 0: Disabled 1: Enabled When this setting value is "Enabled", [Pr. PB17 Shaft resonance suppression filter] cannot be used.	0h		[Pr. PB49.0 Machine resonance suppression filter 4 selection] 0: Disabled 1: Enabled When this setting value is "Enabled", [Pr. PB17 Shaft resonance suppression filter] cannot be used.	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB49.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB49.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _:- For manufacturer setting	0h		Pr. PB49.3 For manufacturer setting	0h
—				Pr. PB49.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB50	Machine resonance suppression filter 5 Set the notch frequency of the machine resonance suppression filter 5. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 5 selection" in [Pr. PB51], the setting value of this servo parameter is enabled.	4500	PB50	Machine resonance suppression filter 5 Set the notch frequency of the machine resonance suppression filter 5. When [Pr. PB51.0 Machine resonance suppression filter 5 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500
PB51	Notch shape selection 5 Set forms of the machine resonance suppression filter 5. If "Enabled (_ _ _ 1)" is selected for "Robust filter selection" in [Pr. PE41], machine resonance suppression filter 5 cannot be used.		PB51	Notch shape selection 5 Set forms of the machine resonance suppression filter 5. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. If "1" (enabled) is selected for [Pr. PE41.0 Robust filter selection], machine resonance suppression filter 5 cannot be used.	
	_ _ _ x: Machine resonance suppression filter 5 selection 0: Disabled 1: Enabled	0h		[Pr. PB51.0 Machine resonance suppression filter 5 selection] 0: Disabled 1: Enabled	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB51.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB51.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _:- For manufacturer setting	0h		Pr. PB51.3 For manufacturer setting	0h
—				Pr. PB51.4-7 For manufacturer setting	0000h
PB52	Vibration suppression control 2 - Vibration frequency Set the vibration frequency of vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this servo parameter is used. The setting range of this parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB52	Vibration suppression control 2 - Vibration frequency Set the vibration frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the vibration frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). The available range of [Pr. PB52 Vibration suppression control 2 - Vibration frequency] depends on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB52] exceeds the available range, the vibration suppression control is disabled.	100.0
PB53	Vibration suppression control 2 - Resonance frequency Set the resonance frequency of vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this parameter is used. The setting range of this servo parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB53	Vibration suppression control 2 - Resonance frequency Set the resonance frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the resonance frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). The available range of [Pr. PB53 Vibration suppression control 2 - Resonance frequency] changes depending on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB53] exceeds the available range, the vibration suppression control is disabled.	100.0

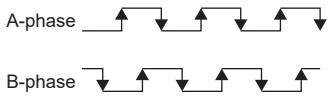
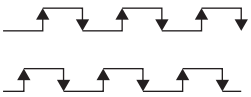
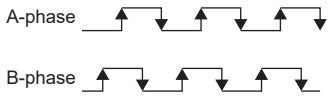
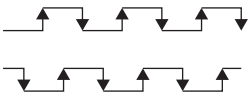
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB54	Vibration suppression control 2 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this servo parameter is used.	0.00	PB54	Vibration suppression control 2 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the vibration frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode).	0.00
PB55	Vibration suppression control 2 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this servo parameter is used.	0.00	PB55	Vibration suppression control 2 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the resonance frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode).	0.00
PB56	Vibration suppression control 2 - Vibration frequency after gain switching Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB52]. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB56	Vibration suppression control 2 - Vibration frequency after gain switching Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB52 Vibration suppression control 2 - Vibration frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0
PB57	Vibration suppression control 2 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB53]. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB57	Vibration suppression control 2 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB53 Vibration suppression control 2 - Resonance frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.00
PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)).	0.00
PB60	Model loop gain after gain switching Set the model control gain for when the gain switching is enabled. If a value less than 1.0 rad/s is set, the value will be the same as the value set in [Pr. PB07]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB60	Model loop gain after gain switching Set the model control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "1.0", the setting value of [Pr. PB07 Model control gain] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB26.0 Gain switching selection] is set to "1" (signal (CDP/C_CDP)). Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0

Extension setting servo parameters group ([Pr. PC_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PC01	Error excessive alarm level Set an excessive error alarm trigger level. If using a rotary servo motor or direct drive motor, set the level in units of rev. If the setting value is "0", the level will be 3 rev. A setting value exceeding 200 rev will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. If the setting value is "0", the level will be 100 mm.	0	PC01	Excessive error alarm trigger level Set an excessive error alarm trigger level. If using a rotary servo motor or direct drive motor, set the level in units of rev. If 200 rev or higher is set, the value will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. When the value is set to "0", the alarm trigger level for rotary servo motors and direct drive motors is 3 rev. The alarm trigger level for linear servo motors is 100 mm. The unit can be changed with [Pr. PC06.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection].	0
PC02	Electromagnetic brake sequence output Set the delay time used between the MBR (Electromagnetic brake interlock) shut-off and the base circuit shut-off.	0	PC02	Electromagnetic brake sequence output Set the delay time used between the MBR (Electromagnetic brake interlock) shut-off and the base circuit shut-off.	0
PC03	Encoder output pulse selection		PC03	Encoder output pulses selection	
	_ _ _ x: Encoder output pulse phase selection 0: Increasing A-phase 90° in CCW or positive direction 1: Increasing A-phase 90° in CW or negative direction ☞ Page 200 Encoder output pulse - Phase selection	0h		[Pr. PC03.0 Encoder output pulse - Phase selection] 0: Increasing A-phase 90° in CCW or positive direction 1: Increasing A-phase 90° in CW or negative direction ☞ Page 200 Encoder output pulse - Phase selection	0h
	_ _ x _: Encoder output pulse setting selection Since output pulse setting cannot be used when a linear servo motor is used, division ratio setting will be applied even if "0" is selected. 0: Output pulse setting 1: Dividing ratio setting 3: A-phase/B-phase pulse electronic gear setting 4: A/B-phase pulse through output setting	0h		[Pr. PC03.1 Encoder output pulse setting selection] Select the encoder output pulse setting. This servo parameter cannot be set for the C-axis of the MR-J5W3-_G_. If this servo parameter is set to "0" while [Pr. PC03.2 Encoder selection for encoder output pulse] is set to "1", [AL. 037 Parameter error] occurs. Connecting an encoder other than an A/B/Z-phase differential output type encoder and setting the servo parameter to "4" trigger [AL. 037 Parameter error]. 0: Output pulse setting 1: Dividing ratio setting 3: A-phase/B-phase pulse electronic gear setting 4: A/B-phase pulse through output setting For the settings of [Pr. PC03.1] and [Pr. PC03.2], refer to the following table. ☞ Page 201 Settings of [Pr. PC03.1] and [Pr. PC03.2] (MR-J5_-_G_)	0h
	_ x _ _: Encoder selection for encoder output pulse Select the encoder that the servo amplifier will use to output encoder output pulses. 0: Servo motor encoder 1: Load-side encoder Setting this servo parameter to "_1 0 _" will trigger [AL. 37 Parameter error]. This digit can be used only in a fully closed loop system. If "1" is selected for systems other than a fully closed loop system or a standard control system (scale measurement function enabled), [AL. 37 Parameter error] occurs.	0h		[Pr. PC03.2 Encoder selection for encoder output pulse] Select the encoder that the servo amplifier will use to output encoder output pulses. This servo parameter cannot be set for the C-axis of the MR-J5W3-_G_. This servo parameter can be used only for a fully closed loop system and a semi closed loop system (scale measurement function enabled). If "1" is selected for systems other than a fully closed loop system or a semi closed loop system (scale measurement function enabled), [AL. 037 Parameter error] occurs. Refer to the following table for the setting description. ☞ Page 201 When [Pr. PC03.2] = "1" (load-side encoder) 0: Servo motor-side encoder 1: Load-side encoder	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC03.3 For manufacturer setting	0h
—				Pr. PC03.4-7 For manufacturer setting	0000h

Encoder output pulse - Phase selection

Setting value	Servo motor rotation direction/linear servo motor travel direction	
	CCW or positive direction	CW or negative direction
0		
1		

Settings of [Pr. PC03.1] and [Pr. PC03.2] (MR-J5_-_G_)

■When [Pr. PC03.2] = "0" (servo motor-side encoder)

Setting value of [Pr. PC03.1]	For rotary servo motors and direct drive motors	For linear servo motors
"0" (output pulse setting)	Set the output pulses per revolution with [Pr. PA15 Encoder output pulses]. If [Pr. PC03.2] is set to "1" (load-side encoder), [AL. 037] will occur. Output pulse = Setting value of [Pr. PA15] [pulse/rev]	The output pulse setting cannot be used. When "0" is set, the condition is the same as when "1" is set.
"1" (dividing ratio setting)	Set the dividing ratio to the resolution per servo motor revolution with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Resolution per revolution}}{\text{Setting value of [Pr. PA15]}}$ [pulse/rev]	Set the dividing ratio to the travel distance of the linear servo motor with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Travel distance of linear servo motor}}{\text{Setting value of [Pr. PA15]}}$ [pulse]
"3" (A-phase/B-phase pulse electronic gear setting)	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16 Encoder output pulses 2]. $\text{Output pulse} = \text{Resolution per revolution} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16 Encoder output pulses 2]. $\text{Output pulse} = \text{Travel distance of linear servo motor} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse]
"4" (A/B-phase pulse through output setting) *1	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]

*1 If this value is set when using the rotary servo motor, [AL. 037] occurs.

■When [Pr. PC03.2] = "1" (load-side encoder)

Setting value of [Pr. PC03.1]	When in the fully closed loop control mode	When the scale measurement function is enabled
"0" (output pulse setting)	[AL. 037] occurs.	
"1" (dividing ratio setting)	Set the dividing ratio to the resolution per servo motor revolution with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Resolution per revolution}}{\text{Setting value of [Pr. PA15]}}$ [pulse/rev]	Set the dividing ratio to the travel distance of the scale measurement encoder with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Travel distance of scale measurement encoder}}{\text{Setting value of [Pr. PA15]}}$ [pulse]
"3" (A-phase/B-phase pulse electronic gear setting)	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. $\text{Output pulse} = \text{Resolution per revolution} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. $\text{Output pulse} = \text{Travel distance of scale measurement encoder} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse]
"4" (A/B-phase pulse through output setting)	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • A/B/Z-phase differential output type encoders cannot be used in the linear servo motor control mode or the direct drive motor control mode. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC04	Function selection C-1		PC04	Function selection C-1	
	_ _ _ x: For manufacturer setting	0h		Pr. PC04.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC04.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC04.2 For manufacturer setting	0h
	x _ _ _: Encoder cable communication method selection 0: Two-wire type 1: Four-wire type When using an encoder of A/B/Z-phase differential output method, set "0". If the value is set incorrectly, [AL. 16 Encoder initial communication error 1] occurs. Alternatively, [AL. 20 Encoder normal communication error 1] occurs. If "1" is set while [Pr. PA01] is set to "Fully closed loop control mode (_ _ 1 _)", [AL. 37] will occur (except for the MR-J4-_B_-RJ).	0h		[Pr. PC04.3 Encoder cable communication method selection] 0: Two-wire type 1: Four-wire type When using an A/B/Z-phase differential output type encoder, set "0". Setting "1" triggers [AL. 037 Parameter error]. If the value is set incorrectly, [AL. 016 Encoder initial communication error 1] or [AL. 020 Encoder normal communication error 1] occurs. For servo amplifiers other than the MR-J5-_G_-RJ, [AL. 037] occurs if this servo parameter is set to "1" while [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (enabled (fully closed loop control mode)).	0h
—				Pr. PC04.4-7 For manufacturer setting	0000h
PC05	Function selection C-2		PC05	Function selection C-2	
	_ _ _ x: Motor-less operation selection Enable or disable motor-less operation. The motor-less operation cannot be used in the fully closed loop control mode, linear servo motor control mode, or DD motor control mode. 0: Disabled 1: Enabled	0h		[Pr. PC05.0 Motor-less operation selection] Enable or disable motor-less operation. This operation can be used only in semi closed loop control while a rotary servo motor is used. 0: Disabled 1: Enabled	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC05.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC05.2 For manufacturer setting	0h
	x _ _ _: [AL. 9B Excessive error warning] selection 0: [AL. 9B Excessive error warning] disabled 1: [AL. 9B Excessive error warning] enabled	0h		Pr. PC05.3 For manufacturer setting	0h
—				[Pr. PC05.4 Encoder communication circuit diagnosis mode selection] Enable or disable the encoder communication circuit diagnosis mode. [AL. 118.1 Encoder communication circuit diagnosis in progress] occurs during the encoder communication circuit diagnosis mode. 0: Encoder communication circuit diagnosis mode disabled 1: Encoder communication circuit diagnosis mode enabled	0h
				Pr. PC05.5-7 For manufacturer setting	000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC06	Function selection C-3		PC06	Function selection C-3	
	_ _ _ x: For manufacturer setting	0h		[Pr. PC06.0 In-position range unit selection] Select a unit of the in-position range. When [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (fully closed loop system), the in-position range is in units of load-side encoder pulses. This servo parameter is enabled only in the position mode and positioning mode. 0: Command input pulse unit 1: Servo motor encoder pulse unit	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC06.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC06.2 For manufacturer setting	0h
	x _ _ _: Excessive error alarm and excessive error warning trigger level unit selection Select the unit used when setting the excessive error alarm trigger level in [Pr. PC01] and setting the excessive error warning trigger level in [Pr. PC38]. The servo parameter cannot be used in the speed control mode and torque control mode. 0: [rev] or [mm] 1: [0.1 rev] or [0.1 mm] 2: [0.01 rev] or [0.01 mm] 3: [0.001 rev] or [0.001 mm]	0h		[Pr. PC06.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection] Select the unit used when setting the excessive error alarm trigger level in [Pr. PC01 Excessive error alarm trigger level] and setting the excessive error warning trigger level in [Pr. PC38 Excessive error warning trigger level]. This servo parameter is enabled only in the position mode and positioning mode. 0: [rev] or [mm] 1: [0.1 rev] or [0.1 mm] 2: [0.01 rev] or [0.01 mm] 3: [0.001 rev] or [0.001 mm]	0h
—				Pr. PC06.4-7 For manufacturer setting	0000h
PC07	Zero speed Set the output range of ZSP (zero speed detection). ZSP (zero speed detection) has a hysteresis of 20 r/min or 20 mm/s.	50	PC07	Zero speed Set an output range of the zero speed signal (ZSP). The zero speed signal detection has a hysteresis of 20 [r/min] (20 [mm/s]).	50
PC08	Overspeed alarm detection level Set an overspeed alarm detection level. When a value exceeding "servo motor maximum speed × 120 %" or "linear servo motor maximum speed × 120 %" is set, the value will be clamped at "servo motor maximum speed × 120 %" or "linear servo motor maximum speed × 120 %". When "0" is set, the value of "servo motor maximum speed × 120 %" or "linear servo motor maximum speed × 120 %" will be set.	0	PC08	Overspeed alarm detection level Set an overspeed alarm detection level. When a value exceeding "servo motor maximum speed × 120 %" is set, the value will be clamped at "servo motor maximum speed × 120 %". When "0" is set, the value of "servo motor maximum speed × 120 %" will be set. When the HK series rotary servo motor is connected, the value of "servo motor maximum speed × 105 %" will be set.	0
PC09	Analog monitor 1 output		PC09	Analog monitor 1 output	
	_ _ x x: Analog monitor 1 output selection Select the signal to be output to MO1 (analog monitor 1). For a multi-axis servo amplifier, the setting value of this servo parameter is disabled. ☞ Page 204 Analog monitor 1 output (MR-J4_-_B_)	00h		[Pr. PC09.0-1 Analog monitor 1 output selection] Select the signal to be output to analog monitor 1. ☞ Page 205 Analog monitor 1 output (MR-J5_-_G_)	00h
	_ x _ _: For manufacturer setting	0h		Pr. PC09.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PC09.3 Analog monitor 1 output axis selection] 0: A-axis 1: B-axis 2: C-axis	0h
—				Pr. PC09.4-7 For manufacturer setting	0000h

Analog monitor 1 output (MR-J4_-_B_)

Setting value	Explanation	Operation mode *1			
		Standard	Fully closed	Linear	DD
_ _ 0 0	(Linear) servo motor speed (±8 V/max. speed)	○	○	○	○
_ _ 0 1	Torque or thrust (±8 V/max. torque or max. thrust)	○	○	○	○
_ _ 0 2	(Linear) servo motor speed (+8 V/max. speed)	○	○	○	○
_ _ 0 3	Torque or thrust (+8 V/max. torque or max. thrust)	○	○	○	○
_ _ 0 4	Current command (±8 V/max. current command)	○	○	○	○
_ _ 0 5	Speed command (±8 V/max. speed)	○	○	○	○
_ _ 0 6	Servo motor-side droop pulses (±10 V/100 pulses) *2	○	○	○	○
_ _ 0 7	Servo motor-side droop pulses (±10 V/1000 pulses) *2	○	○	○	○
_ _ 0 8	Servo motor-side droop pulses (±10 V/10000 pulses) *2	○	○	○	○
_ _ 0 9	Servo motor-side droop pulses (±10 V/100000 pulses) *2	○	○	○	○
_ _ 0 A	Feedback position (±10 V/1 Mpulse) *2	○	—	—	—
_ _ 0 B	Feedback position (±10 V/10 Mpulses) *2	○	—	—	—
_ _ 0 C	Feedback position (±10 V/100 Mpulses) *2	○	—	—	—
_ _ 0 D	Bus voltage (200 V class: +8 V/400 V, 400 V class: +8 V/800 V)	○	○	○	○
_ _ 0 E	Speed command 2 (±8 V/max. speed)	○	○	○	○
_ _ 1 0	Load-side droop pulses (±10 V/100 pulses) *2	—	○	—	—
_ _ 1 1	Load-side droop pulses (±10 V/1000 pulses) *2	—	○	—	—
_ _ 1 2	Load-side droop pulses (±10 V/10000 pulses) *2	—	○	—	—
_ _ 1 3	Load-side droop pulses (±10 V/100000 pulses) *2	—	○	—	—
_ _ 1 4	Load-side droop pulses (±10 V/1 Mpulse) *2	—	○	—	—
_ _ 1 5	Motor/load side position deviation (±10 V/100000 pulses)	—	○	—	—
_ _ 1 6	Motor/load side speed deviation (±8 V/max. speed)	—	○	—	—
_ _ 1 7	Internal temperature of encoder (±10 V/±128 ˚C)	○	○	—	○

*1 Items with ○ are available for each operation mode.
Standard: When rotary servo motors are used in the semi closed loop system.
Fully closed: When rotary servo motors are used in the fully closed loop system.
Linear: When linear servo motors are used.
DD: When direct drive motors are used.

*2 This is in the units of encoder pulses.

Analog monitor 1 output (MR-J5_-_G_)

Setting value	Explanation	Semi closed loop system *1			Fully closed loop system *1	
		Rotary type	Linear	DD	Rotary type	DD
00	Servo motor speed (±8 V/max. speed)	○	○	○	○	○
01	Torque or thrust (±8 V/max. torque or max. thrust) *3	○	○	○	○	○
02	Servo motor speed (+8 V/max. speed)	○	○	○	○	○
03	Torque or thrust (+8 V/max. torque or max. thrust) *3	○	○	○	○	○
04	Current command (±8 V/max. current command)	○	○	○	○	○
05	Speed command (±8 V/max. speed)	○	○	○	○	○
06	Servo motor-side droop pulses (±10 V/100 pulses) *2	○	○	○	○	○
07	Servo motor-side droop pulses (±10 V/1000 pulses) *2	○	○	○	○	○
08	Servo motor-side droop pulses (±10 V/10000 pulses) *2	○	○	○	○	○
09	Servo motor-side droop pulses (±10 V/100000 pulses) *2	○	○	○	○	○
0D	Bus voltage (200 V class: +8 V/400 V, 400 V class: +8 V/800 V)	○	○	○	○	○
0E	Speed command 2 (±8 V/max. speed)	○	○	○	○	○
10	Load-side droop pulses (±10 V/100 pulses) *2	—	—	—	○	○
11	Load-side droop pulses (±10 V/1000 pulses) *2	—	—	—	○	○
12	Load-side droop pulses (±10 V/10000 pulses) *2	—	—	—	○	○
13	Load-side droop pulses (±10 V/100000 pulses) *2	—	—	—	○	○
14	Load-side droop pulses (±10 V/1 Mpulse) *2	—	—	—	○	○
15	Motor/load side position deviation (±10 V/100000 pulses)	—	—	—	○	○
16	Motor/load side speed deviation (±8 V/max. speed)	—	—	—	○	○
17	Internal temperature of encoder (±10 V/±128 °C)	○	—	○	○	○
18	Servo motor-side droop pulses (±10 V/1 Mpulse) *2	○	○	○	○	○

*1 Items with ○ are available for each operation mode.
Rotary type: When rotary servo motors are used.
Linear: When linear servo motors are used.
DD: When direct drive motors are used.

*2 This is in the units of encoder pulses.

*3 For the maximum torque or maximum thrust, the larger setting value between [Pr. PA11 Forward rotation torque limit] and [Pr. PA12 Reverse rotation torque limit] is enabled.

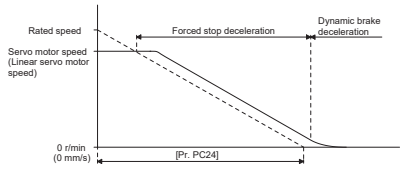
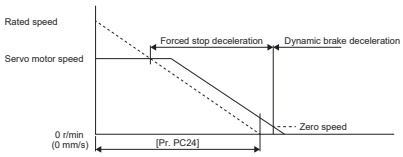
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PC10	Analog monitor 2 output		PC10	Analog monitor 2 output	
	_ _ x x: Analog monitor 2 output selection Select the signal to be output to MO2 (analog monitor 2). For a multi-axis servo amplifier, the setting value of this servo parameter is disabled. Refer to [Pr. PC09] for setting values.	01h		[Pr. PC10.0-1 Analog monitor 2 output selection] Select the signal to be output to analog monitor 2. Refer to [Pr. PC09] for setting values.	01h
	_ x _ _: For manufacturer setting	0h		Pr. PC10.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PC10.3 Analog monitor 2 output axis selection] 0: A-axis 1: B-axis 2: C-axis	0h
—				Pr. PC10.4-7 For manufacturer setting	0000h
PC11	Analog monitor 1 offset Set the offset voltage of MO1 (Analog monitor 1). For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC11	Analog monitor 1 offset Set the offset voltage of MO1 (Analog monitor 1).	0
PC12	Analog monitor 2 offset Set the offset voltage of MO2 (Analog monitor 2). For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC12	Analog monitor 2 offset Set the offset voltage of MO2 (Analog monitor 2).	0
PC13	Analog monitor - Feedback position output standard data - Low When the feedback position is selected in MO1 (Analogue monitor 1) and MO2 (Analogue monitor 2), set the standard position (lower 4 digits) of the feedback position to be output. Monitor output standard position = setting value of [Pr. PC14] × 10000 + setting value of [Pr. PC13] For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC13	For manufacturer setting	0
PC14	Analog monitor - Feedback position output standard data - High When the feedback position is selected in MO1 (Analogue monitor 1) and MO2 (Analogue monitor 2), set the standard position (upper 4 digits) of the feedback position to be output. Monitor output standard position = setting value of [Pr. PC14] × 10000 + setting value of [Pr. PC13] For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC14	For manufacturer setting	0
PC17	Function selection C-4		PC17	Function selection C-4	
	_ _ _ x: Homing condition selection 0: Servo motor Z-phase is required to be passed after power-on 1: Servo motor Z-phase is not required to be passed after power-on	0h		Pr. PC17.0 For manufacturer setting	0h
	_ _ x _: Linear scale multipoint Z-phase input function selection When multiple reference marks exist during the full stroke of the linear encoder, set "1". 0: Disabled 1: Enabled	0h		[Pr. PC17.1 Linear encoder multipoint Z-phase input function selection] When multiple reference marks exist during the full stroke of the linear encoder, set "1". 0: Disabled 1: Enabled	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC17.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC17.3 For manufacturer setting	0h
—				Pr. PC17.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC18	Function selection C-5		PC18	Function selection C-5	
	_ _ _ x: For manufacturer setting	0h		Pr. PC18.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC18.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC18.2 For manufacturer setting	0h
	x _ _ _: [AL. E9 Main circuit off warning] selection 0: Detected by the ready-on command or servo-on command 1: Detected only by the servo-on command	0h		Pr. PC18.3 For manufacturer setting	0h
—				Pr. PC18.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC20	Function selection C-7		PC20	Function selection C-7	
	_ _ _ x: [AL. 10 Undervoltage] detection method selection Set this if [AL. 10 Undervoltage] occurs due to power supply voltage distortion while the FR-RC or FR-CV is being used. 0: [AL. 10] not occurring If using the MR-J4-_B_-RJ with the DC power supply input, set "1". 1: [AL. 10] occurring	0h		Pr. PC20.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC20.1 For manufacturer setting	0h
	_ x _ _: Undervoltage alarm selection Select the alarm or warning that occurs when the bus voltage drops to the undervoltage alarm trigger level. 0: [AL. 10] occurs regardless of servo motor speed. 1: [AL. E9] occurs when the servo motor speed is 50 r/min (50 mm/s) or less, and [AL. 10] occurs when over 50 r/min (50 mm/s).	0h		[Pr. PC20.2 Undervoltage alarm selection] Select the alarm or warning that occurs when the bus voltage drops to the undervoltage alarm trigger level. 0: [AL. 010 Undervoltage] occurs regardless of servo motor speed 1: [AL. 0E9 Main circuit off warning] occurs when the servo motor speed is 50 r/min (50 mm/s) or less, and [AL. 010] occurs when over 50 r/min (50 mm/s).	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC20.3 For manufacturer setting	0h
—				[Pr. PC20.4 Input open-phase detection selection] Enable or disable the detection of input open-phase detection function. 0: Automatic 1: Warning enabled 2: Alarm enabled 3: Disabled When "0" (automatic) is set, the input open-phase detection function is enabled or disabled depending on the capacity or power supply input of the servo amplifier. Refer to the following table for details. ☞ Page 209 Input open-phase detection selection (MR-J5_-_G_)	0h
				Pr. PC20.5 For manufacturer setting	0h
				[Pr. PC20.6 Input open-phase status output selection] Select a status where bit 10 (S_PNLT) of [Status DO 5 (Obj. 2D15h)] turns on. When turning it on in an input open-phase status caused by incorrect wiring or disconnection, set this servo parameter to "0" or "2". When turning it on in an input open-phase status caused by main circuit power supply off, set this servo parameter to "1" or "3". 0: Turn on during servo-on and when one phase is open 1: Turn on during servo-on and when one, two, or all phases are open 2: Turn on when one phase is open 3: Turn on when one, two, or all phases are open While [Pr. PC20.4 Input open-phase detection selection] is set to "3" (disabled), bit 10 (S_PNLT) of [Status DO 5] does not turn on when one phase is open. To turn on bit 10 (S_PNLT) of [Status DO 5] when one phase is open, set [Pr. PC20.4] to "1" (warning enabled) or "2" (alarm enabled). While the detection function is enabled in [Pr. PC20.4], bit 10 (S_PNLT) of [Status DO 5] is always on if being used with 1-phase AC input. When using the bit with 1-phase AC input, set [Pr. PC20.4] to "3" (disabled).	0h
				Pr. PC20.7 For manufacturer setting	0h

Input open-phase detection selection (MR-J5_-_G_)

Servo amplifier	Servo amplifier main circuit input voltage	Servo amplifier capacity	Input open-phase detection function
MR-J5-_G_	3-phase AC	2 kW or less	Disabled
	1-phase AC Main circuit DC	2 kW or less	Disabled
	3-phase AC	3.5 kW or more	Warning occurrence
	Main circuit DC	3.5 kW or more	Disabled
MR-J5W_-_G	3-phase AC	0.75 kW or less	Disabled
	1-phase AC Main circuit DC	0.75 kW or less	Disabled
	3-phase AC	1 kW or more	Warning occurrence
	Main circuit DC	1 kW or more	Disabled
MR-J5-_G4_	3-phase AC	3.5 kW or less	Warning occurrence

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PC21	Alarm history clear		PC21	Alarm history clear	
	_ _ _ x: Alarm clear history selection 0: Disabled 1: Enabled When "Enabled" is selected, the alarm history will be cleared at the next power-on. Alarm history clear is disabled automatically after the alarm history is cleared.	0h		[Pr. PC21.0 Alarm clear history selection] 0: Disabled 1: Enabled When "1" (enabled) is selected, the alarm history will be cleared at either the next power cycle, at software reset, or at controller reset. After the alarm history is cleared, this servo parameter automatically changes to "0" (disabled).	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC21.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC21.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC21.3 For manufacturer setting	0h
—				Pr. PC21.4-7 For manufacturer setting	0000h
PC24	Forced stop deceleration time constant Set the deceleration time constant for the forced stop deceleration function. Set the time taken from the rated speed to 0 r/min (mm/s) in units of ms. If the setting value is "0", the time will be 100 ms.  [Precautions] • If the servo motor torque or linear servo motor thrust is saturated at the maximum value during forced stop deceleration because the set time is too short, the time to stop the servo motor will be longer than the set time constant. • [AL. 50 Overload 1] or [AL. 51 Overload 2] may occur during forced stop deceleration, depending on the set value. • After an occurrence of an alarm to execute forced stop deceleration, if another alarm that does not execute forced stop deceleration occurs, or if the control circuit power supply is shut off, dynamic braking will start regardless of the deceleration time constant setting. • Set a longer time than deceleration time at quick stop of the controller. Failing to do so may trigger [AL. 52 Error excessive].	100	PC24	Deceleration time constant at forced stop Set the deceleration time constant for the forced stop deceleration function. Set the time taken from the rated speed to 0 [r/min] (0 [mm/s]) in units of ms. When "0" is set, the deceleration time constant is the same as when "100" is set.  This servo parameter corresponds to [Quick stop deceleration (Obj. 6085h)]. When this parameter is mapped for cyclic communication, the value written with the engineering tool is overwritten with the controller. Thus, do not write a value with the engineering tool or any other tool. This servo parameter is enabled when [Pr. PT01.1 Speed/acceleration/deceleration unit selection] is set to "0". This servo parameter and [Pr. PV09 Deceleration at forced stop] are mutually exclusive functions. • If the servo motor torque or thrust is saturated at the maximum value during forced stop deceleration because the set time is too short, the time to stop the servo motor will be longer than the set time constant. • [AL. 050 Overload 1] or [AL. 051 Overload 2] may occur during forced stop deceleration, depending on the set value. • After an occurrence of an alarm to execute forced stop deceleration, if another alarm that does not execute forced stop deceleration occurs, or if the control circuit power supply is shut off, dynamic braking will start regardless of the deceleration time constant setting. • Set a longer time than deceleration time at quick stop of the controller. If the setting time is too short, [AL. 052 Excessive error] may occur. • During forced stop deceleration, changes in the setting value are not reflected. If the setting value is changed during forced stop deceleration, the change will be reflected after the deceleration is completed.	100

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC26	Function selection C-8		PC26	Function selection C-8	
	_ _ _ x: For manufacturer setting	0h		Pr. PC26.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC26.1 For manufacturer setting	5h
	_ x _ _: For manufacturer setting	0h		Pr. PC26.2 For manufacturer setting	0h
	x _ _ _: Load-side encoder cable communication method selection 0: Two-wire type 1: Four-wire type When using a load-side encoder of A/B/Z-phase differential output method, set "0". Setting "1" on servo amplifiers other than the MR-J4-_B_-RJ triggers [AL. 37].	0h		[Pr. PC26.3 Load-side encoder cable communication method selection] 0: Two-wire type 1: Four-wire type When using a load-side encoder that is A/B/Z-phase differential output type, set "0". Setting "1" triggers [AL. 037 Parameter error]. If the value is set incorrectly, [AL. 070 Load-side encoder initial communication error 1] or [AL. 071 Load-side encoder normal communication error 1] occurs. Setting "1" on servo amplifiers other than the MR-J5-_G_-RJ triggers [AL. 037].	0h
—				Pr. PC26.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PC27	Function selection C-9		PC27	Function selection C-9	
	_ _ _ x: Encoder pulse count polarity selection 0: Encoder pulse increasing direction in the servo motor CCW or positive direction 1: Encoder pulse decreasing direction in the servo motor CCW or positive direction	0h		[Pr. PC27.0 Encoder pulse count polarity selection] Select a polarity of the linear encoder or load-side encoder. Enabling the scale measurement function in the linear servo motor control mode changes the polarity of the servo motor-side encoder. 0: Encoder pulse increasing direction in the servo motor CCW or positive direction 1: Encoder pulse decreasing direction in the servo motor CCW or positive direction	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC27.1 For manufacturer setting	0h
	_ x _ _: ABZ phase input interface encoder Z-phase connection assessment function selection Select the non-signal detection status for the pulse train signal from the A/B/Z-phase input interface encoder used as a linear encoder or load-side encoder. This function is enabled only when an A/B/Z-phase input interface encoder is used. Refer to the following table for the setting description. ☞ Page 213 ABZ phase input interface encoder Z-phase connection assessment function selection (MR-J4_-_B_)	0h		[Pr. PC27.2 ABZ phase input interface encoder ABZ phase connection assessment function selection] Select the non-signal detection status for the pulse train signal from the A/B/Z-phase input interface encoder used as a linear encoder or load-side encoder. This function is enabled when an A/B/Z-phase input interface encoder is used. Refer to the following table for the setting description. ☞ Page 213 ABZ phase input interface encoder ABZ phase connection assessment function selection (MR-J5_-_G_)	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC27.3 For manufacturer setting	0h
—				Pr. PC27.4 For manufacturer setting	0h
				[Pr. PC27.5 Scale measurement encoder selection] Select a scale measurement encoder when using an A/B/Z-phase differential output type encoder. This setting is enabled only when an A/B/Z-phase differential output type encoder is connected to the CN2L or CN2AL. When an A/B/Z-phase differential output linear encoder is connected, setting "1" in the standard control mode or direct drive motor control mode triggers [AL. 01A Servo motor combination error]. When an A/B/Z-phase differential output rotary encoder is connected, setting "1" in the standard control mode or linear servo motor control mode triggers [AL. 01A Servo motor combination error]. 0: Use the A/B/Z-phase differential output type encoder as a scale measurement encoder 1: Use a serial encoder as a scale measurement encoder	0h
				Pr. PC27.6-7 For manufacturer setting	00h

ABZ phase input interface encoder Z-phase connection assessment function selection (MR-J4_-_B_)

Setting value	Detection of disconnection	Alarm status		
	Z-phase-side non-signal	Standard (scale measurement enabled)	Fully closed	Linear
0	Enabled	[AL. 71.6] (Z-phase)	[AL. 71.6] (Z-phase)	[AL. 20.6] (Z-phase)
1	Disabled	—	—	—

ABZ phase input interface encoder ABZ phase connection assessment function selection (MR-J5_-_G_)

Setting value	Detection of disconnection	Alarm status		
	Z-phase-side non-signal	Rotary (scale measurement function enabled)	Fully closed loop control mode	Linear servo motor control mode
0	Enabled	[AL. 071.6 Load-side encoder normal communication - Transmission data error 2] (Z-phase)	[AL. 071.6] (Z-phase)	[AL. 020.6 Encoder normal communication - Transmission data error 2] (Z-phase)
1	Disabled	—	—	—

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC29	Function selection C-B		PC29	Function selection C-B	
	_ _ _ x: For manufacturer setting	0h		[Pr. PC29.0 [AL. 0E2.2 Servo motor temperature warning 2] selection] Select whether to enable or disable [AL. 0E2.2 Servo motor temperature warning 2] when a servo motor with a batteryless absolute position encoder is used. 0: Enabled 1: Disabled	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC29.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC29.2 For manufacturer setting	0h
	x _ _ _: POL reflection selection at torque control 0: Enabled 1: Disabled	0h		[Pr. PC29.3 Torque POL reflection selection] Enabling this servo parameter setting changes the polarity of the torque command ([Target torque (Obj. 6071h)], [Torque demand value (Obj. 6074h)]), torque limit value ([Positive torque limit value (Obj. 60E0h)], [Negative torque limit value (Obj. 60E1h)]), and torque feedback ([Torque actual value (Obj. 6077h)]) in the settings in [Pr. PA14 Travel direction selection]. 0: Enabled 1: Disabled Refer to the following table for details. ☞ Page 214 Torque POL reflection selection (MR-J5_-_G_)	1h
—				Pr. PC29.4 For manufacturer setting	0h
				[Pr. PC29.5 [AL. 0E3 Absolute position counter warning] selection] Refer to the following table for details. ☞ Page 215 [AL. 0E3 Absolute position counter warning] selection	1h
				Pr. PC29.6-7 For manufacturer setting	00h

Torque POL reflection selection (MR-J5_-_G_)

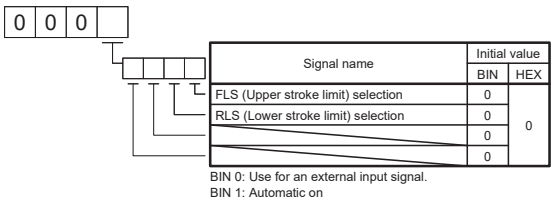
Setting value		Selection of servo motor rotation direction/linear servo motor travel direction	
[Pr. PC29.3]	[Pr. PA14]	Torque handled by the controller: Positive	Torque handled by the controller: Negative
0: Enabled	0	CCW or positive direction (Forward rotation in power running mode/reverse rotation in regenerative mode)	CW or negative direction (Reverse rotation in power running mode/forward rotation in regenerative mode)
	1	CW or negative direction (Reverse rotation in power running mode/forward rotation in regenerative mode)	CCW or positive direction (Forward rotation in power running mode/reverse rotation in regenerative mode)
1: Disabled	0	CCW or positive direction (Forward rotation in power running mode/reverse rotation in regenerative mode)	CW or negative direction (Reverse rotation in power running mode/forward rotation in regenerative mode)
	1		

[AL. 0E3 Absolute position counter warning] selection

Setting digit (BIN)	Function
_ _ _ x	[AL. 0E3 Absolute position counter warning] selection 0: Disabled 1: Enabled When this servo parameter is set to "0" (disabled), [AL. 0E3] does not occur even if the multi-revolution counter exceeds the maximum or minimum value. Set this servo parameter to "0" (disabled) when configuring the absolute position detection system in cyclic synchronous mode with a motion module manufactured by Mitsubishi Electric. When using the infinite feed function ("2" (degree unit) is set in [Pr. PT01.2 Unit for position data]), setting this servo parameter to "1" (enabled) does not trigger [AL. 0E3.1 Multi-revolution counter travel distance excess warning].
_ _ x _	For manufacturer setting
_ x _ _	For manufacturer setting
x _ _ _	For manufacturer setting

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC31	Vertical axis freefall prevention compensation amount Set the compensation amount of the vertical axis freefall prevention function. Set the compensation amount in either the servo motor rotation amount unit or linear servo motor travel distance unit. When a positive value is set, the compensation is performed to the command address increasing direction. When a negative value is set, compensation is performed to the command address decreasing direction. The vertical axis freefall prevention function is performed when all of the following conditions are met. 1) The control mode is the position control mode. 2) The setting value of this servo parameter is other than "0". 3) The forced stop deceleration function is enabled. 4) An alarm has occurred or EM2 has turned off when the servo motor rotates or the linear servo motor moves at the zero speed or less. 5) MBR (Electromagnetic brake interlock) was enabled in [Pr. PD07] to [Pr. PD09] while the base circuit shut-off delay time was set in [Pr. PC02].	0	PC31	Vertical axis freefall prevention compensation amount Set the compensation amount of the vertical axis freefall prevention function. Set the compensation amount in either the servo motor rotation amount unit or linear servo motor travel distance unit. When a positive value is set, the compensation is performed to the command address increasing direction. When a negative value is set, compensation is performed to the command address decreasing direction. The vertical axis freefall prevention function is performed when all of the following conditions are met. • Position mode or positioning mode is being used. • The setting value of this servo parameter is other than "0". • The forced stop deceleration function is enabled. • An alarm has occurred or EM2 has turned off when the servo motor rotates at the zero speed or less. Or, the Quick stop command has been issued. • MBR (Electromagnetic brake interlock) was enabled in [Pr. PD07 Output device selection 1] to [Pr. PD09 Output device selection 3] while the base circuit shut-off delay time was set in [Pr. PC02 Electromagnetic brake sequence output].	0
PC38	Error excessive warning level Set the excessive error warning trigger level. This servo parameter is enabled when "Enabled (1 _ _ _)" of "[AL. 9B Excessive error warning] selection" is selected in [Pr. PC05]. The setting unit can be changed with "Excessive error alarm and excessive error warning trigger level unit selection" of [Pr. PC06]. If using a rotary servo motor or direct drive motor, set the level in units of rev. When "0" is set, the level becomes 1 rev, and the setting exceeding 200 rev is clamped at 200 rev. If using a linear servo motor, set the level in units of mm. If the setting value is "0", the level will be 50 mm. If an error reaches the set value, [AL. 9B Excessive error warning] occurs. The warning is automatically canceled when the value is less than the set value. The minimum pulse width of the warning signal is 100 [ms]. Set as follows: [Pr. PC38 Excessive error warning trigger level] < [Pr. PC01 Excessive error alarm trigger level]. When set as [Pr. PC38 Excessive error warning trigger level] ≥ [Pr. PC01 Excessive error alarm trigger level], [AL. 52 Excessive error] occurs before the warning.	0	PC38	Error excessive warning level Set the excessive error warning trigger level. The unit can be changed with [Pr. PC06.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection]. If using a rotary servo motor or direct drive motor, set the level in units of rev. If 200 rev or higher is set, the value will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. When "0" is set, [AL. 09B Excessive error warning] does not occur. If an error reaches the set value, [AL. 09B] occurs. If the error later becomes less than the setting value, the warning will be automatically canceled. The minimum pulse width of the warning signal output is 100 [ms]. Set as follows: [Pr. PC38 Excessive error warning trigger level] < [Pr. PC01 Excessive error alarm trigger level]. When set as [Pr. PC38] ≥ [Pr. PC01], [AL. 052 Excessive error] occurs before the warning.	0

I/O setting servo parameters group ([Pr. PD_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter				MR-J5-_G_/MR-J5W_-_G servo parameter			
No.	**Name and function**		**Initial value**	**No.**	**Name and function**		**Initial value**
PD02	Input signal automatic on selection 2			PD01	Input signal automatic on selection 1		
	_ _ _ x (HEX)	_ _ _ x: FLS (Upper stroke limit) selection 0: Disabled 1: Enabled	0h		Pr. PD01.0	_ _ _ x: For manufacturer setting	0h
		_ _ x _: RLS (Lower stroke limit) selection 0: Disabled 1: Enabled				_ _ x _: For manufacturer setting	
		_ x _ _: For manufacturer setting				_ x _ _: Forward rotation stroke end (LSP) 0: Use for an external input signal 1: Automatic on	
		x _ _ _: For manufacturer setting				x _ _ _: Reverse rotation stroke end (LSN) 0: Use for an external input signal 1: Automatic on	
	_ _ x _ (HEX)	For manufacturer setting	0h		Pr. PD01.1	For manufacturer setting	0h
	_ x _ _ (HEX)	For manufacturer setting	0h		Pr. PD01.2	For manufacturer setting	0h
	x _ _ _ (HEX)	For manufacturer setting	0h		Pr. PD01.3	For manufacturer setting	0h
	—	—	—		Pr. PD01.4-7	For manufacturer setting	0000h
	Convert the setting value in hexadecimal as follows.  BIN 0: Use for an external input signal. BIN 1: Automatic on				—		

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD07	Output device selection 1		PD07	Output device selection 1	
	_ _ x x: Device selection The setting values are as follows. 0 0: Always off 0 2: RD (Ready) 0 3: ALM (Malfunction) 0 4: INP (In-position) 0 5: MBR (Electromagnetic brake interlock) 0 7: TLC (Limiting torque) 0 8: WNG (Warning) 0 9: BWNG (Battery warning) 0 A: SA (Speed reached) 0 C: ZSP (Zero speed detection) 0 F: CDPS (Variable gain enabled) 1 0: CLDS (Fully closed loop control in progress) 1 1: ABSV (Absolute position erased) 1 7: MTTR (Tough drive in progress) [MR-J4-_B_] Any output device can be assigned to the CN3-13 pin with this servo parameter. MBR (Electromagnetic brake interlock) is assigned as the initial value. [MR-J4W_-_B] Any output device can be assigned to each of the CN3-12, CN3-13, and CN3-25 pin with this parameter. The following devices are assigned as the initial value. CN3-12 pin: MBR-A (Electromagnetic brake interlock for A-axis) CN3-13 pin: MBR-C (Electromagnetic brake interlock for C-axis) CN3-25 pin: MBR-B (Electromagnetic brake interlock for B-axis)	05h		[Pr. PD07.0-1 Device selection] Select the device to be assigned to the output signal of CN3 connector. For the connector pin numbers and devices to be assigned, refer to the table below. ☞ Page 217 Device selection (MR-J5_-_G_) The setting values are as follows. 0 0: Always off 0 2: RD (Ready) 0 3: ALM (Malfunction) 0 4: INP (In-position) 0 5: MBR (Electromagnetic brake interlock) 0 6: DB (Dynamic brake interlock) *1 0 7: TLC (Limiting torque) 0 8: WNG (Warning) 0 9: BWNG (Battery warning) 0 A: SA (Speed reached) 0 B: VLC (Limiting speed) 0 C: ZSP (Zero speed detection) 0 E: WNGSTOP (Motor stop warning) 0 F: CDPS (Variable gain enabled) 1 0: CLDS (Fully closed loop control in progress) 1 1: ABSV (Absolute position erased) 1 7: MTTR (Tough drive in progress) 1 8: CDPS2 (Variable gain enabled 2) 2 1: DOA (General-purpose output A) 2 2: DOB (General-purpose output B) 2 3: DOC (General-purpose output C)	05h
	_ x _ _: For manufacturer setting	0h		Pr. PD07.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD07.3 For manufacturer setting	0h
—				Pr. PD07.4-7 For manufacturer setting	0000h

*1 This device is not necessary for a servo amplifier that does not support the external dynamic brake.

Device selection (MR-J5_-_G_)

Model	Axis	Connector pin No.	Initially assigned device
MR-J5-_G_	—	CN3-13	MBR
MR-J5W2-_G_	A-axis	CN3-12	MBR-A
	B-axis	CN3-25	MBR-B
MR-J5W3-_G_	A-axis	CN3-12	MBR-A
	B-axis	CN3-25	MBR-B
	C-axis	CN3-13	MBR-C

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD08	Output device selection 2		PD08	Output device selection 2	
	_ _ x x: Device selection [MR-J4-_B_] Any output device can be assigned to the CN3-9 pin with this servo parameter. INP (In-position) is assigned as the initial value. [MR-J4W_-_B] Any output device can be assigned to the CN3-24 pin by each axis with this parameter. CINP (AND in-position) is assigned to all the axes as the initial value. The devices that can be assigned and the setting method are the same as those for [Pr. PD07].	04h		[Pr. PD08.0-1 Device selection] Select the device to be assigned to the output signal of CN3 connector. The connector pin numbers to be assigned are as shown in the following table. ☞ Page 218 Device selection (MR-J5_-_G_) Refer to [Pr. PD07] for setting values.	04h
	_ x _ _: For manufacturer setting	0h		[Pr. PD08.2 All-axis output condition selection] 0: AND output 1: OR output For AND output, the condition becomes significant (on or off) when the A, B, and C-axes all satisfy the condition. The device name at this time is C_ _ _. (Example: CINP) For OR output, the condition becomes significant (on or off) when any of A, B, or C-axis satisfies the condition. The device name at this time is X_ _ _. (Example: XINP) This servo parameter is enabled when [Pr. PD08.3 Output axis selection] is set to "0" (all axes) while a multi-axis servo amplifier is used.	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PD08.3 All-axis output condition selection] 0: All axes 1: A-axis 2: B-axis 3: C-axis If the setting value is 1, the device name is _ _ _-A. (Example: INP-A) If the setting value is 2, the device name is _ _ _-B. (Example: INP-B) If the setting value is 3, the device name is _ _ _-C. (Example: INP-C)	0h
—				Pr. PD08.4-7 For manufacturer setting	0000h

Device selection (MR-J5_-_G_)

Model	Axis	Connector pin No.	Initially assigned device
MR-J5-_G_	—	CN3-9	INP
MR-J5W2-_G_	A-axis	CN3-24	CINP
	B-axis		
MR-J5W3-_G_	A-axis	CN3-24	CINP
	B-axis		
	C-axis		

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD09	Output device selection 3		PD09	Output device selection 3	
	_ _ x x: Device selection [MR-J4-_B_] Any output device can be assigned to the CN3-15 pin with this servo parameter. ALM (Malfunction) is assigned as the initial value. [MR-J4W_-_B] Any output device can be assigned to the CN3-11 pin by each axis with this parameter. CALM (AND malfunction) is assigned as the initial value. The devices that can be assigned and the setting method are the same as those for [Pr. PD07].	03h		[Pr. PD09.0-1 Device selection] Select the device to be assigned to the output signal of CN3 connector. The connector pin numbers to be assigned are as shown in the following table. ☞ Page 219 Device selection (MR-J5_-_G_) Refer to [Pr. PD07] for setting values.	03h
	_ x _ _: For manufacturer setting	0h		[Pr. PD09.2 All-axis output condition selection] 0: AND output 1: OR output For AND output, the condition becomes significant (on or off) when the A, B, and C-axes all satisfy the condition. The device name at this time is C_ _ _. (Example: CINP) For OR output, the condition becomes significant (on or off) when any of A, B, or C-axis satisfies the condition. The device name at this time is X_ _ _. (Example: XINP) This servo parameter is enabled when [Pr. PD09.3 Output axis selection] is set to "0" (all axes) while a multi-axis servo amplifier is used.	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PD09.3 All-axis output condition selection] 0: All axes 1: A-axis 2: B-axis 3: C-axis If the setting value is 1, the device name is _ _ _-A. (Example: INP-A) If the setting value is 2, the device name is _ _ _-B. (Example: INP-B) If the setting value is 3, the device name is _ _ _-C. (Example: INP-C)	0h
—				Pr. PD09.4-7 For manufacturer setting	0000h

Device selection (MR-J5_-_G_)

Model	Axis	Connector pin No.	Initially assigned device
MR-J5-_G_	—	CN3-15	ALM
MR-J5W2-_G_	A-axis	CN3-11	CALM
	B-axis		
MR-J5W3-_G_	A-axis	CN3-11	CALM
	B-axis		
	C-axis		

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PD11	Input filter setting		PD11	Input filter setting	
	_ _ _ x: Input signal filter selection For the settings of this servo parameter, refer to the servo system controller manual. If the external input signal causes chattering due to noise or other factors, the input filter can be used for suppression. 0: None 1: 0.888 [ms] 2: 1.777 [ms] 3: 2.666 [ms] 4: 3.555 [ms]	4h		[Pr. PD11.0 Input signal filter selection] 0: No filter 1: 0.500 [ms] 2: 1.000 [ms] 3: 1.500 [ms] 4: 2.000 [ms] 5: 2.500 [ms] 6: 3.000 [ms] 7: 3.500 [ms] 8: 4.000 [ms] 9: 4.500 [ms] A: 5.000 [ms] B: 5.500 [ms]	7h
	_ _ x _: For manufacturer setting	0h		Pr. PD11.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD11.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD11.3 For manufacturer setting	0h
—				Pr. PD11.4-7 For manufacturer setting	0000h
PD12	Function selection D-1		PD12	Function selection D-1	
	_ _ _ x: For manufacturer setting	0h		Pr. PD12.0 For manufacturer setting	1h
	_ _ x _: For manufacturer setting	0h		Pr. PD12.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD12.2 For manufacturer setting	1h
	x _ _ _: Servo motor or linear servo motor thermistor enabled/disabled selection 0: Enabled 1: Disabled When using a servo motor or linear servo motor that does not have a built-in thermistor, this digit setting is disabled.	0h		[Pr. PD12.3 Servo motor thermistor - Enabled/disabled selection] 0: Enabled 1: Disabled This servo parameter is enabled when a servo motor with a built-in thermistor is used. When a servo motor without a thermistor is used, the servo parameter is disabled (temperature monitoring disabled/alarm disabled) regardless of the setting value. No alarm is detected in motor-less operation. When the temperature monitoring of the motor thermistor is disabled, "9999 °C" is displayed.	0h
—				Pr. PD12.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD13	Function selection D-2		PD13	Function selection D-2	
	_ _ _ x: For manufacturer setting	0h		Pr. PD13.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PD13.1 For manufacturer setting	0h
	_ x _ _: INP (In-position) on condition selection Select the condition that turns on INP (In-position). 0: Droop pulses are within the in-position range 1: The command pulse frequency is 0 and droop pulses are within the in-position range When a position command is not input for approximately 1 ms, the command pulse frequency is considered to be 0.	0h		[Pr. PD13.2 INP output signal ON condition selection] Select a condition for outputting INP (In-position). This function is enabled in the cyclic synchronous position mode, profile position mode, and positioning mode (point table method). INP (In-position) immediately after servo-on or after forced stop is canceled is off. 0: Within the in-position range 1: Within the in-position range and at the completion of command output 2: Within the in-position range, at the completion of command output, and at start signal off Refer to the following table for details. ☞ Page 221 INP (In-position) ON condition	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD13.3 For manufacturer setting	0h
—				Pr. PD13.4-7 For manufacturer setting	0000h

INP (In-position) ON condition

Setting value	INP (In-position) ON condition			
	Droop pulses < In-position range	Command output completion *1	Start signal off	
			Cyclic synchronous position mode	Profile position mode *2 Positioning mode (point table method) *3
0	○	×	×	×
1	○	○	×	×
2	○	○	×	○

○: Required

×: Not required

*1 The condition for completing a command output depends on the operation mode.
<Cyclic synchronous position mode>
When a position command is not input for approximately 1 ms, the command output is considered to have been completed.
<Profile position mode or positioning mode (point table method)>
When the command remaining distance is 0, the command output is considered to have been completed.

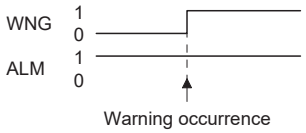
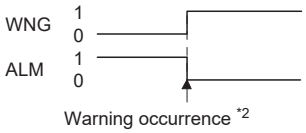
*2 This is available on servo amplifiers with firmware version A5 or later.

*3 This is available on servo amplifiers with firmware version B8 or later.

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD14	Function selection D-3		PD14	Function selection D-3	
	_ _ _ x: For manufacturer setting	0h		Pr. PD14.0 For manufacturer setting	0h
	_ _ x _: Output device status at warning occurrence Select WNG (Warning) and ALM (Malfunction) output status at warning occurrence. ☞ Page 222 Output device status at warning occurrence (MR-J4_-_B_)	0h		[Pr. PD14.1 Output device status at warning occurrence] Select ALM (Malfunction) output status at warning occurrence. ☞ Page 222 Output device status at warning occurrence (MR-J5_-_G_)	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD14.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD14.3 For manufacturer setting	0h
—				Pr. PD14.4-7 For manufacturer setting	0000h

Output device status at warning occurrence (MR-J4_-_B_)

Servo amplifier output

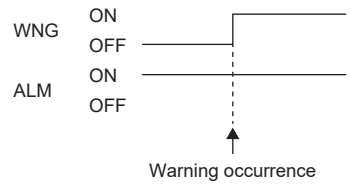
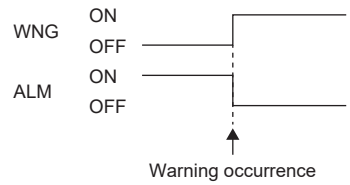
Setting value	Device status *1
0	
1	

*1 0: OFF
1: ON

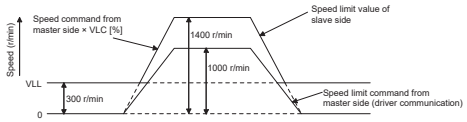
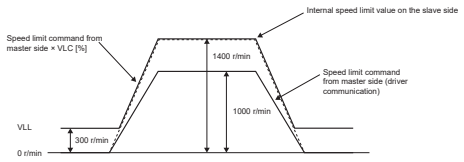
*2 ALM is turned off when a warning occurs, but forced stop deceleration is performed.

Output device status at warning occurrence (MR-J5_-_G_)

Servo amplifier output

Setting value	Device status
0	
1	

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD15	Driver communication setting		PD15	Driver communication setting	
	_ _ _ x: Master axis operation selection In a mode other than the standard control mode or fully closed loop control mode, setting "1" triggers [AL. 37]. 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the master axis)	0h		[Pr. PD15.0 Master axis operation selection] 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the master axis) When using the servo amplifier as a slave axis, set "0". This servo parameter is enabled only in 1-axis servo amplifiers. When this servo parameter is set to "1" (enabled) in multi-axis servo amplifiers, [AL. 037 Parameter error] occurs.	0h
	_ _ x _: Slave axis operation selection In a mode other than the standard control mode, setting "1" triggers [AL. 37]. 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the slave axis)	0h		[Pr. PD15.1 Slave axis operation selection] 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the slave axis) When using the servo amplifier as the master axis, set "0". This servo parameter is enabled only in 1-axis servo amplifiers. When this servo parameter is set to "1" (enabled) in multi-axis servo amplifiers, [AL. 037 Parameter error] occurs.	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD15.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD15.3 For manufacturer setting	0h
—				Pr. PD15.4-7 For manufacturer setting	0000h
PD16	Driver communication setting - Master - Transmit data selection 1		PD16	For manufacturer setting	00000000h
	_ _ x x: Transmission data selection Select the data to be sent from the master axis to the slave axis. When setting the servo amplifier as the master axis ("_ _ 0 1" in [Pr. PD15]), set this servo parameter to "_ _ 3 8 (torque command)". 00: Disabled 38: Torque command	00h			
	_ x _ _: For manufacturer setting	0h			
	x _ _ _: For manufacturer setting	0h			
—					
PD17	Driver communication setting - Master - Transmit data selection		PD17	For manufacturer setting	00000000h
	_ _ x x: Transmission data selection Select the data to be sent from the master axis to the slave axis. When setting the servo amplifier as the master axis ("_ _ 0 1" in [Pr. PD15]), set this servo parameter to "_ _ 3 A (speed limit command)". 00: Disabled 3A: Speed limit command	00h			
	_ x _ _: For manufacturer setting	0h			
	x _ _ _: For manufacturer setting	0h			
—					

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PD20	Driver communication setting - Slave - Master axis No. selection 1 Select the servo amplifier that corresponds to the master axis of the slave axis. When setting the servo amplifier as the slave axis (when setting [Pr. PD15] to "_ _ 1 0"), set the axis number of the servo amplifier that corresponds to the master axis. Refer to section 4.3.1 in "MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual" for the axis number. When "0" is set, this servo parameter is disabled.	0	PD20	For manufacturer setting	00000000h
PD30	Master-slave operation - Slave-side torque command coefficient Set the coefficient to be reflected to the internal torque command for the torque command that has been received from the master axis. This servo parameter is enabled when the servo amplifier is set as a slave axis ([Pr. PD15] is set to "_ _ 1 0"). The maximum setting value is 500. Entering a value greater than or equal to 500 clamps the value at 500. When 100 % is set, the coefficient is 1 and the torque ratio is 100 (master axis) to 100 (slave axis). When 90 % is set, the coefficient is 0.9 and the torque ratio is 100 (master axis) to 90 (slave axis).	0	PD30	Master-slave operation - Slave-side torque command coefficient Set the coefficient to be reflected to the internal torque command for the torque command that has been received from the master axis. This servo parameter is enabled only in the slave axis torque mode (slt). When this servo parameter is set to "100", the coefficient is 1. The torque ratio is 100 (master axis) to 100 (slave axis). This function corresponds to [Master-slave Torque coefficient (Obj. 2E44h)]. When this parameter is mapped for cyclic communication, the value written with the engineering tool is overwritten with the controller. Thus, do not write a value with the engineering tool or any other tool.	0
PD31	Master-slave operation - Speed limit coefficient on slave Set the coefficient to be reflected to the internal speed limit value for the speed limit value that has been received from the master axis. This servo parameter is enabled when the servo amplifier is set as a slave axis ([Pr. PD15] is set to "_ _ 1 0"). The maximum setting value is 500. Entering a value greater than or equal to 500 clamps the value at 500. When 100 % is set, the coefficient is 1. Setting example: When setting [Pr. PD31 (VLC)] for 140 [%], [Pr. PD32 (VLL)] for 300 [r/min], and the master axis side is accelerated or decelerated at 1000 [r/min]  	0	PD31	Master-slave operation - Speed limit coefficient on slave Set the coefficient to be reflected to the internal speed limit value for the speed limit value that has been received from the master axis. This servo parameter is enabled only in the slave axis torque mode (slt). This function corresponds to [Master-slave Velocity limit coefficient (Obj. 2E45h)]. When this parameter is mapped for cyclic communication, the value written with the engineering tool is overwritten with the controller. Thus, do not write a value with the engineering tool or any other tool. When this servo parameter is set to "100", the coefficient is 1. The setting example is as follows. Setting example: When setting [Pr. PD31 (VLC)] for 140 [%], [Pr. PD32 (VLL)] for 300 [r/min], and the master axis side is accelerated or decelerated at 1000 [r/min]  	0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD32	Master-slave operation - Slave-side speed limit adjusted value Set the minimum value for the internal speed limit value. This servo parameter is enabled when the servo amplifier is set as a slave axis ([Pr. PD15] is set to "_ _ 1 0"). The speed limit value will not be smaller than this setting value. This servo parameter guarantees the torque control range (avoids the area where the speed is likely to be limited) at a low speed. Set 100 to 500 [r/min] for normal operation. Refer to [Pr. PD31] for the setting example.	0	PD32	Master-slave operation - Slave-side speed limit adjusted value Set the minimum value for the speed limit value as well as the setting value for [Pr. PD31 Master-slave speed limit coefficient]. This servo parameter guarantees the torque control range (avoids the area where the speed is likely to be limited) at a low speed. Normally, set a value between 100.00 and 500.00 [r/min]. Refer to [Pr. PD31] for a setting example. This function is enabled when [Pr. PT01.1 Speed/ acceleration/deceleration unit selection] is set to "0". This function and [Pr. PV33 Master-slave speed limit minimum value extension setting] are mutually exclusive. The servo motor speed is clamped at the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4 Speed range limit selection]. This function corresponds to [Master-slave Lower limit of velocity limit value (Obj. 2E46h)]. When this parameter is mapped for cyclic communication, the value written with the engineering tool is overwritten with the controller. Thus, do not write a value with the engineering tool or any other tool.	0.00

Extension setting 2 servo parameters group ([Pr. PE_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE01	Fully closed loop function selection 1		PE01	Fully closed loop function selection 1	
	_ _ _ x: Fully closed loop function selection 0: Always enabled 1: Switching by control command from the controller (semi/full switching) ☞ Page 227 Fully closed loop control function selection (MR-J4_-_B_) This setting is enabled when "Fully closed loop control mode (_ _ 1 _)" is selected in [Pr. PA01]. If this servo parameter is set to "1" while "Absolute position detection system selection" in [Pr. PA03] has been set to "Enabled (_ _ _ 1)", [AL. 37 Parameter error] occurs.	0h		[Pr. PE01.0 Fully closed loop function selection] Select the fully closed loop function. This servo parameter is enabled when [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (enabled (fully closed loop control mode)). If this servo parameter is set to "1" while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system)), [AL. 037 Parameter error] occurs. If semi-closed loop control/fully closed loop control switching is performed during operation in the homing mode or the profile position mode while this servo parameter is set to "1", [AL. 0F4.A Fully closed loop control - Switching warning] occurs. In this case, the control method does not switch to the selected control method while the operation is in progress. When the positioning mode (point table method) is selected, setting this servo parameter to "1" triggers [AL. 037]. 0: Always enabled 1: Switching by fully closed loop selection command from the controller ☞ Page 227 Fully closed loop control function selection (MR-J5_-_G_)	0h
	_ _ x _: For manufacturer setting	0h		Pr. PE01.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE01.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PE01.3 For manufacturer setting	0h
—				[Pr. PE01.4 Fully closed loop control - Droop pulse clear selection] Select whether to clear droop pulses when the semi closed/fully closed loop control is switched. 0: Enabled 1: Disabled When the setting value of this servo parameter is "0" (enabled), switching from the semi closed loop control to the fully closed loop control clears the load side encoder droop pulses. Also, switching from the fully closed loop control to the semi closed loop control clears the motor side droop pulses. For these reasons, shocks caused by switching between the semi closed/fully closed loop control is reduced. When the setting value of this servo parameter is "1" (disabled), switch between the semi closed/fully closed loop control in a state where the motor side and load side are linked. Switching between the semi closed/fully closed loop control in a state where the motor side and load side are not linked may induce unexpected motion such as sudden acceleration of the servo motor.	0h
				Pr. PE01.5-7 For manufacturer setting	000h

Fully closed loop control function selection (MR-J4_-_B_)

Switching by control command from the controller	Control method
OFF	Semi closed loop control
ON	Fully closed loop control

Fully closed loop control function selection (MR-J5_-_G_)

Fully closed loop selection		Control method
Command from controller (C_CLD)	CLD (Fully closed loop selection) *1	
OFF	OFF	Semi closed loop control
ON	OFF	Fully closed loop control
OFF	ON	
ON	ON	

*1 Always off when CLD (Fully closed loop selection) is not assigned to the input device pin.

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE03	Fully closed loop function selection 2		PE03	Fully closed loop function selection 2	
	_ _ _ x: Fully closed loop control error - Detection function selection 0: Disabled 1: Speed deviation error detection 2: Position deviation error detection 3: Speed deviation error detection and position deviation error detection	3h		[Pr. PE03.0 Fully closed loop control error - Detection function selection] 0: Disabled 1: Speed deviation error detection 2: Position deviation error detection 3: Speed deviation error detection and position deviation error detection Refer to the following table for the combination with [Pr. PE03.1 Position deviation error - Detection method selection]. ☞ Page 228 Detection method/detection function combinations	3h
	_ _ x _: Position deviation error - Detection method selection 0: Continuous detection method 1: Detection only at stop (An error is detected if the command is "0".)	0h		[Pr. PE03.1 Position deviation error - Detection method selection] 0: Continuous detection method 1: Detection only at stop (An error is detected if the command is "0".) 2: Detection only at stop 2 (An error is detected while in servo-off state or if the command is "0" while in servo-on state.) Refer to the following table for the combination with [Pr. PE03.0 Fully closed loop control error - Detection function selection]. ☞ Page 228 Detection method/detection function combinations	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE03.2 For manufacturer setting	0h
	x _ _ _: Fully closed loop control error - Reset selection 0: Reset disabled (reset only by powering off/on is allowed) 1: Reset enabled	0h		[Pr. PE03.3 Fully closed loop control error - Reset selection] 0: Reset disabled (reset by cycling the power or software reset) 1: Reset enabled	0h
—				Pr. PE03.4-7 For manufacturer setting	0000h

Detection method/detection function combinations

○: Error detection enabled —: Error detection disabled

Setting value		Speed deviation error	Position deviation error		
			In servo-on state		In servo-off state
[Pr. PE03.1]	[Pr. PE03.0]		With commands	No commands (= 0)	
0	0	—	—	—	—
0	1	○	—	—	—
0	2	—	○	○	○
0	3	○	○	○	○
1	0	—	—	—	—
1	1	○	—	—	—
1	2	—	—	○	—
1	3	○	—	○	—
2	0	—	—	—	—
2	1	○	—	—	—
2	2	—	—	○	○
2	3	○	—	○	○

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. If the reduced electronic gear numerator exceeds 2147483648 (31 bits), [AL. 037 Parameter error] occurs.	1
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. If the reduced electronic gear denominator exceeds 1073741824 (30 bits), [AL. 037 Parameter error] occurs.	1
PE06	Fully closed loop control - Speed deviation error detection level Set the error detection level for triggering [AL. 42.9 Fully closed loop control error by speed deviation] of the fully closed loop control error detection. If the difference between the speed calculated by the servo motor encoder and the speed calculated by the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	400	PE06	Fully closed loop control - Speed deviation error detection level Set the error detection level for triggering [AL. 042.9 Fully closed loop control error based on speed deviation] of the fully closed loop control error detection. If the difference between the speed calculated by the servo motor encoder and the speed calculated by the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	400
PE07	Fully closed loop control - Position deviation error detection level Set the error detection level for triggering [AL. 42.8 Fully closed loop control error by position deviation] of the fully closed loop control error detection. If the difference between the position of the servo motor encoder and the position of the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	100	PE07	Fully closed loop control - Position deviation error detection level Set the error detection level for triggering [AL. 042.8 Fully closed loop control error based on position deviation] of the fully closed loop control error detection. If the difference between the position of the servo motor encoder and the position of the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	100
PE08	Fully closed loop dual feedback filter Set a dual feedback filter band.	10	PE08	Fully closed loop dual feedback filter Set a dual feedback filter band.	10
PE10	Fully closed loop function selection 3		PE10	Fully closed loop function selection 3	
	_ _ _ x: For manufacturer setting	0h		Pr. PE10.0 For manufacturer setting	0h
	_ _ x _: Fully closed loop control - Position deviation error detection level - Unit selection 0: 1 kpulse unit 1: 1 pulse unit	0h		[Pr. PE10.1 Fully closed loop control - Position deviation error detection level - Unit selection] 0: 1 kpulse unit 1: 1 pulse unit	0h
	_ x _ _: Droop pulse monitor selection for controller display 0: Servo motor encoder 1: Load-side encoder 2: Deviation between the servo motor and the load side	0h		Pr. PE10.2 For manufacturer setting	0h
	x _ _ _: Cumulative feedback pulse monitor selection for controller display 0: Servo motor encoder 1: Load-side encoder Use the setting of this digit in the fully closed loop system and scale measurement function.	0h		Pr. PE10.3 For manufacturer setting	0h
—				Pr. PE10.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE34	Fully closed loop control - Feedback pulse electronic gear 2 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE34	For manufacturer setting	1
PE35	Fully closed loop control - Feedback pulse electronic gear 2 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE35	For manufacturer setting	1
PE41	Function selection E-3		PE41	Function selection E-3	
	_ _ _ x: Robust filter selection 0: Disabled 1: Enabled When this setting value is set to "Enabled", the machine resonance suppression filter 5 set in [Pr. PB51] cannot be used.	0h		[Pr. PE41.0 Robust filter selection] 0: Disabled 1: Enabled When this setting value is set to "Enabled", the machine resonance suppression filter 5 set in [Pr. PB51 Notch shape selection 5] cannot be used.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PE41.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE41.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PE41.3 For manufacturer setting	0h
—				Pr. PE41.4-5 For manufacturer setting	00h
				[Pr. PE41.6 Unbalanced torque offset setting selection] 0: Manual setting 1: Automatic setting If "1" (automatic setting) has been set and friction estimation by the machine diagnosis function has completed for both the forward and reverse rotations, the value of [Pr. PE47 Unbalanced torque offset] will be set automatically according to the estimated friction value. After [Pr. PE47] is set automatically, this servo parameter changes to "0" (Manual setting). The value of [Pr. PE47] will not be set automatically and this servo parameter keeps the value "1" (automatic setting) until friction estimation completes for both the forward and reverse rotations.	0h
				Pr. PE41.7 For manufacturer setting	0h
PE44	Lost motion compensation positive-side compensation value selection Set the lost motion compensation for when reverse rotation (CW) switches to forward rotation (CCW) in increments of 0.01 % in relation to the rated torque as 100 %.	0	PE44	Lost motion compensation positive-side compensation value selection Set the lost motion compensation for when negative speed switches to positive speed in increments of 0.01 % in relation to the rated torque as 100 %. This function is enabled in the position mode and positioning mode.	0
PE45	Lost motion compensation negative-side compensation value selection Set the lost motion compensation for when forward rotation (CCW) switches to reverse rotation (CW) in increments of 0.01 % in relation to the rated torque as 100 %.	0	PE45	Lost motion compensation negative-side compensation value selection Set the lost motion compensation for when positive speed switches to negative speed in increments of 0.01 % in relation to the rated torque as 100 %. This function is enabled in the position mode and positioning mode.	0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PE46	Lost motion filter setting Set the lost motion compensation filter time constant in units of 0.1 ms. When "0" is set, the value is compensated with the value that was set in [Pr. PE44] and [Pr. PE45]. When a value other than "0" is set, the torque is compensated with the high-pass filter output value of the set time constant, and the lost motion compensation will continue.	0	PE46	Lost motion filter setting When "0" is set, the value is compensated with the compensation amount of the value that was set in [Pr. PE44 Lost motion compensation positive-side compensation value selection] and [Pr. PE45 Lost motion compensation negative-side compensation value selection]. When a value other than "0" is set, the torque is compensated with the high-pass filter output value of the set time constant, and the lost motion compensation will continue. This function is enabled in the position mode and positioning mode.	0
PE47	Torque offset Set this to cancel the unbalanced torque of a vertical axis. Set this in relation to the rated torque of the servo motor as 100 %. The torque offset does not need to be set for a machine that does not generate unbalanced torque. When a linear servo motor or a direct drive motor is used, the torque offset cannot be used. Set to 0.00 %. The torque offset that has been set with this servo parameter is enabled in the position control mode, speed control mode, and torque control mode. In the torque control mode, input commands taking the torque offset into account.	0	PE47	Unbalanced torque offset Set this to cancel the unbalanced torque of a vertical axis. Set this in relation to the rated torque of the servo motor as 100 %. The torque offset does not need to be set for a machine that does not generate unbalanced torque. This servo parameter can be used in applications where an unbalanced torque is generated constantly, such as when a linear servo motor or direct drive motor is operated horizontally with tension applied in one direction. The torque offset that has been set with this servo parameter is enabled in any control mode. In the torque mode, input commands taking the torque offset into account. This servo parameter is suitable when the torque offset does not need to be changed dynamically.	0
PE48	Lost motion compensation function selection		PE48	Lost motion compensation function selection This function is enabled in the position mode and positioning mode.	
	_ _ _ x: Lost motion compensation selection 0: Disabled 1: Enabled	0h		[Pr. PE48.0 Lost motion compensation type selection] 0: Lost motion compensation disabled. 1: Lost motion compensation enabled.	0h
	_ _ x _: Unit setting of Lost motion compensation non-sensitive band 0: 1 pulse unit 1: 1 kpulse unit	0h		[Pr. PE48.1 Lost motion compensation dead band unit setting] 0: 1 pulse unit 1: 1 kpulse unit	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE48.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PE48.3 For manufacturer setting	0h
—				Pr. PE48.4-7 For manufacturer setting	0000h
PE49	Lost motion compensation timing Set the lost motion compensation timing in units of 0.1 ms. The timing to perform the lost motion compensation function can be delayed by a set time.	0	PE49	Lost motion compensation timing Set the lost motion compensation timing in units of 0.1 ms. The timing to perform the lost motion compensation function can be delayed by a set time. This function is enabled in the position mode and positioning mode.	0
PE50	Lost motion compensation non-sensitive band Set the lost motion compensation non-sensitive band. When the fluctuation of droop pulses is equal to or less than the setting value, the speed is 0. The setting unit can be changed with [Pr. PE48]. Set the servo parameter per encoder unit.	0	PE50	Lost motion compensation dead band Set the lost motion compensation dead band. When the fluctuation of droop pulses is equal to or less than the setting value, the speed is determined as 0. The setting unit can be changed with [Pr. PE48]. Set the servo parameter per encoder unit. This function is enabled in the position mode and positioning mode.	0

Extension setting 3 servo parameters group ([Pr. PF_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PF02	For manufacturer setting		PF02	Function selection F-2	
	_ _ _ x: For manufacturer setting	0h		[Pr. PF02.0 Target alarm selection of the other axis error warning] Select target alarms of the other axis error warning. For alarms occurring at all axes, [AL. 0EB The other axis error warning] will not occur regardless of alarm No. [AL. 0EB The other axis error warning] does not occur in 1-axis servo amplifiers. 0: [AL. 024 Main circuit error], [AL. 032 Overcurrent] 1: All alarms	0h
	_ _ x _: For manufacturer setting	0h		Pr. PF02.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PF02.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PF02.3 For manufacturer setting	0h
—				[Pr. PF02.4 Memory writing frequency warning enable/disable selection] Enable or disable [AL. 1F8.1 Memory writing frequency warning]. [AL. 1F8.1] indicates that the memory writing frequency has exceeded the guaranteed number of times. If the servo amplifier continues to be used while the alarm is disabled with this servo parameter, the memory may be corrupted and restoration of the data, such as servo parameters, may fail. 0: Enabled 1: Disabled	0h
				[Pr. PF02.5 Memory free space warning enable/disable selection] Select whether to enable or disable [AL. 1F8.2 Memory free space warning]. [AL. 1F8.2] indicates that the memory free space is running low. If the servo amplifier continues to be used while the alarm is disabled with this servo parameter, [AL. 119.7 Memory free space 4-1] may occur and data restoration may fail. 0: Enabled 1: Disabled	0h
				Pr. PF02.6-7 For manufacturer setting	00h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PF06	Function selection F-5		PF06	Function selection F-5	
	_ _ _ x: Electronic dynamic brake selection 0: Automatic (Enabled only for specific servo motors) 2: Disabled Refer to the following table for the specific servo motors. ☞ Page 233 Servo motors on which the electronic dynamic brake is available	0h		[Pr. PF06.0 Electronic dynamic brake selection] Enable or disable the electronic dynamic brake. 2: Disabled 3: Enabled only for specific servo motors For the specific servo motors, refer to "Precautions relating to the dynamic brake characteristics" in the following manual. 📖MR-J5 User's Manual (Hardware)	3h
	_ _ x _: For manufacturer setting	0h		[Pr. PF06.1 STO timing error selection] Select whether [AL. 063 STO timing error] is detected. 0: Detected. 1: Not detected. If the STO status is set at the servo motor speed shown below while "0" (detected) has been selected", [AL. 063 STO timing error] will be detected. The STO status means the status where STO1 or STO2 of CN8 has been turned off. • Servo motor speed: 50 r/min or higher • Linear servo motor speed: 50 mm/s or higher • Direct drive motor speed: 5 r/min or higher	1h
	_ x _ _: For manufacturer setting	0h		Pr. PF06.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PF06.3 For manufacturer setting	0h
—				Pr. PF06.4-7 For manufacturer setting	0000h

Servo motors on which the electronic dynamic brake is available

Series	Servo motor
HG-KR	HG-KR053/HG-KR13/HG-KR23/HG-KR43
HG-MR	HG-MR053/HG-MR13/HG-MR23/HG-MR43
HG-SR	HG-SR51/HG-SR52

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PF12	Electronic dynamic brake operating time Set an operating time for the electronic dynamic brake.	2000	PF12	Electronic dynamic brake operating time Set an operating time for the electronic dynamic brake.	2000
PF18	STO diagnosis error detection time Set the time from when the error of the STO input signal or STO circuit occurs until [AL. 68.1 STO signal mismatch error] is detected. When the time is set to 0 s, [AL. 68.1 STO signal mismatch error] is not detected. The table below shows the safety level in accordance with the servo parameter setting. ☞ Page 234 Safety level depending on the servo parameter setting (MR-J4_-_B_) When the short-circuit connector is mounted to the CN8 connector, set this servo parameter to "0". When using the MR-D30 functional safety unit, this servo parameter is disabled. Refer to "MR-D30 Instruction Manual" for the safety level for when the MR-D30 is being used.	0	PF18	STO diagnosis error detection time Set the time from when the error of the STO input or STO circuit is detected until the occurrence of [AL. 068.1 STO signal mismatch error]. When "0" is set, [AL. 068.1] is not detected. The safety level depends on the setting value of this servo parameter and whether STO input diagnosis is performed by TOFB output as shown in the following table. ☞ Page 234 Safety level depending on the servo parameter setting (MR-J5_-_G_) When the STO function is not used with the short-circuit connector connected to the CN8 connector, the safety level does not change even after setting this servo parameter. This servo parameter cannot be used on the MR-J5-_G_-RJ or MR-J5W_-G_.	10

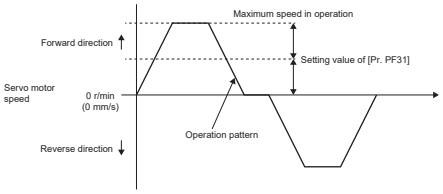
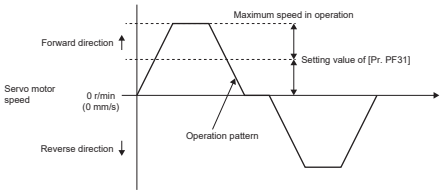
Safety level depending on the servo parameter setting (MR-J4_-_B_)

Setting value	STO input diagnosis by TOFB output	Safety level
0	Execute	EN ISO 13849-1 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, and EN 62061 maximum SIL 3
	Do not execute	EN ISO 13849-1 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2

Safety level depending on the servo parameter setting (MR-J5_-_G_)

Setting value	STO input diagnosis by TOFB output	Safety level
0	Execute	EN ISO 13849-1: 2015 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1: 2015 Category 3 PL e, IEC 61508 SIL 3, and EN 62061 maximum SIL 3
	Do not execute	EN ISO 13849-1: 2015 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PF21	Drive recorder switching time setting Set the drive recorder switching time. When the USB communication is disconnected during the use of the graph function, the function will be switched to the drive recorder function after the time set in this servo parameter has passed. When "1" to "32767" is set, the function switches after the set time. However, when "0" is set, the drive recorder function will be switched after 600 s. When "-1" is set, the drive recorder function will be disabled.	0	PF21	Drive recorder switching time setting Set the drive recorder switching time. When communication is shut off during the use of a graph function, the function will be switched to the drive recorder function after the time set in this servo parameter has passed. When any value of "10" to "32767" is set, the drive recorder function will be switched after the time set in this servo parameter has passed. When any value of "0" to "9" is set, the drive recorder function will be switched after 10 s. When "-1" is set, the drive recorder function is disabled.	0
PF23	Vibration tough drive - Oscillation detection level When the vibration tough drive is enabled, set the filter readjustment sensitivity of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2]. If the setting value is "0", the level will be 50 %. Example: When this servo parameter is set to "50", readjustment is performed when the oscillation level becomes 50 % or more.	50	PF23	Vibration tough drive - Oscillation detection level Set the oscillation detection level for readjusting the machine resonance suppression filter while the vibration tough drive is enabled. When the oscillation level is higher than the setting value of this servo parameter, reset [Pr. PB13 Machine resonance suppression filter 1] or [Pr. PB15 Machine resonance suppression filter 2]. When "0" is set, the oscillation detection level is 20 %.	20
PF24	Vibration tough drive function selection		PF24	Function selection F-9	
	_ _ _ x: Oscillation detection alarm selection 0: [AL. 54 Oscillation detection] occurs when oscillation is detected. 1: [AL. F3.1 Oscillation detection warning] occurs when oscillation is detected. 2: Oscillation detection function disabled Select whether to generate an alarm or a warning when oscillation continues at a filter readjustment sensitivity level set in [Pr. PF23]. This servo parameter is always enabled regardless of whether the vibration tough drive is enabled or disabled in [Pr. PA20].	0h		[Pr. PF24.0 Oscillation detection alarm selection] Select the alarm output at oscillation detection. Select whether to generate an alarm or a warning when an oscillation continues at a level set in [Pr. PF23 Vibration tough drive - Oscillation detection level]. This function is enabled regardless of the setting of [Pr. PA20.1 Vibration tough drive selection]. 0: Alarm ([AL. 054 Oscillation detection]) 1: Warning ([AL. 0F3.1 Oscillation detection warning]) 2: Oscillation detection function disabled (oscillation detection not processed)	0h
	_ _ x _: For manufacturer setting	0h		Pr. PF24.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PF24.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PF24.3 For manufacturer setting	0h
—				Pr. PF24.4-7 For manufacturer setting	0000h
PF25	SEMI-F47 function - Instantaneous power failure detection time Set the time until the occurrence of [AL. 10.1 Voltage drop in the control circuit power]. To comply with SEMI-F47 standard, it is not required to change the time from the initial value (200 ms). When the instantaneous power failure time exceeds 200 ms, and if the instantaneous power failure voltage is less than 70 % of the rated input voltage, the normal power off may occur even if a value larger than 200 ms is set in the servo parameter. When "Disabled (_ 0 _ _)" is selected in "SEMI-F47 function selection" of [Pr. PA20], this servo parameter setting is disabled.	200	PF25	SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time) Set the time until the occurrence of [AL. 010.1 Voltage drop in the control circuit power]. To comply with SEMI-F47 standard, it is not required to change the time from the initial value (200 ms). When the instantaneous power failure time exceeds 200 ms, and the instantaneous power failure voltage is less than 70 % of the rated input voltage, the power may be turned off normally even if a value larger than 200 ms is set in this servo parameter. This function is disabled when [Pr. PA20.2 SEMI-F47 function selection] is set to "0" (disabled).	200

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PF31	Machine diagnosis function - Friction judgment speed Set the servo motor speed or linear servo motor speed to divide the friction estimation area between low-speed and high-speed in the friction estimation process of machine diagnosis. However, if "0" is set, the value will be half of the rated speed. When the maximum operation speed is under the rated speed, it is recommended to set half the value of the maximum operation speed.  	0	PF31	Machine diagnosis function - Friction judgment speed Set the servo motor speed to divide the friction estimation area between low-speed and high-speed in the friction estimation process of machine diagnosis. When the maximum operation speed is under the rated speed, it is recommended to set half the value of the maximum operation speed. When "0" is set, the judgment speed is half of the rated speed. The setting value will be clamped at the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4 Speed range limit selection]. By setting [Pr. PF34.6 Friction estimate area judgment speed setting] to "1" (automatic setting), this servo parameter value will be automatically calculated from the operation pattern during servo motor driving and overwrite the value. Set this servo parameter to a value larger than [Pr. PC07 Zero speed]. Below zero speed, the friction estimation process does not function.  	0

Motor extension setting servo parameters group ([Pr. PL_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PL01	Linear servo motor/DD motor function selection 1		PL01	Function selection L-1	
	_ _ _ x: Linear servo motor/DD motor magnetic pole detection selection The setting value "0" is enabled only with absolute position linear encoders. 0: Magnetic pole detection disabled 1: Magnetic pole detection at initial servo-on 5: Magnetic pole detection at every servo-on	1h		[Pr. PL01.0 Servo motor magnetic pole detection selection] Select the magnetic pole detection method for the linear servo motor or direct drive motor. 0: Magnetic pole detection disabled 1: Magnetic pole detection at initial servo-on after cycling the power or after resetting the communication 5: Magnetic pole detection at every servo-on Do not set any value other than "0", "1", and "5".	1h
	_ _ x _: For manufacturer setting	0h		Pr. PL01.1 For manufacturer setting	0h
	_ x _ _: Homing stop interval selection Set the stop interval at dog type homing. This servo parameter is enabled only when a linear servo motor is used. 0: 2^{13} (= 8192) pulses 1: 2^{17} (= 131072) pulses 2: 2^{18} (= 262144) pulses 3: 2^{20} (= 1048576) pulses 4: 2^{22} (= 4194304) pulses 5: 2^{24} (= 16777216) pulses 6: 2^{26} (= 67108864) pulses	3h		[Pr. PL01.2 Homing stop interval setting] Select the stop interval at dog type homing. This servo parameter is enabled only for linear servo motors. 0: 2^{13} (= 8192) pulses 1: 2^{17} (= 131072) pulses 2: 2^{18} (= 262144) pulses 3: 2^{20} (= 1048576) pulses 4: 2^{22} (= 4194304) pulses 5: 2^{24} (= 16777216) pulses 6: 2^{26} (= 67108864) pulses	3h
	x _ _ _: For manufacturer setting	0h		Pr. PL01.3 For manufacturer setting	0h
—				Pr. PL01.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PL02	Linear encoder resolution - Numerator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a numerator in [Pr. PL02]. This servo parameter is enabled only when a linear servo motor is used.	1000	PL02	Linear encoder resolution setting - Numerator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a numerator in [Pr. PL02]. This servo parameter is enabled for linear servo motors.	1000
PL03	Linear encoder resolution - Denominator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a denominator in [Pr. PL03]. This servo parameter is enabled only when a linear servo motor is used.	1000	PL03	Linear encoder resolution setting - Denominator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a denominator in [Pr. PL03]. This servo parameter is enabled for linear servo motors.	1000
PL04	Linear servo motor/DD motor function selection 2		PL04	Function selection L-2	
	_ _ _ x: [AL. 42 Servo control error] detection function selection Refer to the following table. ☞ Page 238 Setting details of the detection function selection (MR-J4_-_B_)	3h		[Pr. PL04.0 [AL. 042 Servo control error] detection function selection] Refer to the following table for setting values. ☞ Page 238 Setting details of the detection function selection (MR-J5_-_G_)	3h
	_ _ x _: For manufacturer setting	0h		Pr. PL04.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PL04.2 For manufacturer setting	0h
	x _ _ _: [AL. 42 Servo control error] detection controller reset condition selection 0: Reset disabled (reset only by powering off/on is allowed) 1: Reset enabled	0h		[Pr. PL04.3 [AL. 042 Servo control error] detection controller reset condition selection] 0: Reset disabled (reset by powering off/on or software reset enabled) 1: Reset enabled	0h
—				Pr. PL04.4-7 For manufacturer setting	0000h

Setting details of the detection function selection (MR-J4_-_B_)

Setting value	Thrust/torque deviation error	Speed deviation error	Position deviation error
0	Disabled	Disabled	Disabled
1			Enabled
2		Enabled	Disabled
3			Enabled
4	Enabled	Disabled	Disabled
5			Enabled
6		Enabled	Disabled
7			Enabled

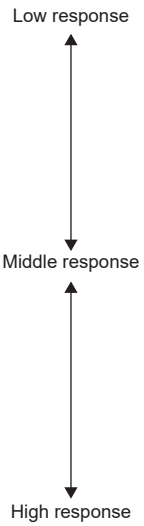
Setting details of the detection function selection (MR-J5_-_G_)

Setting value	Thrust/torque deviation error	Speed deviation error	Position deviation error
0	Disabled	Disabled	Disabled
1			Enabled
2		Enabled	Disabled
3			Enabled
4	Enabled	Disabled	Disabled
5			Enabled
6		Enabled	Disabled
7			Enabled

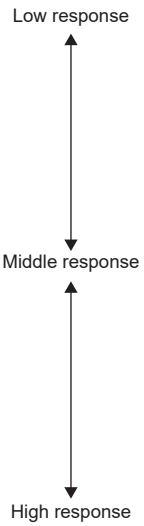
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PL05	Position deviation error detection level Set a position deviation error detection level of the servo control error detection. When the difference between a model feedback position and actual feedback position is larger than the setting value, [AL. 42 Servo control error] will occur. Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01]. When a linear servo motor is used: 50 mm When a direct drive motor is used: 0.09 rev	0	PL05	Position deviation error detection level Set a position deviation error detection level of the servo control error detection. When the difference between a model feedback position and actual feedback position is larger than the setting value, [AL. 042.1 Servo control error based on position deviation] will occur. Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection]. When a linear servo motor is used: 50 mm When a direct drive motor is used: 0.09 rev	0
PL06	Position deviation error detection level Set the speed deviation error detection level of the servo control error detection. When the difference between a model feedback speed and actual feedback speed is larger than the setting value, [AL. 42 Servo control error] will occur. Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01]. When a linear servo motor is used: 1000 mm/s When a direct drive motor is used: 100 r/min	0	PL06	Position deviation error detection level Set the speed deviation error detection level of the servo control error detection. When the difference between a model feedback speed and actual feedback speed is larger than the setting value, [AL. 042.2 Servo control error based on speed deviation] will occur. Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection]. When a linear servo motor is used: 1000 mm/s When a direct drive motor is used: 100 r/min	0
PL07	Torque/thrust deviation error detection level Set the torque/thrust deviation error detection level of the servo control error detection. When the difference between a current command and current feedback is larger than the setting value, [AL. 42.3 Servo control error by torque/thrust deviation] occurs.	100	PL07	Torque deviation error detection level Set the torque/thrust deviation error detection level of the servo control error detection. When the difference between a current command and current feedback is larger than the setting value, [AL. 042.3 Servo control error based on torque/thrust deviation] occurs.	100
PL08	Linear servo motor/DD motor function selection 3		PL08	Function selection L-3	
	_ _ _ x: Magnetic pole detection method selection 0: Position detection method 4: Minute position detection method	0h		[Pr. PL08.0 Magnetic pole detection method selection] 0: Position detection method 4: Minute position detection method If detecting magnetic poles in a vertical axis, configure a system with equipment such as a counterweight to prevent the linear servo motor from moving with the force of gravity.	0h
	_ _ x _: For manufacturer setting	1h		Pr. PL08.1 For manufacturer setting	1h
	_ x _ _: Magnetic pole detection - Stroke limit enabled/disabled selection 0: Enabled 1: Disabled	0h		[Pr. PL08.2 Magnetic pole detection - Stroke limit enabled/disabled selection] 0: Enabled 1: Disabled	0h
	x _ _ _: For manufacturer setting	0h		Pr. PL08.3 For manufacturer setting	1h
—				Pr. PL08.4-7 For manufacturer setting	0000h
PL09	Magnetic pole detection voltage level Set a direct current exciting voltage level in the magnetic pole detection. If [AL. 32 Overcurrent], [AL. 50 Overload 1], or [AL. 51 Overload 2] occurs during the magnetic pole detection, set a smaller value. If [AL. 27 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value.	30	PL09	Magnetic pole detection voltage level Set a direct current exciting voltage level in the magnetic pole detection. If [AL. 032 Overcurrent], [AL. 050 Overload 1], or [AL. 051 Overload 2] occurs during the magnetic pole detection, set a smaller value. If [AL. 027 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value.	30

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PL17	Magnetic pole detection - Minute position detection method - Function selection		PL17	Magnetic pole detection - Minute position detection method - Function selection	
	_ _ _ x: Response selection This servo parameter is enabled when "Minute position detection method" is selected in [Pr. PL08]. Set the responsiveness of the minute position detection method. To make the travel distance at the magnetic pole detection smaller, set a larger value. Refer to the following table for setting values. ☞ Page 241 Responsiveness settings of the minute position detection method (MR-J4_-_B_)	0h		[Pr. PL17.0 Response selection] This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4" (minute position detection method). Select the responsiveness of the minute position detection method. To make the travel distance at the magnetic pole detection smaller, set a larger value. Refer to the following table for setting values. ☞ Page 241 Responsiveness settings of the minute position detection method (MR-J5_-_G_)	0h
	_ _ x _: Load to motor mass ratio/load to motor inertia ratio selection This servo parameter is enabled when "Minute position detection method" is selected in [Pr. PL08]. Select a load to mass of the linear servo motor primary-side ratio or load to mass of the direct drive motor inertia ratio used for the minute position detection method. Set a value closest to the actual load. Refer to the following table for setting values. ☞ Page 242 Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J4_-_B_)	0h		[Pr. PL17.1 Load to motor mass ratio/load to motor inertia ratio selection] This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4" (minute position detection method). Select a load to mass of the linear servo motor primary-side ratio or load to mass of the direct drive motor inertia ratio used for the minute position detection method. Select a value closest to the actual load. Refer to the following table for setting values. ☞ Page 242 Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J5_-_G_)	0h
	_ x _ _: For manufacturer setting	0h		Pr. PL17.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PL17.3 For manufacturer setting	0h
—				Pr. PL17.4-7 For manufacturer setting	0000h

Responsiveness settings of the minute position detection method (MR-J4_-_B_)

Setting value	Responsiveness
_ _ _ 0	
_ _ _ 1	
_ _ _ 2	
_ _ _ 3	
_ _ _ 4	
_ _ _ 5	
_ _ _ 6	
_ _ _ 7	
_ _ _ 8	
_ _ _ 9	
_ _ _ A	
_ _ _ B	
_ _ _ C	
_ _ _ D	
_ _ _ E	
_ _ _ F	

Responsiveness settings of the minute position detection method (MR-J5_-_G_)

Setting value	Responsiveness
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J4_-_B_)

Setting value	Load to motor mass ratio/load to motor inertia ratio
_ _ 0 _	10 times or less
_ _ 1 _	10 multiplier
_ _ 2 _	20 multiplier
_ _ 3 _	30 multiplier
_ _ 4 _	40 multiplier
_ _ 5 _	50 multiplier
_ _ 6 _	60 multiplier
_ _ 7 _	70 multiplier
_ _ 8 _	80 multiplier
_ _ 9 _	90 multiplier
_ _ A _	100 multiplier
_ _ B _	110 multiplier
_ _ C _	120 multiplier
_ _ D _	130 multiplier
_ _ E _	140 multiplier
_ _ F _	150 times or more

Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J5_-_G_)

Setting value	Load to motor mass ratio/load to motor inertia ratio
0	10 times or less
1	10 multiplier
2	20 multiplier
3	30 multiplier
4	40 multiplier
5	50 multiplier
6	60 multiplier
7	70 multiplier
8	80 multiplier
9	90 multiplier
A	100 multiplier
B	110 multiplier
C	120 multiplier
D	130 multiplier
E	140 multiplier
F	150 times or more

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_G_/MR-J5W_-_G servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude Set an identification signal amplitude to be used in the minute position detection method. This servo parameter is enabled only when the magnetic pole detection is set to the minute position detection method. However, when "0" is set, the amplitude will be 100 %.	0	PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude Set an identification signal amplitude to be used in the minute position detection method. This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4". When the setting value of this servo parameter is set to "0", the amplitude will be 100 [%].	0

8 STARTUP

Precautions

- To prevent malfunctions and damage of the machine, test operation must be performed according to the precautions and procedure as instructed in the user's manual.
- Before starting operation, check and adjust each parameter. Improper parameter settings may cause an unexpected operation.
- The regenerative resistor of the servo amplifier may become hot depending on the operating method. Take safety measures such as providing covers.
- Before wiring, switch operation, etc., eliminate static electricity.

8.1 Turning on Servo Amplifier for the First Time

When switching power on for the first time, follow this section to make a startup.

Startup procedure

Step	Description
1. Wiring check	Visually check that the wires are connected to the servo amplifier, servo motor, and controller correctly.
2. Surrounding environment check	Check the environment surrounding the servo amplifier, servo motor, and controller.
3. Writing servo parameters	• When parameter automatic distribution is used Write the project converted for the MR-J5-_G_/MR-J5W_-_G_ using the parameter conversion from GX Works3 to the CPU module. • When parameter automatic distribution is not used Write the parameter file converted for the MR-J5-_G_/MR-J5W_-_G_ using the parameter conversion from MR Configurator2 to the servo amplifier.
4. Setting servo parameters *1	Set the servo parameters as necessary, such as the control mode used and regenerative option selection. Refer to the following for details. ☞ Page 125 Servo Parameters Required to be Set When Replacing
5. Test operation of the servo motor alone in test operation mode *1*2	In test operation, with the servo motor disconnected from the machine, operate the servo motor at the lowest speed possible, and check whether the servo motor rotates correctly. Test operation can be performed with the servo engineering software or controller.
6. Test operation using commands from the controller with the machine connected	After connecting the servo motor with the machine, check machine motions with sending operation commands from the controller.
7. Gain adjustment *1	Make gain adjustment to optimize the machine motions.
8. Actual operation *2	Perform homing as necessary when in position control mode.
9. Stop	Stop giving commands and stop operation. In addition, check the conditions when the servo motor operation stops.

*1 For detailed information such as servo amplifier settings and test operation, refer to the manuals shown below. If the gain of the servo amplifier before replacement is extremely high, there may be slight differences in characteristics upon replacement. Make sure to set the gain again.
MR-J5-G/MR-J5W-G User's Manual (Introduction)
MR-J5 User's Manual (Hardware)
MR-J5 User's Manual (Function)
MR-J5 User's Manual (Adjustment)
MR-J5-G/MR-J5W-G User's Manual (Parameters)

*2 When turning on the power supply, also turn on the 24 V DC power supply for the external interface. [AL. 0E6.1 Forced stop warning] will occur.

PART 3 Replacement of MR-J4_-_B_ with MR-J5_-_B_

This section describes the changes to be made when a system using the MR-J4_-_B_ is replaced with a system using the MR-J5_-_B_. Confirm that the MR-J4_-_B_ incorporated into the system before replacement is an SSCNET III/H system in "J4 mode".

9 REPLACEMENT OF MR-J4_-_B_ WITH MR-J5_-_B_

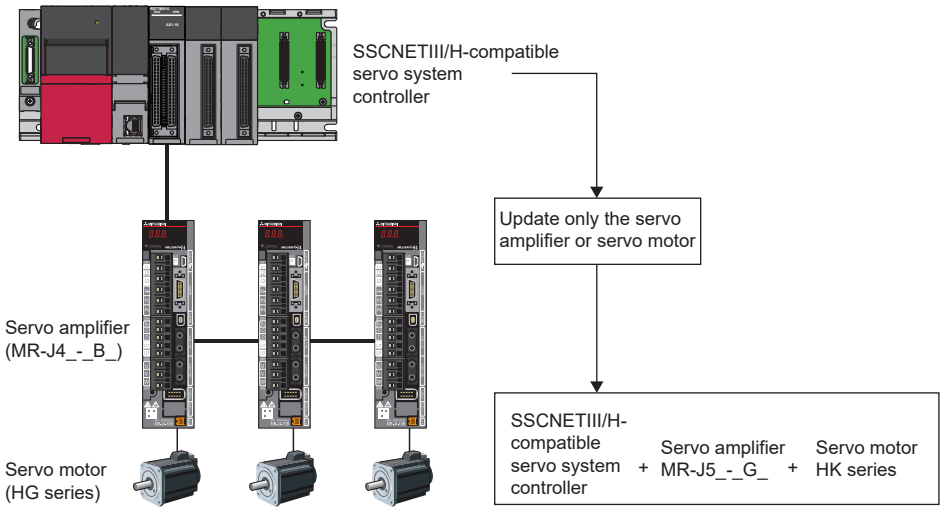
10 DIFFERENCES BETWEEN MR-J4_-_B_ AND MR-J5_- _B_

11 SERVO PARAMETER CONVERSION

12 SERVO PARAMETERS

13 STARTUP

9 REPLACEMENT OF MR-J4_-_B_ WITH MR-J5_-_B_



Restrictions on controllers

For details on Motion controllers and simple Motion modules, refer to the relevant controller manual.

■Review items when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B

Item	Target controller	Differences		Review details
		MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B	
Servo amplifier electronic gear setting	RnMTCPU Q17nDSCPU Q170MSCPU(-S1) RD77MS QD77MS	Setting not required (The electronic gear is set by the controller.)	Differs depending on the servo motor to be connected • HK series: 16/1 linear servo motor: Direct drive motor that requires no settings: Settings not required	Set it so that the encoder resolution is equivalent to 22 bits. If the electronic gear has not been set properly, an error may occur at servo amplifier connection.
Servo parameter settings (including read and change functions)	RnMTCPU Q17nDSCPU Q170MSCPU(-S1) RD77MS QD77MS	16-bit servo parameters	32-bit servo parameters	Review the program so that it is set for 32 bits. When a model is changed by using the engineering tool, the servo parameters will be converted, but the part where read and change functions are used in the program will not be changed.
Servo error	Q17nDSCPU Q170MSCPU(-S1) QD77MS	2000 to 2999	Servo error: 2000 Servo warning: 2100	The alarm "3 digits + detail number" that is output by the servo amplifier is stored in the device and buffer memory separately. If error numbers are referenced with the program, review the reference and number.
Serial ABS synchronous encoder for synchronous encoders via servo amplifier	RnMTCPU Q17nDSCPU Q170MSCPU(-S1) RD77MS QD77MS	Q171ENC-W8	HK series rotary servo motor	Change the equipment used. (For the HK series rotary servo motors, the encoder resolution is 26 bits, but 22 bits are configured on the controller side. Therefore, the settings of the Motion controller parameter "synchronous encoder axis unit conversion" do not need to be changed.) Adjust the value of the synchronous encoder axis phase compensation advance time as required.
Servo parameter storage location	RD77MS QD77MS	Buffer memory	Internal memory	If servo parameters are read or changed with the buffer memory, read or change them using axis control data.
Safety communication	Q17nDSCPU Q173DSXY	Supported *1	Not supported	Functional safety is available. Safety communication STO and speed monitoring are not possible.

*1 Safety communication is possible with a combination of the MR-J4-_B_-RJ and MR-D30.

■Restrictions on using both the MR-J4 series and MR-J5 series

Point

If highly accurate synchronization is required, construct a system with the same series of servo amplifiers.

Item	Target product	Restrictions
Driver communication function	Controller RnMTCPU Q17nDSCPU Q170MSCPU(-S1) RD77MS QD77MS	An error will occur if the settings are configured in the following combinations: MR-J4 series (master) and MR-J5 series (slave), or MR-J5 series (master) and MR-J4 series (slave).
Graph function	MR Configurator2	Multi-axis graphs cannot be used.

10 DIFFERENCES BETWEEN MR-J4_-_B_ AND MR-J5_- _B_

10.1 Function Comparison Table

Point

Changed descriptions are shown with "■".

This manual is for servo amplifiers with the following capacities.

- 200 V class: 0.1 to 7 kW
- 400 V class: 0.6 to 7 kW

1-axis servo amplifier (200 V class)

Item		MR-J4-_B_	MR-J5-_B_
Capacity range		0.1 to 7 kW	0.1 to 7 kW
Internal regenerative resistor		Built-in (0.2 to 7 kW)	Built-in (0.2 to 7 kW)
Dynamic brake		Built-in (0.1 to 7 kW)	Built-in (0.1 to 7 kW) ■The coasting distance may vary.*1
Main circuit power supply		At AC input: 0.1 kW to 2 kW 3-phase or 1-phase 200 to 240 V AC, 50 Hz/60 Hz *2 3.5 kW to 7 kW 3-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC	At AC input: 0.1 kW to 2 kW 3-phase or 1-phase 200 to 240 V AC, 50 Hz/60 Hz *2 3.5 kW to 7 kW 3-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC
Control circuit power supply		At AC input: 1-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC	At AC input: 1-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC
24 V DC power supply		External supply required	External supply required
Auto tuning		Auto tuning: 40 stages One-touch tuning	■Quick tuning Auto tuning: 40 stages One-touch tuning
Number of DIO points (except for EM2)		DI: 3, DO: 3	DI: 3, DO: 3
Encoder pulse output		A/B/Z-phase pulse (differential line driver)	A/B/Z-phase pulse (differential line driver)
DIO interface		Input/output: Sink/Source	Input/output: Sink/Source
Analog input/output		(Output) 10 bits or its equivalent × 2ch	(Output) 10 bits or its equivalent × 2ch
Servo parameter setting method		MR Configurator2 Controller	MR Configurator2 Controller
Rotary servo motor (Encoder resolution)		HG series (22 bits)	■HK series (26 bits)
LED display		7-segment 3-digit	7-segment 3-digit
Advanced vibration suppression control II		Available	Available
Adaptive filter II		Available	Available
Notch filter		Available (5 pcs.)	Available (5 pcs.)
Tough drive		Available	Available
Drive recorder		Available	Available
Forced stop		EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.
Machine diagnosis		Ball screw diagnosis	Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis
Disconnection detection		Not available	■Available (input open-phase detection, output open-phase detection)
Encoder communication diagnosis		Not available	■Available
Bus common connection (Simple converter MR-CM compatible)		Not supported	■Supported *3
Safety sub-function	STO	Supported	Supported
	SS1	Supported *4*5	Supported *5
	SS2	Supported *4	■Not supported
	SOS		
	SLS		
	SBC		
	SSM		

*1 For details on the coasting distance, refer to the following manual.
MR-J5 User's Manual (Hardware)

*2 If using 1-phase power supply in combination with the rotary servo motor of 750 W or higher, operate the servo amplifier at 75 % or less of the effective load ratio.

*3 The connection is possible with a servo amplifier with a capacity of 2 kW or less. For details, refer to the following manuals.
MR-J5 User's Manual (Hardware)

*4 It is supported with a combination of the MR-J4-_B-RJ and MR-D30.

*5 It is supported when used with the MR-J3-D05.

1-axis servo amplifier (400 V class)

Item		MR-J4-_B_	MR-J5-_B_
Capacity range		0.6 to 7 kW	0.6 to 7 kW
Internal regenerative resistor		Built-in (0.6 to 7 kW)	Built-in (0.6 to 7 kW)
Dynamic brake		Built-in (0.6 to 7 kW)	Built-in (0.6 to 7 kW) ■The coasting distance may vary.*1
Main circuit power supply		At AC input: 3-phase 380 to 480 V AC, 50 Hz/60 Hz	At AC input: 3-phase 380 to 480 V AC, 50 Hz/60 Hz
Control circuit power supply		At AC input: 1-phase 380 to 480 V AC, 50 Hz/60 Hz	At AC input: 1-phase 380 to 480 V AC, 50 Hz/60 Hz
24 V DC power supply		External supply required	External supply required
Auto tuning		Auto tuning: 40 stages One-touch tuning	Auto tuning: 40 stages One-touch tuning ■Quick tuning
Number of DIO points (except for EM2)		DI: 3, DO: 3	DI: 3, DO: 3
Encoder pulse output		A/B/Z-phase pulse (differential line driver)	A/B/Z-phase pulse (differential line driver)
DIO interface		Input/output: Sink/Source	Input/output: Sink/Source
Analog input/output		(Output) 10 bits or its equivalent × 2ch	(Output) 10 bits or its equivalent × 2ch
Servo parameter setting method		MR Configurator2 Controller	MR Configurator2 Controller
Rotary servo motor (Encoder resolution)		HG series (22 bits)	■HK series (26 bits)
LED display		7-segment 3-digit	7-segment 3-digit
Advanced vibration suppression control II		Available	Available
Adaptive filter II		Available	Available
Notch filter		Available (5 pcs.)	Available (5 pcs.)
Tough drive		Available	Available
Drive recorder		Available	Available
Forced stop		EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.
Machine diagnosis		Ball screw diagnosis	Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis
Disconnection detection		Not available	■Available (input open-phase detection, output open-phase detection)
Encoder communication diagnosis		Not available	■Available
Bus common connection (Simple converter MR-CM compatible)		Not supported	Not supported
Safety observation function	STO	Supported	Supported
	SS1	Supported *2*3	Supported *3
	SS2	Supported *3	■Not supported
	SOS		
	SLS		
	SBC		
	SSM		

*1 For details on the coasting distance, refer to the following manual.
MR-J5 User's Manual (Hardware)

*2 It is supported with a combination of the MR-J4-_B4-RJ and MR-D30.

*3 It is supported when used with the MR-J3-D05.

Multi-axis servo amplifier

Point

Changed descriptions are shown with "■".

Item	MR-J4W_-_B		MR-J5W_-_B	
Capacity range	MR-J4W2-22B	200 W (A-axis)/200 W (B-axis)	MR-J5W2-22B	200 W (A-axis)/200 W (B-axis)
	MR-J4W2-44B	400 W (A-axis)/400 W (B-axis)	MR-J5W2-44B	400 W (A-axis)/400 W (B-axis)
	MR-J4W2-77B	750 W (A-axis)/750 W (B-axis)	MR-J5W2-77B	750 W (A-axis)/750 W (B-axis)
	MR-J4W2-1010B	1 kW (A-axis)/1 kW (B-axis)	MR-J5W2-1010B	1 kW (A-axis)/1 kW (B-axis)
	MR-J4W3-222B	200 W (A-axis)/200 W (B-axis)/200 W (C-axis)	MR-J5W3-222B	200 W (A-axis)/200 W (B-axis)/200 W (C-axis)
	MR-J4W3-444B	400 W (A-axis)/400 W (B-axis)/400 W (C-axis)	MR-J5W3-444B	400 W (A-axis)/400 W (B-axis)/400 W (C-axis)
Internal regenerative resistor	Built-in MR-J4W2-22B/-44B 20 W MR-J4W2-77B/-1010B 100 W MR-J4W3-222B/-444B 30 W		Built-in MR-J5W2-22B/-44B 20 W MR-J5W2-77B/-1010B 100 W MR-J5W3-222B/-444B 30 W	
Dynamic brake	Built-in		Built-in ■The coasting distance may vary. *1	
Main circuit power supply	Other than MR-J4W2-1010B 3-phase or 1-phase 200 to 240 V AC, 50 Hz/60 Hz MR-J4W2-1010B 3-phase 200 to 240 V AC, 50 Hz/60 Hz		Other than MR-J5W2-1010B 3-phase or 1-phase 200 to 240 V AC, 50 Hz/60 Hz MR-J5W2-1010B 3-phase 200 to 240 V AC, 50 Hz/60 Hz	
Control circuit power supply	1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz		1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz	
Interface power supply	External supply required (24 V DC)		External supply required (24 V DC)	
Auto tuning	Auto tuning: 40 stages One-touch tuning		One-touch tuning ■Quick tuning Auto tuning: 40 stages	
Number of DIO points (except for EM2)	[MR-J4W2-_B] DI: 6 DO: 4 [MR-J4W3-_B] DI: 9 DO: 5		[MR-J5W2-_B] ■DI: 7 DO: 4 [MR-J5W3-_B] DI: 9 DO: 5	
Encoder pulse output	A/B-phase (differential line driver) × 2 axes		A/B-phase (differential line driver) × 2 axes	
DIO interface	Input/output: Sink/Source		Input/output: Sink/Source	
Analog monitor output	Not supported		Not supported	
Servo parameter setting method	MR Configurator2 Controller		MR Configurator2 Controller	
Rotary servo motor (Encoder resolution)	HG series (22 bits)		■HK series (26 bits)	
LED display	7-segment 3-digit		7-segment 3-digit	
Advanced vibration suppression control II	Available		Available	
Adaptive filter II	Available		Available	
Notch filter	Available (5 pcs.)		Available (5 pcs.)	
Tough drive	Available		Available	
Drive recorder	Available		Available	
Forced stop	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.		EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	
Machine diagnosis	Ball screw diagnosis		Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis	
Disconnection detection	Not available		■Available (input open-phase detection, output open-phase detection)	
Encoder communication diagnosis	Not available		■Available	

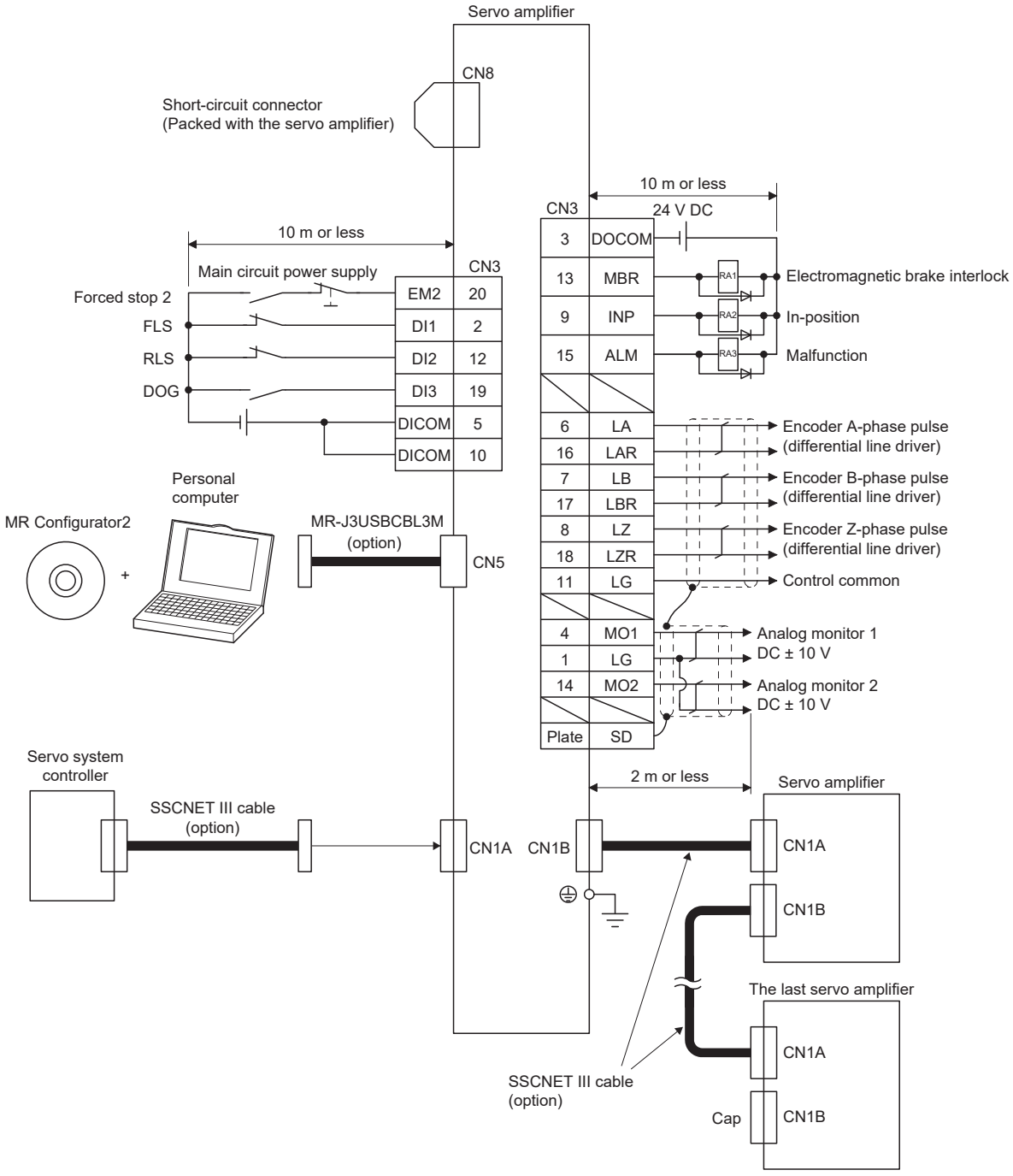
Item		MR-J4W_-_B	MR-J5W_-_B
Bus common connection (Simple converter MR-CM compatible)		Not supported	■Supported
Safety sub-function	STO	Supported	Supported
	SS1	Supported *2	Supported *2
	SS2	Not supported	Not supported
	SOS		
	SLS		
	SBC		
	SSM		

*1 For details on the coasting distance, refer to the following manual.
MR-J5 User's Manual (Hardware)

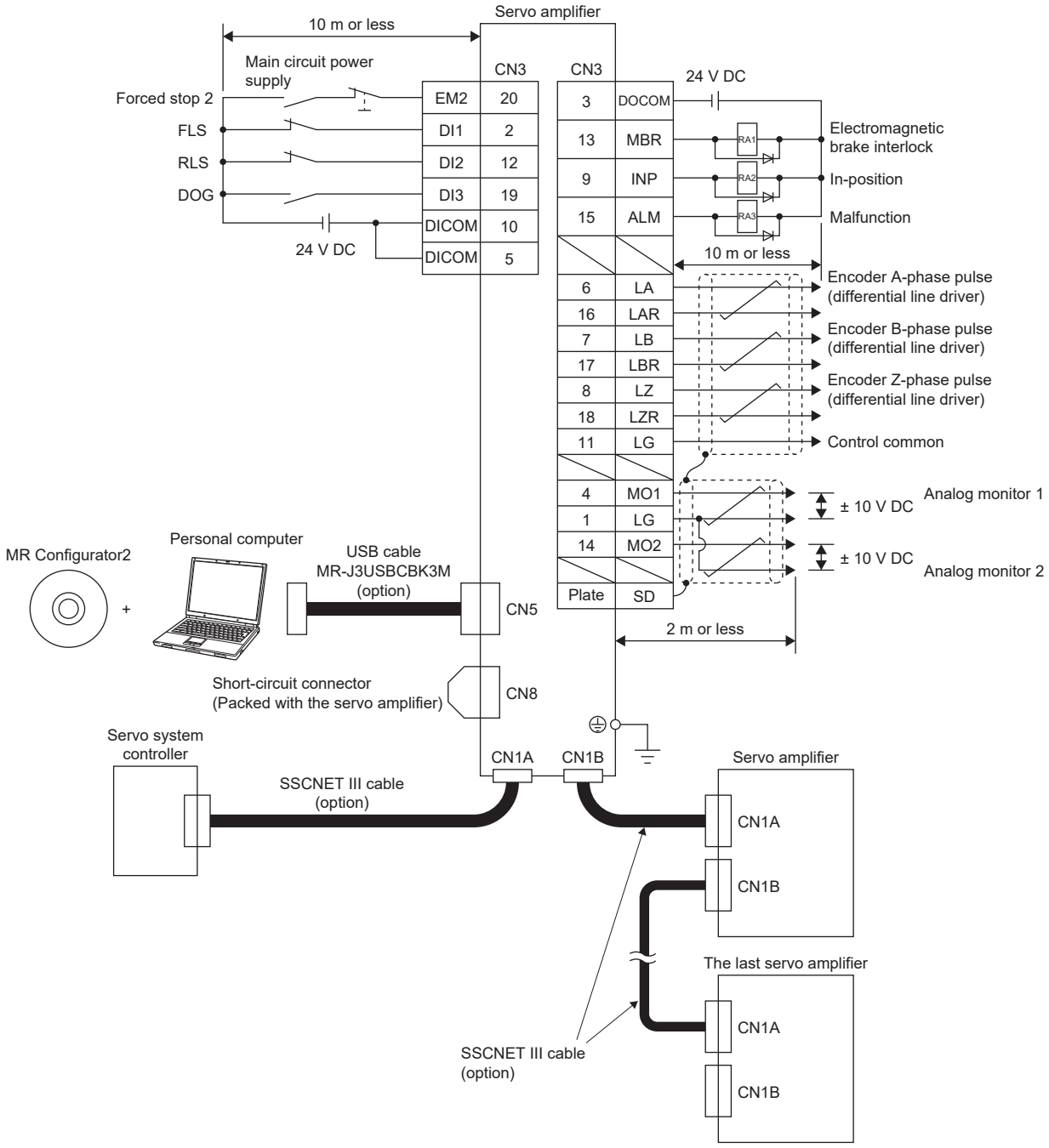
*2 It is supported when used with the MR-J3-D05.

10.2 Comparison of Standard Connection Diagrams

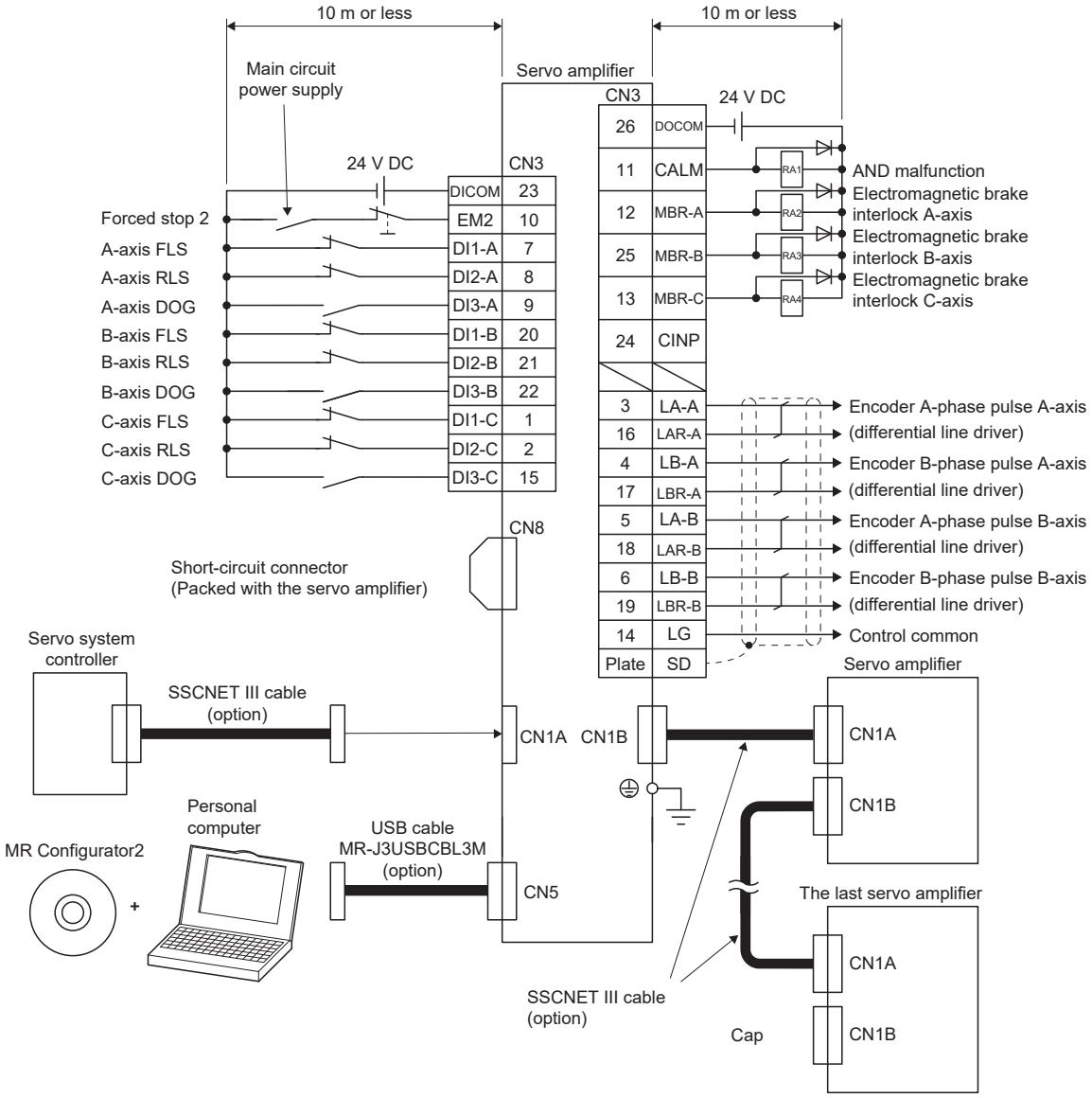
MR-J4-_B_



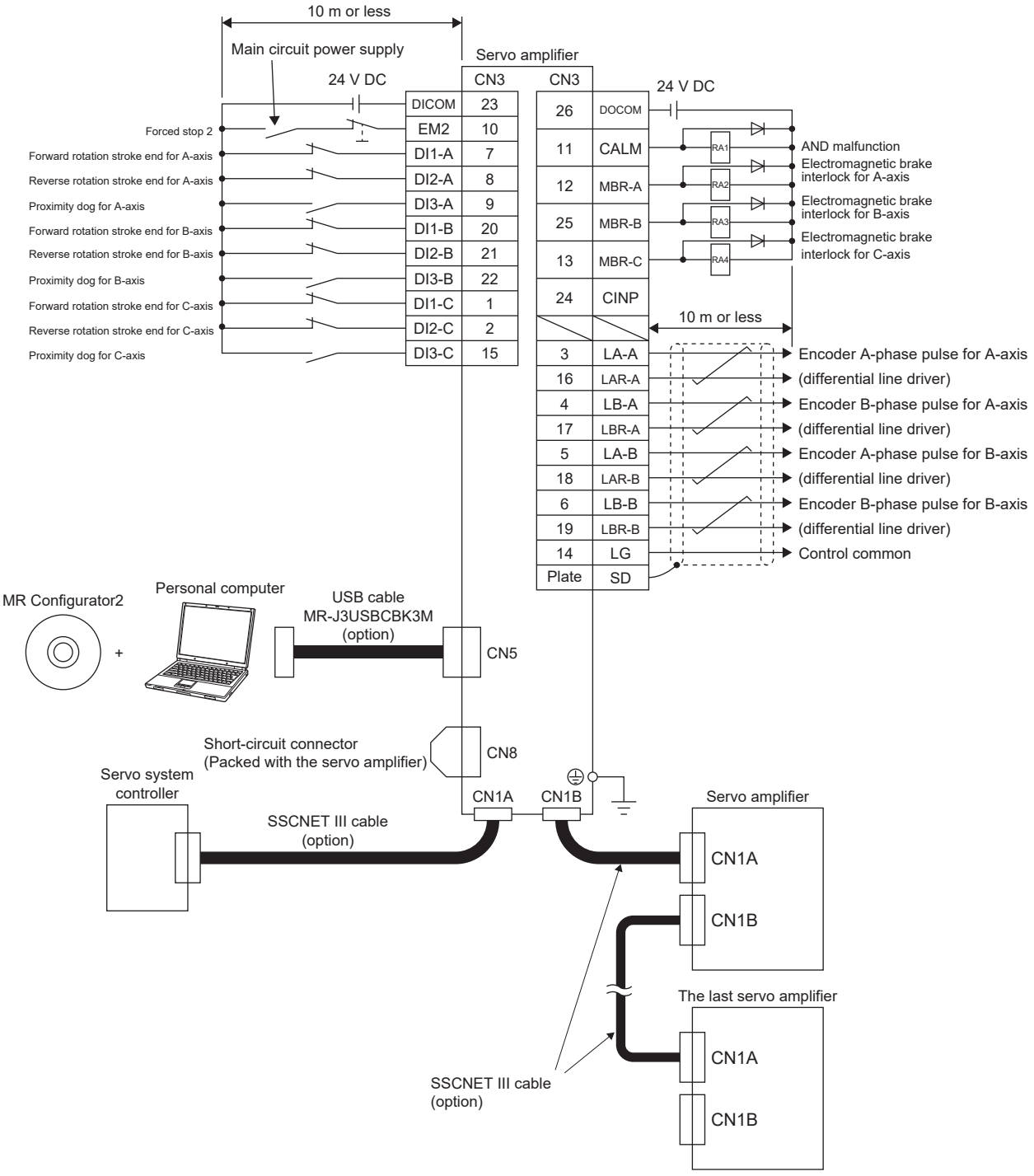
MR-J5-_B_


Servo amplifier
10 m or less
Main circuit power supply
CN3
CN3
24 V DC
Forced stop 2
FLS
RLS
DOG
EM2 20
DI1 2
DI2 12
DI3 19
DICOM 10
DICOM 5
24 V DC
3 DOCOM
13 MBR
9 INP
15 ALM
Electromagnetic brake interlock
In-position
Malfunction
RA1
RA2
RA3
10 m or less
6 LA
16 LAR
7 LB
17 LBR
8 LZ
18 LZR
11 LG
Encoder A-phase pulse (differential line driver)
Encoder B-phase pulse (differential line driver)
Encoder Z-phase pulse (differential line driver)
Control common
4 MO1
1 LG
14 MO2
Plate SD
± 10 V DC
Analog monitor 1
± 10 V DC
Analog monitor 2
2 m or less
MR Configurator2
+
Personal computer
USB cable
MR-J3USBCBK3M
(option)
CN5
Short-circuit connector
(Packed with the servo amplifier)
CN8
Servo system controller
CN1A
CN1B
Servo amplifier
SSCNET III cable
(option)
CN1A
CN1B
The last servo amplifier
CN1A
CN1B
SSCNET III cable
(option)

MR-J4W_-_B


10 m or less
10 m or less
Main circuit power supply
Servo amplifier
CN3
24 V DC
24 V DC
CN3
DICOM 23
EM2 10
DI1-A 7
DI2-A 8
DI3-A 9
DI1-B 20
DI2-B 21
DI3-B 22
DI1-C 1
DI2-C 2
DI3-C 15
Forced stop 2
A-axis FLS
A-axis RLS
A-axis DOG
B-axis FLS
B-axis RLS
B-axis DOG
C-axis FLS
C-axis RLS
C-axis DOG
CN3
26 DOCOM
11 CALM
12 MBR-A
25 MBR-B
13 MBR-C
24 CINP
RA1
RA2
RA3
RA4
AND malfunction
Electromagnetic brake interlock A-axis
Electromagnetic brake interlock B-axis
Electromagnetic brake interlock C-axis
3 LA-A
16 LAR-A
4 LB-A
17 LBR-A
5 LA-B
18 LAR-B
6 LB-B
19 LBR-B
14 LG
Plate SD
Encoder A-phase pulse A-axis (differential line driver)
Encoder B-phase pulse A-axis (differential line driver)
Encoder A-phase pulse B-axis (differential line driver)
Encoder B-phase pulse B-axis (differential line driver)
Control common
CN8
Short-circuit connector (Packed with the servo amplifier)
Servo system controller
SSCNET III cable (option)
CN1A
CN1B
Servo amplifier
CN1A
CN1B
Personal computer
MR Configurator2
USB cable MR-J3USBCBL3M (option)
CN5
The last servo amplifier
CN1A
CN1B
SSCNET III cable (option)
Cap

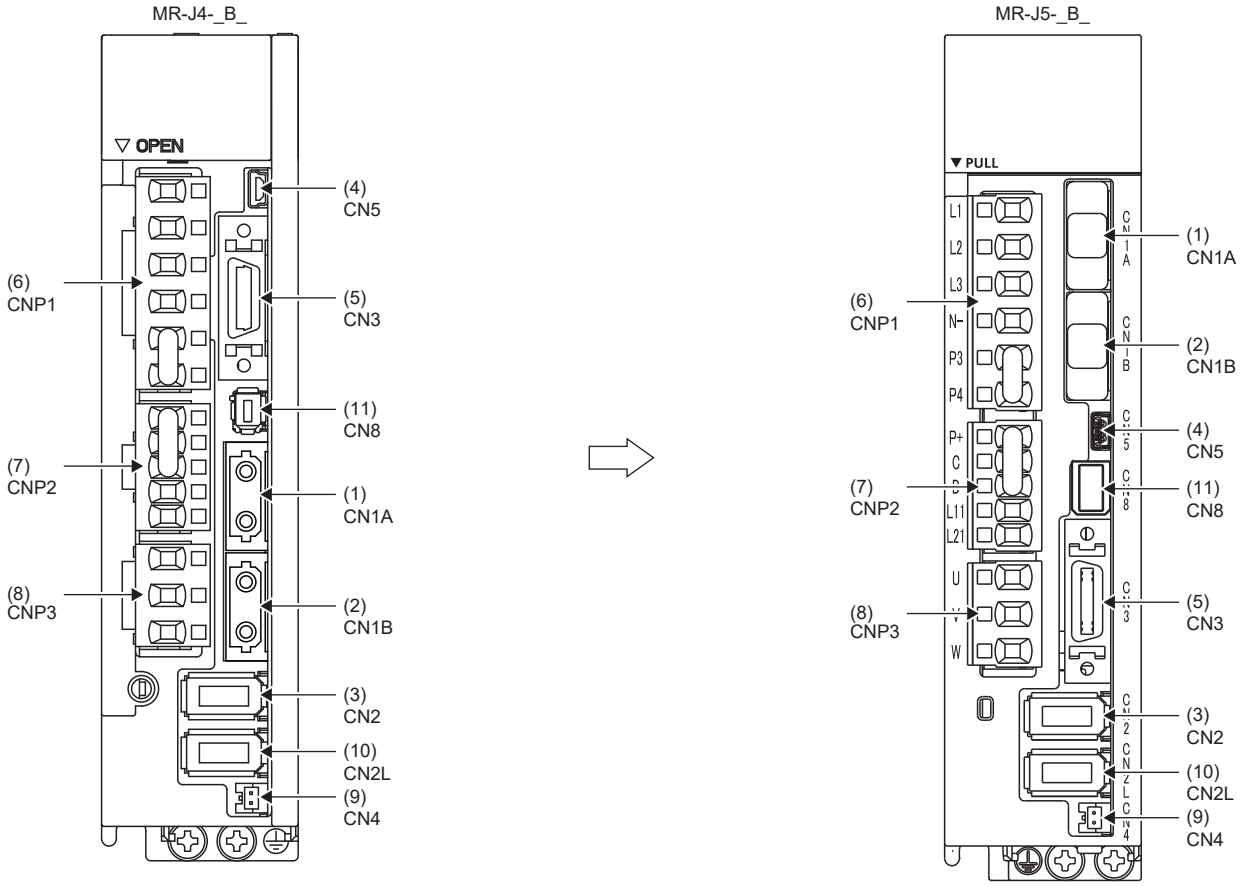
MR-J5W_-_B


10 m or less
Main circuit power supply
24 V DC
Servo amplifier
CN3
CN3
24 V DC
DICOM 23
EM2 10
DI1-A 7
DI2-A 8
DI3-A 9
DI1-B 20
DI2-B 21
DI3-B 22
DI1-C 1
DI2-C 2
DI3-C 15
26 DOCOM
11 CALM
12 MBR-A
25 MBR-B
13 MBR-C
24 CINP
Forced stop 2
Forward rotation stroke end for A-axis
Reverse rotation stroke end for A-axis
Proximity dog for A-axis
Forward rotation stroke end for B-axis
Reverse rotation stroke end for B-axis
Proximity dog for B-axis
Forward rotation stroke end for C-axis
Reverse rotation stroke end for C-axis
Proximity dog for C-axis
RA1
RA2
RA3
RA4
AND malfunction
Electromagnetic brake interlock for A-axis
Electromagnetic brake interlock for B-axis
Electromagnetic brake interlock for C-axis
10 m or less
3 LA-A
16 LAR-A
4 LB-A
17 LBR-A
5 LA-B
18 LAR-B
6 LB-B
19 LBR-B
14 LG
Plate SD
Encoder A-phase pulse for A-axis
(differential line driver)
Encoder B-phase pulse for A-axis
(differential line driver)
Encoder A-phase pulse for B-axis
(differential line driver)
Encoder B-phase pulse for B-axis
(differential line driver)
Control common
MR Configurator2
+
Personal computer
USB cable
MR-J3USBCBK3M
(option)
CN5
Short-circuit connector
(Packed with the servo amplifier)
CN8
Servo system
controller
CN1A
CN1B
Servo amplifier
SSCNET III cable
(option)
CN1A
CN1B
The last servo amplifier
SSCNET III cable
(option)
CN1A
CN1B

10.3 List of Connectors

From MR-J4-_B_ to MR-J5-_B_

Refer to each servo amplifier manual for details on signals.



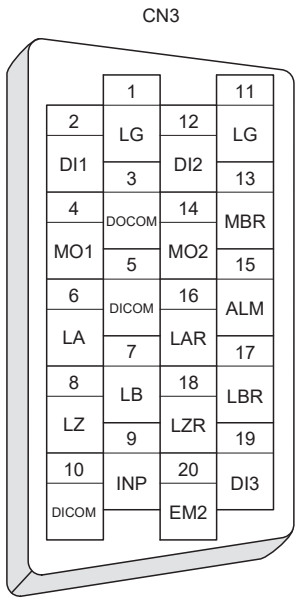
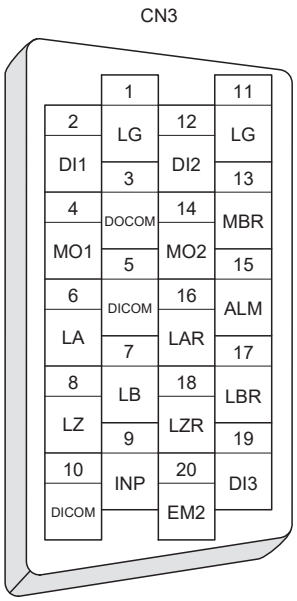
List of connectors

No.	Connector name	Connector number	Precautions
(1)	SSCNET III cable connector	CN1A	You can use those used before replacement.
(2)	SSCNET III cable connector	CN1B	
(3)	Encoder connector	CN2	
(4)	USB communication connector	CN5	
(5)	I/O signal connector	CN3	
(6)	Main circuit power connector	CNP1	Use the connector that comes with the MR-J5-_B_.
(7)	Control circuit power connector	CNP2	
(8)	Servo motor power output connector	CNP3	
(9)	Battery connector	CN4	You can use those used before replacement. (If using together with a direct drive motor) The battery is not required if the HK series rotary servo motor is used together.
(10)	External encoder connector	CN2L	You can use those used before replacement.
(11)	STO input signal connector	CN8	

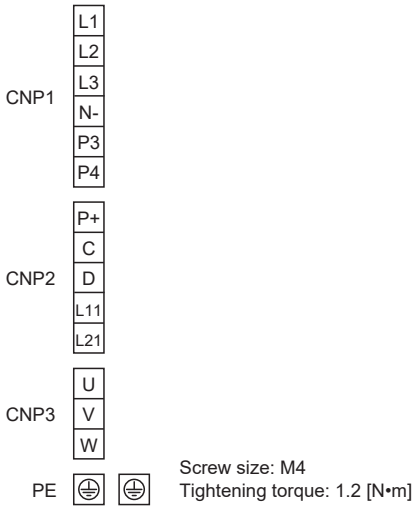
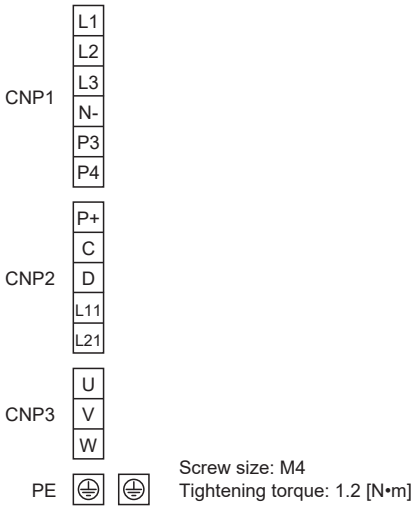
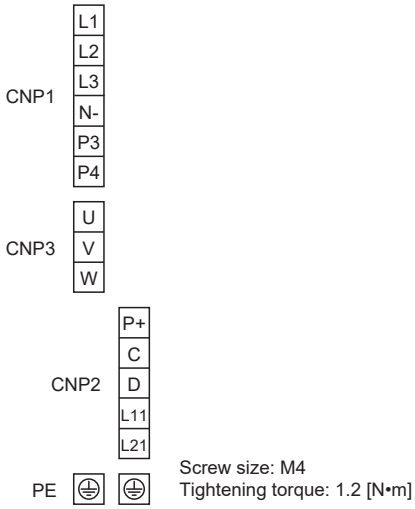
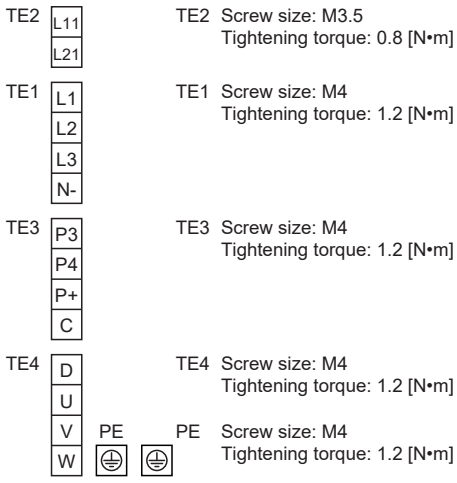
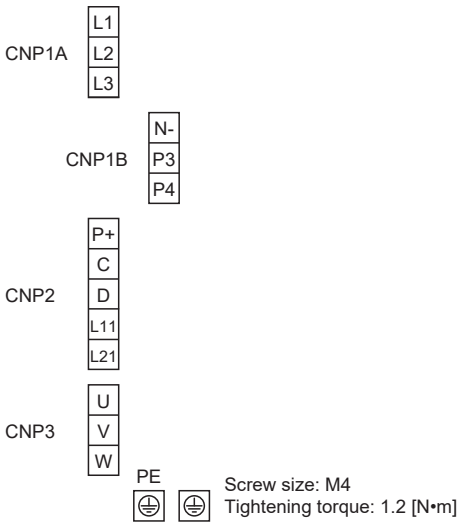
Comparison of control circuit system signals

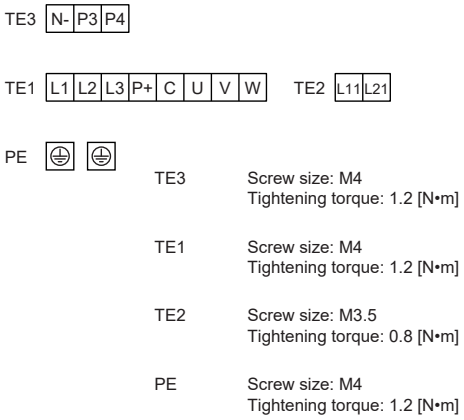
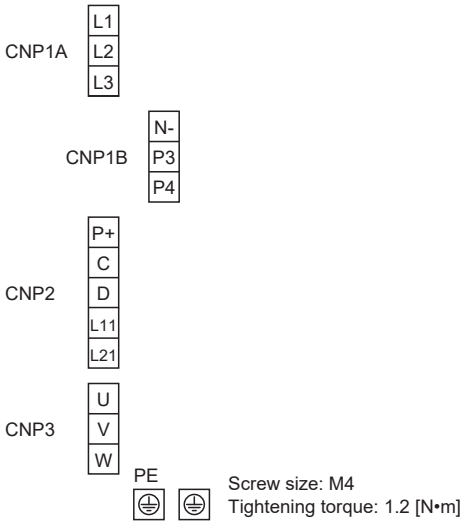
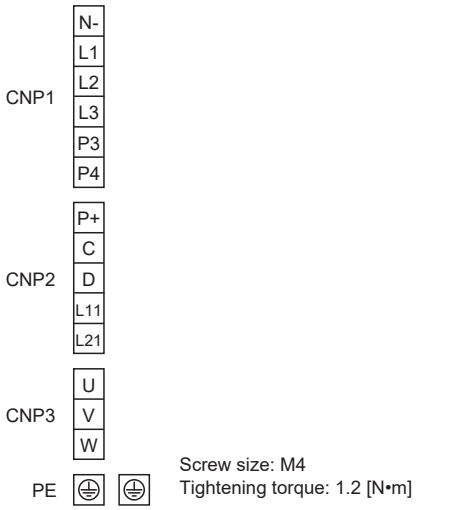
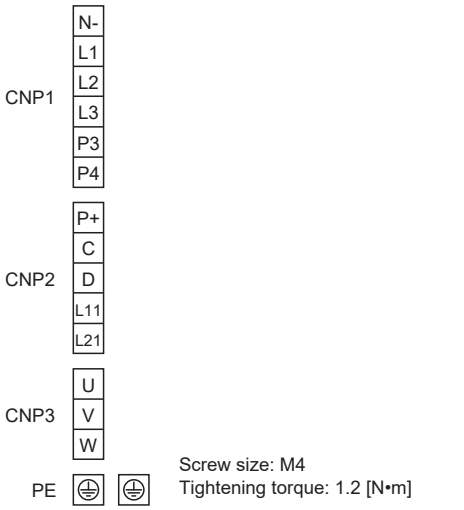
Point

Control circuit system signals are compatible with each other.

MR-J4-_B_		Symbol	MR-J5-_B_	
Connector signal arrangement	Connector pin No.		Connector pin No.	
	CN3-1	LG	CN3-1	
	CN3-2	DI1	CN3-2	
	CN3-3	DOCOM	CN3-3	
	CN3-4	MO1	CN3-4	
	CN3-5	DICOM	CN3-5	
	CN3-6	LA	CN3-6	
	CN3-7	LB	CN3-7	
	CN3-8	LZ	CN3-8	
	CN3-9	INP	CN3-9	
	CN3-10	DICOM	CN3-10	
	CN3-11	LG	CN3-11	
	CN3-12	DI2	CN3-12	
	CN3-13	MBR	CN3-13	
	CN3-14	MO2	CN3-14	
	CN3-15	ALM	CN3-15	
	CN3-16	LAR	CN3-16	
	CN3-17	LBR	CN3-17	
	CN3-18	LZR	CN3-18	
	CN3-19	DI3	CN3-19	
	CN3-20	EM2	CN3-20	
	Plate	SD	Plate	

Comparison of main circuit power supply system signals

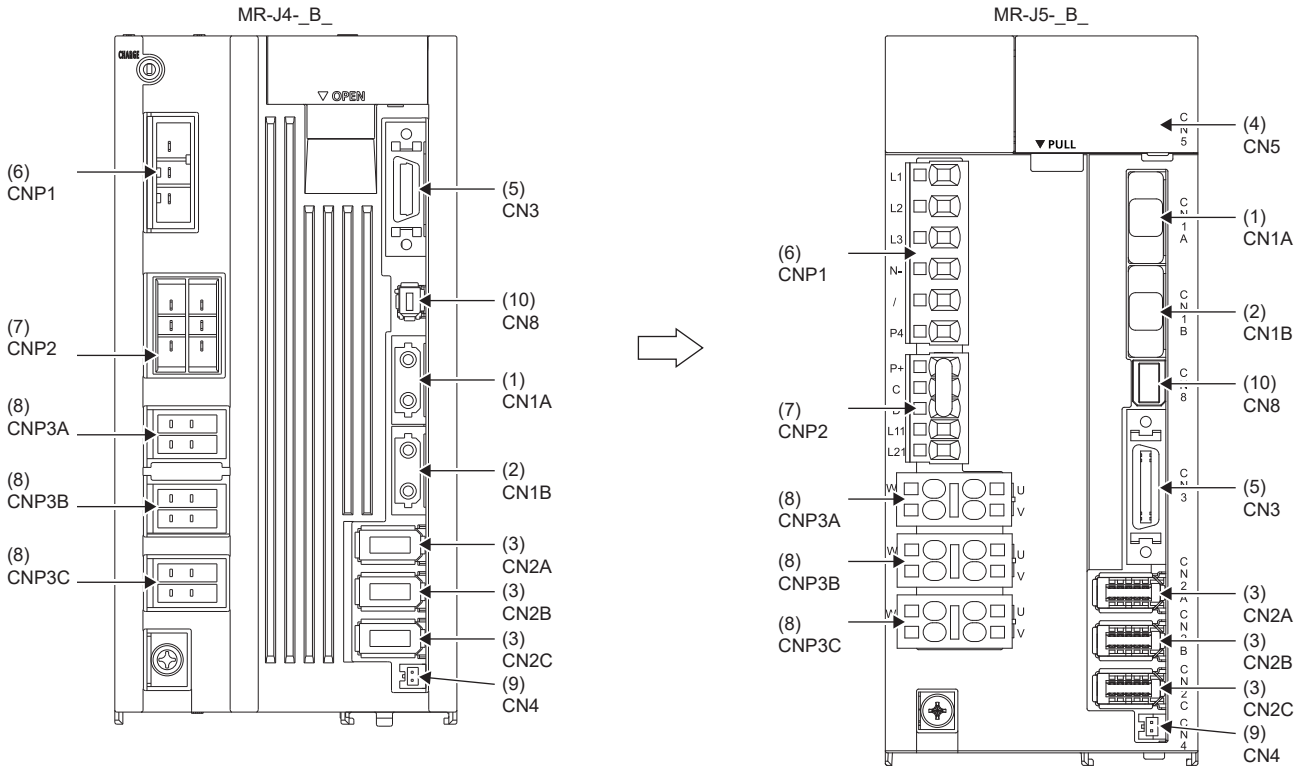
MR-J4-_B_	Main circuit power supply system signal	MR-J5-_B_	Main circuit power supply system signal
MR-J4-10B(-RJ) to MR-J4-200B(-RJ)		MR-J5-10B(-RJ) to MR-J5-350B(-RJ)	
MR-J4-350B(-RJ)			
MR-J4-500B(-RJ)	 TE1, TE2, TE3, and TE4 are terminal blocks.	MR-J5-500B(-RJ)	 CNP1A, CNP1B, CNP2, and CNP3 are connectors.

MR-J4-_B_	Main circuit power supply system signal	MR-J5-_B_	Main circuit power supply system signal
MR-J4-700B(-RJ)	 TE1, TE2, and TE3 are terminal blocks.	MR-J5-700B(-RJ)	 CNP1A, CNP1B, CNP2, and CNP3 are connectors.
MR-J4-60B4(-RJ) to MR-J4-350B4(-RJ)		MR-J5-60B4(-RJ) to MR-J5-350B4(-RJ)	

MR-J4-_B_	Main circuit power supply system signal	MR-J5-_B_	Main circuit power supply system signal
MR-J4-500B4(-RJ)	TE2 L11 L21 TE3 N- P3 P4 TE1 L1 L2 L3 P+ C U V W PE TE2 Screw size: M3.5 Tightening torque: 0.8 [N•m] TE3 Screw size: M4 Tightening torque: 1.2 [N•m] TE1 Screw size: M4 Tightening torque: 1.2 [N•m] PE Screw size: M4 Tightening torque: 1.2 [N•m] TE1, TE2, and TE3 are terminal blocks.	MR-J5-500B4(-RJ) MR-J5-700B4(-RJ)	CNP2 (Front): N- P3 P4 PE (Front) Screw size: M4 Tightening torque: 1.2 [N•m] CNP1 (Bottom): L1 L2 L3 L11 L21 P+ D C CNP3 (Bottom): U V W CNP1, CNP2, and CNP3 are connectors.
MR-J4-700B4(-RJ)	TE3 N- P3 P4 TE1 L1 L2 L3 P+ C U V W TE2 L11 L21 PE TE3 Screw size: M4 Tightening torque: 1.2 [N•m] TE1 Screw size: M4 Tightening torque: 1.2 [N•m] TE2 Screw size: M3.5 Tightening torque: 0.8 [N•m] PE Screw size: M4 Tightening torque: 1.2 [N•m] TE1, TE2, and TE3 are terminal blocks.		

From MR-J4W-_B_ to MR-J5W-_B_

Refer to each servo amplifier manual for details on signals.



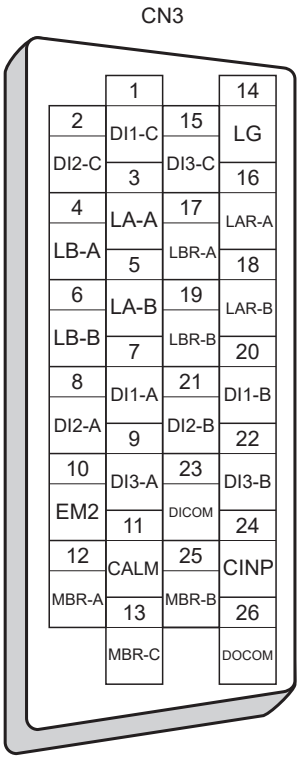
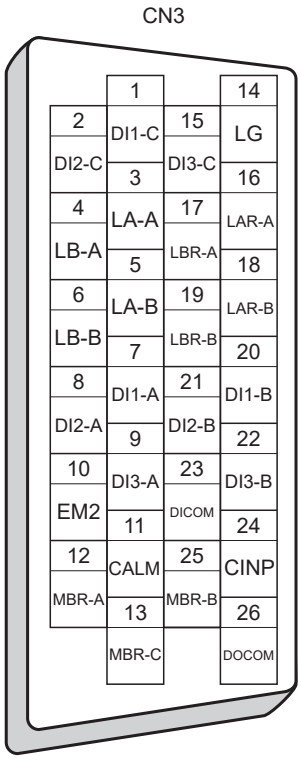
List of connectors

No.	Connector name	Connector number	Precautions
(1)	SSCNET III cable connector	CN1A	You can use those used before replacement.
(2)	SSCNET III cable connector	CN1B	
(3)	Encoder connector	CN2A CN2B CN2C	
(4)	USB communication connector	CN5	
(5)	I/O signal connector	CN3	
(6)	Main circuit power connector	CNP1	Use the connector that comes with the MR-J5W_-_B.
(7)	Control circuit power connector	CNP2	
(8)	Servo motor power output connector	CNP3A CNP3B CNP3C	
(9)	Battery connector	CN4	You can use those used before replacement. (If using together with a direct drive motor) The battery is not required if the HK series rotary servo motor is used together.
(10)	STO input signal connector	CN8	You can use those used before replacement.

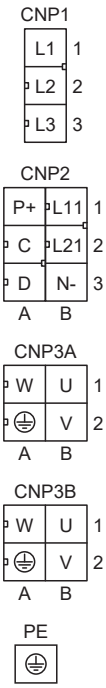
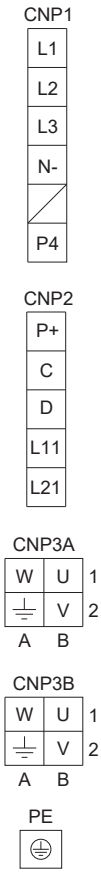
Comparison of control circuit system signals

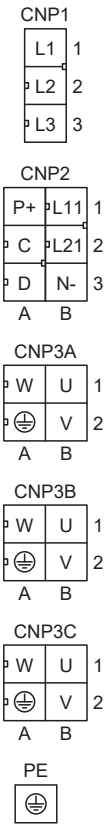
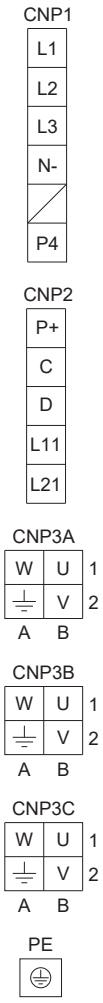
Point

Control circuit system signals are compatible with each other.

MR-J4W_-_B		Symbol	MR-J5W_-_B	
Connector signal arrangement	Connector pin No.		Connector pin No.	Connector signal arrangement
	CN3-1	DI1-C	CN3-1	
	CN3-2	DI2-C	CN3-2	
	CN3-3	LA-A	CN3-3	
	CN3-4	LB-A	CN3-4	
	CN3-5	LA-B	CN3-5	
	CN3-6	LB-B	CN3-6	
	CN3-7	DI1-A	CN3-7	
	CN3-8	DI2-A	CN3-8	
	CN3-9	DI3-A	CN3-9	
	CN3-10	EM2	CN3-10	
	CN3-11	CALM	CN3-11	
	CN3-12	MBR-A	CN3-12	
	CN3-13	MBR-C	CN3-13	
	CN3-14	LG	CN3-14	
	CN3-15	DI3-C	CN3-15	
	CN3-16	LAR-A	CN3-16	
	CN3-17	LBR-A	CN3-17	
	CN3-18	LAR-B	CN3-18	
	CN3-19	LBR-B	CN3-19	
	CN3-20	DI1-B	CN3-20	
	CN3-21	DI2-B	CN3-21	
	CN3-22	DI3-B	CN3-22	
	CN3-23	DICOM	CN3-23	
	CN3-24	CINP	CN3-24	
	CN3-25	MBR-B	CN3-25	
	CN3-26	DOCOM	CN3-26	

Comparison of main circuit power supply system signals

MR-J4W_-_B	Main circuit power supply signal	MR-J5W_-_B	Main circuit power supply signal
MR-J4W2-22B/ MR-J4W2-44B/ MR-J4W2-77B/ MR-J4W2-1010B	 Screw size: M4 Tightening torque: 1.2 [N•m]	MR-J5W2-22B/ MR-J5W2-44B/ MR-J5W2-77B/ MR-J5W2-1010B	 Screw size: M4 Tightening torque: 1.2 [N•m]

MR-J4W_-_B	Main circuit power supply signal	MR-J5W_-_B	Main circuit power supply signal
MR-J4W3-222B/ MR-J4W3-444B	 Screw size: M4 Tightening torque: 1.2 [N•m]	MR-J5W3-222B/ MR-J5W3-444B	 Screw size: M4 Tightening torque: 1.2 [N•m]

10.4 Comparison of Servo Amplifier Dimensions and Mounting Dimensions

Point

Changed descriptions are shown with "■".

1-axis servo amplifier 200 V class (7 kW or less)

Comparison of dimensions

The following table shows comparison of the MR-J4-_B_ and MR-J5-_B_ dimensions.

For 1 kW or less, there is no difference in the dimensions of the cabinet mounting surface.

For 2 kW/3.5 kW, the position of the mounting hole was changed from the top center to the top left.

For 5 kW/7 kW, wiring specifications of the power supply were changed from the terminal block to connector connection, and the wiring method is different.

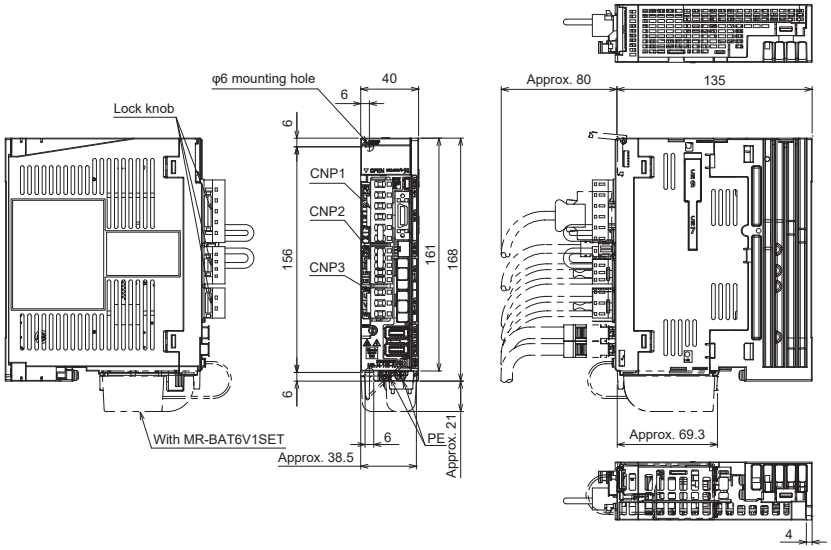
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4-_B_	Model MR-J5-_B_	Height		Width		Depth		Mounting screw pitch	
		J4B	J5B	J4B	J5B	J4B	J5B	J4B	J5B
MR-J4-10B(-RJ)	MR-J5-10B(-RJ)	168	■172	40	40	135	135	156 (Vertical) (2 screws)	156 (Vertical) (2 screws)
MR-J4-20B(-RJ)	MR-J5-20B(-RJ)								
MR-J4-40B(-RJ)	MR-J5-40B(-RJ)					170	■135		
MR-J4-60B(-RJ)	MR-J5-60B(-RJ)						170		
MR-J4-70B(-RJ)	MR-J5-70B(-RJ)			60	60	185	185	156 (Vertical)/42 (Horizontal) (3 screws)	156 (Vertical)/42 (Horizontal) (3 screws)
MR-J4-100B(-RJ)	MR-J5-100B(-RJ)								
MR-J4-200B(-RJ)	MR-J5-200B(-RJ)			90	90	195	195	156 (Vertical)/78 (Horizontal) (3 screws)	156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-350B(-RJ)	MR-J5-350B(-RJ)								
MR-J4-500B(-RJ)	MR-J5-500B(-RJ)	250	250	105	105	200	200	235 (Vertical)/93 (Horizontal) (4 screws)	235 (Vertical)/93 (Horizontal) (4 screws)
MR-J4-700B(-RJ)	MR-J5-700B(-RJ)	300	300	172	■170			285 (Vertical)/160 (Horizontal) (4 screws)	285 (Vertical)/160 (Horizontal) (4 screws)

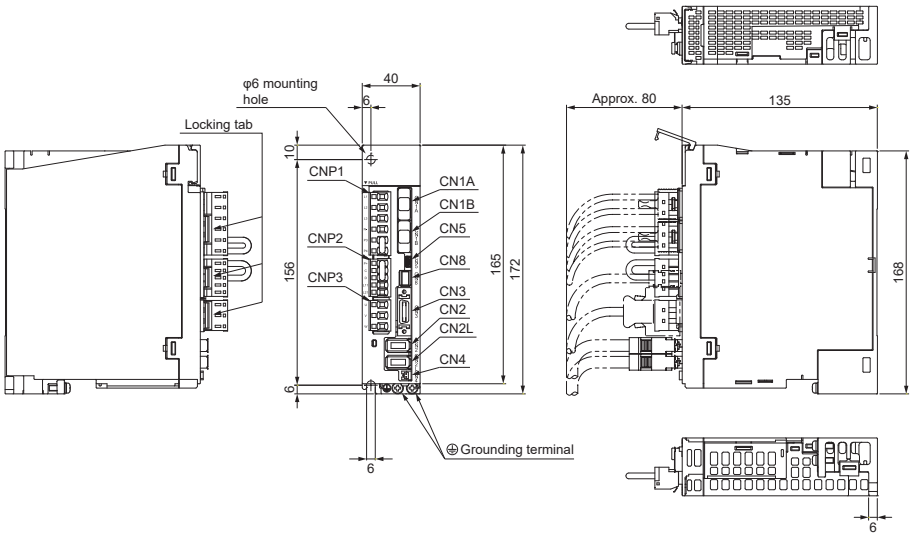
Comparison of dimensions

■Comparison of MR-J4-10B(-RJ)/MR-J4-20B(-RJ) and MR-J5-10B(-RJ)/MR-J5-20B(-RJ)/MR-J5-40B(-RJ)

MR-J4-10B(-RJ)/MR-J4-20B(-RJ)

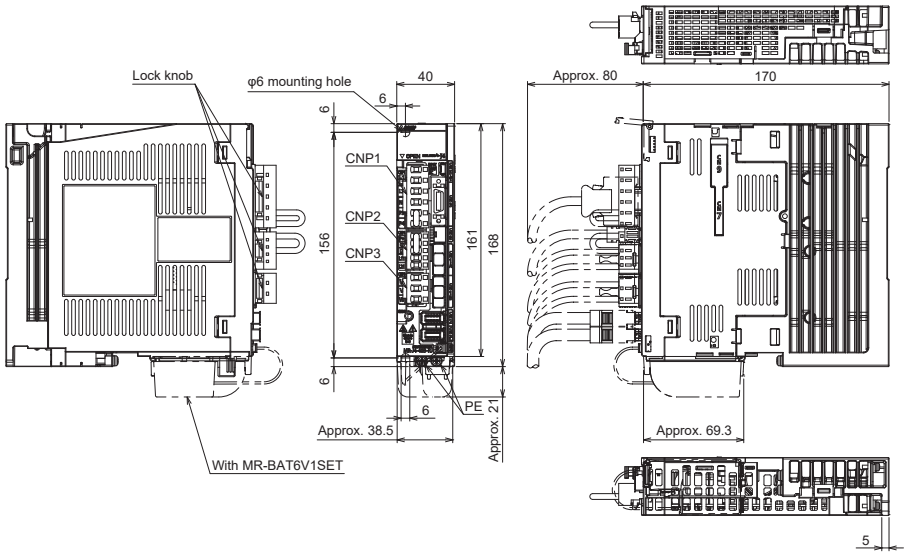


MR-J5-10B(-RJ)/MR-J5-20B(-RJ)/MR-J5-40B(-RJ)

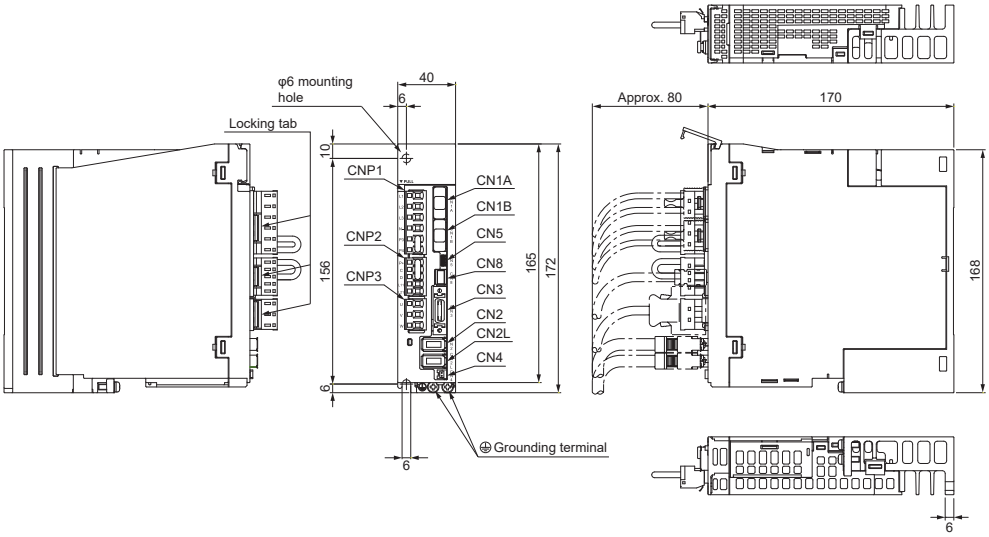


■Comparison of MR-J4-40B(-RJ)/MR-J4-60B(-RJ) and MR-J5-60B(-RJ)

MR-J4-40B(-RJ)/MR-J4-60B(-RJ)

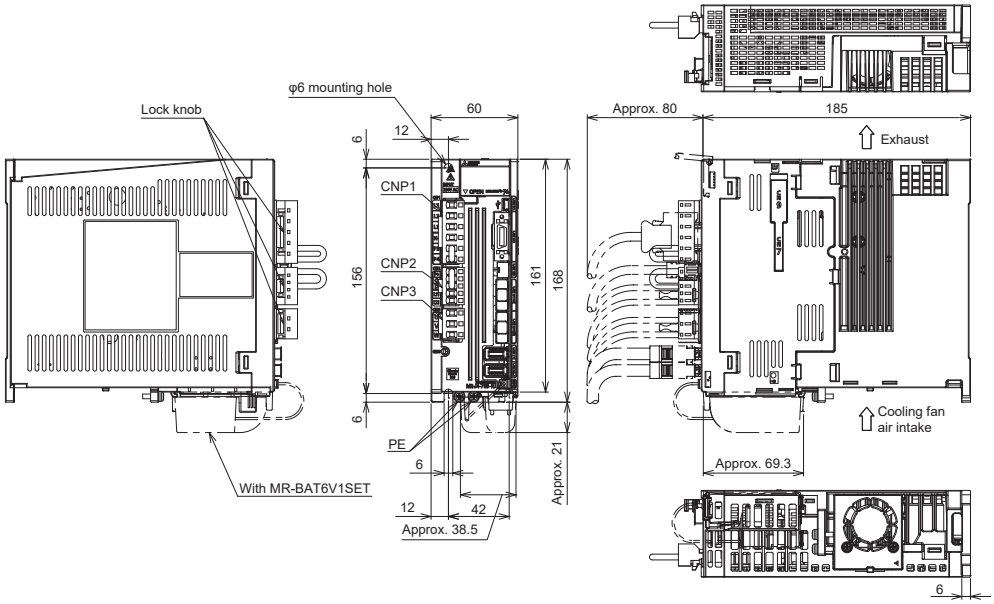


MR-J5-60B(-RJ)

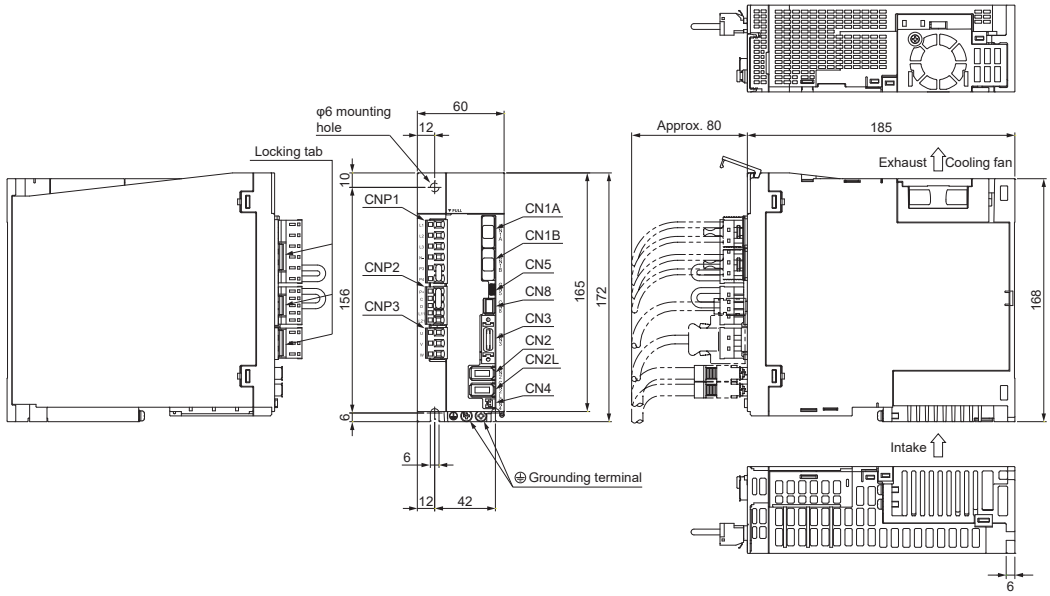


■Comparison of MR-J4-70B(-RJ)/MR-J4-100B(-RJ) and MR-J5-70B(-RJ)/MR-J5-100B(-RJ)

MR-J4-70B(-RJ)/MR-J4-100B(-RJ)

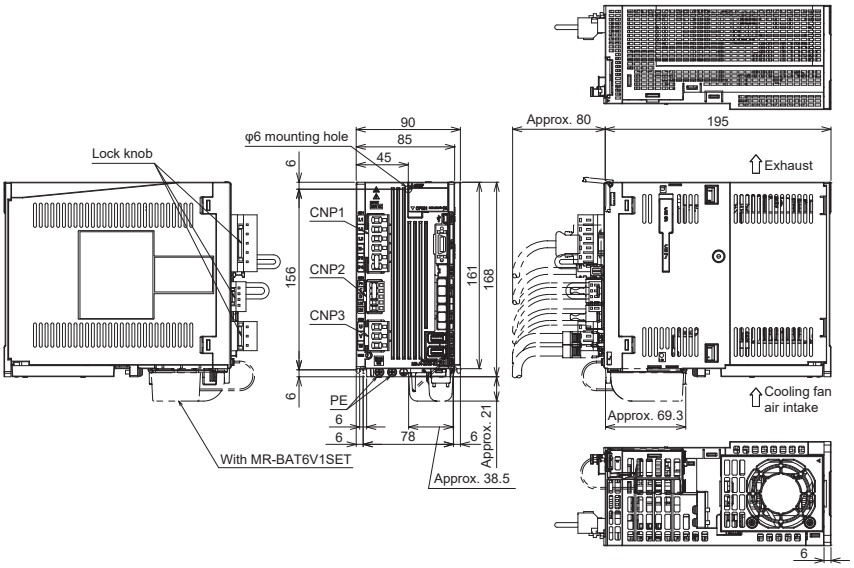


MR-J5-70B(-RJ)/MR-J5-100B(-RJ)

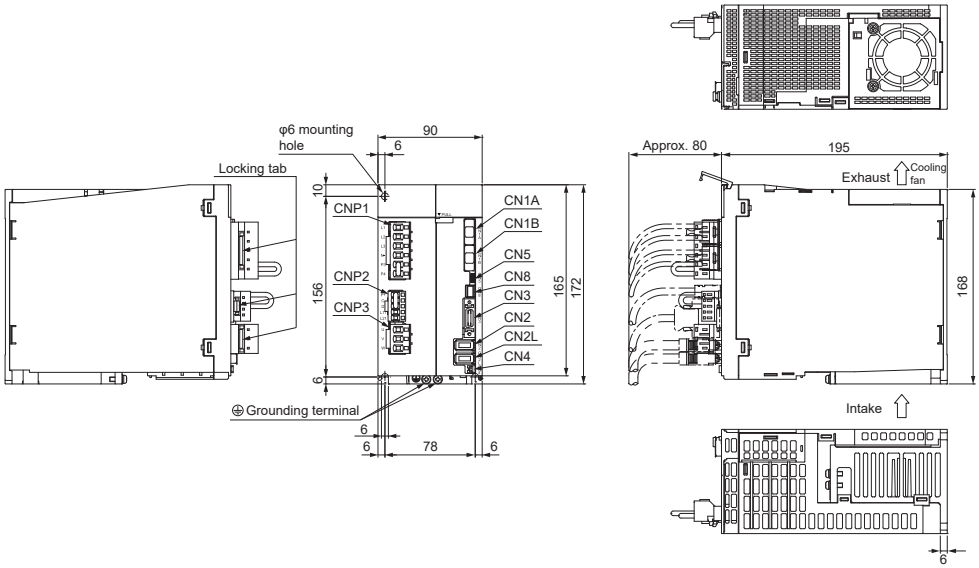


■Comparison of MR-J4-200B(-RJ) and MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

MR-J4-200B(-RJ)

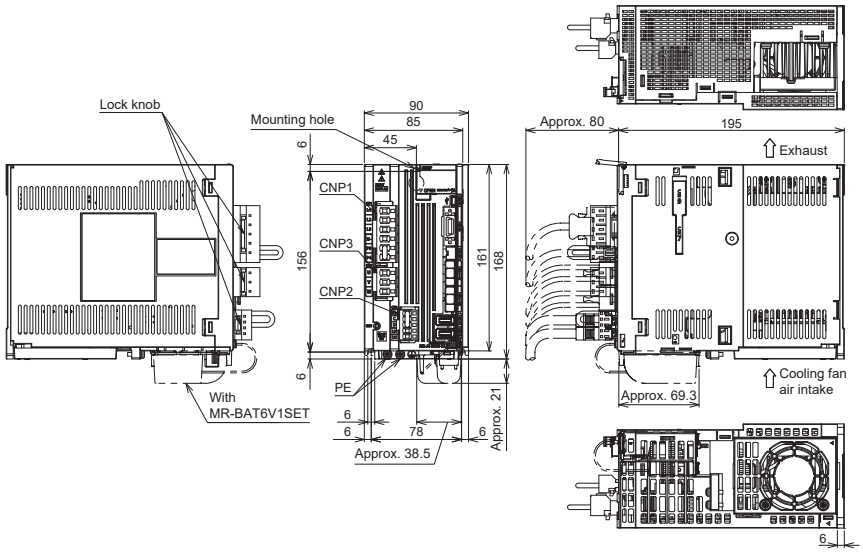


MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

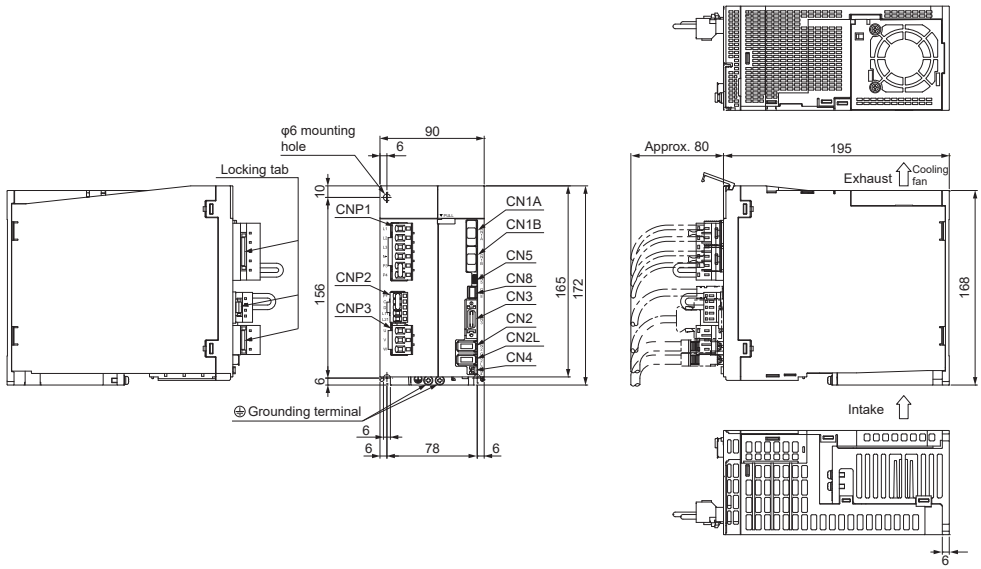


■Comparison of MR-J4-350B(-RJ) and MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

MR-J4-350B(-RJ)

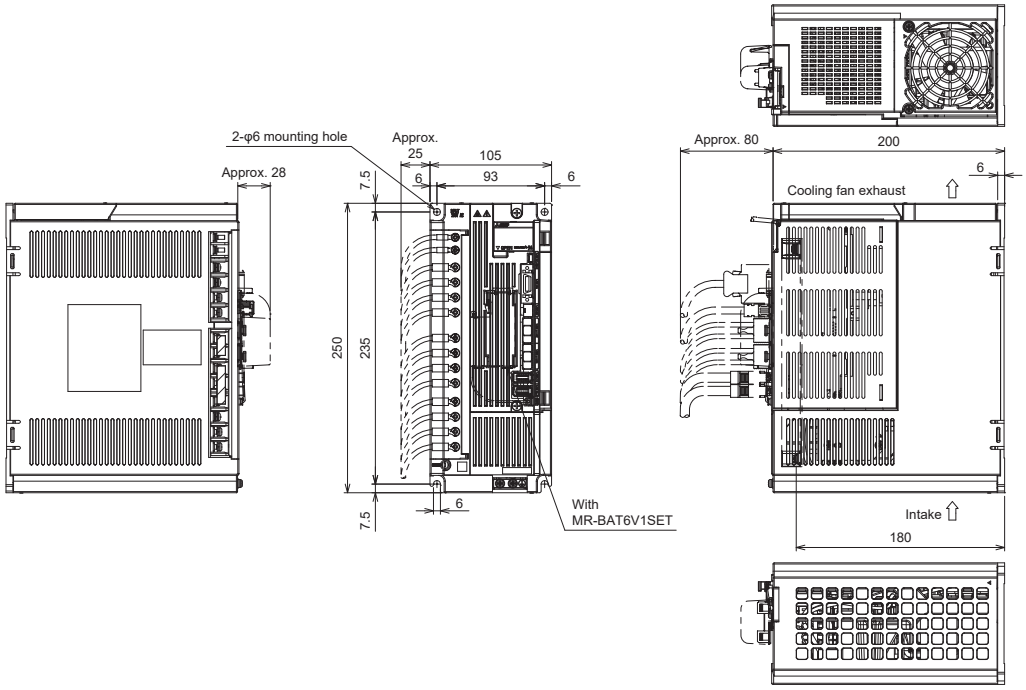


MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

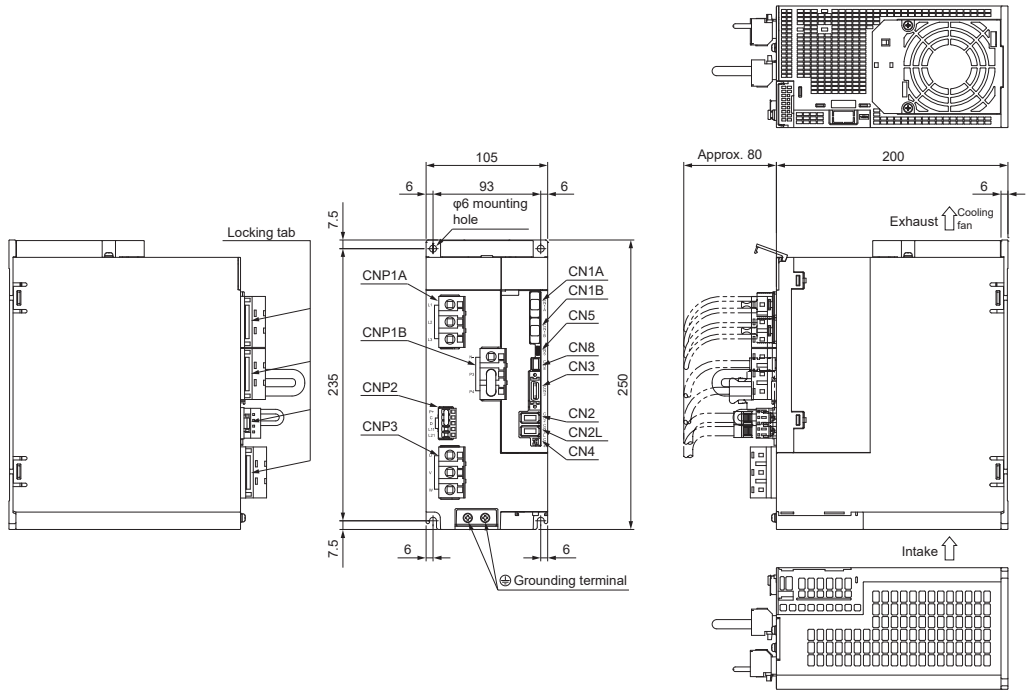


■Comparison of MR-J4-500B(-RJ) and MR-J5-500B(-RJ)

MR-J4-500B(-RJ)

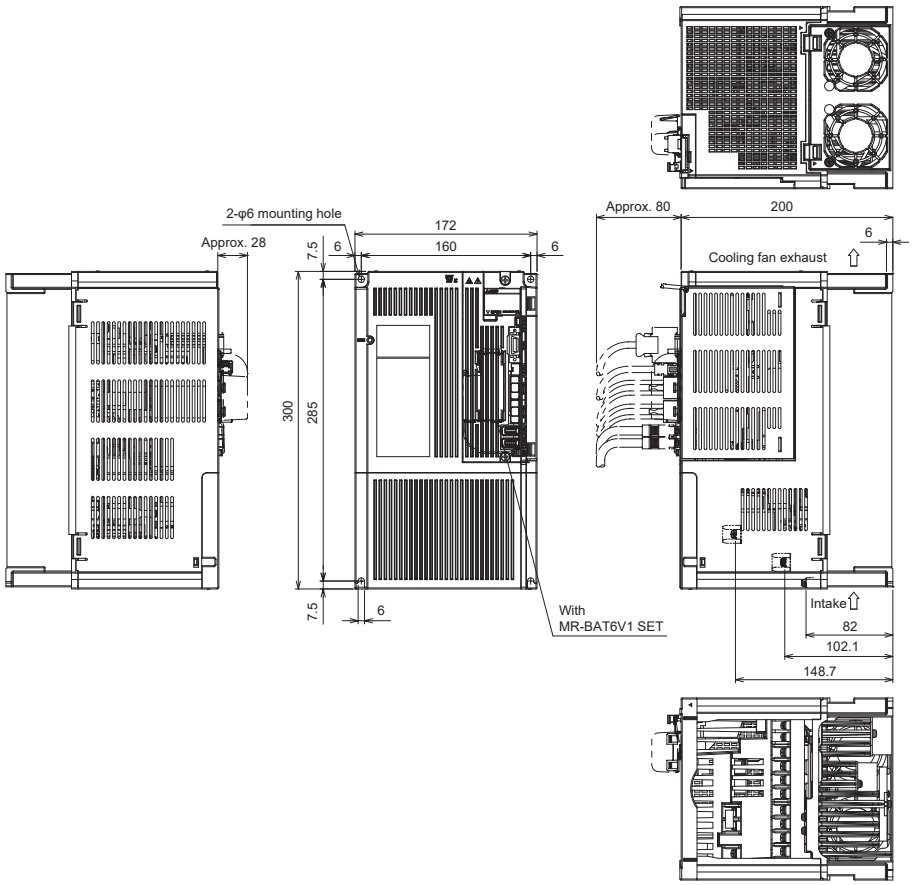


MR-J5-500B(-RJ)

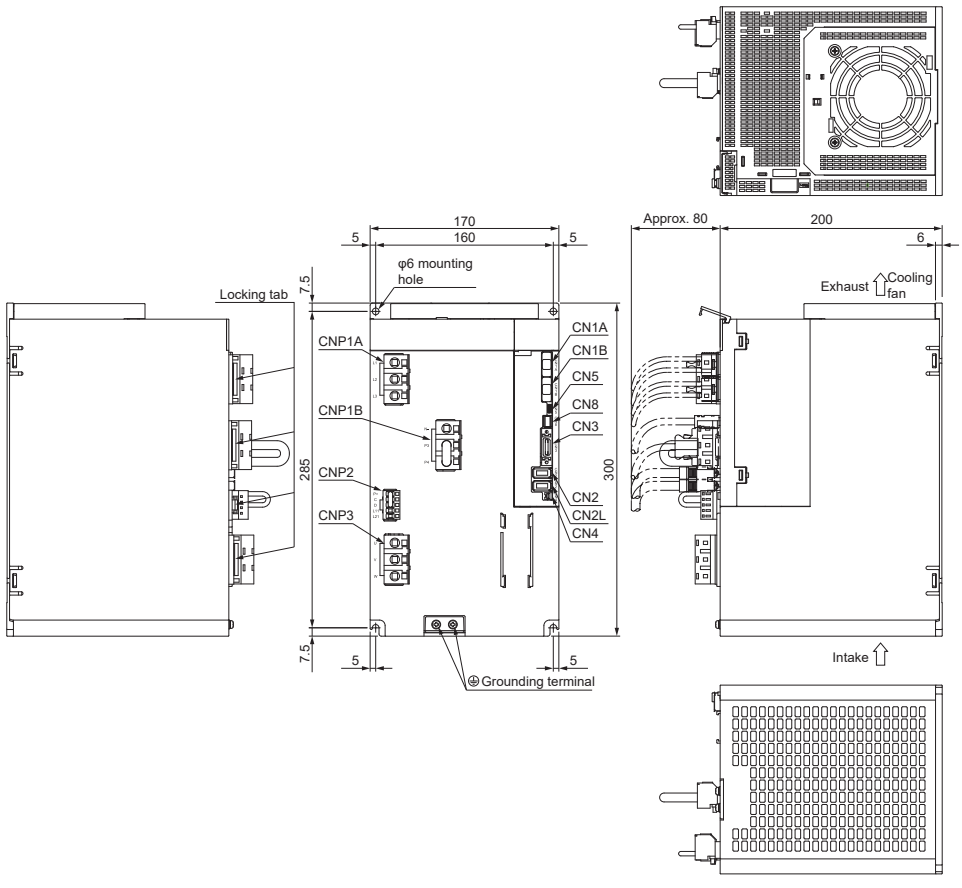


■Comparison of MR-J4-700B(-RJ) and MR-J5-700B(-RJ)

MR-J4-700B(-RJ)



MR-J5-700B(-RJ)



1-axis servo amplifier 400 V class (7 kW or less)

Comparison of dimensions

The following shows comparison of the MR-J4-_B_ and MR-J5-_B_ dimensions.

For 1 kW or less, there is no difference in the dimensions of the cabinet mounting surface.

For 2 kW, the position of the mounting hole was changed from the top center to the top left.

For 3.5 kW, the mounting is not compatible.

For 5 kW, there is no difference in the dimensions of the cabinet mounting surface, but the power supply system wiring is different.

Refer to the following for details on compatibility.

☞ Page 280 Compatibility of installation clearances (only from MR-J4-500B4(-RJ) to MR-J5-500B4(-RJ))

For 7 kW, the mounting is not compatible.

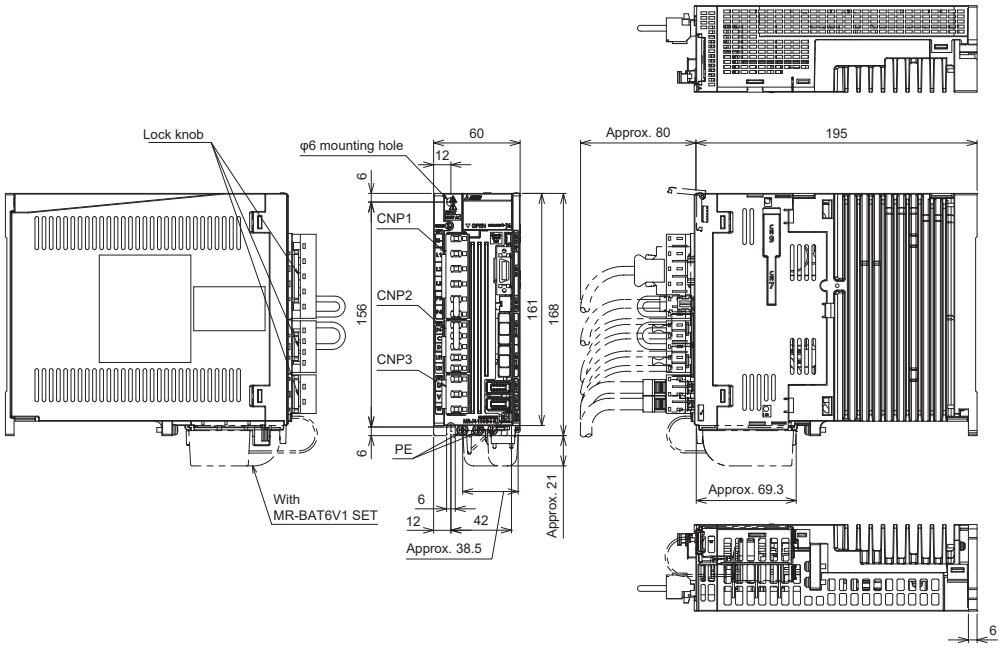
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4-_B_	Model MR-J5-_B_	Height		Width		Depth		Mounting screw pitch	
		J4B	J5B	J4B	J5B	J4B	J5B	J4B	J5B
MR-J4-60B4(-RJ)	MR-J5-60B4(-RJ)	168	■172	60	60	195	195	156 (Vertical)/42 (Horizontal) (3 screws)	156 (Vertical)/42 (Horizontal) (3 screws)
MR-J4-100B4(-RJ)	MR-J5-100B4(-RJ)								
MR-J4-200B4(-RJ)	MR-J5-200B4(-RJ)			90	90			156 (Vertical)/78 (Horizontal) (3 screws)	156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-350B4(-RJ)	MR-J5-350B4(-RJ)	250		105	■90	200	■195	235 (Vertical)/93 (Horizontal) (4 screws)	■156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-500B4(-RJ)	MR-J5-500B4(-RJ)	250	250	130	130	200	200	235 (Vertical)/118 (Horizontal) (4 screws)	235 (Vertical)/118 (Horizontal) (4 screws)
MR-J4-700B4(-RJ)	MR-J5-700B4(-RJ)	300	■250	172	■130			■285 (Vertical)/160 (Horizontal) (4 screws)	■235 (Vertical)/118 (Horizontal) (4 screws)

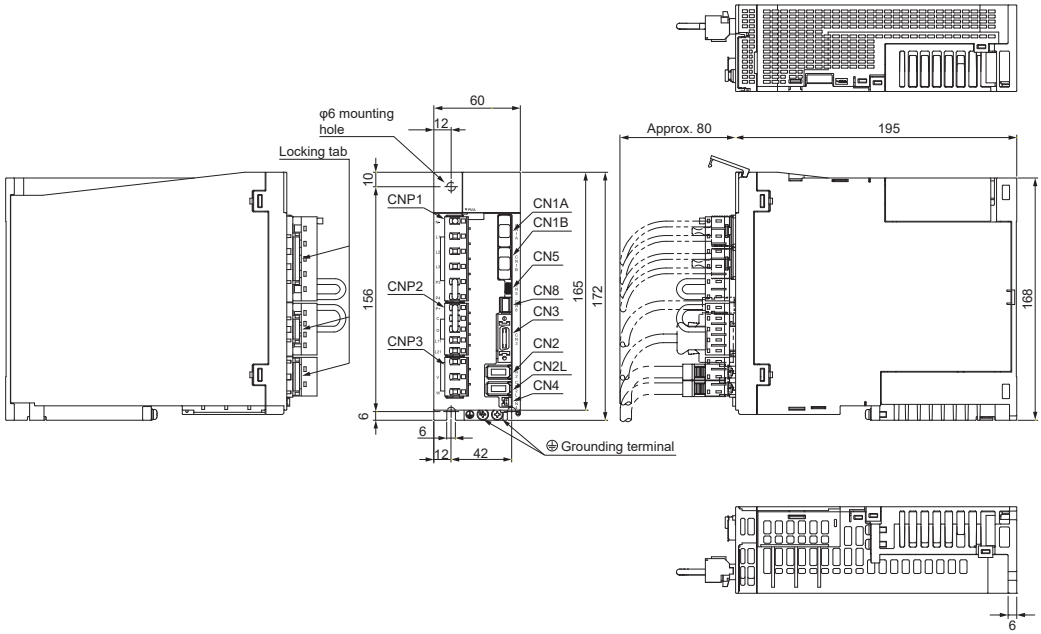
Comparison of dimensions

■Comparison of MR-J4-60B4(-RJ)/MR-J4-100B4(-RJ) and MR-J5-60B4(-RJ)/MR-J5-100B4(-RJ)

MR-J4-60B4(-RJ)/MR-J4-100B4(-RJ)

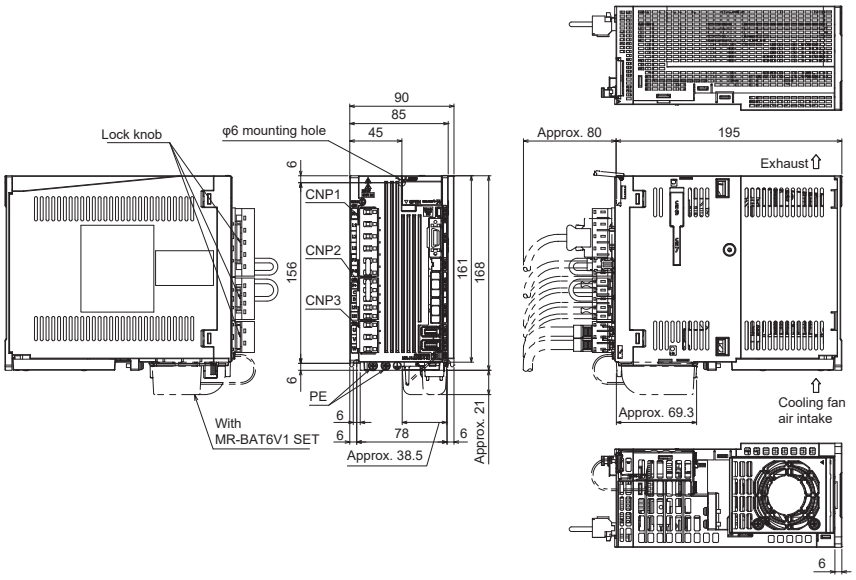


MR-J5-60B4(-RJ)/MR-J5-100B4(-RJ)

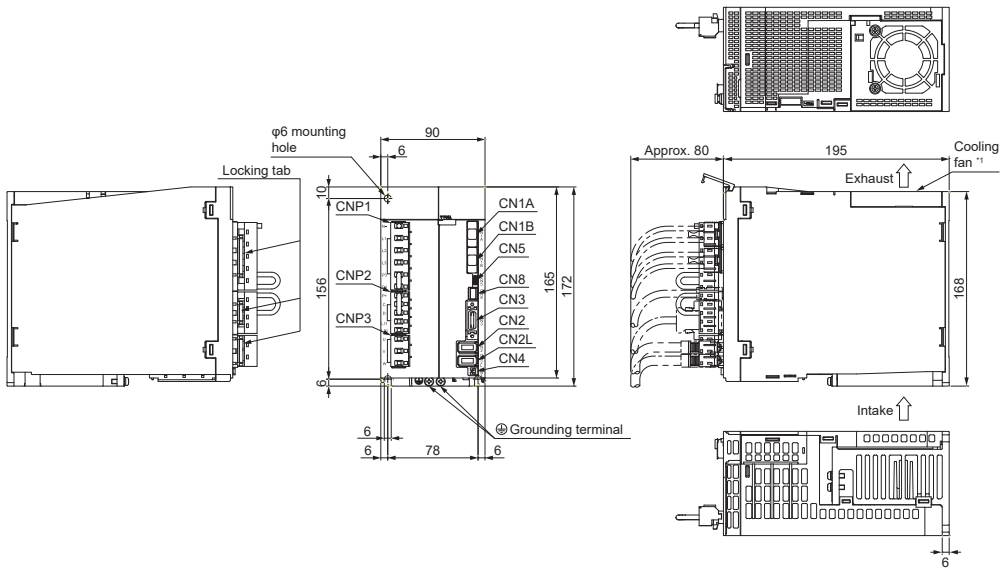


■Comparison of MR-J4-200B4(-RJ) and MR-J5-200B4(-RJ)/MR-J5-350B4(-RJ)

MR-J4-200B4(-RJ)

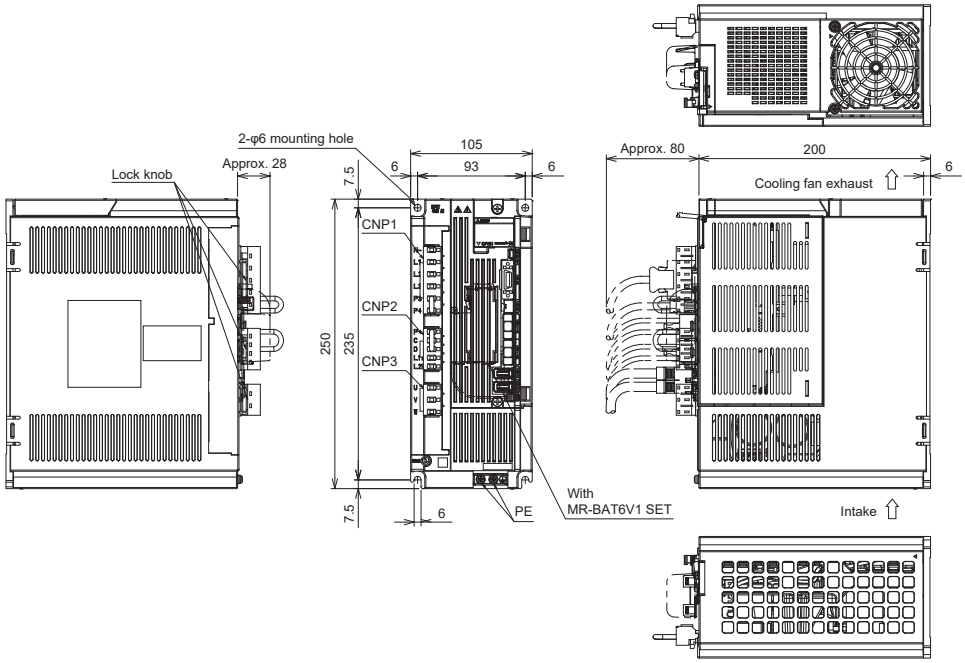


MR-J5-200B4(-RJ)/MR-J5-350B4(-RJ)

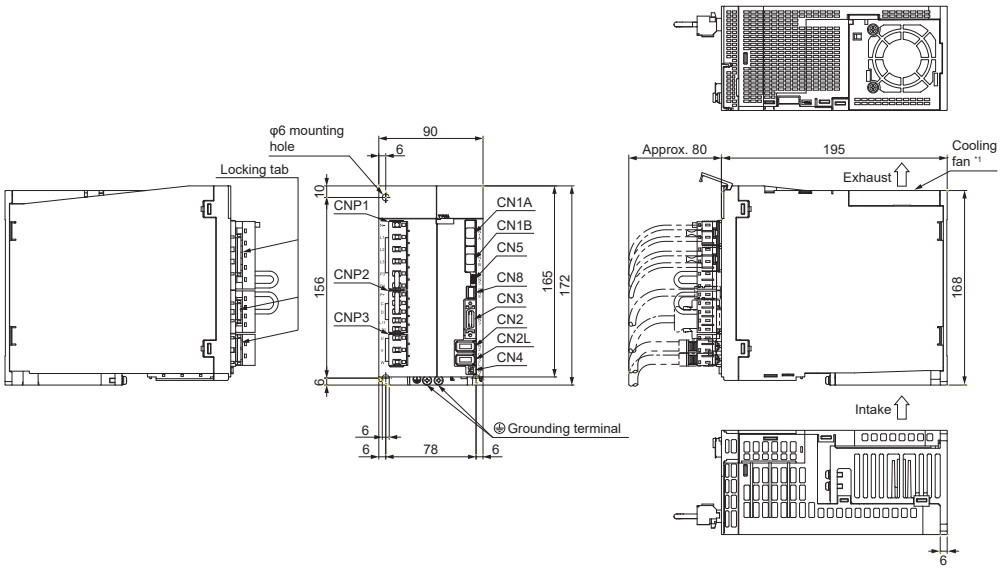


■Comparison of MR-J4-350B4(-RJ) and MR-J5-200B4(-RJ)/MR-J5-350B4(-RJ)

MR-J4-350B4(-RJ)

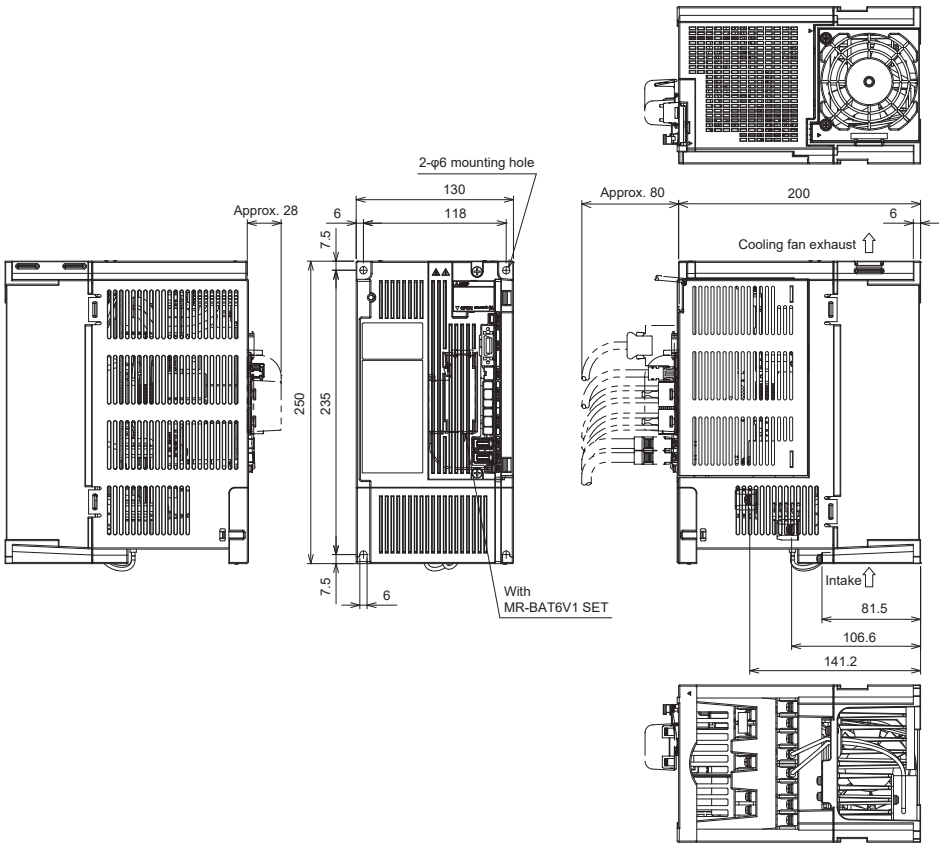


MR-J5-200B4(-RJ)/MR-J5-350B4(-RJ)

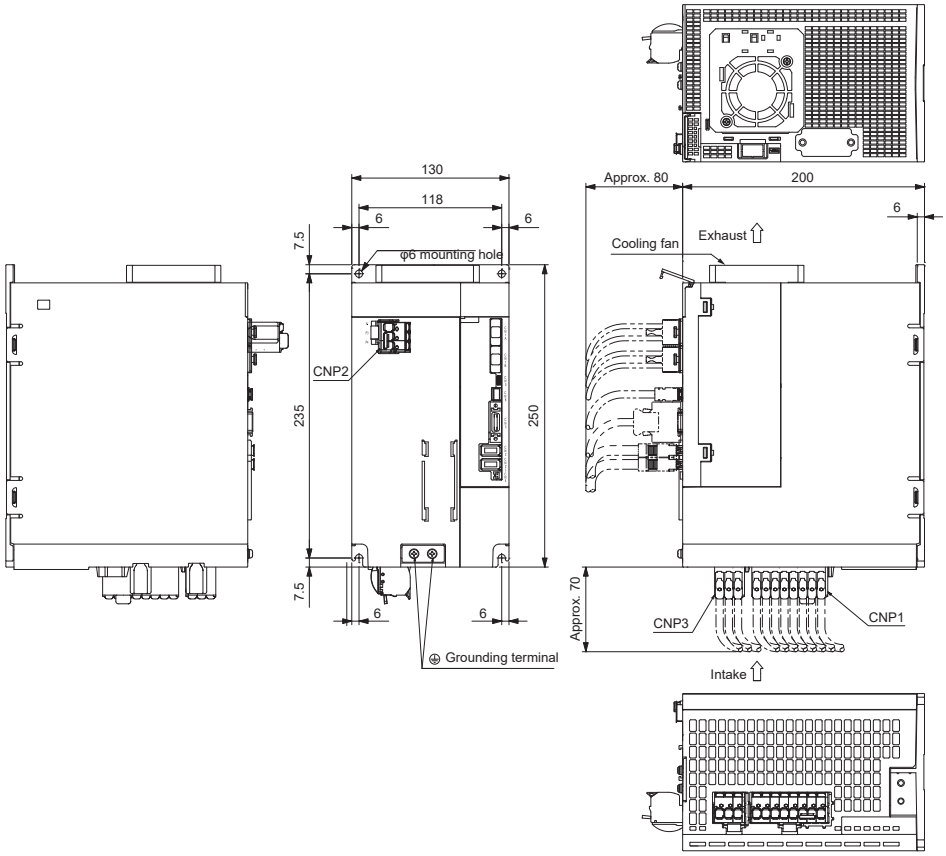


■Comparison of MR-J4-500B4(-RJ) and MR-J5-500B4(-RJ)/MR-J5-700B4(-RJ)

MR-J4-500B4(-RJ)

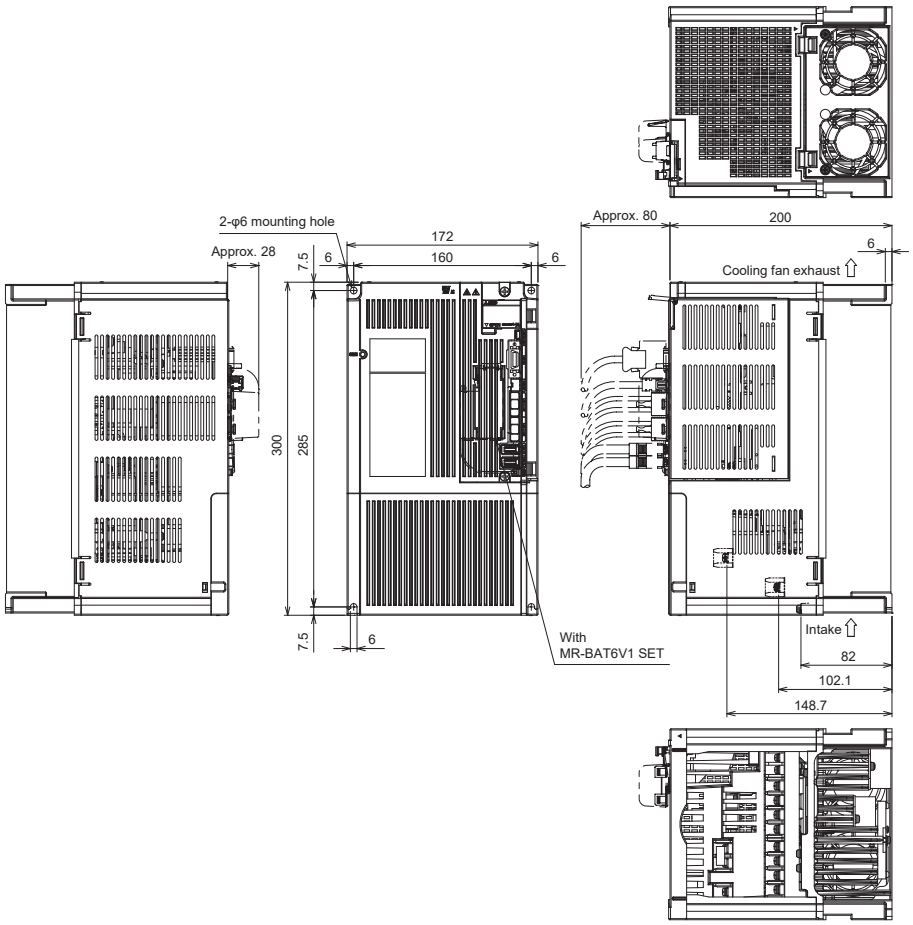


MR-J5-500B4(-RJ)/MR-J5-700B4(-RJ)

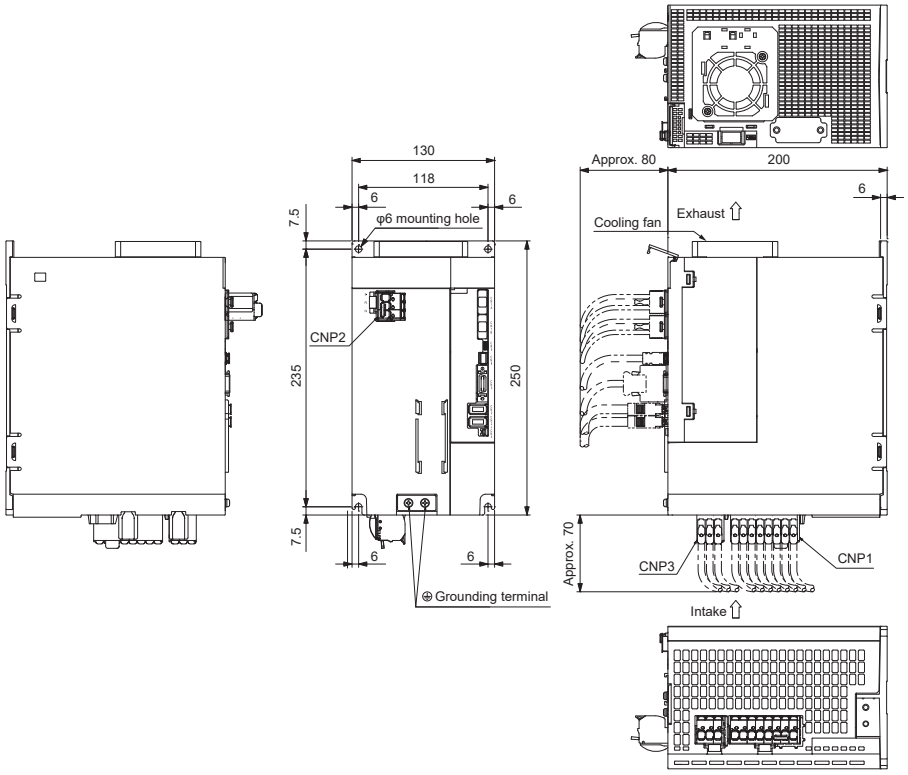


■Comparison of MR-J4-700B4(-RJ) and MR-J5-500B4(-RJ)/MR-J5-700B4(-RJ)

MR-J4-700B4(-RJ)



MR-J5-500B4(-RJ)/MR-J5-700B4(-RJ)



Compatibility of installation clearances (only from MR-J4-500B4(-RJ) to MR-J5-500B4(-RJ))

Because MR-J4-500B4(-RJ) and MR-J5-500B4(-RJ) have different power wiring connections, the clearances between the bottom of the servo amplifier and the inside of the cabinet or other devices are different. When connecting or removing the bottom connectors (CNP1 and CNP3), ensure that the installation clearance is 70 mm or more.

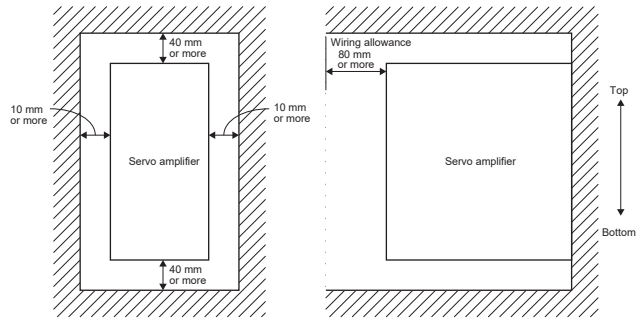
By using cables from Proterial, Ltd., the installation clearances become compatible. However, when connecting or removing the bottom connectors in the cabinet using cables, ensure that the installation clearance is 70 mm or more. To install the inverter with a narrow clearance such as 40 mm, connect the bottom connectors and then install the servo amplifier with the connectors inserted. Use the cable after removing the sheath from the cable bend.

■Comparison of installation clearances for the servo amplifier

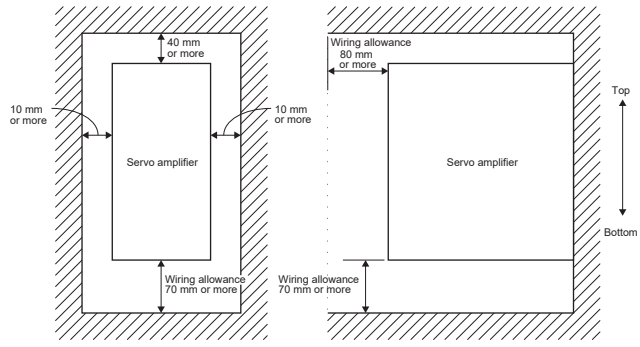
• Installation of one servo amplifier (comparison between the same capacity types)

Direction	MR-J4-500B4	MR-J5-500B4
Front	80 mm or longer	80 mm or longer
Left/right	10 mm or longer	10 mm or longer
Top	40 mm or longer	40 mm or longer
Bottom	40 mm or longer	70 mm or longer When using cables from Proterial, Ltd.: 40 mm or more

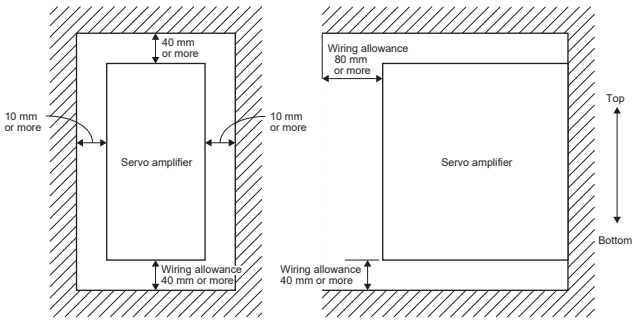
MR-J4-500B4(-RJ)



MR-J5-500G4(-RJ)



When using cables from Proterial, Ltd. for MR-J5-500G4(-RJ)

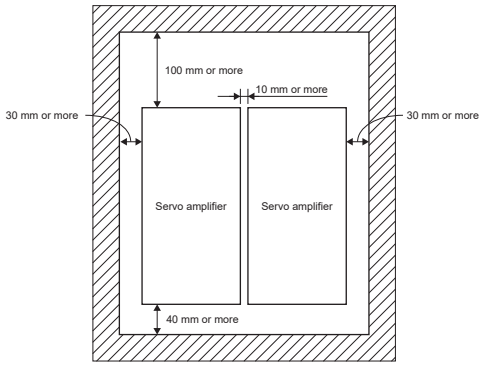


• Installation of two or more servo amplifiers (comparison between the same capacity types)

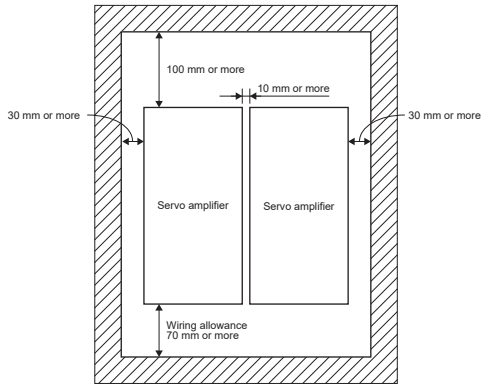
The 400 V class servo amplifiers cannot be closely mounted.

Direction	MR-J4-500B4	MR-J5-500G4
Front	80 mm or longer	80 mm or longer
Left/right	Between the servo amplifier and the inside of the cabinet or other devices: 30 mm or more Between the servo amplifiers: 10 mm or more	Between the servo amplifier and the inside of the cabinet or other devices: 30 mm or more Between the servo amplifiers: 10 mm or more
Top	40 mm or longer	40 mm or longer
Bottom	40 mm or longer	70 mm or longer When using cables from Proterial, Ltd.: 40 mm or more

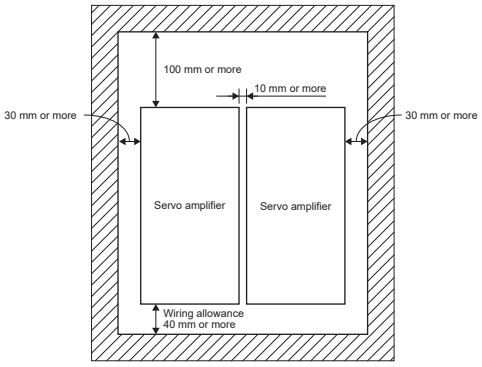
MR-J4-500B4(-RJ)



MR-J5-500B4(-RJ)



When using cables from Proterial, Ltd. for MR-J5-500B4(-RJ)



■ Cables from Proterial, Ltd. (recommended)

For information on purchasing cables, contact Proterial, Ltd. from their website.

https://www.proterial.com/e

When contacting Proterial, Ltd., please provide them with the following product name abbreviation and specification No.

Product name abbreviation	Specification No.	Size	Number of cores	Shield	Connection destination
UL2570 2X14AWG (41/0.26) LF	SP23-60528	AWG 14	2	Not available	L11, L21, P+, C
UL2570-SB 2X14AWG (41/0.26) LF				Available	
UL2570 3X12AWG (65/0.26) LF		AWG 12	3	Not available	L1, L2, L3, U, V, W, PE
UL2570-SB 3X12AWG (65/0.26) LF				Available	
UL2570 4X12AWG (65/0.26) LF			4	Not available	
UL2570-SB 4X12AWG (65/0.26) LF				Available	

Multi-axis servo amplifier

Comparison of dimensions

The following table shows comparison of the MR-J4W_-_B and MR-J5W_-_B dimensions.

For the MR-J4W2-_B, there is no difference in the dimensions of the cabinet mounting surface.

For the MR-J4W3-_B, the mounting is not compatible.

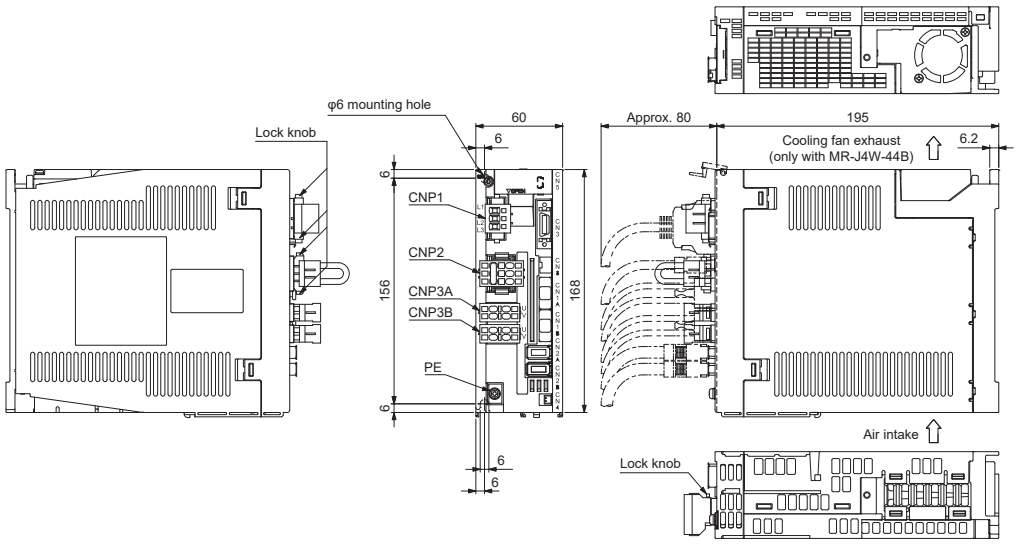
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4W_-_B	Model MR-J5W_-_B	Height		Width		Depth		Mounting screw pitch	
		J4WB	J5WB	J4WB	J5WB	J4WB	J5WB	J4WB	J5WB
MR-J4W2-22B	MR-J5W2-22B	168	■172	60	60	195	195	156 (Vertical) (2 places)	156 (Vertical) (2 places)
MR-J4W2-44B	MR-J5W2-44B								
MR-J4W2-77B	MR-J5W2-77B			85	85			156 (Vertical)/73 (Horizontal) (3 screws)	156 (Vertical)/73 (Horizontal) (3 screws)
MR-J4W2-1010B	MR-J5W2-1010B								
MR-J4W3-222B	MR-J5W3-222B				■75			156 (Vertical)/73 (Horizontal) (3 screws)	■156 (Vertical)/63 (Horizontal) (3 screws)
MR-J4W3-444B	MR-J5W3-444B								

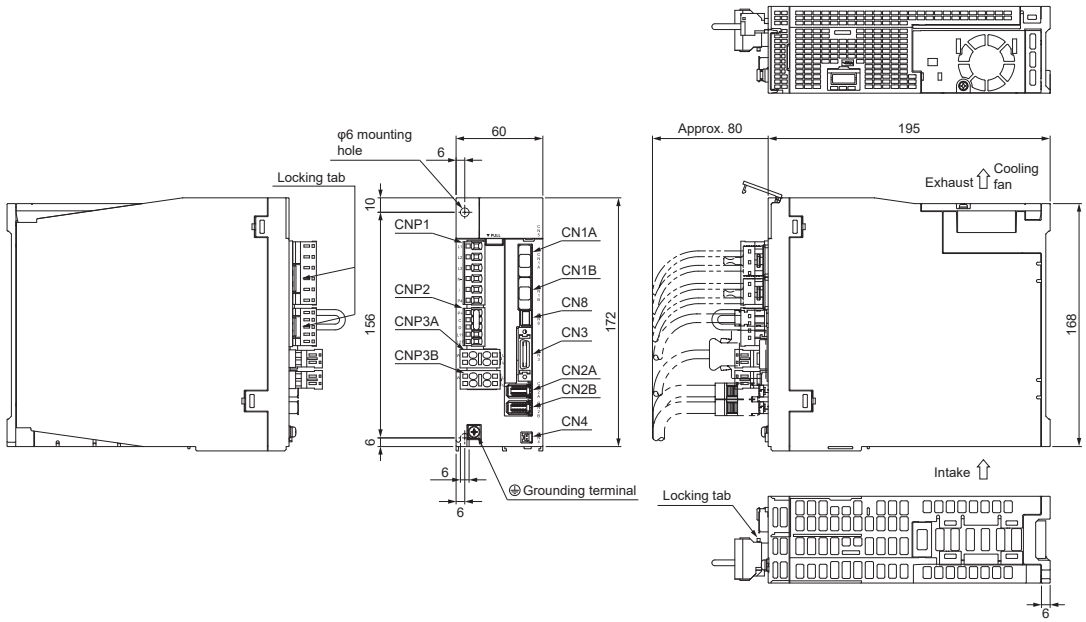
Comparison of dimensions

■Comparison of MR-J4W2-22B/MR-J4W2-44B and MR-J5W2-22B/MR-J5W2-44B

MR-J4W2-22B/MR-J4W2-44B

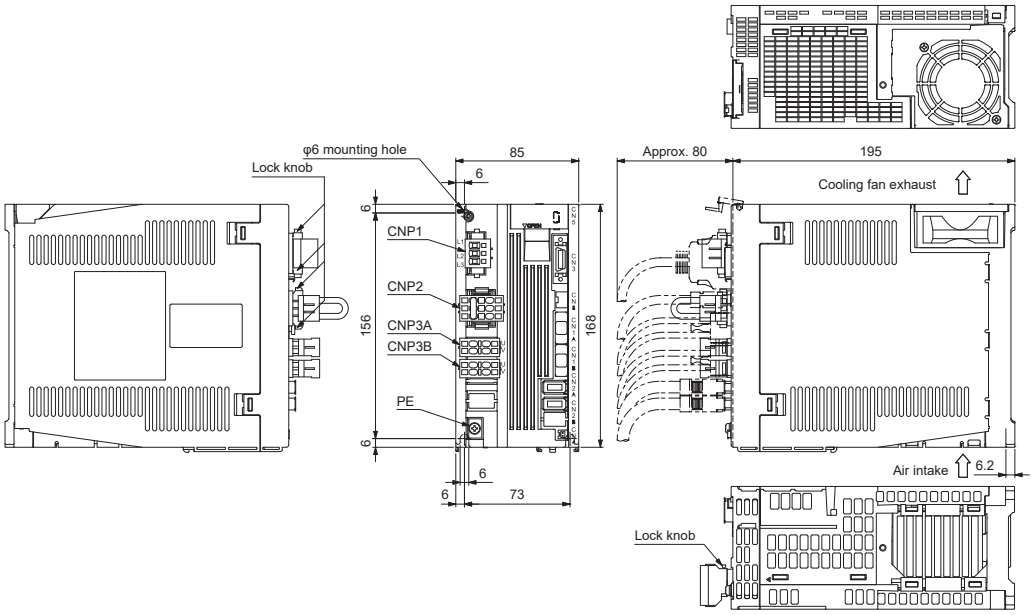


MR-J5W2-22B/MR-J5W2-44B

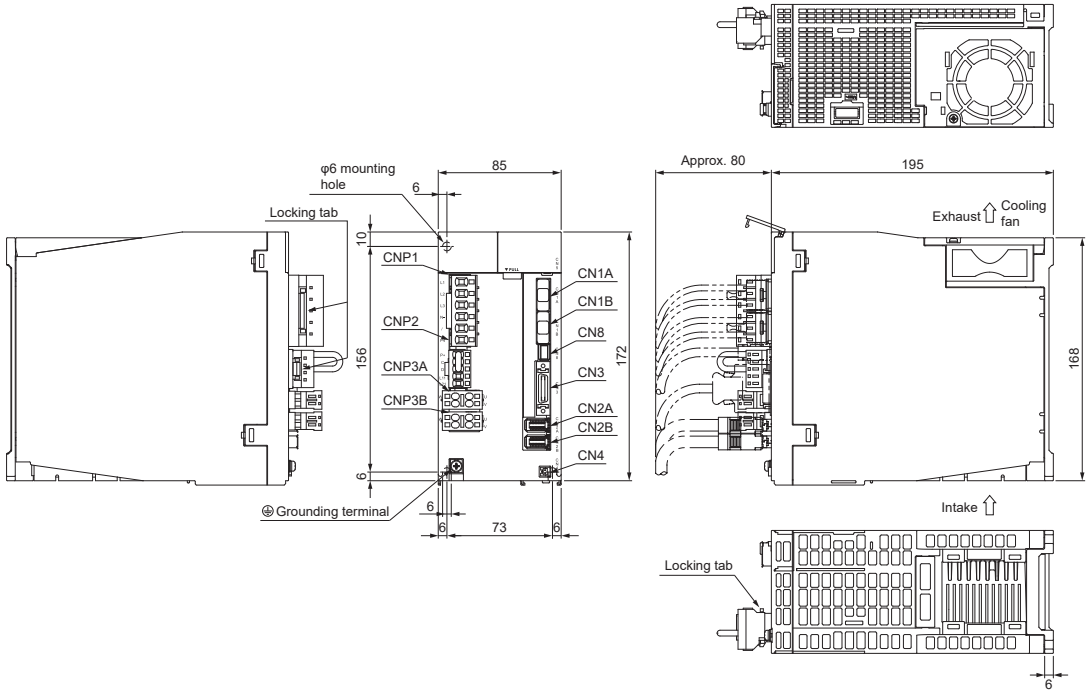


■Comparison of MR-J4W2-77B/MR-J4W2-1010B and MR-J5W2-77B/MR-J5W2-1010B

MR-J4W2-77B/MR-J4W2-1010B

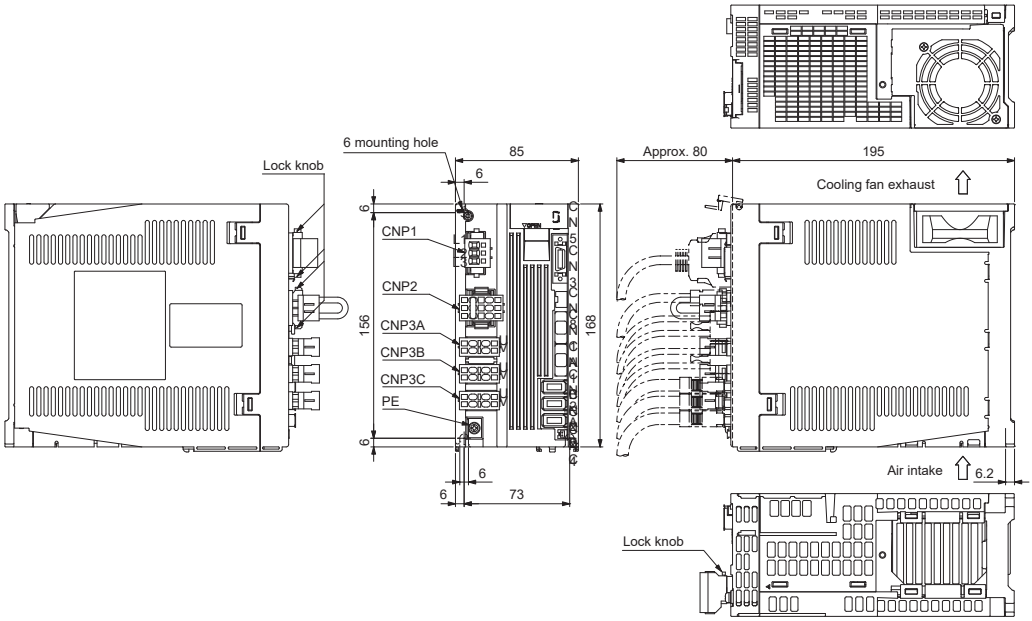


MR-J5W2-77B/MR-J5W2-1010B

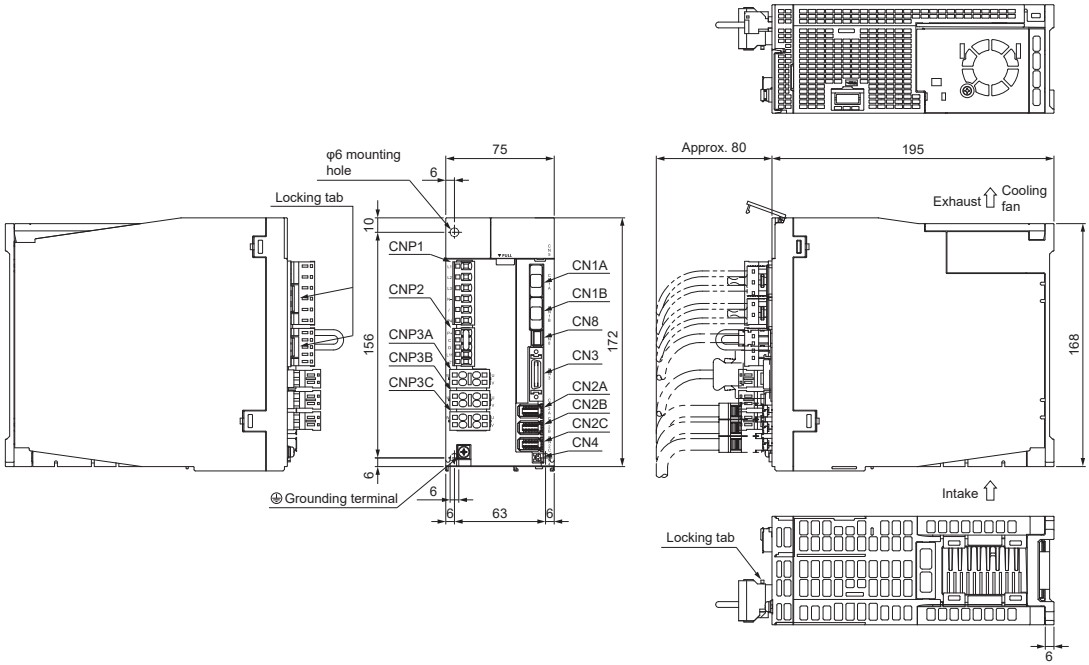


■Comparison of MR-J4W3-222B/MR-J4W3-444B and MR-J5W3-222B/MR-J5W3-444B

MR-J4W3-222B/MR-J4W3-444B



MR-J5W3-222B/MR-J5W3-444B



10.5 Servo Amplifier Initializing Time

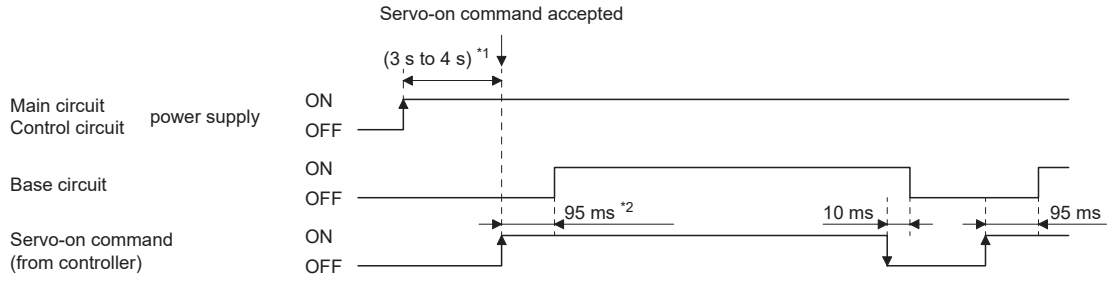
This section shows the initializing time of the servo amplifier (time from when the power is turned on until the servo-on command is received). As the initializing time is different between the MR-J4 series and MR-J5 series, be careful with the difference in the initializing time.

Precautions

- When using the electromagnetic brake to prevent a drop in a vertical lift application or the like with an external timer to adjust the brake release time, the lift may drop due to a longer servo-lock time. Adjust the brake release time as necessary or use MBR (electromagnetic brake interlock signal).
- A longer servo-on time at power-on may cause a delay in the servo motor starting time after power-up.

MR-J4-_B_

The initializing time is 3 to 4 s.

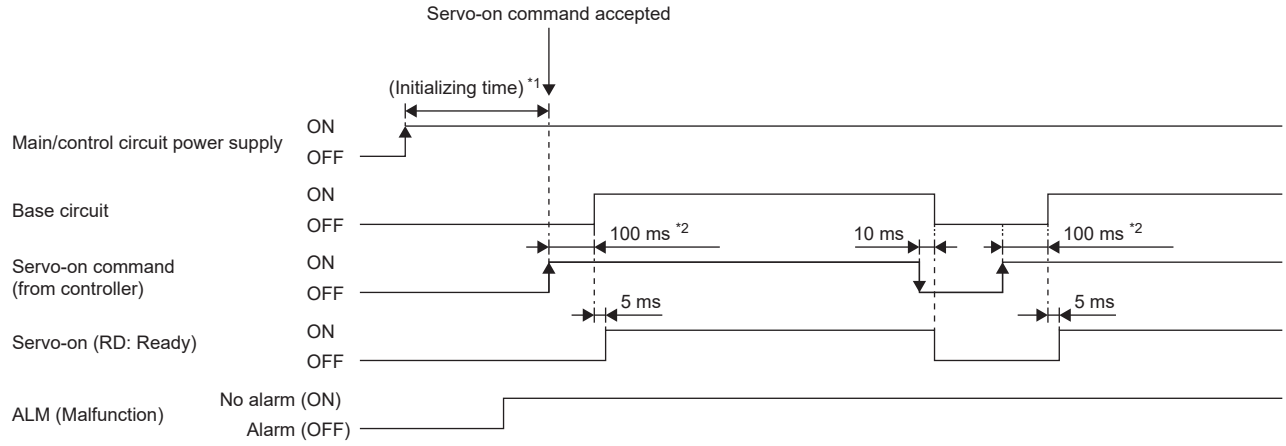


*1 This range will be "5 s to 6 s" for the linear servo system and fully closed loop system.

*2 The time will be longer during the magnetic pole detection of a linear servo motor and direct drive motor.

MR-J5-_B_

The initializing time is 2.5 s to 3.5 s and initial network communication.

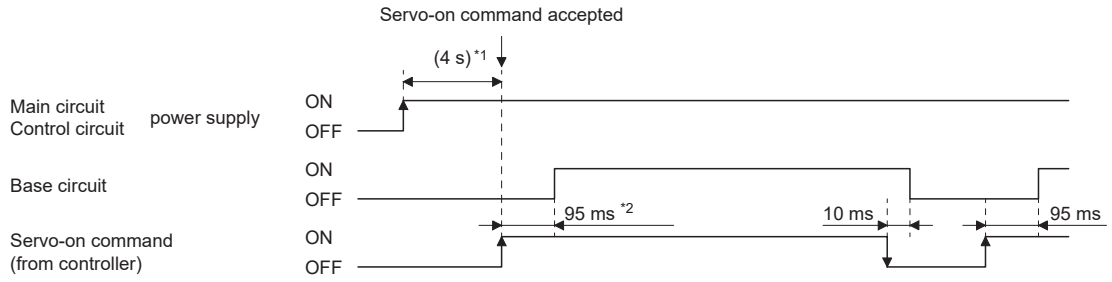


*1 For a linear servo system and fully closed loop system, this time is 2 s longer.

*2 The time will be longer during the magnetic pole detection of a linear servo motor and direct drive motor.

MR-J4W_-_B

The initializing time is about 4 s.

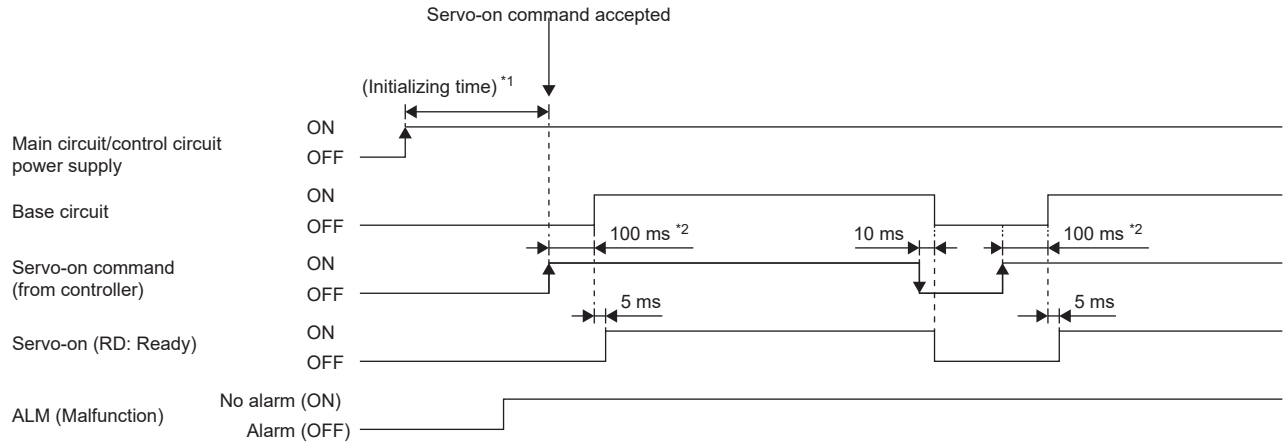


*1 This range will be approximately 6 s for the linear servo system and fully closed loop system.

*2 The time will be longer during the magnetic pole detection of a linear servo motor and direct drive motor.

MR-J5W_-_B

The initializing time is 3.5 s to 4.0 s and initial network communication.



*1 For a linear servo system, this time is 2 s longer.

*2 The time will be longer during the magnetic pole detection of a linear servo motor and direct drive motor.

10.6 Peripheral Equipment Compatibility Comparison

Refer to the following for details.

☞ Review on Replacement of Optional Peripheral Equipment

11 SERVO PARAMETER CONVERSION

11.1 Procedure for Servo Parameter Conversion

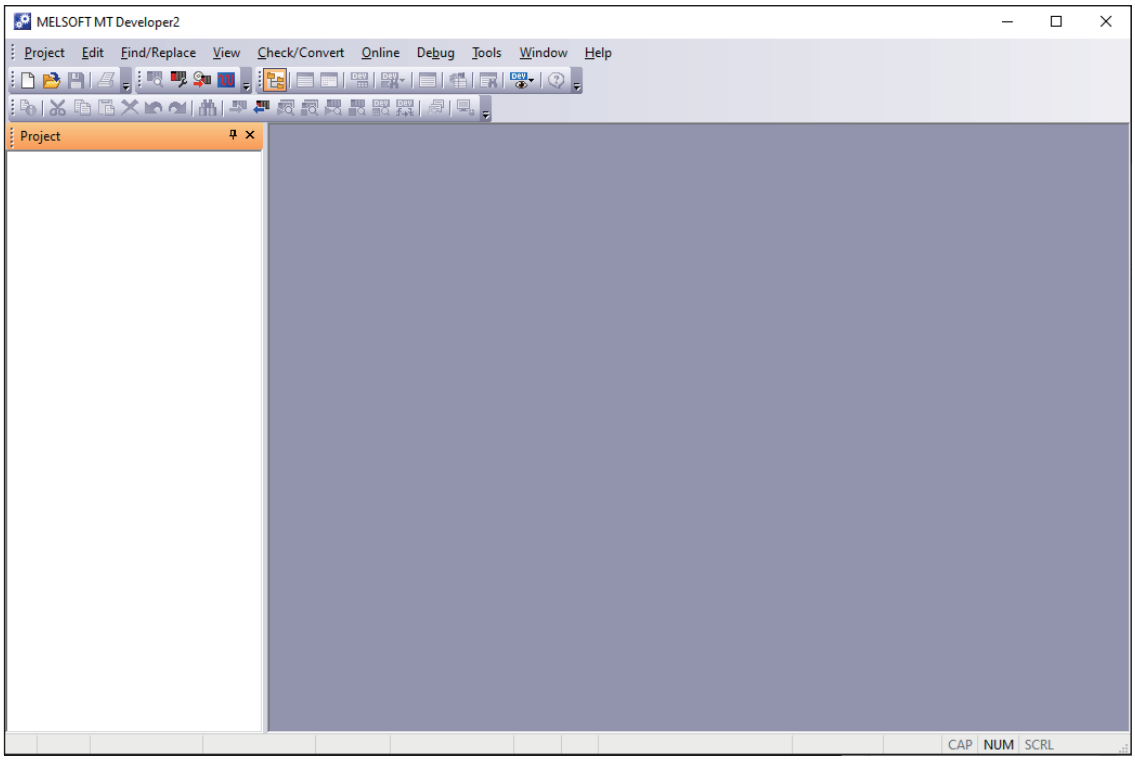
The parameter converter function converts the servo parameters of the MR-J4-_B_/MR-J4W_-_B to the servo parameters of the MR-J5-_B_/MR-J5W_-_B.
The parameter converter function can be used with MT Developer2, GX Works3, or GX Works2.

Point

MT Developer2 is a programming software included in the Motion controller engineering environment "MELSOFT MT Works2".
Only servo parameters that are common for the MR-J4-_B_/MR-J4W_-_B and MR-J5-_B_/MR-J5W_-_B can be converted.
The values of the servo parameters that are newly added in the MR-J5-_B_/MR-J5W_-_B will be the initial values.
Conversion can be performed only when the operation mode of the MR-J4-_B_/MR-J4W_-_B and MR-J5-_B_/MR-J5W_-_B is the same.
If the operation mode is different, the servo parameters will be the initial values.

11.2 When Converting from MT Developer2 Using the Parameter Converter Function

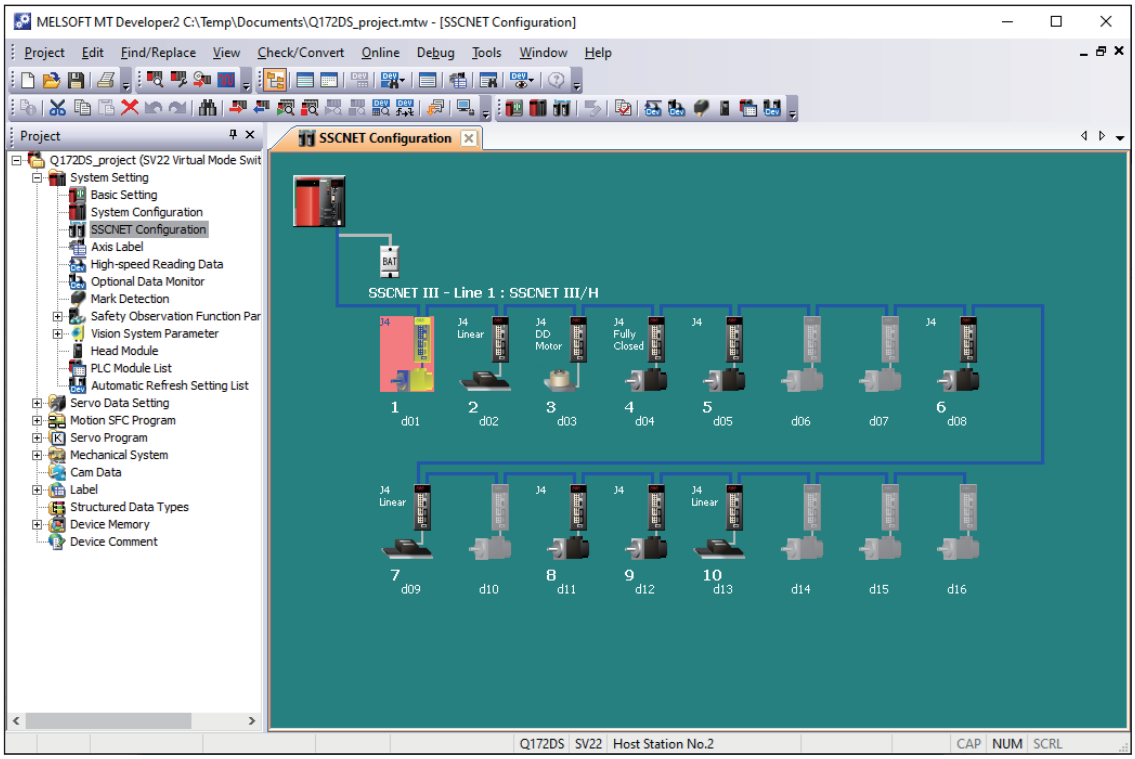
1. Start up MT Developer2.



2. Open an existing project.

Select an existing project from [Project] - [Open] in menu, then click [Open].

3. Double-click "System Setting" - "SSCNET Configuration" in the project window, then double-click the axis number of the servo amplifier whose servo parameters are to be converted to move to the amplifier setting screen. (The screen below shows the example of when the axis 1 is selected.)



4. Setting the amplifier setting screen

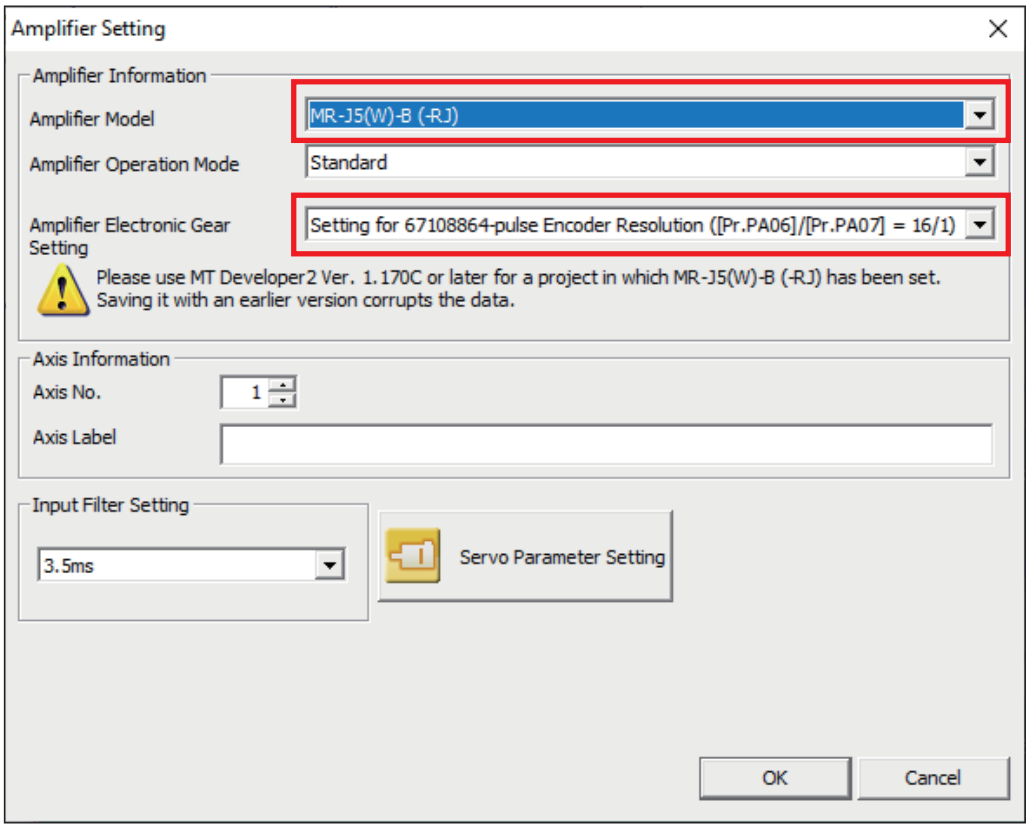
Amplifier information

Amplifier model:

Select "MR-J5(W)-B(-RJ)".

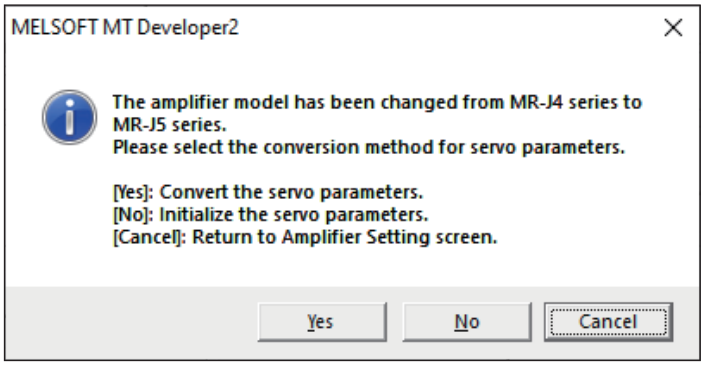
Amplifier electronic gear setting:

For the RnMTCPU and Q17nDSCPU, select "Setting for 67108864-pulse Encoder Resolution ([Pr. PA06]/[Pr. PA07] = 16/1)" because the RnMTCPU and Q17nDSCPU do not support 26-bit encoders.



5. Conversion of servo parameters

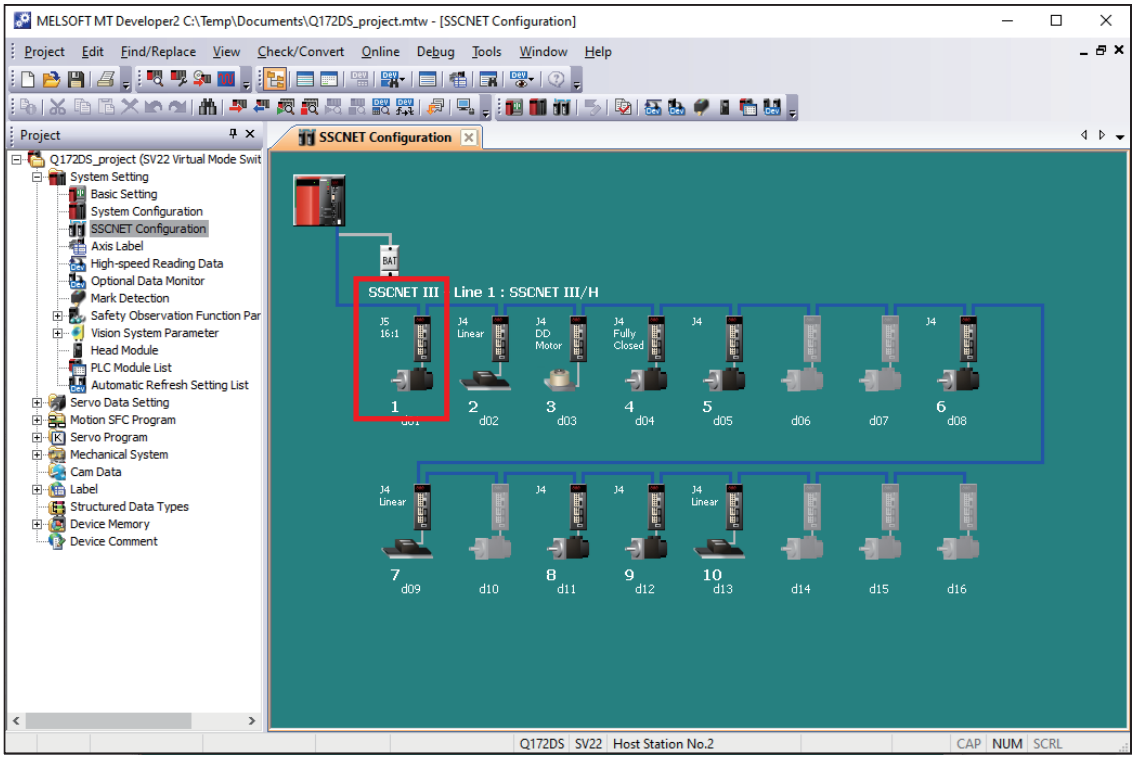
Click [OK] on the amplifier setting screen to move to the screen shown below.



Click [Yes] to convert the servo parameters.

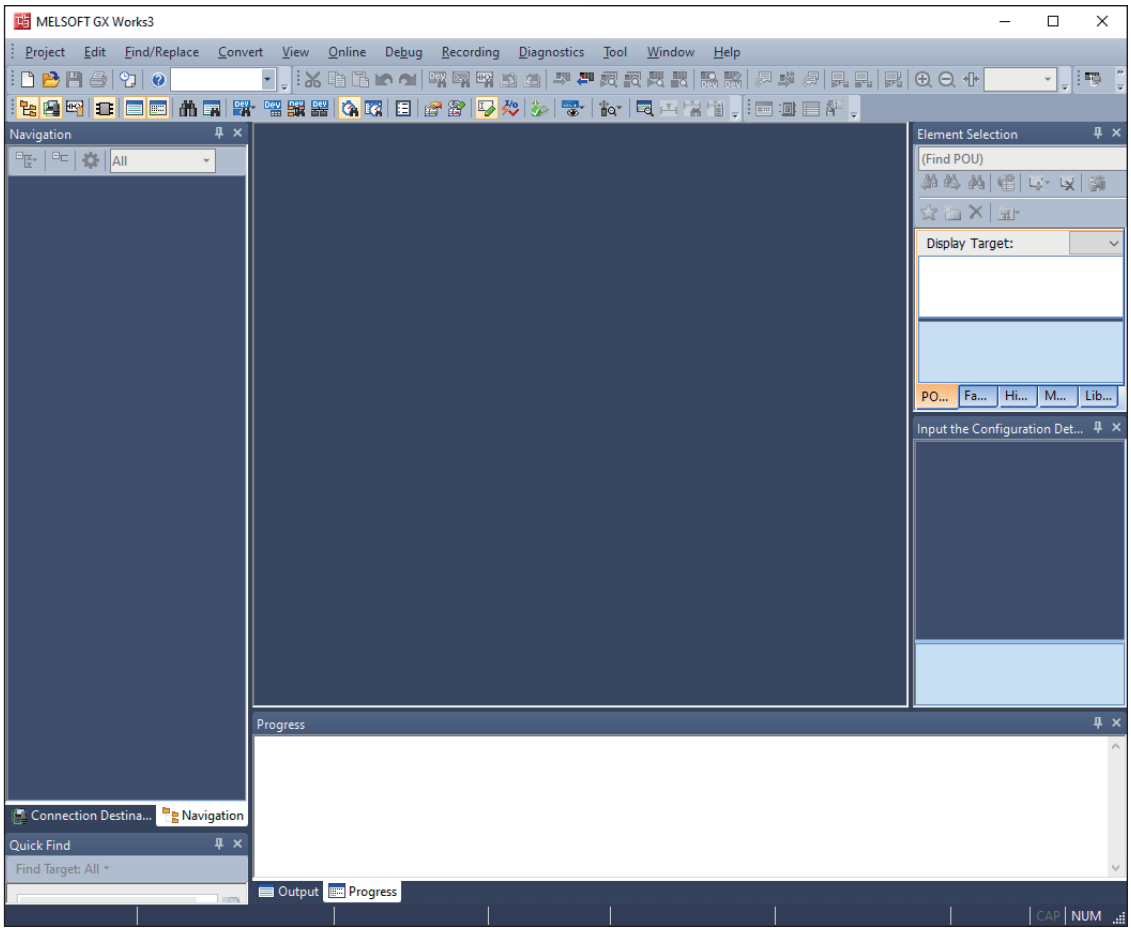
6. Conversion completion of servo parameters

When conversion of the servo parameters finishes, the amplifier information of axis 1 will be reflected, then the screen moves to the screen shown below.



11.3 When Converting From GX Works3 Using the Parameter Converter Function

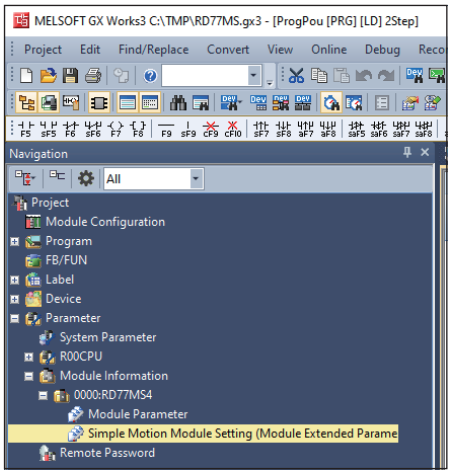
1. Start up GX Works3.



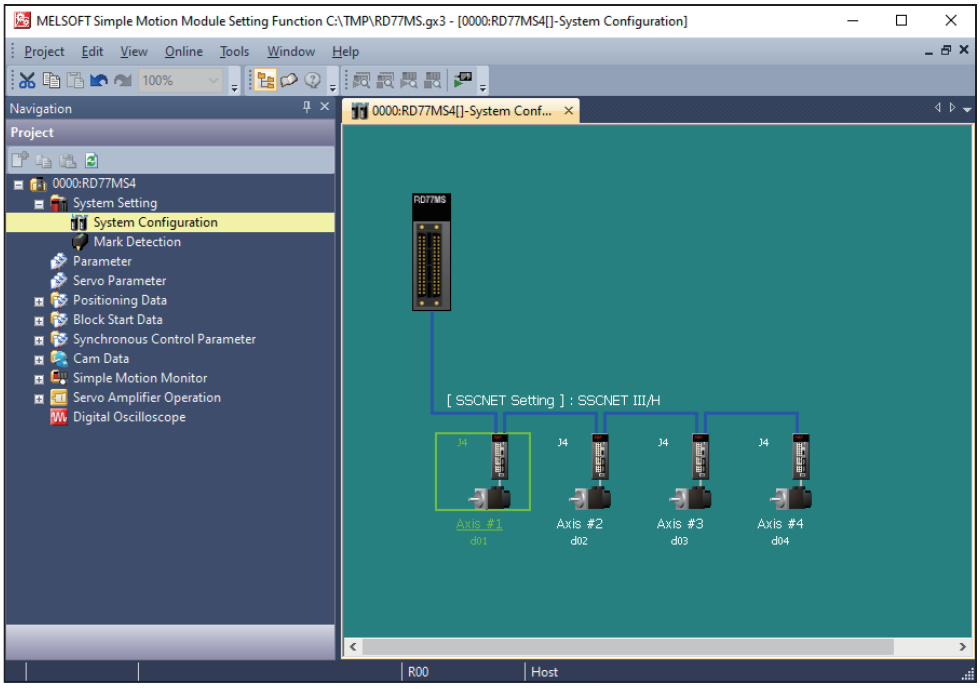
2. Open an existing project.

Select an existing project from [Project] - [Open] in menu, then click [Open].

3. Double-click [Simple Motion Module Setting (Module Extended Parameter)] from [Module Information] in the navigation window to start up simple Motion module setting function.



4. Double-click the axis number selection of the servo amplifier to move to the amplifier setting screen.
(The figure shows the example of when the axis 1 is selected.)



5. Setting the amplifier setting screen

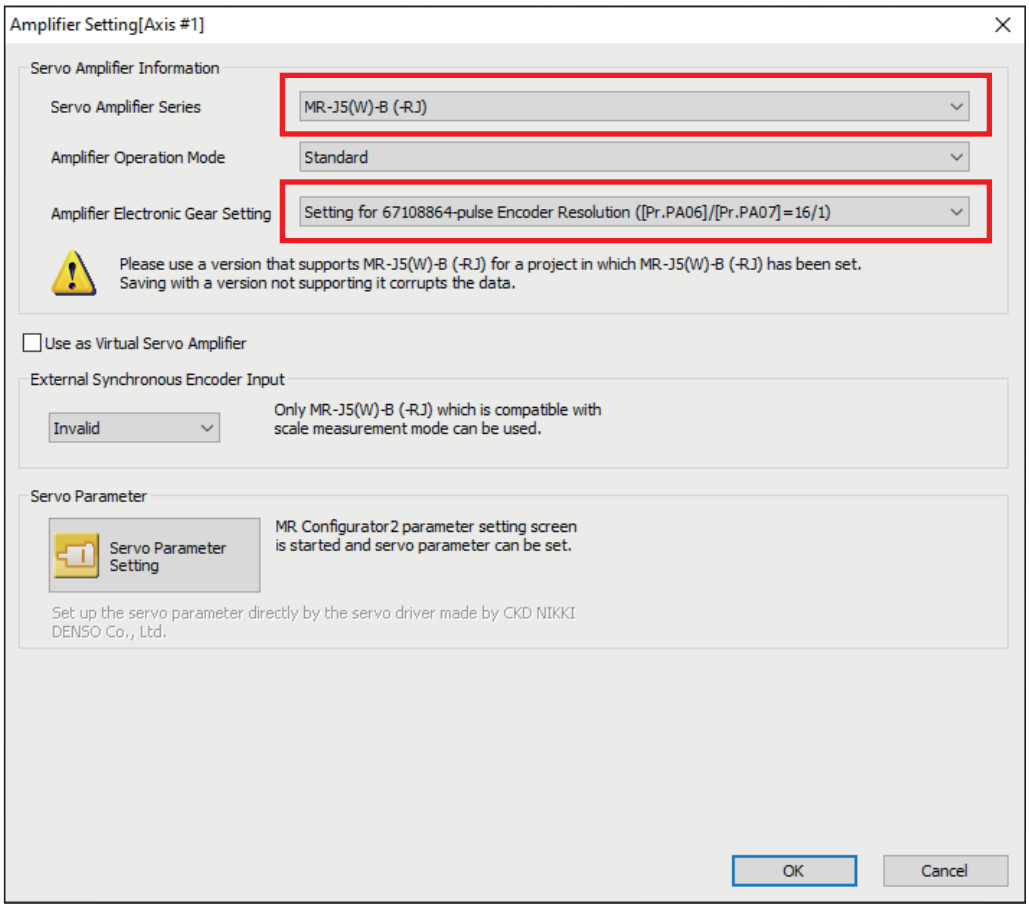
Servo amplifier information

Servo amplifier series:

Select "MR-J5(W)-B(-RJ)".

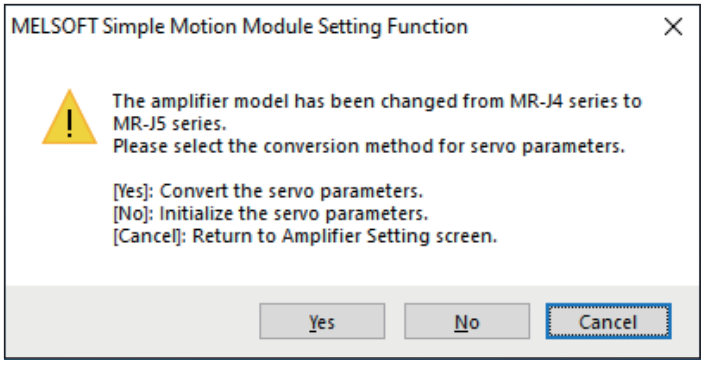
Amplifier electronic gear setting:

For the RD77MS, select "Setting for 67108864-pulse Encoder Resolution ([Pr. PA06]/[Pr. PA07] = 16/1)" because the RD77MS does not support 26-bit encoders.



6. Conversion of servo parameters

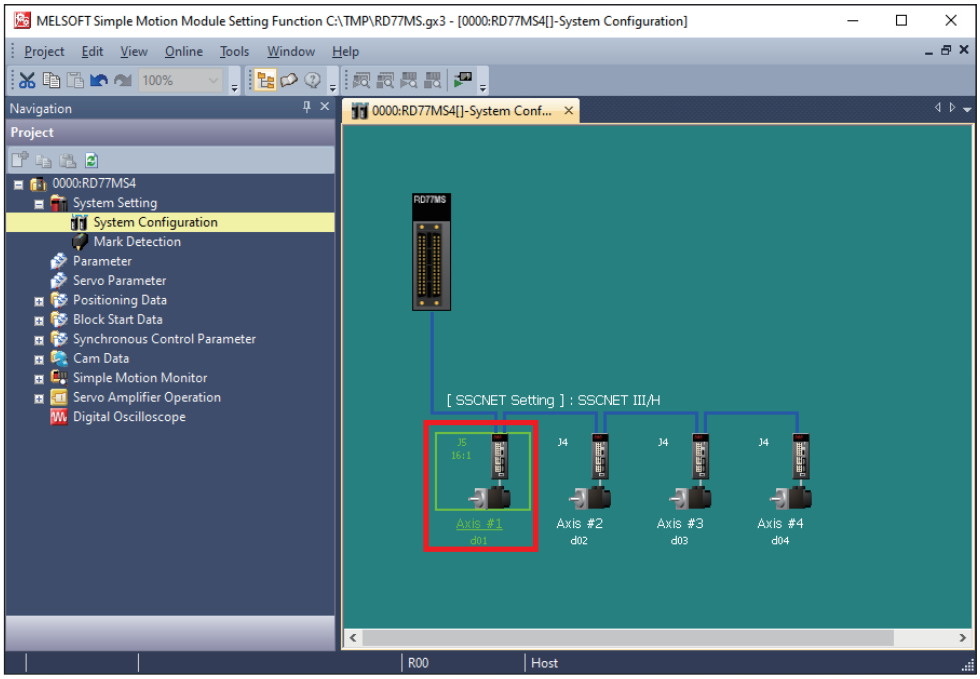
Click [OK] on the amplifier setting screen to move to the screen shown below.



Click the [Yes] button to convert the servo parameters.

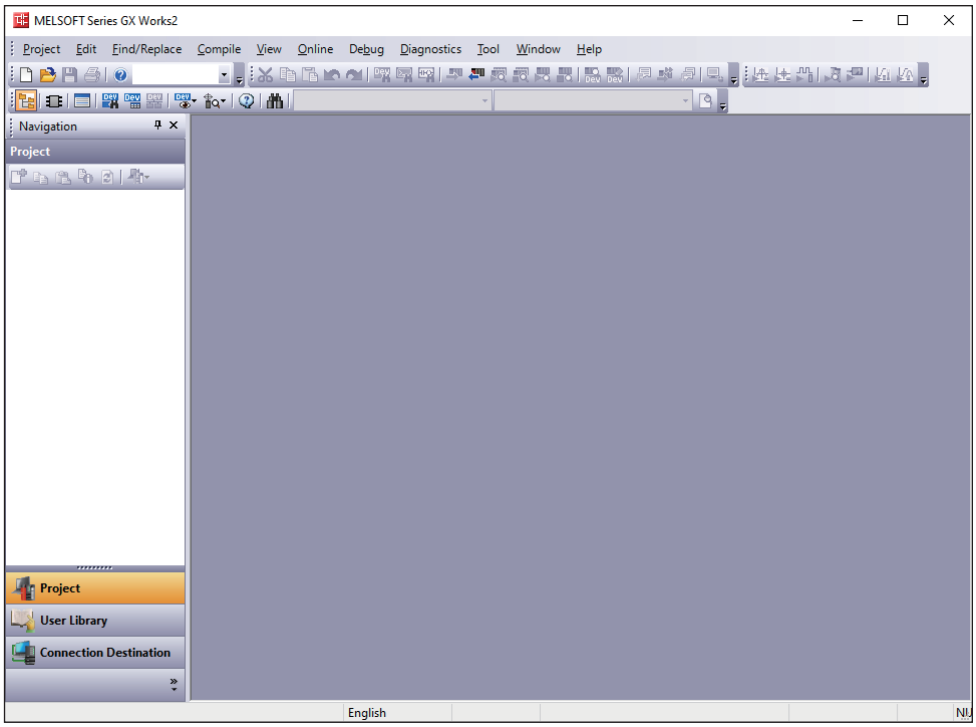
7. Conversion completion of servo parameters

When conversion of the servo parameters finishes, the servo amplifier information of axis 1 will be reflected, then the screen moves to the screen shown below.



11.4 When Converting From GX Works2 Using the Parameter Converter Function

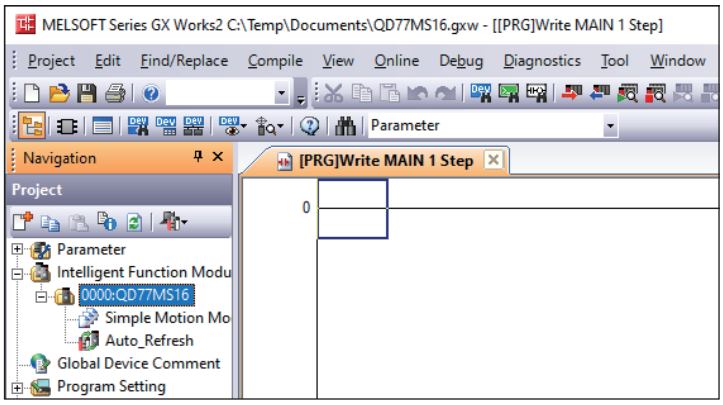
1. Start up GX Works2.



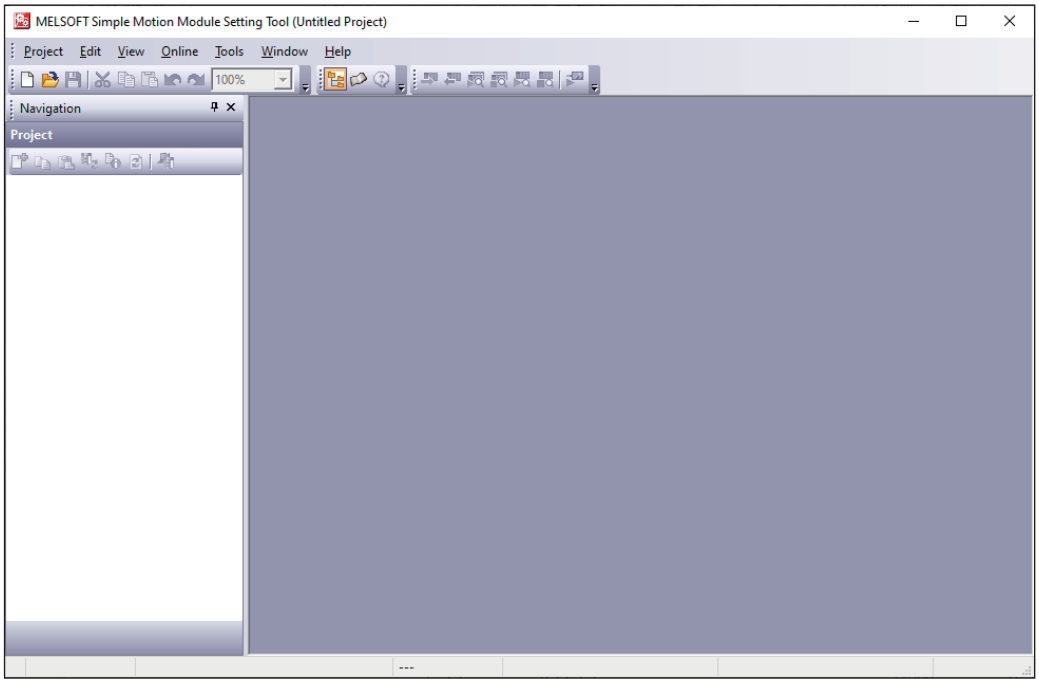
2. Open an existing project.

Select an existing project from [Project] - [Open] in menu, then click [Open].

3. Double-click [Simple Motion Module Setting] from [Intelligent Function Module] in the navigation window to start up Simple Motion Module Setting Tool.



4. When Simple Motion Module Setting Tool is activated, the screen moves to the screen as shown below.

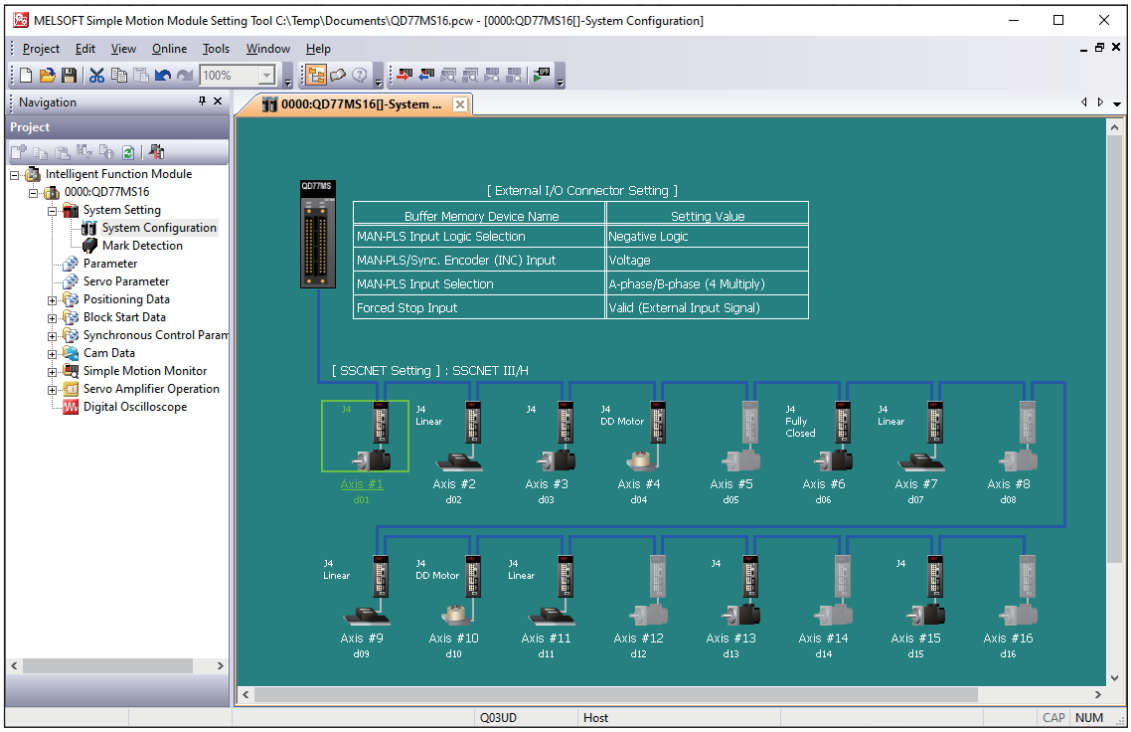


5. Open an existing project.

Select an existing project from [Project] - [Open] in menu, then click [Open].

6. Double-click "System Configuration" in the project window, then double-click the axis number selection of the servo amplifier whose servo parameters are to be converted to move to the amplifier setting screen.

(The figure shows the example of when the axis 1 is selected.)



7. Setting the amplifier setting screen

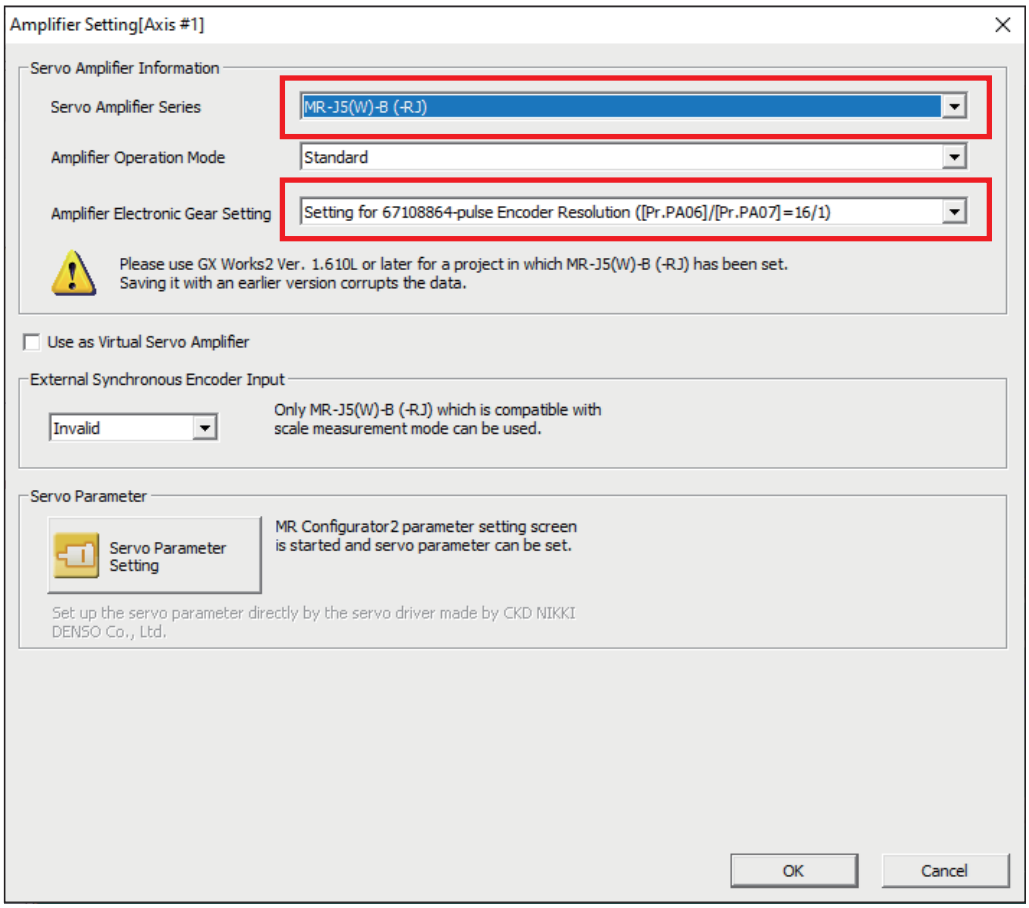
Servo amplifier information

Servo amplifier series:

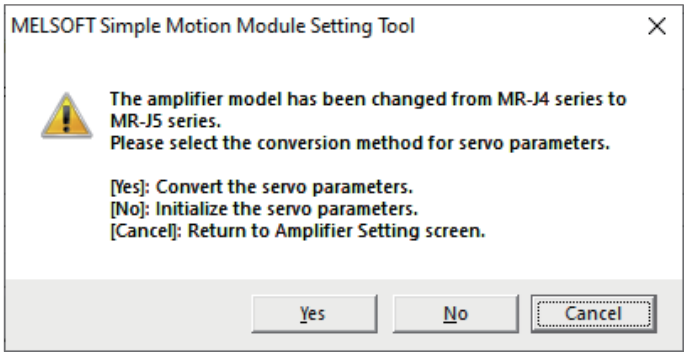
Select "MR-J5(W)-B(-RJ)".

Amplifier electronic gear setting:

For the QD77MS, select "Setting for 67108864-pulse Encoder Resolution ([Pr. PA06]/[Pr. PA07] = 16/1)" because the QD77MS does not support 26-bit encoders.



8. Conversion of servo parameters

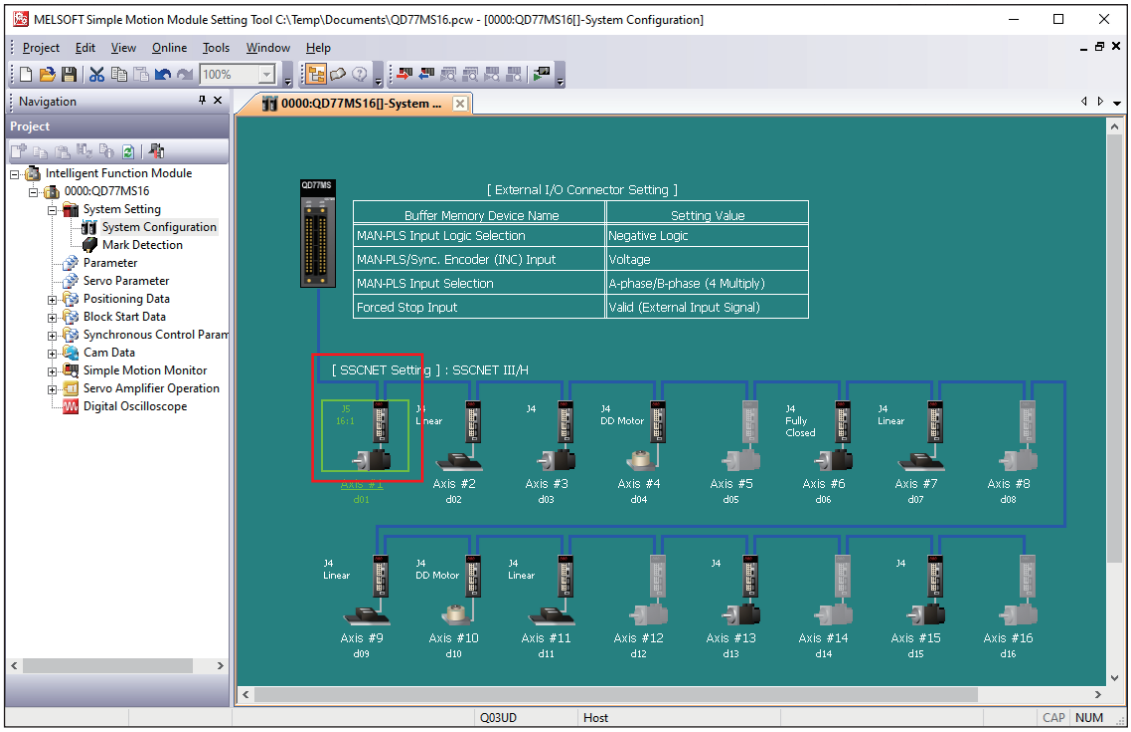


Click [OK] on the amplifier setting screen to move to the screen shown below.

Click the [Yes] button to convert the servo parameters.

9. Conversion completion of servo parameters

When conversion of the servo parameters finishes, the servo amplifier information of axis 1 will be reflected, then the screen moves to the screen shown below.



11.5 Conversion Rules

The following shows the rules for conversion from the MR-J4-_B_/MR-J4W_-_B to MR-J5-_B_/MR-J5W_-_B using the parameter converter function. Servo parameters that are not described in the table below will be set to their initial values.

Point

The MR-J4 series and MR-J5 series have different model specifications. Review the servo parameter settings as necessary.
When the geared servo motor is replaced, the reduction ratio may differ before and after the replacement. Check the specifications of the servo motor and review the electronic gear settings as necessary. Refer to the controller manual for the electronic gear setting method.

Basic setting servo parameters group ([Pr. PA_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PA02 Regenerative option]
- [Pr. PA04 Function selection A-1]
- [Pr. PA23 Drive recorder desired alarm trigger setting]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PA01	Operation mode			PA01	Operation mode			
	Operation mode selection	Hex	_ _ X _		Operation mode selection	Hex	PA01.1	When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to "_ _ 1_": The value will be converted to "0". For the values other than the above, the setting value will be maintained.
	Compatibility mode selection		X _ _ _		For manufacturer setting		PA01.3	The value will be converted to "3 (initial value)".
	—	—	—		Fully closed loop operation mode selection		PA01.4	When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to "_ _ 1_": The value will be converted to "1". When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to a value other than "_ _ 1_": The value will be converted to "0".
PA02	Regenerative option			PA02	Regenerative option			
	Regenerative option selection	Hex	_ _ XX		Regenerative option selection	Hex	PA02.0-1	The value will be converted to "00 (initial value)".
PA03	Absolute position detection system			PA03	Absolute position detection system			
	Absolute position detection system selection	Hex	_ _ _ X		Absolute position detection system selection	Hex	PA03.0	The setting value will be maintained.
PA04	Function selection A-1			PA04	Function selection A-1			
	Servo forced stop selection	Hex	_ X _ _		Servo forced stop selection	Hex	PA04.2	The setting value will be maintained.
	Forced stop deceleration function selection		X_ _ _		Forced stop deceleration function selection		PA04.3	When the setting value of the MR-J4-_B_/MR-J4W_-_B is "0 _ _ _ " or "2 _ _ _": The setting value will be maintained. For values other than the above, the value will be converted to "2".
PA08	Auto tuning mode			PA08	Auto tuning mode			
	Gain adjustment mode selection	Hex	_ _ _ X		Gain adjustment mode selection	Hex	PA08.0	The setting value will be maintained.
PA09	Auto tuning response	Dec	—	PA09	Auto tuning response	Dec	—	The setting value will be maintained.
PA10	In-position range	Dec	—	PA10	In-position range	Dec	—	When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 0_ (standard control mode): The setting value will be maintained. When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 1_ (fully closed loop control mode): The value will be converted to "25600". When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 4_ (linear servo motor control mode): The setting value will be maintained. When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 6_ (DD motor control mode): The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PA14	Rotation direction selection/travel direction selection	Dec	—	PA14	Travel direction selection	Dec	—	The setting value will be maintained.
PA15	Encoder output pulses	Dec	—	PA15	Encoder output pulses	Dec	—	The servo parameters will be converted in accordance with the table below.
PA16	Encoder output pulses 2	Dec	—	PA16	Encoder output pulses 2	Dec	—	

Conversion rules for [Pr. PA15]/[Pr. PA16]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B	
Operation mode selection [Pr. PA01] _ _ x _	**Scale measurement function selection [Pr. PA22] x _ _ _**	**Encoder selection for encoder output pulse [Pr. PC03] _ x _ _**	**Encoder output pulse setting selection [Pr. PC03] _ _ x _**	**[Pr. PA15]**	**[Pr. PA16]**
0: Standard control mode	0	—	0	The setting value will be maintained.	The setting value will be maintained.
			1	The value of [Pr. PA15] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.	The setting value will be maintained.
			3	The setting value will be maintained.	The value of [Pr. PA16] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.
			Other than the above	The setting value will be maintained.	The setting value will be maintained.
	1	0	0	The setting value will be maintained.	The setting value will be maintained.
			1	The value of [Pr. PA15] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.	The setting value will be maintained.
			3	The setting value will be maintained.	The value of [Pr. PA16] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16.
			Other than the above	The setting value will be maintained.	The setting value will be maintained.
		1	—	MR-J5-_B_/MR-J5W_-_B The value will be converted to the initial value of [Pr. PA15].	MR-J5-_B_/MR-J5W_-_B The value will be converted to the initial value of [Pr. PA16].
1: Fully closed loop control mode	—	—	—	MR-J5-_B_/MR-J5W_-_B The value will be converted to the initial value of [Pr. PA15].	MR-J5-_B_/MR-J5W_-_B The value will be converted to the initial value of [Pr. PA16].
4: Linear servo motor control mode	—	—	—	The setting value will be maintained.	The setting value will be maintained.
6: DD motor control mode	—	—	—	The setting value will be maintained.	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PA17	Servo motor series setting	Hex	XXXX	PA17	Servo motor series setting	Hex	PA17.0-3	The setting value will be maintained.
PA18	Servo motor type setting	Hex	XXXX	PA18	Servo motor type setting	Hex	PA18.0-3	The setting value will be maintained.
PA20	Tough drive setting			PA20	Tough drive setting			
	Vibration tough drive selection	Hex	_ _ X _		Vibration tough drive selection	Hex	PA20.1	The setting value will be maintained.
	SEMI-F47 function selection		_ X_ _		SEMI-F47 function selection		PA20.2	The setting value will be maintained.
PA21	Function selection A-3			PA21	Function selection A-3			
	One-touch tuning function selection	Hex	_ _ _ X		One-touch tuning function selection	Hex	PA21.0	The setting value will be maintained.
PA22	Position control composition selection			PA22	Position control configuration selection			
	Super trace control selection	Hex	_ _ X _		Super trace function selection	Hex	PA22.1	The setting value will be maintained.
	Scale measurement function selection		X _ _ _		Scale measurement function selection		PA22.3	The setting value will be maintained.
PA23	Drive recorder arbitrary alarm trigger setting			PA23	Drive recorder desired alarm trigger setting			
	Alarm detail number setting	Hex	_ _ XX		Alarm detail number setting	Hex	PA23.0-1	The value will be converted to "00".
	Alarm number setting		XX _ _		Alarm number setting		PA23.2-4	The value will be converted to "000".
PA24	Function selection A-4			PA24	Function selection A-4			
	Vibration suppression mode selection	Hex	_ _ _ X		Vibration suppression mode selection	Hex	PA24.0	The setting value will be maintained.
PA25	One-touch tuning - Overshoot permissible level	Dec	—	PA25	One-touch tuning - Overshoot permissible level	Dec	—	The setting value will be maintained.
PA26 *1	Function selection A-5			PA26 *1	Function selection A-5			
	Torque limit function selection at instantaneous power failure (Instantaneous power failure tough drive selection)	Hex	_ _ _ X		Torque limit function selection at instantaneous power failure	Hex	PA26.0	The setting value will be maintained.

*1 Available only on the MR-J4-_B_/MR-J5-_B_.

Gain/filter setting servo parameters group ([Pr. PB_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB01	Adaptive tuning mode (adaptive filter II)			PB01	Adaptive tuning mode (adaptive filter II)			
	Filter tuning mode selection	Hex	_ _ _ X		Filter tuning mode selection	Hex	PB01.0	The setting value will be maintained.
	Tuning accuracy selection		X _ _ _		Tuning accuracy selection		PB01.3	The setting value will be maintained.
PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)			PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)			
	Vibration suppression control 1 - Tuning mode selection	Hex	_ _ _ X		Vibration suppression control 1 - Tuning mode selection	Hex	PB02.0	The setting value will be maintained.
	Vibration suppression control 2 - Tuning mode selection		_ _ X _		Vibration suppression control 2 - Tuning mode selection		PB02.1	The setting value will be maintained.
PB03	Torque feedback loop gain	Dec	—	PB03	Torque feedback loop gain	Dec	—	The setting value will be maintained. *1

*1 When the setting value of the MR-J4-_B_/MR-J4W_-_B is set to 18000 (initial value), the setting value will be converted to "36000 (initial value)" with MR Configurator2 with software version 1.130L. For the values other than the initial value, the setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB06	Load to motor inertia ratio/load to motor mass ratio	Dec	—	PB06	Load to motor inertia ratio/load to motor mass ratio	Dec	—	The setting value will be maintained.
PB07	Model loop gain	Dec	—	PB07	Model loop gain	Dec	—	The setting value will be maintained.
PB08	Position loop gain	Dec	—	PB08	Position loop gain	Dec	—	The setting value will be maintained.
PB09	Speed loop gain	Dec	—	PB09	Speed loop gain	Dec	—	The setting value will be maintained.
PB10	Speed integral compensation	Dec	—	PB10	Speed integral compensation	Dec	—	The setting value will be maintained.
PB11	Speed differential compensation	Dec	—	PB11	Speed differential compensation	Dec	—	The setting value will be maintained.
PB12	Overshoot amount compensation	Dec	—	PB12	Overshoot amount compensation	Dec	—	The setting value will be maintained.
PB13	Machine resonance suppression filter 1	Dec	—	PB13	Machine resonance suppression filter 1	Dec	—	The setting value will be maintained.
PB14	Notch shape selection 1			PB14	Notch shape selection 1			
	Notch depth selection	Hex	_ _ X _		Notch depth selection 1	Hex	PB14.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection 1		PB14.2	The setting value will be maintained.
PB15	Machine resonance suppression filter 2	Dec	—	PB15	Machine resonance suppression filter 2	Dec	—	The setting value will be maintained.
PB16	Notch shape selection 2			PB16	Notch shape selection 2			
	Machine resonance suppression filter 2 selection	Hex	_ _ _ X		Machine resonance suppression filter 2 selection	Hex	PB16.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB16.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB16.2	The setting value will be maintained.
PB17	Shaft resonance suppression filter			PB17	Shaft resonance suppression filter			
	Shaft resonance suppression filter setting - Frequency selection	Hex	_ _ XX		Shaft resonance suppression filter setting - Frequency selection	Hex	PB17.0-1	The setting value will be maintained.
	Notch depth selection		_ X _ _		Notch depth selection		PB17.2	The setting value will be maintained.
PB18	Low-pass filter setting	Dec	—	PB18	Low-pass filter setting	Dec	—	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB19	Vibration suppression control 1 - Vibration frequency	Dec	—	PB19	Vibration suppression control 1 - Vibration frequency	Dec	—	The setting value will be maintained.
PB20	Vibration suppression control 1 - Resonance frequency	Dec	—	PB20	Vibration suppression control 1 - Resonance frequency	Dec	—	The setting value will be maintained.
PB21	Vibration suppression control 1 - Vibration frequency damping	Dec	—	PB21	Vibration suppression control 1 - Vibration frequency damping	Dec	—	The setting value will be maintained.
PB22	Vibration suppression control 1 - Resonance frequency damping	Dec	—	PB22	Vibration suppression control 1 - Resonance frequency damping	Dec	—	The setting value will be maintained.
PB23	Low-pass filter selection			PB23	Low-pass filter selection			
	Shaft resonance suppression filter selection	Hex	_ _ _ X		Shaft resonance suppression filter selection	Hex	PB23.0	The setting value will be maintained.
	Low-pass filter selection		_ _ X _		Low-pass filter selection		PB23.1	The setting value will be maintained.
PB24	Slight vibration suppression control			PB24	Slight vibration suppression control			
	Slight vibration suppression control selection	Hex	_ _ _ X		Slight vibration suppression control selection	Hex	PB24.0	The setting value will be maintained.
	PI-PID switching control selection		_ _ X _		PI-PID switching control selection		PB24.1	The setting value will be maintained.
PB25	Function selection B-1			PB25	Function selection B-1			
	Model adaptive control selection	Hex	_ _ _ X		Model adaptive control selection	Hex	PB25.0	The setting value will be maintained.
PB26	Gain switching function		—	PB26	Gain switching function			
	Gain switching selection	Hex	_ _ _ X		Gain switching selection	Hex	PB26.0	The setting value will be maintained.
	Gain switching - Condition selection		_ _ X _		Gain switching - Condition selection		PB26.1	The setting value will be maintained.
	Gain switching time constant - Disabling condition selection		_ X _ _		Gain switching time constant - Disabling condition selection		PB26.2	The setting value will be maintained.
PB27	Gain switching condition	Dec	—	PB27	Gain switching condition	Dec	—	When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 0_ (standard control mode) and [Pr. PB26] is set to _ _ _ 3 (droop pulses): The value of [Pr. PB27] in the MR-J4-_B_/MR-J4W_-_B is multiplied by 16. When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to _ _ 1_ (fully closed loop control mode) and [Pr. PB26] is set to _ _ _ 3 (droop pulses): The value will be converted to "10 (initial value)". For the values other than the above, the setting value will be maintained.
PB28	Gain switching time constant	Dec	—	PB28	Gain switching time constant	Dec	—	The setting value will be maintained.
PB29	Load to motor inertia ratio/load to motor mass ratio after gain switching	Dec	—	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio	Dec	—	The setting value will be maintained.
PB30	Position loop gain after gain switching	Dec	—	PB30	Position loop gain after gain switching	Dec	—	The setting value will be maintained.
PB31	Speed loop gain after gain switching	Dec	—	PB31	Speed loop gain after gain switching	Dec	—	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB32	Speed integral compensation after gain switching	Dec	—	PB32	Speed integral compensation after gain switching	Dec	—	The setting value will be maintained.
PB33	Vibration suppression control 1 - Vibration frequency after gain switching	Dec	—	PB33	Vibration suppression control 1 - Vibration frequency after gain switching	Dec	—	The setting value will be maintained.
PB34	Vibration suppression control 1 - Resonance frequency after gain switching	Dec	—	PB34	Vibration suppression control 1 - Resonance frequency after gain switching	Dec	—	The setting value will be maintained.
PB35	Vibration suppression control 1 - Vibration frequency damping after gain switching	Dec	—	PB35	Vibration suppression control 1 - Vibration frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching	Dec	—	PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB45	Command notch filter			PB45	Command notch filter			
	Command notch filter setting frequency selection	Hex	_ _ XX		Command notch filter setting frequency selection	Hex	PB45.0-1	The servo parameters will be converted in accordance with the table below.
	Notch depth selection		_ X _ _		Notch depth selection		PB45.2	The setting value will be maintained.

Conversion rules for [Pr. PB45.0-1] when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B

Setting value before conversion PB45 _ _ xx	Setting value after conversion MR-J5-_B_/MR-J5W_-_B PB45.0-1	Setting value before conversion MR-J4-_B_/MR-J4W_-_B PB45 _ _ xx	Setting value after conversion MR-J5-_B_/MR-J5W_-_B PB45.0-1
00	00	20	1F
01	01	21	21
02	02	22	22
03	03	23	23
04	04	24	24
05	04	25	25
06	06	26	26
07	07	27	27
08	08	28	27
09	09	29	29
0A	0A	2A	2A
0B	0B	2B	2B
0C	0C	2C	2C
0D	0D	2D	2D
0E	0D	2E	2E
0F	0F	2F	2F
10	10	30	30
11	11	31	31
12	12	32	32
13	13	33	33
14	14	34	34
15	15	35	35
16	16	36	36
17	17	37	36
18	17	38	38
19	19	39	39
1A	1A	3A	3A
1B	1B	3B	3B
1C	1C	3C	3C
1D	1D	3D	3D
1E	1E	3E	3E
1F	1F	3F	3F
40	40	50	50
41	41	51	51
42	42	52	52
43	43	53	53
44	44	54	54
45	45	55	55
46	46	56	56
47	46	57	56
48	48	58	58
49	49	59	59
4A	4A	5A	5A
4B	4B	5B	5B
4C	4C	5C	5C
4D	4D	5D	5D
4E	4E	5E	5E
4F	4F	5F	5F

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PB46	Machine resonance suppression filter 3	Dec	—	PB46	Machine resonance suppression filter 3	Dec	—	The setting value will be maintained.
PB47	Notch shape selection 3			PB47	Notch shape selection 3			
	Machine resonance suppression filter 3 selection	Hex	_ _ _ X		Machine resonance suppression filter 3 selection	Hex	PB47.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB47.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB47.2	The setting value will be maintained.
PB48	Machine resonance suppression filter 4	Dec	—	PB48	Machine resonance suppression filter 4	Dec	—	The setting value will be maintained.
PB49	Notch shape selection 4			PB49	Notch shape selection 4			
	Machine resonance suppression filter 4 selection	Hex	_ _ _ X		Machine resonance suppression filter 4 selection	Hex	PB49.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB49.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB49.2	The setting value will be maintained.
PB50	Machine resonance suppression filter 5	Dec	—	PB50	Machine resonance suppression filter 5	Dec	—	The setting value will be maintained.
PB51	Notch shape selection 5			PB51	Notch shape selection 5			
	Machine resonance suppression filter 5 selection	Hex	_ _ _ X		Machine resonance suppression filter 5 selection	Hex	PB51.0	The setting value will be maintained.
	Notch depth selection		_ _ X _		Notch depth selection		PB51.1	The setting value will be maintained.
	Notch width selection		_ X _ _		Notch width selection		PB51.2	The setting value will be maintained.
PB52	Vibration suppression control 2 - Vibration frequency	Dec	—	PB52	Vibration suppression control 2 - Vibration frequency	Dec	—	The setting value will be maintained.
PB53	Vibration suppression control 2 - Resonance frequency	Dec	—	PB53	Vibration suppression control 2 - Resonance frequency	Dec	—	The setting value will be maintained.
PB54	Vibration suppression control 2 - Vibration frequency damping	Dec	—	PB54	Vibration suppression control 2 - Vibration frequency damping	Dec	—	The setting value will be maintained.
PB55	Vibration suppression control 2 - Resonance frequency damping	Dec	—	PB55	Vibration suppression control 2 - Resonance frequency damping	Dec	—	The setting value will be maintained.
PB56	Vibration suppression control 2 - Vibration frequency after gain switching	Dec	—	PB56	Vibration suppression control 2 - Vibration frequency after gain switching	Dec	—	The setting value will be maintained.
PB57	Vibration suppression control 2 - Resonance frequency after gain switching	Dec	—	PB57	Vibration suppression control 2 - Resonance frequency after gain switching	Dec	—	The setting value will be maintained.
PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching	Dec	—	PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching	Dec	—	PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching	Dec	—	The setting value will be maintained.
PB60	Model loop gain after gain switching	Dec	—	PB60	Model loop gain after gain switching	Dec	—	The setting value will be maintained.

Extension setting servo parameters group ([Pr. PC_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PC18 Function selection C-5]
- [Pr. PC20 Function selection C-7]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PC01	Error excessive alarm level	Dec	—	PC01	Error excessive alarm level	Dec	-	The setting value will be maintained.
PC02	Electromagnetic brake sequence output	Dec	—	PC02	Electromagnetic brake sequence output	Dec	-	The setting value will be maintained.
PC03	Encoder output pulse selection			PC03	Encoder output pulses selection			
	Encoder output pulse phase selection	Hex	_ _ _ X		Encoder output pulse - Phase selection	Hex	PC03.0	The setting value will be maintained.
	Encoder output pulse setting selection		_ _ X _		Encoder output pulse setting selection		PC03.1	The setting value will be maintained.
	Encoder selection for encoder output pulse		_ X _ _		Encoder selection for encoder output pulse		PC03.2	The setting value will be maintained.
PC04	Function selection C-1			PC04	Function selection C-1			
	Encoder cable communication method selection	Hex	X _ _ _		Encoder cable communication method selection	Hex	PC04.3	The setting value will be maintained.
PC05	Function selection C-2			PC05	Function selection C-2			
	Motor-less operation selection	Hex	_ _ _ X		Motor-less operation selection	Hex	PC05.0	The setting value will be maintained.
PC06	Function selection C-3			PC06	Function selection C-3			
	Excessive error alarm and excessive error warning trigger level unit selection	Hex	X _ _ _		Excessive error alarm trigger level/excessive error warning trigger level - Unit selection	Hex	PC06.3	The setting value will be maintained.
PC07	Zero speed	Dec	—	PC07	Zero speed	Dec	—	The setting value will be maintained.
PC08	Overspeed alarm detection level	Dec	—	PC08	Overspeed alarm detection level	Dec	—	The setting value will be maintained.
PC09 *1	Analog monitor 1 output			PC09 *1	Analog monitor 1 output			
	Analog monitor 1 output selection	Hex	_ _ XX		Analog monitor 1 output selection	Hex	PC09.0-1	When the setting value of the MR-J4-_B_ is "_ _ 0A", "_ _ 0B", or "_ _ 0C": The value will be converted to "00". For the values other than the above, the setting value will be maintained.
PC10 *1	Analog monitor 2 output			PC10 *1	Analog monitor 2 output			
	Analog monitor 2 output selection	Hex	_ _ XX		Analog monitor 2 output selection	Hex	PC10.0-1	When the setting value of the MR-J4-_B_ is "_ _ 0A", "_ _ 0B", or "_ _ 0C": The value will be converted to "00". For the values other than the above, the setting value will be maintained.
PC11 *1	Analog monitor 1 offset	Dec	—	PC11 *1	Analog monitor 1 offset	Dec	—	Servo parameter conversion will not be performed as this is an offset function. Perform the settings again as required.
PC12 *1	Analog monitor 2 offset	Dec	—	PC12 *1	Analog monitor 2 offset	Dec	—	Servo parameter conversion will not be performed as this is an offset function. Perform the settings again as required.

*1 Available only on the MR-J4-_B_/MR-J5-_B_.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PC17	Function selection C-4			PC17	Function selection C-4			
	Homing condition selection	Hex	_ _ _ X		Homing condition selection	Hex	PC17.0	The setting value will be maintained.
	Linear scale multipoint Z-phase input function selection		_ _ X _		Linear encoder multipoint Z-phase input function selection		PC17.1	The setting value will be maintained.
PC18	Function selection C-5			PC18	Function selection C-5			
	[AL. E9 Main circuit off warning] selection	Hex	X _ _ _		[AL. 0E9 Main circuit off warning] selection	Hex	PC18.3	The setting value will be maintained.
PC20	Function selection C-7			PC20	Function selection C-7			
	Undervoltage alarm selection	Hex	_ X _ _		Undervoltage alarm selection	Hex	PC20.2	The setting value will be maintained.
PC21	Alarm history clear			PC21	Alarm history clear			
	Alarm clear history selection	Hex	_ _ _ X		Alarm clear history selection	Hex	PC21.0	The setting value will be maintained.
PC24	Forced stop deceleration time constant	Dec	—	PC24	Deceleration time constant at forced stop	Dec	—	The setting value will be maintained.
PC26	Function selection C-8			PC26	Function selection C-8			
	Load-side encoder cable communication method selection	Hex	X _ _ _		Load-side encoder cable communication method selection	Hex	PC26.3	The setting value will be maintained.
PC27	Function selection C-9			PC27	Function selection C-9			
	Encoder pulse count polarity selection	Hex	_ _ _ X		Encoder pulse count polarity selection	Hex	PC27.0	The setting value will be maintained.
	ABZ phase input interface encoder Z-phase connection assessment function selection		_ X _ _		ABZ phase input interface encoder ABZ phase connection assessment function selection		PC27.2	The setting value will be maintained.
PC29	Function selection C-B			PC29	Function selection C-B			
	POL reflection selection at torque control	Hex	X _ _ _		Torque POL reflection selection	Hex	PC29.3	The setting value will be maintained.
PC31	Vertical axis freefall prevention compensation amount	Dec	—	PC31	Vertical axis freefall prevention compensation amount	Dec	—	The setting value will be maintained.
PC38	Error excessive warning level	Dec	—	PC38	Error excessive warning level	Dec	—	The servo parameters will be converted in accordance with the table below.

Conversion rules for [Pr. PC38] when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B

- When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to a value other than "_ _ 4_":

Setting details	MR-J4-_B_/MR-J4W_-_B		MR-J5-_B_/MR-J5W_-_B
	PC05: X _ _ _ [AL. 9B Excessive error warning] selection	PC38: Error excessive warning level	PC38: Excessive error warning trigger level
Excessive error warning disabled	0: Disabled		The value will be converted to "0 (initial value)".
Setting the error excessive warning level to 1 rev	1: Enabled	0	The value will be converted to "1".
Setting the error excessive warning level to the value of [Pr. PC38]		Setting value other than 0	The setting value will be maintained.

• When [Pr. PA01] of the MR-J4-_B_/MR-J4W_-_B is set to "_ _ 4_":

Setting details	MR-J4-_B_/MR-J4W_-_B		MR-J5-_B_/MR-J5W_-_B
	PC05: X _ _ _ [AL. 9B Excessive error warning] selection	PC38: Error excessive warning level	PC38: Excessive error warning trigger level
Excessive error warning disabled	0: Disabled		The value will be converted to "0 (initial value)".
Setting the error excessive warning level to 50 mm	1: Enabled	0	The value will be converted to "50".
Setting the error excessive warning level to the value of [Pr. PC38]		Setting value other than 0	The setting value will be maintained.

I/O setting servo parameters group ([Pr. PD_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PD08 Output device selection 2]
- [Pr. PD09 Output device selection 3]
- [Pr. PD11 Input filter setting]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PD02	Input signal automatic on selection 2			PD02	Input signal automatic on selection 2			
	BIN: _ _ _ x: FLS (Upper stroke limit) selection _ _ x _: RLS (Lower stroke limit) selection	Hex	_ _ _ X		BIN: _ _ _ x: Upper stroke limit selection (FLS) _ _ x _: Lower stroke limit selection (RLS)	Hex	PD02.0	The setting value will be maintained.
PD07	Output device selection 1			PD07	Output device selection 1			
	Device selection	Hex	_ _ XX		Device selection	Hex	PD07.0-1	The setting value will be maintained.
PD08	Output device selection 2			PD08	Output device selection 2			
	Device selection	Hex	_ _ XX		Device selection	Hex	PD08.0-1	The setting value will be maintained.
	All-axis output condition selection *1		_ X _ _		All-axis output condition selection *1		PD08.2	The setting value will be maintained.
	Output axis selection *1		X _ _ _		Output axis selection *1		PD08.3	The setting value will be maintained.
PD09	Output device selection 3			PD09	Output device selection 3			
	Device selection	Hex	_ _ XX		Device selection	Hex	PD09.0-1	The setting value will be maintained.
	All-axis output condition selection *1		_ X _ _		All-axis output condition selection *1		PD09.2	The setting value will be maintained.
	Output axis selection *1		X _ _ _		Output axis selection *1		PD09.3	The setting value will be maintained.

*1 Available only with multi-axis servo amplifiers.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PD11	Input filter setting			PD11	Input filter setting			
	Input signal filter selection	Hex	_ _ _ X		Input signal filter selection	Hex	PD11.0	For the RnMTCPU and Q17nDSCPU, the values selected on the amplifier setting screen of MT Developer2 will be reflected. For the RD77MS and QD77MS, the servo parameters will be converted in accordance with the table below.

Conversion rules for [Pr. PD11] when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B

MR-J4-_B_/MR-J4W_-_B PD11: _ _ _ X	MR-J5-_B_/MR-J5W_-_B PD11.0
0: No filter	0: No filter
1: 0.888 ms	1: 0.500 ms
2: 1.777 ms	3: 1.500 ms
3: 2.666 ms	5: 2.500 ms
4: 3.555 ms	7: 3.500 ms

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PD12	Function selection D-1			PD12	Function selection D-1			
	Servo motor or linear servo motor thermistor enabled/disabled selection	Hex	X _ _ _		Servo motor thermistor enabled/disabled selection	Hex	PD12.3	The setting value will be maintained.
PD13	Function selection D-2			PD13	Function selection D-2			
	INP (In-position) on condition selection	Hex	_ X _ _		INP output signal ON condition selection	Hex	PD13.2	The setting value will be maintained.
PD14	Function selection D-3			PD14	Function selection D-3			
	Output device status at warning occurrence	Hex	_ _ X _		Output device status at warning occurrence	Hex	PD14.1	The setting value will be maintained.
PD15	Driver communication setting			PD15	Driver communication setting			
	Master axis operation selection	Hex	_ _ _ X		Master axis operation selection	Hex	PD15.0	The setting value will be maintained.
	Slave axis operation selection		_ _ X _		Slave axis operation selection		PD15.1	The setting value will be maintained.
PD16	Driver communication setting - Master - Transmit data selection 1			PD16	Driver communication setting - Master - Transmit data selection 1	Hex	—	The setting value will be maintained.
	Transmission data selection	Hex	_ _ XX		-	Hex	PD16.0-7	The setting value will be maintained.
PD17	Driver communication setting - Master - Transmit data selection 2			PD17	Driver communication setting - Master - Transmit data selection 2	Hex	—	The setting value will be maintained.
	Transmission data selection	Hex	_ _ XX		-	Hex	PD17.0-7	The setting value will be maintained.
PD20	Driver communication setting - Slave - Master axis No. selection 1	Dec	—	PD20	Driver communication setting - Slave - Master axis No. selection 1	Dec	—	The setting value will be maintained.
PD30	Master-slave operation - Slave-side torque command coefficient	Dec	—	PD30	Master-slave operation - Slave-side torque command coefficient	Dec	—	The setting value will be maintained.
PD31	Master-slave operation - Speed limit coefficient on slave	Dec	—	PD31	Master-slave operation - Speed limit coefficient on slave	Dec	—	The setting value will be maintained.
PD32	Master-slave operation - Slave-side speed limit adjusted value	Dec	—	PD32	Master-slave operation - Slave-side speed limit adjusted value	Dec	—	The setting value will be maintained.

Extension setting 2 servo parameters group ([Pr. PE_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PE01	Fully closed loop function selection 1			PE01	Fully closed loop function selection 1			
	Fully closed loop function selection	Hex	_ _ _ X		Fully closed loop function selection	Hex	PE01.0	The setting value will be maintained.
PE03	Fully closed loop function selection 2			PE03	Fully closed loop function selection 2			
	Fully closed loop control error - Detection function selection	Hex	_ _ _ X		Fully closed loop control error - Detection function selection	Hex	PE03.0	The setting value will be maintained.
	Position deviation error - Detection method selection		_ _ X _		Position deviation error - Detection method selection		PE03.1	The setting value will be maintained.
	Fully closed loop control error - Reset selection		X _ _ _		Fully closed loop control error - Reset selection		PE03.3	The setting value will be maintained.
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	Dec	—	PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	Dec	—	The value will be converted to "1 (initial value)".
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	Dec	—	PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	Dec	—	The value will be converted to "1 (initial value)".
PE06	Fully closed loop control - Speed deviation error detection level	Dec	—	PE06	Fully closed loop control - Speed deviation error detection level	Dec	—	The setting value will be maintained.
PE07	Fully closed loop control - Position deviation error detection level	Dec	—	PE07	Fully closed loop control - Position deviation error detection level	Dec	—	The value will be converted to "100 (initial value)".
PE08	Fully closed loop dual feedback filter	Dec	—	PE08	Fully closed loop dual feedback filter	Dec	—	When the setting value of the MR-J4-_B_ is "0": The value will be converted to "1". For the values other than the above, the setting value will be maintained.
PE10	Fully closed loop function selection 3			PE10	Fully closed loop function selection 3			
	Fully closed loop control - Position deviation error detection level - Unit selection	Hex	_ _ X _		Fully closed loop control - Position deviation error detection level - Unit selection	Hex	PE10.1	The setting value will be maintained.
	Droop pulse monitor selection for controller display		_ X _ _		Droop pulse monitor selection for controller display		PE10.2	The setting value will be maintained.
	Cumulative feedback pulse monitor selection for controller display		X _ _ _		Cumulative feedback pulse monitor selection for controller display		PE10.3	The setting value will be maintained.
PE41	Function selection E-3			PE41	Function selection E-3			
	Robust filter selection	Hex	_ _ _ X		Robust filter selection	Hex	PE41.0	The setting value will be maintained.
PE44	Lost motion compensation positive-side compensation value selection	Dec	—	PE44	Lost motion compensation positive-side compensation value selection	Dec	—	The setting value will be maintained.
PE45	Lost motion compensation negative-side compensation value selection	Dec	—	PE45	Lost motion compensation negative-side compensation value selection	Dec	—	The setting value will be maintained.
PE46	Lost motion filter setting	Dec	—	PE46	Lost motion filter setting	Dec	—	The setting value will be maintained.
PE47	Torque offset	Dec	—	PE47	Unbalanced torque offset	Dec	—	The setting value will be maintained.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PE48	Lost motion compensation function selection			PE48	Lost motion compensation function selection			
	Lost motion compensation selection	Hex	_ _ _ X		Lost motion compensation type selection	Hex	PE48.0	The setting value will be maintained.
	Unit setting of Lost motion compensation non-sensitive band		_ _ _ X		Lost motion compensation dead band unit setting		PE48.1	The setting value will be maintained.
PE49	Lost motion compensation timing	Dec	—	PE49	Lost motion compensation timing	Dec	—	The setting value will be maintained.
PE50	Lost motion compensation non-sensitive band	Dec	—	PE50	Lost motion compensation non-sensitive band	Dec	—	The setting value will be maintained.

Extension setting 3 servo parameters group ([Pr. PF_ _])

Point

For a multi-axis servo amplifier, the following parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PF02 Function selection F-2]
- [Pr. PF18 STO diagnosis error detection time]
- [Pr. PF21 Drive recorder switching time setting]
- [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time]

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PF02	Function selection F-2			PF02	Function selection F-2			
	Target alarm selection of the other axis error warning *1	Hex	_ _ _ X		Target alarm selection of the other axis error warning *1	Hex	PF02.0	The setting value will be maintained.
PF06	Function selection F-5			PF06	Function selection F-5			
	Electronic dynamic brake selection	Hex	_ _ _ X		Electronic dynamic brake selection	Hex	PF06.0	The value will be converted to "3 (initial value)".
PF12	Electronic dynamic brake operating time	Dec	—	PF12	Electronic dynamic brake operating time	Dec	—	The setting value will be maintained.
PF18	STO diagnosis error detection time	Dec	—	PF18	STO diagnosis error detection time	Dec	—	The setting value will be maintained.
PF21	Drive recorder switching time setting	Dec	—	PF21	Drive recorder switching time setting	Dec	—	When the setting value of the MR-J4-_B_ is "0": The value will be converted to "600". For the values other than the above, the setting value will be maintained.
PF23	Vibration tough drive - Oscillation detection level	Dec	—	PF23	Vibration tough drive - Oscillation detection level	Dec	—	When the setting value of the MR-J4-_B_ is "0": The value will be converted to "50". For the values other than the above, the setting value will be maintained.
PF24	Vibration tough drive function selection			PF24	Function selection F-9			
	Oscillation detection alarm selection	Hex	_ _ _ X		Oscillation detection alarm selection	Hex	PF24.0	The setting value will be maintained.
PF25	SEMI-F47 function - Instantaneous power failure detection time	Dec	—	PF25	SEMI-F47 function - Instantaneous power failure detection time (instantaneous power failure tough drive - detection time)	Dec	—	The setting value will be maintained.
PF31	Machine diagnosis function - Friction judgment speed	Dec	—	PF31	Machine diagnosis function - Friction judgment speed	Dec	—	The setting value will be maintained.

*1 Available only with multi-axis servo amplifiers.

Motor extension setting servo parameters group ([Pr. PL_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PL01	Linear servo motor/DD motor function selection 1			PL01	Function selection L-1			
	Linear servo motor/DD motor magnetic pole detection selection	Hex	_ _ _ X		Servo motor magnetic pole detection selection	Hex	PL01.0	The setting value will be maintained.
	Homing stop interval selection		_ X _ _		Homing stop interval setting		PL01.2	The setting value will be maintained.
PL02	Linear encoder resolution - Numerator	Dec	—	PL02	Linear encoder resolution - Numerator	Dec	—	The setting value will be maintained.
PL03	Linear encoder resolution - Denominator	Dec	—	PL03	Linear encoder resolution - Denominator	Dec	—	The setting value will be maintained.
PL04	Linear servo motor/DD motor function selection 2			PL04	Function selection L-2			
	[AL. 42 Servo control error] detection function selection	Hex	_ _ _ X		[AL. 042 Servo control error] detection function selection	Hex	PL04.0	The setting value will be maintained.
	[AL. 42 Servo control error] detection controller reset condition selection		X _ _ _		[AL. 042 Servo control error] detection controller reset condition selection		PL04.3	The setting value will be maintained.
PL05	Position deviation error detection level	Dec	—	PL05	Position deviation error detection level	Dec	—	The setting value will be maintained.
PL06	Position deviation error detection level	Dec	—	PL06	Position deviation error detection level	Dec	—	The setting value will be maintained.
PL07	Torque/thrust deviation error detection level	Dec	—	PL07	Torque deviation error detection level	Dec	—	The setting value will be maintained.
PL08	Linear servo motor/DD motor function selection 3			PL08	Function selection L-3			
	Magnetic pole detection method selection	Hex	_ _ _ X		Magnetic pole detection method selection	Hex	PL08.0	When the setting value of the MR-J4-_B_ is "0" or "4": The setting value will be maintained. For values other than the above, the value will be converted to "0 (initial value)".
	Magnetic pole detection - Stroke limit enabled/ disabled selection		_ X _ _		Magnetic pole detection - Stroke limit enabled/ disabled selection		PL08.2	The setting value will be maintained.
PL09	Magnetic pole detection voltage level	Dec	—	PL09	Magnetic pole detection voltage level	Dec	—	The setting value will be maintained.
PL17	Magnetic pole detection - Minute position detection method - Function selection			PL17	Magnetic pole detection - Minute position detection method - Function selection			
	Response selection	Hex	_ _ _ X		Response selection	Hex	PL17.0	The setting value will be maintained.
	Load to motor mass ratio/load to motor inertia ratio selection		_ _ X _		Load to motor mass ratio/load to motor inertia ratio selection		PL17.1	The setting value will be maintained.
PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude	Dec	—	PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude	Dec	—	The setting value will be maintained.

12 SERVO PARAMETERS

Precautions

Never make a drastic adjustment or change to the servo parameter values as doing so will make the operation unstable.
Do not change the servo parameter settings as described below. Doing so may cause an unexpected condition, such as failing to start up the servo amplifier.

- Changing the values of the servo parameters for manufacturer setting
- Setting a value outside the range
- Changing the fixed value in each servo parameter

When writing servo parameters with the controller, make sure that the control axis No. of the servo amplifier is set correctly. Failure to do so may cause the servo parameter settings of another axis to be written and result in the servo amplifier being in an unexpected condition.
Some servo parameters are adjusted automatically. For example, auto tuning automatically adjusts gain servo parameters.

Point

For the MR-J4-_B_ and MR-J5-_B_, the servo parameter sizes are as follows.

- MR-J4-_B_/MR-J4W_-_B: 16 bits
- MR-J5-_B_/MR-J5W_-_B: 32 bits

The servo parameters in which the symbols are preceded by * are enabled by the following conditions.
*: After setting, turn off the power and turn it on again, or reset either the controller or the software.
**: After setting, turn off the power and turn it on again, or reset the software.
For how to interpret the servo parameter numbers of the MR-J5-_B_, refer to the following manual.
MR-J5-B/MR-J5W-B User's Manual (Introduction)
For replacement, always refer to the following manual for details on the servo parameter settings, and configure appropriate settings.
MR-J5-B/MR-J5W-B User's Manual (Parameters)
Settable servo parameters and values depend on the controller model being used, MR-J5-_B_ servo amplifier firmware version (MR-J4-_B_ servo amplifier software version), and MR Configurator2 software version. For details, refer to the manual for the controller being used. Refer to the Mitsubishi Electric FA site for the latest software version of MR Configurator2.
http://www.mitsubishielectric.com/fa/
In addition, the firmware version of the MR-J5-_B_ servo amplifier (software version of the MR-J4-_B_ servo amplifier) can be checked with MR Configurator2 or by other means.

12.1 Servo Parameters Required to be Set When Replacing

The servo parameters shown here are the servo parameters that need to be set at the minimum when replacing servo amplifiers all at once. Note that it may be necessary to set servo parameters other than the ones shown here depending on the settings of the servo amplifier before replacement.

Servo parameter No.	Name	Setting method	Precautions
PA02.0-1	Regenerative option selection	Common	It is not converted with the parameter converter function. Refer to the following manual and set a value in accordance with the regenerative option being connected. 📖MR-J5 User's Manual (Hardware)
PA09	Auto tuning response	Each axis	Refer to the following for the setting value of this servo parameter upon replacement. ☞ Page 343 Comparison of Servo Parameter Details It is necessary to make gain adjustment again when replacing. For details on how to make gain adjustments, refer to the following manual. 📖MR-J5 User's Manual (Adjustment) The setting value needs be changed based on the standard machine resonance frequency.
PA10	In-position range	Each axis	Set the servo parameter again in accordance with the servo motor.
PA15	Encoder output pulses	Each axis	
PA16	Encoder output pulses 2	Each axis	
PA23.0-1	Alarm detail number setting	Common	It is not converted with the parameter converter function. Perform the settings again as required.
PA23.2-4	Alarm number setting	Common	
PB13	Machine resonance suppression filter 1	Each axis	The parameter converter function maintains the setting values of the MR-J4-_B_/MR-J4W_-B.
PB14	Notch shape selection 1	Each axis	
PB15	Machine resonance suppression filter 2	Each axis	
PB16	Notch shape selection 2	Each axis	
PB27	Gain switching condition	Each axis	Set the servo parameter again in accordance with the servo motor.
PB30	Position loop gain after gain switching	Each axis	The parameter converter function maintains the setting values of the MR-J4-_B_/MR-J4W_-B.
PB31	Speed loop gain after gain switching	Each axis	
PB32	Speed integral compensation after gain switching	Each axis	
PB46	Machine resonance suppression filter 3	Each axis	
PB47	Notch shape selection 3	Each axis	
PB48	Machine resonance suppression filter 4	Each axis	
PB49	Notch shape selection 4	Each axis	
PB50	Machine resonance suppression filter 5	Each axis	
PB51	Notch shape selection 5	Each axis	
PC11	Analog monitor 1 offset	Common	It is not converted with the parameter converter function. Perform the settings again as required.
PC12	Analog monitor 2 offset	Common	
PD11	Input filter setting	Common	Signal input timing changes between the MR-J4-_B_/MR-J4W_-_B and MR-J5-_B_/MR-J5W_-_B. Perform the settings again as required.
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	Each axis	Set the servo parameter again in accordance with the combination of the encoder being used.
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	Each axis	
PE07	Fully closed loop control - Position deviation error detection level	Each axis	It is converted to "1 (initial value)" by the parameter converter function. Perform the settings again as required.
PE08	Fully closed loop dual feedback filter	Each axis	When the setting value of the MR-J4-_B_/MR-J4W_-B is "0 rad/s", the value will be converted to "1 rad/s" by the parameter converter function. Perform the settings again as required.
PF06.0	Electronic dynamic brake selection	Each axis	The parameter converter function converts the setting value to "3 (initial value)". Perform the settings again as required.

12.2 Servo Parameter Comparison List

Basic setting servo parameters group ([Pr. PA_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PA02 Regenerative option]
- [Pr. PA04 Function selection A-1]
- [Pr. PA23 Drive recorder desired alarm trigger setting]

Use the setting value column to write notes for replacement.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PA01	**STY	Operation mode	1000h		PA01	**STY	Operation mode	00003000h	
PA02	**REG	Regenerative option	0000h		PA02	**REG	Regenerative option	00000000h	
PA03	*ABS	Absolute position detection system	0000h		PA03	*ABS	Absolute position detection system	00000000h	
PA04	*AOP1	Function selection A-1	2000h		PA04	*AOP1	Function selection A-1	00002000h	
PA05	—	For manufacturer setting	10000		PA05	—	For manufacturer setting	10000	
PA06	—	For manufacturer setting	1		PA06	*CMX	Electronic gear numerator	1	
PA07	—	For manufacturer setting	1		PA07	*CDV	Electronic gear denominator	1	
PA08	ATU	Auto tuning mode	0001h		PA08	ATU	Auto tuning mode	00000001h	
PA09	RSP	Auto tuning response	16		PA09	RSP	Auto tuning response	16	
PA10	INP	In-position range	1600		PA10	INP	In-position range	25600	
PA11	—	For manufacturer setting	1000.0		PA11	—	For manufacturer setting	1000.0	
PA12	—	For manufacturer setting	1000.0		PA12	—	For manufacturer setting	1000.0	
PA13	—	For manufacturer setting	0000h		PA13	—	For manufacturer setting	00000000h	
PA14	*POL	Rotation direction selection/travel direction selection	0		PA14	*POL	Travel direction selection	0	
PA15	*ENR	Encoder output pulses	4000		PA15	*ENR	Encoder output pulses	4000	
PA16	*ENR2	Encoder output pulses 2	1		PA16	*ENR2	Encoder output pulses 2	1	
PA17	**MSR	Servo motor series setting	0000h		PA17	**MSR	Servo motor series setting	00000000h	
PA18	**MTY	Servo motor type setting	0000h		PA18	**MTY	Servo motor type setting	00000000h	
PA19	*BLK	Parameter writing inhibit	00ABh		PA19	—	For manufacturer setting	000000ABh	
PA20	*TDS	Tough drive setting	0000h		PA20	*TDS	Tough drive setting	00000000h	
PA21	*AOP3	Function selection A-3	0001h		PA21	*AOP3	Function selection A-3	00000001h	
PA22	**PCS	Position control composition selection	0000h		PA22	**PCS	Position control configuration selection	00000000h	
PA23	DRAT	Drive recorder arbitrary alarm trigger setting	0000h		PA23	DRAT	Drive recorder desired alarm trigger setting	00000000h	
PA24	AOP4	Function selection A-4	0000h		PA24	AOP4	Function selection A-4	00000000h	
PA25	OTHOV	One-touch tuning - Overshoot permissible level	0		PA25	OTHOV	One-touch tuning - Overshoot permissible level	0	
PA26	*AOP5	Function selection A-5	0000h		PA26	*AOP5	Function selection A-5	00000000h	
PA27	—	For manufacturer setting	0000h		PA27	—	For manufacturer setting	00000000h	
PA28	—	For manufacturer setting	0000h		PA28	**AOP6	Function selection A-6	00000000h	
PA29	—	For manufacturer setting	0000h		PA29	—	For manufacturer setting	0	
PA30	—	For manufacturer setting	0000h		PA30	—	For manufacturer setting	0	
PA31	—	For manufacturer setting	0000h		PA31	—	For manufacturer setting	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PA32	—	For manufacturer setting	0000h		PA32	—	For manufacturer setting	00000001h	
—					PA33	—	For manufacturer setting	0.0	
—					PA34	QDIS	Quick tuning - Permissible travel distance	0	
—					PA35	—	For manufacturer setting	00000000h	
—					PA36	—	For manufacturer setting	00000000h	
—					PA37	—	For manufacturer setting	00000000h	
—					PA38	—	For manufacturer setting	00000000h	
—					PA39	—	For manufacturer setting	00000000h	
—					PA40	—	For manufacturer setting	00000000h	
—					PA41	—	For manufacturer setting	00000000h	
—					PA42	—	For manufacturer setting	00000000h	
—					PA43	—	For manufacturer setting	00000000h	
—					PA44	—	For manufacturer setting	00000000h	
—					PA45	—	For manufacturer setting	00000000h	
—					PA46	—	For manufacturer setting	00000000h	
—					PA47	—	For manufacturer setting	00000000h	
—					PA48	—	For manufacturer setting	00000000h	

Gain/filter setting servo parameters group ([Pr. PB_ _])

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB01	FILT	Adaptive tuning mode (adaptive filter II)	0000h		PB01	FILT	Adaptive tuning mode (adaptive filter II)	00000000h	
PB02	VRFT	Vibration suppression control tuning mode (Advanced vibration suppression control)	0000h		PB02	VRFT	Vibration suppression control tuning mode (Advanced vibration suppression control II)	00000000h	
PB03	TFBGN	Torque feedback loop gain	18000		PB03	TFBGN	Torque feedback loop gain	36000	
PB04	FFC	Feed forward gain	0		PB04	FFC	Feed forward gain	0	
PB05		For manufacturer setting	500		PB05		For manufacturer setting	500	
PB06	GD2	Load to motor inertia ratio/ load to motor mass ratio	7.00		PB06	GD2	Load to motor inertia ratio/ load to motor mass ratio	7.00	
PB07	PG1	Model loop gain	15.0		PB07	PG1	Model control gain	15.0	
PB08	PG2	Position loop gain	37.0		PB08	PG2	Position control gain	37.0	
PB09	VG2	Speed loop gain	823		PB09	VG2	Speed control gain	823	
PB10	VIC	Speed integral compensation	33.7		PB10	VIC	Speed integral compensation	33.7	
PB11	VDC	Speed differential compensation	980		PB11	VDC	Speed differential compensation	980	
PB12	OVA	Overshoot amount compensation	0		PB12	OVA	Overshoot amount compensation	0	
PB13	NH1	Machine resonance suppression filter 1	4500		PB13	NH1	Machine resonance suppression filter 1	4500	
PB14	NHQ1	Notch shape selection 1	0000h		PB14	NHQ1	Notch shape selection 1	00000000h	
PB15	NH2	Machine resonance suppression filter 2	4500		PB15	NH2	Machine resonance suppression filter 2	4500	
PB16	NHQ2	Notch shape selection 2	0000h		PB16	NHQ2	Notch shape selection 2	00000000h	
PB17	NHF	Shaft resonance suppression filter	0000h		PB17	NHF	Shaft resonance suppression filter	00000000h	
PB18	LPF	Low-pass filter setting	3141		PB18	LPF	Low-pass filter setting	3141	
PB19	VRF11	Vibration suppression control 1 - Vibration frequency	100.0		PB19	VRF11	Vibration suppression control 1 - Vibration frequency	100.0	
PB20	VRF12	Vibration suppression control 1 - Resonance frequency	100.0		PB20	VRF12	Vibration suppression control 1 - Resonance frequency	100.0	
PB21	VRF13	Vibration suppression control 1 - Vibration frequency damping	0.00		PB21	VRF13	Vibration suppression control 1 - Vibration frequency damping	0.00	
PB22	VRF14	Vibration suppression control 1 - Resonance frequency damping	0.00		PB22	VRF14	Vibration suppression control 1 - Resonance frequency damping	0.00	
PB23	VFBF	Low-pass filter selection	0000h		PB23	VFBF	Low-pass filter selection	00001000h	
PB24	*MVS	Slight vibration suppression control	0000h		PB24	*MVS	Slight vibration suppression control	00000000h	
PB25	*BOP1	Function selection B-1	0000h		PB25	*BOP1	Function selection B-1	00000000h	
PB26	*CDP	Gain switching function	0000h		PB26	*CDP	Gain switching function	00000000h	
PB27	CDL	Gain switching condition	10		PB27	CDL	Gain switching condition	10	
PB28	CDT	Gain switching time constant	1		PB28	CDT	Gain switching time constant	1	
PB29	GD2B	Load to motor inertia ratio/ load to motor mass ratio after gain switching	7.00		PB29	GD2B	Gain switching - Load to motor inertia ratio/load to motor mass ratio	7.00	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB30	PG2B	Position loop gain after gain switching	0.0		PB30	PG2B	Gain switching - Position control gain	0.0	
PB31	VG2B	Speed loop gain after gain switching	0		PB31	VG2B	Gain switching - Speed control gain	0	
PB32	VICB	Speed integral compensation after gain switching	0.0		PB32	VICB	Gain switching - Speed integral compensation	0.0	
PB33	VRF11B	Vibration suppression control 1 - Vibration frequency after gain switching	0.0		PB33	VRF11B	Gain switching - Vibration suppression control 1 - Vibration frequency	0.0	
PB34	VRF12B	Vibration suppression control 1 - Resonance frequency after gain switching	0.0		PB34	VRF12B	Gain switching - Vibration suppression control 1 - Resonance frequency	0.0	
PB35	VRF13B	Vibration suppression control 1 - Vibration frequency damping after gain switching	0.00		PB35	VRF13B	Gain switching - Vibration suppression control 1 - Vibration frequency damping	0.00	
PB36	VRF14B	Vibration suppression control 1 - Resonance frequency damping after gain switching	0.00		PB36	VRF14B	Gain switching - Vibration suppression control 1 - Resonance frequency damping	0.00	
PB37	—	For manufacturer setting	1600		PB37	—	For manufacturer setting	1600	
PB38	—	For manufacturer setting	0.00		PB38	—	For manufacturer setting	0.000	
PB39	—	For manufacturer setting	0.00		PB39	—	For manufacturer setting	0.000	
PB40	—	For manufacturer setting	0.00		PB40	—	For manufacturer setting	0.000	
PB41	—	For manufacturer setting	0		PB41	—	For manufacturer setting	00000000h	
PB42	—	For manufacturer setting	0		PB42	—	For manufacturer setting	00000000h	
PB43	—	For manufacturer setting	0000h		PB43	—	For manufacturer setting	00000000h	
PB44	—	For manufacturer setting	0.00		PB44	—	For manufacturer setting	0.00	
PB45	CNHF	Command notch filter	0000h		PB45	CNHF	Command notch filter	00000000h	
PB46	NH3	Machine resonance suppression filter 3	4500		PB46	NH3	Machine resonance suppression filter 3	4500	
PB47	NHQ3	Notch shape selection 3	0000h		PB47	NHQ3	Notch shape selection 3	00000000h	
PB48	NH4	Machine resonance suppression filter 4	4500		PB48	NH4	Machine resonance suppression filter 4	4500	
PB49	NHQ4	Notch shape selection 4	0000h		PB49	NHQ4	Notch shape selection 4	00000000h	
PB50	NH5	Machine resonance suppression filter 5	4500		PB50	NH5	Machine resonance suppression filter 5	4500	
PB51	NHQ5	Notch shape selection 5	0000h		PB51	NHQ5	Notch shape selection 5	00000000h	
PB52	VRF21	Vibration suppression control 2 - Vibration frequency	100.0		PB52	VRF21	Vibration suppression control 2 - Vibration frequency	100.0	
PB53	VRF22	Vibration suppression control 2 - Resonance frequency	100.0		PB53	VRF22	Vibration suppression control 2 - Resonance frequency	100.0	
PB54	VRF23	Vibration suppression control 2 - Vibration frequency damping	0.00		PB54	VRF23	Vibration suppression control 2 - Vibration frequency damping	0.00	
PB55	VRF24	Vibration suppression control 2 - Resonance frequency damping	0.00		PB55	VRF24	Vibration suppression control 2 - Resonance frequency damping	0.00	
PB56	VRF21B	Vibration suppression control 2 - Vibration frequency after gain switching	0.0		PB56	VRF21B	Gain switching - Vibration suppression control 2 - Vibration frequency	0.0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB57	VRF22B	Vibration suppression control 2 - Resonance frequency after gain switching	0.0		PB57	VRF22B	Gain switching - Vibration suppression control 2 - Resonance frequency	0.0	
PB58	VRF23B	Vibration suppression control 2 - Vibration frequency damping after gain switching	0.00		PB58	VRF23B	Gain switching - Vibration suppression control 2 - Vibration frequency damping	0.00	
PB59	VRF24B	Vibration suppression control 2 - Resonance frequency damping after gain switching	0.00		PB59	VRF24B	Gain switching - Vibration suppression control 2 - Resonance frequency damping	0.00	
PB60	PG1B	Model loop gain after gain switching	0.0		PB60	PG1B	Gain switching - Model control gain	0.0	
PB61	—	For manufacturer setting	0.0		PB61	—	For manufacturer setting	0.0	
PB62	—	For manufacturer setting	0000h		PB62	—	For manufacturer setting	00000000h	
PB63	—	For manufacturer setting	0000h		PB63	—	For manufacturer setting	00000000h	
PB64	—	For manufacturer setting	0000h		PB64	—	For manufacturer setting	00000000h	
—					PB65	CDL2	Gain switching 2 condition	10	
—					PB66	CDT2	Gain switching 2 time constant	1	
—					PB67	GD2C	Gain switching 2 - Load to motor inertia ratio/load to motor mass ratio	7.00	
—					PB68	PG2C	Gain switching 2 - Position control gain	0.0	
—					PB69	VG2C	Gain switching 2 - Speed control gain	0	
—					PB70	VICC	Gain switching 2 - Speed integral compensation	0.0	
—					PB71	VRF11C	Gain switching 2 - Vibration suppression control 1 - Vibration frequency	0.0	
—					PB72	VRF12C	Gain switching 2 - Vibration suppression control 1 - Resonance frequency	0.0	
—					PB73	VRF13C	Gain switching 2 - Vibration suppression control 1 - Vibration frequency damping	0.00	
—					PB74	VRF14C	Gain switching 2 - Vibration suppression control 1 - Resonance frequency damping	0.00	
—					PB75	VRF21C	Gain switching 2 - Vibration suppression control 2 - Vibration frequency	0.0	
—					PB76	VRF22C	Gain switching 2 - Vibration suppression control 2 - Resonance frequency	0.0	
—					PB77	VRF23C	Gain switching 2 - Vibration suppression control 2 - Vibration frequency damping	0.00	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PB78	VRF24C	Gain switching 2 - Vibration suppression control 2 - Resonance frequency damping	0.00	
—					PB79	PG1C	Gain switching 2 - Model control gain	0.0	
—					PB80	—	For manufacturer setting	177.0	
—					PB81	*CFIL	Command filter	00000001h	
—					PB82	PFT	Position command smoothing filter time constant	0.0	
—					PB83	—	For manufacturer setting	00000000h	
—					PB84	—	For manufacturer setting	00000000h	
—					PB85	—	For manufacturer setting	00000000h	
—					PB86	—	For manufacturer setting	00000000h	
—					PB87	—	For manufacturer setting	0	
—					PB88	—	For manufacturer setting	00000000h	
—					PB89	—	For manufacturer setting	00000000h	
—					PB90	—	For manufacturer setting	00000000h	
—					PB91	—	For manufacturer setting	00000000h	
—					PB92	—	For manufacturer setting	00000000h	
—					PB93	—	For manufacturer setting	00000000h	
—					PB94	—	For manufacturer setting	00000000h	
—					PB95	—	For manufacturer setting	00000000h	
—					PB96	—	For manufacturer setting	00000000h	
—					PB97	—	For manufacturer setting	00000000h	
—					PB98	—	For manufacturer setting	00000000h	
—					PB99	—	For manufacturer setting	00000000h	

Extension setting servo parameters group ([Pr. PC_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PC18 Function selection C-5]
- [Pr. PC20 Function selection C-7]

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PC01	ERZ	Error excessive alarm level	0		PC01	ERZ	Excessive error alarm trigger level	0	
PC02	MBR	Electromagnetic brake sequence output	0		PC02	MBR	Electromagnetic brake sequence output	0	
PC03	*ENRS	Encoder output pulse selection	0000h		PC03	*ENRS	Encoder output pulses selection	00000000h	
PC04	**COP1	Function selection C-1	0000h		PC04	**COP1	Function selection C-1	00000000h	
PC05	**COP2	Function selection C-2	0000h		PC05	**COP2	Function selection C-2	00000000h	
PC06	*COP3	Function selection C-3	0000h		PC06	*COP3	Function selection C-3	00000000h	
PC07	ZSP	Zero speed	50		PC07	ZSP	Zero speed	50	
PC08	OSL	Overspeed alarm detection level	0		PC08	OSL	Overspeed alarm detection level	0	
PC09	MOD1	Analog monitor 1 output *1	0000h		PC09	MOD1	Analog monitor 1 output *1	00000000h	
PC10	MOD2	Analog monitor 2 output *1	0001h		PC10	MOD2	Analog monitor 2 output *1	00000001h	
PC11	MO1	Analog monitor 1 offset *1	0		PC11	MO1	Analog monitor 1 offset*1	0	
PC12	MO2	Analog monitor 2 offset *1	0		PC12	MO2	Analog monitor 2 offset*1	0	
PC13	MOSDL	Analog monitor - Feedback position output standard data - Low *1	0		PC13	—	For manufacturer setting	0	
PC14	MOSDH	Analog monitor - Feedback position output standard data - High *1	0		PC14	—	For manufacturer setting	0	
PC15	—	For manufacturer setting	0		PC15	—	For manufacturer setting	0	
PC16	—	For manufacturer setting	0000h		PC16	—	For manufacturer setting	00000000h	
PC17	**COP4	Function selection C-4	0000h		PC17	**COP4	Function selection C-4	00000000h	
PC18	*COP5	Function selection C-5	0000h		PC18	*COP5	Function selection C-5	00000000h	
PC19	—	For manufacturer setting	0000h		PC19	*COP6	Function selection C-6	00000000h	
PC20	*COP7	Function selection C-7	0000h		PC20	*COP7	Function selection C-7	00000000h	
PC21	*BPS	Alarm history clear	0000h		PC21	*BPS	Alarm history clear	00000000h	
PC22	—	For manufacturer setting	0		PC22	—	For manufacturer setting	0	
PC23	—	For manufacturer setting	0000h		PC23	—	For manufacturer setting	00000000h	
PC24	RSBR	Forced stop deceleration time constant	100		PC24	RSBR	Deceleration time constant at forced stop	100	
PC25	—	For manufacturer setting	0		PC25	—	For manufacturer setting	0	
PC26	**COP8	Function selection C-8	0000h		PC26	**COP8	Function selection C-8	00000050h	
PC27	**COP9	Function selection C-9	0000h		PC27	**COP9	Function selection C-9	00000000h	
PC28	—	For manufacturer setting	0000h		PC28	—	For manufacturer setting	00000000h	
PC29	*COPB	Function selection C-B	0000h		PC29	*COPB	Function selection C-B	00000000h	
PC30	—	For manufacturer setting	0		PC30	—	For manufacturer setting	0	
PC31	RSUP1	Vertical axis freefall prevention compensation amount	0		PC31	RSUP1	Vertical axis freefall prevention compensation amount	0	
PC32	—	For manufacturer setting	0000h		PC32	—	For manufacturer setting	0	
PC33	—	For manufacturer setting	0		PC33	—	For manufacturer setting	0	
PC34	—	For manufacturer setting	100		PC34	—	For manufacturer setting	100	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PC35	—	For manufacturer setting	0000h		PC35	—	For manufacturer setting	00000000h	
PC36	—	For manufacturer setting	0000h		PC36	—	For manufacturer setting	00000000h	
PC37	—	For manufacturer setting	0000h		PC37	—	For manufacturer setting	00000000h	
PC38	ERW	Error excessive warning level	0		PC38	ERW	Excessive error warning trigger level	0	
PC39	—	For manufacturer setting	0000h		PC39	—	For manufacturer setting	0.0	
PC40	—	For manufacturer setting	0000h		PC40	—	For manufacturer setting	0.0	
PC41	—	For manufacturer setting	0000h		PC41	—	For manufacturer setting	00000000h	
PC42	—	For manufacturer setting	0000h		PC42	—	For manufacturer setting	00000000h	
PC43	—	For manufacturer setting	0000h		PC43	—	For manufacturer setting	0.0	
PC44	—	For manufacturer setting	0000h		PC44	—	For manufacturer setting	0.0	
PC45	—	For manufacturer setting	0000h		PC45	—	For manufacturer setting	00000000h	
PC46	—	For manufacturer setting	0000h		PC46	—	For manufacturer setting	00000000h	
PC47	—	For manufacturer setting	0000h		PC47	—	For manufacturer setting	00000000h	
PC48	—	For manufacturer setting	0000h		PC48	—	For manufacturer setting	00000000h	
PC49	—	For manufacturer setting	0000h		PC49	—	For manufacturer setting	00000000h	
PC50	—	For manufacturer setting	0000h		PC50	—	For manufacturer setting	00000000h	
PC51	—	For manufacturer setting	0000h		PC51	—	For manufacturer setting	00000000h	
PC52	—	For manufacturer setting	0000h		PC52	—	For manufacturer setting	00000000h	
PC53	—	For manufacturer setting	0000h		PC53	—	For manufacturer setting	00000000h	
PC54	—	For manufacturer setting	0000h		PC54	—	For manufacturer setting	00000000h	
PC55	—	For manufacturer setting	0000h		PC55	—	For manufacturer setting	00000000h	
PC56	—	For manufacturer setting	0000h		PC56	—	For manufacturer setting	00000000h	
PC57	—	For manufacturer setting	0000h		PC57	—	For manufacturer setting	00000000h	
PC58	—	For manufacturer setting	0000h		PC58	—	For manufacturer setting	00000000h	
PC59	—	For manufacturer setting	0000h		PC59	—	For manufacturer setting	00000000h	
PC60	—	For manufacturer setting	0000h		PC60	—	For manufacturer setting	00000000h	
PC61	—	For manufacturer setting	0000h		PC61	—	For manufacturer setting	00000000h	
PC62	—	For manufacturer setting	0000h		PC62	—	For manufacturer setting	00000000h	
PC63	—	For manufacturer setting	0000h		PC63	—	For manufacturer setting	00000000h	
PC64	—	For manufacturer setting	0000h		PC64	—	For manufacturer setting	00000000h	
—					PC65	—	For manufacturer setting	50.00	
—					PC66	—	For manufacturer setting	10	
—					PC67	—	For manufacturer setting	00C00000h	
—					PC68	—	For manufacturer setting	00000000h	
—					PC69	—	For manufacturer setting	10	
—					PC70	—	For manufacturer setting	400	
—					PC71	—	For manufacturer setting	10	
—					PC72	—	For manufacturer setting	20.00	
—					PC73	—	For manufacturer setting	10	
—					PC74	—	For manufacturer setting	10.0	
—					PC75	—	For manufacturer setting	10	
—					PC76	—	For manufacturer setting	00000011h	
—					PC77	—	For manufacturer setting	1000.0	
—					PC78	—	For manufacturer setting	00000000h	
—					PC79	—	For manufacturer setting	00000000h	
—					PC80	—	For manufacturer setting	00000000h	
—					PC81	—	For manufacturer setting	00000000h	
—					PC82	—	For manufacturer setting	0	
—					PC83	—	For manufacturer setting	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PC84	SVDT1	Servo amplifier replacement data 1	00000000h	
—					PC85	SVDT2	Servo amplifier replacement data 2	00000000h	
—					PC86	SVDT3	Servo amplifier replacement data 3	00000000h	
—					PC87	SVDT4	Servo amplifier replacement data 4	00000000h	
—					PC88	SVDT5	Servo amplifier replacement data 5	00000000h	
—					PC89	SVDT6	Servo amplifier replacement data 6	00000000h	
—					PC90	SVDT7	Servo amplifier replacement data 7	00000000h	
—					PC91	SVDT8	Servo amplifier replacement data 8	00000000h	
—					PC92	SVDT9	Servo amplifier replacement data 9	00000000h	
—					PC93	SVDT10	Servo amplifier replacement data 10	00000000h	
—					PC94	SVDT11	Servo amplifier replacement data 11	00000000h	
—					PC95	SVDT12	Servo amplifier replacement data 12	00000000h	
—					PC96	—	For manufacturer setting	00000000h	
—					PC97	—	For manufacturer setting	00000000h	
—					PC98	—	For manufacturer setting	00000000h	
—					PC99	—	For manufacturer setting	00000000h	

*1 For a multi-axis servo amplifier, the servo parameter is disabled.

I/O setting servo parameters group ([Pr. PD_ _])

Point

For a multi-axis servo amplifier, the following servo parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PD08 Output device selection 2]
- [Pr. PD09 Output device selection 3]
- [Pr. PD11 Input filter setting]

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PD01	—	For manufacturer setting	0000h		PD01	—	For manufacturer setting	00000000h	
PD02	*DIA2	Input signal automatic on selection 2	0000h		PD02	*DIA2	Input signal automatic ON selection 2	00000000h	
PD03	—	For manufacturer setting	0020h		PD03	—	For manufacturer setting	00000020h	
PD04	—	For manufacturer setting	0021h		PD04	—	For manufacturer setting	00000021h	
PD05	—	For manufacturer setting	0022h		PD05	—	For manufacturer setting	00000022h	
PD06	—	For manufacturer setting	0000h		PD06	—	For manufacturer setting	00000000h	
PD07	*DO1	Output device selection 1	0005h		PD07	*DO1	Output device selection 1	00000005h	
PD08	*DO2	Output device selection 2	0004h		PD08	*DO2	Output device selection 2	00000004h	
PD09	*DO3	Output device selection 3	0003h		PD09	*DO3	Output device selection 3	00000003h	
PD10	—	For manufacturer setting	0000h		PD10	—	For manufacturer setting	00000000h	
PD11	*DIF	Input filter setting *1	0004h		PD11	*DIF	Input filter setting *1	00000007h	
PD12	*DOP1	Function selection D-1	0000h		PD12	*DOP1	Function selection D-1	00000000h	
PD13	*DOP2	Function selection D-2	0000h		PD13	*DOP2	Function selection D-2	00000000h	
PD14	*DOP3	Function selection D-3	0000h		PD14	*DOP3	Function selection D-3	00000000h	
PD15	*IDCS	Driver communication setting	0000h		PD15	*IDCS	Driver communication setting	00000000h	
PD16	*MD1	Driver communication setting - Master - Transmit data selection 1	0000h		PD16	*MD1	Driver communication setting - Master - Transmit data selection 1	00000000h	
PD17	*MD2	Driver communication setting - Master - Transmit data selection 2	0000h		PD17	*MD2	Driver communication setting - Master - Transmit data selection 2	00000000h	
PD18	—	For manufacturer setting	0000h		PD18	—	For manufacturer setting	00000000h	
PD19	—	For manufacturer setting	0000h		PD19	—	For manufacturer setting	00000000h	
PD20	*SLA1	Driver communication setting - Slave - Master axis No. selection 1	0		PD20	*SLA1	Driver communication setting - Slave - Master axis No. selection 1	0	
PD21	—	For manufacturer setting	0		PD21	—	For manufacturer setting	0	
PD22	—	For manufacturer setting	0		PD22	—	For manufacturer setting	0	
PD23	—	For manufacturer setting	0		PD23	—	For manufacturer setting	0	
PD24	—	For manufacturer setting	0000h		PD24	—	For manufacturer setting	00000000h	
PD25	—	For manufacturer setting	0000h		PD25	—	For manufacturer setting	00000000h	
PD26	—	For manufacturer setting	0000h		PD26	—	For manufacturer setting	00000000h	
PD27	—	For manufacturer setting	0000h		PD27	—	For manufacturer setting	00000000h	
PD28	—	For manufacturer setting	0000h		PD28	—	For manufacturer setting	00000000h	
PD29	—	For manufacturer setting	0000h		PD29	—	For manufacturer setting	00000000h	
PD30	TLS	Master-slave operation - Slave-side torque command coefficient	0		PD30	TLS	Master-slave operation - Slave-side torque command coefficient	0	
PD31	VLC	Master-slave operation - Speed limit coefficient on slave	0		PD31	VLC	Master-slave operation - Slave-side speed limit coefficient	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PD32	VLL	Master-slave operation - Slave-side speed limit adjusted value	0		PD32	VLL	Master-slave operation - Speed limit adjusted value on slave	0	
PD33	—	For manufacturer setting	0000h		PD33	—	For manufacturer setting	00000000h	
PD34	—	For manufacturer setting	0000h		PD34	—	For manufacturer setting	00000000h	
PD35	—	For manufacturer setting	0000h		PD35	—	For manufacturer setting	00000000h	
PD36	—	For manufacturer setting	0000h		PD36	—	For manufacturer setting	00000000h	
PD37	—	For manufacturer setting	0000h		PD37	—	For manufacturer setting	00110001h	
PD38	—	For manufacturer setting	0000h		PD38	—	For manufacturer setting	00000000h	
PD39	—	For manufacturer setting	0000h		PD39	—	For manufacturer setting	00000000h	
PD40	—	For manufacturer setting	0000h		PD40	—	For manufacturer setting	0	
PD41	—	For manufacturer setting	0000h		PD41	—	For manufacturer setting	00001000h	
PD42	—	For manufacturer setting	0000h		PD42	—	For manufacturer setting	00000000h	
PD43	—	For manufacturer setting	0000h		PD43	—	For manufacturer setting	00000000h	
PD44	—	For manufacturer setting	0000h		PD44	—	For manufacturer setting	00000000h	
PD45	—	For manufacturer setting	0000h		PD45	—	For manufacturer setting	00000000h	
PD46	—	For manufacturer setting	0000h		PD46	—	For manufacturer setting	00000000h	
PD47	—	For manufacturer setting	0000h		PD47	—	For manufacturer setting	00000000h	
PD48	—	For manufacturer setting	0000h		PD48	—	For manufacturer setting	00000000h	
—					PD49	—	For manufacturer setting	0	
—					PD50	—	For manufacturer setting	0	
—					PD51	—	For manufacturer setting	00000000h	
—					PD52	—	For manufacturer setting	00000000h	
—					PD53	—	For manufacturer setting	00000000h	
—					PD54	—	For manufacturer setting	00000000h	
—					PD55	—	For manufacturer setting	00000000h	
—					PD56	—	For manufacturer setting	00000000h	
—					PD57	—	For manufacturer setting	00000000h	
—					PD58	—	For manufacturer setting	00000000h	
—					PD59	—	For manufacturer setting	00000000h	
—					PD60	—	For manufacturer setting	00000000h	
—					PD61	—	For manufacturer setting	00000000h	
—					PD62	—	For manufacturer setting	00000000h	
—					PD63	—	For manufacturer setting	00000000h	
—					PD64	—	For manufacturer setting	00000000h	
—					PD65	—	For manufacturer setting	00000000h	
—					PD66	—	For manufacturer setting	00000000h	
—					PD67	—	For manufacturer setting	00000000h	
—					PD68	—	For manufacturer setting	00000000h	
—					PD69	—	For manufacturer setting	00000000h	
—					PD70	—	For manufacturer setting	00000000h	
—					PD71	—	For manufacturer setting	00000000h	
—					PD72	—	For manufacturer setting	00000000h	
—					PD73	—	For manufacturer setting	00000000h	
—					PD74	—	For manufacturer setting	00000000h	
—					PD75	—	For manufacturer setting	00000000h	
—					PD76	—	For manufacturer setting	00000000h	
—					PD77	—	For manufacturer setting	00000000h	
—					PD78	—	For manufacturer setting	00000000h	
—					PD79	—	For manufacturer setting	00000000h	
—					PD80	—	For manufacturer setting	00000000h	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PD81	—	For manufacturer setting	00000000h	
—					PD82	—	For manufacturer setting	00000000h	
—					PD83	—	For manufacturer setting	00000000h	
—					PD84	—	For manufacturer setting	00000000h	
—					PD85	—	For manufacturer setting	00000000h	
—					PD86	—	For manufacturer setting	00000000h	
—					PD87	—	For manufacturer setting	00000000h	
—					PD88	—	For manufacturer setting	00000000h	
—					PD89	—	For manufacturer setting	00000000h	
—					PD90	—	For manufacturer setting	00000000h	
—					PD91	—	For manufacturer setting	00000000h	
—					PD92	—	For manufacturer setting	00000000h	
—					PD93	—	For manufacturer setting	00000000h	
—					PD94	—	For manufacturer setting	00000000h	
—					PD95	—	For manufacturer setting	00000000h	
—					PD96	—	For manufacturer setting	00000000h	
—					PD97	—	For manufacturer setting	00000000h	
—					PD98	—	For manufacturer setting	00000000h	
—					PD99	—	For manufacturer setting	00000000h	

*1 For the settings of this servo parameter, refer to the servo system controller manual.

Extension setting 2 servo parameters group ([Pr. PE_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
PE01	**FCT1	Fully closed loop function selection 1	0000h		PE01	**FCT1	Fully closed loop function selection 1	00000000h	
PE02	—	For manufacturer setting	0000h		PE02	—	For manufacturer setting	00000000h	
PE03	*FCT2	Fully closed loop function selection 2	0003h		PE03	*FCT2	Fully closed loop control function selection 2	00000003h	
PE04	**FBN	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	1		PE04	**FBN	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	1	
PE05	**FBD	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	1		PE05	**FBD	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	1	
PE06	BC1	Fully closed loop control - Speed deviation error detection level	400		PE06	BC1	Fully closed loop control - Speed deviation error detection level	400	
PE07	BC2	Fully closed loop control - Position deviation error detection level	100		PE07	BC2	Fully closed loop control - Position deviation error detection level	100	
PE08	DUF	Fully closed loop dual feedback filter	10		PE08	DUF	Fully closed loop dual feedback filter	10	
PE09	—	For manufacturer setting	0000h		PE09	—	For manufacturer setting	00000000h	
PE10	FCT3	Fully closed loop function selection 3	0000h		PE10	FCT3	Fully closed loop control function selection 3	00000000h	
PE11	—	For manufacturer setting	0000h		PE11	—	For manufacturer setting	00000000h	
PE12	—	For manufacturer setting	0000h		PE12	—	For manufacturer setting	00000000h	
PE13	—	For manufacturer setting	0000h		PE13	—	For manufacturer setting	00000000h	
PE14	—	For manufacturer setting	0111h		PE14	—	For manufacturer setting	00000111h	
PE15	—	For manufacturer setting	20		PE15	—	For manufacturer setting	20	
PE16	—	For manufacturer setting	0000h		PE16	—	For manufacturer setting	00000000h	
PE17	—	For manufacturer setting	0000h		PE17	—	For manufacturer setting	00000100h	
PE18	—	For manufacturer setting	0000h		PE18	—	For manufacturer setting	00000000h	
PE19	—	For manufacturer setting	0000h		PE19	—	For manufacturer setting	00000000h	
PE20	—	For manufacturer setting	0000h		PE20	—	For manufacturer setting	00000000h	
PE21	—	For manufacturer setting	0000h		PE21	—	For manufacturer setting	00000000h	
PE22	—	For manufacturer setting	0000h		PE22	—	For manufacturer setting	00000000h	
PE23	—	For manufacturer setting	0000h		PE23	—	For manufacturer setting	00000000h	
PE24	—	For manufacturer setting	0000h		PE24	—	For manufacturer setting	00000000h	
PE25	—	For manufacturer setting	0000h		PE25	—	For manufacturer setting	00000000h	
PE26	—	For manufacturer setting	0000h		PE26	—	For manufacturer setting	00000000h	
PE27	—	For manufacturer setting	0000h		PE27	—	For manufacturer setting	00000000h	
PE28	—	For manufacturer setting	0000h		PE28	—	For manufacturer setting	00000000h	
PE29	—	For manufacturer setting	0000h		PE29	—	For manufacturer setting	00000000h	
PE30	—	For manufacturer setting	0000h		PE30	—	For manufacturer setting	00000000h	
PE31	—	For manufacturer setting	0000h		PE31	—	For manufacturer setting	00000000h	
PE32	—	For manufacturer setting	0000h		PE32	—	For manufacturer setting	00000000h	
PE33	—	For manufacturer setting	0000h		PE33	—	For manufacturer setting	00000000h	
PE34	**FBN2	Fully closed loop control - Feedback pulse electronic gear 2 - Numerator	1		PE34	—	For manufacturer setting	1	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
PE35	*FBD2	Fully closed loop control - Feedback pulse electronic gear 2 - Denominator	1		PE35	—	For manufacturer setting	1	
PE36	—	For manufacturer setting	0.0		PE36	—	For manufacturer setting	0.0	
PE37	—	For manufacturer setting	0.00		PE37	—	For manufacturer setting	0.00	
PE38	—	For manufacturer setting	0.00		PE38	—	For manufacturer setting	0.00	
PE39	—	For manufacturer setting	20		PE39	—	For manufacturer setting	20	
PE40	—	For manufacturer setting	0000h		PE40	—	For manufacturer setting	00000000h	
PE41	EOP3	Function selection E-3	0000h		PE41	EOP3	Function selection E-3	00000000h	
PE42	—	For manufacturer setting	0		PE42	—	For manufacturer setting	0	
PE43	—	For manufacturer setting	0.0		PE43	—	For manufacturer setting	0.0	
PE44	LMCP	Lost motion compensation positive-side compensation value selection	0		PE44	LMCP	Lost motion compensation positive-side compensation value selection	0	
PE45	LMCN	Lost motion compensation negative-side compensation value selection	0		PE45	LMCN	Lost motion compensation negative-side compensation value selection	0	
PE46	LMFLT	Lost motion filter setting	0		PE46	LMFLT	Lost motion filter setting	0	
PE47	TOF	Torque offset	0		PE47	TOF	Unbalanced torque offset	0	
PE48	*LMOP	Lost motion compensation function selection	0000h		PE48	*LMOP	Lost motion compensation function selection	00000000h	
PE49	LMCD	Lost motion compensation timing	0		PE49	LMCD	Lost motion compensation timing	0	
PE50	LMCT	Lost motion compensation non-sensitive band	0		PE50	LMCT	Lost motion compensation dead band	0	
PE51	—	For manufacturer setting	0000h		PE51	**EDV2	Load-side encoder resolution setting	0	
PE52	—	For manufacturer setting	0000h		PE52	—	For manufacturer setting	00000000h	
PE53	—	For manufacturer setting	0000h		PE53	—	For manufacturer setting	0.0	
PE54	—	For manufacturer setting	0000h		PE54	—	For manufacturer setting	00000000h	
PE55	—	For manufacturer setting	0000h		PE55	—	For manufacturer setting	00000000h	
PE56	—	For manufacturer setting	0000h		PE56	—	For manufacturer setting	00000000h	
PE57	—	For manufacturer setting	0000h		PE57	—	For manufacturer setting	00000000h	
PE58	—	For manufacturer setting	0000h		PE58	—	For manufacturer setting	00000000h	
PE59	—	For manufacturer setting	0000h		PE59	—	For manufacturer setting	00000000h	
PE60	—	For manufacturer setting	0000h		PE60	—	For manufacturer setting	00000000h	
PE61	—	For manufacturer setting	0.00		PE61	—	For manufacturer setting	0.000	
PE62	—	For manufacturer setting	0.00		PE62	—	For manufacturer setting	0.000	
PE63	—	For manufacturer setting	0.00		PE63	—	For manufacturer setting	0.000	
PE64	—	For manufacturer setting	0.00		PE64	—	For manufacturer setting	0.000	
—					PE65	—	For manufacturer setting	0.0	
—					PE66	—	For manufacturer setting	0.0	
—					PE67	—	For manufacturer setting	0.0	
—					PE68	—	For manufacturer setting	00000000h	
—					PE69	—	For manufacturer setting	00000000h	
—					PE70	—	For manufacturer setting	0.00	
—					PE71	—	For manufacturer setting	0	
—					PE72	—	For manufacturer setting	1.0000	
—					PE73	—	For manufacturer setting	00000000h	
—					PE74	—	For manufacturer setting	00000000h	
—					PE75	—	For manufacturer setting	00000000h	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
—					PE76	—	For manufacturer setting	00000000h	
—					PE77	—	For manufacturer setting	00000000h	
—					PE78	—	For manufacturer setting	0	
—					PE79	—	For manufacturer setting	0	
—					PE80	—	For manufacturer setting	00000000h	
—					PE81	—	For manufacturer setting	00000000h	
—					PE82	—	For manufacturer setting	00000000h	
—					PE83	—	For manufacturer setting	00000000h	
—					PE84	—	For manufacturer setting	00000000h	
—					PE85	—	For manufacturer setting	00000000h	
—					PE86	—	For manufacturer setting	00000000h	
—					PE87	—	For manufacturer setting	00000000h	
—					PE88	—	For manufacturer setting	00000000h	
—					PE89	—	For manufacturer setting	00000000h	
—					PE90	—	For manufacturer setting	00000000h	
—					PE91	—	For manufacturer setting	00000000h	
—					PE92	—	For manufacturer setting	00000000h	
—					PE93	—	For manufacturer setting	00000000h	
—					PE94	—	For manufacturer setting	00000000h	
—					PE95	—	For manufacturer setting	00000000h	
—					PE96	—	For manufacturer setting	00000000h	
—					PE97	—	For manufacturer setting	00000000h	
—					PE98	—	For manufacturer setting	00000000h	
—					PE99	—	For manufacturer setting	00000000h	

Extension setting 3 servo parameters group ([Pr. PF_ _])

Point

For a multi-axis servo amplifier, the following parameter settings are common to all axes. The servo parameters except for the following are to be set on individual axes.

- [Pr. PF02 Function selection F-2]
- [Pr. PF18 STO diagnosis error detection time]
- [Pr. PF21 Drive recorder switching time setting]
- [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)]

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PF01	—	For manufacturer setting	0000h		PF01	—	For manufacturer setting	00000000h	
PF02	*FOP2	Function selection F-2 *1	0000h		PF02	*FOP2	Function selection F-2 *1	00000000h	
PF03	—	For manufacturer setting	0000h		PF03	—	For manufacturer setting	00000000h	
PF04	—	For manufacturer setting	0		PF04	—	For manufacturer setting	0	
PF05	—	For manufacturer setting	0000h		PF05	—	For manufacturer setting	00000000h	
PF06	*FOP5	Function selection F-5	0000h		PF06	*FOP5	Function selection F-5	00000013h	
PF07	—	For manufacturer setting	0000h		PF07	—	For manufacturer setting	00000000h	
PF08	—	For manufacturer setting	0000h		PF08	—	For manufacturer setting	00000000h	
PF09	—	For manufacturer setting	0		PF09	—	For manufacturer setting	00000000h	
PF10	—	For manufacturer setting	0		PF10	—	For manufacturer setting	00000000h	
PF11	—	For manufacturer setting	0		PF11	—	For manufacturer setting	00000000h	
PF12	DBT	Electronic dynamic brake operating time	2000		PF12	DBT	Electronic dynamic brake operating time	2000	
PF13	—	For manufacturer setting	0000h		PF13	—	For manufacturer setting	00000000h	
PF14	—	For manufacturer setting	10		PF14	—	For manufacturer setting	10	
PF15	—	For manufacturer setting	0000h		PF15	—	For manufacturer setting	00000000h	
PF16	—	For manufacturer setting	0000h		PF16	—	For manufacturer setting	00000000h	
PF17	—	For manufacturer setting	0000h		PF17	—	For manufacturer setting	00000000h	
PF18	**STOD	STO diagnosis error detection time	0		PF18	**STOD	STO diagnosis error detection time	10	
PF19	—	For manufacturer setting	0000h		PF19	TSL	Friction failure prediction - Compensation coefficient 1	0	
PF20	—	For manufacturer setting	0000h		PF20	TIC	Friction failure prediction - Compensation coefficient 2	0	
PF21	DRT	Drive recorder switching time setting	0		PF21	DRT	Drive recorder switching time setting	0	
PF22	—	For manufacturer setting	200		PF22	—	For manufacturer setting	200	
PF23	OSCL1	Vibration tough drive - Oscillation detection level	50		PF23	OSCL1	Vibration tough drive - Oscillation detection level	20	
PF24	*OSCL2	Vibration tough drive function selection	0000h		PF24	*FOP9	Function selection F-9	00000000h	
PF25	CVAT	SEMI-F47 function - Instantaneous power failure detection time	200		PF25	CVAT	SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)	200	
PF26	—	For manufacturer setting	0		PF26	—	For manufacturer setting	0	
PF27	—	For manufacturer setting	0		PF27	—	For manufacturer setting	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PF28	—	For manufacturer setting	0		PF28	—	For manufacturer setting	0	
PF29	—	For manufacturer setting	0000h		PF29	—	For manufacturer setting	00000000h	
PF30	—	For manufacturer setting	0		PF30	—	For manufacturer setting	0	
PF31	FRIC	Machine diagnosis function - Friction judgment speed	0		PF31	FRIC	Machine diagnosis function - Friction estimate area judgment speed at low speed	0	
PF32	—	For manufacturer setting	50		PF32	—	For manufacturer setting	50	
PF33	—	For manufacturer setting	0000h		PF33	—	For manufacturer setting	00000000h	
PF34	—	For manufacturer setting	0000h		PF34	*MFP	Machine diagnosis function selection	00000000h	
PF35	—	For manufacturer setting	0000h		PF35	—	For manufacturer setting	00000000h	
PF36	—	For manufacturer setting	0000h		PF36	—	For manufacturer setting	00000000h	
PF37	—	For manufacturer setting	0000h		PF37	—	For manufacturer setting	00000000h	
PF38	—	For manufacturer setting	0000h		PF38	—	For manufacturer setting	00000000h	
PF39	—	For manufacturer setting	0000h		PF39	—	For manufacturer setting	00000000h	
PF40	—	For manufacturer setting	0000h		PF40	—	For manufacturer setting	00000000h	
PF41	—	For manufacturer setting	0000h		PF41	—	For manufacturer setting	0	
PF42	—	For manufacturer setting	0000h		PF42	—	For manufacturer setting	0	
PF43	—	For manufacturer setting	0000h		PF43	—	For manufacturer setting	0	
PF44	—	For manufacturer setting	0		PF44	—	For manufacturer setting	0	
PF45	—	For manufacturer setting	0000h		PF45	—	For manufacturer setting	0	
PF46	—	For manufacturer setting	0000h		PF46	—	For manufacturer setting	0	
PF47	—	For manufacturer setting	0000h		PF47	—	For manufacturer setting	0	
PF48	—	For manufacturer setting	0000h		PF48	—	For manufacturer setting	00000000h	
—					PF49	—	For manufacturer setting	100	
—					PF50	—	For manufacturer setting	100	
—					PF51	—	For manufacturer setting	00000000h	
—					PF52	—	For manufacturer setting	00000000h	
—					PF53	—	For manufacturer setting	0	
—					PF54	—	For manufacturer setting	0	
—					PF55	—	For manufacturer setting	0	
—					PF56	—	For manufacturer setting	0	
—					PF57	—	For manufacturer setting	00000000h	
—					PF58	—	For manufacturer setting	00000000h	
—					PF59	—	For manufacturer setting	00000000h	
—					PF60	—	For manufacturer setting	00000000h	
—					PF61	—	For manufacturer setting	00000000h	
—					PF62	—	For manufacturer setting	00000000h	
—					PF63	*FOP15	Function selection F-15	00000000h	
—					PF64	—	For manufacturer setting	0	
—					PF65	—	For manufacturer setting	00000000h	
—					PF66	BLG	Gear setting for backlash estimation	00000000h	
—					PF67	BLN	Backlash nominal value	0	
—					PF68	BLTT	Backlash threshold multiplication	0	
—					PF69	SPAV2	Static friction failure prediction - Average characteristics	0	
—					PF70	SPSD2	Static friction failure prediction - Standard deviation	0	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PF71	BFP	Belt failure prediction function selection	00000000h	
—					PF72	SBT	Belt tension on installation	0	
—					PF73	ABT	Belt tension when extended	0	
—					PF74	SSF	Static friction during installation	0	
—					PF75	ASF	Static friction when extended	0	
—					PF76	BTS	Belt tension irregular threshold	0	
—					PF77	—	For manufacturer setting	00000000h	
—					PF78	—	For manufacturer setting	00000000h	
—					PF79	—	For manufacturer setting	00110010h	
—					PF80	DRMC	Drive recorder - Operation condition selection	00000000h	
—					PF81	DRMS	Drive recorder - Sampling operation selection	00000000h	
—					PF82	DRTM	Drive recorder - Trigger operation selection	00000000h	
—					PF83	**DRTAX	Drive recorder - Trigger operation axis common selection	00000000h	
—					PF84	DRTC	Drive recorder - Trigger channel selection	005A8101h	
—					PF85	DRTL1	Drive recorder - Trigger level setting 1	0	
—					PF86	DRTL2	Drive recorder - Trigger level setting 2	0	
—					PF87	DRAC1	Drive recorder - Analog channel setting 1	00020201h	
—					PF88	DRAC2	Drive recorder - Analog channel setting 2	02040003h	
—					PF89	DRAC3	Drive recorder - Analog channel setting 3	00090205h	
—					PF90	DRAC4	Drive recorder - Analog channel setting 4	0000000Ch	
—					PF91	DRDC1	Drive recorder - Digital channel setting 1	001F0000h	
—					PF92	DRDC2	Drive recorder - Digital channel setting 2	80058010h	
—					PF93	DRDC3	Drive recorder - Digital channel setting 3	8000800Ah	
—					PF94	DRDC4	Drive recorder - Digital channel setting 4	801D8015h	
—					PF95	**DRCLR	Drive recorder - Clear history	00000000h	
—					PF96	—	For manufacturer setting	00000000h	
—					PF97	—	For manufacturer setting	00000000h	
—					PF98	—	For manufacturer setting	00000000h	
—					PF99	—	For manufacturer setting	00000000h	

*1 Available only on multi-axis servo amplifiers.

Motor extension setting servo parameters group ([Pr. PL_ _])

Point

For a multi-axis servo amplifier, the servo parameters are to be set on individual axes.

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PL01	**LIT1	Linear servo motor/DD motor function selection 1	0301h		PL01	**LIT1	Function selection L-1	00000301h	
PL02	**LIM	Linear encoder resolution - Numerator	1000		PL02	**LIM	Linear encoder resolution setting - Numerator	1000	
PL03	**LID	Linear encoder resolution - Denominator	1000		PL03	**LID	Linear encoder resolution setting - Denominator	1000	
PL04	*LIT2	Linear servo motor/DD motor function selection 2	0003h		PL04	*LIT2	Function selection L-2	00000003h	
PL05	LB1	Position deviation error detection level	0		PL05	LB1	Position deviation error detection level	0	
PL06	LB2	Position deviation error detection level	0		PL06	LB2	Position deviation error detection level	0	
PL07	LB3	Torque/thrust deviation error detection level	100		PL07	LB3	Torque deviation error detection level	100	
PL08	*LIT3	Linear servo motor/DD motor function selection 3	0010h		PL08	*LIT3	Function selection L-3	00001010h	
PL09	LPWM	Magnetic pole detection voltage level	30		PL09	LPWM	Magnetic pole detection voltage level	30	
PL10	—	For manufacturer setting	5		PL10	—	For manufacturer setting	5	
PL11	—	For manufacturer setting	100		PL11	—	For manufacturer setting	100	
PL12	—	For manufacturer setting	500		PL12	—	For manufacturer setting	500	
PL13	—	For manufacturer setting	0000h		PL13	—	For manufacturer setting	00000000h	
PL14	—	For manufacturer setting	0		PL14	—	For manufacturer setting	00000000h	
PL15	—	For manufacturer setting	20		PL15	—	For manufacturer setting	20	
PL16	—	For manufacturer setting	0		PL16	—	For manufacturer setting	0	
PL17	LTSTS	Magnetic pole detection - Minute position detection method - Function selection	0000h		PL17	LTSTS	Magnetic pole detection - Minute position detection method - Function selection	00000000h	
PL18	IDLV	Magnetic pole detection - Minute position detection method - Identification signal amplitude	0		PL18	IDLV	Magnetic pole detection - Minute position detection method - Identification signal amplitude	0	
PL19	—	For manufacturer setting	0		PL19	—	For manufacturer setting	0	
PL20	—	For manufacturer setting	0		PL20	—	For manufacturer setting	0	
PL21	—	For manufacturer setting	0		PL21	—	For manufacturer setting	0	
PL22	—	For manufacturer setting	0		PL22	—	For manufacturer setting	0	
PL23	—	For manufacturer setting	0000h		PL23	—	For manufacturer setting	00000000h	
PL24	—	For manufacturer setting	0		PL24	—	For manufacturer setting	0	
PL25	—	For manufacturer setting	0000h		PL25	—	For manufacturer setting	0	
PL26	—	For manufacturer setting	0000h		PL26	—	For manufacturer setting	00000000h	
PL27	—	For manufacturer setting	0000h		PL27	—	For manufacturer setting	00000000h	
PL28	—	For manufacturer setting	0000h		PL28	—	For manufacturer setting	00000000h	
PL29	—	For manufacturer setting	0000h		PL29	—	For manufacturer setting	0	
PL30	—	For manufacturer setting	0000h		PL30	—	For manufacturer setting	00000000h	
PL31	—	For manufacturer setting	0000h		PL31	—	For manufacturer setting	00000000h	
PL32	—	For manufacturer setting	0000h		PL32	—	For manufacturer setting	00000000h	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PL33	—	For manufacturer setting	0000h		PL33	—	For manufacturer setting	00000000h	
PL34	—	For manufacturer setting	0000h		PL34	—	For manufacturer setting	00000000h	
PL35	—	For manufacturer setting	0000h		PL35	—	For manufacturer setting	00000000h	
PL36	—	For manufacturer setting	0000h		PL36	—	For manufacturer setting	00000000h	
PL37	—	For manufacturer setting	0000h		PL37	—	For manufacturer setting	00000000h	
PL38	—	For manufacturer setting	0000h		PL38	—	For manufacturer setting	00000000h	
PL39	—	For manufacturer setting	0000h		PL39	—	For manufacturer setting	00000000h	
PL40	—	For manufacturer setting	0000h		PL40	—	For manufacturer setting	00000000h	
PL41	—	For manufacturer setting	0000h		PL41	—	For manufacturer setting	00000000h	
PL42	—	For manufacturer setting	0000h		PL42	—	For manufacturer setting	00000000h	
PL43	—	For manufacturer setting	0000h		PL43	—	For manufacturer setting	00000000h	
PL44	—	For manufacturer setting	0000h		PL44	—	For manufacturer setting	00000000h	
PL45	—	For manufacturer setting	0000h		PL45	—	For manufacturer setting	00000000h	
PL46	—	For manufacturer setting	0000h		PL46	—	For manufacturer setting	00000000h	
PL47	—	For manufacturer setting	0000h		PL47	—	For manufacturer setting	00000000h	
PL48	—	For manufacturer setting	0000h		PL48	—	For manufacturer setting	00000000h	
—					PL49	—	For manufacturer setting	00000000h	
—					PL50	—	For manufacturer setting	0	
—					PL51	—	For manufacturer setting	0	
—					PL52	—	For manufacturer setting	12	
—					PL53	—	For manufacturer setting	0	
—					PL54	—	For manufacturer setting	00000000h	
—					PL55	—	For manufacturer setting	00000000h	
—					PL56	—	For manufacturer setting	00000000h	
—					PL57	—	For manufacturer setting	00000000h	
—					PL58	—	For manufacturer setting	00000000h	
—					PL59	—	For manufacturer setting	00000000h	
—					PL60	—	For manufacturer setting	00000000h	
—					PL61	—	For manufacturer setting	00000000h	
—					PL62	—	For manufacturer setting	00000000h	
—					PL63	—	For manufacturer setting	00000000h	
—					PL64	—	For manufacturer setting	00000000h	
—					PL65	—	For manufacturer setting	00000000h	
—					PL66	—	For manufacturer setting	00000000h	
—					PL67	—	For manufacturer setting	00000000h	
—					PL68	—	For manufacturer setting	00000000h	
—					PL69	—	For manufacturer setting	00000000h	
—					PL70	—	For manufacturer setting	00000000h	
—					PL71	—	For manufacturer setting	00000000h	
—					PL72	—	For manufacturer setting	00000000h	
—					PL73	—	For manufacturer setting	00000000h	
—					PL74	—	For manufacturer setting	00000000h	
—					PL75	—	For manufacturer setting	00000000h	
—					PL76	—	For manufacturer setting	00000000h	
—					PL77	—	For manufacturer setting	00000000h	
—					PL78	—	For manufacturer setting	00000000h	
—					PL79	—	For manufacturer setting	00000000h	
—					PL80	—	For manufacturer setting	00000000h	
—					PL81	—	For manufacturer setting	00000000h	

MR-J4-_B_/MR-J4W_-_B servo parameter					Corresponding MR-J5-_B_/MR-J5W_-_B servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PL82	—	For manufacturer setting	00000000h	
—					PL83	—	For manufacturer setting	00000000h	
—					PL84	—	For manufacturer setting	00000000h	
—					PL85	—	For manufacturer setting	00000000h	
—					PL86	—	For manufacturer setting	00000000h	
—					PL87	—	For manufacturer setting	00000000h	
—					PL88	—	For manufacturer setting	00000000h	
—					PL89	—	For manufacturer setting	00000000h	
—					PL90	—	For manufacturer setting	00000000h	
—					PL91	—	For manufacturer setting	00000000h	
—					PL92	—	For manufacturer setting	00000000h	
—					PL93	—	For manufacturer setting	00000000h	
—					PL94	—	For manufacturer setting	00000000h	
—					PL95	—	For manufacturer setting	00000000h	
—					PL96	—	For manufacturer setting	00000000h	
—					PL97	—	For manufacturer setting	00000000h	
—					PL98	—	For manufacturer setting	00000000h	
—					PL99	—	For manufacturer setting	00000000h	

12.3 Comparison of Servo Parameter Details

Point

The following servo amplifier capacities are applicable to the descriptions in this document.

- 200 V 1-axis: 0.1 to 7 kW/2-axis: 0.2 to 1 kW/3-axis: 0.2 to 0.4 kW
- 400 V 1-axis: 0.6 to 3.5 kW

The servo parameters of the MR-J5-_B_ described in this section are those of firmware version C4.

Basic setting servo parameters group ([Pr. PA_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PA01	Operation mode		PA01	Operation mode	
	_ _ _ x: For manufacturer setting	0h		Pr. PA01.0 For manufacturer setting	0h
	_ _ x _: Operation mode selection 0: Standard control mode 1: Fully closed loop control mode 4: Linear servo motor control mode 6: DD motor control mode Setting any value other than the above will trigger [AL. 37 Parameter error].	0h		[Pr. PA01.1 Operation mode selection] 0: Standard control mode 4: Linear servo motor control mode 6: Direct drive motor control mode	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA01.2 For manufacturer setting	0h
	x _ _ _: Compatibility mode selection This digit can be changed using the application "MR Mode Change". If it is changed without using the application, [AL. 3E Operation mode error] will occur. 0: J3 compatibility mode 1: J4 mode	1h		Pr. PA01.3 For manufacturer setting	3h
—				[Pr. PA01.4 Fully closed loop operation mode selection] Select whether to enable or disable the fully closed loop control mode. The external encoder communication method of four-wire type cannot be used in the fully closed loop control mode on the MR-J5-_B_. Use the MR-J5-_B_-RJ. When this servo parameter is set to "1" in the linear servo motor control mode or direct drive motor control mode, [AL. 037 Parameter error] occurs. Setting "1" (enabled) on the MR-J5W3-_B-_G_ triggers [AL. 037]. 0: Disabled (semi closed loop control mode) 1: Enabled (fully closed loop control mode)	0h
				Pr. PA01.5-7 For manufacturer setting	000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA02	Regenerative option		PA02	Regenerative option	
	Select a regenerative option. Incorrect setting may cause the regenerative option to burn. If a selected regenerative option is not for use with the servo amplifier, [AL. 37 Parameter error] occurs. _ _ x x: Regenerative option selection 00: Regenerative option is not used. • For 100 W servo amplifiers, the regenerative resistor is not used. • Built-in regenerative resistors are used on servo amplifiers with a capacity of 0.2 kW to 7 kW. 01: FR-RC/FR-CV/FR-BU2/FR-XC When using the FR-RC, FR-CV, and FR-XC, select "[AL. 10] occurring (_ _ _ 1)" for "Undervoltage alarm detection method selection" of [Pr. PC20]. 02: MR-RB032 03: MR-RB12 04: MR-RB32 05: MR-RB30 06: MR-RB50 (A cooling fan is required.) 08: MR-RB31 09: MR-RB51 (A cooling fan is required.) 0B: MR-RB3N 0C: MR-RB5N (A cooling fan is required.) 80: MR-RB1H-4 81: MR-RB3M-4 (A cooling fan is required.) 82: MR-RB3G-4 (A cooling fan is required.) 83: MR-RB5G-4 (A cooling fan is required.) 84: MR-RB34-4 (A cooling fan is required.) 85: MR-RB54-4 (A cooling fan is required.) 91: MR-RB3U-4 (A cooling fan is required.) 92: MR-RB5U-4 (A cooling fan is required.)	00h		[Pr. PA02.0-1 Regenerative option selection] Select a regenerative option. Incorrect setting may cause the regenerative option to burn. If a selected regenerative option is not for use with the servo amplifier, [AL. 037 Parameter error] occurs. Other regenerative options cannot be used together with the FR-XC. 00: Regenerative option is not used. • For 100 W servo amplifiers, the regenerative resistor is not used. • Built-in regenerative resistors are used on servo amplifiers with a capacity of 0.2 kW to 7 kW. 01: FR-XC 02: MR-RB032 03: MR-RB12 04: MR-RB32 05: MR-RB30 06: MR-RB50 (A cooling fan is required.) 08: MR-RB31 09: MR-RB51 (A cooling fan is required.) 0B: MR-RB3N 0C: MR-RB5N (A cooling fan is required.) 0D: MR-RB14 0E: MR-RB34 1C: MR-RB3Z 1D: MR-RB5Z (A cooling fan is required.) 80: MR-RB1H-4 81: MR-RB3M-4 (A cooling fan is required.) 82: MR-RB3G-4 (A cooling fan is required.) 83: MR-RB5G-4 (A cooling fan is required.) 84: MR-RB34-4 (A cooling fan is required.) 85: MR-RB54-4 (A cooling fan is required.) 91: MR-RB3U-4 (A cooling fan is required.) 92: MR-RB5U-4 (A cooling fan is required.) 93: MR-RB3Y-4 (A cooling fan is required.) 94: MR-RB5Y-4 (A cooling fan is required.)	00h
	_ x _ _: For manufacturer setting	0h		Pr. PA02.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA02.3 For manufacturer setting	0h
—				[Pr. PA02.4 Simple converter selection] When using the simple converter, set this servo parameter. The simple converter and external regenerative option can be used together. When using an external regenerative option, set the regenerative option to be used with [Pr. PA02.0-1]. When [Pr. PA02.0-1 Regenerative option selection] is set to "01: FR-XC", setting this servo parameter to "1: MR-CM3K" triggers [AL. 037 Parameter error]. 0: Simple converter is not used 1: MR-CM3K	0h
				[Pr. PA02.5 Excessive regeneration warning enabled/disabled selection] When [Pr. PA02.4] is set to "0" (simple converter is not used), setting this servo parameter to "1" (disabled) triggers [AL. 037 Parameter error]. When the simple converter is used, whether to enable or disable the detection of [AL. 0E0.1 Excessive regeneration warning] is selectable with this servo parameter. 0: Enabled 1: Disabled	0h
				Pr. PA02.6-7 For manufacturer setting	00h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA03	Absolute position detection system		PA03	Absolute position detection system	
	Set this servo parameter when using the absolute position detection system. The servo parameter cannot be used in the speed control mode and torque control mode. _ _ _ x: Absolute position detection system selection 0: Disabled (used in incremental system) 1: Disabled (used in incremental system)	0h		[Pr. PA03.0 Absolute position detection system selection] Set this servo parameter when using the absolute position detection system. If the absolute position detection system is switched to the incremental system, the home position is erased. Execute homing again when the absolute position detection system is enabled. 0: Disabled (incremental system) 1: Enabled (absolute position detection system) In the following case, enabling the absolute position detection system triggers [AL. 037 Parameter error]. • When an incremental type encoder is being used • When semi closed/fully closed switching is enabled By setting [Pr. PF63.0 [AL. 01A.5 Servo motor combination error 3] selection] to "1" (disabled) while the absolute position detection system is enabled, an in-use servo motor with a batteryless absolute position encoder can be replaced without changing the setting value of [Pr. PA03.1 Servo motor replacement preparation]. Connecting a servo motor that had not been connected at the startup of the absolute position detection system will cause [AL. 025 Absolute position erased], erasing absolute position data. Therefore, check if a correct servo motor is connected.	0h
	_ _ x _: For manufacturer setting	0h		[Pr. PA03.1 Servo motor replacement preparation] To replace an in-use batteryless absolute position encoder equipped servo motor while the absolute position detection system is in enabled status, set this servo parameter to "enabled". Selecting "1" (enabled) enables servo motor replacement. After completing the servo motor replacement preparation, the value automatically changes to "0" (disabled). After replacing the servo motor, the home position is erased. Execute homing again. If [AL. 01A.5 Servo motor combination error 3] occurs after servo motor replacement, set this servo parameter to "1" (enabled), cycle the power, and then deactivate [AL. 01A.5]. 0: Disabled 1: Enabled	0h
	_ x _ _: For manufacturer setting	0h		[Pr. PA03.2 Scale measurement encoder replacement preparation] To replace an in-use batteryless absolute position scale measurement encoder while the absolute position detection system is in enabled status, set this servo parameter to "enabled". Selecting "1" (enabled) enables scale measurement encoder replacement. After completing the scale measurement encoder replacement preparation, the value automatically changes to "0" (disabled). After replacing the scale measurement encoder, the home position is erased. Execute homing again. After setting this servo parameter to "enabled", cycle the power and then deactivate [AL. 01A.6 Servo motor combination error 4]. 0: Disabled 1: Enabled	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA03.3 For manufacturer setting	0h
—				Pr. PA03.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PA04	Function selection A-1		PA04	Function selection A-1	
	_ _ _ x: For manufacturer setting	0h		Pr. PA04.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PA04.1 For manufacturer setting	0h
	_ x _ _: Servo forced stop selection 0: Enabled (the forced stop input EM2 or EM1 is used) 1: Disabled (the forced stop input EM2 and EM1 are not used)	0h		[Pr. PA04.2 Servo forced stop selection] 0: Enabled (the forced stop input EM2 or EM1 is used) 1: Disabled (the forced stop input EM2 and EM1 are not used)	0h
	x _ _ _: Forced stop deceleration function selection 0: Forced stop deceleration function disabled (EM1 is used) 2: Forced stop deceleration function enabled (EM2 is used)	2h		[Pr. PA04.3 Forced stop deceleration function selection] 0: Forced stop deceleration function disabled (EM1 is used) 2: Forced stop deceleration function enabled (EM2 is used)	2h
—				Pr. PA04.4-7 For manufacturer setting	0000h
PA06	For manufacturer setting	1	PA06	Electronic gear numerator Set the electronic gear numerator. If this servo parameter is set to a value other than "1" or "16", [AL. 037 Parameter error] occurs. If this servo parameter is set to a value other than "1" while "4" (linear servo motor control mode) is selected in [Pr. PA01.1 Operation mode selection], [AL. 037] occurs. If this servo parameter is set to a value other than "1" while "6" (direct drive motor control mode) is selected in [Pr. PA01.1], [AL. 037] occurs. If this servo parameter is set to a value other than "1" while "1" (enabled (fully closed loop control mode)) is selected in [Pr. PA01.4 Fully closed loop operation mode selection] and a linear scale and A/B/Z-phase differential output type encoder are connected with the load-side encoder, [AL. 037] occurs.	1
PA07		1	PA07	Electronic gear denominator The value of the electronic gear denominator is fixed to "1". Setting any value other than "1" will trigger [AL. 037 Parameter error].	1

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA08	Auto tuning mode		PA08	Auto tuning mode	
	_ _ _ x: Gain adjustment mode setting 0: 2 gain adjustment mode 1 (interpolation mode) 1: Auto tuning mode 1 2: Auto tuning mode 2 3: Manual mode 4: 2 gain adjustment mode 2	1h		[Pr. PA08.0 Gain adjustment mode selection] Select the gain adjustment mode. 0: 2 gain adjustment mode 1 (interpolation mode) 1: Auto tuning mode 1 2: Auto tuning mode 2 3: Manual mode 4: 2 gain adjustment mode 2 5: Quick tuning mode 6: Load to motor inertia ratio monitor mode	1h
	_ _ x _: For manufacturer setting	0h		Pr. PA08.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA08.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA08.3 For manufacturer setting	0h
—				[Pr. PA08.4 Quick tuning - Load to motor inertia ratio setting] Set the load to motor inertia ratio at quick tuning. If the load connected to the servo motor is larger than the load to motor inertia ratio set in the servo parameter, an overshoot may occur in positioning operation after quick tuning. 0: Load to motor inertia ratio of 30 times or less 1: Load to motor inertia ratio of 100 times or less	0h
				[Pr. PA08.5 Quick tuning - Execution selection] Set when to execute quick tuning. 0: At initial servo-on after cycling the power 1: At every servo-on	0h
				[Pr. PA08.6 Quick tuning - Restore selection] Set whether to return servo parameters to the values from before quick tuning. 0: Disabled 1: Enabled By setting "1" (enabled), the following servo parameters return to the values from before quick tuning. ☞ Page 348 Servo parameters to be restored If quick tuning has never been performed after power on or software reset, setting "1" (enabled) only keeps the current servo parameter values.	0h
				Pr. PA08.7 For manufacturer setting	0h

Servo parameters to be restored

No.	Symbol	Name
PB01	FILT	Adaptive tuning mode (adaptive filter II)
PB07	PG1	Model control gain
PB08	PG2	Position control gain
PB09	VG2	Speed control gain
PB10	VIC	Speed integral compensation
PB11	VDC	Speed differential compensation
PB13	NH1	Machine resonance suppression filter 1
PB14	NHQ1	Notch shape selection 1
PB15	NH2	Machine resonance suppression filter 2
PB16	NHQ2	Notch shape selection 2
PB18	LPF	Low-pass filter setting
PB23	VFBF	Low-pass filter selection
PB50	NH5	Machine resonance suppression filter 5
PB51	NHQ5	Notch shape selection 5
PE41	EOP3	Function selection E-3

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA09	Auto tuning response Set the auto tuning response. ☞ Page 349 Auto tuning response (MR-J4_-_B_)	16	PA09	Auto tuning response Set the auto tuning response. ☞ Page 350 Auto tuning response (MR-J5_-_B_)	16

Auto tuning response (MR-J4_-_B_)

Setting value	Machine characteristic	
	Responsiveness	Guideline for machine resonance frequency [Hz]
1	Low response	2.7
2		3.6
3		4.9
4		6.6
5		10.0
6		11.3
7		12.7
8		14.3
9		16.1
10		18.1
11		20.4
12		23.0
13		25.9
14		29.2
15		32.9
16		37.0
17		41.7
18		47.0
19		52.9
20	Middle response	59.6
21		67.1
22		75.6
23		85.2
24		95.9
25		108.0
26		121.7
27		137.1
28		154.4
29		173.9
30		195.9
31		220.6
32		248.5
33		279.9
34		315.3
35		355.1
36		400.0
37		446.6
38		501.2
39	High response	571.5
40		642.7

Auto tuning response (MR-J5_-_B_)

Setting value	Machine characteristic	
	Responsiveness	Guideline for machine resonance frequency [Hz]
1	Low response	2.7
2		3.6
3		4.9
4		6.6
5		10.0
6		11.3
7		12.7
8		14.3
9		16.1
10		18.1
11		20.4
12		23.0
13		25.9
14		29.2
15		32.9
16		37.0
17		41.7
18		47.0
19		52.9
20	Middle response	59.6
21		67.1
22		75.6
23		85.2
24		95.9
25		108.0
26		121.7
27		137.1
28		154.4
29		173.9
30		195.9
31		220.6
32		248.5
33		279.9
34		315.3
35		355.1
36		400.0
37		446.6
38		501.2
39	High response	571.5
40		642.7

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA10	In-position range Set the in-position range in the command pulse unit.	1600	PA10	In-position range Set the in-position range in the command pulse unit. ☞ Page 351 In-position range unit	25600

In-position range unit

Setting value of [Pr. PA01.4 Fully closed loop operation mode selection]	In-position range unit
0 (semi closed loop control mode)	Motor-side encoder
1 (fully closed loop control mode)	Load-side encoder

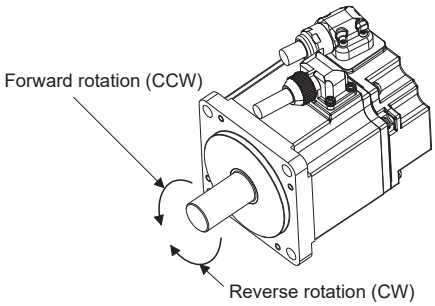
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA14	Rotation direction selection/travel direction selection Select the command input pulse rotation direction or travel direction for the rotary servo motor, linear servo motor, and direct drive motor. Refer to section 17.2 in "MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual" for the settings in the master-slave operation function. Refer to the following for the servo motor rotation direction. ☞ Page 352 Servo motor rotation direction/linear servo motor travel direction (MR-J4_-_B_)	0	PA14	Travel direction selection The rotation/travel direction can be changed without changing the polarity of the command from the controller. The polarities of the position and speed information are changed by the setting value of [Pr. PA14 Travel direction selection]. Torque information changes with the combination of [Pr. PA14] and [Pr. PC29.3 Torque POL reflection selection]. The rotation/travel direction is enabled regardless of the control modes. For example, when the torque polarity is changed with [Pr. PA14] and [Pr. PC29.3], the torque information polarity will also change in the position control mode. Refer to the following for the servo motor rotation direction. ☞ Page 353 Servo motor rotation direction/linear servo motor travel direction (MR-J5-_B_/MR-J5W_-_B)	0

Servo motor rotation direction/linear servo motor travel direction (MR-J4_-_B_)

Setting value	Servo motor rotation direction/linear servo motor travel direction	
	Positioning address increasing direction	Positioning address decreasing direction
0	CCW or positive direction	CW or negative direction
1	CW or negative direction	CCW or positive direction

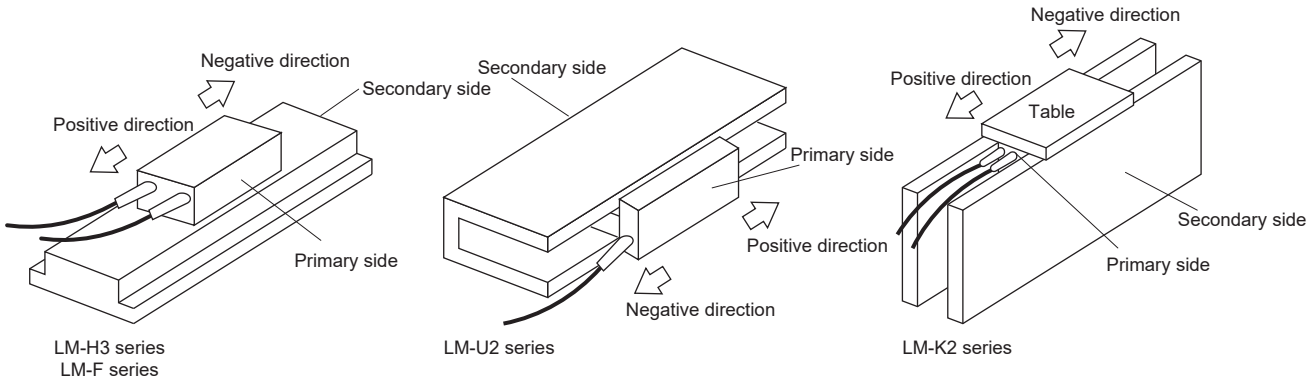
■Servo motor rotation direction

The servo motor rotation direction is as follows.



■Linear servo motor travel direction

The positive and negative directions of the linear servo motor are as follows.



Servo motor rotation direction/linear servo motor travel direction (MR-J5-_B_/MR-J5W_-_B)

• Position information

Setting value of [Pr. PA14]	Servo motor rotation direction/linear servo motor travel direction	
	Positioning address increasing direction	Positioning address decreasing direction
0	CCW or positive direction	CW or negative direction
1	CW or negative direction	CCW or positive direction

• Speed information

Setting value of [Pr. PA14]	Servo motor rotation direction/linear servo motor travel direction	
	Speed handled by the controller: positive	Speed handled by the controller: negative
0	CCW or positive direction	CW or negative direction
1	CW or negative direction	CCW or positive direction

• Torque information (other than continuous operation to torque control mode)

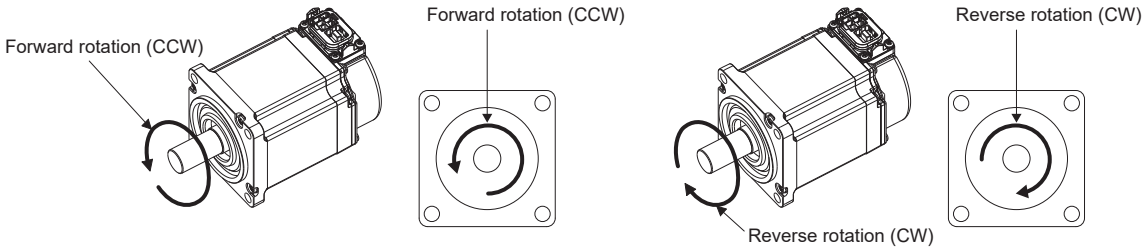
Setting value		Servo motor rotation direction/linear servo motor travel direction	
[Pr. PA14]	[Pr. PC29.3]	Speed handled by the controller: positive	Speed handled by the controller: negative
0	0: Enabled	CCW or positive direction	CW or negative direction
	1: Disabled		
1	0: Enabled	CW or negative direction	CCW or positive direction
	1: Disabled	CCW or positive direction	CW or negative direction

• Torque information (continuous operation to torque control mode)

Setting value		Servo motor rotation direction/linear servo motor travel direction	
[Pr. PA14]	[Pr. PC29.3]	Speed handled by the controller: positive	Speed handled by the controller: negative
0	0: Enabled	CCW or positive direction	CW or negative direction
	1: Disabled		
1	0: Enabled		
	1: Disabled		

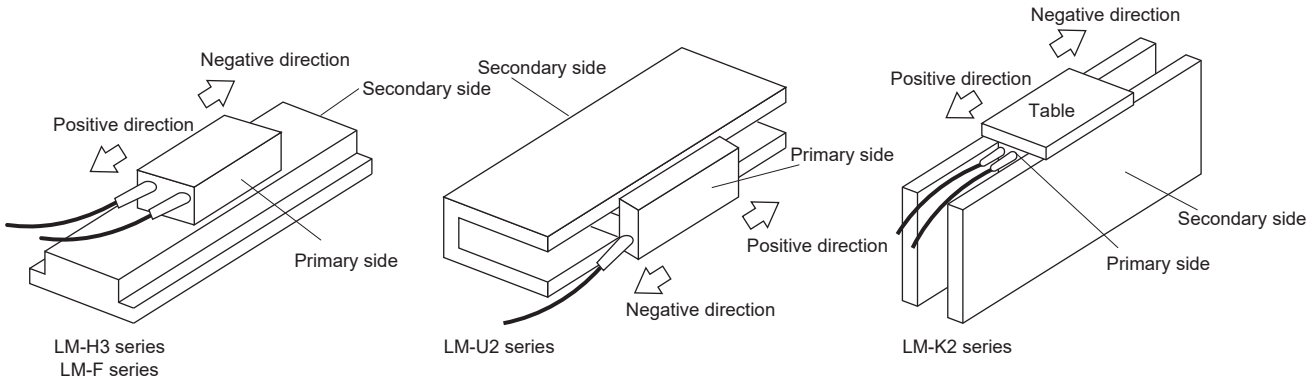
• Servo motor rotation direction

The servo motor rotation direction is as follows.



• Linear servo motor travel direction

The positive and negative directions of the linear servo motor are as follows.



MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PA15	Encoder output pulses Set the encoder output pulses outputted from the servo amplifier, by using the number of output pulses per revolution, dividing ratio, or electronic gear ratio. (after multiplication by 4) Set a numerator for the electronic gear when "A-phase/B-phase pulse electronic gear setting (_ _ 3 _)" is selected for "Encoder output pulse setting selection" of [Pr. PC03]. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	4000	PA15	Encoder output pulses Set the encoder output pulses outputted from the servo amplifier, by using the number of output pulses per revolution, dividing ratio, or electronic gear ratio. (after multiplication by 4) Selecting "1" (dividing ratio setting) in [Pr. PC03.1 Encoder output pulse setting selection] will divide the travel distance [pulse] by the setting value. Set a numerator for the electronic gear for the A/B-phase pulse output when selecting "3" (A-phase/B-phase pulse electronic gear setting) in [Pr. PC03.1]. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	4000
PA16	Encoder output pulses 2 Set the electronic gear denominator for the A/B-phase pulse output. Set a denominator for the electronic gear when "A-phase/B-phase pulse electronic gear setting (_ _ 3 _)" is selected for "Encoder output pulse setting selection" of [Pr. PC03]. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	1	PA16	Encoder output pulses 2 Set the electronic gear denominator for the A/B-phase pulse output. Set a denominator for the electronic gear when selecting "3" (A-phase/B-phase pulse electronic gear setting) in [Pr. PC03.1 Encoder output pulse setting selection]. When "1" (dividing ratio setting) is selected in [Pr. PC03.1 Encoder output pulse setting selection], the setting value is disabled. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range.	1
PA17	Servo motor series setting When using a linear servo motor, select any linear servo motor with [Pr. PA17] and [Pr. PA18]. Set this at the same time with [Pr. PA18]. Refer to the following table for setting values. ☞ Page 356 Linear servo motor list (MR-J4_-_B_)	0000h	PA17	Servo motor series setting To select the linear servo motor to be used, set this servo parameter and [Pr. PA18.0-3 Servo motor type setting]. Set this at the same time with [Pr. PA18.0-3]. Refer to the following table for setting values. ☞ Page 357 Linear servo motor list (MR-J5_-_B_)	00000000h

Linear servo motor list (MR-J4_-_B_)

Linear servo motor series	Linear servo motor (primary side)	Servo parameter	
		Setting value of [Pr. PA17]	Setting value of [Pr. PA18]
LM-H3	LM-H3P2A-07P-BSS0	00BBh	2101h
	LM-H3P3A-12P-CSS0		3101h
	LM-H3P3B-24P-CSS0		3201h
	LM-H3P3C-36P-CSS0		3301h
	LM-H3P3D-48P-CSS0		3401h
	LM-H3P7A-24P-ASS0		7101h
	LM-H3P7B-48P-ASS0		7201h
	LM-H3P7C-72P-ASS0		7301h
	LM-H3P7D-96P-ASS0		7401h
LM-U2	LM-U2PAB-05M-0SS0	00B4h	A201h
	LM-U2PAD-10M-0SS0		A401h
	LM-U2PAF-15M-0SS0		A601h
	LM-U2PBB-07M-1SS0		B201h
	LM-U2PBD-15M-1SS0		B401h
	LM-U2PBF-22M-1SS0		2601h
	LM-U2P2B-40M-2SS0		2201h
	LM-U2P2C-60M-2SS0		2301h
	LM-U2P2D-80M-2SS0		2401h
LM-F	LM-FP2B-06M-1SS0 (natural cooling)	00B2h	2201h
	LM-FP2D-12M-1SS0 (natural cooling)		2401h
	LM-FP2F-18M-1SS0 (natural cooling)		2601h
	LM-FP4B-12M-1SS0 (natural cooling)		4201h
	LM-FP4D-24M-1SS0 (natural cooling)		4401h
	LM-FP4F-36M-1SS0 (natural cooling)		4601h
	LM-FP4H-48M-1SS0 (natural cooling)		4801h
	LM-FP5H-60M-1SS0 (natural cooling)		5801h
	LM-FP2B-06M-1SS0 (liquid-cooling)		2202h
	LM-FP2D-12M-1SS0 (liquid-cooling)		2402h
	LM-FP2F-18M-1SS0 (liquid-cooling)		2602h
	LM-FP4B-12M-1SS0 (liquid-cooling)		4202h
	LM-FP4D-24M-1SS0 (liquid-cooling)		4402h
	LM-FP4F-36M-1SS0 (liquid-cooling)		4602h
	LM-FP4H-48M-1SS0 (liquid-cooling)		4802h
	LM-FP5H-60M-1SS0 (liquid-cooling)		5802h
LM-K2	LM-K2P1A-01M-2SS1	00B8h	1101h
	LM-K2P1C-03M-2SS1		1301h
	LM-K2P2A-02M-1SS1		2101h
	LM-K2P2C-07M-1SS1		2301h
	LM-K2P2E-12M-1SS1		2501h
	LM-K2P3C-14M-1SS1		3301h
	LM-K2P3E-24M-1SS1		3501h

Linear servo motor list (MR-J5_-_B_)

Linear servo motor series	Linear servo motor (primary side)	Servo parameter	
		Setting value of [Pr. PA17]	Setting value of [Pr. PA18]
LM-H3	LM-H3P2A-07P-BSS0	000000BBh	00002101h
	LM-H3P3A-12P-CSS0		00003101h
	LM-H3P3B-24P-CSS0		00003201h
	LM-H3P3C-36P-CSS0		00003301h
	LM-H3P3D-48P-CSS0		00003401h
	LM-H3P7A-24P-ASS0		00007101h
	LM-H3P7B-48P-ASS0		00007201h
	LM-H3P7C-72P-ASS0		00007301h
	LM-H3P7D-96P-ASS0		00007401h
LM-U2	LM-U2PAB-05M-0SS0	000000B4h	0000A201h
	LM-U2PAD-10M-0SS0		0000A401h
	LM-U2PAF-15M-0SS0		0000A601h
	LM-U2PBB-07M-1SS0		0000B201h
	LM-U2PBD-15M-1SS0		0000B401h
	LM-U2PBF-22M-1SS0		00002601h
	LM-U2P2B-40M-2SS0		00002201h
	LM-U2P2C-60M-2SS0		00002301h
	LM-U2P2D-80M-2SS0		00002401h
LM-F	LM-FP2B-06M-1SS0 (natural cooling)	000000B2h	00002201h
	LM-FP2D-12M-1SS0 (natural cooling)		00002401h
	LM-FP2F-18M-1SS0 (natural cooling)		00002601h
	LM-FP4B-12M-1SS0 (natural cooling)		00004201h
	LM-FP4D-24M-1SS0 (natural cooling)		00004401h
	LM-FP4F-36M-1SS0 (natural cooling)		00004601h
	LM-FP4H-48M-1SS0 (natural cooling)		00004801h
	LM-FP5H-60M-1SS0 (natural cooling)		00005801h
	LM-FP2B-06M-1SS0 (liquid-cooling)		00002202h
	LM-FP2D-12M-1SS0 (liquid-cooling)		00002402h
	LM-FP2F-18M-1SS0 (liquid-cooling)		00002602h
	LM-FP4B-12M-1SS0 (liquid-cooling)		00004202h
	LM-FP4D-24M-1SS0 (liquid-cooling)		00004402h
	LM-FP4F-36M-1SS0 (liquid-cooling)		00004602h
	LM-FP4H-48M-1SS0 (liquid-cooling)		00004802h
	LM-FP5H-60M-1SS0 (liquid-cooling)		00005802h
LM-K2	LM-K2P1A-01M-2SS1	000000B8h	00001101h
	LM-K2P1C-03M-2SS1		00001301h
	LM-K2P2A-02M-1SS1		00002101h
	LM-K2P2C-07M-1SS1		00002301h
	LM-K2P2E-12M-1SS1		00002501h
	LM-K2P3C-14M-1SS1		00003301h
	LM-K2P3E-24M-1SS1		00003501h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA18	Servo motor type setting When using a linear servo motor, select any linear servo motor with [Pr. PA17] and [Pr. PA18]. Set this at the same time with [Pr. PA17]. Refer to the following table for setting values. ☞ Page 356 Linear servo motor list (MR-J4_-_B_)	0000h	PA18	Servo motor type setting	
				[Pr. PA18.0-3 Servo motor type setting] When using a linear servo motor, select any linear servo motor with [Pr. PA17] and [Pr. PA18]. Set this at the same time with [Pr. PA17]. Refer to the following table for setting values. ☞ Page 357 Linear servo motor list (MR-J5_-_B_)	0000h
—				Pr. PA18.4-7 For manufacturer setting	0000h
PA19	Parameter writing inhibit Select a reference range and writing range for the servo parameter. Refer to the table below for setting values. Setting value and read/write range of [Pr. PA19] ☞ Page 358 Setting value and read/write range of [Pr. PA19]	00ABh	PA19	For manufacturer setting	000000ABh

Setting value and read/write range of [Pr. PA19]

PA19	Setting value operation	PA	PB	PC	PD	PE	PF	PL
Setting values not listed below	Readable	○	—	—	—	—	—	—
	Writable	○	—	—	—	—	—	—
000Ah	Readable	19 only	—	—	—	—	—	—
	Writable	19 only	—	—	—	—	—	—
000Bh	Readable	○	○	○	—	—	—	—
	Writable	○	○	○	—	—	—	—
000Ch	Readable	○	○	○	○	—	—	—
	Writable	○	○	○	○	—	—	—
000Fh	Readable	○	○	○	○	○	—	○
	Writable	○	○	○	○	○	—	○
00AAh	Readable	○	○	○	○	○	○	—
	Writable	○	○	○	○	○	○	—
00ABh (initial value)	Readable	○	○	○	○	○	○	○
	Writable	○	○	○	○	○	○	○
100Bh	Readable	○	—	—	—	—	—	—
	Writable	19 only	—	—	—	—	—	—
100Ch	Readable	○	○	○	○	—	—	—
	Writable	19 only	—	—	—	—	—	—
100Fh	Readable	○	○	○	○	○	—	○
	Writable	19 only	—	—	—	—	—	—
10AAh	Readable	○	○	○	○	○	○	—
	Writable	19 only	—	—	—	—	—	—
10ABh	Readable	○	○	○	○	○	○	○
	Writable	19 only	—	—	—	—	—	—

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA20	Tough drive setting		PA20	Tough drive setting	
	_ _ _ x: For manufacturer setting	0h		Pr. PA20.0 For manufacturer setting	0h
	_ _ x _: Vibration tough drive selection 0: Disabled 1: Enabled Selecting "1" for this digit suppresses vibrations by automatically changing the setting values of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2] if the vibration exceeds the value of the oscillation level set in [Pr. PF23]. Refer to "MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual" for details.	0h		[Pr. PA20.1 Vibration tough drive selection] 0: Disabled 1: Machine resonance suppression filter change mode enabled 2: Machine resonance suppression filter automatic setting mode Selecting other than "0" for this servo parameter suppresses vibrations by automatically changing the setting values of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2] if the vibration exceeds the value of the oscillation level set in [Pr. PF23 Vibration tough drive - Oscillation detection level]. For "1", the vibration tough drive functions when [Pr. PB13] and [Pr. PB15] are enabled. For "2", the vibration tough drive functions even when [Pr. PB13] and [Pr. PB15] are disabled. When using the vibration tough drive, selecting "2" (machine resonance suppression filter automatic setting mode) is recommended.	0h
	_ x _ _: SEMI-F47 function selection 0: Disabled 1: Enabled Selecting "1" enables to avoid triggering [AL. 10 Undervoltage] by using the electrical energy charged in the capacitor in case that an instantaneous power failure occurs during operation. In [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time], the time until the occurrence of [AL. 10.1 Voltage drop in the control circuit power] can be set.	0h		[Pr. PA20.2 SEMI-F47 function selection] 0: Disabled 1: Enabled Selecting "1" enables to avoid triggering [AL. 010 Undervoltage] by using the electrical energy charged in the capacitor in case that an instantaneous power failure occurs during operation. In [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)], the time until the occurrence of [AL. 010.1 Voltage drop in the control circuit power] can be set. For the MR-J5W_-_B, SEMI-F47 function cannot enable specific axis separately. Therefore, when using SEMI-F47 function, enable all axes.	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA20.3 For manufacturer setting	0h
—				Pr. PA20.4-7 For manufacturer setting	0000h
PA21	Function selection A-3		PA21	Function selection A-3	
	_ _ _ x: One-touch tuning function selection 0: Disabled 1: Enabled When this digit is set to "0", one-touch tuning from MR Configurator2 cannot be performed.	1h		[Pr. PA21.0 One-touch tuning function selection] 0: Disabled 1: Enabled When the servo parameter is set to "0", the one-touch tuning cannot be performed.	1h
	_ _ x _: For manufacturer setting	0h		Pr. PA21.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA21.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA21.3 For manufacturer setting	0h
—				Pr. PA21.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA22	Position control composition selection		PA22	Position control configuration selection	
	_ _ _ x: For manufacturer setting	0h		Pr. PA22.0 For manufacturer setting	0h
	_ _ x _: Super trace control selection 0: Disabled 2: Enabled	0h		[Pr. PA22.1 Super trace function selection] 0: Disabled 2: Enabled	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA22.2 For manufacturer setting	0h
	x _ _ _: Scale measurement function selection 0: Disabled 1: Use with absolute position detection system 2: Use with incremental system The absolute position detection system cannot be used when an incremental type encoder is used. At this time, enabling the absolute position detection system triggers [AL. 37 Parameter error]. This setting is valid only in the standard control mode. Setting any value other than "0" in other operation modes will trigger [AL. 37 Parameter error].	0h		[Pr. PA22.3 Scale measurement function selection] The absolute position detection system cannot be used when an incremental type encoder is used. At this time, enabling the absolute position detection system triggers [AL. 037 Parameter error]. In the fully closed loop control mode, setting a value other than "0" triggers [AL. 037]. If the absolute position detection system is disabled or switched to the incremental system, the home position is erased. Setting "1" or "2" on the MR-J5W3-_B triggers [AL. 037]. If this servo parameter is set to a value other than "0" while "0" (standard control mode) is selected in [Pr. PA01.1 Operation mode selection], [AL. 037] occurs. 0: Disabled 1: Use with absolute position detection system 2: Use with incremental system By setting [Pr. PF63.1 [AL. 01A.6 Servo motor combination error 4] selection] to "1" (disabled) while the absolute position detection system is enabled, an in-use batteryless absolute position scale measurement encoder can be replaced without changing the setting value of [Pr. PA03.2 Scale measurement encoder replacement preparation]. Connecting a scale measurement encoder that had not been connected at the startup of the absolute position detection system will cause [AL. 025 Absolute position erased], erasing absolute position data. Therefore, check if a correct scale measurement encoder is connected.	0h
—				Pr. PA22.4-7 For manufacturer setting	0000h
PA23	Drive recorder arbitrary alarm trigger setting		PA23	Drive recorder desired alarm trigger setting This servo parameter is enabled in the following conditions: • [Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) • [Pr. PF80.0] = "1" (manual setting mode) and [Pr. PF82.0 Drive recorder - Trigger mode selection] = "0" (alarm trigger)	
	_ _ x x: Alarm detail number setting Set this to execute the trigger with a desired alarm detail No. for the drive recorder function. When this digit is set to "0 0", only the desired alarm No. setting will be enabled.	00h		[Pr. PA23.0-1 Alarm detail number setting] Set this to execute the trigger with a desired alarm detail No. for the drive recorder function. When "00h" is selected, only the desired alarm No. setting will be enabled.	00h
	x x _ _: Alarm number setting Set this to execute the trigger with a desired alarm No. for the drive recorder function. When "0 0" is selected, the desired alarm trigger of the drive recorder will be disabled.	00h		[Pr. PA23.2-4 Alarm number setting] Set this to execute the trigger with a desired alarm No. for the drive recorder function. When "000h" is selected, the desired alarm trigger of the drive recorder is disabled.	000h
—				Pr. PA23.5-7 For manufacturer setting	000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA24	Function selection A-4		PA24	Function selection A-4	
	_ _ _ x: Vibration suppression mode selection 0: Standard mode 1: 3 inertia mode 2: Low response mode If there are two lower resonance frequency, select "3 inertia mode (_ _ _ 1)". When the load to moment inertia ratio exceeds the recommended load to moment inertia ratio, select "Low response mode (_ _ _ 2)". When the standard mode or low response mode is selected, vibration suppression control 2 cannot be used. When 3 inertia mode is selected, feed forward gain cannot be used. Before changing the control mode in "3 inertia mode" or "low response mode" from the controller, stop the motor.	0h		[Pr. PA24.0 Vibration suppression mode selection] 0: Standard mode 1: 3 inertia mode 2: Low response mode 4: Path tracking mode When other than "3 inertia mode" is selected, vibration suppression control 2 cannot be used. Before changing the control mode in "3 inertia mode" or "low response mode", stop the motor. Before changing the control mode in "path tracking mode", stop the motor.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PA24.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA24.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA24.3 For manufacturer setting	0h
—				Pr. PA24.4-7 For manufacturer setting	0000h
PA25	One-touch tuning - Overshoot permissible level Set a permissible value of overshoot amount for one-touch tuning as a percentage of the in-position range. If the setting value is "0", the level will be 50 %.	0	PA25	One-touch tuning - Overshoot permissible level Set a permissible value of overshoot amount for one-touch tuning as a percentage of the in-position range. When "0" is set, 50 % is applied.	0
PA26	Function selection A-5		PA26	Function selection A-5	
	_ _ _ x: Torque limit function selection at instantaneous power failure (Instantaneous power failure tough drive selection) 0: Disabled 1: Enabled If an instantaneous power failure occurs during operation, limiting the torque at acceleration saves the electric energy charged in the capacitor in the servo amplifier. And consequently the time until [AL. 10.2 Voltage drop in the main circuit power] occurs can be delayed with instantaneous power failure tough drive function. Thus, the time to be set in [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time] can be extended. The torque limit function at instantaneous power failure is enabled when "SEMI-F47 function selection" in [Pr. PA20] is set to "Enabled (_ 1 _ _)".	0h		[Pr. PA26.0 Torque limit function selection at instantaneous power failure] 0: Disabled 1: Enabled By setting "1", if an instantaneous power failure occurs during operation, limiting the torque at acceleration saves the electric energy charged in the capacitor in the servo amplifier. And consequently the time until [AL. 010.2 Voltage drop in the main circuit power] occurs can be delayed with instantaneous power failure tough drive function. Thus, the time to be set in [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)] can be extended. The torque limit function at instantaneous power failure is enabled when [Pr. PA20.2 SEMI-F47 function selection] is "1" (enabled). This function cannot be used on the MR-J5W_-_B. When this servo parameter is enabled, [AL. 037 Parameter error] occurs. Also, this servo parameter will be disabled in the torque control mode.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PA26.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PA26.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PA26.3 For manufacturer setting	0h
—				Pr. PA26.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA28	For manufacturer setting	0000h	PA28	Function selection A-6	
—				Pr. PA28.0-3 For manufacturer setting	0000h
				[Pr. PA28.4 Speed range limit selection] Select the speed to be used for the range restriction of the speed data. If "1" (permissible speed) is set when the servo amplifier is connected with a rotary servo motor of the HK series, the maximum speed will be selected. 0: Maximum speed 1: Permissible speed	0h
				Pr. PA28.5-7 For manufacturer setting	000h

Gain/filter setting servo parameters group ([Pr. PB_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB01	Adaptive tuning mode (adaptive filter II)		PB01	Adaptive tuning mode (adaptive filter II)	
	_ _ _ x: Filter tuning mode selection Select the adjustment mode of the machine resonance suppression filter 1. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB01.0 Filter tuning mode selection] Setting of the adaptive tuning is performed. Select the adjustment mode of the machine resonance suppression filter 1. 0: Disabled 1: Automatic setting 2: Manual setting When the servo parameter is set to "automatic setting", [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB14 Notch shape selection 1] will be set automatically. The automatic setting of machine resonance suppression filter 1 cannot be used if quick tuning is in progress. While quick tuning is in progress, adaptive filter II (adaptive tuning) does not start even if the automatic setting of machine resonance suppression filter 1 is used. The results obtained from the quick tuning are applied to [Pr. PB13] and [Pr. PB14]. Do not use the automatic setting in the torque control mode.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PB01.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB01.2 For manufacturer setting	0h
	x _ _ _: Tuning accuracy selection 0: Standard 1: High accuracy In the high-accuracy mode, the frequency is estimated more accurately than in the standard mode, but the sound during adjustment is larger.	0h		[Pr. PB01.3 Tuning accuracy selection] 0: Standard 1: High accuracy In the high-accuracy mode, the frequency is estimated more accurately than in the standard mode, but the sound during adjustment is larger.	0h
—				Pr. PB01.4-7 For manufacturer setting	0000h
PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)		PB02	Vibration suppression control tuning mode (advanced vibration suppression control II)	
	_ _ _ x: Vibration suppression control 1 - Tuning mode selection Select the tuning mode of the vibration suppression control 1. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] Select the tuning mode of the vibration suppression control 1. 0: Disabled 1: Automatic setting 2: Manual setting	0h
	_ _ x _: Vibration suppression control 2 - Tuning mode selection Select the tuning mode of the vibration suppression control 2. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24 Function selection A-4], the setting value of this digit is enabled. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] Select the tuning mode of the vibration suppression control 2. To enable the setting value, set [Pr. PA24.0 Vibration suppression mode selection] to "1" (3 inertia mode). 0: Disabled 1: Automatic setting 2: Manual setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB02.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB02.3 For manufacturer setting	0h
—				Pr. PB02.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB03	Torque feedback loop gain Set the torque feedback gain in the continuous operation to torque control mode. Decreasing the setting value reduces the collision load during pressing. 6 rad/s is set when the setting value is 6 rad/s or less.	18000	PB03	Torque feedback loop gain Set the torque feedback gain. This function is enabled in the continuous operation to torque control mode. Decreasing the setting value of this servo parameter reduces the collision load during pressing. 6 rad/s is set when the setting value is 6 rad/s or less.	36000
PB04	Feed forward gain Set the feed forward gain. When 100 % is set and constant speed operation is performed, the droop pulses become almost zero. If the super trace control is enabled, the droop pulses are almost 0 in operation at uniform acceleration/deceleration, as well as at the constant speed. However, if sudden acceleration/deceleration is performed, overshoot becomes large. When the feed forward gain is set to 100 %, set a value not smaller than 1 s for the acceleration time constant until the rated speed is reached.	0	PB04	Feed forward gain Set the feed forward gain. When "100" is set, the droop pulses are almost 0 in operation at the constant speed. If the super trace control is enabled, the droop pulses are almost 0 in operation at uniform acceleration/deceleration, as well as at the constant speed. However, if sudden acceleration/deceleration is performed, overshoot becomes large. When the feed forward gain is set to 100 %, set a value not smaller than 1 s for the acceleration time constant until the rated speed is reached.	0
PB06	Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio or load to motor mass ratio. Setting a value greatly different from the actual load moment of inertia or load mass may cause an unexpected operation such as an overshoot. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 364 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J4_-_B_) When the servo parameter is set to automatic setting, the value varies within the range of 0.00 to 100.00.	7.00	PB06	Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio or load to motor mass ratio. Setting a value different from the actual load moment of inertia or load mass may cause an unexpected operation such as an overshoot. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 364 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5_-_B_) When the servo parameter is set to automatic setting, the value varies within the range of 0.00 to 100.00.	7.00

State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)

Pr. PA08	State of [Pr. PB06]
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	Manual setting
_ _ _ 3 (manual mode)	
_ _ _ 4 (2 gain adjustment mode 2)	

State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5_-_B_)

[Pr. PA08.0]	State of [Pr. PB06]
"0" (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
"1" (auto tuning mode 1)	
"2" (auto tuning mode 2)	Manual setting
"3" (manual mode)	
"4" (2 gain adjustment mode 2)	
"5" (quick tuning mode)	
"6" (load to motor inertia ratio monitor mode)	Automatic setting

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB07	Model loop gain Set the response gain to the target position. Increasing the setting value improves responsiveness to the position command, but increasing the value too much raises the likelihood of vibration and noise. The setting range of [Pr. PB07] is limited in the vibration suppression control tuning mode. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 365 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)	15.0	PB07	Model loop gain Set the response gain to the target position. Increasing the setting value improves responsiveness to the position command, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 365 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J5_-_B_) When the vibration suppression control is enabled, the settable range of [Pr. PB07 Model control gain] is limited. If [Pr. PB07] exceeds the settable range, the vibration suppression control is disabled.	15.0

State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)

Pr. PA08	State of [Pr. PB07]
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Manual setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	Automatic setting
_ _ _ 3 (manual mode)	
_ _ _ 4 (2 gain adjustment mode 2)	Manual setting

State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J5_-_B_)

[Pr. PA08.0]	State of [Pr. PB07]
"0" (2 gain adjustment mode 1 (interpolation mode))	Manual setting
"1" (auto tuning mode 1)	Automatic setting
"2" (auto tuning mode 2)	
"3" (manual mode)	Manual setting
"4" (2 gain adjustment mode 2)	
"5" (quick tuning mode)	Automatic setting
"6" (load to motor inertia ratio monitor mode)	Manual setting

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB08	Position loop gain Set the gain of the position loop. Set this servo parameter when increasing the position responsiveness to level load disturbance. Increasing the setting value improves responsiveness to the load disturbance, but increasing the value too much raises the likelihood of vibration and noise. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 366 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)	37.0	PB08	Position loop gain Set the gain of the position loop. Set this servo parameter when increasing the position responsiveness to level load disturbance. Increasing the setting value improves responsiveness to the load disturbance, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 366 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J5_-_B_)	37.0

State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4_-_B_)

Pr. PA08	State of [Pr. PB08]
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	
_ _ _ 3 (manual mode)	Manual setting
_ _ _ 4 (2 gain adjustment mode 2)	Automatic setting

State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J5_-_B_)

[Pr. PA08.0]	State of [Pr. PB08]
"0" (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
"1" (auto tuning mode 1)	
"2" (auto tuning mode 2)	
"3" (manual mode)	Manual setting
"4" (2 gain adjustment mode 2)	Automatic setting
"5" (quick tuning mode)	
"6" (load to motor inertia ratio monitor mode)	Manual setting

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB09	Speed loop gain Set the gain of the speed loop. Set this servo parameter when vibration occurs on machines with low rigidity or with large backlash. Increasing the setting value improves responsiveness, but increasing the value too much raises the likelihood of vibration and noise. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the table of [Pr. PB08] for details. If the value of this servo parameter is smaller than the initial value in the continuous operation to torque control mode, the equipment may not be able to follow the command torque.	823	PB09	Speed loop gain Set the gain of the speed loop. Set this servo parameter when vibration occurs on machines with low rigidity or with large backlash. Increasing the setting value improves responsiveness, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the table of [Pr. PB08] for details.	823
PB10	Speed integral compensation Set the integral time constant of the speed loop. Decreasing the setting value improves responsiveness, but raises the likelihood of vibration and noise. This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the table of [Pr. PB08] for details.	33.7	PB10	Speed integral compensation Set the integral time constant of the speed loop. Decreasing the setting value improves responsiveness, but raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the table of [Pr. PB08] for details.	33.7
PB11	Speed differential compensation Set the differential compensation. This servo parameter is enabled when "Continuous PID control enabled (_ _ 3 _)" is set to "PI-PID switching control selection" in [Pr. PB24].	980	PB11	Speed differential compensation Set the differential compensation. The enabling conditions vary depending on the setting value in [Pr. PB24.1 PI-PID switching control selection]. ☞ Page 367 Enabling conditions for [Pr. PB11]	980

Enabling conditions for [Pr. PB11]

[Pr. PB24.1]	Enabling conditions for [Pr. PB11]
"0" (switching is enabled by PID switching signal from controller)	Enabled by turning on the PID switching signal from controller
"3" (Continuous PID control (proportional control) enabled)	Always enabled

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB12	Overshoot amount compensation Set a dynamic friction torque in percentage to the rated torque at servo motor rated speed. Alternatively, set a percentage of dynamic friction force against the continuous thrust at linear servo motor rated speed. If the response level is too low or if the torque/thrust is limited, the efficiency of the servo parameter may decrease.	0	PB12	Overshoot amount compensation Set a dynamic friction torque in percentage to the rated torque at servo motor rated speed. Alternatively, set a percentage of dynamic friction force against the continuous thrust at linear servo motor rated speed. If the response level is too low or if the torque/thrust is limited, the efficiency of the servo parameter may decrease.	0
PB13	Machine resonance suppression filter 1 Set the notch frequency of the machine resonance suppression filter 1. When "Automatic setting (_ _ _ 1)" is selected for "Filter tuning mode selection" in [Pr. PB01], the values obtained from adaptive tuning are applied. When "Manual setting (_ _ _ 2)" is selected for "Filter tuning mode selection" in [Pr. PB01], the setting value of this servo parameter is enabled.	4500	PB13	Machine resonance suppression filter 1 Set the notch frequency of the machine resonance suppression filter 1. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. When [Pr. PB01.0 Filter tuning mode selection] is set to "1" (automatic setting), the values obtained from adaptive tuning are applied to the setting value of this servo parameter. When [Pr. PB01.0] is set to "2" (manual setting), set the notch frequency with this servo parameter.	4500
PB14	Notch shape selection 1		PB14	Notch shape selection 1	
	_ _ _ x: For manufacturer setting	0h		Pr. PB14.0 For manufacturer setting	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB14.1 Notch depth selection 1] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB14.2 Notch width selection 1] 0: α = 21: α = 32: α = 4 3: α = 5	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB14.3 For manufacturer setting	0h
—				Pr. PB14.4-7 For manufacturer setting	0000h
PB15	Machine resonance suppression filter 2 Set the notch frequency of the machine resonance suppression filter 2. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 2 selection" in [Pr. PB16], the setting value of this servo parameter is enabled.	4500	PB15	Machine resonance suppression filter 2 Set the notch frequency of the machine resonance suppression filter 2. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. When [Pr. PB16.0 Machine resonance suppression filter 2 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB16	Notch shape selection 2 Set forms of the machine resonance suppression filter 2.		PB16	Notch shape selection 2 Set forms of the machine resonance suppression filter 2. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning.	
	_ _ _ x: Mechanical resonance suppression filter 2 selection 0: Disabled 1: Enabled	0h		[Pr. PB16.0 Machine resonance suppression filter 2 selection] 0: Disabled 1: Enabled	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB16.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB16.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB16.3 For manufacturer setting	0h
—				Pr. PB16.4-7 For manufacturer setting	0000h
PB17	Shaft resonance suppression filter Set the shaft resonance suppression filter. Use this to suppress a high-frequency machine vibration. When "Shaft resonance suppression filter selection" in [Pr. PB23] is "Automatic setting (_ _ _ 0)", the value will be calculated automatically from the servo motor used and load to motor inertia ratio. Automatic setting is not carried out when the linear servo motor is used. When "Manual setting (_ _ _ 1)" is set, the value written for this servo parameter is used. If "Shaft resonance suppression filter selection" in [Pr. PB23] is "Disabled (_ _ _ 2)", the setting value is invalid. If "Enabled (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the shaft resonance suppression filter cannot be used.		PB17	Shaft resonance suppression filter Set the shaft resonance suppression filter. Use this to suppress a high-frequency machine vibration. When [Pr. PB23.0 Shaft resonance suppression filter selection] is set to "0" (automatic setting), the value will be calculated automatically from the servo motor used and load to motor inertia ratio. Automatic setting is not carried out when the linear servo motor is used. When "1" (manual setting) is selected, set the shaft resonance suppression filter with this servo parameter. When [Pr. PB23.0] is set to "2" (disabled), the setting of this servo parameter is disabled. Therefore, the filter performance may be reduced. When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), the shaft resonance suppression filter cannot be used.	
	_ _ x x: Shaft resonance suppression filter setting - Frequency selection Set the shaft resonance suppression filter. Refer to the following table for setting values. ☞ Page 370 Shaft resonance suppression filter setting - Frequency selection (MR-J4_-_B_) Set the value closest to the required frequency.	00h		[Pr. PB17.0-1 Shaft resonance suppression filter setting - Frequency selection] Refer to the following table for setting values. ☞ Page 371 Shaft resonance suppression filter setting - Frequency selection (MR-J5_-_B_) Set the value closest to the required frequency.	00h
	x _ _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB17.2 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB17.3 For manufacturer setting	0h
—				Pr. PB17.4-7 For manufacturer setting	0000h

Shaft resonance suppression filter setting - Frequency selection (MR-J4_-_B_)

Setting value	Frequency [Hz]
_ _ 0 0	Disabled
_ _ 0 1	Disabled
_ _ 0 2	4500
_ _ 0 3	3000
_ _ 0 4	2250
_ _ 0 5	1800
_ _ 0 6	1500
_ _ 0 7	1285
_ _ 0 8	1125
_ _ 0 9	1000
_ _ 0 A	900
_ _ 0 B	818
_ _ 0 C	750
_ _ 0 D	692
_ _ 0 E	642
_ _ 0 F	600
_ _ 1 0	562
_ _ 1 1	529
_ _ 1 2	500
_ _ 1 3	473
_ _ 1 4	450
_ _ 1 5	428
_ _ 1 6	409
_ _ 1 7	391
_ _ 1 8	375
_ _ 1 9	360
_ _ 1 A	346
_ _ 1 B	333
_ _ 1 C	321
_ _ 1 D	310
_ _ 1 E	300
_ _ 1 F	290

Shaft resonance suppression filter setting - Frequency selection (MR-J5_-_B_)

Setting value	Frequency [Hz]
00	Disabled
01	Disabled
02	4500
03	3000
04	2250
05	1800
06	1500
07	1285
08	1125
09	1000
0A	900
0B	818
0C	750
0D	692
0E	642
0F	600
10	562
11	529
12	500
13	473
14	450
15	428
16	409
17	391
18	375
19	360
1A	346
1B	333
1C	321
1D	310
1E	300
1F	290
20	Disabled
21	Disabled
22	Disabled
23	Disabled
24	Disabled
25	Disabled
26	Disabled
27	Disabled
28	4500
29	4000
2A	3600
2B	3272
2C	3000
2D	2769
2E	2571
2F	2400
30	2250
31	2117
32	2000

Setting value	Frequency [Hz]
33	1894
34	1800
35	1714
36	1636
37	1565
38	1500
39	1440
3A	1384
3B	1333
3C	1285
3D	1241
3E	1200
3F	1161
40	1125
41	1090
42	1058
43	1028
44	1000
45	972
46	947
47	923
48	900
49	878
4A	857
4B	837
4C	818
4D	800
4E	782
4F	765
50	750
51	734
52	720
53	705
54	692
55	679
56	666
57	654
58	642
59	631
5A	620
5B	610
5C	600
5D	590
5E	580
5F	571
60	562
61	553
62	545
63	537
64	529
65	521
66	514
67	507

Setting value	Frequency [Hz]
68	500
69	493
6A	486
6B	480
6C	473
6D	467
6E	461
6F	455
70	450
71	444
72	439
73	433
74	428
75	423
76	418
77	413
78	409
79	404
7A	400
7B	395
7C	391
7D	387
7E	382
7F	378
80	375
81	371
82	367
83	363
84	360
85	356
86	352
87	349
88	346
89	342
8A	339
8B	336
8C	333
8D	330
8E	327
9F	324
90	321
91	318
92	315
93	313
94	310
95	307
96	305
97	302
98	300
99	297
9A	295
9B	292
9C	290

Setting value	Frequency [Hz]
9D	288
9E	285
9F	283

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB18	Low-pass filter setting Set the low-pass filter. Refer to the table below for the status of this servo parameter and the setting values of the related servo parameter. ☞ Page 375 State of [Pr. PB18] depending on the related servo parameter (MR-J4_-_B_)	3141	PB18	Low-pass filter setting Set the low-pass filter. Refer to the table below for the status of this servo parameter and the setting values of the related servo parameter. ☞ Page 375 State of [Pr. PB18] depending on the related servo parameter (MR-J5_-_B_) When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), this servo parameter returns to the initial value.	3141

State of [Pr. PB18] depending on the related servo parameter (MR-J4_-_B_)

[Pr. PB23]	[Pr. PB18]
_ _ 0 _ (initial value)	Automatic setting
_ _ 1 _	Setting value enabled
_ _ 2 _	Setting value disabled

State of [Pr. PB18] depending on the related servo parameter (MR-J5_-_B_)

[Pr. PB23.1]	[Pr. PB18]
"0" (initial value)	Automatic setting
"1"	Setting value enabled
"2"	Setting value disabled

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB19	Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used. The setting range of this servo parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB19	Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the vibration frequency with this servo parameter. If [Pr. PB25.0 Model adaptive control selection] is set to "2" (disabled), the vibration suppression control cannot be used. The available range of [Pr. PB19 Vibration suppression control 1 - Vibration frequency] depends on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB19] exceeds the available range, the vibration suppression control is disabled.	100.0
PB20	Vibration suppression control 1 - Resonance frequency Set the resonance frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used. The setting range of this servo parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB20	Vibration suppression control 1 - Resonance frequency Set the resonance frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the resonance frequency with this servo parameter. If [Pr. PB25.0 Model adaptive control selection] is set to "2" (disabled), the vibration suppression control cannot be used. The available range of [Pr. PB20 Vibration suppression control 1 - Resonance frequency] changes depending on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB20] exceeds the available range, the vibration suppression control is disabled.	100.0
PB21	Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used.	0.00	PB21	Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the vibration frequency with this servo parameter.	0.00
PB22	Vibration suppression control 1 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this servo parameter is used.	0.00	PB22	Vibration suppression control 1 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the resonance frequency with this servo parameter.	0.00

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB23	Low-pass filter selection		PB23	Low-pass filter selection	
	_ _ _ x: Shaft resonance suppression filter selection 0: Automatic setting 1: Manual setting 2: Disabled If "Enabled (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the shaft resonance suppression filter cannot be used.	0h		[Pr. PB23.0 Shaft resonance suppression filter selection] Select the shaft resonance suppression filter. 0: Automatic setting 1: Manual setting 2: Disabled When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), the shaft resonance suppression filter cannot be used.	0h
	_ _ x _: Low-pass filter selection 0: Automatic setting 1: Manual setting 2: Disabled	0h		[Pr. PB23.1 Low-pass filter selection] Select the low-pass filter. 0: Automatic setting 1: Manual setting 2: Disabled When "5" (quick tuning mode) is selected in [Pr. PA08.0 Gain adjustment mode selection], this servo parameter is set to "1" (manual setting).	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB23.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PB23.3 Shaft resonance suppression filter 2 selection] 0: Disabled 1: Automatic setting	1h
—				Pr. PB23.4-7 For manufacturer setting	0000h
PB24	Slight vibration suppression control		PB24	Slight vibration suppression control	
	_ _ _ x: Slight vibration suppression control selection 0: Disabled 1: Enabled The slight vibration suppression control is enabled when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. Slight vibration suppression control selection cannot be used in speed control mode.	0h		[Pr. PB24.0 Slight vibration suppression control selection] Select the slight vibration suppression control. 0: Disabled 1: Enabled The slight vibration suppression control is enabled when "3" (manual mode) is selected in [Pr. PA08.0 Gain adjustment mode selection]. The slight vibration suppression control selection can be used in the position control mode.	0h
	_ _ x _: PI-PID switching control selection 0: PI control enabled (Switchable to PID control (proportional control) with the command of the servo system controller) 3: PID control (proportional control) is always enabled. If the servo motor at a stop is rotated even for a pulse due to any external factor, it generates torque to compensate for a position mismatch. When the servo motor shaft is to be locked mechanically after positioning completion (stop), enabling the PID control and completing positioning simultaneously will suppress the unnecessary torque generated to compensate for a position mismatch.	0h		[Pr. PB24.1 PI-PID switching control selection] 0: PI control enabled (switching is enabled by PID switching signal from controller) 3: PID control (proportional control) is always enabled. If the servo motor at a stop is rotated even for a pulse due to any external factor, it generates torque to compensate for a position mismatch. When the servo motor shaft is to be locked mechanically after positioning completion (stop), enabling the PID control and completing positioning simultaneously will suppress the unnecessary torque generated to compensate for a position mismatch.	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB24.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB24.3 For manufacturer setting	0h
—				Pr. PB24.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB25	Function selection B-1		PB25	Function selection B-1	
	_ _ _ x: Model adaptive control selection 0: Enabled (model adaptive control) 2: Disabled (PID control)	0h		[Pr. PB25.0 Model adaptive control selection] 0: Enabled (model adaptive control) 2: Disabled (PID control) When "Disabled" is set, vibration suppression control 1 and 2 cannot be used. The overshoot compensation will be disabled.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PB25.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PB25.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB25.3 For manufacturer setting	0h
—				Pr. PB25.4-7 For manufacturer setting	0000h
PB26	Gain switching function		PB26	Gain switching function	
	_ _ _ x: Gain switching selection 0: Disabled 1: Control command from controller is enabled 2: Command frequency 3: Droop pulses 4: Servo motor speed/linear servo motor speed	0h		[Pr. PB26.0 Gain switching selection] 0: Disabled 1: Control command from controller 2: Command frequency 3: Droop pulses 4: Servo motor speed 5: Command direction When "1" is selected, the gain changes to "Gain after gain switching" by using the control command from the controller.	0h
	_ _ x _: Gain switching - Condition selection 0: Gain after switching is enabled with the condition value or more for gain switching. 1: Gain after switching is enabled with the condition value or less for gain switching.	0h		[Pr. PB26.1 Gain switching - Condition selection] 0: Gain after "Gain switching" is enabled with the condition value or more for gain switching 1: Gain after "Gain switching" is enabled with the condition value or less for gain switching	0h
	_ x _ _: Gain switching time constant - Disabling condition selection 0: Switching time constant enabled 1: Time constant disabled at switching 2: Time constant disabled at return	0h		[Pr. PB26.2 Gain switching time constant - Disabling condition selection] 0: Switching time constant enabled 1: Time constant disabled at switching 2: Time constant disabled at return	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB26.3 For manufacturer setting	0h
—				[Pr. PB26.4 Gain switching 2 selection] 0: Disabled 1: Control command from controller 2: The same condition as [Pr. PB26.0 Gain switching selection] When "1" is selected, the gain changes to "Gain after gain switching 2" by using the control command from the controller. When "1" is set in [Pr. PB26.0] while "2" has been selected for this servo parameter, the gain changes to "Gain after gain switching 2" by the control command from the controller.	0h
				[Pr. PB26.5 Gain switching selection during a stop] 0: Gain switching 2 during a stop is disabled 1: Gain switching 2 during a stop is enabled This servo parameter is enabled in the following condition: [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]) and [Pr. PB26.0] is set to "5" (command direction) in the position control mode.	0h
				Pr. PB26.6-7 For manufacturer setting	00h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB27	Gain switching condition Set the value of the gain switching (command frequency, droop pulses, or servo motor speed/linear servo motor speed) selected in [Pr. PB26]. The set value unit differs depending on the switching condition item. The unit r/min will be substituted by mm/s for a linear servo motor.	10	PB27	Gain switching condition Set the value of the gain switching (command frequency, droop pulses, or servo motor speed) selected in [Pr. PB26 Gain switching function]. The set value unit differs depending on the switching condition item. The units are as follows: [kpulse/s] for command frequency, [pulse] for droop pulses, and [r/min] for servo motor speed. If using a linear servo motor, the unit of the servo motor speed is [mm/s].	10
PB28	Gain switching time constant Set the time constant until the gain switches in response to the conditions set in [Pr. PB26] and [Pr. PB27].	1	PB28	Gain switching time constant Set the time constant until the gain switches in response to the conditions set in [Pr. PB26 Gain switching function] and [Pr. PB27 Gain switching condition].	1
PB29	Load to motor inertia ratio/load to motor mass ratio after gain switching Set the load to motor inertia ratio/load to motor mass ratio for when gain switching is enabled. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	7.00	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio/load to motor mass ratio for when gain switching is enabled. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	7.00
PB30	Position loop gain after gain switching Set the position control gain for when the gain switching is enabled. If a value less than 1.0 rad/s is set, the value will be the same as the value set in [Pr. PB08]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	0.0	PB30	Gain switching - Position control gain Set the position control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "1.0", the setting value of [Pr. PB08 Position control gain] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0.0
PB31	Speed loop gain after gain switching Set the speed control gain for when the gain switching is enabled. If a value less than 20 rad/s is set, the value will be the same as the value set in [Pr. PB09]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	0	PB31	Gain switching - Speed control gain Set the speed control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "20", the setting value of [Pr. PB09 Speed control gain] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0
PB32	Speed integral compensation after gain switching Set the speed integral compensation for when the gain switching is enabled. If a value less than 0.1 ms is set, the value will be the same as the value set in [Pr. PB10]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08].	0.0	PB32	Gain switching - Speed integral compensation Set the speed integral compensation for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB10 Speed integral compensation] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0.0
PB33	Vibration suppression control 1 - Vibration frequency after gain switching Set the vibration frequency of vibration suppression control 1 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB19]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB33	Gain switching - Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB19 Vibration suppression control 1 - Vibration frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB34	Vibration suppression control 1 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB20]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB34	Vibration suppression control 1 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB20 Vibration suppression control 1 - Resonance frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0
PB35	Vibration suppression control 1 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB35	Gain switching - Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.00
PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.00

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB45	Command notch filter		PB45	Command notch filter	
	_ _ x x: Command notch filter setting frequency selection Refer to the following table for the relation of setting values to frequencies. ☞ Page 382 Command notch filter setting frequency selection (MR-J4_-_B_)	00h		[Pr. PB45.0-1 Command notch filter setting frequency selection] Refer to the following table for the relation of setting values to frequencies. ☞ Page 385 Command notch filter setting frequency selection (MR-J5_-_B_)	00h
	_ x _ _: Notch depth selection Refer to the following table for details. ☞ Page 384 Notch depth selection (MR-J4_-_B_)	0h		[Pr. PB45.2 Notch depth selection] Refer to the following table for details. ☞ Page 387 Notch depth selection (MR-J5_-_B_)	0h
	x _ _ _: For manufacturer setting	0h		Pr. PB45.3 For manufacturer setting	0h
—				Pr. PB45.4-7 For manufacturer setting	0000h

Command notch filter setting frequency selection (MR-J4_-_B_)

Setting value	Frequency [Hz]
_ _ 0 0	Disabled
_ _ 0 1	2250
_ _ 0 2	1125
_ _ 0 3	750
_ _ 0 4	562
_ _ 0 5	450
_ _ 0 6	375
_ _ 0 7	321
_ _ 0 8	281
_ _ 0 9	250
_ _ 0 A	225
_ _ 0 B	204
_ _ 0 C	187
_ _ 0 D	173
_ _ 0 E	160
_ _ 0 F	150
_ _ 1 0	140
_ _ 1 1	132
_ _ 1 2	125
_ _ 1 3	118
_ _ 1 4	112
_ _ 1 5	107
_ _ 1 6	102
_ _ 1 7	97
_ _ 1 8	93
_ _ 1 9	90
_ _ 1 A	86
_ _ 1 B	83
_ _ 1 C	80
_ _ 1 D	77
_ _ 1 E	75
_ _ 1 F	72
_ _ 2 0	70
_ _ 2 1	66
_ _ 2 2	62
_ _ 2 3	59
_ _ 2 4	56
_ _ 2 5	53
_ _ 2 6	51
_ _ 2 7	48
_ _ 2 8	46
_ _ 2 9	45
_ _ 2 A	43
_ _ 2 B	41
_ _ 2 C	40
_ _ 2 D	38
_ _ 2 E	37
_ _ 2 F	36
_ _ 3 0	35.2
_ _ 3 1	33.1
_ _ 3 2	31.3

Setting value	Frequency [Hz]
_ _ 3 3	29.6
_ _ 3 4	28.1
_ _ 3 5	26.8
_ _ 3 6	25.6
_ _ 3 7	24.5
_ _ 3 8	23.4
_ _ 3 9	22.5
_ _ 3 A	21.6
_ _ 3 B	20.8
_ _ 3 C	20.1
_ _ 3 D	19.4
_ _ 3 E	18.8
_ _ 3 F	18.2
_ _ 4 0	17.6
_ _ 4 1	16.5
_ _ 4 2	15.6
_ _ 4 3	14.8
_ _ 4 4	14.1
_ _ 4 5	13.4
_ _ 4 6	12.8
_ _ 4 7	12.2
_ _ 4 8	11.7
_ _ 4 9	11.3
_ _ 4 A	10.8
_ _ 4 B	10.4
_ _ 4 C	10
_ _ 4 D	9.7
_ _ 4 E	9.4
_ _ 4 F	9.1
_ _ 5 0	8.8
_ _ 5 1	8.3
_ _ 5 2	7.8
_ _ 5 3	7.4
_ _ 5 4	7.0
_ _ 5 5	6.7
_ _ 5 6	6.4
_ _ 5 7	6.1
_ _ 5 8	5.9
_ _ 5 9	5.6
_ _ 5 A	5.4
_ _ 5 B	5.2
_ _ 5 C	5.0
_ _ 5 D	4.9
_ _ 5 E	4.7
_ _ 5 F	4.5

Notch depth selection (MR-J4_-_B_)

Setting value	Depth [dB]
_ 0 _ _	-40.0
_ 1 _ _	-24.1
_ 2 _ _	-18.1
_ 3 _ _	-14.5
_ 4 _ _	-12.0
_ 5 _ _	-10.1
_ 6 _ _	-8.5
_ 7 _ _	-7.2
_ 8 _ _	-6.0
_ 9 _ _	-5.0
_ A _ _	-4.1
_ B _ _	-3.3
_ C _ _	-2.5
_ D _ _	-1.8
_ E _ _	-1.2
_ F _ _	-0.6

Command notch filter setting frequency selection (MR-J5_-_B_)

Setting value	Frequency [Hz]
00	Disabled
01	2000
02	1000
03	666
04	500
06	400
08	285
09	250
0A	222
0B	200
0C	181
0D	166
0F	153
0F	153
10	142
11	133
12	125
13	117
14	111
15	105
16	100
17	95
19	90
1A	86
1B	83
1C	80
1D	76
1E	74
1F	71
21	66
22	62
23	58
24	55
25	52
26	50
27	47
29	45
2A	43
2B	41
2C	40
2D	38
2E	37
2F	35
30	34.5
31	33.3
32	31.3
33	29.4
34	27.8
35	26.3
36	25.0
38	23.8

Setting value	Frequency [Hz]
39	22.7
3A	21.7
3B	20.8
3C	20.0
3D	19.2
3E	18.5
3F	17.9
40	17.2
41	16.7
42	15.6
43	14.7
44	13.9
45	13.2
46	12.5
48	11.9
49	11.4
4A	10.9
4B	10.4
4C	10
4D	9.6
4E	9.3
4F	8.9
50	8.6
51	8.3
52	7.8
53	7.4
54	6.9
55	6.6
56	6.3
58	6.0
59	5.7
5A	5.4
5B	5.2
5C	5.0
5D	4.8
5E	4.6
5F	4.5
60	4.31
61	4.17
62	3.91
63	3.68
64	3.47
65	3.29
66	3.13
68	2.98
69	2.84
6A	2.72
6B	2.60
6C	2.50
6D	2.40
6E	2.31
6F	2.23
71	2.08

Setting value	Frequency [Hz]
72	1.95
73	1.84
74	1.74
75	1.64
76	1.56
78	1.49
79	1.42
7A	1.36
7B	1.30
7C	1.25
7D	1.20
7E	1.16
7F	1.12

Notch depth selection (MR-J5_-_B_)

Setting value	Depth [dB]
0	-40.0
1	-24.1
2	-18.1
3	-14.5
4	-12.0
5	-10.1
6	-8.5
7	-7.2
8	-6.0
9	-5.0
A	-4.1
B	-3.3
C	-2.5
D	-1.8
E	-1.2
F	-0.6

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB46	Machine resonance suppression filter 3 Set the notch frequency of the machine resonance suppression filter 3. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 3 selection" in [Pr. PB47], the setting value of this servo parameter is enabled.	4500	PB46	Machine resonance suppression filter 3 Set the notch frequency of the machine resonance suppression filter 3. When [Pr. PB47.0 Machine resonance suppression filter 3 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500
PB47	Notch shape selection 3 Set forms of the machine resonance suppression filter 3.		PB47	Notch shape selection 3 Set forms of the machine resonance suppression filter 3.	
	_ _ _ x: Mechanical resonance suppression filter 3 selection 0: Disabled 1: Enabled	0h		[Pr. PB47.0 Machine resonance suppression filter 3 selection] 0: Disabled 1: Enabled	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB47.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB47.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _:- For manufacturer setting	0h		Pr. PB47.3 For manufacturer setting	0h
—				Pr. PB47.4-7 For manufacturer setting	0000h
PB48	Machine resonance suppression filter 4 Set the notch frequency of the machine resonance suppression filter 4. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the setting value of this servo parameter is enabled.	4500	PB48	Machine resonance suppression filter 4 Set the notch frequency of the machine resonance suppression filter 4. When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500
PB49	Notch shape selection 4 Set forms of the machine resonance suppression filter 4.		PB49	Notch shape selection 4 Set forms of the machine resonance suppression filter 4.	
	_ _ _ x: Mechanical resonance suppression filter 4 selection 0: Disabled 1: Enabled When this setting value is "Enabled", [Pr. PB17 Shaft resonance suppression filter] cannot be used.	0h		[Pr. PB49.0 Machine resonance suppression filter 4 selection] 0: Disabled 1: Enabled When this setting value is "Enabled", [Pr. PB17 Shaft resonance suppression filter] cannot be used.	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB49.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB49.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _:- For manufacturer setting	0h		Pr. PB49.3 For manufacturer setting	0h
—				Pr. PB49.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PB50	Machine resonance suppression filter 5 Set the notch frequency of the machine resonance suppression filter 5. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 5 selection" in [Pr. PB51], the setting value of this servo parameter is enabled.	4500	PB50	Machine resonance suppression filter 5 Set the notch frequency of the machine resonance suppression filter 5. When [Pr. PB51.0 Machine resonance suppression filter 5 selection] is set to "1" (enabled), set the notch frequency with this servo parameter.	4500
PB51	Notch shape selection 5 Set forms of the machine resonance suppression filter 5. If "Enabled (_ _ _ 1)" is selected for "Robust filter selection" in [Pr. PE41], machine resonance suppression filter 5 cannot be used.		PB51	Notch shape selection 5 Set forms of the machine resonance suppression filter 5. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning.	
	_ _ _ x: Machine resonance suppression filter 5 selection 0: Disabled 1: Enabled	0h		[Pr. PB51.0 Machine resonance suppression filter 5 selection] 0: Disabled 1: Enabled	0h
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB51.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h
	_ x _ _: Notch width selection 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h		[Pr. PB51.2 Notch width selection] 0: α = 2 1: α = 3 2: α = 4 3: α = 5	0h
	x _ _ _:- For manufacturer setting	0h		Pr. PB51.3 For manufacturer setting	0h
—				Pr. PB51.4-7 For manufacturer setting	0000h
PB52	Vibration suppression control 2 - Vibration frequency Set the vibration frequency of vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this servo parameter is used. The setting range of this parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB52	Vibration suppression control 2 - Vibration frequency Set the vibration frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the vibration frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). The available range of [Pr. PB52 Vibration suppression control 2 - Vibration frequency] depends on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB52] exceeds the available range, the vibration suppression control is disabled.	100.0
PB53	Vibration suppression control 2 - Resonance frequency Set the resonance frequency of vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this parameter is used. The setting range of this servo parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled.	100.0	PB53	Vibration suppression control 2 - Resonance frequency Set the resonance frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the resonance frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). The available range of [Pr. PB53 Vibration suppression control 2 - Resonance frequency] changes depending on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB53] exceeds the available range, the vibration suppression control is disabled.	100.0

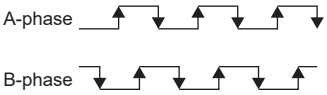
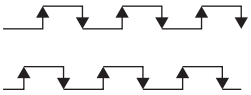
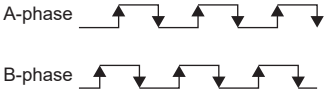
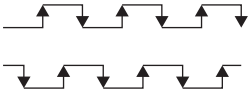
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB54	Vibration suppression control 2 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this servo parameter is used.	0.00	PB54	Vibration suppression control 2 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the vibration frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode).	0.00
PB55	Vibration suppression control 2 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this servo parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this servo parameter is used.	0.00	PB55	Vibration suppression control 2 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the resonance frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode).	0.00
PB56	Vibration suppression control 2 - Vibration frequency after gain switching Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB52]. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB56	Vibration suppression control 2 - Vibration frequency after gain switching Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB52 Vibration suppression control 2 - Vibration frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0
PB57	Vibration suppression control 2 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB53]. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB57	Vibration suppression control 2 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB53 Vibration suppression control 2 - Resonance frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.00
PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled if "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.00	PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection].	0.00
PB60	Model loop gain after gain switching Set the model control gain for when the gain switching is enabled. If a value less than 1.0 rad/s is set, the value will be the same as the value set in [Pr. PB07]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Control command from controller is enabled (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.	0.0	PB60	Model loop gain after gain switching Set the model control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "1.0", the setting value of [Pr. PB07 Model control gain] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • "1" (control command from the controller) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.	0.0

Extension setting servo parameters group ([Pr. PC_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PC01	Error excessive alarm level Set an excessive error alarm trigger level. If using a rotary servo motor or direct drive motor, set the level in units of rev. If the setting value is "0", the level will be 3 rev. A setting value exceeding 200 rev will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. If the setting value is "0", the level will be 100 mm.	0	PC01	Excessive error alarm trigger level Set an excessive error alarm trigger level. If using a rotary servo motor or direct drive motor, set the level in units of rev. If 200 rev or higher is set, the value will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. When the value is set to "0", the alarm trigger level for rotary servo motors and direct drive motors is 3 rev. The alarm trigger level for linear servo motors is 100 mm. The unit can be changed with [Pr. PC06.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection].	0
PC02	Electromagnetic brake sequence output Set the delay time used between the MBR (Electromagnetic brake interlock) shut-off and the base circuit shut-off.	0	PC02	Electromagnetic brake sequence output Set the delay time used between the MBR (Electromagnetic brake interlock) shut-off and the base circuit shut-off.	0
PC03	Encoder output pulse selection		PC03	Encoder output pulses selection	
	_ _ _ x: Encoder output pulse phase selection 0: Increasing A-phase 90° in CCW or positive direction 1: Increasing A-phase 90° in CW or negative direction ☞ Page 393 Encoder output pulse - Phase selection	0h		[Pr. PC03.0 Encoder output pulse - Phase selection] 0: Increasing A-phase 90° in CCW or positive direction 1: Increasing A-phase 90° in CW or negative direction ☞ Page 393 Encoder output pulse - Phase selection	0h
	_ _ x _: Encoder output pulse setting selection Since output pulse setting cannot be used when a linear servo motor is used, division ratio setting will be applied even if "0" is selected. 0: Output pulse setting 1: Dividing ratio setting 3: A-phase/B-phase pulse electronic gear setting 4: A/B-phase pulse through output setting	0h		[Pr. PC03.1 Encoder output pulse setting selection] If this servo parameter is set to "0" while [Pr. PC03.2 Encoder selection for encoder output pulse] is set to "1", [AL. 037 Parameter error] occurs. Connecting an encoder other than an A/B/Z-phase differential output type encoder and setting the servo parameter to "4" trigger [AL. 037 Parameter error]. 0: Output pulse setting 1: Dividing ratio setting 3: A-phase/B-phase pulse electronic gear setting 4: A/B-phase pulse through output setting This servo parameter cannot be set for C-axis. For the settings of [Pr. PC03.1] and [Pr. PC03.2], refer to the following table. ☞ Page 394 Settings of [Pr. PC03.1] and [Pr. PC03.2] (MR-J5_-_B_)	0h
	_ x _ _: Encoder selection for encoder output pulse Select the encoder that the servo amplifier will use to output encoder output pulses. 0: Servo motor encoder 1: Load-side encoder Setting this servo parameter to "_1 0 _" will trigger [AL. 37 Parameter error]. This digit can be used only in a fully closed loop system. If "1" is selected for systems other than a fully closed loop system or a standard control system (scale measurement function enabled), [AL. 37 Parameter error] occurs.	0h		[Pr. PC03.2 Encoder selection for encoder output pulse] Select the encoder that the servo amplifier will use to output encoder output pulses. This servo parameter can be used only in a fully closed loop system. If "1" is selected for systems other than a fully closed loop system or a semi closed loop system (scale measurement function enabled), [AL. 037 Parameter error] occurs. This servo parameter cannot be set on the MR-J5W_-_B. Refer to the following table for the setting description. ☞ Page 394 When [Pr. PC03.2] = "1" (load-side encoder) 0: Servo motor-side encoder 1: Load-side encoder	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC03.3 For manufacturer setting	0h
—				Pr. PC03.4-7 For manufacturer setting	0000h

Encoder output pulse - Phase selection

Setting value	Servo motor rotation direction/linear servo motor travel direction	
	CCW or positive direction	CW or negative direction
0		
1		

Settings of [Pr. PC03.1] and [Pr. PC03.2] (MR-J5_-_B_)

■When [Pr. PC03.2] = "0" (servo motor-side encoder)

Setting value of [Pr. PC03.1]	For rotary servo motors and direct drive motors	For linear servo motors
"0" (output pulse setting)	Set the output pulses per revolution with [Pr. PA15 Encoder output pulses]. If [Pr. PC03.2] is set to "1" (load-side encoder), [AL. 037] will occur. Output pulse = Setting value of [Pr. PA15] [pulse/rev]	The output pulse setting cannot be used. When "0" is set, the condition is the same as when "1" is set.
"1" (dividing ratio setting)	Set the dividing ratio to the resolution per servo motor revolution with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Resolution per revolution}}{\text{Setting value of [Pr. PA15]}}$ [pulse/rev]	Set the dividing ratio to the travel distance of the linear servo motor with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Travel distance of linear servo motor}}{\text{Setting value of [Pr. PA15]}}$ [pulse]
"3" (A-phase/B-phase pulse electronic gear setting)	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16 Encoder output pulses 2]. $\text{Output pulse} = \text{Resolution per revolution} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16 Encoder output pulses 2]. $\text{Output pulse} = \text{Travel distance of linear servo motor} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse]
"4" (A/B-phase pulse through output setting) *1	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]

*1 If this value is set when using the rotary servo motor, [AL. 037] occurs.

■When [Pr. PC03.2] = "1" (load-side encoder)

Setting value of [Pr. PC03.1]	When in the fully closed loop control mode	When the scale measurement function is enabled
"0" (output pulse setting)	[AL. 037] occurs.	
"1" (dividing ratio setting)	Set the dividing ratio to the resolution per servo motor revolution with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Resolution per revolution}}{\text{Setting value of [Pr. PA15]}}$ [pulse/rev]	Set the dividing ratio to the travel distance of the scale measurement encoder with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Travel distance of scale measurement encoder}}{\text{Setting value of [Pr. PA15]}}$ [pulse]
"3" (A-phase/B-phase pulse electronic gear setting)	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. $\text{Output pulse} = \text{Resolution per revolution} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. $\text{Output pulse} = \text{Travel distance of scale measurement encoder} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse]
"4" (A/B-phase pulse through output setting)	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • A/B/Z-phase differential output type encoders cannot be used in the linear servo motor control mode or the direct drive motor control mode. • The setting value in [Pr. PC03.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC04	Function selection C-1		PC04	Function selection C-1	
	_ _ _ x: For manufacturer setting	0h		Pr. PC04.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC04.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC04.2 For manufacturer setting	0h
	x _ _ _: Encoder cable communication method selection 0: Two-wire type 1: Four-wire type When using an encoder of A/B/Z-phase differential output method, set "0". If the value is set incorrectly, [AL. 16 Encoder initial communication error 1] occurs. Alternatively, [AL. 20 Encoder normal communication error 1] occurs. If "1" is set while [Pr. PA01] is set to "Fully closed loop control mode (_ _ 1 _)", [AL. 37] will occur (except for the MR-J4-_B_-RJ).	0h		[Pr. PC04.3 Encoder cable communication method selection] 0: Two-wire type 1: Four-wire type When using an A/B/Z-phase differential output type encoder, set "0". Setting "1" triggers [AL. 037 Parameter error]. If the value is set incorrectly, [AL. 016 Encoder initial communication error 1] or [AL. 020 Encoder normal communication error 1] occurs. [AL. 037] occurs if this servo parameter is set to "1" while [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (enabled (fully closed loop control mode)) on servo amplifiers other than the MR-J5-_B_-RJ.	0h
—				Pr. PC04.4-7 For manufacturer setting	0000h
PC05	Function selection C-2		PC05	Function selection C-2	
	_ _ _ x: Motor-less operation selection Enable or disable motor-less operation. The motor-less operation cannot be used in the fully closed loop control mode, linear servo motor control mode, or DD motor control mode. 0: Disabled 1: Enabled	0h		[Pr. PC05.0 Motor-less operation selection] Enable or disable motor-less operation. This operation can be used only in semi closed loop control while a rotary servo motor is used. 0: Disabled 1: Enabled	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC05.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC05.2 For manufacturer setting	0h
	x _ _ _: [AL. 9B Excessive error warning] selection 0: [AL. 9B Excessive error warning] disabled 1: [AL. 9B Excessive error warning] enabled	0h		Pr. PC05.3 For manufacturer setting	0h
—				[Pr. PC05.4 Encoder communication circuit diagnosis mode selection] Enable or disable the encoder communication circuit diagnosis mode. [AL. 118.1 Encoder communication circuit diagnosis in progress] occurs during the encoder communication circuit diagnosis mode. 0: Encoder communication circuit diagnosis mode disabled 1: Encoder communication circuit diagnosis mode enabled	0h
				Pr. PC05.4-7 For manufacturer setting	000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC06	Function selection C-3		PC06	Function selection C-3	
	_ _ _ x: For manufacturer setting	0h		Pr. PC06.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC06.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC06.2 For manufacturer setting	0h
	x _ _ _: Excessive error alarm and excessive error warning trigger level unit selection Select the unit used when setting the excessive error alarm trigger level in [Pr. PC01] and setting the excessive error warning trigger level in [Pr. PC38]. The servo parameter cannot be used in the speed control mode and torque control mode. 0: [rev] or [mm] 1: [0.1 rev] or [0.1 mm] 2: [0.01 rev] or [0.01 mm] 3: [0.001 rev] or [0.001 mm]	0h		[Pr. PC06.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection] Select the unit used when setting the excessive error alarm trigger level in [Pr. PC01 Excessive error alarm trigger level] and setting the excessive error warning trigger level in [Pr. PC38 Excessive error warning trigger level]. This servo parameter is enabled only in the position control mode. 0: [rev] or [mm] 1: [0.1 rev] or [0.1 mm] 2: [0.01 rev] or [0.01 mm] 3: [0.001 rev] or [0.001 mm]	0h
—				Pr. PC06.4-7 For manufacturer setting	0000h
PC07	Zero speed Set the output range of ZSP (zero speed detection). ZSP (zero speed detection) has a hysteresis of 20 r/min or 20 mm/s.	50	PC07	Zero speed Set an output range of the zero speed signal (ZSP). The zero speed signal detection has a hysteresis of 20 [r/min] (20 [mm/s]).	50
PC08	Overspeed alarm detection level Set an overspeed alarm detection level. When a value exceeding "servo motor maximum speed × 120 %" or "linear servo motor maximum speed × 120 %" is set, the value will be clamped at "servo motor maximum speed × 120 %" or "linear servo motor maximum speed × 120 %". When "0" is set, the value of "servo motor maximum speed × 120 %" or "linear servo motor maximum speed × 120 %" will be set.	0	PC08	Overspeed alarm detection level Set an overspeed alarm detection level. When a value exceeding "servo motor maximum speed × 120 %" is set, the value will be clamped at "servo motor maximum speed × 120 %". When "0" is set, the value of "servo motor maximum speed × 120 %" will be set. When the HK series rotary servo motor is connected, the value of "servo motor maximum speed × 105 %" will be set.	0
PC09	Analog monitor 1 output		PC09	Analog monitor 1 output	
	_ _ x x: Analog monitor 1 output selection Select the signal to be output to MO1 (analog monitor 1). For a multi-axis servo amplifier, the setting value of this servo parameter is disabled. ☞ Page 397 Analog monitor 1 output (MR-J4_-_B_)	00h		[Pr. PC09.0-1 Analog monitor 1 output selection] Select the signal to be output to analog monitor 1. For a multi-axis servo amplifier, the setting value of this servo parameter is disabled. ☞ Page 398 Analog monitor 1 output (MR-J5_-_B_)	00h
	_ x _ _: For manufacturer setting	0h		Pr. PC09.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC09.3 For manufacturer setting	0h
—				Pr. PC09.4-7 For manufacturer setting	0000h

Analog monitor 1 output (MR-J4_-_B_)

Setting value	Explanation	Operation mode *1			
		Standard	Fully closed	Linear	DD
_ _ 0 0	(Linear) servo motor speed (±8 V/max. speed)	○	○	○	○
_ _ 0 1	Torque or thrust (±8 V/max. torque or max. thrust)	○	○	○	○
_ _ 0 2	(Linear) servo motor speed (+8 V/max. speed)	○	○	○	○
_ _ 0 3	Torque or thrust (+8 V/max. torque or max. thrust)	○	○	○	○
_ _ 0 4	Current command (±8 V/max. current command)	○	○	○	○
_ _ 0 5	Speed command (±8 V/max. speed)	○	○	○	○
_ _ 0 6	Servo motor-side droop pulses (±10 V/100 pulses) *2	○	○	○	○
_ _ 0 7	Servo motor-side droop pulses (±10 V/1000 pulses) *2	○	○	○	○
_ _ 0 8	Servo motor-side droop pulses (±10 V/10000 pulses) *2	○	○	○	○
_ _ 0 9	Servo motor-side droop pulses (±10 V/100000 pulses) *2	○	○	○	○
_ _ 0 A	Feedback position (±10 V/1 Mpulse) *2	○	—	—	—
_ _ 0 B	Feedback position (±10 V/10 Mpulses) *2	○	—	—	—
_ _ 0 C	Feedback position (±10 V/100 Mpulses) *2	○	—	—	—
_ _ 0 D	Bus voltage (200 V class: +8 V/400 V, 400 V class: +8 V/800 V)	○	○	○	○
_ _ 0 E	Speed command 2 (±8 V/max. speed)	○	○	○	○
_ _ 1 0	Load-side droop pulses (±10 V/100 pulses) *2	—	○	—	—
_ _ 1 1	Load-side droop pulses (±10 V/1000 pulses) *2	—	○	—	—
_ _ 1 2	Load-side droop pulses (±10 V/10000 pulses) *2	—	○	—	—
_ _ 1 3	Load-side droop pulses (±10 V/100000 pulses) *2	—	○	—	—
_ _ 1 4	Load-side droop pulses (±10 V/1 Mpulse) *2	—	○	—	—
_ _ 1 5	Motor/load side position deviation (±10 V/100000 pulses)	—	○	—	—
_ _ 1 6	Motor/load side speed deviation (±8 V/max. speed)	—	○	—	—
_ _ 1 7	Internal temperature of encoder (±10 V/±128 ˚C)	○	○	—	○

*1 Items with ○ are available for each operation mode.
Standard: When rotary servo motors are used in the semi closed loop system.
Fully closed: When rotary servo motors are used in the fully closed loop system.
Linear: When linear servo motors are used.
DD: When direct drive motors are used.

*2 This is in the units of encoder pulses.

Analog monitor 1 output (MR-J5_-_B_)

Setting value	Explanation	Operation mode *1			
		Standard	Fully closed	Linear	DD
00	Servo motor speed (±8 V/max. speed)	○	○	○	○
01	Torque or thrust (±8 V/max. torque or max. thrust)	○	○	○	○
02	Servo motor speed (+8 V/max. speed)	○	○	○	○
03	Torque or thrust (+8 V/max. torque or max. thrust)	○	○	○	○
04	Current command (±8 V/max. current command)	○	○	○	○
05	Speed command (±8 V/max. speed)	○	○	○	○
06	Servo motor-side droop pulses (±10 V/100 pulses) *2	○	○	○	○
07	Servo motor-side droop pulses (±10 V/1000 pulses) *2	○	○	○	○
08	Servo motor-side droop pulses (±10 V/10000 pulses) *2	○	○	○	○
09	Servo motor-side droop pulses (±10 V/100000 pulses) *2	○	○	○	○
0D	Bus voltage (200 V class: +8 V/400 V, 400 V class: +8 V/800 V)	○	○	○	○
0E	Speed command 2 (±8 V/max. speed)	○	○	○	○
10	Load-side droop pulses (±10 V/100 pulses) *2	—	○	—	—
11	Load-side droop pulses (±10 V/1000 pulses) *2	—	○	—	—
12	Load-side droop pulses (±10 V/10000 pulses) *2	—	○	—	—
13	Load-side droop pulses (±10 V/100000 pulses) *2	—	○	—	—
14	Load-side droop pulses (±10 V/1 Mpulse) *2	—	○	—	—
15	Motor/load side position deviation (±10 V/100000 pulses)	—	○	—	—
16	Motor/load side speed deviation (±8 V/max. speed)	—	○	—	—
17	Internal temperature of encoder (±10 V/±128 ˚C)	○	○	—	○
18	Servo motor-side droop pulses (±10 V/1 Mpulse) *2	○	○	○	○

*1 Items with ○ are available for each operation mode.
Standard: When rotary servo motors are used in the semi closed loop system.
Fully closed: When rotary servo motors are used in the fully closed loop system.
Linear: When linear servo motors are used.
DD: When direct drive motors are used.

*2 This is in the units of encoder pulses.

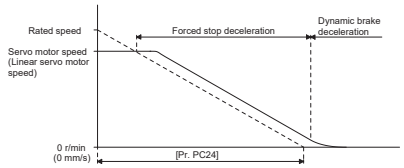
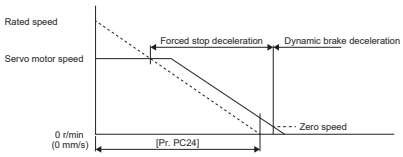
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC10	Analog monitor 2 output		PC10	Analog monitor 2 output	
	_ _ x x: Analog monitor 2 output selection Select the signal to be output to MO2 (analog monitor 2). For a multi-axis servo amplifier, the setting value of this servo parameter is disabled. Refer to [Pr. PC09] for setting values.	01h		[Pr. PC10.0-1 Analog monitor 2 output selection] Select the signal to be output to analog monitor 2. For a multi-axis servo amplifier, the setting value of this servo parameter is disabled. Refer to [Pr. PC09] for setting values.	01h
	_ x _ _: For manufacturer setting	0h		Pr. PC10.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC10.3 For manufacturer setting	0h
—				Pr. PC10.4-7 For manufacturer setting	0000h
PC11	Analog monitor 1 offset Set the offset voltage of MO1 (Analog monitor 1). For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC11	Analog monitor 1 offset Set the offset voltage of MO1 (Analog monitor 1). For multi axis servo amplifiers, this servo parameter setting is disabled.	0
PC12	Analog monitor 2 offset Set the offset voltage of MO2 (Analog monitor 2). For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC12	Analog monitor 2 offset Set the offset voltage of MO2 (Analog monitor 2). For multi axis servo amplifiers, this servo parameter setting is disabled.	0
PC13	Analog monitor - Feedback position output standard data - Low When the feedback position is selected in MO1 (Analogue monitor 1) and MO2 (Analogue monitor 2), set the standard position (lower 4 digits) of the feedback position to be output. Monitor output standard position = setting value of [Pr. PC14] × 10000 + setting value of [Pr. PC13] For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC13	For manufacturer setting	0
PC14	Analog monitor - Feedback position output standard data - High When the feedback position is selected in MO1 (Analogue monitor 1) and MO2 (Analogue monitor 2), set the standard position (upper 4 digits) of the feedback position to be output. Monitor output standard position = setting value of [Pr. PC14] × 10000 + setting value of [Pr. PC13] For multi axis servo amplifiers, this servo parameter setting is disabled.	0	PC14	For manufacturer setting	0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC17	Function selection C-4		PC17	Function selection C-4	
	_ _ _ x: Homing condition selection 0: Servo motor Z-phase is required to be passed after power-on 1: Servo motor Z-phase is not required to be passed after power-on	0h		[Pr. PC17.0 Homing condition selection] 0: Servo motor Z-phase is required to be passed after power-on 1: Servo motor Z-phase is not required to be passed after power-on When using an incremental type linear encoder, A/B/Z-phase differential output encoder, or A/B/Z-phase differential output rotary encoder, set "0". Setting "1" triggers [AL. 037 Parameter error]. If [Pr. PA03.0 Absolute position detection system selection] is set to "0" (disabled) while a direct drive motor manufactured by Mitsubishi Electric is connected and a value of "1" is set, [AL. 037] will occur.	0h
	_ _ x _: Linear scale multipoint Z-phase input function selection When multiple reference marks exist during the full stroke of the linear encoder, set "1". 0: Disabled 1: Enabled	0h		[Pr. PC17.1 Linear encoder multipoint Z-phase input function selection] When multiple reference marks exist during the full stroke of the linear encoder, set "1". 0: Disabled 1: Enabled	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC17.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC17.3 For manufacturer setting	0h
—				Pr. PC17.4-7 For manufacturer setting	0000h
PC18	Function selection C-5		PC18	Function selection C-5	
	_ _ _ x: For manufacturer setting	0h		Pr. PC18.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC18.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC18.2 For manufacturer setting	0h
	x _ _ _: [AL. E9 Main circuit off warning] selection 0: Detected by the ready-on command or servo-on command 1: Detected only by the servo-on command	0h		[Pr. PC18.3 [AL. 0E9 Main circuit off warning] selection] 0: Detected by the ready-on command or servo-on command 1: Detected only by the servo-on command	0h
—				Pr. PC18.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC20	Function selection C-7		PC20	Function selection C-7	
	_ _ _ x: [AL. 10 Undervoltage] detection method selection Set this if [AL. 10 Undervoltage] occurs due to power supply voltage distortion while the FR-RC or FR-CV is being used. 0: [AL. 10] not occurring If using the MR-J4-_B_-RJ with the DC power supply input, set "1". 1: [AL. 10] occurring	0h		Pr. PC20.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC20.1 For manufacturer setting	0h
	_ x _ _: Undervoltage alarm selection Select the alarm or warning that occurs when the bus voltage drops to the undervoltage alarm trigger level. 0: [AL. 10] occurs regardless of servo motor speed. 1: [AL. E9] occurs when the servo motor speed is 50 r/min (50 mm/s) or less, and [AL. 10] occurs when over 50 r/min (50 mm/s).	0h		[Pr. PC20.2 Undervoltage alarm selection] Select the alarm or warning that occurs when the bus voltage drops to the undervoltage alarm trigger level. 0: [AL. 010 Undervoltage] occurs regardless of servo motor speed 1: [AL. 0E9 Main circuit off warning] occurs when the servo motor speed is 50 r/min (50 mm/s) or less, and [AL. 010] occurs when over 50 r/min (50 mm/s).	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC20.3 For manufacturer setting	0h
—				[Pr. PC20.4 Input open-phase detection selection] Enable or disable the detection of input open-phase detection function. 0: Automatic 1: Warning enabled 2: Alarm enabled 3: Disabled When "0" (automatic) is set, the input open-phase detection function is enabled or disabled depending on the capacity or power supply input of the servo amplifier. Refer to the following table for details. ☞ Page 402 Input open-phase detection selection (MR-J5_-_B_)	0h
				Pr. PC20.5-7 For manufacturer setting	000h

Input open-phase detection selection (MR-J5_-_B_)

Servo amplifier	Servo amplifier main circuit input voltage	Servo amplifier capacity	Input open-phase detection function
MR-J5-_B_	3-phase AC	2 kW or less	Disabled
	1-phase AC Main circuit DC	2 kW or less	Disabled
	3-phase AC	3.5 kW or more	Warning occurrence
	Main circuit DC	3.5 kW or more	Disabled
MR-J5W_-_B	3-phase AC	0.75 kW or less	Disabled
	1-phase AC Main circuit DC	0.75 kW or less	Disabled
	3-phase AC	1 kW or more	Warning occurrence
	Main circuit DC	1 kW or more	Disabled
MR-J5-_B4_	3-phase AC	3.5 kW or less	Warning occurrence

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PC21	Alarm history clear		PC21	Alarm history clear	
	_ _ _ x: Alarm clear history selection 0: Disabled 1: Enabled When "Enabled" is selected, the alarm history will be cleared at the next power-on. Alarm history clear is disabled automatically after the alarm history is cleared.	0h		[Pr. PC21.0 Alarm clear history selection] 0: Disabled 1: Enabled When "1" (enabled) is selected, the alarm history will be cleared at either the next power cycle, at software reset, or at controller reset. After the alarm history is cleared, "0" (disabled) will be set to this servo parameter automatically.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC21.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC21.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC21.3 For manufacturer setting	0h
—				Pr. PC21.4-7 For manufacturer setting	0000h
PC24	Forced stop deceleration time constant Set the deceleration time constant for the forced stop deceleration function. Set the time taken from the rated speed to 0 r/min (mm/s) in units of ms. If the setting value is "0", the time will be 100 ms.  [Precautions] • If the servo motor torque or linear servo motor thrust is saturated at the maximum value during forced stop deceleration because the set time is too short, the time to stop the servo motor will be longer than the set time constant. • [AL. 50 Overload 1] or [AL. 51 Overload 2] may occur during forced stop deceleration, depending on the set value. • After an occurrence of an alarm to execute forced stop deceleration, if another alarm that does not execute forced stop deceleration occurs, or if the control circuit power supply is shut off, dynamic braking will start regardless of the deceleration time constant setting. • Set a longer time than deceleration time at quick stop of the controller. Failing to do so may trigger [AL. 52 Error excessive].	100	PC24	Deceleration time constant at forced stop Set the deceleration time constant for the forced stop deceleration function. Set the time taken from the rated speed to 0 [r/min] (0 [mm/s]) in units of ms. When "0" is set, the deceleration time constant is the same as when "100" is set.  [Precautions] • If the servo motor torque or thrust is saturated at the maximum value during forced stop deceleration because the set time is too short, the time to stop the servo motor will be longer than the set time constant. • [AL. 050 Overload 1] or [AL. 051 Overload 2] may occur during forced stop deceleration, depending on the set value. • After an occurrence of an alarm to execute forced stop deceleration, if another alarm that does not execute forced stop deceleration occurs, or if the control circuit power supply is shut off, dynamic braking will start regardless of the deceleration time constant setting. • Set a longer time than deceleration time at quick stop of the controller. If the setting time is too short, [AL. 052 Excessive error] may occur. • During forced stop deceleration, changes in the setting value are not reflected. If the setting value is changed during forced stop deceleration, the change will be reflected after the deceleration is completed.	100

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC26	Function selection C-8		PC26	Function selection C-8	
	_ _ _ x: For manufacturer setting	0h		Pr. PC26.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC26.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC26.2 For manufacturer setting	0h
	x _ _ _: Load-side encoder cable communication method selection 0: Two-wire type 1: Four-wire type When using a load-side encoder of A/B/Z-phase differential output method, set "0". Setting "1" on servo amplifiers other than the MR-J4-_B_-RJ triggers [AL. 37].	0h		[Pr. PC26.3 Load-side encoder cable communication method selection] 0: Two-wire type 1: Four-wire type When using a load-side encoder that is A/B/Z-phase differential output type, set "0". Setting "1" triggers [AL. 037 Parameter error]. If the value is set incorrectly, [AL. 070 Load-side encoder initial communication error 1] or [AL. 071 Load-side encoder normal communication error 1] occurs. Setting "1" on servo amplifiers other than the MR-J5-_B_-RJ triggers [AL. 037].	0h
—				Pr. PC26.4-7 For manufacturer setting	0000h
PC27	Function selection C-9		PC27	Function selection C-9	
	_ _ _ x: Encoder pulse count polarity selection 0: Encoder pulse increasing direction in the servo motor CCW or positive direction 1: Encoder pulse decreasing direction in the servo motor CCW or positive direction	0h		[Pr. PC27.0 Encoder pulse count polarity selection] Select a polarity of the linear encoder or load-side encoder. 0: Encoder pulse increasing direction in the servo motor CCW or positive direction 1: Encoder pulse decreasing direction in the servo motor CCW or positive direction	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC27.1 For manufacturer setting	0h
	_ x _ _: ABZ phase input interface encoder Z-phase connection assessment function selection Select the non-signal detection status for the pulse train signal from the A/B/Z-phase input interface encoder used as a linear encoder or load-side encoder. This function is enabled only when an A/B/Z-phase input interface encoder is used. Refer to the following table for the setting description. ☞ Page 405 ABZ phase input interface encoder Z-phase connection assessment function selection (MR-J4_-_B_)	0h		[Pr. PC27.2 ABZ phase input interface encoder ABZ phase connection assessment function selection] Select the non-signal detection status for the pulse train signal from the A/B/Z-phase input interface encoder used as a linear encoder or load-side encoder. This function is enabled when an A/B/Z-phase input interface encoder is used. Refer to the following table for the setting description. ☞ Page 405 ABZ phase input interface encoder ABZ phase connection assessment function selection (MR-J5_-_B_)	0h
	x _ _ _: For manufacturer setting	0h		Pr. PC27.3 For manufacturer setting	0h
—				Pr. PC27.4 For manufacturer setting	0h
				Pr. PC27.5 For manufacturer setting	0h
				Pr. PC27.6-7 For manufacturer setting	00h

ABZ phase input interface encoder Z-phase connection assessment function selection (MR-J4_-_B_)

Setting value	Detection of disconnection	Alarm status		
	Z-phase-side non-signal	Standard (scale measurement enabled)	Fully closed	Linear
0	Enabled	[AL. 71.6] (Z-phase)	[AL. 71.6] (Z-phase)	[AL. 20.6] (Z-phase)
1	Disabled	—	—	—

ABZ phase input interface encoder ABZ phase connection assessment function selection (MR-J5_-_B_)

Setting value	Detection of disconnection	Alarm status		
	Z-phase-side non-signal	Rotary (scale measurement function enabled)	Fully closed loop control mode	Linear servo motor control mode
0	Enabled	[AL. 071.6 Load-side encoder normal communication - Transmission data error 2] (Z-phase)	[AL. 071.6] (Z-phase)	[AL. 020.6 Encoder normal communication - Transmission data error 2] (Z-phase)
1	Disabled	—	—	—

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC29	Function selection C-B		PC29	Function selection C-B	
	_ _ _ x: For manufacturer setting	0h		[Pr. PC29.0 [AL. 0E2.2 Servo motor temperature warning 2] selection] Select whether to enable or disable [AL. 0E2.2 Servo motor temperature warning 2] when a servo motor with a batteryless absolute position encoder is used. 0: Enabled 1: Disabled	0h
	_ _ x _: For manufacturer setting	0h		Pr. PC29.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PC29.2 For manufacturer setting	0h
	x _ _ _: POL reflection selection at torque control 0: Enabled 1: Disabled	0h		[Pr. PC29.3 Torque POL reflection selection] When this setting of servo parameter is enabled, torque command and the polarity of the torque feedback change with the setting of [Pr. PA14 Travel direction selection]. This servo parameter is enabled only when [Pr. PA14 Travel direction selection] is set to "1". 0: Enabled 1: Disabled Refer to the following table for details. ☞ Page 405 Torque POL reflection selection (MR-J5_-_B_)	0h
—				Pr. PC29.4-7 For manufacturer setting	0000h

Torque POL reflection selection (MR-J5_-_B_)

■Torque information (other than continuous operation to torque control mode)

Setting value		Servo motor rotation direction/linear servo motor travel direction	
[Pr. PA14]	[Pr. PC29.3]	Speed handled by the controller: positive	Speed handled by the controller: negative
0	0: Enabled	CCW or positive direction	CW or negative direction
	1: Disabled		

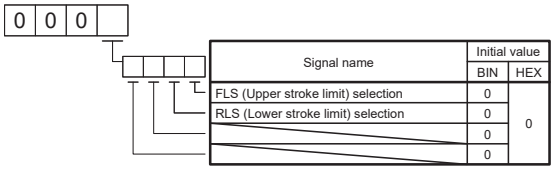
Setting value		Servo motor rotation direction/linear servo motor travel direction	
1	0: Enabled	CW or negative direction	CCW or positive direction
	1: Disabled	CCW or positive direction	CW or negative direction

■Torque information (continuous operation to torque control mode)

Setting value		Servo motor rotation direction/linear servo motor travel direction	
[Pr. PA14]	[Pr. PC29.3]	Speed handled by the controller: positive	Speed handled by the controller: negative
0	0: Enabled	CCW or positive direction	CW or negative direction
	1: Disabled		
1	0: Enabled		
	1: Disabled		

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC31	Vertical axis freefall prevention compensation amount Set the compensation amount of the vertical axis freefall prevention function. Set the compensation amount in either the servo motor rotation amount unit or linear servo motor travel distance unit. When a positive value is set, the compensation is performed to the command address increasing direction. When a negative value is set, compensation is performed to the command address decreasing direction. The vertical axis freefall prevention function is performed when all of the following conditions are met. 1) The control mode is the position control mode. 2) The setting value of this servo parameter is other than "0". 3) The forced stop deceleration function is enabled. 4) An alarm has occurred or EM2 has turned off when the servo motor rotates or the linear servo motor moves at the zero speed or less. 5) MBR (Electromagnetic brake interlock) was enabled in [Pr. PD07] to [Pr. PD09] while the base circuit shut-off delay time was set in [Pr. PC02].	0	PC31	Vertical axis freefall prevention compensation amount Set the compensation amount of the vertical axis freefall prevention function. Set the compensation amount in either the servo motor rotation amount unit or linear servo motor travel distance unit. When a positive value is set, the compensation is performed to the command address increasing direction. When a negative value is set, compensation is performed to the command address decreasing direction. The vertical axis freefall prevention function is performed when all of the following conditions are met. • The setting value of this servo parameter is other than "0". • The forced stop deceleration function is enabled. • An alarm has occurred or EM2 has turned off when the servo motor rotates at the zero speed or less. • MBR (Electromagnetic brake interlock) was enabled in [Pr. PD07 Output device selection 1] to [Pr. PD09 Output device selection 3] while the base circuit shut-off delay time was set in [Pr. PC02 Electromagnetic brake sequence output].	0
PC38	Error excessive warning level Set the excessive error warning trigger level. This servo parameter is enabled when "Enabled (1 _ _ _)" of "[AL. 9B Excessive error warning] selection" is selected in [Pr. PC05]. The setting unit can be changed with "Excessive error alarm and excessive error warning trigger level unit selection" of [Pr. PC06]. If using a rotary servo motor or direct drive motor, set the level in units of rev. When "0" is set, the level becomes 1 rev, and the setting exceeding 200 rev is clamped at 200 rev. If using a linear servo motor, set the level in units of mm. If the setting value is "0", the level will be 50 mm. If an error reaches the set value, [AL. 9B Excessive error warning] occurs. The warning is automatically canceled when the value is less than the set value. The minimum pulse width of the warning signal is 100 [ms]. Set as follows: [Pr. PC38 Excessive error warning trigger level] < [Pr. PC01 Excessive error alarm trigger level]. When set as [Pr. PC38 Excessive error warning trigger level] ≥ [Pr. PC01 Excessive error alarm trigger level], [AL. 52 Excessive error] occurs before the warning.	0	PC38	Error excessive warning level Set the excessive error warning trigger level. The unit can be changed with [Pr. PC06.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection]. If using a rotary servo motor or direct drive motor, set the level in units of rev. If 200 rev or higher is set, the value will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. When "0" is set, [AL. 09B Excessive error warning] does not occur. If an error reaches the set value, [AL. 09B] occurs. If the error later becomes less than the setting value, the warning will be automatically canceled. The minimum pulse width of the warning signal output is 100 [ms]. Set as follows: [Pr. PC38 Excessive error warning trigger level] < [Pr. PC01 Excessive error alarm trigger level]. When set as [Pr. PC38] ≥ [Pr. PC01], [AL. 052 Excessive error] occurs before the warning.	0

I/O setting servo parameters group ([Pr. PD_ _])

<table>
<tr><th colspan="3">MR-J4-_B_/MR-J4W_-_B servo parameter</th><th colspan="3">MR-J5-_B_/MR-J5W_-_B servo parameter</th></tr>
<tr><th>No.</th><th>Name and function</th><th>Initial value</th><th>No.</th><th>Name and function</th><th>Initial value</th></tr>
<tr><td>PD02</td><td colspan="2">Input signal automatic on selection 2</td><td>PD02</td><td colspan="2">Input signal automatic on selection 2</td></tr>
<tr><td></td><td>_ _ _ x (HEX)</td><td>_ _ _ x:
FLS (Upper stroke limit) selection
0: Disabled
1: Enabled</td><td>0h</td><td>Pr. PD02.0</td><td>_ _ _ x:
Upper stroke limit selection (FLS)
0: Disabled
1: Enabled</td><td>0h</td></tr>
<tr><td></td><td></td><td>_ _ x _:
RLS (Lower stroke limit) selection
0: Disabled
1: Enabled</td><td></td><td></td><td>_ _ x _:
Lower stroke limit selection (RLS)
0: Disabled
1: Enabled</td><td></td></tr>
<tr><td></td><td></td><td>_ x _ _:
For manufacturer setting</td><td></td><td></td><td>_ x _ _:
For manufacturer setting</td><td></td></tr>
<tr><td></td><td></td><td>x _ _ _:
For manufacturer setting</td><td></td><td></td><td>x _ _ _:
For manufacturer setting</td><td></td></tr>
<tr><td></td><td>_ _ x _ (HEX)</td><td>For manufacturer setting</td><td>0h</td><td>Pr. PD02.1</td><td>For manufacturer setting</td><td>0h</td></tr>
<tr><td></td><td>_ x _ _ (HEX)</td><td>For manufacturer setting</td><td>0h</td><td>Pr. PD02.2</td><td>For manufacturer setting</td><td>0h</td></tr>
<tr><td></td><td>x _ _ _ (HEX)</td><td>For manufacturer setting</td><td>0h</td><td>Pr. PD02.3</td><td>For manufacturer setting</td><td>0h</td></tr>
<tr><td></td><td>—</td><td>—</td><td>—</td><td>Pr. PD02.4-7</td><td>For manufacturer setting</td><td>0000h</td></tr>
<tr><td></td><td colspan="2">Convert the setting value in hexadecimal as follows.
 

BIN 0: Use for an external input signal.
BIN 1: Automatic on</td><td></td><td colspan="2">—</td></tr>
</table>

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD07	Output device selection 1		PD07	Output device selection 1	
	_ _ x x: Device selection The setting values are as follows. 0 0: Always off 0 2: RD (Ready) 0 3: ALM (Malfunction) 0 4: INP (In-position) 0 5: MBR (Electromagnetic brake interlock) 0 7: TLC (Limiting torque) 0 8: WNG (Warning) 0 9: BWNG (Battery warning) 0 A: SA (Speed reached) 0 C: ZSP (Zero speed detection) 0 F: CDPS (Variable gain enabled) 1 0: CLDS (Fully closed loop control in progress) 1 1: ABSV (Absolute position erased) 1 7: MTTR (Tough drive in progress) [MR-J4-_B_] Any output device can be assigned to the CN3-13 pin with this servo parameter. MBR (Electromagnetic brake interlock) is assigned as the initial value. [MR-J4W_-_B] Any output device can be assigned to each of the CN3-12, CN3-13, and CN3-25 pin with this parameter. The following devices are assigned as the initial value. CN3-12 pin: MBR-A (Electromagnetic brake interlock for A-axis) CN3-13 pin: MBR-C (Electromagnetic brake interlock for C-axis) CN3-25 pin: MBR-B (Electromagnetic brake interlock for B-axis)	05h		[Pr. PD07.0-1 Device selection] Select the device to be assigned to the output signal of CN3 connector. For the connector pin numbers and devices to be assigned, refer to the table below. ☞ Page 409 Device selection (MR-J5_-_B_) The setting values are as follows. 0 0: Always off 0 2: RD (Ready) 0 3: ALM (Malfunction) 0 4: INP (In-position) 0 5: MBR (Electromagnetic brake interlock) 0 7: TLC (Limiting torque) 0 8: WNG (Warning) 0 9: BWNG (Battery warning) 0 A: SA (Speed reached) 0 B: VLC (Limiting speed) 0 C: ZSP (Zero speed detection) 0 E: WNGSTOP (Motor stop warning) 0 F: CDPS (Variable gain enabled) 1 0: CLDS (Fully closed loop control in progress) 1 1: ABSV (Absolute position erased) 1 7: MTTR (Tough drive in progress) 1 8: CDPS2 (Variable gain enabled 2)	05h
	_ x _ _: For manufacturer setting	0h		Pr. PD07.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD07.3 For manufacturer setting	0h
—				Pr. PD07.4-7 For manufacturer setting	0000h

Device selection (MR-J5_-_B_)

Model	Axis	Connector pin No.	Initially assigned device
MR-J5-_B_	—	CN3-13	MBR
MR-J5W2-_B_	A-axis	CN3-12	MBR-A
	B-axis	CN3-25	MBR-B
MR-J5W3-_B_	A-axis	CN3-12	MBR-A
	B-axis	CN3-25	MBR-B
	C-axis	CN3-13	MBR-C

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD08	Output device selection 2		PD08	Output device selection 2	
	_ _ x x: Device selection [MR-J4-_B_] Any output device can be assigned to the CN3-9 pin with this servo parameter. INP (In-position) is assigned as the initial value. [MR-J4W_-_B] Any output device can be assigned to the CN3-24 pin by each axis with this parameter. CINP (AND in-position) is assigned to all the axes as the initial value. The devices that can be assigned and the setting method are the same as those for [Pr. PD07].	04h		[Pr. PD08.0-1 Device selection] Select the device to be assigned to the output signal of CN3 connector. The connector pin numbers to be assigned are as shown in the following table. ☞ Page 410 Device selection (MR-J5_-_B_) Refer to [Pr. PD07] for setting values.	04h
	_ x _ _: For manufacturer setting	0h		[Pr. PD08.2 All-axis output condition selection] 0: AND output 1: OR output For AND output, the condition becomes significant (on or off) when the A, B, and C-axes all satisfy the condition. The device name at this time is C_ _ _. (Example: CINP) For OR output, the condition becomes significant (on or off) when any of A, B, or C-axis satisfies the condition. The device name at this time is X_ _ _. (Example: XINP) This servo parameter is enabled when [Pr. PD08.3 Output axis selection] is set to "0" (all axes) while a multi-axis servo amplifier is used.	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PD08.3 All-axis output condition selection] 0: All axes 1: A-axis 2: B-axis 3: C-axis If the setting value is 1, the device name is _ _ _-A. (Example: INP-A) If the setting value is 2, the device name is _ _ _-B. (Example: INP-B) If the setting value is 3, the device name is _ _ _-C. (Example: INP-C)	0h
—				Pr. PD08.4-7 For manufacturer setting	0000h

Device selection (MR-J5_-_B_)

Model	Axis	Connector pin No.	Initially assigned device
MR-J5-_B_	—	CN3-9	INP
MR-J5W2-_B_	A-axis	CN3-24	CINP
	B-axis		
MR-J5W3-_B_	A-axis	CN3-24	CINP
	B-axis		
	C-axis		

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD09	Output device selection 3		PD09	Output device selection 3	
	_ _ x x: Device selection [MR-J4-_B_] Any output device can be assigned to the CN3-15 pin with this servo parameter. ALM (Malfunction) is assigned as the initial value. [MR-J4W_-_B] Any output device can be assigned to the CN3-11 pin by each axis with this parameter. CALM (AND malfunction) is assigned as the initial value. The devices that can be assigned and the setting method are the same as those for [Pr. PD07].	03h		[Pr. PD09.0-1 Device selection] Select the device to be assigned to the output signal of CN3 connector. The connector pin numbers to be assigned are as shown in the following table. ☞ Page 411 Device selection (MR-J5_-_B_) Refer to [Pr. PD07] for setting values.	03h
	_ x _ _: For manufacturer setting	0h		[Pr. PD09.2 All-axis output condition selection] 0: AND output 1: OR output For AND output, the condition becomes significant (on or off) when the A, B, and C-axes all satisfy the condition. The device name at this time is C_ _ _. (Example: CINP) For OR output, the condition becomes significant (on or off) when any of A, B, or C-axis satisfies the condition. The device name at this time is X_ _ _. (Example: XINP) This servo parameter is enabled when [Pr. PD09.3 Output axis selection] is set to "0" (all axes) while a multi-axis servo amplifier is used.	0h
	x _ _ _: For manufacturer setting	0h		[Pr. PD09.3 All-axis output condition selection] 0: All axes 1: A-axis 2: B-axis 3: C-axis If the setting value is 1, the device name is _ _ _-A. (Example: INP-A) If the setting value is 2, the device name is _ _ _-B. (Example: INP-B) If the setting value is 3, the device name is _ _ _-C. (Example: INP-C)	0h
—				Pr. PD09.4-7 For manufacturer setting	0000h

Device selection (MR-J5_-_B_)

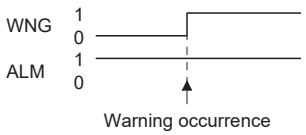
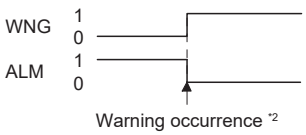
Model	Axis	Connector pin No.	Initially assigned device
MR-J5-_B_	—	CN3-15	ALM
MR-J5W2-_B_	A-axis	CN3-11	CALM
	B-axis		
MR-J5W3-_B_	A-axis	CN3-11	CALM
	B-axis		
	C-axis		

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD11	Input filter setting		PD11	Input filter setting	
	_ _ _ x: Input signal filter selection For the settings of this servo parameter, refer to the servo system controller manual. If the external input signal causes chattering due to noise or other factors, the input filter can be used for suppression. 0: None 1: 0.888 [ms] 2: 1.777 [ms] 3: 2.666 [ms] 4: 3.555 [ms]	4h		[Pr. PD11.0 Input signal filter selection] 0: No filter 1: 0.500 [ms] 2: 1.000 [ms] 3: 1.500 [ms] 4: 2.000 [ms] 5: 2.500 [ms] 6: 3.000 [ms] 7: 3.500 [ms] 8: 4.000 [ms] 9: 4.500 [ms] A: 5.000 [ms] B: 5.500 [ms]	7h
	_ _ x _: For manufacturer setting	0h		Pr. PD11.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD11.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD11.3 For manufacturer setting	0h
—				Pr. PD11.4-7 For manufacturer setting	0000h
PD12	Function selection D-1		PD12	Function selection D-1	
	_ _ _ x: For manufacturer setting	0h		Pr. PD12.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PD12.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD12.2 For manufacturer setting	0h
	x _ _ _: Servo motor or linear servo motor thermistor enabled/disabled selection 0: Enabled 1: Disabled When using a servo motor or linear servo motor that does not have a built-in thermistor, this digit setting is disabled.	0h		[Pr. PD12.3 Servo motor thermistor - Enabled/disabled selection] 0: Enabled 1: Disabled This servo parameter is enabled when a servo motor with a built-in thermistor is used. When a servo motor without a thermistor is used, the servo parameter is disabled (temperature monitoring disabled/alarm disabled) regardless of the setting value. No alarm is detected in motor-less operation. When the temperature monitoring of the motor thermistor is disabled, "9999 °C" is displayed.	0h
—				Pr. PD12.4-7 For manufacturer setting	0000h
PD13	Function selection D-2		PD13	Function selection D-2	
	_ _ _ x: For manufacturer setting	0h		Pr. PD13.0 For manufacturer setting	0h
	_ _ x _: For manufacturer setting	0h		Pr. PD13.1 For manufacturer setting	0h
	_ x _ _: INP (In-position) on condition selection Select the condition that turns on INP (In-position). 0: Droop pulses are within the in-position range 1: The command pulse frequency is 0 and droop pulses are within the in-position range When a position command is not input for approximately 1 ms, the command pulse frequency is considered to be 0.	0h		[Pr. PD13.2 INP output signal ON condition selection] Select a condition for outputting INP (In-position). INP (In-position) immediately after servo-on or after forced stop is canceled is off. If there is no command input for approximately 1 ms, servo amplifier recognizes the state as completion of command output. 0: Within the in-position range 1: Within the in-position range and at the completion of command output	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD13.3 For manufacturer setting	0h
—				Pr. PD13.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PD14	Function selection D-3		PD14	Function selection D-3	
	_ _ _ x: For manufacturer setting	0h		Pr. PD14.0 For manufacturer setting	0h
	_ _ x _: Output device status at warning occurrence Select WNG (Warning) and ALM (Malfunction) output status at warning occurrence. ☞ Page 413 Output device status at warning occurrence (MR-J4_-_B_)	0h		[Pr. PD14.1 Output device status at warning occurrence] Select ALM (Malfunction) output status at warning occurrence. ☞ Page 413 Output device status at warning occurrence (MR-J5_-_B_)	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD14.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD14.3 For manufacturer setting	0h
—				Pr. PD14.4-7 For manufacturer setting	0000h

Output device status at warning occurrence (MR-J4_-_B_)

Servo amplifier output

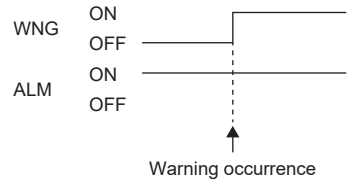
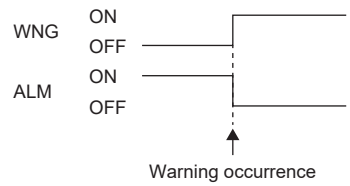
Setting value	Device status *1
0	
1	

*1 0: OFF
1: ON

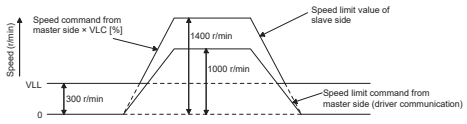
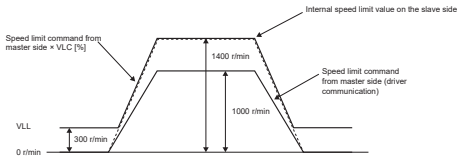
*2 ALM is turned off when a warning occurs, but forced stop deceleration is performed.

Output device status at warning occurrence (MR-J5_-_B_)

Servo amplifier output

Setting value	Device status
0	
1	

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PD15	Driver communication setting		PD15	Driver communication setting	
	_ _ _ x: Master axis operation selection In a mode other than the standard control mode or fully closed loop control mode, setting "1" triggers [AL. 37]. 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the master axis)	0h		[Pr. PD15.0 Master axis operation selection] 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the master axis) When using the servo amplifier as a slave axis, set "0".	0h
	_ _ x _: Slave axis operation selection In a mode other than the standard control mode, setting "1" triggers [AL. 37]. 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the slave axis)	0h		[Pr. PD15.1 Slave axis operation selection] 0: Disabled (master-slave operation function is not used) 1: Enabled (this servo amplifier is set as the slave axis) When using the servo amplifier as the master axis, set "0".	0h
	_ x _ _: For manufacturer setting	0h		Pr. PD15.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PD15.3 For manufacturer setting	0h
—				Pr. PD15.4-7 For manufacturer setting	0000h
PD16	Driver communication setting - Master - Transmit data selection 1		PD16	Driver communication setting - Master - Transmit data selection 1	
	_ _ x x: Transmission data selection Select the data to be sent from the master axis to the slave axis. When setting the servo amplifier as the master axis ("_ _ 0 1" in [Pr. PD15]), set this servo parameter to "_ _ 3 8 (torque command)". 00: Disabled 38: Torque command	00h		Select the data to be sent from the master axis to the slave axis. When setting the servo amplifier as the master axis (when setting [Pr. PD15.0] to "1"), set this servo parameter to "00000038 (torque command)". When setting the servo amplifier as the slave axis (when setting [Pr. PD15.0] to "0"), the setting of this servo parameter is disabled.	00000038h
	_ x _ _: For manufacturer setting	0h			
	x _ _ _: For manufacturer setting	0h			
—					
PD17	Driver communication setting - Master - Transmit data selection		PD17	Driver communication setting - Master - Transmit data selection 2	
	_ _ x x: Transmission data selection Select the data to be sent from the master axis to the slave axis. When setting the servo amplifier as the master axis ("_ _ 0 1" in [Pr. PD15]), set this servo parameter to "_ _ 3 A (speed limit command)". 00: Disabled 3A: Speed limit command	00h		Select the data to be sent from the master axis to the slave axis. When setting the servo amplifier as the master axis (when setting [Pr. PD15.0] to "1"), set this servo parameter to "0000003A (speed limit command)". When setting the servo amplifier as the slave axis (when setting [Pr. PD15.0] to "0"), the setting of this servo parameter is disabled.	00000038h
	_ x _ _: For manufacturer setting	0h			
	x _ _ _: For manufacturer setting	0h			
—					
PD20	Driver communication setting - Slave - Master axis No. selection 1 Select the servo amplifier that corresponds to the master axis of the slave axis. When setting the servo amplifier as the slave axis (when setting [Pr. PD15] to "_ _ 1 0"), set the axis number of the servo amplifier that corresponds to the master axis. Refer to section 4.3.1 in "MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual" for the axis number. When "0" is set, this servo parameter is disabled.	0	PD20	Driver communication setting - Slave - Master axis No. selection 1 Set the axis number of the servo amplifier corresponding to the master axis of the slave axis. This servos parameter is valid when setting the servo amplifier as the slave axis (when setting [Pr. PD15.1] to "1"). For details on axis numbers, refer to "Switches" in the following manual. 📖MR-J5-B/MR-J5W-B User's Manual (Introduction) When the setting value of this servo parameter is "0", the setting is disabled.	0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PD30	Master-slave operation - Slave-side torque command coefficient Set the coefficient to be reflected to the internal torque command for the torque command that has been received from the master axis. This servo parameter is enabled when the servo amplifier is set as a slave axis ([Pr. PD15] is set to "_ _ 1 0"). The maximum setting value is 500. Entering a value greater than or equal to 500 clamps the value at 500. When 100 % is set, the coefficient is 1 and the torque ratio is 100 (master axis) to 100 (slave axis). When 90 % is set, the coefficient is 0.9 and the torque ratio is 100 (master axis) to 90 (slave axis).	0	PD30	Master-slave operation - Slave-side torque command coefficient Set the coefficient to be reflected to the internal torque command for the torque command that has been received from the master axis. This servos parameter is valid when setting the servo amplifier as the slave axis (when setting [Pr. PD15.1] to "1"). The maximum setting value is 500. Entering a value greater than or equal to 500 clamps the value at 500. When 100 % is set, the coefficient is 1 and the torque ratio is 100 (master axis) to 100 (slave axis). When 90 % is set, the coefficient is 0.9 and the torque ratio is 100 (master axis) to 90 (slave axis).	0
PD31	Master-slave operation - Speed limit coefficient on slave Set the coefficient to be reflected to the internal speed limit value for the speed limit value that has been received from the master axis. This servo parameter is enabled when the servo amplifier is set as a slave axis ([Pr. PD15] is set to "_ _ 1 0"). The maximum setting value is 500. Entering a value greater than or equal to 500 clamps the value at 500. When 100 % is set, the coefficient is 1. Setting example: When setting [Pr. PD31 (VLC)] for 140 [%], [Pr. PD32 (VLL)] for 300 [r/min], and the master axis side is accelerated or decelerated at 1000 [r/min] 	0	PD31	Master-slave operation - Speed limit coefficient on slave Set the coefficient to be reflected to the internal speed limit value for the speed limit value that has been received from the master axis. This servos parameter is valid when setting the servo amplifier as the slave axis (when setting [Pr. PD15.1] to "1"). The maximum setting value is 500. Entering a value greater than or equal to 500 clamps the value at 500. When this servo parameter is set to "100", the coefficient is 1. The setting example is as follows. Setting example: When setting [Pr. PD31 (VLC)] for 140 [%], [Pr. PD32 (VLL)] for 300 [r/min], and the master axis side is accelerated or decelerated at 1000 [r/min] 	0
PD32	Master-slave operation - Slave-side speed limit adjusted value Set the minimum value for the internal speed limit value. This servo parameter is enabled when the servo amplifier is set as a slave axis ([Pr. PD15] is set to "_ _ 1 0"). The speed limit value will not be smaller than this setting value. This servo parameter guarantees the torque control range (avoids the area where the speed is likely to be limited) at a low speed. Set 100 to 500 [r/min] for normal operation. Refer to [Pr. PD31] for the setting example.	0	PD32	Master-slave operation - Slave-side speed limit adjusted value Set the minimum value for the internal speed limit value. This servos parameter is valid when setting the servo amplifier as the slave axis (when setting [Pr. PD15.1] to "1"). The speed limit value will not be smaller than the setting value of this servo parameter. This servo parameter guarantees the torque control range (avoids the area where the speed is likely to be limited) at a low speed. Set 100 to 500 [r/min] for normal operation. Refer to [Pr. PD31] for the setting example.	0

Extension setting 2 servo parameters group ([Pr. PE_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE01	Fully closed loop function selection 1		PE01	Fully closed loop function selection 1	
	_ _ _ x: Fully closed loop function selection 0: Always enabled 1: Switching by control command from the controller (semi/full switching) ☞ Page 416 Fully closed loop control function selection (MR-J4_-_B_) This setting is enabled when "Fully closed loop control mode (_ _ 1 _)" is selected in [Pr. PA01]. If this servo parameter is set to "1" while "Absolute position detection system selection" in [Pr. PA03] has been set to "Enabled (_ _ _ 1)", [AL. 37 Parameter error] occurs.	0h		[Pr. PE01.0 Fully closed loop function selection] Select the fully closed loop function. This servo parameter is enabled when [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (enabled (fully closed loop control mode)). If this servo parameter is set to "1" while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system)), [AL. 037 Parameter error]. ☞ Page 416 Fully closed loop control function selection (MR-J5_-_B_) 0: Always enabled 1: Switching by fully closed loop selection command from the controller	0h
	_ _ x _: For manufacturer setting	0h		Pr. PE01.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE01.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PE01.3 For manufacturer setting	0h
—				Pr. PE01.4-7 For manufacturer setting	0000h

Fully closed loop control function selection (MR-J4_-_B_)

Switching by control command from the controller	Control method
OFF	Semi closed loop control
ON	Fully closed loop control

Fully closed loop control function selection (MR-J5_-_B_)

Fully closed loop selection Command from controller	Control method
OFF	Semi closed loop control
ON	Fully closed loop control

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE03	Fully closed loop function selection 2		PE03	Fully closed loop function selection 2	
	_ _ _ x: Fully closed loop control error - Detection function selection 0: Disabled 1: Speed deviation error detection 2: Position deviation error detection 3: Speed deviation error detection and position deviation error detection	3h		[Pr. PE03.0 Fully closed loop control error - Detection function selection] 0: Disabled 1: Speed deviation error detection 2: Position deviation error detection 3: Speed deviation error detection and position deviation error detection Refer to the following table for the combination with [Pr. PE03.1 Position deviation error - Detection method selection]. ☞ Page 417 Detection method/detection function combinations	3h
	_ _ x _: Position deviation error - Detection method selection 0: Continuous detection method 1: Detection only at stop (An error is detected if the command is "0".)	0h		[Pr. PE03.1 Position deviation error - Detection method selection] 0: Continuous detection method 1: Detection only at stop (An error is detected if the command is "0".) 2: Detection only at stop 2 (An error is detected while in servo-off state or if the command is "0" while in servo-on state.) Refer to the following table for the combination with [Pr. PE03.0 Fully closed loop control error - Detection function selection]. ☞ Page 417 Detection method/detection function combinations	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE03.2 For manufacturer setting	0h
	x _ _ _: Fully closed loop control error - Reset selection 0: Reset disabled (reset only by powering off/on is allowed) 1: Reset enabled	0h		[Pr. PE03.3 Fully closed loop control error - Reset selection] 0: Reset disabled (reset by cycling the power or software reset) 1: Reset enabled	0h
—				Pr. PE03.4-7 For manufacturer setting	0000h

Detection method/detection function combinations

○: Error detection enabled —: Error detection disabled

Setting value		Speed deviation error	Position deviation error		
			In servo-on state		In servo-off state
[Pr. PE03.1]	[Pr. PE03.0]		With commands	No commands (= 0)	
0	0	—	—	—	—
0	1	○	—	—	—
0	2	—	○	○	○
0	3	○	○	○	○
1	0	—	—	—	—
1	1	○	—	—	—
1	2	—	—	○	—
1	3	○	—	○	—
2	0	—	—	—	—
2	1	○	—	—	—
2	2	—	—	○	○
2	3	○	—	○	○

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. If the reduced electronic gear numerator exceeds 2147483648 (31 bits), [AL. 037 Parameter error] occurs.	1
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. If the reduced electronic gear denominator exceeds 1073741824 (30 bits), [AL. 037 Parameter error] occurs.	1
PE06	Fully closed loop control - Speed deviation error detection level Set the error detection level for triggering [AL. 42.9 Fully closed loop control error by speed deviation] of the fully closed loop control error detection. If the difference between the speed calculated by the servo motor encoder and the speed calculated by the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	400	PE06	Fully closed loop control - Speed deviation error detection level Set the error detection level for triggering [AL. 042.9 Fully closed loop control error based on speed deviation] of the fully closed loop control error detection. If the difference between the speed calculated by the servo motor encoder and the speed calculated by the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	400
PE07	Fully closed loop control - Position deviation error detection level Set the error detection level for triggering [AL. 42.8 Fully closed loop control error by position deviation] of the fully closed loop control error detection. If the difference between the position of the servo motor encoder and the position of the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	100	PE07	Fully closed loop control - Position deviation error detection level Set the error detection level for triggering [AL. 042.8 Fully closed loop control error based on position deviation] of the fully closed loop control error detection. If the difference between the position of the servo motor encoder and the position of the load-side encoder exceeds the value of this servo parameter, the alarm occurs.	100
PE08	Fully closed loop dual feedback filter Set a dual feedback filter band.	10	PE08	Fully closed loop dual feedback filter Set a dual feedback filter band.	10
PE10	Fully closed loop function selection 3		PE10	Fully closed loop function selection 3	
	_ _ _ x: For manufacturer setting	0h		Pr. PE10.0 For manufacturer setting	0h
	_ _ x _: Fully closed loop control - Position deviation error detection level - Unit selection 0: 1 kpulse unit 1: 1 pulse unit	0h		[Pr. PE10.1 Fully closed loop control - Position deviation error detection level - Unit selection] 0: 1 kpulse unit 1: 1 pulse unit	0h
	_ x _ _: Droop pulse monitor selection for controller display 0: Servo motor encoder 1: Load-side encoder 2: Deviation between the servo motor and the load side	0h		[Pr. PE10.2 Droop pulse monitor selection for controller display] 0: Servo motor encoder 1: Load-side encoder 2: Deviation between the servo motor and the load side	0h
	x _ _ _: Cumulative feedback pulse monitor selection for controller display 0: Servo motor encoder 1: Load-side encoder Use the setting of this digit in the fully closed loop system and scale measurement function.	0h		[Pr. PE10.3 Cumulative feedback pulse monitor selection for controller display] 0: Servo motor encoder 1: Load-side encoder When a fully closed loop system or the scale measurement function, use this servo parameter.	0h
—				Pr. PE10.4-7 For manufacturer setting	0000h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE34	Fully closed loop control - Feedback pulse electronic gear 2 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE34	For manufacturer setting	1
PE35	Fully closed loop control - Feedback pulse electronic gear 2 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution.	1	PE35	For manufacturer setting	1
PE41	Function selection E-3		PE41	Function selection E-3	
	_ _ _ x: Robust filter selection 0: Disabled 1: Enabled When this setting value is set to "Enabled", the machine resonance suppression filter 5 set in [Pr. PB51] cannot be used.	0h		[Pr. PE41.0 Robust filter selection] 0: Disabled 1: Enabled When this setting value is set to "Enabled", the machine resonance suppression filter 5 set in [Pr. PB51 Notch shape selection 5] cannot be used.	0h
	_ _ x _: For manufacturer setting	0h		Pr. PE41.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE41.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PE41.3 For manufacturer setting	0h
—				Pr. PE41.4-5 For manufacturer setting	00h
				[Pr. PE41.6 Unbalanced torque offset setting selection] 0: Manual setting 1: Automatic setting If "1" (automatic setting) has been set and friction estimation by the machine diagnosis function has completed for both the forward and reverse rotations, the value of [Pr. PE47 Unbalanced torque offset] will be set automatically according to the estimated friction value. After [Pr. PE47] is set automatically, this servo parameter changes to "0" (Manual setting). The value of [Pr. PE47] will not be set automatically and this servo parameter keeps the value "1" (automatic setting) until friction estimation completes for both the forward and reverse rotations.	0h
				Pr. PE41.7 For manufacturer setting	0h
PE44	Lost motion compensation positive-side compensation value selection Set the lost motion compensation for when reverse rotation (CW) switches to forward rotation (CCW) in increments of 0.01 % in relation to the rated torque as 100 %.	0	PE44	Lost motion compensation positive-side compensation value selection Set the lost motion compensation for when negative speed switches to positive speed in increments of 0.01 % in relation to the rated torque as 100 %. This function is enabled in the position control mode.	0
PE45	Lost motion compensation negative-side compensation value selection Set the lost motion compensation for when forward rotation (CCW) switches to reverse rotation (CW) in increments of 0.01 % in relation to the rated torque as 100 %.	0	PE45	Lost motion compensation negative-side compensation value selection Set the lost motion compensation for when positive speed switches to negative speed in increments of 0.01 % in relation to the rated torque as 100 %. This function is enabled in the position control mode.	0

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PE46	Lost motion filter setting Set the lost motion compensation filter time constant in units of 0.1 ms. When "0" is set, the value is compensated with the value that was set in [Pr. PE44] and [Pr. PE45]. When a value other than "0" is set, the torque is compensated with the high-pass filter output value of the set time constant, and the lost motion compensation will continue.	0	PE46	Lost motion filter setting When "0" is set, the value is compensated with the compensation amount of the value that was set in [Pr. PE44 Lost motion compensation positive-side compensation value selection] and [Pr. PE45 Lost motion compensation negative-side compensation value selection]. When a value other than "0" is set, the torque is compensated with the high-pass filter output value of the set time constant, and the lost motion compensation will continue. This function is enabled in the position control mode.	0
PE47	Torque offset Set this to cancel the unbalanced torque of a vertical axis. Set this in relation to the rated torque of the servo motor as 100 %. The torque offset does not need to be set for a machine that does not generate unbalanced torque. When a linear servo motor or a direct drive motor is used, the torque offset cannot be used. Set to 0.00 %. The torque offset that has been set with this servo parameter is enabled in the position control mode, speed control mode, and torque control mode. In the torque control mode, input commands taking the torque offset into account.	0	PE47	Unbalanced torque offset Set this to cancel the unbalanced torque of a vertical axis. Set this in relation to the rated torque of the servo motor as 100 %. The torque offset does not need to be set for a machine that does not generate unbalanced torque. This servo parameter can be used in applications where an unbalanced torque is generated constantly, such as when a linear servo motor or direct drive motor is operated horizontally with tension applied in one direction. The torque offset that has been set with this servo parameter is enabled in any control mode. In the torque control mode, input commands taking the torque offset into account. This servo parameter is suitable when the torque offset does not need to be changed dynamically.	0
PE48	Lost motion compensation function selection		PE48	Lost motion compensation function selection This function is enabled in the position control mode.	
	_ _ _ x: Lost motion compensation selection 0: Disabled 1: Enabled	0h		[Pr. PE48.0 Lost motion compensation type selection] 0: Lost motion compensation disabled. 1: Lost motion compensation enabled.	0h
	_ _ x _: Unit setting of Lost motion compensation non-sensitive band 0: 1 pulse unit 1: 1 kpulse unit	0h		[Pr. PE48.1 Lost motion compensation dead band unit setting] 0: 1 pulse unit 1: 1 kpulse unit	0h
	_ x _ _: For manufacturer setting	0h		Pr. PE48.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PE48.3 For manufacturer setting	0h
—				Pr. PE48.4-7 For manufacturer setting	0000h
PE49	Lost motion compensation timing Set the lost motion compensation timing in units of 0.1 ms. The timing to perform the lost motion compensation function can be delayed by a set time.	0	PE49	Lost motion compensation timing Set the lost motion compensation timing in units of 0.1 ms. The timing to perform the lost motion compensation function can be delayed by a set time. This function is enabled in the position control mode.	0
PE50	Lost motion compensation non-sensitive band Set the lost motion compensation non-sensitive band. When the fluctuation of droop pulses is equal to or less than the setting value, the speed is 0. The setting unit can be changed with [Pr. PE48]. Set the servo parameter per encoder unit.	0	PE50	Lost motion compensation dead band Set the lost motion compensation dead band. When the fluctuation of droop pulses is equal to or less than the setting value, the speed is 0. The setting unit can be changed with [Pr. PE48]. Set the servo parameter per encoder unit. This function is enabled in the position control mode.	0

Extension setting 3 servo parameters group ([Pr. PF_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PF02	For manufacturer setting		PF02	Function selection F-2	
	_ _ _ x: Target alarm selection of the other axis error warning Select an alarm that is the target of the other axis error warning. 0: [AL. 24 Main circuit error] and [AL. 32 Overcurrent] only 1: All alarms For alarms occurring at all axes, [AL. EB The other axis error warning] will not occur regardless of alarm No.	0h		[Pr. PF02.0 Target alarm selection of the other axis error warning] Select target alarms of the other axis error warning. For alarms occurring at all axes, [AL. 0EB The other axis error warning] will not occur regardless of alarm No. [AL. 0EB The other axis error warning] does not occur in 1-axis servo amplifiers. 0: [AL. 024 Main circuit error], [AL. 032 Overcurrent] 1: All alarms	0h
	_ _ x _: For manufacturer setting	0h		Pr. PF02.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PF02.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PF02.3 For manufacturer setting	0h
—				[Pr. PF02.4 Memory writing frequency warning enable/disable selection] Enable or disable [AL. 1F8.1 Memory writing frequency warning]. [AL. 1F8.1] indicates that the memory writing frequency has exceeded the guaranteed number of times. If the servo amplifier continues to be used while the alarm is disabled with this servo parameter, the memory may be corrupted and restoration of the data, such as servo parameters, may fail. 0: Enabled 1: Disabled	0h
				[Pr. PF02.5 Memory free space warning enable/disable selection] Select whether to enable or disable [AL. 1F8.2 Memory free space warning]. [AL. 1F8.2] indicates that the memory free space is running low. If the servo amplifier continues to be used while the alarm is disabled with this servo parameter, [AL. 119.7 Memory free space 4-1] may occur and data restoration may fail. 0: Enabled 1: Disabled	0h
				Pr. PF02.6-7 For manufacturer setting	00h

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PF06	Function selection F-5		PF06	Function selection F-5	
	_ _ _ x: Electronic dynamic brake selection 0: Automatic (Enabled only for specific servo motors) 2: Disabled Refer to the following table for the specific servo motors. ☞ Page 422 Servo motors on which the electronic dynamic brake is available	0h		[Pr. PF06.0 Electronic dynamic brake selection] Enable or disable the electronic dynamic brake. 2: Disabled 3: Enabled only for specific servo motors For the specific servo motors, refer to "Precautions relating to the dynamic brake characteristics" in the following manual. 📖MR-J5 User's Manual (Hardware)	3h
	_ _ x _: For manufacturer setting	0h		[Pr. PF06.1 STO timing error selection] Select whether [AL. 063 STO timing error] is detected. 0: Detected. 1: Not detected. If the STO status is set at the servo motor speed shown below while "0" (detected) has been selected", [AL. 063 STO timing error] will be detected. The STO status means the status where STO1 or STO2 of CN8 has been turned off. • Servo motor speed: 50 r/min or higher • Linear servo motor speed: 50 mm/s or higher • Direct drive motor speed: 5 r/min or higher	1h
	_ x _ _: For manufacturer setting	0h		Pr. PF06.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PF06.3 For manufacturer setting	0h
—				Pr. PF06.4-7 For manufacturer setting	0000h

Servo motors on which the electronic dynamic brake is available

Series	Servo motor
HG-KR	HG-KR053/HG-KR13/HG-KR23/HG-KR43
HG-MR	HG-MR053/HG-MR13/HG-MR23/HG-MR43
HG-SR	HG-SR51/HG-SR52

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PF12	Electronic dynamic brake operating time Set an operating time for the electronic dynamic brake.	2000	PF12	Electronic dynamic brake operating time Set an operating time for the electronic dynamic brake.	2000
PF18	STO diagnosis error detection time Set the time from when the error of the STO input signal or STO circuit occurs until [AL. 68.1 STO signal mismatch error] is detected. When the time is set to 0 s, [AL. 68.1 STO signal mismatch error] is not detected. The table below shows the safety level in accordance with the servo parameter setting. ☞ Page 423 Safety level depending on the servo parameter setting (MR-J4_-_B_) When the short-circuit connector is mounted to the CN8 connector, set this servo parameter to "0". When using the MR-D30 functional safety unit, this servo parameter is disabled. Refer to "MR-D30 Instruction Manual" for the safety level for when the MR-D30 is being used.	0	PF18	STO diagnosis error detection time Set the time from when the error of the STO input or STO circuit is detected until the occurrence of [AL. 068.1 STO signal mismatch error]. When "0" is set, [AL. 068.1] is not detected. The safety level depends on the setting value of this servo parameter and whether STO input diagnosis is performed by TOFB output as shown in the following table. ☞ Page 423 Safety level depending on the servo parameter setting (MR-J5_-_B_) When the STO function is not used with the short-circuit connector connected to the CN8 connector, the safety level does not change even after setting this servo parameter.	10

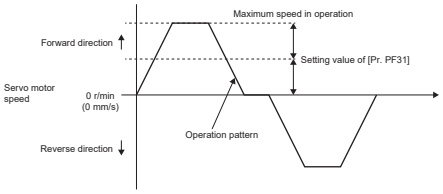
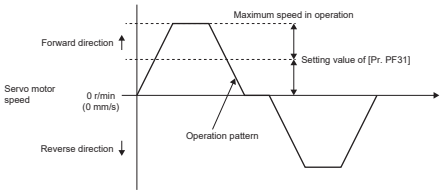
Safety level depending on the servo parameter setting (MR-J4_-_B_)

Setting value	STO input diagnosis by TOFB output	Safety level
0	Execute	EN ISO 13849-1 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, and EN 62061 maximum SIL 3
	Do not execute	EN ISO 13849-1 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2

Safety level depending on the servo parameter setting (MR-J5_-_B_)

Setting value	STO input diagnosis by TOFB output	Safety level
0	Execute	EN ISO 13849-1: 2015 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1: 2015 Category 3 PL e, IEC 61508 SIL 3, and EN 62061 maximum SIL 3
	Do not execute	EN ISO 13849-1: 2015 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 maximum SIL 2

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PF21	Drive recorder switching time setting Set the drive recorder switching time. When the USB communication is disconnected during the use of the graph function, the function will be switched to the drive recorder function after the time set in this servo parameter has passed. When "1" to "32767" is set, the function switches after the set time. However, when "0" is set, the drive recorder function will be switched after 600 s. When "-1" is set, the drive recorder function will be disabled.	0	PF21	Drive recorder switching time setting Set the drive recorder switching time. When communication is shut off during the use of a graph function, the function will be switched to the drive recorder function after the time set in this servo parameter has passed. When "-1" is set, the drive recorder function is disabled. When "0" is set, the drive recorder function will be switched after 600 s (10 min). When any value of "1" to "9" is set, the drive recorder function will be switched after 10 s. When any value of "10" to "32767" is set, the drive recorder function will be switched after the time set in this servo parameter has passed.	0
PF23	Vibration tough drive - Oscillation detection level When the vibration tough drive is enabled, set the filter readjustment sensitivity of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2]. If the setting value is "0", the level will be 50 %. Example: When this servo parameter is set to "50", readjustment is performed when the oscillation level becomes 50 % or more.	50	PF23	Vibration tough drive - Oscillation detection level Set the oscillation detection level for readjusting the machine resonance suppression filter while the vibration tough drive is enabled. When the oscillation level is higher than the setting value of this servo parameter, reset [Pr. PB13 Machine resonance suppression filter 1] or [Pr. PB15 Machine resonance suppression filter 2]. When "0" is set, the oscillation detection level is 20 %.	20
PF24	Vibration tough drive function selection		PF24	Function selection F-9	
	_ _ _ x: Oscillation detection alarm selection 0: [AL. 54 Oscillation detection] occurs when oscillation is detected. 1: [AL. F3.1 Oscillation detection warning] occurs when oscillation is detected. 2: Oscillation detection function disabled Select whether to generate an alarm or a warning when oscillation continues at a filter readjustment sensitivity level set in [Pr. PF23]. This servo parameter is always enabled regardless of whether the vibration tough drive is enabled or disabled in [Pr. PA20].	0h		[Pr. PF24.0 Oscillation detection alarm selection] Select the alarm output at oscillation detection. Select whether to generate an alarm or a warning when an oscillation continues at a level set in [Pr. PF23 Vibration tough drive - Oscillation detection level]. This function is enabled regardless of the setting of [Pr. PA20.1 Vibration tough drive selection]. 0: Alarm ([AL. 054 Oscillation detection]) 1: Warning ([AL. 0F3.1 Oscillation detection warning]) 2: Oscillation detection function disabled (oscillation detection not processed)	0h
	_ _ x _: For manufacturer setting	0h		Pr. PF24.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PF24.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PF24.3 For manufacturer setting	0h
—				Pr. PF24.4-7 For manufacturer setting	0000h
PF25	SEMI-F47 function - Instantaneous power failure detection time Set the time until the occurrence of [AL. 10.1 Voltage drop in the control circuit power]. To comply with SEMI-F47 standard, it is not required to change the time from the initial value (200 ms). When the instantaneous power failure time exceeds 200 ms, and if the instantaneous power failure voltage is less than 70 % of the rated input voltage, the normal power off may occur even if a value larger than 200 ms is set in the servo parameter. When "Disabled (_ 0 _ _)" is selected in "SEMI-F47 function selection" of [Pr. PA20], this servo parameter setting is disabled.	200	PF25	SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time) Set the time until the occurrence of [AL. 010.1 Voltage drop in the control circuit power]. To comply with SEMI-F47 standard, it is not required to change the time from the initial value (200 ms). When the instantaneous power failure time exceeds 200 ms, and the instantaneous power failure voltage is less than 70 % of the rated input voltage, the power may be turned off normally even if a value larger than 200 ms is set in this servo parameter. This function is disabled when [Pr. PA20.2 SEMI-F47 function selection] is set to "0" (disabled).	200

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PF31	Machine diagnosis function - Friction judgment speed Set the servo motor speed or linear servo motor speed to divide the friction estimation area between low-speed and high-speed in the friction estimation process of machine diagnosis. However, if "0" is set, the value will be half of the rated speed. When the maximum operation speed is under the rated speed, it is recommended to set half the value of the maximum operation speed.  	0	PF31	Machine diagnosis function - Friction judgment speed Set the servo motor speed to divide the friction estimation area between low-speed and high-speed in the friction estimation process of machine diagnosis. When the maximum operation speed is under the rated speed, it is recommended to set half the value of the maximum operation speed. When "0" is set, the judgment speed is half of the rated speed. The setting value will be clamped at the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4 Speed range limit selection]. By setting [Pr. PF34.6 Friction estimate area judgment speed setting] to "1" (automatic setting), this servo parameter value will be automatically calculated from the operation pattern during servo motor driving and overwrite the value. Set this servo parameter to a value larger than [Pr. PC07 Zero speed]. Below zero speed, the friction estimation process does not function.  	0

Motor extension setting servo parameters group ([Pr. PL_ _])

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PL01	Linear servo motor/DD motor function selection 1		PL01	Function selection L-1	
	_ _ _ x: Linear servo motor/DD motor magnetic pole detection selection The setting value "0" is enabled only with absolute position linear encoders. 0: Magnetic pole detection disabled 1: Magnetic pole detection at initial servo-on 5: Magnetic pole detection at every servo-on	1h		[Pr. PL01.0 Servo motor magnetic pole detection selection] Select the magnetic pole detection method for the linear servo motor or direct drive motor. 0: Magnetic pole detection disabled 1: Magnetic pole detection at initial servo-on after cycling the power or after resetting the communication 5: Magnetic pole detection at every servo-on The setting value "0" is enabled only with absolute position linear encoders. Do not set any value other than "0", "1", and "5".	1h
	_ _ x _: For manufacturer setting	0h		Pr. PL01.1 For manufacturer setting	0h
	_ x _ _: Homing stop interval selection Set the stop interval at dog type homing. This servo parameter is enabled only when a linear servo motor is used. 0: 2^{13} (= 8192) pulses 1: 2^{17} (= 131072) pulses 2: 2^{18} (= 262144) pulses 3: 2^{20} (= 1048576) pulses 4: 2^{22} (= 4194304) pulses 5: 2^{24} (= 16777216) pulses 6: 2^{26} (= 67108864) pulses	3h		[Pr. PL01.2 Homing stop interval setting] Select the stop interval at dog type homing. This servo parameter is enabled only for linear servo motors. 0: 2^{13} (= 8192) pulses 1: 2^{17} (= 131072) pulses 2: 2^{18} (= 262144) pulses 3: 2^{20} (= 1048576) pulses 4: 2^{22} (= 4194304) pulses 5: 2^{24} (= 16777216) pulses 6: 2^{26} (= 67108864) pulses	3h
	x _ _ _: For manufacturer setting	0h		Pr. PL01.3 For manufacturer setting	0h
—				Pr. PL01.4-7 For manufacturer setting	0000h
PL02	Linear encoder resolution - Numerator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a numerator in [Pr. PL02]. This servo parameter is enabled only when a linear servo motor is used.	1000	PL02	Linear encoder resolution setting - Numerator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a numerator in [Pr. PL02]. This servo parameter is enabled for linear servo motors.	1000
PL03	Linear encoder resolution - Denominator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a denominator in [Pr. PL03]. This servo parameter is enabled only when a linear servo motor is used.	1000	PL03	Linear encoder resolution setting - Denominator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a denominator in [Pr. PL03]. This servo parameter is enabled for linear servo motors.	1000
PL04	Linear servo motor/DD motor function selection 2		PL04	Function selection L-2	
	_ _ _ x: [AL. 42 Servo control error] detection function selection Refer to the following table. ☞ Page 427 Setting details of the detection function selection (MR-J4_-_B_)	3h		[Pr. PL04.0 [AL. 042 Servo control error] detection function selection] Refer to the following table for setting values. ☞ Page 427 Setting details of the detection function selection (MR-J5_-_B_)	3h
	_ _ x _: For manufacturer setting	0h		Pr. PL04.1 For manufacturer setting	0h
	_ x _ _: For manufacturer setting	0h		Pr. PL04.2 For manufacturer setting	0h
	x _ _ _: [AL. 42 Servo control error] detection controller reset condition selection 0: Reset disabled (reset only by powering off/on is allowed) 1: Reset enabled	0h		[Pr. PL04.3 [AL. 042 Servo control error] detection controller reset condition selection] 0: Reset disabled (reset by powering off/on or software reset enabled) 1: Reset enabled	0h
—				Pr. PL04.4-7 For manufacturer setting	0000h

Setting details of the detection function selection (MR-J4_-_B_)

Setting value	Thrust/torque deviation error	Speed deviation error	Position deviation error
0	Disabled	Disabled	Disabled
1			Enabled
2		Enabled	Disabled
3			Enabled
4	Enabled	Disabled	Disabled
5			Enabled
6		Enabled	Disabled
7			Enabled

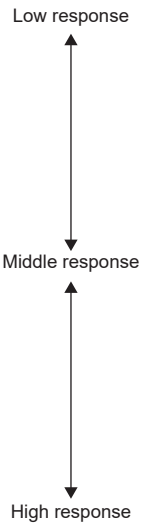
Setting details of the detection function selection (MR-J5_-_B_)

Setting value	Thrust/torque deviation error	Speed deviation error	Position deviation error
0	Disabled	Disabled	Disabled
1			Enabled
2		Enabled	Disabled
3			Enabled
4	Enabled	Disabled	Disabled
5			Enabled
6		Enabled	Disabled
7			Enabled

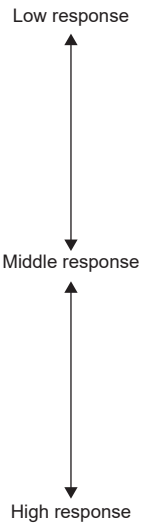
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	**Name and function**	**Initial value**	**No.**	**Name and function**	**Initial value**
PL05	Position deviation error detection level Set a position deviation error detection level of the servo control error detection. When the difference between a model feedback position and actual feedback position is larger than the setting value, [AL. 42 Servo control error] will occur. Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01]. When a linear servo motor is used: 50 mm When a direct drive motor is used: 0.09 rev	0	PL05	Position deviation error detection level Set a position deviation error detection level of the servo control error detection. When the difference between a model feedback position and actual feedback position is larger than the setting value, [AL. 042.1 Servo control error based on position deviation] will occur. Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection]. When a linear servo motor is used: 50 mm When a direct drive motor is used: 0.09 rev	0
PL06	Position deviation error detection level Set the speed deviation error detection level of the servo control error detection. When the difference between a model feedback speed and actual feedback speed is larger than the setting value, [AL. 42 Servo control error] will occur. Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01]. When a linear servo motor is used: 1000 mm/s When a direct drive motor is used: 100 r/min	0	PL06	Position deviation error detection level Set the speed deviation error detection level of the servo control error detection. When the difference between a model feedback speed and actual feedback speed is larger than the setting value, [AL. 042.2 Servo control error based on speed deviation] will occur. Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection]. When a linear servo motor is used: 1000 mm/s When a direct drive motor is used: 100 r/min	0
PL07	Torque/thrust deviation error detection level Set the torque/thrust deviation error detection level of the servo control error detection. When the difference between a current command and current feedback is larger than the setting value, [AL. 42.3 Servo control error by torque/thrust deviation] occurs.	100	PL07	Torque deviation error detection level Set the torque/thrust deviation error detection level of the servo control error detection. When the difference between a current command and current feedback is larger than the setting value, [AL. 042.3 Servo control error based on torque/thrust deviation] occurs.	100
PL08	Linear servo motor/DD motor function selection 3		PL08	Function selection L-3	
	_ _ _ x: Magnetic pole detection method selection 0: Position detection method 4: Minute position detection method	0h		[Pr. PL08.0 Magnetic pole detection method selection] 0: Position detection method 4: Minute position detection method If detecting magnetic poles in a vertical axis, configure a system with equipment such as a counterweight to prevent the linear servo motor from moving with the force of gravity.	0h
	_ _ x _: For manufacturer setting	1h		Pr. PL08.1 For manufacturer setting	1h
	_ x _ _: Magnetic pole detection - Stroke limit enabled/disabled selection 0: Enabled 1: Disabled	0h		[Pr. PL08.2 Magnetic pole detection - Stroke limit enabled/disabled selection] 0: Enabled 1: Disabled	0h
	x _ _ _: For manufacturer setting	0h		Pr. PL08.3 For manufacturer setting	1h
—				Pr. PL08.4-7 For manufacturer setting	0000h
PL09	Magnetic pole detection voltage level Set a direct current exciting voltage level in the magnetic pole detection. If [AL. 32 Overcurrent], [AL. 50 Overload 1], or [AL. 51 Overload 2] occurs during the magnetic pole detection, set a smaller value. If [AL. 27 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value.	30	PL09	Magnetic pole detection voltage level Set a direct current exciting voltage level in the magnetic pole detection. If [AL. 032 Overcurrent], [AL. 050 Overload 1], or [AL. 051 Overload 2] occurs during the magnetic pole detection, set a smaller value. If [AL. 027 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value.	30

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PL17	Magnetic pole detection - Minute position detection method - Function selection		PL17	Magnetic pole detection - Minute position detection method - Function selection	
	_ _ _ x: Response selection This servo parameter is enabled when "Minute position detection method" is selected in [Pr. PL08]. Set the responsiveness of the minute position detection method. To make the travel distance at the magnetic pole detection smaller, set a larger value. Refer to the following table for setting values. ☞ Page 430 Responsiveness settings of the minute position detection method (MR-J4_-_B_)	0h		[Pr. PL17.0 Response selection] This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4" (minute position detection method). Select the responsiveness of the minute position detection method. To make the travel distance at the magnetic pole detection smaller, set a larger value. Refer to the following table for setting values. ☞ Page 430 Responsiveness settings of the minute position detection method (MR-J5_-_B_)	0h
	_ _ x _: Load to motor mass ratio/load to motor inertia ratio selection This servo parameter is enabled when "Minute position detection method" is selected in [Pr. PL08]. Select a load to mass of the linear servo motor primary-side ratio or load to mass of the direct drive motor inertia ratio used for the minute position detection method. Set a value closest to the actual load. Refer to the following table for setting values. ☞ Page 431 Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J4_-_B_)	0h		[Pr. PL17.1 Load to motor mass ratio/load to motor inertia ratio selection] This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4" (minute position detection method). Select a load to mass of the linear servo motor primary-side ratio or load to mass of the direct drive motor inertia ratio used for the minute position detection method. Select a value closest to the actual load. Refer to the following table for setting values. ☞ Page 431 Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J5_-_B_)	0h
	_ x _ _: For manufacturer setting	0h		Pr. PL17.2 For manufacturer setting	0h
	x _ _ _: For manufacturer setting	0h		Pr. PL17.3 For manufacturer setting	0h
—				Pr. PL17.4-7 For manufacturer setting	0000h

Responsiveness settings of the minute position detection method (MR-J4_-_B_)

Setting value	Responsiveness
_ _ _ 0	
_ _ _ 1	
_ _ _ 2	
_ _ _ 3	
_ _ _ 4	
_ _ _ 5	
_ _ _ 6	
_ _ _ 7	
_ _ _ 8	
_ _ _ 9	
_ _ _ A	
_ _ _ B	
_ _ _ C	
_ _ _ D	
_ _ _ E	
_ _ _ F	

Responsiveness settings of the minute position detection method (MR-J5_-_B_)

Setting value	Responsiveness
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J4_-_B_)

Setting value	Load to motor mass ratio/load to motor inertia ratio
_ _ 0 _	10 times or less
_ _ 1 _	10 multiplier
_ _ 2 _	20 multiplier
_ _ 3 _	30 multiplier
_ _ 4 _	40 multiplier
_ _ 5 _	50 multiplier
_ _ 6 _	60 multiplier
_ _ 7 _	70 multiplier
_ _ 8 _	80 multiplier
_ _ 9 _	90 multiplier
_ _ A _	100 multiplier
_ _ B _	110 multiplier
_ _ C _	120 multiplier
_ _ D _	130 multiplier
_ _ E _	140 multiplier
_ _ F _	150 times or more

Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J5_-_B_)

Setting value	Load to motor mass ratio/load to motor inertia ratio
0	10 times or less
1	10 multiplier
2	20 multiplier
3	30 multiplier
4	40 multiplier
5	50 multiplier
6	60 multiplier
7	70 multiplier
8	80 multiplier
9	90 multiplier
A	100 multiplier
B	110 multiplier
C	120 multiplier
D	130 multiplier
E	140 multiplier
F	150 times or more

MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude Set an identification signal amplitude to be used in the minute position detection method. This servo parameter is enabled only when the magnetic pole detection is set to the minute position detection method. However, when "0" is set, the amplitude will be 100 %.	0	PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude Set an identification signal amplitude to be used in the minute position detection method. This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4". When the setting value of this servo parameter is set to "0", the amplitude will be 100 [%].	0

13 STARTUP

Precautions

- To prevent malfunctions and damage of the machine, test operation must be performed according to the precautions and procedure as instructed in the user's manual.
- Before starting operation, check and adjust each parameter. Improper parameter settings may cause an unexpected operation.
- The regenerative resistor of the servo amplifier may become hot depending on the operating method. Take safety measures such as providing covers.
- Eliminate static electricity before performing actions such as wiring or operating a switch.

13.1 Turning on Servo Amplifier for the First Time

When switching power on for the first time, follow this section to make a startup.

Startup procedure

Procedure	Description
1. Wiring check	Visually check that the wires are connected to the servo amplifier, servo motor, and controller correctly.
2. Checking the surrounding environment	Check the environment surrounding the servo amplifier, servo motor, and controller.
3. Writing servo parameters	Write the project converted for the MR-J5-_B_/MR-J5W_-_B_ using the parameter conversion to the module.
4. Setting servo parameters *1	Set the servo parameters as necessary, such as the control mode used and regenerative option selection. Refer to the following for details. ☞ Page 320 SERVO PARAMETERS
5. Test operation of the servo motor alone in test operation mode *1*2	In test operation, with the servo motor disconnected from the machine, operate the servo motor at the lowest speed possible, and check whether the servo motor rotates correctly. Test operation can be performed with the servo engineering software or controller.
6. Test operation using commands from the controller with the machine connected	After connecting the servo motor to the machine, check the motions of the machine by sending operation commands from the controller.
7. Gain adjustment *1	Make gain adjustment to optimize the machine motions.
8. Actual operation *2	Perform homing as necessary when in position control mode.
9. Stop	Stop giving commands and stop operation. In addition, check the conditions when the servo motor operation stops.

*1 For detailed information such as servo amplifier settings and test operation, refer to the manuals shown below. If the gain of the servo amplifier before replacement is extremely high, there may be slight differences in characteristics upon replacement. Make sure to set the gain again.
- 📖MR-J5-B/MR-J5W-B User's Manual (Introduction)
- 📖MR-J5 User's Manual (Hardware)
- 📖MR-J5 User's Manual (Function)
- 📖MR-J5 User's Manual (Adjustment)
- 📖MR-J5-B/MR-J5W-B User's Manual (Parameters)

*2 When turning on the power supply, also turn on the 24 V DC power supply for the external interface. [AL. 0E6.1 Forced stop warning] will occur.

MEMO

PART 4 Replacement of MR-J4-_A_ with MR-J5-_A_

This section describes the changes to be made when a system using the MR-J4-_A_ is replaced with a system using the MR-J5-_A_.

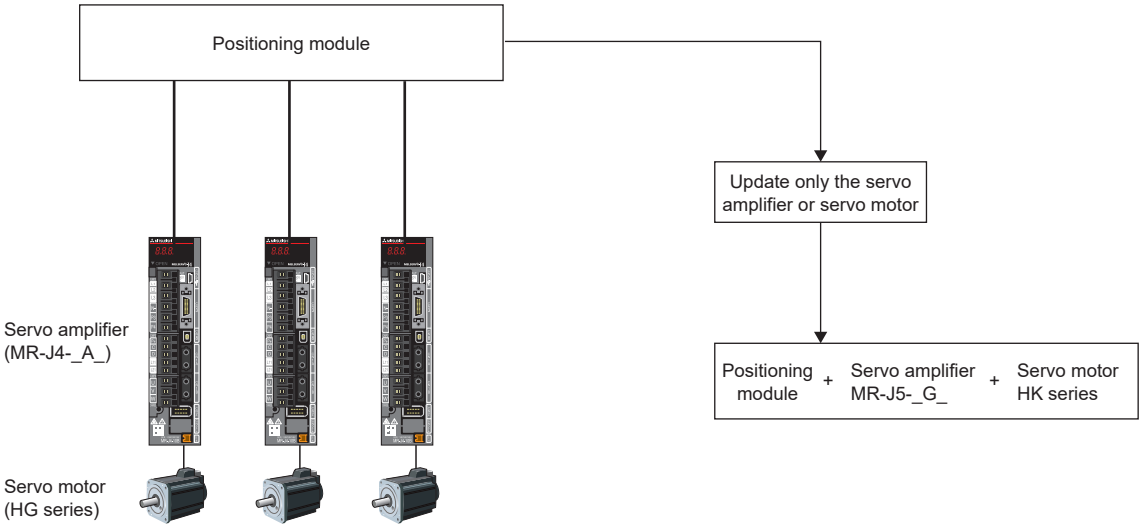
14 Replacement of MR-J4-_A_ with MR-J5-_A_

15 DIFFERENCES BETWEEN MR-J4-_A_ AND MR-J5-_A_

16 SERVO PARAMETERS

17 STARTUP

14 Replacement of MR-J4-_A_ with MR-J5-_A_



MEMO

15 DIFFERENCES BETWEEN MR-J4-_A_ AND MR-J5-_A_

15.1 Function Comparison Table

Point

Changed descriptions are shown with "■".

This manual is for servo amplifiers with the following capacities.

- 200 V class: 0.1 kW to 7 kW
- 400 V class: 0.6 kW to 7 kW

1-axis servo amplifier (200 V class)

Item	MR-J4-_A_	MR-J5-_A_
Capacity range	0.1 to 7 kW	0.1 to 7 kW
Internal regenerative resistor	Built-in (0.2 to 7 kW)	Built-in (0.2 to 7 kW)
Dynamic brake	Built-in (0.1 to 7 kW)	Built-in (0.1 to 7 kW) ■The coasting distance may vary.*1
Main circuit power supply	At AC input: 0.1 kW to 2 kW 3-phase or 1-phase 200 to 240 V AC, 50 Hz/60 Hz *2 3.5 kW to 7 kW 3-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC	At AC input: 0.1 kW to 2 kW 3-phase or 1-phase 200 to 240 V AC, 50 Hz/60 Hz *2 3.5 kW to 7 kW 3-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC
Control circuit power supply	At AC input: 1-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC	At AC input: 1-phase 200 to 240 V AC, 50 Hz/60 Hz At DC input: 283 to 340 V DC
24 V DC power supply	External supply required	External supply required
Auto tuning	Auto tuning: 40 stages One-touch tuning	Auto tuning: 40 stages One-touch tuning ■Quick tuning
Control mode	Position control mode (pulse command) Speed control mode (analog command) Torque control mode (analog command)	Position control mode (pulse command) Speed control mode (analog command) Torque control mode (analog command)
Maximum input pulse	Differential pulse:4 Mpulses/s Open collector: 200 kpulses/s Command pulse: Sink/Source	Differential pulse:4 Mpulses/s Open collector: 200 kpulses/s Command pulse: Sink/Source
Number of DIO points (except for EM2)	DI: 9 DO: 6	DI: 9 DO: 6
Extension I/O module (MR-D01)	Supported	■Not supported
Encoder pulse output	A/B/Z-phase pulse (differential line driver) Z-phase pulse (open collector)	A/B/Z-phase pulse (differential line driver) Z-phase pulse (open collector)
DIO interface	Input/output: Sink/Source	Input/output: Sink/Source
Analog input/output	(Input) 2ch Torque: 10 bits Speed:14 bits or its equivalent (MR-J4-_A-RJ_: 16 bits or its equivalent) (Output) 10 bits or its equivalent × 2ch	(Input) 2ch ■Torque: 12 bits Speed:14 bits or its equivalent (MR-J5-_A-RJ_: 16 bits or its equivalent) (Output) 10 bits or its equivalent × 2ch
Number of internal speed commands	7	7
Servo parameter setting method	MR Configurator2 Push button	MR Configurator2 Push button
Servo engineering software communication	USB	USB
RS-422 communication	Connection destination: CN3 (RJ45 connector)	■ Connection destination: CN3 (miniature delta ribbon)
Parameter module (MR-PRU03)	Supported	■Not supported
Rotary servo motor (encoder resolution)	HG series (22 bits)	■HK series (26 bits)
Rotary servo motor maximum torque	HG-KR: 350 % HG-SR: 300 %	■HK-KT: 450 % ■HK-ST: 400 %
Button	4	4
LED display	7-segment 5-digit	7-segment 5-digit
Advanced vibration suppression control II	Available	Available
Adaptive filter II	Available	Available
Notch filter	Available (5 pcs.)	Available (5 pcs.)
Tough drive	Available	Available
Drive recorder	Available	Available
Forced stop	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.
Machine diagnosis	Ball screw diagnosis	Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis
Disconnection detection	Not available	■Available (input open-phase detection, output open-phase detection)

Item	MR-J4-_A_	MR-J5-_A_
Encoder communication diagnosis	Not available	■Available
Positioning built-in function	Available	■Not available
Modbus-RTU communication	Available	■Not available
Bus common connection (Simple converter MR-CM compatible)	Not supported	■Supported *3
Functional safety	For comparison of functions, refer to the following. ☞ Page 440 Functional safety	

*1 For details on the coasting distance, refer to the following manual.
📖MR-J5 User's Manual (Hardware)

*2 If using 1-phase power supply in combination with the rotary servo motor of 750 W or higher, operate the servo amplifier at 75 % or less of the effective load ratio.

*3 The connection is possible with a servo amplifier with a capacity of 2 kW or less. For details, refer to the following manuals.
📖MR-J5 User's Manual (Hardware)

■Functional safety

• Replacement of MR-J4-_A with MR-J5-_A

Item		MR-J4-_A	MR-J5-_A
Servo amplifier alone	Safety sub-function	STO	STO
	Input device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Output device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

• Replacement of MR-J4-_A-RJ with MR-J5-_A-RJ

Item		MR-J4-_A-RJ	MR-J5-_A-RJ
Servo amplifier alone	Safety sub-function	STO	■STO/SS1/SS2/SOS/SBC/SLS/SSM/SDI/SLI/SLT
	Input device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
	Output device (duplex wiring)	1 point (source/sink)	1 point (source/sink)
When combined with MR-D30	Safety sub-function	STO/SS1/SS2/SOS/SLS/SBC/SSM	■Not supported
	Input device (duplex wiring)	6 points (source/sink)	
	Output device	Source: 3 points (duplex wiring) and 1 point (single wiring) Sink: 1 point (single wiring)	
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

1-axis servo amplifier (400 V class)

Item	MR-J4-_A_	MR-J5-_A_
Capacity range	0.6 to 7 kW	0.6 to 7 kW
Internal regenerative resistor	Built-in (0.6 to 7 kW)	Built-in (0.6 to 7 kW)
Dynamic brake	Built-in (0.6 to 7 kW)	Built-in (0.6 to 7 kW) ■The coasting distance may vary.[*1]
Main circuit power supply	At AC input: 3-phase 380 to 480 V AC, 50 Hz/60 Hz	At AC input: 3-phase 380 to 480 V AC, 50 Hz/60 Hz
Control circuit power supply	At AC input: 1-phase 380 V AC to 480 V AC, 50 Hz/60 Hz	At AC input: 1-phase 380 V AC to 480 V AC, 50 Hz/60 Hz
24 V DC power supply	External supply required	External supply required
Auto tuning	Auto tuning: 40 stages One-touch tuning	Auto tuning: 40 stages One-touch tuning ■Quick tuning
Control mode	Position control mode (pulse command) Speed control mode (analog command) Torque control mode (analog command)	Position control mode (pulse command) Speed control mode (analog command) Torque control mode (analog command)
Maximum input pulse	Differential pulse:4 Mpulses/s Open collector: 200 kpulses/s Command pulse: Sink/Source	Differential pulse:4 Mpulses/s Open collector: 200 kpulses/s Command pulse: Sink/Source
Number of DIO points (except for EM2)	DI: 9 DO: 6	DI: 9 DO: 6
Extension I/O module (MR-D01)	Supported	■Not supported
Encoder pulse output	A/B/Z-phase pulse (differential line driver) Z-phase pulse (open collector)	A/B/Z-phase pulse (differential line driver) Z-phase pulse (open collector)
DIO interface	Input/output: Sink/Source	Input/output: Sink/Source
Analog input/output	(Input) 2ch Torque: 10 bits Speed:14 bits or its equivalent (MR-J4-_A-RJ_: 16 bits or its equivalent) (Output) 10 bits or its equivalent × 2ch	(Input) 2ch ■Torque: 12 bits Speed:14 bits or its equivalent (MR-J5-_A-RJ_: 16 bits or its equivalent) (Output) 10 bits or its equivalent × 2ch
Number of internal speed commands	7	7
Servo parameter setting method	MR Configurator2 Push button	MR Configurator2 Push button
Servo engineering software communication	USB	USB
RS-422 communication	Connection destination: CN3 (RJ45 connector)	■Connection destination: CN3 (miniature delta ribbon)
Parameter module (MR-PRU03)	Supported	■Not supported
Rotary servo motor (encoder resolution)	HG series (22 bits)	■HK series (26 bits)
Rotary servo motor maximum torque	HG-KR: 350 % HG-SR: 300 %	■HK-KT: 450 % ■HK-ST: 400 %
Button	4	4
LED display	7-segment 5-digit	7-segment 5-digit
Advanced vibration suppression control II	Available	Available
Adaptive filter II	Available	Available
Notch filter	Available (5 pcs.)	Available (5 pcs.)
Tough drive	Available	Available
Drive recorder	Available	Available
Forced stop	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.
Machine diagnosis	Ball screw diagnosis	Ball screw diagnosis ■Gear diagnosis ■Belt diagnosis
Disconnection detection	Not available	■Available (input open-phase detection, output open-phase detection)
Encoder communication diagnosis	Not available	■Available
Positioning built-in function	Available	■Not available
Modbus-RTU communication	Available	■Not available

Item	MR-J4-_A_	MR-J5-_A_
Bus common connection (Simple converter MR-CM compatible)	Not supported	Not supported
Functional safety	For comparison of functions, refer to the following. ☞ Page 442 Functional safety	

*1 For details on the coasting distance, refer to the following manual.
MR-J5 User's Manual (Hardware)

■Functional safety

• Replacement of MR-J4-_A4 with MR-J5-_A4

Item		MR-J4-_A4	MR-J5-_A4
Servo amplifier alone	Safety sub-function	STO	STO
	Input device	1 point × 2 systems (source/sink)	1 point × 2 systems (source/sink)
	Output device	1 point × 2 systems (source/sink)	1 point × 2 systems (source/sink)
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

• Replacement of MR-J4-_A4-RJ with MR-J5-_A4-RJ

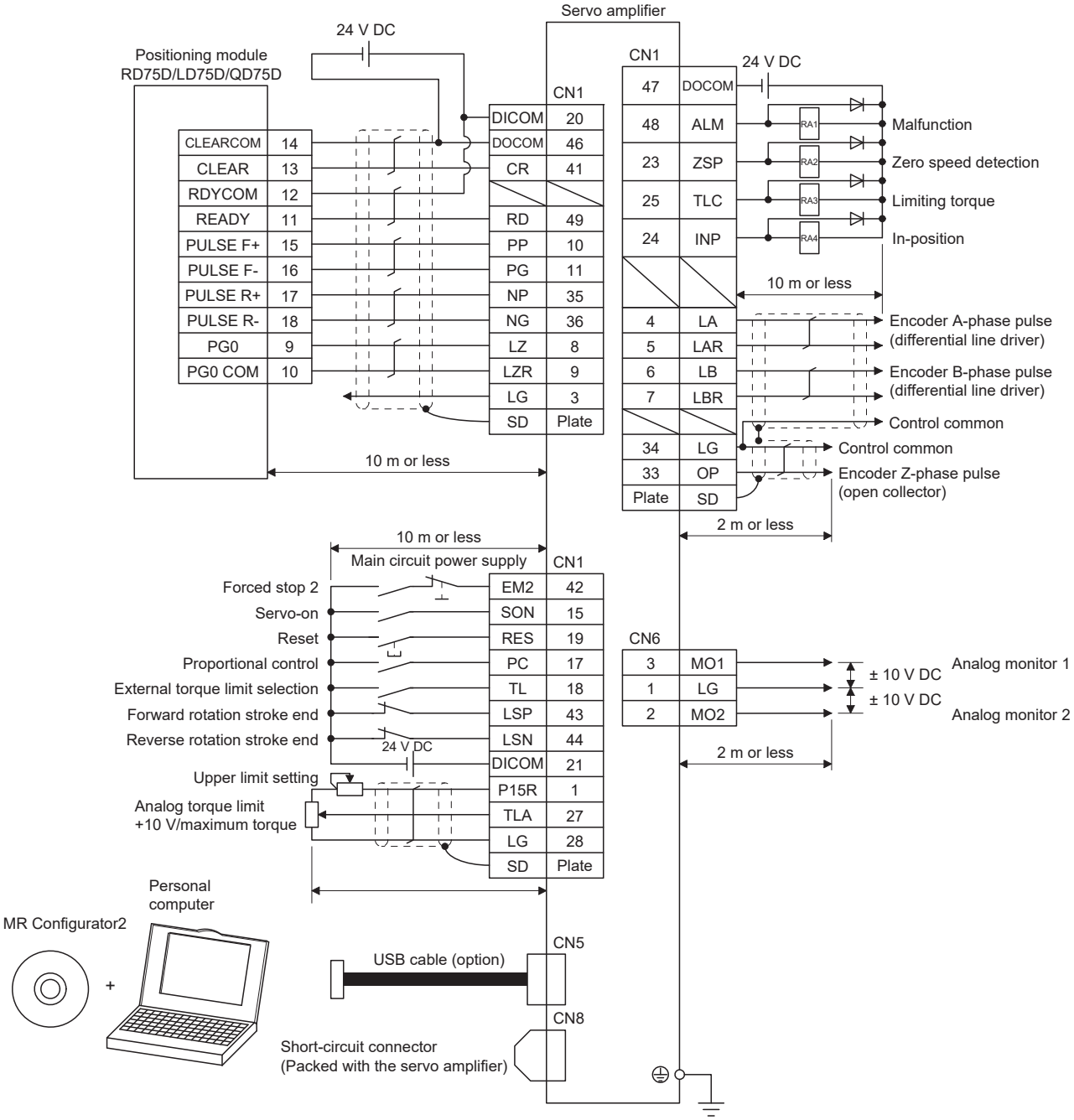
Item		MR-J4-_A4-RJ	MR-J5-_A4-RJ
Servo amplifier alone	Safety sub-function	STO	■STO/SS1/SS2/SOS/SBC/SLS/SSM/SDI/SLI/SLT
	Input device	1 point × 2 systems (source/sink)	1 point × 2 systems (source/sink)
	Output device	1 point × 2 systems (source/sink)	1 point × 2 systems (source/sink)
When combined with MR-D30	Safety sub-function	STO/SS1/SS2/SOS/SLS/SBC/SSM	■Not supported
	Input device	6 point × 2 systems (source/sink)	
	Output device	Source: 3 points × 2 systems and 1 point × 1 system Sink: 1 point × 1 system	
When combined with MR-D05	Safety sub-function	STO/SS1	STO/SS1

15.2 Comparison of Standard Connection Diagrams

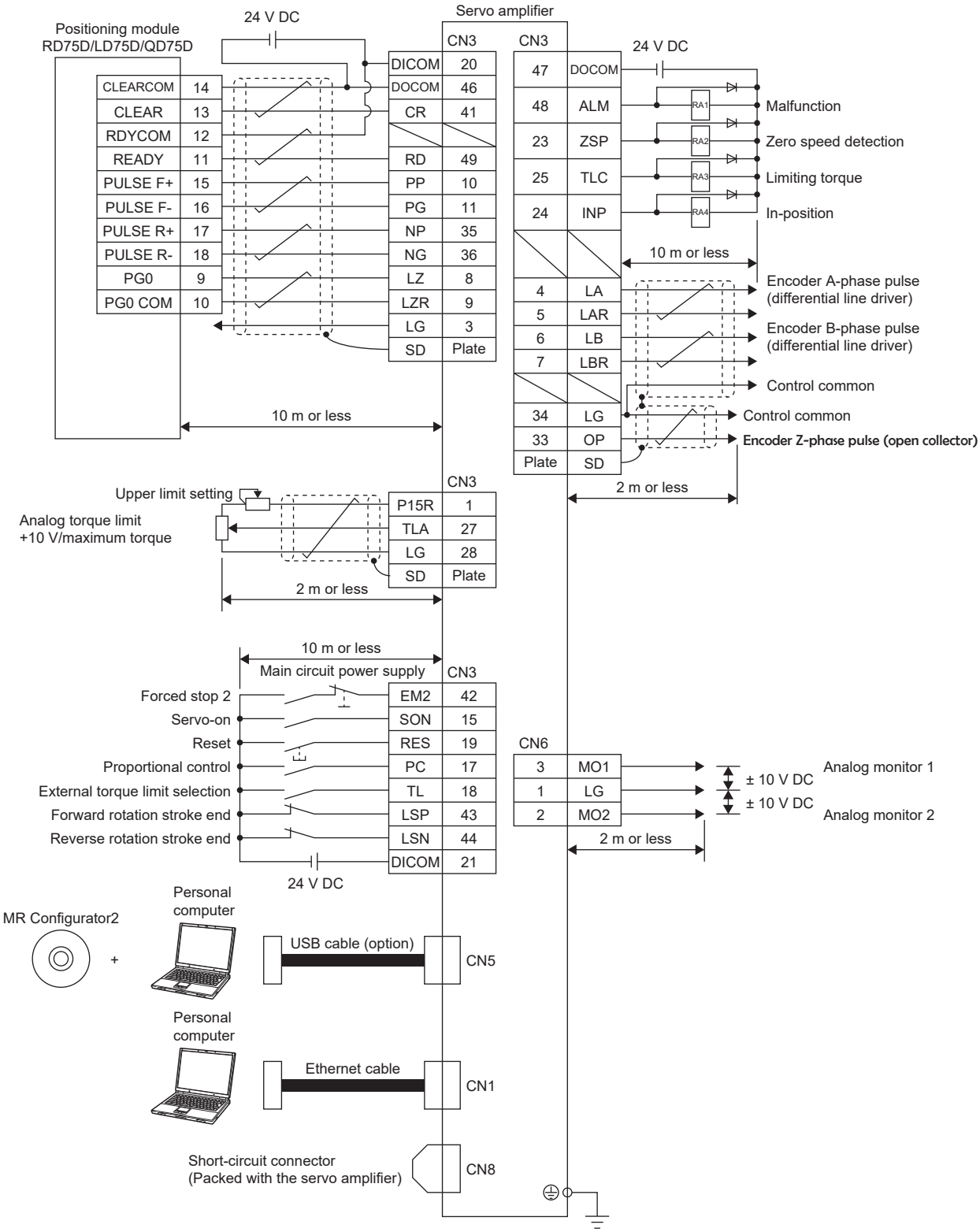
1-axis servo amplifier

Position control mode

■MR-J4-_A_

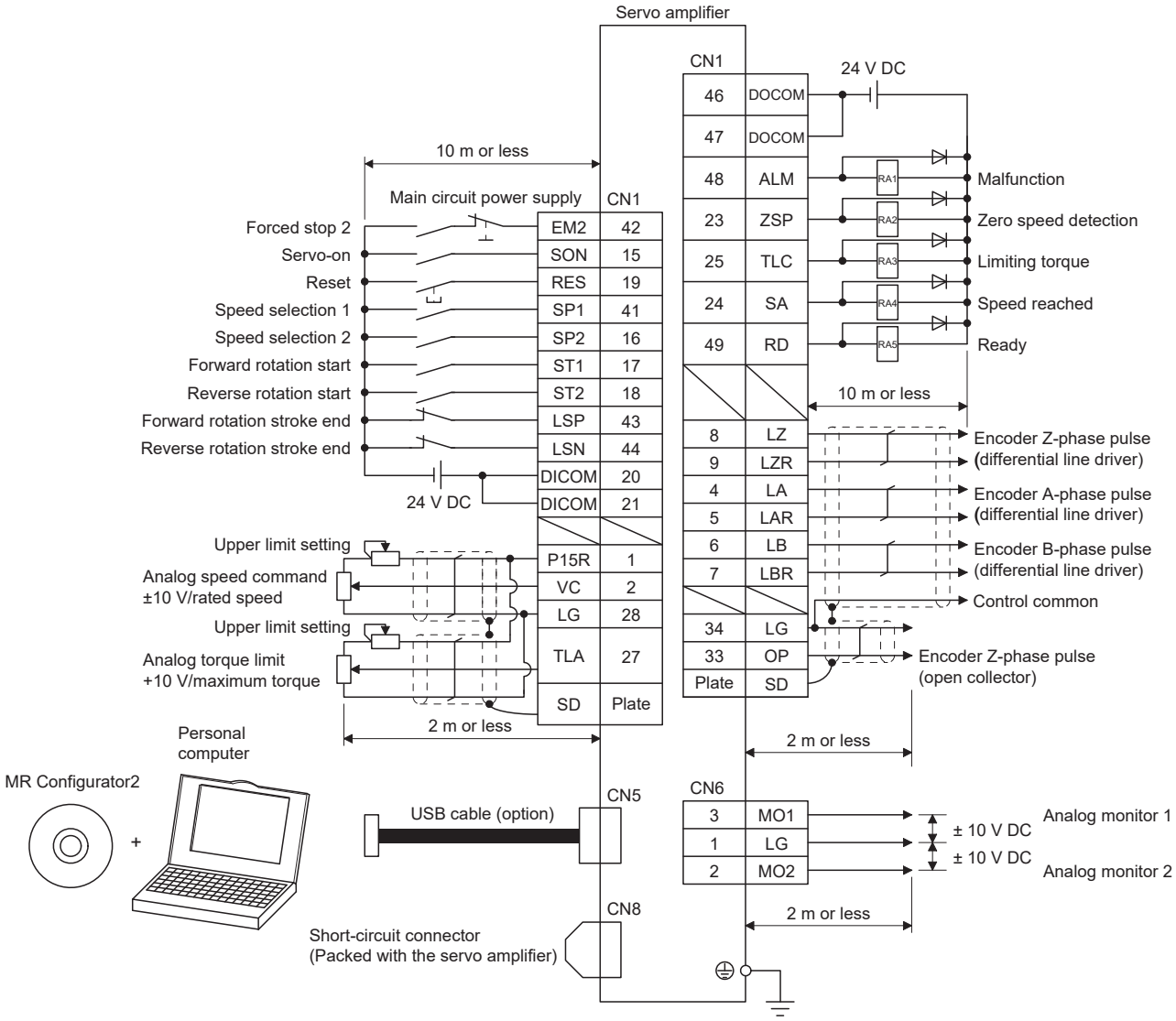


■MR-J5-_A_

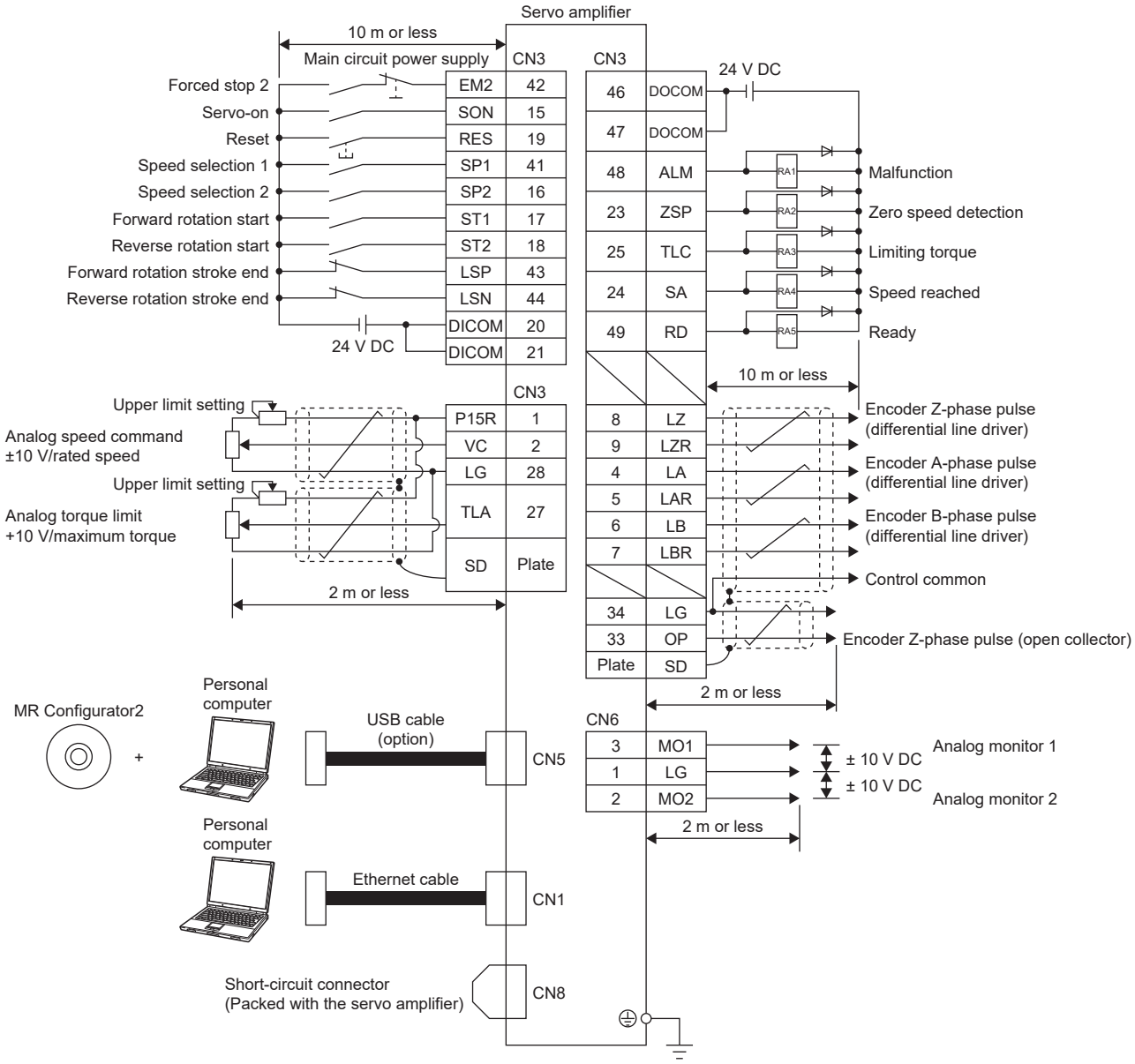

Positioning module
RD75D/LD75D/QD75D
24 V DC
Servo amplifier
CN3
CN3
24 V DC
CLEARCOM 14
CLEAR 13
RDYCOM 12
READY 11
PULSE F+ 15
PULSE F- 16
PULSE R+ 17
PULSE R- 18
PG0 9
PG0 COM 10
DICOM 20
DOCOM 46
CR 41
RD 49
PP 10
PG 11
NP 35
NG 36
LZ 8
LZR 9
LG 3
SD Plate
47 DOCOM
48 ALM
23 ZSP
25 TLC
24 INP
RA1
RA2
RA3
RA4
Malfunction
Zero speed detection
Limiting torque
In-position
10 m or less
4 LA
5 LAR
6 LB
7 LBR
Encoder A-phase pulse
(differential line driver)
Encoder B-phase pulse
(differential line driver)
Control common
34 LG
33 OP
Plate SD
Control common
Encoder Z-phase pulse (open collector)
10 m or less
2 m or less
CN3
Upper limit setting
Analog torque limit
+10 V/maximum torque
P15R 1
TLA 27
LG 28
SD Plate
2 m or less
10 m or less
Main circuit power supply
CN3
Forced stop 2
Servo-on
Reset
Proportional control
External torque limit selection
Forward rotation stroke end
Reverse rotation stroke end
EM2 42
SON 15
RES 19
PC 17
TL 18
LSP 43
LSN 44
DICOM 21
24 V DC
CN6
3 MO1
1 LG
2 MO2
± 10 V DC
± 10 V DC
Analog monitor 1
Analog monitor 2
2 m or less
Personal
computer
MR Configurator2
+
USB cable (option)
CN5
Personal
computer
Ethernet cable
CN1
Short-circuit connector
(Packed with the servo amplifier)
CN8

Speed control mode

■MR-J4-_A_

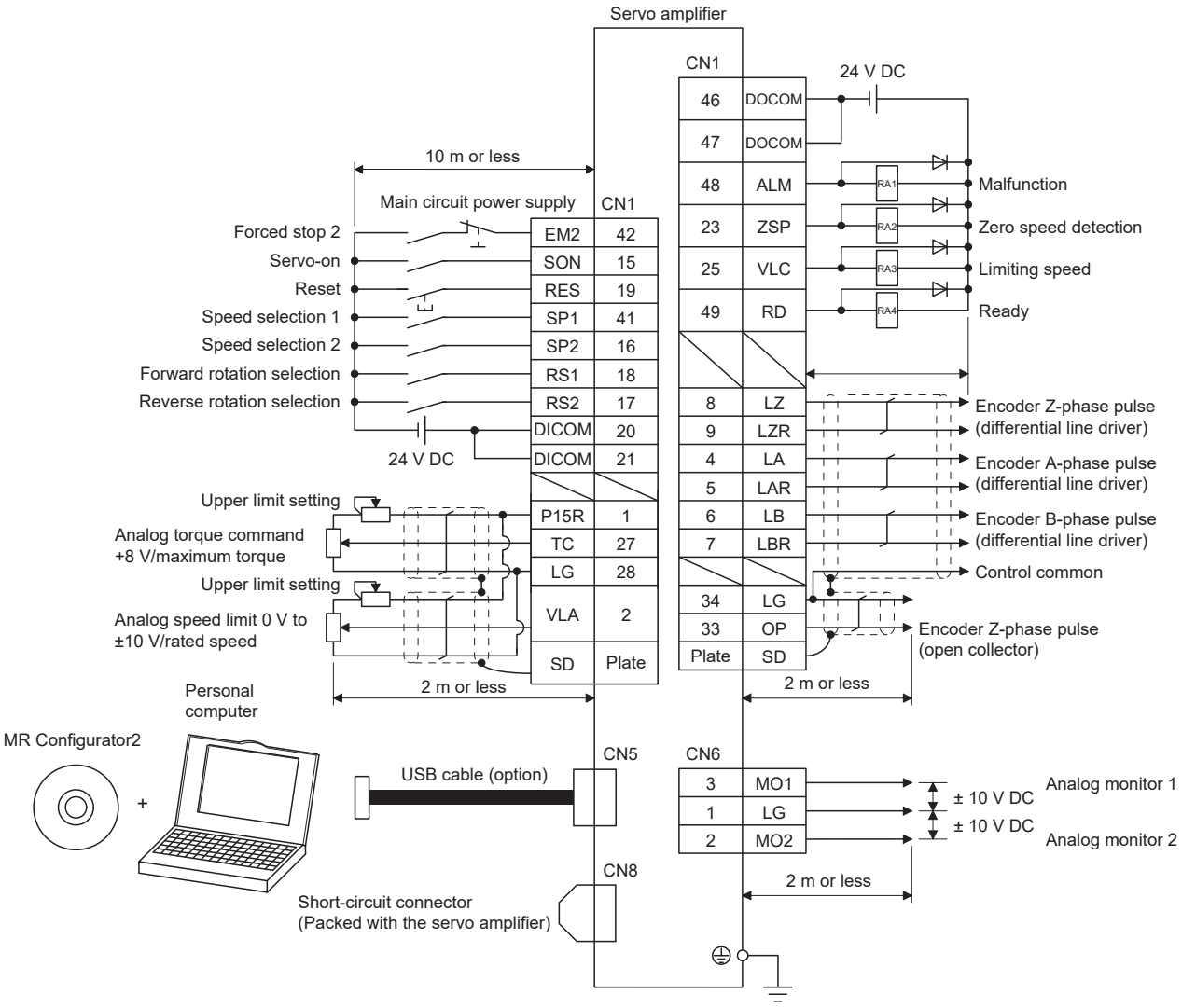


■MR-J5-_A_

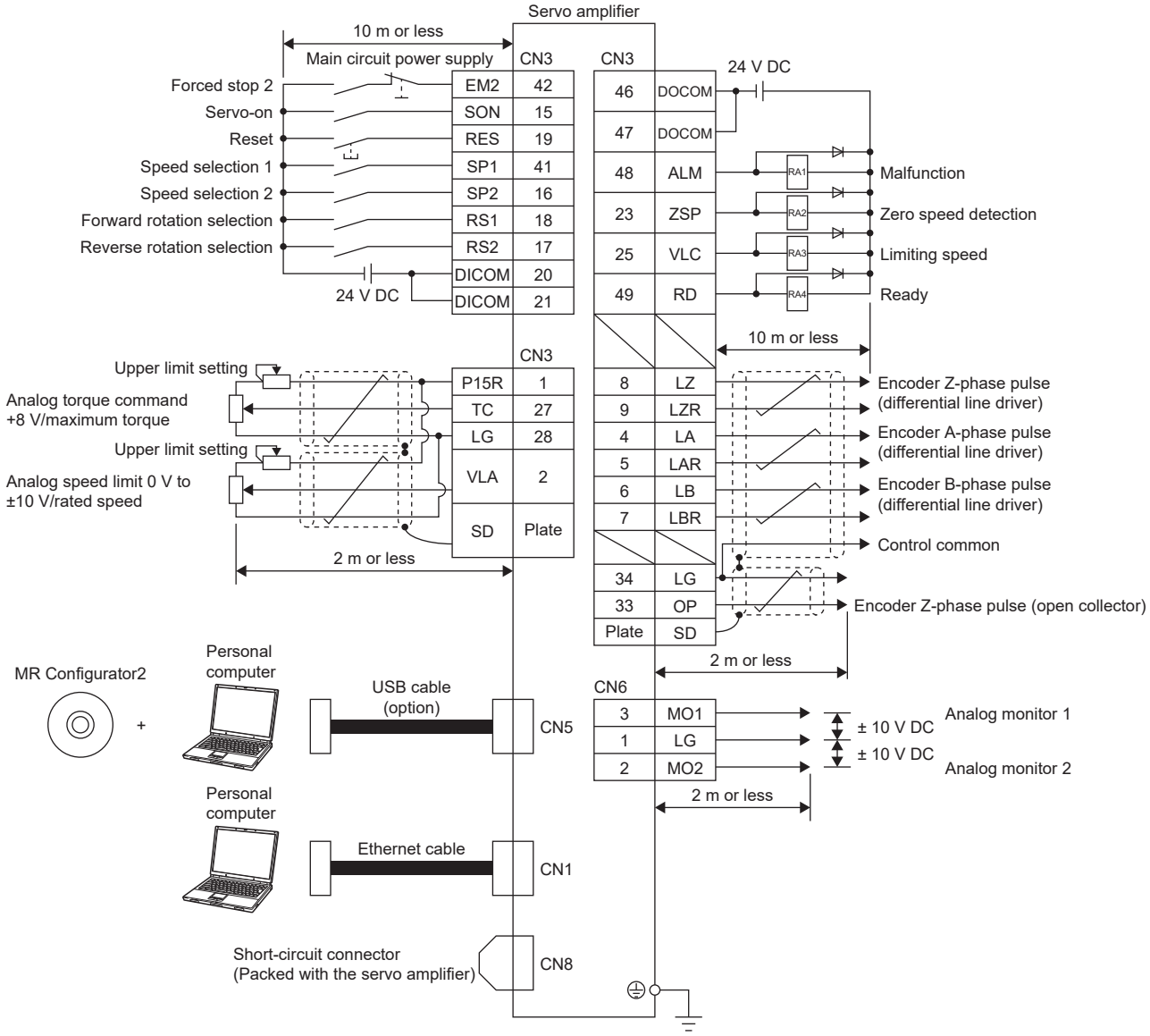

Servo amplifier
10 m or less
Main circuit power supply
CN3
CN3
24 V DC
Forced stop 2
Servo-on
Reset
Speed selection 1
Speed selection 2
Forward rotation start
Reverse rotation start
Forward rotation stroke end
Reverse rotation stroke end
EM2 42
SON 15
RES 19
SP1 41
SP2 16
ST1 17
ST2 18
LSP 43
LSN 44
DICOM 20
DICOM 21
24 V DC
46 DOCOM
47 DOCOM
48 ALM
23 ZSP
25 TLC
24 SA
49 RD
RA1
RA2
RA3
RA4
RA5
Malfunction
Zero speed detection
Limiting torque
Speed reached
Ready
10 m or less
CN3
Upper limit setting
Analog speed command
±10 V/rated speed
Upper limit setting
Analog torque limit
+10 V/maximum torque
P15R 1
VC 2
LG 28
TLA 27
SD Plate
2 m or less
8 LZ
9 LZR
4 LA
5 LAR
6 LB
7 LBR
Encoder Z-phase pulse
(differential line driver)
Encoder A-phase pulse
(differential line driver)
Encoder B-phase pulse
(differential line driver)
Control common
34 LG
33 OP
Plate SD
Encoder Z-phase pulse (open collector)
2 m or less
MR Configurator2
+
Personal
computer
USB cable
(option)
CN5
CN6
3 MO1
1 LG
2 MO2
± 10 V DC
± 10 V DC
Analog monitor 1
Analog monitor 2
2 m or less
Personal
computer
Ethernet cable
CN1
Short-circuit connector
(Packed with the servo amplifier)
CN8

Torque control mode

■MR-J4-_A_



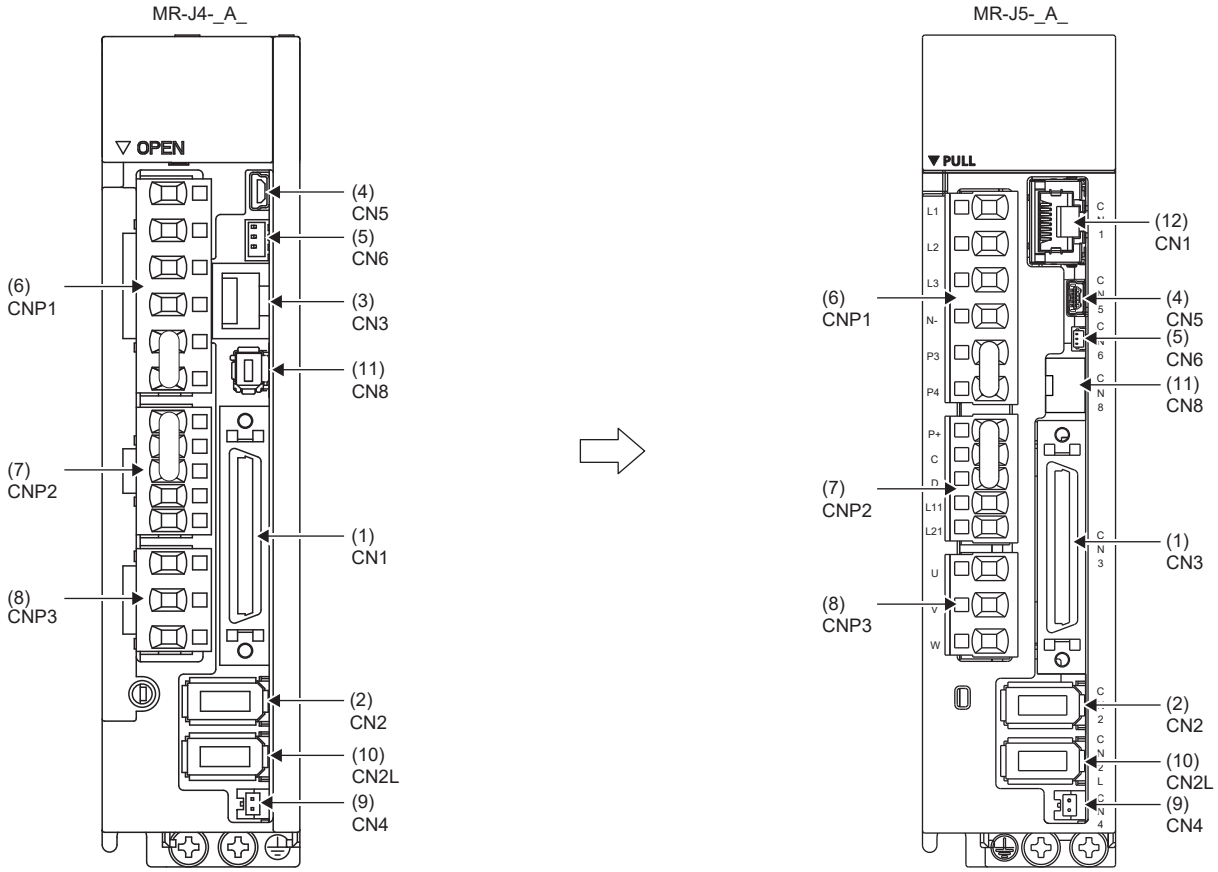
■MR-J5-_A_


Servo amplifier
10 m or less
Main circuit power supply
CN3
CN3
24 V DC
Forced stop 2
Servo-on
Reset
Speed selection 1
Speed selection 2
Forward rotation selection
Reverse rotation selection
EM2 42
SON 15
RES 19
SP1 41
SP2 16
RS1 18
RS2 17
DICOM 20
DICOM 21
24 V DC
46 DOCOM
47 DOCOM
48 ALM
23 ZSP
25 VLC
49 RD
RA1
RA2
RA3
RA4
Malfunction
Zero speed detection
Limiting speed
Ready
10 m or less
CN3
Upper limit setting
Analog torque command
+8 V/maximum torque
Upper limit setting
Analog speed limit 0 V to
±10 V/rated speed
P15R 1
TC 27
LG 28
VLA 2
SD Plate
2 m or less
8 LZ
9 LZR
4 LA
5 LAR
6 LB
7 LBR
34 LG
33 OP
Plate SD
Encoder Z-phase pulse
(differential line driver)
Encoder A-phase pulse
(differential line driver)
Encoder B-phase pulse
(differential line driver)
Control common
Encoder Z-phase pulse (open collector)
2 m or less
MR Configurator2
+
Personal
computer
USB cable
(option)
CN5
CN6
3 MO1
1 LG
2 MO2
± 10 V DC
± 10 V DC
Analog monitor 1
Analog monitor 2
2 m or less
Personal
computer
Ethernet cable
CN1
Short-circuit connector
(Packed with the servo amplifier)
CN8

15.3 List of Connectors

From MR-J4-_A_ to MR-J5-_A_

Refer to each servo amplifier manual for details on signals.

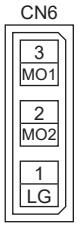
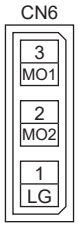


List of connectors

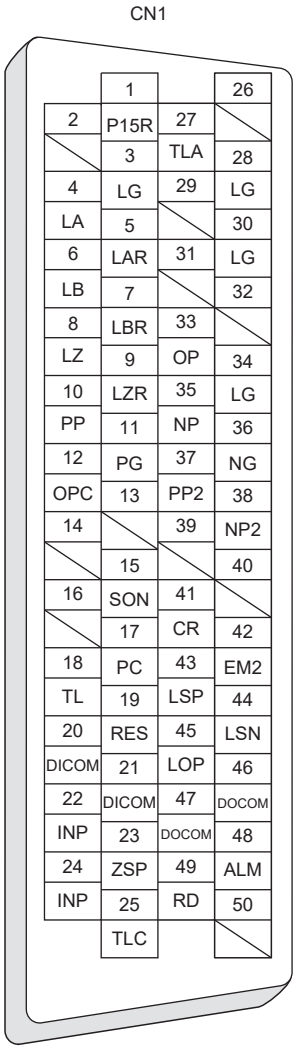
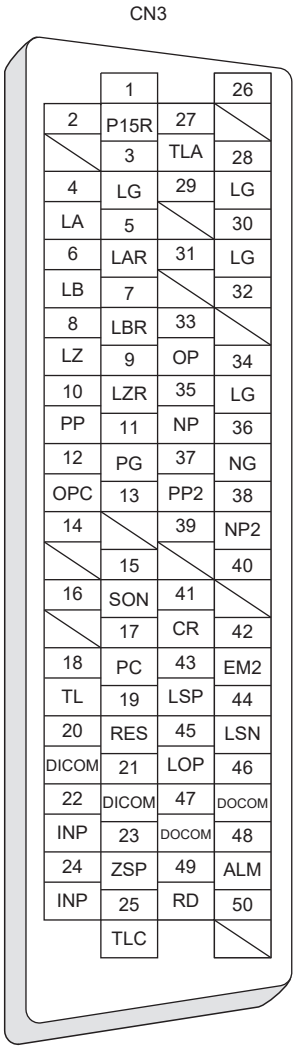
No.	Connector name	Connector number		Precautions
		MR-J4-_A_	MR-J5-_A_	
(1)	I/O signal connector	CN1	CN3	You can use those used before replacement.
(2)	Encoder connector	CN2	CN2	
(3)	RS-422/RS-485 connector	CN3	—	The wiring destination of RS-422/RS-485 was changed to the I/O signal connector. Review the wiring and cables as required.
(4)	USB communication connector	CN5	CN5	You can use those used before replacement.
(5)	Analog monitor output connector	CN6	CN6	Newly required.
(6)	Main circuit power connector	CNP1	CNP1	Use the connector that comes with the MR-J5-_A_.
(7)	Control circuit power connector	CNP2	CNP2	
(8)	Servo motor power output connector	CNP3	CNP3	
(9)	Battery connector	CN4	CN4	You can use those used before replacement. (If using together with a direct drive motor) The battery is not required if the HK series rotary servo motor is used together.
(10)	External encoder connector	CN2L	CN2L	You can use those used before replacement.
(11)	STO input signal connector	CN8	CN8	
(12)	Ethernet cable connector	—	CN1	Used for connecting to a personal computer for the MR-J5-_A_. Do not connect the RS-422/RS-485 communication cable.

Comparison of control circuit system signals

■CN6

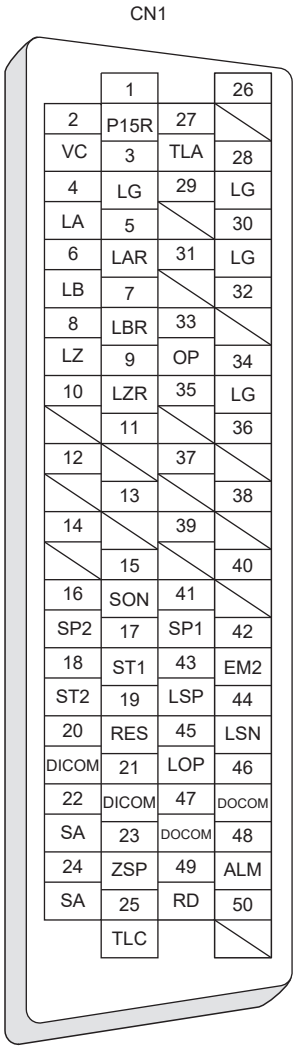
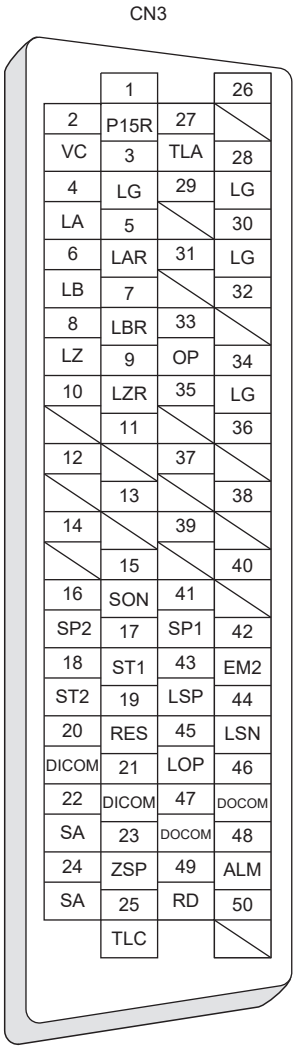
MR-J4-_A_		Symbol	MR-J5-_A_	
Connector signal arrangement	Connector pin No.		Connector pin No.	Connector signal arrangement
	CN6-1	LG	CN6-1	
	CN6-2	MO1	CN6-2	
	CN6-3	MO2	CN6-3	

■CN1 (Position control mode)

MR-J4-_A_		Symbol	MR-J5-_A_	
Connector signal arrangement	Connector pin No.		Connector pin No.	Connector signal arrangement
	CN1-1	P15R	CN3-1	
	CN1-2	—	CN3-2	
	CN1-3	LG	CN3-3	
	CN1-4	LA	CN3-4	
	CN1-5	LAR	CN3-5	
	CN1-6	LB	CN3-6	
	CN1-7	LBR	CN3-7	
	CN1-8	LZ	CN3-8	
	CN1-9	LZR	CN3-9	
	CN1-10	PP	CN3-10	
	CN1-11	PG	CN3-11	
	CN1-12	OPC	CN3-12	
	CN1-13	—	CN3-13	
	CN1-14	—	CN3-14	
	CN1-15	SON	CN3-15	
	CN1-16	—	CN3-16	
	CN1-17	PC	CN3-17	
	CN1-18	TL	CN3-18	
	CN1-19	RES	CN3-19	
	CN1-20	DICOM	CN3-20	
	CN1-21	DICOM	CN3-21	
	CN1-22	INP	CN3-22	
	CN1-23	ZSP	CN3-23	
	CN1-24	INP	CN3-24	
	CN1-25	TLC	CN3-25	
	CN1-26	—	CN3-26	
	CN1-27	TLA	CN3-27	
	CN1-28	LG	CN3-28	
	CN1-29	— *1	CN3-29	
	CN1-30	LG	CN3-30	
	CN1-31	— *1	CN3-31	
	CN1-32	— *1	CN3-32	
	CN1-33	OP	CN3-33	
	CN1-34	LG	CN3-34	
	CN1-35	NP	CN3-35	
	CN1-36	NG	CN3-36	
	CN1-37	PP2	CN3-37	
	CN1-38	NP2	CN3-38	
	CN1-39	— *1	CN3-39	
	CN1-40	— *1	CN3-40	
	CN1-41	CR	CN3-41	
	CN1-42	EM2	CN3-42	
	CN1-43	LSP	CN3-43	
	CN1-44	LSN	CN3-44	
	CN1-45	LOP	CN3-45	
	CN1-46	DOCOM	CN3-46	
	CN1-47	DOCOM	CN3-47	
	CN1-48	ALM	CN3-48	
	CN1-49	RD	CN3-49	
	CN1-50	—	CN3-50	

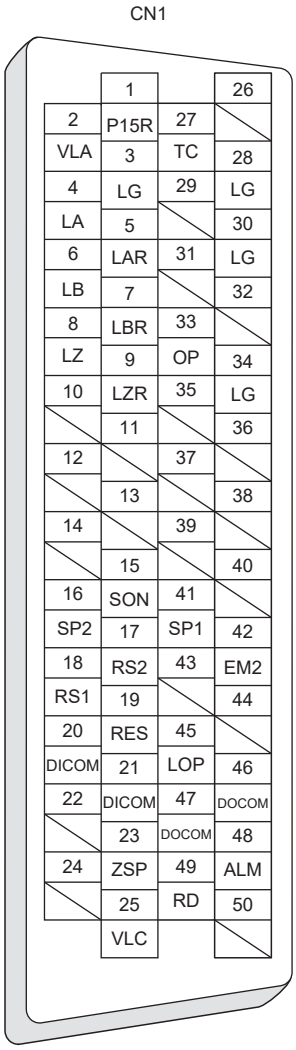
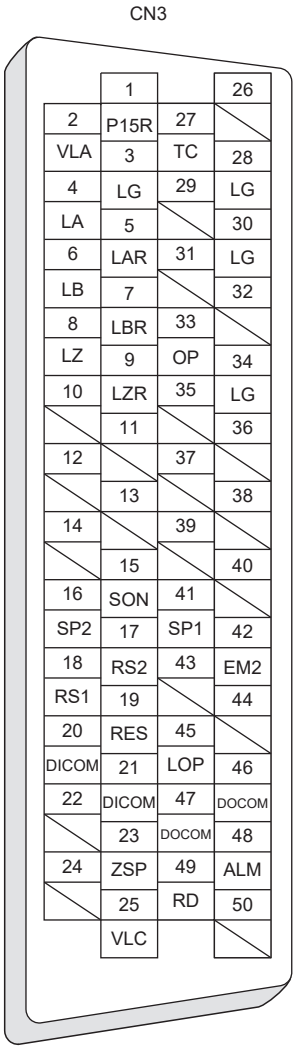
*1 When using RS-422/RS-485 communication in the MR-J5-_A_, use this pin for wiring.

■CN1 (Speed control mode)

MR-J4-_A_		Symbol	MR-J5-_A_	
Connector signal arrangement	Connector pin No.		Connector pin No.	Connector signal arrangement
	CN1-1	P15R	CN3-1	
	CN1-2	—	CN3-2	
	CN1-3	LG	CN3-3	
	CN1-4	LA	CN3-4	
	CN1-5	LAR	CN3-5	
	CN1-6	LB	CN3-6	
	CN1-7	LBR	CN3-7	
	CN1-8	LZ	CN3-8	
	CN1-9	LZR	CN3-9	
	CN1-10	—	CN3-10	
	CN1-11	—	CN3-11	
	CN1-12	—	CN3-12	
	CN1-13	—	CN3-13	
	CN1-14	—	CN3-14	
	CN1-15	SON	CN3-15	
	CN1-16	SP2	CN3-16	
	CN1-17	ST1	CN3-17	
	CN1-18	ST2	CN3-18	
	CN1-19	RES	CN3-19	
	CN1-20	DICOM	CN3-20	
	CN1-21	DICOM	CN3-21	
	CN1-22	SA	CN3-22	
	CN1-23	ZSP	CN3-23	
	CN1-24	SA	CN3-24	
	CN1-25	TLC	CN3-25	
	CN1-26	—	CN3-26	
	CN1-27	TLA	CN3-27	
	CN1-28	LG	CN3-28	
	CN1-29	— *1	CN3-29	
	CN1-30	LG	CN3-30	
	CN1-31	— *1	CN3-31	
	CN1-32	— *1	CN3-32	
	CN1-33	OP	CN3-33	
	CN1-34	LG	CN3-34	
	CN1-35	—	CN3-35	
	CN1-36	—	CN3-36	
	CN1-37	—	CN3-37	
	CN1-38	—	CN3-38	
	CN1-39	— *1	CN3-39	
	CN1-40	— *1	CN3-40	
	CN1-41	SP1	CN3-41	
	CN1-42	EM2	CN3-42	
	CN1-43	LSP	CN3-43	
	CN1-44	LSN	CN3-44	
	CN1-45	LOP	CN3-45	
	CN1-46	DOCOM	CN3-46	
	CN1-47	DOCOM	CN3-47	
	CN1-48	ALM	CN3-48	
	CN1-49	RD	CN3-49	
	CN1-50	—	CN3-50	

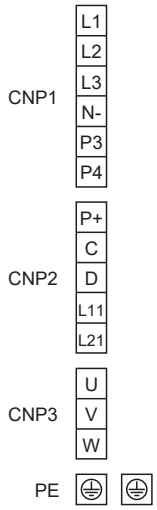
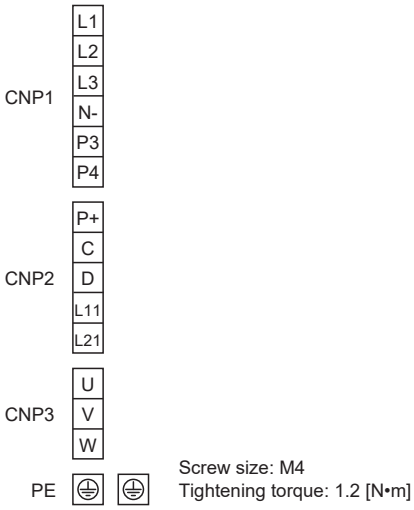
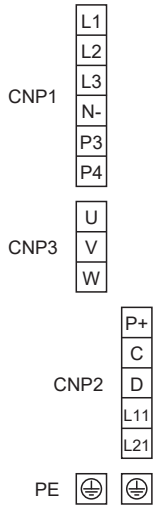
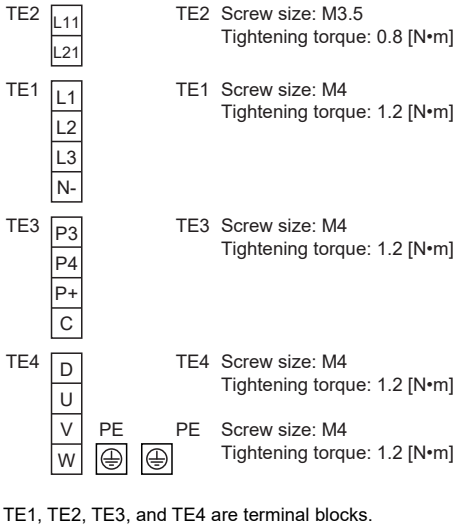
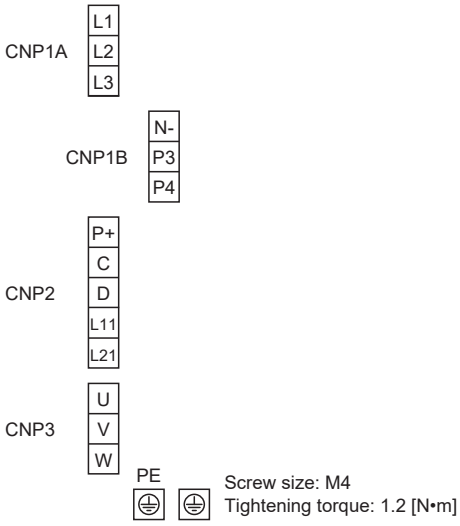
*1 When using RS-422/RS-485 communication in the MR-J5-_A_, use this pin for wiring.

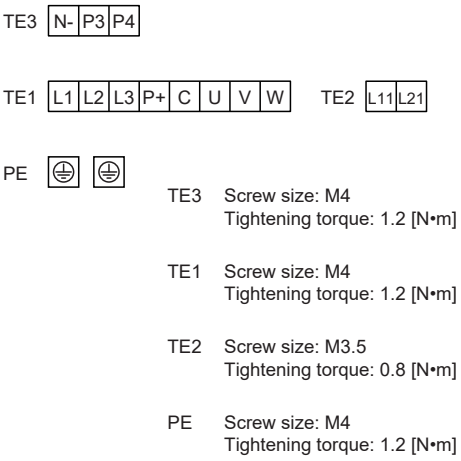
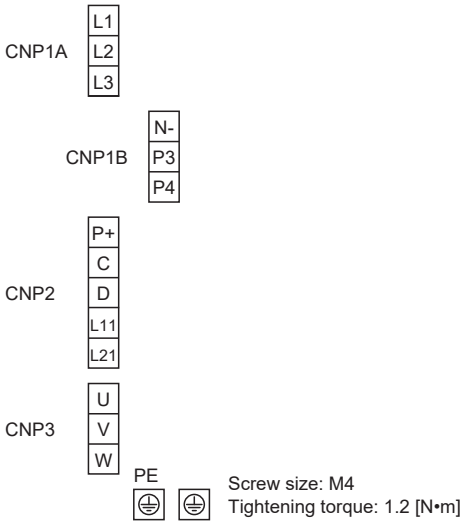
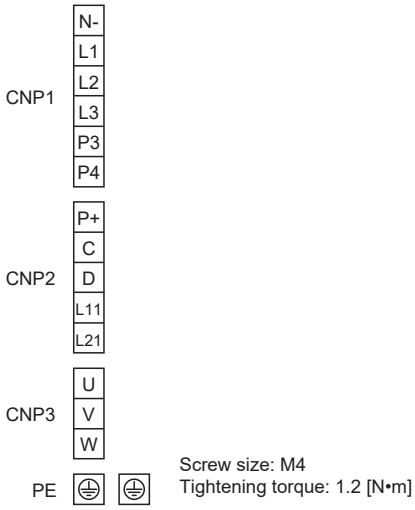
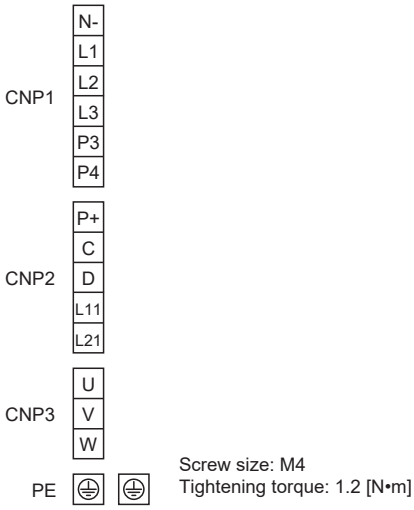
■CN1 (Torque control mode)

MR-J4-_A_		Symbol	MR-J5-_A_	
Connector signal arrangement	Connector pin No.		Connector pin No.	Connector signal arrangement
	CN1-1	P15R	CN3-1	
	CN1-2	VLA	CN3-2	
	CN1-3	LG	CN3-3	
	CN1-4	LA	CN3-4	
	CN1-5	LAR	CN3-5	
	CN1-6	LB	CN3-6	
	CN1-7	LBR	CN3-7	
	CN1-8	LZ	CN3-8	
	CN1-9	LZR	CN3-9	
	CN1-10	—	CN3-10	
	CN1-11	—	CN3-11	
	CN1-12	—	CN3-12	
	CN1-13	—	CN3-13	
	CN1-14	—	CN3-14	
	CN1-15	SON	CN3-15	
	CN1-16	SP2	CN3-16	
	CN1-17	RS2	CN3-17	
	CN1-18	RS1	CN3-18	
	CN1-19	RES	CN3-19	
	CN1-20	DICOM	CN3-20	
	CN1-21	DICOM	CN3-21	
	CN1-22	—	CN3-22	
	CN1-23	ZSP	CN3-23	
	CN1-24	—	CN3-24	
	CN1-25	VLC	CN3-25	
	CN1-26	—	CN3-26	
	CN1-27	TC	CN3-27	
	CN1-28	LG	CN3-28	
	CN1-29	— *1	CN3-29	
	CN1-30	LG	CN3-30	
	CN1-31	— *1	CN3-31	
	CN1-32	— *1	CN3-32	
	CN1-33	OP	CN3-33	
	CN1-34	LG	CN3-34	
	CN1-35	—	CN3-35	
	CN1-36	—	CN3-36	
	CN1-37	—	CN3-37	
	CN1-38	—	CN3-38	
	CN1-39	— *1	CN3-39	
	CN1-40	— *1	CN3-40	
	CN1-41	SP1	CN3-41	
	CN1-42	EM2	CN3-42	
	CN1-43	—	CN3-43	
	CN1-44	—	CN3-44	
	CN1-45	LOP	CN3-45	
	CN1-46	DOCOM	CN3-46	
	CN1-47	DOCOM	CN3-47	
	CN1-48	ALM	CN3-48	
	CN1-49	RD	CN3-49	
	CN1-50	—	CN3-50	

*1 When using RS-422/RS-485 communication in the MR-J5-_A_, use this pin for wiring.

Comparison of main circuit power supply system signals

MR-J4-_A_	Main circuit power supply system signal	MR-J5-_A_	Main circuit power supply system signal
MR-J4-10A(-RJ) to MR-J4-200A(-RJ)		MR-J5-10A(-RJ) to MR-J5-350A(-RJ)	
MR-J4-350A(-RJ)			
MR-J4-500A(-RJ)	 TE1, TE2, TE3, and TE4 are terminal blocks.	MR-J5-500A(-RJ)	 CNP1A, CNP1B, CNP2, and CNP3 are connectors.

MR-J4-_A_	Main circuit power supply system signal	MR-J5-_A_	Main circuit power supply system signal
MR-J4-700A(-RJ)	 TE1, TE2, and TE3 are terminal blocks.	MR-J5-700A(-RJ)	 CNP1A, CNP1B, CNP2, and CNP3 are connectors.
MR-J4-60A4(-RJ) to MR-J4-350A4(-RJ)		MR-J5-60A4(-RJ) to MR-J5-350A4(-RJ)	

MR-J4-_A_	Main circuit power supply system signal	MR-J5-_A_	Main circuit power supply system signal
MR-J4-500A4(-RJ)	TE2 L11 L21 TE3 N- P3 P4 TE1 L1 L2 L3 P+ C U V W PE TE2 Screw size: M3.5 Tightening torque: 0.8 [N•m] TE3 Screw size: M4 Tightening torque: 1.2 [N•m] TE1 Screw size: M4 Tightening torque: 1.2 [N•m] PE Screw size: M4 Tightening torque: 1.2 [N•m] TE1, TE2, and TE3 are terminal blocks.	MR-J5-500A4(-RJ) MR-J5-700A4(-RJ)	CNP2 (Front) N- P3 P4 PE (Front) Screw size: M4 Tightening torque: 1.2 [N•m] CNP3 (Bottom) U V W CNP1 (Bottom) L1 L2 L3 L11 L21 P+ D C CNP1, CNP2, and CNP3 are connectors.
MR-J4-700A4(-RJ)	TE3 N- P3 P4 TE1 L1 L2 L3 P+ C U V W TE2 L11 L21 PE TE3 Screw size: M4 Tightening torque: 1.2 [N•m] TE1 Screw size: M4 Tightening torque: 1.2 [N•m] TE2 Screw size: M3.5 Tightening torque: 0.8 [N•m] PE Screw size: M4 Tightening torque: 1.2 [N•m] TE1, TE2, and TE3 are terminal blocks.		

15.4 Comparison of Servo Amplifier Dimensions and Mounting Dimensions

Point

Changed descriptions are shown with "■".

1-axis servo amplifier 200 V class (7 kW or less)

Comparison of dimensions

The following table shows comparison of the MR-J4-_A_ and MR-J5-_A_.

For 1 kW or less, there is no difference in the dimensions of the cabinet mounting surface.

For 2 kW/3.5 kW, the position of the mounting hole was changed from the top center to the top left.

For 5 kW/7 kW, wiring specifications of the power supply were changed from the terminal block to connector connection, and the wiring method is different.

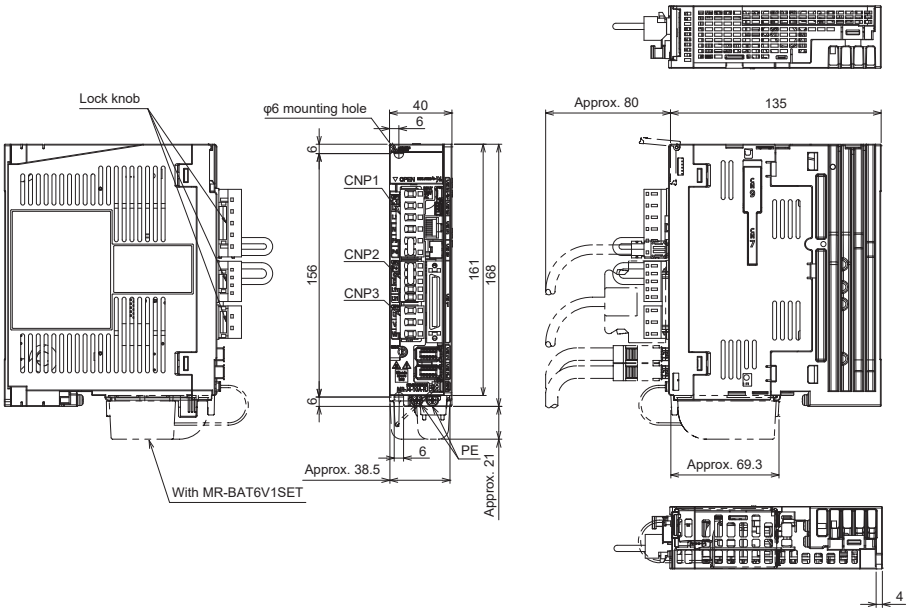
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4-_B_	Model MR-J5-_A_	Height		Width		Depth		Mounting screw pitch	
		J4A	J5A	J4A	J5A	J4A	J5A	J4A	J5A
MR-J4-10A(-RJ)	MR-J5-10A(-RJ)	168	■172	40	40	135	135	156 (Vertical) (2 screws)	156 (Vertical) (2 screws)
MR-J4-20A(-RJ)	MR-J5-20A(-RJ)								
MR-J4-40A(-RJ)	MR-J5-40A(-RJ)					170	■135		
MR-J4-60A(-RJ)	MR-J5-60A(-RJ)						170		
MR-J4-70A(-RJ)	MR-J5-70A(-RJ)			60	60	185	185	156 (Vertical)/42 (Horizontal) (3 screws)	156 (Vertical)/42 (Horizontal) (3 screws)
MR-J4-100A(-RJ)	MR-J5-100A(-RJ)								
MR-J4-200A(-RJ)	MR-J5-200A(-RJ)			90	90	195	195	156 (Vertical)/78 (Horizontal) (3 screws)	156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-350A(-RJ)	MR-J5-350A(-RJ)								
MR-J4-500A(-RJ)	MR-J5-500A(-RJ)	250	250	105	105	200	200	235 (Vertical)/93 (Horizontal) (4 screws)	235 (Vertical)/93 (Horizontal) (4 screws)
MR-J4-700A(-RJ)	MR-J5-700A(-RJ)	300	300	172	■170			285 (Vertical)/160 (Horizontal) (4 screws)	285 (Vertical)/160 (Horizontal) (4 screws)

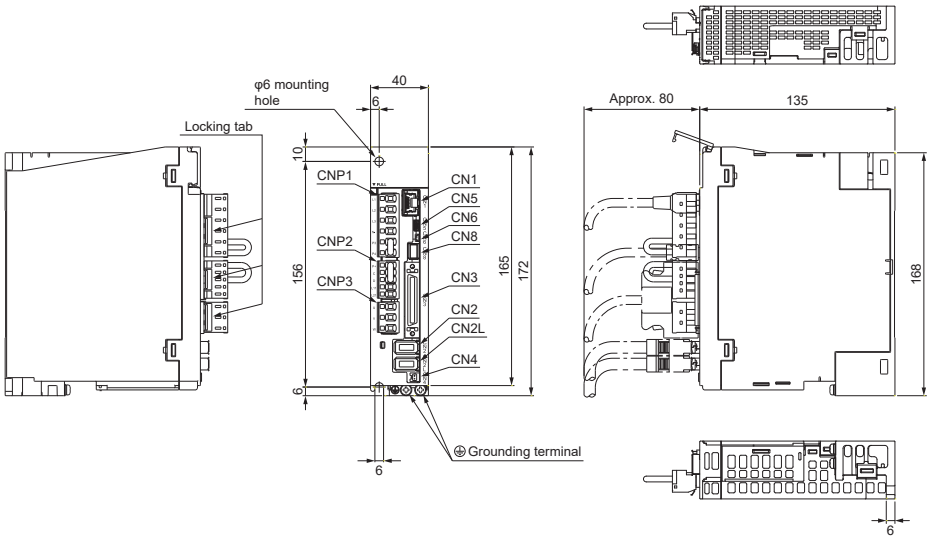
Comparison of dimensions

■Comparison of MR-J4-10A(-RJ)/MR-J4-20A(-RJ) and MR-J5-10A(-RJ)/MR-J5-20A(-RJ)/MR-J5-40A(-RJ)

MR-J4-10A(-RJ)/MR-J4-20A(-RJ)

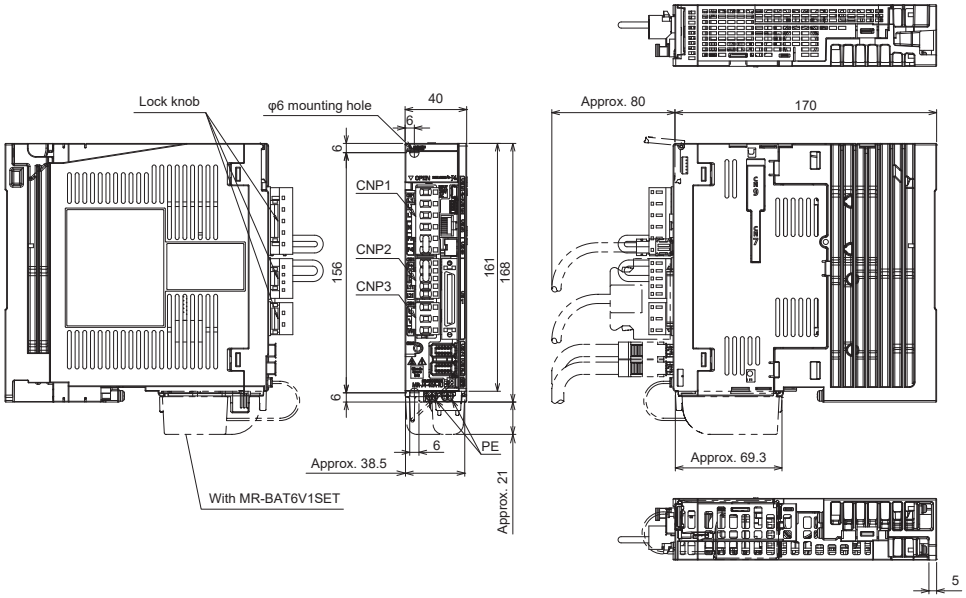


MR-J5-10A(-RJ)/MR-J5-20A(-RJ)/MR-J5-40A(-RJ)

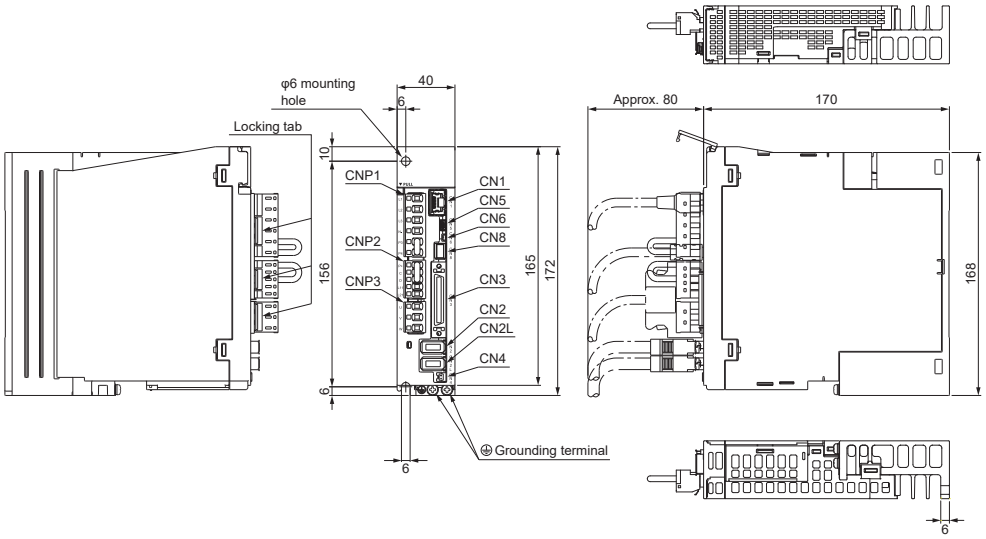


■Comparison of MR-J4-40A(-RJ)/MR-J4-60A(-RJ) and MR-J5-60A(-RJ)

MR-J4-40A(-RJ)/MR-J4-60A(-RJ)



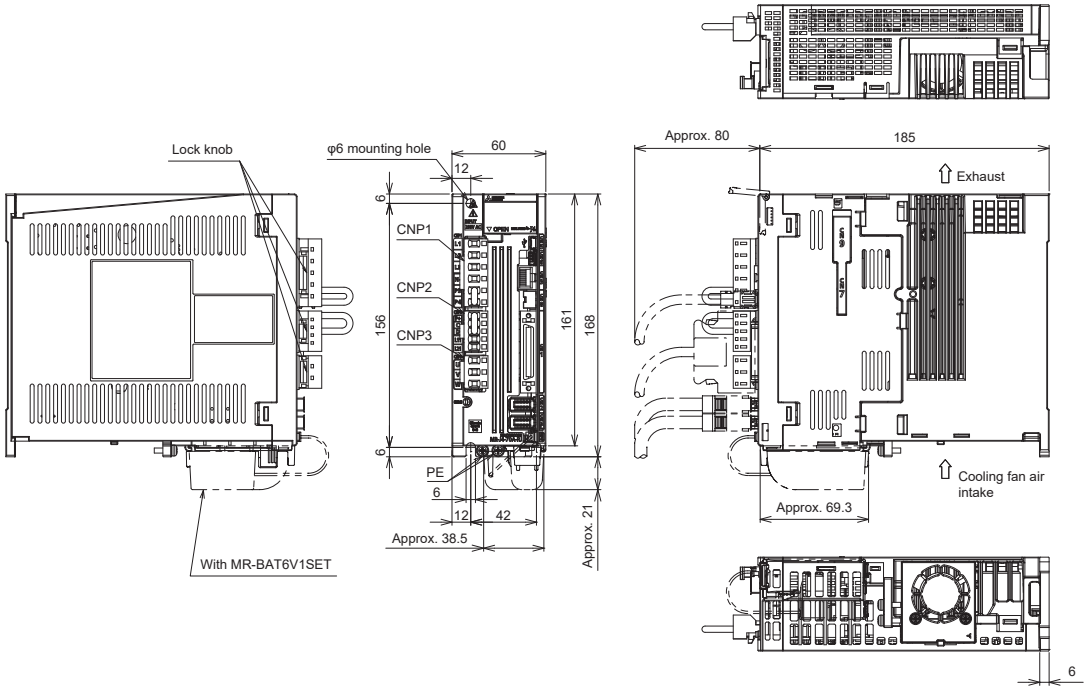
MR-J5-60A(-RJ)



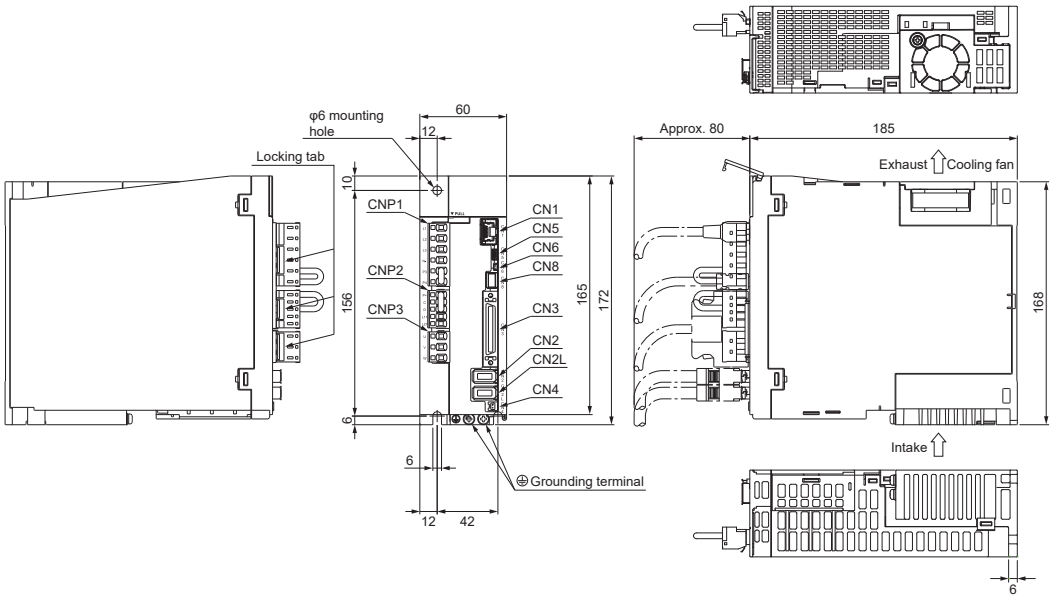
15

■Comparison of MR-J4-70A(-RJ)/MR-J4-100A(-RJ) and MR-J5-70A(-RJ)/MR-J5-100A(-RJ)

MR-J4-70A(-RJ)/MR-J4-100A(-RJ)

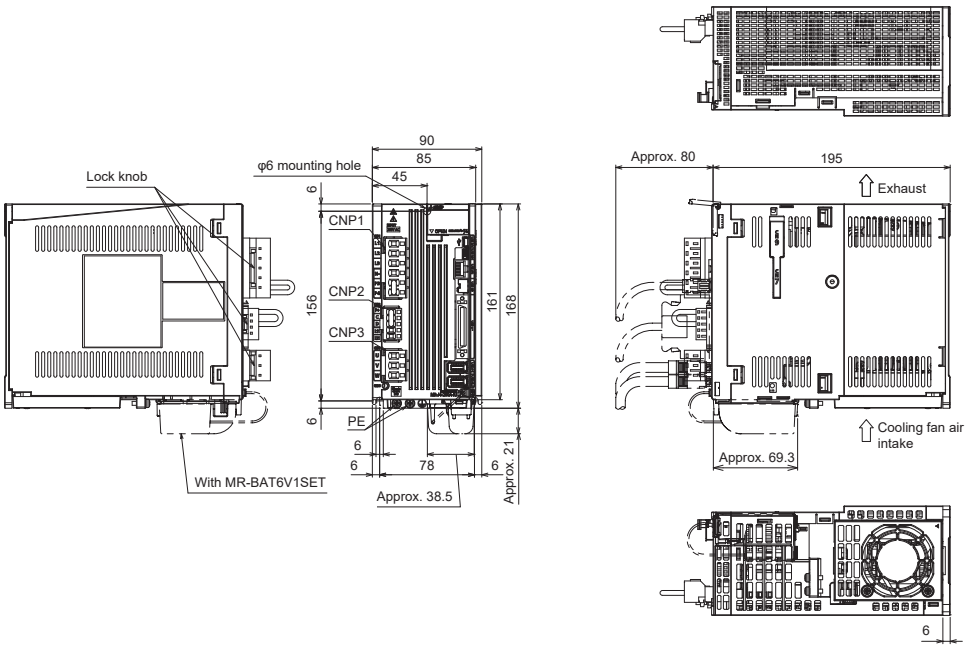


MR-J5-70A(-RJ)/MR-J5-100A(-RJ)

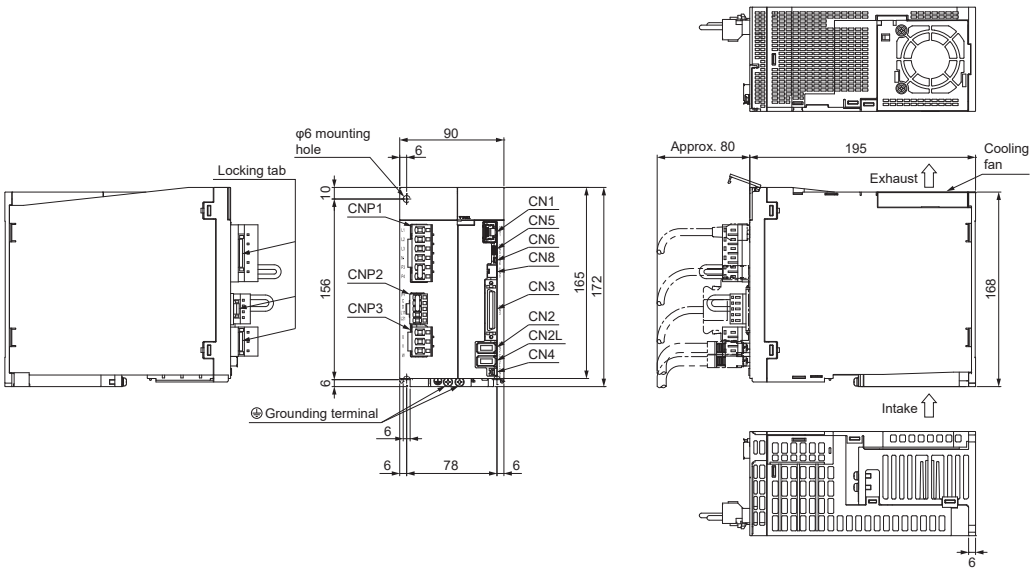


■Comparison of MR-J4-200A(-RJ) and MR-J5-200A(-RJ)/MR-J5-350A(-RJ)

MR-J4-200A(-RJ)



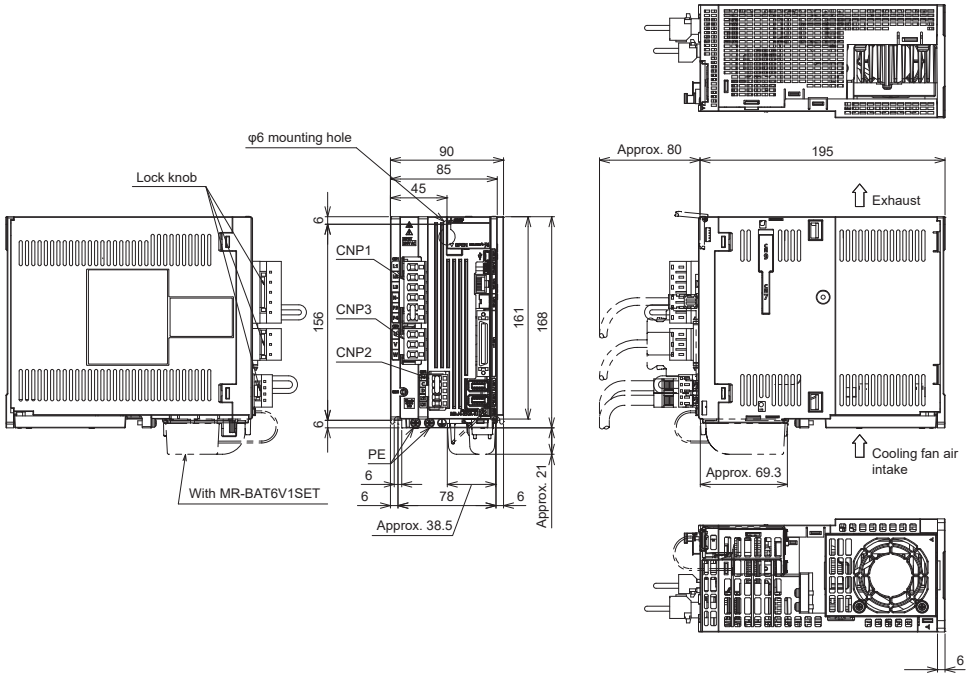
MR-J5-200A(-RJ)/MR-J5-350A(-RJ)



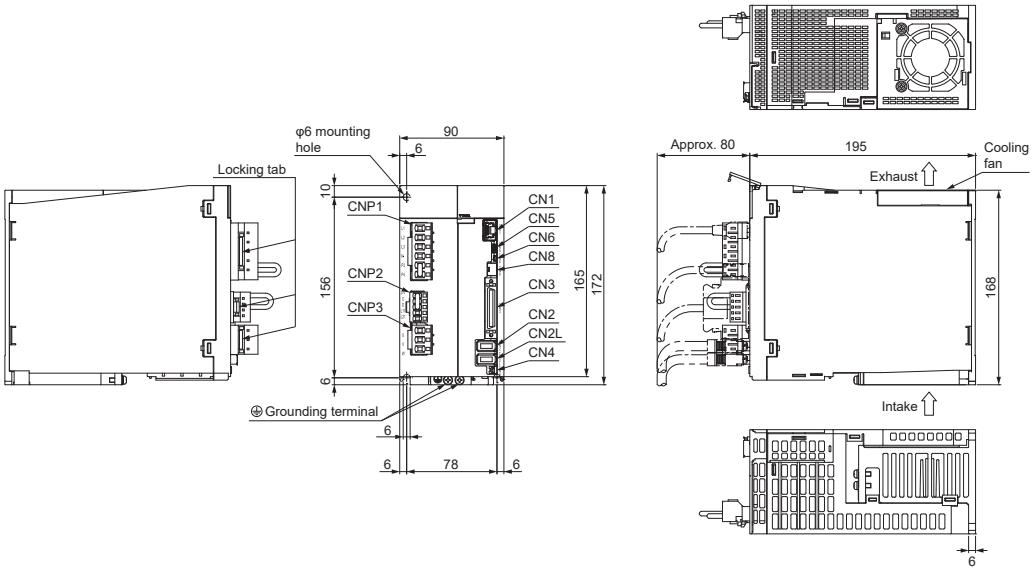
15

■Comparison of MR-J4-350A(-RJ) and MR-J5-200A(-RJ)/MR-J5-350A(-RJ)

MR-J4-350A(-RJ)

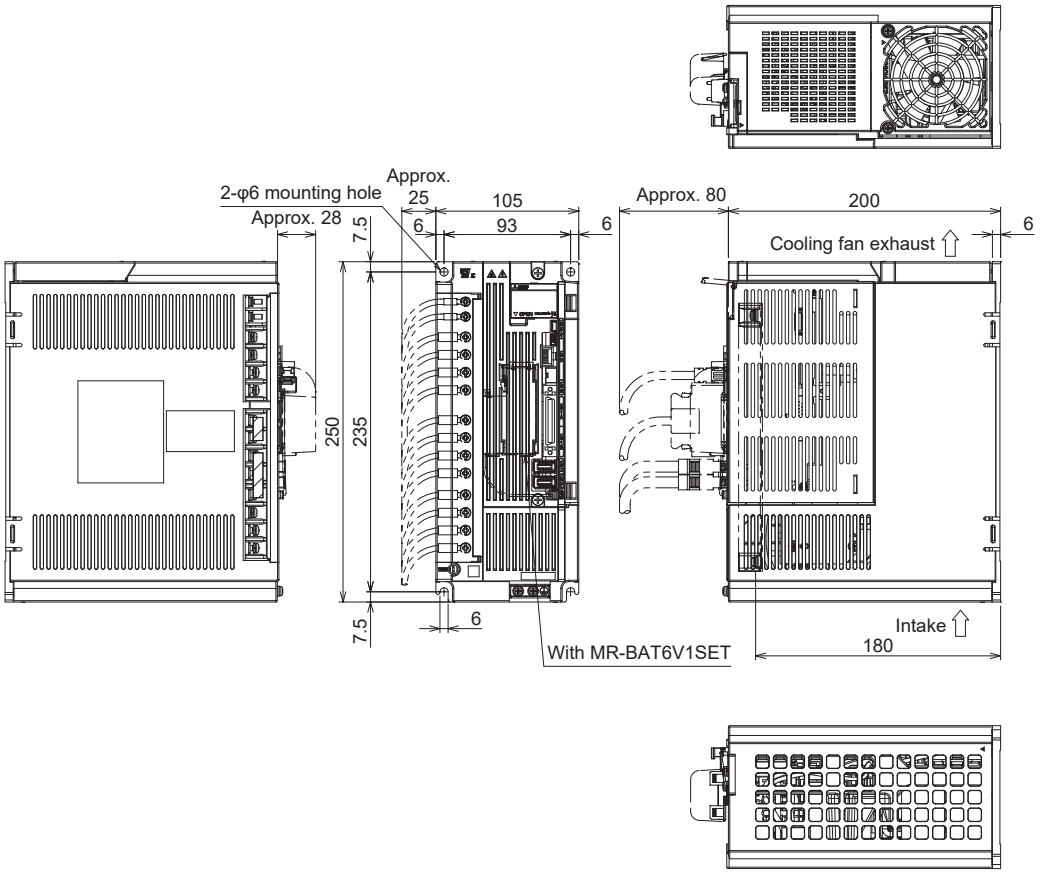


MR-J5-200A(-RJ)/MR-J5-350A(-RJ)

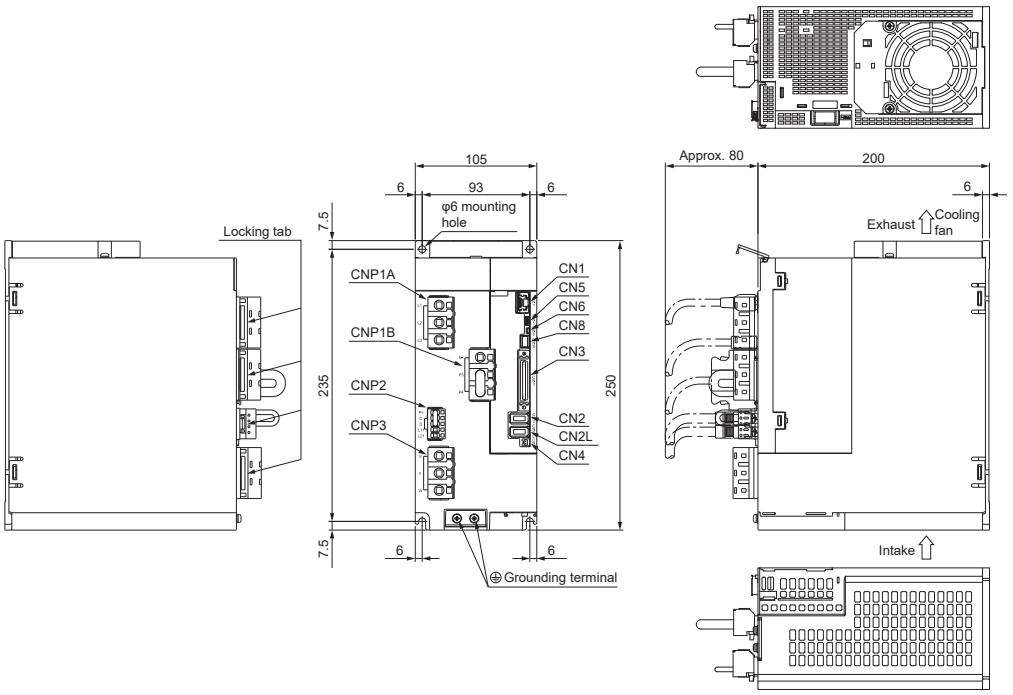


■Comparison of MR-J4-500A(-RJ) and MR-J5-500A(-RJ)

MR-J4-500A(-RJ)



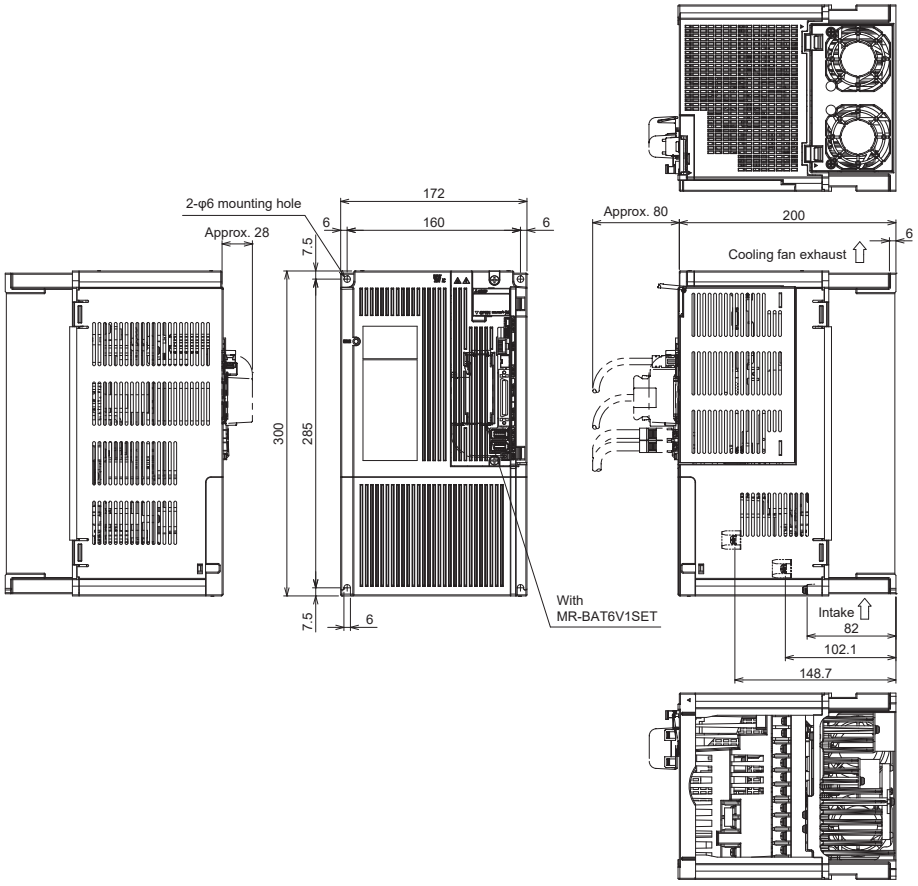
MR-J5-500A(-RJ)



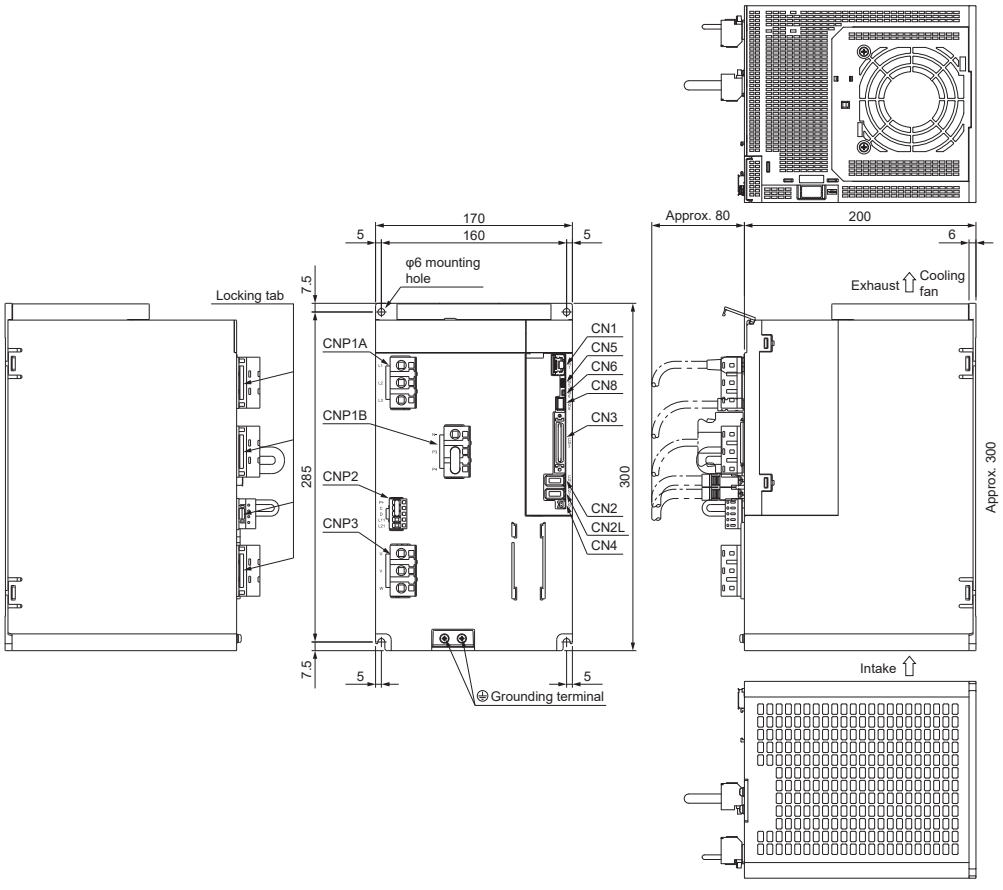
15

■Comparison of MR-J4-700A(-RJ) and MR-J5-700A(-RJ)

MR-J4-700A(-RJ)



MR-J5-700A(-RJ)



1-axis servo amplifier 400 V class (7 kW or less)

Comparison of dimensions

The following shows comparison of the MR-J4-_A_ and MR-J5-_A_ dimensions.

For 1 kW or less, there is no difference in the dimensions of the cabinet mounting surface.

For 2 kW, the position of the mounting hole was changed from the top center to the top left.

For 3.5 kW, the mounting is not compatible.

For 5 kW, there is no difference in the dimensions of the cabinet mounting surface, but the power supply system wiring is different.

Refer to the following for details on compatibility.

☞ Page 471 Compatibility of installation clearances (only from MR-J4-500A4(-RJ) to MR-J5-500A4(-RJ))

For 7 kW, the mounting is not compatible.

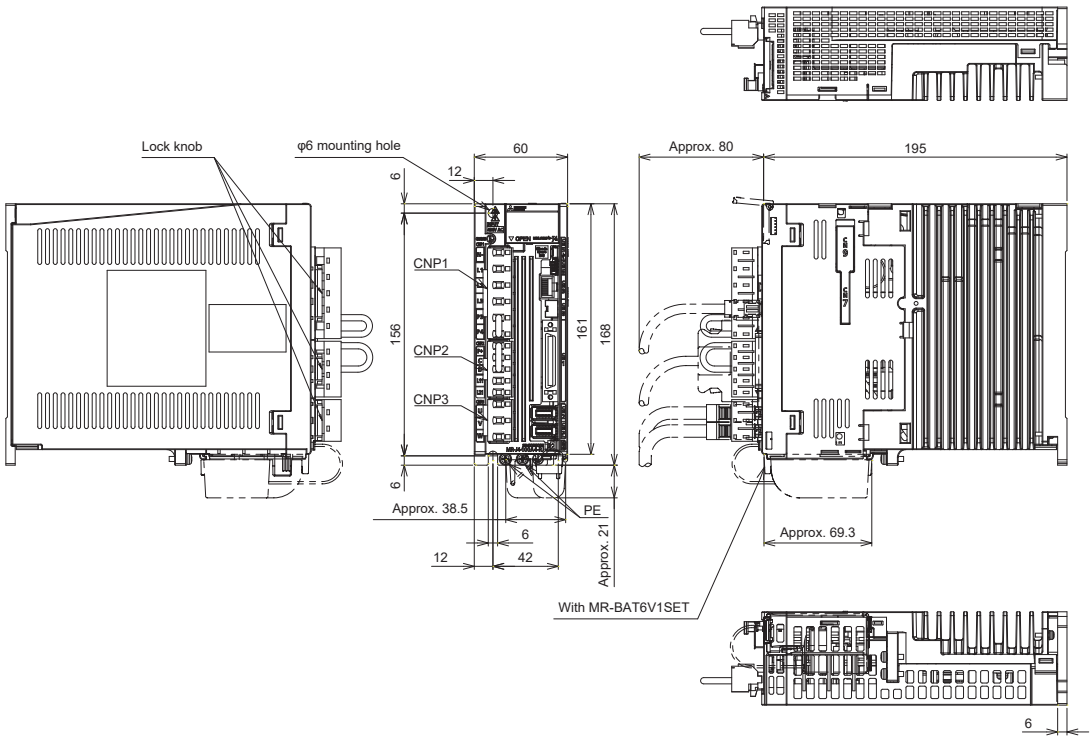
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

Model MR-J4-_A_	Model MR-J5-_A_	Height		Width		Depth		Mounting screw pitch	
		J4A	J5A	J4A	J5A	J4A	J5A	J4A	J5A
MR-J4-60A4(-RJ)	MR-J5-60A4(-RJ)	168	■172	60	60	195	195	156 (Vertical)/42 (Horizontal) (3 screws)	156 (Vertical)/42 (Horizontal) (3 screws)
MR-J4-100A4(-RJ)	MR-J5-100A4(-RJ)								
MR-J4-200A4(-RJ)	MR-J5-200A4(-RJ)			90	90			156 (Vertical)/78 (Horizontal) (3 screws)	156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-350A4(-RJ)	MR-J5-350A4(-RJ)	250		105	■90	200	■195	235 (Vertical)/93 (Horizontal) (4 screws)	■156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-500A4(-RJ)	MR-J5-500A4(-RJ)	250	250	130	130	200	200	235 (Vertical)/118 (Horizontal) (4 screws)	235 (Vertical)/118 (Horizontal) (4 screws)
MR-J4-700A4(-RJ)	MR-J5-700A4(-RJ)	300	■250	172	■130			■285 (Vertical)/160 (Horizontal) (4 screws)	■235 (Vertical)/118 (Horizontal) (4 screws)

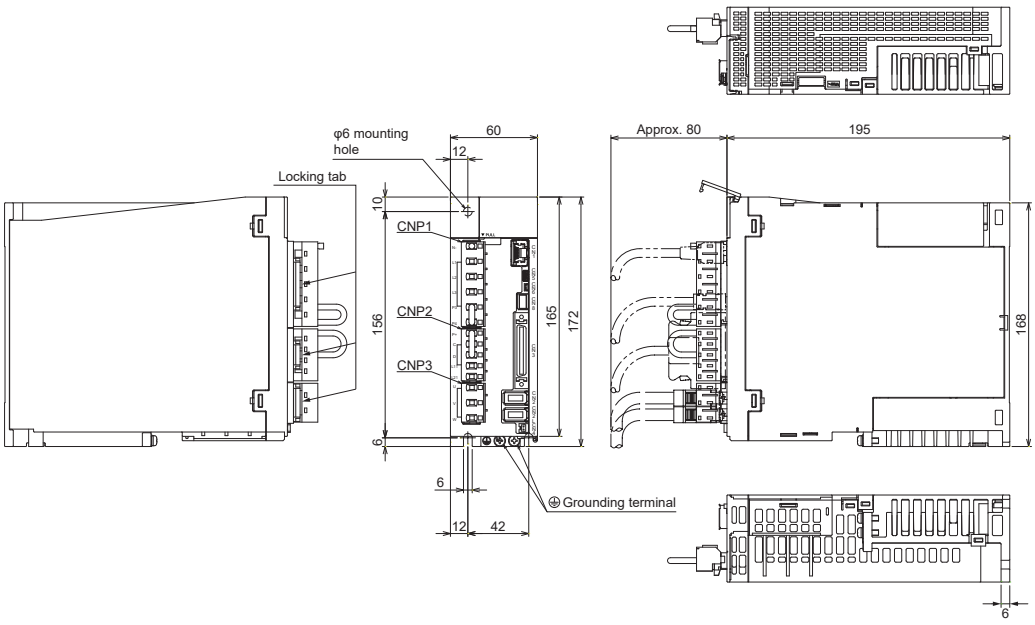
Comparison of dimensions

■Comparison of MR-J4-60A4(-RJ)/MR-J4-100A4(-RJ) and MR-J5-60A4(-RJ)/MR-J5-100A4(-RJ)

MR-J4-60A4(-RJ)/MR-J4-100A4(-RJ)

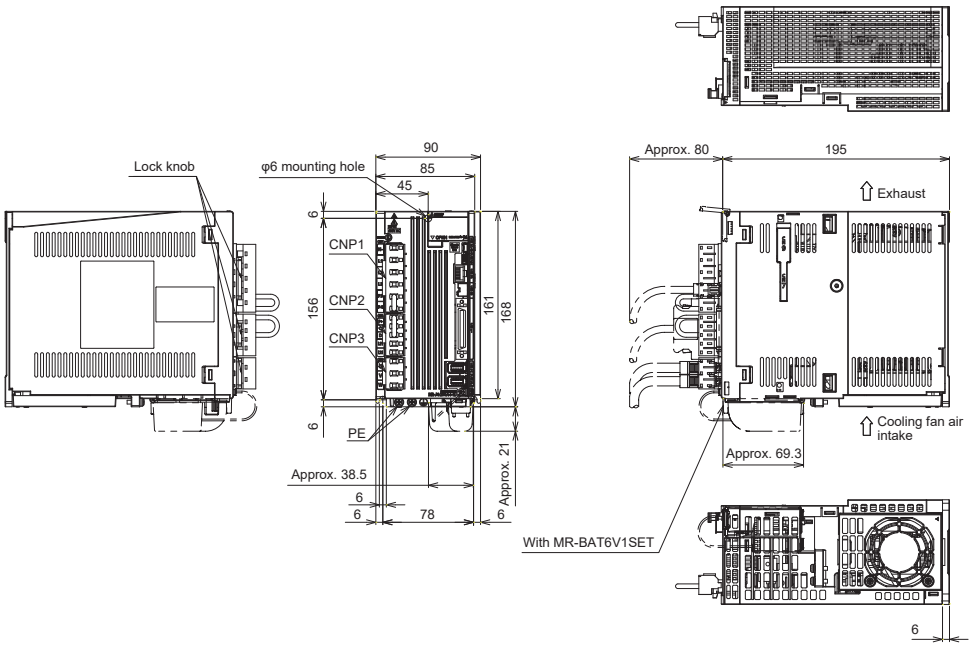


MR-J5-60A4(-RJ)/MR-J5-100A4(-RJ)

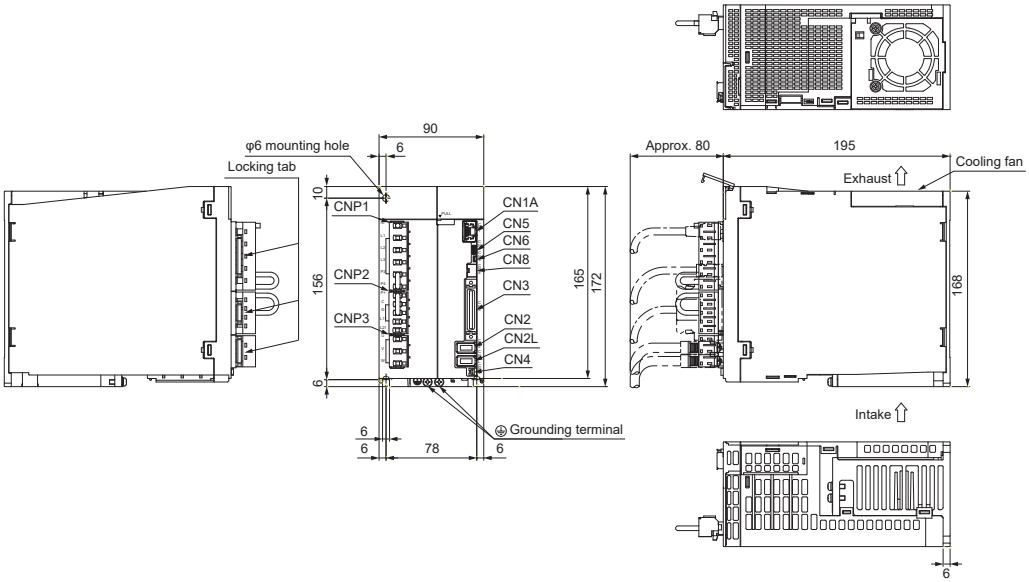


■Comparison of MR-J4-200A4(-RJ) and MR-J5-200A4(-RJ)/MR-J5-350A4(-RJ)

MR-J4-200A4(-RJ)



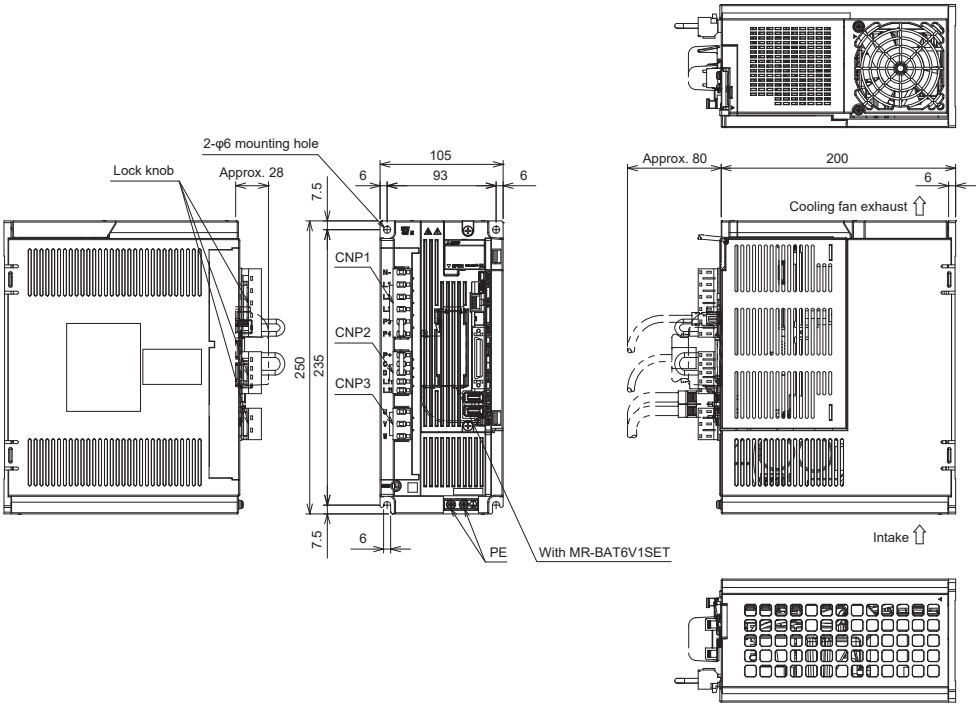
MR-J5-200A4(-RJ)/MR-J5-350A4(-RJ)



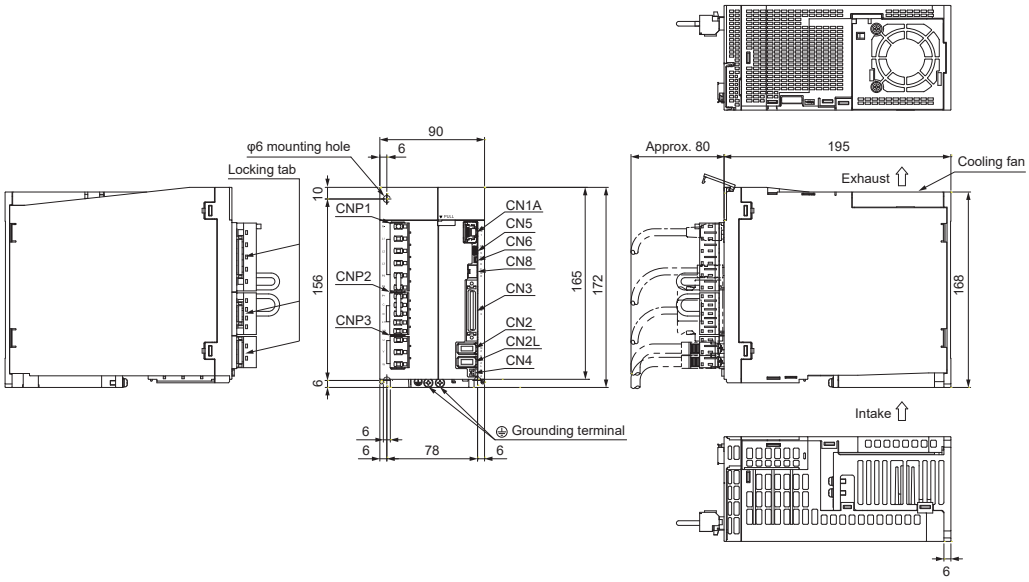
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■Comparison of MR-J4-350A4(-RJ) and MR-J5-200A4(-RJ)/MR-J5-350A4(-RJ)

MR-J4-350A4(-RJ)

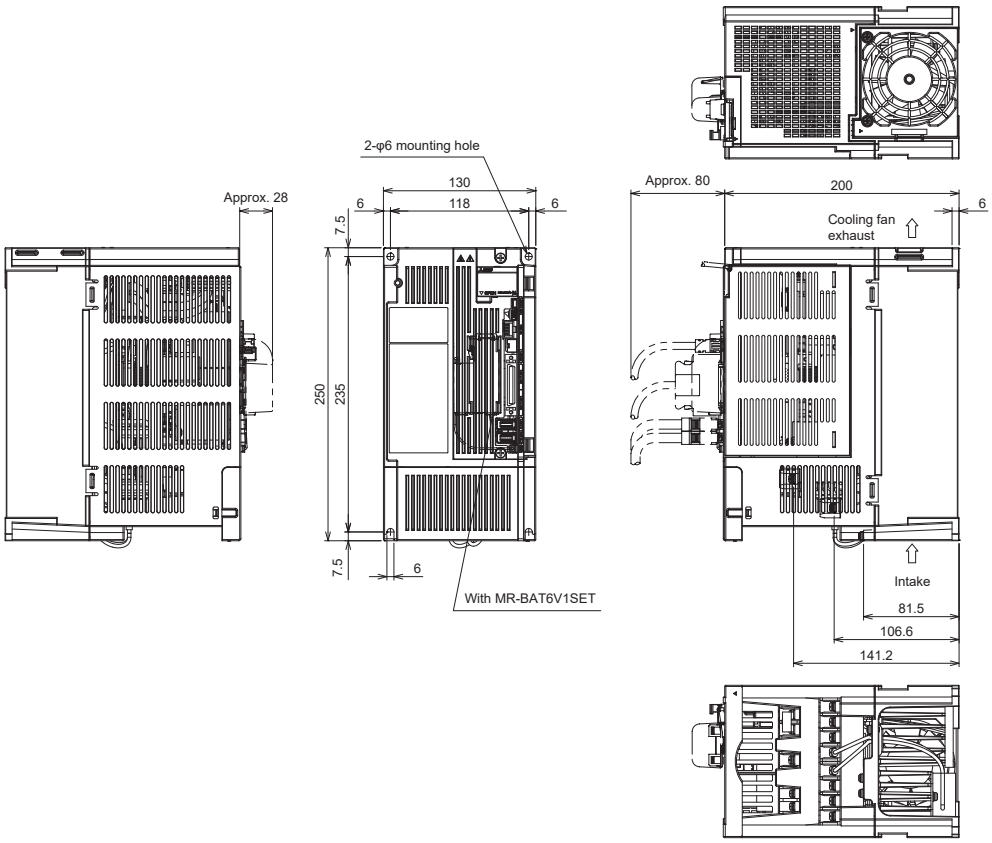


MR-J5-200A4(-RJ)/MR-J5-350A4(-RJ)

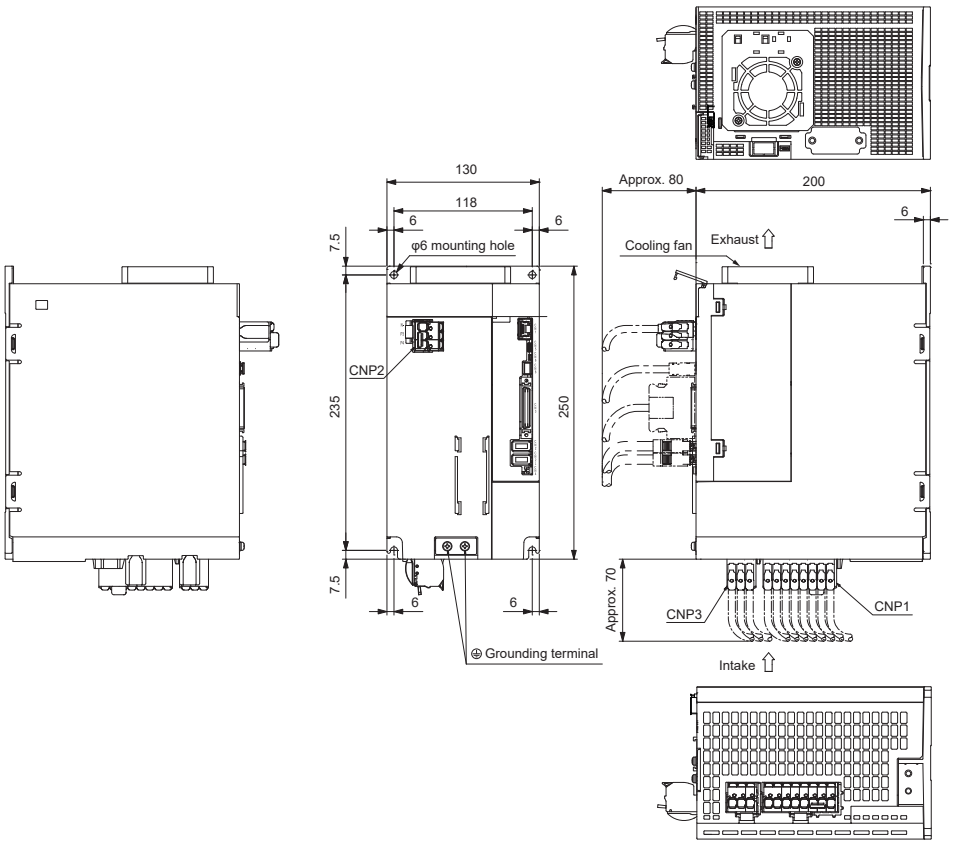


■Comparison of MR-J4-500A4(-RJ) and MR-J5-500A4(-RJ)/MR-J5-700A4(-RJ)

MR-J4-500A4(-RJ)



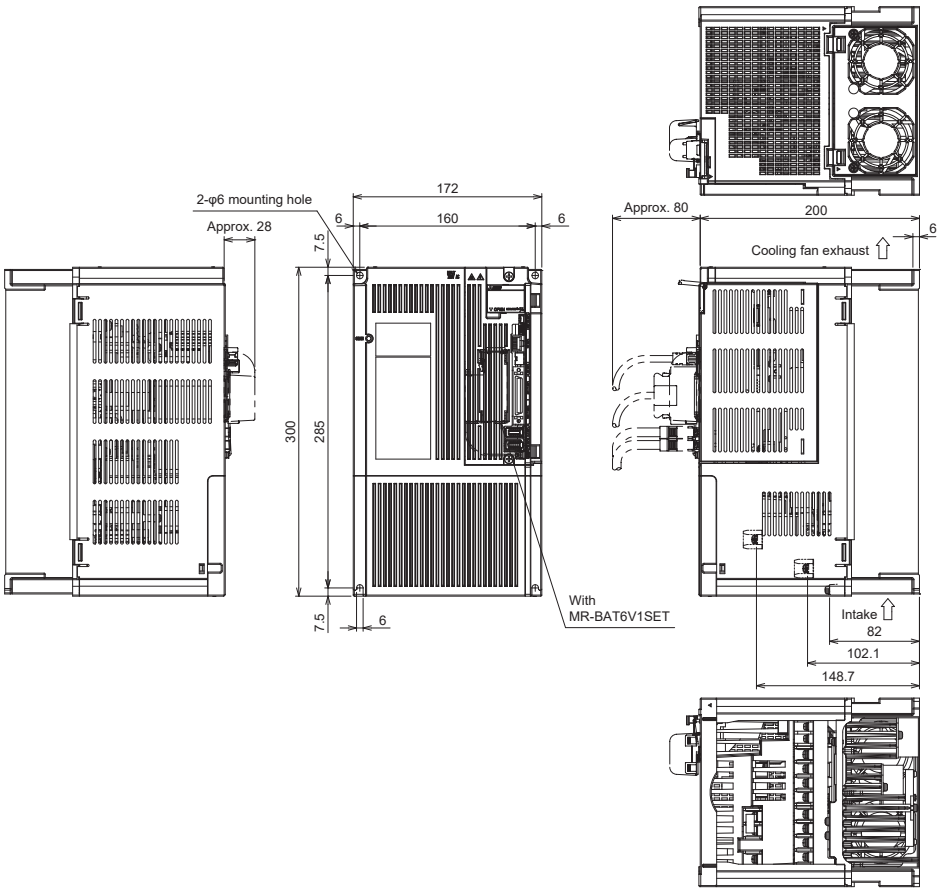
MR-J5-500A4(-RJ)/MR-J5-700A4(-RJ)



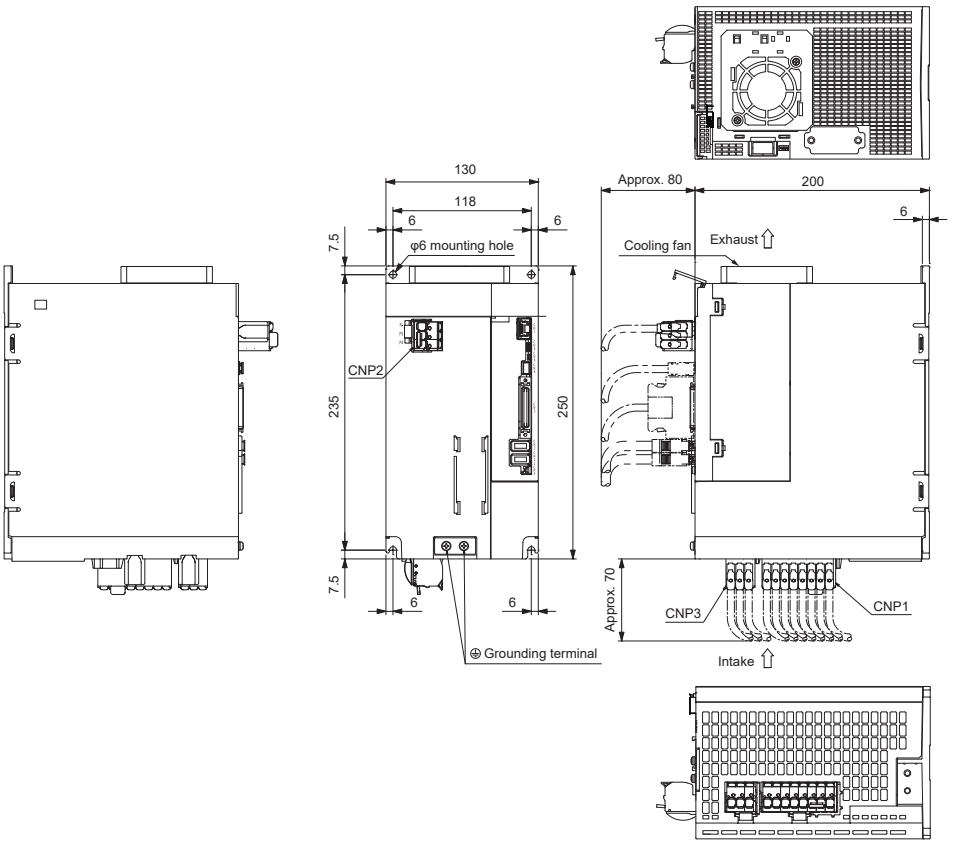
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■Comparison of MR-J4-700A4(-RJ) and MR-J5-500A4(-RJ)/MR-J5-700A4(-RJ)

MR-J4-700A4(-RJ)



MR-J5-500A4(-RJ)/MR-J5-700A4(-RJ)



Compatibility of installation clearances (only from MR-J4-500A4(-RJ) to MR-J5-500A4(-RJ))

Because MR-J4-500A4(-RJ) and MR-J5-500A4(-RJ) have different power wiring connections, the clearances between the bottom of the servo amplifier and the inside of the cabinet or other devices are different. When connecting or removing the bottom connectors (CNP1 and CNP3), ensure that the installation clearance is 70 mm or more.

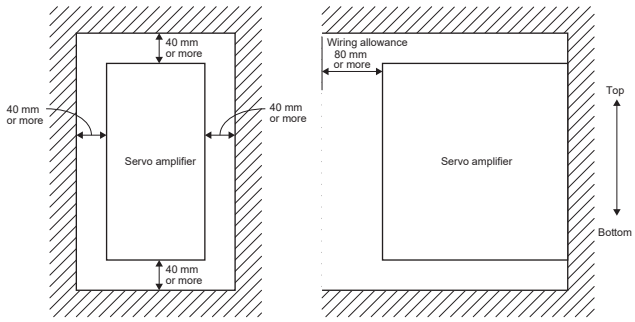
By using cables from Proterial, Ltd., the installation clearances become compatible. However, when connecting or removing the bottom connectors in the cabinet using cables, ensure that the installation clearance is 70 mm or more. To install the inverter with a narrow clearance such as 40 mm, connect the bottom connectors and then install the servo amplifier with the connectors inserted. Use the cable after removing the sheath from the cable bend.

■Comparison of installation clearances for the servo amplifier

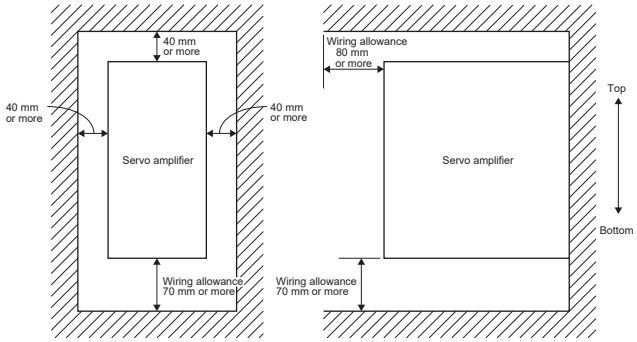
• Installation of one servo amplifier (comparison between the same capacity types)

Direction	MR-J4-500A4	MR-J5-500A4
Front	80 mm or longer	80 mm or longer
Left/right	10 mm or longer	10 mm or longer
Top	40 mm or longer	40 mm or longer
Bottom	40 mm or longer	70 mm or longer When using cables from Proterial, Ltd.: 40 mm or more

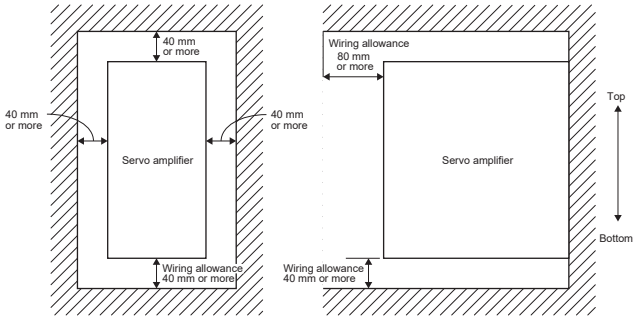
MR-J4-500A4(-RJ)



MR-J5-500A4(-RJ)



When using cables from Proterial, Ltd. for MR-J5-500A4(-RJ)

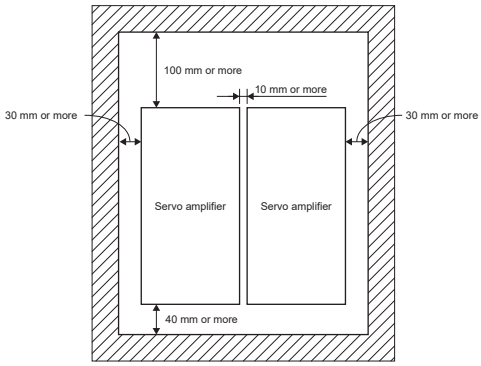


• Installation of two or more servo amplifiers (comparison between the same capacity types)

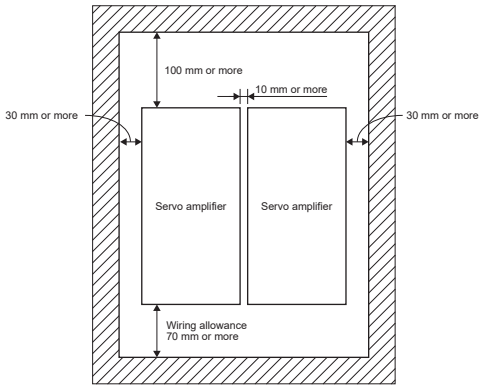
The 400 V class servo amplifiers cannot be closely mounted.

Direction	MR-J4-500A4	MR-J5-500A4
Front	80 mm or longer	80 mm or longer
Left/right	Between the servo amplifier and the inside of the cabinet or other devices: 30 mm or more Between the servo amplifiers: 10 mm or more	Between the servo amplifier and the inside of the cabinet or other devices: 30 mm or more Between the servo amplifiers: 10 mm or more
Top	40 mm or longer	40 mm or longer
Bottom	40 mm or longer	70 mm or longer When using cables from Proterial, Ltd.: 40 mm or more

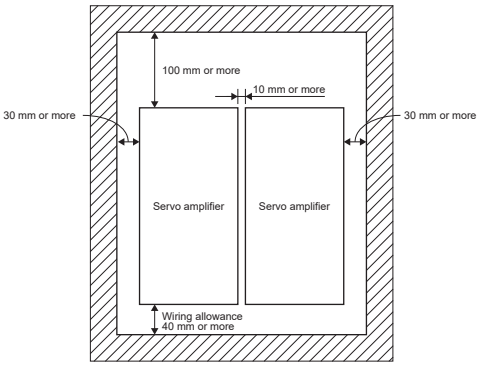
MR-J4-500A4(-RJ)



MR-J5-500A4(-RJ)



When using cables from Proterial, Ltd. for MR-J5-500A4(-RJ)



■ Cables from Proterial, Ltd. (recommended)

For information on purchasing cables, contact Proterial, Ltd. from their website.

https://www.proterial.com/e

When contacting Proterial, Ltd., please provide them with the following product name abbreviation and specification No.

Product name abbreviation	Specification No.	Size	Number of cores	Shield	Connection destination
UL2570 2X14AWG (41/0.26) LF	SP23-60528	AWG 14	2	Not available	L11, L21, P+, C
UL2570-SB 2X14AWG (41/0.26) LF				Available	
UL2570 3X12AWG (65/0.26) LF		AWG 12	3	Not available	L1, L2, L3, U, V, W, PE
UL2570-SB 3X12AWG (65/0.26) LF				Available	
UL2570 4X12AWG (65/0.26) LF			4	Not available	
UL2570-SB 4X12AWG (65/0.26) LF				Available	

15.5 Servo Amplifier Initializing Time

This section shows the initializing time of the servo amplifier (time from when the power is turned on until the servo-on command is received). As the initializing time is different between the MR-J4 series and MR-J5 series, be careful with the difference in the initializing time.

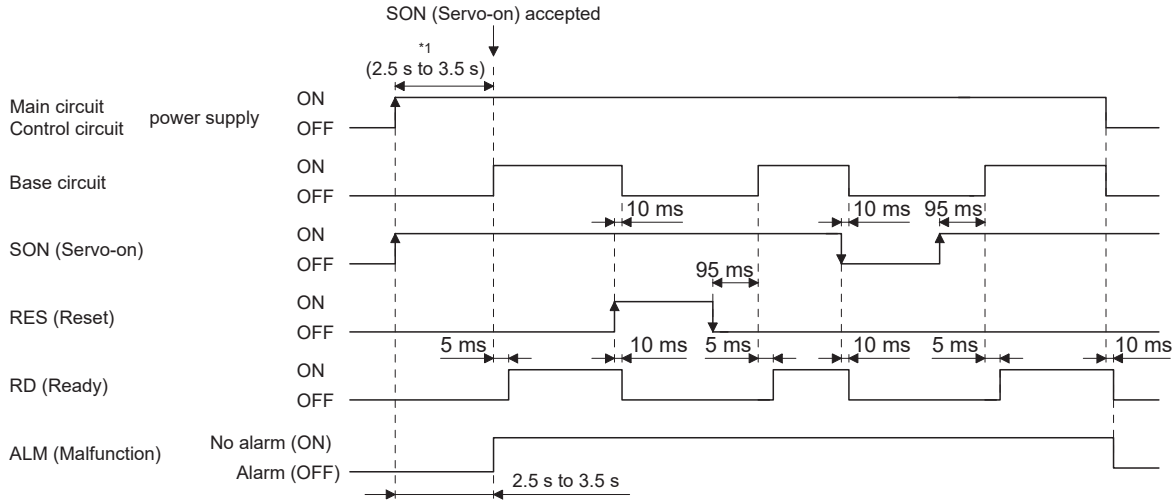
Precautions

- When using the electromagnetic brake to prevent a drop in a vertical lift application or the like with an external timer to adjust the brake release time, the lift may drop due to a longer servo-lock time. Adjust the brake release time as necessary or use MBR (electromagnetic brake interlock signal).
- A longer servo-on time at power-on may cause a delay in the servo motor starting time after power-up.

1-axis servo amplifier

MR-J4-_A_

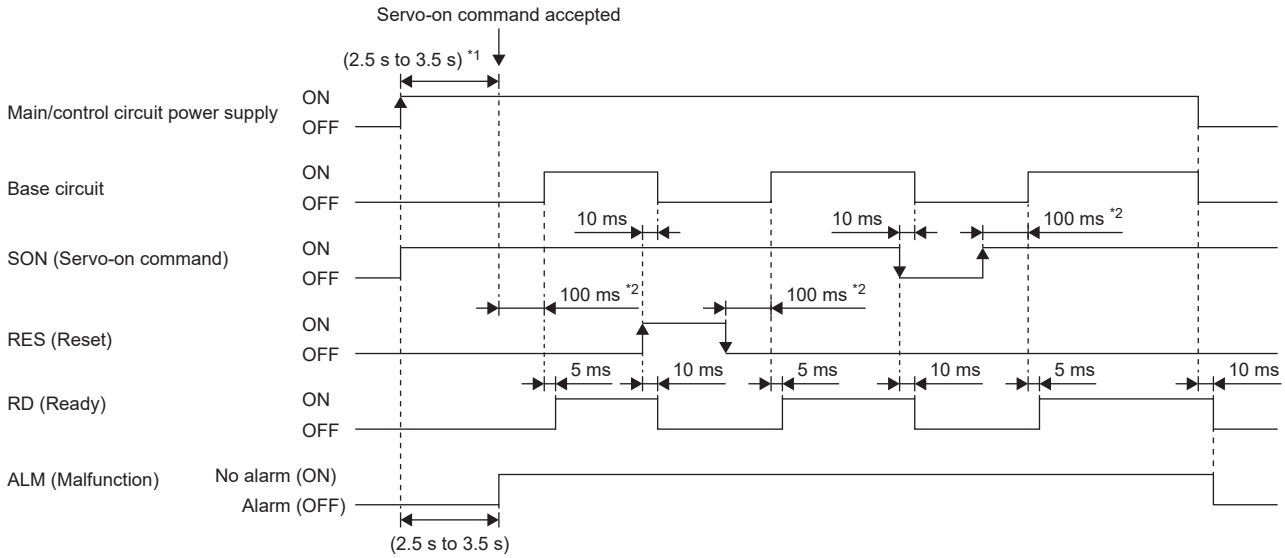
The initializing time is 2.5 to 3.5 s.



*1 The time will be longer during the magnetic pole detection of a linear servo motor and direct drive motor.

MR-J5-_A_

The initializing time is 2.5 to 3.5 s.



*1 For a linear servo system and a fully closed loop system, this time is "4.5 s to 5.5 s".

*2 The time will be longer during the magnetic pole detection of a linear servo motor and direct drive motor.

15.6 Peripheral Equipment Compatibility Comparison

Refer to the following for details.

☞ Review on Replacement of Optional Peripheral Equipment

16 SERVO PARAMETERS

This manual is not applicable to the following parameters.

Servo parameter	Remarks
Option setting parameter ([Pr. Po_ _])	The extension I/O module (MR-D01) cannot be used in the MR-J5-_A_.
[Pr. PF34 RS-422 communication function selection 3]	The parameter unit (MR-PRU03) cannot be used in the MR-J5-_A_.
Positioning control parameter ([Pr. PT_ _])	The positioning built-in function is not supported in the MR-J5-_A_.
[Pr. PC70 Modbus-RTU communication station number setting] [Pr. PC71 Function selection C-F] [Pr. PC72 Function selection C-G] [Pr. PF45 Function selection F-12] [Pr. PF46 Modbus-RTU communication Communication timeout time] [Pr. PT45 Home position return type 2]	The Modbus-RTU communication is not supported in the MR-J5-_A_.

Precautions

Never make a drastic adjustment or change to the servo parameter values as doing so will make the operation unstable.
Do not change the servo parameter settings as described below. Doing so may cause an unexpected condition, such as failing to start up the servo amplifier.

- Changing the values of the servo parameters for manufacturer setting
- Setting a value outside the range
- Changing the fixed value in each servo parameter

Some servo parameters are adjusted automatically. For example, auto tuning automatically adjusts gain servo parameters.

Point

For the MR-J4-_A_ and MR-J5-_A_, the servo parameter sizes are as follows.

- MR-J4-_A_: 16 bits
- MR-J5-_A_: 32 bits

The servo parameters in which the symbols are preceded by * are enabled by the following conditions.
* or **: After setting, cycle the power or reset the software.
For how to interpret the servo parameter numbers of the MR-J5-_A_, refer to the following manual.
MR-J5-A User's Manual (Introduction)
For replacement, always refer to the following manual for details on the servo parameter settings, and configure appropriate settings.
MR-J5-A User's Manual (Parameters)
Settable servo parameters and values depend on the MR-J5-_A_ servo amplifier firmware version (MR-J4-_A_ servo amplifier software version) and MR Configurator2 software version. For details, refer to the following manual.
MR-J5-A User's Manual (Parameters)
Refer to the Mitsubishi Electric FA site for the latest software version of MR Configurator2.
http://www.mitsubishielectric.com/fa/
In addition, the firmware version of the MR-J5-_A_ servo amplifier (software version of the MR-J4-_A_ servo amplifier) can be checked with MR Configurator2 or by other means.

16.1 Servo Parameters Required to be Set When Replacing

The servo parameters shown here are the servo parameters that need to be set at the minimum when replacing servo amplifiers all at once. Note that it may be necessary to set servo parameters other than the ones shown here depending on the settings of the servo amplifier before replacement.

Servo parameters related to encoder resolution

The servo parameters shown in this section are influenced by the difference in the resolution when an HG series servo motor is changed to an HK series servo motor.

MR-J5-_A_ servo parameter	Name	Precautions
PA06	Electronic gear numerator	There are cases where the settings need to be changed according to the resolution setting for the controller and the servo motor to be connected. When the electronic gear numerator and denominator are changed, review the setting value for the following servo parameters. • [Pr. PA10 In-position range] • [Pr. PA25 One-touch tuning - Overshoot permissible level] • [Pr. PB27 Gain switching condition]
PA07	Electronic gear denominator	
PA10	In-position range	Review the setting value according to the servo motor to be connected and electronic gear settings.
PA15	Encoder output pulses	Review the setting value according to the servo motor to be connected. In addition, review the setting value considering the following servo parameters set in the MR-J4-_A_. • [Pr. PA01 Operation mode selection] • [Pr. PA19 Encoder output pulse setting selection]
PA16	Encoder output pulses 2	
PA21.3	Electronic gear compatibility selection	Review the setting value according to the servo motor to be connected and electronic gear settings.
PA25	One-touch tuning - Overshoot permissible level	
PB27	Gain switching condition	When [Pr. PB26.0 Gain switching selection] is set to "2" (Command frequency), this parameter setting is affected by the electronic gear setting and resolution. When [Pr. PB26.0] is set to "3" (Droop pulses), this parameter setting is affected by the resolution. Review the setting value according to the servo motor to be connected and electronic gear settings.
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	Review the setting value in accordance with the combination of the encoder being used. In addition, review the setting value considering the following servo parameters set in the MR-J4-_A_. • [Pr. PE34 Fully closed loop control - Feedback pulse electronic gear 2 - Numerator] • [Pr. PE35 Fully closed loop control - Feedback pulse electronic gear 2 - Denominator] Because the setting ranges of [Pr. PE04] and [Pr. PE05] for the MR-J5-_A_ are expanded, the values obtained by multiplying [Pr. PE04] by [Pr. PE34] and [Pr. PE05] by [Pr. PE35] of the MR-J4-_A_ can be set.
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	
PE07	Fully closed loop control - Position deviation error detection level	Review the setting value according to the servo motor to be connected.

Servo parameters related to gain adjustment

For the servo parameters shown in this section, gain adjustment is required again after conversion.

MR-J5-_A_ servo parameter	Name	Precautions
PA08	Auto tuning mode	It is necessary to make gain adjustment again after replacement.
PA09	Auto tuning response	
PB group	Gain/filter	☞ Page 478 List of PB group parameters for gain adjustment

List of PB group parameters for gain adjustment

MR-J5-_A_ servo parameter	Name	MR-J5-_A_ servo parameter	Name
PB01	Adaptive tuning mode (Adaptive filter II)	PB28	Gain switching time constant
PB02	Vibration suppression control tuning mode (Advanced vibration suppression control II)	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio
PB03	Position command speed adjustment time constant (position smoothing)	PB30	Gain switching - Position control gain
PB04	Feed forward gain	PB31	Gain switching - Speed control gain
PB06	Load to motor inertia ratio/load to motor mass ratio	PB32	Gain switching - Speed integral compensation
PB07	Model control gain	PB33	Gain switching - Vibration suppression control 1 - Vibration frequency
PB08	Position control gain	PB34	Gain switching - Vibration suppression control 1 - Resonance frequency
PB09	Speed control gain	PB35	Gain switching - Vibration suppression control 1 - Vibration frequency damping
PB10	Speed integral compensation	PB36	Gain switching - Vibration suppression control 1 - Resonance frequency damping
PB11	Speed differential compensation	PB45	Command notch filter
PB12	Overshoot amount compensation	PB46	Machine resonance suppression filter 3
PB13	Machine resonance suppression filter 1	PB47	Notch shape selection 3
PB14	Notch shape selection 1	PB48	Machine resonance suppression filter 4
PB15	Machine resonance suppression filter 2	PB49	Notch shape selection 4
PB16	Notch shape selection 2	PB50	Machine resonance suppression filter 5
PB17	Shaft resonance suppression filter	PB51	Notch shape selection 5
PB18	Low-pass filter setting	PB52	Vibration suppression control 2 - Vibration frequency
PB19	Vibration suppression control 1 - Vibration frequency	PB53	Vibration suppression control 2 - Resonance frequency
PB20	Vibration suppression control 1 - Resonance frequency	PB54	Vibration suppression control 2 - Vibration frequency damping
PB21	Vibration suppression control 1 - Vibration frequency damping	PB55	Vibration suppression control 2 - Resonance frequency damping
PB22	Vibration suppression control 1 - Resonance frequency damping	PB56	Gain switching - Vibration suppression control 2 - Vibration frequency
PB23	Low-pass filter selection	PB57	Gain switching - Vibration suppression control 2 - Resonance frequency
PB24	Slight vibration suppression control	PB58	Gain switching - Vibration suppression control 2 - Vibration frequency damping
PB25	Function selection B-1	PB59	Gain switching - Vibration suppression control 2 - Resonance frequency damping
PB26	Gain switching function	PB60	Gain switching - Model control gain
PB27	Gain switching condition	—	—

Parameters related to differences in model specifications

MR-J5-_A_ servo parameter	Name	Precautions
PA01.4	Fully closed loop operation mode selection	Perform the settings according to [Pr. PA01 Operation mode selection] of the MR-J4-_A_.
PA02.0-1	Regenerative option selection	Applicable regenerative options may differ between the MR-J4-_A_ and MR-J5-_A_. Refer to the User's Manual (Hardware) and review the setting value in accordance with the regenerative option to be connected. MR-J5 User's Manual (Hardware)
PA03.0 PF63.0	Absolute position detection system selection [AL. 01A.5 Servo motor combination error 3] selection	When [Pr. PA03 Absolute position detection system] is set to "1" (enabled (absolute position detection system by DIO)) or "2" (enabled (absolute position detection system via communications)), [AL. 01A.5 Servo motor combination error 3] may occur according to the servo motor to be connected. Setting [Pr. PF63.0 [AL. 01A.5 Servo motor combination error 3] selection] to "1" (disabled) can disable [AL. 01A.5].
PA11	Forward rotation torque limit	To replace [Pr. PA11 Forward rotation torque limit] and [Pr. PA12 Reverse rotation torque limit], set [Pr. PC50.0 Torque limit unit change] to "0" (maximum torque unit).
PA12	Reverse rotation torque limit	
PC50.0	Torque limit unit change	
PA19	Parameter writing prohibited	Review the setting value as necessary.
PA23.0-1	Alarm detail number setting	Perform the settings as required.
PA23.2-4	Alarm number setting	
PC14.0-1	Analog monitor 1 output axis selection	Perform the settings according to [Pr. PA01 Operation mode selection] of the MR-J4-_A_.
PC15.0-1	Analog monitor 2 output axis selection	
PC23.2	VC/VLA voltage average selection	The setting range of the servo parameters and the filtering time differ between the MR-J4-_A_ and MR-J5-_A_. Review the setting value as necessary.
PC39	Analog monitor 1 offset	Perform the settings as required.
PC40	Analog monitor 2 offset	
PC73	Excessive error warning trigger level	Perform the settings according to [Pr. PA01 Operation mode selection] of the MR-J4-_A_.
PD29.0	Input signal filter selection	Signal input timing changes between the MR-J4-_A_ and MR-J5-_A_. Perform the settings as required.
PF09.0	Electronic dynamic brake selection	Review the setting value as necessary.

16.2 Servo Parameter Comparison List

Basic setting servo parameters group ([Pr. PA_ _])

Use the setting value column to write notes for replacement.

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PA01	*STY	Operation mode	1000h		PA01	**STY	Operation mode	10003000h	
PA02	*REG	Regenerative option	0000h		PA02	**REG	Regenerative option	00000000h	
PA03	*ABS	Absolute position detection system	0000h		PA03	*ABS	Absolute position detection system	00000000h	
PA04	*AOP1	Function selection A-1	2000h		PA04	*AOP1	Function selection A-1	00002000h	
PA05	*FBP	Number of command input pulses per revolution	10000		PA05	*FBP	Number of command input pulses per revolution	10000	
PA06	CMX	Electronic gear numerator (command pulse multiplication numerator)	1		PA06	CMX	Electronic gear numerator	1	
PA07	CDV	Electronic gear denominator (command pulse multiplication denominator)	1		PA07	CDV	Electronic gear denominator	1	
PA08	ATU	Auto tuning mode	0001h		PA08	ATU	Auto tuning mode	00000001h	
PA09	RSP	Auto tuning response	16		PA09	RSP	Auto tuning response	16	
PA10	INP	In-position range	100		PA10	INP	In-position range	400	
PA11	TLP	Forward rotation torque limit/positive direction thrust limit	100.0		PA11	TLP	Forward rotation torque limit	1000.0	
PA12	TLN	Reverse rotation torque limit/negative direction thrust limit	100.0		PA12	TLN	Reverse rotation torque limit	1000.0	
PA13	*PLSS	Command pulse input form	0100h		PA13	*PLSS	Command pulse input form	00000100h	
PA14	*POL	Rotation direction selection/travel direction selection	0		PA14	*POL	Travel direction selection	0	
PA15	*ENR	Encoder output pulses	4000		PA15	*ENR	Encoder output pulses	4000	
PA16	*ENR2	Encoder output pulses 2	1		PA16	*ENR2	Encoder output pulses 2	1	
PA17	*MSR	Servo motor series setting	0000h		PA17	**MSR	Servo motor series setting	00000000h	
PA18	*MTY	Servo motor type setting	0000h		PA18	**MTY	Servo motor type setting	00000000h	
PA19	*BLK	Parameter writing inhibit	00AAh		PA19	*BLK	Servo parameter writing prohibited	000000ABh	
PA20	*TDS	Tough drive setting	0000h		PA20	*TDS	Tough drive setting	00000000h	
PA21	*AOP3	Function selection A-3	0001h		PA21	*AOP3	Function selection A-3	00000001h	
PA22	*PCS	Position control composition selection	0000h		PA22	**PCS	Position control configuration selection	00000000h	
PA23	DRAT	Drive recorder arbitrary alarm trigger setting	0000h		PA23	DRAT	Drive recorder desired alarm trigger setting	00000000h	
PA24	AOP4	Function selection A-4	0000h		PA24	AOP4	Function selection A-4	00000000h	
PA25	OTHOV	One-touch tuning - Overshoot permissible level	0		PA25	OTHOV	One-touch tuning - Overshoot permissible level	0	
PA26	*AOP5	Function selection A-5	0000h		PA26	*AOP5	Function selection A-5	00000000h	
PA27	—	For manufacturer setting	0000h		PA27	—	For manufacturer setting	00000000h	
PA28	—	For manufacturer setting	0000h		PA28	**AOP6	Function selection A-6	00000000h	
PA29	—	For manufacturer setting	0000h		PA29	—	For manufacturer setting	0	
PA30	—	For manufacturer setting	0000h		PA30	—	For manufacturer setting	0	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PA31	—	For manufacturer setting	0000h		PA31	—	For manufacturer setting	0	
PA32	—	For manufacturer setting	0000h		PA32	—	For manufacturer setting	00000000h	
—					PA33	—	For manufacturer setting	0.0	
—					PA34	QDIS	Quick tuning - Permissible travel distance	0	
—					PA35	—	For manufacturer setting	00000000h	
—					PA36	—	For manufacturer setting	00000000h	
—					PA37	—	For manufacturer setting	00000000h	
—					PA38	—	For manufacturer setting	00000000h	
—					PA39	—	For manufacturer setting	00000000h	
—					PA40	—	For manufacturer setting	00000000h	
—					PA41	—	For manufacturer setting	00000000h	
—					PA42	—	For manufacturer setting	00000000h	
—					PA43	—	For manufacturer setting	00000000h	
—					PA44	—	For manufacturer setting	00000000h	

Gain/filter setting servo parameters group ([Pr. PB_ _])

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB01	FILT	Adaptive tuning mode (adaptive filter II)	0000h		PB01	FILT	Adaptive tuning mode (Adaptive filter II)	00000000h	
PB02	VRFT	Vibration suppression control tuning mode (advanced vibration suppression control II)	0000h		PB02	VRFT	Vibration suppression control tuning mode (Advanced vibration suppression control II)	00000000h	
PB03	PST	Position command acceleration/deceleration time constant (position smoothing)	0		PB03	PST	Position command speed adjustment time constant (position smoothing)	0	
PB04	FFC	Feed forward gain	0		PB04	FFC	Feed forward gain	0	
PB05	—	For manufacturer setting	500		PB05	—	For manufacturer setting	500	
PB06	GD2	Load to motor inertia ratio/ load to motor mass ratio	7.00		PB06	GD2	Load to motor inertia ratio/ load to motor mass ratio	7.00	
PB07	PG1	Model loop gain	15.0		PB07	PG1	Model control gain	15.0	
PB08	PG2	Position loop gain	37.0		PB08	PG2	Position control gain	37.0	
PB09	VG2	Speed loop gain	823		PB09	VG2	Speed control gain	823	
PB10	VIC	Speed integral compensation	33.7		PB10	VIC	Speed integral compensation	33.7	
PB11	VDC	Speed differential compensation	980		PB11	VDC	Speed differential compensation	980	
PB12	OVA	Overshoot amount compensation	0		PB12	OVA	Overshoot amount compensation	0	
PB13	NH1	Machine resonance suppression filter 1	4500		PB13	NH1	Machine resonance suppression filter 1	4500	
PB14	NHQ1	Notch shape selection 1	0000h		PB14	NHQ1	Notch shape selection 1	00000000h	
PB15	NH2	Machine resonance suppression filter 2	4500		PB15	NH2	Machine resonance suppression filter 2	4500	
PB16	NHQ2	Notch shape selection 2	0000h		PB16	NHQ2	Notch shape selection 2	00000000h	
PB17	NHF	Shaft resonance suppression filter	0000h		PB17	NHF	Shaft resonance suppression filter	00000000h	
PB18	LPF	Low-pass filter setting	3141		PB18	LPF	Low-pass filter setting	3141	
PB19	VRF11	Vibration suppression control 1 - Vibration frequency	100.0		PB19	VRF11	Vibration suppression control 1 - Vibration frequency	100.0	
PB20	VRF12	Vibration suppression control 1 - Resonance frequency	100.0		PB20	VRF12	Vibration suppression control 1 - Resonance frequency	100.0	
PB21	VRF13	Vibration suppression control 1 - Vibration frequency damping	0.00		PB21	VRF13	Vibration suppression control 1 - Vibration frequency damping	0.00	
PB22	VRF14	Vibration suppression control 1 - Resonance frequency damping	0.00		PB22	VRF14	Vibration suppression control 1 - Resonance frequency damping	0.00	
PB23	VFBF	Low-pass filter selection	0000h		PB23	VFBF	Low-pass filter selection	00001000h	
PB24	*MVS	Slight vibration suppression control	0000h		PB24	*MVS	Slight vibration suppression control	00000000h	
PB25	*BOP1	Function selection B-1	0000h		PB25	*BOP1	Function selection B-1	00000000h	
PB26	*CDP	Gain switching function	0000h		PB26	*CDP	Gain switching function	00000000h	
PB27	CDL	Gain switching condition	10		PB27	CDL	Gain switching condition	10	
PB28	CDT	Gain switching time constant	1		PB28	CDT	Gain switching time constant	1	
PB29	GD2B	Load to motor inertia ratio/ load to motor mass ratio after gain switching	7.00		PB29	GD2B	Gain switching - Load to motor inertia ratio/load to motor mass ratio	7.00	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB30	PG2B	Position loop gain after gain switching	0.0		PB30	PG2B	Gain switching - Position control gain	0.0	
PB31	VG2B	Speed loop gain after gain switching	0		PB31	VG2B	Gain switching - Speed control gain	0	
PB32	VICB	Speed integral compensation after gain switching	0.0		PB32	VICB	Gain switching - Speed integral compensation	0.0	
PB33	VRF1B	Vibration suppression control 1 - Vibration frequency after gain switching	0.0		PB33	VRF11B	Gain switching - Vibration suppression control 1 - Vibration frequency	0.0	
PB34	VRF2B	Vibration suppression control 1 - Resonance frequency after gain switching	0.0		PB34	VRF12B	Gain switching - Vibration suppression control 1 - Resonance frequency	0.0	
PB35	VRF3B	Vibration suppression control 1 - Vibration frequency damping after gain switching	0.00		PB35	VRF13B	Gain switching - Vibration suppression control 1 - Vibration frequency damping	0.00	
PB36	VRF4B	Vibration suppression control 1 - Resonance frequency damping after gain switching	0.00		PB36	VRF14B	Gain switching - Vibration suppression control 1 - Resonance frequency damping	0.00	
PB37	—	For manufacturer setting	1600		PB37	—	For manufacturer setting	1600	
PB38	—	For manufacturer setting	0.00		PB38	—	For manufacturer setting	0.000	
PB39	—	For manufacturer setting	0.00		PB39	—	For manufacturer setting	0.000	
PB40	—	For manufacturer setting	0.00		PB40	—	For manufacturer setting	0.000	
PB41	—	For manufacturer setting	0000h		PB41	—	For manufacturer setting	00000000h	
PB42	—	For manufacturer setting	0000h		PB42	—	For manufacturer setting	00000000h	
PB43	—	For manufacturer setting	0000h		PB43	—	For manufacturer setting	00000000h	
PB44	—	For manufacturer setting	0.00		PB44	—	For manufacturer setting	0.00	
PB45	CNHF	Command notch filter	0000h		PB45	CNHF	Command notch filter	00000000h	
PB46	NH3	Machine resonance suppression filter 3	4500		PB46	NH3	Machine resonance suppression filter 3	4500	
PB47	NHQ3	Notch shape selection 3	0000h		PB47	NHQ3	Notch shape selection 3	00000000h	
PB48	NH4	Machine resonance suppression filter 4	4500		PB48	NH4	Machine resonance suppression filter 4	4500	
PB49	NHQ4	Notch shape selection 4	0000h		PB49	NHQ4	Notch shape selection 4	00000000h	
PB50	NH5	Machine resonance suppression filter 5	4500		PB50	NH5	Machine resonance suppression filter 5	4500	
PB51	NHQ5	Notch shape selection 5	0000h		PB51	NHQ5	Notch shape selection 5	00000000h	
PB52	VRF21	Vibration suppression control 2 - Vibration frequency	100.0		PB52	VRF21	Vibration suppression control 2 - Vibration frequency	100.0	
PB53	VRF22	Vibration suppression control 2 - Resonance frequency	100.0		PB53	VRF22	Vibration suppression control 2 - Resonance frequency	100.0	
PB54	VRF23	Vibration suppression control 2 - Vibration frequency damping	0.00		PB54	VRF23	Vibration suppression control 2 - Vibration frequency damping	0.00	
PB55	VRF24	Vibration suppression control 2 - Resonance frequency damping	0.00		PB55	VRF24	Vibration suppression control 2 - Resonance frequency damping	0.00	
PB56	VRF21B	Vibration suppression control 2 - Vibration frequency after gain switching	0.0		PB56	VRF21B	Gain switching - Vibration suppression control 2 - Vibration frequency	0.0	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PB57	VRF22B	Vibration suppression control 2 - Resonance frequency after gain switching	0.0		PB57	VRF22B	Gain switching - Vibration suppression control 2 - Resonance frequency	0.0	
PB58	VRF23B	Vibration suppression control 2 - Vibration frequency damping after gain switching	0.00		PB58	VRF23B	Gain switching - Vibration suppression control 2 - Vibration frequency damping	0.00	
PB59	VRF24B	Vibration suppression control 2 - Resonance frequency damping after gain switching	0.00		PB59	VRF24B	Gain switching - Vibration suppression control 2 - Resonance frequency damping	0.00	
PB60	PG1B	Model loop gain after gain switching	0.0		PB60	PG1B	Gain switching - Model control gain	0.0	
PB61	—	For manufacturer setting	0.0		PB61	—	For manufacturer setting	0.0	
PB62	—	For manufacturer setting	0000h		PB62	—	For manufacturer setting	00000000h	
PB63	—	For manufacturer setting	0000h		PB63	—	For manufacturer setting	00000000h	
PB64	—	For manufacturer setting	0000h		PB64	—	For manufacturer setting	00000000h	
—					PB65	CDL2	Gain switching 2 condition	10	
—					PB66	CDT2	Gain switching 2 time constant	1	
—					PB67	GD2C	Gain switching 2 - Load to motor inertia ratio/load to motor mass ratio	7.00	
—					PB68	PG2C	Gain switching 2 - Position control gain	0.0	
—					PB69	VG2C	Gain switching 2 - Speed control gain	0	
—					PB70	VICC	Gain switching 2 - Speed integral compensation	0.0	
—					PB71	VRF11C	Gain switching 2 - Vibration suppression control 1 - Vibration frequency	0.0	
—					PB72	VRF12C	Gain switching 2 - Vibration suppression control 1 - Resonance frequency	0.0	
—					PB73	VRF13C	Gain switching 2 - Vibration suppression control 1 - Vibration frequency damping	0.00	
—					PB74	VRF14C	Gain switching 2 - Vibration suppression control 1 - Resonance frequency damping	0.00	
—					PB75	VRF21C	Gain switching 2 - Vibration suppression control 2 - Vibration frequency	0.0	
—					PB76	VRF22C	Gain switching 2 - Vibration suppression control 2 - Resonance frequency	0.0	
—					PB77	VRF23C	Gain switching 2 - Vibration suppression control 2 - Vibration frequency damping	0.00	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PB78	VRF24C	Gain switching 2 - Vibration suppression control 2 - Resonance frequency damping	0.00	
—					PB79	PG1C	Gain switching 2 - Model control gain	0.0	
—					PB80	—	For manufacturer setting	177.0	
—					PB81	*CFIL	Command filter	00000001h	
—					PB82	PFT	Position command smoothing filter time constant	0.0	
—					PB83	—	For manufacturer setting	00000000h	
—					PB84	—	For manufacturer setting	00000000h	
—					PB85	—	For manufacturer setting	00000000h	
—					PB86	—	For manufacturer setting	00000000h	
—					PB87	—	For manufacturer setting	00000000h	
—					PB88	—	For manufacturer setting	00000000h	
—					PB89	—	For manufacturer setting	00000000h	
—					PB90	—	For manufacturer setting	00000000h	
—					PB91	—	For manufacturer setting	00000000h	
—					PB92	—	For manufacturer setting	00000000h	

Extension setting servo parameters group ([Pr. PC_ _])

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PC01	STA	Acceleration time constant	0		PC01	STA	Speed acceleration time constant	0	
PC02	STB	Deceleration time constant	0		PC02	STB	Speed deceleration time constant	0	
PC03	STC	S-pattern acceleration/ deceleration time constant	0		PC03	STC	S-pattern acceleration/ deceleration time constant	0	
PC04	TQC	Torque command time constant/thrust command time constant	0		PC04	TQC	Torque command time constant	0	
PC05	SC1	Internal speed command 1	100		PC05	SC1	Internal speed 1	100.00	
		Internal speed limit 1							
PC06	SC2	Internal speed command 2	500		PC06	SC2	Internal speed 2	500.00	
		Internal speed limit 2							
PC07	SC3	Internal speed command 3	1000		PC07	SC3	Internal speed 3	1000.00	
		Internal speed limit 3							
PC08	SC4	Internal speed command 4	200		PC08	SC4	Internal speed 4	200.00	
		Internal speed limit 4							
PC09	SC5	Internal speed command 5	300		PC09?	SC5	Internal speed 5	300.00	
		Internal speed limit 5							
PC10	SC6	Internal speed command 6	500		PC10?	SC6	Internal speed 6	500.00	
		Internal speed limit 6							
PC11	SC7	Internal speed command 7	800		PC11	SC7	Internal speed 7	800.00	
		Internal speed limit 7							
PC12	VCM	Analog speed command - Maximum speed	0		PC12	VCM	Analog speed command - Maximum speed	0	
		Analog speed limit - Maximum speed							
PC13	TLC	Analog torque/thrust command maximum output	100.0		PC13	TLC	Analog torque command - Maximum output	100.0	
PC14	MOD1	Analog monitor 1 output	0000h		PC14	MOD1	Analog monitor 1 output	00000000h	
PC15	MOD2	Analog monitor 2 output	0001h		PC15	MOD2	Analog monitor 2 output	00000001h	
PC16	MBR	Electromagnetic brake sequence output	0		PC16	MBR	Electromagnetic brake sequence output	0	
PC17	ZSP	Zero speed	50		PC17	ZSP	Zero speed	50	
PC18	*BPS	Alarm history clear	0000h		PC18	*BPS	Alarm history clear	00000000h	
PC19	*ENRS	Encoder output pulse selection	0000h		PC19	*ENRS	Encoder output pulses selection	00000000h	
PC20	*SNO	Station No. setting	0		PC20	*SNO	Station No. setting	0	
PC21	*SOP	RS-422 communication function selection	0000h		PC21	*SOP	RS422 communication function selection	00000000h	
PC22	*COP1	Function selection C-1	0000h		PC22	**COP1	Function selection C-1	00000000h	
PC23	*COP2	Function selection C-2	0000h		PC23	*COP2	Function selection C-2	00000000h	
PC24	*COP3	Function selection C-3	0000h		PC24	*COP3	Function selection C-3	00000000h	
PC25	—	For manufacturer setting	0000h		PC25	—	For manufacturer setting	00000000h	
PC26	*COP5	Function selection C-5	0000h		PC26	*COP5	Function selection C-5	00000000h	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PC27	*COP6	Function selection C-6	0000h		PC27	*COP6	Function selection C-6	00000000h	
PC28	*COP7	Function selection C-7	0000h		PC28	*COP7	Function selection C-7	00000000h	
PC29	*COP8	Function selection C-8	0000h		PC29	*COP8	Function selection C-8	00000120h	
PC30	STA2	Acceleration time constant 2	0		PC30	STA2	Speed acceleration time constant 2	0	
PC31	STB2	Deceleration time constant 2	0		PC31	STB2	Speed deceleration time constant 2	0	
PC32	CMX2	Command input pulse multiplication numerator 2	1		PC32	CMX2	Command input pulse multiplication numerator 2	1	
PC33	CMX3	Command input pulse multiplication numerator 3	1		PC33	CMX3	Command input pulse multiplication numerator 3	1	
PC34	CMX4	Command input pulse multiplication numerator 4	1		PC34	CMX4	Command input pulse multiplication numerator 4	1	
PC35	TL2	Internal torque limit 2/ internal thrust limit 2	100.0		PC35	TL2	Internal torque limit 2	1000.0	
PC36	*DMD	Status display selection	0000h		PC36	*DMD	Status display selection	00000000h	
PC37	VCO	Analog speed command offset	0		PC37	VCO	Analog command input 1 offset	0	
		Analog speed limit offset							
PC38	TPO	Analog torque command offset	0		PC38	TPO	Analog command input 2 offset	0	
		Analog torque limit offset							
PC39	MO1	Analog monitor 1 offset	0		PC39	MO1	Analog monitor 1 offset	0	
PC40	MO2	Analog monitor 2 offset	0		PC40	MO2	Analog monitor 2 offset	0	
PC41	—	For manufacturer setting	0		PC41	—	For manufacturer setting	0	
PC42	—	For manufacturer setting	0		PC42	—	For manufacturer setting	0	
PC43	ERZ	Error excessive alarm level	0		PC43	ERZ	Excessive error alarm trigger level	0	
PC44	*COP9	Function selection C-9	0000h		PC44	**COP9	Function selection C-9	00000050h	
PC45	*COPA	Function selection C-A	0000h		PC45	**COPA	Function selection C-A	00000000h	
PC46	—	For manufacturer setting	0		PC46	—	For manufacturer setting	0	
PC47	—	For manufacturer setting	0		PC47	—	For manufacturer setting	0	
PC48	—	For manufacturer setting	0		PC48	—	For manufacturer setting	0	
PC49	—	For manufacturer setting	0		PC49	—	For manufacturer setting	0	
PC50	—	For manufacturer setting	0000h		PC50	**COPB	Function selection C-B	00000001h	
PC51	RSBR	Forced stop deceleration time constant	100		PC51	RSBR	Deceleration time constant at forced stop	100	
PC52	—	For manufacturer setting	0		PC52	—	For manufacturer setting	0	
PC53	—	For manufacturer setting	0		PC53	—	For manufacturer setting	0	
PC54	RSUP1	Vertical axis freefall prevention compensation amount	0		PC54	RSUP1	Vertical axis freefall prevention compensation amount	0	
PC55	—	For manufacturer setting	0		PC55	—	For manufacturer setting	0	
PC56	—	For manufacturer setting	100		PC56	—	For manufacturer setting	100	
PC57	—	For manufacturer setting	0000h		PC57	—	For manufacturer setting	00000000h	
PC58	—	For manufacturer setting	0		PC58	—	For manufacturer setting	0	
PC59	—	For manufacturer setting	0000h		PC59	—	For manufacturer setting	00000000h	
PC60	*COPD	Function selection C-D	0000h		PC60	**COPD	Function selection C-D	00000000h	
PC61	—	For manufacturer setting	0000h		PC61	—	For manufacturer setting	00000000h	
PC62	—	For manufacturer setting	0000h		PC62	—	For manufacturer setting	00000000h	
PC63	—	For manufacturer setting	0000h		PC63	—	For manufacturer setting	00000000h	
PC64	—	For manufacturer setting	0000h		PC64	—	For manufacturer setting	00000000h	
PC65	—	For manufacturer setting	0000h		PC65	—	For manufacturer setting	00000000h	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PC66	—	For manufacturer setting	0		PC66	—	For manufacturer setting	0	
PC67	—	For manufacturer setting	0		PC67	—	For manufacturer setting	00000000h	
PC68	—	For manufacturer setting	0		PC68	—	For manufacturer setting	0	
PC69	—	For manufacturer setting	0		PC69	—	For manufacturer setting	00000000h	
PC70	—	For manufacturer setting	0		PC70	—	For manufacturer setting	0	
PC71	—	For manufacturer setting	0040h		PC71	—	For manufacturer setting	00000040h	
PC72	—	For manufacturer setting	0000h		PC72	—	For manufacturer setting	00000000h	
PC73	ERW	Error excessive warning level	0		PC73	ERW	Excessive error warning trigger level	0	
PC74	—	For manufacturer setting	0000h		PC74	—	For manufacturer setting	00000000h	
PC75	—	For manufacturer setting	0000h		PC75	—	For manufacturer setting	00C00000h	
PC76	—	For manufacturer setting	0000h		PC76	—	For manufacturer setting	00000000h	
PC77	—	For manufacturer setting	0000h		PC77	—	For manufacturer setting	10	
PC78	—	For manufacturer setting	0000h		PC78	—	For manufacturer setting	0	
PC79	—	For manufacturer setting	0000h		PC79	—	For manufacturer setting	00000000h	
PC80	—	For manufacturer setting	0000h		PC80	—	For manufacturer setting	00000000h	
—					PC81	—	For manufacturer setting	0.0	
—					PC82	—	For manufacturer setting	0.0	
—					PC83	—	For manufacturer setting	50.00	
—					PC84	—	For manufacturer setting	10	
—					PC85	—	For manufacturer setting	400	
—					PC86	—	For manufacturer setting	10	
—					PC87	—	For manufacturer setting	20.00	
—					PC88	—	For manufacturer setting	10	
—					PC89	—	For manufacturer setting	00000000h	
—					PC90	PLFT	Command frequency error threshold	0	
—					PC91	—	For manufacturer setting	00000000h	
—					PC92	—	For manufacturer setting	0	
—					PC93	—	For manufacturer setting	0	
—					PC94	—	For manufacturer setting	00000000h	
—					PC95	—	For manufacturer setting	00000000h	
—					PC96	—	For manufacturer setting	00000000h	
—					PC97	—	For manufacturer setting	00000000h	
—					PC98	—	For manufacturer setting	00000000h	
—					PC99	—	For manufacturer setting	00000000h	

I/O setting servo parameters group ([Pr. PD_ _])

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PD01	*DIA1	Input signal automatic on selection 1	0000h		PD01	*DIA1	Input signal automatic ON selection 1	00000000h	
PD02	—	For manufacturer setting	0000h		PD02	—	For manufacturer setting	00000000h	
PD03	*DI1L	Input device selection 1L	0202h		PD03	*DI1L	Input device selection 1L	00000202h	
PD04	*DI1H	Input device selection 1H	0202h		PD04	*DI1H	Input device selection 1H	00000202h	
PD05	*DI2L	Input device selection 2L	2100h		PD05	*DI2L	Input device selection 2L	00002100h	
PD06	*DI2H	Input device selection 2H	2021h		PD06	*DI2H	Input device selection 2H	00002021h	
PD07	*DI3L	Input device selection 3L	0704h		PD07	*DI3L	Input device selection 3L	00000704h	
PD08	*DI3H	Input device selection 3H	0707h		PD08	*DI3H	Input device selection 3H	00000707h	
PD09	*DI4L	Input device selection 4L	0805h		PD09	*DI4L	Input device selection 4L	00000805h	
PD10	*DI4H	Input device selection 4H	0808h		PD10	*DI4H	Input device selection 4H	00000808h	
PD11	*DI5L	Input device selection 5L	0303h		PD11	*DI5L	Input device selection 5L	00000303h	
PD12	*DI5H	Input device selection 5H	3803h		PD12	*DI5H	Input device selection 5H	00003803h	
PD13	*DI6L	Input device selection 6L	2006h		PD13	*DI6L	Input device selection 6L	00002006h	
PD14	*DI6H	Input device selection 6H	3920h		PD14	*DI6H	Input device selection 6H	00003920h	
PD15	—	For manufacturer setting	0000h		PD15	—	For manufacturer setting	000C0C0Ch	
PD16	—	For manufacturer setting	0000h		PD16	—	For manufacturer setting	00000C0Ch	
PD17	*DI8L	Input device selection 8L	0A0Ah		PD17	*DI8L	Input device selection 8L	000A0A0Ah	
PD18	*DI8H	Input device selection 8H	0A00h		PD18	*DI8H	Input device selection 8H	00000A00h	
PD19	*DI9L	Input device selection 9L	0B0Bh		PD19	*DI9L	Input device selection 9L	000B0B0Bh	
PD20	*DI9H	Input device selection 9H	0B00h		PD20	*DI9H	Input device selection 9H	00000B00h	
PD21	*DI10L	Input device selection 10L	2323h		PD21	*DI10L	Input device selection 10L	002B2323h	
PD22	*DI10H	Input device selection 10H	2B23h		PD22	*DI10H	Input device selection 10H	00002B23h	
PD23	*DO1	Output device selection 1	0004h		PD23	*DO1	Output device selection 1	00000004h	
PD24	*DO2	Output device selection 2	000Ch		PD24	*DO2	Output device selection 2	0000000Ch	
PD25	*DO3	Output device selection 3	0004h		PD25	*DO3	Output device selection 3	00000004h	
PD26	*DO4	Output device selection 4	0007h		PD26	*DO4	Output device selection 4	00000007h	
PD27	—	For manufacturer setting	0003h		PD27	—	For manufacturer setting	00000003h	
PD28	*DO6	Output device selection 6	0002h		PD28	*DO6	Output device selection 6	00000002h	
PD29	*DIF	Input filter setting	0004h		PD29	*DIF	Input filter setting	00000007h	
PD30	*DOP1	Function selection D-1	0000h		PD30	*DOP1	Function selection D-1	00000000h	
PD31	*DOP2	Function selection D-2	0000h		PD31	*DOP2	Function selection D-2	00000000h	
PD32	*DOP3	Function selection D-3	0000h		PD32	*DOP3	Function selection D-3	00000000h	
PD33	*DOP4	Function selection D-4	0000h		PD33	*DOP4	Function selection D-4	00000000h	
PD34	DOP5	Function selection D-5	0000h		PD34	*DOP5	Function selection D-5	00000000h	
PD35	—	For manufacturer setting	0000h		PD35	—	For manufacturer setting	00000000h	
PD36	—	For manufacturer setting	0000h		PD36	—	For manufacturer setting	00000000h	
PD37	—	For manufacturer setting	0000h		PD37	—	For manufacturer setting	00000000h	
PD38	—	For manufacturer setting	0		PD38	—	For manufacturer setting	0	
PD39	—	For manufacturer setting	0		PD39	—	For manufacturer setting	0	
PD40	—	For manufacturer setting	0		PD40	—	For manufacturer setting	0	
PD41	—	For manufacturer setting	0000h		PD41	—	For manufacturer setting	00000000h	
PD42	—	For manufacturer setting	0000h		PD42	—	For manufacturer setting	00000000h	
PD43	*DI11L	Input device selection 11L	0000h		PD43	*DI11L	Input device selection 11L	00000000h	
PD44	*DI11H	Input device selection 11H	3A00h		PD44	*DI11H	Input device selection 11H	00003A00h	
PD45	*DI12L	Input device selection 12L	0000h		PD45	*DI12L	Input device selection 12L	00000000h	
PD46	*DI12H	Input device selection 12H	3B00h		PD46	*DI12H	Input device selection 12H	00003B00h	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PD47	*DO7	Output device selection 7	0000h		PD47	*DO7	Output device selection 7	00000000h	
PD48	—	For manufacturer setting	0000h		PD48	—	For manufacturer setting	00000000h	
—					PD49	—	For manufacturer setting	00000000h	
—					PD50	—	For manufacturer setting	00000000h	
—					PD51	—	For manufacturer setting	00000000h	
—					PD52	—	For manufacturer setting	00110001h	
—					PD53	—	For manufacturer setting	0	
—					PD54	—	For manufacturer setting	0	
—					PD55	—	For manufacturer setting	0	
—					PD56	—	For manufacturer setting	00000000h	
—					PD57	—	For manufacturer setting	00000000h	
—					PD58	—	For manufacturer setting	00000000h	
—					PD59	—	For manufacturer setting	00000000h	
—					PD60	*DIP	DI pin polarity selection	00000000h	
—					PD61	—	For manufacturer setting	00000000h	
—					PD62	—	For manufacturer setting	00000000h	
—					PD63	—	For manufacturer setting	00000000h	
—					PD64	—	For manufacturer setting	00000000h	
—					PD65	—	For manufacturer setting	00000000h	
—					PD66	—	For manufacturer setting	00000000h	
—					PD67	—	For manufacturer setting	00000000h	
—					PD68	—	For manufacturer setting	00000000h	
—					PD69	—	For manufacturer setting	00000000h	
—					PD70	—	For manufacturer setting	00000000h	
—					PD71	—	For manufacturer setting	00000000h	
—					PD72	—	For manufacturer setting	00000000h	

Extension setting 2 servo parameters group ([Pr. PE_ _])

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
PE01	*FCT1	Fully closed loop function selection 1	0000h		PE01	**FCT1	Fully closed loop function selection 1	00000000h	
PE02	—	For manufacturer setting	0000h		PE02	—	For manufacturer setting	00000000h	
PE03	*FCT2	Fully closed loop function selection 2	0003h		PE03	*FCT2	Fully closed loop function selection 2	00000003h	
PE04	*FBN	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	1		PE04	**FBN	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator	1	
PE05	*FBD	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	1		PE05	**FBD	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator	1	
PE06	BC1	Fully closed loop control - Speed deviation error detection level	400		PE06	BC1	Fully closed loop control - Speed deviation error detection level	400	
PE07	BC2	Fully closed loop control - Position deviation error detection level	100		PE07	BC2	Fully closed loop control - Position deviation error detection level	100	
PE08	DUF	Fully closed loop dual feedback filter	10		PE08	DUF	Fully closed loop dual feedback filter	10	
PE09	—	For manufacturer setting	0000h		PE09	—	For manufacturer setting	00000000h	
PE10	FCT3	Fully closed loop function selection 3	0000h		PE10	FCT3	Fully closed loop function selection 3	00000000h	
PE11	—	For manufacturer setting	0000h		PE11	—	For manufacturer setting	00000000h	
PE12	—	For manufacturer setting	0000h		PE12	—	For manufacturer setting	00000000h	
PE13	—	For manufacturer setting	0000h		PE13	—	For manufacturer setting	00000000h	
PE14	—	For manufacturer setting	0111h		PE14	—	For manufacturer setting	00000111h	
PE15	—	For manufacturer setting	20		PE15	—	For manufacturer setting	20	
PE16	—	For manufacturer setting	0000h		PE16	—	For manufacturer setting	00000000h	
PE17	—	For manufacturer setting	0000h		PE17	—	For manufacturer setting	00000100h	
PE18	—	For manufacturer setting	0000h		PE18	—	For manufacturer setting	00000000h	
PE19	—	For manufacturer setting	0000h		PE19	—	For manufacturer setting	00000000h	
PE20	—	For manufacturer setting	0000h		PE20	—	For manufacturer setting	00000000h	
PE21	—	For manufacturer setting	0000h		PE21	—	For manufacturer setting	00000000h	
PE22	—	For manufacturer setting	0000h		PE22	—	For manufacturer setting	00000000h	
PE23	—	For manufacturer setting	0000h		PE23	—	For manufacturer setting	00000000h	
PE24	—	For manufacturer setting	0000h		PE24	—	For manufacturer setting	00000000h	
PE25	—	For manufacturer setting	0000h		PE25	—	For manufacturer setting	00000000h	
PE26	—	For manufacturer setting	0000h		PE26	—	For manufacturer setting	00000000h	
PE27	—	For manufacturer setting	0000h		PE27	—	For manufacturer setting	00000000h	
PE28	—	For manufacturer setting	0000h		PE28	—	For manufacturer setting	00000000h	
PE29	—	For manufacturer setting	0000h		PE29	—	For manufacturer setting	00000000h	
PE30	—	For manufacturer setting	0000h		PE30	—	For manufacturer setting	00000000h	
PE31	—	For manufacturer setting	0000h		PE31	—	For manufacturer setting	00000000h	
PE32	—	For manufacturer setting	0000h		PE32	—	For manufacturer setting	00000000h	
PE33	—	For manufacturer setting	0000h		PE33	—	For manufacturer setting	00000000h	
PE34	*FBN2	Fully closed loop control - Feedback pulse electronic gear 2 - Numerator	1		PE34	—	For manufacturer setting	1	
PE35	*FBD2	Fully closed loop control - Feedback pulse electronic gear 2 - Denominator	1		PE35	—	For manufacturer setting	1	
PE36	—	For manufacturer setting	0.0		PE36	—	For manufacturer setting	0.0	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
PE37	—	For manufacturer setting	0.00		PE37	—	For manufacturer setting	0.00	
PE38	—	For manufacturer setting	0.00		PE38	—	For manufacturer setting	0.00	
PE39	—	For manufacturer setting	20		PE39	—	For manufacturer setting	20	
PE40	—	For manufacturer setting	0000h		PE40	—	For manufacturer setting	00000000h	
PE41	EOP3	Function selection E-3	0000h		PE41	EOP3	Function selection E-3	00000000h	
PE42	—	For manufacturer setting	0		PE42	—	For manufacturer setting	0	
PE43	—	For manufacturer setting	0.0		PE43	—	For manufacturer setting	0.0	
PE44	LMCP	Lost motion compensation positive-side compensation value selection	0		PE44	LMCP	Lost motion compensation positive-side compensation value selection	0	
PE45	LMCN	Lost motion compensation negative-side compensation value selection	0		PE45	LMCN	Lost motion compensation negative-side compensation value selection	0	
PE46	LMFLT	Lost motion filter setting	0		PE46	LMFLT	Lost motion filter setting	0	
PE47	TOF	Torque offset	0		PE47	TOF	Unbalanced torque offset	0	
PE48	*LMOP	Lost motion compensation function selection	0000h		PE48	*LMOP	Lost motion compensation function selection	00000000h	
PE49	LMCD	Lost motion compensation timing	0		PE49	LMCD	Lost motion compensation timing	0	
PE50	LMCT	Lost motion compensation non-sensitive band	0		PE50	LMCT	Lost motion compensation dead band	0	
PE51	—	For manufacturer setting	0000h		PE51	**EDV2	Load-side encoder resolution setting	0	
PE52	—	For manufacturer setting	0000h		PE52	—	For manufacturer setting	00000000h	
PE53	—	For manufacturer setting	0000h		PE53	—	For manufacturer setting	00000000h	
PE54	—	For manufacturer setting	0000h		PE54	—	For manufacturer setting	00000000h	
PE55	—	For manufacturer setting	0000h		PE55	—	For manufacturer setting	00000000h	
PE56	—	For manufacturer setting	0000h		PE56	—	For manufacturer setting	00000000h	
PE57	—	For manufacturer setting	0000h		PE57	—	For manufacturer setting	00000000h	
PE58	—	For manufacturer setting	0000h		PE58	—	For manufacturer setting	00000000h	
PE59	—	For manufacturer setting	0000h		PE59	—	For manufacturer setting	00000000h	
PE60	—	For manufacturer setting	0000h		PE60	—	For manufacturer setting	00000000h	
PE61	—	For manufacturer setting	0.00		PE61	—	For manufacturer setting	0.000	
PE62	—	For manufacturer setting	0.00		PE62	—	For manufacturer setting	0.000	
PE63	—	For manufacturer setting	0.00		PE63	—	For manufacturer setting	0.000	
PE64	—	For manufacturer setting	0.00		PE64	—	For manufacturer setting	0.000	
—					PE65	—	For manufacturer setting	0.0	
—					PE66	—	For manufacturer setting	0.0	
—					PE67	—	For manufacturer setting	0.0	
—					PE68	—	For manufacturer setting	00000000h	
—					PE69	—	For manufacturer setting	00000000h	
—					PE70	—	For manufacturer setting	00000000h	
—					PE71	—	For manufacturer setting	00000000h	
—					PE72	—	For manufacturer setting	00000000h	
—					PE73	—	For manufacturer setting	00000000h	
—					PE74	—	For manufacturer setting	00000000h	
—					PE75	—	For manufacturer setting	00000000h	
—					PE76	—	For manufacturer setting	00000000h	
—					PE77	—	For manufacturer setting	00000000h	
—					PE78	—	For manufacturer setting	0	
—					PE79	—	For manufacturer setting	0	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No	Symbol	Servo parameter name	Initial value	Customer setting value
—					PE80	—	For manufacturer setting	00000000h	
—					PE81	—	For manufacturer setting	00000000h	
—					PE82	—	For manufacturer setting	00000000h	
—					PE83	—	For manufacturer setting	00000000h	
—					PE84	—	For manufacturer setting	00000000h	
—					PE85	—	For manufacturer setting	00000000h	
—					PE86	—	For manufacturer setting	00000000h	
—					PE87	—	For manufacturer setting	00000000h	
—					PE88	—	For manufacturer setting	00000000h	

Extension setting 3 servo parameters group ([Pr. PF_ _])

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PF01	—	For manufacturer setting	0000h		PF01	—	For manufacturer setting	00000000h	
PF02	—	For manufacturer setting	0000h		PF02	*FOP2	Function selection F-2	00000000h	
PF03	—	For manufacturer setting	0000h		PF03	—	For manufacturer setting	00000000h	
PF04	—	For manufacturer setting	0		PF04	—	For manufacturer setting	0	
PF05	—	For manufacturer setting	0		PF05	—	For manufacturer setting	0	
PF06	—	For manufacturer setting	0000h		PF06	—	For manufacturer setting	00000000h	
PF07	—	For manufacturer setting	1		PF07	—	For manufacturer setting	1	
PF08	—	For manufacturer setting	1		PF08	—	For manufacturer setting	1	
PF09	*FOP5	Function selection F-5	0000h		PF09	*FOP5	Function selection F-5	00000013h	
PF10	—	For manufacturer setting	0000h		PF10	—	For manufacturer setting	00000000h	
PF11	—	For manufacturer setting	0000h		PF11	—	For manufacturer setting	00000000h	
PF12	—	For manufacturer setting	10000		PF12	—	For manufacturer setting	65535	
PF13	—	For manufacturer setting	100		PF13	—	For manufacturer setting	100	
PF14	—	For manufacturer setting	100		PF14	—	For manufacturer setting	100	
PF15	DBT	Electronic dynamic brake operating time	2000		PF15	DBT	Electronic dynamic brake operating time	2000	
PF16	—	For manufacturer setting	0000h		PF16	—	For manufacturer setting	00000000h	
PF17	—	For manufacturer setting	10		PF17	—	For manufacturer setting	10	
PF18	*STOD	STO diagnosis error detection time	0		PF18	**STOD	STO diagnosis error detection time	10	
PF19	—	For manufacturer setting	0000h		PF19	—	For manufacturer setting	00000000h	
PF20	—	For manufacturer setting	0000h		PF20	—	For manufacturer setting	00000000h	
PF21	DRT	Drive recorder switching time setting	0		PF21	DRT	Drive recorder switching time setting	0	
PF22	—	For manufacturer setting	200		PF22	—	For manufacturer setting	200	
PF23	OSCL1	Vibration tough drive - Oscillation detection level	50		PF23	OSCL1	Vibration tough drive - Oscillation detection level	20	
PF24	*OSCL2	Vibration tough drive function selection	0000h		PF24	*FOP9	Function selection F-9	00000000h	
PF25	CVAT	SEMI-F47 function - Instantaneous power failure detection time	200		PF25	CVAT	SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)	200	
PF26	—	For manufacturer setting	0		PF26	—	For manufacturer setting	0	
PF27	—	For manufacturer setting	0		PF27	—	For manufacturer setting	0	
PF28	—	For manufacturer setting	0		PF28	—	For manufacturer setting	0	
PF29	—	For manufacturer setting	0000h		PF29	—	For manufacturer setting	00000000h	
PF30	—	For manufacturer setting	0		PF30	—	For manufacturer setting	0	
PF31	FRIC	Machine diagnosis function - Friction judgment speed	0		PF31	FRIC	Machine diagnosis function - Friction estimate area judgment speed at low speed	0	
PF32	—	For manufacturer setting	50		PF32	*VIBT	Oscillation detection alarm time	50	
PF33	—	For manufacturer setting	0000h		PF33	—	For manufacturer setting	00000000h	
PF34	*SOP3	RS-422 communication function selection 3	0000h		PF34	—	For manufacturer setting	00000000h	
PF35	—	For manufacturer setting	0000h		PF35	—	For manufacturer setting	00000000h	
PF36	—	For manufacturer setting	0000h		PF36	—	For manufacturer setting	00000000h	
PF37	—	For manufacturer setting	0000h		PF37	—	For manufacturer setting	00000000h	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PF38	—	For manufacturer setting	0000h		PF38	—	For manufacturer setting	00000000h	
PF39	—	For manufacturer setting	0000h		PF39	—	For manufacturer setting	00000000h	
PF40	—	For manufacturer setting	0		PF40	—	For manufacturer setting	0	
PF41	—	For manufacturer setting	0		PF41	—	For manufacturer setting	0	
PF42	—	For manufacturer setting	0		PF42	—	For manufacturer setting	0	
PF43	—	For manufacturer setting	0		PF43	—	For manufacturer setting	0	
PF44	—	For manufacturer setting	0		PF44	—	For manufacturer setting	0	
PF45	—	For manufacturer setting	0000h		PF45	—	For manufacturer setting	00000000h	
PF46	—	For manufacturer setting	0000h		PF46	—	For manufacturer setting	0	
PF47	—	For manufacturer setting	0000h		PF47	—	For manufacturer setting	00000000h	
PF48	—	For manufacturer setting	0000h		PF48	—	For manufacturer setting	00000000h	
—					PF49	TSL	Friction failure prediction - Compensation coefficient 1	0	
—					PF50	TIC	Friction failure prediction - Compensation coefficient 2	0	
—					PF51	*MFP	Machine diagnosis function selection	00000000h	
—					PF52	MFPP	Machine failure prediction servo parameter	00000000h	
—					PF53	FPMT	Failure prediction - Servo motor total travel distance	0	
—					PF54	PAV	Friction failure prediction - Average characteristics	0	
—					PF55	PSD	Friction failure prediction - Standard deviation	0	
—					PF56	VAV	Vibration failure prediction - Average characteristics	0	
—					PF57	VSD	Vibration failure prediction - Standard deviation	0	
—					PF58	TMO	Servo motor total travel distance offset	0	
—					PF59	—	For manufacturer setting	00000000h	
—					PF60	—	For manufacturer setting	00000000h	
—					PF61	—	For manufacturer setting	00000000h	
—					PF62	FOP14	Function selection F-14	00000000h	
—					PF63	*FOP15	Function selection F-15	00000000h	
—					PF64	—	For manufacturer setting	0	
—					PF65	—	For manufacturer setting	00000000h	
—					PF66	BLG	Gear setting for backlash estimation	00000000h	
—					PF67	BLN	Backlash nominal value	0	
—					PF68	BLTT	Backlash threshold multiplication	0	
—					PF69	SPAV2	Static friction failure prediction - Average characteristics	0	
—					PF70	SPSD2	Static friction failure prediction - Standard deviation	0	
—					PF71	BFP	Belt failure prediction function selection	00000000h	
—					PF72	SBT	Belt tension on installation	0	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
—					PF73	ABT	Belt tension when extended	0	
—					PF74	SSF	Static friction during installation	0	
—					PF75	ASF	Static friction when extended	0	
—					PF76	BTS	Belt tension irregular threshold	0	
—					PF77	—	For manufacturer setting	00000000h	
—					PF78	—	For manufacturer setting	00000000h	
—					PF79	—	For manufacturer setting	00110010h	
—					PF80	DRMC	Drive recorder - Operation condition selection	00000000h	
—					PF81	DRMS	Drive recorder - Sampling operation selection	00000000h	
—					PF82	DRTM	Drive recorder - Trigger operation selection	00000000h	
—					PF83	—	For manufacturer setting	00000000h	
—					PF84	DRTC	Drive recorder - Trigger channel selection	005A8101h	
—					PF85	DRTL1	Drive recorder - Trigger level setting 1	0	
—					PF86	DRTL2	Drive recorder - Trigger level setting 2	0	
—					PF87	DRAC1	Drive recorder - Analog channel setting 1	00020201h	
—					PF88	DRAC2	Drive recorder - Analog channel setting 2	02040003h	
—					PF89	DRAC3	Drive recorder - Analog channel setting 3	00090205h	
—					PF90	DRAC4	Drive recorder - Analog channel setting 4	0000020Ch	
—					PF91	DRDC1	Drive recorder - Digital channel setting 1	00120000h	
—					PF92	DRDC2	Drive recorder - Digital channel setting 2	80058010h	
—					PF93	DRDC3	Drive recorder - Digital channel setting 3	8000800Ah	
—					PF94	DRDC4	Drive recorder - Digital channel setting 4	801D8015h	
—					PF95	**DRCLR	Drive recorder - Clear history	00000000h	
—					PF96	—	For manufacturer setting	00000000h	
—					PF97	—	For manufacturer setting	00000000h	
—					PF98	—	For manufacturer setting	00000000h	
—					PF99	—	For manufacturer setting	00000000h	

Motor extension setting servo parameters group ([Pr. PL_ _])

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PL01	*LIT1	Linear servo motor/DD motor function selection 1	0301h		PL01	**LIT1	Function selection L-1	00000301h	
PL02	*LIM	Linear encoder resolution - Numerator	1000		PL02	**LIM	Linear encoder resolution setting - Numerator	1000	
PL03	*LID	Linear encoder resolution - Denominator	1000		PL03	**LID	Linear encoder resolution setting - Denominator	1000	
PL04	*LIT2	Linear servo motor/DD motor function selection 2	0003h		PL04	*LIT2	Function selection L-2	00000003h	
PL05	LB1	Position deviation error detection level	0		PL05	LB1	Position deviation error detection level	0	
PL06	LB2	Speed deviation error detection level	0		PL06	LB2	Speed deviation error detection level	0	
PL07	LB3	Torque/thrust deviation error detection level	100		PL07	LB3	Torque deviation error detection level	100	
PL08	*LIT3	Linear servo motor/DD motor function selection 3	0010h		PL08	*LIT3	Function selection L-3	00001010h	
PL09	LPWM	Magnetic pole detection voltage level	30		PL09	LPWM	Magnetic pole detection voltage level	30	
PL10	—	For manufacturer setting	5		PL10	—	For manufacturer setting	5	
PL11	—	For manufacturer setting	100		PL11	—	For manufacturer setting	100	
PL12	—	For manufacturer setting	500		PL12	—	For manufacturer setting	500	
PL13	—	For manufacturer setting	0000h		PL13	—	For manufacturer setting	00000000h	
PL14	—	For manufacturer setting	0000h		PL14	—	For manufacturer setting	00000000h	
PL15	—	For manufacturer setting	20		PL15	—	For manufacturer setting	20	
PL16	—	For manufacturer setting	0		PL16	—	For manufacturer setting	0	
PL17	LTSTS	Magnetic pole detection - Minute position detection method - Function selection	0000h		PL17	LTSTS	Magnetic pole detection - Minute position detection method - Function selection	00000000h	
PL18	IDLV	Magnetic pole detection - Minute position detection method - Identification signal amplitude	0		PL18	IDLV	Magnetic pole detection - Minute position detection method - Identification signal amplitude	0	
PL19	—	For manufacturer setting	0		PL19	—	For manufacturer setting	0	
PL20	—	For manufacturer setting	0		PL20	—	For manufacturer setting	0	
PL21	—	For manufacturer setting	0		PL21	—	For manufacturer setting	0	
PL22	—	For manufacturer setting	0		PL22	—	For manufacturer setting	0	
PL23	—	For manufacturer setting	0000h		PL23	—	For manufacturer setting	00000000h	
PL24	—	For manufacturer setting	0		PL24	—	For manufacturer setting	0	
PL25	—	For manufacturer setting	0000h		PL25	—	For manufacturer setting	0	
PL26	—	For manufacturer setting	0000h		PL26	—	For manufacturer setting	00000000h	
PL27	—	For manufacturer setting	0000h		PL27	—	For manufacturer setting	00000000h	
PL28	—	For manufacturer setting	0000h		PL28	—	For manufacturer setting	00000000h	
PL29	—	For manufacturer setting	0000h		PL29	—	For manufacturer setting	0	
PL30	—	For manufacturer setting	0000h		PL30	—	For manufacturer setting	00000000h	
PL31	—	For manufacturer setting	0000h		PL31	—	For manufacturer setting	00000000h	
PL32	—	For manufacturer setting	0000h		PL32	—	For manufacturer setting	00000000h	
PL33	—	For manufacturer setting	0000h		PL33	—	For manufacturer setting	00000000h	
PL34	—	For manufacturer setting	0000h		PL34	—	For manufacturer setting	00000000h	
PL35	—	For manufacturer setting	0000h		PL35	—	For manufacturer setting	00000000h	
PL36	—	For manufacturer setting	0000h		PL36	—	For manufacturer setting	00000000h	
PL37	—	For manufacturer setting	0000h		PL37	—	For manufacturer setting	00000000h	

MR-J4-_A_ servo parameter					Corresponding MR-J5-_A_ servo parameter				
No.	Symbol	Servo parameter name	Initial value	Customer setting value	No.	Symbol	Servo parameter name	Initial value	Customer setting value
PL38	—	For manufacturer setting	0000h		PL38	—	For manufacturer setting	00000000h	
PL39	—	For manufacturer setting	0000h		PL39	—	For manufacturer setting	00000000h	
PL40	—	For manufacturer setting	0000h		PL40	—	For manufacturer setting	00000000h	
PL41	—	For manufacturer setting	0000h		PL41	—	For manufacturer setting	00000000h	
PL42	—	For manufacturer setting	0000h		PL42	—	For manufacturer setting	00000000h	
PL43	—	For manufacturer setting	0000h		PL43	—	For manufacturer setting	00000000h	
PL44	—	For manufacturer setting	0000h		PL44	—	For manufacturer setting	00000000h	
PL45	—	For manufacturer setting	0000h		PL45	—	For manufacturer setting	00000000h	
PL46	—	For manufacturer setting	0000h		PL46	—	For manufacturer setting	00000000h	
PL47	—	For manufacturer setting	0000h		PL47	—	For manufacturer setting	00000000h	
PL48	—	For manufacturer setting	0000h		PL48	—	For manufacturer setting	00000000h	
—					PL49	—	For manufacturer setting	00000000h	
—					PL50	—	For manufacturer setting	00000000h	
—					PL51	—	For manufacturer setting	00000000h	
—					PL52	—	For manufacturer setting	00000000h	
—					PL53	—	For manufacturer setting	0	
—					PL54	—	For manufacturer setting	00000000h	
—					PL55	—	For manufacturer setting	00000000h	
—					PL56	—	For manufacturer setting	00000000h	
—					PL57	—	For manufacturer setting	00000000h	
—					PL58	—	For manufacturer setting	00000000h	
—					PL59	—	For manufacturer setting	00000000h	
—					PL60	—	For manufacturer setting	00000000h	
—					PL61	—	For manufacturer setting	00000000h	
—					PL62	—	For manufacturer setting	00000000h	
—					PL63	—	For manufacturer setting	00000000h	
—					PL64	—	For manufacturer setting	00000000h	
—					PL65	—	For manufacturer setting	00000000h	
—					PL66	—	For manufacturer setting	00000000h	
—					PL67	—	For manufacturer setting	00000000h	
—					PL68	—	For manufacturer setting	00000000h	
—					PL69	—	For manufacturer setting	00000000h	
—					PL70	—	For manufacturer setting	00000000h	
—					PL71	—	For manufacturer setting	00000000h	
—					PL72	—	For manufacturer setting	00000000h	

16.3 Comparison of Servo Parameter Details

Point

The following servo amplifier capacities are applicable to the descriptions in this document.

- 200 V 1-axis: 0.1 to 7.0 kW
- 400 V 1-axis: 0.6 to 7.0 kW

The symbol in the P/S/T column indicates the following control modes.

- P: Position control mode
- S: Speed control mode
- T: Torque control mode

The servo parameters of the MR-J5-_A_ described in this section are those of firmware version E0.

Basic setting parameters ([Pr. PA_ _])

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA01	Operation mode		PA01	Operation mode		—
	_ _ _ x: Control mode selection Select a control mode. 0: Position control mode 1: Position control mode and speed control mode 2: Speed control mode 3: Speed control mode and torque control mode 4: Torque control mode 5: Torque control mode and position control mode	0h		[Pr. PA01.0 Control mode selection] Select a control mode. 0: Position control mode (P) 1: Position control mode and speed control mode (P/S) 2: Speed control mode (S) 3: Speed control mode and torque control mode (S/T) 4: Torque control mode (T) 5: Torque control mode and position control mode (T/P)	0h	P S T
	_ _ x _: Operation mode selection 0: Standard control mode 1: Fully closed loop control mode 4: Linear servo motor control mode 6: DD motor control mode Setting any value other than the above will trigger [AL. 37 Parameter error]. Linear servo systems, direct drive servo systems, and fully closed loop systems can be used with MR-J4-_A_(-RJ) servo amplifiers running software version A5 or later.	0h		[Pr. PA01.1 Operation mode selection] 0: Standard control mode 4: Linear servo motor control mode 6: Direct drive motor control mode	0h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PA01.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	1h		Pr. PA01.3 For manufacturer setting	3h	—
—				[Pr. PA01.4 Fully closed loop operation mode selection] Select whether to enable or disable the fully closed loop control mode. The external encoder communication method of four-wire type cannot be used in the fully closed loop control mode on the MR-J5-_A_. Use the MR-J5-_A_-RJ. Setting this servo parameter to "1" in the linear servo motor control mode triggers [AL. 037 Parameter error]. 0: Disabled (semi closed loop control mode) 1: Enabled (fully closed loop control mode)	0h	—
				Pr. PA01.5-7 For manufacturer setting	100h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA02	Regenerative option		PA02	Regenerative option		—
	_ _ x x: Select a regenerative option. Incorrect setting may cause the regenerative option to burn. If a selected regenerative option is not for use with the servo amplifier, [AL. 37 Parameter error] occurs. 00: Regenerative option is not used. • For 100 W servo amplifiers, the regenerative resistor is not used. • Built-in regenerative resistors are used on servo amplifiers with a capacity of 0.2 kW to 7 kW. • Use the supplied regenerative resistor or regenerative option on servo amplifiers with a capacity of 11 kW to 22 kW. 01: FR-RC-(H)/FR-CV-(H)/FR-BU2-(H)/FR-XC-(H) When using the FR-RC-(H), FR-CV-(H), and FR-XC-(H), select "[AL. 10] occurring (_ _ _ 1)" for "Undervoltage alarm detection method selection" of [Pr. PC27]. 02: MR-RB032 03: MR-RB12 04: MR-RB32 05: MR-RB30 06: MR-RB50 (A cooling fan is required.) 08: MR-RB31 09: MR-RB51 (A cooling fan is required.) 0B: MR-RB3N 0C: MR-RB5N (A cooling fan is required.) 80: MR-RB1H-4 81: MR-RB3M-4 (A cooling fan is required.) 82: MR-RB3G-4 (A cooling fan is required.) 83: MR-RB5G-4 (A cooling fan is required.) 84: MR-RB34-4 (A cooling fan is required.) 85: MR-RB54-4 (A cooling fan is required.) 91: MR-RB3U-4 (A cooling fan is required.) 92: MR-RB5U-4 (A cooling fan is required.) FA: When the supplied regenerative resistor or regenerative option is cooled using the cooling fan on servo amplifiers with a capacity of 11 kW to 22 kW to increase the capacity	00h		[Pr. PA02.0-1 Regenerative option selection] Select a regenerative option. Incorrect setting may cause the regenerative option to burn. Other regenerative options cannot be used together with the FR-XC-(H). If a selected regenerative option is not for use with the servo amplifier, [AL. 037 Parameter error] occurs. 00: Regenerative option is not used. • For 100 W servo amplifiers, the regenerative resistor is not used. • Built-in regenerative resistors are used on servo amplifiers with a capacity of 0.2 kW to 7 kW. 01: FR-XC-(H) 02: MR-RB032 03: MR-RB12 05: MR-RB30 06: MR-RB50 (A cooling fan is required.) 08: MR-RB31 09: MR-RB51 (A cooling fan is required.) 0B: MR-RB3N 0C: MR-RB5N (A cooling fan is required.) 0D: MR-RB14 0E: MR-RB34 1C: MR-RB3Z 1D: MR-RB5Z (A cooling fan is required.) 80: MR-RB1H-4 81: MR-RB3M-4 (A cooling fan is required.) 82: MR-RB3G-4 (A cooling fan is required.) 83: MR-RB5G-4 (A cooling fan is required.) 84: MR-RB34-4 (A cooling fan is required.) 85: MR-RB54-4 (A cooling fan is required.) 91: MR-RB3U-4 (A cooling fan is required.) 92: MR-RB5U-4 (A cooling fan is required.) 93: MR-RB3Y-4 (A cooling fan is required.) 94: MR-RB5Y-4 (A cooling fan is required.) "1C" and "1D" are available on servo amplifiers with firmware version B6 or later. "84", "85", "91", and "92" are available on servo amplifiers with firmware version E0 or later.	00h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PA02.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PA02.3 For manufacturer setting	0h	—
—				[Pr. PA02.4 Simple converter selection] When using the simple converter, set this servo parameter. The simple converter and external regenerative option can be used together. When using an external regenerative option, set the regenerative option to be used with [Pr. PA02.0-1]. When [Pr. PA02.0-1 Regenerative option selection] is set to "01" (FR-XC-(H)), setting this servo parameter to "1" (enabled) triggers [AL. 037 Parameter error]. For MR-J5-_A4_, setting this servo parameter to "1" (enabled) triggers [AL. 037 Parameter error]. 0: Simple converter is not used 1: MR-CM3K	0h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
—			PA02	[Pr. PA02.5 Excessive regeneration warning enabled/ disabled selection] When [Pr. PA02.4] is set to "0" (simple converter is not used), setting this servo parameter to "1" (disabled) triggers [AL. 037 Parameter error]. When the simple converter is used, whether to enable or disable the detection of [AL. 0E0.1 Excessive regeneration warning] is selectable with this servo parameter. 0: Enabled 1: Disabled	0h	—
				Pr. PA02.6-7 For manufacturer setting	00h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA03	Absolute position detection system		PA03	Absolute position detection system		—
	_ _ _ x: Absolute position detection system selection Set this digit when using the absolute position detection system in the position control mode. 0: Disabled (incremental system) 1: Enabled (absolute position detection system by DIO) 2: Enabled (absolute position detection system via communications) (available on servo amplifiers with software version A3 or later) The absolute position detection system cannot be used when an incremental type linear encoder is used or when the semi closed/fully closed loop control switching function selection is enabled. At this time, enabling the absolute position detection system triggers [AL. 37]. There are some restrictions when an absolute position detection system is constructed. Refer to section 12.1.2 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details.	0h		[Pr. PA03.0 Absolute position detection system selection] Set this servo parameter when using the absolute position detection system in the position control mode. If the absolute position detection system is switched to the incremental system, the home position is erased. Execute homing again when the absolute position detection system is enabled. 0: Disabled (incremental system) 1: Enabled (absolute position detection system by DIO) 2: Enabled (absolute position detection system via communications) The absolute position detection system cannot be used when an incremental type encoder is used or when the semi closed/fully closed loop control switching function selection is enabled. At this time, enabling the absolute position detection system triggers [AL. 037 Parameter error]. "2" is available on servo amplifiers with firmware version B6 or later. By setting [Pr. PF63.0 [AL. 01A.5 Servo motor combination error 3] selection] to "1" (disabled) while the absolute position detection system is enabled, an in-use servo motor with a batteryless absolute position encoder can be replaced without changing the setting value of [Pr. PA03.1 Servo motor replacement preparation]. Connecting a servo motor that had not been connected at the startup of the absolute position detection system will cause [AL. 025 Absolute position erased], erasing absolute position data. Therefore, check if a correct servo motor is connected.	0h	P
	_ _ x _: For manufacturer setting	0h		[Pr. PA03.1 Servo motor replacement preparation] To replace an in-use batteryless absolute position encoder equipped servo motor while the absolute position detection system is in enabled status, set this servo parameter to "enabled". Selecting "1" (enabled) enables servo motor replacement. After servo motor replacement preparation is complete, the setting automatically changes to "0" (disabled) and the home position is erased. Execute homing again after replacing the servo motor. After setting this servo parameter to "1" (enabled), cycle the power and then deactivate [AL. 01A.5 Servo motor combination error 3]. 0: Disabled 1: Enabled	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PA03.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PA03.3 For manufacturer setting	0h	—
—				Pr. PA03.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA04	Function selection A-1		PA04	Function selection A-1		—
	_ _ _ x: For manufacturer setting	0h		Pr. PA04.0 For manufacturer setting	0h	—
	_ _ x _: For manufacturer setting	0h		Pr. PA04.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PA04.2 For manufacturer setting	0h	—
	x _ _ _: Forced stop deceleration function selection 0: Forced stop deceleration function disabled (EM1 is used) 2: Forced stop deceleration function enabled (EM2 is used) Refer to the following table for details. ☞ Page 504 Deceleration method (MR-J4-_A_)	2h		[Pr. PA04.3 Forced stop deceleration function selection] 0: Forced stop deceleration function disabled (EM1 is used) 2: Forced stop deceleration function enabled (EM2 is used)	2h	P S
—				Pr. PA04.4-7 For manufacturer setting	0000h	—

Deceleration method (MR-J4-_A_)

Setting value	EM2/EM1	Deceleration method	
		EM2 or EM1 is off	Alarm occurrence
0 _ _ _	EM1	MBR (Electromagnetic brake interlock) turns off without the forced stop deceleration.	MBR (Electromagnetic brake interlock) turns off without the forced stop deceleration.
2 _ _ _	EM2	MBR (Electromagnetic brake interlock) turns off after the forced stop deceleration.	MBR (Electromagnetic brake interlock) turns off after the forced stop deceleration.

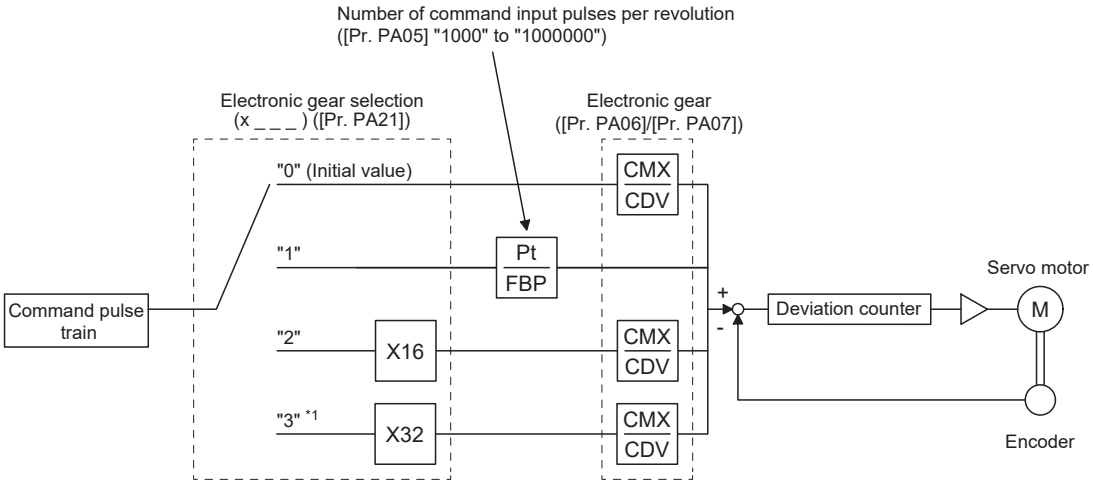
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA05	Number of command input pulses per revolution The servo motor rotates once as per command input pulse that has been set. Selecting "Number of command input pulses per revolution (1 _ _ _)" in "Electronic gear selection" of [Pr. PA21] enables the setting value of this parameter. In the linear servo motor control mode, [Pr. PA21] cannot be set to "1 _ _ _". Setting range: 1000 to 1000000	10000	PA05	Number of command input pulses per revolution The servo motor rotates once as per command input pulse that has been set. The setting value of this servo parameter is enabled when [Pr. PA21.3 Electronic gear compatibility selection] is set to "1" (number of command input pulses per revolution). In the linear servo motor control mode or fully closed loop control mode, [Pr. PA21.3] cannot be set to "1". Setting range: 1000 to 1000000	10000 [pulse]	P
PA06	Electronic gear numerator (command pulse multiplication numerator) Set the electronic gear numerator. This parameter is enabled when "Electronic gear (0 _ _ _)", "J3 electronic gear setting value compatibility mode (2 _ _ _)" or "J2S electronic gear setting value compatibility mode (3 _ _ _)" is selected in "Electronic gear selection" of [Pr. PA21]. Refer to the following table for the approximate setting range of the electronic gear. ☞ Page 506 Setting range of the electric gear (MR-J4-_A_) Ensure that the electronic gear is in servo-off status before setting the gear so as to prevent unexpected operation due to incorrect setting. Setting range: 1 to 16777215	1	PA06	Electronic gear numerator Set the electronic gear numerator. This parameter is enabled in the following condition: [Pr. PA21.3 Electronic gear compatibility selection] is "0" (electronic gear), "2" (J3 electronic gear setting value compatibility mode), "3" (J2S electronic gear setting value compatibility mode), or "4" (J4 electronic gear setting value compatibility mode). Refer to the following table for the condition range of the electronic gear. ☞ Page 506 Setting range of the electric gear (MR-J5-_A_) If the set value is outside this range, noise may be generated during acceleration/deceleration, or operation may not be performed at the preset speed and/or acceleration/deceleration time constants. If the electric gear numerator exceeds "2147483647" by combining this servo parameter and [Pr. PA21.3], the electric gear numerator is limited to "2147483647". Setting range: 1 to 2147483647	1	P

Setting range of the electric gear (MR-J4-_A_)

The approximate setting range of the electric gear is as follows.

$$\frac{1}{10} < \frac{CMX}{CDV} < 4000$$

If the set value is outside this range, noise may be generated during acceleration/deceleration, or operation may not be performed at the preset speed and/or acceleration/deceleration time constants.



Pt (servo motor resolution): 4194304 pulses/rev

*1 This setting value is available on servo amplifiers with software version B3 or later.

Setting range of the electric gear (MR-J5-_A_)

Encoder resolution [pulse]	Setting range (CMX/CDV)
67108864	1/10 < CMX/CDV < 64000

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA07	Electronic gear denominator (command pulse multiplication denominator) Set the electronic gear denominator. This parameter is enabled when "Electronic gear (0 _ _ _)", "J3 electronic gear setting value compatibility mode (2 _ _ _)" or "J2S electronic gear setting value compatibility mode (3 _ _ _)" is selected in "Electronic gear selection" of [Pr. PA21]. Setting range: 1 to 16777215	1	PA07	Electronic gear denominator Set the electronic gear denominator. This parameter is enabled in the following condition: [Pr. PA21.3 Electronic gear compatibility selection] is "0" (electronic gear), "2" (J3 electronic gear setting value compatibility mode), "3" (J2S electronic gear setting value compatibility mode), or "4" (J4 electronic gear setting value compatibility mode). Setting range: 1 to 2147483647	1	P
PA08	Auto tuning mode		PA08	Auto tuning mode		—
	_ _ _ x: Gain adjustment mode selection Select the gain adjustment mode. 0: 2 gain adjustment mode 1 (interpolation mode) 1: Auto tuning mode 1 2: Auto tuning mode 2 3: Manual mode 4: 2 gain adjustment mode 2 Refer to the following table for details. ☞ Page 508 Servo parameters to be adjusted automatically (MR-J4-_A_)	1h		[Pr. PA08.0 Gain adjustment mode selection] Select the gain adjustment mode. 0: 2 gain adjustment mode 1 (interpolation mode) 1: Auto tuning mode 1 2: Auto tuning mode 2 3: Manual mode 4: 2 gain adjustment mode 2 5: Quick tuning mode 6: Load to motor inertia ratio monitor mode Refer to the following table for details. ☞ Page 508 Servo parameters to be adjusted automatically (MR-J5-_A_)	1h	P S
	_ _ x _: For manufacturer setting	0h		Pr. PA08.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PA08.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PA08.3 For manufacturer setting	0h	—
—				[Pr. PA08.4 Quick tuning - Load to motor inertia ratio setting] Set the load to motor inertia ratio at quick tuning. If the load connected to the servo motor is larger than the load to motor inertia ratio set in the servo parameter, an overshoot may occur in positioning operation after quick tuning. 0: Load to motor inertia ratio of 30 times or less 1: Load to motor inertia ratio of 100 times or less	0h	—
				[Pr. PA08.5 Quick tuning - Execution selection] Set when to execute quick tuning. 0: At initial servo-on after cycling the power 1: At every servo-on	0h	—
				[Pr. PA08.6 Quick tuning - Restore selection] Set whether to return servo parameters to the values from before quick tuning. 0: Disabled 1: Enabled By setting "1" (enabled), the following servo parameters return to the values from before quick tuning. If quick tuning has never been performed after power on or software reset, setting "1" (enabled) only keeps the current servo parameter values. Refer to the following table for details. ☞ Page 509 Servo parameters to be restored (MR-J5-_A_)	0h	—
				Pr. PA08.7 For manufacturer setting	0h	—

Servo parameters to be adjusted automatically (MR-J4-_A_)

Setting value	Gain adjustment mode	Parameters to be adjusted automatically
_ _ _ 0	2 gain adjustment mode 1 (interpolation mode)	[Pr. PB06 Load to motor inertia ratio] [Pr. PB08 Position loop gain] [Pr. PB09 Speed loop gain] [Pr. PB10 Speed integral compensation]
_ _ _ 1	Auto tuning mode 1	[Pr. PB06 Load to motor inertia ratio] [Pr. PB07 Model loop gain] [Pr. PB08 Position loop gain] [Pr. PB09 Speed loop gain] [Pr. PB10 Speed integral compensation]
_ _ _ 2	Auto tuning mode 2	[Pr. PB07 Model loop gain [Pr. PB08 Position loop gain] [Pr. PB09 Speed loop gain] [Pr. PB10 Speed integral compensation]
_ _ _ 3	Manual mode	—
_ _ _ 4	2 gain adjustment mode 2	[Pr. PB08 Position loop gain] [Pr. PB09 Speed loop gain] [Pr. PB10 Speed integral compensation]

Servo parameters to be adjusted automatically (MR-J5-_A_)

Setting value of [Pr. PA08.0]	Gain adjustment mode	Servo parameters to be adjusted automatically
0	2 gain adjustment mode 1 (interpolation mode)	[Pr. PB06 Load to motor inertia ratio/load to motor mass ratio] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
1	Auto tuning mode 1	[Pr. PB06 Load to motor inertia ratio/load to motor mass ratio] [Pr. PB07 Model control gain] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
2	Auto tuning mode 2	[Pr. PB07 Model control gain] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
3	Manual mode	—
4	2 gain adjustment mode 2	[Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation]
5	Quick tuning mode	[Pr. PB07 Model control gain] [Pr. PB08 Position control gain] [Pr. PB09 Speed control gain] [Pr. PB10 Speed integral compensation] [Pr. PB13 Machine resonance suppression filter 1] [Pr. PB14 Notch shape selection 1] [Pr. PB15 Machine resonance suppression filter 2] [Pr. PB16 Notch shape selection 2] [Pr. PB18 Low-pass filter setting] [Pr. PB23 Low-pass filter selection] [Pr. PB50 Machine resonance suppression filter 5] [Pr. PB51 Notch shape selection 5] [Pr. PE41 Function selection E-3]
6	Load to motor inertia ratio monitor mode	[Pr. PB06 Load to motor inertia ratio/load to motor mass ratio]

Servo parameters to be restored (MR-J5-_A_)

No.	Symbol	Name
PB01	FILT	Adaptive tuning mode (adaptive filter II)
PB07	PG1	Model control gain
PB08	PG2	Position control gain
PB09	VG2	Speed control gain
PB10	VIC	Speed integral compensation
PB11	VDC	Speed differential compensation
PB13	NH1	Machine resonance suppression filter 1
PB14	NHQ1	Notch shape selection 1
PB15	NH2	Machine resonance suppression filter 2
PB16	NHQ2	Notch shape selection 2
PB18	LPF	Low-pass filter setting
PB23	VFBF	Low-pass filter selection
PB50	NH5	Machine resonance suppression filter 5
PB51	NHQ5	Notch shape selection 5
PE41	EOP3	Function selection E-3 (Robust filter)

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA09	Auto tuning response Set the auto tuning response. Refer to the following table for setting values. ☞ Page 510 Auto tuning response (MR-J4-_A_) Setting range: 1 to 40	16	PA09	Auto tuning response Set the auto tuning response. Refer to the following table for setting values. ☞ Page 511 Auto tuning response (MR-J5-_A_) Setting range: Refer to the text.	16	P S

Auto tuning response (MR-J4-_A_)

Setting value	Machine characteristic	
	Responsiveness	Guideline for machine resonance frequency [Hz]
1	Low response	2.7
2		3.6
3		4.9
4		6.6
5		10.0
6		11.3
7		12.7
8		14.3
9		16.1
10		18.1
11		20.4
12		23.0
13		25.9
14		29.2
15		32.9
16		37.0
17		41.7
18		47.0
19		52.9
20	Middle response	59.6
21		67.1
22		75.6
23		85.2
24		95.9
25		108.0
26		121.7
27		137.1
28		154.4
29		173.9
30		195.9
31		220.6
32		248.5
33		279.9
34		315.3
35		355.1
36		400.0
37		446.6
38		501.2
39	High response	571.5
40		642.7

Auto tuning response (MR-J5-_A_)

Setting value	Machine characteristic	
	Responsiveness	Guideline for machine resonance frequency [Hz]
1	Low response ↑	2.7
2		3.6
3		4.9
4		6.6
5		10.0
6		11.3
7		12.7
8		14.3
9		16.1
10		18.1
11		20.4
12		23.0
13		25.9
14		29.2
15		32.9
16		37.0
17		41.7
18		47.0
19		52.9
20	↓ Middle response ↑	59.6
21		67.1
22		75.6
23		85.2
24		95.9
25		108.0
26		121.7
27		137.1
28		154.4
29		173.9
30		195.9
31		220.6
32		248.5
33		279.9
34		315.3
35		355.1
36		400.0
37		446.6
38		501.2
39	↓ High response	571.5
40		642.7

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA10	In-position range Set the in-position range in the command pulse unit. With the setting of [Pr. PC24], the unit can be changed to the servo motor encoder pulse unit. Setting range: 0 to 65535	100 [pulse]	PA10	In-position range Set the in-position range in the command pulse unit. With the setting of [Pr. PC24.0 In-position range unit selection], the unit can be changed to the servo motor encoder pulse unit. Refer to the following table for setting values. ☞ Page 512 In-position setting (MR-J5-_A_) Setting range: 0 to 16777215	400 [Refer to the text.]	P

In-position setting (MR-J5-_A_)

- In-position range setting

Control mode [Pr. PA01]	In-position setting range
Position, speed, and torque control modes	Range where positioning completion (INP) is output

- Selecting an encoder for in-position range control

[Pr. PA01.4 Fully closed loop operation mode selection]	In-position range unit
"0" (semi closed loop system)	Command resolution unit (motor-side encoder)
"1" (fully closed loop system)	Command resolution unit (load-side encoder)

- In-position range unit

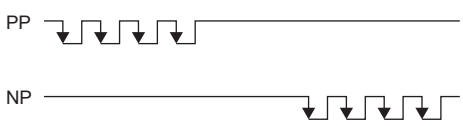
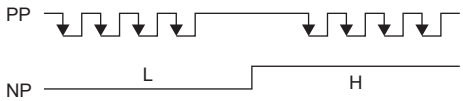
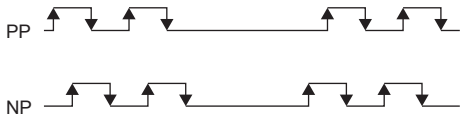
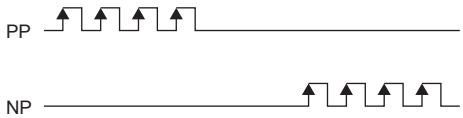
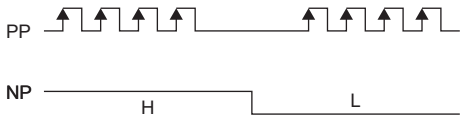
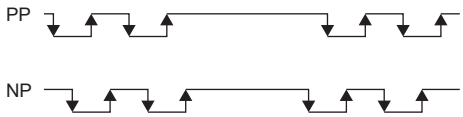
[Pr. PA01.0 Control mode selection]	[Pr. PC24.0 In-position range unit selection]	Unit
Position, speed, and torque control modes	0 (command unit)	pulse
	1 (servo motor encoder pulse unit)	pulse

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA11	Forward rotation torque limit/positive direction thrust limit The torque or thrust generated by the servo motor can be limited. Refer to section 3.6.1 (5) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" before using this parameter. When torque or thrust is output with the analog monitor output, the larger value of either [Pr. PA11 Forward rotation torque limit/positive direction thrust limit] or [Pr. PA12 Reverse rotation torque limit/ negative direction thrust limit] is applied to the torque or thrust at the maximum output voltage (8 V). When setting this servo parameter, consider the maximum torque or maximum thrust as 100.0 [%]. Set the servo parameter when limiting the torque of the servo motor for CCW power running or CW regeneration, or when limiting the thrust of the linear servo motor for positive direction power running or negative direction regeneration. If this servo parameter is set to "0.0", the servo motor does not generate torque or thrust. Setting range: 0.0 to 100.0	100.0 [%]	PA11	Forward rotation torque limit The torque or thrust generated by the servo motor can be limited. Set servo parameters in relation to the rated torque or continuous thrust as 100.0 [%]. Set the servo parameter when limiting the torque of the servo motor for CCW power running or CW regeneration, or when limiting the thrust of the linear servo motor for positive direction power running or negative direction regeneration. If this servo parameter is set to "0.0", the servo motor does not generate torque or thrust. When [Pr. PC50.0 Torque limit unit change] is set to "0" (maximum torque unit), set the servo parameter in relation to the maximum torque or maximum thrust (= 100.0 %). If a value larger than the maximum torque or maximum thrust of the servo motor is set, the value will be limited to the maximum torque or maximum thrust of the servo motor. When torque (thrust) is output with the analog monitor output, the larger value of either [Pr. PA11 Forward rotation torque limit] or [Pr. PA12 Reverse rotation torque limit] is applied to the torque (thrust) at the maximum output voltage. Setting range: 0.0 to 1000.0	1000.0 [%]	P S T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA12	Reverse rotation torque limit/negative direction thrust limit The torque or thrust generated by the servo motor can be limited. Refer to section 3.6.1 (5) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" before using this parameter. When torque or thrust is output with the analog monitor output, the larger value of either [Pr. PA11 Forward rotation torque limit/positive direction thrust limit] or [Pr. PA12 Reverse rotation torque limit/ negative direction thrust limit] is applied to the torque or thrust at the maximum output voltage (8 V). When setting this servo parameter, consider the maximum torque or maximum thrust as 100.0 [%]. Set the servo parameter when limiting the torque of the servo motor for CW power running or CCW regeneration, or when limiting the thrust of the linear servo motor for positive direction power running or negative direction regeneration. If this servo parameter is set to "0.0", the servo motor does not generate torque or thrust. Setting range: 0.0 to 100.0	100.0 [%]	PA12	Reverse rotation torque limit The torque or thrust generated by the servo motor can be limited. Set servo parameters in relation to the rated torque or continuous thrust as 100.0 [%]. Set the servo parameter when limiting the torque of the servo motor for CW power running or CCW regeneration, or when limiting the thrust of the linear servo motor for positive direction power running or negative direction regeneration. If this servo parameter is set to "0.0", the servo motor does not generate torque or thrust. When [Pr. PC50.0 Torque limit unit change] is set to "0" (maximum torque unit), set the servo parameter in relation to the maximum torque or maximum thrust (= 100.0 %). If a value larger than the maximum torque or maximum thrust of the servo motor is set, the value will be limited to the maximum torque or maximum thrust of the servo motor. When torque (thrust) is output with the analog monitor output, the larger value of either [Pr. PA11 Forward rotation torque limit] or [Pr. PA12 Reverse rotation torque limit] is applied to the torque (thrust) at the maximum output voltage. Setting range: 0.0 to 1000.0	1000.0 [%]	P S T

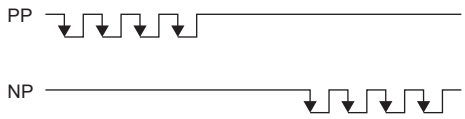
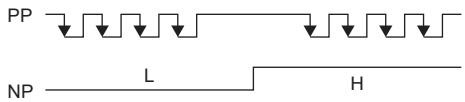
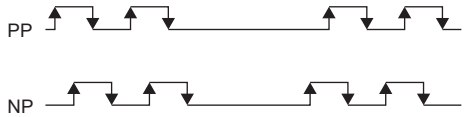
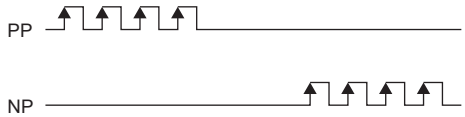
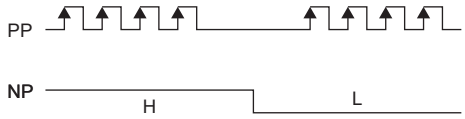
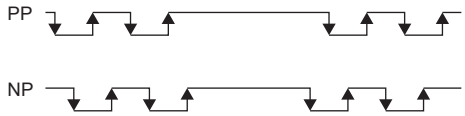
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA13	Command pulse input form		PA13	Command pulse input form		—
	_ _ _ x: Command input pulse train form selection 0: Forward/reverse rotation pulse train 1: Signed pulse train 2: A-phase/B-phase pulse train (the servo amplifier multiplies the input pulse by 4, and captures the multiplied input pulses.) Refer to the following table for setting values. ☞ Page 515 Command input pulse train form selection (MR-J4-_A_)	0h		[Pr. PA13.0 Command input pulse train form selection] 0: Forward/reverse rotation pulse train 1: Signed pulse train 2: A-phase/B-phase pulse train (the servo amplifier multiplies the input pulse by 4, and captures the multiplied input pulses.) Refer to the following table for setting values. ☞ Page 516 Command input pulse train form selection (MR-J5-_A_)	0h	P
	_ _ x _: Pulse train logic selection 0: Positive logic 1: Negative logic Match the logic of the command pulse train received from the connected controller. Refer to "POINT" in section 3.6.1 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for the logics of the MELSEC iQ-R series/MELSEC-Q series/MELSEC-L series/MELSEC-F series. Refer to the following table for setting values. ☞ Page 515 Command input pulse train form selection (MR-J4-_A_)	0h		[Pr. PA13.1 Pulse train logic selection] 0: Positive logic 1: Negative logic Match the logic of the command pulse train received from the connected controller. Refer to the following table for setting values. ☞ Page 516 Command input pulse train form selection (MR-J5-_A_)	0h	P
	_ x _ _: Command input pulse train filter selection Selecting the appropriate filter for the command pulse frequency can increase noise tolerance. 0: Command input pulse train is 4 Mpulses/s or less 1: Command input pulse train is 1 Mpulse/s or less 2: Command input pulse train is 500 kpulses/s or less 3: Command input pulse train is 200 kpulses/s or less (available on servo amplifiers with software version A5 or later) "1" can be set for commands up to 1 Mpulse/s. When inputting commands exceeding 1 Mpulse/s and up to 4 Mpulses/s, set "0". Set a correct value to prevent the following malfunctions. • Setting a value higher than the actual command value will decrease noise tolerance. • Setting a value lower than the actual command will cause a position mismatch.	1h		[Pr. PA13.2 Command input pulse train filter selection] Selecting the appropriate filter for the command pulse frequency can increase noise tolerance. 0: Command input pulse train is 4 Mpulses/s or less 1: Command input pulse train is 1 Mpulse/s or less 2: Command input pulse train is 500 kpulses/s or less 3: Command input pulse train is 200 kpulses/s or less "1" can be set for commands up to 1 Mpulse/s. When inputting commands exceeding 1 Mpulse/s and up to 4 Mpulses/s, set "0". To prevent the following malfunctions, set a correct value in accordance with the command pulse frequency. Setting a value higher than the actual command value will decrease noise tolerance. Setting a value lower than the actual command will cause a position mismatch.	1h	P
	x _ _ _: For manufacturer setting	0h		Pr. PA13.3 For manufacturer setting	0h	—
—				Pr. PA13.4-7 For manufacturer setting	0000h	—

Command input pulse train form selection (MR-J4-_A_)

Setting value	Pulse train form		Forward rotation (positive direction) command	Reverse rotation (negative direction) command
_ _ 1 0	Negative logic	Forward rotation pulse train (positive direction pulse train) Reverse rotation pulse train (negative direction pulse train)		
_ _ 1 1		Positive pulse train		
_ _ 1 2		A-phase pulse train B-phase pulse train		
_ _ 0 0	Positive logic	Forward rotation pulse train (positive direction pulse train) Reverse rotation pulse train (negative direction pulse train)		
_ _ 0 1		Positive pulse train		
_ _ 0 2		A-phase pulse train B-phase pulse train		

Arrows in the table indicate the timing of importing pulse trains. A-phase/B-phase pulse trains are imported after they have been multiplied by 4.

Command input pulse train form selection (MR-J5-_A_)

[Pr. PA13.1]	[Pr. PA13.0]	Pulse train form		Forward rotation (positive direction) command	Reverse rotation (negative direction) command
1	0	Negative logic	Forward rotation pulse train (positive direction pulse train) Reverse rotation pulse train (negative direction pulse train)		
1	1		Positive pulse train		
1	2		A-phase pulse train B-phase pulse train		
0	0	Positive logic	Forward rotation pulse train (positive direction pulse train) Reverse rotation pulse train (negative direction pulse train)		
0	1		Positive pulse train		
0	2		A-phase pulse train B-phase pulse train		

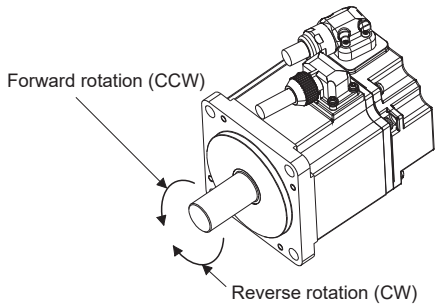
Arrows in the table indicate the timing of importing pulse trains. A-phase/B-phase pulse trains are imported after they have been multiplied by 4.

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA14	Rotation direction selection/travel direction selection Select the servo motor rotation direction or linear servo motor travel direction for the pulse trains input by the rotary servo motor, linear servo motor, and direct drive motor. Setting range: 0, 1	0	PA14	Travel direction selection Select the servo motor rotation direction or linear servo motor travel direction for the command input pulse. • For position control mode With the setting value of [Pr. PA14 Travel direction selection], the rotation and travel direction can be changed without reversing the forward/reverse rotation pulse inputs for the input pulse train. • For speed and torque control modes The rotation and travel direction cannot be changed with the servo parameter. Setting range: 0 to 1	0	P

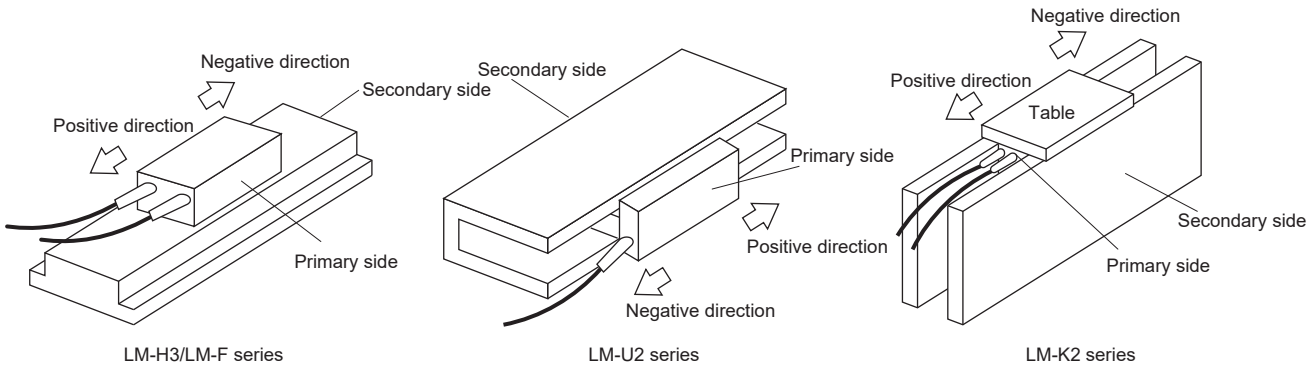
Servo motor rotation direction/linear servo motor travel direction (MR-J4-_A_)

Setting value	Servo motor rotation direction/linear servo motor travel direction	
	Forward rotation pulse input	Reverse rotation pulse input
0	CCW or positive direction	CW or negative direction
1	CW or negative direction	CCW or positive direction

The servo motor rotation direction is as follows.



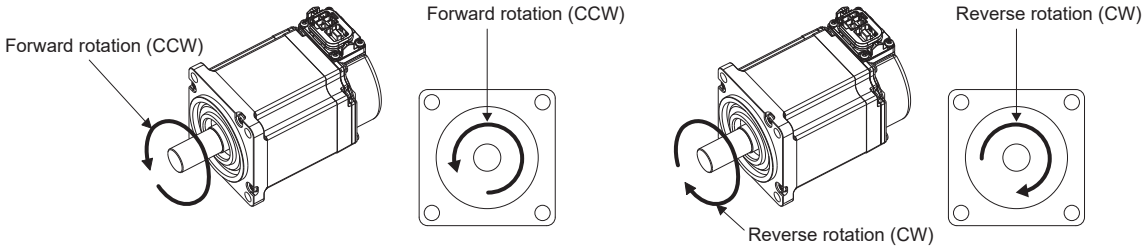
The positive and negative directions of the linear servo motor are as follows.



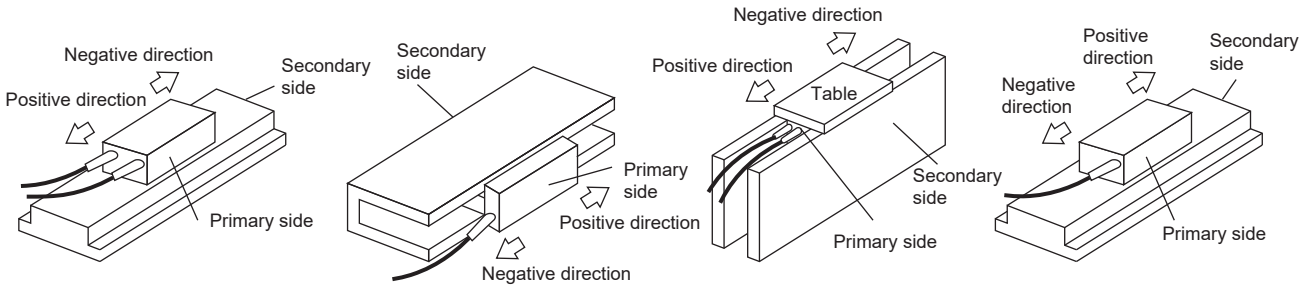
LM-H3/LM-F series　　LM-U2 series　　LM-K2 series

Servo motor rotation direction/linear servo motor travel direction (MR-J5-_A_)

The servo motor rotation direction is as follows.



The positive and negative directions of the linear servo motor are as follows.



LM-H3 series/LM-F series | LM-U2 series/LM-AU series | LM-K2 series | LM-AJ series

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA15	Encoder output pulses Set the encoder output pulses outputted from the servo amplifier, by using the number of output pulses per revolution, dividing ratio, or electronic gear ratio. (after multiplication by 4) Set a numerator for the electronic gear when "A-phase/B-phase pulse electronic gear setting (_ _ 3 _)" is selected for "Encoder output pulse setting selection" of [Pr. PC19]. Refer to appendix 16 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range. Setting range: 1 to 4194304	4000 [pulse/ rev]	PA15	Encoder output pulses Set the encoder output pulses outputted from the servo amplifier, by using the number of output pulses per revolution, dividing ratio, or electronic gear ratio. (after multiplication by 4) Selecting "1" (dividing ratio setting) in [Pr. PC19.1 Encoder output pulse setting selection] will divide the travel distance [pulse] by the setting value. Set a numerator for the electronic gear for the A/B-phase pulse output when selecting "3" (A-phase/B-phase pulse electronic gear setting) in [Pr. PC19.1]. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range. Setting range: 1 to 67108864	4000 [pulse/ rev]	P S T
PA16	Encoder output pulses 2 Set the electronic gear denominator for the A/B-phase pulse output. Set a denominator for the electronic gear when "A-phase/B-phase pulse electronic gear setting (_ _ 3 _)" is selected for "Encoder output pulse setting selection" of [Pr. PC19]. Refer to appendix 16 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range. Setting range: 1 to 4194304	1	PA16	Encoder output pulses 2 Set the electronic gear denominator for the A/B-phase pulse output. Set a denominator for the electronic gear when selecting "3" (A-phase/B-phase pulse electronic gear setting) in [Pr. PC19.1 Encoder output pulse setting selection]. Selecting "1" (dividing ratio setting) in [Pr. PC19.1] will disable the setting value. The maximum output frequency is 4.6 Mpulses/s. Set the value within the range. Setting range: 1 to 67108864	1	P S T
PA17	Servo motor series setting When using a linear servo motor, select any linear servo motor with [Pr. PA17] and [Pr. PA18]. Set this at the same time with [Pr. PA18]. Refer to the following table for setting values. ☞ Page 520 Linear servo motor list (MR-J4-_A_)	0000h	PA17	Servo motor series setting To select the linear servo motor to be used, set this servo parameter and [Pr. PA18.0-3 Servo motor type setting]. Set this at the same time with [Pr. PA18.0-3]. Refer to the following table for setting values. ☞ Page 521 Linear servo motor list (MR-J5-_A_)	00000000h	P S T

Linear servo motor list (MR-J4-_A_)

Linear servo motor series	Linear servo motor (primary side)	Servo parameter	
		Setting value of [Pr. PA17]	Setting value of [Pr. PA18]
LM-H3	LM-H3P2A-07P-BSS0	00BBh	2101h
	LM-H3P3A-12P-CSS0		3101h
	LM-H3P3B-24P-CSS0		3201h
	LM-H3P3C-36P-CSS0		3301h
	LM-H3P3D-48P-CSS0		3401h
	LM-H3P7A-24P-ASS0		7101h
	LM-H3P7B-48P-ASS0		7201h
	LM-H3P7C-72P-ASS0		7301h
	LM-H3P7D-96P-ASS0		7401h
LM-U2	LM-U2PAB-05M-0SS0	00B4h	A201h
	LM-U2PAD-10M-0SS0		A401h
	LM-U2PAF-15M-0SS0		A601h
	LM-U2PBB-07M-1SS0		B201h
	LM-U2PBD-15M-1SS0		B401h
	LM-U2PBF-22M-1SS0		2601h
	LM-U2P2B-40M-2SS0		2201h
	LM-U2P2C-60M-2SS0		2301h
	LM-U2P2D-80M-2SS0		2401h
LM-F	LM-FP2B-06M-1SS0 (natural cooling)	00B2h	2201h
	LM-FP2D-12M-1SS0 (natural cooling)		2401h
	LM-FP2F-18M-1SS0 (natural cooling)		2601h
	LM-FP4B-12M-1SS0 (natural cooling)		4201h
	LM-FP4D-24M-1SS0 (natural cooling)		4401h
	LM-FP4F-36M-1SS0 (natural cooling)		4601h
	LM-FP4H-48M-1SS0 (natural cooling)		4801h
	LM-FP5H-60M-1SS0 (natural cooling)		5801h
	LM-FP2B-06M-1SS0 (liquid-cooling)		2202h
	LM-FP2D-12M-1SS0 (liquid-cooling)		2402h
	LM-FP2F-18M-1SS0 (liquid-cooling)		2602h
	LM-FP4B-12M-1SS0 (liquid-cooling)		4202h
	LM-FP4D-24M-1SS0 (liquid-cooling)		4402h
	LM-FP4F-36M-1SS0 (liquid-cooling)		4602h
	LM-FP4H-48M-1SS0 (liquid-cooling)		4802h
	LM-FP5H-60M-1SS0 (liquid-cooling)		5802h
LM-K2	LM-K2P1A-01M-2SS1	00B8h	1101h
	LM-K2P1C-03M-2SS1		1301h
	LM-K2P2A-02M-1SS1		2101h
	LM-K2P2C-07M-1SS1		2301h
	LM-K2P2E-12M-1SS1		2501h
	LM-K2P3C-14M-1SS1		3301h
	LM-K2P3E-24M-1SS1		3501h

Linear servo motor list (MR-J5-_A_)

Linear servo motor series	Linear servo motor (primary side)	Servo parameter	
		Setting value of [Pr. PA17]	Setting value of [Pr. PA18.0-3]
LM-H3	LM-H3P2A-07P-BSS0	000000BBh	2101h
	LM-H3P3A-12P-CSS0		3101h
	LM-H3P3B-24P-CSS0		3201h
	LM-H3P3C-36P-CSS0		3301h
	LM-H3P3D-48P-CSS0		3401h
	LM-H3P7A-24P-ASS0		7101h
	LM-H3P7B-48P-ASS0		7201h
	LM-H3P7C-72P-ASS0		7301h
	LM-H3P7D-96P-ASS0		7401h
LM-U2	LM-U2PAB-05M-0SS0	000000B4h	A201h
	LM-U2PAD-10M-0SS0		A401h
	LM-U2PAF-15M-0SS0		A601h
	LM-U2PBB-07M-1SS0		B201h
	LM-U2PBD-15M-1SS0		B401h
	LM-U2PBF-22M-1SS0		2601h
	LM-U2P2B-40M-2SS0		2201h
	LM-U2P2C-60M-2SS0		2301h
	LM-U2P2D-80M-2SS0		2401h
LM-F	LM-FP2B-06M-1SS0 (natural cooling)	000000B2h	2201h
	LM-FP2D-12M-1SS0 (natural cooling)		2401h
	LM-FP2F-18M-1SS0 (natural cooling)		2601h
	LM-FP4B-12M-1SS0 (natural cooling)		4201h
	LM-FP4D-24M-1SS0 (natural cooling)		4401h
	LM-FP4F-36M-1SS0 (natural cooling)		4601h
	LM-FP4H-48M-1SS0 (natural cooling)		4801h
	LM-FP5H-60M-1SS0 (natural cooling)		5801h
	LM-FP2B-06M-1SS0 (liquid-cooling)		2202h
	LM-FP2D-12M-1SS0 (liquid-cooling)		2402h
	LM-FP2F-18M-1SS0 (liquid-cooling)		2602h
	LM-FP4B-12M-1SS0 (liquid-cooling)		4202h
	LM-FP4D-24M-1SS0 (liquid-cooling)		4402h
	LM-FP4F-36M-1SS0 (liquid-cooling)		4602h
	LM-FP4H-48M-1SS0 (liquid-cooling)		4802h
	LM-FP5H-60M-1SS0 (liquid-cooling)		5802h
LM-K2	LM-K2P1A-01M-2SS1	000000B8h	1101h
	LM-K2P1C-03M-2SS1		1301h
	LM-K2P2A-02M-1SS1		2101h
	LM-K2P2C-07M-1SS1		2301h
	LM-K2P2E-12M-1SS1		2501h
	LM-K2P3C-14M-1SS1		3301h
	LM-K2P3E-24M-1SS1		3501h

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA18	Servo motor type setting		PA18	Servo motor type setting		—
	When using a linear servo motor, select any linear servo motor with [Pr. PA17] and [Pr. PA18]. Set this at the same time with [Pr. PA17]. Refer to the following table for setting values. ☞ Page 520 Linear servo motor list (MR-J4-_A_)	0000h		PA18.0-3 When using a linear servo motor, select any linear servo motor with [Pr. PA17 Servo motor series setting] and [Pr. PA18.0-3 Servo motor type setting]. Set this at the same time with [Pr. PA17]. Refer to the following table for setting values. ☞ Page 521 Linear servo motor list (MR-J5-_A_)	0000h	P S T
—				PA18.4-7 For manufacturer setting	0000h	—
PA19	Parameter writing inhibit Select a reference range and writing range for the parameter. Refer to the following table for setting values. ☞ Page 522 Setting value and read/write range of [Pr. PA19] (MR-J4-_A_)	00AAh	PA19	Servo parameter writing prohibited Select a reference range and writing range for the servo parameter. Refer to the following table for setting values. ☞ Page 523 Setting value and read/write range of [Pr. PA19] (MR-J5-_A_)	000000ABh	P S T

Setting value and read/write range of [Pr. PA19] (MR-J4-_A_)

PA19	Setting value operation	PA	PB	PC	PD	PE	PF	PL
Setting values not listed below	Readable	○	—	—	—	—	—	—
	Writable	○	—	—	—	—	—	—
000Ah	Readable	19 only	—	—	—	—	—	—
	Writable	19 only	—	—	—	—	—	—
000Bh	Readable	○	○	○	—	—	—	—
	Writable	○	○	○	—	—	—	—
000Ch	Readable	○	○	○	○	—	—	—
	Writable	○	○	○	○	—	—	—
00AAh (Initial value)	Readable	○	○	○	○	○	○	—
	Writable	○	○	○	○	○	○	—
00ABh	Readable	○	○	○	○	○	○	○
	Writable	○	○	○	○	○	○	○
100Bh	Readable	○	—	—	—	—	—	—
	Writable	19 only	—	—	—	—	—	—
100Ch	Readable	○	○	○	○	—	—	—
	Writable	19 only	—	—	—	—	—	—
10AAh	Readable	○	○	○	○	○	○	—
	Writable	19 only	—	—	—	—	—	—
10ABh	Readable	○	○	○	○	○	○	○
	Writable	19 only	—	—	—	—	—	—

Setting value and read/write range of [Pr. PA19] (MR-J5-_A_)

[Pr. PA19]	Setting value operation	PA	PB	PC	PD	PE	PF	PO	PS	PL, PU	PT, PV	PN
Setting values not listed below	Readable	○	×	×	×	×	×	×	×	×	×	×
	Writable	○	×	×	×	×	×	×	×	×	×	×
0000000A	Readable	19 only	×	×	×	×	×	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000000B	Readable	○	○	○	×	×	×	×	×	×	×	×
	Writable	○	○	○	×	×	×	×	×	×	×	×
0000000C	Readable	○	○	○	○	×	×	×	×	×	×	×
	Writable	○	○	○	○	×	×	×	×	×	×	×
0000000D	Readable	○	○	○	○	×	×	×	○	×	×	×
	Writable	○	○	○	○	×	×	×	○	×	×	×
0000000E	Readable	○	○	○	○	×	×	○	○	×	×	×
	Writable	○	○	○	○	×	×	○	○	×	×	×
0000000F	Readable	○	○	○	○	○	×	○	○	○	×	×
	Writable	○	○	○	○	○	×	○	○	○	×	×
000000AA	Readable	○	○	○	○	○	○	×	×	×	×	×
	Writable	○	○	○	○	○	○	×	×	×	×	×
000000AB (initial value)	Readable	○	○	○	○	○	○	○	○	○	○	○
	Writable	○	○	○	○	○	○	○	○	○	○	○
0000100B	Readable	○	×	×	×	×	×	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100C	Readable	○	○	○	○	×	×	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100D	Readable	○	○	○	○	×	×	×	○	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100E	Readable	○	○	○	○	×	×	○	○	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
0000100F	Readable	○	○	○	○	○	×	○	○	○	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
000010AA	Readable	○	○	○	○	○	○	×	×	×	×	×
	Writable	19 only	×	×	×	×	×	×	×	×	×	×
000010AB	Readable	○	○	○	○	○	○	○	○	○	○	○
	Writable	19 only	×	×	×	×	×	×	×	×	×	×

The settings of this servo parameter are disabled if they are read/written via engineering tools (such as MR Configurator2).

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA20	Tough drive setting Depending on the status of the power supply and load fluctuation, the tough drive function may not be able to avoid alarms. In [Pr. PD23] to [Pr. PD26], [Pr. PD28], and [Pr. PD47], MTTR (During tough drive) can be assigned to the CN1-22 to CN1-25 pins, CN1-49 pin, CN1-13 pin, and CN1-14 pin.		PA20	Tough drive setting		—
	_ _ _ x: For manufacturer setting	0h		Pr. PA20.0 For manufacturer setting	0h	—
	_ _ x _: Vibration tough drive selection 0: Disabled 1: Enabled Selecting "1" for this digit suppresses vibrations by automatically changing the setting values of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2] if the vibration exceeds the value of the oscillation level set in [Pr. PF23]. To output the oscillation detection alarm as a warning, the setting can be changed in [Pr. PF24 Vibration tough drive function selection]. Refer to section 7.3 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for the settings.	0h		[Pr. PA20.1 Vibration tough drive selection] 0: Disabled 1: Machine resonance suppression filter change mode enabled 2: Machine resonance suppression filter automatic setting mode Selecting other than "0" for this servo parameter suppresses vibrations by automatically changing the setting values of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2] if the vibration exceeds the value of the oscillation level set in [Pr. PF23 Vibration tough drive - Oscillation detection level]. For "1", the vibration tough drive functions when [Pr. PB13] and [Pr. PB15] are enabled. For "2", the vibration tough drive functions even when [Pr. PB13] and [Pr. PB15] are disabled. When using the vibration tough drive, selecting "2" (machine resonance suppression filter automatic setting mode) is recommended.	0h	P S
	_ x _ _: SEMI-F47 function selection 0: Disabled 1: Enabled Selecting "1" enables to avoid triggering [AL. 10 Undervoltage] by using the electrical energy charged in the capacitor in case that an instantaneous power failure occurs during operation. In [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time], the time until the occurrence of [AL. 10.1 Voltage drop in the control circuit power] can be set.	0h		[Pr. PA20.2 SEMI-F47 function selection] 0: Disabled 1: Enabled Selecting "1" enables to avoid triggering [AL. 010 Undervoltage] by using the electrical energy charged in the capacitor in case that an instantaneous power failure occurs during operation. In [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)], the time until the occurrence of [AL. 010.1 Voltage drop in the control circuit power] can be set.	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PA20.3 For manufacturer setting	0h	—
—				Pr. PA20.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA21	Function selection A-3		PA21	Function selection A-3		—
	_ _ _ x: One-touch tuning function selection 0: Disabled 1: Enabled When this digit is set to "0", one-touch tuning cannot be performed.	1h		[Pr. PA21.0 One-touch tuning function selection] 0: Disabled 1: Enabled When the servo parameter is set to "0", the one-touch tuning cannot be performed.	1h	P S
	_ _ x _: For manufacturer setting	0h		Pr. PA21.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PA21.2 For manufacturer setting	0h	—
	x _ _ _: Electronic gear selection 0: Electronic gear ([Pr. PA06] or [Pr. PA07]) 1: Number of command input pulses per revolution ([Pr. PA05]) 2: J3 electronic gear setting value compatibility mode (Electronic gear ([Pr. PA06] or [Pr. PA07] ×16)) Use this setting value when replacing the HF/HC/HA series servo motor (262144 pulses/rev) with the HG series servo motor (4194304 pulses/rev). Setting this digit to "2" allows the setting value of the electronic gear set in the MR-J3 servo amplifier to be used. 3: J2S electronic gear setting value compatibility mode (Electronic gear ([Pr. PA06] or [Pr. PA07] ×32)) Use this setting value when replacing the HC/HA series servo motor (131072 pulses/rev) with the HG series servo motor (4194304 pulses/rev). Setting this digit to "3" allows the setting value of the electronic gear set in the MR-J2S servo amplifier to be used. (available on servo amplifiers with software version B3 or later)	0h		[Pr. PA21.3 Electronic gear compatibility selection] Set a value for the electronic gear compatibility selection. Refer to the following table for setting values. ☞ Page 525 Electronic gear compatibility selection (MR-J5-_A_)	0h	P
—				Pr. PA20.4-7 For manufacturer setting	0000h	—

Electronic gear compatibility selection (MR-J5-_A_)

Setting value	Function selection	Electronic gear numerator	Electronic gear denominator	Explanation
0	Electronic gear	[Pr. PA06]	[Pr. PA07]	—
1	Number of command input pulses per revolution	Encoder resolution	[Pr. PA05]	—
2	J3 electronic gear setting value compatibility mode	[Pr. PA06] × 256	[Pr. PA07]	The setting value of the electronic gear for MR-J3 can be used. Set this value when the encoder resolution of the servo motor was 262144 [pulse/rev].
3	J2S electronic gear setting value compatibility mode	[Pr. PA06] × 512	[Pr. PA07]	The setting value of the electronic gear for MR-J2S can be used. Set this value when the encoder resolution of the servo motor was 131072 [pulse/rev].
4	J4 electronic gear setting value compatibility mode	[Pr. PA06] × 16	[Pr. PA07]	The setting value of the electronic gear for MR-J4 can be used. Set this value when the encoder resolution of the servo motor was 4194304 [pulse/rev].

In the linear servo motor control mode or fully closed loop control mode, "1" is not available. Setting "1" triggers [AL. 037 Parameter error].

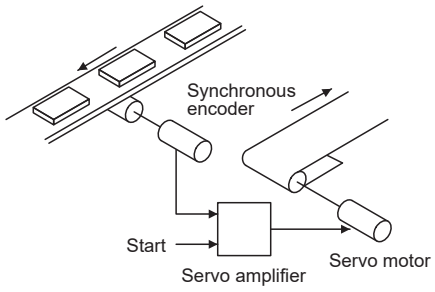
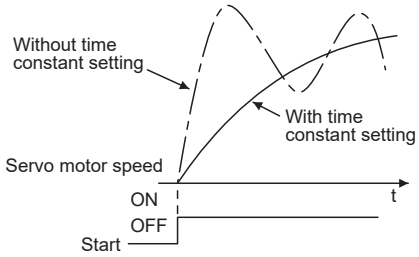
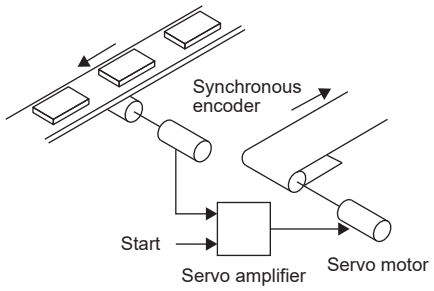
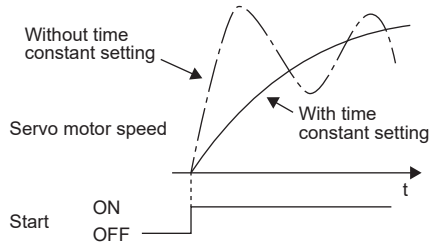
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA22	Position control composition selection		PA22	Position control configuration selection		—
	_ _ _ x: For manufacturer setting	0h		Pr. PA22.0 For manufacturer setting	0h	—
	_ _ x _: Super trace control selection 0: Disabled 2: Enabled This digit is available on servo amplifiers with software version B4 or later.	0h		[Pr. PA22.1 Super trace function selection] 0: Disabled 2: Enabled	0h	P
	_ x _ _: For manufacturer setting	0h		Pr. PA22.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PA22.3 For manufacturer setting	0h	—
—				Pr. PA22.4-7 For manufacturer setting	0000h	—
PA23	Drive recorder arbitrary alarm trigger setting Setting example: To activate the drive recorder when [AL. 50 Overload 1] occurs, set this parameter to "5 0 0 0". To activate the drive recorder when [AL. 50.3 Thermal overload error 4 during operation] occurs, set this parameter to "5 0 0 3".		PA23	Drive recorder desired alarm trigger setting This servo parameter is enabled in the following conditions: • [Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) • [Pr. PF80.0] = "1" (manual setting mode) and [Pr. PF82.0 Drive recorder - Trigger mode selection] = "0" (alarm trigger) (Example) To activate the drive recorder when [AL. 050 Overload 1] occurs, set "00005000h". To activate the drive recorder when [AL. 050.3 Thermal overload error 4 during operation] occurs, set this servo parameter to "00005003h".		—
	_ _ x x: Alarm detail number setting Set this to execute the trigger with a desired alarm detail No. for the drive recorder function. When this digit is set to "0 0", only the desired alarm No. setting will be enabled.	00h		[Pr. PA23.0-1 Alarm detail number setting] Set this servo parameter to execute the trigger with a desired alarm detail No. for the drive recorder function. When "00h" is selected, only the desired alarm No. setting will be enabled.	00h	P S T
	x x _ _: Alarm number setting Set this to execute the trigger with a desired alarm No. for the drive recorder function. When "0 0" is selected, the desired alarm trigger of the drive recorder will be disabled.	00h		[Pr. PA23.2-4 Alarm number setting] Set this to execute the trigger with a desired alarm No. for the drive recorder function. When "000h" is selected, the desired alarm trigger of the drive recorder is disabled.	000h	P S T
—				Pr. PA23.5-7 For manufacturer setting	000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PA24	Function selection A-4		PA24	Function selection A-4		—
	_ _ _ x: Vibration suppression mode selection 0: Standard mode 1: 3 inertia mode 2: Low response mode When the standard mode or low response mode is selected, vibration suppression control 2 cannot be used. When 3 inertia mode is selected, feed forward gain cannot be used. Before changing the control mode in "3 inertia mode" or "low response mode", stop the motor.	0h		[Pr. PA24.0 Vibration suppression mode selection] 0: Standard mode 1: 3 inertia mode 2: Low response mode 4: Path tracking mode When other than "3 inertia mode" is selected, vibration suppression control 2 cannot be used. Before changing the control mode in "3 inertia mode" or "low response mode", stop the motor. Before changing the control mode in "path tracking mode", stop the motor.	0h	P S
	_ _ x _: For manufacturer setting	0h		Pr. PA24.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PA24.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PA24.3 For manufacturer setting	0h	—
—				Pr. PA24.4-7 For manufacturer setting	0000h	—
PA25	One-touch tuning - Overshoot permissible level Set a permissible value of overshoot amount for one-touch tuning as a percentage of the in-position range. If the setting value is "0", the level will be 50 %. Setting range: 0 to 100	0 [%]	PA25	One-touch tuning - Overshoot permissible level Set a permissible value of overshoot amount for one-touch tuning as a percentage of the in-position range. When "0" is set, 50 % is applied. Setting range: 0 to 100	0 [%]	P S
PA26	Function selection A-5		PA26	Function selection A-5		—
	_ _ _ x: Torque limit function selection at instantaneous power failure (Instantaneous power failure tough drive selection) 0: Disabled 1: Enabled If an instantaneous power failure occurs during operation, limiting the torque at acceleration saves the electric energy charged in the capacitor in the servo amplifier. And consequently the time until [AL. 10.2 Voltage drop in the main circuit power] occurs can be delayed with instantaneous power failure tough drive function. Thus, the time to be set in [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time] can be extended. The torque limit function at instantaneous power failure is enabled when "SEMI-F47 function selection" in [Pr. PA20] is set to "Enabled (_ 1 _ _)". This digit is available on servo amplifiers with software version A6 or later.	0h		[Pr. PA26.0 Torque limit function selection at instantaneous power failure] 0: Disabled 1: Enabled By setting "1", if an instantaneous power failure occurs during operation, limiting the torque at acceleration saves the electric energy charged in the capacitor in the servo amplifier. And consequently the time until [AL. 010.2 Voltage drop in the main circuit power] occurs can be delayed with instantaneous power failure tough drive function. Thus, the time to be set in [Pr. PF25 SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time)] can be extended. The torque limit function at instantaneous power failure is enabled when [Pr. PA20.2 SEMI-F47 function selection] is "1" (enabled).	0h	P S
	_ _ x _: For manufacturer setting	0h		Pr. PA26.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PA26.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PA26.3 For manufacturer setting	0h	—
—				Pr. PA26.4-7 For manufacturer setting	0000h	—

Gain/filter setting parameters ([Pr. PB_ _])

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB01	Adaptive tuning mode (adaptive filter Ⅱ)		PB01	Adaptive tuning mode (adaptive filter II)		—
	_ _ _ x: Filter tuning mode selection Setting of the adaptive tuning is performed. Select the adjustment mode of the machine resonance suppression filter 1. Refer to section 7.1.2 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. 0: Disabled 1: Automatic setting (Do not use the automatic setting at torque control.) 2: Manual setting	0h		[Pr. PB01.0 Filter tuning mode selection] Setting of the adaptive tuning is performed. Select the adjustment mode of the machine resonance suppression filter 1. 0: Disabled 1: Automatic setting 2: Manual setting When the servo parameter is set to "automatic setting", [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB14 Notch shape selection 1] will be set automatically. The automatic setting of machine resonance suppression filter 1 cannot be used if quick tuning is in progress. While quick tuning is in progress, adaptive filter II (adaptive tuning) does not start even if the automatic setting of machine resonance suppression filter 1 is used. The results obtained from the quick tuning are applied to [Pr. PB13] and [Pr. PB14]. Do not use the automatic setting in the torque mode.	0h	P S T
	_ _ x _: For manufacturer setting	0h		Pr. PB01.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PB01.2 For manufacturer setting	0h	—
	x _ _ _: Tuning accuracy selection 0: Standard 1: High accuracy In the high-accuracy mode, the frequency is estimated more accurately than in the standard mode, but the sound during adjustment is larger. This digit is available on servo amplifiers with software version C5 or later.	0h		[Pr. PB01.3 Tuning accuracy selection] 0: Standard 1: High accuracy In the high accuracy mode, the sound during tuning may be larger than in the standard mode, but the frequency is estimated more accurately.	0h	P S T
—				Pr. PB01.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB02	Vibration suppression control tuning mode (advanced vibration suppression control Ⅱ)		PB02	Vibration suppression control tuning mode (advanced vibration suppression control Ⅱ)		—
	_ _ _ x: Vibration suppression control 1 - Tuning mode selection Select the tuning mode of the vibration suppression control 1. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] Select the tuning mode of the vibration suppression control 1. 0: Disabled 1: Automatic setting 2: Manual setting	0h	P
	_ _ x _: Vibration suppression control 2 - Tuning mode selection Select the tuning mode of the vibration suppression control 2. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this digit is enabled. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. 0: Disabled 1: Automatic setting 2: Manual setting	0h		[Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] Select the tuning mode of the vibration suppression control 2. To enable the setting value, set [Pr. PA24.0 Vibration suppression mode selection] to "1" (3 inertia mode). 0: Disabled 1: Automatic setting 2: Manual setting	0h	P
	_ x _ _: For manufacturer setting	0h		Pr. PB02.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PB02.3 For manufacturer setting	0h	—
—				Pr. PB02.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB03	Position command acceleration/deceleration time constant (position smoothing) Set the constant of a primary delay filter for the position command. The control method can be selected from "Primary delay" or "Linear acceleration/deceleration" in "Position acceleration/deceleration filter method selection" of [Pr. PB25]. The setting range of "Linear acceleration/deceleration" is 0 ms to 10 ms. When a value of 10 ms or larger is set, the value is recognized as 10 ms. When "Linear acceleration/deceleration" is selected, do not change "Control mode selection" ([Pr. PA01]) to any setting other than "_ _ _ 0". Doing so brings the servo motor or linear servo motor to a quick stop at the time of position control mode switching. (Example) When a command is given from a synchronous encoder, a synchronous operation will start smoothly even during line operation.   Setting range: 0 to 65535	0 [ms]	PB03	Position command speed adjustment time constant (position smoothing) Set the constant of a primary delay filter for the position command in the position control mode. The control method can be selected from "0" (primary delay) or "1" (linear acceleration/deceleration) in [Pr. PB25.1 Position acceleration/deceleration filter method selection]. When [Pr. PB25.1] is set to "1", the setting value of this servo parameter can be set within the range of "0 to 10". Even if this servo parameter is set to a value larger than "10", the acceleration/deceleration time constants of the position command will remain "10". When the linear acceleration/deceleration is selected, do not change [Pr. PA01.0 Control mode selection] to any setting other than "0" (position control mode (P)). Doing so will cause the servo motor to make a sudden stop at the time of position control mode switching. (Example) When a command is given from a synchronous encoder, a synchronous operation will start smoothly even during line operation.   Setting range: 0 to 65535	0 [ms]	P
PB04	Feed forward gain Set the feed forward gain. When 100% is set and constant speed operation is performed, the droop pulses become almost zero. If the super trace control is enabled, the droop pulses are almost 0 in operation at uniform acceleration/deceleration, as well as at the constant speed. However, if sudden acceleration/deceleration is performed, overshoot becomes large. When the feed forward gain is set to 100%, set a value not smaller than 1 s for the acceleration time constant until the rated speed is reached. Setting range: 0 to 100	0 [%]	PB04	Feed forward gain Set the feed forward gain. When "100" is set, the droop pulses are almost 0 in operation at the constant speed. If the super trace control is enabled, the droop pulses are almost 0 in operation at uniform acceleration/deceleration, as well as at the constant speed. However, if sudden acceleration/deceleration is performed, overshoot becomes large. When the feed forward gain is set to 100 %, set a value not smaller than 1 s for the acceleration time constant until the rated speed is reached. Setting range: 0 to 100	0 [%]	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB06	Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio or load to motor mass ratio. Setting a value greatly different from the actual load moment of inertia or load mass may cause an unexpected operation such as an overshoot. This parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 532 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J4-_A_) When the parameter is set to automatic setting, the value varies within the range of 0.00 to 100.00. Setting range: 0.00 to 300.00	7.00 [Multiplier]	PB06	Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio or load to motor mass ratio. Setting a value different from the actual load moment of inertia or load mass may cause an unexpected operation such as an overshoot. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 532 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5-_A_) When the servo parameter is set to automatic setting, the value varies within the range of 0.00 to 100.00. Setting range: 0.00 to 300.00	7.00 [Multiplier]	P S

State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J4-_A_)

Pr. PA08	Parameter status
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	Manual setting
_ _ _ 3 (manual mode)	
_ _ _ 4 (2 gain adjustment mode 2)	

State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5-_A_)

[Pr. PA08.0]	Servo parameter status
"0" (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
"1" (auto tuning mode 1)	
"2" (auto tuning mode 2)	Manual setting
"3" (manual mode)	
"4" (2 gain adjustment mode 2)	
"5" (quick tuning mode)	
"6" (load to motor inertia ratio monitor mode)	Automatic setting

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB07	Model loop gain Set the response gain to the target position. Increasing the setting value improves responsiveness to the position command, but increasing the value too much raises the likelihood of vibration and noise. The setting range of [Pr. PB07] is limited in the vibration suppression control tuning mode. Refer to section 7.1.5 (4) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. This parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 533 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J4-_A_) Setting range: 1.0 to 2000.0	15.0 [rad/s]	PB07	Model control gain Set the response gain to the target position. Increasing the setting value improves responsiveness to the position command, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0]. Refer to the following table for details. ☞ Page 533 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J5-_A_) When the vibration suppression control is enabled, the settable range of [Pr. PB07 Model control gain] is limited. If [Pr. PB07] exceeds the settable range, the vibration suppression control is disabled. Setting range: 1.0 to 8000.0	15.0 [rad/s]	P S

State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J4-_A_)

Pr. PA08	Parameter status
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Manual setting
_ _ _ 1 (auto tuning mode 1)	Automatic setting
_ _ _ 2 (auto tuning mode 2)	
_ _ _ 3 (manual mode)	Manual setting
_ _ _ 4 (2 gain adjustment mode 2)	

State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J5-_A_)

[Pr. PA08.0]	Servo parameter status
"0" (2 gain adjustment mode 1 (interpolation mode))	Manual setting
"1" (auto tuning mode 1)	Automatic setting
"2" (auto tuning mode 2)	
"3" (manual mode)	Manual setting
"4" (2 gain adjustment mode 2)	
"5" (quick tuning mode)	Automatic setting
"6" (load to motor inertia ratio monitor mode)	Manual setting

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB08	Position loop gain Set the gain of the position loop. Set this servo parameter when increasing the position responsiveness to level load disturbance. Increasing the setting value improves responsiveness to the load disturbance, but increasing the value too much raises the likelihood of vibration and noise. This parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 534 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4-_A_) Setting range: 1.0 to 2000.0	37.0 [rad/s]	PB08	Position control gain Set the gain of the position loop. Set this servo parameter when increasing the position responsiveness to level load disturbance. Increasing the setting value improves responsiveness to the load disturbance, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 532 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5-_A_) Setting range: 1.0 to 2000.0	37.0 [rad/s]	P

State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4-_A_)

Pr. PA08	Parameter status
_ _ _ 0 (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
_ _ _ 1 (auto tuning mode 1)	
_ _ _ 2 (auto tuning mode 2)	
_ _ _ 3 (manual mode)	Manual setting
_ _ _ 4 (2 gain adjustment mode 2)	Automatic setting

State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5-_A_)

[Pr. PA08.0]	Servo parameter status
"0" (2 gain adjustment mode 1 (interpolation mode))	Automatic setting
"1" (auto tuning mode 1)	
"2" (auto tuning mode 2)	
"3" (manual mode)	Manual setting
"4" (2 gain adjustment mode 2)	Automatic setting
"5" (quick tuning mode)	
"6" (load to motor inertia ratio monitor mode)	Manual setting

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB09	Speed loop gain Set the gain of the speed loop. Set this servo parameter when vibration occurs on machines with low rigidity or with large backlash. Increasing the setting value improves responsiveness, but increasing the value too much raises the likelihood of vibration and noise. This parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 534 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4-_A_) Setting range: 20 to 65535	823 [rad/s]	PB09	Speed control gain Set the gain of the speed loop. Set this servo parameter when vibration occurs on machines with low rigidity or with large backlash. Increasing the setting value improves responsiveness, but increasing the value too much raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 534 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5-_A_) Setting range: 20 to 65535	823 [rad/s]	P S
PB10	Speed integral compensation Set the integral time constant of the speed loop. Decreasing the setting value improves responsiveness, but raises the likelihood of vibration and noise. This parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details. ☞ Page 534 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4-_A_) Setting range: 0.1 to 1000.0	33.7 [ms]	PB10	Speed integral compensation Set the integral time constant of the speed loop. Decreasing the setting value improves responsiveness, but raises the likelihood of vibration and noise. The setting of this servo parameter will be automatic or manual depending on the setting value of [Pr. PA08.0 Gain adjustment mode selection]. Refer to the following table for details. ☞ Page 534 State of [Pr. PB06] depending on the setting value of [Pr. PA08] (MR-J5-_A_) Setting range: 0.1 to 1000.0	33.7 [ms]	P S
PB11	Speed differential compensation Set the differential compensation. To enable this parameter, turn ON the PC (proportional control). Setting range: 0 to 1000	980	PB11	Speed differential compensation Set the differential compensation. Setting range: 0 to 1000	980	P S
PB12	Overshoot amount compensation Set a dynamic friction torque in percentage to the rated torque at servo motor rated speed. Alternatively, set a percentage of dynamic friction force against the continuous thrust at linear servo motor rated speed. If the response level is too low or if the torque/thrust is limited, the efficiency of the parameter may decrease. Setting range: 0 to 100	0 [%]	PB12	Overshoot amount compensation Set a dynamic friction torque in percentage to the rated torque at servo motor rated speed. Alternatively, set a percentage of dynamic friction force against the continuous thrust at linear servo motor rated speed. If the response level is too low or if the torque/thrust is limited, the efficiency of the servo parameter may decrease. Setting range: 0 to 100	0 [%]	P
PB13	Machine resonance suppression filter 1 Set the notch frequency of the machine resonance suppression filter 1. When "Automatic setting (_ _ _ 1)" is selected for "Filter tuning mode selection" in [Pr. PB01], the values obtained from adaptive tuning are applied. When "Manual setting (_ _ _ 2)" is selected for "Filter tuning mode selection" in [Pr. PB01], the setting value is enabled. Setting range: 10 to 4500	4500 [Hz]	PB13	Machine resonance suppression filter 1 Set the notch frequency of the machine resonance suppression filter 1. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. When [Pr. PB01.0 Filter tuning mode selection] is set to "1" (automatic setting), the values obtained from adaptive tuning are applied to the setting value of this servo parameter. When [Pr. PB01.0] is set to "2" (manual setting), set the notch frequency with this servo parameter. Setting range: 10 to 9000	4500 [Hz]	P S T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB14	Notch shape selection 1 Set forms of the machine resonance suppression filter 1. When "Automatic setting (_ _ _ 1)" is selected for "Filter tuning mode selection" in [Pr. PB01], the values obtained from adaptive tuning are applied. When the manual setting is selected, the setting value of this parameter is enabled.		PB14	Notch shape selection 1		—
	_ _ _ x: For manufacturer setting	0h		Pr. PB14.0 For manufacturer setting	0h	—
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB14.1 Notch depth selection 1] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h	P S T
	_ x _ _: Notch width selection 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h		[Pr. PB14.2 Notch width selection 1] 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PB14.3 For manufacturer setting	0h	—
—				Pr. PB14.4-7 For manufacturer setting	0000h	—
PB15	Machine resonance suppression filter 2 Set the notch frequency of the machine resonance suppression filter 2. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 2 selection" in [Pr. PB16], the setting value of this parameter is enabled. Setting range: 10 to 4500	4500 [Hz]	PB15	Machine resonance suppression filter 2 Set the notch frequency of the machine resonance suppression filter 2. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. When [Pr. PB16.0 Machine resonance suppression filter 2 selection] is set to "1" (enabled), set the notch frequency with this servo parameter. Setting range: 10 to 9000	4500 [Hz]	P S T
PB16	Notch shape selection 2 Set forms of the machine resonance suppression filter 2.		PB16	Notch shape selection 2 Set forms of the machine resonance suppression filter 2. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning.		—
	_ _ _ x: Mechanical resonance suppression filter 2 selection 0: Disabled 1: Enabled	0h		[Pr. PB16.0 Machine resonance suppression filter 2 selection] 0: Disabled 1: Enabled	0h	P S T
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB16.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h	P S T
	_ x _ _: Notch width selection 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h		[Pr. PB16.2 Notch width selection] 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PB16.3 For manufacturer setting	0h	—
—				Pr. PB16.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB17	Shaft resonance suppression filter Set the shaft resonance suppression filter. Use this to suppress a high-frequency machine vibration. When "Automatic setting (_ _ _ 0)" is selected for "Shaft resonance suppression filter selection" in [Pr. PB23], the value will be calculated automatically from the servo motor used and load to motor inertia ratio. Automatic setting is not carried out when the linear servo motor is used. When "Manual setting (_ _ _ 1)" is selected, the value written for this parameter is used. When "Disabled (_ _ _ 2)" is selected for "Shaft resonance suppression filter selection" in [Pr. PB23], the setting value is invalid. When "Enabled (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the shaft resonance suppression filter cannot be used.		PB17	Shaft resonance suppression filter Set the shaft resonance suppression filter. Use this to suppress a high-frequency machine vibration. When [Pr. PB23.0 Shaft resonance suppression filter selection] is set to "0" (automatic setting), the value will be calculated automatically from the servo motor used and load to motor inertia ratio. Automatic setting is not carried out when the linear servo motor is used. When "1" (manual setting) is selected, set the shaft resonance suppression filter with this servo parameter. When [Pr. PB23.0] is set to "2" (disabled), the setting of this servo parameter is disabled. Therefore, the filter performance may be reduced. When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), the shaft resonance suppression filter cannot be used.		—
	_ _ x x: Shaft resonance suppression filter setting - Frequency selection Refer to the following table for setting values. ☞ Page 538 Shaft resonance suppression filter setting - Frequency selection (MR-J4-_A_) Set the value closest to the required frequency.	00h		[Pr. PB17.0-1 Shaft resonance suppression filter setting - Frequency selection] Refer to the following table for setting values. ☞ Page 538 Shaft resonance suppression filter setting - Frequency selection (MR-J5-_A_) Set the value closest to the required frequency.	00h	P S T
	_ x _ _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB17.2 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PB17.3 For manufacturer setting	0h	—
—				Pr. PB17.4-7 For manufacturer setting	0000h	—

Shaft resonance suppression filter setting - Frequency selection (MR-J4-_A_)

Setting value	Frequency [Hz]
_ _ 0 0	Disabled
_ _ 0 1	Disabled
_ _ 0 2	4500
_ _ 0 3	3000
_ _ 0 4	2250
_ _ 0 5	1800
_ _ 0 6	1500
_ _ 0 7	1285
_ _ 0 8	1125
_ _ 0 9	1000
_ _ 0 A	900
_ _ 0 B	818
_ _ 0 C	750
_ _ 0 D	692
_ _ 0 E	642
_ _ 0 F	600
_ _ 1 0	562
_ _ 1 1	529
_ _ 1 2	500
_ _ 1 3	473
_ _ 1 4	450
_ _ 1 5	428
_ _ 1 6	409
_ _ 1 7	391
_ _ 1 8	375
_ _ 1 9	360
_ _ 1 A	346
_ _ 1 B	333
_ _ 1 C	321
_ _ 1 D	310
_ _ 1 E	300
_ _ 1 F	290

Shaft resonance suppression filter setting - Frequency selection (MR-J5-_A_)

Setting value	Frequency [Hz]
00	Disabled
01	Disabled
02	4500
03	3000
04	2250
05	1800
06	1500
07	1285
08	1125
09	1000
0A	900
0B	818
0C	750
0D	692
0E	642

Setting value	Frequency [Hz]
0F	600
10	562
11	529
12	500
13	473
14	450
15	428
16	409
17	391
18	375
19	360
1A	346
1B	333
1C	321
1D	310
1E	300
1F	290
20	Disabled
21	Disabled
22	Disabled
23	Disabled
24	Disabled
25	Disabled
26	Disabled
27	Disabled
28	4500
29	4000
2A	3600
2B	3272
2C	3000
2D	2769
2E	2571
2F	2400
30	2250
31	2117
32	2000
33	1894
34	1800
35	1714
36	1636
37	1565
38	1500
39	1440
3A	1384
3B	1333
3C	1285
3D	1241
3E	1200
3F	1161
40	1125
41	1090
42	1058
43	1028

Setting value	Frequency [Hz]
44	1000
45	972
46	947
47	923
48	900
49	878
4A	857
4B	837
4C	818
4D	800
4E	782
4F	765
50	750
51	734
52	720
53	705
54	692
55	679
56	666
57	654
58	642
59	631
5A	620
5B	610
5C	600
5D	590
5E	580
5F	571
60	562
61	553
62	545
63	537
64	529
65	521
66	514
67	507
68	500
69	493
6A	486
6B	480
6C	473
6D	467
6E	461
6F	455
70	450
71	444
72	439
73	433
74	428
75	423
76	418
77	413
78	409

Setting value	Frequency [Hz]
79	404
7A	400
7B	395
7C	391
7D	387
7E	382
7F	378
80	375
81	371
82	367
83	363
84	360
85	356
86	352
87	349
88	346
89	342
8A	339
8B	336
8C	333
8D	330
8E	327
8F	324
90	321
91	318
92	315
93	313
94	310
95	307
96	305
97	302
98	300
99	297
9A	295
9B	292
9C	290
9D	288
9E	285
9F	283

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB18	Low-pass filter setting Set the low-pass filter. Refer to the table below for the status of this parameter and the setting values of the related parameter. ☞ Page 515 Command input pulse train form selection (MR-J4-_A_) Setting range: 100 to 18000	3141 [rad/s]	PB18	Low-pass filter setting Set the low-pass filter. Refer to the table below for the status of this servo parameter and the setting values of the related servo parameter. ☞ Page 516 Command input pulse train form selection (MR-J5-_A_) When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), this servo parameter returns to the initial value. Setting range: 100 to 36000	3141 [rad/s]	P S

State of [Pr. PB18] depending on the related servo parameter (MR-J4-_A_)

[Pr. PB23]	[Pr. PB18]
_ _ 0 _ (initial value)	Automatic setting
_ _ 1 _	Setting value enabled
_ _ 2 _	Setting value disabled

State of [Pr. PB18] depending on the related servo parameter (MR-J5-_A_)

[Pr. PB23.1]	[Pr. PB18]
"0" (initial value)	Automatic setting
"1"	Setting value enabled
"2"	Setting value disabled

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB19	Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this parameter will be set automatically. When "Manual setting (_ _ _ 2)" is selected, the value written for this parameter is used. The setting range of this parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.1 to 300.0	100.0 [Hz]	PB19	Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the vibration frequency with this servo parameter. If [Pr. PB25.0 Model adaptive control selection] is set to "2" (disabled), the vibration suppression control cannot be used. The available range of [Pr. PB19 Vibration suppression control 1 - Vibration frequency] depends on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB19] exceeds the available range, the vibration suppression control is disabled. Setting range: 0.1 to 300.0	100.0 [Hz]	P
PB20	Vibration suppression control 1 - Resonance frequency Set the resonance frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this parameter will be set automatically. When "Manual setting (_ _ _ 2)" is selected, the value written for this parameter is used. The setting range of this parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.1 to 300.0	100.0 [Hz]	PB20	Vibration suppression control 1 - Resonance frequency Set the resonance frequency of vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the vibration frequency with this servo parameter. If [Pr. PB25.0 Model adaptive control selection] is set to "2" (disabled), the vibration suppression control cannot be used. The available range of [Pr. PB20 Vibration suppression control 1 - Resonance frequency] changes depending on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB19] exceeds the available range, the vibration suppression control is disabled. Setting range: 0.1 to 300.0	100.0 [Hz]	P
PB21	Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this parameter is used. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.00 to 0.30	0.00	PB21	Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the vibration frequency with this servo parameter. Setting range: 0.00 to 0.30	0.00	P
PB22	Vibration suppression control 1 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "Automatic setting (_ _ _ 1)" is selected for "Vibration suppression control 1 tuning" in [Pr. PB02], this parameter will be set automatically. If "Manual setting (_ _ _ 2)" is set, the value written for this parameter is used. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.00 to 0.30	0.00	PB22	Vibration suppression control 1 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 1 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the resonance frequency with this servo parameter. Setting range: 0.00 to 0.30	0.00	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB23	Low-pass filter selection		PB23	Low-pass filter selection		—
	_ _ _ x: Shaft resonance suppression filter selection Select the shaft resonance suppression filter. 0: Automatic setting 1: Manual setting 2: Disabled When "Enabled (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the shaft resonance suppression filter cannot be used.	0h		[Pr. PB23.0 Shaft resonance suppression filter selection] Select the shaft resonance suppression filter. 0: Automatic setting 1: Manual setting 2: Disabled When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), the shaft resonance suppression filter cannot be used.	0h	P S T
	_ _ x _: Low-pass filter selection Select the low-pass filter. 0: Automatic setting 1: Manual setting 2: Disabled	0h		[Pr. PB23.1 Low-pass filter selection] Select the low-pass filter. 0: Automatic setting 1: Manual setting 2: Disabled When "5" (quick tuning mode) is selected in [Pr. PA08.0 Gain adjustment mode selection], this servo parameter is set to "1" (manual setting).	0h	P S
	_ x _ _: For manufacturer setting	0h		Pr. PB23.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		[Pr. PB23.3 Shaft resonance suppression filter 2 selection] 0: Disabled 1: Automatic setting	1h	—
—				Pr. PB23.4-7 For manufacturer setting	0000h	—
PB24	Slight vibration suppression control		PB24	Slight vibration suppression control		—
	_ _ _ x: Select the slight vibration suppression control. 0: Disabled 1: Enabled The slight vibration suppression control is enabled when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. Slight vibration suppression control selection cannot be used in speed control mode.	0h		[Pr. PB24.0 Slight vibration suppression control selection] Select the slight vibration suppression control. 0: Disabled 1: Enabled The slight vibration suppression control is enabled when "3" (manual mode) is selected in [Pr. PA08.0 Gain adjustment mode selection]. The slight vibration suppression control selection can be used in the position mode.	0h	P
	_ _ x _: For manufacturer setting	0h		Pr. PB24.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PB24.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PB24.3 For manufacturer setting	0h	—
—				Pr. PB24.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB25	Function selection B-1		PB25	Function selection B-1		—
	_ _ _ x: Model adaptive control selection 0: Enabled (model adaptive control) 2: Disabled (PID control) This digit is available on servo amplifiers with software version B4 or later.	0h		[Pr. PB25.0 Model adaptive control selection] 0: Enabled (model adaptive control) 2: Disabled (PID control) When "Disabled" is set, vibration suppression control 1 and 2 cannot be used. The overshoot compensation will be disabled.	0h	P S
	_ _ x _: Position acceleration/deceleration filter method selection Select the position acceleration/deceleration filter method. 0: Primary delay 1: Linear acceleration/deceleration When "linear acceleration/deceleration" is selected, do not switch the control mode. Doing so will cause the servo motor to make a sudden stop at the time of control mode switching.	0h		[Pr. PB25.1 Position acceleration/deceleration filter method selection] Select the position acceleration/deceleration filter method. 0: Primary delay 1: Linear acceleration/deceleration When "linear acceleration/deceleration" is selected, do not switch the control mode. Doing so will cause the servo motor to make a sudden stop at the time of control mode switching.	0h	P
	_ x _ _: For manufacturer setting	0h		Pr. PB25.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PB25.3 For manufacturer setting	0h	—
—				Pr. PB25.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB26	Gain switching function Select the gain switching condition. Set conditions to enable the gain switching values set in [Pr. PB29] to [Pr. PB36] and [Pr. PB56] to [Pr. PB60].		PB26	Gain switching function Select the gain switching condition. Set conditions to enable the gain switching values set in [Pr. PB29] to [Pr. PB36] and [Pr. PB56] to [Pr. PB60] and the gain switching 2 values set in [Pr. PB67] to [Pr. PB79].		—
	_ _ _ x: Gain switching selection 0: Disabled 1: Input device (CDP (gain switching)) 2: Command frequency 3: Droop pulses 4: Servo motor speed/linear servo motor speed	0h		[Pr. PB26.0 Gain switching selection] 0: Disabled 1: Signal (CDP) 2: Command frequency 3: Droop pulses 4: Servo motor speed 5: Command direction When "1" is selected, the gain changes to "Gain after gain switching" by using the input device CDP (Gain switching).	0h	P S
	_ _ x _: Gain switching - Condition selection 0: Gain after switching is enabled with the condition value or more for gain switching. 1: Gain after switching is enabled with the condition value or less for gain switching.	0h		[Pr. PB26.1 Gain switching - Condition selection] 0: Gain after "Gain switching" is enabled with the condition value or more for gain switching 1: Gain after "Gain switching" is enabled with the condition value or less for gain switching	0h	P S
	_ x _ _: Gain switching time constant - Disabling condition selection 0: Switching time constant enabled 1: Time constant disabled at switching 2: Time constant disabled at return Refer to section 7.2.4 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. This digit is available on servo amplifiers with software version B4 or later.	0h		[Pr. PB26.2 Gain switching time constant - Disabling condition selection] 0: Switching time constant enabled 1: Time constant disabled at switching 2: Time constant disabled at return	0h	P S
	x _ _ _: For manufacturer setting	0h		Pr. PB26.3 For manufacturer setting	0h	—
—				[Pr. PB26.4 Gain switching 2 selection] 0: Disabled 1: Signal (CDP2) 2: The same condition as [Pr. PB26.0 Gain switching selection] When "1" is selected, the gain changes to "Gain after gain switching 2" by using the input device CDP2 (Gain switching 2). When "1" is set in [Pr. PB26.0] while "2" has been selected for this servo parameter, the gain changes to "Gain after gain switching 2" by the input device CDP2 (Gain switching 2).	0h	—
				[Pr. PB26.5 Gain switching selection during a stop] 0: Gain switching 2 during a stop is disabled 1: Gain switching 2 during a stop is enabled This servo parameter is enabled in the following condition: [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]) and [Pr. PB26.0] is set to "5" (command direction) in the position mode.	0h	—
				Pr. PB26.6-7 For manufacturer setting	00h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB27	Gain switching condition Set the value of the gain switching (command frequency, droop pulses, or servo motor speed/linear servo motor speed) selected in [Pr. PB26]. The set value unit differs depending on the switching condition item. Refer to section 7.2.3 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. The unit r/min will be substituted by mm/s for a linear servo motor. Setting range: 0 to 9999	10 [kpulse/s]/ [pulse]/ [r/min]	PB27	Gain switching condition Set the value of the gain switching (command frequency, droop pulses, or servo motor speed) selected in [Pr. PB26]. The set value unit differs depending on the switching condition item. The units are as follows: [kpulse/s] for command frequency, [pulse] for droop pulses, and [r/min] for servo motor speed. If using a linear servo motor, the unit of the servo motor speed is mm/s. Setting range: 0 to 16777215	10 [Refer to the text below for the unit.]	P S
PB28	Gain switching time constant Set the time constant until the gain switches in response to the conditions set in [Pr. PB26] and [Pr. PB27]. Setting range: 0 to 100	1 [ms]	PB28	Gain switching time constant Set the time constant until the gain switches in response to the conditions set in [Pr. PB26] and [Pr. PB27]. Setting range: 0 to 100	1 [ms]	P S
PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio/load to motor mass ratio for when gain switching is enabled. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. Setting range: 0.00 to 300.00	7.00 [Multiplier]	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio/load to motor mass ratio for when gain switching is enabled. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). Setting range: 0.00 to 300.00	7.00 [Multiplier]	P S
PB30	Position loop gain after gain switching Set the position control gain for when the gain switching is enabled. If a value less than 1.0 rad/s is set, the value will be the same as the value set in [Pr. PB08]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. Setting range: 0.0 to 2000.0	0.0 [rad/s]	PB30	Gain switching - Position control gain Set the position control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "1.0", the setting value of [Pr. PB08 Position control gain] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). Setting range: 0.0 to 2000.0	0.0 [rad/s]	P
PB31	Speed loop gain after gain switching Set the speed control gain for when the gain switching is enabled. If a value less than 20 rad/s is set, the value will be the same as the value set in [Pr. PB09]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. Setting range: 0 to 65535	0 [rad/s]	PB31	Gain switching - Speed control gain Set the speed control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "20", the setting value of [Pr. PB09 Speed control gain] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). Setting range: 0 to 65535	0 [rad/s]	P S
PB32	Gain switching - Speed integral compensation Set the speed integral compensation for when the gain switching is enabled. If a value less than 0.1 ms is set, the value will be the same as the value set in [Pr. PB10]. This parameter is enabled only when "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. Setting range: 0.0 to 5000.0	0.0 [ms]	PB32	Gain switching - Speed integral compensation Set the speed integral compensation for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB10 Speed integral compensation] is applied. The setting value of this servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). Setting range: 0.0 to 5000.0	0.0 [ms]	P S

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB33	Vibration suppression control 1 - Resonance frequency after gain switching Set the vibration frequency of vibration suppression control 1 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB19]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	PB33	Gain switching - Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB19 Vibration suppression control 1 - Vibration frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	P
PB34	Gain switching - Vibration suppression control 1 - Resonance frequency Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB20]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	PB34	Gain switching - Vibration suppression control 1 - Resonance frequency Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB20 Vibration suppression control 1 - Resonance frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	P
PB35	Vibration suppression control 1 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.00 to 0.30	0.00	PB35	Gain switching - Vibration suppression control 1 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.00 to 0.30	0.00	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB36	Vibration suppression control 1 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Manual setting (_ _ _ 2)" is selected for "Vibration suppression control 1 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.00 to 0.30	0.00	PB36	Gain switching - Vibration suppression control 1 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PB02.0 Vibration suppression control 1 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.00 to 0.30	0.00	P
PB45	Command notch filter Set the command notch filter.		PB45	Command notch filter Set the command notch filter.		—
	_ _ x x: Command notch filter setting frequency selection Refer to the following table for the relation of setting values to frequencies. ☞ Page 550 Command notch filter setting frequency selection (MR-J4-_A_)	00h		[Pr. PB45.0-1 Command notch filter setting frequency selection] Refer to the following table for the relation of setting values to frequencies. ☞ Page 552 Command notch filter setting frequency selection (MR-J5-_A_)	00h	P
	_ x _ _: Notch depth selection Refer to the following table for details. ☞ Page 554 Notch depth selection (MR-J4-_A_)	0h		[Pr. PB45.2 Notch depth selection] Refer to the following table for details. ☞ Page 554 Notch depth selection (MR-J5-_A_)	0h	P
	x _ _ _: For manufacturer setting	0h		Pr. PB45.3 For manufacturer setting	0h	—
—				Pr. PB45.4-7 For manufacturer setting	0000h	—

Command notch filter setting frequency selection (MR-J4-_A_)

Setting value	Frequency [Hz]
_ _ 0 0	Disabled
_ _ 0 1	2250
_ _ 0 2	1125
_ _ 0 3	750
_ _ 0 4	562
_ _ 0 5	450
_ _ 0 6	375
_ _ 0 7	321
_ _ 0 8	281
_ _ 0 9	250
_ _ 0 A	225
_ _ 0 B	204
_ _ 0 C	187
_ _ 0 D	173
_ _ 0 E	160
_ _ 0 F	150
_ _ 1 0	140
_ _ 1 1	132
_ _ 1 2	125
_ _ 1 3	118
_ _ 1 4	112
_ _ 1 5	107
_ _ 1 6	102
_ _ 1 7	97
_ _ 1 8	93
_ _ 1 9	90
_ _ 1 A	86
_ _ 1 B	83
_ _ 1 C	80
_ _ 1 D	77
_ _ 1 E	75
_ _ 1 F	72
_ _ 2 0	70
_ _ 2 1	66
_ _ 2 2	62
_ _ 2 3	59
_ _ 2 4	56
_ _ 2 5	53
_ _ 2 6	51
_ _ 2 7	48
_ _ 2 8	46
_ _ 2 9	45
_ _ 2 A	43
_ _ 2 B	41
_ _ 2 C	40
_ _ 2 D	38
_ _ 2 E	37
_ _ 2 F	36
_ _ 3 0	35.2
_ _ 3 1	33.1
_ _ 3 2	31.3

Setting value	Frequency [Hz]
_ _ 3 3	29.6
_ _ 3 4	28.1
_ _ 3 5	26.8
_ _ 3 6	25.6
_ _ 3 7	24.5
_ _ 3 8	23.4
_ _ 3 9	22.5
_ _ 3 A	21.6
_ _ 3 B	20.8
_ _ 3 C	20.1
_ _ 3 D	19.4
_ _ 3 E	18.8
_ _ 3 F	18.2
_ _ 4 0	17.6
_ _ 4 1	16.5
_ _ 4 2	15.6
_ _ 4 3	14.8
_ _ 4 4	14.1
_ _ 4 5	13.4
_ _ 4 6	12.8
_ _ 4 7	12.2
_ _ 4 8	11.7
_ _ 4 9	11.3
_ _ 4 A	10.8
_ _ 4 B	10.4
_ _ 4 C	10
_ _ 4 D	9.7
_ _ 4 E	9.4
_ _ 4 F	9.1
_ _ 5 0	8.8
_ _ 5 1	8.3
_ _ 5 2	7.8
_ _ 5 3	7.4
_ _ 5 4	7.0
_ _ 5 5	6.7
_ _ 5 6	6.4
_ _ 5 7	6.1
_ _ 5 8	5.9
_ _ 5 9	5.6
_ _ 5 A	5.4
_ _ 5 B	5.2
_ _ 5 C	5.0
_ _ 5 D	4.9
_ _ 5 E	4.7
_ _ 5 F	4.5

Command notch filter setting frequency selection (MR-J5-_A_)

Setting value	Frequency [Hz]
00	Disabled
01	2000
02	1000
03	666
04	500
06	400
07	333
08	285
09	250
0A	222
0B	200
0C	181
0D	166
0F	153
10	142
11	133
12	125
13	117
14	111
15	105
16	100
17	95
19	90
1A	86
1B	83
1C	80
1D	76
1E	74
1F	71
21	66
22	62
23	58
24	55
25	52
26	50
27	47
29	45
2A	43
2B	41
2C	40
2D	38
2E	37
2F	35
30	34.5
31	33.3
32	31.3
33	29.4
34	27.8
35	26.3
36	25.0
38	23.8

Setting value	Frequency [Hz]
39	22.7
3A	21.7
3B	20.8
3C	20.0
3D	19.2
3E	18.5
3F	17.9
40	17.2
41	16.7
42	15.6
43	14.7
44	13.9
45	13.2
46	12.5
48	11.9
49	11.4
4A	10.9
4B	10.4
4C	10
4D	9.6
4E	9.3
4F	8.9
50	8.6
51	8.3
52	7.8
53	7.4
54	6.9
55	6.6
56	6.3
58	6.0
59	5.7
5A	5.4
5B	5.2
5C	5.0
5D	4.8
5E	4.6
5F	4.5
60	4.31
61	4.17
62	3.91
63	3.68
64	3.47
65	3.29
66	3.13
68	2.98
69	2.84
6A	2.72
6B	2.60
6C	2.50
6D	2.40
6E	2.31
6F	2.23
71	2.08

Setting value	Frequency [Hz]
72	1.95
73	1.84
74	1.74
75	1.64
76	1.56
78	1.49
79	1.42
7A	1.36
7B	1.30
7C	1.25
7D	1.20
7E	1.16
7F	1.12

Notch depth selection (MR-J4-_A_)

Setting value	Depth [dB]
_ 0 _ _	-40.0
_ 1 _ _	-24.1
_ 2 _ _	-18.1
_ 3 _ _	-14.5
_ 4 _ _	-12.0
_ 5 _ _	-10.1
_ 6 _ _	-8.5
_ 7 _ _	-7.2
_ 8 _ _	-6.0
_ 9 _ _	-5.0
_ A _ _	-4.1
_ B _ _	-3.3
_ C _ _	-2.5
_ D _ _	-1.8
_ E _ _	-1.2
_ F _ _	-0.6

Notch depth selection (MR-J5-_A_)

Setting value	Depth [dB]
0	-40.0
1	-24.1
2	-18.1
3	-14.5
4	-12.0
5	-10.1
6	-8.5
7	-7.2
8	-6.0
9	-5.0
A	-4.1
B	-3.3
C	-2.5
D	-1.8
E	-1.2
F	-0.6

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB46	Machine resonance suppression filter 3 Set the notch frequency of the machine resonance suppression filter 3. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 3 selection" in [Pr. PB47], the setting value of this parameter is enabled. Setting range: 10 to 4500	4500 [Hz]	PB46	Machine resonance suppression filter 3 Set the notch frequency of the machine resonance suppression filter 3. When [Pr. PB47.0 Machine resonance suppression filter 3 selection] is set to "1" (enabled), set the notch frequency with this servo parameter. Setting range: 10 to 9000	4500 [Hz]	P S T
PB47	Notch shape selection 3 Set forms of the machine resonance suppression filter 3.		PB47	Notch shape selection 3 Set forms of the machine resonance suppression filter 3.		—
	_ _ _ x: Mechanical resonance suppression filter 3 selection 0: Disabled 1: Enabled	0h		[Pr. PB47.0 Machine resonance suppression filter 3 selection] 0: Disabled 1: Enabled	0h	P S T
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB47.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h	P S T
	_ x _ _: Notch width selection 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h		[Pr. PB47.2 Notch width selection] 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PB47.3 For manufacturer setting	0h	—
—				Pr. PB47.4-7 For manufacturer setting	0000h	—
PB48	Machine resonance suppression filter 4 Set the notch frequency of the machine resonance suppression filter 4. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 4 selection" in [Pr. PB49], the setting value of this parameter is enabled. Setting range: 10 to 4500	4500 [Hz]	PB48	Machine resonance suppression filter 4 Set the notch frequency of the machine resonance suppression filter 4. When [Pr. PB49.0 Machine resonance suppression filter 4 selection] is set to "1" (enabled), set the notch frequency with this servo parameter. Setting range: 10 to 9000	4500 [Hz]	P S T
PB49	Notch shape selection 4 Set forms of the machine resonance suppression filter 4.		PB49	Notch shape selection 4 Set forms of the machine resonance suppression filter 4.		—
	_ _ _ x: Mechanical resonance suppression filter 4 selection 0: Disabled 1: Enabled When this setting value is "Enabled", [Pr. PB17 Shaft resonance suppression filter] cannot be used.	0h		[Pr. PB49.0 Machine resonance suppression filter 4 selection] 0: Disabled 1: Enabled When this setting value is "Enabled", [Pr. PB17 Shaft resonance suppression filter] cannot be used.	0h	P S T
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB49.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h	P S T
	_ x _ _: Notch width selection 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h		[Pr. PB49.2 Notch width selection] 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PB49.3 For manufacturer setting	0h	—
—				Pr. PB49.4-7 For manufacturer setting	0000h	—

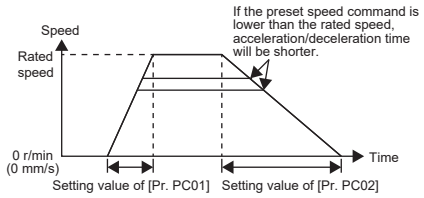
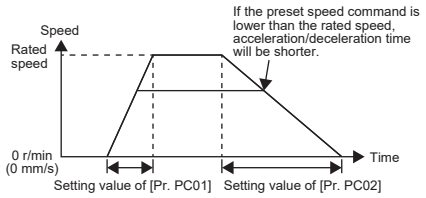
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB50	Machine resonance suppression filter 5 Set the notch frequency of the machine resonance suppression filter 5. If "Enable (_ _ _ 1)" is selected for "Machine resonance suppression filter 5 selection" in [Pr. PB51], the setting value of this parameter is enabled. Setting range: 10 to 4500	4500 [Hz]	PB50	Machine resonance suppression filter 5 Set the notch frequency of the machine resonance suppression filter 5. When [Pr. PB51.0 Machine resonance suppression filter 5 selection] is set to "1" (enabled), set the notch frequency with this servo parameter. Setting range: 10 to 9000	4500 [Hz]	P S T
PB51	Notch shape selection 5 Set forms of the machine resonance suppression filter 5. If "Enabled (_ _ _ 1)" is selected for "Robust filter selection" in [Pr. PE41], machine resonance suppression filter 5 cannot be used.		PB51	Notch shape selection 5 Set forms of the machine resonance suppression filter 5. When [Pr. PA08.0 Gain adjustment mode selection] is set to "5" (quick tuning mode), the setting value of this servo parameter reflects the adjustment result of quick tuning. If "1" (enabled) is selected for [Pr. PE41.0 Robust filter selection], machine resonance suppression filter 5 cannot be used.		—
	_ _ _ x: Mechanical resonance suppression filter 5 selection 0: Disabled 1: Enabled	0h		[Pr. PB51.0 Machine resonance suppression filter 5 selection] 0: Disabled 1: Enabled	0h	P S T
	_ _ x _: Notch depth selection 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h		[Pr. PB51.1 Notch depth selection] 0: -40 dB 1: -14 dB 2: -8 dB 3: -4 dB	0h	P S T
	_ x _ _: Notch width selection 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h		[Pr. PB51.2 Notch width selection] 0: α= 2 1: α= 3 2: α= 4 3: α= 5	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PB51.3 For manufacturer setting	0h	—
—				Pr. PB51.4-7 For manufacturer setting	0000h	—
PB52	Vibration suppression control 2 - Vibration frequency Set the vibration frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this parameter is used. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this parameter is enabled. The setting range of this parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.1 to 300.0	100.0 [Hz]	PB52	Vibration suppression control 2 - Vibration frequency Set the vibration frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the vibration frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). The available range of [Pr. PB52 Vibration suppression control 2 - Vibration frequency] depends on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB52] exceeds the available range, the vibration suppression control is disabled. Setting range: 0.1 to 300.0	100.0 [Hz]	P

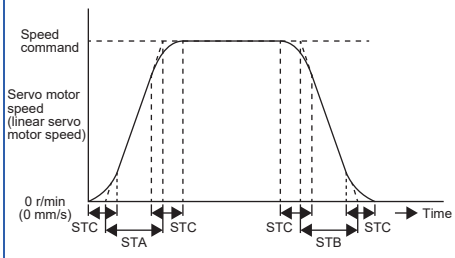
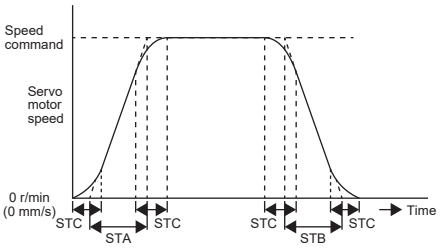
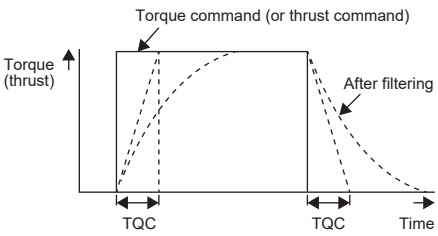
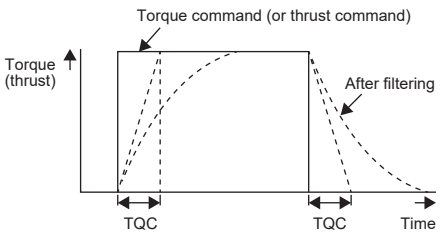
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB53	Vibration suppression control 2 - Resonance frequency Set the resonance frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this parameter is used. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this parameter is enabled. The setting range of this parameter changes depending on the value of [Pr. PB07]. If a value outside the setting range is set, the vibration suppression control is disabled. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.1 to 300.0	100.0 [Hz]	PB53	Vibration suppression control 2 - Resonance frequency Set the resonance frequency of vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the resonance frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). The available range of [Pr. PB53 Vibration suppression control 2 - Resonance frequency] changes depending on the value in [Pr. PB07 Model control gain]. If the setting value of [Pr. PB53] exceeds the available range, the vibration suppression control is disabled. Setting range: 0.1 to 300.0	100.0 [Hz]	P
PB54	Vibration suppression control 2 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this parameter is used. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this parameter is enabled. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.00 to 0.30	0.00	PB54	Vibration suppression control 2 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the vibration frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). Setting range: 0.00 to 0.30	0.00	P
PB55	Vibration suppression control 2 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "Automatic setting (_ _ 1 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02], this parameter will be set automatically. If "Manual setting (_ _ 2 _)" is set, the value written for this parameter is used. If "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this parameter is enabled. Refer to section 7.1.5 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 0.00 to 0.30	0.00	PB55	Vibration suppression control 2 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration. When "1" (automatic setting) is selected in [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection], this servo parameter will be set automatically. When "2" (manual setting) is selected, set the damping of the resonance frequency with this servo parameter. The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). Setting range: 0.00 to 0.30	0.00	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB56	Vibration suppression control 2 - Vibration frequency after gain switching Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB52]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	PB56	Gain switching - Vibration suppression control 2 - Vibration frequency Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB52 Vibration suppression control 2 - Vibration frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	P
PB57	Vibration suppression control 2 - Resonance frequency after gain switching Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB53]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	PB57	Gain switching - Vibration suppression control 2 - Resonance frequency Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. When the setting value of this servo parameter is less than "0.1", the setting value of [Pr. PB53 Vibration suppression control 2 - Resonance frequency] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.0 to 300.0	0.0 [Hz]	P
PB58	Vibration suppression control 2 - Vibration frequency damping after gain switching Set the damping of the vibration frequency for vibration suppression control 2 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.00 to 0.30	0.00	PB58	Gain switching - Vibration suppression control 2 - Vibration frequency damping Set the damping of the vibration frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.00 to 0.30	0.00	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PB59	Vibration suppression control 2 - Resonance frequency damping after gain switching Set the damping of the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "3 inertia mode (_ _ _ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24]. • "Manual setting (_ _ 2 _)" is selected for "Vibration suppression control 2 - Tuning mode selection" in [Pr. PB02]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.00 to 0.30	0.00	PB59	Gain switching - Vibration suppression control 2 - Resonance frequency damping Set the damping of the resonance frequency for vibration suppression control 2 for when the gain switching is enabled. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode). • [Pr. PB02.1 Vibration suppression control 2 - Tuning mode selection] is set to "2" (manual setting). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.00 to 0.30	0.00	P
PB60	Model loop gain after gain switching Set the model control gain for when the gain switching is enabled. If a value less than 1.0 rad/s is set, the value will be the same as the value set in [Pr. PB07]. This parameter is enabled only under the following conditions. • "Manual mode (_ _ _ 3)" is selected for "Gain adjustment mode selection" in [Pr. PA08]. • "Input device (CDP (gain switching)) (_ _ _ 1)" is selected for "Gain switching selection" in [Pr. PB26]. Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped. Setting range: 0.0 to 2000.0	0.0 [rad/s]	PB60	Gain switching - Model control gain Set the model control gain for when the gain switching is enabled. When the setting value of this servo parameter is less than "1.0", the setting value of [Pr. PB07 Model control gain] is applied. This servo parameter is enabled in the following conditions: • [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode). • "1" (signal (CDP)) is selected in [Pr. PB26.0 Gain switching selection]. Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped. Setting range: 0.0 to 8000.0	0.0 [rad/s]	P S

Extension setting parameters ([Pr. PC_ _])

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC01	Acceleration time constant Set the acceleration time required to reach the rated speed from 0 r/min or 0 mm/s for VC (Analog speed command) and [Pr. PC05 Internal speed command 1] to [Pr. PC11 Internal speed command 7].  For example for the servo motor of 3000 r/min rated speed, set 3000 (3 s) to increase speed from 0 r/min to 1000 r/min in 1 s. Setting range: 0 to 50000	0 [ms]	PC01	Speed acceleration time constant In the speed control mode or torque control mode, set the acceleration time required to reach the rated speed from 0 r/min for VC (Analog speed command) and [Pr. PC05 Internal speed 1] to [Pr. PC11 Internal speed 7]. For example for the servo motor of 3000 r/min rated speed, set 3000 (3 s) to increase speed from 0 r/min to 1000 r/min in 1 s.  Setting range: 0 to 50000	0 [ms]	S T
PC02	Deceleration time constant Set the deceleration time required to reach 0 r/min or 0 mm/s from the rated speed for VC (Analog speed command) and [Pr. PC05 Internal speed command 1] to [Pr. PC11 Internal speed command 7]. Setting range: 0 to 50000	0 [ms]	PC02	Speed deceleration time constant When using the servo amplifier in the speed control mode and torque control mode, set the deceleration time for the servo motor to stop from the rated speed or the rated speed for VC (Analog speed command) and [Pr. PC05 Internal speed 1] to [Pr. PC11 Internal speed 7]. This function is enabled in the speed control mode and torque control mode. Setting range: 0 to 50000	0 [ms]	S T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC03	S-pattern acceleration/deceleration time constant This setting enables smooth start/stop of the servo motor or linear servo motor. Set the time of the arc part for S-pattern acceleration/deceleration. By setting "0", linear acceleration/deceleration is performed.  STA: Acceleration time constant ([Pr. PC01]) STB: Deceleration time constant ([Pr. PC02]) STC: S-pattern acceleration/deceleration time constant ([Pr. PC03]) If a large value is set to STA (acceleration time constant) or STB (deceleration time constant), the actual operation time for the arc part may differ from the setting value of the S-pattern acceleration deceleration time constant. The upper limit value of the actual time for the arc part is limited by $\frac{2000000}{STA}$ at acceleration and $\frac{2000000}{STB}$ at deceleration. (Example) At the setting of STA = 20000, STB = 5000 and STC = 200, the actual time for the arc part is as follows: During acceleration: 100 ms $\frac{2000000}{20000}$ = 100 [ms] < 200 [ms] Therefore, the time is limited to 100 [ms]. During deceleration: 200 ms $\frac{2000000}{5000}$ = 400 [ms] > 200 [ms] Therefore, it will be 200 [ms] as set. Setting range: 0 to 5000	0 [ms]	PC03	S-pattern acceleration/deceleration time constant Set the time of the arc part for S-pattern acceleration/deceleration. By setting "0", linear acceleration/deceleration is performed.  STA: Acceleration time constant ([Pr. PC01]) STB: Deceleration time constant ([Pr. PC02]) STC: S-pattern acceleration/deceleration time constant ([Pr. PC03]) If a large value is set to STA (acceleration time constant) or STB (deceleration time constant), the actual operation time for the arc part may differ from the setting value of the S-pattern acceleration deceleration time constant. The upper limit value of the actual time for the arc part is limited by $\frac{2000000}{STA}$ at acceleration and $\frac{2000000}{STB}$ at deceleration. (Example) At the setting of STA = 20000, STB = 5000 and STC = 200, the actual time for the arc part is as follows: During acceleration: 100 ms $\frac{2000000}{20000}$ = 100 [ms] < 200 [ms] Therefore, the time is limited to 100 [ms]. During deceleration: 200 ms $\frac{2000000}{5000}$ = 400 [ms] > 200 [ms] Therefore, it will be 200 [ms] as set. Setting range: 0 to 5000	0 [ms]	S T
PC04	Torque/thrust command time constant Set the constant of a primary delay filter for the torque command or thrust command.  TQC: Torque/thrust command time constant Setting range: 0 to 50000	0 [ms]	PC04	Torque command time constant Set the time constant of a primary delay filter for the torque command (or thrust command).  TQC: Torque command time constant Setting range: 0 to 50000	0 [ms]	T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC05	Internal speed command 1 Set the speed 1 of internal speed commands. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535	100 [r/min]/ [mm/s]	PC05	Internal speed 1 Set a value within the range between 0 and the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4 Speed range limit selection]. • When using the speed control mode, set the speed 1 of internal speed commands. • When using the torque control mode, set the speed 1 of internal speed limit. Setting range: 0.00 to 65535.00	100.00 [r/min] , [mm/s]	S
	Internal speed limit 1 Set the speed 1 of internal speed limit. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535					T
PC06	Internal speed command 2 Set the speed 2 of internal speed commands. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535	500 [r/min]/ [mm/s]	PC06	Internal speed 2 Set a value within the range between 0 and the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4]. • When using the speed control mode, set the speed 2 of internal speed commands. • When using the torque control mode, set the speed 2 of internal speed limit. Setting range: 0.00 to 65535.00	500.00 [r/min] , [mm/s]	S
	Internal speed limit 2 Set the speed 2 of internal speed limit. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535					T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC07	Internal speed command 3 Set the speed 3 of internal speed commands. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535	1000 [r/min]/ [mm/s]	PC07	Internal speed 3 Set a value within the range between 0 and the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4]. • When using the speed control mode, set the speed 3 of internal speed commands. • When using the torque control mode, set the speed 3 of internal speed limit. Setting range: 0.00 to 65535.00	1000.00 [r/min] , [mm/s]	S
	Internal speed limit 3 Set the speed 3 of internal speed limit. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535					T
PC08	Internal speed command 4 Set the speed 4 of internal speed commands. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535	200 [r/min]/ [mm/s]	PC08	Internal speed 4 Set a value within the range between 0 and the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4]. • When using the speed control mode, set the speed 4 of internal speed commands. • When using the torque control mode, set the speed 4 of internal speed limit. Setting range: 0.00 to 65535.00	200.00 [r/min] , [mm/s]	S
	Internal speed limit 4 Set the speed 4 of internal speed limit. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535					T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC09	Internal speed command 5 Set the speed 5 of internal speed commands. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535	300 [r/min]/ [mm/s]	PC09	Internal speed 5 Set a value within the range between 0 and the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4]. • When using the speed control mode, set the speed 5 of internal speed commands. • When using the torque control mode, set the speed 5 of internal speed limit. Setting range: 0.00 to 65535.00	300.00 [r/min] , [mm/s]	S
	Internal speed limit 5 Set the speed 5 of internal speed limit. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535					T
PC10	Internal speed command 6 Set the speed 6 of internal speed commands. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535	500 [r/min]/ [mm/s]	PC10	Internal speed 6 Set a value within the range between 0 and the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4]. • When using the speed control mode, set the speed 6 of internal speed commands. • When using the torque control mode, set the speed 6 of internal speed limit. Setting range: 0.00 to 65535.00	500.00 [r/min] , [mm/s]	S
	Internal speed limit 6 Set the speed 6 of internal speed limit. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535					T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC11	Internal speed command 7 Set the speed 7 of internal speed commands. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535	800 [r/min]/ [mm/s]	PC11	Internal speed 7 Set a value within the range between 0 and the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4]. • When using the speed control mode, set the speed 7 of internal speed commands. • When using the torque control mode, set the speed 7 of internal speed limit. Setting range: 0.00 to 65535.00	800.00 [r/min] , [mm/s]	S
	Internal speed limit 7 Set the speed 7 of internal speed limit. When "Speed command input unit selection (_ _ 0 _)" is set in [Pr. PC29], the unit becomes r/min or mm/s. When "Speed command input unit selection (_ _ 1 _)" is set in [Pr. PC29], the unit becomes 0.1 r/min or 0.1 mm/s. For example, to set the internal speed to 500.5 r/min when "(_ _ 1 _)" is set in [Pr. PC29], set this parameter to 5005. If a speed exceeding the instantaneous permissible speed is set, it will be the instantaneous permissible speed. Setting range: 0 to 65535					T
PC12	Analog speed command - Maximum speed Set the servo motor speed or linear servo motor speed for when the input voltage of VC (analog speed command) is maximum (10 V). However, when "0" is set, the speed will be the rated speed of the connected servo motor or linear servo motor speed. If a command value equal to or larger than the permissible speed is input to VC, the value is clamped at the permissible speed. Setting range: 0 to 50000	0 [r/min]/ [mm/s]	PC12	Analog speed command - Maximum speed If a command exceeding the maximum speed is input, the command will be clamped at the maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4]. When "0" is set, the rated speed of the connected servo motor is set internally. • When using the speed control mode, set the servo motor speed for when the input voltage of the analog speed command (VC) is 10 [V]. • When using the torque control mode, set the servo motor speed for when the input voltage of the analog speed limit (VLA) is 10 [V]. Setting range: 0 to 50000	0 [r/min] , [mm/s]	S
	Analog speed limit - Maximum speed Set the servo motor speed or linear servo motor speed for when the input voltage of VLA (analog speed limit) is maximum (10 V). However, when "0" is set, the speed will be the rated speed of the connected servo motor or linear servo motor speed. If a limit value equal to or larger than the permissible speed is input to VLA, the value is clamped at the permissible speed. Setting range: 0 to 50000					T
PC13	Analog torque/thrust command maximum output Set the output torque/output thrust when the analog torque/thrust command voltage (TC = ±8 V) is +8 V in relation to the maximum torque or maximum thrust (= 100.0 %). For example, by setting 50.0, the maximum torque or maximum thrust > $\frac{50.0}{100.0}$ is output. When a command value equal to or larger than the maximum torque/thrust is input to TC, the value is clamped at the maximum torque/thrust. Setting range: 0.0 to 1000.0	100.0 [%]	PC13	Analog torque command - Maximum output Set the output torque/output thrust when the analog torque/thrust command voltage (TC = ±8 V) is +8 V in relation to the maximum torque or maximum thrust (= 100.0 %). For example, by setting 50.0, maximum torque/thrust × (50.0/100.0) is output. When a command value equal to or larger than the maximum torque/thrust is input to TC, the value is clamped at the maximum torque/thrust. When [Pr. PC50.1 Analog torque command unit change] is set to "1" (rated torque unit), set the servo parameter in relation to the rated torque/thrust (=100.0 [%]). Setting range: 0.0 to 1000.0	100.0 [%]	T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC14	Analog monitor 1 output		PC14	Analog monitor 1 output		—
	_ _ x x: Analog monitor 1 output selection Select the signal to be output to MO1 (analog monitor 1). Refer to appendix 8.3 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for detection points of the output selection. Refer to the following table for setting values. ☞ Page 567 Analog monitor 1 output (MR-J4-_A_)	00h		[Pr. PC14.0-1 Analog monitor 1 output selection] Select the signal to be output to analog monitor 1. Refer to the following table for setting values. ☞ Page 568 Analog monitor 1 output (MR-J5-_A_)	00h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PC14.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PC14.3 For manufacturer setting	0h	—
—				Pr. PC14.4-7 For manufacturer setting	0000h	—

Analog monitor 1 output (MR-J4-_A_)

Setting value	Item	Operation mode *1			
		Standard	Fully closed	Linear	DD
_ _ 0 0	Servo motor speed/linear servo motor speed (±8 V/max. speed)	○	○	○	○
_ _ 0 1	Torque/thrust (±8 V/max. torque or max. thrust) (Note 3)	○	○	○	○
_ _ 0 2	Servo motor speed/linear servo motor speed (+8 V/max. speed)	○	○	○	○
_ _ 0 3	Torque/thrust (+8 V/max. torque or max. thrust) *3	○	○	○	○
_ _ 0 4	Current command (±8 V/max. current command)	○	○	○	○
_ _ 0 5	Command pulse frequency (±10 V/±4 Mpulses/s)	○	○	○	○
_ _ 0 6	Servo motor-side droop pulses (±10 V/100 pulses) *2	○	○	○	○
_ _ 0 7	Servo motor-side droop pulses (±10 V/1000 pulses) *2	○	○	○	○
_ _ 0 8	Servo motor-side droop pulses (±10 V/10000 pulses) *2	○	○	○	○
_ _ 0 9	Servo motor-side droop pulses (±10 V/100000 pulses) *2	○	○	○	○
_ _ 0 A	Feedback position (±10 V/1 Mpulse) *2	○	—	—	—
_ _ 0 B	Feedback position (±10 V/10 Mpulses) *2	○	—	—	—
_ _ 0 C	Feedback position (±10 V/100 Mpulses) *2	○	—	—	—
_ _ 0 D	Bus voltage (200 V and 100 V class: +8 V/400 V, 400 V class: +8 V/800 V)	○	○	○	○
_ _ 0 E	Speed command 2 (±8 V/max. speed)	○	○	○	○
_ _ 1 0	Load-side droop pulses (±10 V/100 pulses) *2	—	○	—	—
_ _ 1 1	Load-side droop pulses (±10 V/1000 pulses) *2	—	○	—	—
_ _ 1 2	Load-side droop pulses (±10 V/10000 pulses) *2	—	○	—	—
_ _ 1 3	Load-side droop pulses (±10 V/100000 pulses) *2	—	○	—	—
_ _ 1 4	Load-side droop pulses (±10 V/1 Mpulse) *2	—	○	—	—
_ _ 1 5	Motor/load side position deviation (±10 V/100000 pulses)	—	○	—	—
_ _ 1 6	Motor/load side speed deviation (±8 V/max. speed)	—	○	—	—
_ _ 1 7	Internal temperature of encoder (±10 V/±128 ℃)	○	○	—	○

*1 Items with ○ are available for each operation mode.
Standard: When rotary servo motors are used in the semi closed loop system.
Fully closed: When rotary servo motors are used in the fully closed loop system.
Linear: When linear servo motors are used.
DD: When direct drive motors are used.

*2 This is in the units of encoder pulses.

*3 The maximum torque or maximum thrust will be the higher one of the values set in [Pr. PA11] and [Pr. PA12].

Analog monitor 1 output (MR-J5-_A_)

• For amplifiers of 100 W to 22 kW

Setting value	Explanation	Semi closed loop system *1			Fully closed loop system *1	
		Rotary type	Linear	DD	Rotary type	DD
00	(Linear) servo motor speed (±8 V/max. speed)	○	○	○	○	○
01	Torque or thrust (±8 V/max. torque or max. thrust) *3	○	○	○	○	○
02	(Linear) servo motor speed (+8 V/max. speed)	○	○	○	○	○
03	Torque or thrust (+8 V/max. torque or max. thrust) *3	○	○	○	○	○
04	Current command (±8 V/max. current command)	○	○	○	○	○
05	Command pulse frequency (±10 V/±4 Mpulses/s)	○	○	○	○	○
06	Servo motor-side droop pulses (±10 V/100 pulses [control encoder unit]) *2	○	○	○	○	○
07	Servo motor-side droop pulses (±10 V/1000 pulses [control encoder unit]) *2	○	○	○	○	○
08	Servo motor-side droop pulses (±10 V/10000 pulses [control encoder unit]) *2	○	○	○	○	○
09	Servo motor-side droop pulses (±10 V/100000 pulses [control encoder unit]) *2	○	○	○	○	○
0D	Bus voltage (200 V class: +8 V/400 V, 400 V class: +8 V/800 V)	○	○	○	○	○
0E	Speed command 2 (±8 V/max. speed)	○	○	○	○	○
10 *4	Load-side droop pulses (±10 V/100 pulses [control encoder unit]) *2	—	—	—	○	○
11 *4	Load-side droop pulses (±10 V/1000 pulses [control encoder unit]) *2	—	—	—	○	○
12 *4	Load-side droop pulses (±10 V/10000 pulses [control encoder unit]) *2	—	—	—	○	○
13 *4	Load-side droop pulses (±10 V/100000 pulses [control encoder unit]) *2	—	—	—	○	○
14 *4	Load-side droop pulses (±10 V/1 Mpulse [control encoder unit]) *2	—	—	—	○	○
15 *4	Servo motor/load side position deviation (±10 V/100000 pulses [control encoder unit])	—	—	—	○	○
16 *4	Servo motor-side/load-side speed deviation (±8 V/max. speed)	—	—	—	○	○
17	Internal temperature of encoder (±10 V/±128 ℃)	○	—	○	○	○
18	Servo motor-side droop pulses (±10 V/1 Mpulse) *2	○	○	○	○	○

*1 Items with ○ are available for each operation mode.
Rotary type: When rotary servo motors are used.
Linear: When linear servo motors are used.
DD: When direct drive motors are used.

*2 This is in the units of encoder pulses.

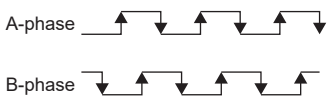
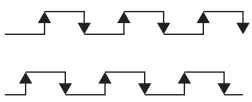
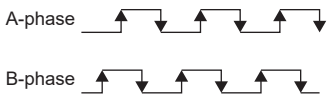
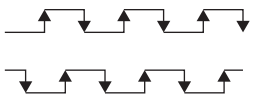
*3 For the maximum torque or maximum thrust, the larger setting value between [Pr. PA11 Forward rotation torque limit] and [Pr. PA12 Reverse rotation torque limit] is enabled.

*4 Available on servo amplifiers with firmware version A5 or later.

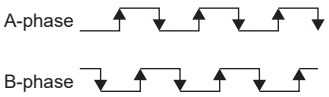
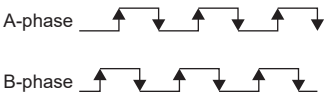
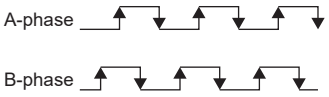
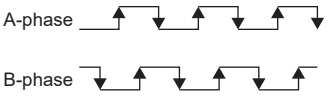
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC15	Analog monitor 2 output		PC15	Analog monitor 2 output		—
	_ _ x x: Analog monitor 2 output selection Select the signal to be output to MO2 (analog monitor 2). Refer to appendix 8.3 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for detection points of the output selection. Refer to the following table for setting values. ☞ Page 567 Analog monitor 1 output (MR-J4-_A_)	01h		[Pr. PC15.0-1 Analog monitor 2 output selection] Select the signal to be output to analog monitor 2. Refer to the following table for setting values. ☞ Page 568 Analog monitor 1 output (MR-J5-_A_)	01h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PC15.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PC15.3 For manufacturer setting	0h	—
—				Pr. PC15.4-7 For manufacturer setting	0000h	—
PC16	Electromagnetic brake sequence output Set the delay time used between the MBR (Electromagnetic brake interlock) shut-off and the base circuit shut-off. Refer to section 3.10.2 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for the timing chart for when using a servo motor with an electromagnetic brake. Setting range: 0 to 1000	0 [ms]	PC16	Electromagnetic brake sequence output Set the delay time used between the MBR (Electromagnetic brake interlock) shut-off and the base circuit shut-off. Setting range: 0 to 1000	0 [ms]	P S T
PC17	Zero speed Set the output range of ZSP (zero speed detection). ZSP (zero speed detection) has a hysteresis of 20 r/min or 20 mm/s. Setting range: 0 to 10000	50 [r/min]/ [mm/s]	PC17	Zero speed Set an output range of the zero speed signal (ZSP). The zero speed signal detection has a hysteresis of 20 [r/min] (20 [mm/s]). Setting range: 0 to 10000	50 [r/min], [mm/s]	P S T
PC18	Alarm history clear		PC18	Alarm history clear		—
	_ _ _ x: Alarm clear history selection Set whether to clear the alarm history. 0: Disabled 1: Enabled When "Enabled" is selected, the alarm history will be cleared at the next power-on. Alarm history clear is disabled automatically after the alarm history is cleared.	0h		[Pr. PC18.0 Alarm clear history selection] 0: Disabled 1: Enabled When "1" (enabled) is set, the alarm history will be cleared at the next power-on or software reset. After the alarm history is cleared, "0" (disabled) will be set to this servo parameter automatically.	0h	P S T
	_ _ x _: For manufacturer setting	0h		Pr. PC18.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PC18.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PC18.3 For manufacturer setting	0h	—
—				Pr. PC18.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC19	Encoder output pulse selection		PC19	Encoder output pulses selection		—
	_ _ _ x: Encoder output pulse- Phase selection Select the encoder pulse direction. 0: Increasing A-phase 90° in CCW or positive direction 1: Increasing A-phase 90° in CW or negative direction Refer to the following table for setting values. ☞ Page 570 Encoder output pulse - Phase selection (MR-J4-_A_)	0h		[Pr. PC19.0 Encoder output pulse - Phase selection] 0: Increasing A-phase 90° in CCW or positive direction 1: Increasing A-phase 90° in CW or negative direction Refer to the following table for setting values. ☞ Page 571 Encoder output pulse - Phase selection (MR-J5-_A_)	0h	P S T
	_ _ x _: Encoder output pulse setting selection Refer to appendix 16 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. 0: Output pulse setting 1: Dividing ratio setting 2: The same output pulse setting as the command pulse 3: A-phase/B-phase pulse electronic gear setting 4: A/B-phase pulse through output setting	0h		[Pr. PC19.1 Encoder output pulse setting selection] Select the encoder output pulse setting. When an encoder other than an A/B/Z-phase differential output type encoder is connected, setting this servo parameter to "4" causes [AL. 037 Parameter error] to occur. 0: Output pulse setting 1: Dividing ratio setting 2: The same output pulse setting as the command pulse 3: A-phase/B-phase pulse electronic gear setting 4: A/B-phase pulse through output setting Refer to the following table for setting values. ☞ Page 571 Settings of [Pr. PC19.1] and [Pr. PC19.2] (MR-J5-_A_)	0h	P S T
	_ x _ _: Encoder selection for encoder output pulse Select the encoder that the servo amplifier will use to output encoder output pulses. 0: Servo motor encoder 1: Load-side encoder Setting this parameter to "_ 1 0 _" will trigger [AL. 37 Parameter error]. This digit can be used only in a fully closed loop system. If "1" is selected for a system other than a fully closed loop system, [AL. 37 Parameter error] occurs.	0h		[Pr. PC19.2 Encoder selection for encoder output pulse] Select the encoder that the servo amplifier will use to output encoder output pulses. If [Pr. PC19.2] is set to "1" while [Pr. PC19.1] is set to "0", [AL. 037 Parameter error] occurs. This servo parameter can be used only in a fully closed loop system. If "1" is selected for a system other than a fully closed loop system, [AL. 037 Parameter error] occurs. 0: Servo motor-side encoder 1: Load-side encoder	0h	P
	x _ _ _: For manufacturer setting	0h		Pr. PC19.3 For manufacturer setting	0h	—
—				Pr. PC19.4-7 For manufacturer setting	0000h	—

Encoder output pulse - Phase selection (MR-J4-_A_)

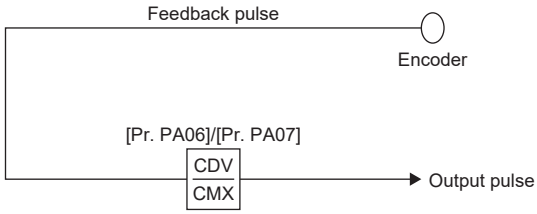
Setting value	Servo motor rotation direction/linear servo motor travel direction	
	CCW or positive direction	CW or negative direction
0		
1		

Encoder output pulse - Phase selection (MR-J5-_A_)

Setting value	Servo motor rotation direction/linear servo motor travel direction	
	CCW or positive direction	CW or negative direction
0		
1		

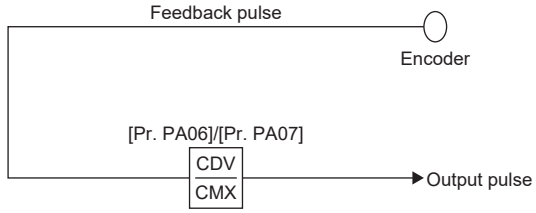
Settings of [Pr. PC19.1] and [Pr. PC19.2] (MR-J5-_A_)

- When [Pr. PC19.2] = "0" (servo motor-side encoder)

Setting value of [Pr. PC19.1]	For rotary servo motors and direct drive motors	For linear servo motors
"0" (output pulse setting)	Set the output pulses per revolution with [Pr. PA15 Encoder output pulses]. If [Pr. PC19.2] is set to "1" (load-side encoder), [AL. 037 Parameter error] occurs. Output pulse = Setting value of [Pr. PA15] [pulse/rev]	The output pulse setting cannot be used. When "0" is set, the condition is the same as when "1" is set.
"1" (dividing ratio setting)	Set the dividing ratio to the resolution per servo motor revolution with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Resolution per revolution}}{\text{Setting value of [Pr. PA15]}}$ [pulse/rev]	Set the dividing ratio to the travel distance of the linear servo motor with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Travel distance of linear servo motor}}{\text{Setting value of [Pr. PA15]}}$ [pulse]
"2" (the same output pulse setting as the command pulse)	Feedback pulses from the encoder are processed and output as follows. Feedback pulses are output in the same pulse unit as the command pulse.  The settings of [Pr. PA15] and [Pr. PA16 Encoder output pulses 2] are not used.	
"3" (A-phase/B-phase pulse electronic gear setting)	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. $\text{Output pulse} = \text{Resolution per revolution} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. $\text{Output pulse} = \text{Travel distance of linear servo motor} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse]
"4" (A/B-phase pulse through output setting) *1	• When a servo amplifier with a firmware version earlier than B2 is being used, [AL. 037] occurs. • A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC19.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC19.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]

*1 If this value is set when using the rotary servo motor, [AL. 037] occurs.

• When [Pr. PC19.2] = "1" (load-side encoder)

Setting value of [Pr. PC19.1]	When in the fully closed loop control mode
"0" (output pulse setting)	[AL. 037] occurs.
"1" (dividing ratio setting)	Set the dividing ratio to the resolution per servo motor revolution with [Pr. PA15]. $\text{Output pulse} = \frac{\text{Resolution per revolution}}{\text{Setting value of [Pr. PA15]}}$ [pulse/rev]
"2" (the same output pulse setting as the command pulse)	Feedback pulses from the encoder are processed and output as follows. Feedback pulses are output in the same pulse unit as the command pulse.  The settings of [Pr. PA15] and [Pr. PA16] are not used.
"3" (A-phase/B-phase pulse electronic gear setting)	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. $\text{Output pulse} = \text{Resolution per revolution} \times \frac{\text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]
"4" (A/B-phase pulse through output setting)	• A/B-phase pulses are output when an A/B/Z-phase differential output type encoder is used. If a different encoder is connected, [AL. 037] occurs. • The setting value in [Pr. PC19.0 Encoder output pulse - Phase selection] is not applied. • The setting values in [Pr. PA15] and [Pr. PA16] are not applied. Output pulse = A/B-phase pulse of A/B/Z-phase differential output type encoder [pulse]

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC20	Station No. setting Specify the station No. of the servo amplifier used for the RS-422 and USB communication. Always set one station for one servo amplifier. If the same station No. is used for multiple servo amplifiers, the communication will fail. Setting range: 0 to 31	0 [station]	PC20	Station No. setting Set the station No. of RS-422 communication. Set one station for one servo amplifier. If the same station No. is used for multiple servo amplifiers, the communication will fail. Setting range: 0 to 31	0 [station]	P S T
PC21	RS-422 communication function selection Select the RS-422 communication function.		PC21	RS422 communication function selection		—
	_ _ _ x: For manufacturer setting	0h		Pr. PC21.0 For manufacturer setting	0h	—
	_ _ x _: RS-422 communication - Baud rate selection When using the parameter unit, set [Pr. PF34] to "1 _ _ _". 0: 9600 [bps] 1: 19200 [bps] 2: 38400 [bps] 3: 57600 [bps] 4: 115200 [bps]	0h		[Pr. PC21.1 RS-422 communication - Baud rate selection] 0: 9600 [bps] 1: 19200 [bps] 2: 38400 [bps] 3: 57600 [bps] 4: 115200 [bps]	0h	P S T
	_ x _ _: RS-422 communication - Response delay time selection 0: Disabled 1: Enabled (Data is returned with a delay of 800 μs or longer.)	0h		[Pr. PC21.2 RS-422 communication - Response delay time selection] 0: Disabled 1: Enabled (Data is returned with a delay of 800 μs or longer.)	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PC21.3 For manufacturer setting	0h	—
—				Pr. PC21.4-7 For manufacturer setting	0000h	—
PC22	Function selection C-1		PC22	Function selection C-1		—
	_ _ _ x: For manufacturer setting	0h		Pr. PC22.0 For manufacturer setting	0h	—
	_ _ x _: For manufacturer setting	0h		Pr. PC22.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PC22.2 For manufacturer setting	0h	—
	x _ _ _: Encoder cable communication method selection Select the encoder cable communication method. 0: Two-wire type 1: Four-wire type When using an encoder of A/B/Z-phase differential output method, set "0". If the value is set incorrectly, [AL. 16 Encoder initial communication error 1] or [AL. 20 Encoder normal communication error 1] occurs. If "1" is set while [Pr. PA01] is set to "Fully closed loop control mode (_ _ 1 _)", [AL. 37] will occur (except for the MR-J4-_A_-RJ).	0h		[Pr. PC22.3 Encoder cable communication method selection] 0: Two-wire type 1: Four-wire type When using an A/B/Z-phase differential output type encoder, set "0". Setting "1" triggers [AL. 037 Parameter error]. If the value is set incorrectly, [AL. 016 Encoder initial communication error 1] or [AL. 020 Encoder normal communication error 1] occurs. For servo amplifiers other than the MR-J5-_A_-RJ, [AL. 037] occurs if this servo parameter is set to "1" while [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (enabled (fully closed loop control mode)).	0h	P S T
—				Pr. PC22.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC23	Function selection C-2		PC23	Function selection C-2		—
	_ _ _ x: Servo lock selection on speed control stop Select the servo lock selection at speed control stop. In the speed control mode, the servo motor shaft can be locked to prevent the shaft from being moved by an external force. 0: Enabled (The servo motor shaft is servo-locked.) The stop position is maintained. 1: Disabled (The servo motor shaft is not servo-locked.) The stop position is not maintained. The speed is controlled to be 0 r/min or 0 mm/s.	0h		[Pr. PC23.0 Servo lock selection on speed control stop] Select the servo lock selection at speed control stop. In the speed control mode, the servo motor shaft can be locked to prevent the shaft from being moved by an external force. 0: Enabled (The servo motor shaft is servo-locked.) The stop position is maintained. 1: Disabled (The servo motor shaft is not servo-locked.) The stop position is not maintained. The speed is controlled to be 0 r/min (0 mm/s).	0h	S
	_ _ x _: For manufacturer setting	0h		Pr. PC23.1 For manufacturer setting	0h	—
	_ x _ _: VC/VLA voltage average selection Select the VC/VLA voltage average. Set the filtering time when the VC (Analog speed command) voltage or VLA (Analog speed limit) is imported. When the setting value is "0", the speed changes in real time in response to the voltage changes, and as the setting value is increased, the speed changes gently in response to the voltage changes. Refer to the following table for setting values. ☞ Page 575 Filtering time (MR-J4-_A_)	0h		[Pr. PC23.2 VC/VLA voltage average selection] Select the VC/VLA voltage average. Set the filtering time when the VC (Analog speed command) voltage or VLA (Analog speed limit) is imported. When the setting value is 0, the speed changes in real time in response to the voltage changes, and as the setting value is increased, the speed changes gently in response to the voltage changes. Refer to the following table for setting values. ☞ Page 575 Filtering time (MR-J5-_A_)	0h	S T
	x _ _ _: Torque controlling - Speed limit selection Select the speed limit at torque control. 0: Enabled 1: Disabled Do not use this function except when configuring an external speed loop.	0h		[Pr. PC23.3 Torque controlling - Speed limit selection] Select the speed limit at torque control. 0: Enabled 1: Disabled Do not use this function except when configuring an external speed loop.	0h	T
—				Pr. PC23.4-7 For manufacturer setting	0000h	—

Filtering time (MR-J4-_A_)

Setting value	Filtering time [ms]
0	0
1	0.444
2	0.888
3	1.777
4	3.555
5	7.111

Filtering time (MR-J5-_A_)

Setting value	Filtering time [ms]
0	0
1	0.500
2	1.000
3	2.000
4	3.500
5	7.000
6	1.500
7	4.000
8	8.000

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC24	Function selection C-3		PC24	Function selection C-3		—
	_ _ _ x: In-position range unit selection Select a unit of the in-position range. 0: Command input pulse unit 1: Servo motor encoder pulse unit	0h		[Pr. PC24.0 In-position range unit selection] Select a unit of the in-position range. When [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (fully closed loop system), the in-position range is in units of load-side encoder pulses. 0: Command input pulse unit 1: Servo motor encoder pulse unit	0h	P
	_ _ x _: For manufacturer setting	0h		Pr. PC24.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PC24.2 For manufacturer setting	0h	—
	x _ _ _: Excessive error alarm and excessive error warning trigger level unit selection Select the unit used when setting the excessive error alarm trigger level in [Pr. PC43] and setting the excessive error warning trigger level in [Pr. PC73]. 0: 1 rev or 1 mm unit 1: 0.1 rev or 0.1 mm unit 2: 0.01 rev or 0.01 mm unit 3: 0.001 rev or 0.001 mm unit	0h		[Pr. PC24.3 Excessive error alarm trigger level/ excessive error warning trigger level - Unit selection] Select the unit used when setting the excessive error alarm trigger level in [Pr. PC43 Excessive error alarm trigger level] and setting the excessive error warning trigger level in [Pr. PC73 Excessive error warning trigger level]. 0: [rev] or [mm] 1: [0.1 rev] or [0.1 mm] 2: [0.01 rev] or [0.01 mm] 3: [0.001 rev] or [0.001 mm] This setting value is enabled in the position mode.	0h	P
—				Pr. PC24.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC26	Function selection C-5		PC26	Function selection C-5		—
	_ _ _ x: [AL. 99 Stroke limit warning] selection Enable or disable [AL. 99 Stroke limit warning]. 0: Enabled 1: Disabled	0h		[Pr. PC26.0 [AL. 099 Stroke limit warning] selection] Enable or disable [AL. 099 Stroke limit warning]. When "Disabled" is selected, [AL. 099] does not occur while LSP (Forward rotation stroke end) or LSN (Reverse rotation stroke end) is off, but the operation will be stopped with the stroke limit. 0: Enabled 1: Disabled	0h	P S
	_ _ x _: For manufacturer setting	0h		Pr. PC26.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PC26.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PC26.3 For manufacturer setting	0h	—
—				[Pr. PC26.4 Output open-phase detection selection] Enable or disable the detection of output open-phase detection function. 0: Disabled 1: Enabled	0h	—
				Pr. PC26.5 For manufacturer setting	0h	—
				[Pr. PC26.6 Output open phase - Judgment speed selection] 0: Servo motor speed 1: Speed command When "0" (servo motor speed) is set, the value of the servo motor speed is used for the speed judgment of the output open-phase detection. When "1" (speed command) is set, the speed command value is used for the speed judgment of the output open-phase detection. In the torque control mode, set "0". When "1" is set, [AL. 139.2 Output open-phase error] does not occur.	0h	—
				Pr. PC26.7 For manufacturer setting	0h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC27	Function selection C-6		PC27	Function selection C-6		—
	_ _ _ x: [AL. 10 Undervoltage] detection method selection Set this if [AL. 10 Undervoltage] occurs due to power supply voltage distortion while the FR-RC-(H), FR-CV-(H), or FR-XC-(H) is being used. 0: [AL. 10] occurring 1: [AL. 10] occurring If using the MR-J4-_A-RJ servo amplifier with the DC power supply input, set "1". The DC power supply is available on MR-J4-_A-RJ servo amplifiers with software version C2 or later.	0h		Pr. PC27.0 For manufacturer setting	0h	P S T
	_ _ x _: This digit cannot be used on MR-J4-_A_(-RJ) servo amplifiers with a capacity of 100 W or more.	0h		Pr. PC27.1 For manufacturer setting	0h	P S T
	_ x _ _: Undervoltage alarm selection Select the alarm or warning that occurs when the bus voltage drops to the undervoltage alarm trigger level. 0: [AL. 10.2] occurs regardless of servo motor speed. 1: [AL. E9.1] occurs when the servo motor speed is 50 r/min (50 mm/s) or less, and [AL. 10.2] occurs when over 50 r/min (50 mm/s).	0h		[Pr. PC27.2 Undervoltage alarm selection] Select the alarm or warning that occurs when the bus voltage drops to the undervoltage alarm trigger level. 0: [AL. 010 Undervoltage] occurs regardless of servo motor speed. 1: [AL. 0E9 Main circuit off warning] occurs when the servo motor speed is 50 r/min (50 mm/s) or less, and [AL. 010] occurs when over 50 r/min (50 mm/s).	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PC27.3 For manufacturer setting	0h	—
—				[Pr. PC27.4 Input open-phase detection selection] Enable or disable the detection of input open-phase detection function. 0: Automatic 1: Warning enabled 2: Alarm enabled 3: Disabled When "0" (automatic) is set, the input open-phase detection function is enabled or disabled depending on the capacity or power supply input of the servo amplifier. Refer to the following table for details. ☞ Page 578 Input open-phase detection selection (MR-J5-_A_)	0h	—
				Pr. PC27.5-7 For manufacturer setting	000h	—

Input open-phase detection selection (MR-J5-_A_)

Servo amplifier	Servo amplifier main circuit input voltage	Servo amplifier capacity	Input open-phase detection function
MR-J5-_A(-RJ)	3-phase AC	2 kW or less	Disabled
	1-phase AC Main circuit DC	2 kW or less	Disabled
	3-phase AC	3.5 kW or more	Warning occurrence
	Main circuit DC	3.5 kW or more	Disabled
MR-J5-_A4(-RJ)	3-phase AC	3.5 kW or less	Warning occurrence

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC28	Function selection C-7		PC28	Function selection C-7		—
	_ _ _ x: For manufacturer setting	0h		Pr. PC28.0 For manufacturer setting	0h	—
	_ _ x _: For manufacturer setting	0h		Pr. PC28.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PC28.2 For manufacturer setting	0h	—
	x _ _ _: Linear scale multipoint Z-phase input function selection When multiple reference marks exist during the full stroke of the linear encoder, set "1". 0: Disabled 1: Enabled This digit is available on servo amplifiers with software version A5 or later.	0h		[Pr. PC28.3 Linear encoder multipoint Z-phase input function selection] When multiple reference marks exist during the full stroke of the linear encoder, set "1". 0: Disabled 1: Enabled	0h	P S T
—				Pr. PC28.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC29	Function selection C-8		PC29	Function selection C-8		—
	_ _ _ x: For manufacturer setting	0h		[Pr. PC29.0 [AL. 0E2.2 Servo motor temperature warning 2] selection] Select whether to enable or disable [AL. 0E2.2 Servo motor temperature warning 2] when a servo motor with a batteryless absolute position encoder is used. 0: Enabled 1: Disabled	0h	—
	_ _ x _: Speed command input unit selection Select a speed command input unit. 0: r/min or mm/s unit 1: 0.1 r/min or 0.1 mm/s unit This digit is available on servo amplifiers with software version B3 or later.	0h		Pr. PC29.1 For manufacturer setting	2h	S T
	_ x _ _: For manufacturer setting	0h		Pr. PC29.2 For manufacturer setting	1h	—
	x _ _ _: For manufacturer setting	0h		[Pr. PC29.3 Analog input signal selection] Select analog input signals of the CN3-2 pin (analog command input 1) and the CN3-27 pin (analog command input 2). For the MR-J5-_A, the resolution of the CN3-2 pin (analog command input 1) is equivalent to 14 bits. For the MR-J5-_A_-RJ, the initial value "0" (automatic) of [Pr. PC60.1 High resolution analog input selection] is equivalent to 16 bits, however, setting [Pr. PC 60.1] to "2" (disabled) can change the resolution to the one equivalent to 14 bits. The resolution of the CN3-27 pin (analog command input 2) is equivalent to 12 bits. Adjust the offset with [Pr. PC37 Analog command input 1 offset] and [Pr. PC38 Analog command input 2 offset]. In the settings of [Pr. PC23.2 VC/VLA voltage average selection], filters are enabled for pins for which VC/VLA have been set. Adjust this as necessary. Refer to the following table for setting values. ☞ Page 580 Combination by analog input signal selection (MR-J5-_A_)	0h	—
—				[Pr. PC29.4 Speed monitor unit selection] Select the servo motor speed unit which is displayed from "Display All" of MR Configurator2. 0: 1 r/min (1 mm/s) unit 1: 0.1 r/min (0.1 mm/s) unit	0h	—
				Pr. PC29.5-7 For manufacturer setting	000h	—

Combination by analog input signal selection (MR-J5-_A_)

Setting value	CN3-2 pin (analog command input 1)	CN3-27 pin (analog command input 2)
0	VC/VLA	TLA/TC
1	TLA/TC	VC/VLA

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC30	Acceleration time constant 2 To enable this parameter, turn ON the STAB2 (Second acceleration/deceleration selection). Set the acceleration time required to reach the rated speed from 0 r/min or 0 mm/s for VC (Analog speed command) and [Pr. PC05 Internal speed command 1] to [Pr. PC11 Internal speed command 7]. Setting range: 0 to 50000	0 [ms]	PC30	Speed acceleration time constant 2 In the speed control mode or torque control mode, set the acceleration time taken by the servo motor to reach the rated speed from a full stop for the analog speed command and internal speed command. When STAB2 (Second acceleration/deceleration selection) is turned on, the setting value of this servo parameter is enabled. Set the acceleration time required to reach the rated speed from 0 r/min for VC (Analog speed command) and [Pr. PC05 Internal speed 1] to [Pr. PC11 Internal speed 7]. Setting range: 0 to 50000	0 [ms]	S T
PC31	Deceleration time constant 2 To enable this parameter, turn ON the STAB2 (Second acceleration/deceleration selection). Set the deceleration time required to reach 0 r/min or 0 mm/s from the rated speed for VC (Analog speed command) and [Pr. PC05 Internal speed command 1] to [Pr. PC11 Internal speed command 7]. Setting range: 0 to 50000	0 [ms]	PC31	Speed deceleration time constant 2 In the speed control mode or torque control mode, set the deceleration time for the servo motor to stop from the rated speed for the analog speed command and internal speed command. When STAB2 (Second acceleration/deceleration selection) is turned on, the setting value of this servo parameter is enabled. Set the deceleration time required to reach 0 r/min from the rated speed for VC (Analog speed command) and [Pr. PC05 Internal speed 1] to [Pr. PC11 Internal speed 7]. Setting range: 0 to 50000	0 [ms]	S T
PC32	Command pulse multiplication numerator 2 This parameter is enabled when "Electronic gear (0 _ _ _)", "J3 electronic gear setting value compatibility mode (2 _ _ _)" or "J2S electronic gear setting value compatibility mode (3 _ _ _)" is selected in "Electronic gear selection" of [Pr. PA21]. Setting range: 1 to 16777215	1	PC32	Command input pulse multiplication numerator 2 Set the multiplication factor for command input pulses. This servo parameter is enabled when [Pr. PA21.3 Electronic gear compatibility selection] is set to "0", "2", "3", or "4". Refer to the following table for details. ☞ Page 581 Combination of electronic gear selection (MR-J5-_A_) Setting range: 1 to 2147483647	1	P

Combination of electronic gear selection (MR-J5-_A_)

CM1	CM2	Electronic gear
Open	Open	CMX
Shorted	Open	CMX2
Open	Shorted	CMX3
Shorted	Shorted	CMX4

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC33	Command pulse multiplication numerator 3 This parameter is enabled when "Electronic gear (0 _ _ _)", "J3 electronic gear setting value compatibility mode (2 _ _ _)" or "J2S electronic gear setting value compatibility mode (3 _ _ _)" is selected in "Electronic gear selection" of [Pr. PA21]. Setting range: 1 to 16777215	1	PC33	Command input pulse multiplication numerator 3 Set the multiplication factor for command input pulses. This servo parameter is enabled when [Pr. PA21.3 Electronic gear compatibility selection] is set to "0", "2", "3", or "4". Setting range: 1 to 2147483647	1	P
PC34	Command pulse multiplication numerator 4 This parameter is enabled when "Electronic gear (0 _ _ _)", "J3 electronic gear setting value compatibility mode (2 _ _ _)" or "J2S electronic gear setting value compatibility mode (3 _ _ _)" is selected in "Electronic gear selection" of [Pr. PA21]. Setting range: 1 to 16777215	1	PC34	Command input pulse multiplication numerator 4 Set the multiplication factor for command input pulses. This servo parameter is enabled when [Pr. PA21.3 Electronic gear compatibility selection] is set to "0", "2", "3", or "4". Setting range: 1 to 2147483647	1	P
PC35	Internal torque limit 2/internal thrust limit 2 When setting this servo parameter, consider the maximum torque or maximum thrust as 100.0 %. Set the parameter when limiting the torque of the servo motor or the thrust of the linear servo motor. However, if this servo parameter is set to "0.0", the servo motor does not generate torque or thrust. If TL1 (Internal torque limit selection) is turned on, the internal torque limits 1 and 2 are compared and the lower one will be enabled. Refer to section 3.6.1 (5) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" before using this parameter. Setting range: 0.0 to 100.0	100.0 [%]	PC35	Internal torque limit 2 Set the servo parameter for limiting the torque or thrust generated by the servo motor assuming the rated torque or continuous thrust as 100.0 %. If this servo parameter is set to "0.0", the servo motor does not generate torque or thrust. If TL1 (Internal torque limit selection) is turned on, the setting value of [Pr. PA11] or [Pr. PA12] is compared with [Pr. PC35] and the lower one will be enabled. When [Pr. PC50.0 Torque limit unit change] is set to "0" (maximum torque unit), set the servo parameter in relation to the maximum torque or maximum thrust (= 100.0 %). Setting range: 0.0 to 1000.0	1000.0 [%]	P S T
PC36	Status display selection		PC36	Status display selection		—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC36	_ _ x x: Main unit status display selection at power on Select the status display shown at power-on. The setting values 21 to 27 are available only in the positioning mode. Setting an unavailable value triggers [AL. 37]. 00: Cumulative feedback pulses 01: Servo motor speed/linear servo motor speed 02: Droop pulses 03: Cumulative command pulses 04: Command pulse frequency 05: Analog speed command voltage *1 06: Analog torque command voltage *2 07: Regenerative load ratio 08: Effective load ratio 09: Peak load ratio 0A: Instantaneous torque/instantaneous thrust 0B: Position within one-revolution/virtual position within one-revolution (1 pulse unit) 0C: Position within one-revolution/virtual position within one-revolution (1000 pulses unit) 0D: ABS counter/virtual ABS counter 0E: Load to motor inertia ratio/load to motor mass ratio 0F: Bus voltage 10: Internal temperature of encoder 11: Settling time 12: Oscillation detection frequency 13: Number of tough drive operations 14: Unit power consumption (1 W unit) 15: Unit power consumption (1 kW unit) 16: Unit total power consumption (1 Wh unit) 17: Unit total power consumption (100 kWh unit) 18: Load side encoder cumulative feedback pulses *3 19: Load-side droop pulses *3 1A: Load-side encoder information 1 (1 pulse unit) *3 1B: Load-side encoder information 1 (100000 pulses unit) *3 1C: Load-side encoder ABS counter *3 1D: Z-phase counter (1 pulse unit) *4 1E: Z-phase counter (100000 pulses unit) *4 1F: Electrical angle (1 pulse unit) *4 20: Electrical angle (100000 pulses unit) *4 *1 When in the speed control mode. In the torque control mode, the analog speed limit voltage is applied. *2 When in the torque control mode. In the speed control mode and position control mode, the analog torque limit voltage is applied. *3 If any of 18 to 1C is set in a mode other than the fully closed loop control mode, [AL. 37] occurs. *4 If any of 1D to 20 is set in a mode other than the linear servo motor control mode, [AL. 37] occurs.	00h	PC36	[Pr. PC36.0-1 Main unit status display selection at power on] Select the status display shown at power-on. Setting any value other than the following will trigger [AL. 037 Parameter error]. 00: Cumulative feedback pulses 01: Servo motor speed 02: Droop pulses 03: Cumulative command pulses 04: Command pulse frequency 05: Analog speed command voltage *1 06: Analog torque command voltage *2 07: Regenerative load ratio 08: Effective load ratio 09: Peak load ratio 0A: Instantaneous torque/instantaneous thrust 0B: Position within one-revolution/virtual position within one-revolution (1 pulse unit) 0C: Position within one-revolution/virtual position within one-revolution (1000 pulses unit) 0D: ABS counter/virtual ABS counter 0E: Load to motor inertia ratio/load to motor mass ratio 0F: Bus voltage 10: Internal temperature of encoder/temperature of servo motor thermistor 11: Settling time 12: Oscillation detection frequency 13: Number of tough drive operations 14: Unit power consumption (1 W unit) 15: Unit power consumption (1 kW unit) 16: Unit total power consumption (1 Wh unit) 17: Unit total power consumption (100 kWh unit) 18: Load side encoder cumulative feedback pulses *3 19: Load-side droop pulses *3 1A: Load-side encoder information 1 (1 pulse unit) *3 1B: Load-side encoder information 1 (100000 pulses unit) *3 1C: Load-side encoder ABS counter *3 1D: Z-phase counter (1 pulse unit) *4 1E: Z-phase counter (100000 pulses unit) *4 1F: Electrical angle (1 pulse unit) *4 20: Electrical angle (100000 pulses unit) *4 *1 When in the speed control mode. In the torque control mode, the analog speed limit voltage is applied. *2 When in the torque control mode. In the speed control mode and position control mode, the analog torque limit voltage is applied. *3 If any of 18 to 1C is set in a mode other than the fully closed loop control mode, [AL. 037] occurs. *4 If any of 1D to 20 is set in a mode other than the linear servo motor control mode, [AL. 037] occurs.	00h	P S T
	_ x _ _: Status display at power-on in corresponding control mode 0: Depends on the control mode 1: Depends on the last two digits of this parameter Refer to the following table for details. ☞ Page 584 Status display at power-on in corresponding control mode (MR-J4-_A_)	0h		[Pr. PC36.2 Status display at power-on in corresponding control mode] 0: Depends on the control mode 1: Depends on the setting of [Pr. PC36.0-1 Main unit status display selection at power on] Refer to the following table for the details of when "0" is set. ☞ Page 584 Status display at power-on in corresponding control mode (MR-J5-_A_)	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PC36.3 For manufacturer setting	0h	—
—				Pr. PC36.4-7 For manufacturer setting	0000h	—

Status display at power-on in corresponding control mode (MR-J4-_A_)

Control mode	Status display at power-on
Position	Cumulative feedback pulses
Position/speed	Cumulative feedback pulses/servo motor speed (linear servo motor speed)
Speed	Servo motor speed (linear servo motor speed)
Speed/torque	Servo motor speed (linear servo motor speed)/analog torque (thrust) command voltage
Torque	Analog torque (thrust) command voltage
Torque/position	Analog torque (thrust) command voltage/cumulative feedback pulses

Status display at power-on in corresponding control mode (MR-J5-_A_)

Control mode	Status display at power-on
Position	Cumulative feedback pulses
Position/speed	Cumulative feedback pulses/servo motor speed
Speed	Servo motor speed
Speed/torque	Servo motor speed/analog torque (thrust) command voltage
Torque	Analog torque (thrust) command voltage
Torque/position	Analog torque (thrust) command voltage/cumulative feedback pulses

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC37	Analog speed command offset Set the offset voltage for VC (Analog speed command). If the servo motor rotates in CCW or travels in the positive direction when ST1 (Forward rotation start) is turned on while 0 V is applied to VC, set a negative value. If the VC automatic offset is used, the automatically offset voltage will be set. Refer to section 4.5.4 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. The initial value is the value obtained by setting the voltage between VC and LG to 0 V in the factory setting and performing the VC automatic offset. Setting range: -9999 to 9999	Differs depending on the servo amplifier. [mV]	PC37	Analog command input 1 offset Set the offset voltage for analog command input 1. If the analog command input 1 automatic offset is used, the automatically offset voltage will be set. VC/VLA is assigned to analog command input 1 (CN3-2 pin) when the initial value is set in [Pr. PC29.3 Analog input signal selection]. In addition, the servo amplifier is shipped from the factory with the automatically offset voltage set by executing the analog command input 1 automatic offset with the voltage being 0 between the CN3-2 pin (VC/VLA) and LG. Refer to the following table for details. ☞ Page 585 Settings of [Pr. PC29.3] and [Pr. PC37] (MR-J5-_A_) Setting range: -9999 to 9999	0 [mV]	S
	Analog speed limit offset Set the offset voltage for VLA (Analog speed limit). If the servo motor rotates in CCW or travels in the positive direction when RS1 (Forward rotation selection) is turned on while 0 V is applied to VLA, set a negative value. If the VC automatic offset is used, the automatically offset voltage will be set. Refer to section 4.5.4 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. The initial value is the value obtained by setting the voltage between VLA and LG to 0 V in the factory setting and performing the VC automatic offset. Setting range: -9999 to 9999					T

Settings of [Pr. PC29.3] and [Pr. PC37] (MR-J5-_A_)

[Pr. PC29.3]	Control mode	Function
0 (initial value)	Speed control mode	Set the offset voltage for VC (Analog speed command). If the servo motor rotates in CCW or travels in the positive direction when ST1 (Forward rotation start) is turned on while 0 V is applied to VC, set a negative value.
	Torque control mode	Set the offset voltage for VLA (Analog speed limit). If the servo motor rotates in CCW or travels in the positive direction when RS1 (Forward rotation selection) is turned on while 0 V is applied to VLA, set a negative value.
1	Position control mode or speed control mode	Set the offset voltage for TLA (Analog torque limit).
	Torque control mode	Set the offset voltage for TC (Analog torque command).

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC38	Analog torque command offset Set the offset voltage for TC (Analog torque command). Setting range: -9999 to 9999	0 [mV]	PC38	Analog command input 2 offset Set the offset voltage for analog command input 2. TLA/TC is assigned to analog command input 2 (CN3-27 pin) when the initial value is set in [Pr. PC29.3 Analog input signal selection]. Refer to the following table for details. ☞ Page 585 Settings of [Pr. PC29.3] and [Pr. PC38] (MR-J5-_A_) Setting range: -9999 to 9999	0 [mV]	T
	Analog torque limit offset Set the offset voltage for TLA (Analog torque limit). Setting range: -9999 to 9999					S

Settings of [Pr. PC29.3] and [Pr. PC38] (MR-J5-_A_)

[Pr. PC29.3]	Control mode	Function
0 (initial value)	Position control mode or speed control mode	Set the offset voltage for TLA (Analog torque limit).
	Torque control mode	Set the offset voltage for TC (Analog torque command).
1	Speed control mode	Set the offset voltage for VC (Analog speed command). If the servo motor rotates in CCW or travels in the positive direction when ST1 (Forward rotation start) is turned on while 0 V is applied to VC, set a negative value.
	Torque control mode	Set the offset voltage for VLA (Analog speed limit). If the servo motor rotates in CCW or travels in the positive direction when RS1 (Forward rotation selection) is turned on while 0 V is applied to VLA, set a negative value.

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC39	Analog monitor 1 offset Set the offset voltage of MO1 (Analog monitor 1). Setting range: -9999 to 9999	0 [mV]	PC39	Analog monitor 1 offset Set the offset voltage of analog monitor 1. Setting range: -9999 to 9999	0 [mV]	P S T
PC40	Analog monitor 2 offset Set the offset voltage of MO2 (Analog monitor 2). Setting range: -9999 to 9999	0 [mV]	PC40	Analog monitor 2 offset Set the offset voltage of analog monitor 2. Setting range: -9999 to 9999	0 [mV]	P S T
PC43	Error excessive alarm level Set an excessive error alarm trigger level. The setting unit can be changed with "Excessive error alarm and excessive error warning trigger level unit selection" of [Pr. PC24]. If using a rotary servo motor or direct drive motor, set the level in units of rev. When "0" is set, the level becomes 3 rev, and the setting exceeding 200 rev is clamped at 200 rev. If using a linear servo motor, set the level in units of mm. If the setting value is "0", the level will be 100 mm. Refer to appendix 17 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for the adjustment method. Setting range: 0 to 1000	0 [rev]/ [mm]	PC43	Excessive error alarm trigger level Set an excessive error alarm trigger level. If using a rotary servo motor or direct drive motor, set the level in units of rev. If 200 rev or higher is set, the value will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. When the value is set to "0", the alarm trigger level for rotary servo motors and direct drive motors is 3 rev. The alarm trigger level for linear servo motors is 100 mm. The unit can be changed with [Pr. PC24.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection]. Setting range: 0 to 1000	0 [rev], [mm]	P
PC44	Function selection C-9		PC44	Function selection C-9		—
	_ _ _ x: For manufacturer setting	0h		Pr. PC44.0 For manufacturer setting	0h	—
	_ _ x _: For manufacturer setting	0h		Pr. PC44.1 For manufacturer setting	5h	—
	_ x _ _: For manufacturer setting	0h		Pr. PC44.2 For manufacturer setting	0h	—
	x _ _ _: Load-side encoder cable communication method selection Select an encoder cable to be connected to the CN2L connector of MR-J4-_A_-RJ. 0: Two-wire type 1: Four-wire type When using a load-side encoder of A/B/Z-phase differential output method, set "0". The incorrect setting triggers [AL. 70] and [AL. 71]. Setting "1" on servo amplifiers other than the MR-J4-_A_-RJ triggers [AL. 37].	0h		[Pr. PC44.3 Load-side encoder cable communication method selection] Select an encoder cable to be connected to the CN2L connector of MR-J5-_A_-RJ. 0: Two-wire type 1: Four-wire type When using a load-side encoder that is A/B/Z-phase differential output type, set "0". Setting "1" triggers [AL. 037 Parameter error]. If the value is set incorrectly, [AL. 070 Load-side encoder initial communication error 1] or [AL. 071 Load-side encoder normal communication error 1] occurs. Setting "1" on servo amplifiers other than the MR-J5-_A_-RJ triggers [AL. 037 Parameter error].	0h	P
—				Pr. PC44.4-7 For manufacturer setting	0000h	—

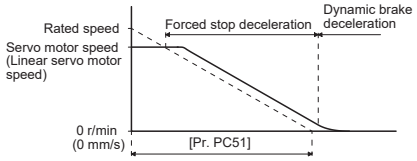
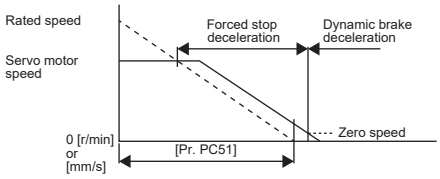
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC45	Function selection C-A		PC45	Function selection C-A		—
	_ _ _ x: Encoder pulse count polarity selection Select a polarity of the linear encoder or load-side encoder. 0: Encoder pulse increasing direction in the servo motor CCW or positive direction 1: Encoder pulse decreasing direction in the servo motor CCW or positive direction	0h		[Pr. PC45.0 Encoder pulse count polarity selection] Select a polarity of the linear encoder or load-side encoder. 0: Encoder pulse increasing direction in the servo motor CCW or positive direction 1: Encoder pulse decreasing direction in the servo motor CCW or positive direction	0h	P S T
	_ _ x _: For manufacturer setting	0h		Pr. PC45.1 For manufacturer setting	0h	—
	_ x _ _: ABZ phase input interface encoder Z-phase connection assessment function selection Select the non-signal detection status for the pulse train signal from the A/B/Z-phase input interface encoder used as a linear encoder or load-side encoder. This function is enabled only when an A/B/Z-phase input interface encoder is used. Refer to the following table for setting values. ☞ Page 588 ABZ phase input interface encoder Z-phase connection assessment function selection (MR-J4-_A_)	0h		[Pr. PC45.2 ABZ phase input interface encoder ABZ phase connection assessment function selection] Select the non-signal detection status for the pulse train signal from the A/B/Z-phase input interface encoder used as a linear encoder or load-side encoder. This function is enabled when an A/B/Z-phase input interface encoder is used. Refer to the following table for setting values. ☞ Page 588 ABZ phase input interface encoder ABZ phase connection assessment function selection (MR-J5-_A_)	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PC45.3 For manufacturer setting	0h	—
—				Pr. PC45.4-7 For manufacturer setting	0000h	—

ABZ phase input interface encoder Z-phase connection assessment function selection (MR-J4-_A_)

Setting value	Detection of disconnection	Alarm status	
	Z-phase-side non-signal	Fully closed	Linear
0	Enabled	[AL. 71.6] (Z-phase)	[AL. 20.6] (Z-phase)
1	Disabled	—	—

ABZ phase input interface encoder ABZ phase connection assessment function selection (MR-J5-_A_)

Setting value	Detection of disconnection	Alarm status	
	Z-phase-side non-signal	Fully closed loop control mode	Linear servo motor control mode
0	Enabled	[AL. 071.6 Load-side encoder normal communication - Transmission data error 2] (Z-phase)	[AL. 020.6 Encoder normal communication - Transmission data error 2] (Z-phase)
1	Disabled	—	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC51	Forced stop deceleration time constant Set the deceleration time constant for the forced stop deceleration function. Set the time taken from the rated speed to 0 r/min (mm/s) in units of ms. If the setting value is "0", the time will be 100 ms.  [Precautions] • If the servo motor torque or linear servo motor thrust is saturated at the maximum value during forced stop deceleration because the set time is too short, the time to stop the servo motor will be longer than the set time constant. • [AL. 50 Overload 1] or [AL. 51 Overload 2] may occur during forced stop deceleration, depending on the set value. • After an occurrence of an alarm to execute forced stop deceleration, if another alarm that does not execute forced stop deceleration occurs, or if the control circuit power supply is shut off, dynamic braking will start regardless of the deceleration time constant setting. Setting range: 0 to 20000	100 [ms]	PC51	Deceleration time constant at forced stop Set the deceleration time constant for the forced stop deceleration function. Set the time taken from the rated speed to 0 [r/min] (0 [mm/s]) in units of ms. When "0" is set, the deceleration time constant is the same as when "100" is set.  • If the servo motor torque or thrust is saturated at the maximum value during forced stop deceleration because the set time is too short, the time to stop the servo motor will be longer than the set time constant. • [AL. 050 Overload 1] or [AL. 051 Overload 2] may occur during forced stop deceleration, depending on the set value. • After an occurrence of an alarm to execute forced stop deceleration, if another alarm that does not execute forced stop deceleration occurs, or if the control circuit power supply is shut off, dynamic braking will start regardless of the deceleration time constant setting. • Set a longer time than deceleration time at quick stop of the controller. If the setting time is too short, [AL. 052 Excessive error] may occur. • During forced stop deceleration, changes in the setting value are not reflected. If the setting value is changed during forced stop deceleration, the change will be reflected after the deceleration is completed. Setting range: 0 to 20000	100 [ms]	P S

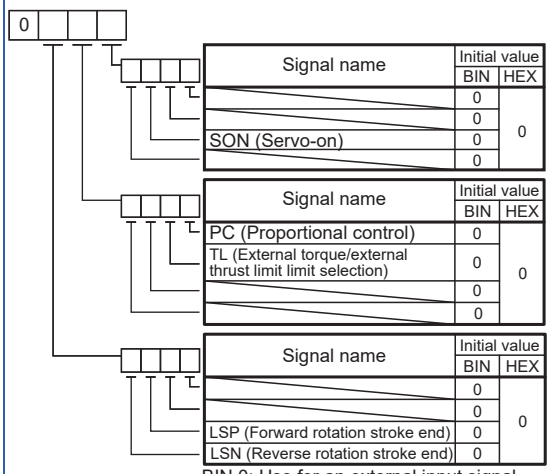
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC54	Vertical axis freefall prevention compensation amount Set the compensation amount of the vertical axis freefall prevention function. Set the compensation amount in either the servo motor rotation amount unit or linear servo motor travel distance unit. This function pulls up the vertical axis in increments of rotation amount of the rotary servo motor and travel distance of the linear servo motor toward the rotation/travel direction of the forward pulse input for a positive value, and of the reverse pulse input for a negative value. For example, when [Pr. PA14 Rotation direction selection/travel direction selection] is set to "1" and a positive value is set for the compensation amount, the servo motor pulls up in the CW direction. The vertical axis freefall prevention function is performed when all of the following conditions are met. 1) The control mode is the position control mode. 2) The setting value of this parameter is other than "0". 3) "Forced stop deceleration function selection" of [Pr. PA04] is set to "Forced stop deceleration function enabled (2 _ _ _)". 4) When the servo motor speed is at or below the zero speed, the EM2 (forced stop 2) is off or an alarm occurs. 5) MBR (Electromagnetic brake interlock) was enabled in [Pr. PD23] to [Pr. PD26], [Pr. PD28], and [Pr. PD47] while the base circuit shut-off delay time was set in [Pr. PC16]. Setting range: -25000 to 25000	0 [0.0001 rev]/ [0.01 mm]	PC54	Vertical axis freefall prevention compensation amount Set the compensation amount of the vertical axis freefall prevention function. Set the compensation amount in either the servo motor rotation amount unit or linear servo motor travel distance unit. When a positive value is set, the compensation is performed to the command address increasing direction. When a negative value is set, compensation is performed to the command address decreasing direction. The vertical axis freefall prevention function is performed when all of the following conditions are met. • The control mode is set for the position mode. • The setting value of this servo parameter is other than "0". • The forced stop deceleration function is enabled. • An alarm has occurred or EM2 has turned off when the servo motor rotates at the zero speed or less. • MBR (Electromagnetic brake interlock) was enabled in [Pr. PD23 Output device selection 1] to [Pr. PD28 Output device selection 6], and the base circuit shut-off delay time was set in [Pr. PC16 Electromagnetic brake sequence output]. Setting range: -25000 to 25000	0 [0.0001 rev], [0.01 mm]	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC60	Function selection C-D		PC60	Function selection C-D		—
	_ _ _ x: Motor-less operation selection Set the motor-less operation. This function cannot be used in the linear servo motor control mode, fully closed loop control mode, or DD motor control mode. 0: Disabled 1: Enabled	0h		[Pr. PC60.0 Motor-less operation selection] Enable or disable motor-less operation. This operation can be used only in semi closed loop control while a rotary servo motor is used. 0: Disabled 1: Enabled	0h	P S T
	_ _ x _: High-resolution analog input selection Select the resolution for VC (Analog speed command). When the parameter is changed, perform offset adjustment with [Pr. PC37 Analog speed command offset]. The offset adjustment can be performed by executing the VC automatic offset. Setting "1" on servo amplifiers other than the MR-J4-_A_-RJ, MR-J4-_A_-RU, and MR-J4-_A_-RZ triggers [AL. 37]. 0: Disabled 1: Enabled This digit is available on servo amplifiers manufactured in November 2014 or later.	0h		[Pr. PC60.1 High resolution analog input selection] Select the resolution of analog command input 1 (VC/VLA or TLA/TC) set in [Pr. PC29.3 Analog input signal selection]. When the servo parameter is changed, perform offset adjustment with [Pr. PC37 Analog command input 1 offset]. The offset adjustment can be performed by executing the analog command input 1 automatic offset. "0" (automatic) is the same setting as "2" (disabled) for the MR-J5-_A and "1" (enabled) for the MR-J5-_A_-RJ. When the servo parameter is disabled, the resolution is equivalent to 14 bits, and when the parameter is enabled, the resolution is equivalent to 16 bits. Setting "1" on other than MR-J5-_A_-RJ triggers [AL. 037 Parameter error]. 0: Automatic 1: Enabled 2: Disabled	0h	P S
	_ x _ _: For manufacturer setting	0h		Pr. PC60.2 For manufacturer setting	0h	—
	x _ _ _: [AL. 9B Excessive error warning] selection 0: [AL. 9B Excessive error warning] disabled 1: [AL. 9B Excessive error warning] enabled This digit is available on servo amplifiers with software version B4 or later.	0h		Pr. PC60.3 For manufacturer setting	0h	P S T
—				[Pr. PC60.4 Encoder communication circuit diagnosis mode selection] Enable or disable the encoder communication circuit diagnosis mode. [AL. 118.1 Encoder communication circuit diagnosis in progress] occurs during the encoder communication circuit diagnosis mode. 0: Encoder communication circuit diagnosis mode disabled 1: Encoder communication circuit diagnosis mode enabled	0h	—
				Pr. PC60.5 For manufacturer setting	0h	—
				[Pr. PC60.6 Multipoint Z-phase linear encoder monitor selection] When multiple reference marks exist during the full stroke of the linear encoder, set "1". 0: Automatic setting 1: Enabled If an encoder other than the incremental linear encoder or A/B/Z-phase differential output linear encoder is connected, the setting value of this servo parameter is disabled.	0h	—
				Pr. PC60.7 For manufacturer setting	0h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PC73	Error excessive warning level Set the excessive error warning trigger level. This parameter is enabled when "Enabled (1 _ _ _)" of "[AL. 9B Excessive error warning] selection" is selected in [Pr. PC60]. The setting unit can be changed with "Excessive error alarm and excessive error warning trigger level unit selection" of [Pr. PC24]. If using a rotary servo motor or direct drive motor, set the level in units of rev. When "0" is set, the level becomes 1 rev, and the setting exceeding 200 rev is clamped at 200 rev. If using a linear servo motor, set the level in units of mm. If the setting value is "0", the level will be 50 mm. If an error reaches the set value, [AL. 9B Excessive error warning] occurs. The warning is automatically canceled when the value is less than the set value. The minimum pulse width of the warning signal is 100 [ms]. Set as follows: [Pr. PC73 Error excessive warning level] < [Pr. PC43 Error excessive alarm level]. When set as [Pr. PC73 Error excessive warning level] ≥ [Pr. PC43 Error excessive alarm level], [AL. 52 Excessive error] occurs before the warning. This parameter is available on servo amplifiers with software version B4 or later. Setting range: 0 to 1000	0 [rev]/ [mm]	PC73	Excessive error warning trigger level Set the excessive error warning trigger level. If using a rotary servo motor or direct drive motor, set the level in units of rev. If 200 rev or higher is set, the value will be clamped to 200 rev. If using a linear servo motor, set the level in units of mm. When "0" is set, [AL. 09B Excessive error warning] does not occur. If an error reaches the set value, [AL. 09B Excessive error warning] occurs. If the error later becomes less than the setting value, the warning will be automatically canceled. The minimum pulse width of the warning signal output is 100 [ms]. Set as follows: [Pr. PC73 Excessive error warning trigger level] < [Pr. PC43 Excessive error alarm trigger level]. When set as [Pr. PC73] ≥ [Pr. PC43], [AL. 052 Excessive error] occurs before the warning. The unit can be changed with [Pr. PC24.3 Excessive error alarm trigger level/excessive error warning trigger level - Unit selection]. Setting range: 0 to 1000	0 [rev], [mm]	P

I/O setting parameters ([Pr. PD_ _])

MR-J4-_A_ servo parameter				MR-J5-_A_ servo parameter				P/S/T
No.	Name and function		Initial value [Unit]	No.	Name and function		Initial value [Unit]	
PD01	Input signal automatic on selection 1 Select input devices that turn on automatically.			PD01	Input signal automatic ON selection 1			—
	_ _ _ x (HEX)	_ _ _ x (BIN): For manufacturer setting	0h		Pr. PD01.0]	_ _ _ x: For manufacturer setting	0h	—
		_ _ x _ (BIN): For manufacturer setting				_ _ x _: For manufacturer setting		—
		_ x _ _ (BIN): SON (Servo-on) 0: Disabled (Use for an external input signal.) 1: Enabled (Automatic on)				_ x _ _: Servo-on (SON) 0: Use for an external input signal 1: Automatic on		P S T
		x _ _ _ (BIN): For manufacturer setting				x _ _ _: For manufacturer setting		—
	_ _ x _ (HEX)	_ _ _ x (BIN): PC (Proportional control) 0: Disabled (Use for an external input signal.) 1: Enabled (Automatic on)	0h		Pr. PD01.1	_ _ _ x: Proportional control (PC) 0: Use for an external input signal 1: Automatic on	0h	P S
		_ _ x _ (BIN): TL (External torque/external thrust limit selection) 0: Disabled (Use for an external input signal.) 1: Enabled (Automatic on)				_ _ x _: External torque limit (TL) 0: Use for an external input signal 1: Automatic on		P S
		_ x _ _ (BIN): For manufacturer setting				_ x _ _: For manufacturer setting		—
		x _ _ _ (BIN): For manufacturer setting				x _ _ _: For manufacturer setting		—
	_ x _ _ (HEX)	_ _ _ x (BIN): For manufacturer setting	0h		Pr. PD01.2	_ _ _ x: For manufacturer setting	0h	—
		_ _ x _ (BIN): For manufacturer setting				_ _ x _: For manufacturer setting		—
		_ x _ _ (BIN): LSP (Forward rotation stroke end) 0: Disabled (Use for an external input signal.) 1: Enabled (Automatic on)				_ x _ _: Forward rotation stroke end (LSP) 0: Use for an external input signal 1: Automatic on		P S
		x _ _ _ (BIN): LSN (Reverse rotation stroke end) 0: Disabled (Use for an external input signal.) 1: Enabled (Automatic on)				x _ _ _: Reverse rotation stroke end (LSN) 0: Use for an external input signal 1: Automatic on		P S
	x _ _ _	_ _ _ x: For manufacturer setting	0h		Pr. PD01.3	_ _ _ x: Forced stop (EM2)/forced stop (EM1) 0: Use for an external input signal 1: Automatic on *1	0h	P S T
		_ _ x _: For manufacturer setting				_ _ x _: For manufacturer setting		—
		_ x _ _: For manufacturer setting				_ x _ _: For manufacturer setting		—
		x _ _ _: For manufacturer setting				x _ _ _: For manufacturer setting		—
	—				Pr. PD01.4-7	For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD01	Convert the setting value in hexadecimal as follows.  BIN 0: Use for an external input signal. BIN 1: Automatic on When performing a magnetic pole detection without LSP (Forward rotation stroke end) and LSN (Reverse rotation stroke end), set [Pr. PL08 Linear servo motor/DD motor function selection 3] to "_ 1 _ _". to disable LSP and LSN.		PD01	—		—

*1 Use this function only in the test operation.

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD03	Input device selection 1L Any input device can be assigned to the CN1-15 pin.		PD03	Input device selection 1L Select the device to be assigned to the input signal of the CN3-15 pin.		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	02h		[Pr. PD03.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	02h	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	02h		[Pr. PD03.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	02h	S
—				Pr. PD03.4-7 For manufacturer setting	0000h	—

Input device selection (MR-J4-_A_)

Setting value	Input device *1		
	P	S	T
02	SON	SON	SON
03	RES	RES	RES
04	PC	PC	—
05	TL	TL	—
06	CR	—	—
07	—	ST1	RS2
08	—	ST2	RS1
09	TL1	TL1	—
0A	LSP	LSP	LSP *3
0B	LSN	LSN	LSN *3
0D	CDP	CDP	—
0E	CLD	—	—
0F	MECR	—	—
20	—	SP1	SP1
21	—	SP2	SP2
22	—	SP3	SP3
23	LOP *2	LOP *2	LOP *2
24	CM1	—	—
25	CM2	—	—
26	—	STAB2	STAB2

*1 P: Position control mode, S: Speed control mode, T: Torque control mode
The control modes with "" in the input device column are for manufacturer setting. Do not set them under any circumstances.

*2 When assigning LOP (Control switching), assign to the same pin in all control modes.

*3 In the torque control mode, this device cannot be used in the normal operation. This device can be only used during the magnetic pole detection in the linear servo motor control mode and the DD motor control mode. Also, when the magnetic pole detection in the torque control mode is completed, this signal will be disabled.

Input device selection (MR-J5-_A_)

Setting value	Control mode [*1] [*2]		
	P	S	T
02	SON	SON	SON
03	RES	RES	RES
04	PC	PC	—
05	TL	TL	—
06	CR	—	—
07	—	ST1	RS2
08	—	ST2	RS1
09	TL1	TL1	—
0A	LSP	LSP	LSP [*4]
0B	LSN	LSN	LSN [*4]
0D	CDP	CDP	—
0E [*5]	CLD	—	—
0F [*5]	MECR	—	—
13 [*5]	PEN	—	—
20	—	SP1	SP1
21	—	SP2	SP2
22	—	SP3	SP3
23	LOP [*3]	LOP [*3]	LOP [*3]
24	CM1	—	—
25	CM2	—	—
26	—	STAB2	STAB2
40	CDP2	CDP2	—

*1 P: Position control mode, S: Speed control mode, T: Torque control mode

*2 Do not make a setting on the control modes with "—" in the column, as these are for manufacturer setting.

*3 When assigning LOP (Control switching), assign to the same pin in all control modes.

*4 In the torque control mode, this device cannot be used in the normal operation. This device can be used during the magnetic pole detection in the linear servo motor control mode and the direct drive motor control mode. Also, when the magnetic pole detection in the torque control mode is completed, this signal will be disabled.

*5 Available on servo amplifiers with firmware version A5 or later.

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD04	Input device selection 1H Any input device can be assigned to the CN1-15 pin.		PD04	Input device selection 1H Select the device to be assigned to the input signal of the CN3-15 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	02h		[Pr. PD04.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	02h	T
	x x _ _: For manufacturer setting	02h		Pr. PD04.2-3 For manufacturer setting	02h	—
—				Pr. PD04.4-7 For manufacturer setting	0000h	—
PD05	Input device selection 2L Any input device can be assigned to the CN1-16 pin.		PD05	Input device selection 2L Select the device to be assigned to the input signal of the CN3-16 pin.		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	00h		[Pr. PD05.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	00h	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	21h		[Pr. PD05.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	21h	S
—				Pr. PD05.4-7 For manufacturer setting	0000h	—
PD06	Input device selection 2H Any input device can be assigned to the CN1-16 pin.		PD06	Input device selection 2H Select the device to be assigned to the input signal of the CN3-16 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	21h		[Pr. PD06.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	21h	T
	x x _ _: For manufacturer setting	20h		Pr. PD06.2-3 For manufacturer setting	02h	—
—				Pr. PD06.4-7 For manufacturer setting	0000h	—
PD07	Input device selection 3L Any input device can be assigned to the CN1-17 pin. If the absolute position detection system by DIO is selected while [Pr. PA03] is set to "_ _ _ 1", the CN1-17 pin becomes ABSM (ABS transfer mode).		PD07	Input device selection 3L Select the device to be assigned to the input signal of the CN3-17 pin. If the absolute position detection system with DIO is selected while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), the CN3-17 pin becomes ABSM (ABS transfer mode).		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	04h		[Pr. PD07.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	04h	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	07h		[Pr. PD07.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	07h	S
—				Pr. PD07.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD08	Input device selection 3H Any input device can be assigned to the CN1-17 pin.		PD08	Input device selection 3H Select the device to be assigned to the input signal of the CN3-17 pin. If the absolute position detection system with DIO is selected while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), the CN3-17 pin becomes ABSM (ABS transfer mode).		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	07h		[Pr. PD08.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	07h	T
	x x _ _: For manufacturer setting	07h		Pr. PD08.2-3 For manufacturer setting	07h	—
—				Pr. PD08.4-7 For manufacturer setting	0000h	—
PD09	Input device selection 4L Any input device can be assigned to the CN1-18 pin. If the absolute position detection system by DIO is selected while [Pr. PA03] is set to "_ _ _ 1", the CN1-18 pin becomes ABSR (ABS transfer request).		PD09	Input device selection 4L Select the device to be assigned to the input signal of the CN3-18 pin. If the absolute position detection system with DIO is selected while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), the CN3-18 pin becomes ABSR (ABS transfer request).		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	05h		[Pr. PD09.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	05h	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	08h		[Pr. PD09.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	08h	S
—				Pr. PD09.4-7 For manufacturer setting	0000h	—
PD10	Input device selection 4H Any input device can be assigned to the CN1-18 pin.		PD10	Input device selection 4H Select the device to be assigned to the input signal of the CN3-18 pin. If the absolute position detection system with DIO is selected while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), the CN3-18 pin becomes ABSR (ABS transfer request).		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	08h		[Pr. PD10.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	08h	T
	x x _ _: For manufacturer setting	08h		Pr. PD10.2-3 For manufacturer setting	08h	—
—				Pr. PD10.4-7 For manufacturer setting	0000h	—
PD11	Input device selection 5L Any input device can be assigned to the CN1-19 pin.		PD11	Input device selection 5L Select the device to be assigned to the input signal of the CN3-19 pin.		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	03h		[Pr. PD11.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	03h	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	03h		[Pr. PD11.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	03h	S
—				Pr. PD11.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD12	Input device selection 5H Any input device can be assigned to the CN1-19 pin.		PD12	Input device selection 5H Select the device to be assigned to the input signal of the CN3-19 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	03h		[Pr. PD12.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	03h	T
	x x _ _: For manufacturer setting	38h		Pr. PD12.2-3 For manufacturer setting	38h	—
—				Pr. PD12.4-7 For manufacturer setting	0000h	—
PD13	Input device selection 6L Any input device can be assigned to the CN1-41 pin.		PD13	Input device selection 6L Select the device to be assigned to the input signal of the CN3-41 pin.		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	06h		[Pr. PD13.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	06h	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	20h		[Pr. PD13.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	20h	S
—				Pr. PD13.4-7 For manufacturer setting	0000h	—
PD14	Input device selection 6H Any input device can be assigned to the CN1-41 pin.		PD14	Input device selection 6H Select the device to be assigned to the input signal of the CN3-41 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	20h		[Pr. PD14.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	20h	T
	x x _ _: For manufacturer setting	39h		Pr. PD14.2-3 For manufacturer setting	39h	—
—				Pr. PD14.4-7 For manufacturer setting	0000h	—
PD17	Input device selection 8L Any input device can be assigned to the CN1-43 pin.		PD17	Input device selection 8L Select the device to be assigned to the input signal of the CN3-43 pin.		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	0Ah		[Pr. PD17.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	0Ah	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	0Ah		[Pr. PD17.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	0Ah	S
—				Pr. PD17.4-7 For manufacturer setting	000Ah	—
PD18	Input device selection 8H Any input device can be assigned to the CN1-43 pin.		PD18	Input device selection 8H Select the device to be assigned to the input signal of the CN3-43 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	00h		[Pr. PD18.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	00h	T
	x x _ _: For manufacturer setting	0Ah		Pr. PD18.2-3 For manufacturer setting	0Ah	—
—				Pr. PD18.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD19	Input device selection 9L Any input device can be assigned to the CN1-44 pin.		PD19	Input device selection 9L Select the device to be assigned to the input signal of the CN3-44 pin.		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	0Bh		[Pr. PD19.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	0Bh	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	0Bh		[Pr. PD19.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	0Bh	S
—				Pr. PD19.4-7 For manufacturer setting	000Bh	—
PD20	Input device selection 9H Any input device can be assigned to the CN1-44 pin.		PD20	Input device selection 9H Select the device to be assigned to the input signal of the CN3-44 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	00h		[Pr. PD20.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	00h	T
	x x _ _: For manufacturer setting	0Bh		Pr. PD20.2-3 For manufacturer setting	0Bh	—
—				Pr. PD20.4-7 For manufacturer setting	0000h	—
PD21	Input device selection 10L Any input device can be assigned to the CN1-45 pin.		PD21	Input device selection 10L Select the device to be assigned to the input signal of the CN3-45 pin.		—
	_ _ x x: Position control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	23h		[Pr. PD21.0-1 Position control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	23h	P
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	23h		[Pr. PD21.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	23h	S
—				Pr. PD21.4-7 For manufacturer setting	002Bh	—
PD22	Input device selection 10H Any input device can be assigned to the CN1-45 pin.		PD22	Input device selection 10H Select the device to be assigned to the input signal of the CN3-45 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	23h		[Pr. PD22.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	23h	T
	x x _ _: For manufacturer setting	2Bh		Pr. PD22.2-3 For manufacturer setting	2Bh	—
—				Pr. PD22.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD23	Output device selection 1		PD23	Output device selection 1 Select a function of the CN3-22 pin. If the absolute position detection system with DIO is selected while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), the CN3-22 pin functions as "ABS transmission data bit 0 (ABSB0)" during the ABS transfer mode.		—
	_ _ x x: Device selection Any output device can be assigned to the CN1-22 pin. If the absolute position detection system by DIO is selected while [Pr. PA03] is set to "_ _ _ 1", the CN1-22 pin becomes ABSB0 (ABS transmission data bit 0) only during the ABS transfer mode. Refer to the following table for setting values. ☞ Page 601 Output device selection (MR-J4-_A_)	04h		[Pr. PD23.0-1 Device selection] Refer to the following table for setting values. ☞ Page 602 Output device selection (MR-J5-_A_)	04h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PD23.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PD23.3 For manufacturer setting	0h	—
—				Pr. PD23.4-7 For manufacturer setting	0000h	—

Output device selection (MR-J4-_A_)

Setting value	Output device *1		
	P	S	T
_ _ 0 0	Always off	Always off	Always off
_ _ 0 2	RD	RD	RD
_ _ 0 3	ALM	ALM	ALM
_ _ 0 4	INP	SA	Always off
_ _ 0 5	MBR	MBR	MBR
_ _ 0 6	DB	DB	DB
_ _ 0 7	TLC	TLC	VLC
_ _ 0 8	WNG	WNG	WNG
_ _ 0 9	BWNG	BWNG	BWNG
_ _ 0 A	Always off	SA	Always off
_ _ 0 B	Always off	Always off	VLC
_ _ 0 C	ZSP	ZSP	ZSP
_ _ 0 D	MTTR	MTTR	MTTR
_ _ 0 F	CDPS	Always off	Always off
_ _ 1 0	CLDS	Always off	Always off
_ _ 1 1	ABSV	Always off	Always off

*1 P: Position control mode, S: Speed control mode, T: Torque control mode

Output device selection (MR-J5-_A_)

Setting value	Control mode [*1]		
	P	S	T
00	Always off	Always off	Always off
02	RD	RD	RD
03	ALM	ALM	ALM
04	INP	SA	Always off
05	MBR	MBR	MBR
06 [*3]	DB	DB	DB
07	TLC	TLC	VLC
08	WNG	WNG	WNG
09	BWNG	BWNG	BWNG
0A	Always off	SA	Always off
0B	Always off	Always off	VLC
0C	ZSP	ZSP	ZSP
0D	MTTR	MTTR	MTTR
0E	WNGSTOP	WNGSTOP	WNGSTOP
0F	CDPS	Always off	Always off
10 [*2]	CLDS	Always off	Always off
11	ABSV	Always off	Always off
18	CDPS2	CDPS2	CDPS2
19 [*2]	PENS	Always off	Always off
31	ALMWNG	ALMWNG	ALMWNG
32	BW9F	BW9F	BW9F

*1 P: Position control mode, S: Speed control mode, T: Torque control mode

*2 Available on servo amplifiers with firmware version A5 or later.

*3 This device is not necessary for a servo amplifier that does not support the external dynamic brake.

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD24	Output device selection 2		PD24	Output device selection 2 Select a function of the CN3-23 pin. If the absolute position detection system with DIO is selected while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), the CN3-23 pin functions as "ABS transmission data bit 1 (ABSB1)" during the ABS transfer mode.		—
	_ _ x x: Device selection Any output device can be assigned to the CN1-23 pin. If the absolute position detection system by DIO is selected while [Pr. PA03] is set to "_ _ _ 1", the CN1-23 pin becomes ABSB1 (ABS transmission data bit 1) only during the ABS transfer mode. Refer to the following table for setting values. ☞ Page 601 Output device selection (MR-J4-_A_)	0Ch		[Pr. PD24.0-1 Device selection] Refer to the following table for setting values. ☞ Page 602 Output device selection (MR-J5-_A_)	0Ch	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PD24.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PD24.3 For manufacturer setting	0h	—
—				Pr. PD24.4-7 For manufacturer setting	0000h	—
PD25	Output device selection 3		PD25	Output device selection 3 Select a function of the CN3-24 pin.		—
	_ _ x x: Device selection Any output device can be assigned to the CN1-24 pin. Refer to the following table for setting values. ☞ Page 601 Output device selection (MR-J4-_A_)	04h		[Pr. PD25.0-1 Device selection] Refer to the following table for setting values. ☞ Page 602 Output device selection (MR-J5-_A_)	04h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PD25.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PD25.3 For manufacturer setting	0h	—
—				Pr. PD25.4-7 For manufacturer setting	0000h	—
PD26	Output device selection 4		PD26	Output device selection 4 Select a function of the CN3-25 pin. If the absolute position detection system with DIO is selected while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), the CN3-25 pin functions as "ABS transmission data ready (ABST)" during the ABS transfer mode.		—
	_ _ x x: Device selection Any output device can be assigned to the CN1-25 pin. If the absolute position detection system by DIO is selected while [Pr. PA03] is set to "_ _ _ 1", the CN1-25 pin becomes ABST (ABS transmission data ready) only during the ABS transfer mode. Refer to the following table for setting values. ☞ Page 601 Output device selection (MR-J4-_A_)	07h		[Pr. PD26.0-1 Device selection] Refer to the following table for setting values. ☞ Page 602 Output device selection (MR-J5-_A_)	07h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PD26.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PD26.3 For manufacturer setting	0h	—
—				Pr. PD26.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD28	Output device selection 6		PD28	Output device selection 6 Select a function of the CN3-49 pin.		—
	_ _ x x: Device selection Any output device can be assigned to the CN1-49 pin. Refer to the following table for setting values. ☞ Page 601 Output device selection (MR-J4-_A_)	02h		[Pr. PD28.0-1 Device selection] Refer to the following table for setting values. ☞ Page 602 Output device selection (MR-J5-_A_)	02h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PD28.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PD28.3 For manufacturer setting	0h	—
—				Pr. PD28.4-7 For manufacturer setting	0000h	—
PD29	Input filter setting Select the filter for input signals.		PD29	Input filter setting Set the function for shortening the CR signal input detection cycle and perform input signal filter settings.		—
	_ _ _ x: Input signal filter selection If the external input signal causes chattering due to noise or other factors, the input filter can be used for suppression. 0: None 1: 0.888 [ms] 2: 1.777 [ms] 3: 2.666 [ms] 4: 3.555 [ms]	4h		[Pr. PD29.0 Input signal filter selection] Refer to the following table for setting values. ☞ Page 604 Input signal filter selection (MR-J5-_A_)	7h	P S T
	_ _ x _: RES (Reset) signal dedicated filter selection 0: Disabled 1: Enabled (50 [ms])	0h		[Pr. PD29.1 RES signal dedicated filter selection] 0: Disabled 1: Enabled (50 [ms])	0h	P S T
	_ x _ _: CR (Clear) signal dedicated filter selection 0: Disabled 1: Enabled (50 [ms])	0h		[Pr. PD29.2 CR signal dedicated filter selection] 0: Disabled 1: Enabled (50 [ms])	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PD29.3 For manufacturer setting	0h	—
—				Pr. PD29.4-7 For manufacturer setting	0000h	—

Input signal filter selection (MR-J5-_A_)

Setting value	Filtering time [ms]
0	No filter
1	0.500
2	1.000
3	1.500
4	2.000
5	2.500
6	3.000
7	3.500
8	4.000
9	4.500
A	5.000
B	5.500

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD30	Function selection D-1		PD30	Function selection D-1 Set the following: the stop processing method at LSP/LSN signal off, the status of the base circuit when the RES signal is shorted, and the enable/disable setting of the servo motor thermistor.		—
	_ _ _ x: Stop method selection at LSP (Forward rotation stroke end) and LSN (Reverse rotation stroke end) off Select the stop method at LSP (Forward rotation stroke end) and LSN (Reverse rotation stroke end) off. The setting values 2 and 3 are available only in the positioning mode. Setting an unavailable value triggers [AL. 37]. 0: Quick stop 1: Slow stop	0h		[Pr. PD30.0 Stop processing selection at LSP/LSN signal off] Select the stop processing method at LSP/LSN signal off. 0: Quick stop 1: Slow stop	0h	P S
	_ _ x _: Base circuit status selection for RES (Reset) on 0: Base circuit shut-off 1: Base circuit not shut-off	0h		[Pr. PD30.1 Base circuit status selection for RES (Reset) on] 0: Base circuit shut-off 1: Base circuit not shut-off	0h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PD30.2 For manufacturer setting	0h	—
	x _ _ _: Servo motor or linear servo motor thermistor enabled/disabled selection 0: Enabled 1: Disabled When using a servo motor or linear servo motor that does not have a built-in thermistor, this digit setting is disabled. This digit is available on servo amplifiers with software version A5 or later.	0h		[Pr. PD30.3 Servo motor thermistor - Enabled/disabled selection] 0: Enabled 1: Disabled This servo parameter is enabled when a servo motor with a built-in thermistor is used. When a servo motor without a thermistor is used, the servo parameter is disabled (temperature monitoring disabled/alarm disabled) regardless of the setting value. No alarm is detected in motor-less operation. When the temperature monitoring of the motor thermistor is disabled, "9999 °C" is displayed.	0h	P S T
—				Pr. PD30.4-7 For manufacturer setting	0000h	—
PD31	Function selection D-2		PD31	Function selection D-2		—
	_ _ _ x: For manufacturer setting	0h		Pr. PD31.0 For manufacturer setting	0h	—
	_ _ x _: For manufacturer setting	0h		Pr. PD31.1 For manufacturer setting	0h	—
	_ x _ _: INP (In-position) on condition selection Select the condition that turns on INP (In-position). 0: Droop pulses are within the in-position range 1: The command pulse frequency is 0 and droop pulses are within the in-position range When a position command is not input for approximately 1 ms, the command pulse frequency is considered to be 0. This digit is available on servo amplifiers with software version B4 or later.	0h		[Pr. PD31.2 INP output signal ON condition selection] Select a condition for outputting INP (In-position). This function is enabled in the position control mode. 0: Within the in-position range 1: Within the in-position range and at the completion of command output Refer to the following table for setting values. ☞ Page 606 INP output signal ON condition selection (MR-J5-_A_)	0h	P
	x _ _ _: For manufacturer setting	0h		Pr. PD31.3 For manufacturer setting	0h	—
—				Pr. PD31.4-7 For manufacturer setting	0000h	—

INP output signal ON condition selection (MR-J5-_A_)

Setting value	In-position (INP) on condition	
	Droop pulses < in-position range	Command output completion *1
0	○	×
1	○	○

○: Required

×: Not required

*1 When a position command is not input for approximately 1 ms, the command output is considered to have been completed. The in-position (INP) is off immediately after servo-on or after forced stop is canceled.

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD32	Function selection D-3		PD32	Function selection D-3 Select the setting of the clear signal.		—
	_ _ _ x: CR (Clear) selection Configure the CR (Clear) setting. 0: Delete droop pulses by turning on the device 1: Always delete droop pulses during the device on 2: Disabled (available on servo amplifiers with software version B3 or later)	0h		[Pr. PD32.0 CR signal - Clear method selection] 0: Delete droop pulses by turning on the device 1: Always delete droop pulses during the device on 2: Disabled	0h	P
	_ _ x _: For manufacturer setting	0h		Pr. PD32.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PD32.2 For manufacturer setting	0h	—
	x _ _ _: LOP polarity selection The relation between LOP and control modes can be set. Refer to the following table for setting values. ☞ Page 607 LOP polarity selection (MR-J4-_A_) This digit is available on servo amplifiers with software version D4 or later.	0h		Pr. PD32.3 For manufacturer setting	0h	P S T
—				Pr. PD32.4-7 For manufacturer setting	0000h	—

LOP polarity selection (MR-J4-_A_)

In the position/speed control switching mode

LOP	Setting value of [Pr. PD32]	
	0 _ _ _	1 _ _ _
OFF	Position control mode	Speed control mode
ON	Speed control mode	Position control mode

In the speed/torque control switching mode

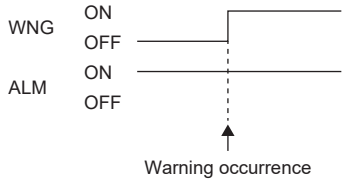
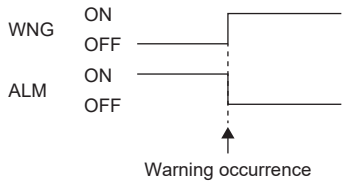
LOP	Setting value of [Pr. PD32]	
	0 _ _ _	1 _ _ _
OFF	Speed control mode	Torque control mode
ON	Torque control mode	Speed control mode

In the torque/position control switching mode

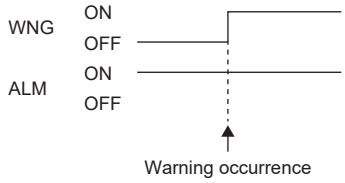
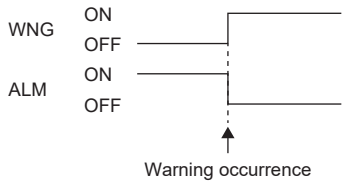
LOP	Setting value of [Pr. PD32]	
	0 _ _ _	1 _ _ _
OFF	Torque control mode	Position control mode
ON	Position control mode	Torque control mode

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD33	Function selection D-4		PD33	Function selection D-4		—
	_ _ _ x: For manufacturer setting	0h		Pr. PD33.0 For manufacturer setting	0h	—
	_ _ x _: For manufacturer setting	0h		Pr. PD33.1 For manufacturer setting	0h	—
	_ x _ _: Rotation direction selection which enables torque limit/travel direction selection which enables thrust limit Select a rotation direction which enables the internal torque limit 2 and the external torque limit. Refer to section 3.6.1 (5) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. 0: Both of "CCW or positive direction" and "CW or negative direction" are enabled. 1: Enabled in "CCW or positive direction". 2: Enabled in "CW or negative direction". This digit is available on servo amplifiers with software version B3 or later.	0h		[Pr. PD33.2 Torque limit - Travel direction selection] Select a rotation/travel direction which enables the internal torque limit 2 and the external torque limit. 0: Both of "CCW or positive direction" and "CW or negative direction" are enabled. 1: Enabled in "CCW or positive direction". 2: Enabled in "CW or negative direction".	0h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PD33.3 For manufacturer setting	0h	—
—				Pr. PD33.4-7 For manufacturer setting	0000h	—
PD34	Function selection D-5		PD34	Function selection D-5		—
	_ _ _ x: Alarm code output Select the output of alarm codes. Alarm codes are output to the CN1-22 pin, CN1-23 pin, and CN1-24 pin. 0: Disabled 1: Enabled Refer to section 8 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details on alarm codes. Performing the following settings while this digit is set to "1" triggers [AL. 37 Parameter error]. • The absolute position detection system by DIO was selected while [Pr. PA03] was set to "_ _ _ 1". • MBR, DB, or ALM was assigned to the CN1-22 pin, CN1-23 pin, or CN1-24 pin.	0h		Pr. PD34.0 For manufacturer setting	0h	P S T
	_ _ x _: Output device status at warning occurrence Select ALM (Malfunction) output status at warning occurrence. Refer to the following table for setting values. ☞ Page 609 Output device status at warning occurrence (MR-J4-_A_)	0h		[Pr. PD34.1 Output device status at warning occurrence] Select ALM (Malfunction) output status at warning occurrence. Refer to the following table for setting values. ☞ Page 609 Output device status at warning occurrence (MR-J5-_A_)	0h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PD34.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PD34.3 For manufacturer setting	0h	—
—				Pr. PD34.4-7 For manufacturer setting	0000h	—

Output device status at warning occurrence (MR-J4-_A_)

Setting value	Device status
0	
1	

Output device status at warning occurrence (MR-J5-_A_)

Setting value	Device status
0	
1	

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD43	Input device selection 11L Any input devices can be assigned to the CN1-10 pin and CN1-37 pin. When "00" is set, PP/PP2 (Forward rotation pulse) will be assigned. This parameter is available on the following MR-J4-_A_-RJ servo amplifiers. CN1-10 pin: Servo amplifiers with software version B3 or later CN1-37 pin: Servo amplifiers with software version B7 or later manufactured in January 2015 or later		PD43	Input device selection 11L Select the device to be assigned to the input signal of the CN3-10/CN3-37 pin. • When "00h" is set, PP/PP2 (Forward rotation pulse/Manual pulse generator) will be assigned. • For sink interfaces, the device is assigned to the CN3-10 pin. For source interfaces, the device is assigned to the CN3-37 pin.		—
	_ _ x x: Position control mode - Device selection The setting is disabled.	00h		[Pr. PD43.0-1 Position control mode - Device selection] The servo parameter is disabled.	00h	—
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	00h		[Pr. PD43.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	00h	S
—				Pr. PD43.4-7 For manufacturer setting	0000h	—
PD44	Input device selection 11H Any input devices can be assigned to the CN1-10 pin and CN1-37 pin. When "00" is set, PP/PP2 (Forward rotation pulse) will be assigned. This parameter is available on the following MR-J4-_A_-RJ servo amplifiers. CN1-10 pin: Servo amplifiers with software version B3 or later CN1-37 pin: Servo amplifiers with software version B7 or later manufactured in January 2015 or later		PD44	Input device selection 11H Select the device to be assigned to the input signal of the CN3-10/CN3-37 pin. • When "00h" is set, PP/PP2 (Forward rotation pulse/Manual pulse generator) will be assigned. • For sink interfaces, the device is assigned to the CN3-10 pin. For source interfaces, the device is assigned to the CN3-37 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	00h		[Pr. PD44.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	00h	T
	x x _ _: For manufacturer setting	3Ah		Pr. PD44.2-3 For manufacturer setting	3Ah	—
—				Pr. PD44.4-7 For manufacturer setting	0000h	—
PD45	Input device selection 12L Any input devices can be assigned to the CN1-35 pin and CN1-38 pin. When "00" is set, NP/NP2 (Reverse rotation pulse) will be assigned. This parameter is available on the following MR-J4-_A_-RJ servo amplifiers. CN1-35 pin: Servo amplifiers with software version B3 or later CN1-38 pin: Servo amplifiers with software version B7 or later manufactured in January 2015 or later		PD45	Input device selection 12L Select the device to be assigned to the input signal of the CN3-35/CN3-38 pin. • When "00h" is set, NP/NP2 (Reverse rotation pulse/Manual pulse generator) will be assigned. • For sink interfaces, the device is assigned to the CN3-35 pin. For source interfaces, the device is assigned to the CN3-38 pin.		—
	_ _ x x: Position control mode - Device selection The setting is disabled.	00h		[Pr. PD45.0-1 Position control mode - Device selection] The servo parameter is disabled.	00h	—
	x x _ _: Speed control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	00h		[Pr. PD45.2-3 Speed control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	00h	S
—				Pr. PD45.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PD46	Input device selection 12H Any input devices can be assigned to the CN1-35 pin and CN1-38 pin. When "00" is set, NP/NP2 (Reverse rotation pulse/Manual pulse generator) will be assigned. This parameter is available on the following MR-J4-_A_-RJ servo amplifiers. CN1-35 pin: Servo amplifiers with software version B3 or later CN1-38 pin: Servo amplifiers with software version B7 or later manufactured in January 2015 or later		PD46	Input device selection 12H Select the device to be assigned to the input signal of the CN3-35/CN3-38 pin. • When "00h" is set, NP/NP2 (Reverse rotation pulse/Manual pulse generator) will be assigned. • For sink interfaces, the device is assigned to the CN3-35 pin. For source interfaces, the device is assigned to the CN3-38 pin.		—
	_ _ x x: Torque control mode - Device selection Refer to the following table for setting values. ☞ Page 595 Input device selection (MR-J4-_A_)	00h		[Pr. PD46.0-1 Torque control mode - Device selection] Refer to the following table for setting values. ☞ Page 596 Input device selection (MR-J5-_A_)	00h	T
	x x _ _: For manufacturer setting	3Bh		Pr. PD46.2-3 For manufacturer setting	3Bh	—
—				Pr. PD46.4-7 For manufacturer setting	0000h	—
PD47	Output device selection 7 Any output devices can be assigned to the CN1-13 pin and CN1-14 pin. This parameter is available on MR-J4-_A_-RJ servo amplifiers with software version B3 or later.		PD47	Output device selection 7 Select functions of the CN3-13 pin and CN3-14 pin.		—
	_ _ x x: Device selection Any output device can be assigned to the CN1-13 pin. Refer to the following table for setting values. ☞ Page 601 Output device selection (MR-J4-_A_)	00h		[Pr. PD47.0-1 Device selection] Any output device can be assigned to the CN3-13 pin. Refer to the following table for setting values. ☞ Page 602 Output device selection (MR-J5-_A_)	00h	P S T
	x x _ _: Device selection Any output device can be assigned to the CN1-14 pin. Refer to the following table for setting values. ☞ Page 601 Output device selection (MR-J4-_A_)	00h		[Pr. PD47.2-3 Device selection] Any output device can be assigned to the CN3-14 pin. Refer to the following table for setting values. ☞ Page 602 Output device selection (MR-J5-_A_)	00h	P S T
—				Pr. PD47.4-7 For manufacturer setting	0000h	—

Extension setting 2 parameters ([Pr. PE_ _])

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PE01	Fully closed loop function selection 1		PE01	Fully closed loop function selection 1		—
	_ _ _ x: Fully closed loop function selection Select the fully closed loop function. 0: Always enabled 1: Switching by CLD (fully closed loop selection) This setting is enabled when "Fully closed loop control mode (_ _ 1 _)" is selected in [Pr. PA01]. If this parameter is set to "Switching by CLD (fully closed loop selection)" while "Enabled (absolute position detection system by DIO) (_ _ _ 1)" is selected in "Absolute position detection system selection" of [Pr. PA03], [AL. 37] occurs. Refer to the following table for details. ☞ Page 613 Fully closed loop control function selection (MR-J4-_A_)	0h		[Pr. PE01.0 Fully closed loop function selection] This servo parameter is enabled when [Pr. PA01.4 Fully closed loop operation mode selection] is set to "1" (enabled (fully closed loop control mode)). If this servo parameter is set to "1" while [Pr. PA03.0 Absolute position detection system selection] has been set to "1" (enabled (absolute position detection system by DIO)), [AL. 037 Parameter error] occurs. 0: Always enabled 1: Switching by the input device CLD (fully closed loop selection) Refer to the following table for details. ☞ Page 613 Fully closed loop control function selection (MR-J5-_A_)	0h	P
	_ _ x _: For manufacturer setting	0h		Pr. PE01.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PE01.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PE01.3 For manufacturer setting	0h	—
—				[Pr. PE01.4 Fully closed loop control - Droop pulse clear selection] When switching between semi closed loop control and fully closed loop control is performed, select whether to clear droop pulses. 0: Enabled 1: Disabled When the setting value of this servo parameter is "0" (enabled), switching from the semi closed loop control to the fully closed loop control clears the load-side droop pulses. Also, switching from the fully closed loop control to the semi closed loop control clears the motor-side droop pulses. For these reasons, shocks caused by switching between the semi closed/fully closed loop control is reduced. When the setting value of this servo parameter is "1" (disabled), switch between the semi closed/fully closed loop control in a state where the motor-side and load-side are linked. Switching between the semi closed/fully closed loop control in a state where the motor-side and load-side are not linked may induce unexpected motion such as sudden acceleration of the servo motor.	0h	—
				Pr. PE01.5-7 For manufacturer setting	000h	—

Fully closed loop control function selection (MR-J4-_A_)

Selection by the fully closed loop selection (CLD)	Control method
OFF	Semi closed loop control
ON	Fully closed loop control

Fully closed loop control function selection (MR-J5-_A_)

CLD (Fully closed loop selection) *1	Control method
OFF	Semi closed loop control
ON	Fully closed loop control

*1 Always off when CLD (Fully closed loop selection) is not assigned to the input device pin.

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PE03	Fully closed loop function selection 2		PE03	Fully closed loop function selection 2		—
	_ _ x x: Fully closed loop control error - Detection function selection Select the fully closed loop control error detection function. Refer to the following table for setting values. ☞ Page 614 Combination of detection method and detection function (MR-J4-_A_)	03h		[Pr. PE03.0 Fully closed loop control error - Detection function selection] 0: Disabled 1: Speed deviation error detection 2: Position deviation error detection 3: Speed deviation error detection and position deviation error detection Refer to the following table for the combination with [Pr. PE03.1 Position deviation error - Detection method selection]. ☞ Page 614 Combination of detection method and detection function (MR-J5-_A_)	3h	P
				[Pr. PE03.1 Position deviation error - Detection method selection] 0: Continuous detection method 1: Detection only at stop (An error is detected if the command is "0".) 2: Detection only at stop 2 (An error is detected while in servo-off state or if the command is "0" while in servo-on state.) Refer to the following table for the combination with [Pr. PE03.0 Fully closed loop control error - Detection function selection]. ☞ Page 614 Combination of detection method and detection function (MR-J5-_A_)	0h	P
	_ x _ _: For manufacturer setting	0h		Pr. PE03.2 For manufacturer setting	0h	—
	x _ _ _: Fully closed loop control error - Reset selection 0: Reset disabled (reset only by powering off/on is allowed) 1: Reset enabled	0h		[Pr. PE03.3 Fully closed loop control error - Reset selection] 0: Reset disabled (reset by cycling the power or by software reset enabled) 1: Reset enabled	0h	P
—				Pr. PE03.4-7 For manufacturer setting	0000h	—

Combination of detection method and detection function (MR-J4-_A_)

○: Error detection enabled —: Error detection disabled

Setting value	Speed deviation error	Position deviation error		
		In servo-on state		In servo-off state
		With commands	No commands (= 0)	
_ _ 0 0	—	—	—	—
_ _ 0 1	○	—	—	—
_ _ 0 2	—	○	○	○
_ _ 0 3	○	○	○	○
_ _ 1 0	—	—	—	—
_ _ 1 1	○	—	—	—
_ _ 1 2	—	—	○	—
_ _ 1 3	○	—	○	—
_ _ 2 0	—	—	—	—
_ _ 2 1	○	—	—	—
_ _ 2 2	—	—	○	○
_ _ 2 3	○	—	○	○

Combination of detection method and detection function (MR-J5-_A_)

○: Error detection enabled —: Error detection disabled

Setting value of [Pr. PE03.1]	Setting value of [Pr. PE03.0]	Speed deviation error	Position deviation error		
			In servo-on state		In servo-off state
			With commands	No commands (= 0)	
0	0	—	—	—	—
0	1	○	—	—	—
0	2	—	○	○	○
0	3	○	○	○	○
1	0	—	—	—	—
1	1	○	—	—	—
1	2	—	—	○	—
1	3	○	—	○	—
2	0	—	—	—	—
2	1	○	—	—	—
2	2	—	—	○	○
2	3	○	—	○	○

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. Setting range: 1 to 65535	1	PE04	Fully closed loop control - Feedback pulse electronic gear 1 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. If the reduced electronic gear numerator exceeds 2147483648 (31 bits), [AL. 037] occurs. Setting range: 1 to 4294967295	1	P
PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. Setting range: 1 to 65535	1	PE05	Fully closed loop control - Feedback pulse electronic gear 1 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. If the reduced electronic gear denominator exceeds 1073741824 (30 bits), [AL. 037] occurs. Setting range: 1 to 4294967295	1	P
PE06	Fully closed loop control - Speed deviation error detection level Set [AL. 42.9 Fully closed loop control error based on speed deviation] of the fully closed loop control error detection. If the difference between the speed calculated by the servo motor encoder and the speed calculated by the load-side encoder exceeds the value of this servo parameter, the alarm occurs. Setting range: 1 to 50000	400 [r/min]	PE06	Fully closed loop control - Speed deviation error detection level Set the error detection level for triggering [AL. 042.9 Fully closed loop control error based on speed deviation] of the fully closed loop control error detection. If the difference between the speed calculated by the servo motor encoder and the speed calculated by the load-side encoder exceeds the value of this servo parameter, the alarm occurs. Setting range: 1 to 50000	400 [r/min]	P
PE07	Fully closed loop control - Position deviation error detection level Set [AL. 42.8 Fully closed loop control error based on position deviation] of the fully closed loop control error detection. If the difference between the position of the servo motor encoder and the position of the load-side encoder exceeds the value of this parameter, the alarm occurs. Setting range: 1 to 20000	100 [kpulse]	PE07	Fully closed loop control - Position deviation error detection level Set the error detection level for triggering [AL. 042.8 Fully closed loop control error based on position deviation] of the fully closed loop control error detection. If the difference between the position of the servo motor encoder and the position of the load-side encoder exceeds the value of this servo parameter, the alarm occurs. Setting range: 1 to 20000	100 [kpulse]	P
PE08	Fully closed loop dual feedback filter Set a dual feedback filter band. Refer to section 17.3.1 (7) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 1 to 4500	10 [rad/s]	PE08	Fully closed loop dual feedback filter Set a dual feedback filter band. Setting range: 1 to 4500	10 [rad/s]	P
PE10	Fully closed loop function selection 3		PE10	Fully closed loop function selection 3		—
	_ _ _ x: For manufacturer setting	0h		Pr. PE10.0 For manufacturer setting	0h	—
	_ _ x _: Fully closed loop control - Position deviation error detection level - Unit selection 0: 1 kpulse unit 1: 1 pulse unit	0h		[Pr. PE10.1 Fully closed loop control - Position deviation error detection level - Unit selection] 0: 1 kpulse unit 1: 1 pulse unit	0h	P
	_ x _ _: For manufacturer setting	0h		Pr. PE10.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PE10.3 For manufacturer setting	0h	—
—				Pr. PE10.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PE34	Fully closed loop control - Feedback pulse electronic gear 2 - Numerator If using the fully closed loop control, set the electronic gear numerator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. Refer to section 17.3.1 (5) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 1 to 65535	1	PE34	For manufacturer setting	1	P
PE35	Fully closed loop control - Feedback pulse electronic gear 2 - Denominator If using the fully closed loop control, set the electronic gear denominator to the servo motor encoder pulses. Set the electronic gear so that the number of the servo motor encoder pulses per servo motor revolution is converted into load-side encoder resolution. Refer to section 17.3.1 (5) in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details. Setting range: 1 to 65535	1	PE35	For manufacturer setting	1	P
PE41	Function selection E-3		PE41	Function selection E-3		—
	_ _ _ x: Robust filter selection 0: Disabled 1: Enabled When this setting value is set to "Enabled", the machine resonance suppression filter 5 set in [Pr. PB51] cannot be used.	0h		[Pr. PE41.0 Robust filter selection] 0: Disabled 1: Enabled When this servo parameter is set to "1", [Pr. PB51.0 Machine resonance suppression filter 5 selection] cannot be used.	0h	P S T
	_ _ x _: For manufacturer setting	0h		Pr. PE41.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PE41.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PE41.3 For manufacturer setting	0h	—
—				Pr. PE41.4-5 For manufacturer setting	00h	—
				[Pr. PE41.6 Unbalanced torque offset setting selection] 0: Manual setting 1: Automatic setting If "1" (automatic setting) has been set and friction estimation by the machine diagnosis function has completed for both the forward and reverse rotations, the value of [Pr. PE47 Unbalanced torque offset] will be set automatically according to the estimated friction value. After [Pr. PE47] is set automatically, this servo parameter changes to "0" (Manual setting). The value of [Pr. PE47] will not be set automatically and this servo parameter keeps the value "1" (automatic setting) until friction estimation completes for both the forward and reverse rotations.	0h	—
				Pr. PE41.7 For manufacturer setting	0h	—
PE44	Lost motion compensation positive-side compensation value selection Set the lost motion compensation for when reverse rotation (CW) switches to forward rotation (CCW) in increments of 0.01 % in relation to the rated torque as 100 %. This parameter is available on servo amplifiers with software version B4 or later. Setting range: 0 to 30000	0 [0.01 %]	PE44	Lost motion compensation positive-side compensation value selection Set the lost motion compensation for when negative speed switches to positive speed in increments of 0.01 % in relation to the rated torque as 100 %. Setting range: 0 to 30000	0 [0.01 %]	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PE45	Lost motion compensation negative-side compensation value selection Set the lost motion compensation for when forward rotation (CCW) switches to reverse rotation (CW) in increments of 0.01 % in relation to the rated torque as 100 %. This parameter is available on servo amplifiers with software version B4 or later. Setting range: 0 to 30000	0 [0.01 %]	PE45	Lost motion compensation negative-side compensation value selection Set the lost motion compensation for when positive speed switches to negative speed in increments of 0.01 % in relation to the rated torque as 100 %. Setting range: 0 to 30000	0 [0.01 %]	P
PE46	Lost motion filter setting Set the lost motion compensation filter time constant in units of 0.1 ms. When "0" is set, the value is compensated with the value that was set in [Pr. PE44] and [Pr. PE45]. When a value other than "0" is set, the torque is compensated with the high-pass filter output value of the set time constant, and the lost motion compensation will continue. This parameter is available on servo amplifiers with software version B4 or later. Setting range: 0 to 30000	0 [0.1 ms]	PE46	Lost motion filter setting When "0" is set, the value is compensated with the compensation amount of the value that was set in [Pr. PE44] and [Pr. PE45]. When a value other than "0" is set, the torque is compensated with the high-pass filter output value of the set time constant, and the lost motion compensation will continue. Setting range: 0 to 30000	0 [0.1 ms]	P
PE47	Torque offset Set this to cancel the unbalanced torque of a vertical axis. Set this in relation to the rated torque of the servo motor as 100 %. The torque offset does not need to be set for a machine that does not generate unbalanced torque. When a linear servo motor or a direct drive motor is used, the torque offset cannot be used. Set to 0.00 %. The torque offset that has been set with this parameter is enabled in the position control mode, speed control mode, and torque control mode. In the torque control mode, input commands taking the torque offset into account. This parameter is available on servo amplifiers with software version B4 or later. Setting range: -10000 to 10000	0 [0.01 %]	PE47	Unbalanced torque offset Set this to cancel the unbalanced torque of a vertical axis. Set this in relation to the rated torque of the servo motor as 100 %. The torque offset does not need to be set for a machine that does not generate unbalanced torque. This servo parameter can be used in applications where an unbalanced torque is generated constantly, such as when a linear servo motor or direct drive motor is operated horizontally with tension applied in one direction. The torque offset that has been set with this servo parameter is enabled in any control mode. In the torque mode, input commands taking the torque offset into account. Setting range: -10000 to 10000	0 [0.01 %]	P S T
PE48	Lost motion compensation function selection		PE48	Lost motion compensation function selection		—
	_ _ _ x: Lost motion compensation selection 0: Disabled 1: Enabled This parameter is available on servo amplifiers with software version B4 or later.	0h		[Pr. PE48.0 Lost motion compensation type selection] 0: Lost motion compensation disabled. 1: Lost motion compensation enabled.	0h	P
	_ _ x _: Lost motion compensation dead band unit setting 0: 1 pulse unit 1: 1 kpulse unit This parameter is available on servo amplifiers with software version B4 or later.	0h		[Pr. PE48.1 Lost motion compensation dead band unit setting] 0: 1 pulse unit 1: 1 kpulse unit	0h	P
	_ x _ _: For manufacturer setting	0h		Pr. PE48.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PE48.3 For manufacturer setting	0h	—
—				Pr. PE48.4-7 For manufacturer setting	0000h	—
PE49	Lost motion compensation timing Set the lost motion compensation timing in units of 0.1 ms. The timing to perform the lost motion compensation function can be delayed by a set time. This parameter is available on servo amplifiers with software version B4 or later. Setting range: 0 to 30000	0 [0.1 ms]	PE49	Lost motion compensation timing Set the lost motion compensation timing in units of 0.1 ms. The timing to perform the lost motion compensation function can be delayed by a set time. Setting range: 0 to 30000	0 [0.1 ms]	P

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PE50	Lost motion compensation non-sensitive band Set the lost motion compensation dead band. When the fluctuation of droop pulses is equal to or less than the setting value, the speed is 0. The setting unit can be changed with [Pr. PE48]. Set this parameter per encoder unit. This parameter is available on servo amplifiers with software version B4 or later. Setting range: 0 to 65535	0 [pulse]/ [kpulse]	PE50	Lost motion compensation dead band Set the lost motion compensation dead band. When the fluctuation of droop pulses is equal to or less than the setting value, the speed is determined as 0. The setting unit can be changed with [Pr. PE48]. Set the servo parameter per encoder unit. Setting range: 0 to 65535	0 [pulse], [kpulse]	P

Extension setting 3 parameters ([Pr. PF_ _])

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PF09	Function selection F-5		PF09	Function selection F-5		—
	_ _ _ x: Electronic dynamic brake selection 0: Enabled only for specific servo motors 2: Disabled Refer to the following table for the specific servo motors. ☞ Page 619 Servo motors on which the electronic dynamic brake is available (MR-J4-_A_)	0h		[Pr. PF09.0 Electronic dynamic brake selection] Enable or disable the electronic dynamic brake. 2: Disabled 3: Enabled only for specific servo motors For specific servo motors, refer to "Precautions relating to the dynamic brake characteristics" in the User's Manual (Hardware).	3h	P S
	_ _ x _: For manufacturer setting	0h		[Pr. PF09.1 STO timing error selection] Select whether [AL. 063 STO timing error] is detected. 0: Detected. 1: Not detected. If the STO status is set at the servo motor speed shown below while "0" (detected) has been selected, [AL. 063 STO timing error] will be detected. The STO status means the status where STO1 or STO2 of CN8 has been turned off. • Servo motor speed: 50 r/min or higher • Linear servo motor speed: 50 mm/s or higher • Direct drive motor speed: 5 r/min or higher	1h	—
	_ x _ _: For manufacturer setting	0h		Pr. PF09.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PF09.3 For manufacturer setting	0h	—
—				Pr. PF09.4-7 For manufacturer setting	0000h	—

Servo motors on which the electronic dynamic brake is available (MR-J4-_A_)

Series	Servo motor
HG-KR	HG-KR053/HG-KR13/HG-KR23/HG-KR43
HG-MR	HG-MR053/HG-MR13/HG-MR23/HG-MR43
HG-SR	HG-SR51/HG-SR52

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PF15	Electronic dynamic brake operating time Set an operating time for the electronic dynamic brake. Setting range: 0 to 10000	2000 [ms]	PF15	Electronic dynamic brake operating time Set an operating time for the electronic dynamic brake. Setting range: 0 to 10000	2000 [ms]	P S T
PF18	STO diagnosis error detection time Set the time from when the error of the STO input signal or STO circuit occurs until [AL. 68.1 STO signal mismatch error] is detected. When the time is set to 0 s, [AL. 68.1 STO signal mismatch error] is not detected. The table below shows the safety level in accordance with the parameter setting. ☞ Page 620 Safety level depending on the servo parameter setting (MR-J4-_A_) When the short-circuit connector is mounted to the CN8 connector, set this parameter to "0". When using the MR-D30 functional safety unit, this parameter is disabled. Refer to "MR-D30 Instruction Manual" for the safety level for when the MR-D30 is being used. This parameter is available on servo amplifiers with software version C1 or later. Setting range: 0 to 60	0 [s]	PF18	STO diagnosis error detection time Set the time from when the error of the STO input or STO circuit is detected until the occurrence of [AL. 068.1 STO signal mismatch error]. When "0" is set, [AL. 068.1] is not detected. The safety level depends on the setting value of this servo parameter and whether STO input diagnosis is performed by TOFB output as shown in the following table. ☞ Page 620 Safety level depending on the servo parameter setting (MR-J5-_A_) When the STO function is not used with the short-circuit connector connected to the CN8 connector, the safety level does not change even after setting this servo parameter. Setting range: 0 to 60	10 [s]	P S T

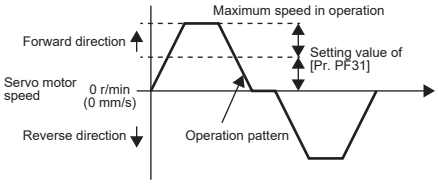
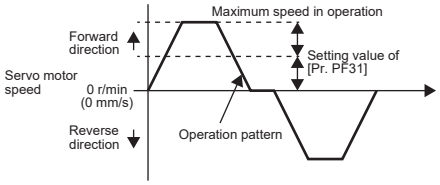
Safety level depending on the servo parameter setting (MR-J4-_A_)

Setting value	STO input diagnosis by TOFB output	Safety level
0	Execute	EN ISO 13849-1:2015 Category 3 PL d, IEC 61508 SIL 2, EN 62061 maximum SIL 2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1:2015 Category 3 PL e, IEC 61508 SIL 3, EN 62061 maximum SIL 3
	Do not execute	EN ISO 13849-1:2015 Category 3 PL d, IEC 61508 SIL 2, EN 62061 maximum SIL 2

Safety level depending on the servo parameter setting (MR-J5-_A_)

Setting value	STO input diagnosis by TOFB output	Safety level
0	Execute	EN ISO 13849-1:2015 Category 3 PL d, IEC 61508 SIL 2, and EN IEC 62061 maximum SIL 2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1:2015 Category 3 PL e, IEC 61508 SIL 3, and EN IEC 62061 maximum SIL 3
	Do not execute	EN ISO 13849-1:2015 Category 3 PL d, IEC 61508 SIL 2, and EN IEC 62061 maximum SIL 2

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PF21	Drive recorder switching time setting Set the drive recorder switching time. When the USB communication is disconnected during the use of the graph function or when the graph function is terminated, the function will be switched to the drive recorder function after the time set in this servo parameter has passed. When "1" to "32767" is set, the function switches after the set time. However, when "0" is set, the drive recorder function will be switched after 600 s. When "-1" is set, the drive recorder function will be disabled. Setting range: -1 to 32767	0 [s]	PF21	Drive recorder switching time setting Set the drive recorder switching time. When communication is shut off during the use of a graph function, the function will be switched to the drive recorder function after the time set in this servo parameter has passed. When any value of "10" to "32767" is set, the drive recorder function will be switched after the time set in this servo parameter has passed. When any value of "0" to "9" is set, the drive recorder function will be switched after 10 s. When "-1" is set, the drive recorder function is disabled. Setting range: -1 to 32767	0 [s]	P S T
PF23	Vibration tough drive - Oscillation detection level When the vibration tough drive is enabled, set the filter readjustment sensitivity of [Pr. PB13 Machine resonance suppression filter 1] and [Pr. PB15 Machine resonance suppression filter 2]. If the setting value is "0", the level will be 50 %. Example: When this parameter is set to "50", readjustment is performed when the oscillation level becomes 50 % or more. Setting range: 0 to 100	50 [%]	PF23	Vibration tough drive - Oscillation detection level Set the oscillation detection level for readjusting the machine resonance suppression filter while the vibration tough drive is enabled. If the oscillation level exceeds the setting value of this servo parameter, set [Pr. PB13 Machine resonance suppression filter 1] or [Pr. PB15 Machine resonance suppression filter 2] again. When "0" is set, the oscillation detection level is 20 %. Setting range: 0 to 100	20 [%]	P S
PF24	Vibration tough drive function selection		PF24	Function selection F-9		—
	_ _ _ x: Oscillation detection alarm selection Select whether to generate an alarm or a warning when oscillation continues at a filter readjustment sensitivity level set in [Pr. PF23]. This servo parameter is always enabled regardless of whether the vibration tough drive is enabled or disabled in [Pr. PA20]. 0: [AL. 54 Oscillation detection] occurs when oscillation is detected. 1: [AL. F3.1 Oscillation detection warning] occurs when oscillation is detected. 2: Oscillation detection function disabled	0h		[Pr. PF24.0 Oscillation detection alarm selection] Select the alarm output at oscillation detection. Select whether to generate an alarm or a warning when an oscillation continues at a level set in [Pr. PF23 Vibration tough drive - Oscillation detection level]. This function is enabled regardless of the setting of [Pr. PA20.1 Vibration tough drive selection]. 0: Alarm ([AL. 054 Oscillation detection]) 1: Warning ([AL. 0F3.1 Oscillation detection warning]) 2: Oscillation detection function disabled (oscillation detection not processed)	0h	P S
	_ _ x _: For manufacturer setting	0h		Pr. PF24.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PF24.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PF24.3 For manufacturer setting	0h	—
—				Pr. PF24.4-7 For manufacturer setting	0000h	—

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PF25	SEMI-F47 function - Instantaneous power failure detection time Set the time until the occurrence of [AL. 10.1 Voltage drop in the control circuit power]. The setting range of this parameter differs depending on the software version of the servo amplifier as follows. • Software version C0 or earlier: Setting range 30 ms to 200 ms • Software version C1 or later: Setting range 30 ms to 500 ms To comply with SEMI-F47 standard, it is not required to change the time from the initial value (200 ms). When the instantaneous power failure time exceeds 200 ms, and if the instantaneous power failure voltage is less than 70 % of the rated input voltage, the normal power off may occur even if a value larger than 200 ms is set in the parameter. When "Disabled (_ 0 _ _)" is selected in "SEMI-F47 function selection" of [Pr. PA20], the setting value of this parameter is disabled. Setting range: 30 to 500	200 [ms]	PF25	SEMI-F47 function - Instantaneous power failure detection time (Instantaneous power failure tough drive detection time) Set the time until the occurrence of [AL. 010.1 Voltage drop in the control circuit power]. To comply with SEMI-F47 standard, it is not required to change the time from the initial value (200 ms). When the instantaneous power failure time exceeds 200 ms, and the instantaneous power failure voltage is less than 70 % of the rated input voltage, the power may be turned off normally even if a value larger than 200 ms is set in this servo parameter. This function is disabled when [Pr. PA20.2 SEMI-F47 function selection] is set to "0" (disabled). Setting range: 30 to 500	200 [ms]	P S T
PF31	Machine diagnosis function - Friction judgment speed Set the servo motor speed or linear servo motor speed to divide the friction estimation area between low-speed and high-speed in the friction estimation process of machine diagnosis. However, if "0" is set, the value will be half of the rated speed. When the maximum operation speed is under the rated speed, it is recommended to set half the value of the maximum operation speed. Set a value larger than [Pr. PC17 Zero speed] for this parameter. Below zero speed, the friction estimation process does not function.  Setting range: 0 to the permissible speed	0 [r/min]/ [mm/s]	PF31	Machine diagnosis function - Friction estimate area judgment speed at low speed Set the servo motor speed to divide the friction estimation area between low-speed and high-speed in the friction estimation process of machine diagnosis. When the maximum operation speed is under the rated speed, it is recommended to set half the value of the maximum operation speed. When "0" is set, the judgment speed is half of the rated speed. The setting value will be clamped at the permissible maximum speed. By setting [Pr. PF51.6 Friction estimate area judgment speed setting] to "1" (automatic setting), this servo parameter value will be automatically calculated from the operation pattern during servo motor driving and overwrite the value. Set a value larger than [Pr. PC17 Zero speed] for this servo parameter. Below zero speed, the friction estimation process does not function.  Setting range: 0 to 65535	0 [r/min], [mm/s]	P S T

Motor extension setting servo parameters group ([Pr. PL_ _])

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PL01	Linear servo motor/DD motor function selection 1		PL01	Function selection L-1 Select a function of the linear servo motor or direct drive motor.		—
	_ _ _ x: Linear servo motor/DD motor magnetic pole detection selection The setting value "0" is enabled only with absolute position linear encoders. 0: Magnetic pole detection disabled 1: Magnetic pole detection at initial servo-on 5: Magnetic pole detection at every servo-on	1h		[Pr. PL01.0 Servo motor magnetic pole detection selection] Select the magnetic pole detection method for the linear servo motor or direct drive motor. 0: Magnetic pole detection disabled 1: Magnetic pole detection at initial servo-on after cycling the power 5: Magnetic pole detection at every servo-on The setting value "0" can be used on servo amplifiers with firmware version D0 or later when the fully closed loop system is used with a Mitsubishi Electric-manufactured direct drive motor connected by the direct drive motor control mode. Do not set any value other than "0", "1", and "5".	1h	P S T
	_ _ x _: For manufacturer setting	0h		Pr. PL01.1 For manufacturer setting	0h	—
	_ x _ _: Homing stop interval selection Set the stop interval at dog type homing. This servo parameter is enabled only when a linear servo motor is used. 0: 2^{13} (= 8192) pulses 1: 2^{17} (= 131072) pulses 2: 2^{18} (= 262144) pulses 3: 2^{20} (= 1048576) pulses 4: 2^{22} (= 4194304) pulses 5: 2^{24} (= 16777216) pulses 6: 2^{26} (= 67108864) pulses	3h		[Pr. PL01.2 Homing stop interval setting] Select the stop interval at dog type homing. This servo parameter is enabled only for linear servo motors. 0: 2^{13} (= 8192) pulses 1: 2^{17} (= 131072) pulses 2: 2^{18} (= 262144) pulses 3: 2^{20} (= 1048576) pulses 4: 2^{22} (= 4194304) pulses 5: 2^{24} (= 16777216) pulses 6: 2^{26} (= 67108864) pulses	3h	P S T
	x _ _ _: For manufacturer setting	0h		Pr. PL01.3 For manufacturer setting	0h	—
—				Pr. PL01.4-7 For manufacturer setting	0000h	—
PL02	Linear encoder resolution - Numerator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a numerator in [Pr. PL02]. This parameter is enabled only when a linear servo motor is used. Setting range: 1 to 65535	1000 [μm]	PL02	Linear encoder resolution setting - Numerator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a numerator in [Pr. PL02]. This servo parameter is enabled for linear servo motors. Setting range: 1 to 65535	1000 [μm]	P S T
PL03	Linear encoder resolution - Denominator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a denominator in [Pr. PL03]. This parameter is enabled only when a linear servo motor is used. Setting range: 1 to 65535	1000 [μm]	PL03	Linear encoder resolution setting - Denominator Set the linear encoder resolution with [Pr. PL02] and [Pr. PL03]. Set a denominator in [Pr. PL03]. This servo parameter is enabled for linear servo motors. Setting range: 1 to 65535	1000 [μm]	P S T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PL04	Linear servo motor/DD motor function selection 2		PL04	Function selection L-2 Select a function of the linear servo motor or direct drive motor.		—
	_ _ _ x: [AL. 42 Servo control error] detection function selection Refer to the following table. ☞ Page 624 Setting of the detection function selection (MR-J4-_A_)	3h		[Pr. PL04.0 [AL. 042 Servo control error] detection function selection] Refer to the following table for setting values. ☞ Page 624 Setting of the detection function selection (MR-J5-_A_)	3h	P S T
	_ _ x _: For manufacturer setting	0h		Pr. PL04.1 For manufacturer setting	0h	—
	_ x _ _: For manufacturer setting	0h		Pr. PL04.2 For manufacturer setting	0h	—
	x _ _ _: [AL. 42 Servo control error] detection controller reset condition selection 0: Reset disabled (reset only by powering off/on is allowed) 1: Reset enabled	0h		[Pr. PL04.3 [AL. 042 Servo control error] detection controller reset condition selection] 0: Reset disabled (reset by cycling the power or by software reset enabled) 1: Reset enabled	0h	P S T
—				Pr. PL04.4-7 For manufacturer setting	0000h	—

Setting of the detection function selection (MR-J4-_A_)

Setting value	Thrust/torque deviation error *1	Speed deviation error *1	Position deviation error *1
0	Disabled	Disabled	Disabled
1			Enabled
2		Enabled	Disabled
3			Enabled
4	Enabled	Disabled	Disabled
5			Enabled
6		Enabled	Disabled
7			Enabled

*1 Refer to section 15 and 16 in "MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual" for details on each deviation error.

Setting of the detection function selection (MR-J5-_A_)

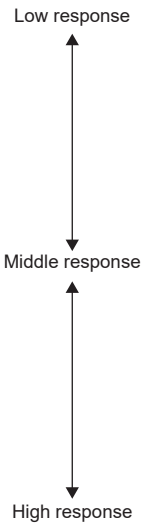
Setting value	Thrust/torque deviation error	Speed deviation error	Position deviation error
0	Disabled	Disabled	Disabled
1			Enabled
2		Enabled	Disabled
3			Enabled
4	Enabled	Disabled	Disabled
5			Enabled
6		Enabled	Disabled
7			Enabled

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PL05	Position deviation error detection level Set a position deviation error detection level of the servo control error detection. When the difference between a model feedback position and actual feedback position is larger than the setting value, [AL. 42 Servo control error] will occur. Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01]. When a linear servo motor is used: 50 mm When a direct drive motor is used: 0.09 rev Setting range: 0 to 1000	0 [mm]/ [0.01 rev]	PL05	Position deviation error detection level Set a position deviation error detection level of the servo control error detection. When the difference between a model feedback position and actual feedback position is larger than the setting value, [AL. 042.1 Servo control error based on position deviation] will occur. Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection]. When a linear servo motor is used: 50 mm When a direct drive motor is used: 0.09 rev Setting range: 0 to 1000	0 [mm], [0.01 rev]	P
PL06	Speed deviation error detection level Set the speed deviation error detection level of the servo control error detection. When the difference between a model feedback speed and actual feedback speed is larger than the setting value, [AL. 42 Servo control error] will occur. Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01]. When a linear servo motor is used: 1000 mm/s When a direct drive motor is used: 100 r/min Setting range: 0 to 5000	0 [mm/s]/ [r/min]	PL06	Speed deviation error detection level Set the speed deviation error detection level of the servo control error detection. When the difference between a model feedback speed and actual feedback speed is larger than the setting value, [AL. 042.2 Servo control error based on speed deviation] will occur. Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection]. When a linear servo motor is used: 1000 mm/s When a direct drive motor is used: 100 r/min Setting range: 0 to 20000	0 [mm/s], [r/min]	P S
PL07	Torque/thrust deviation error detection level Set the torque/thrust deviation error detection level of the servo control error detection. When the difference between a current command and current feedback is larger than the setting value, [AL. 42.3 Servo control error by torque/thrust deviation] occurs. Setting range: 0 to 1000	100 [%]	PL07	Torque deviation error detection level Set the torque/thrust deviation error detection level of the servo control error detection. When the difference between a current command and current feedback is larger than the setting value, [AL. 042.3 Servo control error by torque/thrust deviation] occurs. Setting range: 0 to 1000	100 [%]	P S T

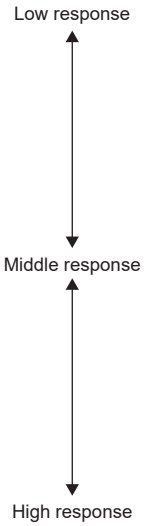
MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PL08	Linear servo motor/DD motor function selection 3		PL08	Function selection L-3 Select a function of the linear servo motor or direct drive motor.		—
	_ _ _ x: Magnetic pole detection method selection 0: Position detection method 4: Minute position detection method	0h		[Pr. PL08.0 Magnetic pole detection method selection] 0: Position detection method 4: Minute position detection method If detecting magnetic poles in a vertical axis, configure a system with equipment such as a counterweight to prevent the linear servo motor from moving with the force of gravity.	0h	P S T
	_ _ x _: For manufacturer setting	1h		Pr. PL08.1 For manufacturer setting	1h	—
	_ x _ _: Magnetic pole detection - Stroke limit enabled/disabled selection 0: Enabled 1: Disabled	0h		[Pr. PL08.2 Magnetic pole detection - Stroke limit enabled/disabled selection] 0: Enabled 1: Disabled	0h	P S T
	x _ _ _: Minute position detection method - High resolution encoder selection 0: Disabled 1: Enabled This digit is enabled when "Minute position detection method" is selected in [Pr. PL08 (_ _ _ x)]. If using a linear encoder with resolution finer than 0.05 μm if [AL. 27 Initial magnetic pole detection error] occurs due to too large travel distance or vibration at the magnetic pole detection, set "1" (enabled). This digit is available on servo amplifiers with software version A8 or later.	0h		Pr. PL08.3 For manufacturer setting	1h	P S T
—				Pr. PL08.4-7 For manufacturer setting	0000h	—
PL09	Magnetic pole detection voltage level Set a direct current exciting voltage level in the magnetic pole detection. If [AL. 32 Overcurrent], [AL. 50 Overload 1], or [AL. 51 Overload 2] occurs during the magnetic pole detection, set a smaller value. If [AL. 27 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value. Setting range: 0 to 100	30 [%]	PL09	Magnetic pole detection voltage level Set a direct current exciting voltage level in the magnetic pole detection. If [AL. 032 Overcurrent], [AL. 050 Overload 1], or [AL. 051 Overload 2] occurs during the magnetic pole detection, set a smaller value. If [AL. 027 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value. Setting range: 0 to 100	30 [%]	P S T

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PL17	Magnetic pole detection - Minute position detection method - Function selection		PL17	Magnetic pole detection - Minute position detection method - Function selection This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4" (minute position detection method).		—
	_ _ _ x: Response selection Set the responsiveness of the minute position detection method. To make the travel distance at the magnetic pole detection smaller, set a larger value. Refer to the following table for setting values. ☞ Page 628 Responsiveness settings of the minute position detection method (MR-J4-_A_)	0h		[Pr. PL17.0 Response selection] Select the responsiveness of the minute position detection method. To make the travel distance at the magnetic pole detection smaller, set a larger value. Refer to the following table for setting values. ☞ Page 628 Responsiveness settings of the minute position detection method (MR-J5-_A_)	0h	P S T
	_ _ x _: Load to motor mass ratio/load to motor inertia ratio selection Select a load to mass of the linear servo motor primary-side ratio or load to mass of the direct drive motor inertia ratio used for the minute position detection method. Set a value closest to the actual load. Refer to the following table for setting values. ☞ Page 629 Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J4-_A_)	0h		[Pr. PL17.1 Load to motor mass ratio/load to motor inertia ratio selection] Select a load to mass of the linear servo motor primary-side ratio or load to mass of the direct drive motor inertia ratio used for the minute position detection method. Select a value closest to the actual load. Refer to the following table for setting values. ☞ Page 629 Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J5-_A_)	0h	P S T
	_ x _ _: For manufacturer setting	0h		Pr. PL17.2 For manufacturer setting	0h	—
	x _ _ _: For manufacturer setting	0h		Pr. PL17.3 For manufacturer setting	0h	—
—				Pr. PL17.4-7 For manufacturer setting	0000h	—

Responsiveness settings of the minute position detection method (MR-J4-_A_)

Setting value	Responsiveness
_ _ _ 0	
_ _ _ 1	
_ _ _ 2	
_ _ _ 3	
_ _ _ 4	
_ _ _ 5	
_ _ _ 6	
_ _ _ 7	
_ _ _ 8	
_ _ _ 9	
_ _ _ A	
_ _ _ B	
_ _ _ C	
_ _ _ D	
_ _ _ E	
_ _ _ F	

Responsiveness settings of the minute position detection method (MR-J5-_A_)

Setting value of [Pr. PL17.0]	Responsiveness
"0"	
"1"	
"2"	
"3"	
"4"	
"5"	
"6"	
"7"	
"8"	
"9"	
"A"	
"B"	
"C"	
"D"	
"E"	
"F"	

Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J4-_A_)

Setting value	Load to motor mass ratio/load to motor inertia ratio
_ _ 0 _	10 times or less
_ _ 1 _	10 times
_ _ 2 _	20 times
_ _ 3 _	30 times
_ _ 4 _	40 times
_ _ 5 _	50 times
_ _ 6 _	60 times
_ _ 7 _	70 times
_ _ 8 _	80 times
_ _ 9 _	90 times
_ _ A _	100 times
_ _ B _	110 times
_ _ C _	120 times
_ _ D _	130 times
_ _ E _	140 times
_ _ F _	150 times or more

Settings of the load to motor mass ratio/load to motor inertia ratio (MR-J5-_A_)

Setting value of [Pr. PL17.1]	Load to motor mass ratio/load to motor inertia ratio
"0"	10 times or less
"1"	10 times
"2"	20 times
"3"	30 times
"4"	40 times
"5"	50 times
"6"	60 times
"7"	70 times
"8"	80 times
"9"	90 times
"A"	100 times
"B"	110 times
"C"	120 times
"D"	130 times
"E"	140 times
"F"	150 times or more

MR-J4-_A_ servo parameter			MR-J5-_A_ servo parameter			P/S/T
No.	Name and function	Initial value [Unit]	No.	Name and function	Initial value [Unit]	
PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude Set an identification signal amplitude to be used in the minute position detection method. This servo parameter is enabled only when the magnetic pole detection is set to the minute position detection method. However, when "0" is set, the amplitude will be 100 %. Setting range: 0 to 100	0 [%]	PL18	Magnetic pole detection - Minute position detection method - Identification signal amplitude Set an identification signal amplitude to be used in the minute position detection method. This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4". When the setting value of this servo parameter is set to "0", the amplitude will be 100 [%]. Setting range: 0 to 200	0 [%]	P S T

17 STARTUP

Precautions

- To prevent malfunctions and damage of the machine, test operation must be performed according to the precautions and procedure as instructed in the user's manual.
- Before starting operation, check and adjust each parameter. Improper parameter settings may cause an unexpected operation.
- The regenerative resistor of the servo amplifier may become hot depending on the operating method. Take safety measures such as providing covers.
- Before wiring, switch operation, etc., eliminate static electricity.

17.1 Turning on Servo Amplifier for the First Time

When switching power on for the first time, follow this section to make a startup.

Startup procedure

Step	Description
1. Wiring check	Visually check that the wires are connected to the servo amplifier, servo motor, and controller correctly.
2. Surrounding environment check	Check the environment surrounding the servo amplifier, servo motor, and controller.
3. Writing servo parameters	Write the servo parameters to the servo amplifier with MR Configurator2 or push button.
4. Setting servo parameters *1	Set the servo parameters as necessary, such as the control mode used and regenerative option selection. Refer to the following for details. ☞ Page 125 Servo Parameters Required to be Set When Replacing
5. Test operation of the servo motor alone in test operation mode *1*2	In test operation, with the servo motor disconnected from the machine, operate the servo motor at the lowest speed possible, and check whether the servo motor rotates correctly. Test operation can be performed with the servo engineering software.
6. Test operation using commands from the controller with the machine connected	After connecting the servo motor to the machine, check the motions of the machine by sending operation commands from the controller.
7. Gain adjustment *1	Make gain adjustment to optimize the machine motions.
8. Actual operation *2	In the position control mode, perform homing as necessary.
9. Stop	Stop giving commands and stop operation. In addition, check the conditions when the servo motor operation stops.

*1 For detailed information such as servo amplifier settings and test operation, refer to the manuals shown below. If the gain of the servo amplifier before replacement is extremely high, there may be slight differences in characteristics upon replacement. Make sure to set the gain again.
MR-J5-A User's Manual (Introduction)
MR-J5 User's Manual (Hardware)
MR-J5 User's Manual (Function)
MR-J5 User's Manual (Adjustment)
MR-J5-A User's Manual (Parameters)

*2 When turning on the power supply, also turn on the 24 V DC power supply for the external interface. [AL. 0E6.1 Forced stop warning] will occur.

MEMO

PART 5 Review on Replacement of Rotary Servo Motor

18 REPLACEMENT OF ROTARY SERVO MOTOR

19 COMPARISON OF SERVO MOTOR SPECIFICATIONS

18 REPLACEMENT OF ROTARY SERVO MOTOR

18.1 Rotary Servo Motor Replacement Models and Compatibility

Examples of servo motor replacement model are shown. The replacement models may differ in dimensions, gear reducer specifications, moment of inertia, moment of inertia ratio, connector specifications, and torque characteristics. Refer to the following for details, and select an applicable model.

☞ Page 644 COMPARISON OF SERVO MOTOR SPECIFICATIONS

For information on combinations of servo motors and servo amplifiers, refer to the following.

☞ Page 26 Replacement of MR-J4_-_B_ with MR-J5_-_B_

The symbols in the table mean as follows.

HG series

(B): With an electromagnetic brake

(H): Foot-mounting gear reducer

(4): 400 V specifications

HK series

(B): With an electromagnetic brake

(H): Foot-mounting gear reducer

(4): For the HK-KT_/HK-ST_ series, the specifications differ depending on the voltage of the servo amplifier used. The details are shown in the following table.

• HK-KT_ series

Symbol	Symbol	Motor type	
		When connected with 200 V class servo amplifier	When connected with 400 V class servo amplifier
Blank	W	Standard specifications	High-speed specifications (torque increased in high-speed area)
4		Low-speed and high-torque specifications (combined with a lower-capacity servo amplifier)	Standard specifications
Blank	Blank	Standard specifications	—
4		—	—

• HK-ST_ series

Symbol	Symbol	Motor type	
		When connected with 200 V class servo amplifier	When connected with 400 V class servo amplifier
Blank	W	Standard specifications	—
4		Low-speed and high-torque specifications (combined with a lower-capacity servo amplifier)	Standard specifications
Blank	Blank	Standard specifications	—
4		—	Standard specifications

18.2 Replacement of the HG Series with the HK Series

The HG-JR/HG-RR/HG-UR series rotary servo motors have an oil seal as standard, but the HK series rotary servo motors (replacement models) do not have an oil seal. To obtain a product with an oil seal, state "with oil seal".
The HG-SR/HG-JR/HG-RR/HG-UR series rotary servo motors with a keyed shaft (HG-SR_K/HG-JR_K/HG-RR_K/HG-UR_K) do not have a key. However, if a rotary servo motor is replaced with a replacement model having the same model designation (HK-ST_K/HK-RT_K/HK-KT_K), the replacement model has a key.
To obtain a product without key, state "keyed shaft (without key)". Refer to the following table for details.

Model	Shaft shape	Replacement model (1)	Shaft shape	Replacement model (2)	Shaft shape
HG-KR_K	Keyed shaft (with key)	HK-KT_K	Keyed shaft (with key)	HK-KT_N	Keyed shaft (without key)
HG-MR_K		HK-MT_K		HK-MT_N	
HG-SR_K	Keyed shaft (without key)	HK-ST_K		HK-ST_N	
HG-RR_K		HK-RT_K		HK-RT_N	
HG-JR_K		HK-KT_K/HK-ST_K		HK-KT_N/HK-ST_N	
HG-UR_K		HK-ST_U_K		HK-ST_U_N	

HG-KR series (without gear reducer)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Replacement model example	Mounting compatibility	Precautions
Small capacity, low inertia HG-KR series Standard/With brake	HG-KR053(B)	HK-KT053W(B)	○	• The encoder, electromagnetic brake, and power supply wiring connectors of the HK-KT series are integrated, and the distance between the mounting surface and the connector will be significantly changed. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-KR13(B)	HK-KT13W(B)		
	HG-KR23(B)	HK-KT23W(B)	△ *1	
	HG-KR43(B)	HK-KT43W(B)		
	HG-KR73(B)	HK-KT7M3W(B)	○	

*1 The mounting hole was changed from φ5.8 to 5.5. Refer to the following for details on the dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

HG-KR series (with gear reducer for general industrial machine)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility	Precautions
Small capacity, low inertia HG-KR series With gear reducer for general industrial machine: G1	HG-KR053(B)G1	1/5	HK-KT053(B)G1	1/5	○	• The encoder, electromagnetic brake, and power supply wiring connectors of the HK-KT series are integrated, and the distance between the mounting surface and the connector will be significantly changed. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-KR053(B)G1	1/12	HK-KT053(B)G1	1/12		
	HG-KR053(B)G1	1/20	HK-KT053(B)G1	1/20		
	HG-KR13(B)G1	1/5	HK-KT13(B)G1	1/5		
	HG-KR13(B)G1	1/12	HK-KT13(B)G1	1/12		
	HG-KR13(B)G1	1/20	HK-KT13(B)G1	1/20		
	HG-KR23(B)G1	1/5	HK-KT23(B)G1	1/5		
	HG-KR23(B)G1	1/12	HK-KT23(B)G1	1/12		
	HG-KR23(B)G1	1/20	HK-KT23(B)G1	1/20		
	HG-KR43(B)G1	1/5	HK-KT43(B)G1	1/5		
	HG-KR43(B)G1	1/12	HK-KT43(B)G1	1/12		
	HG-KR43(B)G1	1/20	HK-KT43(B)G1	1/20		
	HG-KR73(B)G1	1/5	HK-KT7M3(B)G1	1/5		
	HG-KR73(B)G1	1/12	HK-KT7M3(B)G1	1/12		
	HG-KR73(B)G1	1/20	HK-KT7M3(B)G1	1/20		

HG-KR series (with flange-output type gear reducer for high precision applications, flange mounting)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility	Precautions
Small capacity, low inertia HG-KR series With flange-output type gear reducer for high precision applications, flange mounting: G5	HG-KR053(B)G5	1/5	HK-KT053(B)G5	1/5	○	• The encoder, electromagnetic brake, and power supply wiring connectors of the HK-KT series are integrated, and the distance between the mounting surface and the connector will be significantly changed. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-KR053(B)G5	1/9	HK-KT053(B)G5	1/9		
	HG-KR053(B)G5	1/11	HK-KT053(B)G5	1/11		
	HG-KR053(B)G5	1/21	HK-KT053(B)G5	1/21		
	HG-KR053(B)G5	1/33	HK-KT053(B)G5	1/33		
	HG-KR053(B)G5	1/45	HK-KT053(B)G5	1/45		
	HG-KR13(B)G5	1/5	HK-KT13(B)G5	1/5		
	HG-KR13(B)G5	1/11	HK-KT13(B)G5	1/11		
	HG-KR13(B)G5	1/21	HK-KT13(B)G5	1/21		
	HG-KR13(B)G5	1/33	HK-KT13(B)G5	1/33		
	HG-KR13(B)G5	1/45	HK-KT13(B)G5	1/45		
	HG-KR23(B)G5	1/5	HK-KT23(B)G5	1/5		
	HG-KR23(B)G5	1/11	HK-KT23(B)G5	1/11		
	HG-KR23(B)G5	1/21	HK-KT23(B)G5	1/21		
	HG-KR23(B)G5	1/33	HK-KT23(B)G5	1/33		
	HG-KR23(B)G5	1/45	HK-KT23(B)G5	1/45		
	HG-KR43(B)G5	1/5	HK-KT43(B)G5	1/5		
	HG-KR43(B)G5	1/11	HK-KT43(B)G5	1/11		
	HG-KR43(B)G5	1/21	HK-KT43(B)G5	1/21		
	HG-KR43(B)G5	1/33	HK-KT43(B)G5	1/33		
	HG-KR43(B)G5	1/45	HK-KT43(B)G5	1/45		
	HG-KR73(B)G5	1/5	HK-KT7M3(B)G5	1/5		
	HG-KR73(B)G5	1/11	HK-KT7M3(B)G5	1/11		
	HG-KR73(B)G5	1/21	HK-KT7M3(B)G5	1/21		
	HG-KR73(B)G5	1/33	HK-KT7M3(B)G5	1/33		
	HG-KR73(B)G5	1/45	HK-KT7M3(B)G5	1/45		

HG-KR series (with shaft-output type gear reducer for high precision applications, flange mounting)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility	Precautions
Small capacity, low inertia HG-KR series With shaft-output type gear reducer for high precision applications, flange mounting: G7	HG-KR053(B)G7	1/5	HK-KT053(B)G7	1/5	○	• The encoder, electromagnetic brake, and power supply wiring connectors of the HK-KT series are integrated, and the distance between the mounting surface and the connector will be significantly changed. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-KR053(B)G7	1/9	HK-KT053(B)G7	1/9		
	HG-KR053(B)G7	1/11	HK-KT053(B)G7	1/11		
	HG-KR053(B)G7	1/21	HK-KT053(B)G7	1/21		
	HG-KR053(B)G7	1/33	HK-KT053(B)G7	1/33		
	HG-KR053(B)G7	1/45	HK-KT053(B)G7	1/45		
	HG-KR13(B)G7	1/5	HK-KT13(B)G7	1/5		
	HG-KR13(B)G7	1/11	HK-KT13(B)G7	1/11		
	HG-KR13(B)G7	1/21	HK-KT13(B)G7	1/21		
	HG-KR13(B)G7	1/33	HK-KT13(B)G7	1/33		
	HG-KR13(B)G7	1/45	HK-KT13(B)G7	1/45		
	HG-KR23(B)G7	1/5	HK-KT23(B)G7	1/5		
	HG-KR23(B)G7	1/11	HK-KT23(B)G7	1/11		
	HG-KR23(B)G7	1/21	HK-KT23(B)G7	1/21		
	HG-KR23(B)G7	1/33	HK-KT23(B)G7	1/33		
	HG-KR23(B)G7	1/45	HK-KT23(B)G7	1/45		
	HG-KR43(B)G7	1/5	HK-KT43(B)G7	1/5		
	HG-KR43(B)G7	1/11	HK-KT43(B)G7	1/11		
	HG-KR43(B)G7	1/21	HK-KT43(B)G7	1/21		
	HG-KR43(B)G7	1/33	HK-KT43(B)G7	1/33		
	HG-KR43(B)G7	1/45	HK-KT43(B)G7	1/45		
	HG-KR73(B)G7	1/5	HK-KT7M3(B)G7	1/5		
	HG-KR73(B)G7	1/11	HK-KT7M3(B)G7	1/11		
	HG-KR73(B)G7	1/21	HK-KT7M3(B)G7	1/21		
	HG-KR73(B)G7	1/33	HK-KT7M3(B)G7	1/33		
	HG-KR73(B)G7	1/45	HK-KT7M3(B)G7	1/45		

HG-MR series

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Replacement model example	Mounting compatibility	Precautions
Small capacity, ultra-low inertia HG-MR series Standard/With brake	HG-MR053(B)	HK-MT053W(B)	○	• The encoder, electromagnetic brake, and power supply wiring connectors of the HK-MT series are integrated, and the distance between the mounting surface and the connector will be significantly changed. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-MR13(B)	HK-MT13W(B)		
	HG-MR23(B)	HK-MT23W(B)	△ *1	
	HG-MR43(B)	HK-MT43W(B)		
	HG-MR73(B)	HK-MT7M3W(B)	○	

*1 The mounting hole was changed from φ5.8 to 5.5. Refer to the following for details on the dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

HG-SR series (without gear reducer)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Replacement model example	Mounting compatibility	Precautions
Medium capacity, medium inertia HG-SR series Standard/With brake	HG-SR51(B)	HK-ST1024W(B)	○	• Note that the motor model name structure differs between models before replacement and replacement models. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-SR81(B)	HK-ST1724W(B)		
	HG-SR121(B)	HK-ST2024W(B)		
	HG-SR201(B)	HK-ST3524W(B)		
	HG-SR301(B)	HK-ST5024W(B)		
	HG-SR421(B)	HK-ST7024W(B)	○ *1	
	HG-SR52(4)(B)	HK-ST52(4)W(B)	○	
	HG-SR102(4)(B)	HK-ST102(4)W(B)		
	HG-SR152(4)(B)	HK-ST172(4)W(B)		
	HG-SR202(4)(B)	HK-ST202(4)W(B)		
	HG-SR352(4)(B)	HK-ST352(4)W(B)		
	HG-SR502(4)(B)	HK-ST502(4)W(B)		
	HG-SR702(4)(B)	HK-ST702(4)W(B)	○ *1	

*1 The power connector size is different.

HG-SR series (with gear reducer for general industrial machine)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility	Precautions
Medium capacity, medium inertia HG-SR series With gear reducer for general industrial machine: G1	HG-SR52(4)(B)G1(H)	1/6	HK-ST52(4)(B)G1(H)	1/6	○	• The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-SR52(4)(B)G1(H)	1/11	HK-ST52(4)(B)G1(H)	1/11		
	HG-SR52(4)(B)G1(H)	1/17	HK-ST52(4)(B)G1(H)	1/17		
	HG-SR52(4)(B)G1(H)	1/29	HK-ST52(4)(B)G1(H)	1/29		
	HG-SR52(4)(B)G1(H)	1/35	HK-ST52(4)(B)G1(H)	1/35		
	HG-SR52(4)(B)G1(H)	1/43	HK-ST52(4)(B)G1(H)	1/43		
	HG-SR52(4)(B)G1(H)	1/59	HK-ST52(4)(B)G1(H)	1/59		
	HG-SR102(4)(B)G1(H)	1/6	HK-ST102(4)(B)G1(H)	1/6		
	HG-SR102(4)(B)G1(H)	1/11	HK-ST102(4)(B)G1(H)	1/11		
	HG-SR102(4)(B)G1(H)	1/17	HK-ST102(4)(B)G1(H)	1/17		
	HG-SR102(4)(B)G1(H)	1/29	HK-ST102(4)(B)G1(H)	1/29		
	HG-SR102(4)(B)G1(H)	1/35	HK-ST102(4)(B)G1(H)	1/35		
	HG-SR102(4)(B)G1(H)	1/43	HK-ST102(4)(B)G1(H)	1/43		
	HG-SR102(4)(B)G1(H)	1/59	HK-ST102(4)(B)G1(H)	1/59		
	HG-SR152(4)(B)G1(H)	1/6	HK-ST152(4)(B)G1(H)	1/6		
	HG-SR152(4)(B)G1(H)	1/11	HK-ST152(4)(B)G1(H)	1/11		
	HG-SR152(4)(B)G1(H)	1/17	HK-ST152(4)(B)G1(H)	1/17		
	HG-SR152(4)(B)G1(H)	1/29	HK-ST152(4)(B)G1(H)	1/29		
	HG-SR152(4)(B)G1(H)	1/35	HK-ST152(4)(B)G1(H)	1/35		
	HG-SR152(4)(B)G1(H)	1/43	HK-ST152(4)(B)G1(H)	1/43		
	HG-SR152(4)(B)G1(H)	1/59	HK-ST152(4)(B)G1(H)	1/59		
	HG-SR202(4)(B)G1(H)	1/6	HK-ST202(4)(B)G1(H)	1/6		
	HG-SR202(4)(B)G1(H)	1/11	HK-ST202(4)(B)G1(H)	1/11		
	HG-SR202(4)(B)G1(H)	1/17	HK-ST202(4)(B)G1(H)	1/17		
	HG-SR202(4)(B)G1(H)	1/29	HK-ST202(4)(B)G1(H)	1/29		
	HG-SR202(4)(B)G1(H)	1/35	HK-ST202(4)(B)G1(H)	1/35		
	HG-SR202(4)(B)G1(H)	1/43	HK-ST202(4)(B)G1(H)	1/43		
	HG-SR202(4)(B)G1(H)	1/59	HK-ST202(4)(B)G1(H)	1/59		
	HG-SR352(4)(B)G1(H)	1/6	HK-ST352(4)(B)G1(H)	1/6		
	HG-SR352(4)(B)G1(H)	1/11	HK-ST352(4)(B)G1(H)	1/11		
	HG-SR352(4)(B)G1(H)	1/17	HK-ST352(4)(B)G1(H)	1/17		
	HG-SR352(4)(B)G1(H)	1/29	HK-ST352(4)(B)G1(H)	1/29		
	HG-SR352(4)(B)G1(H)	1/35	HK-ST352(4)(B)G1(H)	1/35		
	HG-SR352(4)(B)G1(H)	1/43	HK-ST352(4)(B)G1(H)	1/43		
	HG-SR352(4)(B)G1(H)	1/59	HK-ST352(4)(B)G1(H)	1/59		
	HG-SR502(4)(B)G1(H)	1/6	HK-ST502(4)(B)G1(H)	1/6		
	HG-SR502(4)(B)G1(H)	1/11	HK-ST502(4)(B)G1(H)	1/11		
	HG-SR502(4)(B)G1(H)	1/17	HK-ST502(4)(B)G1(H)	1/17		
	HG-SR502(4)(B)G1(H)	1/29	HK-ST502(4)(B)G1(H)	1/29		
	HG-SR502(4)(B)G1(H)	1/35	HK-ST502(4)(B)G1(H)	1/35		
	HG-SR502(4)(B)G1(H)	1/43	HK-ST502(4)(B)G1(H)	1/43		
	HG-SR502(4)(B)G1(H)	1/59	HK-ST502(4)(B)G1(H)	1/59		
	HG-SR702(4)(B)G1(H)	1/6	HK-ST702(4)(B)G1(H)	1/6	○ *1	
	HG-SR702(4)(B)G1(H)	1/11	HK-ST702(4)(B)G1(H)	1/11		
	HG-SR702(4)(B)G1(H)	1/17	HK-ST702(4)(B)G1(H)	1/17		
	HG-SR702(4)(B)G1(H)	1/29	HK-ST702(4)(B)G1(H)	1/29		
	HG-SR702(4)(B)G1(H)	1/35	HK-ST702(4)(B)G1(H)	1/35		
	HG-SR702(4)(B)G1(H)	1/43	HK-ST702(4)(B)G1(H)	1/43		
	HG-SR702(4)(B)G1(H)	1/59	HK-ST702(4)(B)G1(H)	1/59		

*1 The power connector size is different.

HG-SR series (with flange-output type gear reducer for high precision applications, flange mounting)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility	Precautions
Medium capacity, medium inertia HG-SR series With flange-output type gear reducer for high precision applications, flange mounting: G5	HG-SR52(4)(B)G5	1/5	HK-ST52(4)(B)G5	1/5	○	• The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-SR52(4)(B)G5	1/11	HK-ST52(4)(B)G5	1/11		
	HG-SR52(4)(B)G5	1/21	HK-ST52(4)(B)G5	1/21		
	HG-SR52(4)(B)G5	1/33	HK-ST52(4)(B)G5	1/33		
	HG-SR52(4)(B)G5	1/45	HK-ST52(4)(B)G5	1/45		
	HG-SR102(4)(B)G5	1/5	HK-ST102(4)(B)G5	1/5		
	HG-SR102(4)(B)G5	1/11	HK-ST102(4)(B)G5	1/11		
	HG-SR102(4)(B)G5	1/21	HK-ST102(4)(B)G5	1/21		
	HG-SR102(4)(B)G5	1/33	HK-ST102(4)(B)G5	1/33		
	HG-SR102(4)(B)G5	1/45	HK-ST102(4)(B)G5	1/45		
	HG-SR152(4)(B)G5	1/5	HK-ST152(4)(B)G5	1/5		
	HG-SR152(4)(B)G5	1/11	HK-ST152(4)(B)G5	1/11		
	HG-SR152(4)(B)G5	1/21	HK-ST152(4)(B)G5	1/21		
	HG-SR152(4)(B)G5	1/33	HK-ST152(4)(B)G5	1/33		
	HG-SR152(4)(B)G5	1/45	HK-ST152(4)(B)G5	1/45		
	HG-SR202(4)(B)G5	1/5	HK-ST202(4)(B)G5	1/5		
	HG-SR202(4)(B)G5	1/11	HK-ST202(4)(B)G5	1/11		
	HG-SR202(4)(B)G5	1/21	HK-ST202(4)(B)G5	1/21		
	HG-SR202(4)(B)G5	1/33	HK-ST202(4)(B)G5	1/33		
	HG-SR202(4)(B)G5	1/45	HK-ST202(4)(B)G5	1/45		
	HG-SR352(4)(B)G5	1/5	HK-ST352(4)(B)G5	1/5		
	HG-SR352(4)(B)G5	1/11	HK-ST352(4)(B)G5	1/11		
	HG-SR352(4)(B)G5	1/21	HK-ST352(4)(B)G5	1/21		
	HG-SR502(4)(B)G5	1/5	HK-ST502(4)(B)G5	1/5		
	HG-SR502(4)(B)G5	1/11	HK-ST502(4)(B)G5	1/11		
	HG-SR702(4)(B)G5	1/5	HK-ST702(4)(B)G5	1/5	○ *1	

*1 The power connector size is different.

HG-SR series (with shaft-output type gear reducer for high precision applications, flange mounting)

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility	Precautions
Medium capacity, medium inertia HG-SR series With shaft-output type gear reducer for high precision applications, flange mounting: G7	HG-SR52(4)(B)G7	1/5	HK-ST52(4)(B)G7	1/5	○	• The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications
	HG-SR52(4)(B)G7	1/11	HK-ST52(4)(B)G7	1/11		
	HG-SR52(4)(B)G7	1/21	HK-ST52(4)(B)G7	1/21		
	HG-SR52(4)(B)G7	1/33	HK-ST52(4)(B)G7	1/33		
	HG-SR52(4)(B)G7	1/45	HK-ST52(4)(B)G7	1/45		
	HG-SR102(4)(B)G7	1/5	HK-ST102(4)(B)G7	1/5		
	HG-SR102(4)(B)G7	1/11	HK-ST102(4)(B)G7	1/11		
	HG-SR102(4)(B)G7	1/21	HK-ST102(4)(B)G7	1/21		
	HG-SR102(4)(B)G7	1/33	HK-ST102(4)(B)G7	1/33		
	HG-SR102(4)(B)G7	1/45	HK-ST102(4)(B)G7	1/45		
	HG-SR152(4)(B)G7	1/5	HK-ST152(4)(B)G7	1/5		
	HG-SR152(4)(B)G7	1/11	HK-ST152(4)(B)G7	1/11		
	HG-SR152(4)(B)G7	1/21	HK-ST152(4)(B)G7	1/21		
	HG-SR152(4)(B)G7	1/33	HK-ST152(4)(B)G7	1/33		
	HG-SR152(4)(B)G7	1/45	HK-ST152(4)(B)G7	1/45		
	HG-SR202(4)(B)G7	1/5	HK-ST202(4)(B)G7	1/5		
	HG-SR202(4)(B)G7	1/11	HK-ST202(4)(B)G7	1/11		
	HG-SR202(4)(B)G7	1/21	HK-ST202(4)(B)G7	1/21		
	HG-SR202(4)(B)G7	1/33	HK-ST202(4)(B)G7	1/33		
	HG-SR202(4)(B)G7	1/45	HK-ST202(4)(B)G7	1/45		
	HG-SR352(4)(B)G7	1/5	HK-ST352(4)(B)G7	1/5		
	HG-SR352(4)(B)G7	1/11	HK-ST352(4)(B)G7	1/11		
	HG-SR352(4)(B)G7	1/21	HK-ST352(4)(B)G7	1/21		
	HG-SR502(4)(B)G7	1/5	HK-ST502(4)(B)G7	1/5		
	HG-SR502(4)(B)G7	1/11	HK-ST502(4)(B)G7	1/11		
	HG-SR702(4)(B)G7	1/5	HK-ST702(4)(B)G7	1/5	○ *1	

*1 The power connector size is different.

HG-RR series

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Replacement model example	Mounting compatibility	Precautions
Medium capacity, ultra-low inertia HG-RR series	HG-RR103(B) ◇	HK-RT103W(B) ◆	× *1	• The encoder, electromagnetic brake, and power supply wiring connectors of models marked with ◆ are integrated, and the distance between the mounting surface and the connector will be significantly changed. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications • The capacity of the corresponding servo amplifier will be different if a model marked with ◇ is replaced. Refer to the following for details. ☞ Page 26 Replacement of MR-J4_-_B_ with MR-J5_-_B_ • The HK-RT series does not have an oil seal as standard. To obtain a product with an oil seal, state "HK-RT_J".
	HG-RR153(B)	HK-RT153W(B) ◆		
	HG-RR203(B) ◇	HK-RT203W(B) ◆		
	HG-RR353(B) ◇	HK-RT353W(B)	△ *2*3	
	HG-RR503(B)	HK-RT503W(B)		

*1 Refer to the following for the mounting dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

*2 Only the flanges have mounting compatibility. Refer to the following for details on the dimensions and shaft end dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

*3 The power connectors and electromagnetic brake connectors have no compatibility.

HG-JR series

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Replacement model example	Mounting compatibility	Precautions
Medium capacity, low inertia HG-JR series	HG-JR53(4)(B)	HK-KT63(4)UW(B) ◆ *2	△ *1	• The encoder, electromagnetic brake, and power supply wiring connectors of models marked with ◆ are integrated, and the distance between the mounting surface and the connector will be significantly changed. • The total length of the motor will be shorter, so confirm that the motor connector does not interfere with the device side. • Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications • The capacity of the corresponding servo amplifier will be different if a model marked with ◇ is replaced. Refer to the following for details. ☞ Page 26 Replacement of MR-J4_-_B_ with MR-J5_-_B_ • The HK-KT/HK-ST series do not have an oil seal as standard. To obtain a product with an oil seal, state "HK-KT_J/HK-ST_J".
	HG-JR73(4)(B)			
	HG-JR103(4)(B)	HK-KT103(4)UW(B) ◆		
	HG-JR153(4)(B)	HK-KT153(4)W(B) ◆		
	HG-JR203(4)(B)	HK-KT203(4)W(B) ◆		
	HG-JR353(4)(B)	HK-ST353(4)W(B)	△ *1*3	
	HG-JR503(4)(B)	HK-ST503(4)W(B)		

*1 Only the flanges have mounting compatibility. Refer to the following for details on the dimensions and shaft end dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

*2 The replacement model "HK-KT63(4)UW(B)" for the HG-JR73(4)(B) allows for increased torque. For combinations with servo amplifiers, refer to the following.
☞ Page 15 FLOW OF REPLACEMENT

*3 For 200 V class servo motors, the power connectors have no compatibility.

HG-UR series

○: Compatible ×: Incompatible △: Partially compatible

Series	Model	Replacement model example	Mounting compatibility	Precautions
Medium capacity, flat type HG-UR series	HG-UR72(B)	HK-ST7M2UW(B)	△ *1*2	• Refer to the following for details. ☞ Page 669 Comparison of Servo Motor Connector Specifications • Refer to the following for details. ☞ Page 26 Replacement of MR-J4_-_B_ with MR-J5_-_B_ • The HK-ST series does not have an oil seal as standard. To obtain a product with an oil seal, state "HK-ST_J".
	HG-UR152(B)	HK-ST172UW(B)		

*1 Only the flanges have mounting compatibility. Refer to the following for details on the dimensions and shaft end dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

*2 The power connectors and electromagnetic brake connectors have no compatibility.

19 COMPARISON OF SERVO MOTOR SPECIFICATIONS

19.1 Comparison of Servo Motor Mounting Dimensions

Point

As for the dimensions not listed here, refer to the catalog, "HG-MR/HG-KR/HG-SR/HG-JR/HG-RR/HG-UR/HG-AK Servo Motor Instruction Manual (Vol. 3)", or the following manual.

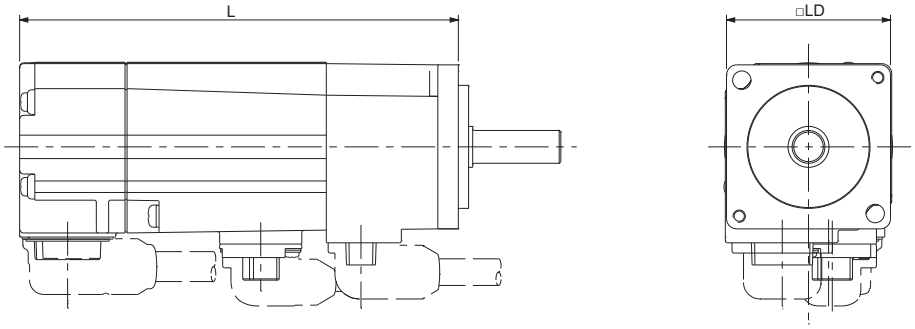
Rotary Servo Motor User's Manual (For MR-J5)

The symbols in the table mean as follows.

(B): With brake

The value in the parenthesis shows the value with brake.

HG-KR/HG-MR/HG-SR/HG-RR/HG-UR series



[Unit: mm]

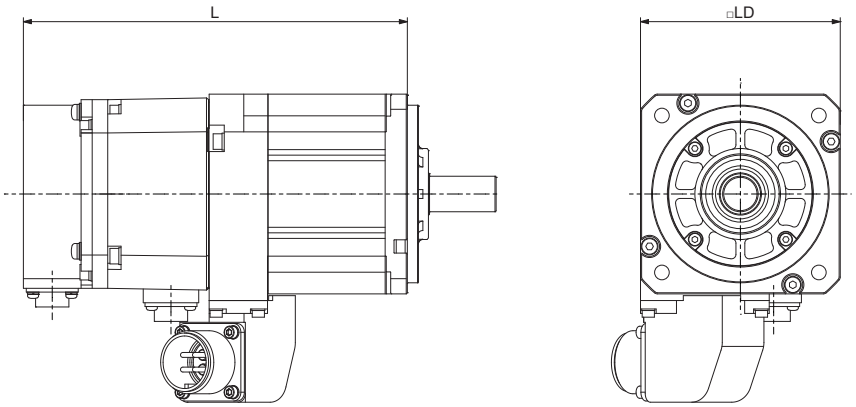
Target model			Replacement model			Precautions
Model	L	LD	Replacement model example	L	LD	
HG-KR053(B)	66.4 (107)	40	HK-KT053W(B)	55.5 (90.5)	40	—
HG-KR13(B)	82.4 (123)		HK-KT13W(B)	68 (103)		
HG-KR23(B)	76.6 (113.4)	60	HK-KT23W(B)	67.5 (102.1)	60	*1
HG-KR43(B)	98.3 (135.1)		HK-KT43W(B)	85.5 (120.1)		
HG-KR73(B)	112 (152.3)	80	HK-KT7M3W(B)	92.5 (128)	80	—
HG-MR053(B)	66.4 (107)	40	HK-MT053W(B)	61.3 (96.3)	40	
HG-MR13(B)	82.4 (123)		HK-MT13W(B)	74.8 (109.8)		
HG-MR23(B)	76.6 (113.4)	60	HK-MT23W(B)	76.6 (111.2)	60	*1
HG-MR43(B)	98.3 (135.1)		HK-MT43W(B)	96.1 (130.7)		

Target model			Replacement model			Precautions
Model	L	LD	Replacement model example	L	LD	
HG-MR73(B)	112 (152.3)	80	HK-MT7M3W(B)	110 (145.5)	80	—
HG-SR51(B)	132.5 (167)	130	HK-ST1024W(B)	126.5 (161)	130	
HG-SR81(B)	146.5 (181)		HK-ST1724W(B)	137.5 (172)		
HG-SR121(B)	138.5 (188)	176	HK-ST2024W(B)	138.5 (188)	176	
HG-SR201(B)	162.5 (212)		HK-ST3524W(B)	158.5 (208)		
HG-SR301(B)	178.5 (228)		HK-ST5024W(B)	178.5 (228)		
HG-SR421(B)	218.5 (268)		HK-ST7024W(B)	218.5 (268)		
HG-SR52(B) HG-SR524(B)	118.5 (153)	130	HK-ST52W(B) HK-ST524W(B)	115.5 (150)	130	
HG-SR102(B) HG-SR1024(B)	132.5 (167)		HK-ST102W(B) HK-ST1024W(B)	126.5 (161)		
HG-SR152(B) HG-SR1524(B)	146.5 (181)		HK-ST172(4)W(B) HK-ST1724W(B)	137.5 (172)		
HG-SR202(B) HG-SR2024(B)	138.5 (188)	176	HK-ST202W(B) HK-ST2024W(B)	138.5 (188)		
HG-SR352(B) HG-SR3524(B)	162.5 (212)		HK-ST352W(B) HK-ST3524W(B)	158.5 (208)	176	
HG-SR502(B) HG-SR5024(B)	178.5 (228)		HK-ST502W(B) HK-ST5024W(B)	178.5 (228)		
HG-SR702(B) HG-SR7024(B)	218.5 (268)		HK-ST702W(B) HK-ST7024W(B)	218.5 (268)		
HG-RR103(B)	145.5 (183)	100	HK-RT103W(B)	118.9 (158.3)	90	*2
HG-RR153(B)	170.5 (208)		HK-RT153W(B)	136.9 (176.3)		
HG-RR203(B)	195.5 (233)		HK-RT203W(B)	172.9 (212.3)		
HG-RR353(B)	215.5 (252)	130	HK-RT353W(B)	213 (247.5)	130	
HG-RR503(B)	272.5 (309)		HK-RT503W(B)	267 (301.5)		
HG-UR72(B)	109 (142.5)	176	HK-ST7M2UW(B)	108.5 (142)	176	—
HG-UR152(B)	118.5(152)		HK-ST172UW(B)	118.5 (152)		

*1 The mounting hole was changed from φ5.8 to 5.5. Refer to the following for details on the dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

*2 Only the flanges have mounting compatibility. Refer to the following for details on the dimensions and shaft end dimensions.
☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions

HG-JR series



[Unit: mm]

Target model			Replacement model			Precautions
Model	**L**	**LD**	**Replacement model example**	**L**	**LD**	
HG-JR53(B) HG-JR534(B)	127.5 (173)	90	HK-KT63UW(B) HK-KT634UW(B)	83.5 (111)	90	Only the flanges have mounting compatibility. Refer to the following for details on the dimensions and shaft end dimensions. ☞ Page 647 Detailed Comparison of Servo Motor Mounting Dimensions
HG-JR73(B) HG-JR734(B)	145.5 (191)					
HG-JR103(B) HG-JR1034(B)	163.5 (209)		HK-KT103UW(B) HK-KT1034UW(B)	92.5 (120)		
HG-JR153(B) HG-JR1534(B)	199.5 (245)		HK-KT153W(B) HK-KT1534W(B)	118.9 (158.3)		
HG-JR203(B) HG-JR2034(B)	235.5 (281)		HK-KT203W(B) HK-KT2034W(B)	136.9 (176.3)		
HG-JR353(B) HG-JR3534(B)	213 (251.5)	130	HK-ST353W(B) HK-ST3534W(B)	159.5 (194)	130	
HG-JR503(B) HG-JR5034(B)	267 (305.5)		HK-ST503W(B) HK-ST5034W(B)	203.5 (238)		

19.2 Detailed Comparison of Servo Motor Mounting Dimensions

Point

As for the dimensions not listed here, refer to the catalog or the following manual.

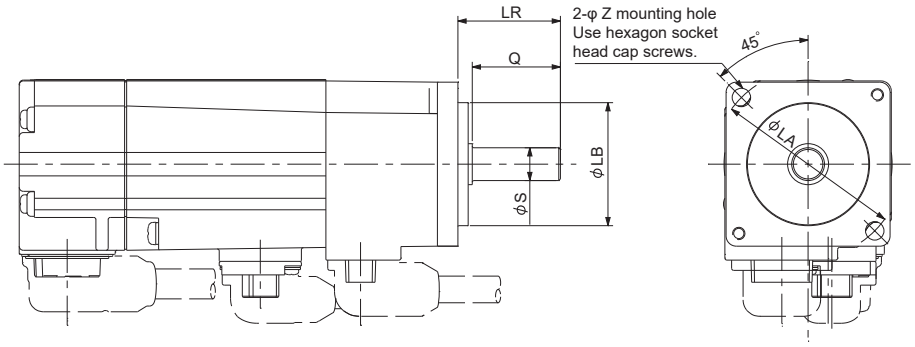
Rotary Servo Motor User's Manual (For MR-J5)

Changed descriptions are shown with "■".

The symbols in the table mean as follows.

(B): With brake

HG-KR/HG-MR/HG-SR/HG-RR/HG-UR series

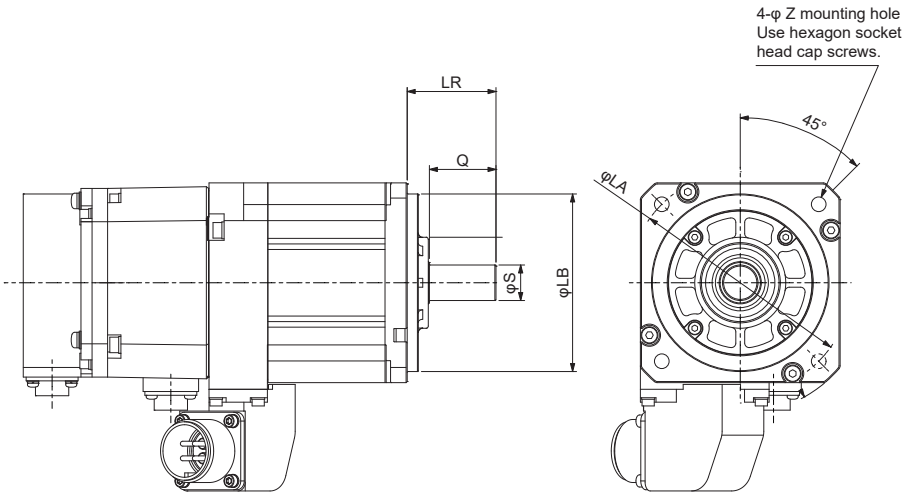


[Unit: mm]

Target model							Replacement model						
Model	LA	LB	LR	Q	S	Z	Replacement model example	LA	LB	LR	Q	S	Z
HG-KR053(B)	46	30	25	21.5	8	4.5	HK-KT053W(B)	46	30	25	21.5	8	4.5
HG-KR13(B)	46	30	25	21.5	8	4.5	HK-KT13W(B)	46	30	25	21.5	8	4.5
HG-KR23(B)	70	50	30	26	14	5.8	HK-KT23W(B)	70	50	30	26	14	■5.5
HG-KR43(B)	70	50	30	26	14	5.8	HK-KT43W(B)	70	50	30	26	14	■5.5
HG-KR73(B)	90	70	40	36	19	6.6	HK-KT7M3W(B)	90	70	40	36	19	6.6
HG-MR053(B)	46	30	25	21.5	8	4.5	HK-MT053W(B)	46	30	25	21.5	8	4.5
HG-MR13(B)	46	30	25	21.5	8	4.5	HK-MT13W(B)	46	30	25	21.5	8	4.5
HG-MR23(B)	70	50	30	26	14	5.8	HK-MT23W(B)	70	50	30	26	14	■5.5
HG-MR43(B)	70	50	30	26	14	5.8	HK-MT43W(B)	70	50	30	26	14	■5.5
HG-MR73(B)	90	70	40	36	19	6.6	HK-MT7M3W(B)	90	70	40	36	19	6.6
HG-SR51(B)	145	110	55	50	24	9	HK-ST1024W(B)	145	110	55	50	24	9
HG-SR81(B)	145	110	55	50	24	9	HK-ST1724W(B)	145	110	55	50	24	9
HG-SR121(B)	200	114.3	79	75	35	13.5	HK-ST2024W(B)	200	114.3	79	75	35	13.5
HG-SR201(B)	200	114.3	79	75	35	13.5	HK-ST3524W(B)	200	114.3	79	75	35	13.5
HG-SR301(B)	200	114.3	79	75	35	13.5	HK-ST5024W(B)	200	114.3	79	75	35	13.5
HG-SR421(B)	200	114.3	79	75	35	13.5	HK-ST7024W(B)	200	114.3	79	75	35	13.5
HG-SR52(B) HG-SR524(B)	145	110	55	50	24	9	HK-ST52W(B) HK-ST524W(B)	145	110	55	50	24	9
HG-SR102(B) HG-SR1024(B)	145	110	55	50	24	9	HK-ST102W(B) HK-ST1024W(B)	145	110	55	50	24	9
HG-SR152(B) HG-SR1524(B)	145	110	55	50	24	9	HK-ST172W(B) HK-ST1724W(B)	145	110	55	50	24	9
HG-SR202(B) HG-SR2024(B)	200	114.3	79	75	35	13.5	HK-ST202W(B) HK-ST2024W(B)	200	114.3	79	75	35	13.5
HG-SR352(B) HG-SR3524(B)	200	114.3	79	75	35	13.5	HK-ST352W(B) HK-ST3524W(B)	200	114.3	79	75	35	13.5

Target model							Replacement model						
Model	LA	LB	LR	Q	S	Z	Replacement model example	LA	LB	LR	Q	S	Z
HG-SR502(B) HG-SR5024(B)	200	114.3	79	75	35	13.5	HK-ST502W(B) HK-ST5024W(B)	200	114.3	79	75	35	13.5
HG-SR702(B) HG-SR7024(B)	200	114.3	79	75	35	13.5	HK-ST702W(B) HK-ST7024W(B)	200	114.3	79	75	35	13.5
HG-RR103(B)	115	95	45	40	24	9	HK-RT103W(B)	■100	■80	■40	■36	■19	■6.6
HG-RR153(B)	115	95	45	40	24	9	HK-RT153W(B)	■100	■80	■40	■36	■19	■6.6
HG-RR203(B)	115	95	45	40	24	9	HK-RT203W(B)	■100	■80	■40	■36	■19	■6.6
HG-RR353(B)	145	110	63	58	28	9	HK-RT353W(B)	145	110	■55	■50	■24	9
HG-RR503(B)	145	110	63	58	28	9	HK-RT503W(B)	145	110	■55	■50	■24	9
HG-UR72(B)	200	114.3	55	50	22	13.5	HK-ST7M2UW(B)	200	114.3	55	50	■24	13.5
HG-UR152(B)	200	114.3	55	50	28	13.5	HK-ST172UW(B)	200	114.3	55	50	■24	13.5

HG-JR series



[Unit: mm]

Target model							Replacement model						
Model	LA	LB	LR	Q	S	Z	Replacement model example	LA	LB	LR	Q	S	Z
HG-JR53(B) HG-JR534(B)	100	80	40	30	16	6.6	HK-KT63UW(B) HK-KT634UW(B)	100	80	40	■36	■19	6.6
HG-JR73(B) HG-JR734(B)	100	80	40	30	16	6.6							
HG-JR103(B) HG-JR1034(B)	100	80	40	30	16	6.6	HK-KT103UW(B) HK-KT1034UW(B)	100	80	40	■36	■19	6.6
HG-JR153(B) HG-JR1534(B)	100	80	40	30	16	6.6	HK-KT153W(B) HK-KT1534W(B)	100	80	40	■36	■19	6.6
HG-JR203(B) HG-JR2034(B)	100	80	40	30	16	6.6	HK-KT203W(B) HK-KT2034W(B)	100	80	40	■36	■19	6.6
HG-JR353(B) HG-JR3534(B)	145	110	55	50	28	9	HK-ST353W(B) HK-ST3534W(B)	145	110	55	50	■24	9
HG-JR503(B) HG-JR5034(B)	145	110	55	50	28	9	HK-ST503W(B) HK-ST5034W(B)	145	110	55	50	■24	9

19.3 Comparison of Mounting Dimensions for Geared Servo Motors

Point

As for the dimensions not listed here, refer to the catalog or the following manual.

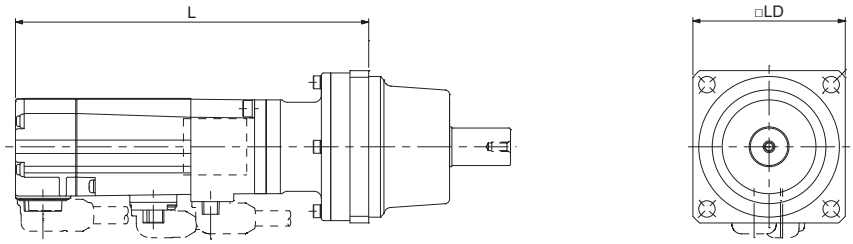
Rotary Servo Motor User's Manual (For MR-J5)

Changed descriptions are shown with "■".

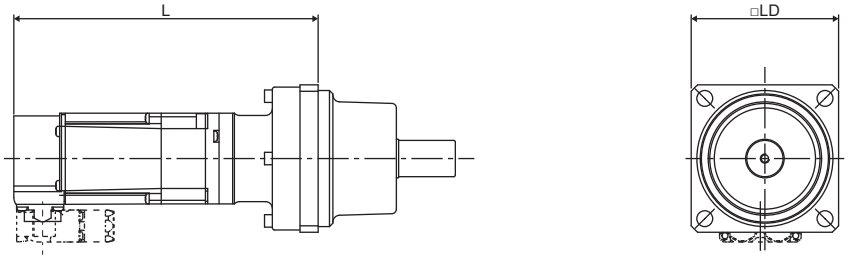
The value in the parenthesis shows the value with brake.

HG-KR_G1 => HK-KT_G1 (with gear reducer for general industrial machine)

- HG-KR_G1 dimensions



- HK-KT_G1 dimensions

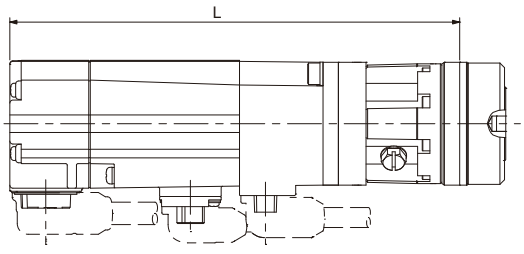


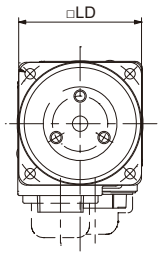
[Unit: mm]

Output (kW)	Reduction ratio	HG-KR_G1		HK-KT_G1	
		L	LD	L	LD
0.05	1/5	110.1 (150.7)	65	■99.2 (134.2)	65
	1/12	128.9 (169.5)		■118 (153)	
	1/20				
0.1	1/5	126.1 (166.7)		■111.7 (146.7)	
	1/12	144.9 (185.5)		■130.5 (165.5)	
	1/20				
0.2	1/5	129.8 (166.6)	90	■120.7 (155.3)	90
	1/12	149.6 (186.4)		■140.5 (175.1)	
	1/20				
0.4	1/5	151.5 (188.3)		■138.7 (173.3)	
	1/12	171.3 (208.1)		■158.5 (193.1)	
	1/20	175.3 (208.1)	100	■162.5 (197.1)	100
0.75	1/5	177 (217.3)		■157.5 (193)	
	1/12	199 (239.3)		■179.5 (215)	
	1/20	212 (252.3)	120	■192.5 (228)	120

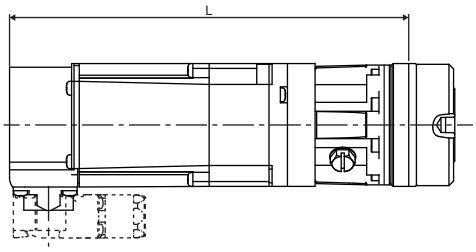
HG-KR_G5 => HK-KT_G5 (with flange-output type gear reducer for high precision applications, flange mounting)

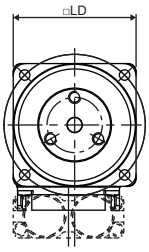
- HG-KR_G5 dimensions





- HK-KT_G5 dimensions



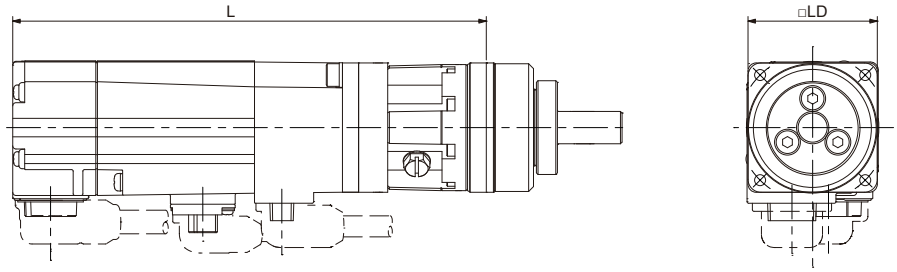


[Unit: mm]

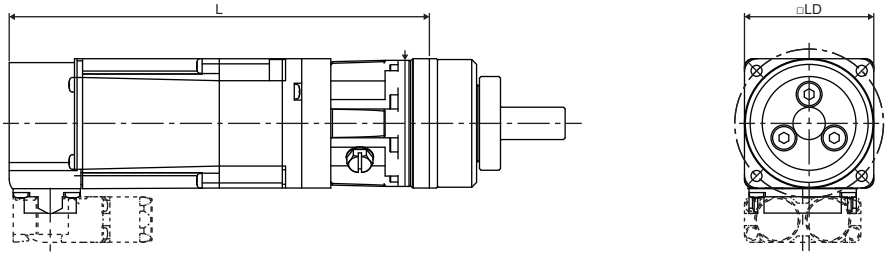
Output (kW)	Reduction ratio	HG-KR_G5		HK-KT_G5	
		L	LD	L	LD
0.05	1/5 (□40)	105.9 (146.5)	40	■95 (130)	40
	1/5 (□60)	130.4 (171)	60	■119.5 (154.5)	60
	1/9	105.9 (146.5)	40	■95 (130)	40
	1/11	130.4 (171)	60	■119.5 (154.5)	60
	1/21				
	1/33				
	1/45				
0.1	1/5 (□40)	121.9 (162.5)	40	■107.5 (142.5)	40
	1/5 (□60)	146.4 (187)	60	■132 (167)	60
	1/11				
	1/21				
	1/33	148.9 (189.5)	90	■134.5 (169.5)	90
	1/45				
0.2	1/5	140.6 (177.4)	60	■131.5 (166.1)	60
	1/11				
	1/21	147.6 (184.4)	90	■138.5 (173.1)	90
	1/33				
	1/45				
0.4	1/5	162.3 (199.1)	60	■149.5 (184.1)	60
	1/11	169.3 (206.1)	90	■156.5 (191.1)	90
	1/21				
	1/33	181.3 (218.1)	120	■168.5 (203.1)	120
	1/45				
0.75	1/5	190 (230.3)	90	■170.5 (206)	90
	1/11				
	1/21	200 (240.3)	120	■180.5 (216)	120
	1/33				
	1/45				

HG-KR_G7 => HK-KT_G7 (with shaft-output type gear reducer for high precision applications, flange mounting)

- HG-KR_G7 dimensions



- HK-KT_G7 dimensions

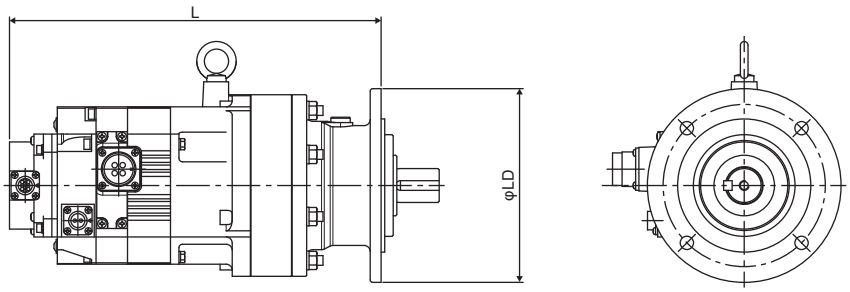


[Unit: mm]

Output (kW)	Reduction ratio	HG-KR_G7		HK-KT_G7	
		L	LD	L	LD
0.05	1/5 (□40)	105.9 (146.5)	40	■95 (130)	40
	1/5 (□60)	130.4 (171)	60	■119.5 (154.5)	60
	1/9	105.9 (146.5)	40	■95 (130)	40
	1/11	130.4 (171)	60	■119.5 (154.5)	60
	1/21				
	1/33				
	1/45				
0.1	1/5 (□40)	121.9 (162.5)	40	■107.5 (142.5)	40
	1/5 (□60)	146.4 (187)	60	■132 (167)	60
	1/11				
	1/21				
	1/33	148.9 (189.5)	90	■134.5 (169.5)	90
	1/45				
0.2	1/5	140.6 (177.4)	60	■131.5 (166.1)	60
	1/11				
	1/21	147.6 (184.4)	90	■138.5 (173.1)	90
	1/33				
	1/45				
0.4	1/5	162.3 (199.1)	60	■149.5 (184.1)	60
	1/11	169.3 (206.1)	90	■156.5 (191.1)	90
	1/21				
	1/33	181.3 (218.1)	120	■168.5 (203.1)	120
	1/45				
0.75	1/5	190 (230.3)	90	■170.5 (206)	90
	1/11				
	1/21	200 (240.3)	120	■180.5 (216)	120
	1/33				
	1/45				

HG-SR_G1 => HK-ST_G1 (with gear reducer for general industrial machine)

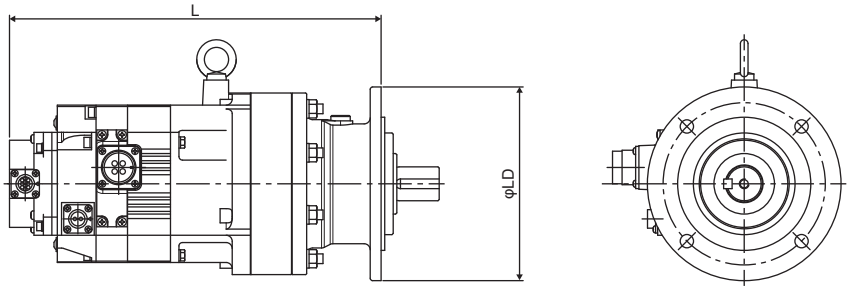
■0.5 kW to 2.0 kW



[Unit: mm]

Output (kW)	Reduction ratio	HG-SR_G1		HK-ST_G1	
		L	LD	L	LD
0.5	1/6	275 (309.5)	160	■272.5 (307)	160
	1/11				
	1/17				
	1/29				
	1/35	267.5 (302)	210	■265 (299.5)	210
	1/43				
	1/59				
1.0	1/6	281.5 (316)	210	■276 (310.5)	210
	1/11				
	1/17				
	1/29				
	1/35				
	1/43	327 (361.5)	260	■321.5 (356)	260
	1/59	384.5 (419)	340	■379 (413.5)	340
1.5	1/6	295.5 (330)	210	■287 (321.5)	210
	1/11				
	1/17				
	1/29	341 (375.5)	260	■332.5 (367)	260
	1/35				
	1/43	398.5 (433)	340	■390 (424.5)	340
	1/59				
2.0	1/6	305.5 (355)	210	■306 (355.5)	210
	1/11				
	1/17				
	1/29	402.5 (452)	340	■403 (452.5)	340
	1/35				
	1/43				
	1/59				

■3.5 kW to 7.0 kW

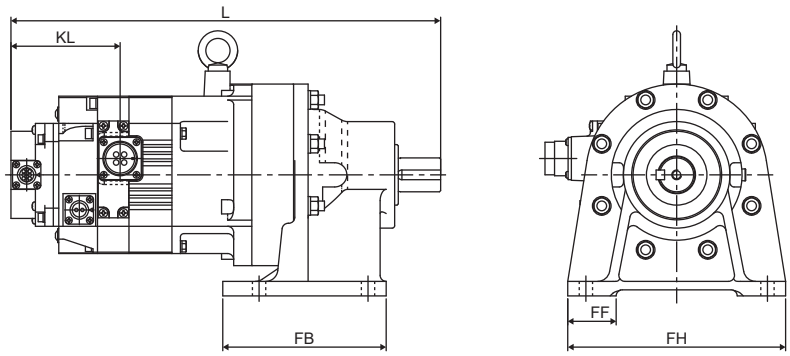


[Unit: mm]

Output (kW)	Reduction ratio	HG-SR_G1		HK-ST_G1	
		L	LD	L	LD
3.5	1/6	372 (421.5)	260	■368.5 (418)	260
	1/11				
	1/17				
	1/29	426.5 (476)	340	■423 (472.5)	340
	1/35				
	1/43	466 (515.5)	400	■462.5 (512)	400
	1/59				
5.0	1/6	442.5 (492)	340	■443 (492.5)	340
	1/11				
	1/17				
	1/29	506 (555.5)	430	■506.5 (556)	430
	1/35				
	1/43				
	1/59				
7.0	1/6	482.5 (532)	340	■483 (532.5)	340
	1/11	522 (571.5)	400	■522.5 (572)	400
	1/17				
	1/29	546 (595.5)	430	■546.5 (596)	430
	1/35				
	1/43	602 (651.5)	490	■602.5 (652)	490
	1/59				

HG-SR_G1H => HK-ST_G1H (with foot-mounting gear reducer for general industrial machine)

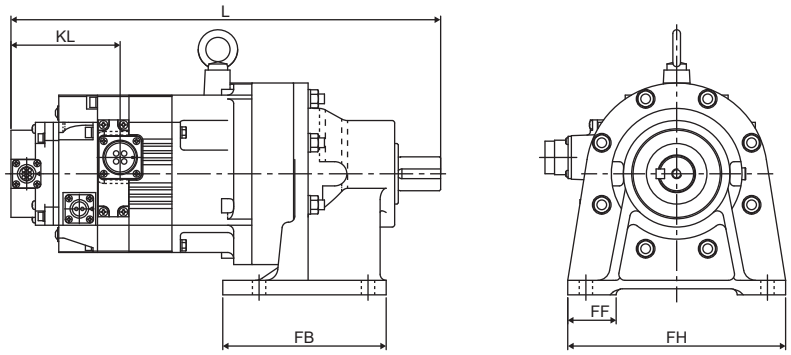
■0.5 kW to 2.0 kW



[Unit: mm]

Output (kW)	Reduction ratio	HG-SR_G1H					HK-ST_G1H				
		L	KL	FB	FF	FH	L	KL	FB	FF	FH
0.5	1/6	323 (357.5)	60.7 (95.2)	135	40	180	■320.5 (355)	■55.7 (90.2)	135	40	180
	1/11										
	1/17										
	1/29										
	1/35	336.5 (371)	60.7 (95.2)	155	55	230	■334 (368.5)	■55.7 (90.2)	155	55	230
	1/43										
	1/59										
1.0	1/6	350.5 (385)	60.7 (95.2)	155	55	230	■345 (379.5)	■55.7 (90.2)	155	55	230
	1/11										
	1/17										
	1/29										
	1/35										
	1/43	403 (437.5)	60.7 (95.2)	195	65	330	■397.5 (432)	■55.7 (90.2)	195	65	330
	1/59	473.5 (508)	60.7 (95.2)	238	75	410	■468 (502.5)	■55.7 (90.2)	238	75	410
1.5	1/6	364.5 (399)	60.7 (95.2)	155	55	230	■356 (390.5)	■55.7 (90.2)	155	55	230
	1/11										
	1/17										
	1/29	417 (451.5)	60.7 (95.2)	195	65	330	■408.5 (443)	■55.7 (90.2)	195	65	330
	1/35										
	1/43	487.5 (522)	60.7 (95.2)	238	75	410	■479 (513.5)	■55.7 (90.2)	238	75	410
	1/59										
2.0	1/6	374.5 (424)	63.7 (113.2)	155	55	230	■375 (424.5)	■57.8 (107.3)	155	55	230
	1/11										
	1/17										
	1/29	491.5 (541)	63.7 (113.2)	238	75	410	■492 (541.5)	■57.8 (107.3)	238	75	410
	1/35										
	1/43										
	1/59										

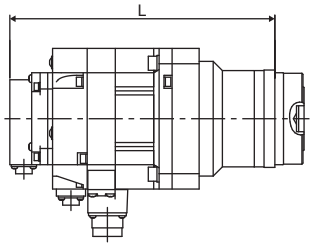
■3.5 kW to 7.0 kW

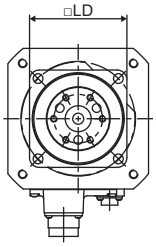


[Unit: mm]

Output (kW)	Reduction ratio	HG-SR_G1H					HK-ST_G1H				
		L	KL	FB	FF	FH	L	KL	FB	FF	FH
3.5	1/6	448 (497.5)	63.7 (113.2)	195	65	330	444.5 (494)	■57.8 (107.3)	195	65	330
	1/11										
	1/17										
	1/29	515.5 (565)	63.7 (113.2)	238	75	410	512 (561.5)	■57.8 (107.3)	238	75	410
	1/35										
	1/43	560 (609.5)	63.7 (113.2)	335	80	430	556.5 (606)	■57.8 (107.3)	335	80	430
	1/59										
5.0	1/6	531.5 (581)	63.7 (113.2)	238	75	410	532 (581.5)	■57.8 (107.3)	238	75	410
	1/11										
	1/17										
	1/29	616 (665.5)	63.7 (113.2)	380	85	470	616.5 (666)	■57.8 (107.3)	380	85	470
	1/35										
	1/43										
	1/59										
7.0	1/6	571.5 (621)	71.7 (121.2)	238	75	410	572 (621.5)	■57.8 (107.3)	238	75	410
	1/11	616 (665.5)	71.7 (121.2)	335	80	430	616.5 (666)	■57.8 (107.3)	335	80	430
	1/17										
	1/29	656 (705.5)	71.7 (121.2)	380	85	470	656.5 (706)	■57.8 (107.3)	380	85	470
	1/35										
	1/43	747 (796.5)	71.7 (121.2)	440	90	530	747.5 (797)	■57.8 (107.3)	440	90	530
	1/59										

HG-SR_G5 => HK-ST_G5 (with flange-output type gear reducer for high precision applications, flange mounting)

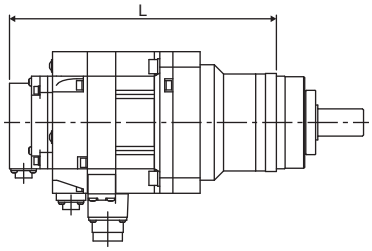


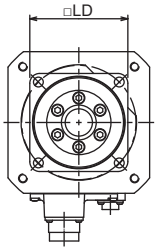


[Unit: mm]

Output (kW)	Reduction ratio	HG-SR_G5		HK-ST_G5	
		L	LD	L	LD
0.5	1/5	213.5 (248)	90	■210.5 (245)	90
	1/11				
	1/21	225.5 (260)	120	■222.5 (257)	120
	1/33				
	1/45				
1.0	1/5	227.5 (262)	90	■221.5 (256)	90
	1/11	239.5 (274)	120	■233.5 (268)	120
	1/21				
	1/33	255.5 (290)	170	■249.5 (284)	170
	1/45				
1.5	1/5	241.5 (276)	90	■232.5 (267)	90
	1/11	253.5 (288)	120	■244.5 (279)	120
	1/21	269.5 (304)	170	■260.5 (295)	170
	1/33				
	1/45				
2.0	1/5	267.5 (317)	120	267.5 (317)	120
	1/11				
	1/21	287.5 (337)	170	287.5 (337)	170
	1/33				
	1/45				
3.5	1/5	291.5 (341)	120	■287.5 (337)	120
	1/11	311.5 (361)	170	■307.5 (357)	170
	1/21				
5.0	1/5	327.5 (377)	170	327.5 (377)	170
	1/11				
7.0	1/5	367.5 (417)	170	367.5 (417)	170

HG-SR_G7 => HK-ST_G7 (with shaft-output type gear reducer for high precision applications, flange mounting)





[Unit: mm]

Output (kW)	Reduction ratio	HG-SR_G7		HK-ST_G7	
		L	LD	L	LD
0.5	1/5	213.5 (248)	90	■210.5 (245)	90
	1/11				
	1/21	225.5 (260)	120	■222.5 (257)	120
	1/33				
	1/45				
1.0	1/5	227.5 (262)	90	■221.5 (256)	90
	1/11	239.5 (274)	120	■233.5 (268)	120
	1/21				
	1/33	255.5 (290)	170	■249.5 (284)	170
	1/45				
1.5	1/5	241.5 (276)	90	■232.5 (267)	90
	1/11	253.5 (288)	120	■244.5 (279)	120
	1/21	269.5 (304)	170	■260.5 (295)	170
	1/33				
	1/45				
2.0	1/5	267.5 (317)	120	267.5 (317)	120
	1/11				
	1/21	287.5 (337)	170	287.5 (337)	170
	1/33				
	1/45				
3.5	1/5	291.5 (341)	120	■287.5 (337)	120
	1/11	311.5 (361)	170	■307.5 (357)	170
	1/21				
5.0	1/5	327.5 (377)	170	327.5 (377)	170
	1/11				
7.0	1/5	367.5 (417)	170	367.5 (417)	170

19.4 Comparison of Actual Reduction Ratios for Geared Servo Motors

Point

For details on geared servo motors, refer to the following manual.

Rotary Servo Motor User's Manual (For MR-J5)

HG-KR_G1 series (with gear reducer for general industrial machine)

The actual reduction ratio of the HG-KR_G1 and HK-KT_G1 is the same.

Refer to the following table for the actual reduction ratio.

Output (W)	Reduction ratio	Actual reduction ratio	
		HG-KR_G1	HK-KT_G1
50	1/5	9/44	
	1/12	49/576	
	1/20	25/484	
100	1/5	9/44	
	1/12	49/576	
	1/20	25/484	
200	1/5	19/96	
	1/12	961/11664	
	1/20	513/9984	
400	1/5	19/96	
	1/12	961/11664	
	1/20	7/135	
750	1/5	1/5	
	1/12	7/87	
	1/20	625/12544	

19.5 Comparison of Moment of Inertia

Point

The recommended load to motor inertia ratio for the HK series rotary servo motor may differ depending on the speed.

The recommended load moment of inertia may differ between the HG series rotary servo motor and HK series rotary servo motor. If the value exceeds the recommended load to motor inertia ratio, contact your local sales office.

The value in the parenthesis shows the value with brake.

HG-KR series (without gear reducer)

Series	Target model			Replacement model		
	Model	× 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio*1
Small capacity, low inertia HG-KR series	HG-KR053(B)	0.0450 (0.0472)	17 times or less	HK-KT053W(B)	0.0394 (0.0434)	20 times or less
	HG-KR13(B)	0.0777 (0.0837)		HK-KT13W(B)	0.0686 (0.0725)	
	HG-KR23(B)	0.221 (0.243)	26 times or less	HK-KT23W(B)	0.209 (0.254)	23 times or less
	HG-KR43(B)	0.371 (0.393)	25 times or less	HK-KT43W(B)	0.410 (0.442)	
	HG-KR73(B)	1.26 (1.37)	17 times or less	HK-KT7M3W(B)	1.37 (1.51)	16 times or less

*1 The recommended load to motor inertia ratio is for each speed.

HG-KR series (with gear reducer for general industrial machine)

Series	Target model				Replacement model			
	Model	Reduction ratio	× 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Reduction ratio	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio*1
Small capacity, low inertia HG-KR series With gear reducer for general industrial machine: G1	HG-KR053(B)G1	1/5	0.0820 (0.0840)	5 times or less	HK-KT053(B)G1	1/5	0.0764 (0.0804)	5 times or less
	HG-KR053(B)G1	1/12	0.104 (0.106)		HK-KT053(B)G1	1/12	0.0984 (0.1024)	
	HG-KR053(B)G1	1/20	0.0860 (0.0880)		HK-KT053(B)G1	1/20	0.0804 (0.0844)	
	HG-KR13(B)G1	1/5	0.115 (0.121)		HK-KT13(B)G1	1/5	0.106 (0.110)	
	HG-KR13(B)G1	1/12	0.137 (0.143)		HK-KT13(B)G1	1/12	0.128 (0.132)	
	HG-KR13(B)G1	1/20	0.119 (0.125)		HK-KT13(B)G1	1/20	0.110 (0.114)	
	HG-KR23(B)G1	1/5	0.375 (0.397)	7 times or less	HK-KT23(B)G1	1/5	0.363 (0.408)	7 times or less
	HG-KR23(B)G1	1/12	0.418 (0.440)		HK-KT23(B)G1	1/12	0.494 (0.539)	
	HG-KR23(B)G1	1/20	0.391 (0.413)		HK-KT23(B)G1	1/20	0.375 (0.420)	
	HG-KR43(B)G1	1/5	0.525 (0.547)		HK-KT43(B)G1	1/5	0.564 (0.596)	
	HG-KR43(B)G1	1/12	0.568 (0.590)		HK-KT43(B)G1	1/12	0.695 (0.727)	
	HG-KR43(B)G1	1/20	0.881 (0.903)		HK-KT43(B)G1	1/20	0.687 (0.719)	
	HG-KR73(B)G1	1/5	1.68 (1.79)	5 times or less	HK-KT7M3(B)G1	1/5	1.79 (1.93)	5 times or less
	HG-KR73(B)G1	1/12	2.35 (2.46)		HK-KT7M3(B)G1	1/12	1.85 (1.99)	
	HG-KR73(B)G1	1/20	2.41 (2.52)		HK-KT7M3(B)G1	1/20	2.52 (2.66)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-KR series (with flange-output type gear reducer for high precision applications, flange mounting)

Series	Target model				Replacement model			
	Model	Reduction ratio	× 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Reduction ratio	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio *1
Small capacity, low inertia HG-KR series With flange-output type gear reducer for high precision applications, flange mounting: G5	HG-KR053(B)G5	1/5	0.113 (0.115)	10 times or less	HK-KT053(B)G5	1/5	0.1074 (0.1114)	10 times or less
	HG-KR053(B)G5	1/9	0.0475 (0.0497)		HK-KT053(B)G5	1/9	0.0419 (0.0459)	
	HG-KR053(B)G5	1/11	0.105 (0.107)		HK-KT053(B)G5	1/11	0.0994 (0.1034)	
	HG-KR053(B)G5	1/21	0.0960 (0.0980)		HK-KT053(B)G5	1/21	0.0904 (0.0944)	
	HG-KR053(B)G5	1/33	0.0900 (0.0920)		HK-KT053(B)G5	1/33	0.0844 (0.0884)	
	HG-KR053(B)G5	1/45	0.0900 (0.0920)		HK-KT053(B)G5	1/45	0.0844 (0.0884)	
	HG-KR13(B)G5	1/5	0.146 (0.152)		HK-KT13(B)G5	1/5	0.137 (0.141)	
	HG-KR13(B)G5	1/11	0.138 (0.144)		HK-KT13(B)G5	1/11	0.129 (0.133)	
	HG-KR13(B)G5	1/21	0.129 (0.135)		HK-KT13(B)G5	1/21	0.120 (0.124)	
	HG-KR13(B)G5	1/33	0.140 (0.146)		HK-KT13(B)G5	1/33	0.131 (0.135)	
	HG-KR13(B)G5	1/45	0.139 (0.145)		HK-KT13(B)G5	1/45	0.130 (0.134)	
	HG-KR23(B)G5	1/5	0.422 (0.444)	14 times or less	HK-KT23(B)G5	1/5	0.410 (0.455)	14 times or less
	HG-KR23(B)G5	1/11	0.424 (0.446)		HK-KT23(B)G5	1/11	0.412 (0.457)	
	HG-KR23(B)G5	1/21	0.719 (0.741)		HK-KT23(B)G5	1/21	0.707 (0.752)	
	HG-KR23(B)G5	1/33	0.673 (0.695)		HK-KT23(B)G5	1/33	0.661 (0.706)	
	HG-KR23(B)G5	1/45	0.672 (0.694)		HK-KT23(B)G5	1/45	0.660 (0.705)	
	HG-KR43(B)G5	1/5	0.572 (0.594)		HK-KT43(B)G5	1/5	0.611 (0.643)	
	HG-KR43(B)G5	1/11	0.947 (0.969)		HK-KT43(B)G5	1/11	0.986 (1.02)	
	HG-KR43(B)G5	1/21	0.869 (0.891)		HK-KT43(B)G5	1/21	0.908 (0.940)	
	HG-KR43(B)G5	1/33	0.921 (0.943)		HK-KT43(B)G5	1/33	0.960 (0.992)	
	HG-KR43(B)G5	1/45	0.915 (0.937)		HK-KT43(B)G5	1/45	0.954 (0.986)	
	HG-KR73(B)G5	1/5	1.91 (2.02)	10 times or less	HK-KT7M3(B)G5	1/5	2.02 (2.16)	10 times or less
	HG-KR73(B)G5	1/11	1.82 (1.93)		HK-KT7M3(B)G5	1/11	1.93 (2.07)	
	HG-KR73(B)G5	1/21	2.01 (2.12)		HK-KT7M3(B)G5	1/21	2.12 (2.26)	
	HG-KR73(B)G5	1/33	1.79 (1.90)		HK-KT7M3(B)G5	1/33	1.90 (2.04)	
	HG-KR73(B)G5	1/45	1.79 (1.90)		HK-KT7M3(B)G5	1/45	1.90 (2.04)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-KR series (with shaft-output type gear reducer for high precision applications, flange mounting)

Series	Target model				Replacement model			
	Model	Reduction ratio	Moment of inertia J $\times 10^{-4}$ kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Reduction ratio	Moment of inertia J $\times 10^{-4}$ kg•m^2	Recommended load to motor inertia ratio *1
Small capacity, low inertia HG-KR series With shaft-output type gear reducer for high precision applications, flange mounting: G7	HG-KR053(B)G7	1/5	0.119 (0.121)	10 times or less	HK-KT053(B)G7	1/5	0.113 (0.117)	10 times or less
	HG-KR053(B)G7	1/9	0.0492 (0.0514)		HK-KT053(B)G7	1/9	0.0436 (0.0476)	
	HG-KR053(B)G7	1/11	0.106 (0.108)		HK-KT053(B)G7	1/11	0.100 (0.104)	
	HG-KR053(B)G7	1/21	0.0960 (0.0980)		HK-KT053(B)G7	1/21	0.0904 (0.0944)	
	HG-KR053(B)G7	1/33	0.0900 (0.0920)		HK-KT053(B)G7	1/33	0.0844 (0.0884)	
	HG-KR053(B)G7	1/45	0.0900 (0.0920)		HK-KT053(B)G7	1/45	0.0844 (0.0884)	
	HG-KR13(B)G7	1/5	0.152 (0.158)		HK-KT13(B)G7	1/5	0.143 (0.147)	
	HG-KR13(B)G7	1/11	0.139 (0.145)		HK-KT13(B)G7	1/11	0.130 (0.134)	
	HG-KR13(B)G7	1/21	0.129 (0.135)		HK-KT13(B)G7	1/21	0.120 (0.124)	
	HG-KR13(B)G7	1/33	0.141 (0.147)		HK-KT13(B)G7	1/33	0.132 (0.136)	
	HG-KR13(B)G7	1/45	0.139 (0.145)		HK-KT13(B)G7	1/45	0.130 (0.134)	
	HG-KR23(B)G7	1/5	0.428 (0.450)	14 times or less	HK-KT23(B)G7	1/5	0.416 (0.461)	14 times or less
	HG-KR23(B)G7	1/11	0.424 (0.446)		HK-KT23(B)G7	1/11	0.412 (0.457)	
	HG-KR23(B)G7	1/21	0.721 (0.743)		HK-KT23(B)G7	1/21	0.709 (0.754)	
	HG-KR23(B)G7	1/33	0.674 (0.696)		HK-KT23(B)G7	1/33	0.662 (0.707)	
	HG-KR23(B)G7	1/45	0.672 (0.694)		HK-KT23(B)G7	1/45	0.660 (0.705)	
	HG-KR43(B)G7	1/5	0.578 (0.600)		HK-KT43(B)G7	1/5	0.617 (0.649)	
	HG-KR43(B)G7	1/11	0.955 (0.977)		HK-KT43(B)G7	1/11	0.994 (1.03)	
	HG-KR43(B)G7	1/21	0.871 (0.893)		HK-KT43(B)G7	1/21	0.910 (0.942)	
	HG-KR43(B)G7	1/33	0.927 (0.949)		HK-KT43(B)G7	1/33	0.966 (0.998)	
	HG-KR43(B)G7	1/45	0.918 (0.940)		HK-KT43(B)G7	1/45	0.957 (0.989)	
	HG-KR73(B)G7	1/5	1.95 (2.06)	10 times or less	HK-KT7M3(B)G7	1/5	2.06 (2.20)	10 times or less
	HG-KR73(B)G7	1/11	1.83 (1.94)		HK-KT7M3(B)G7	1/11	1.94 (2.08)	
	HG-KR73(B)G7	1/21	2.03 (2.14)		HK-KT7M3(B)G7	1/21	2.14 (2.28)	
	HG-KR73(B)G7	1/33	1.80 (1.91)		HK-KT7M3(B)G7	1/33	1.91 (2.05)	
	HG-KR73(B)G7	1/45	1.79 (1.90)		HK-KT7M3(B)G7	1/45	1.90 (2.04)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-MR series

Series	Target model			Replacement model		
	Model	Moment of inertia J × 10^{-4} kg•m^2	Recommended load inertia	Replacement model example	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio*1
Small capacity, ultra-low inertia HG-MR series	HG-MR053(B)	0.0162 (0.0224)	35 times or less	HK-MT053W(B)	0.0203 (0.0243)	35 times or less
	HG-MR13(B)	0.0300 (0.0362)	32 times or less	HK-MT13W(B)	0.0320 (0.0360)	
	HG-MR23(B)	0.0865 (0.109)		HK-MT23W(B)	0.0976 (0.130)	
	HG-MR43(B)	0.142 (0.164)		HK-MT43W(B)	0.160 (0.192)	
	HG-MR73(B)	0.586 (0.694)		HK-MT7M3W(B)	0.545 (0.683)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-SR series (without gear reducer)

Series	Target model			Replacement model		
	Model	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio *1
Medium capacity, medium inertia HG-SR series	HG-SR51(B)	11.6 (13.8)	17 times or less	HK-ST1024W(B)	8.65 (10.9)	24 times or less
	HG-SR81(B)	16.0 (18.2)		HK-ST1724W(B)	11.4 (13.7)	
	HG-SR121(B)	46.8 (56.5)	15 times or less	HK-ST2024W(B)	36.4 (41.4)	23 times or less
	HG-SR201(B)	78.6 (88.2)		HK-ST3524W(B)	53.6 (58.6)	
	HG-SR301(B)	99.7 (109)		HK-ST5024W(B)	70.8 (75.8)	
	HG-SR421(B)	151 (161)		HK-ST7024W(B)	105 (110)	
	HG-SR52(B) HG-SR524(B)	7.26 (9.48)		HK-ST52W(B) HK-ST524W(B)	5.90 (8.15)	15 times or less
	HG-SR102(B) HG-SR1024(B)	11.6 (13.8)	17 times or less	HK-ST102W(B) HK-ST1024W(B)	8.65 (10.9)	23 times or less
	HG-SR152(B) HG-SR1524(B)	16.0 (18.2)		HK-ST172W(B) HK-ST1724W(B)	11.4 (13.7)	24 times or less
	HG-SR202(B) HG-SR2024(B)	46.8 (56.5)	15 times or less	HK-ST202W(B) HK-ST2024W(B)	36.4 (41.4)	15 times or less
	HG-SR352(B) HG-SR3524(B)	78.6 (88.2)		HK-ST352W(B) HK-ST3524W(B)	53.6 (58.6)	12 times or less
	HG-SR502(B)	99.7 (109)		HK-ST502W(B)	70.8 (75.8)	10 times or less
	HG-SR5024(B)			HK-ST5024W(B)		4 times or less
	HG-SR702(B) HG-SR7024(B)	151 (161)		HK-ST702W(B) HK-ST7024W(B)	105 (110)	8 times or less

*1 The recommended load to motor inertia ratio is for each speed.

HG-SR series (with gear reducer for general industrial machine)

Series	Target model				Replacement model			
	Model	Reduction ratio	Moment of inertia J $\times 10^{-4}$ kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Reduction ratio	Moment of inertia J $\times 10^{-4}$ kg•m^2	Recommended load to motor inertia ratio*1
Medium capacity, medium inertia HG-SR series With gear reducer for general industrial machine: G1	HG-SR52(4)(B)G1(H)	1/6	8.08 (10.3)	4 times or less	HK-ST52(4)(B)G1(H)	1/6	6.72 (8.97)	4 times or less
	HG-SR52(4)(B)G1(H)	1/11	7.65 (9.85)		HK-ST52(4)(B)G1(H)	1/11	6.29 (8.54)	
	HG-SR52(4)(B)G1(H)	1/17	7.53 (9.73)		HK-ST52(4)(B)G1(H)	1/17	6.17 (8.42)	
	HG-SR52(4)(B)G1(H)	1/29	7.47 (9.67)		HK-ST52(4)(B)G1(H)	1/29	6.11 (8.36)	
	HG-SR52(4)(B)G1(H)	1/35	8.26 (10.5)		HK-ST52(4)(B)G1(H)	1/35	6.90 (9.15)	
	HG-SR52(4)(B)G1(H)	1/43	8.22 (10.4)		HK-ST52(4)(B)G1(H)	1/43	6.86 (9.11)	
	HG-SR52(4)(B)G1(H)	1/59	8.18 (10.4)		HK-ST52(4)(B)G1(H)	1/59	6.82 (9.07)	
	HG-SR102(4)(B)G1(H)	1/6	14.8 (17.0)		HK-ST102(4)(B)G1(H)	1/6	11.9 (14.1)	
	HG-SR102(4)(B)G1(H)	1/11	13.3 (15.5)		HK-ST102(4)(B)G1(H)	1/11	10.4 (12.6)	
	HG-SR102(4)(B)G1(H)	1/17	12.9 (15.1)		HK-ST102(4)(B)G1(H)	1/17	9.95 (12.2)	
	HG-SR102(4)(B)G1(H)	1/29	12.6 (14.8)		HK-ST102(4)(B)G1(H)	1/29	9.65 (11.9)	
	HG-SR102(4)(B)G1(H)	1/35	12.6 (14.8)		HK-ST102(4)(B)G1(H)	1/35	9.65 (11.9)	
	HG-SR102(4)(B)G1(H)	1/43	13.8 (16.0)		HK-ST102(4)(B)G1(H)	1/43	10.9 (13.1)	
	HG-SR102(4)(B)G1(H)	1/59	19.1 (21.3)		HK-ST102(4)(B)G1(H)	1/59	16.2 (18.4)	
	HG-SR152(4)(B)G1(H)	1/6	19.2 (21.4)		HK-ST152(4)(B)G1(H)	1/6	14.6 (16.9)	
	HG-SR152(4)(B)G1(H)	1/11	17.7 (19.9)		HK-ST152(4)(B)G1(H)	1/11	13.1 (15.4)	
	HG-SR152(4)(B)G1(H)	1/17	17.3 (19.5)		HK-ST152(4)(B)G1(H)	1/17	12.7 (15.0)	
	HG-SR152(4)(B)G1(H)	1/29	18.4 (20.6)		HK-ST152(4)(B)G1(H)	1/29	13.8 (16.1)	
	HG-SR152(4)(B)G1(H)	1/35	18.3 (20.5)		HK-ST152(4)(B)G1(H)	1/35	13.7 (16.0)	
	HG-SR152(4)(B)G1(H)	1/43	23.6 (25.8)		HK-ST152(4)(B)G1(H)	1/43	19.0 (21.3)	
	HG-SR152(4)(B)G1(H)	1/59	23.5 (25.7)		HK-ST152(4)(B)G1(H)	1/59	18.9 (21.2)	
	HG-SR202(4)(B)G1(H)	1/6	50.0 (59.4)		HK-ST202(4)(B)G1(H)	1/6	39.6 (44.6)	

Series	Target model				Replacement model			
	Model	Reduction ratio	Moment of inertia J $\times 10^{-4}$ kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Reduction ratio	Moment of inertia J $\times 10^{-4}$ kg•m^2	Recommended load to motor inertia ratio*1
Medium capacity, medium inertia HG-SR series With gear reducer for general industrial machine: G1	HG-SR202(4)(B)G1(H)	1/11	48.4 (57.8)	4 times or less	HK-ST202(4)(B)G1(H)	1/11	38.0 (43.0)	4 times or less
	HG-SR202(4)(B)G1(H)	1/17	48.1 (57.5)		HK-ST202(4)(B)G1(H)	1/17	37.7 (42.7)	
	HG-SR202(4)(B)G1(H)	1/29	54.8 (64.2)		HK-ST202(4)(B)G1(H)	1/29	44.4 (49.4)	
	HG-SR202(4)(B)G1(H)	1/35	54.5 (63.9)		HK-ST202(4)(B)G1(H)	1/35	44.1 (49.1)	
	HG-SR202(4)(B)G1(H)	1/43	54.3 (63.7)		HK-ST202(4)(B)G1(H)	1/43	43.9 (48.9)	
	HG-SR202(4)(B)G1(H)	1/59	54.2 (63.6)		HK-ST202(4)(B)G1(H)	1/59	43.8 (48.8)	
	HG-SR352(4)(B)G1(H)	1/6	87.1 (96.5)		HK-ST352(4)(B)G1(H)	1/6	62.1 (67.1)	
	HG-SR352(4)(B)G1(H)	1/11	82.8 (92.2)		HK-ST352(4)(B)G1(H)	1/11	57.8 (62.8)	
	HG-SR352(4)(B)G1(H)	1/17	81.5 (90.9)		HK-ST352(4)(B)G1(H)	1/17	56.5 (61.5)	
	HG-SR352(4)(B)G1(H)	1/29	86.6 (96.0)		HK-ST352(4)(B)G1(H)	1/29	61.6 (66.6)	
	HG-SR352(4)(B)G1(H)	1/35	86.3 (95.7)		HK-ST352(4)(B)G1(H)	1/35	61.3 (66.3)	
	HG-SR352(4)(B)G1(H)	1/43	105 (114)		HK-ST352(4)(B)G1(H)	1/43	80.0 (85.0)	
	HG-SR352(4)(B)G1(H)	1/59	104 (113)		HK-ST352(4)(B)G1(H)	1/59	79.0 (84.0)	
	HG-SR502(4)(B)G1(H)	1/6	126 (135)		HK-ST502(4)(B)G1(H)	1/6	97.1 (102)	
	HG-SR502(4)(B)G1(H)	1/11	114 (123)		HK-ST502(4)(B)G1(H)	1/11	85.1 (90.1)	
	HG-SR502(4)(B)G1(H)	1/17	110 (119)		HK-ST502(4)(B)G1(H)	1/17	81.1 (86.1)	
	HG-SR502(4)(B)G1(H)	1/29	141 (150)		HK-ST502(4)(B)G1(H)	1/29	112 (117)	
	HG-SR502(4)(B)G1(H)	1/35	140 (150)		HK-ST502(4)(B)G1(H)	1/35	111 (116)	
	HG-SR502(4)(B)G1(H)	1/43	139 (149)		HK-ST502(4)(B)G1(H)	1/43	110 (115)	
	HG-SR502(4)(B)G1(H)	1/59	138 (147)		HK-ST502(4)(B)G1(H)	1/59	109 (114)	
	HG-SR702(4)(B)G1(H)	1/6	177 (187)		HK-ST702(4)(B)G1(H)	1/6	131 (136)	
	HG-SR702(4)(B)G1(H)	1/11	190 (199)		HK-ST702(4)(B)G1(H)	1/11	144 (149)	
	HG-SR702(4)(B)G1(H)	1/17	182 (192)		HK-ST702(4)(B)G1(H)	1/17	136 (141)	
	HG-SR702(4)(B)G1(H)	1/29	192 (202)		HK-ST702(4)(B)G1(H)	1/29	146 (151)	
	HG-SR702(4)(B)G1(H)	1/35	192 (201)		HK-ST702(4)(B)G1(H)	1/35	146 (151)	
	HG-SR702(4)(B)G1(H)	1/43	267 (277)		HK-ST702(4)(B)G1(H)	1/43	221 (226)	
	HG-SR702(4)(B)G1(H)	1/59	266 (275)		HK-ST702(4)(B)G1(H)	1/59	220 (225)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-SR series (with flange-output type gear reducer for high precision applications, flange mounting)

Series	Target model				Replacement model			
	Model	Reduction ratio	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Reduction ratio	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio *1
Medium capacity, medium inertia HG-SR series With flange-output type gear reducer for high precision applications, flange mounting: G5	HG-SR52(4)(B)G5	1/5	7.91 (10.1)	10 times or less	HK-ST52(4)(B)G5	1/5	6.55 (8.80)	10 times or less
	HG-SR52(4)(B)G5	1/11	7.82 (10.0)		HK-ST52(4)(B)G5	1/11	6.46 (8.71)	
	HG-SR52(4)(B)G5	1/21	10.2 (12.4)		HK-ST52(4)(B)G5	1/21	8.80 (11.1)	
	HG-SR52(4)(B)G5	1/33	9.96 (12.2)		HK-ST52(4)(B)G5	1/33	8.60 (10.9)	
	HG-SR52(4)(B)G5	1/45	9.96 (12.2)		HK-ST52(4)(B)G5	1/45	8.60 (10.9)	
	HG-SR102(4)(B)G5	1/5	12.3 (14.5)		HK-ST102(4)(B)G5	1/5	9.30 (11.6)	
	HG-SR102(4)(B)G5	1/11	14.9 (17.1)		HK-ST102(4)(B)G5	1/11	12.0 (14.2)	
	HG-SR102(4)(B)G5	1/21	14.5 (16.7)		HK-ST102(4)(B)G5	1/21	11.6 (13.8)	
	HG-SR102(4)(B)G5	1/33	16.3 (18.5)		HK-ST102(4)(B)G5	1/33	13.4 (15.6)	
	HG-SR102(4)(B)G5	1/45	16.2 (18.4)		HK-ST102(4)(B)G5	1/45	13.3 (15.5)	
	HG-SR152(4)(B)G5	1/5	16.7 (18.9)		HK-ST152(4)(B)G5	1/5	12.1 (14.4)	
	HG-SR152(4)(B)G5	1/11	19.3 (21.5)		HK-ST152(4)(B)G5	1/11	14.7 (17.0)	
	HG-SR152(4)(B)G5	1/21	21.7 (23.9)		HK-ST152(4)(B)G5	1/21	17.1 (19.4)	
	HG-SR152(4)(B)G5	1/33	20.7 (22.9)		HK-ST152(4)(B)G5	1/33	16.1 (18.4)	
	HG-SR152(4)(B)G5	1/45	20.6 (22.8)		HK-ST152(4)(B)G5	1/45	16.0 (18.3)	
	HG-SR202(4)(B)G5	1/5	51.4 (61.1)		HK-ST202(4)(B)G5	1/5	41.0 (46.0)	
	HG-SR202(4)(B)G5	1/11	51.2 (60.9)		HK-ST202(4)(B)G5	1/11	40.8 (45.8)	
	HG-SR202(4)(B)G5	1/21	53.2 (62.9)		HK-ST202(4)(B)G5	1/21	42.8 (47.8)	
	HG-SR202(4)(B)G5	1/33	52.2 (61.9)		HK-ST202(4)(B)G5	1/33	41.8 (46.8)	
	HG-SR202(4)(B)G5	1/45	52.2 (61.9)		HK-ST202(4)(B)G5	1/45	41.8 (46.8)	
	HG-SR352(4)(B)G5	1/5	83.2 (92.8)		HK-ST352(4)(B)G5	1/5	58.2 (63.2)	
	HG-SR352(4)(B)G5	1/11	86.7 (96.3)		HK-ST352(4)(B)G5	1/11	61.7 (66.7)	
	HG-SR352(4)(B)G5	1/21	85.0 (94.6)		HK-ST352(4)(B)G5	1/21	60.0 (65.0)	
	HG-SR502(4)(B)G5	1/5	110 (119)		HK-ST502(4)(B)G5	1/5	80.9 (85.9)	
	HG-SR502(4)(B)G5	1/11	108 (117)		HK-ST502(4)(B)G5	1/11	78.9 (83.9)	
	HG-SR702(4)(B)G5	1/5	161 (171)		HK-ST702(4)(B)G5	1/5	115 (120)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-SR series (with shaft-output type gear reducer for high precision applications, flange mounting)

Series	Target model				Replacement model			
	Model	Reduction ratio	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Reduction ratio	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio *1
Medium capacity, medium inertia HG-SR series With shaft-output type gear reducer for high precision applications, flange mounting: G7	HG-SR52(4)(B)G7	1/5	7.95 (10.2)	10 times or less	HK-ST52(4)(B)G7	1/5	6.59 (8.84)	10 times or less
	HG-SR52(4)(B)G7	1/11	7.82 (10.0)		HK-ST52(4)(B)G7	1/11	6.46 (8.71)	
	HG-SR52(4)(B)G7	1/21	10.2 (12.4)		HK-ST52(4)(B)G7	1/21	8.8 (11.1)	
	HG-SR52(4)(B)G7	1/33	9.96 (12.2)		HK-ST52(4)(B)G7	1/33	8.6 (10.9)	
	HG-SR52(4)(B)G7	1/45	9.96 (12.2)		HK-ST52(4)(B)G7	1/45	8.6 (10.9)	
	HG-SR102(4)(B)G7	1/5	12.3 (14.5)		HK-ST102(4)(B)G7	1/5	9.34 (11.6)	
	HG-SR102(4)(B)G7	1/11	15.0 (17.2)		HK-ST102(4)(B)G7	1/11	12.1 (14.3)	
	HG-SR102(4)(B)G7	1/21	14.5 (16.7)		HK-ST102(4)(B)G7	1/21	11.6 (13.8)	
	HG-SR102(4)(B)G7	1/33	16.3 (18.5)		HK-ST102(4)(B)G7	1/33	13.4 (15.6)	
	HG-SR102(4)(B)G7	1/45	16.3 (18.5)		HK-ST102(4)(B)G7	1/45	13.4 (15.6)	
	HG-SR152(4)(B)G7	1/5	16.7 (18.9)		HK-ST152(4)(B)G7	1/5	12.1 (14.4)	
	HG-SR152(4)(B)G7	1/11	19.4 (21.6)		HK-ST152(4)(B)G7	1/11	14.8 (17.1)	
	HG-SR152(4)(B)G7	1/21	21.7 (23.9)		HK-ST152(4)(B)G7	1/21	17.1 (19.4)	
	HG-SR152(4)(B)G7	1/33	20.7 (22.9)		HK-ST152(4)(B)G7	1/33	16.1 (18.4)	
	HG-SR152(4)(B)G7	1/45	20.7 (22.9)		HK-ST152(4)(B)G7	1/45	16.1 (18.4)	
	HG-SR202(4)(B)G7	1/5	51.7 (61.4)		HK-ST202(4)(B)G7	1/5	41.3 (46.3)	
	HG-SR202(4)(B)G7	1/11	51.3 (61.0)		HK-ST202(4)(B)G7	1/11	40.9 (45.9)	
	HG-SR202(4)(B)G7	1/21	53.3 (63.0)		HK-ST202(4)(B)G7	1/21	42.9 (47.9)	
	HG-SR202(4)(B)G7	1/33	52.2 (61.9)		HK-ST202(4)(B)G7	1/33	41.8 (46.8)	
	HG-SR202(4)(B)G7	1/45	52.2 (61.9)		HK-ST202(4)(B)G7	1/45	41.8 (46.8)	
	HG-SR352(4)(B)G7	1/5	83.5 (93.1)		HK-ST352(4)(B)G7	1/5	58.5 (63.5)	
	HG-SR352(4)(B)G7	1/11	87.0 (96.6)		HK-ST352(4)(B)G7	1/11	62.0 (67.0)	
	HG-SR352(4)(B)G7	1/21	85.1 (94.7)		HK-ST352(4)(B)G7	1/21	60.1 (65.1)	
	HG-SR502(4)(B)G7	1/5	111 (121)		HK-ST502(4)(B)G7	1/5	82.3 (87.3)	
	HG-SR502(4)(B)G7	1/11	108 (117)		HK-ST502(4)(B)G7	1/11	79.2 (84.2)	
	HG-SR702(4)(B)G7	1/5	163 (173)		HK-ST702(4)(B)G7	1/5	116.5 (121.5)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-RR series

Series	Target model			Replacement model		
	Model	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio *1
Medium capacity, ultra-low inertia HG-RR series	HG-RR103(B)	1.50 (1.85)	5 times or less	HK-RT103W(B)	0.721 (1.06)	11 times or less
	HG-RR153(B)	1.90 (2.25)		HK-RT153W(B)	0.909 (1.25)	
	HG-RR203(B)	2.30 (2.65)		HK-RT203W(B)	1.28 (1.63)	
	HG-RR353(B)	8.30 (11.8)		HK-RT353W(B)	4.44 (6.57)	10 times or less
	HG-RR503(B)	12.0 (15.5)		HK-RT503W(B)	6.29 (8.41)	

*1 The recommended load to motor inertia ratio is for each speed.

HG-JR series

Series	Target model			Replacement model		
	Model	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio *1
Medium/large capacity, low inertia HG-JR series	HG-JR53(B) HG-JR534(B)	1.52 (2.02)	10 times or less	HK-KT63UW(B) HK-KT634UW(B)	2.11 (2.45)	10 times or less
	HG-JR73(B) HG-JR734(B)	2.09 (2.59)				
	HG-JR103(B) HG-JR1034(B)	2.65 (3.15)		HK-KT103UW(B) HK-KT1034UW(B)	2.74 (3.08)	15 times or less
	HG-JR153(B) HG-JR1534(B)	3.79 (4.29)		HK-KT153W(B) HK-KT1534W(B)	4.38 (4.72)	
	HG-JR203(B) HG-JR2034(B)	4.92 (5.42)		HK-KT203W(B) HK-KT2034W(B)	5.65 (5.99)	
	HG-JR353(B) HG-JR3534(B)	13.2 (15.4)		HK-ST353W(B) HK-ST3534W(B)	16.9 (19.1)	10 times or less
	HG-JR503(B)	19.0 (21.2)		HK-ST503W(B)	27.7 (29.9)	
	HG-JR5034(B)			HK-ST5034W(B)		7 times or less

*1 The recommended load to motor inertia ratio is for each speed.

HG-UR series

Series	Target model			Replacement model		
	Model	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio	Replacement model example	Moment of inertia J × 10^{-4} kg•m^2	Recommended load to motor inertia ratio *1
Medium capacity, flat type HG-UR series	HG-UR72(B)	10.4 (12.5)	15 times or less	HK-ST7M2UW(B)	10.5 (12.3)	19 times or less
	HG-UR152(B)	22.1 (24.2)		HK-ST172UW(B)	19.1 (20.9)	

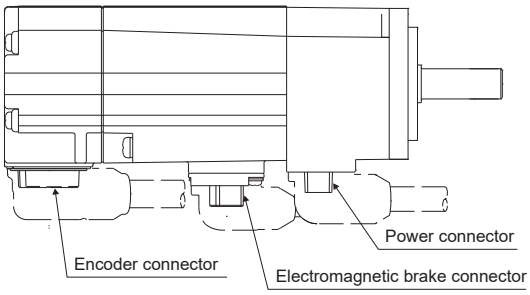
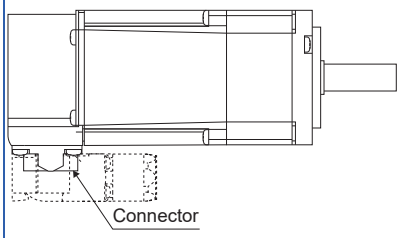
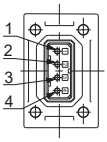
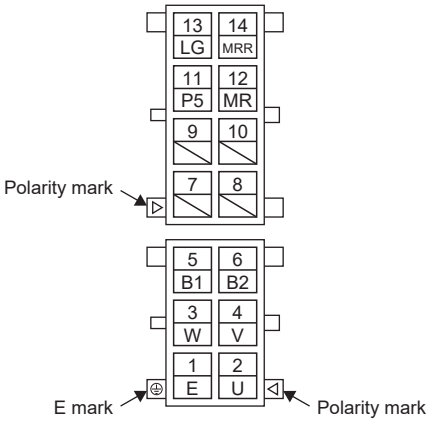
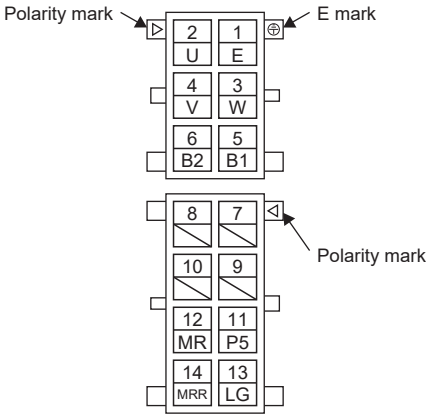
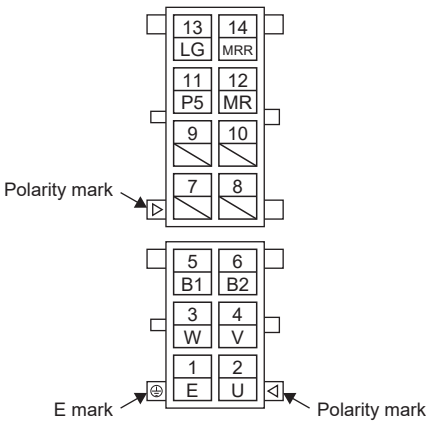
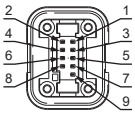
19.6 Comparison of Servo Motor Connector Specifications

Point

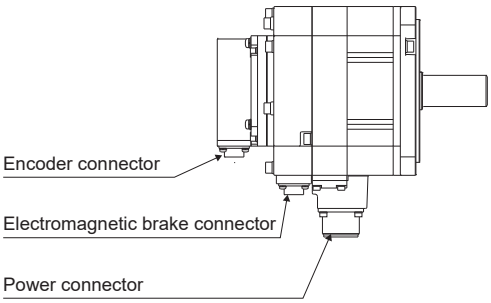
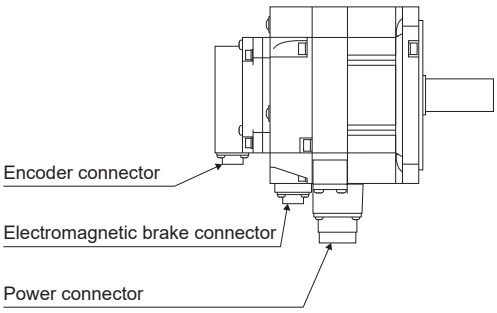
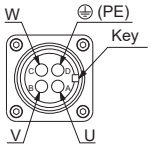
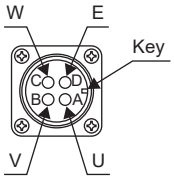
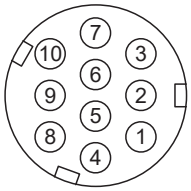
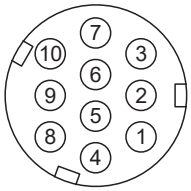
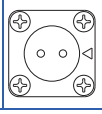
For details, refer to the "HG-MR/HG-KR/HG-SR/HG-JR/HG-RR/HG-UR/HG-AK Servo Motor Instruction Manual (Vol. 3)" and the following manual.

Rotary Servo Motor User's Manual (For MR-J5)

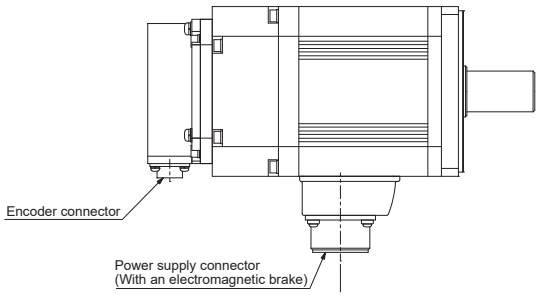
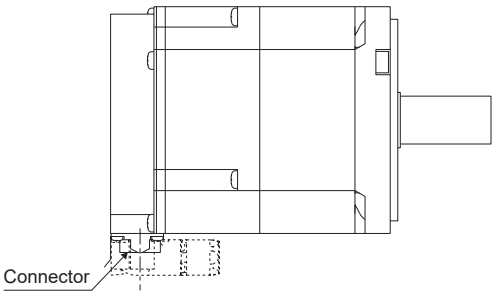
HG-KR_/HG-MR_ series

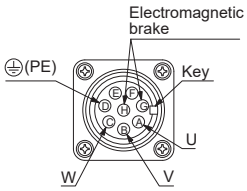
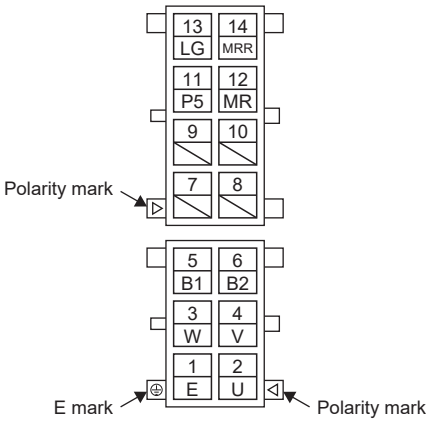
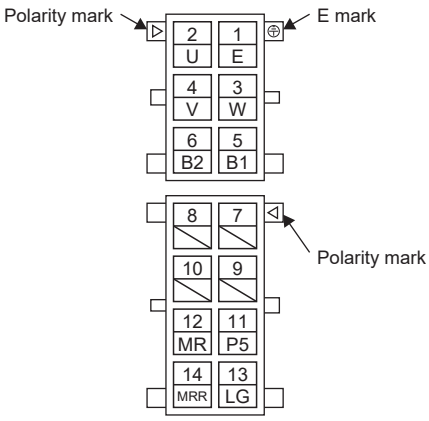
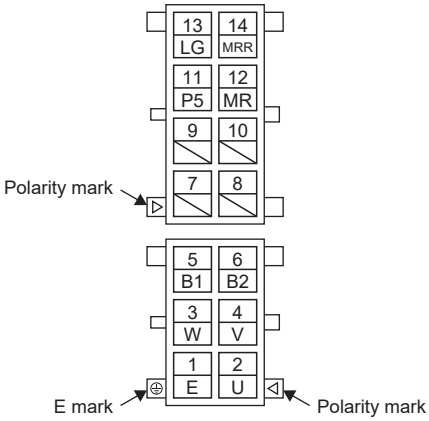
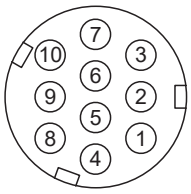
Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-KR_/HG-MR_**	**HK-KT_/HK-MT_**
Motor appearance		
Power connector	 1: ⏚ (PE) 2: U 3: V 4: W	• Load-side lead  • Vertical lead  • Opposite to load-side lead 
Encoder connector	 1: — 2: BAT 3: P5 4: MRR 5: MR 6: LG 7: — 8: — 9 SHD	
Electromagnetic brake connector		

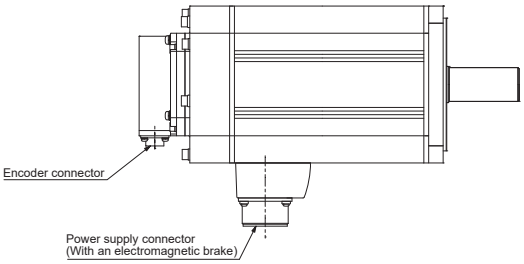
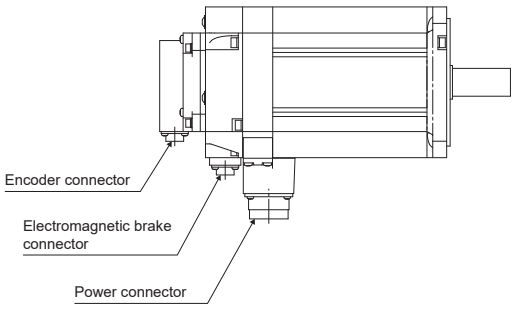
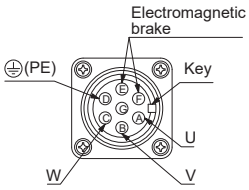
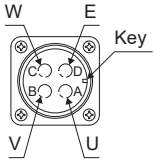
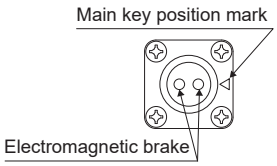
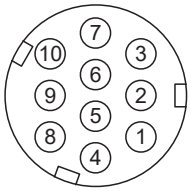
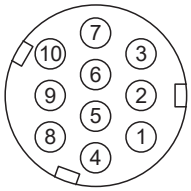
HG-SR series

Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-SR_**	**HK-ST_**
Motor appearance		
Power connector	 The power connector size differs depending on the model.	 The power connector size differs depending on the model.
Encoder connector	 1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD	 1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD
Electromagnetic brake connector		

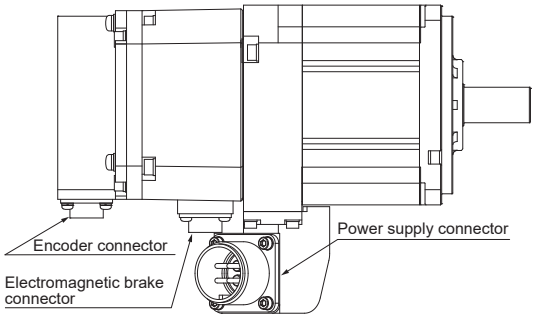
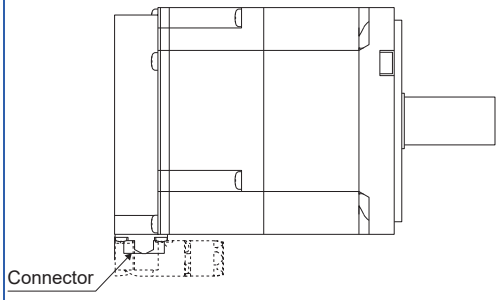
HG-RR series

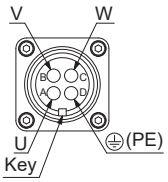
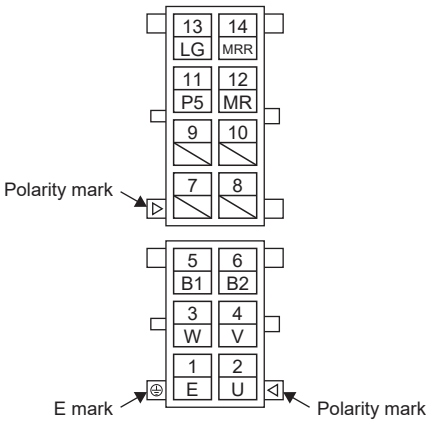
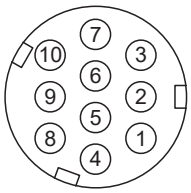
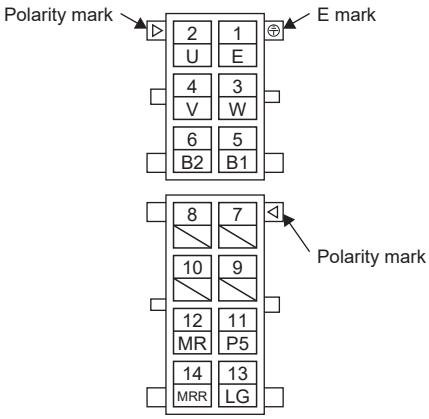
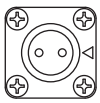
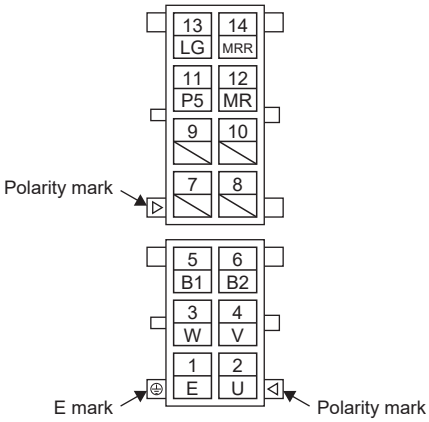
Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-RR103(B)/HG-RR153(B)/HG-RR203(B)**	**HK-RT103W(B)/HK-RT153W(B)/HK-RT203W(B)**
Motor appearance		

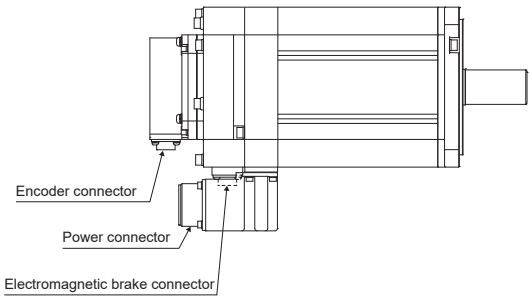
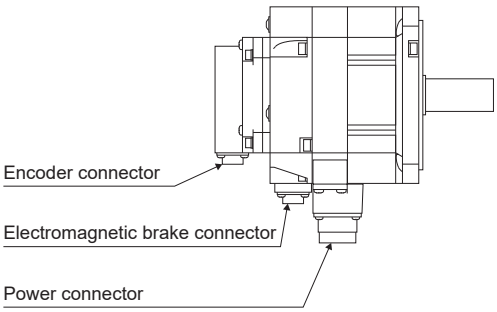
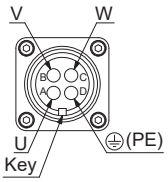
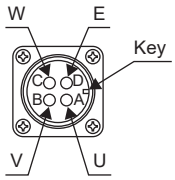
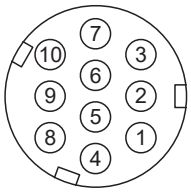
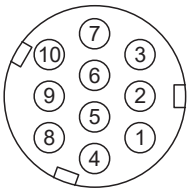
Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-RR103(B)/HG-RR153(B)/HG-RR203(B)**	**HK-RT103W(B)/HK-RT153W(B)/HK-RT203W(B)**
Power supply/ electromagnetic brake connector		• Load-side lead  • Opposite to load-side lead  • Vertical lead 
Encoder connector	 1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD	

Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-RR353(B)/HG-RR503(B)**	**HK-RT353W(B)/HK-RT503W(B)**
Motor appearance		
Power supply/ electromagnetic brake connector		 
Encoder connector	 1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD	 1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD

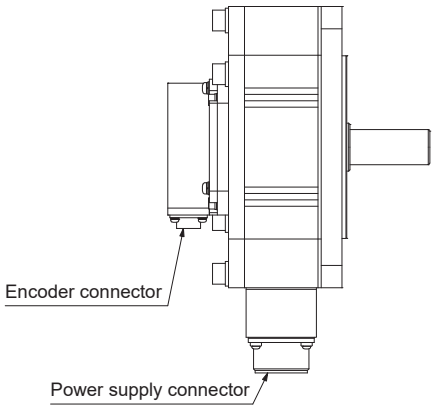
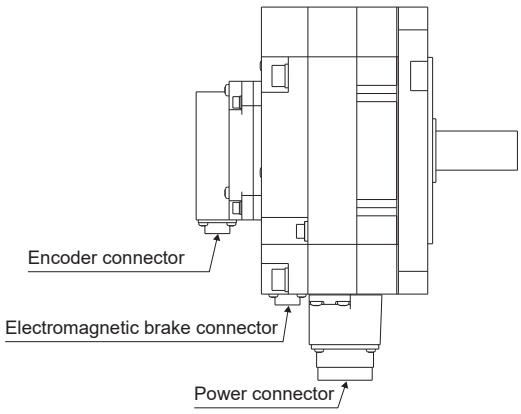
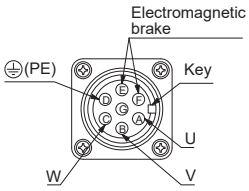
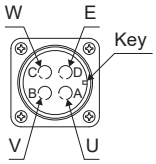
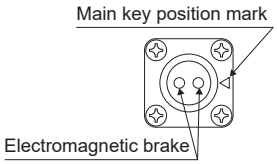
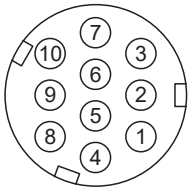
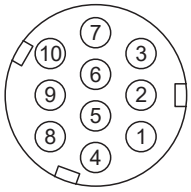
HG-JR series

Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	HG-JR53(4)(B)/HG-JR73(4)(B)/HG-JR103(4)(B)/ HG-JR153(4)(B)/HG-JR203(4)(B)	HK-KT63(4)UW(B)/HK-KT103(4)UW(B)/ HK-KT153(4)W(B)/HK-KT203(4)W(B)
Motor appearance		

Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-JR53(4)(B)/HG-JR73(4)(B)/HG-JR103(4)(B)/ HG-JR153(4)(B)/HG-JR203(4)(B)**	**HK-KT63(4)UW(B)/HK-KT103(4)UW(B)/ HK-KT153(4)W(B)/HK-KT203(4)W(B)**
Power connector	 Power connector viewed from the connection side	• Load-side lead 
Encoder connector	 1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD	• Opposite to load-side lead 
Electromagnetic brake connector		• Vertical lead 

Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-JR353(4)(B)/HG-JR503(4)(B)**	**HK-ST353(4)W(B)/HK-ST503(4)W(B)**
Motor appearance		
Power connector	 Power connector viewed from the connection side The power connector size differs depending on the model.	
Encoder connector	 1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD	 1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD
Electromagnetic brake connector		

HG-UR series

Servo amplifier model	MR-J4 series	MR-J5 series
Servo motor model	**HG-UR72(B)/HG-UR152(B)**	**HK-ST7M2UW(B)/HK-ST172UW(B)**
Motor appearance		
Power supply/ electromagnetic brake connector		 
Encoder connector	 1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD	 1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD

19.7 Comparison of Servo Motor Torque Characteristics

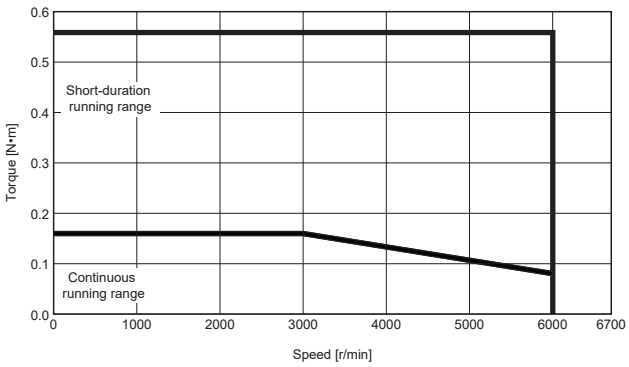
Point

Except for replacement models of the HG-JR series rotary servo motor, the "torque characteristics of the HK series rotary servo motor" described in this section show the torque characteristics for when the standard torque is used. For the torque characteristics for when the torque is increased, refer to the following manual.
📖Rotary Servo Motor User's Manual (For MR-J5)

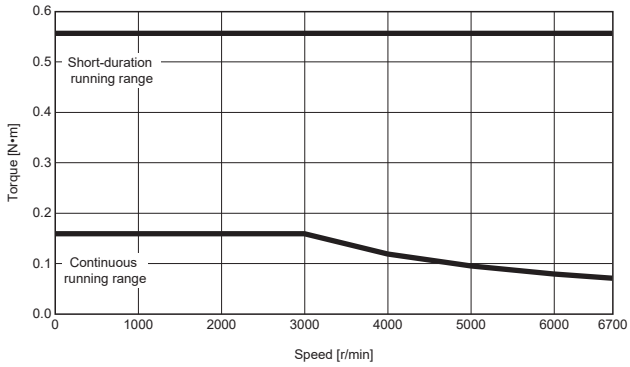
Comparison of HG-KR_ and HK-KT_

When the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.

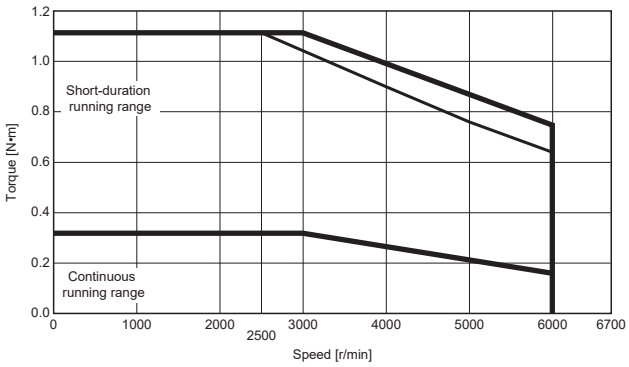
HG-KR053



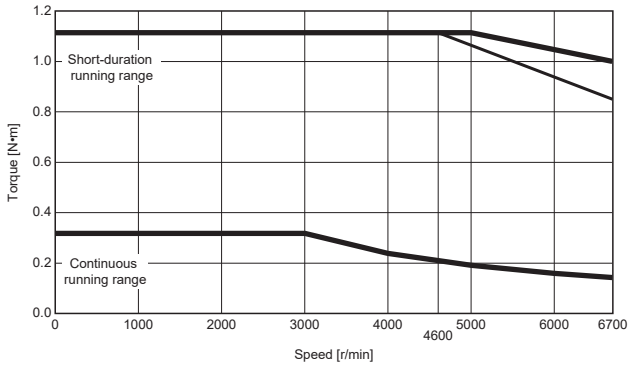
HK-KT053W



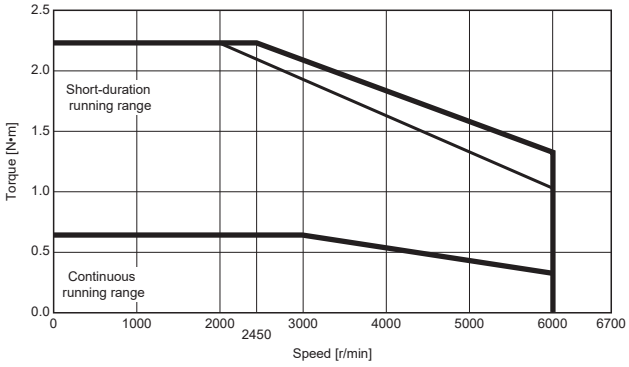
HG-KR13



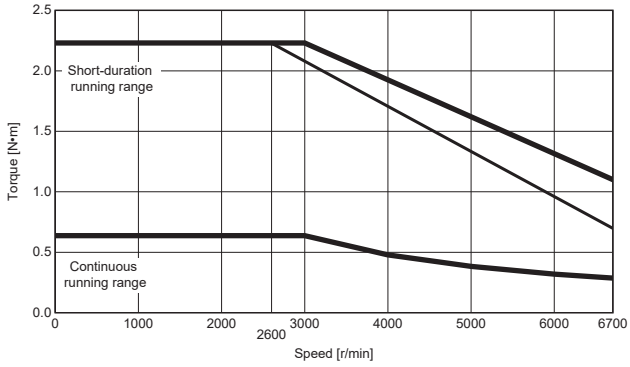
HK-KT13W



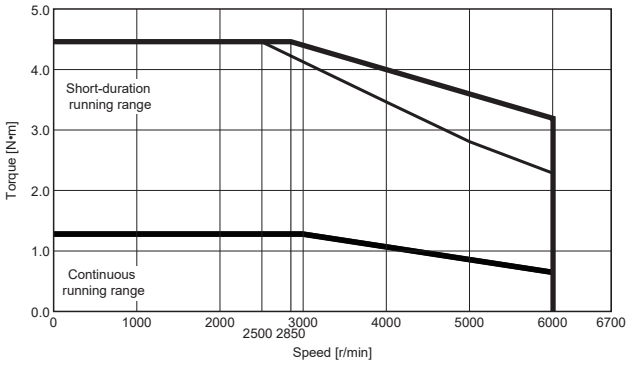
HG-KR23



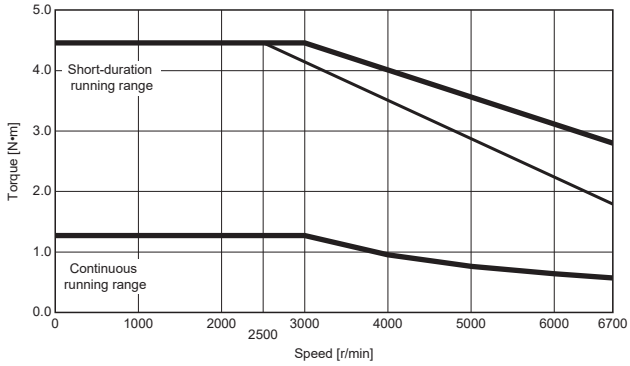
HK-KT23W



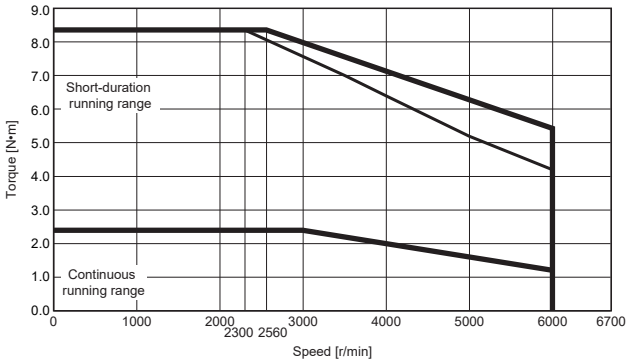
HG-KR43



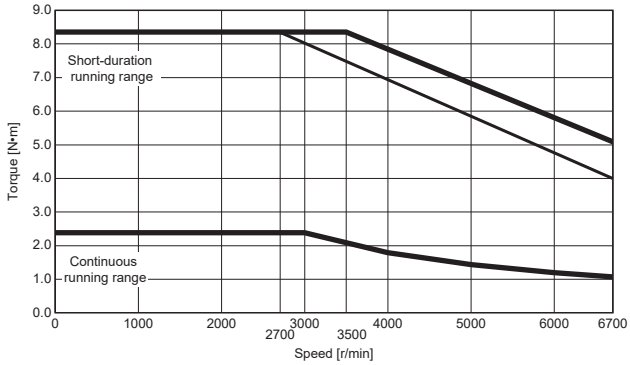
HK-KT43W



HG-KR73



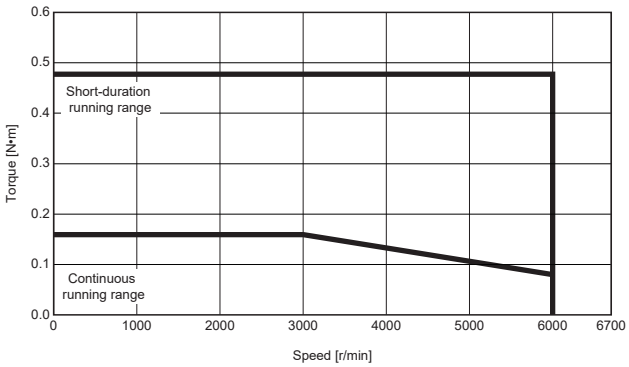
HK-KT7M3W



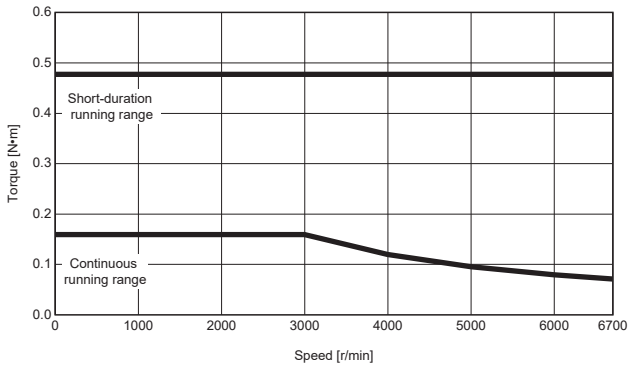
Comparison of HG-MR_ and HK-MT_

When the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.

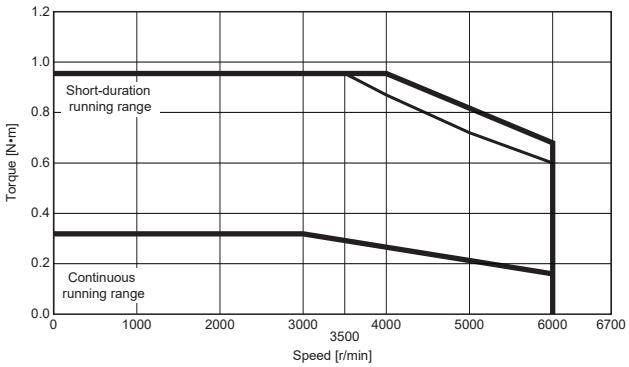
HG-MR053



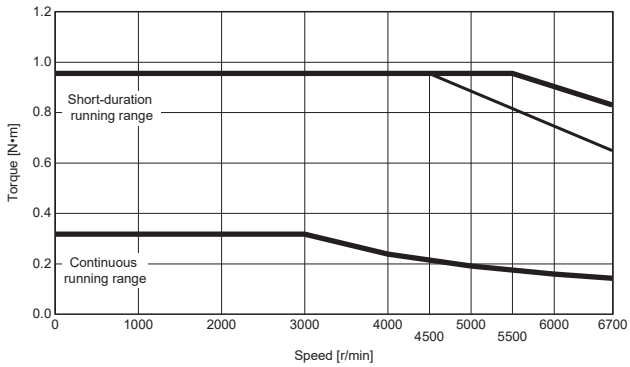
HK-MT053W



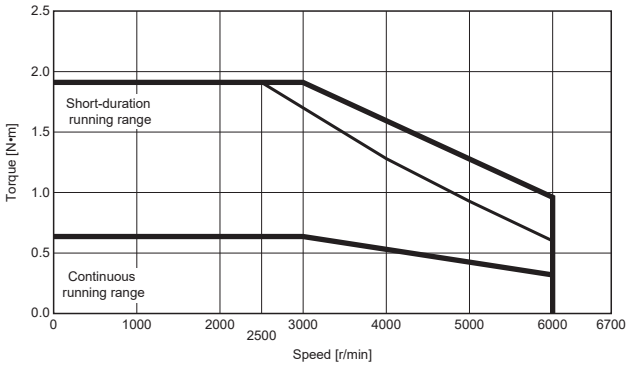
HG-MR13



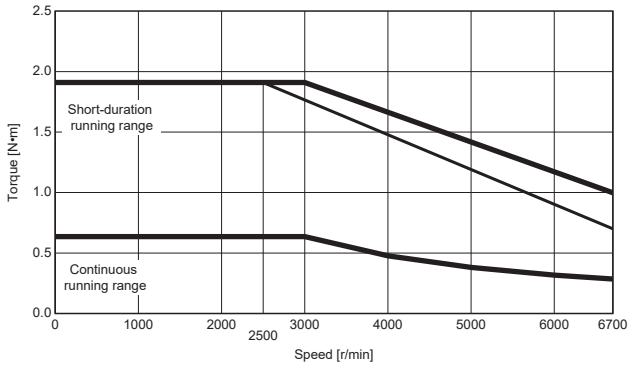
HK-MT13W



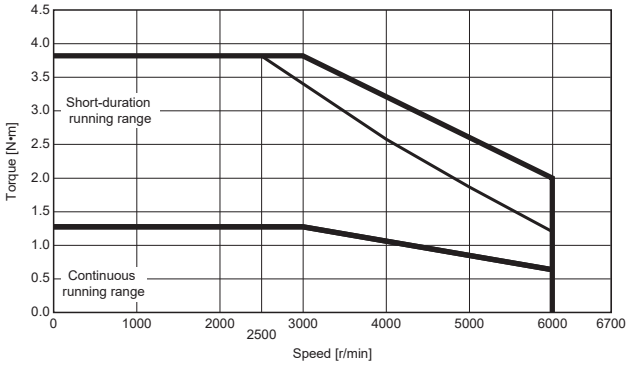
HG-MR23



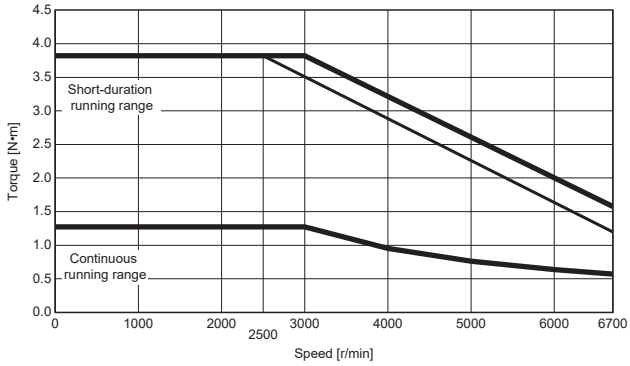
HK-MT23W



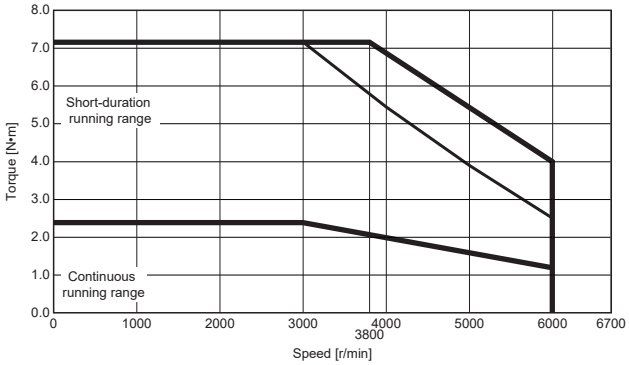
HG-MR43



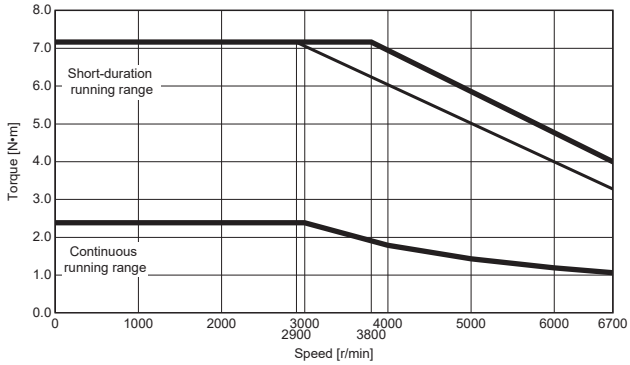
HK-MT43W



HG-MR73



HK-MT7M3W



Comparison of HG-SR_ and HK-ST_

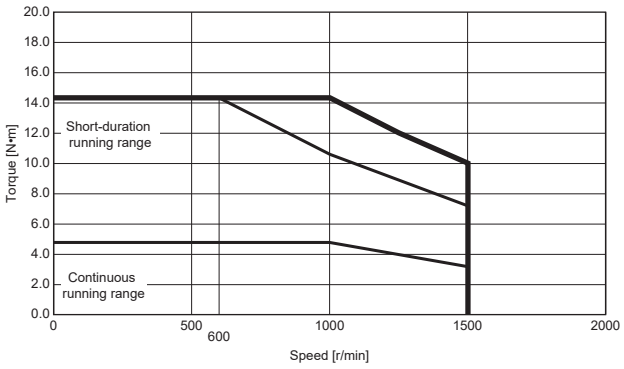
■When connected with 200 V servo amplifier

For the HG-SR_, when the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 230 V AC, the torque characteristic is indicated by the heavy line.

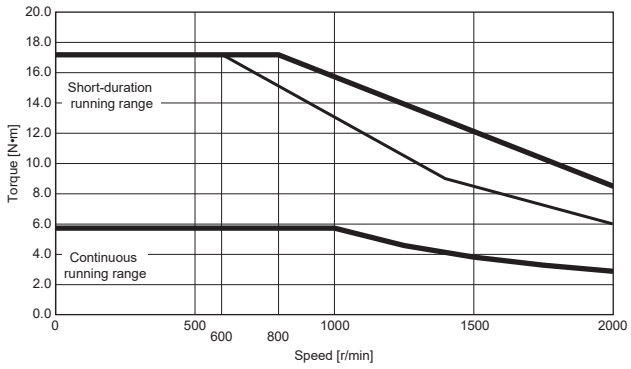
Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC. The 1-phase power input is applicable to the HG-SR51, HG-SR81, HG-SR121, HG-SR201, HG-SR52, HG-SR102, HG-SR152, and HG-SR202.

For the HK-ST_, when the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC. The dotted line shows a rough indication of the possible continuous running range for 3-phase 170 V AC.

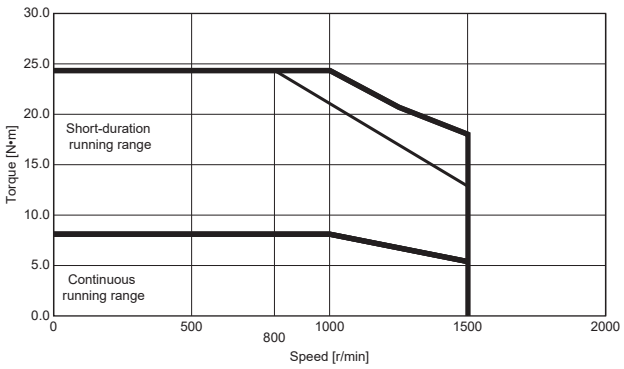
HG-SR51



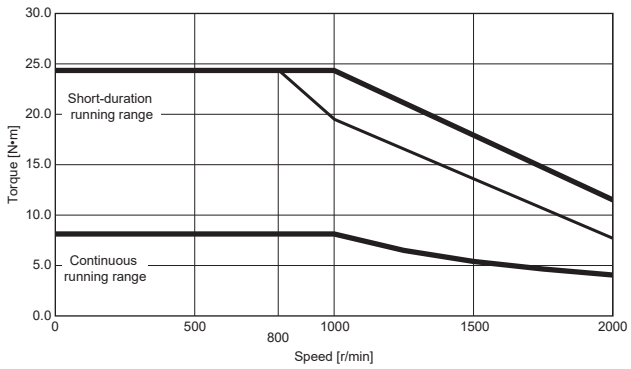
HK-ST1024W



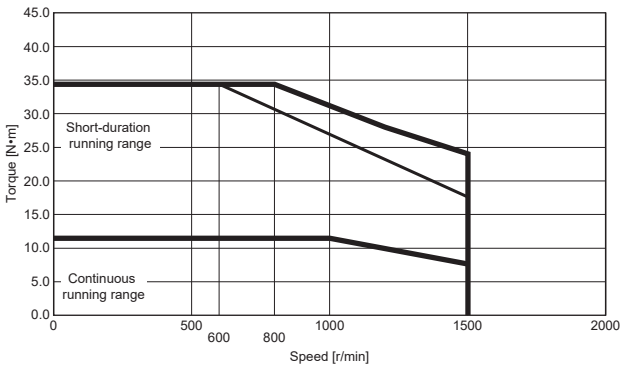
HG-SR81



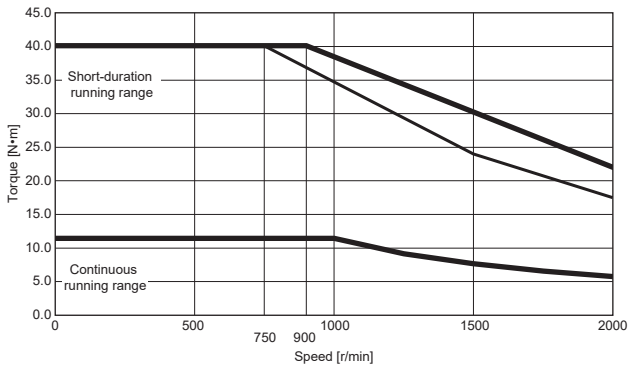
HK-ST1724W



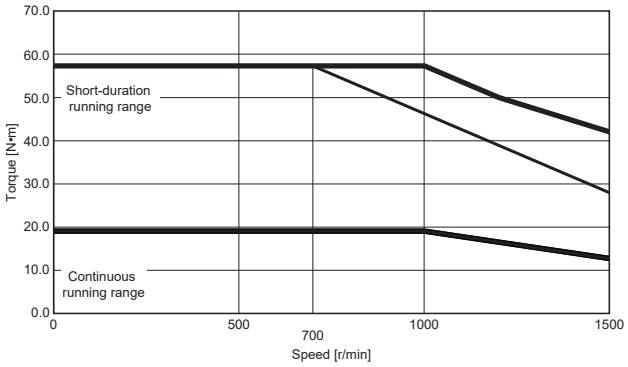
HG-SR121



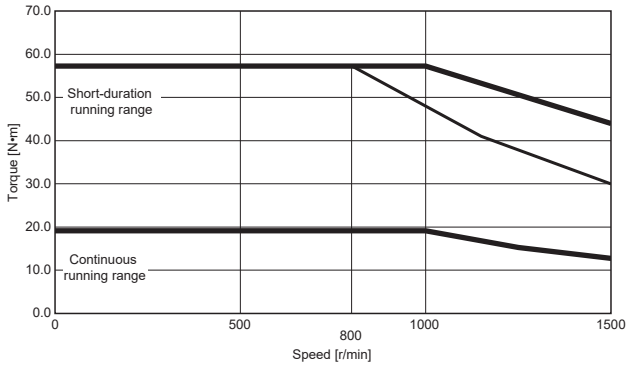
HK-ST2024W



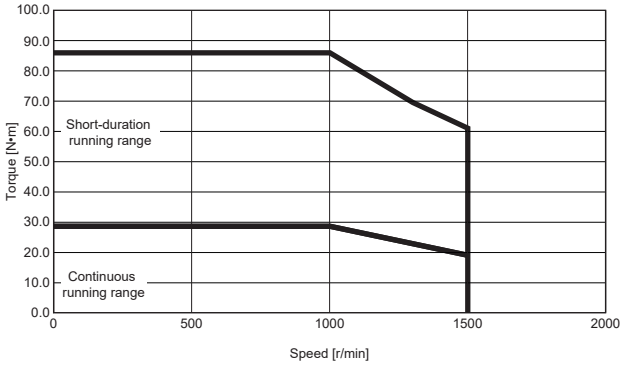
HG-SR201



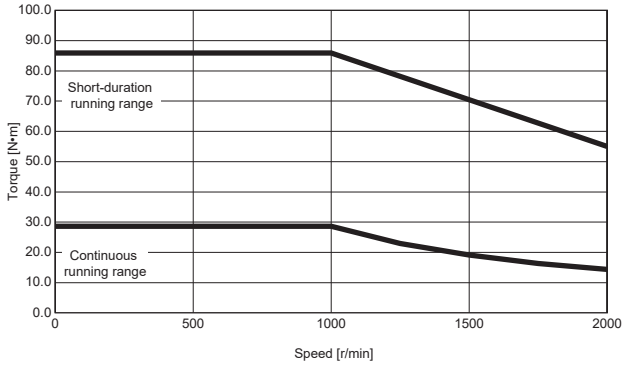
HK-ST3524W



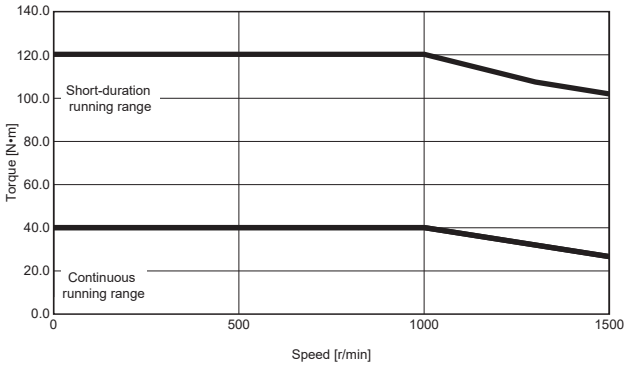
HG-SR301



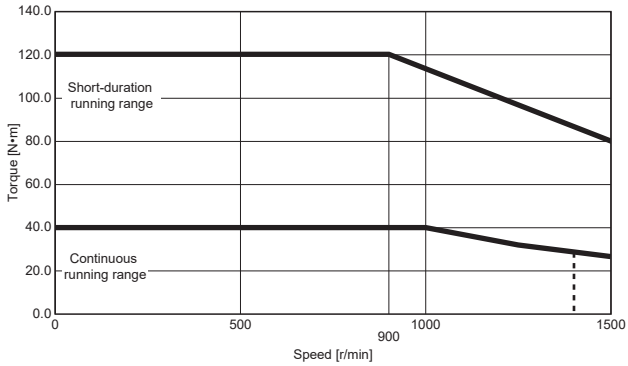
HK-ST5024W



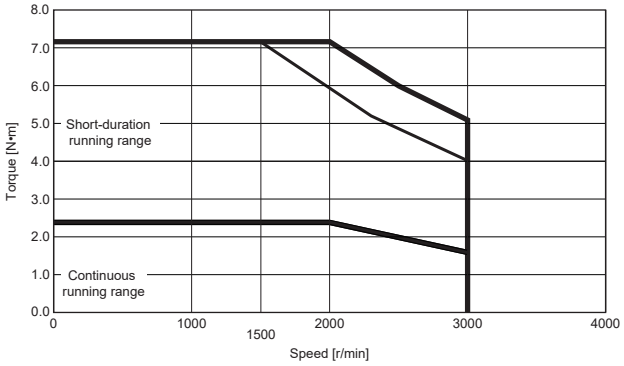
HG-SR421



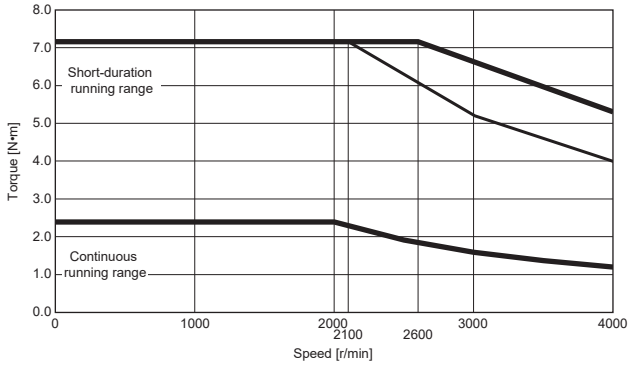
HK-ST7024W



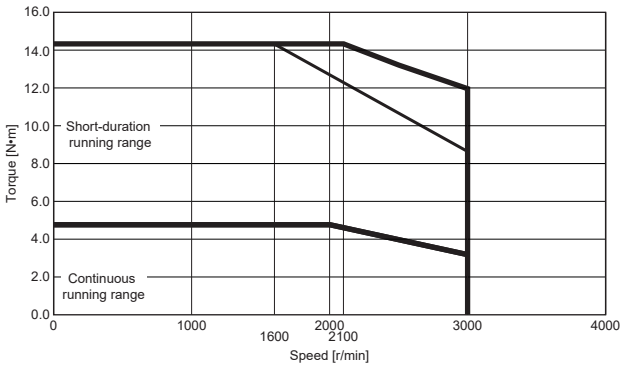
HG-SR52



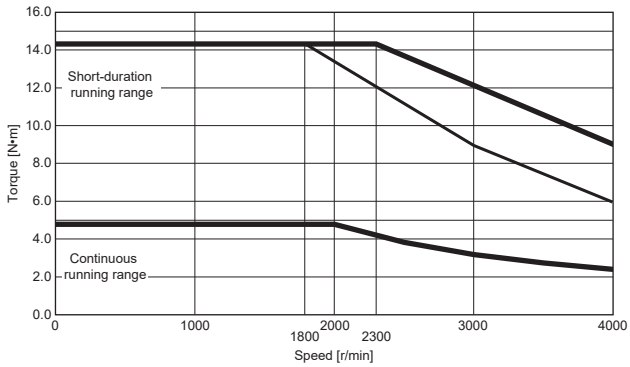
HK-ST52W



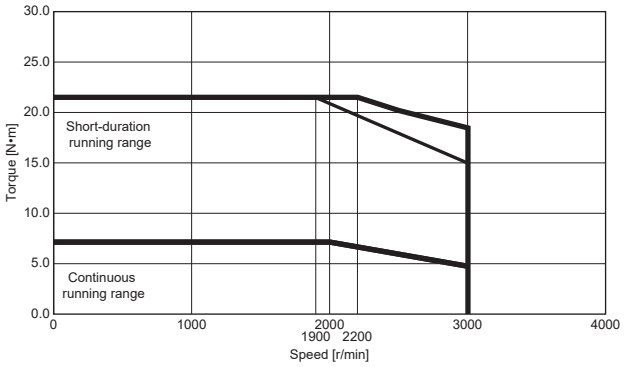
HG-SR102



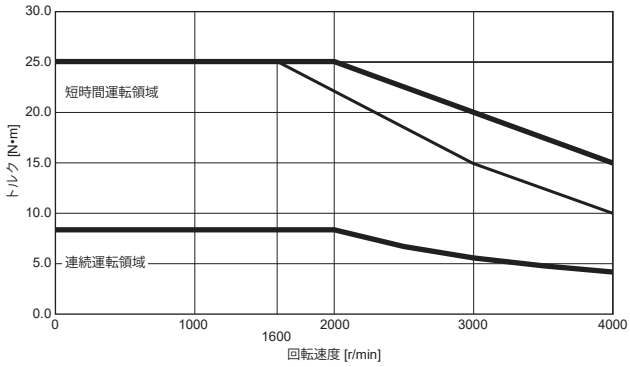
HK-ST102W



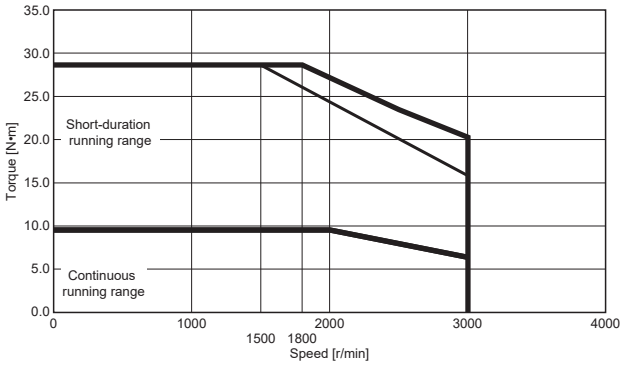
HG-SR152



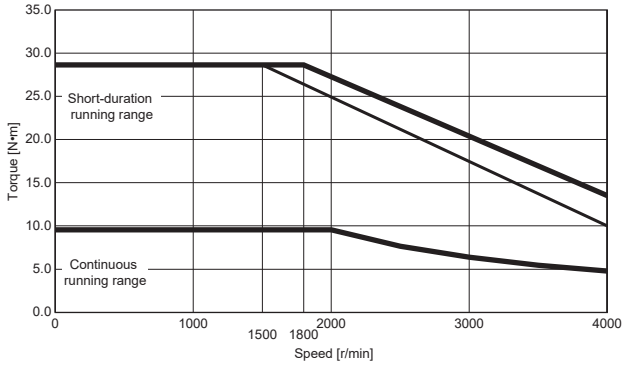
HK-ST172W



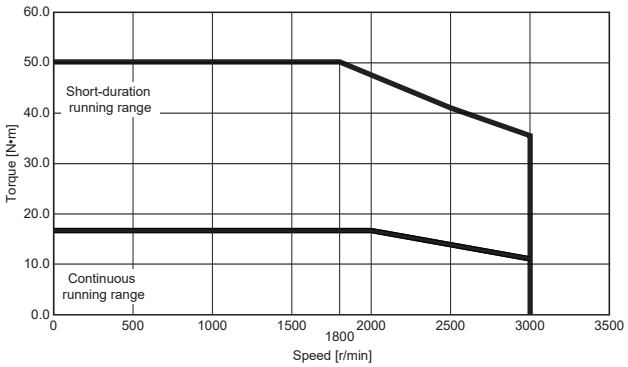
HG-SR202



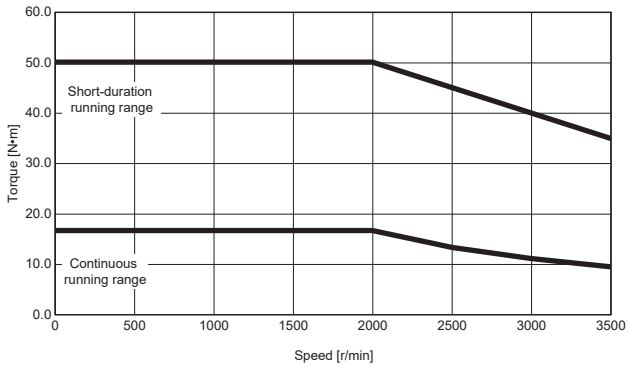
HK-ST202W



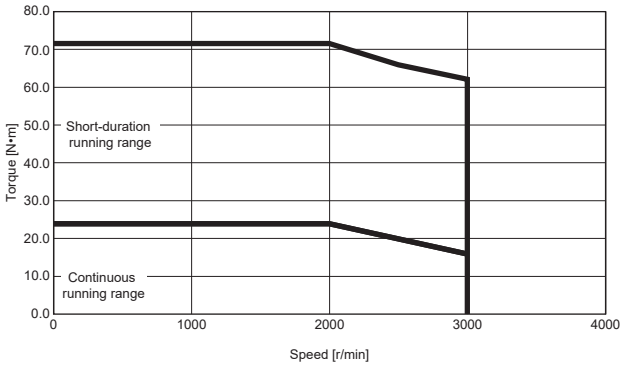
HG-SR352



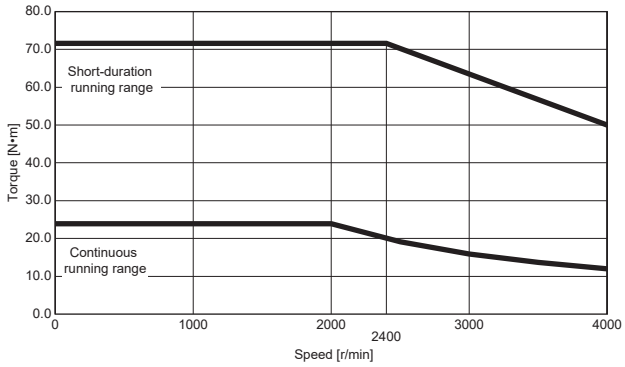
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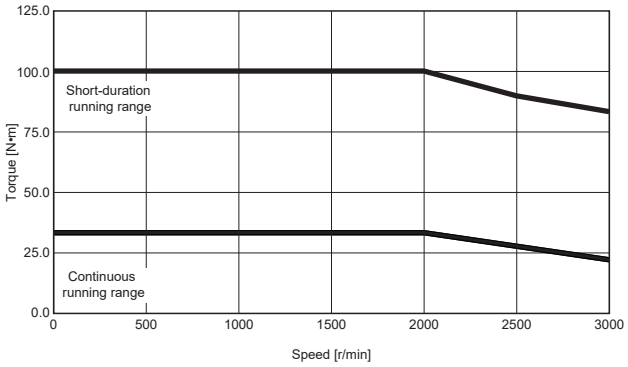
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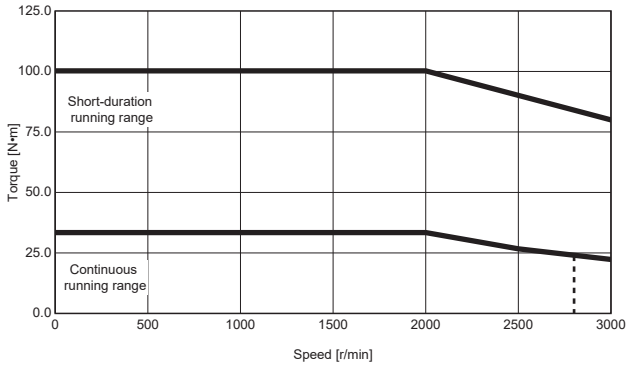
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HG-SR702



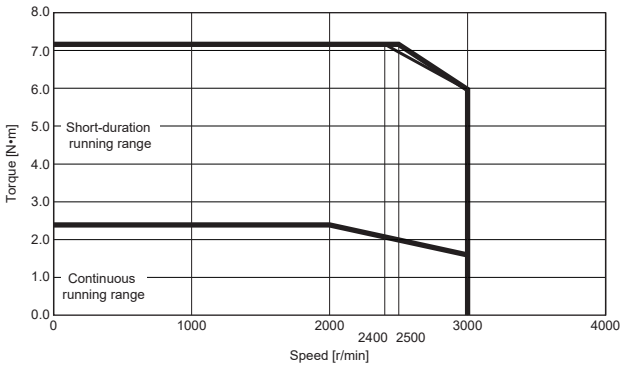
HK-ST702W



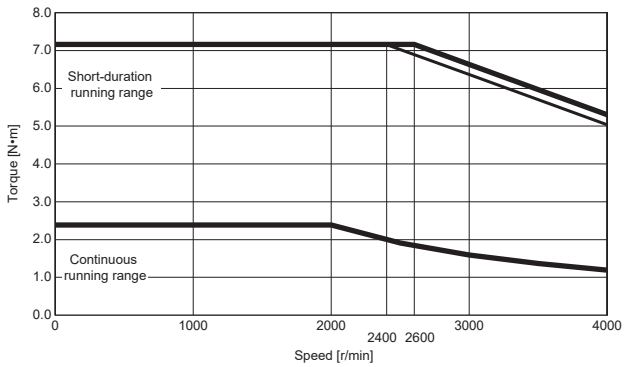
■When connected with 400 V servo amplifier

When the power supply input of the servo amplifier is 3-phase 400 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 3-phase 380 V AC.

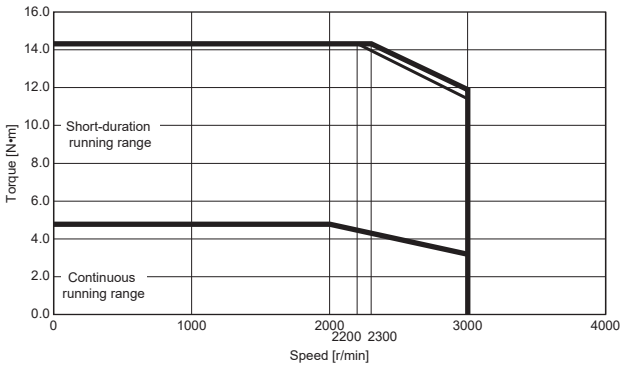
HG-SR524



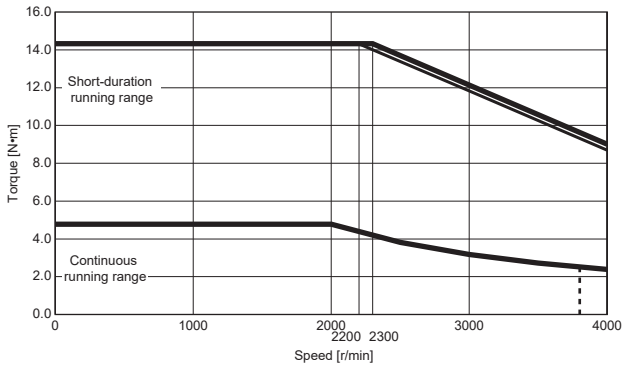
HK-ST524W



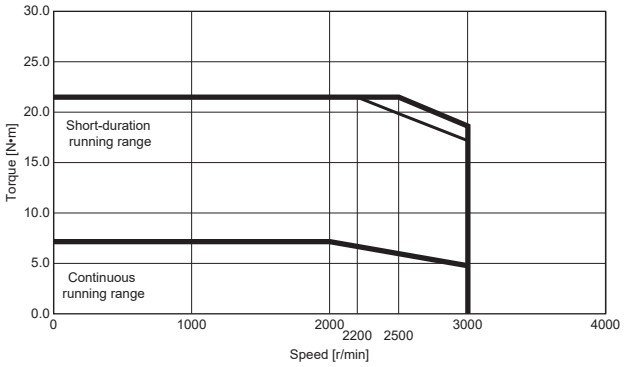
HG-SR1024



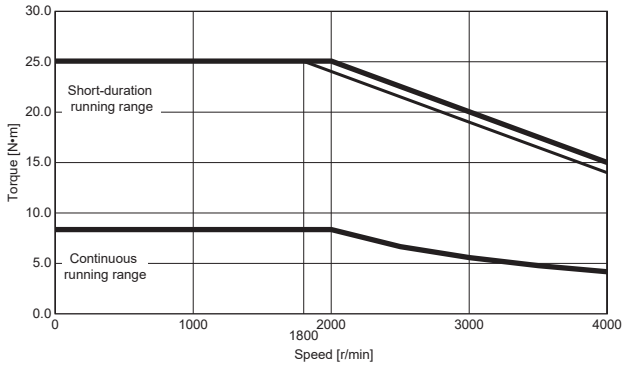
HK-ST1024W



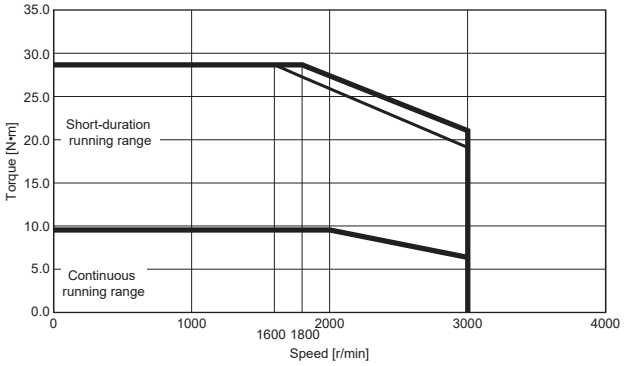
HG-SR1524



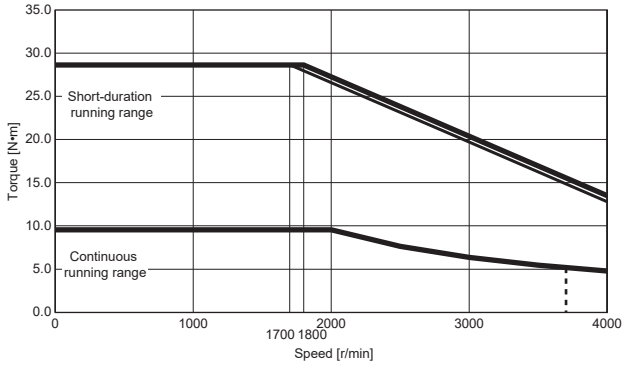
HK-ST1724W



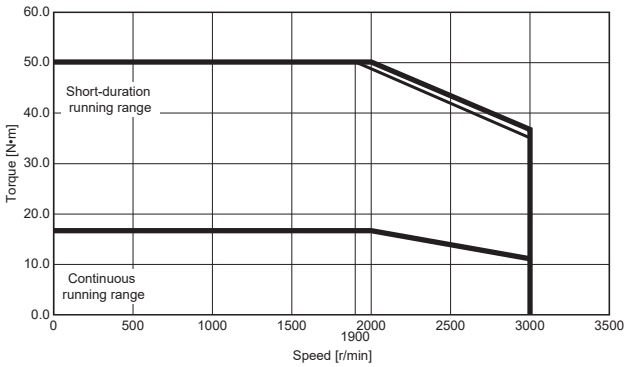
HG-SR2024



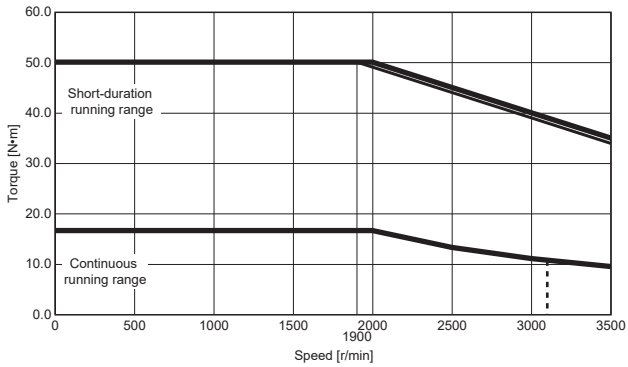
HK-ST2024W



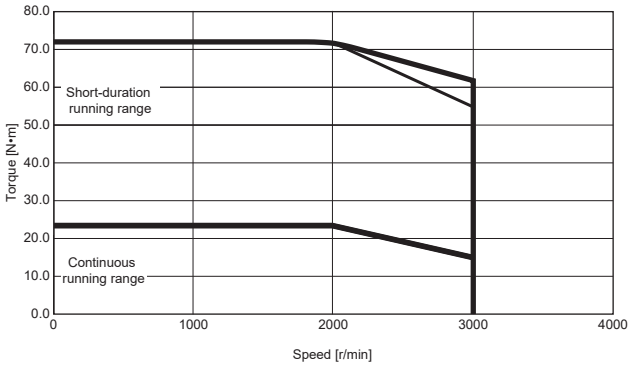
HG-SR3524



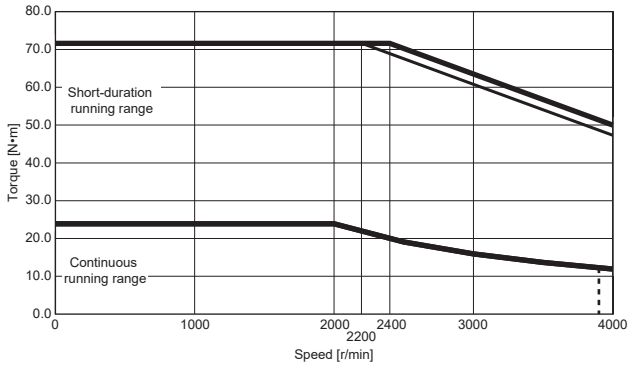
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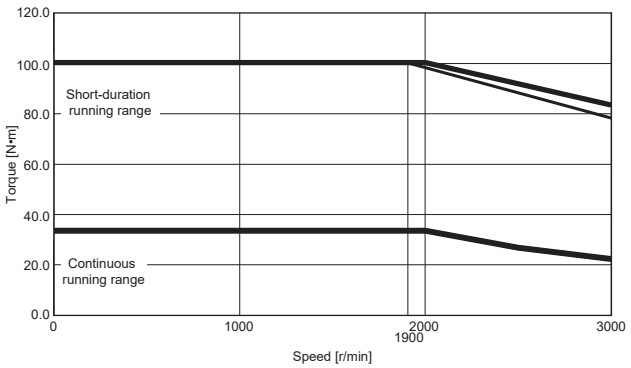
HG-SR5024



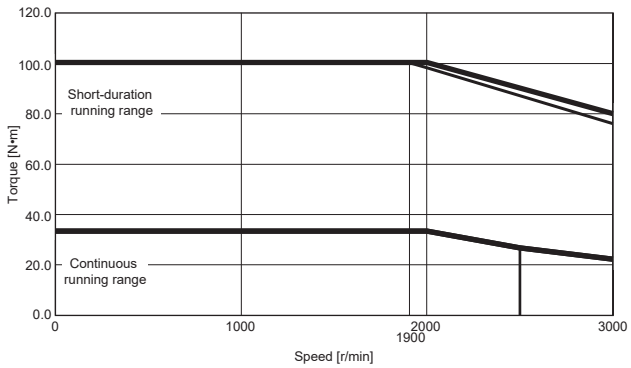
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HG-SR7024



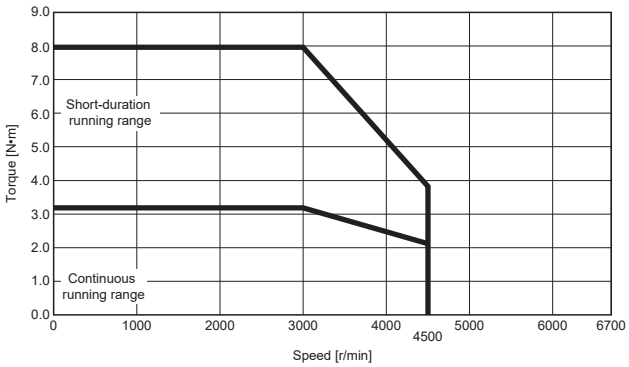
HK-ST7024W



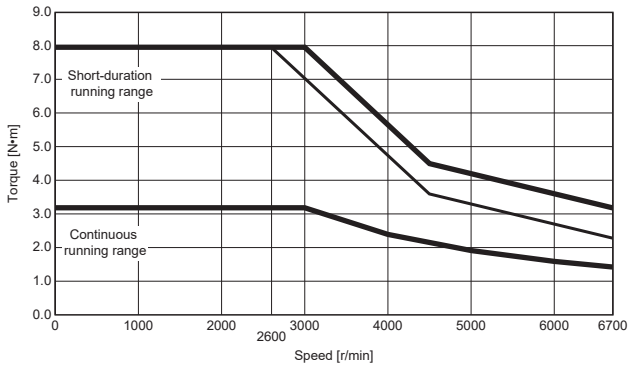
Comparison of HG-RR_ and HK-RT_

When the power supply input of the servo amplifier is 3-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.

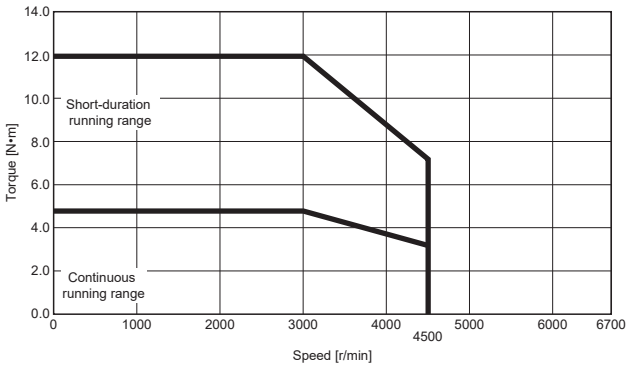
HG-RR103



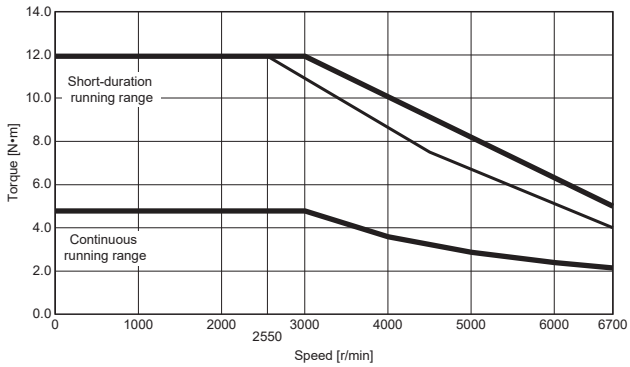
HK-RT103W



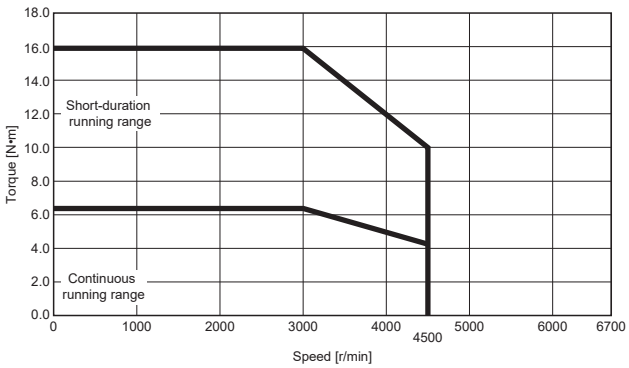
HG-RR153



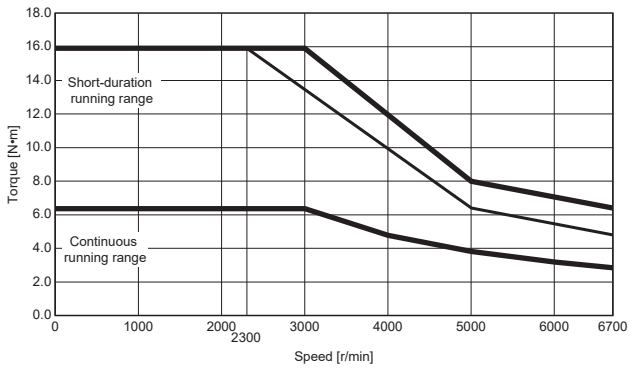
HK-RT153W



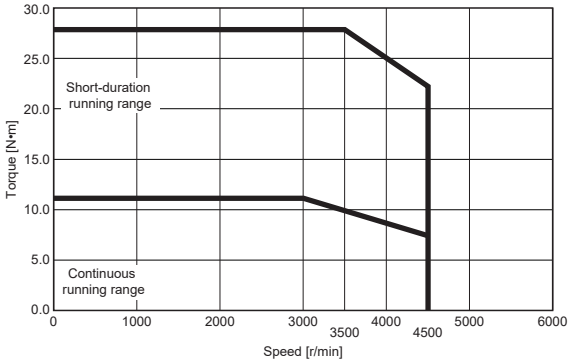
HG-RR203



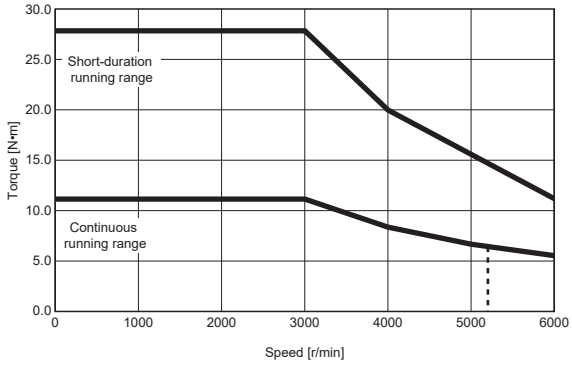
HK-RT203W



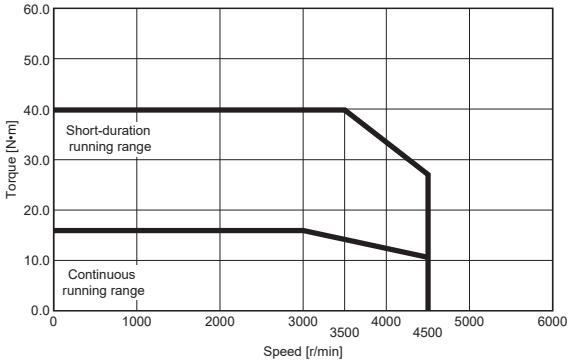
HG-RR353



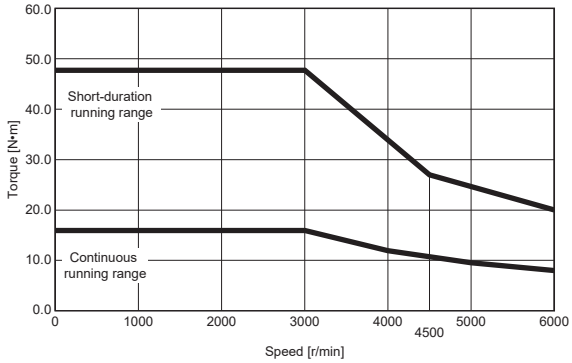
HK-RT353W



HG-RR503



HK-RT503W



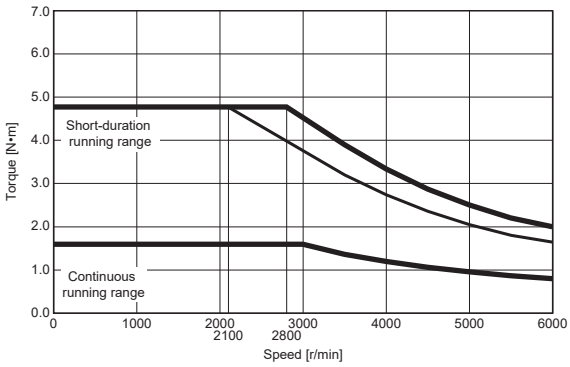
Comparison of HG-JR_ and HK-KT_/HK-ST_

■When connected with 200 V servo amplifier

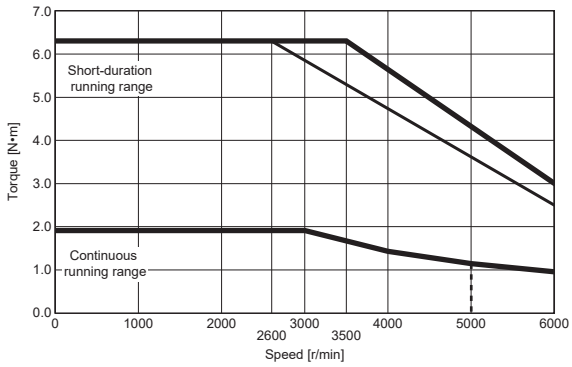
When the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line.

Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.

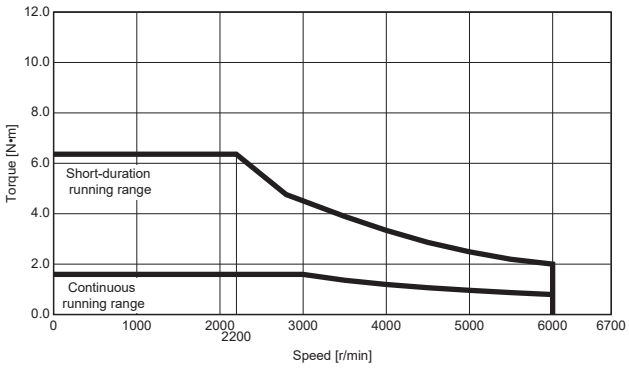
HG-JR53 (standard torque)



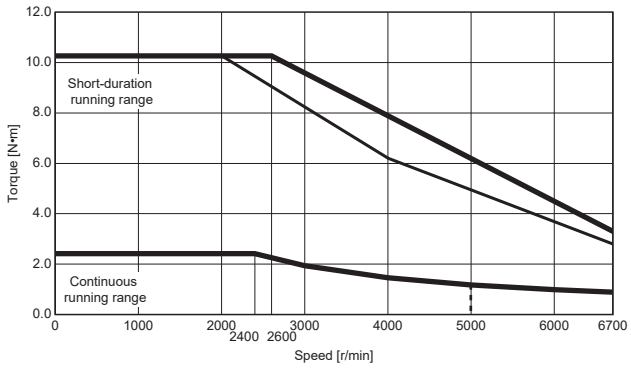
HK-KT63UW (standard torque)



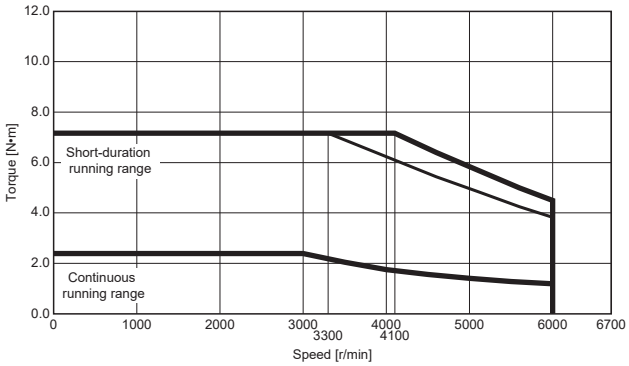
HG-JR53 (torque increased)



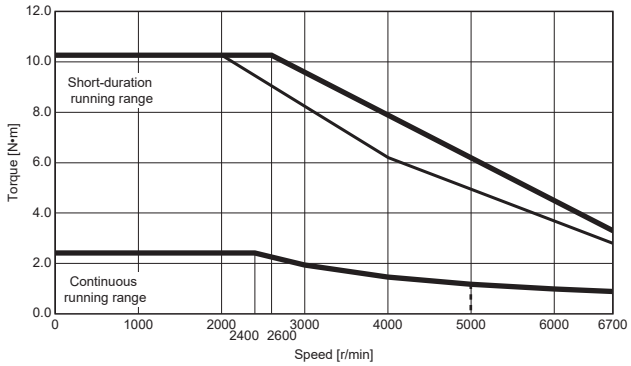
HK-KT63UW (torque increased)



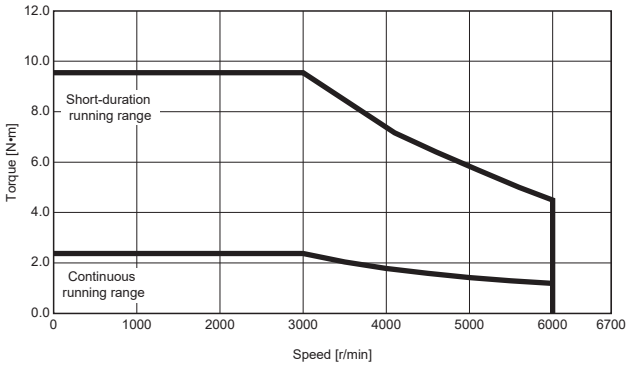
HG-JR73 (standard torque)



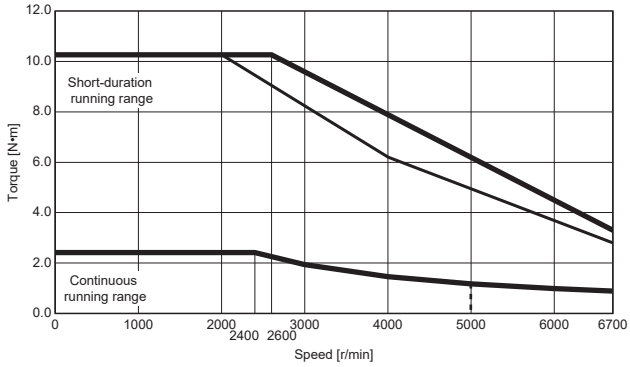
HK-KT63UW (torque increased)



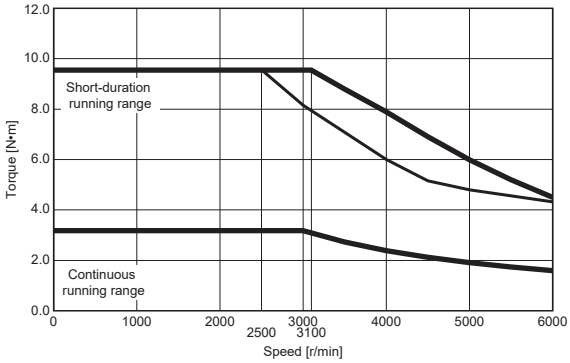
HG-JR73 (torque increased)



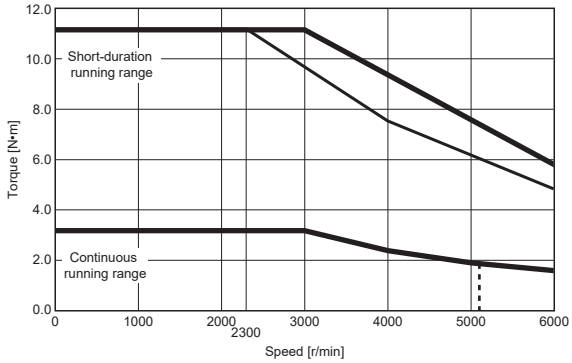
HK-KT63UW (torque increased)



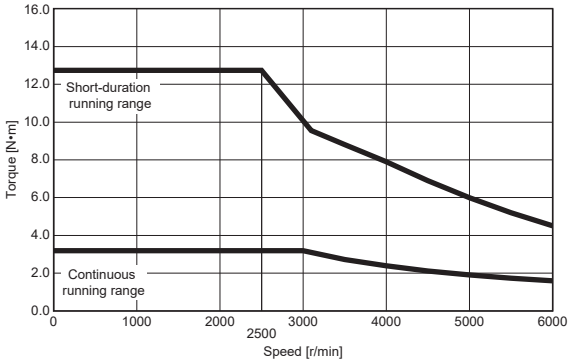
HG-JR103 (standard torque)



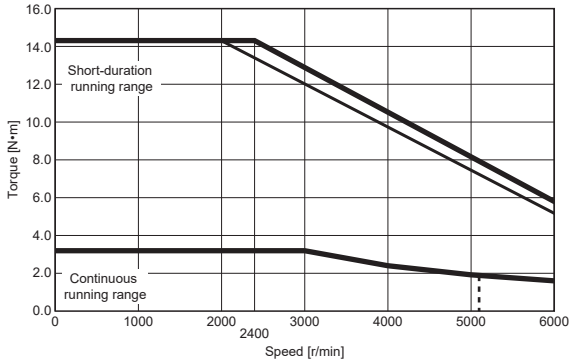
HK-KT103UW (standard torque)



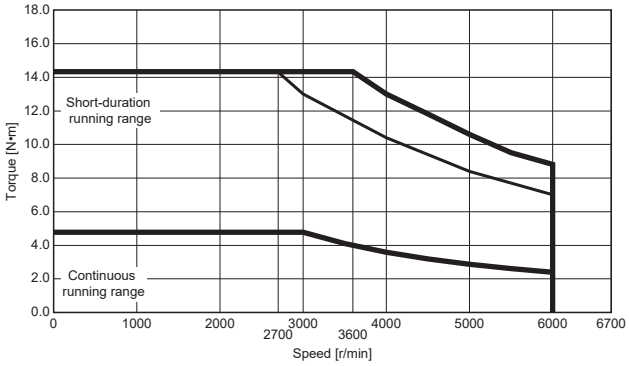
HG-JR103 (torque increased)



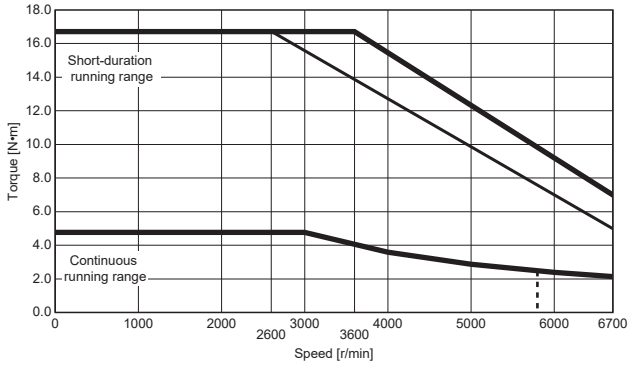
HK-KT103UW (torque increased)



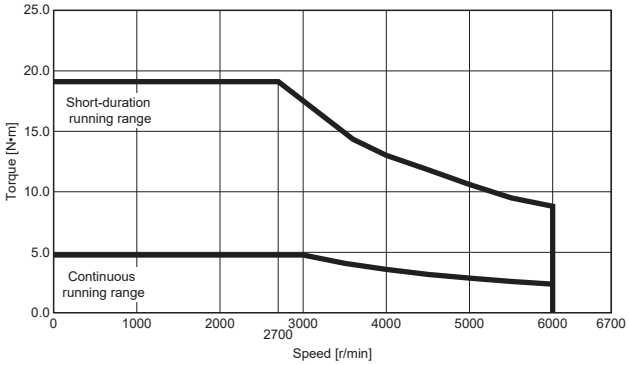
HG-JR153 (standard torque)



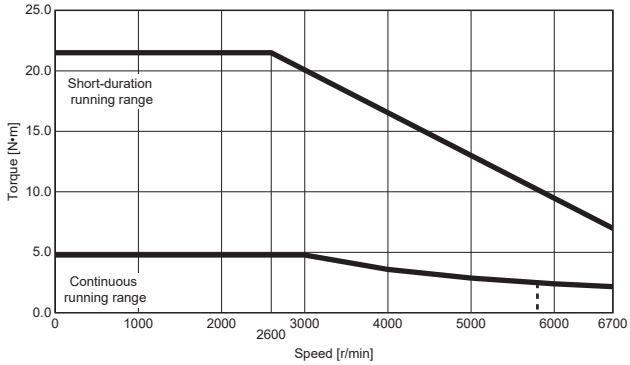
HK-KT153W (standard torque)



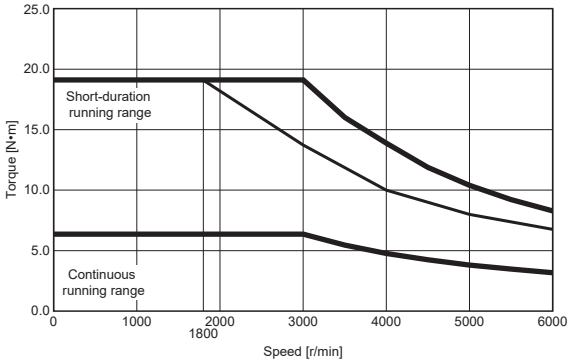
HG-JR153 (torque increased)



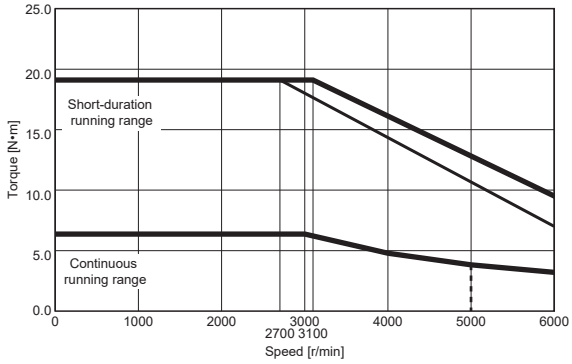
HK-KT153W (torque increased)



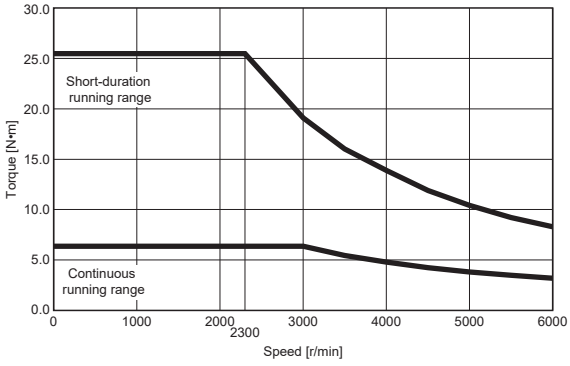
HG-JR203 (standard torque)



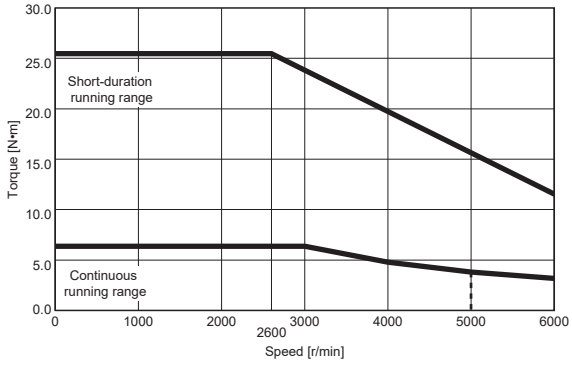
HK-KT203W (standard torque)



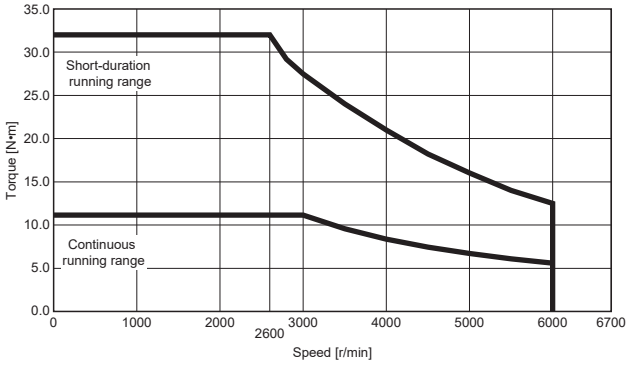
HG-JR203 (torque increased)



HK-KT203W (torque increased)

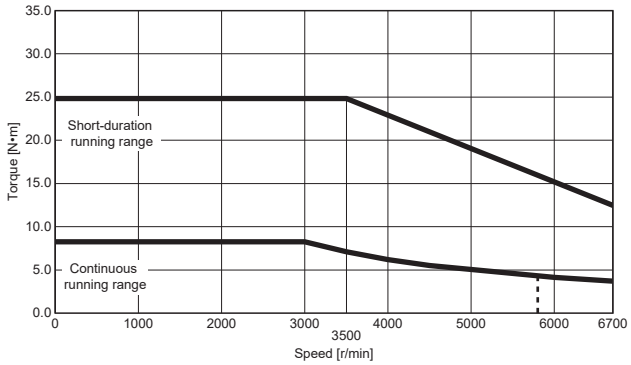


HG-JR353 (standard torque)

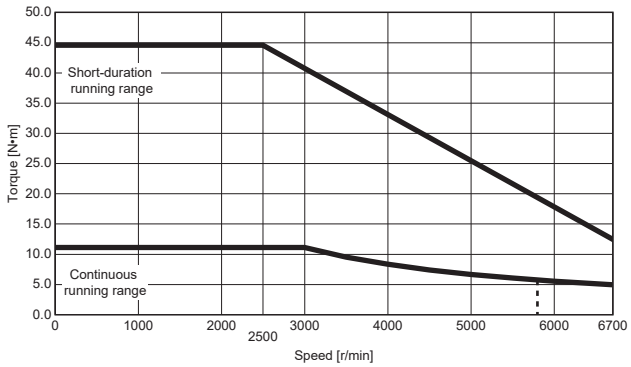


HK-ST353W

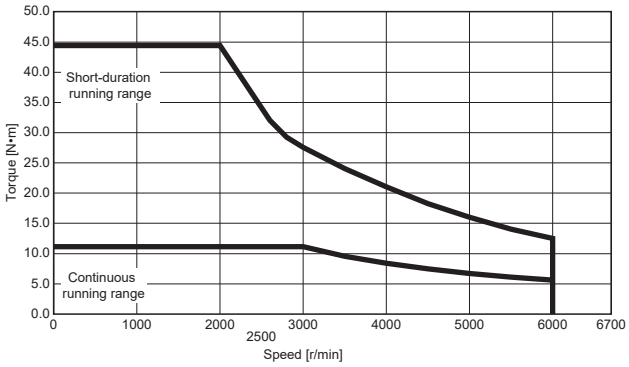
Standard torque



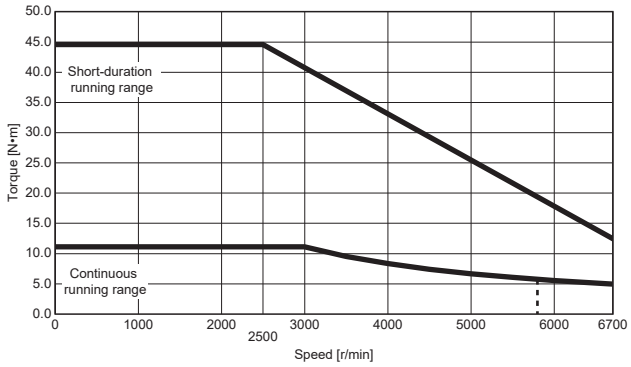
Torque increased



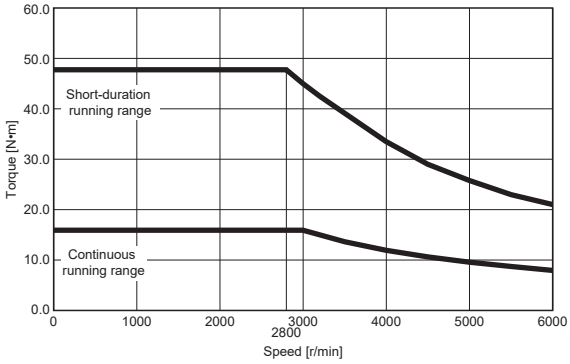
HG-JR353 (torque increased)



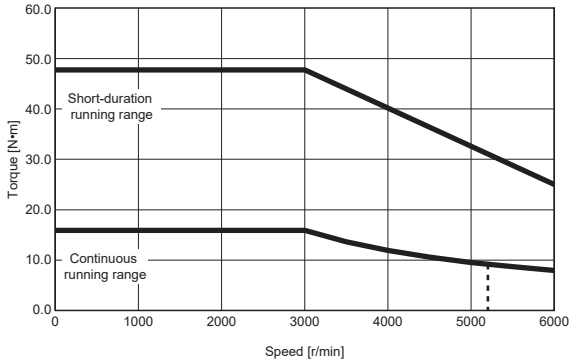
HK-ST353W (torque increased)



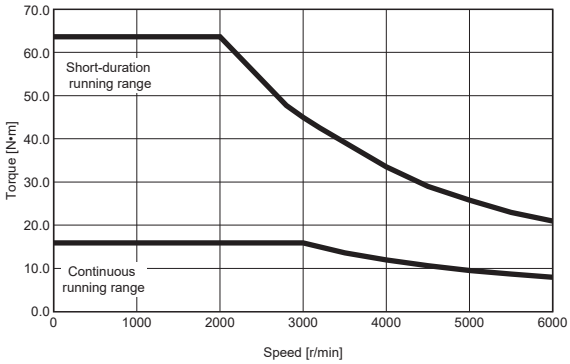
HG-JR503 (standard torque)



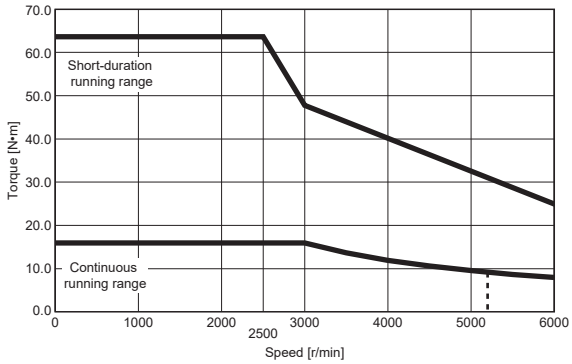
HK-ST503W (standard torque)



HG-JR503 (torque increased)



HK-ST503W (torque increased)

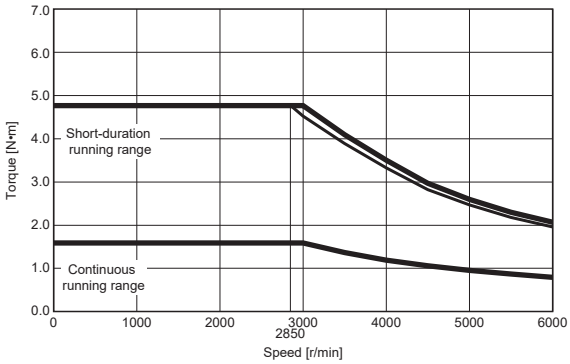


■When connected with 400 V servo amplifier

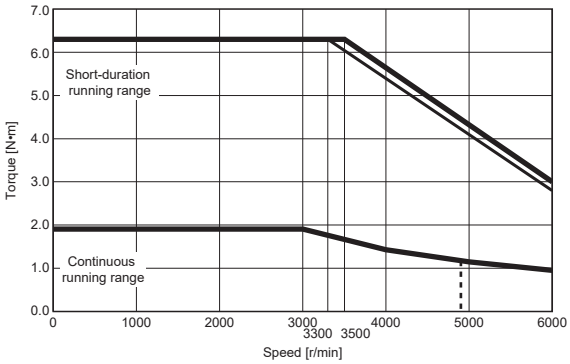
When the power supply input of the servo amplifier is 3-phase 400 V AC, the torque characteristic is indicated by the heavy line.

Parts using a narrow line describe the torque characteristic for 3-phase 380 V AC.

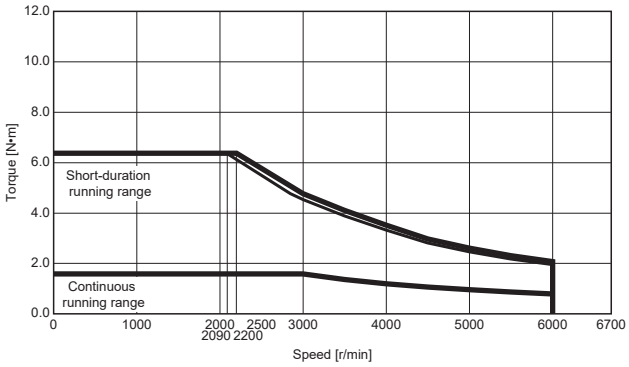
HG-JR534 (standard torque)



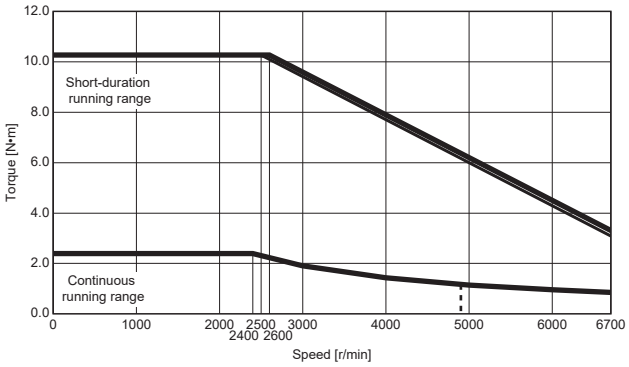
HK-KT634UW (standard torque)



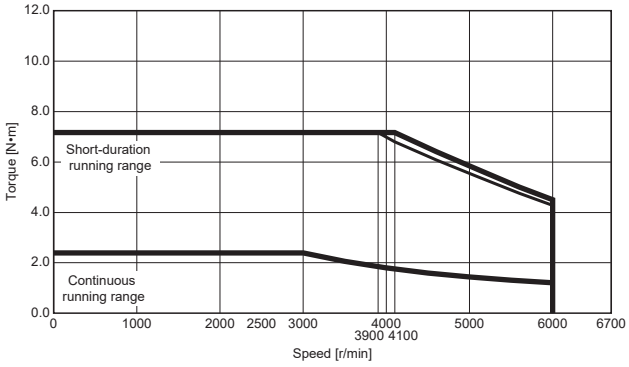
HG-JR534 (torque increased)



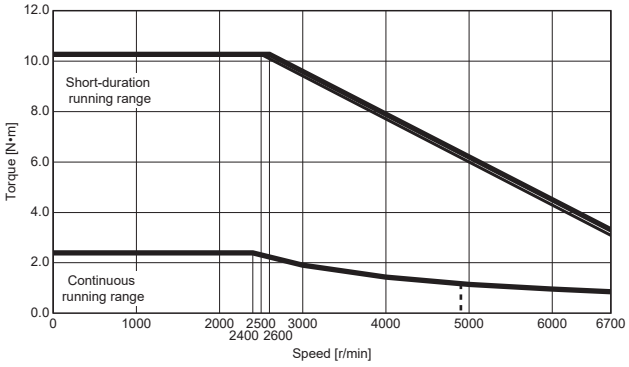
HK-KT634UW (torque increased)



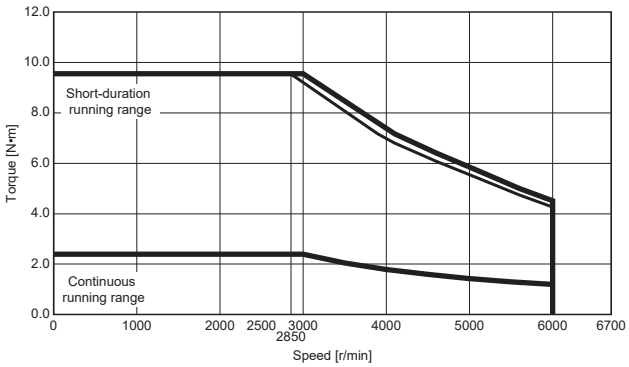
HG-JR734 (standard torque)



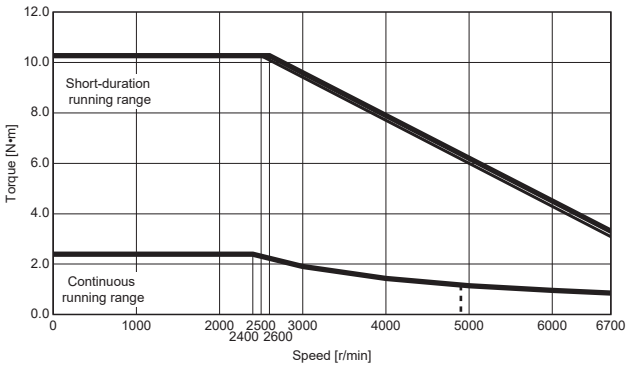
HK-KT634UW (torque increased)



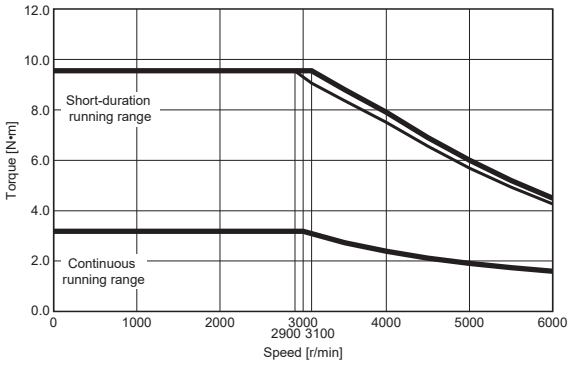
HG-JR734 (torque increased)



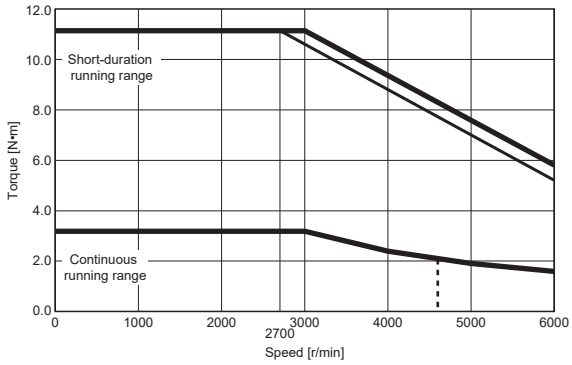
HK-KT634UW (torque increased)



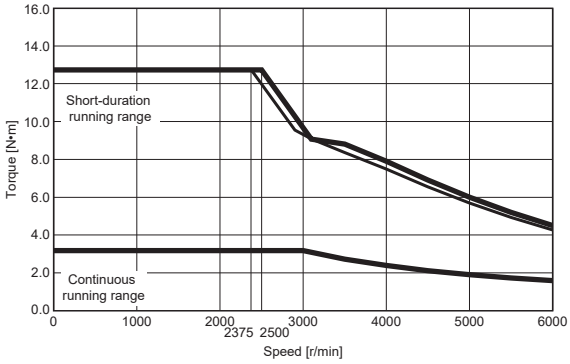
HG-JR1034 (standard torque)



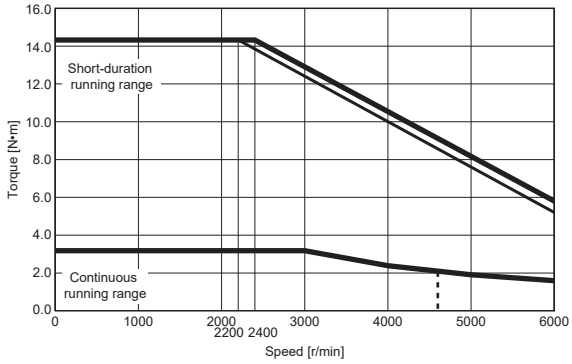
HK-KT1034UW (standard torque)



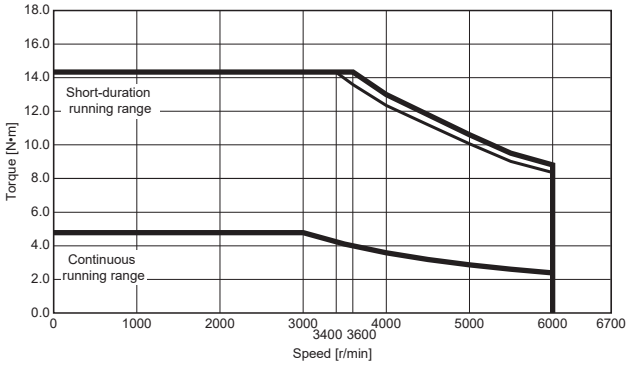
HG-JR1034 (torque increased)



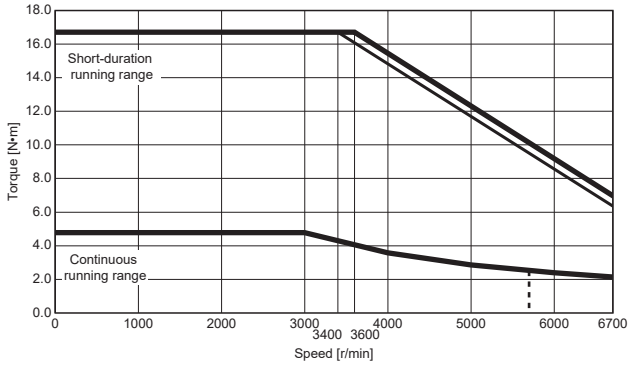
HK-KT1034UW (torque increased)



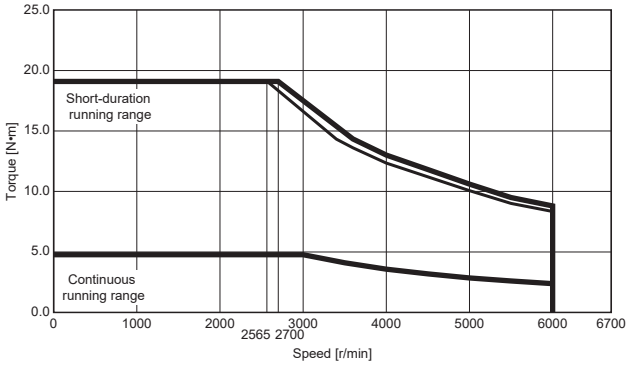
HG-JR1534 (standard torque)



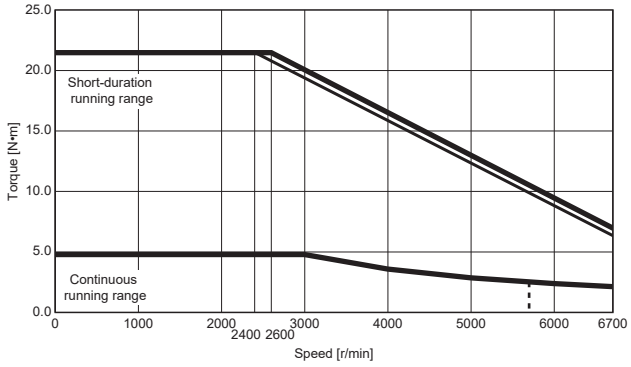
HK-KT1534W (standard torque)



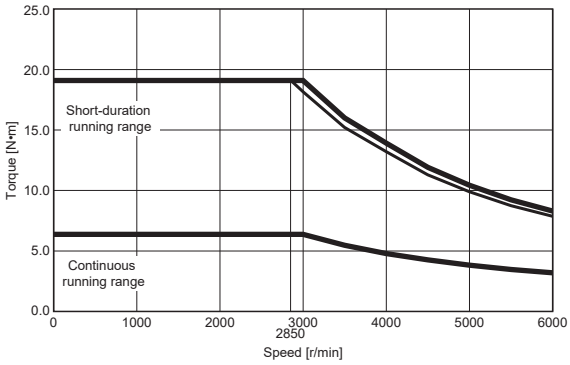
HG-JR1534 (torque increased)



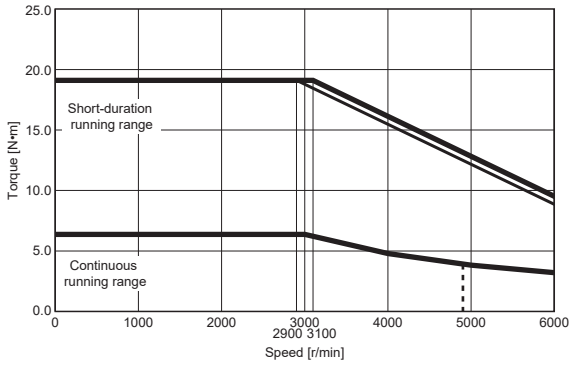
HK-KT1534W (torque increased)



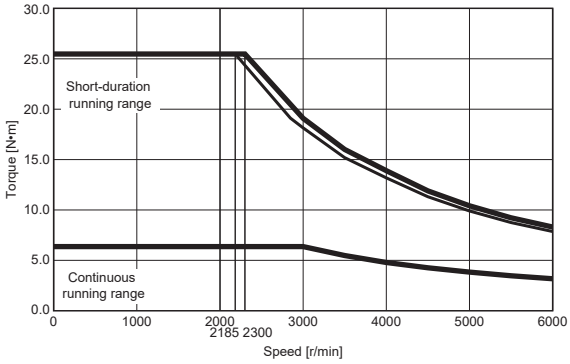
HG-JR2034 (standard torque)



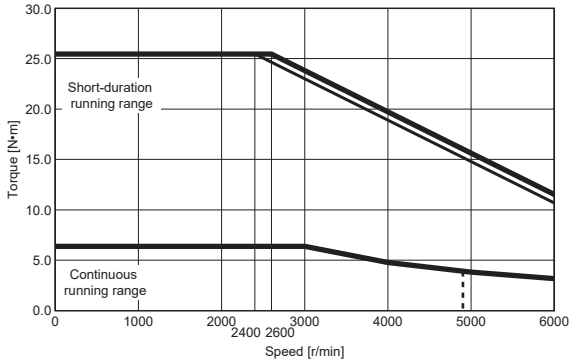
HK-KT2034W (standard torque)



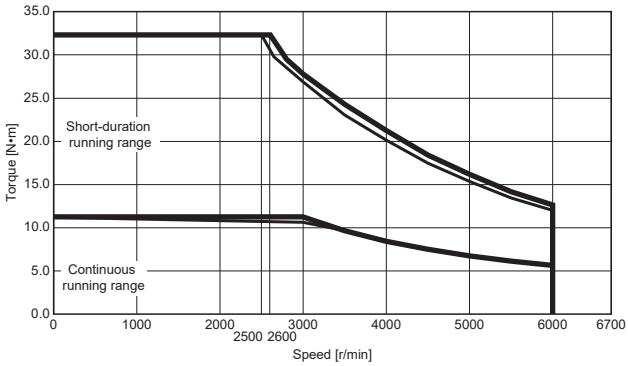
HG-JR2034 (torque increased)



HK-KT2034W (torque increased)

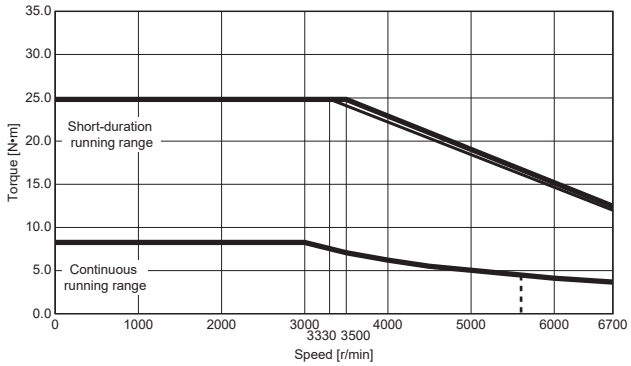


HG-JR3534 (standard torque)

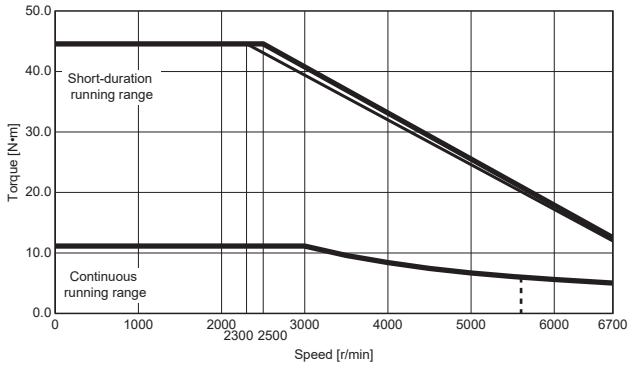


HK-ST3534W

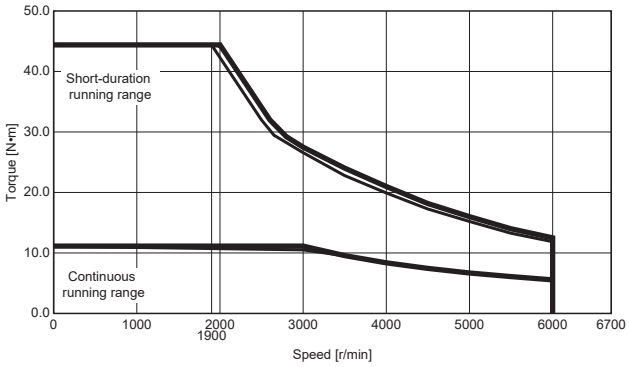
Standard torque



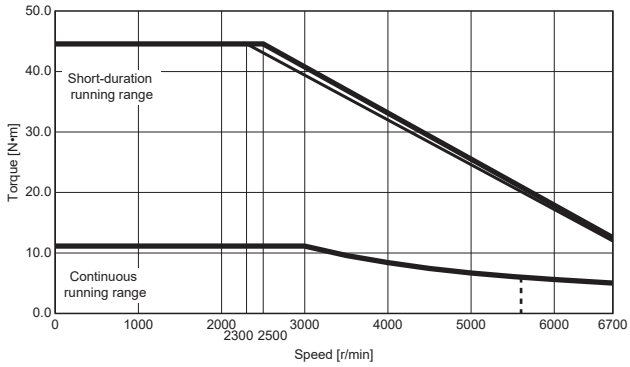
Torque increased



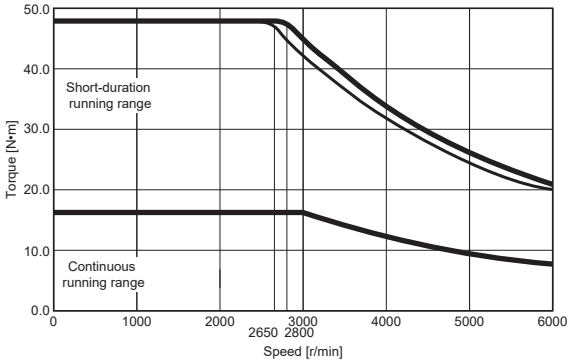
HG-JR3534 (torque increased)



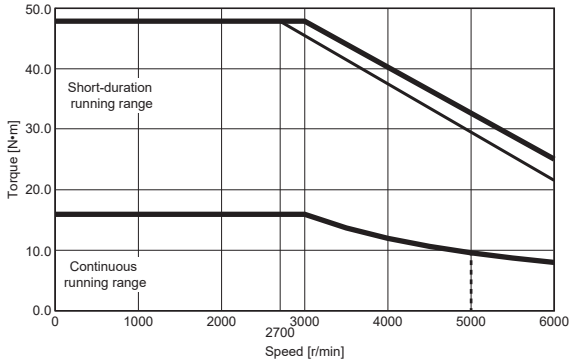
HK-ST3534W (torque increased)



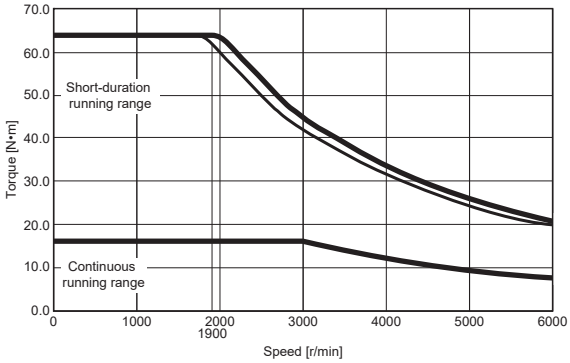
HG-JR5034 (standard torque)



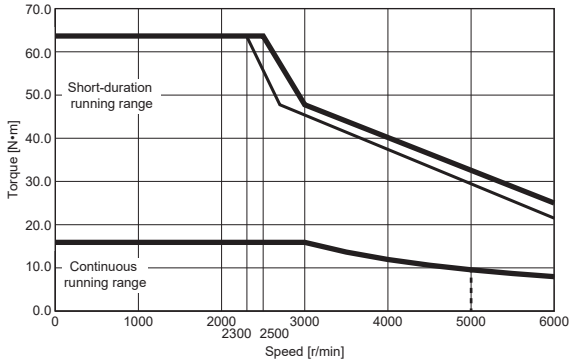
HK-ST5034W (standard torque)



HG-JR5034 (torque increased)



HK-ST5034W (torque increased)

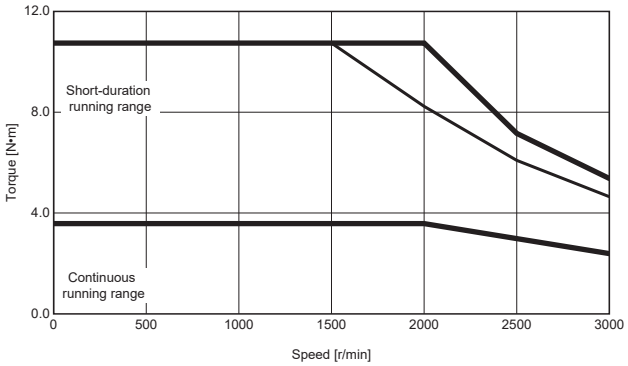


Comparison of HG-UR_ and HK-ST_U

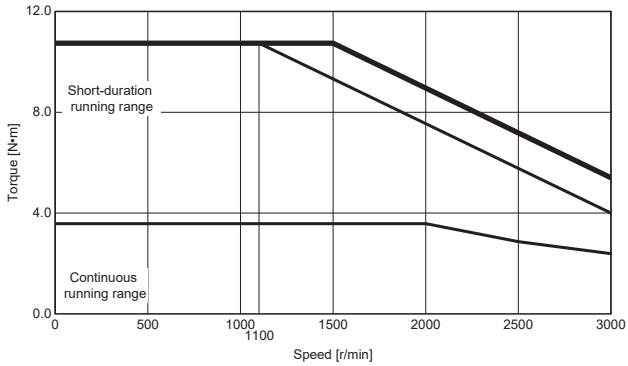
For the HG-UR_, when the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 230 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC. The 1-phase power input is applicable to the HG-UR72.

For the HK-ST_U, when the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.

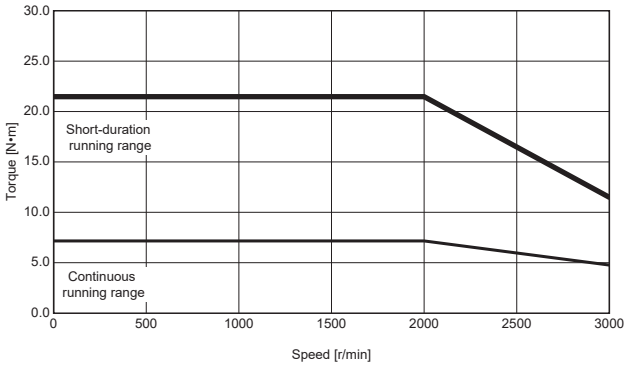
HG-UR72



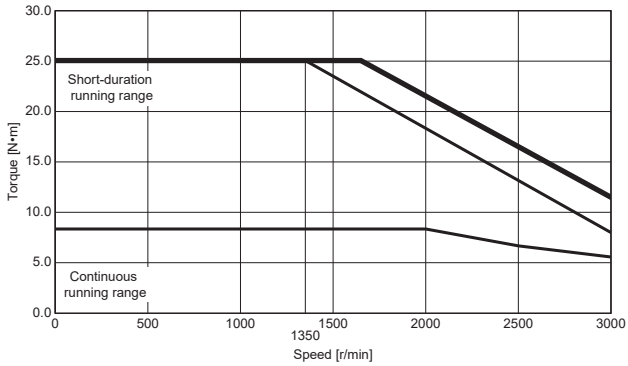
HK-ST7M2UW



HG-UR152



HK-ST172UW



PART 6 Review on Replacement of Optional Peripheral Equipment

20 REGENERATIVE OPTIONS

21 CABLE OPTIONS

22 POWER SUPPLY WIRE SIZES

23 ABSOLUTE POSITION ENCODER BATTERY

24 EMC FILTER COMBINATIONS (RECOMMENDED)

25 POWER FACTOR IMPROVING DC REACTOR AND POWER FACTOR IMPROVING AC REACTOR

26 ENGINEERING SOFTWARE

20 REGENERATIVE OPTIONS

Point

The MR-J5 series provides the new regenerative options shown in the table below.
When an MR-J4 series regenerative resistor is used as-is with a motor combined, an alarm may occur.
Be sure to use the MR-J5 series in combination with the regenerative resistor.
Do not use the regenerative options newly provided by the MR-J5 series with the MR-J4 series because it causes a servo amplifier malfunction.

List of new regenerative options

Servo amplifier model	Regenerative option MR-RB	
MR-J5-700_	3Z	5Z
MR-J5-350_4_	3Y-4	5Y-4

20.1 Regenerative Options 200 V Class

Regenerative power when combined with the MR-J4 series

List of regenerative options

Servo amplifier model	Built-in regenerative resistor [W]	Permissible regenerative power of regenerative option [W] MR-RB										
		032 [40 Ω]	12 [40 Ω]	14 [26 Ω]	30 [13 Ω]	3N [9 Ω]	31 [6.7 Ω]	32 [40 Ω]	34 [26 Ω]	50 [13 Ω] *1	5N [9 Ω] *1	51 [6.7 Ω] *1
MR-J4-10_	—	30	—	—	—	—	—	—	—	—	—	—
MR-J4-20_	10	30	100	—	—	—	—	—	—	—	—	—
MR-J4-40_	10	30	100	—	—	—	—	—	—	—	—	—
MR-J4-60_	10	30	100	—	—	—	—	—	—	—	—	—
MR-J4-70_	20	30	100	—	—	—	—	300	—	—	—	—
MR-J4-100_	20	30	100	—	—	—	—	300	—	—	—	—
MR-J4-200_	100	—	—	—	300	—	—	—	—	500	—	—
MR-J4-350_	100	—	—	—	—	300	—	—	—	—	500	—
MR-J4-500_	130	—	—	—	—	—	300	—	—	—	—	500
MR-J4-700_	170	—	—	—	—	—	300	—	—	—	—	500
MR-J4W2-22_	20	—	—	100	—	—	—	—	—	—	—	—
MR-J4W2-44_	20	—	—	100	—	—	—	—	—	—	—	—
MR-J4W2-77_	100	—	—	—	—	300	—	—	—	—	—	—
MR-J4W2-1010_	100	—	—	—	—	300	—	—	—	—	—	—
MR-J4W3-222_	30	—	—	100	—	—	—		300	—	—	—
MR-J4W3-444_	30	—	—	100	—	—	—		300	—	—	—

*1 Always install a cooling fan.

Regenerative power when combined with the MR-J5 series

Point

Changed descriptions compared with the MR-J4 series are shown with "■".
Parameter settings may be required depending on the regenerative option model.

List of regenerative options

Servo amplifier model	Built-in regenerative resistor [W]	Permissible regenerative power of regenerative option [W] MR-RB											
		032 [40 Ω]	12 [40 Ω]	14 [26 Ω]	30 [13 Ω] *2	3N [9 Ω] *2	31 [6.7 Ω] *2	3Z [5.5 Ω] *2	34 [26 Ω] *2	50 [13 Ω] *1	5N [9 Ω] *1	51 [6.7 Ω] *1	5Z [5.5 Ω] *1
MR-J5-10_	—	30	—	—	—	—	—	—	—	—	—	—	—
MR-J5-20_	10	30	100	—	—	—	—	—	—	—	—	—	—
MR-J5-40_	10	30	100	—	—	—	—	—	—	—	—	—	—
MR-J5-60_	10	30	100	—	—	—	—	—	—	—	—	—	—
MR-J5-70_	30	—	—	■100	—	—	—	—	■300	—	—	—	—
MR-J5-100_	30	—	—	■100	—	—	—	—	■300	—	—	—	—
MR-J5-200_	100	—	—	—	300	—	—	—	—	500	—	—	—
MR-J5-350_	100	—	—	—	—	300	—	—	—	—	500	—	—
MR-J5-500_	130	—	—	—	—	—	300	—	—	—	—	500	—
MR-J5-700_	170	—	—	—	—	—	—	■300	—	—	—	—	■500
MR-J5W2-22_	20	—	—	100	—	—	—	—	—	—	—	—	—
MR-J5W2-44_	20	—	—	100	—	—	—	—	—	—	—	—	—
MR-J5W2-77_	100	—	—	—	—	300	—	—	—	—	—	—	—
MR-J5W2-1010_	100	—	—	—	—	300	—	—	—	—	—	—	—
MR-J5W3-222_	30	—	—	100	—	—	—	—	300	—	—	—	—
MR-J5W3-444_	30	—	—	100	—	—	—	—	300	—	—	—	—

*1 Always install a cooling fan.
*2 Depending on the operating conditions, a cooling fan must be installed. For details, refer to the following manual.
MR-J5 User's Manual (Hardware)

External form comparison

Refer to the following related materials for details.

- MR-J5 User's Manual (Hardware)
- MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual
- MR-J4W2-_B/MR-J4W3-_B/MR-J4W2-0303B6 Servo Amplifier Instruction Manual
- MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual

20.2 Regenerative Options 400 V Class

Regenerative power when combined with the MR-J4 series

List of regenerative options

Servo amplifier model	Built-in regenerative resistor [W]	Permissible regenerative power of regenerative option [W] MR-RB							
		1H-4 [82 Ω]	3M-4 [120 Ω] *1	3G-4 [47 Ω] *1	5G-4 [47 Ω] *1	34-4 [26 Ω] *1	54-4 [26 Ω] *1	3U-4 [22 Ω] *1	5U-4 [22 Ω] *1
MR-J4-60_4_	15	100	300	—	—	—	—	—	—
MR-J4-100_4_	15	100	300	—	—	—	—	—	—
MR-J4-200_4_	100	—	—	300	500	—	—	—	—
MR-J4-350_4_	100	—	—	300	500	—	—	—	—
MR-J4-500_4_	130	—	—	—	—	300	500	—	—
MR-J4-700_4_	170	—	—	—	—	—	—	300	500

*1 Always install a cooling fan.

Regenerative power when combined with the MR-J5 series

Point

Changed descriptions are shown with "■".

Parameter settings may be required depending on the regenerative option model.

List of regenerative options

Servo amplifier model	Built-in regenerative resistor [W]	Permissible regenerative power of regenerative option [W] MR-RB									
		1H-4 [82 Ω]	3M-4 [120 Ω] *1	3G-4 [47 Ω] *1	5G-4 [47 Ω] *1	3Y-4 [36 Ω] *1	5Y-4 [36 Ω] *1	34-4 [26 Ω] *1	54-4 [26 Ω] *1	3U-4 [22 Ω] *1	5U-4 [22 Ω] *1
MR-J5-60_4_	15	100	300	—	—	—	—	—	—	—	—
MR-J5-100_4_	15	100	300	—	—	—	—	—	—	—	—
MR-J5-200_4_	100	—	—	300	500	—	—	—	—	—	—
MR-J5-350_4_	120	—	—	—	—	■300	■500	—	—	—	—
MR-J5-500_4_	130	—	—	—	—	—	—	300	500	—	—
MR-J5-700_4_	170	—	—	—	—	—	—	—	—	300	500

*1 Always install a cooling fan.

External form comparison

Refer to the following related materials for details.

- 📖MR-J5 User's Manual (Hardware)
- MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual

21 CABLE OPTIONS

Use MR-J5 series dedicated items for the following options.

Option	Reference
Encoder cable	User's Manual for each servo motor MR-J5 Partner's Encoder User's Manual
Motor cables Electromagnetic brake connector set (Servo motor power supply cable/electromagnetic brake cable)	User's Manual for each servo motor
Power connector set Junction battery cable	MR-J5 User's Manual (Hardware)

21.1 Changes from MR-J4_-_B_ to MR-J5_-_G_

1-axis servo amplifier

Cable option combinations

Application		MR-J4-_B_	MR-J5-_G_	Precautions
Encoder connector set		MR-ECNM		Use the same combination.
		MR-J3SCNS		Use the same combination.
		MR-ENCNS2		Use the same combination.
		MR-J3SCNSA		Use the same combination.
		MR-ENCNS2A		Use the same combination.
SSCNET III cable		MR-J3BUS_M	—	Not available.
		MR-J3BUS_M-_	—	
Ethernet cable		—	Double shielded cable (Category 5e)	Newly required.
Junction terminal block cable	I/O signal connector CN3	MR-J2HBUS_M		Use the same combination. _: Cable length
Connector set		MR-CCN1		Use the same combination.
Monitor cable	Analog monitor connector For CN6	—	MR-ACN6CBL1M	To use an analog monitor, prepare a new one.
Electromagnetic brake connector set		MR-BKCNS1		Use the same combination.
		MR-BKCNS2		Use the same combination.
		MR-BKCNS1A		Use the same combination.
		MR-BKCNS2A		Use the same combination.
200 V Servo amplifier power connector (100 W to 1 kW)	CNP1	06JFAT-SAXGDK-H7.5	06JFAT-SAXGDK-K7.5 (LA)	These models have no mounting compatibility. The power connector is supplied with a servo amplifier for the MR-J5-_G_. Replace the existing connectors with the ones supplied with the servo amplifier.
	CNP2	05JFAT-SAXGDK-H5.0	05JFAT-SAXGDK-K5.0 (LA)	
	CNP3	03JFAT-SAXGDK-H7.5	03JFAT-SAXGDK-K7.5 (LA)	
200 V Servo amplifier power connector (2 kW/3.5 kW)	CNP1	06JFAT-SAXGFK-XL	06JFAT-SAXGFK-XL (LA)	
	CNP2	05JFAT-SAXGDK-H5.0	05JFAT-SAXGDK-H5.0 (LA)	
	CNP3	03JFAT-SAXGFK-XL	03JFAT-SAXGFK-XL (LA)	
200 V Servo amplifier power connector (5 kW/7 kW)	CNP1A	Terminal block	03JFAT-SAXGDK-P15 (LA)	
	CNP1B		03JFAT-SAYGDK-P15 (LB)	
	CNP2		05JFAT-SAXGDK-H5.0 (LA)	
	CNP3		03JFAT-SAZGDK-P15 (LC)	
400 V Servo amplifier power connector (600 W to 3.5 kW)	CNP1	06JFAT-SAXGDK-HT10.5	06JFAT-SAXGDK-HT10.5 (LA)	
	CNP2	05JFAT-SAXGDK-HT7.5	05JFAT-SAXGDK-HT7.5 (LA)	
	CNP3	03JFAT-SAXGDK-HT10.5	03JFAT-SAXGDK-HT10.5 (LA)	
400 V Servo amplifier power connector (5 kW/7 kW)	CNP1	Terminal block	831-1108/MNC	
	CNP2		831-1103/MNB	
	CNP3		831-1103/MNA	
USB cable		MR-J3USBCBL3M		Use the same combination.
STO cable		MR-D05UDL3M-B		When not using the STO function, attach the supplied short-circuit connector to CN8 (STO input signal connector).

Multi-axis servo amplifier

Cable option combinations

Application		MR-J4W_-_B	MR-J5W_-_G	Precautions
Encoder connector set		MR-ECNM		Use the same combination.
		MR-J3SCNS		Use the same combination.
		MR-J3SCNSA		Use the same combination.
SSCNET III cable		MR-J3BUS_M	—	Not available.
		MR-J3BUS_M-_	—	
Ethernet cable		—	Double shielded cable (Category 5e)	Newly required.
Junction terminal block cable	I/O signal connector CN3	MR-TBNATBL_M		Use the same combination. _M: Cable length
Connector set		MR-J2CMP2		—
		MR-ECN1		—
Monitor cable	Analog monitor connector For CN6	—	MR-ACN6CBL1M	To use an analog monitor, prepare a new one.
Electromagnetic brake connector set		MR-BKCNS1		Use the same combination.
		MR-BKCNS1A		Use the same combination.
Servo amplifier power connector	CNP1	03JFAT-SAXGFK-43	06JFAT-SAXGDK-K7.5 (LB)	These models have no mounting compatibility. The power connector is supplied with a servo amplifier for the MR-J5W_-_G_. Replace the existing connectors with the ones supplied with the servo amplifier.
	CNP2	06JFAT-SAXYGG-F-KK	05JFAT-SAXGDK-K5.0 (LA)	
	CNP3A/CNP3B/ CNP3C	04JFAT-SAGG-G-KK	04JFAT-SAGG-G-KK	
USB cable		MR-J3USBCBL3M		Use the same combination.
STO cable		MR-D05UDL3M-B		When not using the STO function, attach the supplied short-circuit connector to CN8 (STO input signal connector).

21.2 Changes from MR-J4-_B_ to MR-J5-_B_

1-axis servo amplifier

Cable option combinations

Application		MR-J4-_B_	MR-J5-_B_	Precautions
Encoder connector set		MR-ECNM		Use the same combination.
		MR-J3SCNS		Use the same combination.
		MR-ENCNS2		Use the same combination.
		MR-J3SCNSA		Use the same combination.
		MR-ENCNS2A		Use the same combination.
SSCNET III cable		MR-J3BUS_M		Use the same combination. _M: Cable length -_: Flex life
		MR-J3BUS_M-_		
Junction terminal block cable	I/O signal connector CN3	MR-J2HBUS_M		Use the same combination. _: Cable length
Connector set		MR-CCN1		Use the same combination.
Electromagnetic brake connector set		MR-BKCNS1		Use the same combination.
		MR-BKCNS2		Use the same combination.
		MR-BKCNS1A		Use the same combination.
		MR-BKCNS2A		Use the same combination.
200 V Servo amplifier power connector (100 W to 1 kW)	CNP1	06JFAT-SAXGDK-H7.5	06JFAT-SAXGDK-K7.5 (LA)	These models have no mounting compatibility. The power connector is supplied with a servo amplifier for the MR-J5-_B_. Replace the existing connectors with the ones supplied with the servo amplifier.
	CNP2	05JFAT-SAXGDK-H5.0	05JFAT-SAXGDK-K5.0 (LA)	
	CNP3	03JFAT-SAXGDK-H7.5	03JFAT-SAXGDK-K7.5 (LA)	
200 V Servo amplifier power connector (2 kW/3.5 kW)	CNP1	06JFAT-SAXGFK-XL	06JFAT-SAXGFK-XL (LA)	
	CNP2	05JFAT-SAXGDK-H5.0	05JFAT-SAXGDK-H5.0 (LA)	
	CNP3	03JFAT-SAXGFK-XL	03JFAT-SAXGFK-XL (LA)	
200 V Servo amplifier power connector (5 kW/7 kW)	CNP1A	Terminal block	03JFAT-SAXGDK-P15 (LA)	
	CNP1B		03JFAT-SAYGDK-P15 (LB)	
	CNP2		05JFAT-SAXGDK-H5.0 (LA)	
	CNP3		03JFAT-SAZGDK-P15 (LC)	
400 V Servo amplifier power connector (600 W to 3.5 kW)	CNP1	06JFAT-SAXGDK-HT10.5	06JFAT-SAXGDK-HT10.5 (LA)	
	CNP2	05JFAT-SAXGDK-HT7.5	05JFAT-SAXGDK-HT7.5 (LA)	
	CNP3	03JFAT-SAXGDK-HT10.5	03JFAT-SAXGDK-HT10.5 (LA)	
400 V Servo amplifier power connector (5 kW/7 kW)	CNP1	Terminal block	831-1108/MNC	
	CNP2		831-1103/MNB	
	CNP3		831-1103/MNA	
USB cable		MR-J3USBCBL3M		Use the same combination.
STO cable		MR-D05UDL3M-B		When not using the STO function, attach the supplied short-circuit connector to CN8 (STO input signal connector).

Multi-axis servo amplifier

Cable option combinations

Application		MR-J4W_-_B	MR-J5W_-_B	Precautions
Encoder connector set		MR-ECNM		Use the same combination.
		MR-J3SCNS		Use the same combination.
		MR-J3SCNSA		Use the same combination.
SSCNET III cable		MR-J3BUS_M		Use the same combination. _M: Cable length -_: Flex life
		MR-J3BUS_M-_		
Junction terminal block cable	I/O signal connector CN3	MR-TBNATBL_M		Use the same combination. _M: Cable length
Connector set		MR-J2CMP2		—
		MR-ECN1		—
Electromagnetic brake connector set		MR-BKCNS1		Use the same combination.
		MR-BKCNS1A		Use the same combination.
Servo amplifier power connector	CNP1	03JFAT-SAXGFK-43	06JFAT-SAXGDK-K7.5 (LB)	These models have no mounting compatibility. The power connector is supplied with a servo amplifier for the MR-J5W_-_B_. Replace the existing connectors with the ones supplied with the servo amplifier.
	CNP2	06JFAT-SAXYGG-F-KK	05JFAT-SAXGDK-K5.0 (LA)	
	CNP3A/CNP3B/ CNP3C	04JFAT-SAGG-G-KK	04JFAT-SAGG-G-KK	
USB cable		MR-J3USBCBL3M		Use the same combination.
STO cable		MR-D05UDL3M-B		When not using the STO function, attach the supplied short-circuit connector to CN8 (STO input signal connector).

21.3 Changes from MR-J4-_A_ to MR-J5-_A_

1-axis servo amplifier

Cable option combinations

Application		MR-J4-_A_	MR-J5-_A_	Precautions
Encoder connector set		MR-ECNM		Use the same combination.
		MR-J3SCNS		Use the same combination.
		MR-ENCNS2		Use the same combination.
		MR-J3SCNSA		Use the same combination.
		MR-ENCNS2A		Use the same combination.
Junction terminal block cable	I/O signal connector MR-J4-_A_: For CN1 MR-J5-_A_: For CN3	MR-J2M-CN1TBL_M		Use the same combination. _: Cable length
Connector set		MR-J3CN1		Use the same combination.
Junction terminal block		MR-TB50		Use the same combination.
Monitor cable	Analog monitor connector For CN6	MR-J3CN6CBL1M	MR-ACN6CBL1M	These models have no mounting compatibility. Prepare a new one.
Electromagnetic brake connector set		MR-BKCNS1		Use the same combination.
		MR-BKCNS2		Use the same combination.
		MR-BKCNS1A		Use the same combination.
		MR-BKCNS2A		Use the same combination.
200 V Servo amplifier power connector (100 W to 1 kW)	CNP1	06JFAT-SAXGDK-H7.5	06JFAT-SAXGDK-K7.5 (LA)	These models have no mounting compatibility. The power connector is supplied with a servo amplifier for the MR-J5-_A_. Replace the existing connectors with the ones supplied with the servo amplifier.
	CNP2	05JFAT-SAXGDK-H5.0	05JFAT-SAXGDK-K5.0 (LA)	
	CNP3	03JFAT-SAXGDK-H7.5	03JFAT-SAXGDK-K7.5 (LA)	
200 V Servo amplifier power connector (2 kW/3.5 kW)	CNP1	06JFAT-SAXGFK-XL	06JFAT-SAXGFK-XL (LA)	
	CNP2	05JFAT-SAXGDK-H5.0	05JFAT-SAXGDK-H5.0 (LA)	
	CNP3	03JFAT-SAXGFK-XL	03JFAT-SAXGFK-XL (LA)	
200 V Servo amplifier power connector (5 kW/7 kW)	CNP1A	Terminal block	03JFAT-SAXGDK-P15 (LA)	
	CNP1B		03JFAT-SAYGDK-P15 (LB)	
	CNP2		05JFAT-SAXGDK-H5.0 (LA)	
	CNP3		03JFAT-SAZGDK-P15 (LC)	
400 V Servo amplifier power connector (600 W to 3.5 kW)	CNP1	06JFAT-SAXGDK-HT10.5	06JFAT-SAXGDK-HT10.5 (LA)	
	CNP2	05JFAT-SAXGDK-HT7.5	05JFAT-SAXGDK-HT7.5 (LA)	
	CNP3	03JFAT-SAXGDK-HT10.5	03JFAT-SAXGDK-HT10.5 (LA)	
400 V Servo amplifier power connector (5 kW/7 kW)	CNP1	Terminal block	831-1108/MNC	
	CNP2		831-1103/MNB	
	CNP3		831-1103/MNA	
USB cable		MR-J3USBCBL3M		Use the same combination.
STO cable		MR-D05UDL3M-B		When not using the STO function, attach the supplied short-circuit connector to CN8 (STO input signal connector).

22 POWER SUPPLY WIRE SIZES

22.1 Outline

Point

To comply with the IEC/EN/UL/CSA standard for wiring, use the wires described in the MR-J5 Safety Instructions and Precautions for AC Servos (IB(NA)-0300391). To comply with other standards, use wires that comply with each standard.

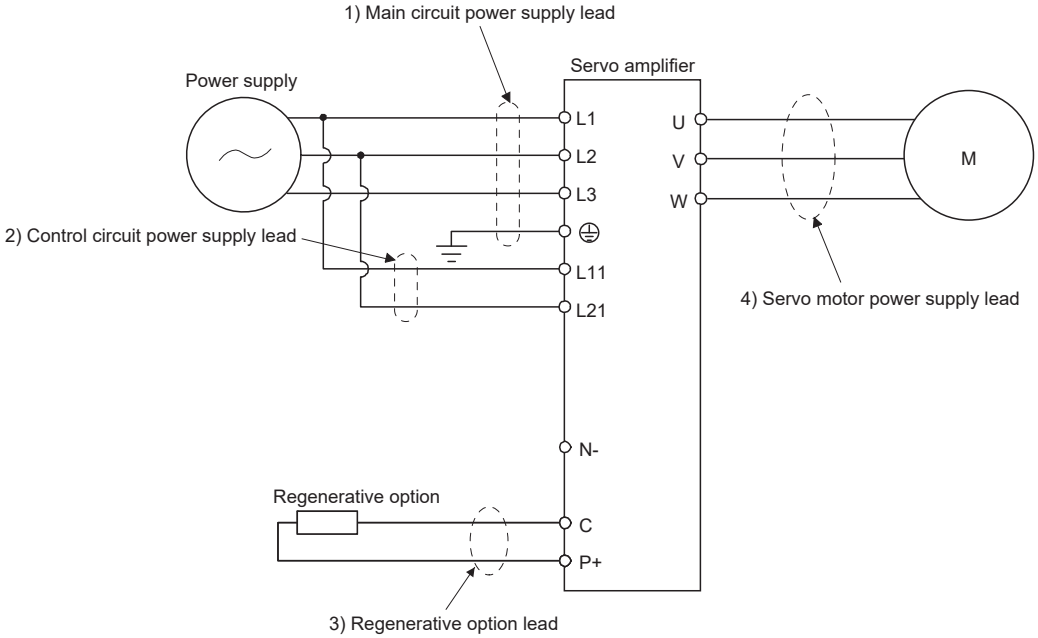
Selection requirements for the wire size are as follows.

- Construction requirements: Single wire set in midair
- Wiring length: 30 m or less

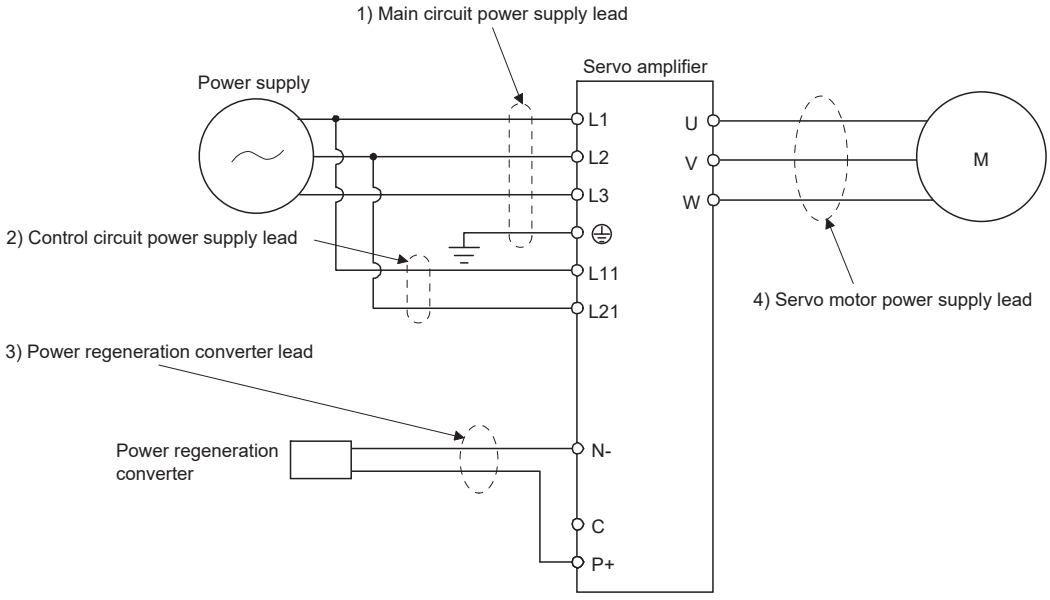
Selection example of wires

The following shows the wires used for wiring. Use the wires given in this section or equivalent wires.

When a regenerative option is connected



When a power regeneration converter is connected



Comparison of wire size selection examples

Use 600 V Grade heat-resistant polyvinyl chloride insulated wires (HIV wires) for wiring.
The following shows the wire size selection examples.

200 V class

■MR-J4 series

Servo amplifier	Wire [mm^2] *1			
	1) L1/L2/L3/⏚ *5	2) L11/L21	3) P+/C	4) U/V/W/E *3
MR-J4-10_	2 (AWG 14)	1.25 to 2 (AWG 16 to 14) *4	2 (AWG 14)	AWG 18 to 14 *4
MR-J4-20_				
MR-J4-40_				
MR-J4-60_				
MR-J4-70_				
MR-J4-100_				
MR-J4-200_ (3-phase power supply input)				AWG 16 to 10
MR-J4-200_ (1-phase power supply input)	3.5 (AWG 12)			
MR-J4-350_				
MR-J4-500_ *2	5.5 (AWG 10): a	1.25 (AWG 16): a 2 (AWG 14): d *4	2 (AWG 14): c	2 (AWG 14): c 3.5 (AWG 12): a 5.5 (AWG 10): a
MR-J4-700_ *2	8 (AWG 8): b			2 (AWG 14): c 3.5 (AWG 12): a 5.5 (AWG 10): a 8 (AWG 8): b
MR-J4W2-22_	2 (AWG 14)			AWG 18 to 14
MR-J4W2-44_				
MR-J4W2-77_				
MR-J4W2-1010_				
MR-J4W3-222_				
MR-J4W3-444_				

*1 The alphabetical letters in the table indicate the symbols of MR-J4 series servo amplifier-side crimp terminals. Refer to the following table for details. Cover the crimped part with an insulating tube.
Mounting of the crimp terminal indicated by symbol b may not be possible depending on the size, so use the recommended product or an equivalent.
*2 When connecting to the terminal block, be sure to use the screws included with the terminal block.
*3 The wire size shows applicable size of the MR-J4 series servo amplifier connector and terminal block. For wires connecting to the servo motor, refer to the instruction manual of each servo motor.
*4 Use the size of 2 mm^2 for compliance with the IEC/EN/UL/CSA standard.
*5 When using the MR-J4W_-_B, use the following crimp terminal for the PE terminal.
Crimp terminal: FVD2-4
Tool: YNT-1614
Manufacturer: JST
Tightening torque: 1.2 [N•m]

Symbol	MR-J4 series servo amplifier-side crimp terminal				
	Crimp terminal	Applicable tool			Manufacturer
		Body	Head	Die	
a	FVD5.5-4	YNT-1210S	—	—	JST (J.S.T. Mfg. Co., Ltd.)
b	8-4NS	YHT-8S	—	—	
c	FVD2-4	YNT-1614	—	—	
d	FVD2-M3		—	—	

■MR-J5 series

Servo amplifier	Wire [mm^2] *2			
	1) L1/L2/L3/⏚	2) L11/L21	3) P+/C	4) U/V/W/E *3
MR-J5-10_4_	2 (AWG 14): a	1.25 to 2 (AWG 16 to 14) *1	2 (AWG 14)	0.75 to 2 (AWG 18 to 14)
MR-J5-20_4_				
MR-J5-40_4_				
MR-J5-60_4_				
MR-J5-70_4_				
MR-J5-100_4_				
MR-J5-200_4_ (3-phase power supply input)				0.75 to 5.5 (AWG 18 to 10)
MR-J5-200_4_ (1-phase power supply input)	3.5 (AWG 12): b			
MR-J5-350_4_				
MR-J5-500_4_	5.5 (AWG 10): c			0.75 to 8 (AWG 18 to 8)
MR-J5-700_4_	8 (AWG 8): d			
MR-J5W2-22_	2 (AWG 14): a	2 (AWG 14)		0.75 to 2 (AWG 18 to 14)
MR-J5W2-44_				
MR-J5W2-77_	2 (AWG 14): a			
MR-J5W2-1010_	2 (AWG 14): a			
MR-J5W3-222_	2 (AWG 14): a			
MR-J5W3-444_	2 (AWG 14): a			

*1 Use the size of 2 mm^2 for compliance with the IEC/EN/UL/CSA standard.

*2 The alphabetical letters in the table indicate the symbols of MR-J5 series servo amplifier-side crimp terminals. Refer to the following table for details.

*3 The wire size shows applicable size of the MR-J5 series servo amplifier connector and terminal block. For wires connecting to the servo motor, refer to the user's manual of each servo motor.

Symbol	MR-J5 series servo amplifier-side crimp terminal		Manufacturer
	Crimp terminal	Applicable tool	
a	R2-4	YHT-2210	JST (J.S.T. Mfg. Co., Ltd.)
b	3.5-4	YHT-2210	
c	R5.5-4	YHT-2210	
d	8-4NS, R8-5	YHT-8S, YA-4	

400 V class

■MR-J4 series

Servo amplifier	Wire [mm^2] *1			
	1) L1/L2/L3/	2) L11/L21	3) P+/C	4) U/V/W/E *2
MR-J4-60_4_	2 (AWG 14)	1.25 to 2 (AWG 16 to 14) *3	2 (AWG 14)	AWG 16 to 14
MR-J4-100_4_				
MR-J4-200_4_				
MR-J4-350_4_				
MR-J4-500_4_	2 (AWG 14): b	1.25 (AWG 16): a *3 2 (AWG 14): c *3	2 (AWG 14): b	3.5 (AWG 12): a
MR-J4-700_4_	3.5 (AWG 12): a			5.5 (AWG 10): a

*1 The alphabetical letters in the table indicate the symbols of MR-J4-_4 servo amplifier-side crimp terminals. Refer to the following table for details.
☞ Page 715 Selection example of crimp terminals

*2 The wire size shows applicable size of the MR-J4-_4 servo amplifier connector and terminal block. For wires connecting to the servo motor, refer to the instruction manual of each servo motor.

*3 Use the size of 2 mm^2 for compliance with the IEC/EN/UL/CSA standard.

■MR-J5 series

Servo amplifier	Wire [mm^2] *2			
	1) L1/L2/L3/	2) L11/L21	3) P+/C	4) U/V/W/E *3
MR-J5-60_4_	2 (AWG 14): a	1.25 to 2 (AWG 16 to 14) *1	2 (AWG 14)	0.75 to 2 (AWG 18 to 14)
MR-J5-100_4_				
MR-J5-200_4_				
MR-J5-350_4_				
MR-J4-500_4_	2 (AWG 14): a	3.5 (AWG 12): b	2 (AWG 14)	0.5 to 10 (AWG 20 to 8)
MR-J4-700_4_	3.5 (AWG 12): b	1.25 to 2 (AWG 16 to 14)	2 (AWG 14)	0.5 to 10 (AWG 20 to 8)

*1 Use the size of 2 mm^2 for compliance with the IEC/EN/UL/CSA standard.

*2 The alphabetical letters in the table indicate the symbols of MR-J5-_4 servo amplifier-side crimp terminals. Refer to the following table for details.
☞ Page 715 Selection example of crimp terminals

*3 The wire size shows applicable size of the MR-J5-_4 servo amplifier connector and terminal block. For wires connecting to the servo motor, refer to the user's manual of each servo motor.

Selection example of crimp terminals

■MR-J4 series

Symbol	MR-J4-_4_ servo amplifier-side crimp terminal				
	Crimp terminal	Applicable tool			Manufacturer
		Body	Head	Die	
a	FVD5.5-4	YNT-1210S	—	—	JST (J.S.T. Mfg. Co., Ltd.)
b	FVD2-4	YHT-1614	—	—	
c	FVD2-M3		—	—	

■MR-J5 series

Symbol	MR-J5-_4_ servo amplifier-side crimp terminal		Manufacturer
	Crimp terminal	Applicable tool	
a	R2-4	YHT-2210	JST (J.S.T. Mfg. Co., Ltd.)
b	3.5-4	YHT-2210	
c	R5.5-4	YHT-2210	
d	8-4NS, R8-5	YHT-8S, YA-4	

22.2 Comparison of Molded-Case Circuit Breaker, Fuse, and Magnetic Contactor Selection Examples

Select the molded-case circuit breakers specified in this section.

Point

For selection when using an MR-J4-_-RJ servo amplifier with the DC power supply input, refer to each servo amplifier instruction manual of the MR-J4 series.
For selection when using the MR-J5 series with the DC power supply input, refer to the following manual.
MR-J5 User's Manual (Hardware)

For 1-axis servo amplifiers

Wire the molded-case circuit breaker and magnetic contactor as recommended.

For main circuit power supply

When using a fuse instead of the molded-case circuit breaker, use the one having the specifications given in this section.
Wire the molded-case circuit breaker and magnetic contactor as recommended. For details, refer to the following manuals.
MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual
MR-J4-_A_(-RJ) Servo Amplifier Instruction Manual
MR-J5 User's Manual (Hardware)

■MR-J4 series

Servo amplifier	Molded-case circuit breaker *1			Fuse			Magnetic contactor *2
	Frame, rated current		Voltage AC [V]	Class	Current [A]	Voltage AC [V]	
	Power factor improving reactor is not used	Power factor improving reactor is used					
MR-J4-10_	30 A frame 5 A	30 A frame 5 A	240	T	10 dq	300	S-N10 S-T10
MR-J4-20_							
MR-J4-40_	30 A frame 10 A	30 A frame 5 A			15		
MR-J4-60_	30 A frame 15 A	30 A frame 10 A			20		
MR-J4-70_							
MR-J4-100_ (3-phase power supply input)							
MR-J4-100_ (1-phase power supply input)		30 A frame 15 A			30		
MR-J4-200_	30 A frame 20 A	30 A frame 20 A			40		S-N20 *3 S-T21
MR-J4-350_	30 A frame 30 A	30 A frame 30 A			70		S-N20 S-T21
MR-J4-500_	50 A frame 50 A	50 A frame 50 A			125		S-N35 S-T35
MR-J4-700_	100 A frame 75 A	60 A frame 60 A			150		S-N50 S-T50
MR-J4-60_4_	30 A frame 5 A	30 A frame 5 A	480		10	600	S-N10 S-T10
MR-J4-100_4_	30 A frame 10 A	30 A frame 5 A			15		
MR-J4-200_4_	30 A frame 15 A	30 A frame 10 A			25		
MR-J4-350_4_	30 A frame 20 A	30 A frame 15 A			35		S-N20 *3 S-T21
MR-J4-500_4_	30 A frame 20 A	30 A frame 20 A			50		
MR-J4-700_4_	30 A frame 30 A	30 A frame 30 A			65		S-N20 S-T21

*1 To make the servo amplifier comply with the IEC/EN/UL/CSA standard, refer to each servo amplifier instruction manual of the MR-J4 series.
*2 Use the magnetic contactor with an operation delay time (interval between current being applied to the coil until closure of contacts) of 80 ms or less.
*3 S-N18 can be used when auxiliary contact is not required.

■MR-J5 series

Servo amplifier	Molded-case circuit breaker *2			Fuse			Magnetic contactor *1
	Frame, rated current		Voltage AC [V]	Class	Current [A]	Voltage AC [V]	
	Power factor improving reactor is not used	Power factor improving reactor is used					
MR-J5-10_	30 to 125 A frame 5 A	30 to 125 A frame 5 A	240	T	10	300	S-T10
MR-J5-20_	30 to 125 A frame 5 A	30 to 125 A frame 5 A					
MR-J5-40_	30 to 125 A frame 10 A	30 to 125 A frame 5 A			15		
MR-J5-60_	30 to 125 A frame 15 A	30 to 125 A frame 10 A			20		
MR-J5-70_	30 to 125 A frame 15 A	30 to 125 A frame 10 A					
MR-J5-100_ (3-phase power supply input)	30 to 125 A frame 15 A	30 to 125 A frame 10 A					
MR-J5-100_ (1-phase power supply input)	30 to 125 A frame 15 A	30 to 125 A frame 15 A			30		
MR-J5-200_	30 to 125 A frame 20 A	30 to 125 A frame 20 A			40		S-T10 S-T21
MR-J5-350_	30 to 125 A frame 30 A	30 to 125 A frame 30 A			70		S-T21
MR-J5-500_	50 to 125 A frame 50 A	50 to 125 A frame 50 A			125		S-T25 S-T35
MR-J5-700_	100 to 125 A frame 75 A	60 to 125 A frame 60 A			150		S-T35 S-T50
MR-J5-60_4_	30 to 125 A frame 5 A	30 to 125 A frame 5 A	480		10	600	S-T10
MR-J5-100_4_	30 to 125 A frame 10 A	30 to 125 A frame 5 A			15		
MR-J5-200_4_	30 to 125 A frame 15 A	30 to 125 A frame 10 A			25		
MR-J5-350_4_	30 to 125 A frame 20 A	30 to 125 A frame 15 A			35		S-T21
MR-J4-500_4_	30 to 125 A frame 20 A	30 to 125 A frame 20 A			50		
MR-J4-700_4_	30 to 125 A frame 30 A	30 to 125 A frame 30 A			65		

*1 Use the magnetic contactor with an operation delay time (interval between current being applied to the coil until closure of contacts) of 80 ms or less.
*2 To make the servo amplifier comply with the IEC/EN/UL/CSA standard, refer to the following manual.
MR-J5 User's Manual (Hardware)

■Type E combination motor controller

A Type E combination motor controller can also be used instead of a molded-case circuit breaker. The Type E combination motor controller is the product combined with the motor circuit breaker, the short-circuit indicator unit UT-TU, and the line side terminal adapter UT-CV3. Products that are used before replacement can be used with the 3-phase power supply input for 200 V class servo amplifiers.

Motor circuit breakers (Type E combination motor controllers) cannot be used with 400 V class servo amplifiers.

Servo amplifier	Rated input voltage AC [V]	Input phase *2	Motor circuit breaker (Type E combination motor controller)			SCCR [kA] *1
			Model	Rated voltage AC [V]	Rated current [A] (heater design)	
MR-J4-10_ MR-J5-10_	200 to 240	3-phase	MMP-T32	240	1.6	50
MR-J4-20_ MR-J5-20_					2.5	
MR-J4-40_ MR-J5-40_					4	
MR-J4-60_ MR-J5-60_					6.3	
MR-J4-70_ MR-J5-70_					6.3	
MR-J4-100_ MR-J5-100_					8	
MR-J4-200_ MR-J5-200_					18	
MR-J4-350_ MR-J5-350_					25	25
MR-J4-500_ MR-J5-500_					32	

*1 The values of the SCCR vary depending on the combination with the servo amplifier.

*2 1-phase input is not supported.

For control circuit power supply

You can use those used before replacement.

When the wiring for the control circuit power supply (L11/L21) is thinner than that for the main circuit power supply (L1/L2/L3), install an overcurrent protection device (molded-case circuit breaker, fuse, etc.) to protect the branch circuit.

Servo amplifier	Molded-case circuit breaker *1		Fuse (Class T)		Fuse (Class K5)	
	Frame, rated current	Voltage AC [V]	Current [A]	Voltage AC [V]	Current [A]	Voltage AC [V]
MR-J4-10_ MR-J5-10_	30 A frame 5 A	240	1	300	1	250
MR-J4-20_ MR-J5-20_						
MR-J4-40_ MR-J5-40_						
MR-J4-60_ MR-J5-60_						
MR-J4-70_ MR-J5-70_						
MR-J4-100_ MR-J5-100_						
MR-J4-200_ MR-J5-200_						
MR-J4-350_ MR-J5-350_						
MR-J4-500_ MR-J5-500_						
MR-J4-700_ MR-J5-700_						
MR-J4-60_4_ MR-J5-60_4_	30 A frame 5 A	480	1	600	1	600
MR-J4-100_4_ MR-J5-100_4_						
MR-J4-200_4_ MR-J5-200_4_						
MR-J4-350_4_ MR-J5-350_4_						
MR-J4-500_4_ MR-J5-500_4_						
MR-J4-700_4_ MR-J5-700_4_						

*1 To comply with the IEC/EN/UL/CSA standard, refer to the "MR-J4 Instructions and Cautions for Safe Use of AC Servos (IB(NA)-0300175)" and "Safety Instructions and Precautions for MR-J5 AC Servos (IB(NA)-0300391)" for selection of molded-case circuit breakers and fuses.

For multi-axis servo amplifiers

When using a fuse instead of the molded-case circuit breaker, use the one having the specifications given in this section. When using a combination of the rotary servo motor, linear servo motor, and direct drive motor, select a molded-case circuit breaker, fuse, or magnetic contactor tentatively, assuming one type of the servo motors is used for 2 or 3 axes. After the tentative selections are made for all types of the servo motors, use the largest among all molded-case circuit breakers, fuses, or magnetic contactors.

For main circuit power supply

■2-axis servo amplifier

MR-J4W2-_

Total output of rotary servo motors	Total continuous thrust of linear servo motors	Total output of direct drive motors	Molded-case circuit breaker *1*5*6		Fuse			Magnetic contactor *2
			Frame, rated current	Voltage AC [V]	Class	Current [A]	Voltage AC [V]	
300 W or less	—	—	50 A frame 5 A *3	240	T	15	300	S-N10 S-T10
From over 300 W to 600 W	150 N or less	100 W or less	50 A frame 10 A *3			20		
From over 600 W to 1 kW	From over 150 N to 300 N	From over 100 W to 252 W	50 A frame 15 A *3			20		
From over 1 kW to 2 kW	From over 300 N to 720 N	From over 252 W to 838 W	50 A frame 20 A *3			30		S-N20 S-T21 *4

MR-J5W2-_

Total output of rotary servo motors	Total continuous thrust of linear servo motors	Total output of direct drive motors	Molded-case circuit breaker *5*7		Fuse			Magnetic contactor *2
			Frame, rated current	Voltage AC [V]	Class	Current [A]	Voltage AC [V]	
300 W or less	—	—	30 to 125 A frame 5 A	240	T	15	300	S-T10
From over 300 W to 600 W	150 N or less	100 W or less	30 to 125 A frame 10 A			20		
From over 600 W to 1 kW	From over 150 N to 300 N	From over 100 W to 252 W	30 to 125 A frame 15 A			20		
From over 1 kW to 2 kW	From over 300 N to 720 N	From over 252 W to 838 W	30 to 125 A frame 20 A			30		S-T21

*1 To make the servo amplifier comply with the IEC/EN/UL/CSA standard, refer to the "MR-J4W2-_B/MR-J4W3-_B/MR-J4W2-0303B6 Servo Amplifier Instruction Manual".

*2 Use the magnetic contactor with an operation delay time (interval between current being applied to the coil until closure of contacts) of 80 ms or less.

*3 If not using the servo amplifier as an IEC/EN/UL/CSA standard compliant product, a molded-case circuit breaker of 30 A frame can be used.

*4 S-N18 can be used when auxiliary contact is not required.

*5 The molded-case circuit breaker is the same regardless of whether a power factor improving AC reactor is used.

*6 Use a molded-case circuit breaker that has operation characteristics equal to or higher than Mitsubishi general-purpose products.

*7 To comply with the IEC/EN/UL/CSA standard, refer to "MR-J5 Safety Instructions and Precautions for AC Servos (IB(NA)-0300391)" for selection of molded-case circuit breakers and fuses.

■3-axis servo amplifier

MR-J4W3-_

Total output of rotary servo motors	Total continuous thrust of linear servo motors	Total output of direct drive motors	Molded-case circuit breaker *1*4*5		Fuse			Magnetic contactor *2
			Frame, rated current	Voltage AC [V]	Class	Current [A]	Voltage AC [V]	
450 W or less	150 N or less	—	50 A frame 10 A *3	240	T	20	300	S-N10 S-T10
From over 450 W to 800 W	From over 150 N to 300 N	252 W or less	50 A frame 15 A *3			20		
From over 800 W to 1.5 kW	From over 300 N to 450 N	From over 252 W to 378 W	50 A frame 20 A *3			30		S-N20 S-T21

MR-J5W3-_

Total output of rotary servo motors	Total continuous thrust of linear servo motors	Total output of direct drive motors	Molded-case circuit breaker *4*6		Fuse			Magnetic contactor *2
			Frame, rated current	Voltage AC [V]	Class	Current [A]	Voltage AC [V]	
450 W or less	150 N or less	—	30 to 125 A frame 10 A	240	T	20	300	S-T10
From over 450 W to 800 W	From over 150 N to 300 N	252 W or less	30 to 125 A frame 15 A			20		
From over 800 W to 1.5 kW	From over 300 N to 450 N	From over 252 W to 378 W	30 to 125 A frame 20 A			30		S-T21

*1 To make the servo amplifier comply with the IEC/EN/UL/CSA standard, refer to the "MR-J4W2-_B/MR-J4W3-_B/MR-J4W2-0303B6 Servo Amplifier Instruction Manual".

*2 Use the magnetic contactor with an operation delay time (interval between current being applied to the coil until closure of contacts) of 80 ms or less.

*3 If not using the servo amplifier as an IEC/EN/UL/CSA standard compliant product, a molded-case circuit breaker of 30 A frame can be used.

*4 The molded-case circuit breaker is the same regardless of whether a power factor improving AC reactor is used.

*5 Use a molded-case circuit breaker that has operation characteristics equal to or higher than Mitsubishi general-purpose products.

*6 To comply with the IEC/EN/UL/CSA standard, refer to "MR-J5 Safety Instructions and Precautions for AC Servos (IB(NA)-0300391)" for selection of molded-case circuit breakers and fuses.

■Type E combination motor controller

A Type E combination motor controller can also be used instead of a molded-case circuit breaker. The Type E combination motor controller is the product combined with the motor circuit breaker, the short-circuit indicator unit UT-TU, and the line side terminal adapter UT-CV3. You can use those used before replacement.

Servo amplifier	Rated input voltage AC [V]	Input phase	Motor circuit breaker (Type E combination motor controller)			SCCR [kA]
			Model	Rated voltage AC [V]	Rated current [A] (heater design)	
MR-J4W2-22_ MR-J5W2-22_	200 to 240	3-phase	MMP-T32	240	6.3	50
MR-J4W2-44_ MR-J5W2-44_					8	
MR-J4W2-77_ MR-J5W2-77_					13	
MR-J4W2-1010_ MR-J5W2-1010_					18	
MR-J4W3-222_ MR-J5W3-222_					8	
MR-J4W3-444_ MR-J5W3-444_					13	

For control circuit power supply

When the wiring for the control circuit power supply (L11/L21) is thinner than that for the main circuit power supply (L1/L2/L3), install an overcurrent protection device (molded-case circuit breaker, fuse, etc.) to protect the branch circuit.

■MR-J4W_-_

Servo amplifier	Molded-case circuit breaker *3		Fuse (Class T)		Fuse (Class K5)	
	Frame, rated current	Voltage AC [V]	Current [A]	Voltage AC [V]	Current [A]	Voltage AC [V]
MR-J4W2-22_	50 A frame 5 A *1	240	1	300	1	250
MR-J4W2-44_						
MR-J4W2-77_						
MR-J4W2-1010_						
MR-J4W3-222_						
MR-J4W3-444_						

■MR-J5W_-_

Servo amplifier	Molded-case circuit breaker *2		Fuse (Class T)		Fuse (Class K5)	
	Frame, rated current	Voltage AC [V]	Current [A]	Voltage AC [V]	Current [A]	Voltage AC [V]
MR-J4W2-22_	30 A frame 5 A	240	1	300	1	250
MR-J4W2-44_						
MR-J4W2-77_						
MR-J4W2-1010_						
MR-J4W3-222_						
MR-J4W3-444_						

*1 If not using the servo amplifier as an IEC/EN/UL/CSA standard compliant product, a molded-case circuit breaker of 30 A frame can be used.

*2 To comply with the IEC/EN/UL/CSA standard, refer to "MR-J5 Safety Instructions and Precautions for AC Servos (IB(NA)-0300391)" for selection of molded-case circuit breakers and fuses.

*3 To comply with the IEC/EN/UL/CSA standard, refer to the "MR-J4 Safety Instructions and Precautions for AC Servos (IB(NA)-0300175)" for selection of molded-case circuit breakers and fuses.

23 ABSOLUTE POSITION ENCODER BATTERY

Point

When constructing an absolute position detection system with the MR-J5 series, the following applies depending on which motor is used.

- When an HK series rotary servo motor is used: Battery not required.
- When a linear servo motor is used: Battery not required.
- When a direct drive motor is used: Battery required.

For the battery, refer to "11.8 Battery" in the following manual.

MR-J5 User's Manual (Hardware)

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24 EMC FILTER COMBINATIONS (RECOMMENDED)

Point

For the MR-J5 series, the EMC filter selection is made considering multiple axes. Additionally, recommended products differ between the MR-J5 series and MR-J4 series. For the MR-J5 series, the comparison is not based on combinations with servo amplifiers. The size is compared based on the rated current value together with filters with equivalent specifications.

24.1 MR-J4 Series EMC Filter (Recommended) (200 V/400 V Class)

It is recommended that one of the following filters be used to comply with EN EMC directive. Some EMC filters have a large leakage current. Be sure to use one EMC filter per servo amplifier.

Combination with the servo amplifier

Servo amplifier	Recommended filter (Soshin Electric)				Mass [kg]
	Model	Rated current [A]	Rated voltage [VAC]	Leakage current [mA]	
MR-J4-10_ to MR-J4-100_	HF3010A-UN *1	10	250	5	3.5
MR-J4W2-22_					
MR-J4W2-44_					
MR-J4W3-222_					
MR-J4-200_	HF3030A-UN *1	30		5	5.5
MR-J4-350_					
MR-J4W2-77_					
MR-J4W2-1010_					
MR-J4W3-444_					
MR-J4-500_	HF3040A-UN	40		6.5	6
MR-J4-700_					
MR-J4-60_4_	TF3005C-TX	5	500	5.5	6
MR-J4-100_4_					
MR-J4-200_4_ to MR-J4-700_4_	TF3020C-TX	20		5.5	6

*1 To use this EMC filter, a surge protector is required. Refer to each servo amplifier instruction manual for details.

24.2 MR-J5 Series EMC Filter (Recommended) (200 V/400 V Class)

It is recommended that one of the following filters be used to comply with EN EMC directive. Some EMC filters have a large leakage current.

When connecting one or more servo amplifiers to one EMC filter, satisfy the following conditions:

- Rated voltage of the EMC filter [V] ≥ Rated voltage of the servo amplifiers [V]
- Rated current of the EMC filter [A] ≥ Total rated current of the servo amplifiers connected to the EMC filter [A]

Application environment	Total length of servo motor power cable	EMC filter					
		Model	Rated current [A]	Rated voltage [VAC]	Operating temperature [°C]	Mass [kg]	Manufacturer
IEC/EN 61800-3 Category C2, C3 *1	50 m or less	FSB-10-254-HU	10	250	-40 to 85	1.8	COSEL Co., Ltd.
		FSB-20-254-HU	20				
		FSB-30-254-HU	30				
		FSB-40-324-HU	40	250		3.3	
		FSB-10-355	10	500	-40 to 85	1.8	
		FSB-20-355	20				
		FN3288-16-44-C35-R65 *2	16	530	-40 to 50	1.0	Schaffner EMC K.K.
		FN3288-40-33-C35-R65 *2	40			1.8	
		FN3288-63-53-C35-R65	63			2.7	
IEC/EN 61800-3 Category C3 *1		HF3010C-SZB	10	500	-20 to 50	0.9	Soshin Electric Co., Ltd.
		HF3020C-SZB	20			1.3	
		HF3030C-SZB	30				
		HF3040C-SZB	40			2.0	
	100 m or less	HF3030C-SZL	30	500	-20 to 50	1.3	
	200 m or less	HF3060C-SZL	60			2.1	
	250 m or less	HF3100C-SZL	100			5.8	
	250 m or less	HF3150C-SZL	150			9.0	

*1 Category C2: Intended for use in the first environment (residential environment) only when installed by professional personnel. Intended for use in the second environment (commercial, light industry and industrial environments).
Category C3: Intended for use in the second environment (commercial, light industry and industrial environments).

*2 For 200 V class servo amplifiers, FN3288-16-44-C17-R65 and FN3288-40-33-C17-R65, which suppress leakage current from the EMC filters, can be used as well.

24.3 Connection Example

Refer to the following manuals.
MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual
MR-J4W2-_B/MR-J4W3-_B/MR-J4W2-0303B6 Servo Amplifier Instruction Manual
📖MR-J5 User's Manual (Hardware)

24.4 Dimensions

Refer to the following manuals.
MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual
MR-J4W2-_B/MR-J4W3-_B/MR-J4W2-0303B6 Servo Amplifier Instruction Manual
📖MR-J5 User's Manual (Hardware)

24.5 Surge Protector (Recommended)

Refer to the following manuals.
MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual
MR-J4W2-_B/MR-J4W3-_B/MR-J4W2-0303B6 Servo Amplifier Instruction Manual
📖MR-J5 User's Manual (Hardware)

25 POWER FACTOR IMPROVING DC REACTOR AND POWER FACTOR IMPROVING AC REACTOR

25.1 Power Factor Improving DC Reactor

The following shows the advantages of using a power factor improving DC reactor.

- It improves the power factor by increasing the form factor of the servo amplifier's input current.
- It decreases the power supply capacity.
- The input power factor is improved to about 85 %.
- As compared to the power factor improving AC reactor (FR-HAL-(H)), it decreases the loss.

Point

The same power factor improving DC reactor is used for the MR-J4 series and MR-J5 series with each capacity.

Power factor improving DC reactors cannot be used for the MR-J4W_-_ and MR-J5W_-_.

For details on the power factor improving DC reactor, refer to the following manual.

MR-J5 User's Manual (Hardware)

The table below shows combinations of the MR-J4/MR-J5 series and power factor improving DC reactors.

200 V class

Servo amplifier	Power factor improving DC reactor	Servo amplifier	Power factor improving DC reactor
MR-J4-10_ MR-J5-10_	FR-HEL-0.4K	MR-J4-100_ MR-J5-100_	FR-HEL-2.2K
MR-J4-20_ MR-J5-20_		MR-J4-200_ MR-J5-200_	FR-HEL-3.7K
MR-J4-40_ MR-J5-40_	FR-HEL-0.75K	MR-J4-350_ MR-J5-350_	FR-HEL-7.5K
MR-J4-60_ MR-J5-60_	FR-HEL-1.5K	MR-J4-500_ MR-J5-500_	FR-HEL-11K
MR-J4-70_ MR-J5-70_		MR-J4-700_ MR-J5-700_	FR-HEL-15K

400 V class

Servo amplifier	Power factor improving DC reactor	Servo amplifier	Power factor improving DC reactor
MR-J4-60_4_ MR-J5-60_4_	FR-HEL-H1.5K	MR-J4-350_4_ MR-J5-350_4_	FR-HEL-H7.5K
MR-J4-100_4_ MR-J5-100_4_	FR-HEL-H2.2K	MR-J4-500_4_ MR-J5-500_4_	FR-HEL-H11K
MR-J4-200_4_ MR-J5-200_4_	FR-HEL-H3.7K	MR-J4-700_4_ MR-J5-700_4_	FR-HEL-H15K

25.2 Power Factor Improving AC Reactor

Point

The same power factor improving AC reactor is used for the MR-J4 series and MR-J5 series with each capacity.

For details on the power factor improving AC reactor, refer to the following manual.

MR-J5 User's Manual (Hardware)

The following shows the advantages of using power factor improving AC reactor.

- It improves the power factor by increasing the form factor of the servo amplifier's input current.
- It decreases the power supply capacity.
- The input power factor is improved to about 80 %.

When using power factor improving AC reactors for two servo amplifiers or more, be sure to connect a power factor improving AC reactor to each servo amplifier. If one unit of power factor improving reactor is used for multiple servo amplifiers, the power factor cannot be improved sufficiently unless all servo amplifiers are operated.

When using a combination of the rotary servo motor, linear servo motor, and direct drive motor together with the MR-J4W_-_B and MR-J5W_-_B, select a power factor improving AC reactor tentatively, assuming one type of the servo motors is used for 2 or 3 axes. After the tentative selections are made for all types of the servo motors, use the largest among all power factor improving AC reactors.

1-axis servo amplifier

■200 V class

Servo amplifier	Power factor improving AC reactor	Servo amplifier	Power factor improving AC reactor
MR-J4-10_ MR-J5-10_ MR-J4-20_ MR-J5-20_	FR-HAL-0.4K	MR-J4-100_ (3-phase power supply input) MR-J5-100_ (3-phase power supply input)	FR-HAL-2.2K
		MR-J4-100_ (1-phase power supply input) MR-J5-100_ (1-phase power supply input) MR-J4-200_ (3-phase power supply input) MR-J5-200_ (3-phase power supply input)	FR-HAL-3.7K
		MR-J4-200_ (1-phase power supply input) MR-J5-200_ (1-phase power supply input)	FR-HAL-5.5K
MR-J4-40_ MR-J5-40_	FR-HAL-0.75K	MR-J4-350_ MR-J5-350_	FR-HAL-7.5K
MR-J4-60_ MR-J5-60_ MR-J4-70_ MR-J5-70_	FR-HAL-1.5K	MR-J4-500_ MR-J5-500_	FR-HAL-11K
		MR-J4-700_ MR-J5-700_	FR-HAL-15K

■400 V class

Servo amplifier	Power factor improving AC reactor	Servo amplifier	Power factor improving AC reactor
MR-J4-60_4_ MR-J5-60_4_	FR-HAL-H1.5K	MR-J4-350_4_ MR-J5-350_4_	FR-HAL-H7.5K
MR-J4-100_4_ MR-J5-100_4_	FR-HAL-H2.2K	MR-J4-500_4_ MR-J5-500_4_	FR-HAL-H11K
MR-J4-200_4_ MR-J5-200_4_	FR-HAL-H3.7K	MR-J4-700_4_ MR-J5-700_4_	FR-HAL-H15K

Multi-axis servo amplifier

■MR-J4W2-_B/MR-J5W2-_B servo amplifier

Total output of rotary servo motors	Total continuous thrust of linear servo motors	Total output of direct drive motors	Power factor improving AC reactor
450 W or less	150 N or less	100 W or less	FR-HAL-0.75K
From over 450 W to 600 W	From over 150 N to 240 N	From over 100 W to 377 W	FR-HAL-1.5K
From over 600 W to 1 kW	From over 240 N to 300 N	From over 377 W to 545 W	FR-HAL-2.2K
From over 1 kW to 2.0 kW	From over 300 N to 720 N	From over 545 W to 838 W	FR-HAL-3.7K

■MR-J4W3-_B/MR-J5W3-_B servo amplifier

Total output of rotary servo motors	Total continuous thrust of linear servo motors	Total output of direct drive motors	Power factor improving AC reactor
450 W or less	150 N or less	—	FR-HAL-0.75K
From over 450 W to 600 W	From over 150 N to 240 N	378 W or less	FR-HAL-1.5K
From over 600 W to 1 kW	From over 240 N to 300 N	—	FR-HAL-2.2K
From over 1 kW to 2.0 kW	From over 300 N to 720 N	—	FR-HAL-3.7K

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26 ENGINEERING SOFTWARE

Point

Use the following MELSOFT products for the servo system.

- Programmable controller engineering software: GX Works3, GX Works2 (for controllers)
- Motion controller engineering software: MT Works2 (for controllers)
- Servo engineering software: MR Configurator2 (for servo amplifiers)

As with the MR-J4 series, MR Configurator2 can be used as the servo engineering software for the MR-J5 series.
For the servo engineering software specifications and system configuration, refer to the installation guide of the servo engineering software.

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REVISIONS

*The manual number is given on the bottom left of the back cover.

Revision date	*Manual number	Description
July 2022	L(NA)03201ENG-A	First edition
April 2023	L(NA)03201ENG-B	■Replacement of MR-J4_-_B_ with MR-J5_-_G_ is added.
May 2024	L(NA)03201ENG-C	■Replacement of MR-J4_-_A_ with MR-J5_-_A_ is added. ■Replacement of MR-J4_-500B_/MR-J4_-700B_ with MR-J5_-_ is added. ■Q170MSCPU(-S1) is added. ■The 1-phase torque characteristic is changed.

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property rights which may occur as a result of using the contents noted in this manual.

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WARRANTY

Warranty

1. Warranty period and coverage

We will repair any failure or defect hereinafter referred to as "failure" in our FA equipment hereinafter referred to as the "Product" arisen during warranty period at no charge due to causes for which we are responsible through the distributor from which you purchased the Product or our service provider. However, we will charge the actual cost of dispatching our engineer for an on-site repair work on request by customer in Japan or overseas countries. We are not responsible for any on-site readjustment and/or trial run that may be required after a defective unit are repaired or replaced.

[Term]

For terms of warranty, please contact your original place of purchase.

[Limitations]

(1) You are requested to conduct an initial failure diagnosis by yourself, as a general rule.
It can also be carried out by us or our service company upon your request and the actual cost will be charged. However, it will not be charged if we are responsible for the cause of the failure.

(2) This limited warranty applies only when the condition, method, environment, etc. of use are in compliance with the terms and conditions and instructions that are set forth in the instruction manual and user manual for the Product and the caution label affixed to the Product.

(3) Even during the term of warranty, the repair cost will be charged on you in the following cases;

1. a failure caused by your improper storing or handling, carelessness or negligence, etc., and a failure caused by your hardware or software problem
2. a failure caused by any alteration, etc. to the Product made on your side without our approval
3. a failure which may be regarded as avoidable, if your equipment in which the Product is incorporated is equipped with a safety device required by applicable laws and has any function or structure considered to be indispensable according to a common sense in the industry
4. a failure which may be regarded as avoidable if consumable parts designated in the instruction manual, etc. are duly maintained and replaced
5. any replacement of consumable parts (battery, fan, smoothing capacitor, etc.)
6. a failure caused by external factors such as inevitable accidents, including without limitation fire and abnormal fluctuation of voltage, and acts of God, including without limitation earthquake, lightning and natural disasters
7. a failure generated by an unforeseeable cause with a scientific technology that was not available at the time of the shipment of the Product from our company
8. any other failures which we are not responsible for or which you acknowledge we are not responsible for

2. Term of warranty after the stop of production

(1) We may accept the repair at charge for another seven (7) years after the production of the product is discontinued. The announcement of the stop of production for each model can be seen in our Sales and Service, etc.

(2) Please note that the Product (including its spare parts) cannot be ordered after its stop of production.

3. Service in overseas countries

Our regional FA Center in overseas countries will accept the repair work of the Product. However, the terms and conditions of the repair work may differ depending on each FA Center. Please ask your local FA center for details.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

(1) Damages caused by any cause found not to be the responsibility of Mitsubishi.

(2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products.

(3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.

(4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Change of Product specifications

Specifications listed in our catalogs, manuals or technical documents may be changed without notice.

6. Application and use of the Product

(1) For the use of our AC Servo, its applications should be those that may not result in a serious damage even if any failure or malfunction occurs in AC Servo, and a backup or fail-safe function should operate on an external system to AC Servo when any failure or malfunction occurs.

(2) Our AC Servo is designed and manufactured as a general purpose product for use at general industries.
Therefore, applications substantially influential on the public interest for such as atomic power plants and other power plants of electric power companies, and also which require a special quality assurance system, including applications for railway companies and government or public offices are not recommended, and we assume no responsibility for any failure caused by these applications when used.
In addition, applications which may be substantially influential to human lives or properties for such as airlines, medical treatments, railway service, incineration and fuel systems, man-operated material handling equipment, entertainment machines, safety machines, etc. are not recommended, and we assume no responsibility for any failure caused by these applications when used.
We will review the acceptability of the abovementioned applications, if you agree not to require a specific quality for a specific application. Please contact us for consultation.

(3) Mitsubishi Electric shall have no responsibility or liability for any problems involving programmable controller trouble and system trouble caused by DoS attacks, unauthorized access, computer viruses, and other cyberattacks.

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