

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.
-

DISPOSAL OF WASTE

Please dispose of this product and other options according to your local laws and regulations.

ABOUT THE MANUAL

This document describes the review items for replacing the MR-J4-_B_/MR-J4W_-_B in "J4 mode" with the MR-J5-_B_/MR-J5W_-_B. Some equipment may require review on items not described in this document. Please review those items after viewing the user's manual, Instruction Manual and the catalogs.

CABLES USED FOR WIRING

The wiring cables mentioned in this Replacement Manual are selected based on an ambient temperature of 40°C.

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 [$\times 10^{-4}$ kg•m ²]	5.4675 [oz•inch ²]
Load (thrust load/axial load)	1 [N]	0.2248 [lbf]
Temperature	N [°C] \times 9/5 + 32	N [°F]

MEMO

CONTENTS

SAFETY INSTRUCTIONS	1
DISPOSAL OF WASTE	3
ABOUT THE MANUAL	3
CABLES USED FOR WIRING	3
U.S. CUSTOMARY UNITS	3

PART 1 Summary of MR-J4-_B_/MR-J4W-_B_ Replacement

CHAPTER 1 REPLACEMENT TARGET MODEL 10

1.1 Servo Amplifier Replacement Target Model	10
1.2 Rotary Servo Motor Replacement Target Model	10

CHAPTER 2 FLOW OF REPLACEMENT 12

2.1 Outline	12
Flow of Review on Replacement	12
System architecture	13
Changes when a 1-axis servo system is replaced	14
Changes when a multi-axis servo system is replaced	16
2.2 Review on Replacement	18
Checking the system prior to replacement	18
Determination of base replacement model	19
Attachment compatibility check	20
Detailed review on replacement model	20
Peripheral equipment check	20
Startup procedure check	20

CHAPTER 3 RELATED MATERIALS 21

3.1 User's Manual	21
3.2 MITSUBISHI ELECTRIC FA Global Website	21

PART 2 Review on Replacement of MR-J4-_B_ with MR-J5-_B_

CHAPTER 4 CASE STUDY ON REPLACEMENT OF MR-J4-_B_ WITH MR-J5-_B_ 24

CHAPTER 5 DIFFERENCES BETWEEN MR-J4-_B_ AND MR-J5-_B_ 26

5.1 Function Comparison Table	26
5.2 Comparison of Standard Connection Diagrams	29
5.3 List of Connectors	31
5.4 Servo Amplifier Dimensions/Attachment Differences	35
1-axis servo amplifier 200 V class (7 kW or less)	35
1-axis servo amplifier 400 V class (3.5 kW or less)	43
5.5 Servo Amplifier Initializing Time	47
5.6 Servo Parameter Comparison	48

5.7	Peripheral Equipment Compatibility Comparison	48
-----	---	----

PART 3 Review on Replacement of MR-J4W_ _B with MR-J5W_ _B

CHAPTER 6	CASE STUDY ON REPLACEMENT OF MR-J4W_ _B WITH MR-J5W_ _B	50
------------------	--	-----------

CHAPTER 7	DIFFERENCES BETWEEN MR-J4W_ _B AND MR-J5W_ _B	52
------------------	--	-----------

7.1	Function Comparison Table	52
7.2	Comparison of Standard Connection Diagrams	54
7.3	List of Connectors	56
7.4	Servo Amplifier Dimensions/Attachment Differences	60
	Comparison of dimensions	60
	Comparison of dimensions	61
7.5	Servo Amplifier Initializing Time	64
7.6	Servo Parameter Comparison	66
7.7	Peripheral Equipment Compatibility Comparison	66

PART 4 Servo Parameter Setting Change

CHAPTER 8	SERVO PARAMETERS	68
------------------	-------------------------	-----------

8.1	Servo Parameter Comparison	68
8.2	Servo Parameters Required to be Set When Replacing	69
8.3	Servo Parameter Comparison List	70
8.4	Comparison of Servo Parameter Details	91
	Basic setting servo parameters group ([Pr. PA_ _])	91
	Gain/filter setting servo parameters group ([Pr. PB_ _])	111
	Extension setting servo parameters group ([Pr. PC_ _])	144
	I/O setting servo parameters group ([Pr. PD_ _])	162
	Extension setting 2 servo parameters group ([Pr. PE_ _])	170
	Extension setting 3 servo parameters group ([Pr. PF_ _])	176
	Motor extension setting servo parameters group ([Pr. PL_ _])	201

CHAPTER 9	SERVO PARAMETER CONVERSION	207
------------------	-----------------------------------	------------

9.1	Operation Procedure of MR-J4_ _B /MR-J4W_ _B Servo Parameter Conversion	207
9.2	When Using the Motion Controller RnMTCPU or Q17nDSCPU	208
9.3	When Using the Simple Motion Module RD77MS	211
9.4	When Using the Simple Motion Module QD77MS	215
9.5	Conversion rules (MR-J4_ _B /MR-J4W_ _B => MR-J5_ _B /MR-J5W_ _B)	219

PART 5 Review on Replacement of Rotary Servo Motor

CHAPTER 10	REPLACEMENT OF ROTARY SERVO MOTOR	238
-------------------	--	------------

10.1	Rotary Servo Motor Replacement Models and Compatibility	238
10.2	Replacement of HG Series Rotary Servo Motors with HK Series Rotary Servo Motors	239

CHAPTER 11 COMPARISON OF SERVO MOTOR SPECIFICATIONS	250
11.1 Comparison of Servo Motor Mounting Dimensions	250
11.2 Detailed Comparison of Servo Motor Mounting Dimensions	253
11.3 Comparison of Mounting Dimensions for Geared Servo Motors	255
11.4 Comparison of Actual Reduction Ratios for Geared Servo Motors	264
11.5 Comparison of Moment of Inertia	265
11.6 Comparison of Servo Motor Connector Specifications	275
11.7 Comparison of Servo Motor Torque Characteristics	284

PART 6 Review on Replacement of Optional Peripheral Equipment

CHAPTER 12 COMPARISON TABLE OF REGENERATIVE OPTION COMBINATIONS	308
--	------------

12.1 Regenerative Options 200 V Class	308
Combinations of MR-J4-_B_/MR-J4W_-_B and regenerative options and regenerative power	308
Combinations of MR-J5-_B_/MR-J5W_-_B and regenerative options and regenerative power	309
External form comparison	309
12.2 Regenerative Options 400 V Class	310
Combinations of MR-J4-_B_ and regenerative options and regenerative power	310
Combinations of MR-J5-_B_ and regenerative options and regenerative power	310
External form comparison	310

CHAPTER 13 COMPARISON TABLE OF CABLE OPTION COMBINATIONS	311
---	------------

13.1 Changes from MR-J4-_B_ to MR-J5-_B_	312
13.2 Changes from MR-J4W_-_B to MR-J5W_-_B	313

CHAPTER 14 COMPARISON OF POWER SUPPLY WIRE SIZES	314
---	------------

14.1 Outline	314
Selection example of wires	314
Comparison of wire size selection examples	315
14.2 Comparison of Molded-Case Circuit Breaker, Fuse, and Magnetic Contactor Selection Examples	318
For 1-axis servo amplifiers	318
For multi-axis servo amplifiers	322

CHAPTER 15 ABSOLUTE POSITION ENCODER BATTERY	325
---	------------

CHAPTER 16 COMPARISON TABLE OF EMC FILTER COMBINATIONS (RECOMMENDED)	327
---	------------

16.1 MR-J4-_B_/MR-J4W_-_B EMC Filter (Recommended) (200 V/400 V Class)	327
16.2 MR-J5-_B_/MR-J5W_-_B EMC Filter (Recommended) (200 V/400 V Class)	328
16.3 Connection example	329
16.4 Dimensions	329
16.5 Surge protector (recommended)	329

CHAPTER 17 POWER FACTOR IMPROVING DC REACTOR AND POWER FACTOR IMPROVING AC REACTOR	330
---	------------

17.1 Power Factor Improving DC Reactor	330
17.2 Power Factor Improving AC Reactor	331

PART 7 Startup Procedure

CHAPTER 19 STARTUP

19.1 Turning on Servo Amplifier for the First Time	337
Startup procedure	337
REVISIONS	338
WARRANTY	339
TRADEMARKS	340

PART 1**Summary of MR-J4- _B_ /
MR-J4W _-B_
Replacement**

This section explains the flow for replacing an SSCNET III/H system using "MR-J4- _B_ /MR-J4W _-B_" with "MR-J5- _B_ /MR-J5W _-B_". After deciding the replacement strategy, please proceed with replacement by referring to the corresponding parts of this manual and the manual and Instruction Manual for each model.

1 REPLACEMENT TARGET MODEL

2 FLOW OF REPLACEMENT

3 RELATED MATERIALS

1 REPLACEMENT TARGET MODEL

Point

The HK-ST7M2UW_ and HK-ST172UW_ will be available in the future.

1.1 Servo Amplifier Replacement Target Model

Point

This manual is for servo amplifiers with the following capacities.


- 200 V class: 0.1 to 7 kW
- 400 V class: 0.6 to 3.5 kW

200 V class

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

1.2 Rotary Servo Motor Replacement Target Model

Refer to the following for details.

 Review on Replacement of Rotary Servo Motor

If linear servo motors and direct drive motors are used in the existing system "MR-J4-_B_/MR-J4W_-_B", they can be used even after replacement with "MR-J5-_B_/MR-J5W_-_B".

If using the linear servo motor or direct drive motor, refer to the following manual.

 MR-J5 User's Manual (Hardware)

—		Rotary servo motor model		
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_	
	Ultra-Low inertia	HG-RR_	HK-ST_	
	Flat type	HG-UR_	HK-RT_	
			HK-ST_U	

2 FLOW OF REPLACEMENT

2.1 Outline














This section describes the flow of replacement when replacing an SSCNET III/H system using the MR-J4-_B_/MR-J4W_-_B series with a system using the MR-J5-_B_/MR-J5W_-_B series.

Flow of Review on Replacement

Point

When replacing a servo amplifier with the MR-J5-_B_/MR-J5W_-_B, it is recommended to use the HK series rotary servo motor.

It is required that the MR-J4-_B_/MR-J4W_-_B incorporated into the existing system has been used in "J4 mode" with an SSCNET III/H system.

Procedure	Description	Reference
1. Checking the system prior to replacement	Check the components of the system prior to replacement.	 Page 18 Checking the system prior to replacement
2. Determination of base replacement model	Determine the base replacement model for the servo amplifier/servo motor model used for the system prior to replacement.	 Page 19 Determination of base replacement model
3. Detailed specifications/functions difference check	Determine the base replacement model and check the impact according to the "specification/function" of the replacement model.	 Review on Replacement of MR-J4-_B_ with MR-J5-_B_  Review on Replacement of MR-J4W_-_B with MR-J5W_-_B  Servo Parameter Setting Change
4. Attachment compatibility check	Check the compatibility and the attachment differences in the "Attachment compatibility" items in the list of base replacement models.	 Review on Replacement of MR-J4-_B_ with MR-J5-_B_  Review on Replacement of MR-J4W_-_B with MR-J5W_-_B  Review on Replacement of Rotary Servo Motor
5. Detailed review on replacement model	Determine the replacement strategy and perform detailed designing.	 Review on Replacement of MR-J4-_B_ with MR-J5-_B_  Review on Replacement of MR-J4W_-_B with MR-J5W_-_B  Servo Parameter Setting Change
6. Peripheral equipment check	Check the peripheral equipment that comes with the replacement.	 Review on Replacement of Optional Peripheral Equipment
7. Startup procedure check	Check the startup procedure.	 Startup Procedure

System architecture

The following displays the review items when replacing the MR-J4-_B_(-RJ) with the MR-J5-_B_(-RJ).

[Review items]

- Servo amplifier
- Options and peripheral equipment
- Servo motor

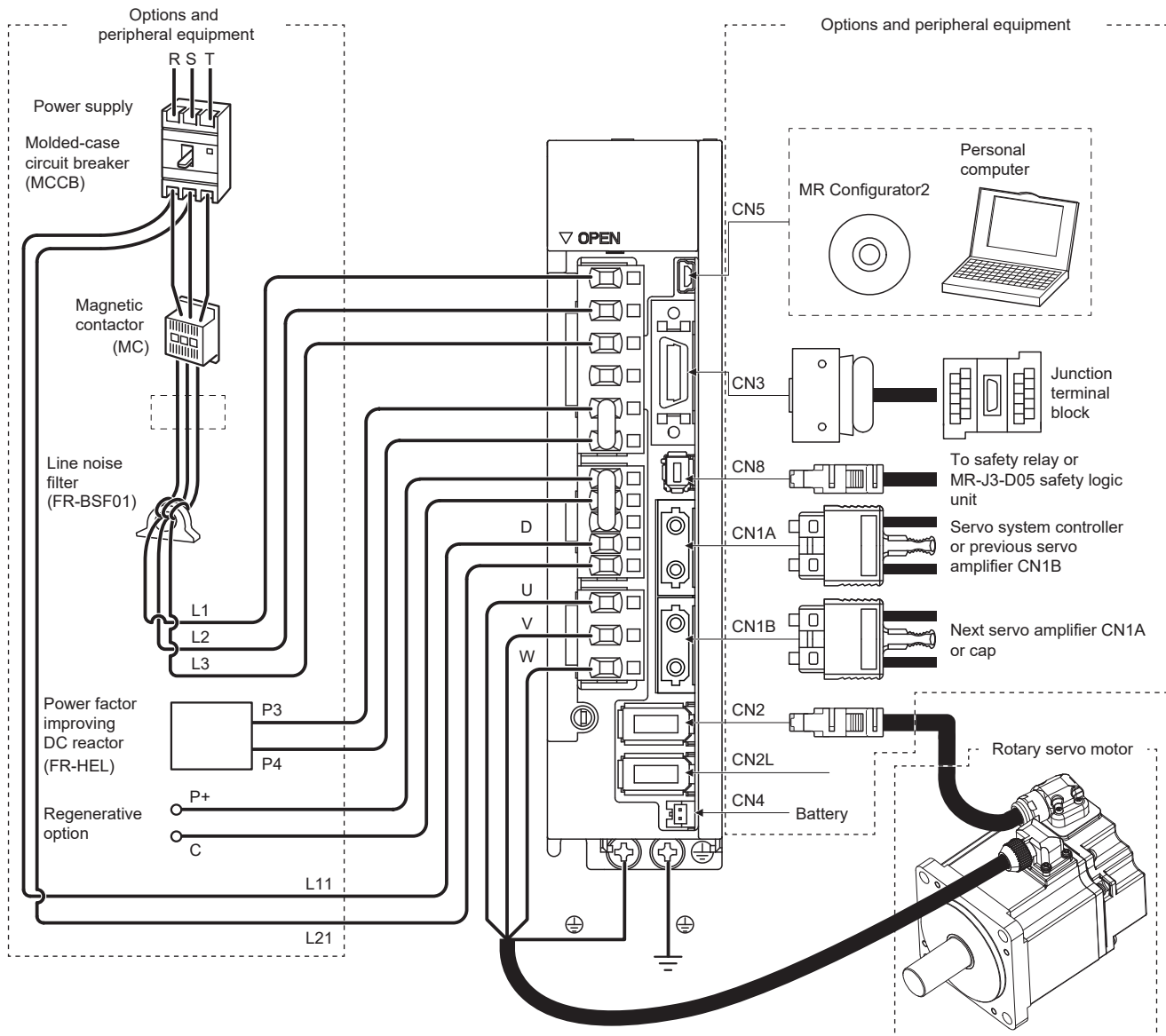
Based on the above review items, consider changes from the MR-J4-_B_ to the MR-J5-_B_.

Refer to the following for details.

☞ Page 14 Changes when a 1-axis servo system is replaced

When using a multi-axis servo amplifier, refer to the following for details.

☞ Page 16 Changes when a multi-axis servo system is replaced



Changes when a 1-axis servo system is replaced

Servo amplifier, options and peripheral equipment



The following table summarizes the changes from the MR-J4-_B_ to the MR-J5-_B_.

Changes	Check items	Impact	Reference document/items
Servo amplifier	I/O connector	Connector locations are different.	☞ Page 31 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: 3.5 kW or less)	☞ Page 31 List of Connectors
	Servo parameter	The servo parameters need to be changed. The servo parameter converter function of MR Configurator2 can transfer the servo parameter setting for the MR-J4-_B_ to the setting for the MR-J5-_B_.	☞ Servo Parameter Setting Change
	Dimensions	Note the following when installing a servo amplifier. <ul style="list-style-type: none"> For 2 kW (200 V/400 V) and 3.5 kW (200 V), the position of the mounting hole was changed from the top center to the top left. For 5 kW (200 V) and 7 kW (200 V), wiring specifications of the power supply were changed from the terminal block to connector connection, and the layout is different. For 3.5 kW (400 V), the product was downsized, and the mounting is not compatible. 	☞ Page 35 Servo Amplifier Dimensions/ Attachment Differences
	Dynamic brake characteristics	The dynamic brake time constant and dynamic brake coasting distance differ as the servo amplifier and servo motor in the existing system are replaced with those for the MR-J5-_B_.	☞ MR-J5 User's Manual (Hardware)
	Overload protection characteristics	The "overload protection characteristics" may differ depending on the replacement of the servo amplifier and servo motor.	☞ MR-J5 User's Manual (Hardware)
	Initializing time	The time it takes to reach servo-on from power-on is different.	☞ Page 47 Servo Amplifier Initializing Time
	Master-slave operation function	Because the responsiveness differs between the MR-J4-_B_ and MR-J5-_B_, review the gain settings and operation pattern as required.	☞ MR-J5 User's Manual (Hardware)
Options and peripheral equipment	Molded-case circuit breaker Fuse	Those for the MR-J4-_B_ are available.	☞ Page 318 For 1-axis servo amplifiers
	Magnetic contactor	Recommended products may differ between the MR-J4-_B_ and MR-J5-_B_. Use a product recommended for the MR-J5-_B_.	☞ Page 318 For 1-axis servo amplifiers
	Regenerative option	Some regenerative options cannot be used for the MR-J5-_B_.	☞ Page 308 COMPARISON TABLE OF REGENERATIVE OPTION COMBINATIONS
	Absolute position encoder battery	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. To configure an absolute position detection system by using an HK series rotary servo motor or linear servo motor, the battery is not required.	☞ MR-J5 User's Manual (Hardware)
	Encoder cable	Select those for the MR-J5-_B_.	☞ MR-J5 User's Manual (Hardware)
	Wire	An HIV wire is recommended for the MR-J5-_B_.	☞ Page 315 Comparison of wire size selection examples
	EMC filter	Different products are recommended for the MR-J5-_B_.	☞ Page 328 MR-J5-_B_/MR-J5W-_B_ EMC Filter (Recommended) (200 V/400 V Class)

Rotary servo motor



The following table summarizes the changes from the HG series rotary servo motor to the HK series rotary servo motor.

Changes	Check items	Impact	Reference document/items
Rotary servo motor	Mounting compatibility	Some models have no mounting compatibility.	☞ Page 238 Rotary Servo Motor Replacement Models and Compatibility
	Oil seal	The HG-JR/HG-RR/HG-UR series rotary servo motors have an oil seal as standard, but the replacement models do not have an oil seal. To obtain a product with an oil seal, state "oil seal".	☞ Page 239 Replacement of HG Series Rotary Servo Motors with HK Series Rotary Servo Motors
	Dimensions	The total length may differ depending on the model.	☞ Page 250 Comparison of Servo Motor Mounting Dimensions ☞ Page 253 Detailed Comparison of Servo Motor Mounting Dimensions ☞ Page 255 Comparison of Mounting Dimensions for Geared Servo Motors
	Gear reducer	The actual reduction ratio is the same.	☞ Page 255 Comparison of Mounting Dimensions for Geared Servo Motors ☞ Page 264 Comparison of Actual Reduction Ratios for Geared Servo Motors
	Moment of inertia	The moment of inertia may differ depending on the model. *1	☞ Page 265 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 265 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 275 Comparison of Servo Motor Connector Specifications
	Torque characteristics	The torque characteristics may differ depending on the model.	☞ Page 284 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 rotary servo motor: 22 bit HK series rotary servo motor: 26 bit	☞ Rotary Servo Motor User's Manual (For MR-J5)
	Shaft shape	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)".	☞ Page 239 Replacement of HG Series Rotary Servo Motors with HK Series Rotary Servo Motors

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

Changes when a multi-axis servo system is replaced

Servo amplifier, options and peripheral equipment



The following table summarizes the changes from the MR-J4W_-_B to the MR-J5W_-_B.

Changes	Check items	Impact	Reference document/items
Servo amplifier	I/O connector	Connector locations are different.	☞ Page 56 List of Connectors
	Servo parameter	The servo parameters need to be changed. The servo parameter converter function of MR Configurator2 can transfer the servo parameter setting for the MR-J4W_-_B to the setting for the MR-J5W_-_B.	☞ Servo Parameter Setting Change
	Dimensions	Note the following when installing a servo amplifier. <ul style="list-style-type: none"> MR-J4W3-222B ⇨ MR-J5W3-222B These models have no mounting compatibility. MR-J4W3-444B ⇨ MR-J5W3-444B These models have no mounting compatibility. 	☞ Page 60 Servo Amplifier Dimensions/ Attachment Differences
	Dynamic brake characteristics	The dynamic brake time constant and dynamic brake coasting distance differ as the servo amplifier and servo motor in the existing system are replaced with those for the MR-J5_-_B.	☞ MR-J5 User's Manual (Hardware)
	Overload protection characteristics	The "overload protection characteristics" may differ depending on the replacement of the servo amplifier and servo motor.	☞ MR-J5 User's Manual (Hardware)
	Initializing time	The time it takes to reach servo-on from power-on is different.	☞ Page 64 Servo Amplifier Initializing Time
Options and peripheral equipment	Molded-case circuit breaker Fuse	Those for the MR-J4W_-_B are available.	☞ Page 322 For multi-axis servo amplifiers
	Magnetic contactor	Recommended products may differ between the MR-J4W_-_B and MR-J5W_-_B. Use a product recommended for the MR-J5W_-_B.	☞ Page 322 For multi-axis servo amplifiers
	Regenerative option	Some regenerative options cannot be used for the MR-J5W_-_B.	☞ Page 308 COMPARISON TABLE OF REGENERATIVE OPTION COMBINATIONS
	Absolute position encoder battery	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. To configure an absolute position detection system by using an HK series rotary servo motor or linear servo motor, the battery is not required.	☞ MR-J5 User's Manual (Hardware)
	Encoder cable	Select those for the MR-J5W_-_B.	☞ MR-J5 User's Manual (Hardware)
	Wire	An HIV wire is recommended for the MR-J5W_-_B.	☞ Page 315 Comparison of wire size selection examples
	EMC filter	Different products are recommended for the MR-J5W_-_B.	☞ Page 328 MR-J5-_B /MR-J5W_-_B EMC Filter (Recommended) (200 V/400 V Class)

Rotary servo motor



The following table summarizes the changes from the HG series rotary servo motor to the HK series rotary servo motor.



Changes	Check items	Impact	Reference document/items
Rotary servo motor	Mounting compatibility	Some models have no mounting compatibility.	☞ Page 238 Rotary Servo Motor Replacement Models and Compatibility
	Oil seal	The HG-JR/HG-UR series rotary servo motors have an oil seal as standard, but the replacement models do not have an oil seal. To obtain a product with an oil seal, state "oil seal".	☞ Page 239 Replacement of HG Series Rotary Servo Motors with HK Series Rotary Servo Motors
	Dimensions	The total length may differ depending on the model.	☞ Page 250 Comparison of Servo Motor Mounting Dimensions ☞ Page 253 Detailed Comparison of Servo Motor Mounting Dimensions ☞ Page 255 Comparison of Mounting Dimensions for Geared Servo Motors
	Gear reducer	The actual reduction ratio is the same.	☞ Page 255 Comparison of Mounting Dimensions for Geared Servo Motors ☞ Page 264 Comparison of Actual Reduction Ratios for Geared Servo Motors
	Moment of inertia	The moment of inertia may differ depending on the model. *1	☞ Page 265 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 265 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 275 Comparison of Servo Motor Connector Specifications
	Torque characteristics	The torque characteristics may differ depending on the model.	☞ Page 284 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 rotary servo motor: 22 bit HK series rotary servo motor: 26 bit	☞ Rotary Servo Motor User's Manual (For MR-J5)
	Shaft shape	The HG-SR/HG-JR/HG-UR series rotary servo motors with a keyed shaft (HG-SR_K/HG-JR_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-KT_K), the replacement model has a key. To obtain a product without key, state "keyed shaft (without key)".	☞ Page 239 Replacement of HG Series Rotary Servo Motors with HK Series Rotary Servo Motors

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

2.2 Review on Replacement

Checking the system prior to replacement

Check the components of the system prior to replacement.

Category	Controller model	Servo amplifier model	"Reference items" in this document	Control mode
Motion controller	RnMTCPU Q17nDSCPU	MR-J4-_B_ MR-J4W_-_B	1. MR-J4-_B_ Refer to the following for details.  Review on Replacement of MR-J4-_B_ with MR-J5-_B_ 2. MR-J4W_-_B Refer to the following for details.  Review on Replacement of MR-J4W_-_B with MR-J5W_-_B	Position control Speed control Torque control
Simple Motion module	RD77MS QD77MS			

In this manual, the following terms are used for controller models.

Term	Description
RnMTCPU	A generic term for the R16MTCPU/R32MTCPU/R64MTCPU.
Q17nDSCPU	A generic term for the Q173DSCPU/Q172DSCPU.
RD77MS	A generic term for the RD77MS2/RD77MS4/RD77MS8/RD77MS16.
QD77MS	A generic term for the QD77MS2/QD77MS4/QD77MS16.

Determination of base replacement model

Models for replacement between the MR-J4-_B_ and MR-J5-_B_

■200 V class

Model	Replacement model example	Mounting compatibility (○: Compatible)	Check items
MR-J4-10B(-RJ)	MR-J5-10B(-RJ)	○	☞ Page 35 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)	*1	
MR-J4-350B(-RJ)	MR-J5-350B(-RJ)	*1	
MR-J4-500B(-RJ)	MR-J5-500B(-RJ)	*1	
MR-J4-700B(-RJ)	MR-J5-700B(-RJ)	*1	

*1 Refer to the following for the mounting hole dimensions.
☞ Page 35 Comparison of dimensions

■400 V class

Model	Replacement model example	Mounting compatibility (○: Compatible)	Check items
MR-J4-60B4(-RJ)	MR-J5-60B4(-RJ)	○	☞ Page 43 1-axis servo amplifier 400 V class (3.5 kW or less)
MR-J4-100B4(-RJ)	MR-J5-100B4(-RJ)	○	
MR-J4-200B4(-RJ)	MR-J5-200B4(-RJ)	*1	
MR-J4-350B4(-RJ)	MR-J5-350B4(-RJ)	*1	

*1 Refer to the following for the mounting hole dimensions.
Page 43 Comparison of dimensions

Models for replacement between the MR-J4W_-_B and MR-J5W_-_B

Model	Replacement model example	Mounting compatibility (○: Compatible)	Check items
MR-J4W2-22B	MR-J5W2-22B	○	☞ Page 60 Comparison of dimensions
MR-J4W2-44B	MR-J5W2-44B	○	
MR-J4W2-77B	MR-J5W2-77B	○	
MR-J4W2-1010B	MR-J5W2-1010B	○	
MR-J4W3-222B	MR-J5W3-222B	*1	
MR-J4W3-444B	MR-J5W3-444B	*1	

*1 Refer to the following for the mounting hole dimensions.
Page 60 Comparison of dimensions

MR-J5-_B_/MR-J5W_-_B servo amplifier/motor combinations

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)

Attachment compatibility check

Refer to the following for details.

- ☞ Page 35 Servo Amplifier Dimensions/Attachment Differences
- ☞ Page 60 Servo Amplifier Dimensions/Attachment Differences
- ☞ Page 250 Comparison of Servo Motor Mounting Dimensions

Detailed review on replacement model

Refer to the following for details.

- ☞ Review on Replacement of MR-J4- _B_ with MR-J5- _B_
- ☞ Review on Replacement of MR-J4W- _B_ with MR-J5W- _B_

Peripheral equipment check

Refer to the following for details.

- ☞ Review on Replacement of Optional Peripheral Equipment






















Startup procedure check

Refer to the following for details.

- ☞ Startup Procedure

3 RELATED MATERIALS

3.1 User's Manual

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
 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
 MR-J5 Partner's Encoder User's Manual	SH(NA)-030320ENG
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
QD77MS Simple Motion Module User's Manual (Positioning Control)	IB(NA)-0300185ENG
QD77MS/QD77GF/LD77MS/LD77MH Simple Motion Module User's Manual (Synchronous Control)	IB(NA)-0300174ENG
 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
 MELSEC iQ-R Motion Controller Programming Manual (Machine Control)	IB(NA)-0300309ENG
 MELSEC iQ-R Motion Controller Programming Manual (G-Code Control)	IB(NA)-0300371ENG
 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 User's Manual (Network)	IB(NA)-0300307ENG

3.2 MITSUBISHI ELECTRIC FA Global Website

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

MEMO

PART 2

Review on Replacement of MR-J4-_B_ with MR- J5-_B_

This section describes the changes to be made when a system using MR-J4-_B_ is replaced with a system using MR-J5-_B_. It is required that the MR-J4-_B_ incorporated into the existing system has been used in "J4 mode" with an SSCNET III/H system.

4 CASE STUDY ON REPLACEMENT OF MR-J4-_B_ WITH MR-J5-_B_

5 DIFFERENCES BETWEEN MR-J4-_B_ AND MR-J5-_B_

4 CASE STUDY ON REPLACEMENT OF MR-J4- _B_ WITH MR-J5-_B_

Checking the controllers used in the existing system


Check that the controller you are using is the Motion controller or simple Motion modules shown in the following table.

Compatible controller			Applicable servo amplifier
Name	Model	Remarks *1	
Motion controller	Q17nDSCPU	Available for products with software version 00Y or later.	MR-J4-_B_/MR-J4W_-_B MR-J5-_B_/MR-J5W_-_B
	RnMTCPU	Available for products with software version 24 or later.	
Simple Motion module	QD77MS	Available for products with serial numbers whose first five digits are 23092 or higher.	
	RD77MS	Available for products with software version 13 or later.	

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

If both the MR-J4-_B_/MR-J4W_-_B and MR-J5-_B_/MR-J5W_-_B are used in the same SSCNET III/H system, some restrictions are applied.


Refer to the following for details.

 Restrictions on controllers

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 [Pr. PA06]/[Pr. PA07]	RnMTCPU Q17nDSCPU RD77MS QD77MS	Settings not required (the electronic gear is not provided)	Settings required (when using a rotary servo motor (encoder resolution: 26 bits) such as the HK series rotary servo motor)	Set the "servo amplifier electronic gear ([Pr. PA06]/[Pr. PA07])" to 16/1 so that the encoder resolution is equivalent to 22 bits. If the electronic gear has not been set properly, an error will occur at servo amplifier connection. Using the engineering tool's parameter convert function will set the electronic gear to 16/1 automatically. For details on the engineering tool, refer to the following.  SERVO PARAMETER CONVERSION
Servo parameter settings (including read and change functions)	RnMTCPU Q17nDSCPU RD77MS QD77MS	16-bit servo parameters	32-bit servo parameters	Review the settings 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 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 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 buffer memory assignment	RD77MS QD77MS	Assigned	Not assigned (retained in the internal memory)	If servo parameters are read or changed with the buffer memory, read or change them using axis control data.
Safety communication	Q17nDSCPU	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



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 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	If both the MR-J4 series and MR-J5 series are used in the same SSCNET III/H system, the multi axis graph is not available.

5 DIFFERENCES BETWEEN MR-J4-_B_ AND MR-J5-_B_

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 to 7 kW
 - 400 V class: 0.6 to 3.5 kW
-

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 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	■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 bit)	■HK series (26 bit)	
LED display	7-segment 3-digit	7-segment 3-digit	
Advanced vibration suppression control	Available (Advanced vibration suppression control II)	Available (Advanced vibration suppression control II)	
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 manual.

📖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.

400 V class

Item	MR-J4-_B_	MR-J5-_B_	
Capacity range	0.6 to 3.5 kW	0.6 to 3.5 kW	
Internal regenerative resistor	Built-in (0.6 to 3.5 kW)	Built-in (0.6 to 3.5 kW)	
Dynamic brake	Built-in (0.6 to 3.5 kW)	Built-in (0.6 to 3.5 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	■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 bit)	■HK series (26 bit)	
LED display	7-segment 3-digit	7-segment 3-digit	
Advanced vibration suppression control	Available (Advanced vibration suppression control II)	Available (Advanced vibration suppression control II)	
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 sub-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.

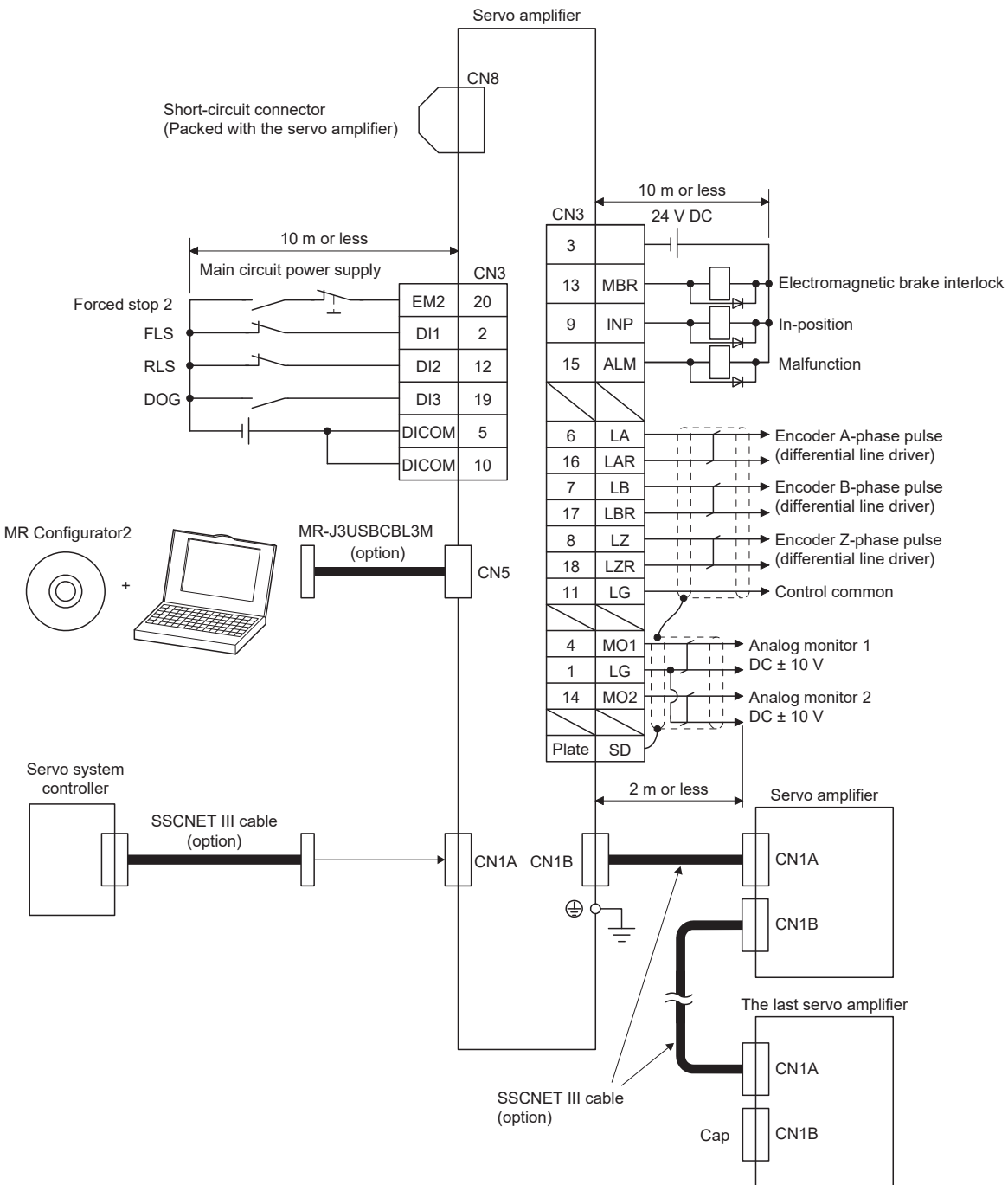
MR-J5 User's Manual (Hardware)

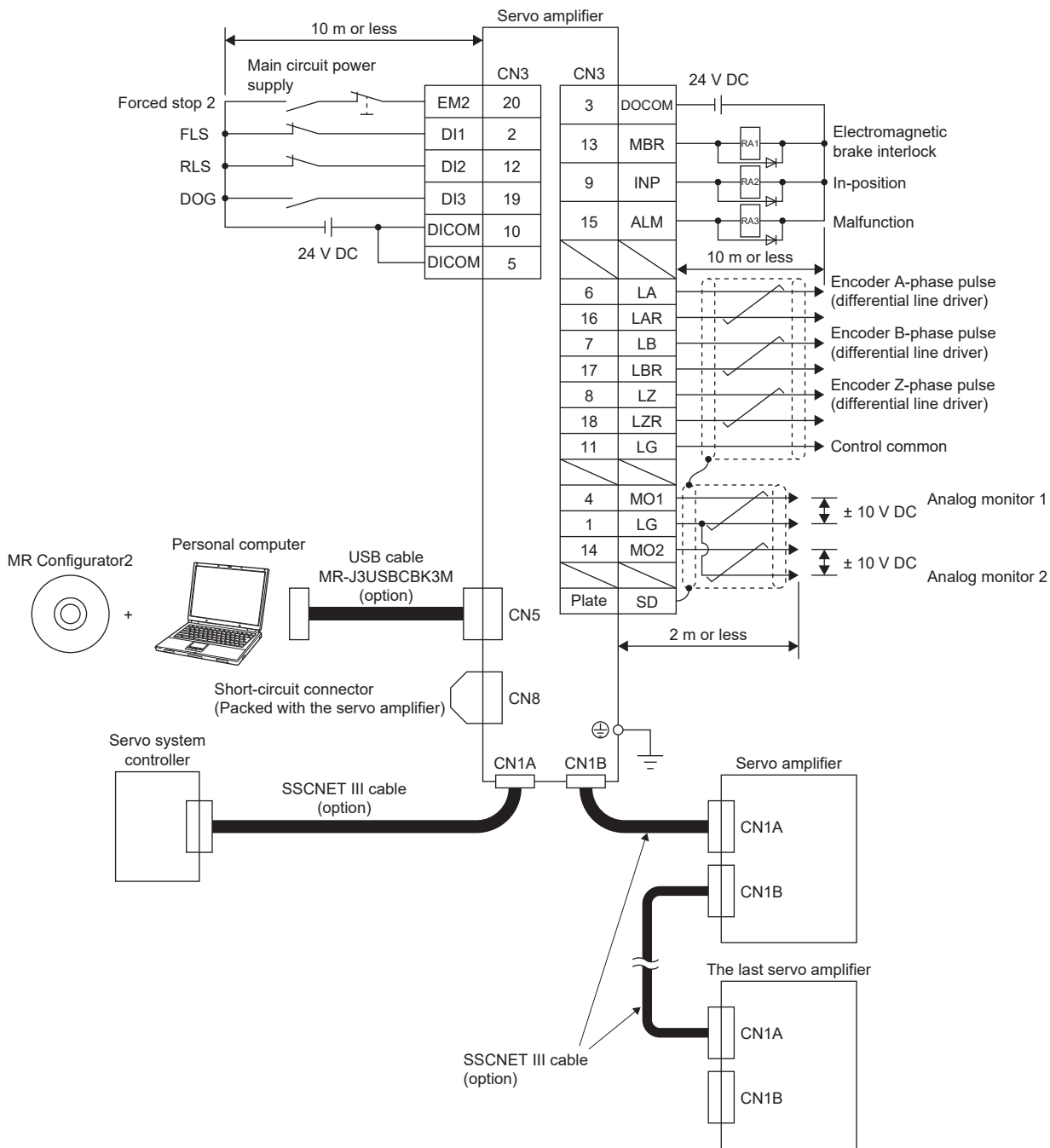
*² It is supported with a combination of the MR-J4-_B4-RJ and MR-D30.

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

5.2 Comparison of Standard Connection Diagrams

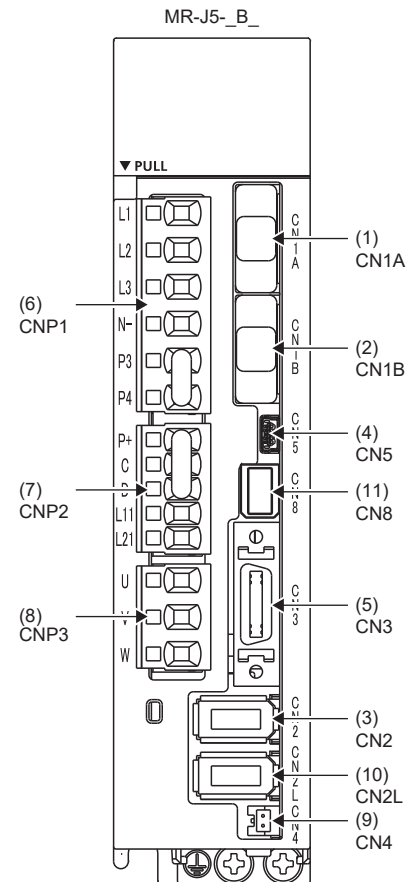
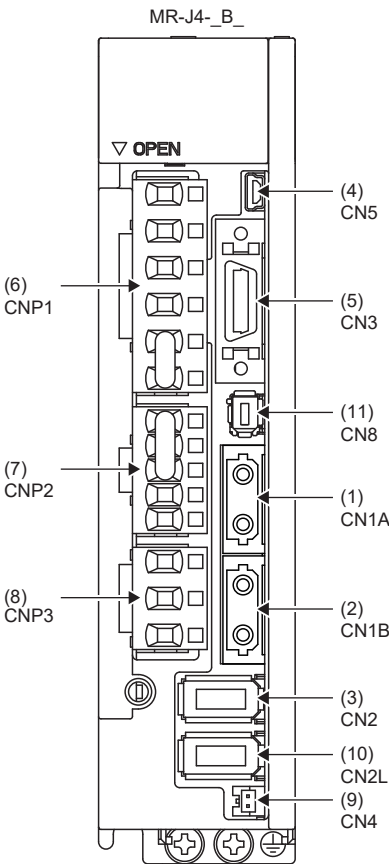
MR-J4-_B_





5.3 List of Connectors

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 in the existing system.
(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 in the existing system. (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	
(11)	STO input signal connector	CN8	You can use those used in the existing system.

Comparison of control circuit system signals


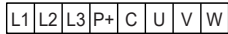









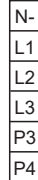
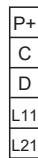



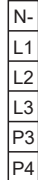






Control circuit system signals are compatible with each other.

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)	<p>CNP1</p> <p>CNP2</p> <p>CNP3</p> <p>PE</p> <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p>	MR-J5-10B(-RJ) to MR-J5-350B(-RJ)	<p>CNP1</p> <p>CNP2</p> <p>CNP3</p> <p>PE</p> <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p>
MR-J4-350B(-RJ)	<p>CNP1</p> <p>CNP3</p> <p>CNP2</p> <p>PE</p> <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p>		
MR-J4-500B(-RJ)	<p>TE2</p> <p>TE1</p> <p>TE3</p> <p>TE4</p> <p>PE</p> <p>PE</p> <p>TE1, TE2, TE3, and TE4 are terminal blocks.</p> <p>TE2 Screw size: M3.5 Tightening torque: 0.8 [N•m]</p> <p>TE1 Screw size: M4 Tightening torque: 1.2 [N•m]</p> <p>TE3 Screw size: M4 Tightening torque: 1.2 [N•m]</p> <p>TE4 Screw size: M4 Tightening torque: 1.2 [N•m]</p> <p>PE Screw size: M4 Tightening torque: 1.2 [N•m]</p>	MR-J5-500B(-RJ)	<p>CNP1A</p> <p>CNP1B</p> <p>CNP2</p> <p>CNP3</p> <p>PE</p> <p>PE</p> <p>CNP1A, CNP1B, CNP2, and CNP3 are connectors.</p> <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p>

MR-J4-_B_	Main circuit power supply system signal	MR-J5-_B_	Main circuit power supply system signal
MR-J4-700B(-RJ)	<p>TE3 </p> <p>TE1  TE2 </p> <p>PE  </p> <p>TE3 Screw size: M4 Tightening torque: 1.2 [N•m]</p> <p>TE1 Screw size: M4 Tightening torque: 1.2 [N•m]</p> <p>TE2 Screw size: M3.5 Tightening torque: 0.8 [N•m]</p> <p>PE Screw size: M4 Tightening torque: 1.2 [N•m]</p> <p>TE1, TE2, and TE3 are terminal blocks.</p>	MR-J5-700B(-RJ)	<p>CNP1A </p> <p>CNP1B </p> <p>CNP2 </p> <p>CNP3 </p> <p>PE   Screw size: M4 Tightening torque: 1.2 [N•m]</p> <p>CNP1A, CNP1B, CNP2, and CNP3 are connectors.</p>
MR-J4-60B4(-RJ) to MR-J4-350B4(-RJ)	<p>CNP1 </p> <p>CNP2 </p> <p>CNP3 </p> <p>PE   Screw size: M4 Tightening torque: 1.2 [N•m]</p>	MR-J5-60B4(-RJ) to MR-J5-350B4(-RJ)	<p>CNP1 </p> <p>CNP2 </p> <p>CNP3 </p> <p>PE   Screw size: M4 Tightening torque: 1.2 [N•m]</p>

5.4 Servo Amplifier Dimensions/Attachment Differences

MR-J4-_B_ => MR-J5-_B_ comparison table of servo amplifier dimensions/installation differences



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, the dimensions of the cabinet mounting surface are the same in the MR-J4-_B_ and MR-J5-_B_. Therefore, they have mounting compatibility. Refer to the following for the dimensions of the cabinet mounting surface.

☞ Page 36 Comparison of dimensions

For 2 kW/3.5 kW, note that the position of the mounting hole was changed from the top center to the top left. For 5 kW/7 kW, note that wiring specifications of the power supply were changed from the terminal block to connector connection, and the layout is different.

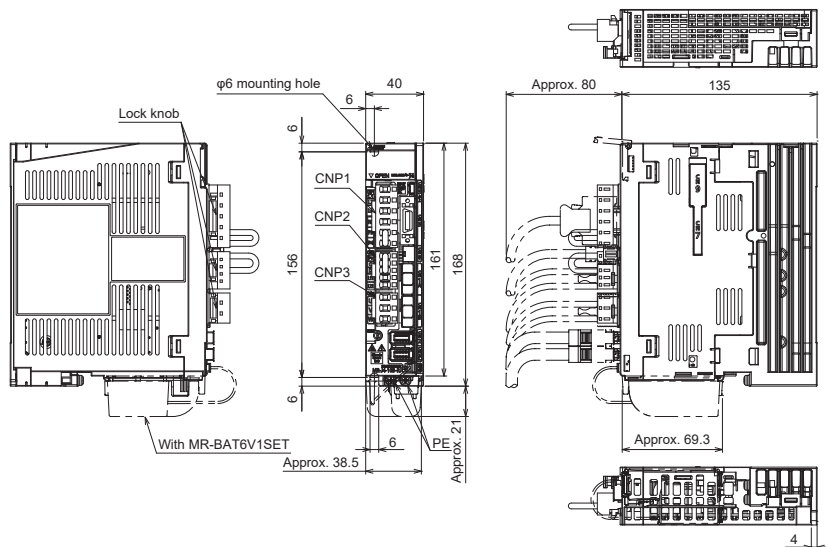
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

MR-J4-_B_ model	MR-J5-_B_ model	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)					90	90			195	195	156 (Vertical)/78 (Horizontal) (3 screws)	156 (Vertical)/78 (Horizontal) (3 screws)
MR-J4-200B(-RJ)	MR-J5-200B(-RJ)												
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

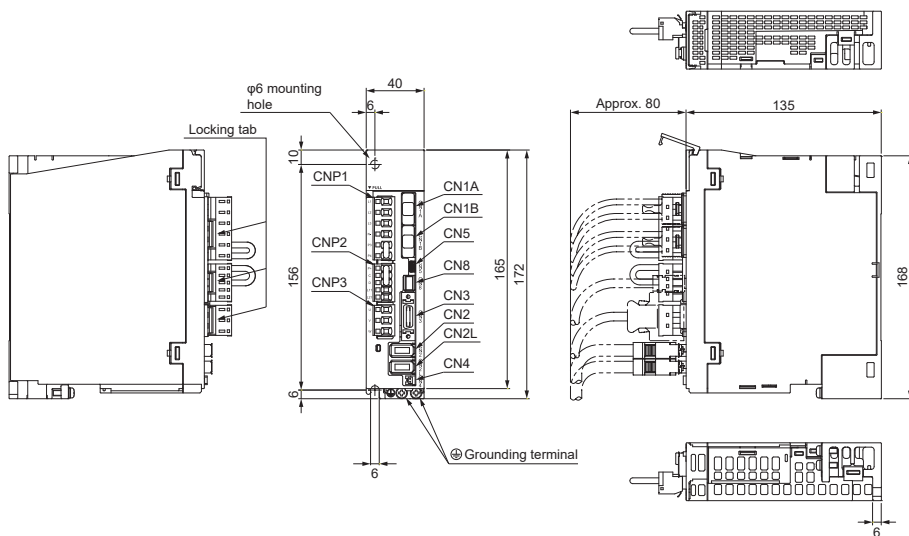
Comparison of dimensions

■ 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)

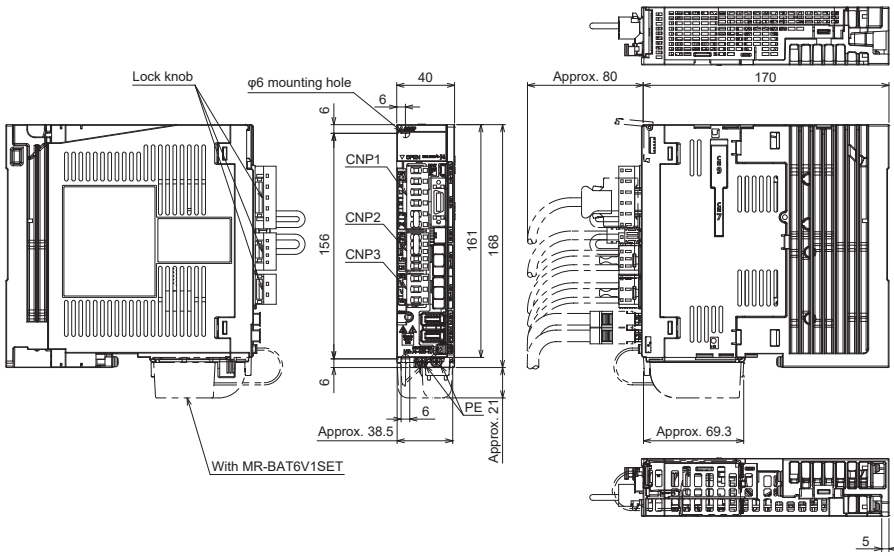


MR-J5-10B(-RJ)/MR-J5-20B(-RJ)/MR-J5-40B(-RJ)

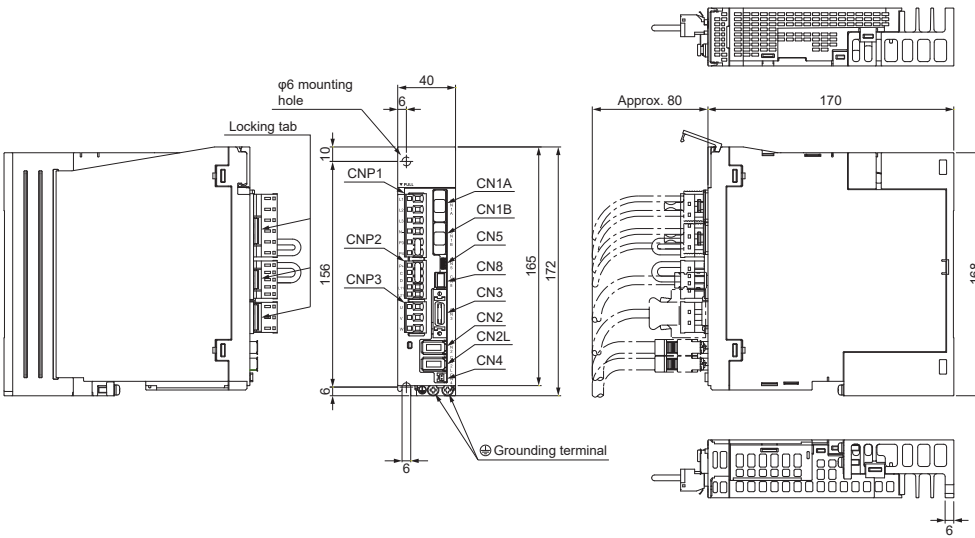


■ Comparison of MR-J4-40B(-RJ)/MR-J4-60B(-RJ) and MR-J5-60B(-RJ)

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

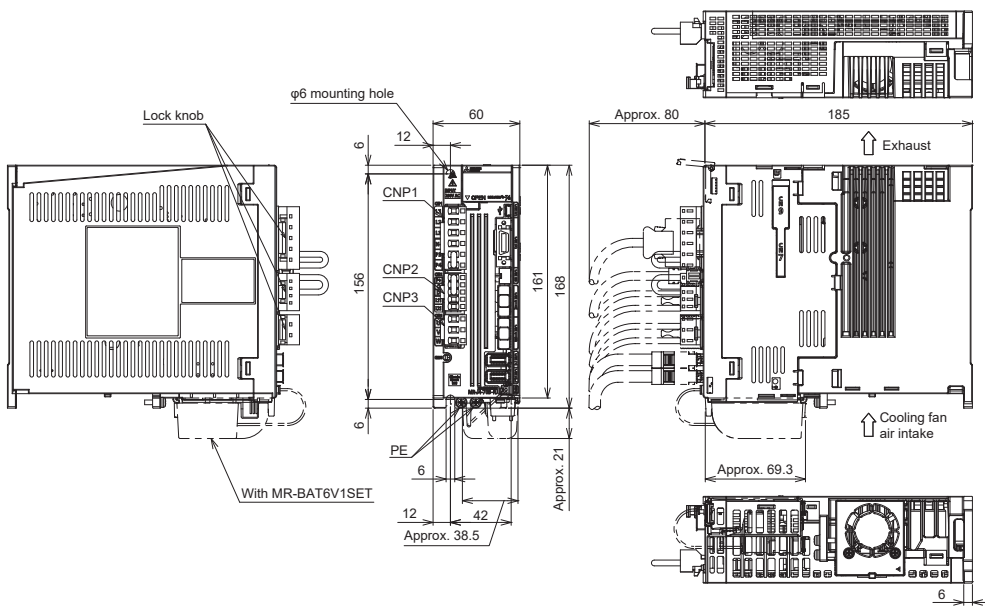


MR-J5-60B(-RJ)

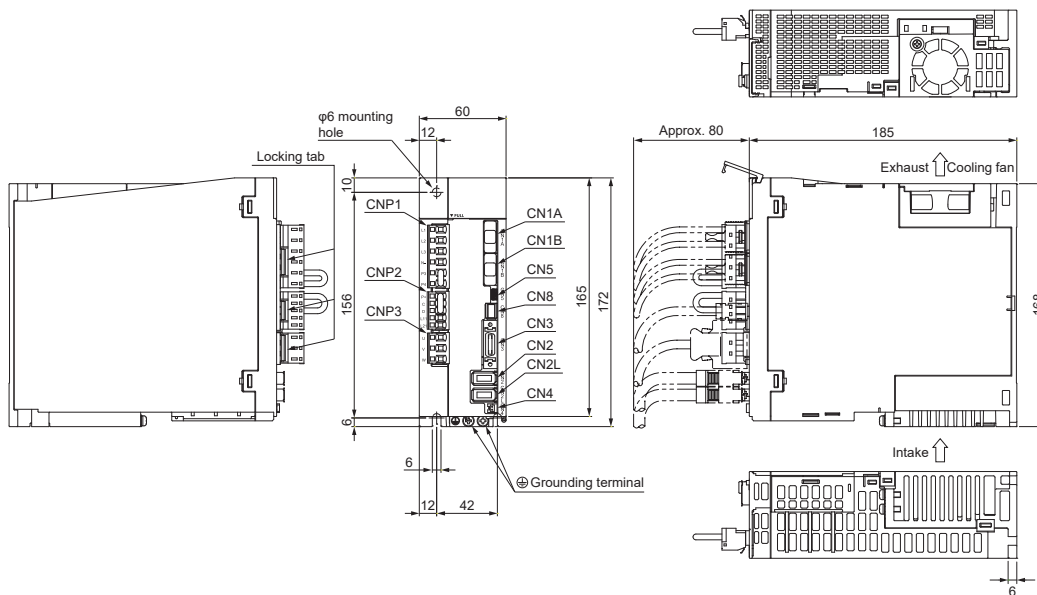


■ Comparison of MR-J4-70B(-RJ)/MR-J4-100B(-RJ) and MR-J5-70B(-RJ)/MR-J5-100B(-RJ)

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

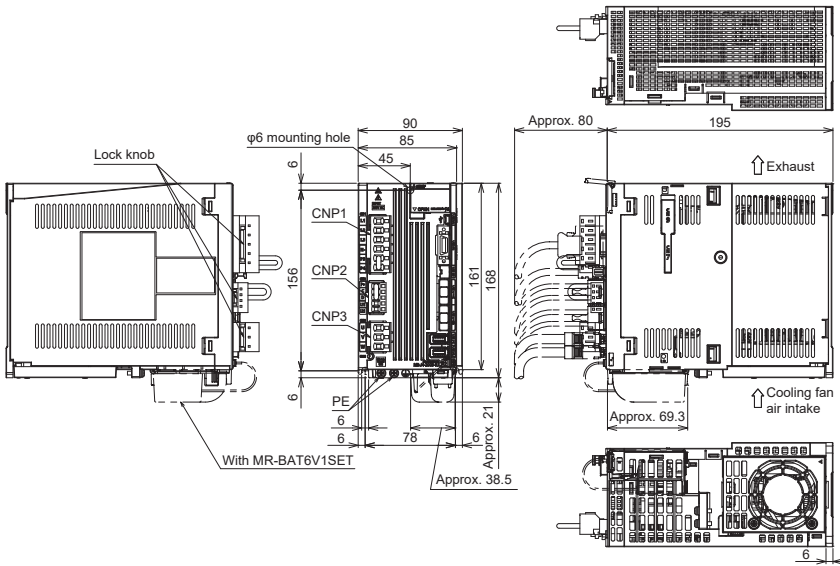


MR-J5-70B(-RJ)/MR-J5-100B(-RJ)

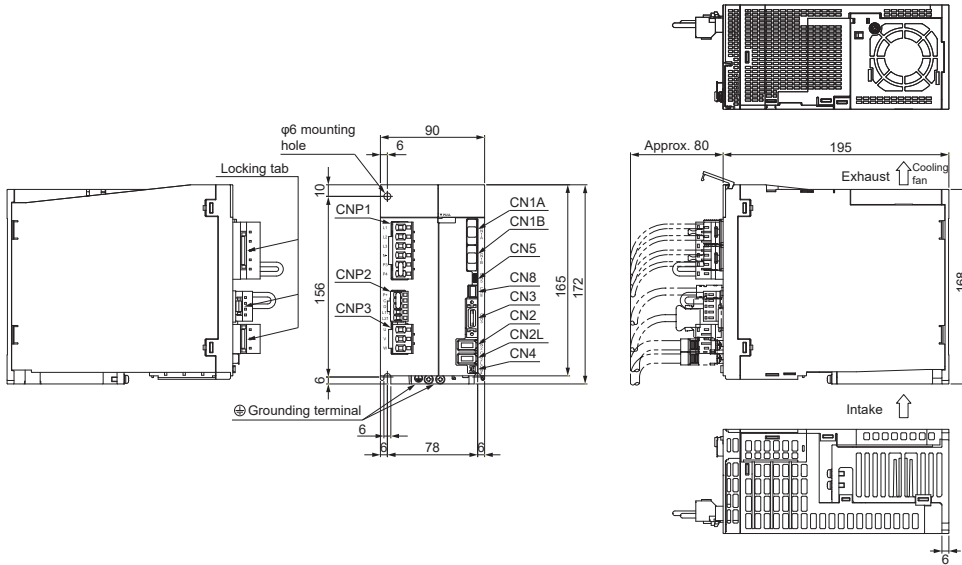


■ Comparison of MR-J4-200B(-RJ) and MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

MR-J4-200B(-RJ)

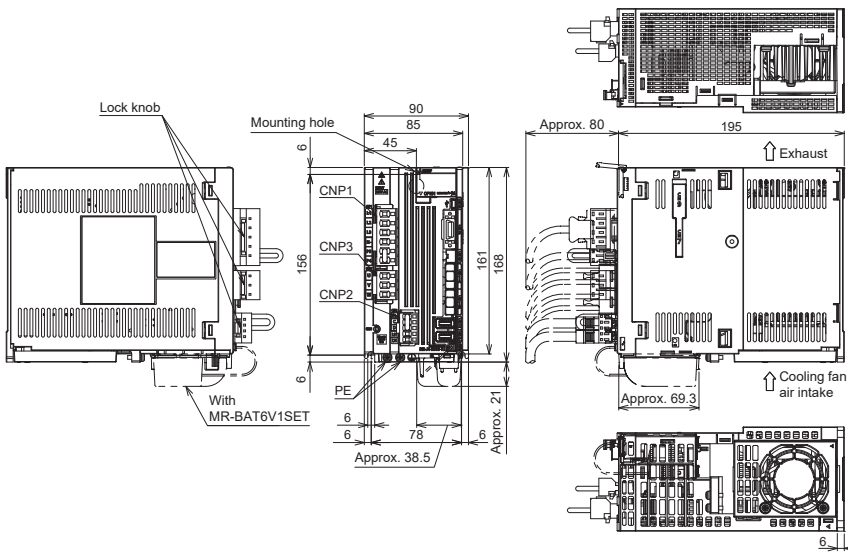


MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

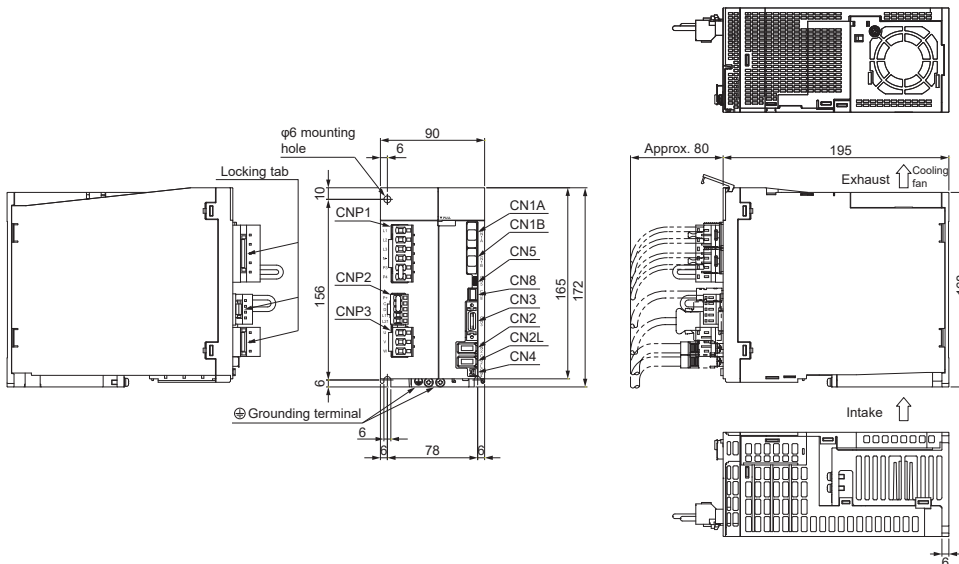


■ Comparison of MR-J4-350B(-RJ) and MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

MR-J4-350B(-RJ)

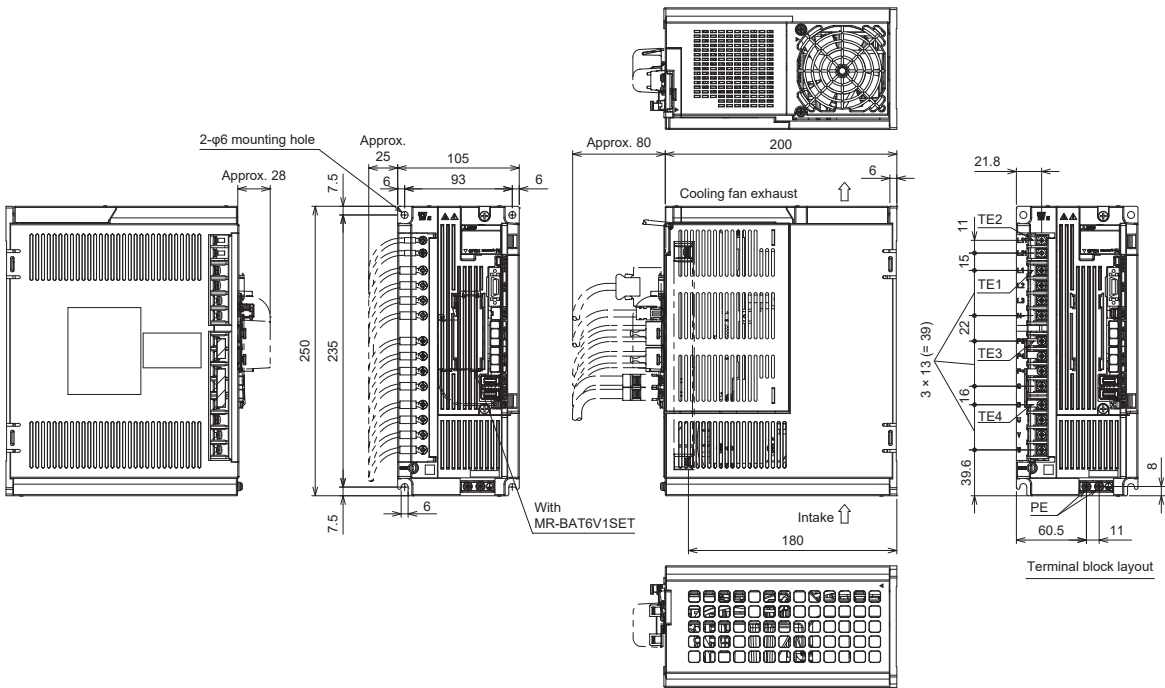


MR-J5-200B(-RJ)/MR-J5-350B(-RJ)

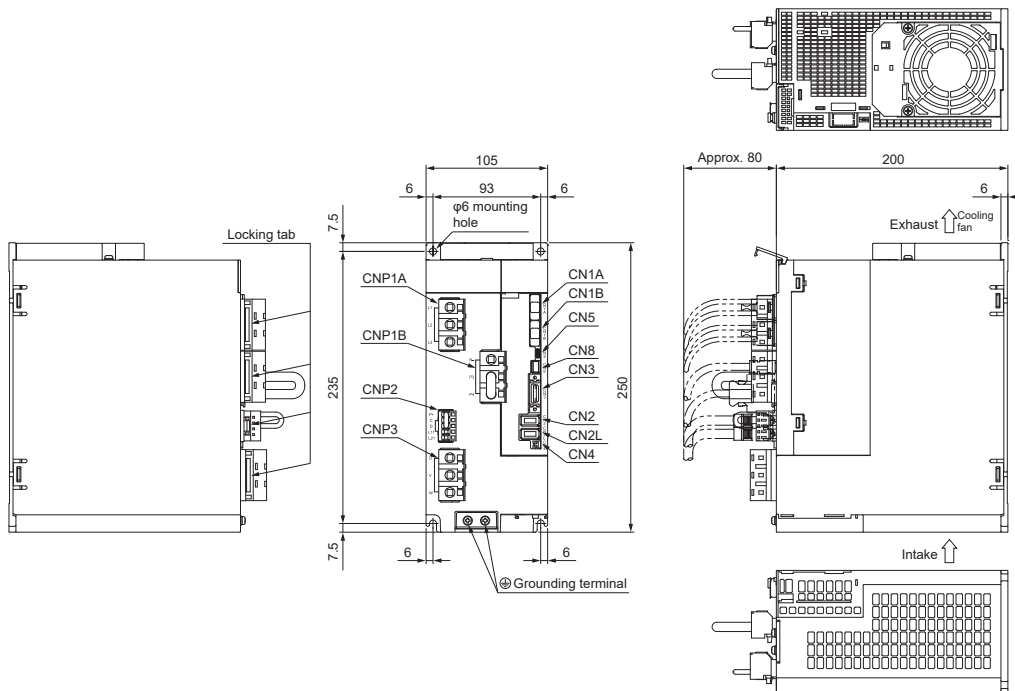


■ Comparison of MR-J4-500B(-RJ) and MR-J5-500B(-RJ)

MR-J4-500B(-RJ)

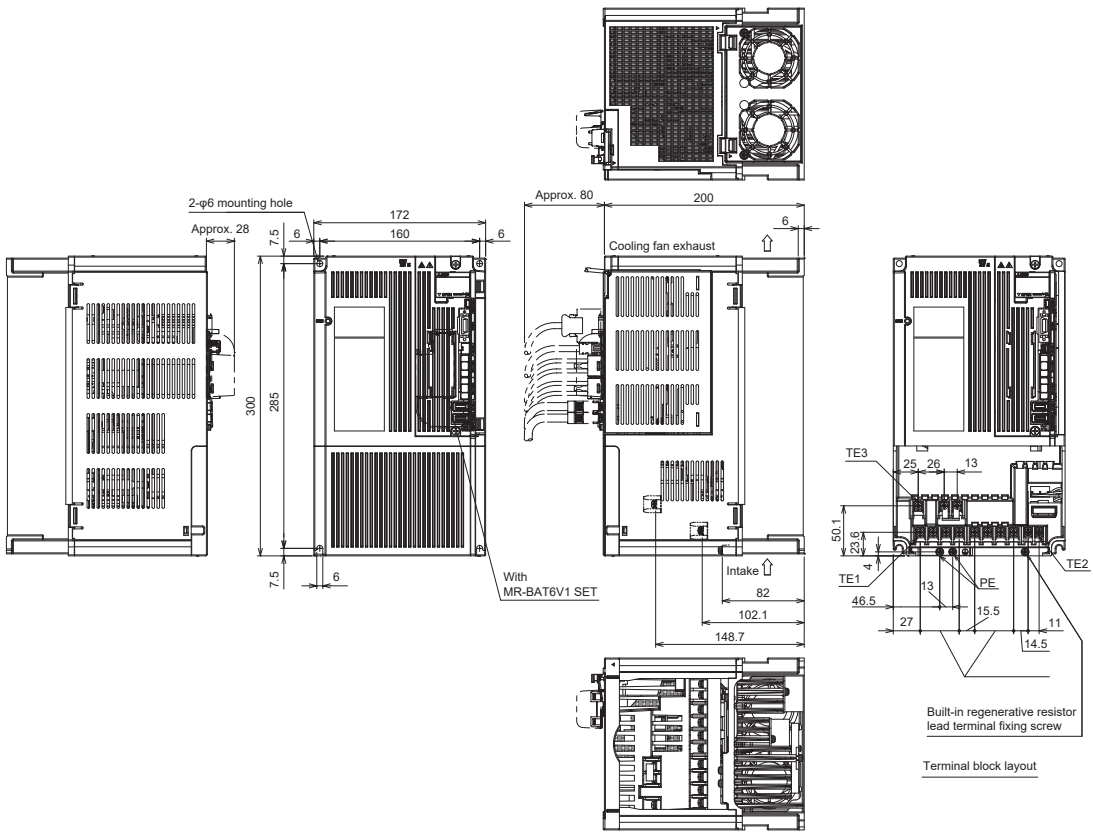


MR-J5-500B(-RJ)

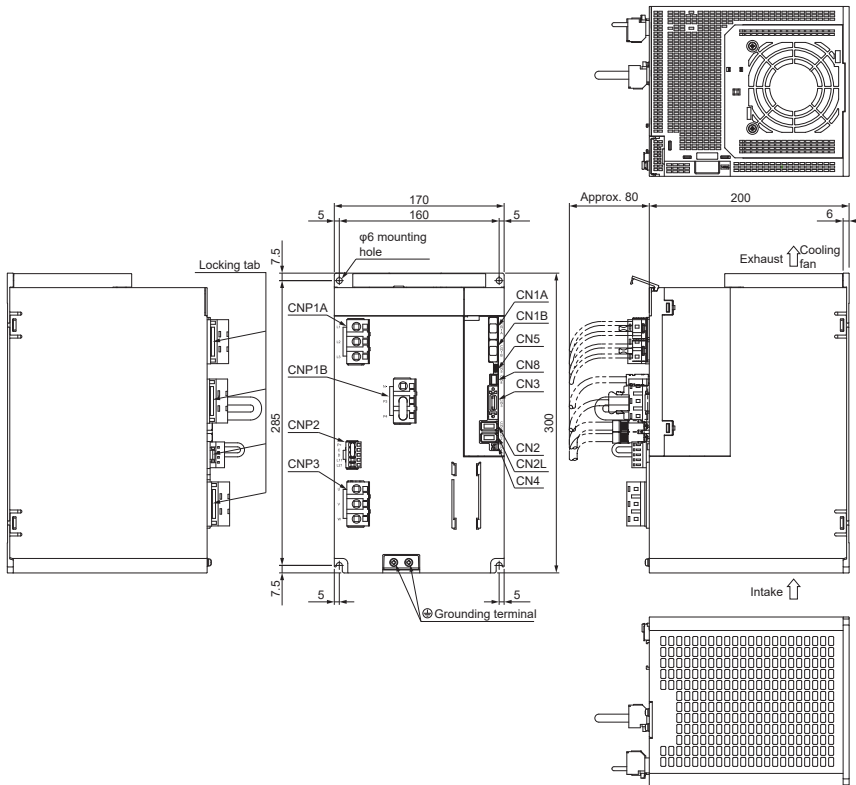


■ Comparison of MR-J4-700B(-RJ) and MR-J5-700B(-RJ)

MR-J4-700B(-RJ)



MR-J5-700B(-RJ)



1-axis servo amplifier 400 V class (3.5 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, the dimensions of the cabinet mounting surface are the same in the MR-J4-_B4 and MR-J5-_B4. Therefore, they have mounting compatibility. Refer to the following for the dimensions of the cabinet mounting surface.

☞ Page 44 Comparison of dimensions

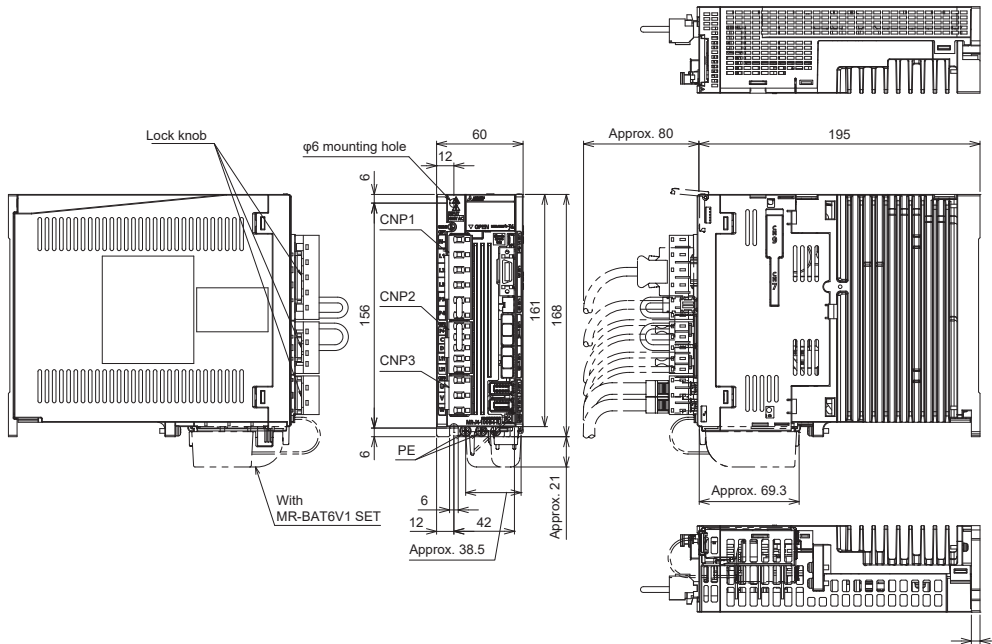
For 2 kW, note that the position of the mounting hole was changed from the top center to the top left. For 3.5 kW, the product was downsized, and the mounting is not compatible.

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

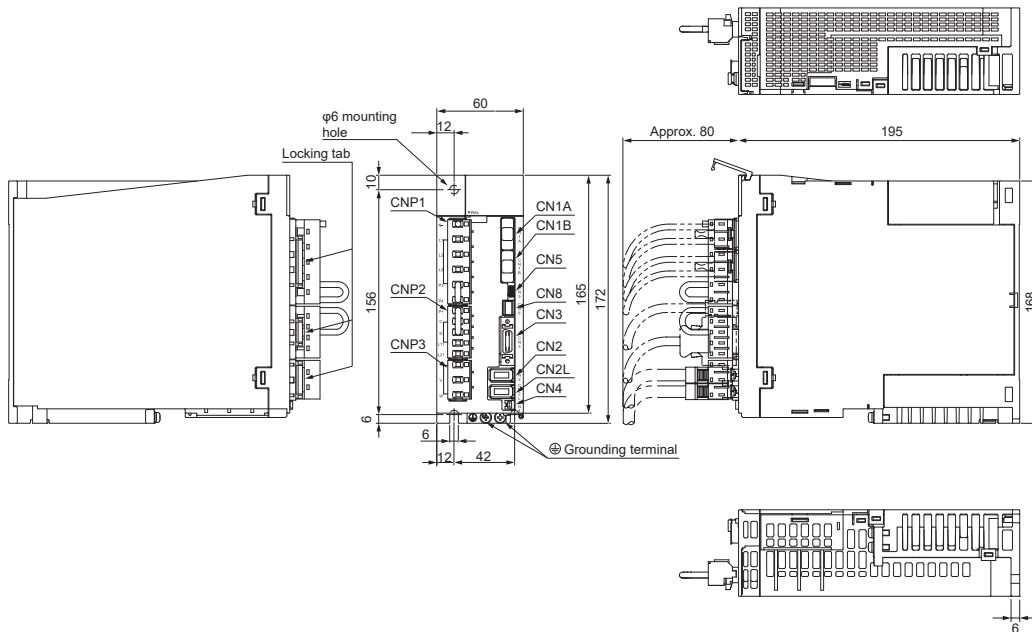
MR-J4-_B_ model	MR-J5-_B_ model	Height		Width		Depth		Mounting screw pitch	
		J4B	J5B	J4B	J5B	J4B	J5B	J4B	J5B
MR-J4-60B4(-RJ)	MR-J5-60B4(-RJ)	168	■172	60	60	195	195	156 (Vertical)/42 (Horizontal) (3 screws)	
MR-J4-100B4(-RJ)	MR-J5-100B4(-RJ)			90	90			156 (Vertical)/78 (Horizontal) (3 screws)	
MR-J4-200B4(-RJ)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

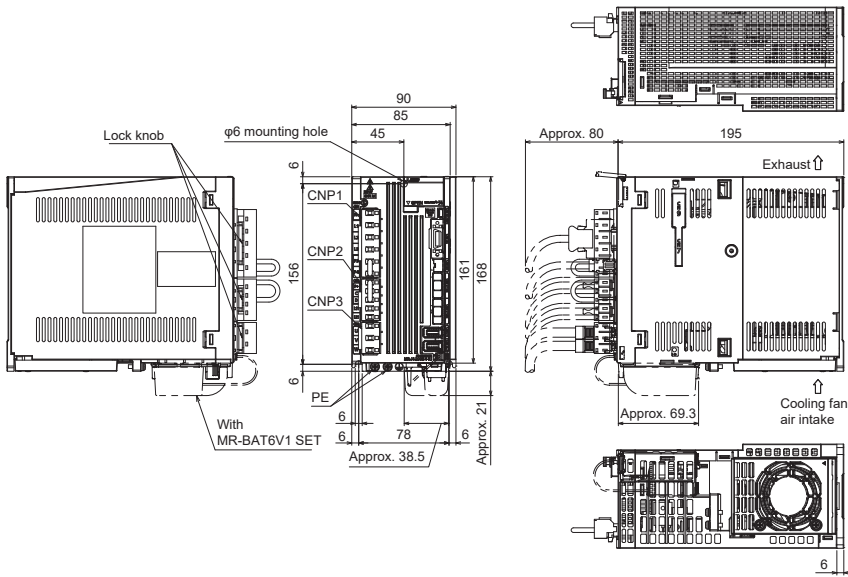


MR-J5-60B4(-RJ)/MR-J5-100B4(-RJ)

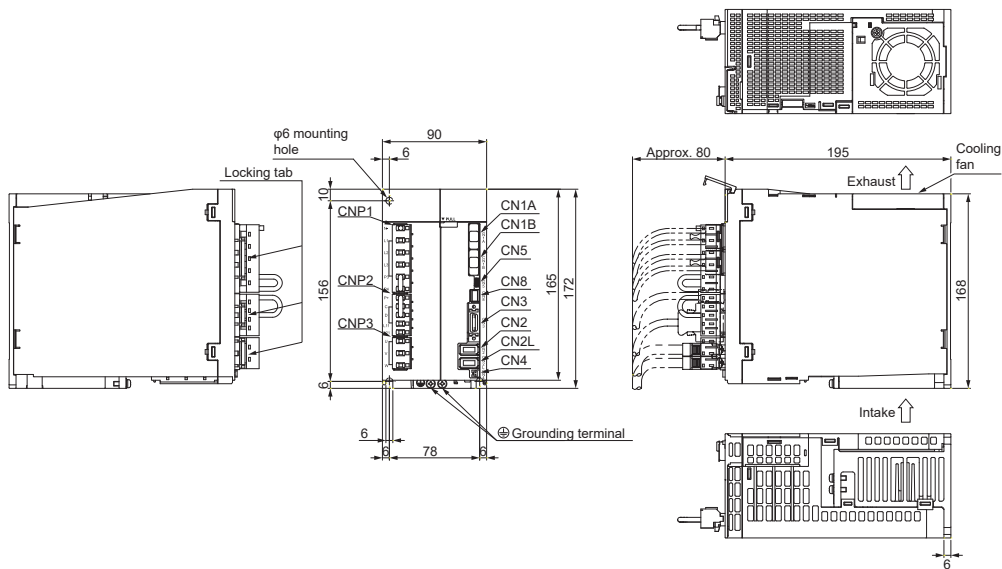


■ Comparison of MR-J4-200B4(-RJ) and MR-J5-200B4(-RJ)/MR-J5-350B4(-RJ)

MR-J4-200B4(-RJ)

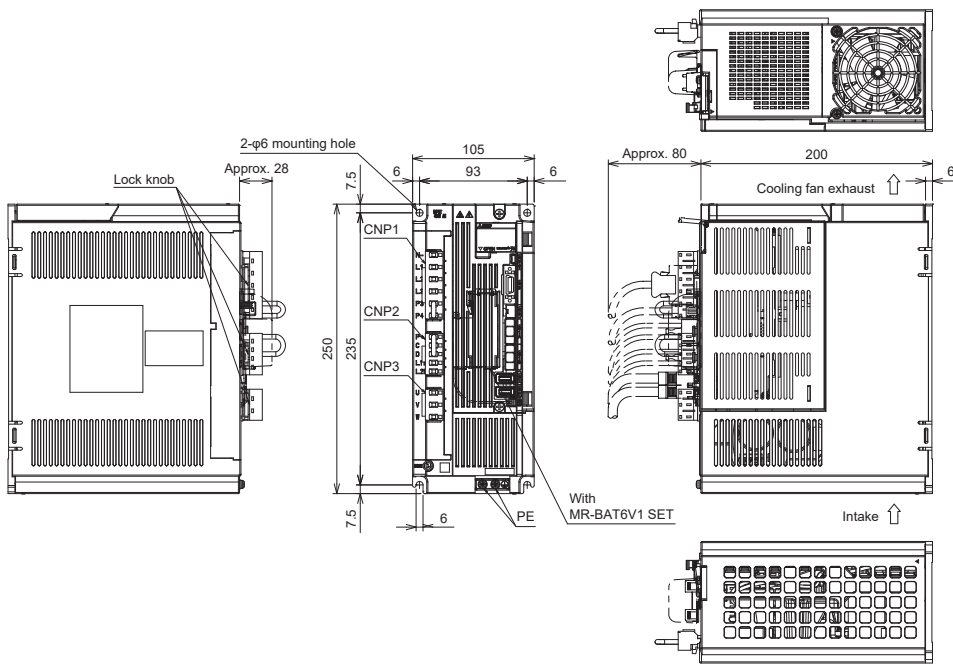


MR-J5-200B4(-RJ)/MR-J5-350B4(-RJ)

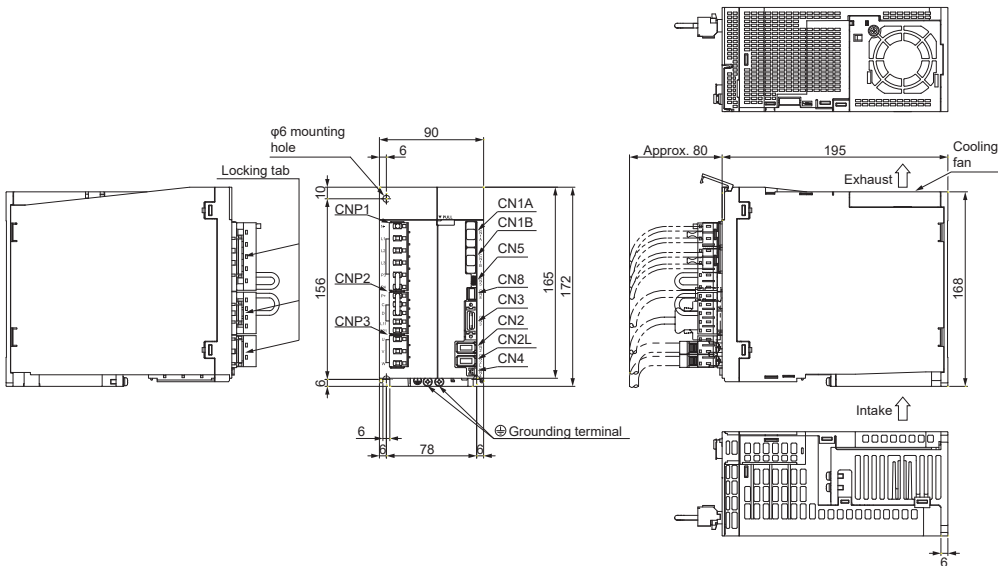


■ Comparison of MR-J4-350B4(-RJ) and MR-J5-200B4(-RJ)/MR-J5-350B4(-RJ)

MR-J4-350B4(-RJ)



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



5.5 Servo Amplifier Initializing Time

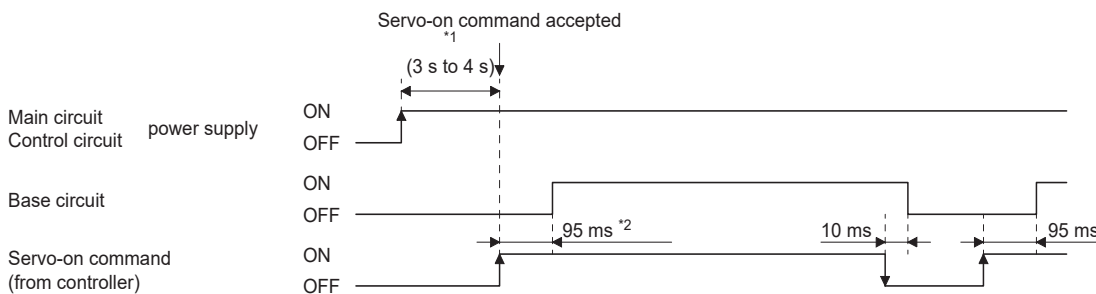
This section shows the initializing time of the servo amplifier (time from when the power is turned on until the servo-on command is received). The initializing time is 3 s to 4 s for the MR-J4-_B_, but it is "2.5 s to 3.5 s and initial network communication" for the MR-J5-_B_. Note that the initializing time differs upon replacement.

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. Please take note.

MR-J4-_B_

The initializing time is 3 to 4 s.

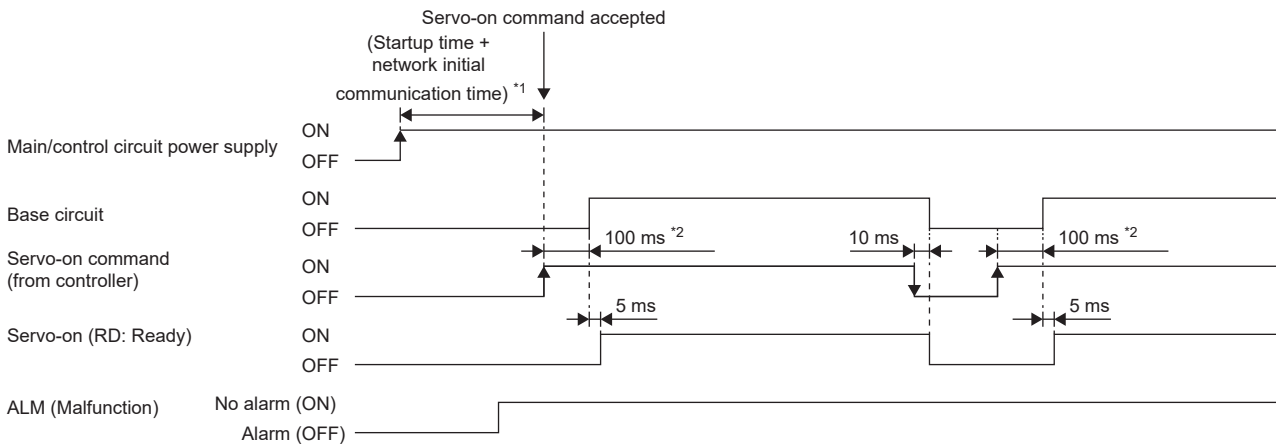


*1 The time will be 5 to 6 s in a linear servo system and fully closed loop system.

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

MR-J5-_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 in the magnetic pole detection of a linear servo motor and direct drive motor.

5.6 Servo Parameter Comparison

Refer to the following for details.

☞ Servo Parameter Setting Change

5.7 Peripheral Equipment Compatibility Comparison

Refer to the following for details.

☞ Review on Replacement of Optional Peripheral Equipment

PART 3**Review on Replacement
of MR-J4W_ _B with MR-
J5W_ _B**

This section describes the changes to be made when a system using MR-J4W_ _B is replaced with a system using MR-J5W_ _B. It is required that the MR-J4W_ _B incorporated into the existing system has been used in "J4 mode" with an SSCNET III/H system.

6 CASE STUDY ON REPLACEMENT OF MR-J4W_ _B WITH MR-J5W_ _B

7 DIFFERENCES BETWEEN MR-J4W_ _B AND MR-J5W_ _B

6 CASE STUDY ON REPLACEMENT OF MR-J4W_-_B WITH MR-J5W_-_B

This is the same as "CASE STUDY ON REPLACEMENT OF MR-J4-_B_ WITH MR-J5-_B_" in "Part 2: Review on Replacement of MR-J4-_B_ with MR-J5-_B_".

☞ Page 24 CASE STUDY ON REPLACEMENT OF MR-J4-_B_ WITH MR-J5-_B_

MEMO

7 DIFFERENCES BETWEEN MR-J4W_- _B AND MR-J5W_- _B

7.1 Function Comparison Table



Changed descriptions are shown with "■".

Item	MR-J4W_- _B	MR-J5W_- _B			
1	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)
2	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		
3	Dynamic brake	Built-in	Built-in ■The coasting distance may vary. *1		
4	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-J5W2-1010B 3-phase or 1-phase 200 to 240 VAC, 50 Hz/60 Hz MR-J5W2-1010B 3-phase 200 to 240 VAC, 50 Hz/60 Hz		
5	Control circuit power supply	1-phase 200 to 240 VAC, 50 Hz/60 Hz	1-phase 200 to 240 VAC, 50 Hz/60 Hz		
6	Interface power supply	External supply required (24 VDC)	External supply required (24 VDC)		
7	Auto tuning	Auto tuning: 40 stages One-touch tuning	■Quick tuning Auto tuning: 40 stages One-touch tuning		
8	Number of DIO points (except for EM2)	[MR-J4W2-_B] DI: 6, DO: 5 [MR-J4W3-_B] DI: 9, DO: 5	[MR-J5W2-_B] DI: 6, DO: 5 [MR-J5W3-_B] DI: 9, DO: 5		
9	Encoder pulse output	A/B-phase (differential line driver) × 2 axes	A/B-phase (differential line driver) × 2 axes		
10	DIO interface	Input/output: Sink/Source	Input/output: Sink/Source		
11	Analog monitor output	Unavailable	Unavailable		
12	Servo parameter setting method	MR Configurator2 Controller	MR Configurator2 Controller		
13	Rotary servo motor (encoder resolution)	HG series (22 bit)	■HK series (26 bit)		
14	LED display	7-segment 3-digit	7-segment 3-digit		
15	Advanced vibration suppression control	Available (Advanced vibration suppression control II)	Available (Advanced vibration suppression control II)		
16	Adaptive filter II	Available	Available		
17	Notch filter	Available (5 pcs.)	Available (5 pcs.)		
18	Tough drive	Available	Available		
19	Drive recorder	Available	Available		
20	Forced stop	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.	EM1 (DB stop)/EM2 (deceleration to stop) can be selected.		
21	Machine diagnosis	Ball screw diagnosis	■Ball screw diagnosis, gear diagnosis, belt diagnosis		

Item		MR-J4W_-_B	MR-J5W_-_B
22	Disconnection detection	Not available	■ Available (input open-phase detection, output open-phase detection)
23	Encoder communication diagnosis	Not available	■ Available
24	Bus common connection (Simple converter MR-CM compatible)	Unavailable	■ Available
25	Safety sub-function	STO	Supported
		SS1	Supported *2
		SS2	Not supported
		SOS	
		SLS	
		SBC	
		SSM	
	Not supported		

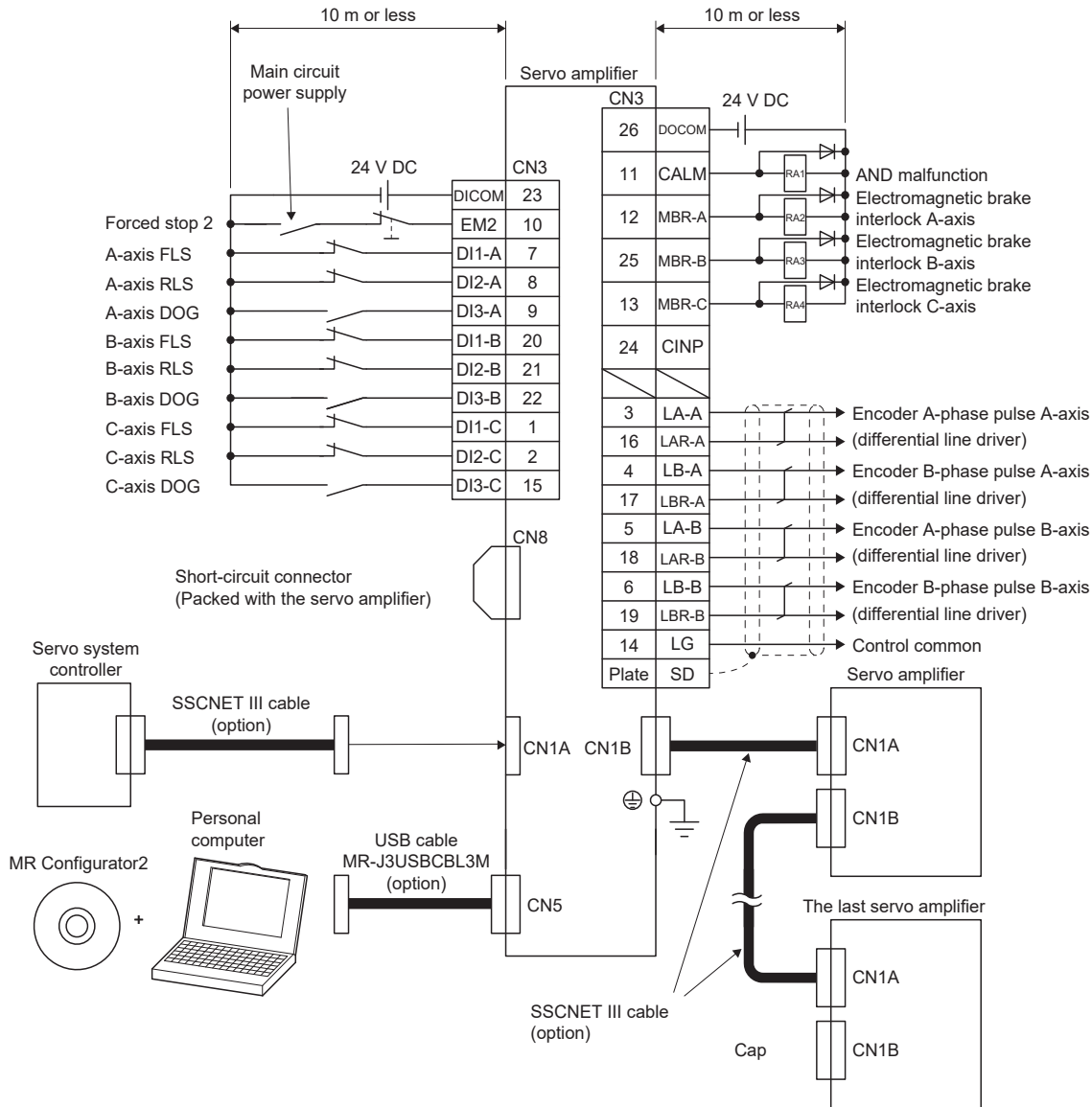
*1 For details on the coasting distance, refer to the following manual.

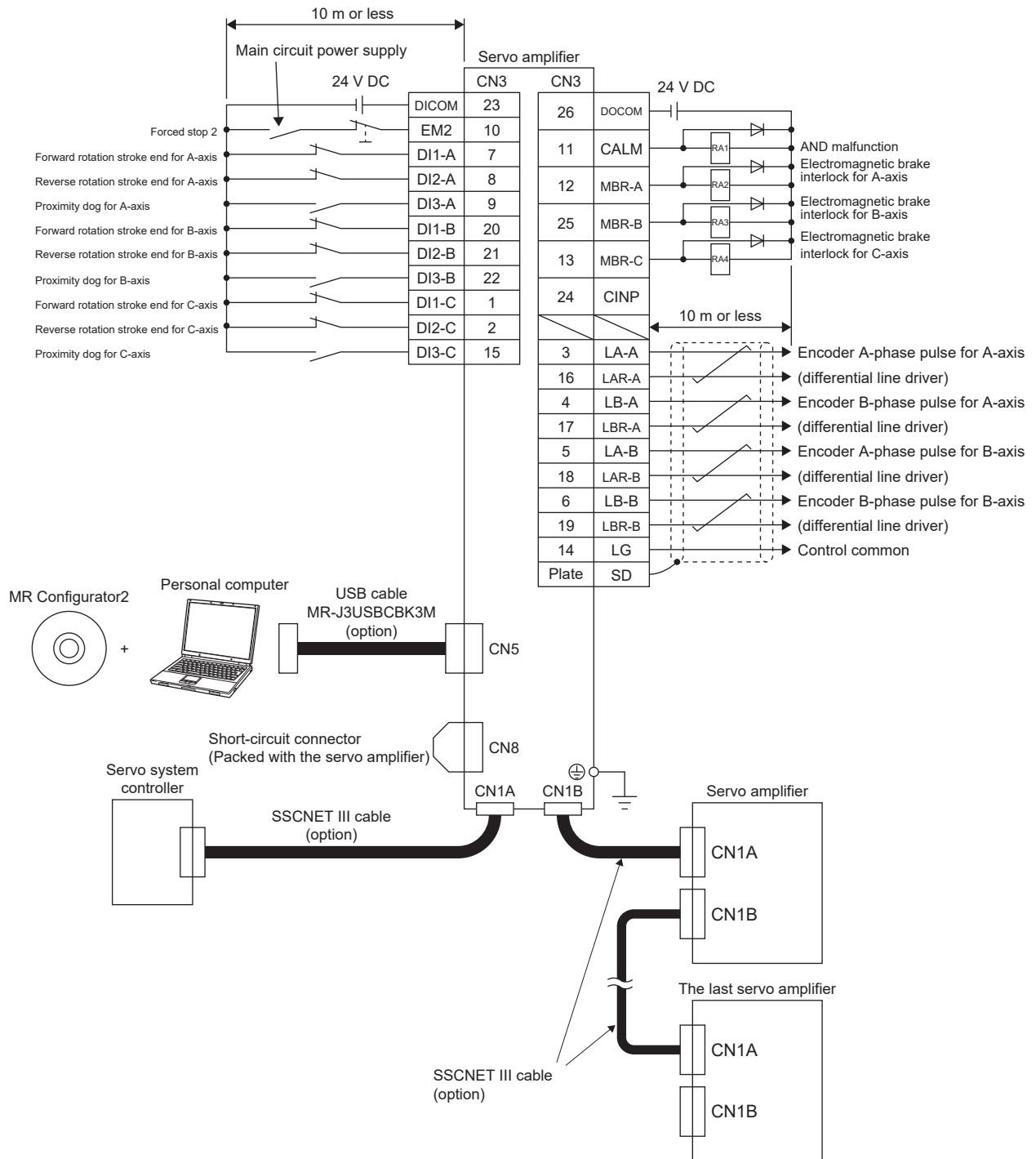
 MR-J5 User's Manual (Hardware)

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

7.2 Comparison of Standard Connection Diagrams

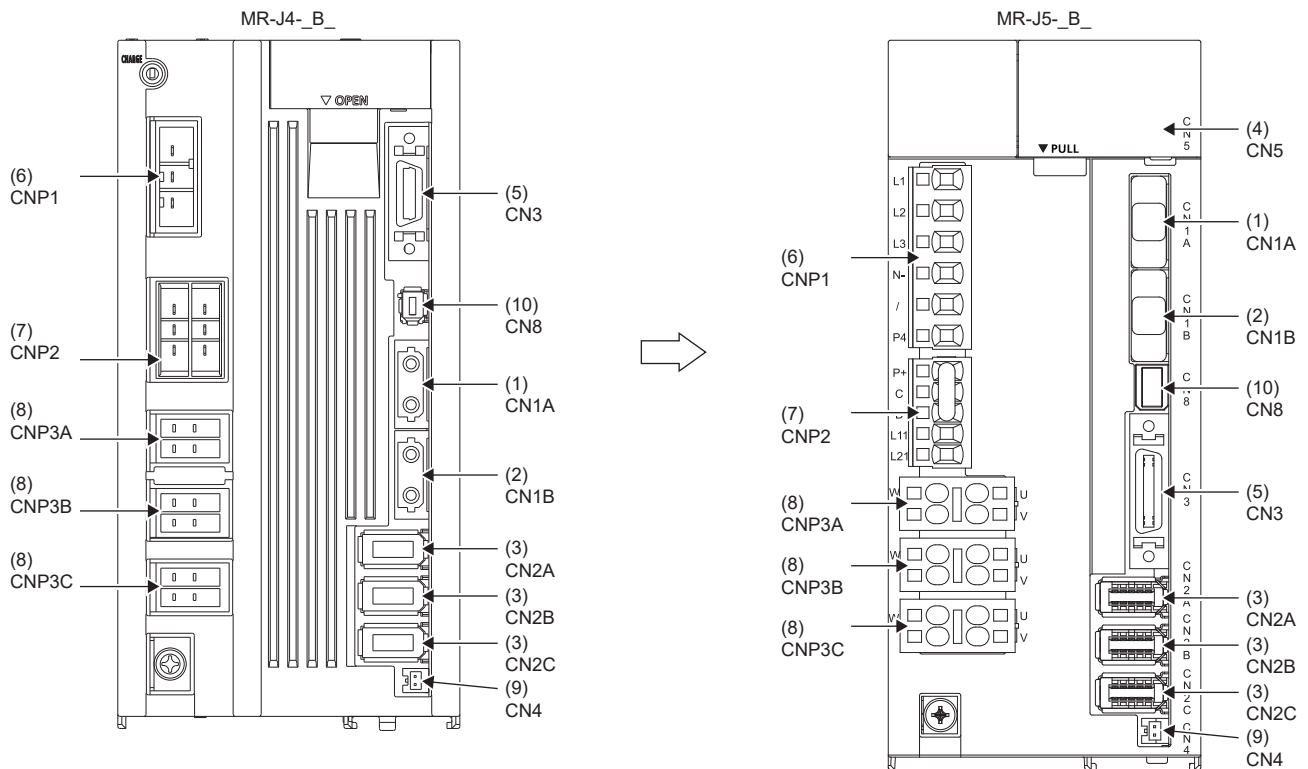
MR-J4W_-_B





7.3 List of Connectors

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 in the existing system.
(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 in the existing system. (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 in the existing system.

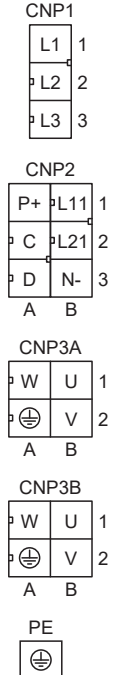
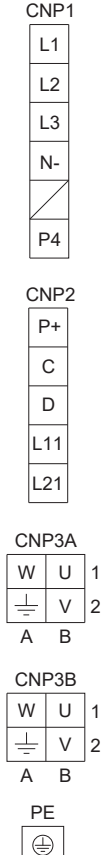
Comparison of control circuit system signals



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
<p>MR-J4W2-22B/ MR-J4W2-44B/ MR-J4W2-77B/ MR-J4W2-1010B</p>	 <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p>	<p>MR-J5W2-22B/ MR-J5W2-44B/ MR-J5W2-77B/ MR-J5W2-1010B</p>	 <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p>

MR-J4W_-_B	Main circuit power supply signal	MR-J5W_-_B	Main circuit power supply signal																																																																																					
MR-J4W3-222B/ MR-J4W3-444B	<div style="text-align: center;"> <p>CNP1</p> <table border="1" style="margin: auto;"> <tr><td>L1</td><td>1</td></tr> <tr><td>L2</td><td>2</td></tr> <tr><td>L3</td><td>3</td></tr> </table> <p>CNP2</p> <table border="1" style="margin: auto;"> <tr><td>P+</td><td>L11</td><td>1</td></tr> <tr><td>C</td><td>L21</td><td>2</td></tr> <tr><td>D</td><td>N-</td><td>3</td></tr> <tr><td>A</td><td>B</td><td></td></tr> </table> <p>CNP3A</p> <table border="1" style="margin: auto;"> <tr><td>W</td><td>U</td><td>1</td></tr> <tr><td></td><td>V</td><td>2</td></tr> <tr><td>A</td><td>B</td><td></td></tr> </table> <p>CNP3B</p> <table border="1" style="margin: auto;"> <tr><td>W</td><td>U</td><td>1</td></tr> <tr><td></td><td>V</td><td>2</td></tr> <tr><td>A</td><td>B</td><td></td></tr> </table> <p>CNP3C</p> <table border="1" style="margin: auto;"> <tr><td>W</td><td>U</td><td>1</td></tr> <tr><td></td><td>V</td><td>2</td></tr> <tr><td>A</td><td>B</td><td></td></tr> </table> <p>PE</p> <table border="1" style="margin: auto;"> <tr><td></td></tr> </table> <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p> </div>	L1	1	L2	2	L3	3	P+	L11	1	C	L21	2	D	N-	3	A	B		W	U	1		V	2	A	B		W	U	1		V	2	A	B		W	U	1		V	2	A	B			MR-J5W3-222B/ MR-J5W3-444B	<div style="text-align: center;"> <p>CNP1</p> <table border="1" style="margin: auto;"> <tr><td>L1</td></tr> <tr><td>L2</td></tr> <tr><td>L3</td></tr> <tr><td>N-</td></tr> <tr><td></td></tr> <tr><td>P4</td></tr> </table> <p>CNP2</p> <table border="1" style="margin: auto;"> <tr><td>P+</td></tr> <tr><td>C</td></tr> <tr><td>D</td></tr> <tr><td>L11</td></tr> <tr><td>L21</td></tr> </table> <p>CNP3A</p> <table border="1" style="margin: auto;"> <tr><td>W</td><td>U</td><td>1</td></tr> <tr><td></td><td>V</td><td>2</td></tr> <tr><td>A</td><td>B</td><td></td></tr> </table> <p>CNP3B</p> <table border="1" style="margin: auto;"> <tr><td>W</td><td>U</td><td>1</td></tr> <tr><td></td><td>V</td><td>2</td></tr> <tr><td>A</td><td>B</td><td></td></tr> </table> <p>CNP3C</p> <table border="1" style="margin: auto;"> <tr><td>W</td><td>U</td><td>1</td></tr> <tr><td></td><td>V</td><td>2</td></tr> <tr><td>A</td><td>B</td><td></td></tr> </table> <p>PE</p> <table border="1" style="margin: auto;"> <tr><td></td></tr> </table> <p>Screw size: M4 Tightening torque: 1.2 [N•m]</p> </div>	L1	L2	L3	N-		P4	P+	C	D	L11	L21	W	U	1		V	2	A	B		W	U	1		V	2	A	B		W	U	1		V	2	A	B		
L1	1																																																																																							
L2	2																																																																																							
L3	3																																																																																							
P+	L11	1																																																																																						
C	L21	2																																																																																						
D	N-	3																																																																																						
A	B																																																																																							
W	U	1																																																																																						
	V	2																																																																																						
A	B																																																																																							
W	U	1																																																																																						
	V	2																																																																																						
A	B																																																																																							
W	U	1																																																																																						
	V	2																																																																																						
A	B																																																																																							
L1																																																																																								
L2																																																																																								
L3																																																																																								
N-																																																																																								
P4																																																																																								
P+																																																																																								
C																																																																																								
D																																																																																								
L11																																																																																								
L21																																																																																								
W	U	1																																																																																						
	V	2																																																																																						
A	B																																																																																							
W	U	1																																																																																						
	V	2																																																																																						
A	B																																																																																							
W	U	1																																																																																						
	V	2																																																																																						
A	B																																																																																							

7.4 Servo Amplifier Dimensions/Attachment Differences

MR-J4W_-_B ⇨ MR-J5W_-_B comparison table of servo amplifier dimensions/installation differences



Changed descriptions are shown with "■".

Comparison of dimensions

The following table shows comparison of the MR-J4W_-_B and MR-J5W_-_B dimensions. For the MR-J4W2_-_B, the dimensions of the cabinet mounting surface are the same in the MR-J4W_-_B and MR-J5W_-_B. Therefore, they have mounting compatibility. Refer to the following for the dimensions of the cabinet mounting surface.

☞ Page 61 Comparison of dimensions

The MR-J4W3_-_B has no mounting compatibility.

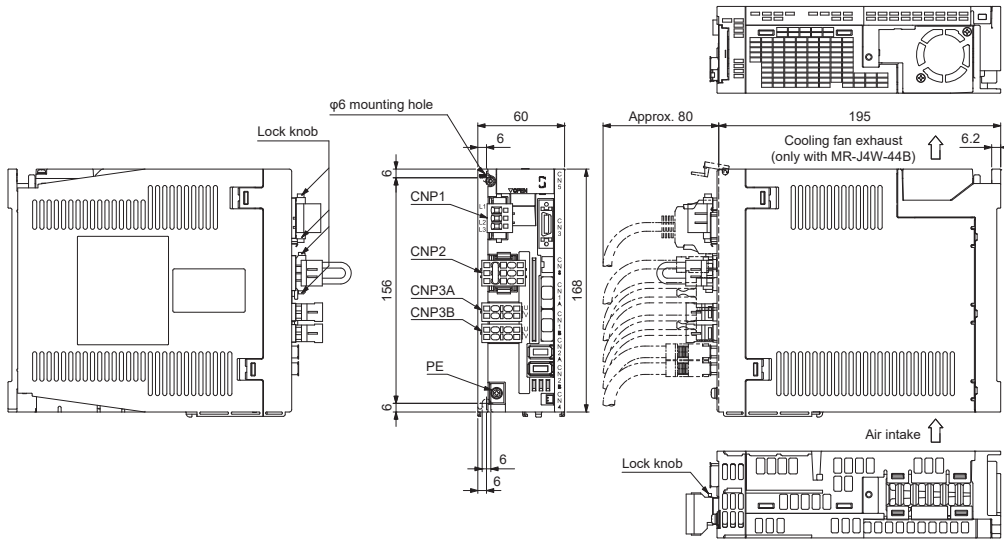
Comparison of dimensions (comparison between the same capacity types) [Unit: mm]

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 screws)	156 (Vertical) (2 screws)
MR-J4W2-44B	MR-J5W2-44B			85	85			156 (Vertical)/73 (Horizontal) (3 screws)	156 (Vertical)/73 (Horizontal) (3 screws)
MR-J4W2-77B	MR-J5W2-77B							■75	156 (Vertical)/73 (Horizontal) (3 screws)
MR-J4W2-1010B	MR-J5W2-1010B								
MR-J4W3-222B	MR-J5W3-222B								
MR-J4W3-444B	MR-J5W3-444B								

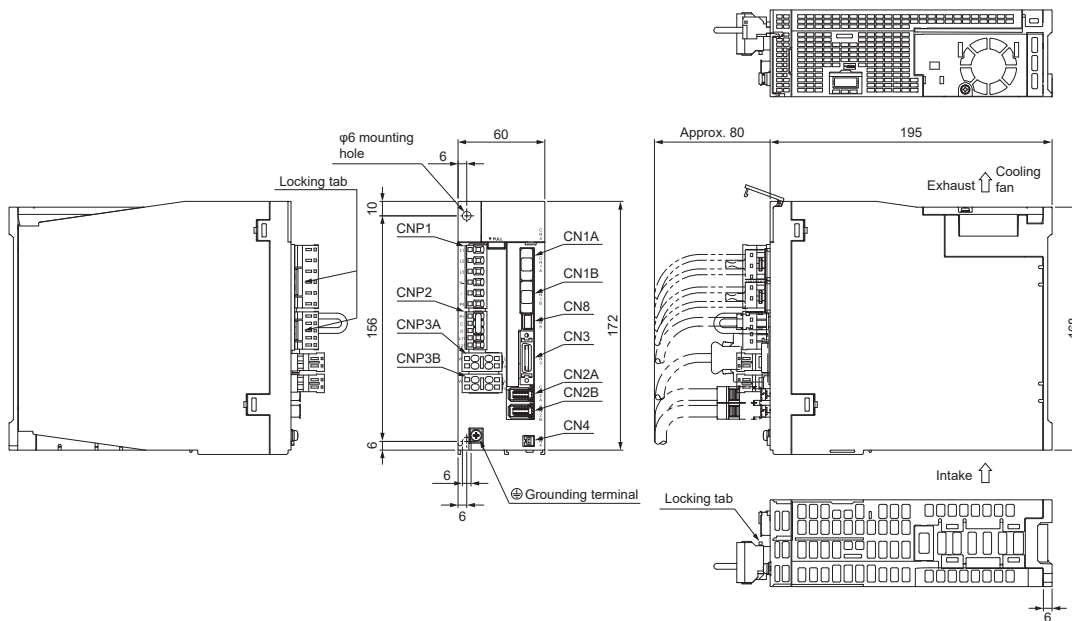
Comparison of dimensions

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

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



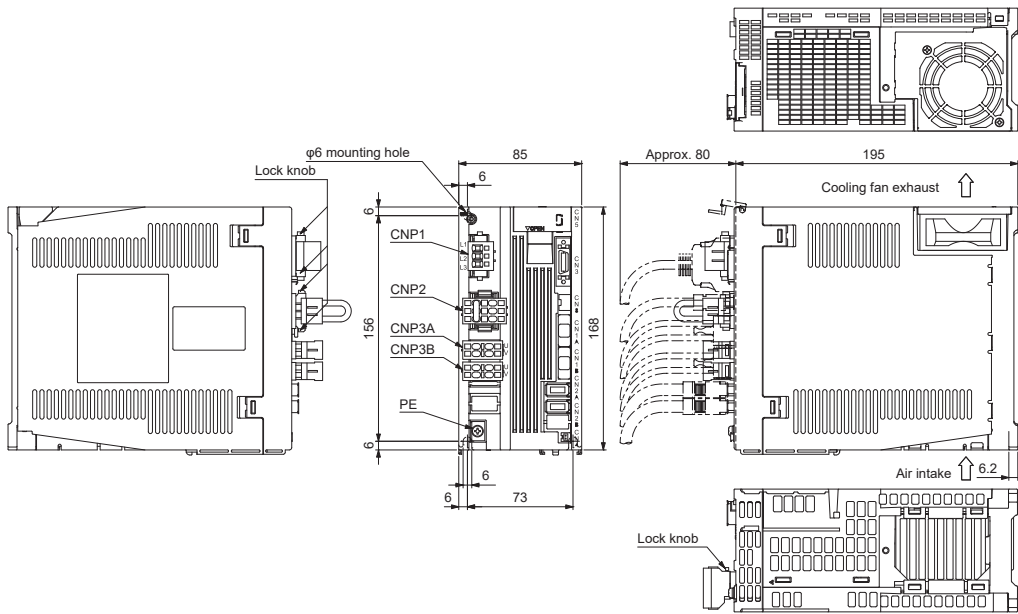
MR-J5W2-22B/MR-J5W2-44B



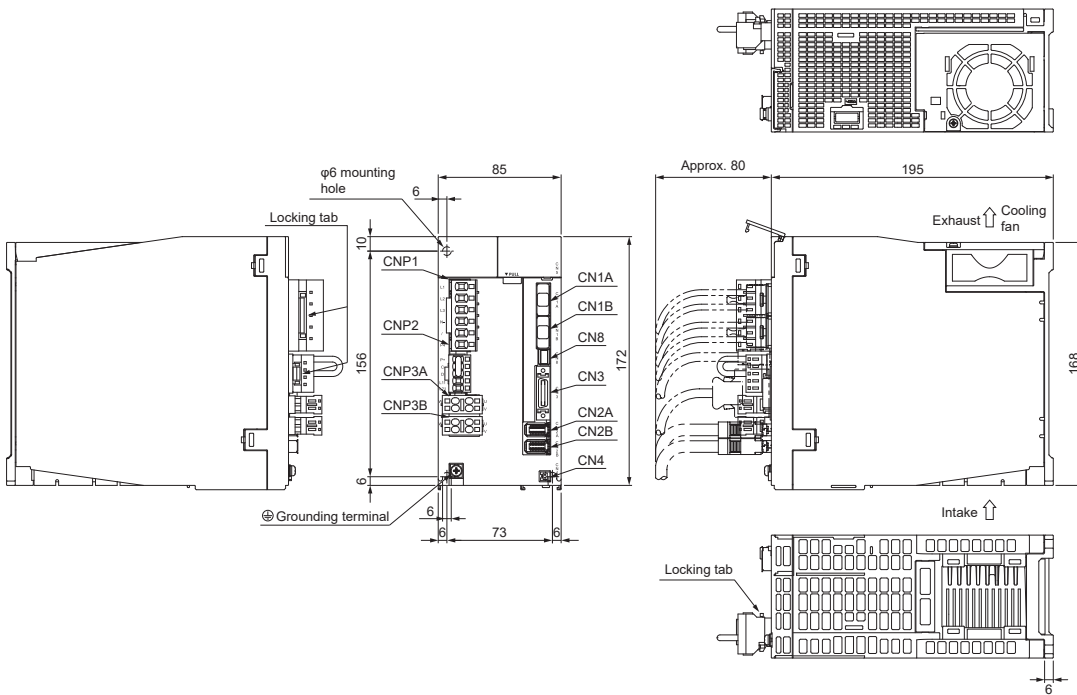
7

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

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

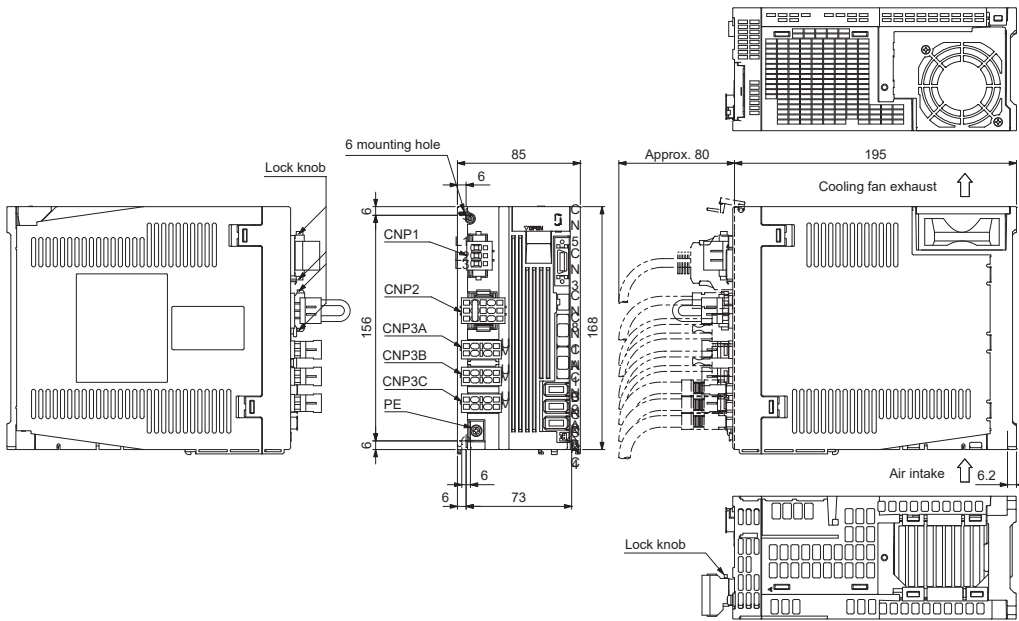


MR-J5W2-77B/MR-J5W2-1010B

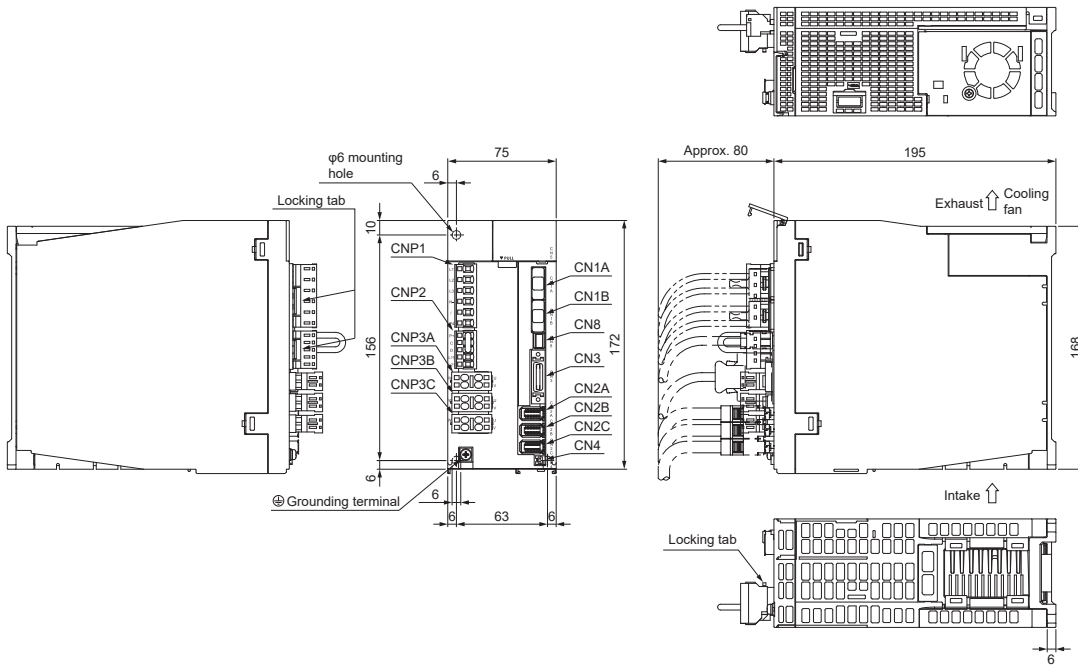


Comparison of MR-J4W3-222B/MR-J4W3-444B and MR-J5W3-222B/MR-J5W3-444B

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



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



7

7.5 Servo Amplifier Initializing Time

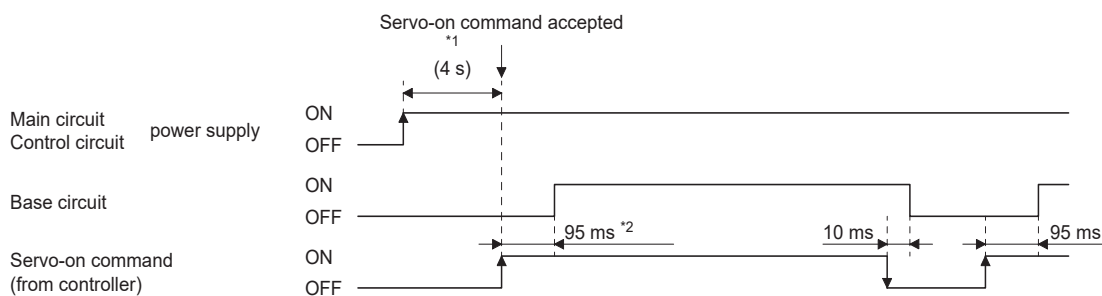
This section shows the initializing time of the servo amplifier (time from when the power is turned on until the servo-on command is received). The initializing time is about 4 s for the MR-J4W_-_B, but it is "3.5 s to 4.0 s and initial network communication" for the MR-J5W_-_B. Note that the initializing time differs upon replacement.

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. Please take note.

MR-J4W_-_B

The initializing time is about 4 s.

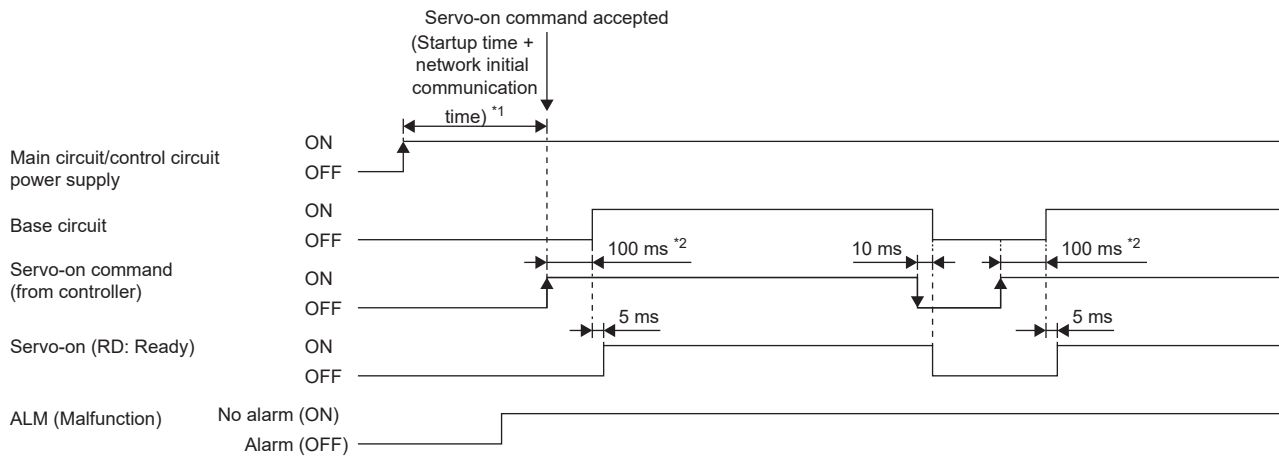


*1 The time will be about 6 s in a linear servo system and fully closed loop system.

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

MR-J5W_-_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 in the magnetic pole detection of a linear servo motor and direct drive motor.

7.6 Servo Parameter Comparison

Refer to the following for details.

☞ Servo Parameter Setting Change

7.7 Peripheral Equipment Compatibility Comparison

Refer to the following for details.

☞ Review on Replacement of Optional Peripheral Equipment

PART 4

Servo Parameter Setting Change

8 SERVO PARAMETERS

9 SERVO PARAMETER CONVERSION

8 SERVO PARAMETERS

8.1 Servo Parameter Comparison

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 bit
- MR-J5-_B_/MR-J5W_-_B: 32 bit

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. 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.

8.2 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 existing servo amplifier.

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 91 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.

8.3 Servo Parameter Comparison List

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



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 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 prohibited	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 configuration selection	0000h		PA22	**PCS	Position control configuration selection	00000000h	
PA23	DRAT	Drive recorder desired 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-_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
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	
—					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	Gain switching - Vibration suppression control 1 - Vibration frequency	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_ _])



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 pulses 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	Deceleration time constant at forced stop	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_ _])



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_ _])



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_ _])



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_ _])



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	

8.4 Comparison of Servo Parameter Details



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


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.) 93: MR-RB3Y-4 (A cooling fan is required.) 94: MR-RB5Y-4 (A cooling fan is required.)	00h
	_ x _:	0h		Pr. PA02.2 For manufacturer setting	0h
	x _ _:	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 96 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 97 Auto tuning response (MR-J4_- B_)	16	PA09	Auto tuning response Set the auto tuning response. ☞ Page 98 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	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 20px;">Low response</div> <div style="margin-bottom: 20px;">↑</div> <div style="margin-bottom: 20px;">↓</div> <div style="margin-bottom: 20px;">Middle response</div> <div style="margin-bottom: 20px;">↑</div> <div style="margin-bottom: 20px;">↓</div> <div style="margin-bottom: 20px;">High response</div> </div>	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		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		571.5
40		642.7

Auto tuning response (MR-J5_-_B_)

Setting value	Machine characteristic	
	Responsiveness	Guideline for machine resonance frequency [Hz]
1	<div style="text-align: center;"> <p>Low response</p> <p>Middle response</p> <p>High response</p> </div>	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		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		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 99 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

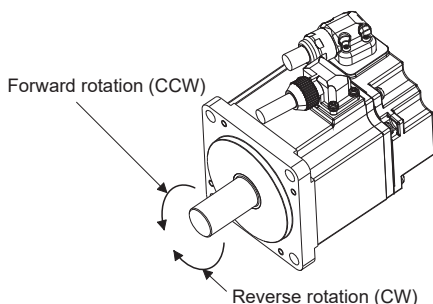
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PA14	Rotation direction selection/travel direction selection Select the command input pulse rotation direction or travel direction for the rotary servo 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 100 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 101 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

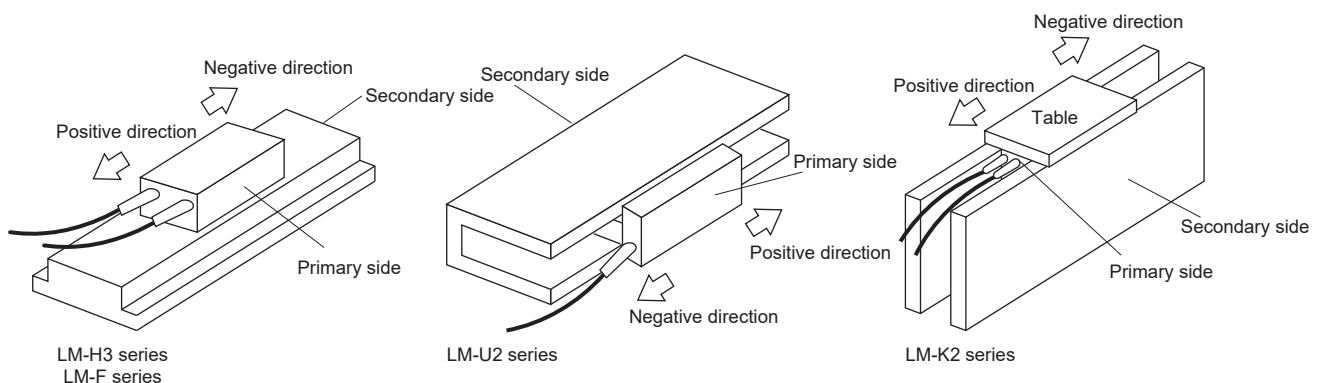
■ Servo motor rotation direction

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)

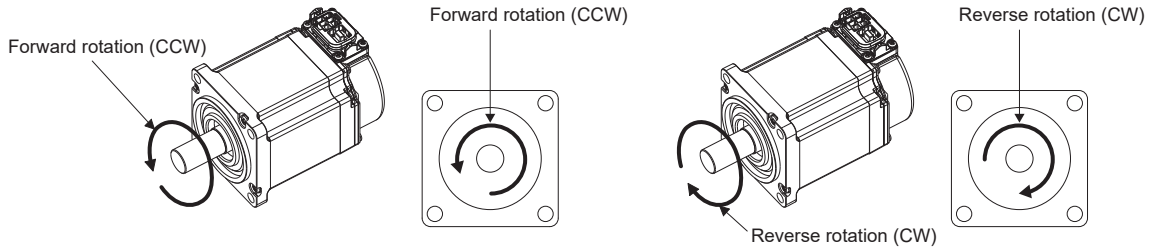
Setting value		Servo motor rotation direction/linear servo motor travel direction	
[Pr. PA14]	[Pr. PC29.3]	Speed handled by the controller: positive	Speed handled by the controller: negative
0	0: Enabled	CCW or positive direction	CW or negative direction
	1: Disabled		
1	0: Enabled	CW or negative direction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

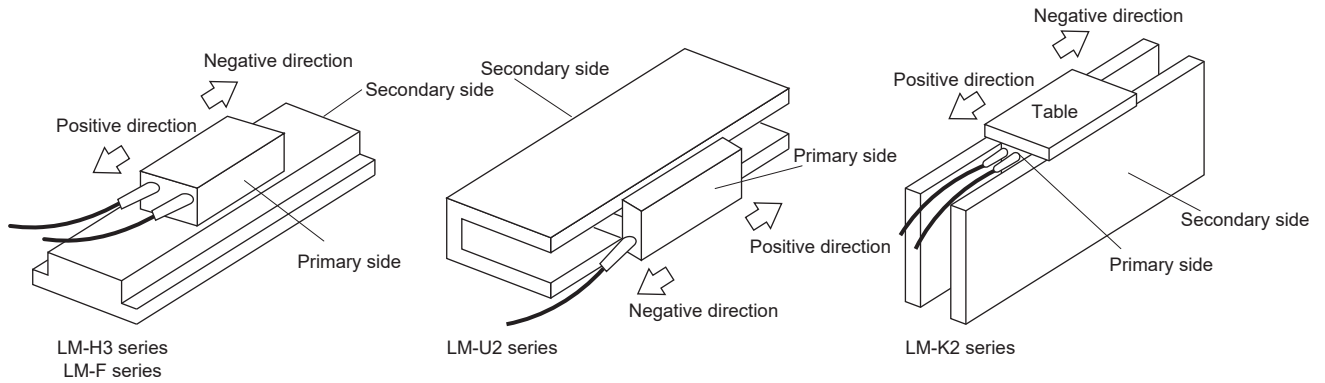
- Servo motor rotation direction



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 104 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 105 Linear servo motor list (MR-J5_-_B_)	000000 00h

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 104 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 105 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 106 Setting value and read/write range of [Pr. PA19]	00ABh	PA19	For manufacturer setting	000000 ABh

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 configuration 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 desired 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	
	<p>___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.</p>	0h		<p>[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.</p>	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	
	<p>___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_)".</p>	0h		<p>[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] 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.</p>	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
—			PA34	Quick tuning - Permissible travel distance Set the permissible travel distance for quick tuning. If the travel distance for quick tuning exceeds the setting value, the quick tuning error occurs. When "0" is input, the permissible travel distance for quick tuning is 1.0 rev (when a linear servo motor is used, 10 mm).	0

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 112 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 112 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)	
___ 3 (manual mode)	Manual setting
___ 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)	
"3" (manual mode)	Manual setting
"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	<p>Model loop gain</p> <p>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.</p> <p>This servo parameter will be automatic or manual depending on the setting value of [Pr. PA08]. Refer to the following table for details.</p> <p>☞ Page 113 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J4 _-B_)</p>	15.0	PB07	<p>Model loop gain</p> <p>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.</p> <p>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.</p> <p>☞ Page 113 State of [Pr. PB07] depending on the setting value of [Pr. PA08] (MR-J5 _-B_)</p> <p>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.</p>	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)	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
PB08	<p>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 114 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J4 _-B_)</p>	37.0	PB08	<p>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 114 State of [Pr. PB08] depending on the setting value of [Pr. PA08] (MR-J5 _-B_)</p>	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	<p>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.</p>	823	PB09	<p>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.</p>	823
PB10	<p>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.</p>	33.7	PB10	<p>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.</p>	33.7
PB11	<p>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].</p>	980	PB11	<p>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 115 Enabling conditions for [Pr. PB11]</p>	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: $\alpha = 2$ 1: $\alpha = 3$ 2: $\alpha = 4$ 3: $\alpha = 5$	0h		[Pr. PB14.2 Notch width selection 1] 0: $\alpha = 21$: $\alpha = 32$: $\alpha = 4$ 3: $\alpha = 5$	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 118 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 119 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]
--_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

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 123 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 123 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
			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
			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	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].	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	<p>Vibration suppression control 1 - Resonance frequency after gain switching</p> <p>Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled.</p> <p>If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB20].</p> <p>This parameter is enabled only under the following conditions.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock.</p> <p>Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.0	PB34	<p>Vibration suppression control 1 - Resonance frequency after gain switching</p> <p>Set the resonance frequency for vibration suppression control 1 for when the gain switching is enabled.</p> <p>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.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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]. <p>Switching gains during driving may cause a shock.</p> <p>Switch the gains after the servo motor has stopped.</p>	0.0
PB35	<p>Vibration suppression control 1 - Vibration frequency damping after gain switching</p> <p>Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled.</p> <p>This parameter is enabled only under the following conditions.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock.</p> <p>Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.00	PB35	<p>Gain switching - Vibration suppression control 1 - Vibration frequency damping</p> <p>Set the damping of the vibration frequency for vibration suppression control 1 for when the gain switching is enabled.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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]. <p>Switching gains during driving may cause a shock.</p> <p>Switch the gains after the servo motor has stopped.</p>	0.00
PB36	<p>Vibration suppression control 1 - Resonance frequency damping after gain switching</p> <p>Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled.</p> <p>This parameter is enabled only under the following conditions.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock.</p> <p>Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.00	PB36	<p>Vibration suppression control 1 - Resonance frequency damping after gain switching</p> <p>Set the damping of the resonance frequency for vibration suppression control 1 for when the gain switching is enabled.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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]. <p>Switching gains during driving may cause a shock.</p> <p>Switch the gains after the servo motor has stopped.</p>	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 130 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 133 Command notch filter setting frequency selection (MR-J5_-_B_)	00h
	_x _: Notch depth selection Refer to the following table for details. ☞ Page 132 Notch depth selection (MR-J4_-_B_)	0h		[Pr. PB45.2 Notch depth selection] Refer to the following table for details. ☞ Page 135 Notch depth selection (MR-J5_-_B_)	0h
	x _ _:	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]
__00	Disabled
__01	2250
__02	1125
__03	750
__04	562
__05	450
__06	375
__07	321
__08	281
__09	250
__0A	225
__0B	204
__0C	187
__0D	173
__0E	160
__0F	150
__10	140
__11	132
__12	125
__13	118
__14	112
__15	107
__16	102
__17	97
__18	93
__19	90
__1A	86
__1B	83
__1C	80
__1D	77
__1E	75
__1F	72
__20	70
__21	66
__22	62
__23	59
__24	56
__25	53
__26	51
__27	48
__28	46
__29	45
__2A	43
__2B	41
__2C	40
__2D	38
__2E	37
__2F	36
__30	35.2
__31	33.1
__32	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: $\alpha = 2$ 1: $\alpha = 3$ 2: $\alpha = 4$ 3: $\alpha = 5$	0h		[Pr. PB47.2 Notch width selection] 0: $\alpha = 2$ 1: $\alpha = 3$ 2: $\alpha = 4$ 3: $\alpha = 5$	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: $\alpha = 2$ 1: $\alpha = 3$ 2: $\alpha = 4$ 3: $\alpha = 5$	0h		[Pr. PB49.2 Notch width selection] 0: $\alpha = 2$ 1: $\alpha = 3$ 2: $\alpha = 4$ 3: $\alpha = 5$	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: $\alpha = 2$ 1: $\alpha = 3$ 2: $\alpha = 4$ 3: $\alpha = 5$	0h		[Pr. PB51.2 Notch width selection] 0: $\alpha = 2$ 1: $\alpha = 3$ 2: $\alpha = 4$ 3: $\alpha = 5$	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	<p>Vibration suppression control 2 - Vibration frequency damping</p> <p>Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration.</p> <p>If "3 inertia mode (___ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled.</p> <p>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.</p>	0.00	PB54	<p>Vibration suppression control 2 - Vibration frequency damping</p> <p>Set the damping of the vibration frequency for vibration suppression control 2 to suppress low-frequency machine vibration.</p> <p>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.</p> <p>The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode).</p>	0.00
PB55	<p>Vibration suppression control 2 - Resonance frequency damping</p> <p>Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration.</p> <p>If "3 inertia mode (___ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24], the setting value of this servo parameter is enabled.</p> <p>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.</p>	0.00	PB55	<p>Vibration suppression control 2 - Resonance frequency damping</p> <p>Set the damping of the resonance frequency for vibration suppression control 2 to suppress low-frequency machine vibration.</p> <p>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.</p> <p>The setting value is enabled when [Pr. PA24.0 Vibration suppression mode selection] is set to "1" (3 inertia mode).</p>	0.00
PB56	<p>Vibration suppression control 2 - Vibration frequency after gain switching</p> <p>Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled.</p> <p>If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB52].</p> <p>This servo parameter is enabled if "3 inertia mode (___ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24].</p> <p>This parameter is enabled only under the following conditions.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.0	PB56	<p>Vibration suppression control 2 - Vibration frequency after gain switching</p> <p>Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled.</p> <p>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.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.0
PB57	<p>Vibration suppression control 2 - Resonance frequency after gain switching</p> <p>Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled.</p> <p>If a value less than 0.1 Hz is set, the value will be the same as the value set in [Pr. PB53].</p> <p>This servo parameter is enabled if "3 inertia mode (___ 1)" is selected for "Vibration suppression mode selection" in [Pr. PA24].</p> <p>This parameter is enabled only under the following conditions.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.0	PB57	<p>Vibration suppression control 2 - Resonance frequency after gain switching</p> <p>Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled.</p> <p>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.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	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	<p>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.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.00	PB58	<p>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:</p> <ul style="list-style-type: none"> • [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]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.00
PB59	<p>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.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.00	PB59	<p>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:</p> <ul style="list-style-type: none"> • [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	<p>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.</p> <ul style="list-style-type: none"> • "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]. <p>Switching gains during driving may cause a shock. Always switch the gains after the servo motor or linear servo motor has stopped.</p>	0.0	PB60	<p>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:</p> <ul style="list-style-type: none"> • [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]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.0
—			PB65	<p>Gain switching 2 condition Set the value of the gain switching (command frequency, droop pulses, or servo motor speed) selected in [Pr. PB26.0 Gain switching selection]. 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. The setting value is to be larger than in [Pr. PB27 Gain switching condition]. When "0" is set, the gain is not switched to the gain switching 2.</p>	10

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
—			PB66	Gain switching 2 time constant Set the time constant until the gain switches from "gain at normal use" or "gain at switching" to "gain at switching 2" in response to the conditions set in [Pr. PB26 Gain switching function] and [Pr. PB65 Gain switching 2 condition].	1
—			PB67	Gain switching 2 - Load to motor inertia ratio/load to motor mass ratio Set the load to motor inertia ratio/load to motor mass ratio for when the gain switching 2 is enabled. This servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	7.00
—			PB68	Gain switching 2 - Position control gain Set the position control gain for when the gain switching 2 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. This servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0.0
—			PB69	Gain switching 2 - Speed control gain Set the speed control gain for when the gain switching 2 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. This servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0
—			PB70	Gain switching 2 - Speed integral compensation Set the speed integral compensation for when the gain switching 2 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. This servo parameter is enabled when [Pr. PA08.0 Gain adjustment mode selection] is set to "3" (manual mode).	0.0
—			PB71	Gain switching 2 - Vibration suppression control 1 - Vibration frequency Set the vibration frequency of vibration suppression control 1 for when the gain switching 2 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: <ul style="list-style-type: none"> • [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" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). "1" (control command from the controller) is selected in [Pr. PB26.4]. 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
—			PB72	<p>Gain switching 2 - Vibration suppression control 1 - Resonance frequency</p> <p>Set the resonance frequency for vibration suppression control 1 for when the gain switching 2 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:</p> <ul style="list-style-type: none"> • [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" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). Alternatively, "1" (control command from the controller) is selected in [Pr. PB26.4]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.0
—			PB73	<p>Gain switching 2 - Vibration suppression control 1 - Vibration frequency damping</p> <p>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:</p> <ul style="list-style-type: none"> • [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" (control command from the controller), and [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). Alternatively, "1" (control command from the controller) is selected in [Pr. PB26.4]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.00
—			PB74	<p>Gain switching 2 - Vibration suppression control 1 - Resonance frequency damping</p> <p>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:</p> <ul style="list-style-type: none"> • [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" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). "1" (control command from the controller) is selected in [Pr. PB26.4]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.00


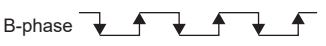





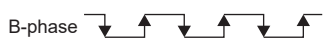
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
—			PB75	<p>Gain switching 2 - Vibration suppression control 2 - Vibration frequency</p> <p>Set the vibration frequency of vibration suppression control 2 for when the gain switching is enabled.</p> <p>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.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). Alternatively, "1" (control command from the controller) is selected in [Pr. PB26.4]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.0
—			PB76	<p>Gain switching 2 - Vibration suppression control 2 - Resonance frequency</p> <p>Set the resonance frequency for vibration suppression control 2 for when the gain switching is enabled.</p> <p>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.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). "1" (control command from the controller) is selected in [Pr. PB26.4]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.0
—			PB77	<p>Gain switching 2 - Vibration suppression control 2 - Vibration frequency damping</p> <p>Set the damping of the vibration frequency for vibration suppression control 2 for when the gain switching is enabled.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). "1" (control command from the controller) is selected in [Pr. PB26.4]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	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						
—			PB78	<p>Gain switching 2 - Vibration suppression control 2 - Resonance frequency damping</p> <p>Set the damping of the resonance frequency for vibration suppression control 2 for when the gain switching is enabled.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [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" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). "1" (control command from the controller) is selected in [Pr. PB26.4]. <p>Switching gains during driving may cause a shock. Switch the gains after the servo motor has stopped.</p>	0.00						
—			PB79	<p>Gain switching 2 - Model control gain</p> <p>Set the model control gain for when the gain switching is enabled.</p> <p>When the setting value of this servo parameter is less than "1.0", the setting value of [Pr. PB07 Model control gain] is applied.</p> <p>This servo parameter is enabled in the following conditions:</p> <ul style="list-style-type: none"> • [Pr. PB26.0 Gain switching selection] is set to "1" (control command from the controller) while [Pr. PB26.4 Gain switching 2 selection] is set to "2" (the same condition as [Pr. PB26.0 Gain switching selection]). "1" (control command from the controller) is selected in [Pr. PB26.4]. 	0.0						
—			PB81	<p>Command filter</p> <table border="1"> <tr> <td>Pr. PB81.0-3 For manufacturer setting</td> <td>0001h</td> </tr> <tr> <td>[Pr. PB81.4 Position command smoothing filter] 0: Disabled 1: Enabled When "1" (enabled) is selected, set the filter time constant with [Pr. PB82 Position command smoothing filter time constant]. This function can be used only in position control mode. This filter and [Pr. PB45 Command notch filter] are mutually exclusive. "1" (enabled) can be set in this function only when [Pr. PB45.0-1 Command notch filter setting frequency selection] is set to "00h" (disabled). When a setting value other than "00h" (disabled) is set in [Pr. PB45.0-1], the filter is disabled regardless of the setting value.</td> <td>0h</td> </tr> <tr> <td>Pr. PB81.5-7 For manufacturer setting</td> <td>000h</td> </tr> </table>	Pr. PB81.0-3 For manufacturer setting	0001h	[Pr. PB81.4 Position command smoothing filter] 0: Disabled 1: Enabled When "1" (enabled) is selected, set the filter time constant with [Pr. PB82 Position command smoothing filter time constant]. This function can be used only in position control mode. This filter and [Pr. PB45 Command notch filter] are mutually exclusive. "1" (enabled) can be set in this function only when [Pr. PB45.0-1 Command notch filter setting frequency selection] is set to "00h" (disabled). When a setting value other than "00h" (disabled) is set in [Pr. PB45.0-1], the filter is disabled regardless of the setting value.	0h	Pr. PB81.5-7 For manufacturer setting	000h	
Pr. PB81.0-3 For manufacturer setting	0001h										
[Pr. PB81.4 Position command smoothing filter] 0: Disabled 1: Enabled When "1" (enabled) is selected, set the filter time constant with [Pr. PB82 Position command smoothing filter time constant]. This function can be used only in position control mode. This filter and [Pr. PB45 Command notch filter] are mutually exclusive. "1" (enabled) can be set in this function only when [Pr. PB45.0-1 Command notch filter setting frequency selection] is set to "00h" (disabled). When a setting value other than "00h" (disabled) is set in [Pr. PB45.0-1], the filter is disabled regardless of the setting value.	0h										
Pr. PB81.5-7 For manufacturer setting	000h										
—			PB82	<p>Position command smoothing filter time constant</p> <p>Set the position command smoothing filter time constant.</p> <p>This servo parameter can be used when [Pr. PB81.4 Position command smoothing filter] is set to "1" (enabled).</p>	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 pulses 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 145 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 145 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. 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 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 146 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 146 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	A-phase  B-phase 	A-phase  B-phase 
1	A-phase  B-phase 	A-phase  B-phase 

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]. 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]. 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]. Output pulse = $\frac{\text{Resolution per revolution} \times \text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16 Encoder output pulses 2]. Output pulse = $\frac{\text{Travel distance of linear servo motor} \times \text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse]
"4" (A/B-phase pulse through output setting) *1	<ul style="list-style-type: none"> 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]	<ul style="list-style-type: none"> 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]. 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]. 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]. Output pulse = $\frac{\text{Resolution per revolution} \times \text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse/rev]	Set the A-phase/B-phase pulse electronic gear with [Pr. PA15] and [Pr. PA16]. Output pulse = $\frac{\text{Travel distance of scale measurement encoder} \times \text{Setting value of [Pr. PA15]}}{\text{Setting value of [Pr. PA16]}}$ [pulse]
"4" (A/B-phase pulse through output setting)	<ul style="list-style-type: none"> 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]	<ul style="list-style-type: none"> 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	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
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: 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 149 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 150 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
__00	(Linear) servo motor speed (± 8 V/max. speed)	○	○	○	○
__01	Torque or thrust (± 8 V/max. torque or max. thrust)	○	○	○	○
__02	(Linear) 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}	○	○	○	○
__0A	Feedback position (± 10 V/1 Mpulse) ^{*2}	○	—	—	—
__0B	Feedback position (± 10 V/10 Mpulses) ^{*2}	○	—	—	—
__0C	Feedback position (± 10 V/100 Mpulses) ^{*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)	○	○	—	○

*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.

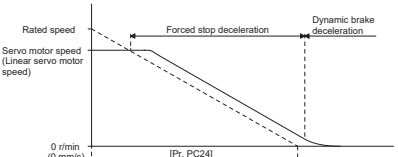
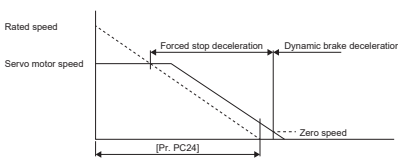
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PC10	Analog monitor 2 output		PC10	Analog monitor 2 output	
	__ x x: Analog monitor 2 output selection Select the signal to be output to MO2 (analog monitor 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
PC19	For manufacturer setting	0000h	PC19	Function selection C-6	
				Pr. PC19.0-3 For manufacturer setting	0000h
				[Pr. PC19.4 Output open-phase detection selection] Enable or disable the detection of output open-phase detection function. 0: Disabled 1: Enabled	0h
				Pr. PC19.5 For manufacturer setting	0h
				[Pr. PC19.6 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" (servo motor speed). When "1" (speed command) is set, [AL. 139.2 Output open-phase error] does not occur.	0h

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 154 Input open-phase detection selection (MR-J5_-_B_)	0h	
			Pr. PC20.5-7 For manufacturer setting	0000h	

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.	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.	100
	 <p>[Precautions]</p> <ul style="list-style-type: none"> • 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]. 		 <p>[Precautions]</p> <ul style="list-style-type: none"> • 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. 		


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	
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 157 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 157 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

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 158 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		
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	<p>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.</p> <ol style="list-style-type: none"> 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	<p>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.</p> <ul style="list-style-type: none"> • 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	<p>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.</p>	0	PC38	<p>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.</p>	0
—			PC84	<p>Servo amplifier replacement data 1 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".</p>	000000 00h
—			PC85	<p>Servo amplifier replacement data 2 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".</p>	000000 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
—			PC86	Servo amplifier replacement data 3 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	000000 00h
—			PC87	Servo amplifier replacement data 4 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	000000 00h
—			PC88	Servo amplifier replacement data 5 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	000000 00h
—			PC89	Servo amplifier replacement data 6 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	000000 00h
—			PC90	Servo amplifier replacement data 7 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	000000 00h
—			PC91	Servo amplifier replacement data 8 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	000000 00h
—			PC92	Servo amplifier replacement data 9 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	000000 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
—			PC93	Servo amplifier replacement data 10 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	00000000h
—			PC94	Servo amplifier replacement data 11 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	00000000h
—			PC95	Servo amplifier replacement data 12 When [Pr. PF63.2 Servo amplifier replacement data save selection] is set to "1" (enabled), this servo parameter will be set automatically. Changing the setting value of this servo parameter triggers [AL. 01A Servo motor combination error] at servo amplifier replacement. When [Pr. PF63.2] is set to "0" (disabled), the value of this servo parameter is "00000000h".	00000000h

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

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																	
PD02	Input signal automatic on selection 2		PD02	Input signal automatic on selection 2																		
	<table border="1"> <tr> <td>___x (HEX)</td> <td> ___x: FLS (Upper stroke limit) selection 0: Disabled 1: Enabled </td> <td rowspan="4">0h</td> </tr> <tr> <td></td> <td> ___x_: RLS (Lower stroke limit) selection 0: Disabled 1: Enabled </td> </tr> <tr> <td></td> <td> _x__: For manufacturer setting </td> </tr> <tr> <td></td> <td> x___: For manufacturer setting </td> </tr> </table>	___x (HEX)	___x: FLS (Upper stroke limit) selection 0: Disabled 1: Enabled	0h		___x_: RLS (Lower stroke limit) selection 0: Disabled 1: Enabled		_x__: For manufacturer setting		x___: For manufacturer setting		<table border="1"> <tr> <td>Pr. PD02.0</td> <td> ___x: Upper stroke limit selection (FLS) 0: Disabled 1: Enabled </td> <td rowspan="4">0h</td> </tr> <tr> <td></td> <td> ___x_: Lower stroke limit selection (RLS) 0: Disabled 1: Enabled </td> </tr> <tr> <td></td> <td> _x__: For manufacturer setting </td> </tr> <tr> <td></td> <td> x___: For manufacturer setting </td> </tr> </table>	Pr. PD02.0	___x: Upper stroke limit selection (FLS) 0: Disabled 1: Enabled	0h		___x_: Lower stroke limit selection (RLS) 0: Disabled 1: Enabled		_x__: For manufacturer setting		x___: For manufacturer setting	
___x (HEX)	___x: FLS (Upper stroke limit) selection 0: Disabled 1: Enabled	0h																				
	___x_: RLS (Lower stroke limit) selection 0: Disabled 1: Enabled																					
	_x__: For manufacturer setting																					
	x___: For manufacturer setting																					
Pr. PD02.0	___x: Upper stroke limit selection (FLS) 0: Disabled 1: Enabled	0h																				
	___x_: Lower stroke limit selection (RLS) 0: Disabled 1: Enabled																					
	_x__: For manufacturer setting																					
	x___: For manufacturer setting																					
	<table border="1"> <tr> <td>__x_ (HEX)</td> <td>For manufacturer setting</td> <td>0h</td> </tr> </table>	__x_ (HEX)	For manufacturer setting	0h		Pr. PD02.1	For manufacturer setting	0h														
__x_ (HEX)	For manufacturer setting	0h																				
	<table border="1"> <tr> <td>_x__ (HEX)</td> <td>For manufacturer setting</td> <td>0h</td> </tr> </table>	_x__ (HEX)	For manufacturer setting	0h		Pr. PD02.2	For manufacturer setting	0h														
_x__ (HEX)	For manufacturer setting	0h																				
	<table border="1"> <tr> <td>x___ (HEX)</td> <td>For manufacturer setting</td> <td>0h</td> </tr> </table>	x___ (HEX)	For manufacturer setting	0h		Pr. PD02.3	For manufacturer setting	0h														
x___ (HEX)	For manufacturer setting	0h																				
	—	—		Pr. PD02.4-7	For manufacturer setting	0000h																
Convert the setting value in hexadecimal 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
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_] <p>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.</p> [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	PD07	Output device selection 1 [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 163 Device selection (MR-J5_-_B_) <p>The setting values are as follows.</p> 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 __ x x: Device selection [MR-J4-_B_] <p>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].</p>	04h	PD08	Output device selection 2 [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 164 Device selection (MR-J5-_B_) <p>Refer to [Pr. PD07] for setting values.</p>	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 __ x x: Device selection [MR-J4-_B_] <p>Any output device can be assigned to the CN3-15 pin with this servo parameter. ALM (Malfunction) is assigned as the initial value.</p> [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	PD09	Output device selection 3 [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 165 Device selection (MR-J5_-_B_) <p>Refer to [Pr. PD07] for setting values.</p>	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 167 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 167 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	<p>WNG 1 0</p> <p>ALM 1 0</p> <p>Warning occurrence</p>
1	<p>WNG 1 0</p> <p>ALM 1 0</p> <p>Warning occurrence (Note 2)</p>

*1 0: OFF
1: ON

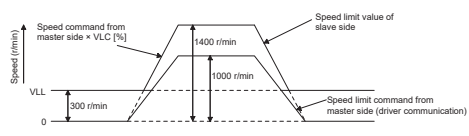
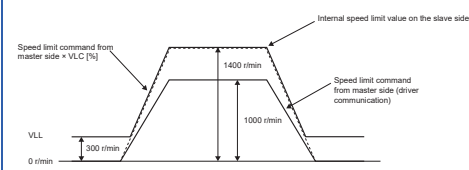
*2 ALM is turned off when a warning occurs, but forced stop deceleration is performed.

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

Servo amplifier output

Setting value	Device status
0	<p>WNG ON OFF</p> <p>ALM ON OFF</p> <p>Warning occurrence</p>
1	<p>WNG ON OFF</p> <p>ALM ON OFF</p> <p>Warning occurrence</p>

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		
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.	0
	_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.	0
	_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	<p>Master-slave operation - Slave-side torque command coefficient</p> <p>Set the coefficient to be reflected to the internal torque command for the torque command that has been received from the master axis.</p> <p>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).</p>	0	PD30	<p>Master-slave operation - Slave-side torque command coefficient</p> <p>Set the coefficient to be reflected to the internal torque command for the torque command that has been received from the master axis.</p> <p>This servos parameter is valid when setting the servo amplifier as the slave axis (when setting [Pr. PD15.1] to "1").</p> <p>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).</p>	0
PD31	<p>Master-slave operation - Speed limit coefficient on slave</p> <p>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.</p> <p>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.</p> <p>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]</p> 	0	PD31	<p>Master-slave operation - Speed limit coefficient on slave</p> <p>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.</p> <p>This servos parameter is valid when setting the servo amplifier as the slave axis (when setting [Pr. PD15.1] to "1").</p> <p>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.</p> <p>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]</p> 	0
PD32	<p>Master-slave operation - Slave-side speed limit adjusted value</p> <p>Set the minimum value for the internal speed limit value.</p> <p>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.</p> <p>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.</p> <p>Refer to [Pr. PD31] for the setting example.</p>	0	PD32	<p>Master-slave operation - Slave-side speed limit adjusted value</p> <p>Set the minimum value for the internal speed limit value.</p> <p>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.</p> <p>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.</p>	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 _ _ _ x: Fully closed loop function selection 0: Always enabled 1: Switching by control command from the controller (semi/full switching) ☞ Page 170 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	PE01	Fully closed loop function selection 1 [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 170 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	Control method
Command from controller	
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 171 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 171 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		
[Pr. PE03.1]	[Pr. PE03.0]		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- _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
			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	<p>Lost motion filter setting</p> <p>Set the lost motion compensation filter time constant in units of 0.1 ms.</p> <p>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.</p>	0	PE46	<p>Lost motion filter setting</p> <p>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.</p> <p>This function is enabled in the position control mode.</p>	0
PE47	<p>Torque offset</p> <p>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 %.</p> <p>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 %.</p> <p>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.</p>	0	PE47	<p>Unbalanced torque offset</p> <p>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.</p> <p>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.</p> <p>This servo parameter is suitable when the torque offset does not need to be changed dynamically.</p>	0
PE48	<p>Lost motion compensation function selection</p>		PE48	<p>Lost motion compensation function selection</p> <p>This function is enabled in the position control mode.</p>	
	<p>__ _ x:</p> <p>Lost motion compensation selection</p> <p>0: Disabled</p> <p>1: Enabled</p>	0h		<p>[Pr. PE48.0 Lost motion compensation type selection]</p> <p>0: Lost motion compensation disabled.</p> <p>1: Lost motion compensation enabled.</p>	0h
	<p>_ _ x _:</p> <p>Unit setting of Lost motion compensation non-sensitive band</p> <p>0: 1 pulse unit</p> <p>1: 1 kpulse unit</p>	0h		<p>[Pr. PE48.1 Lost motion compensation dead band unit setting]</p> <p>0: 1 pulse unit</p> <p>1: 1 kpulse unit</p>	0h
	<p>_ x _ _:</p> <p>For manufacturer setting</p>	0h		Pr. PE48.2 For manufacturer setting	0h
	<p>x _ _ _:</p> <p>For manufacturer setting</p>	0h		Pr. PE48.3 For manufacturer setting	0h
PE49	<p>Lost motion compensation timing</p> <p>Set the lost motion compensation timing in units of 0.1 ms.</p> <p>The timing to perform the lost motion compensation function can be delayed by a set time.</p>	0	PE49	<p>Lost motion compensation timing</p> <p>Set the lost motion compensation timing in units of 0.1 ms.</p> <p>The timing to perform the lost motion compensation function can be delayed by a set time.</p> <p>This function is enabled in the position control mode.</p>	0
PE50	<p>Lost motion compensation non-sensitive band</p> <p>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.</p>	0	PE50	<p>Lost motion compensation dead band</p> <p>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.</p> <p>This function is enabled in the position control mode.</p>	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
PE51	For manufacturer setting	0000h	PE51	<p>Load-side encoder resolution setting</p> <p>Set the resolution of the load-side encoder.</p> <p>When the resolution set in this servo parameter is either less than 2^{12} or greater than 2^{22}, [AL. 037 Parameter error] occurs.</p> <p>, [AL. 037 Parameter error] occurs.</p> <p>This servo parameter is enabled when all of the conditions below are met.</p> <ul style="list-style-type: none"> Fully closed loop control mode or the scale measurement function is enabled. An A/B/Z-phase differential output rotary encoder is used on the load-side. <p>When an A/B/Z-phase differential output encoder is connected, the value set to this servo parameter is used to discriminate between a rotary encoder and linear encoder as follows.</p> <p>"0": Linear encoder Other values than "0": Rotary encoder</p>	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_: 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
			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 177 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 178 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 178 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

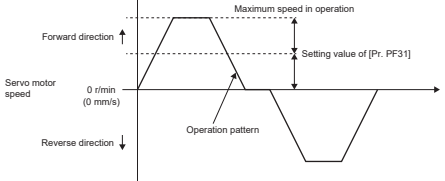
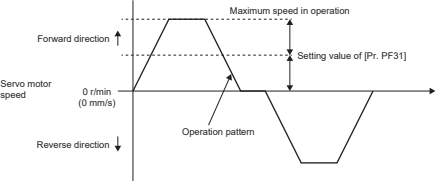
Safety level depending on the servo parameter setting (MR-J4_-_B_)

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 SIL CL2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, and EN 62061 SIL CL3
	Do not execute	EN ISO 13849-1 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 SIL CL2

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, EN 62061 SIL CL 2, EN 61800-5-2 SIL 2
	Do not execute	
1 to 60	Execute	EN ISO 13849-1:2015 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL3, and EN 61800-5-2 SIL 3
	Do not execute	EN ISO 13849-1:2015 Category 3 PL d, IEC 61508 SIL 2, and EN 62061 SIL CL2

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
PF19	For manufacturer setting	0000h	PF19	Friction failure prediction - Compensation coefficient 1 Set compensation coefficient 1 to compensate the dynamic friction being used for the friction failure prediction. When the friction failure prediction warning selection is set to the automatic threshold setting, the value will be calculated automatically from the estimated dynamic friction. When performing threshold manual setting on an equipment for which the threshold setting has been made once, set the value that has been calculated by the threshold automatic setting. Setting this servo parameter decreases the possibility of erroneous detection of friction failure prediction, even with the manual threshold setting.	0
PF20	For manufacturer setting	0000h	PF20	Friction failure prediction - Compensation coefficient 2 Set compensation coefficient 2 to compensate the dynamic friction being used for the friction failure prediction. When the friction failure prediction warning selection is set to the automatic threshold setting, the value will be calculated automatically from the estimated dynamic friction. When performing threshold manual setting on an equipment for which the threshold setting has been made once, set the value that has been calculated by the threshold automatic setting. Setting this servo parameter decreases the possibility of erroneous detection of friction failure prediction, even with the manual threshold setting.	0
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

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
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
				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
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

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
PF34	For manufacturer setting	0000h	PF34	Machine diagnosis function selection	
				[Pr. PF34.0 Friction failure prediction warning selection] 0: Disabled 1: Enabled (automatic threshold setting) 2: Enabled (manual threshold setting) 3: Threshold reset When "2" is set, if the dynamic friction exceeds the set threshold, [AL. 0F7.2 Friction failure prediction warning] will occur. When "3" is set, the setting of the servo parameter will change to "1" automatically after the threshold is reset.	0h
				[Pr. PF34.1 Vibration failure prediction warning selection] 0: Disabled 1: Enabled (automatic threshold setting) 2: Enabled (manual threshold setting) 3: Threshold reset When "2" is set, if the vibration level exceeds the set threshold, [AL. 0F7.1 Vibration failure prediction warning] will occur. When "3" is set, the setting of the servo parameter will change to "1" automatically after the threshold is reset.	0h
				[Pr. PF34.2 Servo motor total travel distance failure prediction warning selection] 0: Disabled 1: Enabled 2: Servo motor total travel distance reset When "1" is set, if the value of the servo motor total travel distance + [Pr. PF47 Servo motor total travel distance offset] exceeds the value of [Pr. PF41 Failure prediction - Servo motor total travel distance], [AL. 0F7.3 Servo motor total travel distance failure prediction warning] will occur. When "2" is set, the setting of the servo parameter will change to "1" automatically after the servo motor total travel distance reset.	0h
				Pr. PF34.3-4 For manufacturer setting	00h
				[Pr. PF34.5 Static friction failure prediction warning selection] 0: Disabled 1: Automatic threshold setting 2: Manual threshold setting 3: Threshold reset When "2" is set, if the static friction exceeds the set threshold, [AL. 0F7.5 Friction failure prediction warning] will occur. When "3" is set, the setting of the servo parameter will change to "1" automatically after the threshold is reset.	0h
				[Pr. PF34.6 Friction estimate area judgment speed setting] Select the setting method of "Machine diagnosis function - Friction estimate area judgment speed at low speed". 0: Manual setting 1: Automatic setting When "1" (automatic setting) is set, [Pr. PF31 Machine diagnosis function - Friction estimate area judgment speed at low speed] will be calculated according to the servo motor operation pattern. After the calculation, [Pr. PF31] is rewritten to the calculation result, and the servo parameter will change to "0" (manual setting). When "1" (automatic setting) is set, friction estimation stops.	0h
	Pr. PF34.7 For manufacturer setting	0h			

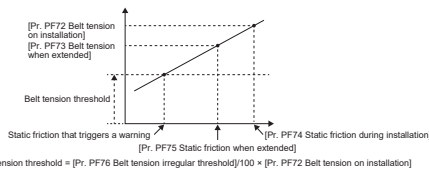
MR-J4-_B_/MR-J4W_-_B servo parameter			MR-J5-_B_/MR-J5W_-_B servo parameter		
No.	Name and function	Initial value	No.	Name and function	Initial value
PF40	For manufacturer setting	0000h	PF40	Machine failure prediction servo parameter	
				[Pr. PF40.0 Friction failure prediction - Threshold multiplication] Set a multiplying factor for calculating the threshold used in the friction failure prediction function. The smaller the multiplying factor for the friction failure prediction threshold, the smaller the threshold used for friction failure prediction, which makes it easier to predict failure earlier, but also increases the possibility of erroneous detection. When "0" is set, the threshold multiplying factor is 5.	0h
				[Pr. PF40.1 Vibration failure prediction - Threshold multiplication] Set a multiplying factor for calculating the threshold used in the vibration failure prediction function. The smaller the multiplying factor for the vibration failure prediction threshold, the smaller the threshold used for vibration failure prediction, which makes it easier to predict failure earlier, but also increases the possibility of erroneous detection. When "0" is set, the threshold multiplying factor is 5.	0h
				[Pr. PF40.2 Friction failure prediction - Dynamic friction selection] Select the dynamic friction to use for friction failure prediction. 0: Automatic setting 1: Dynamic friction at forward rotation torque (at rated speed) 2: Dynamic friction at reverse rotation torque (at rated speed) 3: Absolute value average at forward rotation/reverse rotation torque When set to "0", the value changes to any of "1" to "3", depending on the operation pattern.	0h
				Pr. PF40.3 For manufacturer setting	0h
				[Pr. PF40.4 Static friction failure prediction - Threshold multiplication] Set a multiplying factor for calculating the threshold used in the static friction failure prediction function. Setting a small threshold multiplication for static friction failure prediction will decrease the threshold used for static friction failure prediction. Thus, this will enable the prediction of a failure at an early stage, but will increase the possibility of erroneously detecting a failure. When "0" is set, the threshold multiplying factor is 5.	0h
				[Pr. PF40.5 Static friction failure prediction - Static friction selection] Select the static friction setting to use for static friction failure prediction. 0: Automatic setting 1: At forward rotation torque 2: At reverse rotation torque 3: Average at forward rotation/reverse rotation torque When set to "0", the value changes to any of "1" to "3", depending on the operation pattern.	0h
	Pr. PF40.6-7 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
PF41	For manufacturer setting	0000h	PF41	Failure prediction - Servo motor total travel distance Set a servo motor total travel distance required for determining the threshold used in the friction failure prediction function and the servo motor total travel distance failure prediction function. When Servo motor total travel distance exceeds 1/2 of "Failure prediction - Servo motor total travel distance", the threshold will be automatically calculated for the friction failure prediction function. When [Pr. PF34.2 Servo motor total travel distance failure prediction warning selection] is set to "1" (enabled), if the servo motor total travel distance + [Pr. PF47 Servo motor total travel distance offset] exceeds the setting value of this servo parameter, [AL. 0F7.3 Servo motor total travel distance failure prediction warning] will occur.	0
PF42	For manufacturer setting	0000h	PF42	Friction failure prediction - Average characteristics Set the friction torque average value at the rated speed. This servo parameter is enabled when [Pr. PF34.0 Friction failure prediction warning selection] is set to "2" (enabled (manual threshold setting)). When [Pr. PF34.0 Friction failure prediction warning selection] is set to "1" (enabled (automatic threshold setting)), the value will be calculated automatically from the estimated friction torque at rated speed.	0
PF43	For manufacturer setting	0000h	PF43	Friction failure prediction - Standard deviation Set the friction torque standard deviation at the rated speed. This servo parameter is enabled when [Pr. PF34.0 Friction failure prediction warning selection] is set to "2" (enabled (manual threshold setting)). When [Pr. PF34.0 Friction failure prediction warning selection] is set to "1" (enabled (automatic threshold setting)), the value will be calculated automatically from the estimated friction torque at rated speed.	0
PF45	For manufacturer setting	0000h	PF45	Vibration failure prediction - Average characteristics Set a vibration level average during servo motor operation. This servo parameter is enabled when [Pr. PF34.0 Friction failure prediction warning selection] is set to "2" (enabled (manual threshold setting)). When [Pr. PF34.0 Friction failure prediction warning selection] is set to "1" (enabled (automatic threshold setting)), the value will be calculated automatically from the estimated friction torque at rated speed.	0
PF46	For manufacturer setting	0000h	PF46	Vibration failure prediction - Standard deviation Set the vibration level standard deviation during servo motor operation. This servo parameter is enabled when [Pr. PF34.0 Friction failure prediction warning selection] is set to "2" (enabled (manual threshold setting)). When [Pr. PF34.0 Friction failure prediction warning selection] is set to "1" (enabled (automatic threshold setting)), the value will be calculated automatically from the estimated friction torque at rated speed.	0
PF47	For manufacturer setting	0000h	PF47	Servo motor total travel distance offset Set an offset value for servo motor total travel distance. After the equipment is replaced, set this servo parameter.	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
—			PF63	Function selection F-15	
				<p>[Pr. PF63.0 [AL. 01A.5 Servo motor combination error 3] selection] Select whether to enable or disable [AL. 01A.5 Servo motor combination error 3] for when a servo motor with a batteryless absolute position encoder is replaced. 0: Enabled 1: Disabled With "1" (disabled) selected, connecting a servo motor that had not been connected at the startup of the absolute position detection system triggers [AL. 025.1 Servo motor encoder absolute position erased] instead of [AL. 01A.5 Servo motor combination error 3]. Connecting a servo motor other than the ones with a batteryless absolute position encoder triggers [AL. 01A.5].</p>	0h
				<p>[Pr. PF63.1 [AL. 01A.6 Servo motor combination error 4] selection] Select whether to enable or disable [AL. 01A.6 Servo motor combination error 4] for when a servo motor with a batteryless absolute position encoder is replaced. 0: Enabled 1: Disabled With "1" (disabled) selected, connecting a servo motor that had not been connected at the startup of the absolute position detection system triggers [AL. 025.2 Scale measurement encoder - Absolute position erased] instead of [AL. 01A.6 Servo motor combination error 4]. Connecting a servo motor other than the ones with a batteryless absolute position encoder triggers [AL. 01A.6].</p>	0h
				<p>[Pr. PF63.2 Servo amplifier replacement data save selection] Whether or not to store the servo amplifier replacement data can be set for equipment which uses an absolute position detection system with a servo motor with a batteryless absolute position encoder. 0: Disabled ([AL. 025 Absolute position erased] occurs at servo amplifier replacement.) 1: Enabled ([AL. 025 Absolute position erased] does not occur at servo amplifier replacement.) With "1" (enabled) set, [AL. 025] does not occur even when the power is turned on after servo amplifier replacement. This enables positioning operation without performing homing again. For a multi-axis servo amplifier, the latest setting value of this servo parameter is applied to all axes as the setting method is "Common". The setting cannot be changed separately for specific axes. When the setting value of this servo parameter is "1" (enabled), values are automatically set for [Pr. PC84 Servo amplifier replacement data 1] to [Pr. PC95 Servo amplifier replacement data 12].</p>	0h
				Pr. PF63.3-7 For manufacturer setting	00000h

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
—			PF66	<p>Gear setting for backlash estimation</p> <p>[Pr. PF66.0-3 Gear for backlash estimation - Numerator] Set the gear ratio numerator of the gear connected to the servo motor in hexadecimal. If multiple gears are connected to the servo motor, set the gear ratio up to where the load is applied. If the gear ratio numerator and the denominator cannot be expressed by numbers up to "2¹⁶-1", round up the gear ratio and set a value equal to or less than "2¹⁶-1" for both the numerator and the denominator.</p> <p>[Pr. PF66.4-7 Gear for backlash estimation - Denominator] Set the gear ratio denominator of the gear connected to the servo motor in hexadecimal. If multiple gears are connected to the servo motor, set the gear ratio up to where the load is applied. If the gear ratio numerator and the denominator cannot be expressed by numbers up to "2¹⁶-1", round up the gear ratio and set a value equal to or less than "2¹⁶-1" for both the numerator and the denominator.</p>	0000h
—			PF67	<p>Backlash nominal value</p> <p>To set the threshold for gear failure prediction, a backlash nominal value must be set. Input a backlash value presented by the manufacturer of the gear connected to the servo motor. When [Pr. PF66.0-3 Gear for backlash estimation - Numerator] or [Pr. PF66.4-7 Gear for backlash estimation - Denominator] is set to "0", input the backlash nominal value after converting the value into the rotation angle on the servo motor side. When [Pr. PF66.0-3] or [Pr. PF66.4-7] is set to a value other than "0", input a value considering the gear ratio for backlash estimation. When the setting value of this servo parameter is set to "0", even if backlash estimation is performed, [AL. 0F7 Machine diagnosis warning] will not occur.</p>	0
—			PF68	<p>Backlash threshold multiplication</p> <p>Set the threshold multiplication that will be used for setting the threshold for gear failure prediction. The threshold used for the gear failure prediction is expressed by the following equation. Backlash threshold = [Pr. PF67 Backlash nominal value]/100 × [Pr. PF68 Backlash threshold multiplication]/10 When the setting value of this servo parameter is set to "0", a value twice the value of [Pr. PF67 Backlash nominal value]/100 is set as the backlash threshold. When the backlash threshold is "0", [AL. 0F7 Machine diagnosis warning] will not be generated even if the backlash estimation is performed.</p>	0
—			PF69	<p>Static friction failure prediction - Average characteristics</p> <p>Set a static friction torque average. This servo parameter is enabled when [Pr. PF34.5 Static friction failure prediction warning selection] is set to "2" (manual threshold setting). When [Pr. PF34.5 Static friction failure prediction warning selection] is set to "1" (automatic threshold setting), the value will be calculated automatically from the estimated static friction torque.</p>	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
—			PF70	Static friction failure prediction - Standard deviation Set a standard deviation of static friction torque. This servo parameter is enabled when [Pr. PF34.5 Static friction failure prediction warning selection] is set to "2" (manual threshold setting). When [Pr. PF34.5 Static friction failure prediction warning selection] is set to "1" (automatic threshold setting), the value will be calculated automatically from the estimated friction torque at rated speed.	0
—			PF71	Belt failure prediction function selection [Pr. PF71.0 Belt tension deterioration prediction function selection] 0: Disabled 1: Execute only belt tension estimation 2: Belt tension deterioration prediction function enabled After the equipment goes into full-scale operation, enable the belt tension deterioration prediction function. [Pr. PF71.1 Belt tension deterioration prediction friction selection] Select a static friction setting used for belt tension deterioration prediction. 0: Automatic setting 1: At forward rotation torque 2: At reverse rotation torque 3: Average at forward rotation/reverse rotation torque When set to "0", the value changes to any of "1" to "3", depending on the operation pattern. Pr. PF71.2-7 For manufacturer setting	0h 000000h
—			PF72	Belt tension on installation Set a belt tension for when the belt is attached to the equipment. The servo parameter indicates the reference belt tension threshold used in the belt diagnosis function.	0
—			PF73	Belt tension when extended After the equipment is operated, set a belt tension for when the belt stretches or for when the belt is looser than at the time of the attachment. After the belt has been attached to the equipment, the time taken for the belt to stretch depends on the belt type. For the time taken for the belt to stretch, refer to the catalog or other documents from the manufacturer. The belt tension deterioration prediction function is disabled when the setting is: [Pr. PF72 Belt tension on installation] < [Pr. PF73 Belt tension when extended].	0
—			PF74	Static friction during installation Set a static friction for when the belt is attached to the equipment. Set the static friction with any of the following values estimated by the friction estimation function depending on the value of [Pr. PF71.1 Belt tension deterioration prediction friction selection]: static friction at forward rotation, static friction at reverse rotation, or the average of the estimated frictions.	0
—			PF75	Static friction when extended Set a static friction for when the belt stretches or for when the belt is looser than at the time of the attachment. Set the static friction with any of the following values estimated by the friction estimation function depending on the value of [Pr. PF71.1 Belt tension deterioration prediction friction selection]: static friction at forward rotation, static friction at reverse rotation, or the average of the estimated frictions. The belt tension deterioration prediction function is disabled when the setting is: [Pr. PF74 Static friction during installation] < [Pr. PF75 Static friction when extended].	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
—			PF76	<p>Belt tension irregular threshold</p> <p>Set a threshold to generate [AL. 0F7 Machine diagnosis warning]. Set this servo parameter as a percentage of [Pr. PF72 Belt tension on installation]. When using the belt diagnosis function, input a value other than "0".</p>  <p>Belt tension threshold = [Pr. PF76 Belt tension irregular threshold] / 100 × [Pr. PF72 Belt tension on installation]</p>	0
—			PF80	<p>Drive recorder - Operation condition selection</p> <p>[Pr. PF80.0 Drive recorder - Operation mode selection]</p> <p>0: Automatic setting mode 1: Manual setting mode</p> <p>When "0" (automatic setting mode) is set, the setting values of [Pr. PF81 Drive recorder - Sampling operation selection] to [Pr. PF94 Drive recorder - Digital channel setting 4] are disabled. The drive recorder will be activated automatically at the same time as an alarm occurs.</p> <p>When obtaining desired analog data from the drive recorder, set this servo parameter to "1" (manual setting mode) to set the trigger conditions and sampling cycle, and then start sampling with [Pr. PF81.0 Drive recorder - Sampling start selection].</p> <p>To disable the drive recorder, set [Pr. PF21 Drive recorder switching time setting] to "-1" (drive recorder function disabled).</p>	0h
			Pr. PF80.1	For manufacturer setting	0h
			[Pr. PF80.2-3 Drive recorder - Sampling cycle selection]	Set the sampling cycle of the drive recorder. Refer to the following table for details. ☞ Page 188 Sampling cycle of the drive recorder When [Pr. PF80.0] is set to "0" (automatic setting mode), the setting value of this servo parameter is disabled.	00h
			Pr. PF80.4-7	For manufacturer setting	0000h

Sampling cycle of the drive recorder


Setting value	8 kHz class
00	Automatic (250 μ s)
05	250 μ s
06	500 μ s
07	1 ms
08	2 ms
09	4 ms
0A	8 ms
0B	16 ms
0C	32 ms
0D	64 ms
0E	128 ms
0F	256 ms
10	512 ms
11	1.024 s

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
—			PF81	<p>Drive recorder - Sampling operation selection</p> <p>[Pr. PF81.0 Drive recorder - Sampling start selection] Set this servo parameter to start drive recorder sampling. When [Pr. PF80.0 Drive recorder - Operation mode selection] is set to "0" (automatic setting mode), the setting value of the servo parameter is disabled. When this servo parameter is set to "1" or "2", if the settings of [Pr. PF80.2-3 Drive recorder - Sampling cycle selection] and [Pr. PF82 Drive recorder - Trigger operation selection] to [Pr. PF94 Drive recorder - Digital channel setting 4] are changed, the changed settings are not applied to the drive recorder. To apply the settings, cycle the power, reset the software, or set this servo parameter to "0" (stop sampling), then set "1" or "2" again.</p> <p>The storage area of the servo amplifier has a limit for the number of writings. If the trigger conditions that have been set in [Pr. PF82] are frequently met, do not continue using this servo parameter when it is set to "2" (continuous sampling).</p> <p>0: 0: Stop sampling 1: Start a single sampling 2: Start a consecutive sampling</p> <p>When "1" (start a single sampling) is set, if the trigger conditions are fulfilled after sampling starts, the drive recorder will operate to save data once. After the data has been saved, this servo parameter will be "0" automatically.</p> <p>When "2" (start a consecutive sampling) is set, if the trigger conditions are fulfilled after sampling starts, the drive recorder will operate to save data. After that, sampling will start again.</p>	0h
				Pr. PF81.1-7 For manufacturer setting	0h

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
—			PF82	Drive recorder - Trigger operation selection	
				<p>[Pr. PF82.0 Drive recorder - Trigger mode selection] Select the trigger mode for the drive recorder. When [Pr. PF80.0 Drive recorder - Operation mode selection] is set to "0" (automatic setting mode), the setting value of the servo parameter is disabled.</p> <p>0: Alarm trigger 1: Analog trigger/digital trigger</p> <p>When "0" (alarm trigger) is set, trigger settings other than [Pr. PA23 Drive recorder desired alarm trigger setting] and [Pr. PF84.4-5 Drive recorder - Trigger position setting] are disabled. Refer to the following table for the unavailable servo parameters.</p> <p> Page 191 Servo parameters with which the trigger setting becomes disabled</p>	0h
				<p>[Pr. PF82.1 Drive recorder - Trigger binding condition selection] Select the trigger binding condition for the drive recorder. When this servo parameter is set to "0" (disabled), the settings of [PF84.2-3 Drive recorder - Trigger channel selection 2] and [PF86 Drive recorder - Trigger level setting 2] are disabled.</p> <p>When [Pr. PF80.0 Drive recorder - Operation mode selection] is set to "0" (automatic setting mode), or [Pr. PF80.0] is set to "1" and [Pr. PF82.0 Drive recorder - Trigger mode selection] is set to "0" (alarm trigger), the setting value of this servo parameter is disabled.</p> <p>0: Disabled 1: Logical AND of trigger signals 2: Logical OR of trigger signals</p>	0h
				<p>[Pr. PF82.2 Drive recorder - Trigger operation selection 1] Select whether sampling starts when the signal output for the drive recorder channel set in [Pr. PF84.0-1 Drive recorder - Trigger channel selection 1] exceeds or falls below the set trigger level.</p> <p>When [Pr. PF80.0 Drive recorder - Operation mode selection] is set to "0" (automatic setting mode), or [Pr. PF80.0] is set to "1" and [Pr. PF82.0] is set to "0", the setting value of this servo parameter is disabled.</p> <p>0: Rising 1: Falling</p>	0h
				<p>[Pr. PF82.3 Drive recorder - Trigger operation selection 2] Select whether sampling starts when the signal output for the drive recorder channel set in [Pr. PF84.2-3 Drive recorder - Trigger channel selection 2] exceeds or falls below the set trigger level.</p> <p>The servo parameter is disabled in the following conditions.</p> <ul style="list-style-type: none"> •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) •[Pr. PF82.0 Drive recorder - Trigger mode selection] is set to "0" (alarm trigger) •[Pr. PF82.1 Drive recorder - Trigger binding condition selection] is set to "0" (disabled) <p>0: Rising 1: Falling</p>	0h
				Pr. PF82.4-7 For manufacturer setting	0000h


Servo parameters with which the trigger setting becomes disabled

Servo parameter	Name
PF82.1	Drive recorder - Trigger binding condition selection
PF82.2	Drive recorder - Trigger operation selection 1
PF82.3	Drive recorder - Trigger operation selection 2
PF84.0-1	Drive recorder - Trigger channel selection 1
PF84.2-3	Drive recorder - Trigger channel selection 2
PF85	Drive recorder - Trigger level setting 1
PF86	Drive recorder - Trigger level setting 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
—			PF83	Drive recorder - Trigger operation axis common selection [Pr. PF83.0 Drive recorder - Trigger axis common selection] For when the trigger conditions of the drive recorder are met on a multi-axis servo amplifier, select whether to store only the data of the axis in which the conditions are met, or to store the data of all axis. 0: Disabled 1: Enabled When "0" (disabled) is set, the drive recorder data is stored on the axis in which the trigger conditions are met. If "1" (enabled) is set, the trigger conditions will be regarded as having been met on all axes even if the trigger conditions have only been met on Axis A, B, or C. The trigger conditions are not regarded as having been met on the axis in which the value of [Pr. PF80.0 Drive recorder - Operation mode selection] is set to "0" (automatic setting mode). The servo parameter is disabled in the following conditions. • For the MR-J5-_B_ • The axis of a multi-axis servo amplifier which has [Pr. PF80.0 Drive recorder - Operation mode selection] set to "0" (automatic setting)" is used • The axis of a multi-axis servo amplifier which has [Pr. PF80.0] set to "1" (manual setting mode) and [Pr. PF82.0] set to "0" (alarm trigger) is used	0h
				Pr. PF83.1-7 For manufacturer setting	000000 0h
—			PF84	Drive recorder - Trigger channel selection [Pr. PF84.0-1 Drive recorder - Trigger channel selection 1] Set the trigger channel No. 1 of the drive recorder. Refer to the following table for details.  Page 193 Trigger channels of the drive recorder The servo parameter is disabled in the following conditions. • [Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) • [Pr. PF82.0 Drive recorder - Trigger mode selection] is set to "0" (alarm trigger)	01h
				[Pr. PF84.2-3 Drive recorder - Trigger channel selection 2] Set the trigger channel No. 2 of the drive recorder. The setting value is the same as that of [Pr. PF84.0-1]. The servo parameter is disabled in the following conditions. • [Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) • [Pr. PF82.0 Drive recorder - Trigger mode selection] is set to "0" (alarm trigger) • [Pr. PF82.1 Drive recorder - Trigger binding condition selection] is set to "0" (disabled)	81h
				[Pr. PF84.4-5 Drive recorder - Trigger position setting] Convert trigger position 1 (0 % to 100 % of the total sampling time of the drive recorder) to a hexadecimal value, and set the value. When trigger position 1 exceeds 100 %, the value will be clamped to 100 %. For example, to set the trigger position to 30 %, set "1Eh" in this servo parameter.	5Ah
				Pr. PF84.6-7 For manufacturer setting	00h

Trigger channels of the drive recorder

Setting value	Meaning
01	Analog channel 1
02	Analog channel 2
03	Analog channel 3
04	Analog channel 4
05	Analog channel 5
06	Analog channel 6
07	Analog channel 7
81	Digital channel 1
82	Digital channel 2
83	Digital channel 3
84	Digital channel 4
85	Digital channel 5
86	Digital channel 6
87	Digital channel 7
88	Digital channel 8


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
—			PF85	<p>Drive recorder - Trigger level setting 1</p> <p>Set the trigger level of trigger channel No. 1 of the drive recorder in decimal.</p> <p>Set the value considering the decimal point.</p> <p>For example, if setting a torque of 100.0 [%] for the trigger level, set this servo parameter to "1000" because the torque unit is [0.1 %].</p> <p>The servo parameter is disabled in the following conditions.</p> <ul style="list-style-type: none"> •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) •[Pr. PF80.0] is set to "1" (manual setting mode) and [Pr. PF82.0 Drive recorder - Trigger mode selection] is set to "0" (alarm trigger) •A digital channel is set in the first trigger of [Pr. PF84.0-1 Drive recorder - Trigger channel selection 1] 	0
—			PF86	<p>Drive recorder - Trigger level setting 2</p> <p>Set the trigger level of trigger channel No. 2 of the drive recorder in decimal.</p> <p>Set the value considering the decimal point.</p> <p>For example, if setting a torque of 100.0 [%] for the trigger level, set this servo parameter to "1000" because the torque unit is [0.1 %].</p> <p>The servo parameter is disabled in the following conditions.</p> <ul style="list-style-type: none"> •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) •[Pr. PF80.0] is set to "1" (manual setting mode) and [Pr. PF82.0 Drive recorder - Trigger mode selection] is set to "0" (alarm trigger) •[Pr. PF82.1 Drive recorder - Trigger binding condition selection] is set to "0" (disabled) •A digital channel is set in the second trigger of [Pr. PF84.2-3 Drive recorder - Trigger channel selection 2] 	0
—			PF87	<p>Drive recorder - Analog channel setting 1</p> <p>[Pr. PF87.0-2 Drive recorder - Analog channel 1 selection]</p> <p>Select the data to be assigned to analog channel 1 of the drive recorder.</p> <p>The servo parameter is disabled in the following conditions.</p> <ul style="list-style-type: none"> •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) <p>Refer to the following table for setting values.</p> <p> Page 195 Setting details of [Pr. PF87.0-2 Drive recorder - Analog channel 1 selection]</p> <p>Values not listed below are undefined. Only set the values that are listed in the table.</p>	201h
			Pr. PF84.3	For manufacturer setting	0h
			[Pr. PF87.4-6 Drive recorder - Analog channel 2 selection]	Select the analog channel 2 of the drive recorder.	002h
			Pr. PF87.7	For manufacturer setting	0h

Setting details of [Pr. PF87.0-2 Drive recorder - Analog channel 1 selection]

Setting value	Data type	Unit *1	Category
000	No assigned function	—	—
001	Servo motor speed	r/min	16-bit data
002	Torque/instantaneous torque	0.1 %	
003	Current command	0.1 %	
005	Command pulse frequency (speed unit)	r/min	
007	Droop pulses (1 pulse unit)	pulse	
008	Speed command	r/min	
009	Bus voltage	V	
00C	Effective load ratio	0.1 %	
00D	Regenerative load ratio	0.1 %	
00E	Position within one-revolution	16 pulse	
00F	ABS counter	Rev	
010	Load to motor inertia ratio	0.01 multiplier	
011	Torque equivalent to disturbance	0.1 %	
012	Overload alarm margin	0.1 %	
014	Settling time	ms	
015	Overshoot amount	pulse	
01C	Load-side encoder droop pulses (1 pulse unit)	pulse	
01E	Motor-side/load-side position deviation (1 pulse unit)	pulse	
020	Motor-side/load-side speed deviation	r/min	
021	Servo motor speed (unit of 0.1 r/min)	0.1 r/min	
022	Command pulse frequency (speed unit of 0.1 r/min)	0.1 r/min	
023	Speed command (unit of 0.1 r/min)	0.1 r/min	
024	Torque command	0.1 %	
025	Speed limit value	0.1 %	
026	Speed limit value (unit of 0.1 r/min)	0.1 r/min	
035	Internal temperature of encoder	°C	
03B	Load-side encoder information 1	16 pulse	
03C	Load-side encoder information 2	rev	
04C	U-phase current feedback (unit of the rated current)	0.1 %	
04D	V-phase current feedback (unit of the rated current)	0.1 %	
04E	W-phase current feedback (unit of the rated current)	0.1 %	
201	Servo motor speed +	0.1 r/min	32-bit data
202	Command pulse frequency +	kpulse/s	
203	Command pulse frequency (speed unit) +	0.1 r/min	
204	Droop pulses (1 pulse unit) +	pulse	
205	Speed command +	0.1 r/min	
206	Position within one-revolution +	pulse	
207	Load-side encoder information 1 +	pulse	
208	Load-side encoder information 2 +	rev	
209	Load-side droop pulses +	pulse	
20B	Feedback position +	pulse	
20C	Excessive error alarm margin +	pulse	
218	Droop pulses (100 pulses unit) +	100 pulse	
219	Load-side encoder droop pulses (100 pulses unit) +	100 pulse	
21A	Excessive error alarm margin (100 pulses unit) +	100 pulse	
21B	Droop pulses (model position deviation) +	pulse	
220	Speed command 2+	0.1 r/min	
23C	Droop pulses (command unit) +	pulse	

*1 "mm/s" is used instead of "r/min" for linear servo motors.

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
—			PF88	Drive recorder - Analog channel setting 2 [Pr. PF88.0-2 Drive recorder - Analog channel 3 selection] Select the data to be assigned to analog channel 3 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF87.0-2 Drive recorder - Analog channel 1 selection].	003h
				Pr. PF88.3 For manufacturer setting	0h
				[Pr. PF88.4-6 Drive recorder - Analog channel 4 selection] Select the analog channel 4 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF87.0-2 Drive recorder - Analog channel 1 selection].	204h
				Pr. PF88.7 For manufacturer setting	0h
—			PF89	Drive recorder - Analog channel setting 3 [Pr. PF89.0-2 Drive recorder - Analog channel 5 selection] Select the data to be assigned to analog channel 5 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF87.0-2 Drive recorder - Analog channel 1 selection].	205h
				Pr. PF89.3 For manufacturer setting	0h
				[Pr. PF89.4-6 Drive recorder - Analog channel 6 selection] Select the analog channel 6 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF87.0-2 Drive recorder - Analog channel 1 selection].	009h
				Pr. PF89.7 For manufacturer setting	0h
—			PF90	Drive recorder - Analog channel setting 4 [Pr. PF90.0-2 Drive recorder - Analog channel 7 selection] Select the data to be assigned to analog channel 7 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF87.0-2 Drive recorder - Analog channel 1 selection].	00Ch
				Pr. PF90.3-7 For manufacturer setting	00000h

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
—			PF91	Drive recorder - Digital channel setting 1 [Pr. PF91.0-3 Drive recorder - Digital channel 1 selection] Select the data to be assigned to digital channel 1 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) Refer to the following table for setting values.  Page 198 Setting details of [Pr. PF91.0-3 Drive recorder - Digital channel selection 1] Values not listed below are undefined. Only set the values that are listed in the table.	0000h
				[Pr. PF91.4-7 Drive recorder - Digital channel 2 selection] Select the data to be assigned to digital channel 2 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF91.0-3 Drive recorder - Digital channel selection 1].	001Fh
—			PF92	Drive recorder - Digital channel setting 2 [Pr. PF92.0-3 Drive recorder - Digital channel 3 selection] Select the data to be assigned to digital channel 3 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF91.0-3 Drive recorder - Digital channel selection 1].	8010h
				[Pr. PF92.4-7 Drive recorder - Digital channel 4 selection] Select the data to be assigned to digital channel 4 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF91.0-3 Drive recorder - Digital channel selection 1].	8005h



Setting details of [Pr. PF91.0-3 Drive recorder - Digital channel selection 1]

Setting value	Symbol	Name	Classification
0000	CSON	Servo-on command	DI
0005	PC	Proportional control	
0006	RES	Reset	
0007	CSV1	Control mode setting 1	
0008	CSV2	Control mode setting 2	
0009	CTL1	Torque limit selection 1	
000A	CTL2	Torque limit selection 2	
0012	EM2/1	Forced stop	
0013	CRDY	Ready-on command	
0016	STO1	STO1	
0017	STO2	STO2	
001A	CDP2	Gain switching selection 2	
001B	CDP	Gain switching selection	
001C	CLD	Fully closed loop selection	
001F	EMG	Controller emergency stop	
0021	CABS	Absolute position reference point data set request	
0022	CZCT	ZCT re-creation request	
0026	CSV3	Continuous operation to torque control mode command	

Setting value	Symbol	Name	Classification
8000	RD	Ready	DO
8001	SA	Speed reached	
8002	ZSP	Zero speed detection	
8003	TLC	Limiting torque	
8004	VLC	Limiting speed	
8005	INP	In-position completion	
8007	WNG	Warning	
8008	ALM	Malfunction	
8009	OP	Z-phase output	
800A	MBR	Electromagnetic brake interlock	
800B	DB	External dynamic brake	
800F	BWNG	Battery warning	
8010	ALM2	Malfunction 2	
8013	RDY	In ready-on state	
8015	STO	In STO state	
8016	SMPD	Magnetic pole detection completion	
8017	ZPASS	Z-phase already passed	
8018	CDPS2	Variable gain enabled 2	
8019	CDPS	Variable gain enabled	
801A	CLDS	Fully closed loop control in progress	
801B	ABSV	Absolute position erased	
801D	IPF	Instantaneous power failure	
801E	SPC	Proportional control in progress	
801F	MTTR	Tough drive in progress	
8020	SSV1	Currently selected control mode 1	
8021	SSV2	Currently selected control mode 2	
8022	STL1	Torque limit selection 1 reception in process	
8023	STL2	Torque limit selection 2 reception in process	
8024	SABSE	Absolute position reference point dataset unauthorized	
8025	SABS	Absolute position reference point data set request completed	
8026	WNGSTOP	Motor stop warning	
8030	FLS	Upper stroke limit input in progress	
8031	RLS	Lower stroke limit input in progress	
8032	DOG	DOG signal input in progress	
8037	SSV3	Continuous operation to torque control mode	

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
—			PF93	Drive recorder - Digital channel setting 3	
				[Pr. PF93.0-3 Drive recorder - Digital channel 5 selection] Select the data to be assigned to digital channel 5 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF91.0-3 Drive recorder - Digital channel selection 1].	800Ah
				[Pr. PF93.4-7 Drive recorder - Digital channel 6 selection] Select the data to be assigned to digital channel 6 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF91.0-3 Drive recorder - Digital channel 1 selection].	8000h
—			PF94	Drive recorder - Digital channel setting 4	
				[Pr. PF94.0-3 Drive recorder - Digital channel 7 selection] Select the data to be assigned to digital channel 7 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF91.0-3 Drive recorder - Digital channel 1 selection].	8015h
				[Pr. PF94.4-7 Drive recorder - Digital channel 8 selection] Select the data to be assigned to digital channel 8 of the drive recorder. The servo parameter is disabled in the following conditions. •[Pr. PF80.0 Drive recorder - Operation mode selection] = "0" (automatic setting mode) The setting value will be the same as [Pr. PF91.0-3 Drive recorder - Digital channel 1 selection].	801Dh
—			PF95	Drive recorder - Clear history	
				[Pr. PF95.0 Drive recorder - Clear history selection] 0: Disabled 1: Enabled When "0" (enabled) is set, the drive recorder history will be cleared at the next power-on or software reset. After the drive recorder history is cleared, "0" (disabled) will be set to this servo parameter automatically.	0h
				Pr. PF95.2-7 For manufacturer setting	000000 0h

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 202 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 202 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			Disabled
3	Enabled	Enabled	Enabled
4			Disabled
5			Enabled
6			Disabled
7	Enabled	Enabled	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			Disabled
3	Enabled	Enabled	Enabled
4			Disabled
5			Enabled
6			Disabled
7	Enabled	Enabled	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	<p>Position deviation error detection level</p> <p>Set a position deviation error detection level of the servo control error detection.</p> <p>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.</p> <p>Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01].</p> <p>When a linear servo motor is used: 50 mm</p> <p>When a direct drive motor is used: 0.09 rev</p>	0	PL05	<p>Position deviation error detection level</p> <p>Set a position deviation error detection level of the servo control error detection.</p> <p>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.</p> <p>Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection].</p> <p>When a linear servo motor is used: 50 mm</p> <p>When a direct drive motor is used: 0.09 rev</p>	0
PL06	<p>Position deviation error detection level</p> <p>Set the speed deviation error detection level of the servo control error detection.</p> <p>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.</p> <p>Note that when "0" is set, the level varies depending on the operation level in [Pr. PA01].</p> <p>When a linear servo motor is used: 1000 mm/s</p> <p>When a direct drive motor is used: 100 r/min</p>	0	PL06	<p>Position deviation error detection level</p> <p>Set the speed deviation error detection level of the servo control error detection.</p> <p>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.</p> <p>Note that when "0" is set, the level varies depending on the setting value in [Pr. PA01.1 Operation mode selection].</p> <p>When a linear servo motor is used: 1000 mm/s</p> <p>When a direct drive motor is used: 100 r/min</p>	0
PL07	<p>Torque/thrust deviation error detection level</p> <p>Set the torque/thrust deviation error detection level of the servo control error detection.</p> <p>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.</p>	100	PL07	<p>Torque deviation error detection level</p> <p>Set the torque/thrust deviation error detection level of the servo control error detection.</p> <p>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.</p>	100
PL08	<p>Linear servo motor/DD motor function selection 3</p> <p>___x:</p> <p>Magnetic pole detection method selection</p> <p>0: Position detection method</p> <p>4: Minute position detection method</p> <p>__x_:</p> <p>For manufacturer setting</p> <p>_x__:</p> <p>Magnetic pole detection - Stroke limit enabled/disabled selection</p> <p>0: Enabled</p> <p>1: Disabled</p> <p>x___:</p> <p>For manufacturer setting</p>	0h	PL08	<p>Function selection L-3</p> <p>[Pr. PL08.0 Magnetic pole detection method selection]</p> <p>0: Position detection method</p> <p>4: Minute position detection method</p> <p>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.</p> <p>Pr. PL08.1</p> <p>For manufacturer setting</p> <p>[Pr. PL08.2 Magnetic pole detection - Stroke limit enabled/disabled selection]</p> <p>0: Enabled</p> <p>1: Disabled</p> <p>Pr. PL08.3</p> <p>For manufacturer setting</p> <p>Pr. PL08.4-7</p> <p>For manufacturer setting</p>	0h
					1h
					0h
					1h
					0000h
PL09	<p>Magnetic pole detection voltage level</p> <p>Set a direct current exciting voltage level in the magnetic pole detection.</p> <p>If [AL. 32 Overcurrent], [AL. 50 Overload 1], or [AL. 51 Overload 2] occurs during the magnetic pole detection, set a smaller value.</p> <p>If [AL. 27 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value.</p>	30	PL09	<p>Magnetic pole detection voltage level</p> <p>Set a direct current exciting voltage level in the magnetic pole detection.</p> <p>If [AL. 032 Overcurrent], [AL. 050 Overload 1], or [AL. 051 Overload 2] occurs during the magnetic pole detection, set a smaller value.</p> <p>If [AL. 027 Initial magnetic pole detection error] occurs during the magnetic pole detection, set a larger value.</p>	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 205 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 205 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 206 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 206 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	<p>Low response</p> <p>Middle response</p> <p>High response</p>
___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	<p>Low response</p> <p>Middle response</p> <p>High response</p>
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	<p>Magnetic pole detection - Minute position detection method - Identification signal amplitude</p> <p>Set an identification signal amplitude to be used in the minute position detection method.</p> <p>This servo parameter is enabled only when the magnetic pole detection is set to the minute position detection method.</p> <p>However, when "0" is set, the amplitude will be 100 %.</p>	0	PL18	<p>Magnetic pole detection - Minute position detection method - Identification signal amplitude</p> <p>Set an identification signal amplitude to be used in the minute position detection method.</p> <p>This servo parameter is enabled when [Pr. PL08.0 Magnetic pole detection method selection] is set to "4".</p> <p>When the setting value of this servo parameter is set to "0", the amplitude will be 100 [%].</p>	0

9 SERVO PARAMETER CONVERSION

9.1 Operation Procedure of MR-J4-__B_/MR-J4W-__B Servo Parameter Conversion

The parameter converter functions in MT Developer2, GX Works3, and GX Works2 convert the existing servo parameters of the MR-J4-__B_/MR-J4W-__B to the servo parameters of the MR-J5-__B_/MR-J5W-__B.

Point

MT Developer2 is a programming software included in the Motion controller engineering environment "MELSOFT MT Works2".

Only the servo parameters that are common between the MR-J4-__B_/MR-J4W-__B and MR-J5-__B_/MR-J5W-__B are applicable.

The values of the servo parameters that are newly added in the MR-J5-__B_/MR-J5W-__B will be the initial values for the MR-J5-__B_/MR-J5W-__B.

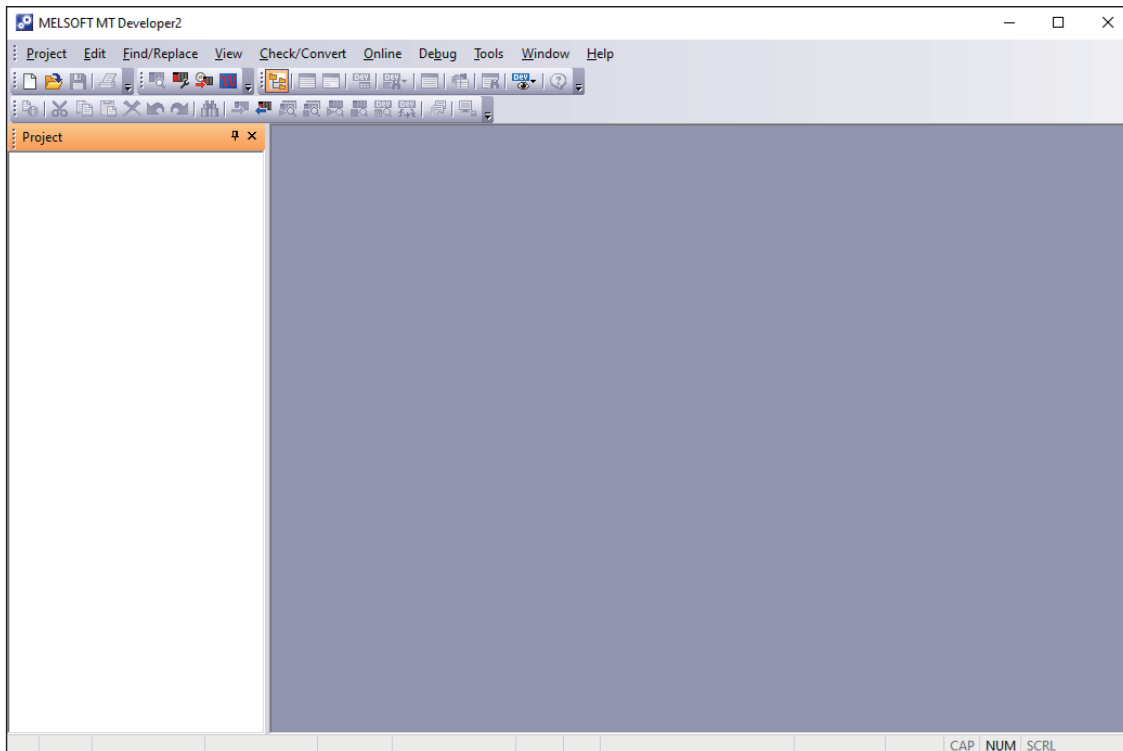
Servo parameters are applicable only when the operation mode is the same between the MR-J4-__B_/MR-J4W-__B and MR-J5-__B_/MR-J5W-__B.

If the operation mode differs, the servo parameter value will be the initial value of the MR-J5-__B_/MR-J5W-__B.

Target controller		Engineering tool	Setup 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
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

9.2 When Using the Motion Controller RnMTCPU or Q17nDSCPU

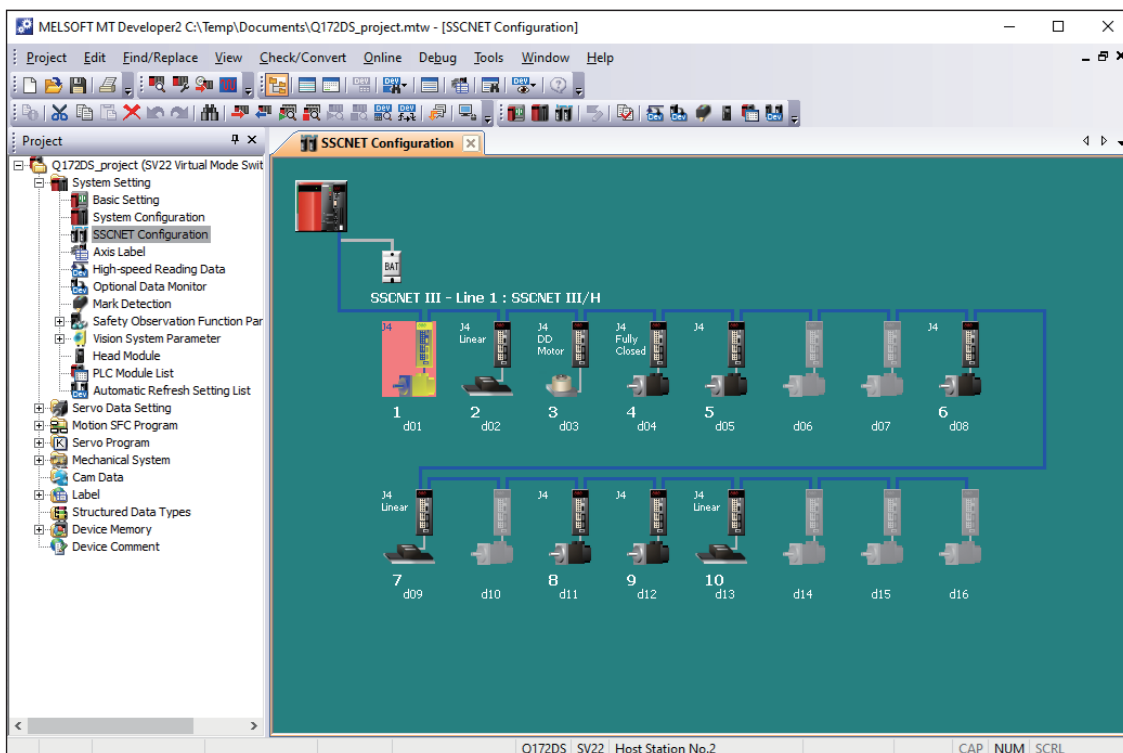
1. Start up MT Developer2.



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.

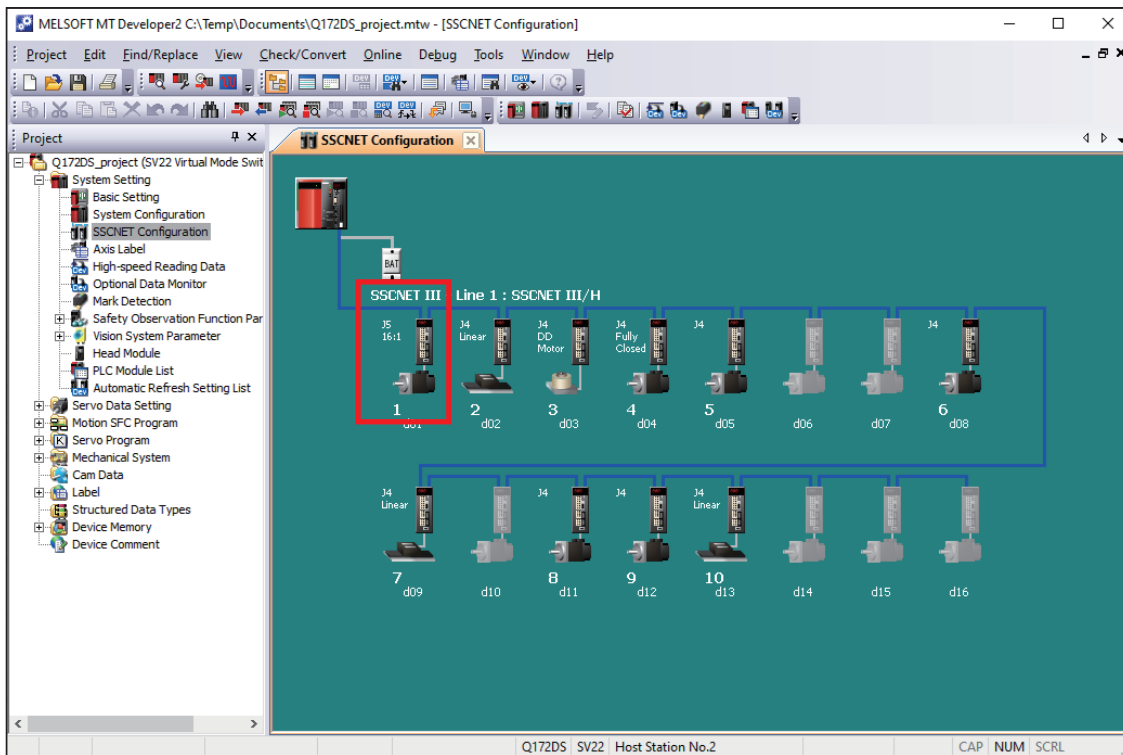
5. Conversion of servo parameters

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

Click [Yes] to convert the servo parameters.

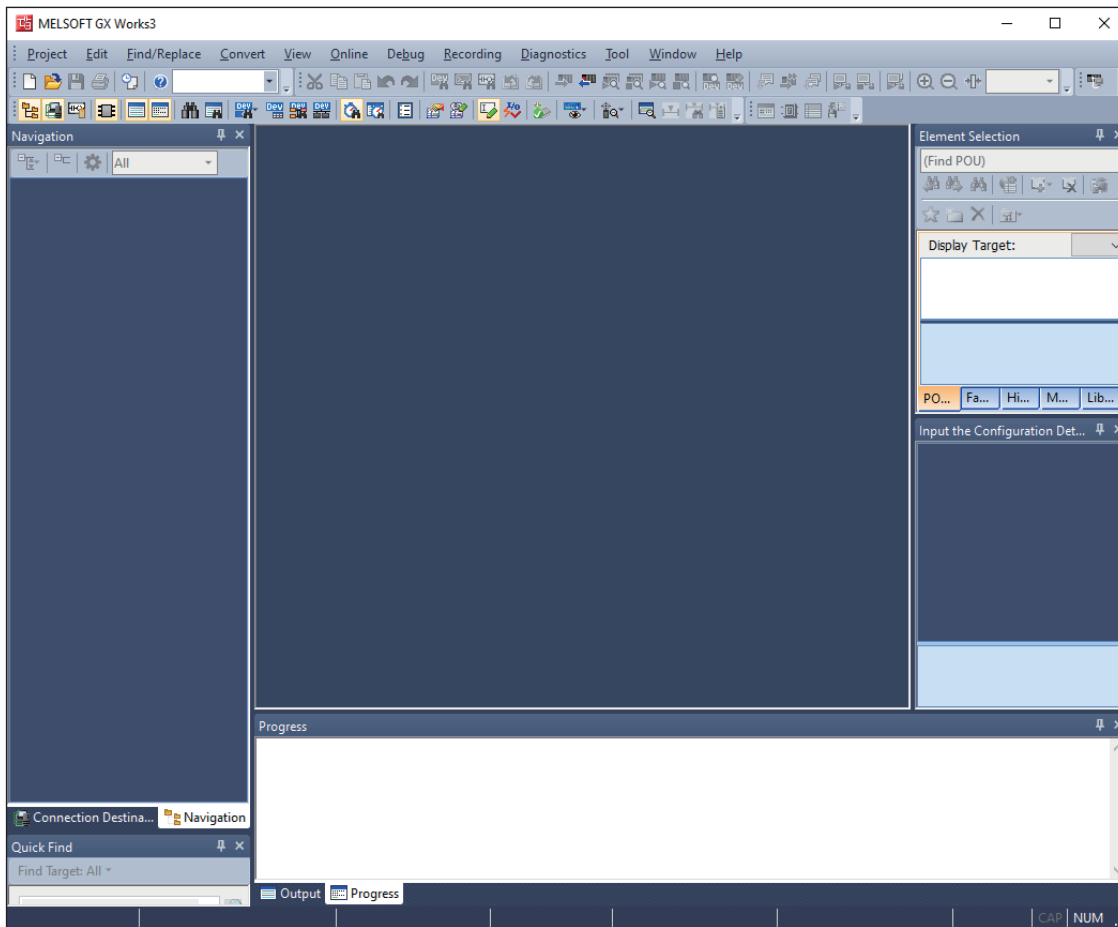
6. Conversion completion of servo parameters

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.



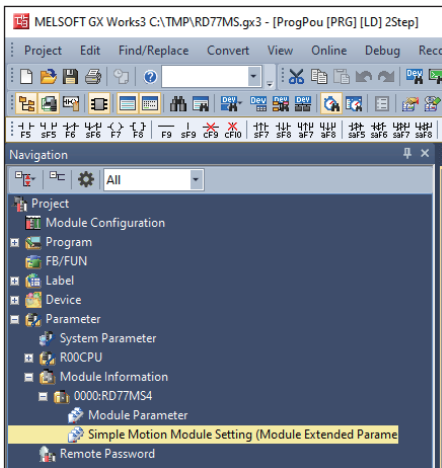
9.3 When Using the Simple Motion Module RD77MS

1. Start up GX Works3.

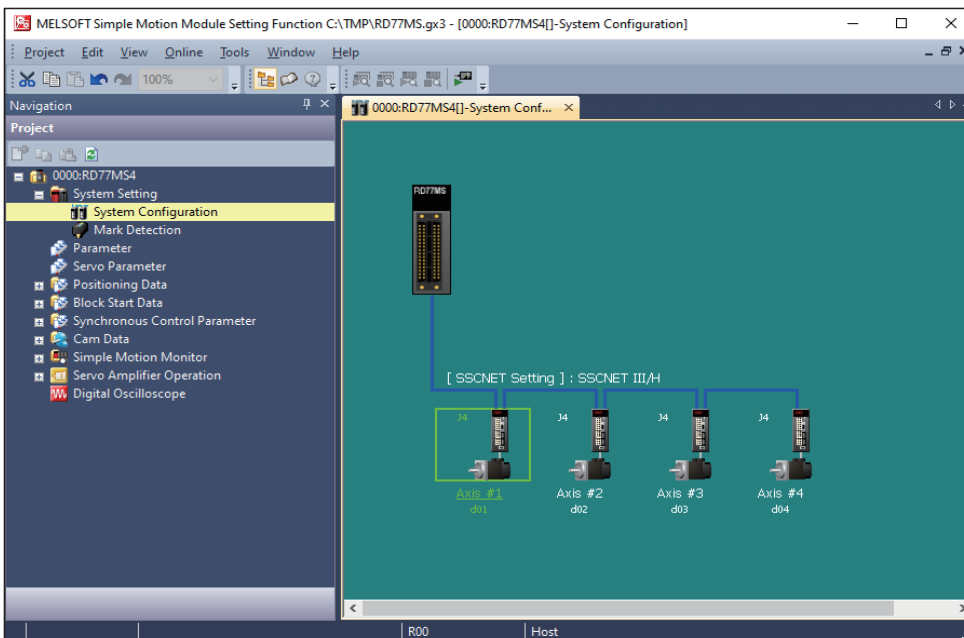


2. Open an existing project.
Select an existing project from [Project] - [Open] in menu, then click [Open].

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

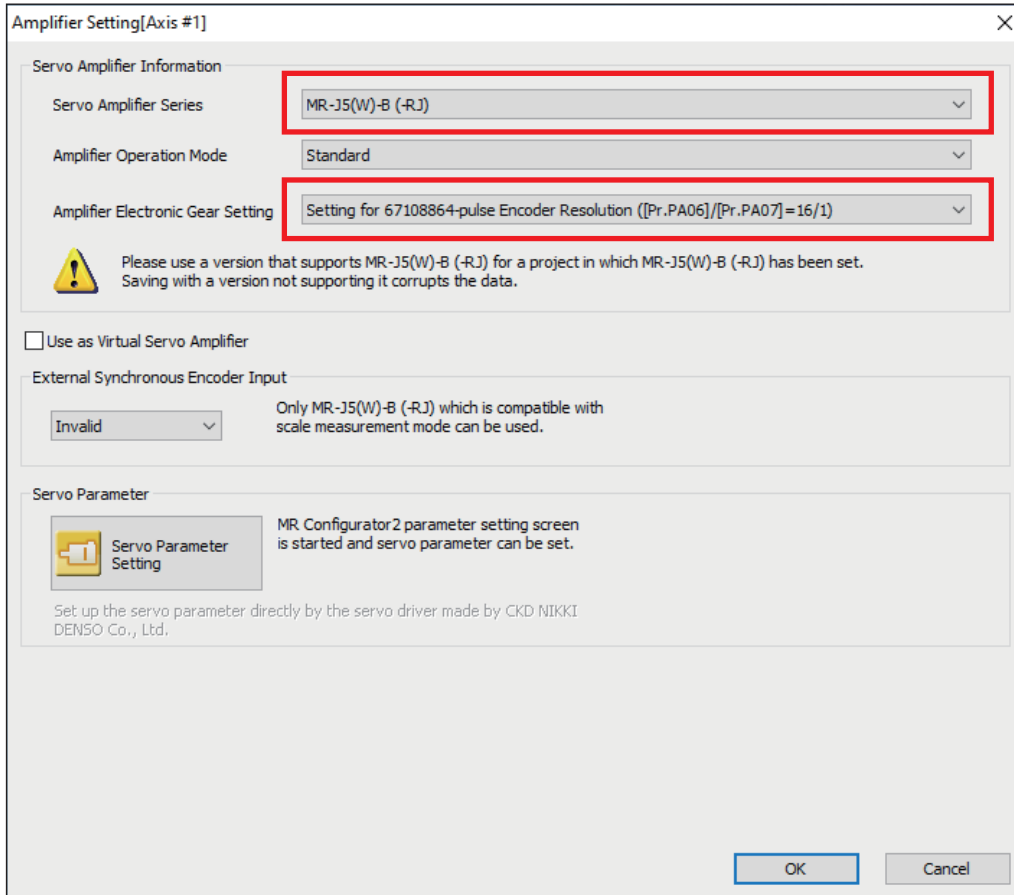
Servo amplifier information

Servo amplifier series:

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

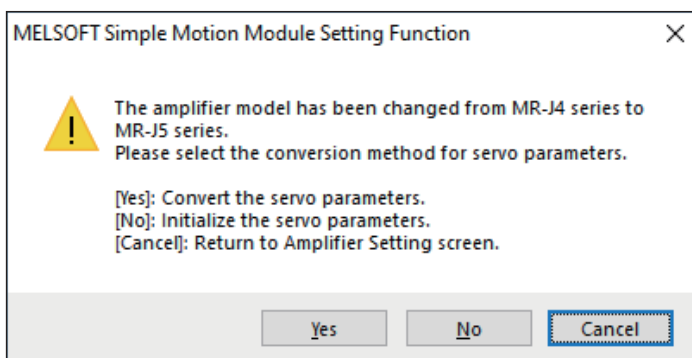
Amplifier electronic gear setting:

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

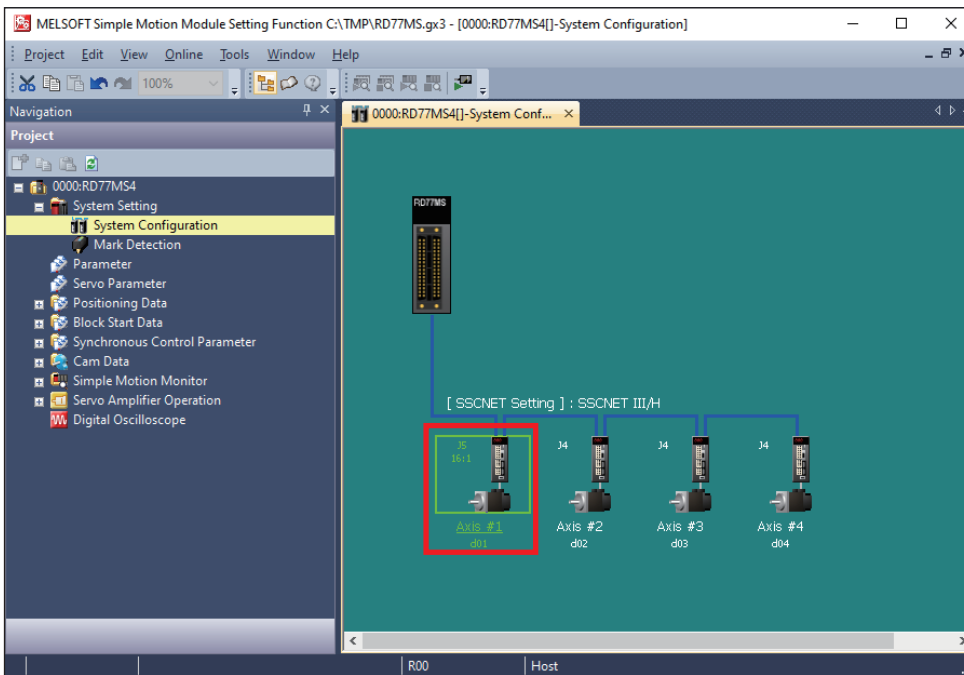
Click [OK] on the amplifier setting screen to move to the screen shown below.



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

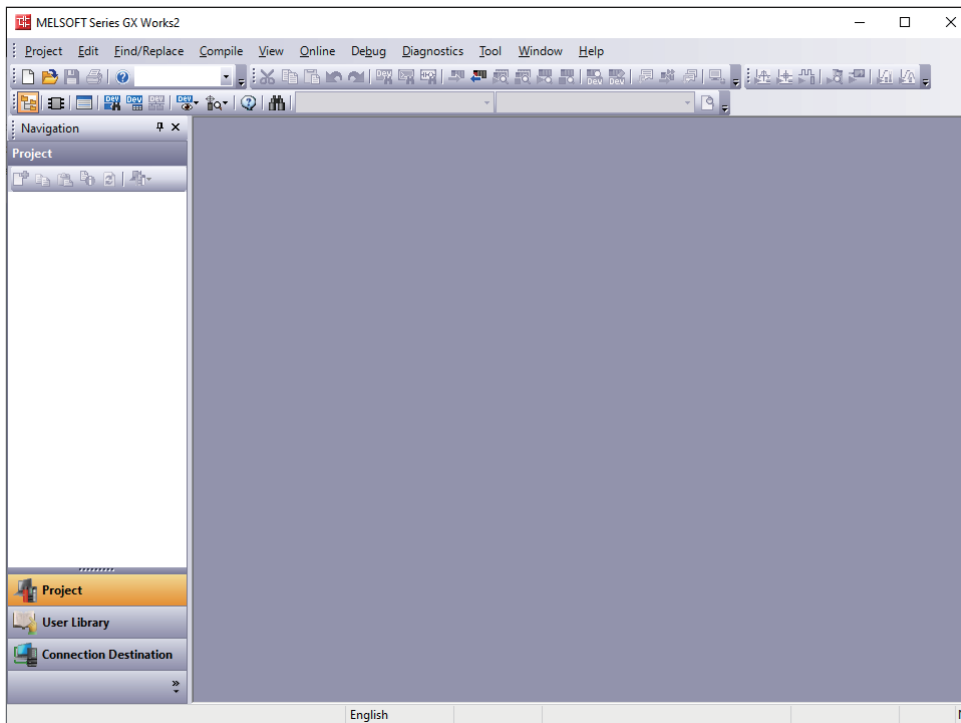
7. Conversion completion of servo parameters

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.



9.4 When Using the Simple Motion Module QD77MS

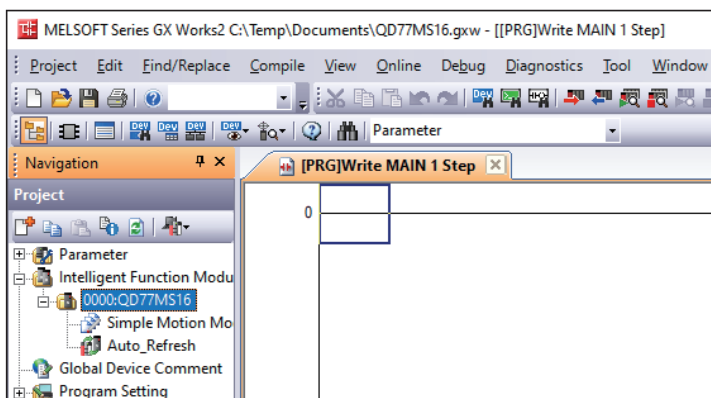
1. Start up GX Works2.



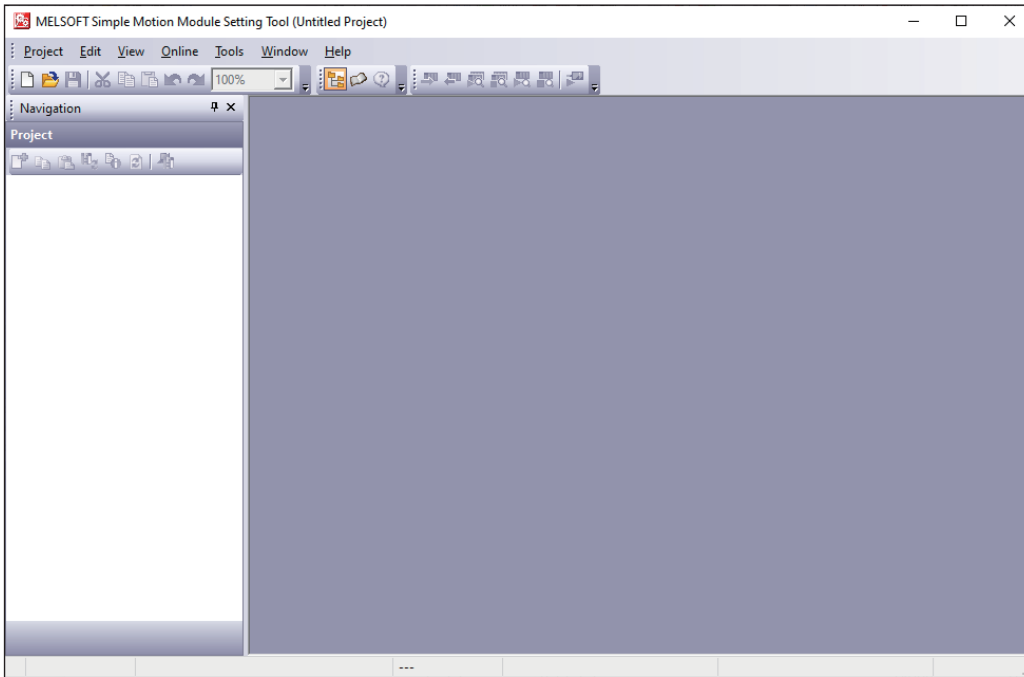
2. Open an existing project.

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.

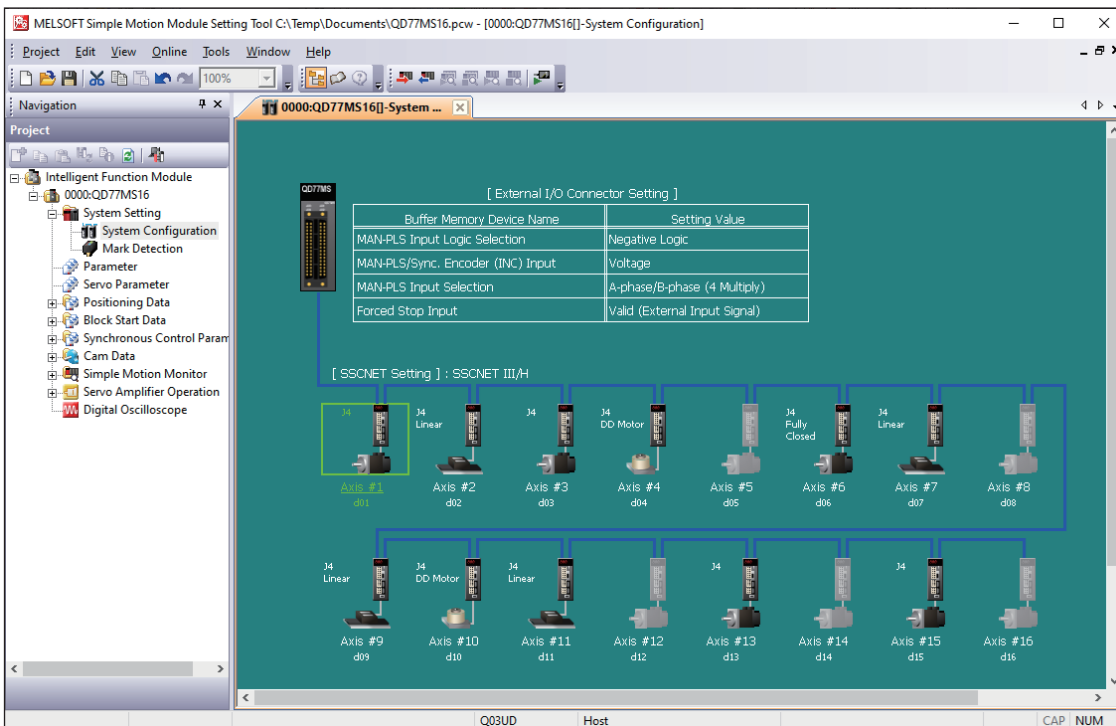


5. Open an existing project.

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

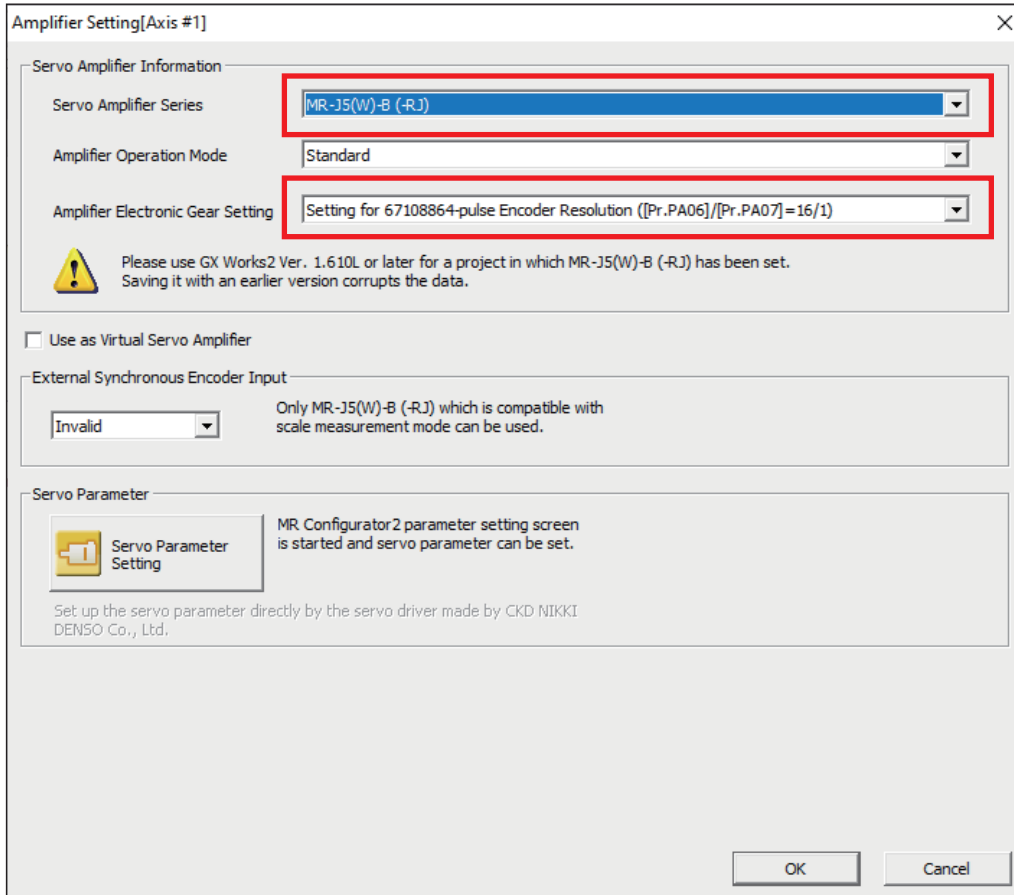
Servo amplifier information

Servo amplifier series:

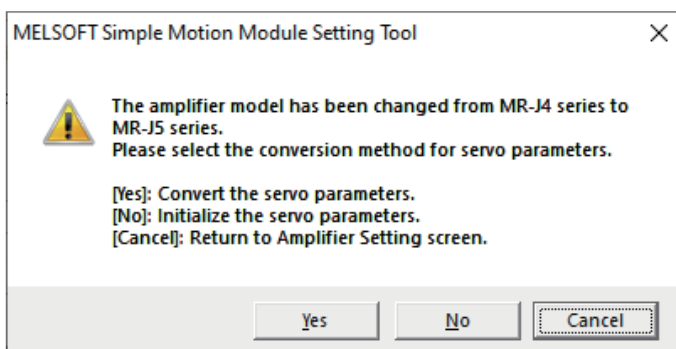
Select "MR-J5(W)-B(-RJ)".

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

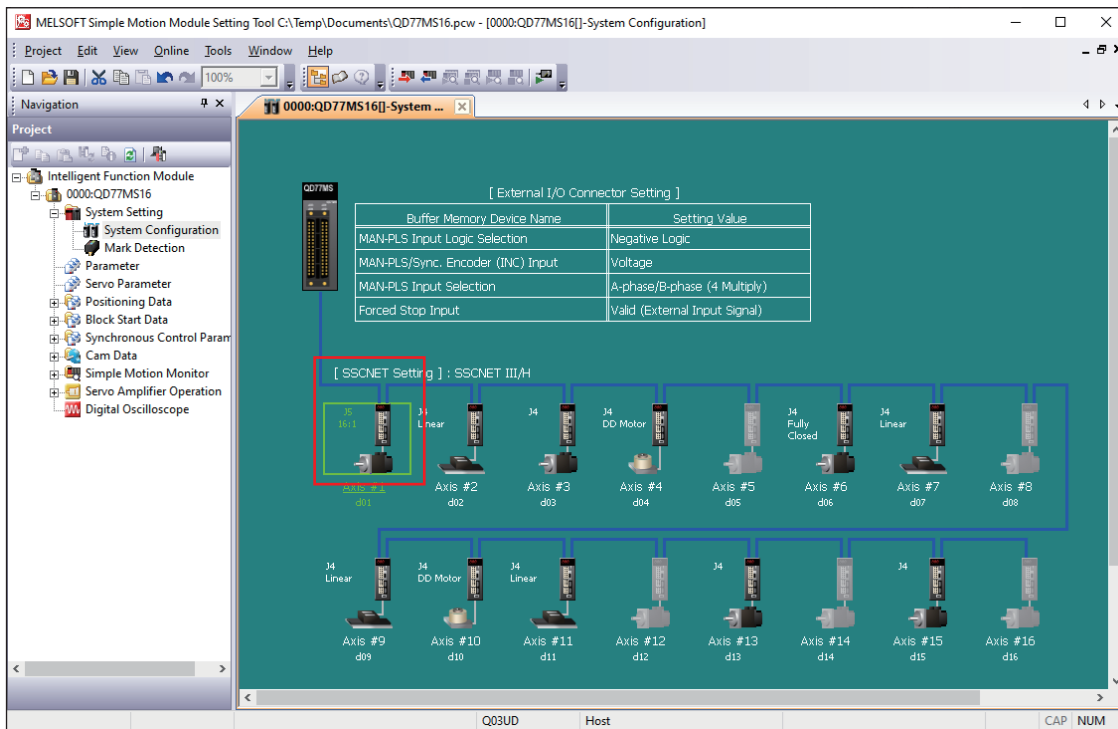


Click [OK] on the amplifier setting screen to move to the screen shown below.

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.



9.5 Conversion rules (MR-J4-_B_/MR-J4W_-_B => MR-J5-_B_/MR-J5W_-_B)

The table below shows the servo parameter conversion rules for when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B. Servo parameters that are not specified in the table below will be set to the initial values.

Point

The conversion rules may not apply because the servo parameters of the MR-J4-_B_/MR-J4W_-_B and those of the MR-J5-_B_/MR-J5W_-_B are not completely interchangeable. Check the operations and review the 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 the MR-J4W_-_B/MR-J5W_-_B, 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]

Hex: Hexadecimal parameters, Dec: Decimal parameters

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			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.
	Operation mode selection	Hex	__ X _		Operation mode selection	Hex	PA01.1	
	Compatibility mode selection		X ___		For manufacturer setting		PA01.3	
	—	—	—		Fully closed loop operation mode selection		PA01.4	
PA02	Regenerative option			PA02	Regenerative option			The value will be converted to "00 (initial value)".
	Regenerative option selection	Hex	__ XX		Regenerative option selection	Hex	PA02.0-1	
PA03	Absolute position detection system			PA03	Absolute position detection system			The setting value will be maintained.
	Absolute position detection system selection	Hex	___ X		Absolute position detection system selection	Hex	PA03.0	
PA04	Function selection A-1			PA04	Function selection A-1			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".
	Servo forced stop selection	Hex	_ X _		Servo forced stop selection	Hex	PA04.2	
	Forced stop deceleration function selection		X ___		Forced stop deceleration function selection		PA04.3	

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
PA08	Auto tuning mode			PA08	Auto tuning mode			The setting value will be maintained.
	Gain adjustment mode selection	Hex	___X		Gain adjustment mode selection	Hex	PA08.0	
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.
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] when replacing the MR-J4-_B_/MR-J4W_-_B with the MR-J5-_B_/MR-J5W_-_B

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.

Hex: Hexadecimal parameters, Dec: Decimal parameters

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 configuration 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 desired 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_ _])



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

Hex: Hexadecimal parameters, Dec: Decimal parameters

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.

Hex: Hexadecimal parameters, Dec: Decimal parameters

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.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules
No.	Name	Model	Target	No.	Name	Model	Target	
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
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.
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
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
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
	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) while [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) while [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	Gain switching - Load to motor inertia ratio/load to motor mass ratio	Dec	—	PB29	Gain switching - Load to motor inertia ratio/load to motor mass ratio	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	
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			The servo parameters will be converted in accordance with the table below.
	Command notch filter setting frequency selection	Hex	__XX		Command notch filter setting frequency selection	Hex	PB45.0-1	
	Notch depth selection		_X__		Notch depth selection		PB45.2	

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

Hex: Hexadecimal parameters, Dec: Decimal parameters

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_ _])



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]

Hex: Hexadecimal parameters, Dec: Decimal parameters

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 pulses 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_.

Hex: Hexadecimal parameters, Dec: Decimal parameters

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_ _])



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]

Hex: Hexadecimal parameters, Dec: Decimal parameters

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.

Hex: Hexadecimal parameters, Dec: Decimal parameters

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

Hex: Hexadecimal parameters, Dec: Decimal parameters

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			The setting value will be maintained.	
	Servo motor or linear servo motor thermistor enabled/disabled selection	Hex	X ____		Servo motor thermistor enabled/disabled selection	Hex	PD12.3		
PD13	Function selection D-2			PD13	Function selection D-2			The setting value will be maintained.	
	INP (In-position) on condition selection	Hex	_ X _ _		INP output signal ON condition selection	Hex	PD13.2		
PD14	Function selection D-3			PD14	Function selection D-3			The setting value will be maintained.	
	Output device status at warning occurrence	Hex	_ _ X _		Output device status at warning occurrence	Hex	PD14.1		
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		
PD16	Driver communication setting - Master - Transmit data selection 1			PD16	Driver communication setting - Master - Transmit data selection 1			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			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_ _])



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

Hex: Hexadecimal parameters, Dec: Decimal parameters

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			The setting value will be maintained.
	Fully closed loop function selection	Hex	___X		Fully closed loop function selection	Hex	PE01.0	
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	
	Position deviation error - Detection method selection		__X_		Position deviation error - Detection method selection		PE03.1	
	Fully closed loop control error - Reset selection		X___		Fully closed loop control error - Reset selection		PE03.3	
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	
	Droop pulse monitor selection for controller display		_X__		Droop pulse monitor selection for controller display		PE10.2	
	Cumulative feedback pulse monitor selection for controller display		X___		Cumulative feedback pulse monitor selection for controller display		PE10.3	
PE41	Function selection E-3			PE41	Function selection E-3			
	Robust filter selection	Hex	___X		Robust filter selection	Hex	PE41.0	
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.

MR-J4-_B_/MR-J4W_-_B				MR-J5-_B_/MR-J5W_-_B				Conversion rules	
No.	Name	Model	Target	No.	Name	Model	Target		
PE47	Torque offset	Dec	—	PE47	Unbalanced torque offset	Dec	—	The setting value will be maintained.	
PE48	Lost motion compensation function selection			PE48	Lost motion compensation function selection			The setting value will be maintained.	
	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		
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_ _])



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]

Hex: Hexadecimal parameters, Dec: Decimal parameters

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			The setting value will be maintained.
	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	
PF06	Function selection F-5			PF06	Function selection F-5			The value will be converted to "3 (initial value)".
	Electronic dynamic brake selection	Hex	___X		Electronic dynamic brake selection	Hex	PF06.0	
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			The setting value will be maintained.
	Oscillation detection alarm selection	Hex	___X		Oscillation detection alarm selection	Hex	PF24.0	
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_ _])



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

Hex: Hexadecimal parameters, Dec: Decimal parameters

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.

PART 5

Review on Replacement of Rotary Servo Motor

The word "servo motor" described in Part 5 means "rotary servo motor".

10 REPLACEMENT OF ROTARY SERVO MOTOR

11 COMPARISON OF SERVO MOTOR SPECIFICATIONS


10 REPLACEMENT OF ROTARY SERVO MOTOR

Point

The HK-ST7M2UW_ and HK-ST172UW_ will be available in the future.

10.1 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 250 COMPARISON OF SERVO MOTOR SPECIFICATIONS

For information on combinations of servo motors and servo amplifiers, refer to the following.

 Page 18 Review on Replacement

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

10.2 Replacement of HG Series Rotary Servo Motors with HK Series Rotary Servo Motors


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)

Series	Model	Replacement model example	Mounting compatibility (○: Compatible)	Precautions
Small capacity, low inertia HG-KR series Standard/With brake	HG-KR053(B)	HK-KT053W(B)	○	<ul style="list-style-type: none"> 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 275 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 253 Detailed Comparison of Servo Motor Mounting Dimensions


HG-KR series (with gear reducer for general industrial machine)

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility (○: Compatible)	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	○	<ul style="list-style-type: none"> 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 275 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)

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility (○: Compatible)	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	○	<ul style="list-style-type: none"> 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 275 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)

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility (○: Compatible)	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	○	<ul style="list-style-type: none"> 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 275 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

Series	Model	Replacement model example	Mounting compatibility (○: Compatible)	Precautions
Small capacity, ultra-low inertia HG-MR series Standard/With brake	HG-MR053(B)	HK-MT053W(B)	○	<ul style="list-style-type: none"> 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 275 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 253 Detailed Comparison of Servo Motor Mounting Dimensions

HG-SR series (without gear reducer)

Series	Model	Replacement model example	Mounting compatibility (○: Compatible)	Precautions
Medium capacity, medium inertia HG-SR series Standard/With brake	HG-SR51(B)	HK-ST1024W(B)	○	<ul style="list-style-type: none"> 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 275 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(B)	HK-ST502W(B)		
	HG-SR702(B)	HK-ST702W(B)		


*1 The power connector size is different.

HG-SR series (with gear reducer for general industrial machine)

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility (○: Compatible)	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	○	<ul style="list-style-type: none"> 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. <p> Page 275 Comparison of Servo Motor Connector Specifications</p>
	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(B)G1(H)	1/6	HK-ST502(B)G1(H)	1/6		
	HG-SR502(B)G1(H)	1/11	HK-ST502(B)G1(H)	1/11		
	HG-SR502(B)G1(H)	1/17	HK-ST502(B)G1(H)	1/17		
	HG-SR502(B)G1(H)	1/29	HK-ST502(B)G1(H)	1/29		
	HG-SR502(B)G1(H)	1/35	HK-ST502(B)G1(H)	1/35		
	HG-SR502(B)G1(H)	1/43	HK-ST502(B)G1(H)	1/43		
	HG-SR502(B)G1(H)	1/59	HK-ST502(B)G1(H)	1/59		
HG-SR702(B)G1(H)	1/6	HK-ST702(B)G1(H)	1/6	○*1		
HG-SR702(B)G1(H)	1/11	HK-ST702(B)G1(H)	1/11			
HG-SR702(B)G1(H)	1/17	HK-ST702(B)G1(H)	1/17			
HG-SR702(B)G1(H)	1/29	HK-ST702(B)G1(H)	1/29			
HG-SR702(B)G1(H)	1/35	HK-ST702(B)G1(H)	1/35			
HG-SR702(B)G1(H)	1/43	HK-ST702(B)G1(H)	1/43			
HG-SR702(B)G1(H)	1/59	HK-ST702(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)

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility (○: Compatible)	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	○	<ul style="list-style-type: none"> 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. <p> Page 275 Comparison of Servo Motor Connector Specifications</p>
	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(B)G5	1/5	HK-ST502(B)G5	1/5		
	HG-SR502(B)G5	1/11	HK-ST502(B)G5	1/11		
HG-SR702(B)G5	1/5	HK-ST702(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)

Series	Model	Reduction ratio	Replacement model example	Reduction ratio	Mounting compatibility (○: Compatible)	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	○	<ul style="list-style-type: none"> 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. <p> Page 275 Comparison of Servo Motor Connector Specifications</p>
	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(B)G7	1/5	HK-ST502(B)G7	1/5		
HG-SR502(B)G7	1/11	HK-ST502(B)G7	1/11			
HG-SR702(B)G7	1/5	HK-ST702(B)G7	1/5	○ *1		

*1 The power connector size is different.

HG-RR series

Series	Model	Replacement model example	Mounting compatibility (○: Compatible)	Precautions
Medium capacity, ultra-low inertia HG-RR series	HG-RR103(B) ◇	HK-RT103W(B) ◆	*1	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> ☞ Page 275 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. <ul style="list-style-type: none"> ☞ Page 18 Review on Replacement 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 253 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 253 Detailed Comparison of Servo Motor Mounting Dimensions

*3 The power connectors and electromagnetic brake connectors have no compatibility.

HG-JR series

Series	Model	Replacement model example	Mounting compatibility (○: Compatible)	Precautions
Medium capacity, low inertia HG-JR series	HG-JR53(4)(B)	HK-KT63(4)UW(B) ◆ *2	○ *1	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> ☞ Page 275 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. <ul style="list-style-type: none"> ☞ Page 18 Review on Replacement 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(B)	HK-ST503W(B)		

*1 Only the flanges have mounting compatibility. Refer to the following for details on the dimensions and shaft end dimensions.

☞ Page 253 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 18 Review on Replacement

*3 For 200 V class servo motors, the power connectors have no compatibility.

HG-UR series

Series	Model	Replacement model example	Mounting compatibility (○: Compatible)	Precautions
Medium capacity, flat type HG-UR series	HG-UR72(B)	HK-ST7M2UW(B)	○ *1	<ul style="list-style-type: none"> Refer to the following for details. <ul style="list-style-type: none"> ☞ Page 275 Comparison of Servo Motor Connector Specifications Refer to the following for details. <ul style="list-style-type: none"> ☞ Page 18 Review on Replacement 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 The power connectors and electromagnetic brake connectors have no compatibility.

11 COMPARISON OF SERVO MOTOR SPECIFICATIONS

Point

The HK-ST7M2UW_ and HK-ST172UW_ will be available in the future.

11.1 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.

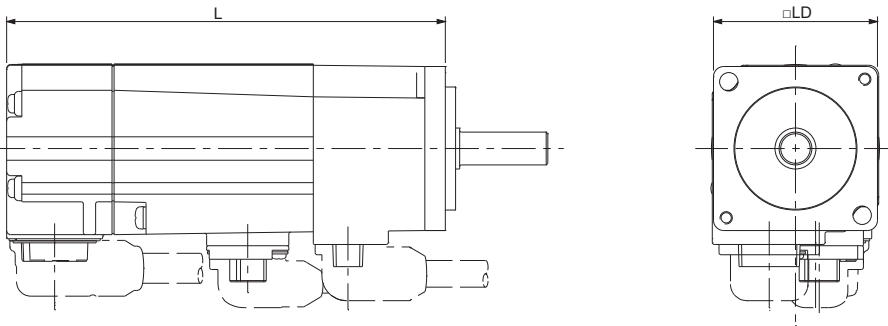
Rotary Servo Motor User's Manual (For MR-J5)

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)	118.5 (153)	130	HK-ST52W(B)	115.5 (150)	130	
HG-SR524(B)			HK-ST524W(B)			
HG-SR102(B)	132.5 (167)		HK-ST102W(B)	126.5 (161)		
HG-SR1024(B)			HK-ST1024W(B)			
HG-SR152(B)	146.5 (181)		HK-ST172(4)W(B)	137.5 (172)		
HG-SR1524(B)			HK-ST1724W(B)			
HG-SR202(B)	138.5 (188)	176	HK-ST202W(B)	138.5 (188)	176	
HG-SR2024(B)			HK-ST2024W(B)			
HG-SR352(B)	162.5 (212)		HK-ST352W(B)	158.5 (208)		
HG-SR3524(B)			HK-ST3524W(B)			
HG-SR502(B)	178.5 (228)		HK-ST502W(B)	178.5 (228)		
HG-SR702(B)	218.5 (268)		HK-ST702W(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)		

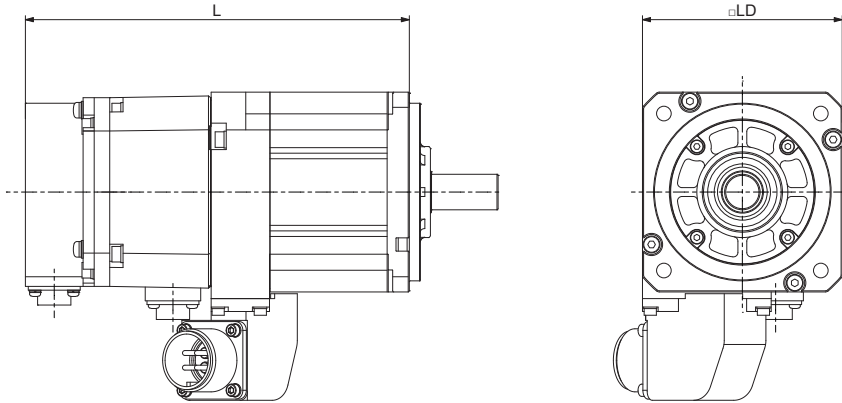
*1 The mounting hole was changed from $\phi 5.8$ to 5.5. Refer to the following for details on the dimensions.

 Page 253 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 253 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 253 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)		
HG-JR503(B)	267 (305.5)	HK-ST503W(B)		203.5 (238)		

11.2 Detailed Comparison of Servo Motor Mounting Dimensions

Point

As for the dimensions not listed here, refer to the catalog or the following manual.

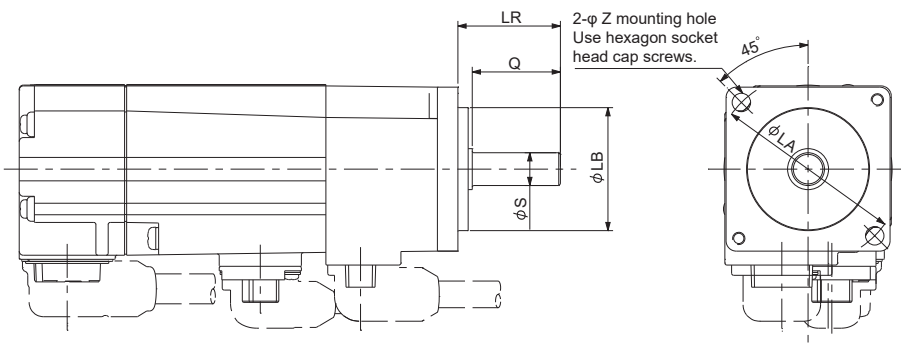
Rotary Servo Motor User's Manual (For MR-J5)

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

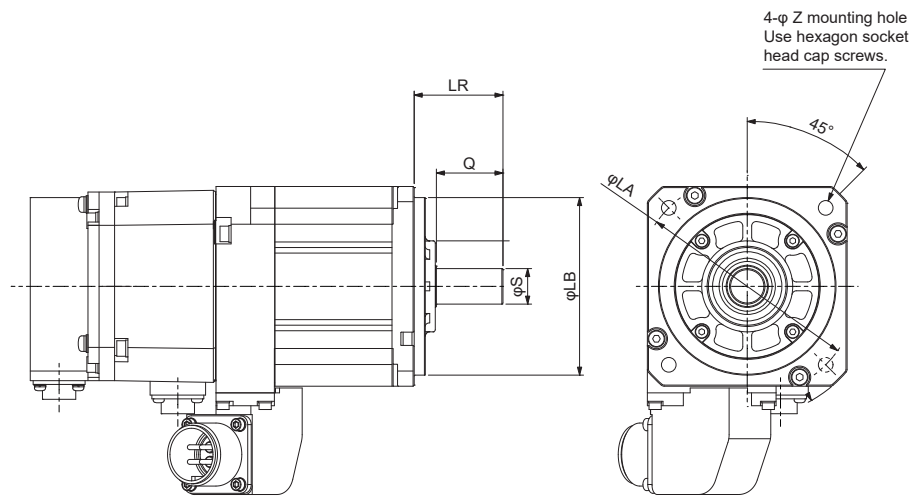


[Unit: [mm]]

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)	145	110	55	50	24	9	HK-ST52W(B)	145	110	55	50	24	9
HG-SR524(B)							HK-ST524W(B)						
HG-SR102(B)	145	110	55	50	24	9	HK-ST102W(B)	145	110	55	50	24	9
HG-SR1024(B)							HK-ST1024W(B)						
HG-SR152(B)	145	110	55	50	24	9	HK-ST172W(B)	145	110	55	50	24	9
HG-SR1524(B)							HK-ST1724W(B)						
HG-SR202(B)	200	114.3	79	75	35	13.5	HK-ST202W(B)	200	114.3	79	75	35	13.5
HG-SR2024(B)							HK-ST2024W(B)						
HG-SR352(B)	200	114.3	79	75	35	13.5	HK-ST352W(B)	200	114.3	79	75	35	13.5
HG-SR3524(B)							HK-ST3524W(B)						
HG-SR502(B)	200	114.3	79	75	35	13.5	HK-ST502W(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-SR702(B)	200	114.3	79	75	35	13.5	HK-ST702W(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)	145	110	55	50	28	9	HK-ST503W(B)	145	110	55	50	■24	9

11.3 Comparison of Mounting Dimensions for Geared Servo Motors

Point

As for the dimensions not listed here, refer to the catalog or the following manual.

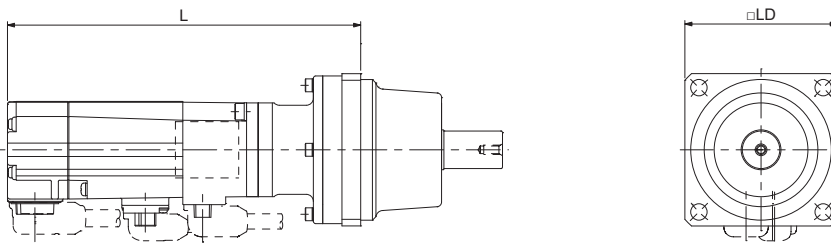
Rotary Servo Motor User's Manual (For MR-J5)

Changed descriptions are shown with "■".

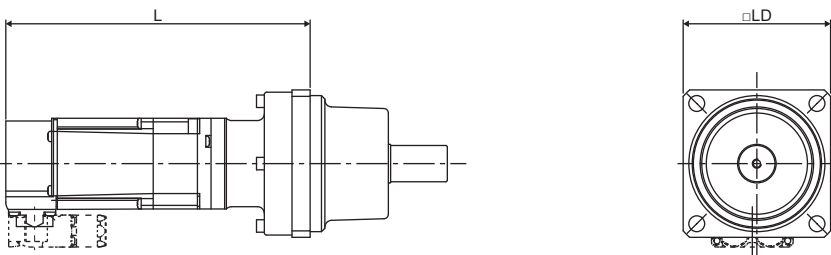
The value in the parenthesis shows the value with brake.

HG-KR_G1 => HK-KT_G1 (with gear reducer for general industrial machine)

- HG-KR_G1 dimensions



- HK-KT_G1 dimensions

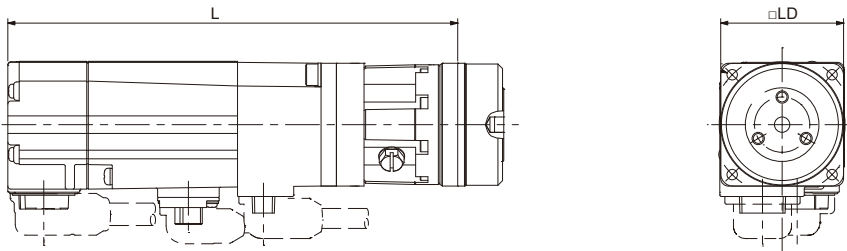


[Unit: [mm]]

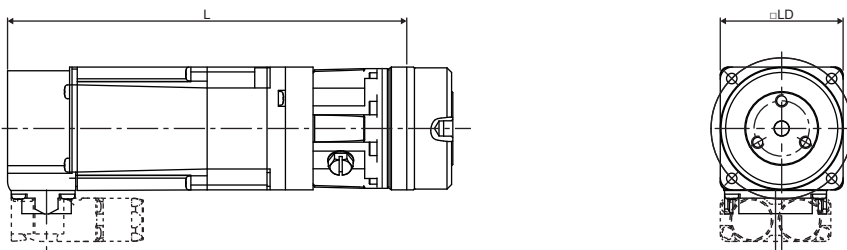
Output (kW)	Reduction ratio	HG-KR_G1		HK-KT_G1	
		L	LD	L	LD
0.05	1/5	110.1 (150.7)	65	■99.2 (134.2)	65
	1/12	128.9 (169.5)		■118 (153)	
	1/20				
0.1	1/5	126.1 (166.7)		■111.7 (146.7)	
	1/12	144.9 (185.5)		■130.5 (165.5)	
	1/20				
0.2	1/5	129.8 (166.6)	90	■120.7 (155.3)	90
	1/12	149.6 (186.4)		■140.5 (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)		■162.5 (197.1)	
0.75	1/5	177 (217.3)		■157.5 (193)	
	1/12	199 (239.3)		■179.5 (215)	
	1/20	212 (252.3)		■192.5 (228)	

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

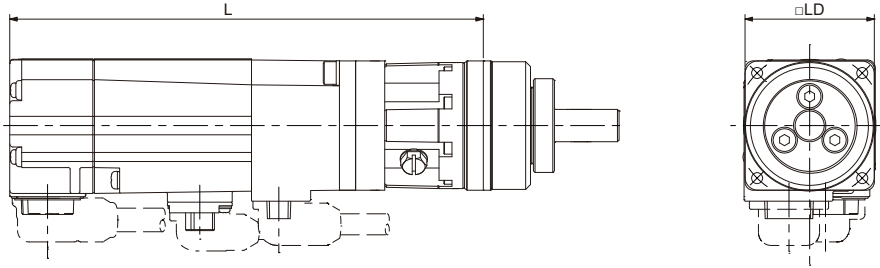


[Unit: [mm]]

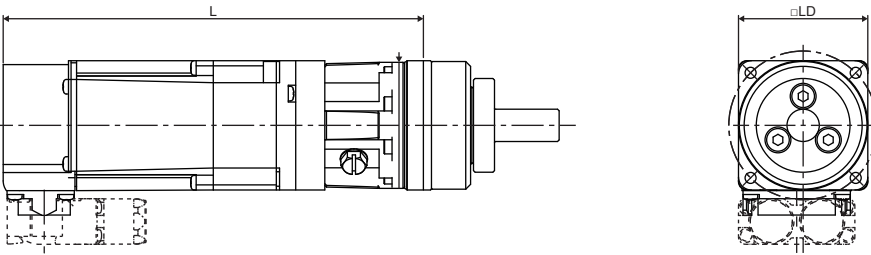
Output (kW)	Reduction ratio	HG-KR_G5		HK-KT_G5	
		L	LD	L	LD
0.05	1/5 (□40)	105.9 (146.5)	40	■95 (130)	40
	1/5 (□60)	130.4 (171)	60	■119.5 (154.5)	60
	1/9	105.9 (146.5)	40	■95 (130)	40
	1/11	130.4 (171)	60	■119.5 (154.5)	60
	1/21				
	1/33				
	1/45				
0.1	1/5 (□40)	121.9 (162.5)	40	■107.5 (142.5)	40
	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

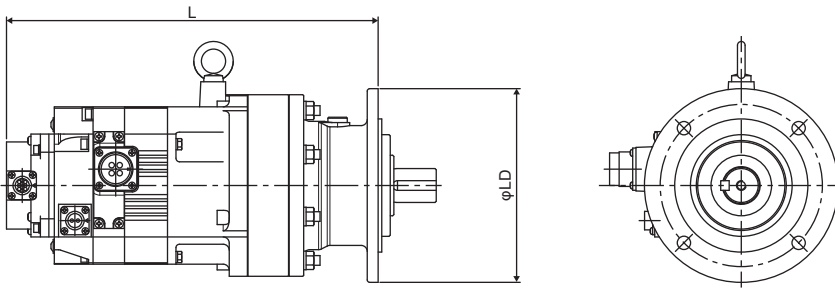


[Unit: [mm]]

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)

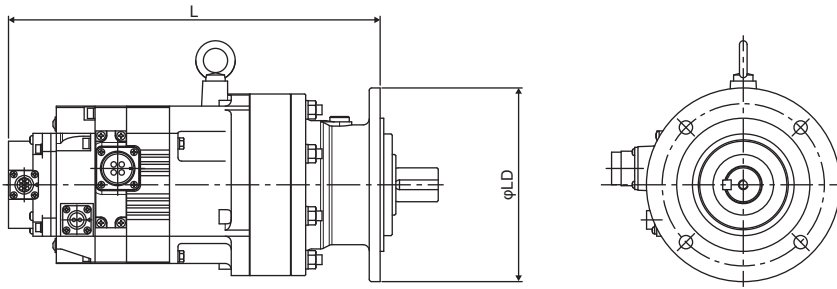
■0.5 kW to 2.0 kW



[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

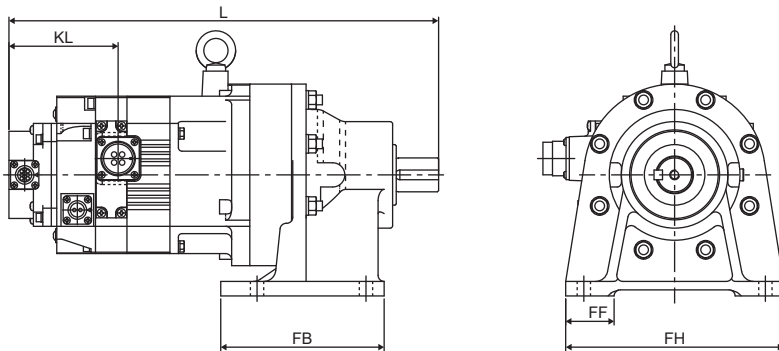


[Unit: [mm]]

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				
	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				
	1/17				
	1/29	546 (595.5)	430	■546.5 (596)	430
	1/35				
	1/43				
	1/59				
		602 (651.5)	490	■602.5 (652)	490

HG-SR_G1H => HK-ST_G1H (with foot-mounting gear reducer for general industrial machine)

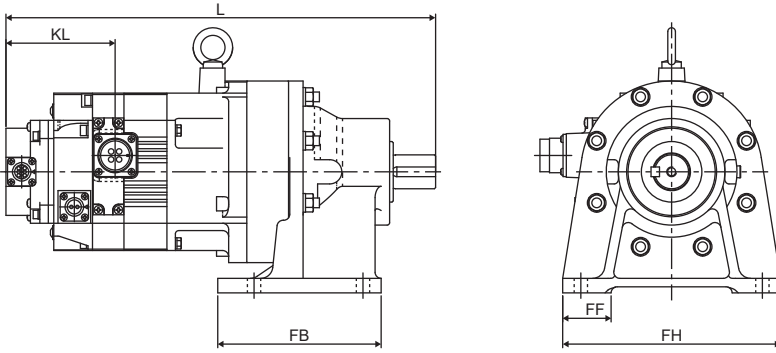
■0.5 kW to 2.0 kW



[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										

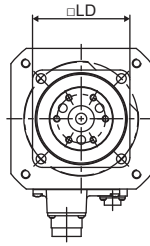
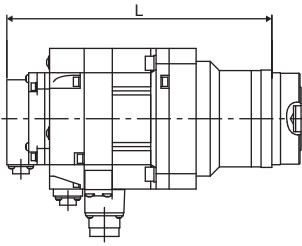
■3.5 kW to 7.0 kW



[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										
1/59	560 (609.5)	63.7 (113.2)	335	80	430	556.5 (606)	■57.8 (107.3)	335	80	430	
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	616 (665.5)	63.7 (113.2)	380	85	470	616.5 (666)	■57.8 (107.3)	380	85	470	
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										
	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										
1/59	747 (796.5)	71.7 (121.2)	440	90	530	747.5 (797)	■57.8 (107.3)	440	90	530	

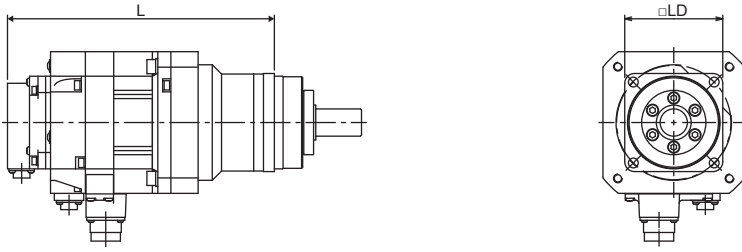
HG-SR_G5 => HK-ST_G5 (with flange-output type gear reducer for high precision applications, flange mounting)



[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)	
	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	255.5 (290)	170	■249.5 (284)	170
	1/33				
	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	287.5 (337)	170	287.5 (337)	170
	1/21				
	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	327.5 (377)	170	327.5 (377)	170
1/11					
5.0	1/5	367.5 (417)	170	367.5 (417)	170
	1/11				
7.0	1/5	367.5 (417)	170	367.5 (417)	170

11.4 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	

11.5 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	$\times 10^{-4} \text{ kg}\cdot\text{m}^2$	Recommended load to motor inertia ratio	Replacement model example	Moment of inertia J $\times 10^{-4} \text{ kg}\cdot\text{m}^2$	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)	

*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	$\times 10^{-4}$ 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 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	$\times 10^{-4}$ 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 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 × 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 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 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, 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)	
	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)		HK-ST202W(B) HK-ST2024W(B)	36.4 (41.4)	15 times or less
	HG-SR352(B) HG-SR3524(B)	78.6 (88.2)	15 times or less	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-SR702(B)	151 (161)		HK-ST702W(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 × 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 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 × 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 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(B)G1(H)	1/6	126 (135)		HK-ST502(B)G1(H)	1/6	97.1 (102)	
	HG-SR502(B)G1(H)	1/11	114 (123)		HK-ST502(B)G1(H)	1/11	85.1 (90.1)	
	HG-SR502(B)G1(H)	1/17	110 (119)		HK-ST502(B)G1(H)	1/17	81.1 (86.1)	
	HG-SR502(B)G1(H)	1/29	141 (150)		HK-ST502(B)G1(H)	1/29	112 (117)	
	HG-SR502(B)G1(H)	1/35	140 (150)		HK-ST502(B)G1(H)	1/35	111 (116)	
	HG-SR502(B)G1(H)	1/43	139 (149)		HK-ST502(B)G1(H)	1/43	110 (115)	
	HG-SR502(B)G1(H)	1/59	138 (147)		HK-ST502(B)G1(H)	1/59	109 (114)	
	HG-SR702(B)G1(H)	1/6	177 (187)		HK-ST702(B)G1(H)	1/6	131 (136)	
	HG-SR702(B)G1(H)	1/11	190 (199)		HK-ST702(B)G1(H)	1/11	144 (149)	
	HG-SR702(B)G1(H)	1/17	182 (192)		HK-ST702(B)G1(H)	1/17	136 (141)	
	HG-SR702(B)G1(H)	1/29	192 (202)		HK-ST702(B)G1(H)	1/29	146 (151)	
	HG-SR702(B)G1(H)	1/35	192 (201)		HK-ST702(B)G1(H)	1/35	146 (151)	
	HG-SR702(B)G1(H)	1/43	267 (277)		HK-ST702(B)G1(H)	1/43	221 (226)	
	HG-SR702(B)G1(H)	1/59	266 (275)		HK-ST702(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(B)G5	1/5	110 (119)		HK-ST502(B)G5	1/5	80.9 (85.9)	
	HG-SR502(B)G5	1/11	108 (117)		HK-ST502(B)G5	1/11	78.9 (83.9)	
	HG-SR702(B)G5	1/5	161 (171)		HK-ST702(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(B)G7	1/5	111 (121)		HK-ST502(B)G7	1/5	82.3 (87.3)	
HG-SR502(B)G7	1/11	108 (117)	HK-ST502(B)G7	1/11	79.2 (84.2)			
HG-SR702(B)G7	1/5	163 (173)	HK-ST702(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)	1.52 (2.02)	10 times or less	HK-KT63UW(B)	2.11 (2.45)	10 times or less	
	HG-JR534(B)			HK-KT634UW(B)			
	HG-JR73(B)	2.09 (2.59)		HK-KT103UW(B) HK-KT1034UW(B)	2.74 (3.08)	15 times or less	
	HG-JR734(B)						
	HG-JR103(B)	2.65 (3.15)			HK-KT153W(B)		4.38 (4.72)
	HG-JR1034(B)				HK-KT1534W(B)		
	HG-JR153(B)	3.79 (4.29)		HK-KT203W(B)	5.65 (5.99)		
	HG-JR1534(B)			HK-KT2034W(B)			
HG-JR203(B)	4.92 (5.42)	HK-ST353W(B)	16.9 (19.1)	10 times or less			
HG-JR2034(B)		HK-ST3534W(B)					
HG-JR353(B)	13.2 (15.4)	HK-ST503W(B)	27.7 (29.9)				
HG-JR3534(B)							
HG-JR503(B)	19.0 (21.2)						

*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)	9.82 (11.7)	19 times or less
	HG-UR152(B)	22.1 (24.2)		HK-ST172UW(B)	18.4 (20.3)	

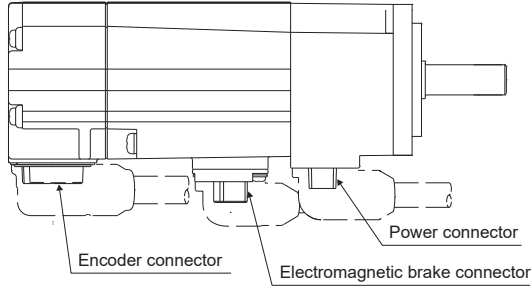
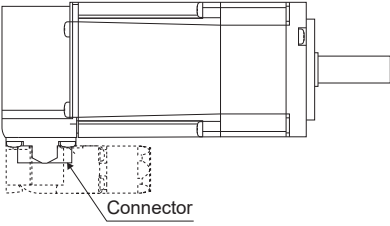
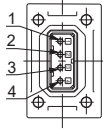
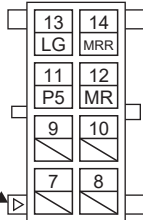
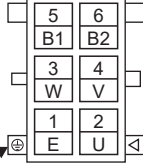
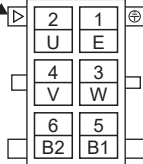
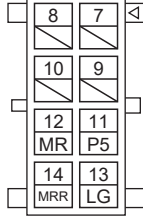
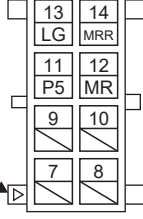
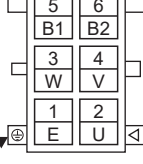
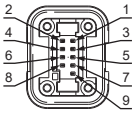

11.6 Comparison of Servo Motor Connector Specifications

Point 

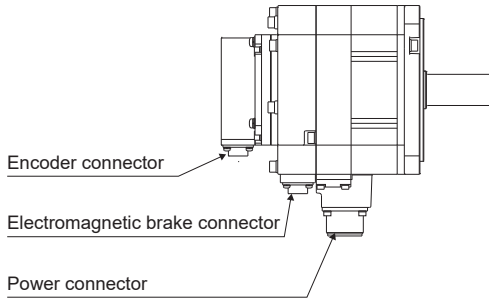
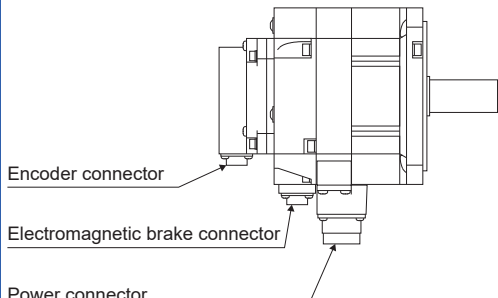
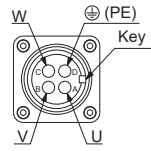
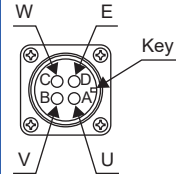
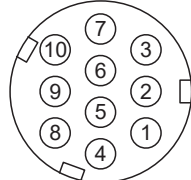
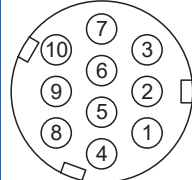


For details, refer to the "HG-MR/HG-KR/HG-SR/HG-JR/HG-RR/HG-UR/HG-AK Servo Motor Instruction Manual (Vol. 3)" and the following manual.

 Rotary Servo Motor User's Manual (For MR-J5)

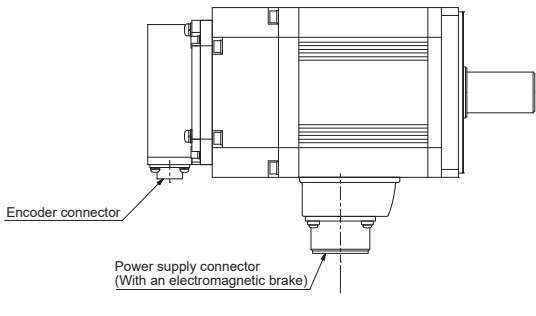
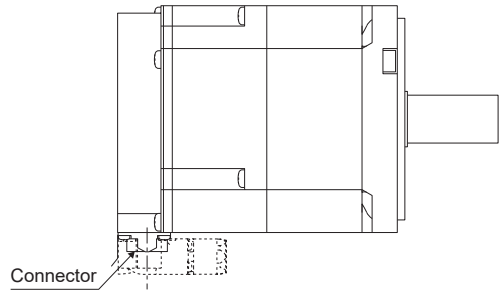
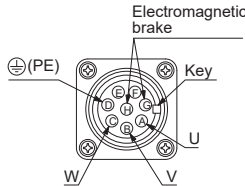
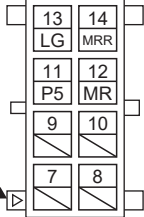
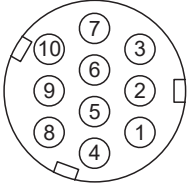
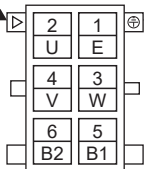
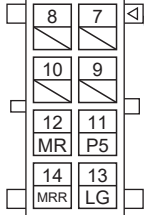
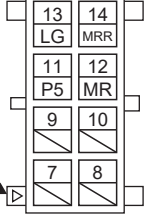
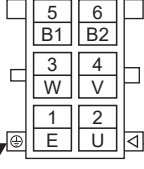
HG-KR_/HG-MR_ series

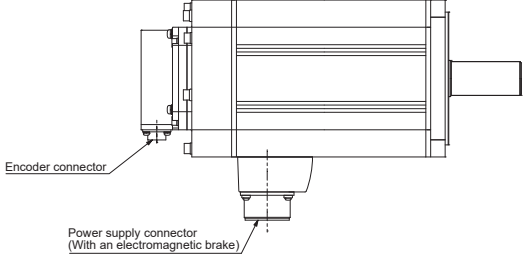
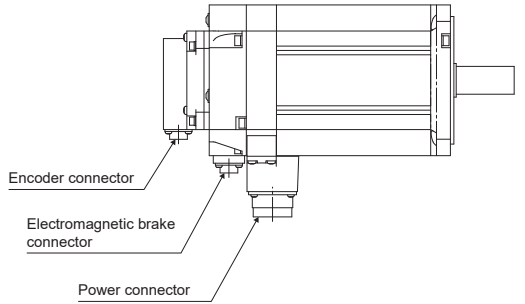
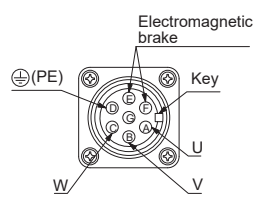
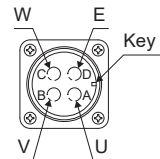
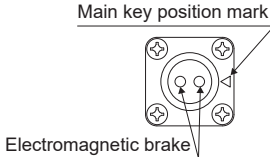
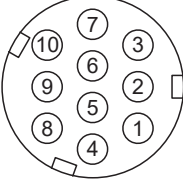
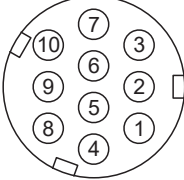
Servo amplifier model	MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
Servo motor model	HG-KR_/HG-MR_	HK-KT_/HK-MT_
Motor appearance		
Power connector	 <p>1: ⊕ (PE) 2: U 3: V 4: W</p>	<p>• Load-side lead</p>  <p>Polarity mark →</p>  <p>E mark ⊕ → ← ⊖ Polarity mark</p> <p>• Vertical lead</p>  <p>Polarity mark → ⊕ E mark ←</p>  <p>← ⊖ Polarity mark</p> <p>• Opposite to load-side lead</p>  <p>Polarity mark →</p>  <p>E mark ⊕ → ← ⊖ Polarity mark</p>
Encoder connector	 <p>1: — 2: BAT 3: P5 4: MRR 5: MR 6: LG 7: — 8: — 9: SHD</p>	
Electromagnetic brake connector		

HG-SR series

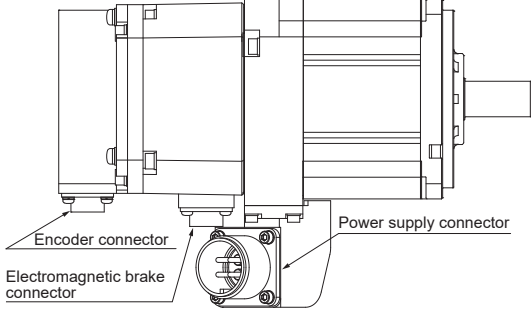
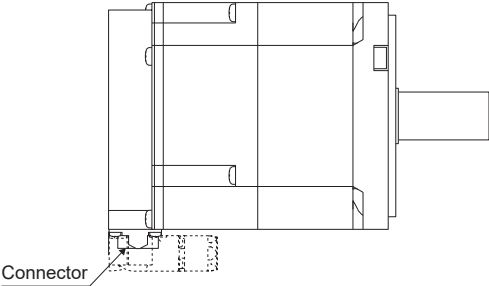
Servo amplifier model	MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
Servo motor model	HG-SR_	HK-ST_
Motor appearance	 <p>Encoder connector</p> <p>Electromagnetic brake connector</p> <p>Power connector</p>	 <p>Encoder connector</p> <p>Electromagnetic brake connector</p> <p>Power connector</p>
Power connector	 <p>The power connector size differs depending on the model.</p>	 <p>The power connector size differs depending on the model.</p>
Encoder connector	 <p>1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>	 <p>1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>
Electromagnetic brake connector		

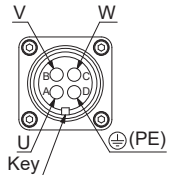
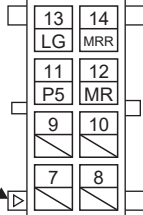
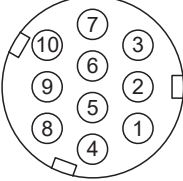
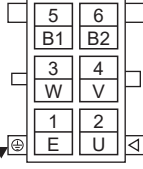
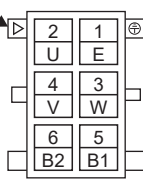

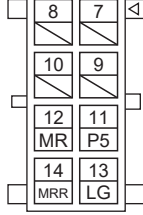
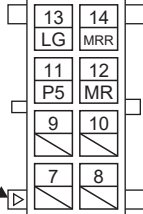
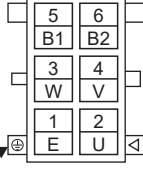
HG-RR series

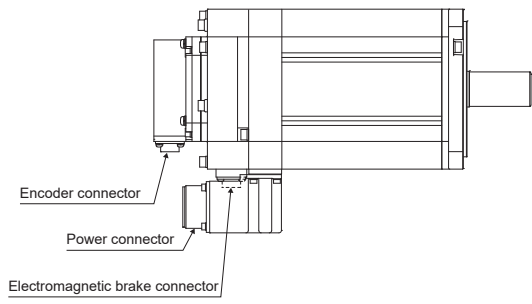
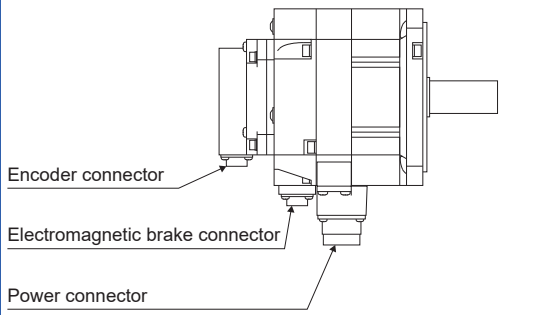
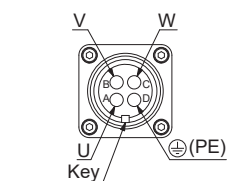
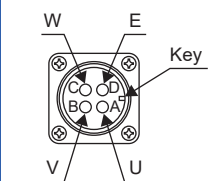
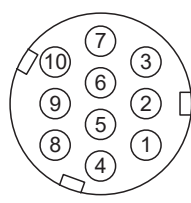
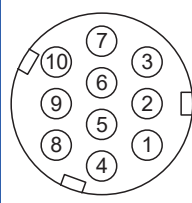


Servo amplifier model	MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
Servo motor model	HG-RR103(B)/HG-RR153(B)/HG-RR203(B)	HK-RT103W(B)/HK-RT153W(B)/HK-RT203W(B)
Motor appearance	 <p>Encoder connector</p> <p>Power supply connector (With an electromagnetic brake)</p>	 <p>Connector</p>
Power supply/ electromagnetic brake connector	 <p>Electromagnetic brake</p> <p>Key</p> <p>U</p> <p>V</p> <p>W</p> <p>(PE)</p>	<p>• Load-side lead</p>  <p>Polarity mark</p>
Encoder connector	 <p>1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>	<p>• Opposite to load-side lead</p>  <p>Polarity mark</p> <p>E mark</p>  <p>Polarity mark</p> <p>• Vertical lead</p>  <p>Polarity mark</p>  <p>E mark</p> <p>Polarity mark</p>

Servo amplifier model	MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
Servo motor model	HG-RR353(B)/HG-RR503(B)	HK-RT353W(B)/HK-RT503W(B)
Motor appearance	 <p>Encoder connector</p> <p>Power supply connector (With an electromagnetic brake)</p>	 <p>Encoder connector</p> <p>Electromagnetic brake connector</p> <p>Power connector</p>
Power supply/ electromagnetic brake connector	 <p>Electromagnetic brake</p> <p>Key</p> <p>(PE)</p> <p>U</p> <p>V</p> <p>W</p>	 <p>W</p> <p>E</p> <p>Key</p> <p>U</p> <p>V</p>
		 <p>Main key position mark</p> <p>Electromagnetic brake</p>
Encoder connector	 <p>1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>	 <p>1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>

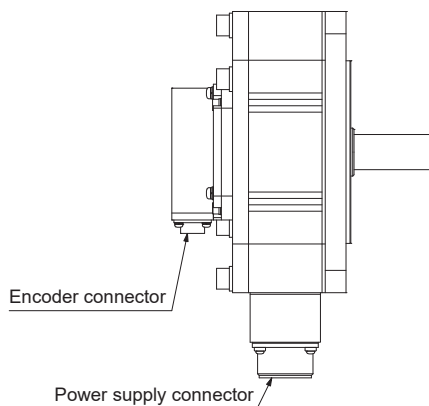
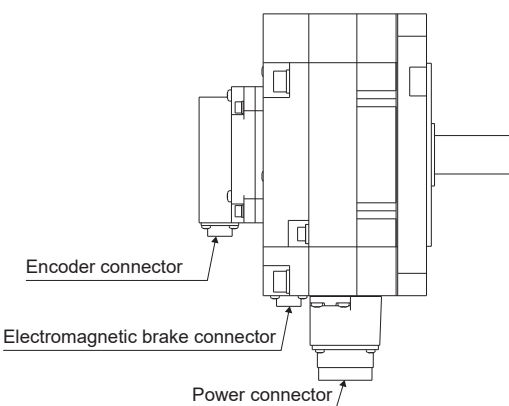
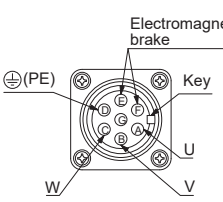
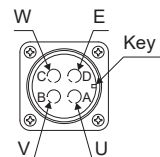
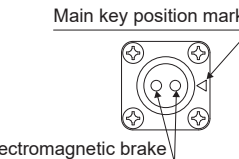
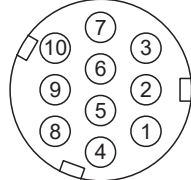
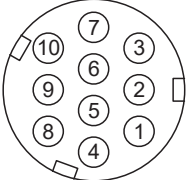
HG-JR series

Servo amplifier model	MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
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-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
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	 <p>Power connector viewed from the connection side</p>	<ul style="list-style-type: none"> • Load-side lead  <p>Polarity mark</p>
Encoder connector	 <p>1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>	<ul style="list-style-type: none"> • Opposite to load-side lead  <p>E mark</p>  <p>E mark</p>
Electromagnetic brake connector		 <p>Polarity mark</p> <ul style="list-style-type: none"> • Vertical lead  <p>Polarity mark</p>  <p>E mark</p>

Servo amplifier model	MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
Servo motor model	HG-JR353(4)(B)/HG-JR503(B)	HK-ST353(4)W(B)/HK-ST503W(B)
Motor appearance	 <p>Encoder connector</p> <p>Power connector</p> <p>Electromagnetic brake connector</p>	 <p>Encoder connector</p> <p>Electromagnetic brake connector</p> <p>Power connector</p>
Power connector	 <p>Power connector viewed from the connection side</p> <p>The power connector size differs depending on the model.</p>	
Encoder connector	 <p>1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>	 <p>1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>
Electromagnetic brake connector		

HG-UR series

Servo amplifier model	MR-J4-_B_/MR-J4W_-_B	MR-J5-_B_/MR-J5W_-_B
Servo motor model	HG-UR72(B)/HG-UR152(B)	HK-ST7M2UW(B)/HK-ST172UW(B)
Motor appearance	 <p>Encoder connector</p> <p>Power supply connector</p>	 <p>Encoder connector</p> <p>Electromagnetic brake connector</p> <p>Power connector</p>
Power supply/ electromagnetic brake connector	 <p>Electromagnetic brake</p> <p>Key</p> <p>U</p> <p>V</p> <p>W</p> <p>⊕(PE)</p>	 <p>W</p> <p>E</p> <p>Key</p> <p>U</p> <p>V</p>
		 <p>Main key position mark</p> <p>Electromagnetic brake</p>
Encoder connector	 <p>1: MR 2: MRR 3: — 4: BAT 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>	 <p>1: MR 2: MRR 3: — 4: — 5: LG 6: — 7: — 8: P5 9: — 10: SHD</p>

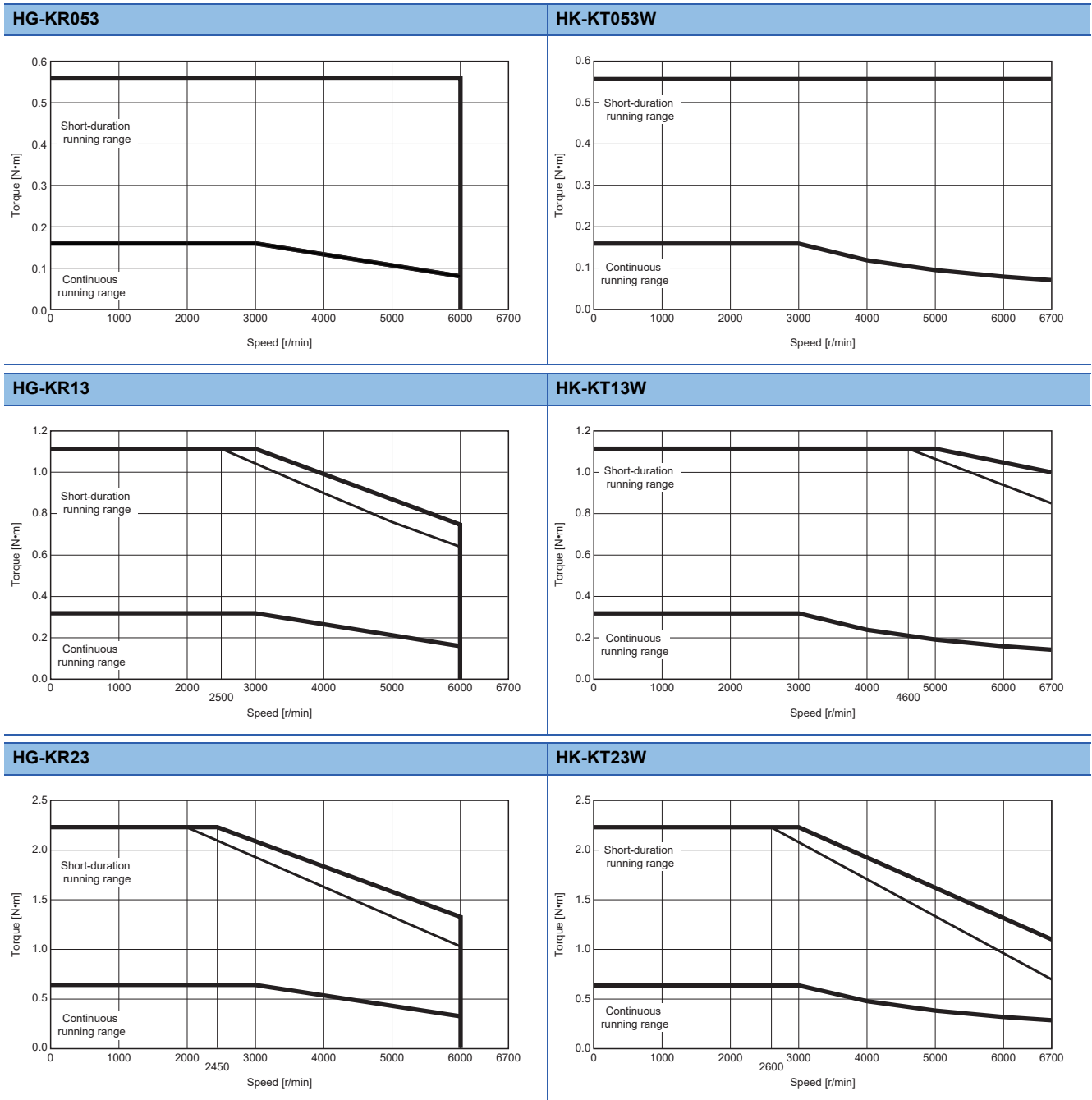
11.7 Comparison of Servo Motor Torque Characteristics

Point

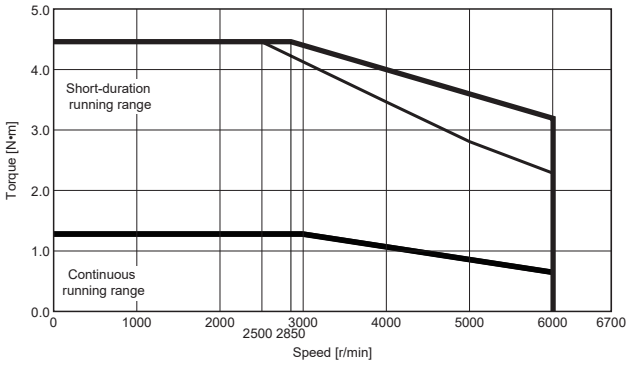
Except for replacement models of the HG-JR series rotary servo motor, the "torque characteristics of the HK series rotary servo motor" described in this section show the torque characteristics for when the standard torque is used. For the torque characteristics for when the torque is increased, refer to the following manual.
 📖 Rotary Servo Motor User's Manual (For MR-J5)

Comparison of HG-KR_ and HK-KT_

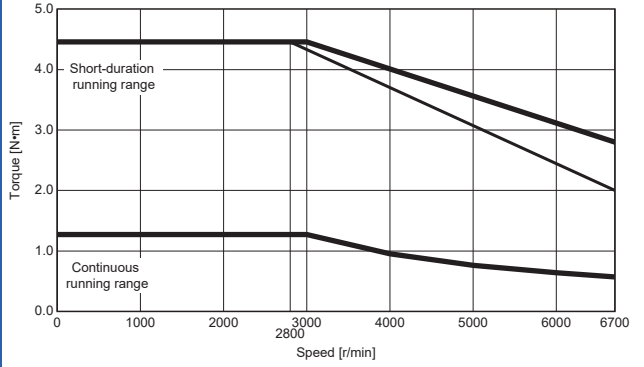
When the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.



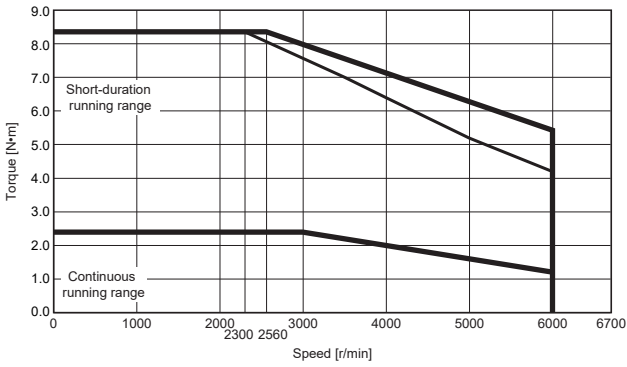
HG-KR43



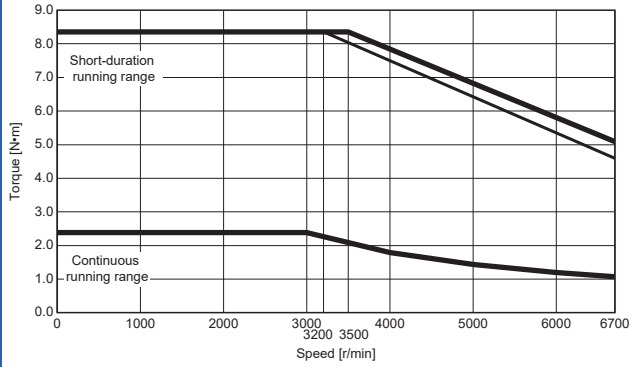
HK-KT43W



HG-KR73

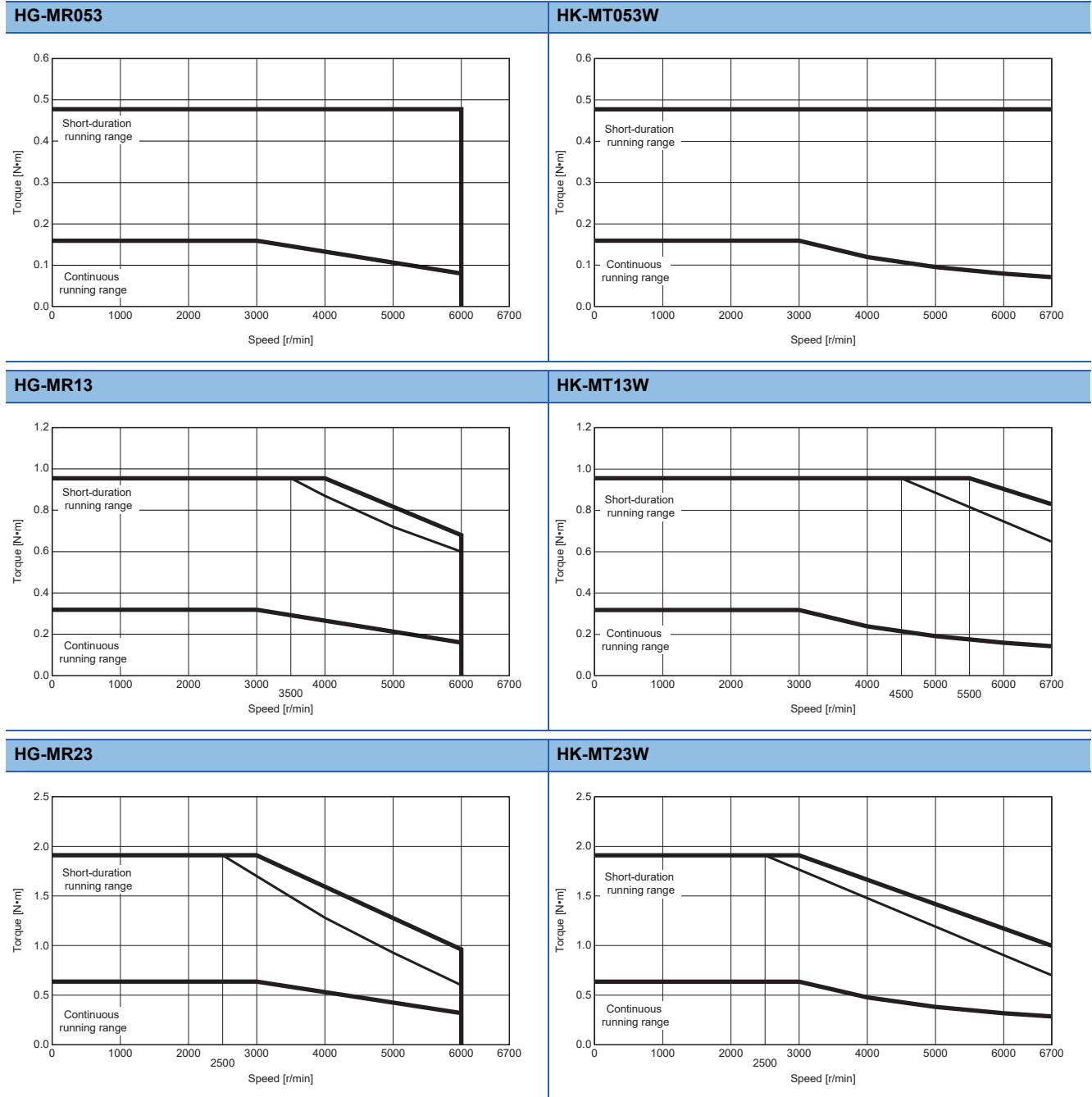


HK-KT7M3W

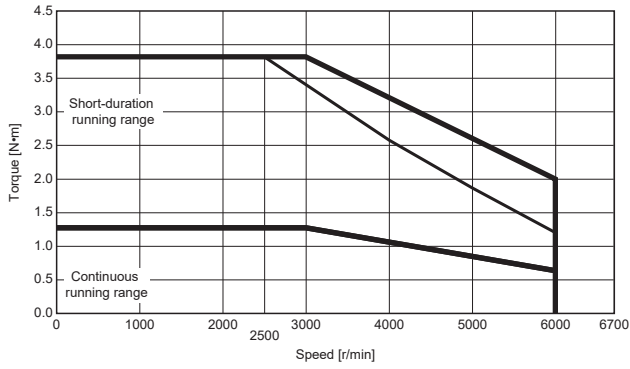


Comparison of HG-MR_ and HK-MT_

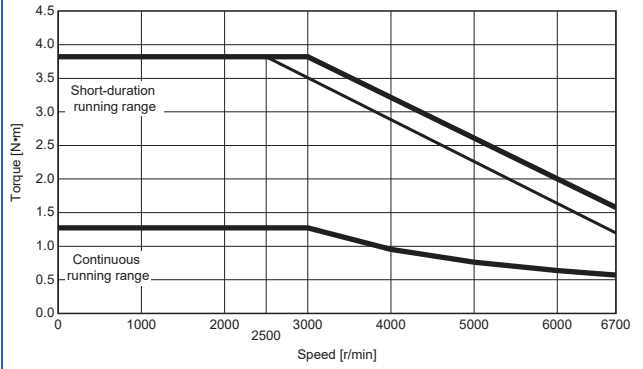
When the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.



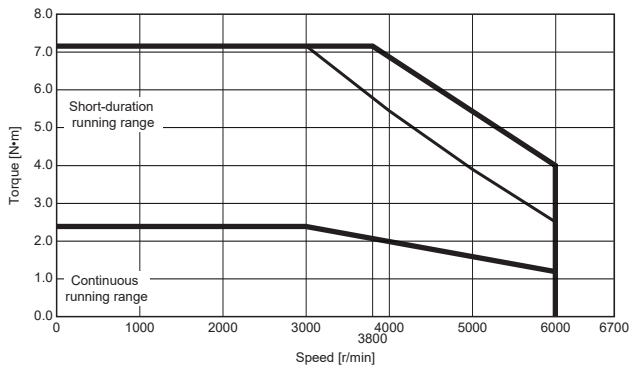
HG-MR43



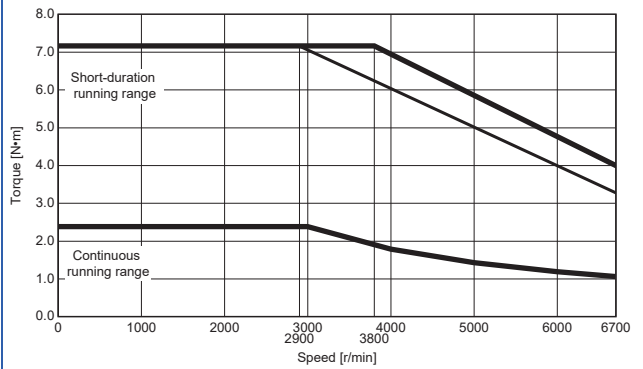
HK-MT43W



HG-MR73



HK-MT7M3W



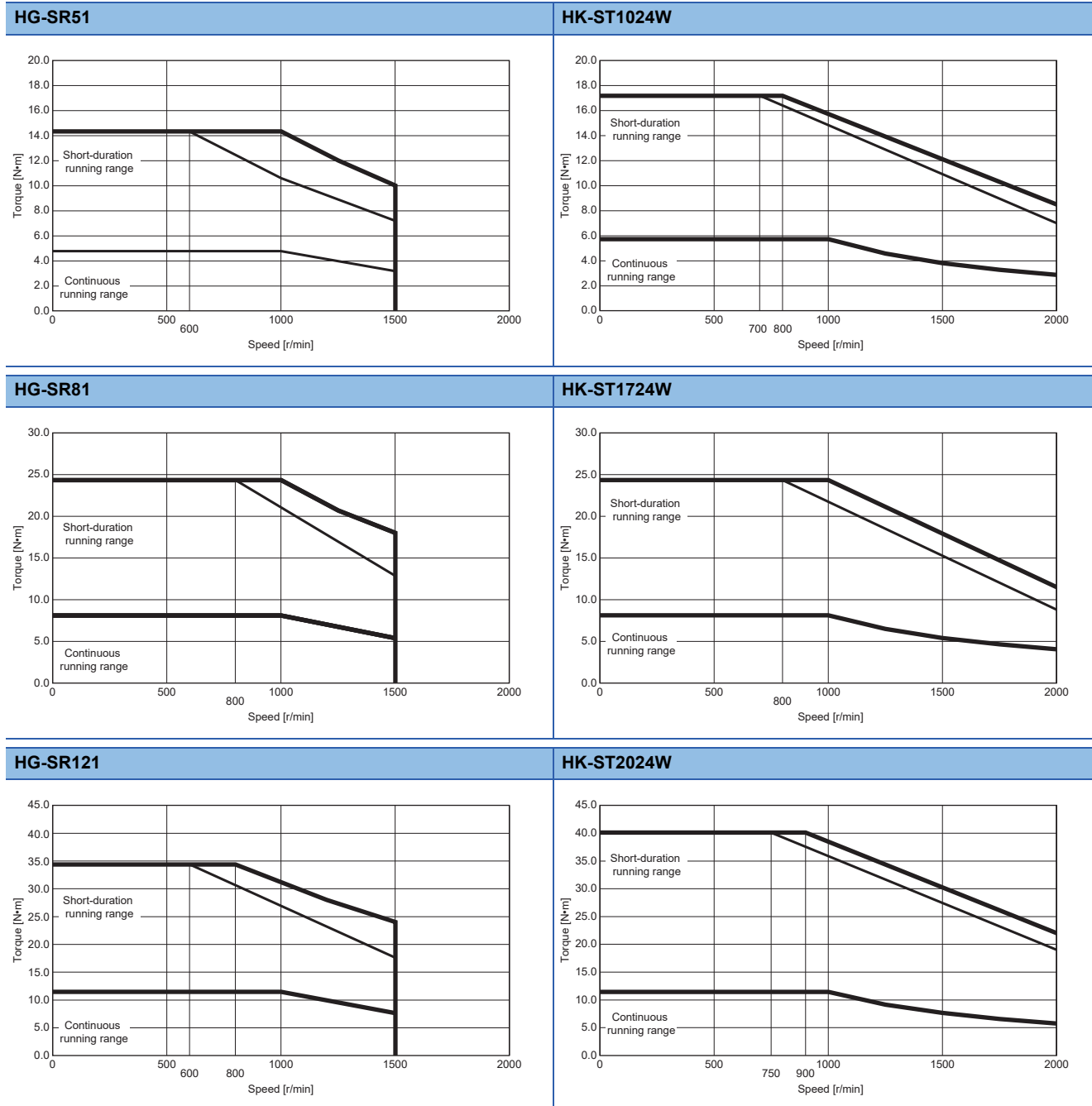
Comparison of HG-SR_ and HK-ST_

■ When connected with 200 V servo amplifier

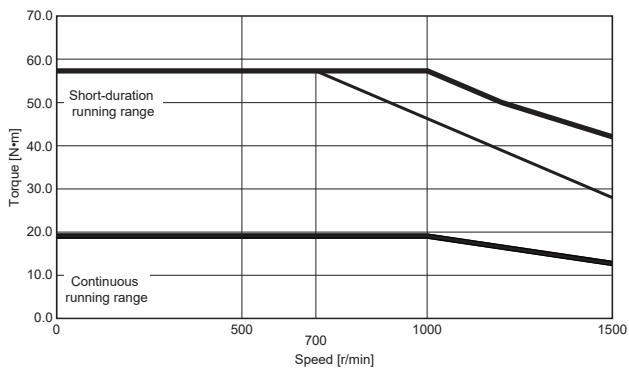
For the HG-SR_, when the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 230 V AC, the torque characteristic is indicated by the heavy line.

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.

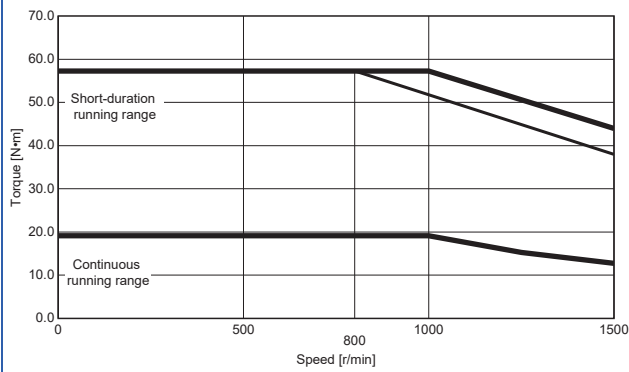
For the HK-ST_, when the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC. The dotted line shows a rough indication of the possible continuous running range for 3-phase 170 V AC.



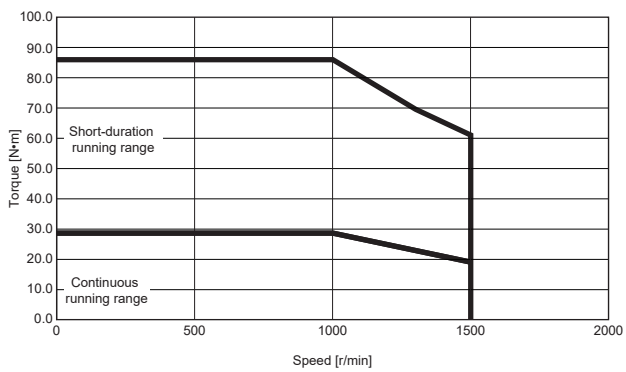
HG-SR201



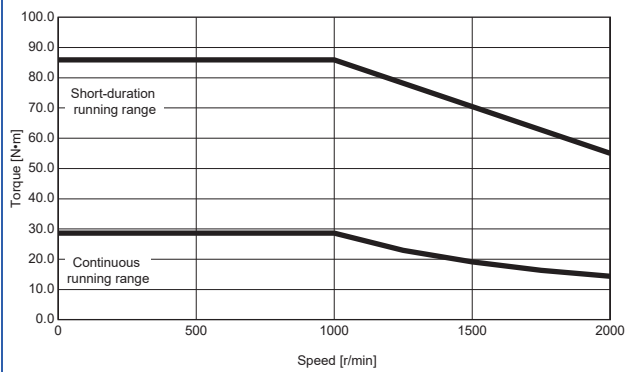
HK-ST3524W



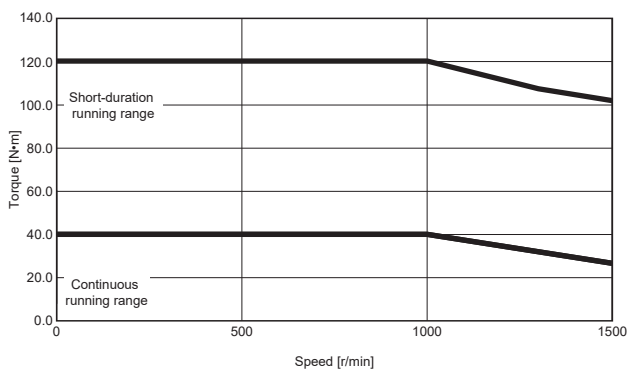
HG-SR301



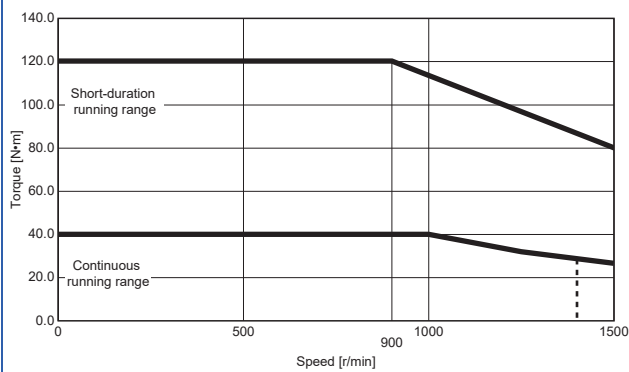
HK-ST5024W

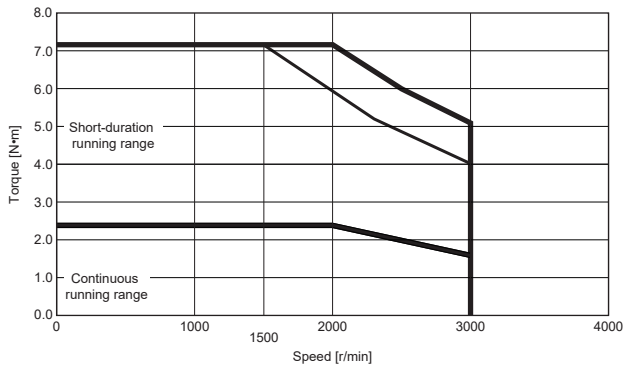
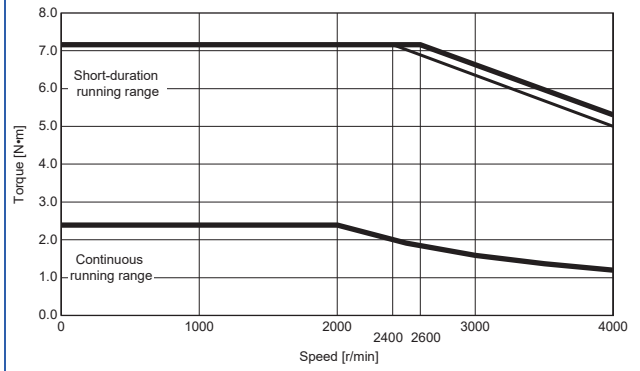
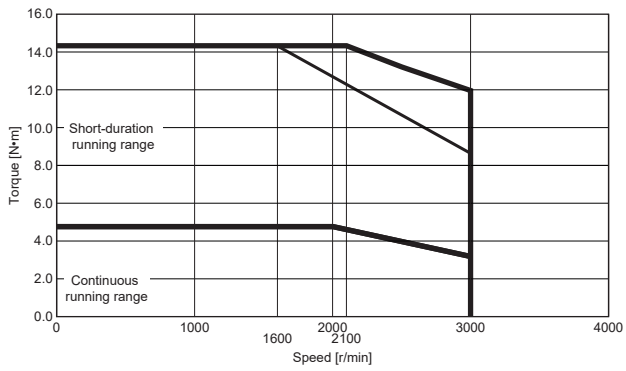
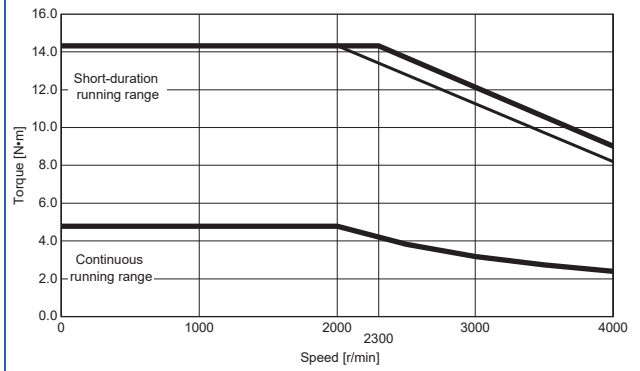
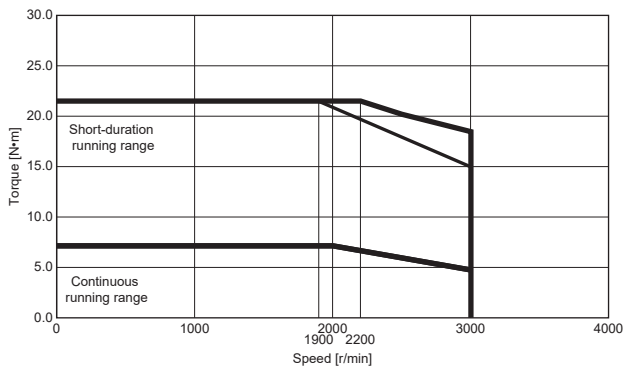
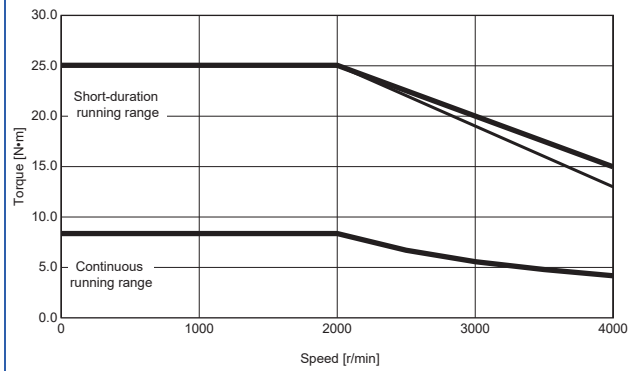


HG-SR421

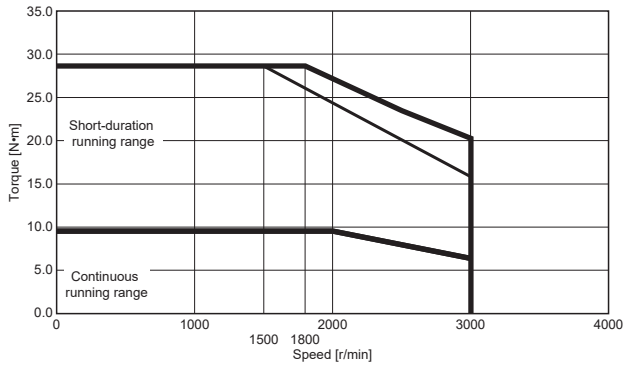


HK-ST7024W

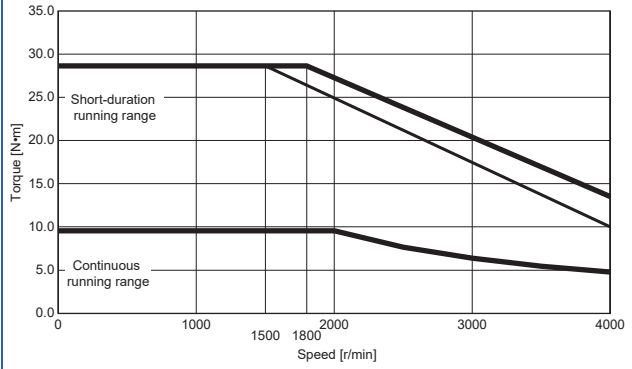


HG-SR52**HK-ST52W****HG-SR102****HK-ST102W****HG-SR152****HK-ST172W**

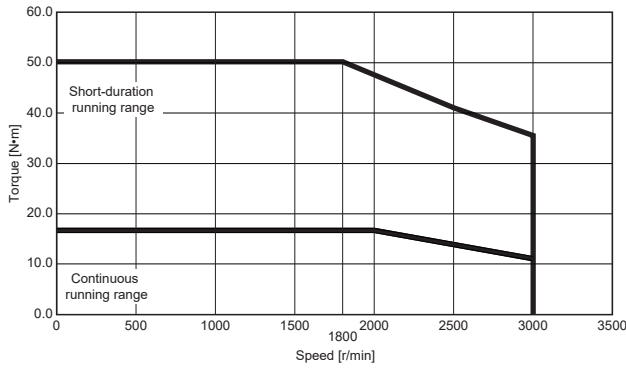
HG-SR202



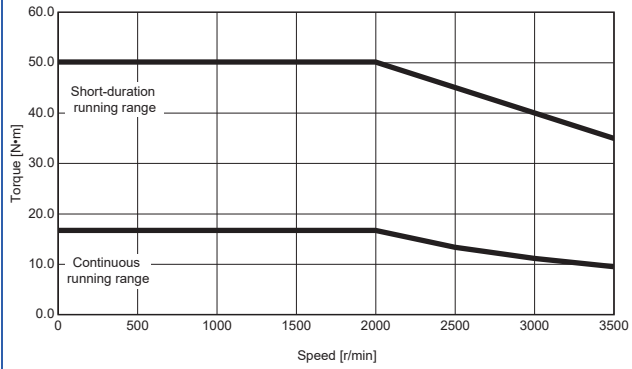
HK-ST202W



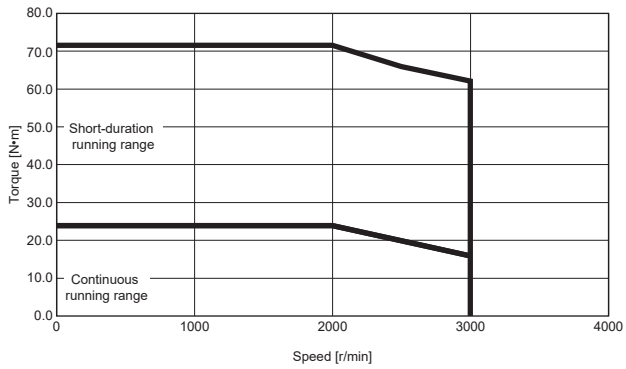
HG-SR352



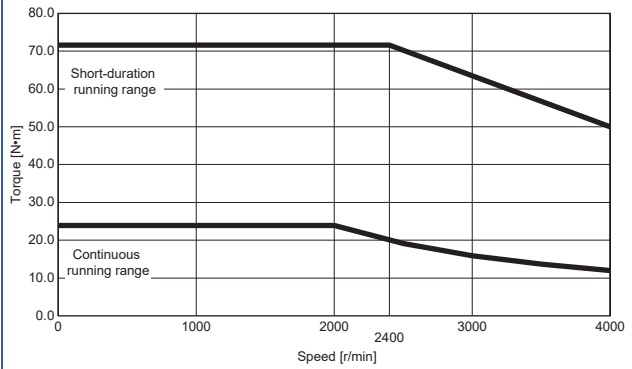
HK-ST352W



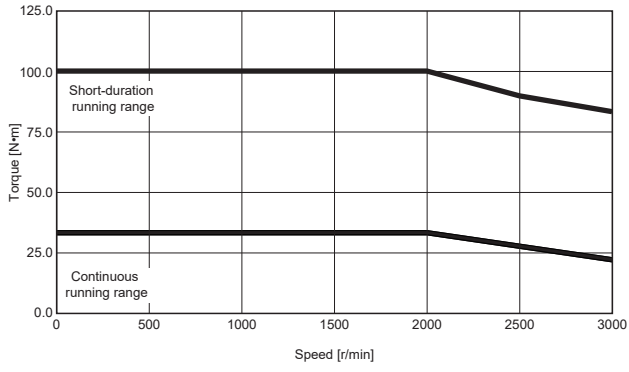
HG-SR502



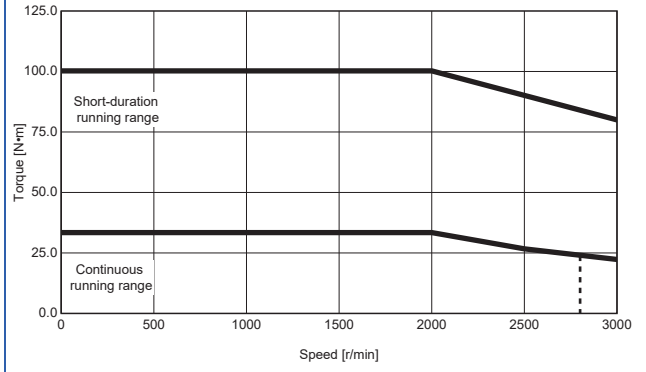
HK-ST502W



HG-SR702

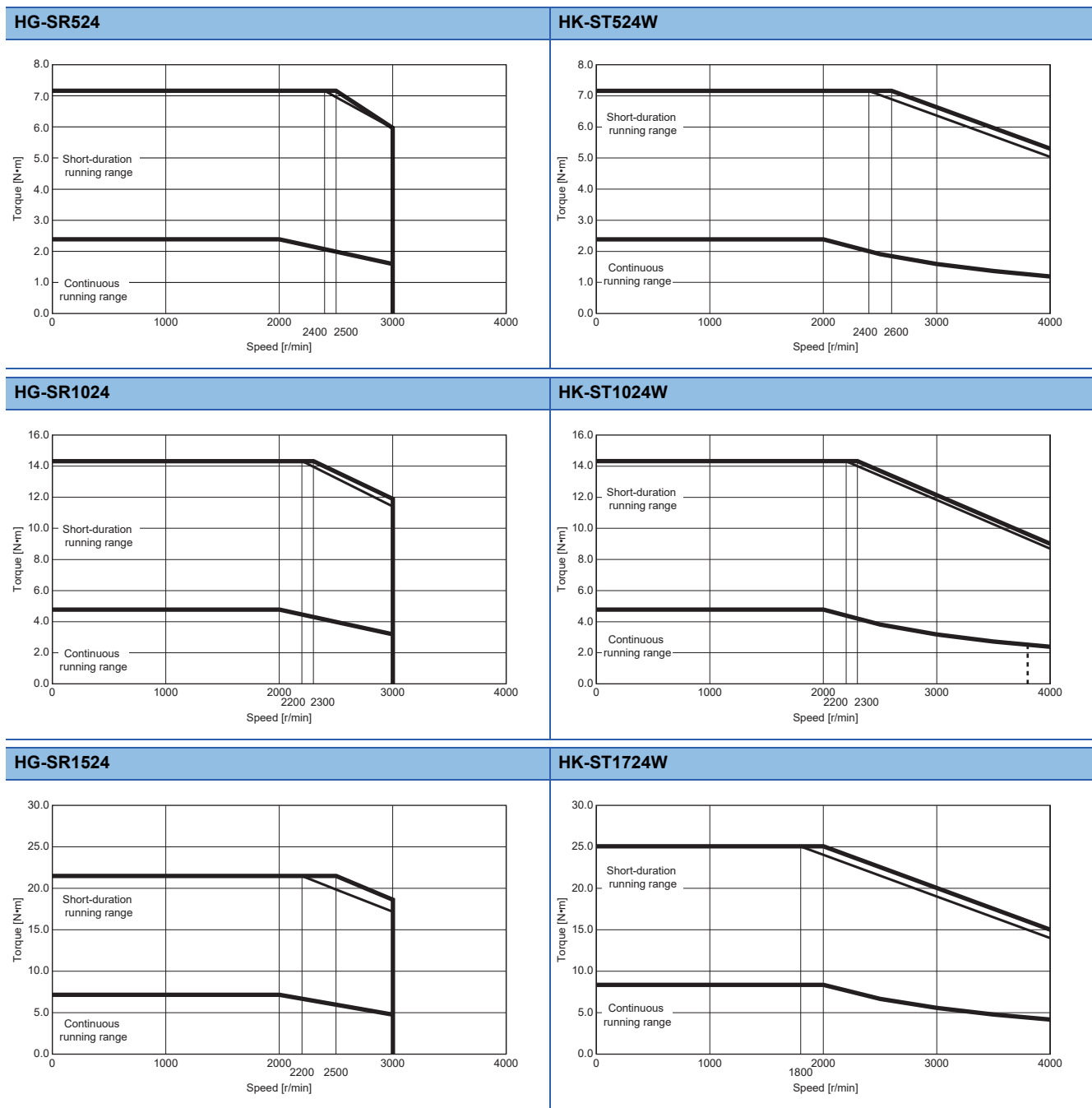


HK-ST702W

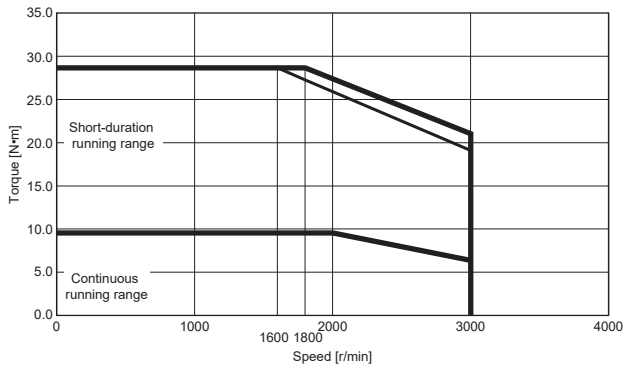


■When connected with 400 V servo amplifier

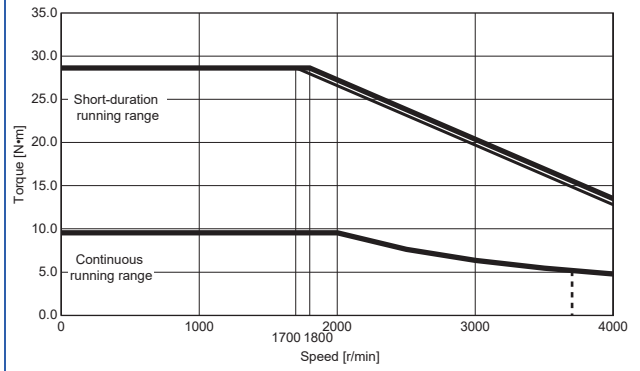
When the power supply input of the servo amplifier is 3-phase 400 V AC, the torque characteristic is indicated by the heavy line. Parts using a narrow line describe the torque characteristic for 3-phase 380 V AC.



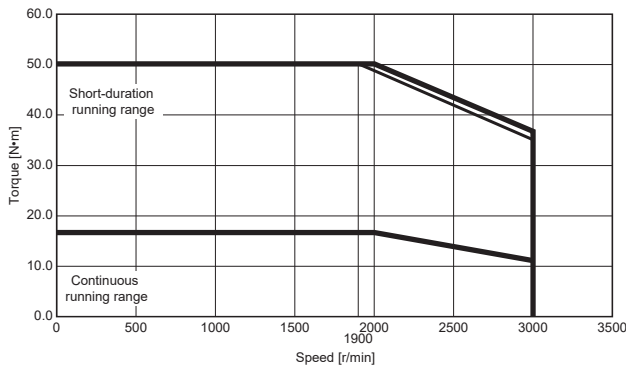
HG-SR2024



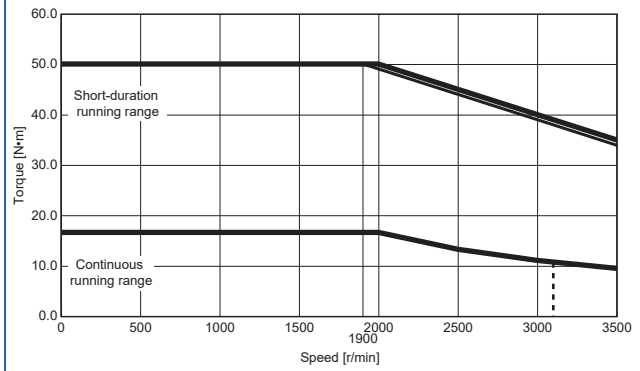
HK-ST2024W



HG-SR3524

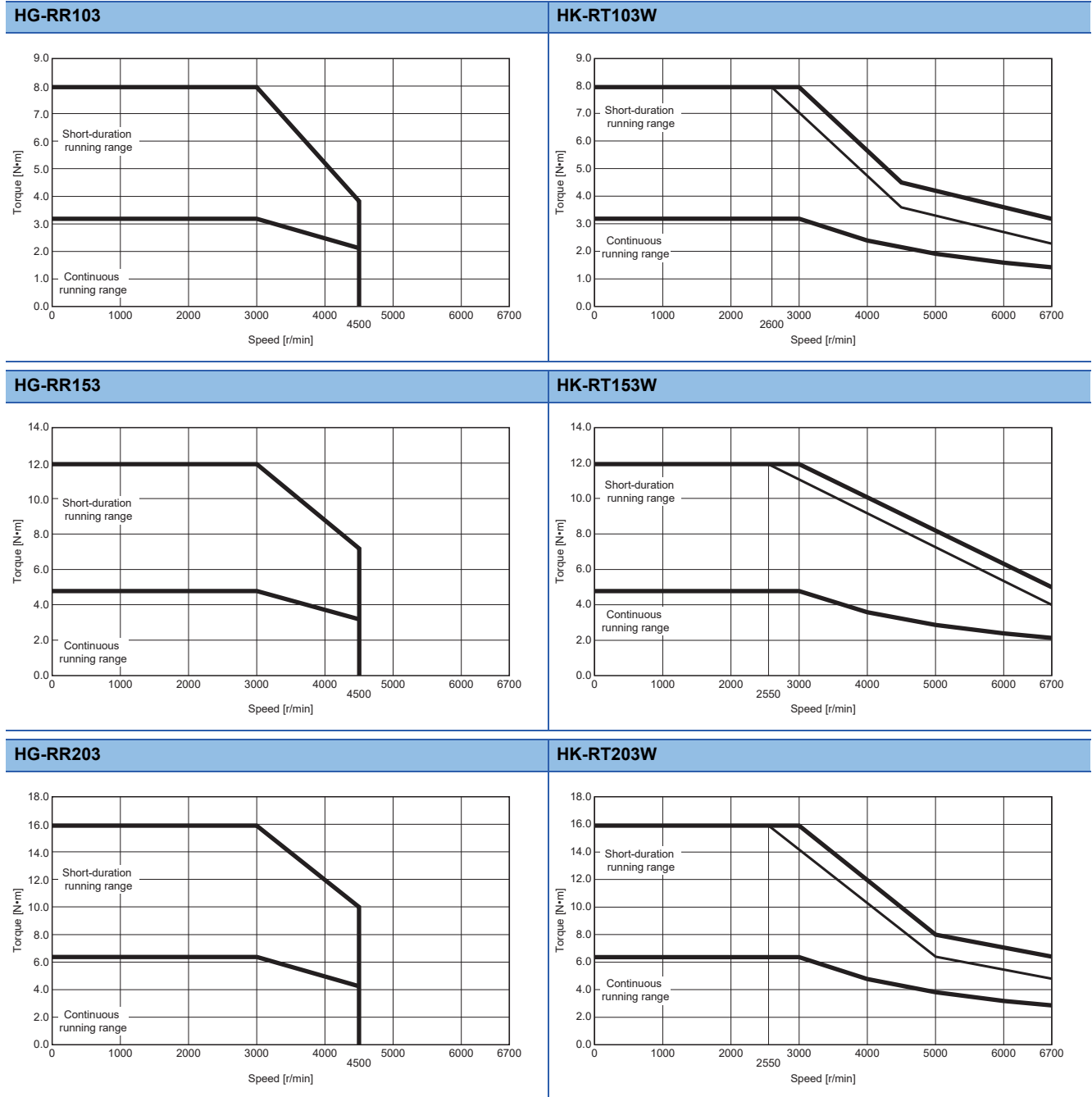


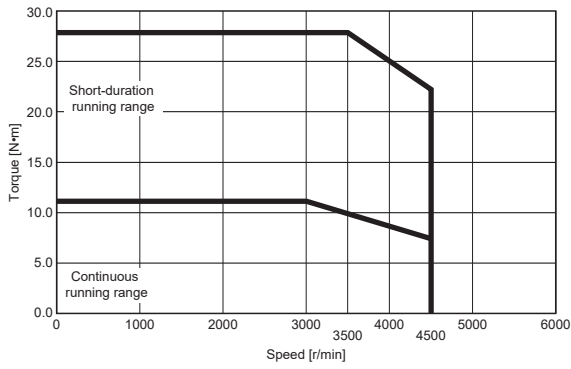
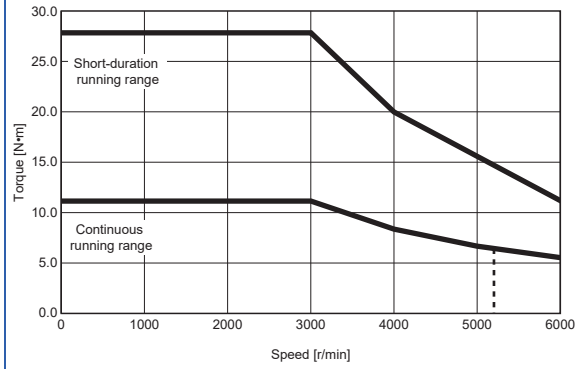
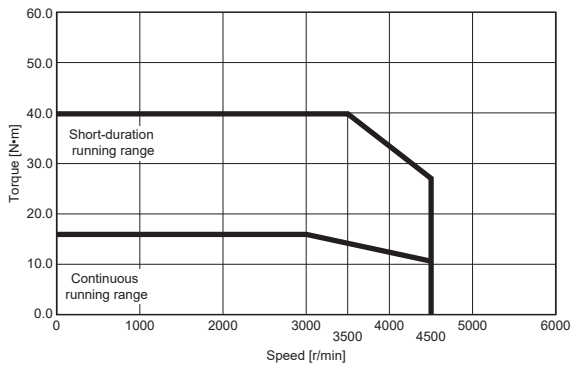
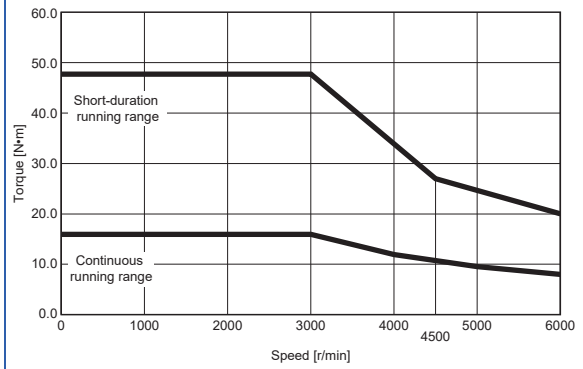
HK-ST3524W



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.



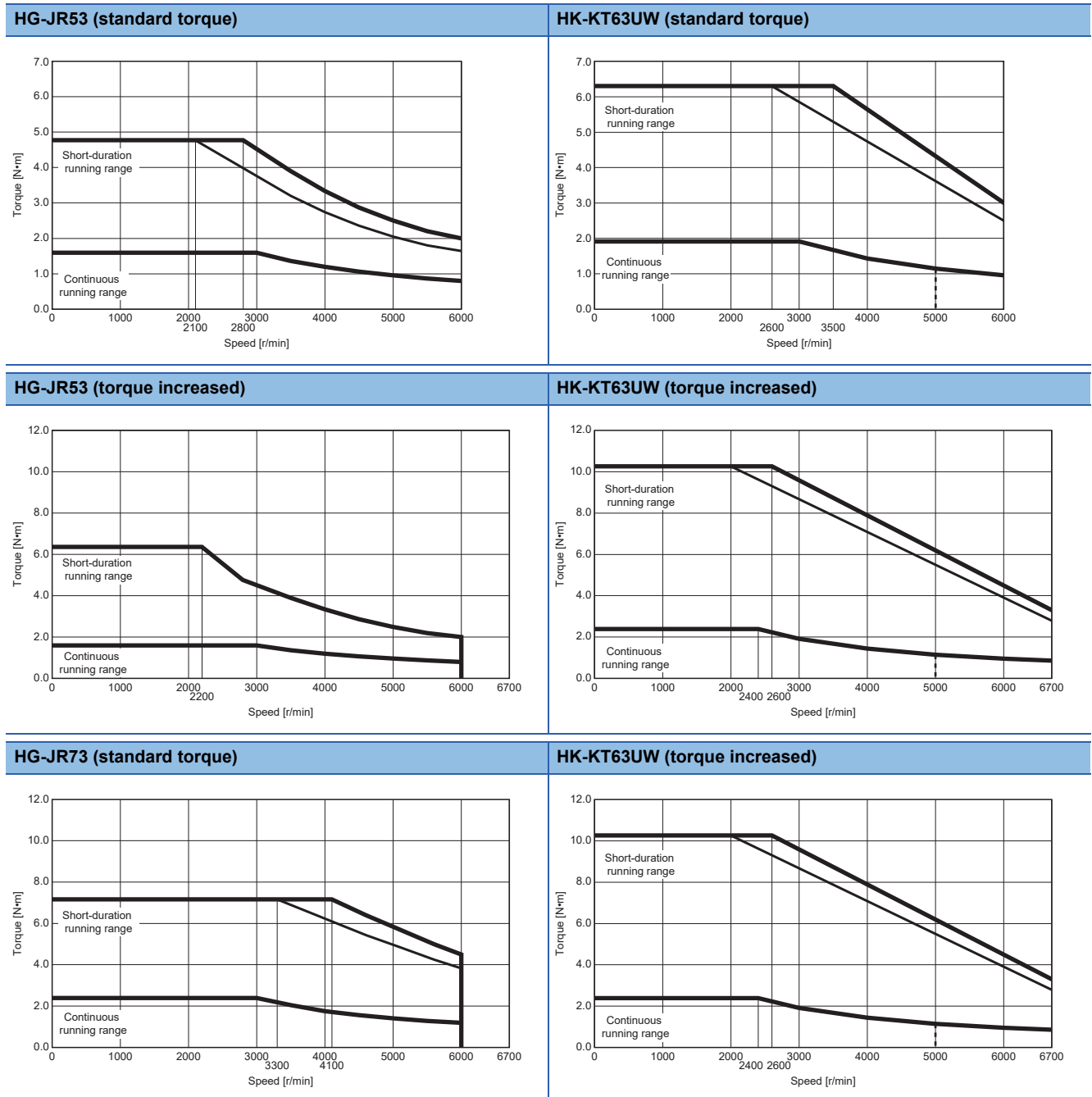
HG-RR353**HK-RT353W****HG-RR503****HK-RT503W**

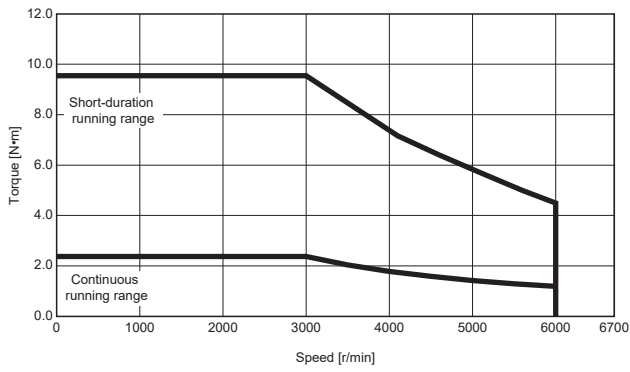
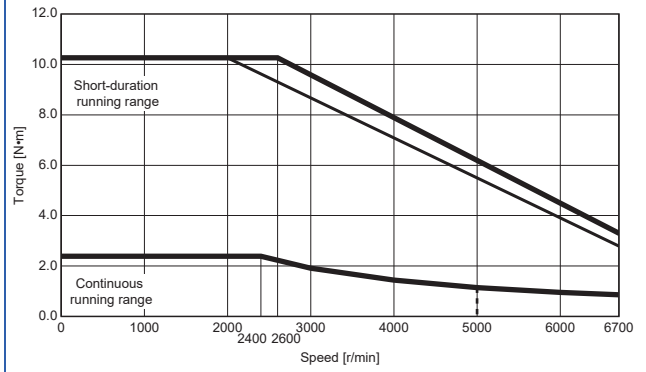
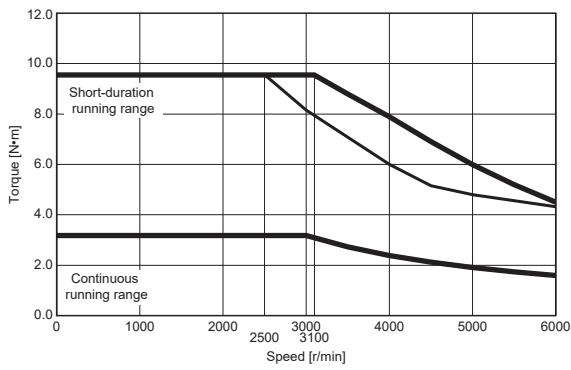
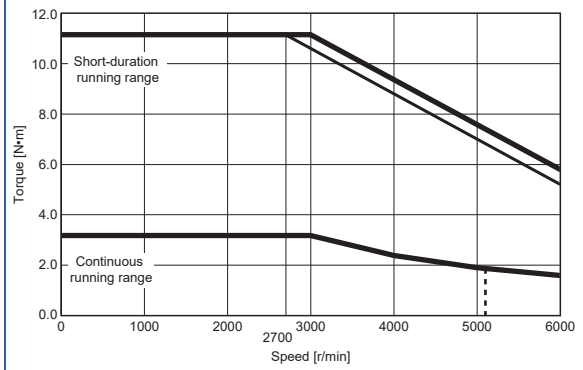
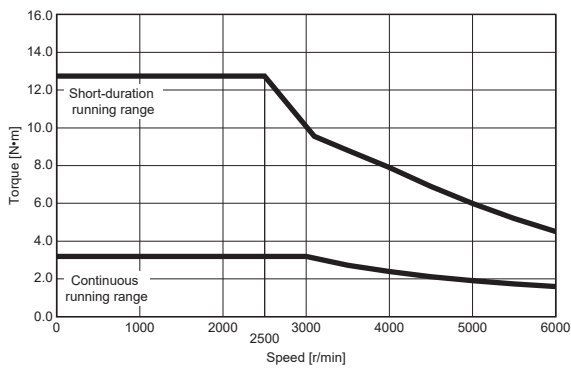
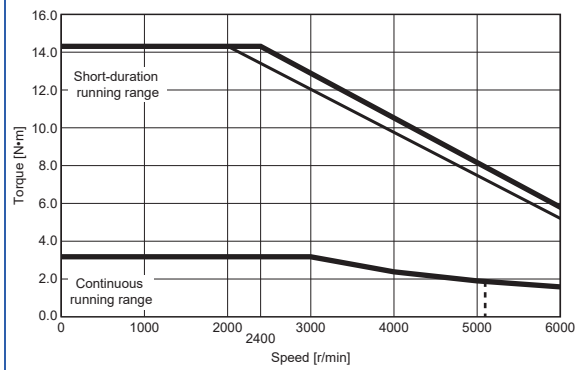
Comparison of HG-JR_ and HK-KT_/HK-ST_

■ When connected with 200 V servo amplifier

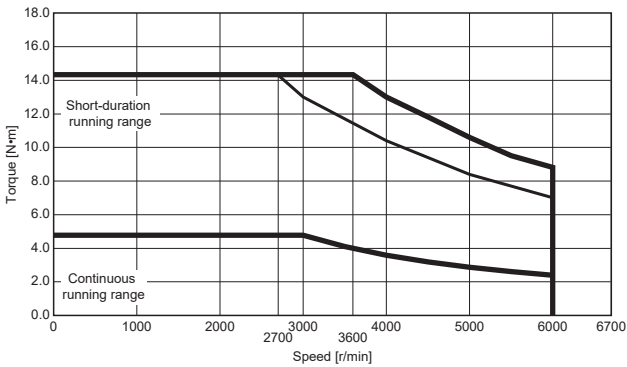
When the power supply input of the servo amplifier is 3-phase 200 V AC or 1-phase 200 V AC, the torque characteristic is indicated by the heavy line.

Parts using a narrow line describe the torque characteristic for 1-phase 200 V AC.

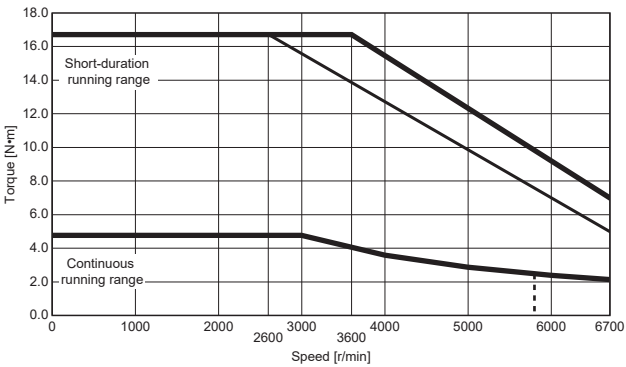


HG-JR73 (torque increased)**HK-KT63UW (torque increased)****HG-JR103 (standard torque)****HK-KT103UW (standard torque)****HG-JR103 (torque increased)****HK-KT103UW (torque increased)**

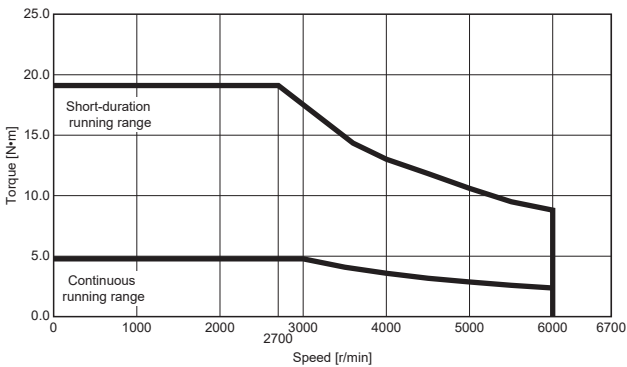
HG-JR153 (standard torque)



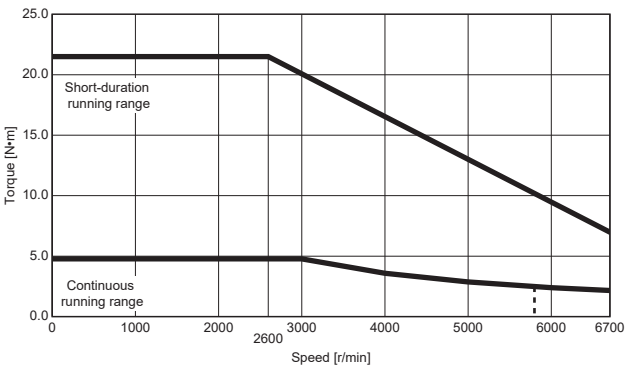
HK-KT153W (standard torque)



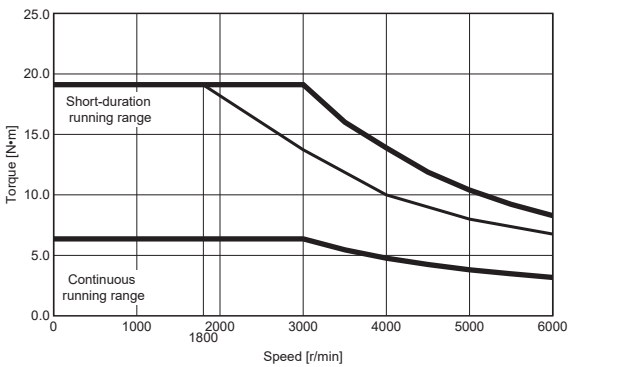
HG-JR153 (torque increased)



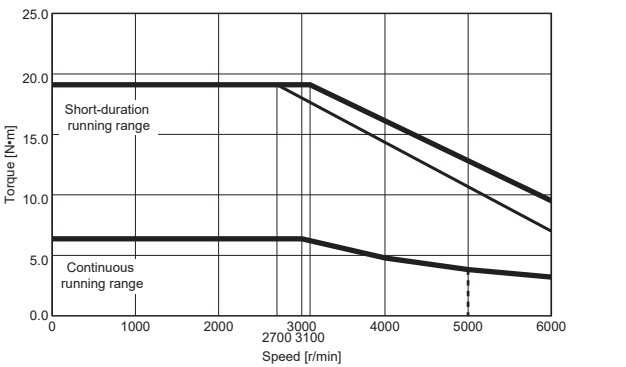
HK-KT153W (torque increased)



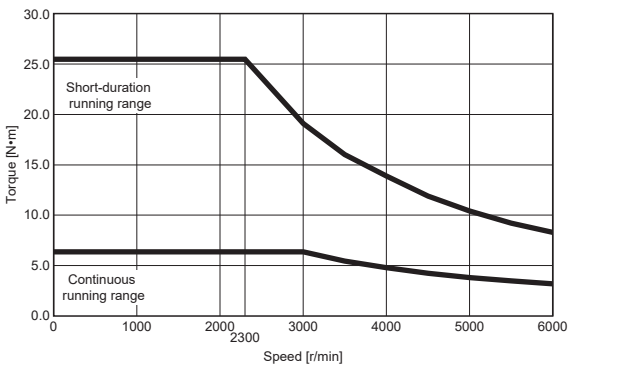
HG-JR203 (standard torque)



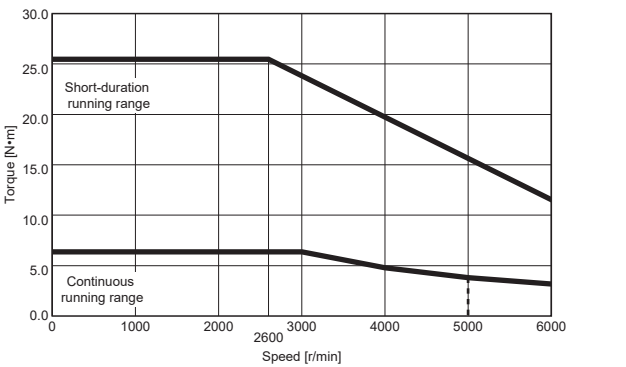
HK-KT203W (standard torque)



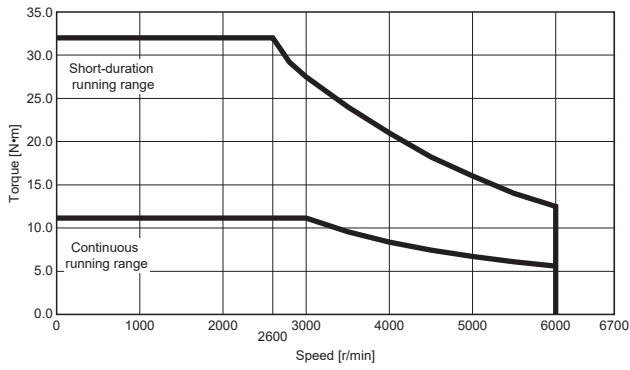
HG-JR203 (torque increased)



HK-KT203W (torque increased)

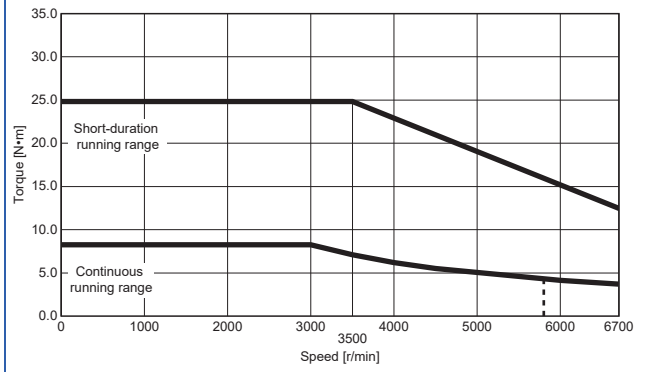


HG-JR353 (standard torque)

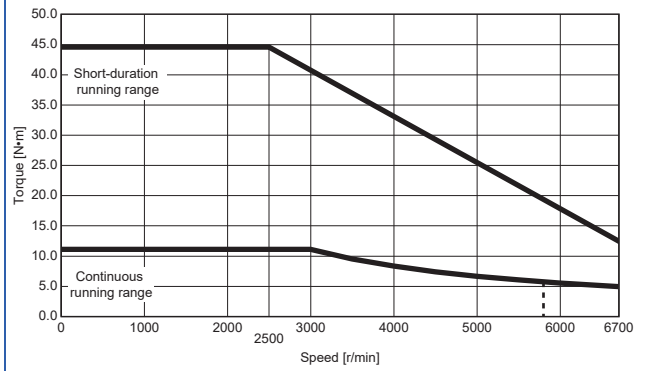


HK-ST353W

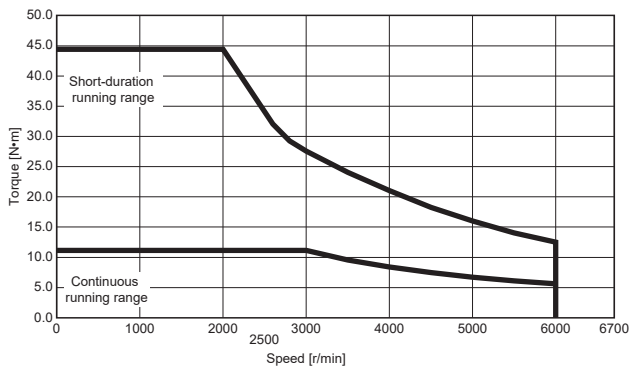
Standard torque



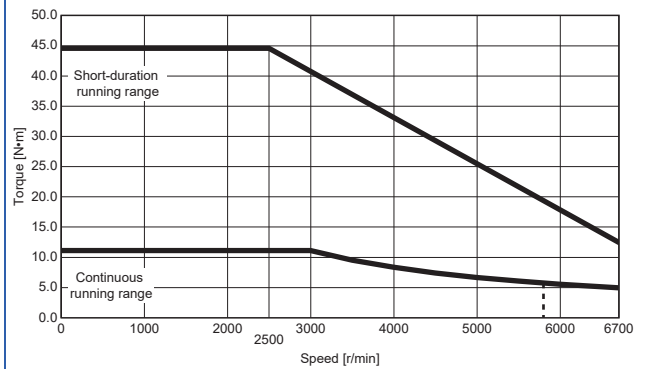
Torque increased



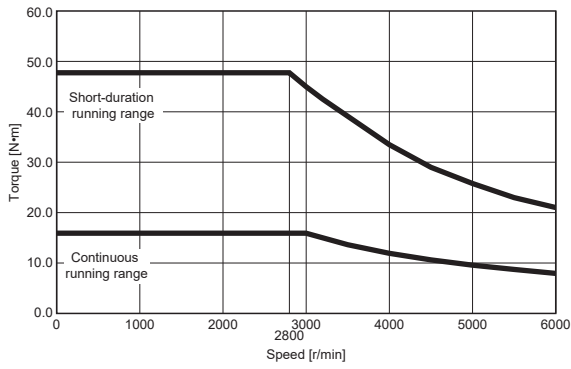
HG-JR353 (torque increased)



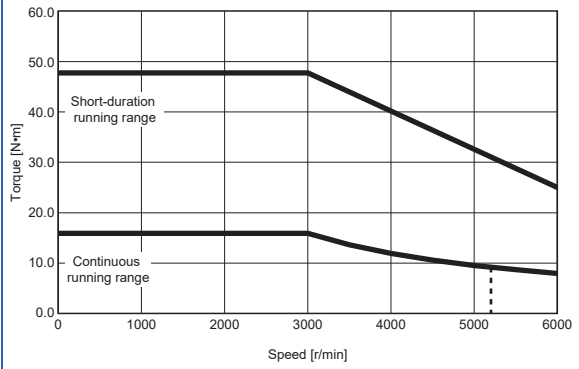
HK-ST353W (torque increased)



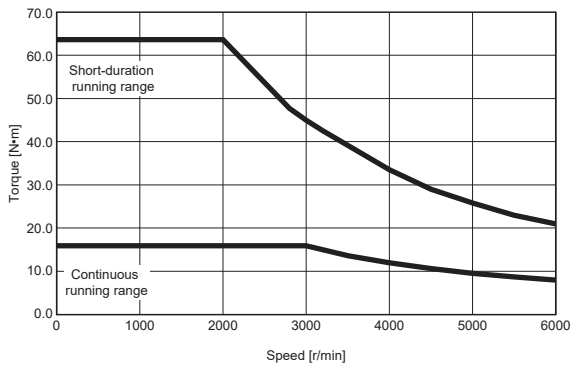
HG-JR503 (standard torque)



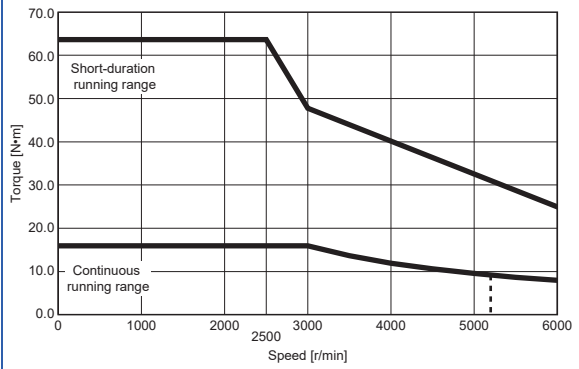
HK-ST503W (standard torque)



HG-JR503 (torque increased)



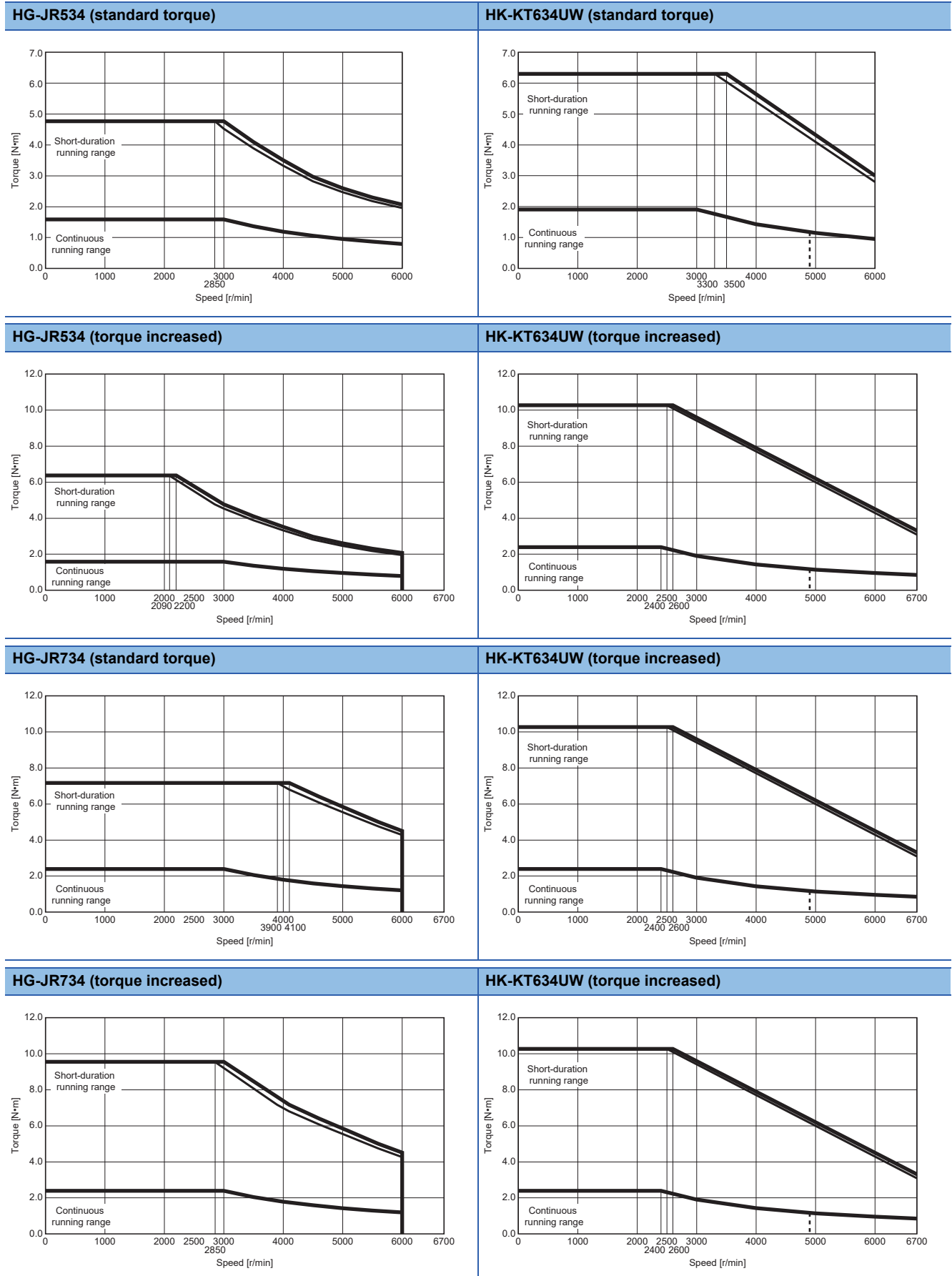
HK-ST503W (torque increased)



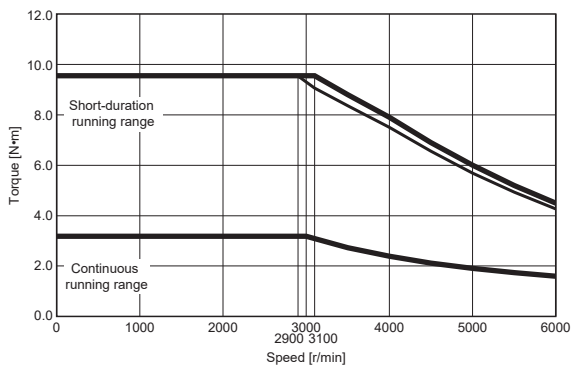
■ When connected with 400 V servo amplifier

When the power supply input of the servo amplifier is 3-phase 400 V AC, the torque characteristic is indicated by the heavy line.

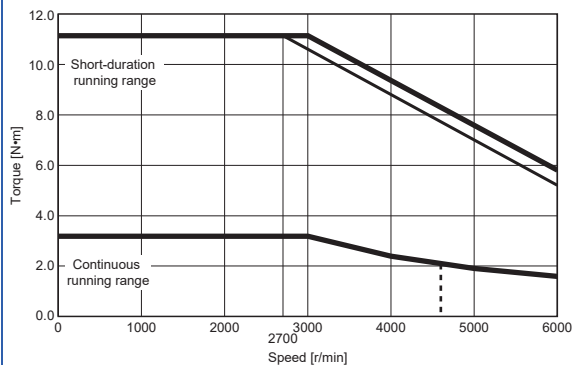
Parts using a narrow line describe the torque characteristic for 3-phase 380 V AC.



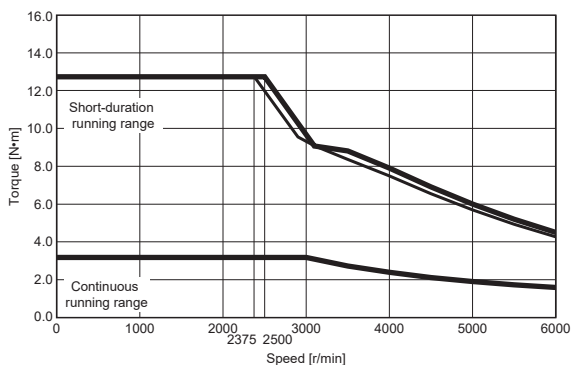
HG-JR1034 (standard torque)



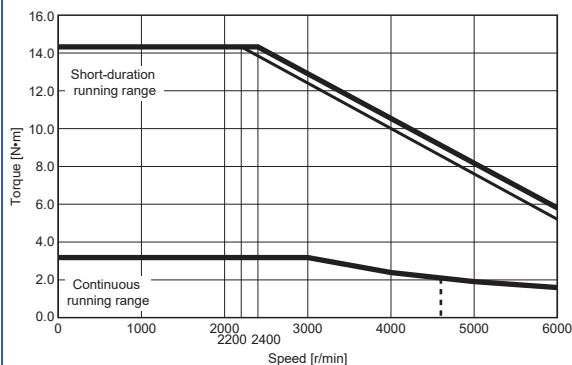
HK-KT1034UW (standard torque)



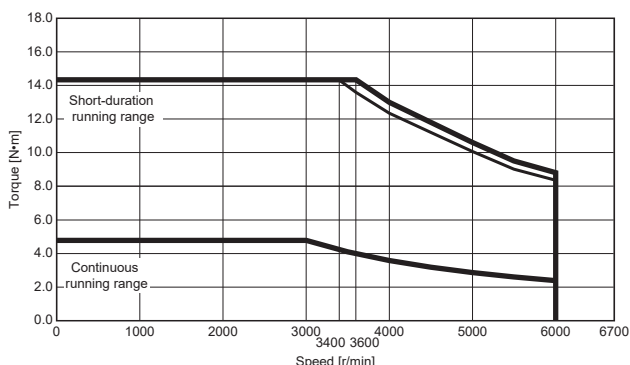
HG-JR1034 (torque increased)



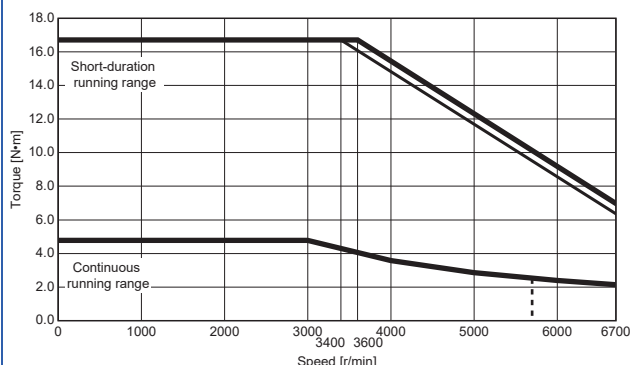
HK-KT1034UW (torque increased)



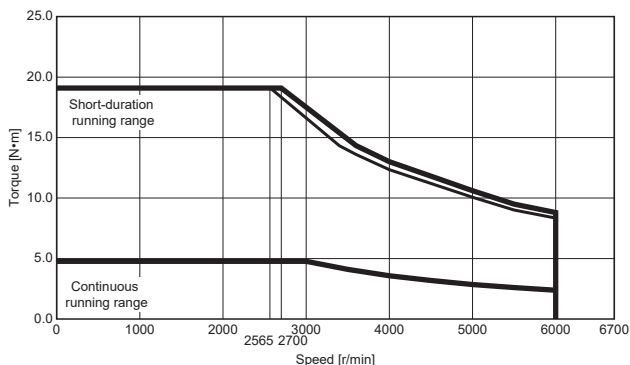
HG-JR1534 (standard torque)



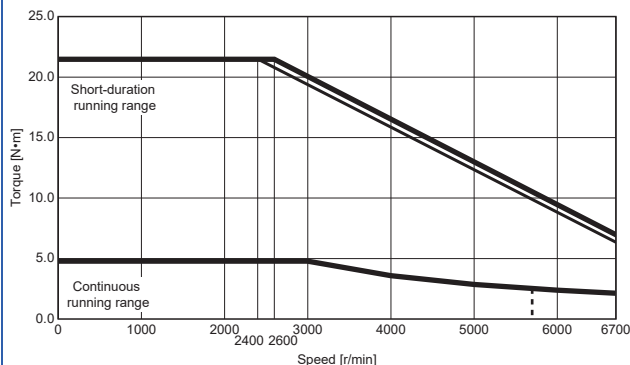
HK-KT1534W (standard torque)



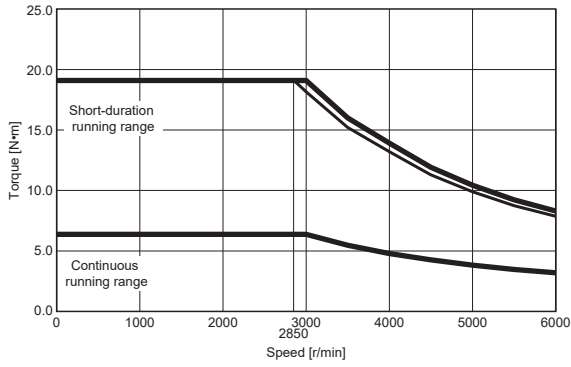
HG-JR1534 (torque increased)



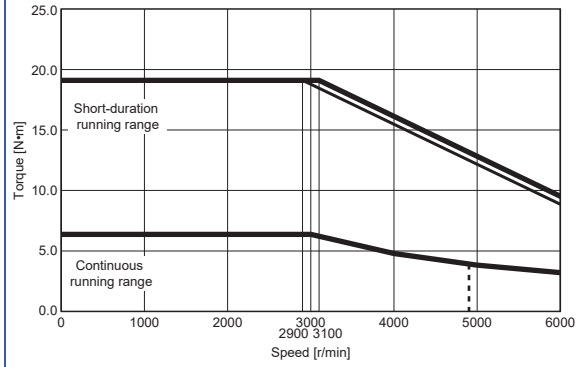
HK-KT1534W (torque increased)



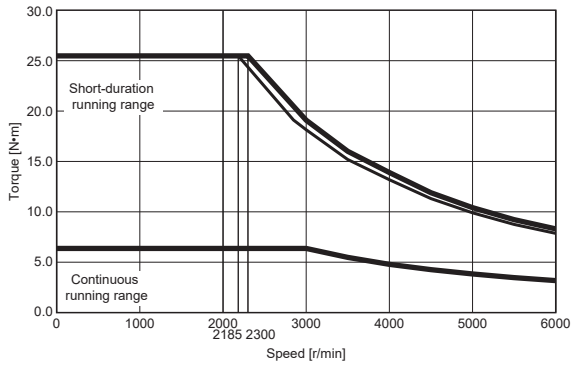
HG-JR2034 (standard torque)



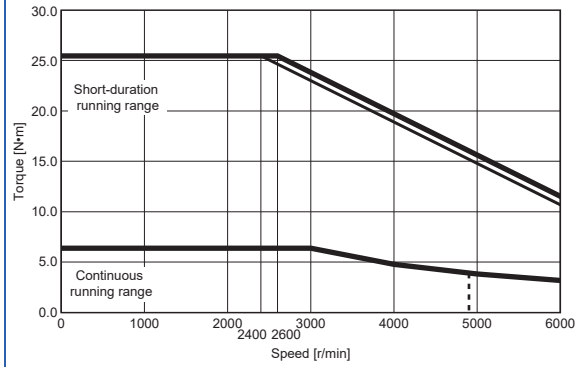
HK-KT2034W (standard torque)



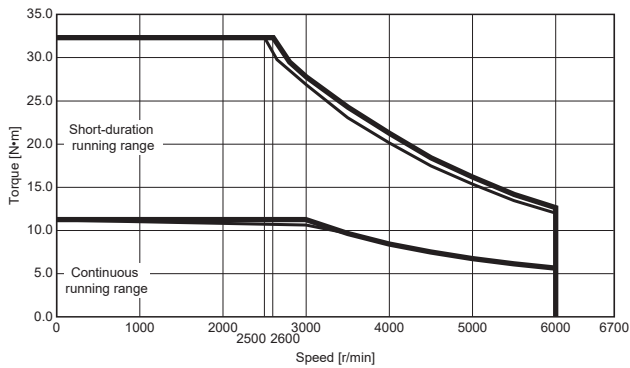
HG-JR2034 (torque increased)



HK-KT2034W (torque increased)

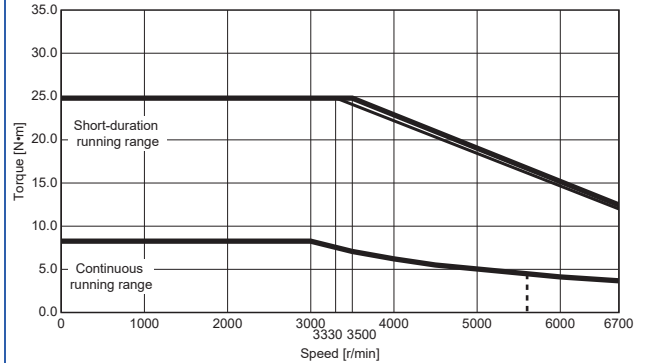


HG-JR3534 (standard torque)

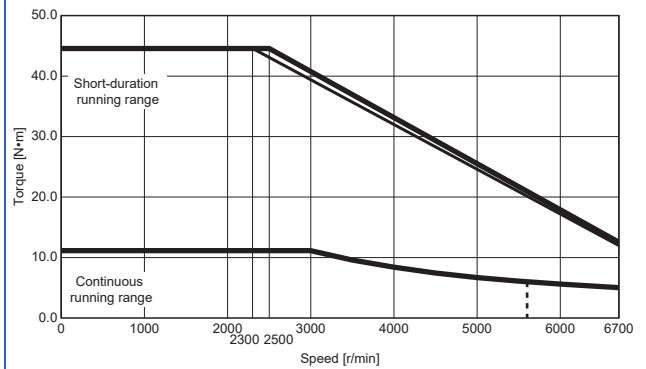


HK-ST3534W

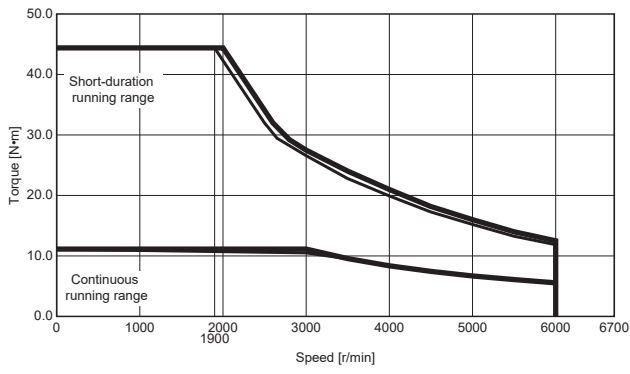
Standard torque



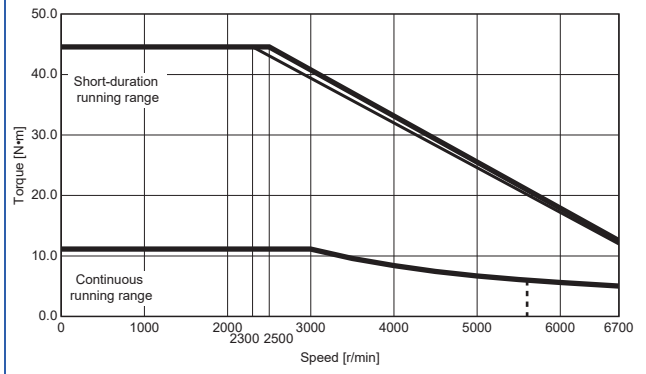
Torque increased



HG-JR3534 (torque increased)



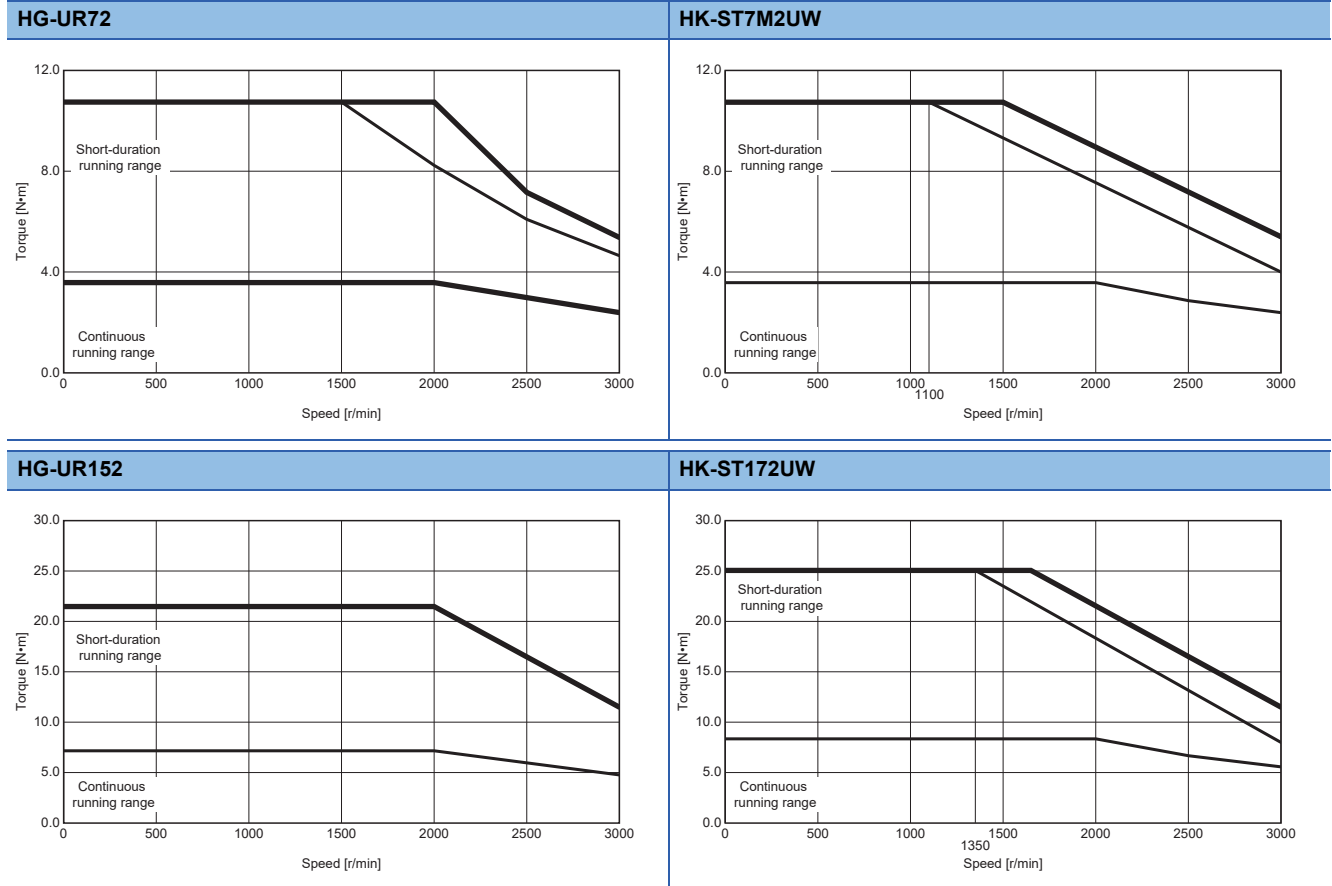
HK-ST3534W (torque increased)



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.



PART 6

Review on Replacement of Optional Peripheral Equipment

12 COMPARISON TABLE OF REGENERATIVE OPTION COMBINATIONS

13 COMPARISON TABLE OF CABLE OPTION COMBINATIONS

14 COMPARISON OF POWER SUPPLY WIRE SIZES

15 ABSOLUTE POSITION ENCODER BATTERY

16 COMPARISON TABLE OF EMC FILTER COMBINATIONS (RECOMMENDED)

17 POWER FACTOR IMPROVING DC REACTOR AND POWER FACTOR IMPROVING AC REACTOR

18 SETUP SOFTWARE

12 COMPARISON TABLE OF REGENERATIVE OPTION COMBINATIONS

Point

The MR-J5-_B_/MR-J5-_B_ provide the new regenerative options shown in the table below.
 When an MR-J4-_B_/MR-J4W_-_B regenerative resistor is used as it is with a motor combined, an alarm may occur.
 Be sure to use the MR-J5-_B_/MR-J5W_-_B in combination with the regenerative resistor for the MR-J5-_B_/MR-J5W_-_B.
 Do not use regenerative options newly provided by the MR-J5-_B_/MR-J5W_-_B with the MR-J4-_B_/MR-J4W_-_B because use of them causes a servo amplifier malfunction.

List of new regenerative options

Servo amplifier model	Regenerative option MR-RB	
MR-J5-700B(-RJ)	3Z	5Z
MR-J5-350B4(-RJ)	3Y-4	5Y-4

12.1 Regenerative Options 200 V Class

Combinations of MR-J4-_B_/MR-J4W_-_B and regenerative options and regenerative power

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-J4-10B(-RJ)	—	30	—	—	—	—	—	—	—	—	—	—
MR-J4-20B(-RJ)	10	30	100	—	—	—	—	—	—	—	—	—
MR-J4-40B(-RJ)	10	30	100	—	—	—	—	—	—	—	—	—
MR-J4-60B(-RJ)	10	30	100	—	—	—	—	—	—	—	—	—
MR-J4-70B(-RJ)	20	30	100	—	—	—	—	300	—	—	—	—
MR-J4-100B(-RJ)	20	30	100	—	—	—	—	300	—	—	—	—
MR-J4-200B(-RJ)	100	—	—	—	300	—	—	—	—	500	—	—
MR-J4-350B(-RJ)	100	—	—	—	—	300	—	—	—	—	500	—
MR-J4-500B(-RJ)	130	—	—	—	—	—	300	—	—	—	—	500
MR-J4-700B(-RJ)	170	—	—	—	—	—	300	—	—	—	—	500
MR-J4W2-22B	20	—	—	100	—	—	—	—	—	—	—	—
MR-J4W2-44B	20	—	—	100	—	—	—	—	—	—	—	—
MR-J4W2-77B	100	—	—	—	—	300	—	—	—	—	—	—
MR-J4W2-1010B	100	—	—	—	—	300	—	—	—	—	—	—
MR-J4W3-222B	30	—	—	100	—	—	—	—	300	—	—	—
MR-J4W3-444B	30	—	—	100	—	—	—	—	300	—	—	—

*1 Always install a cooling fan.

Combinations of MR-J5-_B_/MR-J5W_-_B and regenerative options and regenerative power



Regarding the MR-J4-_B_/MR-J4W_-_B, changed items 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-J5-10B(-RJ)	—	30	—	—	—	—	—	—	—	—	—	—	—
MR-J5-20B(-RJ)	10	30	100	—	—	—	—	—	—	—	—	—	—
MR-J5-40B(-RJ)	10	30	100	—	—	—	—	—	—	—	—	—	—
MR-J5-60B(-RJ)	10	30	100	—	—	—	—	—	—	—	—	—	—
MR-J5-70B(-RJ)	30	—	—	■100	—	—	—	—	■300	—	—	—	—
MR-J5-100B(-RJ)	30	—	—	■100	—	—	—	—	■300	—	—	—	—
MR-J5-200B(-RJ)	100	—	—	—	300	—	—	—	—	500	—	—	—
MR-J5-350B(-RJ)	100	—	—	—	—	300	—	—	—	—	500	—	—
MR-J5-500B(-RJ)	130	—	—	—	—	—	300	—	—	—	—	500	—
MR-J5-700B(-RJ)	170	—	—	—	—	—	—	■300	—	—	—	—	■500
MR-J5W2-22B	20	—	—	100	—	—	—	—	—	—	—	—	—
MR-J5W2-44B	20	—	—	100	—	—	—	—	—	—	—	—	—
MR-J5W2-77B	100	—	—	—	—	300	—	—	—	—	—	—	—
MR-J5W2-1010B	100	—	—	—	—	300	—	—	—	—	—	—	—
MR-J5W3-222B	30	—	—	100	—	—	—	—	300	—	—	—	—
MR-J5W3-444B	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

12.2 Regenerative Options 400 V Class

Combinations of MR-J4-_B_ and regenerative options and regenerative power

List of regenerative options

Servo amplifier model	Built-in regenerative resistor [W]	Permissible regenerative power of regenerative option [W] MR-RB			
		1H-4 [82Ω]	3M-4 [120Ω] *1	3G-4 [47Ω] *1	5G-4 [47Ω] *1
MR-J4-60B4(-RJ)	15	100	300	—	—
MR-J4-100B4(-RJ)	15	100	300	—	—
MR-J4-200B4(-RJ)	100	—	—	300	500
MR-J4-350B4(-RJ)	100	—	—	300	500

*1 Always install a cooling fan.

Combinations of MR-J5-_B_ and regenerative options and regenerative power



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]	5G-4 [47 Ω]	3Y-4 [36 Ω]	5Y-4 [36 Ω]
MR-J5-60B4(-RJ)	15	100	300	—	—	—	—
MR-J5-100B4(-RJ)	15	100	300	—	—	—	—
MR-J5-200B4(-RJ)	100	—	—	300	500	—	—
MR-J5-350B4(-RJ)	120	—	—	—	—	■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

13 COMPARISON TABLE OF CABLE OPTION COMBINATIONS


Point

Use the following items dedicated to the MR-J5-__B_/MR-J5W-__B_.

- Encoder cable
- Servo motor power cable
- Power connector set (servo motor-side power connector)
- Electromagnetic brake cable
- Junction battery cable

For details, refer to the following manuals.

 MR-J5 User's Manual (Hardware)

 MR-J5 Partner's Encoder User's Manual
User's Manual for each servo motor

13.1 Changes from MR-J4-_B_ to MR-J5-_B_

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
		MR-J3BUS_M_-		_ : Flex life
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.
Servo amplifier power connector (up 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)	
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)	
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)	
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).

13.2 Changes from MR-J4W_ _B to MR-J5W_ _B

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).

14 COMPARISON OF POWER SUPPLY WIRE SIZES

14.1 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.

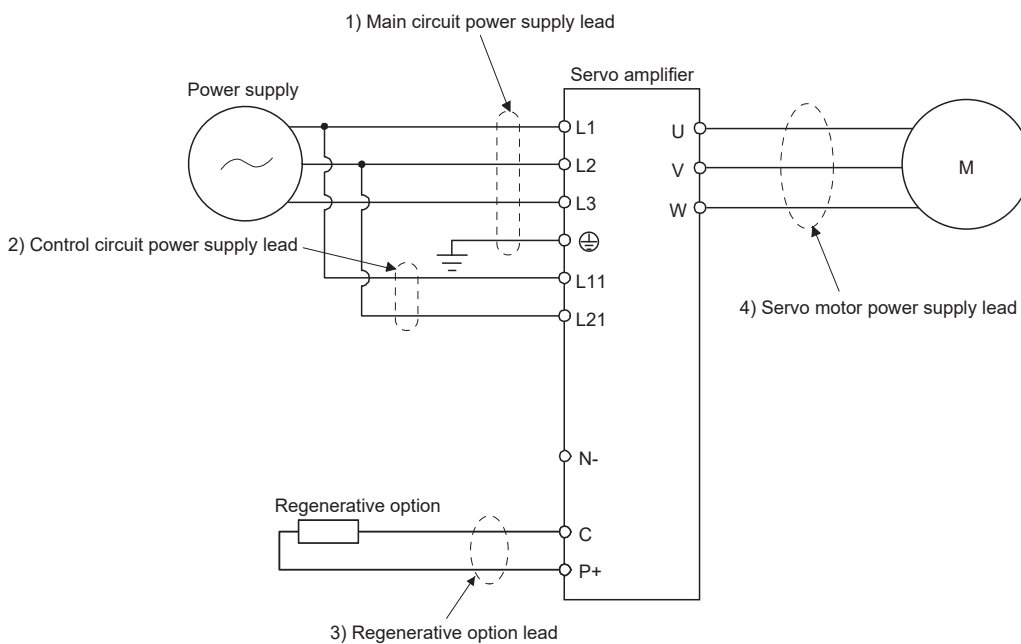
Selection requirements for the wire size are as follows.

- Construction requirements: Single wire set in midair
- Wiring length: 30 m or less

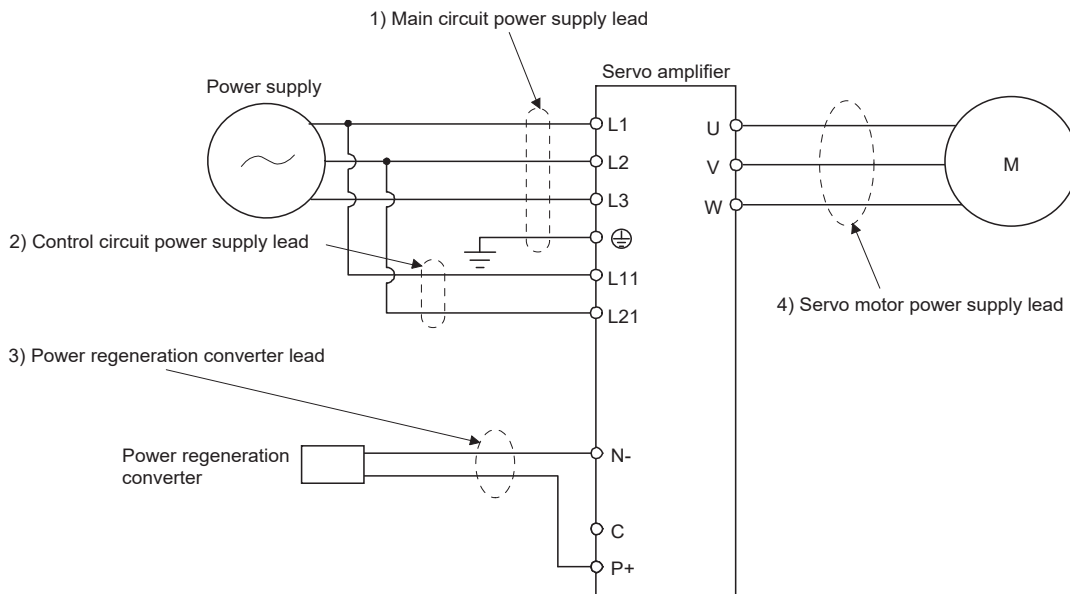
Selection example of wires

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-_B/MR-J4W_-_B

Servo amplifier	Wire [mm ²] *1			
	1) L1/L2/L3/⊖ *5	2) L11/L21	3) P+/C	4) U/V/W/E *3
MR-J4-10B(-RJ)	2 (AWG 14)	1.25 to 2 (AWG 16 to 14) *4	2 (AWG 14)	AWG 18 to 14 *4
MR-J4-20B(-RJ)				
MR-J4-40B(-RJ)				
MR-J4-60B(-RJ)				
MR-J4-70B(-RJ)				
MR-J4-100B(-RJ)				
MR-J4-200B(-RJ) (3-phase power supply input)	3.5 (AWG 12)			AWG 16 to 10
MR-J4-200B(-RJ) (1-phase power supply input)				
MR-J4-350B(-RJ)				
MR-J4-500B(-RJ) *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-J4-700B(-RJ) *2				
MR-J4W2-22B	2 (AWG 14)			AWG 18 to 14
MR-J4W2-44B				
MR-J4W2-77B				
MR-J4W2-1010B				
MR-J4W3-222B				
MR-J4W3-444B				

■MR-J5-_B/MR-J5W_-_B

Servo amplifier	Wire [mm ²] *6			
	1) L1/L2/L3 	2) L11/L21	3) P+/C	4) U/V/W/E *7
MR-J5-10B(-RJ)	2 (AWG 14): a	1.25 to 2 (AWG 16 to 14) *4	2 (AWG 14)	0.75 to 2 (AWG 18 to 14)
MR-J5-20B(-RJ)				
MR-J5-40B(-RJ)				
MR-J5-60B(-RJ)				
MR-J5-70B(-RJ)				
MR-J5-100B(-RJ)				
MR-J5-200B(-RJ) (3-phase power supply input)	3.5 (AWG 12): b			0.75 to 5.5 (AWG 18 to 10)
MR-J5-200B(-RJ) (1-phase power supply input)				
MR-J5-350B(-RJ)				
MR-J5-500B(-RJ)	5.5 (AWG 10): c			0.75 to 8 (AWG 18 to 8)
MR-J5-700B(-RJ)	8 (AWG 8): d			
MR-J5W2-22B	2 (AWG 14): a	2 (AWG 14)		0.75 to 2 (AWG 18 to 14)
MR-J5W2-44B				
MR-J5W2-77B	2 (AWG 14): a			
MR-J5W2-1010B	2 (AWG 14): a			
MR-J5W3-222B	2 (AWG 14): a			
MR-J5W3-444B	2 (AWG 14): a			

- *1 The alphabetical letters in the table indicate the symbols of MR-J4-_B/MR-J4W_-_B 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.

Symbol	MR-J4-_B/MR-J4W_-_B servo amplifier-side crimp terminal				Manufacturer
	Crimp terminal	Applicable tool			
		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		—	—	

- *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-_B/MR-J4W_-_B 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 mm² 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]
*6 The alphabetical letters in the table indicate the symbols of MR-J5-_B/MR-J5W_-_B servo amplifier-side crimp terminals. Refer to the following table for details.

Symbol	MR-J5-_B/MR-J5W_-_B 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	

- *7 The wire size shows applicable size of the MR-J5-_B/MR-J5W_-_B servo amplifier connector and terminal block. For wires connecting to the servo motor, refer to the user's manual of each servo motor.

400 V class

■MR-J4-_B4

Servo amplifier	Wire [mm ²]			
	1) L1/L2/L3/⊖	2) L11/L21	3) P+/C	4) U/V/W/E *1
MR-J4-60B4(-RJ)	2 (AWG 14)	1.25 to 2 (AWG 16 to 14) *2	2 (AWG 14)	AWG 16 to 14
MR-J4-100B4(-RJ)				
MR-J4-200B4(-RJ)				
MR-J4-350B4(-RJ)				

■MR-J5-_B4

Servo amplifier	Wire [mm ²] *3			
	1) L1/L2/L3/⊖	2) L11/L21	3) P+/C	4) U/V/W/E *4
MR-J5-60B4(-RJ)	2 (AWG 14): a	1.25 to 2 (AWG 16 to 14) *2	2 (AWG 14)	0.75 to 2 (AWG 18 to 14)
MR-J5-100B4(-RJ)				
MR-J5-200B4(-RJ)				
MR-J5-350B4(-RJ)				

*1 The wire size shows applicable size of the MR-J4-_B4 servo amplifier connector and terminal block. For wires connecting to the servo motor, refer to the instruction manual of each servo motor.

*2 Use the size of 2 mm² for compliance with the IEC/EN/UL/CSA standard.

*3 The alphabetical letters in the table indicate the symbols of MR-J5-_B4 servo amplifier-side crimp terminals. Refer to the following table for details.

Symbol	MR-J5-_B4 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	

*4 The wire size shows applicable size of the MR-J5-_B4 servo amplifier connector and terminal block. For wires connecting to the servo motor, refer to the user's manual of each servo motor.

14.2 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-_B(-RJ) servo amplifier with the DC power supply input, refer to the "MR-J4-_B(-RJ) Servo Amplifier Instruction Manual".

For selection when using an MR-J5-_B_/MR-J5W-_B 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-J5 User's Manual (Hardware)

■MR-J4-_B_

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-J4-10B(-RJ)	30 A frame 5 A	30 A frame 5 A	240	T	10	300	S-N10 S-T10						
MR-J4-20B(-RJ)					30 A frame 10 A			30 A frame 5 A	15				
MR-J4-40B(-RJ)	30 A frame 15 A	30 A frame 10 A							20				
MR-J4-60B(-RJ)									30 A frame 100B(-RJ) (3-phase power supply input)	30 A frame 15 A	30		
MR-J4-70B(-RJ)											30 A frame 20 A	30 A frame 20 A	40
MR-J4-100B(-RJ) (1-phase power supply input)													30 A frame 30 A
MR-J4-200B(-RJ)											50 A frame 50 A	50 A frame 50 A	
MR-J4-350B(-RJ)									100 A frame 75 A	60 A frame 60 A			150
MR-J4-500B(-RJ)	30 A frame 5 A	30 A frame 5 A									480	10	600
MR-J4-700B(-RJ)					30 A frame 10 A			30 A frame 5 A	15				
MR-J4-100B4(-RJ)			30 A frame 15 A	30 A frame 10 A		25							
MR-J4-200B4(-RJ)					30 A frame 20 A	30 A frame 15 A	35						
MR-J4-350B4(-RJ)				S-N20 *3 S-T21									
						S-N20 S-T21							
						S-N35 S-T35							
						S-N50 S-T50							
						S-N20 S-T21							

■MR-J5-_B_

Servo amplifier	Molded-case circuit breaker *4			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-J5-10B(-RJ)	30 to 125 A frame 5 A	30 to 125 A frame 5 A	240	T	10	300	S-T10
MR-J5-20B(-RJ)	30 to 125 A frame 5 A	30 to 125 A frame 5 A					
MR-J5-40B(-RJ)	30 to 125 A frame 10 A	30 to 125 A frame 5 A					
MR-J5-60B(-RJ)	30 to 125 A frame 15 A	30 to 125 A frame 10 A					
MR-J5-70B(-RJ)	30 to 125 A frame 15 A	30 to 125 A frame 10 A					
MR-J5-100B(-RJ) (3-phase power supply input)	30 to 125 A frame 15 A	30 to 125 A frame 10 A					
MR-J5-100B(-RJ) (1-phase power supply input)	30 to 125 A frame 15 A	30 to 125 A frame 15 A					
MR-J5-200B(-RJ)	30 to 125 A frame 20 A	30 to 125 A frame 20 A					
MR-J5-350B(-RJ)	30 to 125 A frame 30 A	30 to 125 A frame 30 A					
MR-J5-500B(-RJ)	50 to 125 A frame 50 A	50 to 125 A frame 50 A					
MR-J5-700B(-RJ)	100 to 125 A frame 75 A	60 to 125 A frame 60 A	480		150	600	S-T10 S-T21
MR-J5-60B4(-RJ)	30 to 125 A frame 5 A	30 to 125 A frame 5 A					
MR-J5-100B4(-RJ)	30 to 125 A frame 10 A	30 to 125 A frame 5 A					
MR-J5-200B4(-RJ)	30 to 125 A frame 15 A	30 to 125 A frame 10 A					
MR-J5-350B4(-RJ)	30 to 125 A frame 20 A	30 to 125 A frame 15 A					
					10		S-T10
					15		
					25		
					35		S-T21

*1 To make the servo amplifier comply with the IEC/EN/UL/CSA standard, refer to "MR-J4-_B_(-RJ) 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 S-N18 can be used when auxiliary contact is not required.

*4 To make the servo amplifier comply with the IEC/EN/UL/CSA standard, refer to the following manual.

MR-J5 User's Manual (Hardware)

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. Those that are used in the existing system 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-J4-10B(-RJ) MR-J5-10B(-RJ)	200 to 240	3-phase	MMP-T32	240	1.6	50
MR-J4-20B(-RJ) MR-J5-20B(-RJ)					2.5	
MR-J4-40B(-RJ) MR-J5-40B(-RJ)					4	
MR-J4-60B(-RJ) MR-J5-60B(-RJ)					6.3	
MR-J4-70B(-RJ) MR-J5-70B(-RJ)					6.3	
MR-J4-100B(-RJ) MR-J5-100B(-RJ)					8	
MR-J4-200B(-RJ) MR-J5-200B(-RJ)					18	
MR-J4-350B(-RJ) MR-J5-350B(-RJ)					25	25
MR-J4-500B(-RJ) MR-J5-500B(-RJ)					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 in the existing system.

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-J4-10B(-RJ) MR-J5-10B(-RJ)	30 A frame 5 A	240	1	300	1	250						
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)												
MR-J4-60B4(-RJ) MR-J5-60B4(-RJ)							30 A frame 5 A	480	1	600	1	600
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-J4-350B4(-RJ) MR-J5-350B4(-RJ)												

*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-_B

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-_B

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-_B

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-_B

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.

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 in the existing system.

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-J4W2-22B MR-J5W2-22B	200 to 240	3-phase	MMP-T32	240	6.3	50
MR-J4W2-44B MR-J5W2-44B					8	
MR-J4W2-77B MR-J5W2-77B					13	
MR-J4W2-1010B MR-J5W2-1010B					18	
MR-J4W3-222B MR-J5W3-222B					8	
MR-J4W3-444B MR-J5W3-444B					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_-_B

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-J4W2-22B	50 A frame 5 A ^{*1}	240	1	300	1	250
MR-J4W2-44B						
MR-J4W2-77B						
MR-J4W2-1010B						
MR-J4W3-222B						
MR-J4W3-444B						

■MR-J5W_-_B

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-J4W2-22B	30 A frame 5 A	240	1	300	1	250
MR-J4W2-44B						
MR-J4W2-77B						
MR-J4W2-1010B						
MR-J4W3-222B						
MR-J4W3-444B						

- *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.


15 ABSOLUTE POSITION ENCODER BATTERY

Point

When constructing an absolute position detection system with the MR-J5-_B_/MR-J5W_-_B, 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)

MEMO

16 COMPARISON TABLE OF EMC FILTER COMBINATIONS (RECOMMENDED)

Point

For the MR-J5-_B_/MR-J5W_-_B, the EMC filter selection is made considering multiple axes. Additionally, recommended products differ between the MR-J5-_B_/MR-J5W_-_B and MR-J4-_B_/MR-J4W_-_B. For the MR-J5-_B_/MR-J5W_-_B, 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.

16.1 MR-J4-_B_/MR-J4W_-_B 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-J4-10B(-RJ) to MR-J4-100B(-RJ)	HF3010A-UN *1	10	250	5	3.5
MR-J4W2-22B					
MR-J4W2-44B					
MR-J4W3-222B					
MR-J4-200B(-RJ)	HF3030A-UN *1	30	250	5	5.5
MR-J4-350B(-RJ)					
MR-J4W2-77B					
MR-J4W2-1010B					
MR-J4W3-444B	HF3040A-UN	40	250	6.5	6
MR-J4-500B(-RJ)					
MR-J4-700B(-RJ)	TF3005C-TX	5	500	5.5	6
MR-J4-60B4(-RJ)					
MR-J4-100B4(-RJ)					
MR-J4-200B4(-RJ)/MR-J4-350B4(-RJ)	TF3020C-TX	20	500	5.5	6

*1 To use this EMC filter, a surge protector is required. Refer to each servo amplifier instruction manual for details.

16.2 MR-J5-_B_/MR-J5W_-_B 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] \geq Rated voltage of the servo amplifiers [V]
- Rated current of the EMC filter [A] \geq Total rated current of the servo amplifiers connected to the EMC filter [A]
- Total length of servo motor power supply cable [m] acceptable for the EMC filter \geq Total length of servo motor power supply cable [m]

200 V class

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		
IEC/EN 61800-3 Category C3 *1	50 m or less	HF3010C-SZB	10	500	-20 to 50	0.9	Soshin Electric Co., Ltd.
		HF3020C-SZB	20			1.3	
		HF3030C-SZB	30			2.0	
		HF3040C-SZB	40				
	100 m or less	HF3030C-SZL	30	500	-20 to 50	1.3	Soshin Electric Co., Ltd.
	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).

400 V class

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-10-355	10	500	-40 to 85	1.8	COSEL Co., Ltd.
		FSB-20-355	20				

*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).

16.3 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)

16.4 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)

16.5 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)

17 POWER FACTOR IMPROVING DC REACTOR AND POWER FACTOR IMPROVING AC REACTOR

17.1 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-_B_ and MR-J5-_B_ with each capacity. Power factor improving DC reactors cannot be used for the MR-J4W_-_B and MR-J5W_-_B.

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-_B_/MR-J5-_B_ and power factor improving DC reactors.

200 V class

Servo amplifier	Power factor improving DC reactor	Servo amplifier	Power factor improving DC reactor
MR-J4-10B(-RJ) MR-J5-10B(-RJ)	FR-HEL-0.4K	MR-J4-100B(-RJ) MR-J5-100B(-RJ)	FR-HEL-2.2K
MR-J4-20B(-RJ) MR-J5-20B(-RJ)		MR-J4-200B(-RJ) MR-J5-200B(-RJ)	FR-HEL-3.7K
MR-J4-40B(-RJ) MR-J5-40B(-RJ)	FR-HEL-0.75K	MR-J4-350B(-RJ) MR-J5-350B(-RJ)	FR-HEL-7.5K
MR-J4-60B(-RJ) MR-J5-60B(-RJ)	FR-HEL-1.5K	MR-J4-500B(-RJ) MR-J5-500B(-RJ)	FR-HEL-11K
MR-J4-70B(-RJ) MR-J5-70B(-RJ)		MR-J4-700B(-RJ) MR-J5-700B(-RJ)	FR-HEL-15K

400 V class

Servo amplifier	Power factor improving DC reactor	Servo amplifier	Power factor improving DC reactor
MR-J4-60B4(-RJ) MR-J5-60B4(-RJ)	FR-HEL-H1.5K	MR-J4-200B4(-RJ) MR-J5-200B4(-RJ)	FR-HEL-H3.7K
MR-J4-100B4(-RJ) MR-J5-100B4(-RJ)	FR-HEL-H2.2K	MR-J4-350B4(-RJ) MR-J5-350B4(-RJ)	FR-HEL-H7.5K

17.2 Power Factor Improving AC Reactor

Point

The same power factor improving AC reactor is used for the MR-J4-_B_/MR-J4W_-_B and MR-J5-_B_/MR-J5W_-_B 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-J4-10B(-RJ) MR-J5-10B(-RJ) MR-J4-20B(-RJ) MR-J5-20B(-RJ)	FR-HAL-0.4K	MR-J4-100B(-RJ) (3-phase power supply input) MR-J5-100B(-RJ) (3-phase power supply input)	FR-HAL-2.2K
		MR-J4-100B(-RJ) (1-phase power supply input) MR-J5-100B(-RJ) (1-phase power supply input) MR-J4-200B(-RJ) (3-phase power supply input) MR-J5-200B(-RJ) (3-phase power supply input)	FR-HAL-3.7K
		MR-J4-200B(-RJ) (1-phase power supply input) MR-J5-200B(-RJ) (1-phase power supply input)	FR-HAL-5.5K
MR-J4-40B(-RJ) MR-J5-40B(-RJ)	FR-HAL-0.75K	MR-J4-350B(-RJ) MR-J5-350B(-RJ)	FR-HAL-7.5K
MR-J4-60B(-RJ) MR-J5-60B(-RJ) MR-J4-70B(-RJ) MR-J5-70B(-RJ)	FR-HAL-1.5K	MR-J4-500B(-RJ) MR-J5-500B(-RJ)	FR-HAL-11K
		MR-J4-700B(-RJ) MR-J5-700B(-RJ)	FR-HAL-15K

■400 V class

Servo amplifier	Power factor improving AC reactor	Servo amplifier	Power factor improving AC reactor
MR-J4-60B4(-RJ) MR-J5-60B4(-RJ)	FR-HAL-H1.5K	MR-J4-200B4(-RJ) MR-J5-200B4(-RJ)	FR-HAL-H3.7K
MR-J4-100B4(-RJ) MR-J5-100B4(-RJ)	FR-HAL-H2.2K	MR-J4-350B4(-RJ) MR-J5-350B4(-RJ)	FR-HAL-H7.5K

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

18 SETUP SOFTWARE

Point

Use the following MELSOFT products for the servo system.

- Engineering tool: MT Works2, GX Works3, and GX Works2 (for controllers)
- Setup software: MR Configurator2 (for servo amplifiers)

As with the MR-J4-_B_/MR-J4W_-_B, MR Configurator2 (SW1DNC-MRC2-_) can be used as the setup software for the MR-J5-_B_/MR-J5W_-_B. MR Configurator2 version 1.130L or later supports the MR-J5-_B_/MR-J5W_-_B.

For the setup software specifications and system configuration, refer to the setup software instruction manual.

MEMO

PART 7

Startup Procedure

19 STARTUP

19 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.

Point

Use the following MELSOFT products for startup.

- Engineering tool: MT Works2, GX Works3, and GX Works2 (for controllers)
 - Setup software: MR Configurator2 (for servo amplifiers)
-

19.1 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. Checking the servo parameter settings of the existing model	Check the servo parameter settings of the existing MR-J4-/_B_/MR-J4W-/_B_ by using the engineering tool or setup software project.
2. Wiring check	Visually check that the wires are connected to the servo amplifier, servo motor, and controller correctly.
3. Checking the surrounding environment	Check the environment surrounding the servo amplifier, servo motor, and controller.
4. Writing servo parameters	After converting the servo parameters to those for the MR-J5-/_B_/MR-J5W-/_B_ from the existing project by using the engineering tool, write them to the replaced servo amplifier. Refer to the following for details. ☞ Page 207 SERVO PARAMETER CONVERSION
5. 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. ☞ Servo Parameter Setting Change
6. 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 setup software or controller.
7. 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.
8. Gain adjustment *1	Make gain adjustment to optimize the machine motions.
9. Actual operation *2	Perform homing as necessary when in position control mode.
10. 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 existing servo amplifier is extremely high, there may be slight differences in characteristics upon replacement. Make sure to set the gain again.

☞ MR-J5 User's Manual (Hardware)

☞ MR-J5-B/MR-J5W-B User's Manual (Introduction)

☞ MR-J5-B/MR-J5W-B User's Manual (Parameters)

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

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

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.

© 2022 MITSUBISHI ELECTRIC CORPORATION

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.

TRADEMARKS

MELSERVO is a trademark or registered trademark of Mitsubishi Electric Corporation in Japan and/or other countries. All other product names and company names are trademarks or registered trademarks of their respective companies.

L(NA)03201ENG-A(2207)MEE

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS : 1-14, YADA-MINAMI 5-CHOME, HIGASHI-KU, NAGOYA, JAPAN

When exported from Japan, this manual does not require application to the
Ministry of Economy, Trade and Industry for service transaction permission.

Specifications are subject to change without notice.

Compliance with the indicated global standards and regulations is current as of the release date of this manual.