MITSUBISHI ELECTRIC

Programmable Controller

MELSEC iQ-R series

MELSEC iQ-R System Recorder Co-recording Function Reference Manual

SAFETY PRECAUTIONS

(Read these precautions before using this product.)

Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

The precautions given in this manual are concerned with this product only. For the safety precautions of the programmable controller system, refer to the user's manual for the CPU module used.

Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

CONDITIONS OF USE FOR THE PRODUCT

(1) MELSEC programmable controller ("the PRODUCT") shall be used in conditions;
i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.
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Prohibited Applications include, but not limited to, the use of the PRODUCT in;
- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above restrictions, Mitsubishi Electric may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi Electric and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTs are required. For details, please contact the Mitsubishi Electric representative in your region.

(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.

INTRODUCTION

Thank you for purchasing the Mitsubishi Electric MELSEC iQ-R series programmable controllers.
This manual describes the co-recording function.
Before using this product, please read this manual and the relevant manuals carefully and develop familiarity with the functions and performance of the MELSEC iQ-R series programmable controller to handle the product correctly.
Please make sure that the end users read this manual.

CONTENTS

RELEVANT MANUALS

Manual name [manual number]	Description	Available form
MELSEC iQ-R System Recorder Co-recording Function Reference Manual [SH-082553ENG] (this manual)	Function, system configuration, parameter settings, and troubleshooting for co-recording	e-Manual PDF
MELSEC iQ-R System Recorder User's Manual (Startup) [SH-082279ENG]	Specifications, procedures for operation, and system configuration of System Recorder, and specifications of a recorder module/camera recorder module	Print book e-Manual PDF
MELSEC iQ-R System Recorder User's Manual (Application) [SH-082281ENG]	Functions, parameter settings, recording settings, and troubleshooting of System Recorder, and detailed specifications of a recorder module/camera recorder module	Print book e-Manual PDF
MELSEC iQ-R Motion Module User's Manual (Application) [IB-0300411ENG]	Functions, input/output signals, variables, labels, programming, and troubleshooting of a motion module	Print book e-Manual PDF
MELSEC iQ-R Motion Controller Programming Manual (Common) [IB-0300237]	Multiple CPU system configuration, performance specifications, common parameters, auxiliary/applied functions, error lists, etc.	Print book e-Manual PDF

Point

e-Manual refers to the Mitsubishi Electric FA electronic book manuals that can be browsed using a dedicated tool.

e-Manual has the following features:

- Required information can be cross-searched in multiple manuals.
- Other manuals can be accessed from the links in the manual.
- Hardware specifications of each part can be found from the product figures.
- Pages that users often browse can be bookmarked.
- Sample programs can be copied to an engineering tool.

GENERIC TERMS AND ABBREVIATIONS

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

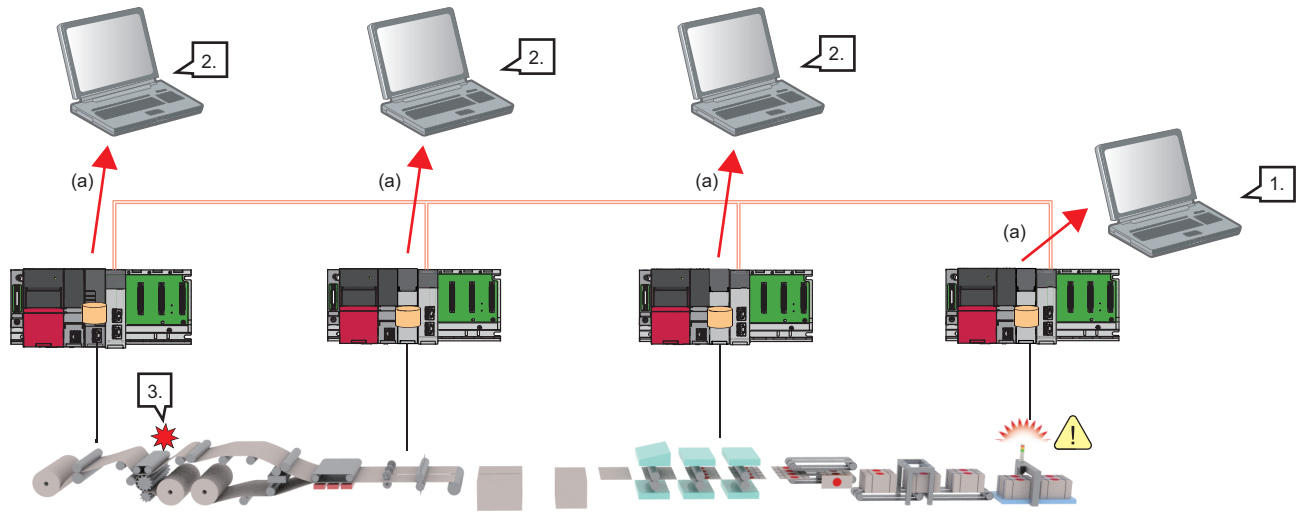
Generic term/abbreviation	Description
Trigger relay device	A generic term for devices that send a received co-recording trigger to other devices
Recording	A generic term for the recording function and the servo system recorder function
Recording device	A generic term for devices that have the recording function or the servo system recorder function

1 OVERVIEW

System Recorder is a solution that integrates the following three steps performed in the breakdown maintenance phase: recording, reproduction, and analysis.
For details on System Recorder, refer to the following:
MELSEC iQ-R System Recorder User's Manual (Startup)
MELSEC iQ-R System Recorder User's Manual (Application)
This manual explains the co-recording function in System Recorder.

1.1 Co-recording Function

Co-recording is a function that can be used to perform recording also on other recording devices by linking with recording in a recording device.
With this function, data is saved in related devices when a failure occurs; therefore, a cause of the failure across multiple devices can be checked.



: Failure detected
: Saved data
: Failure location
(a) Saved data is read.

1. Use GX Works3 or MT Developer2 to check the recording result for a device in which a failure is detected.
2. Check the recording result for each device on which co-recording was performed.
3. Find where the failure is detected.

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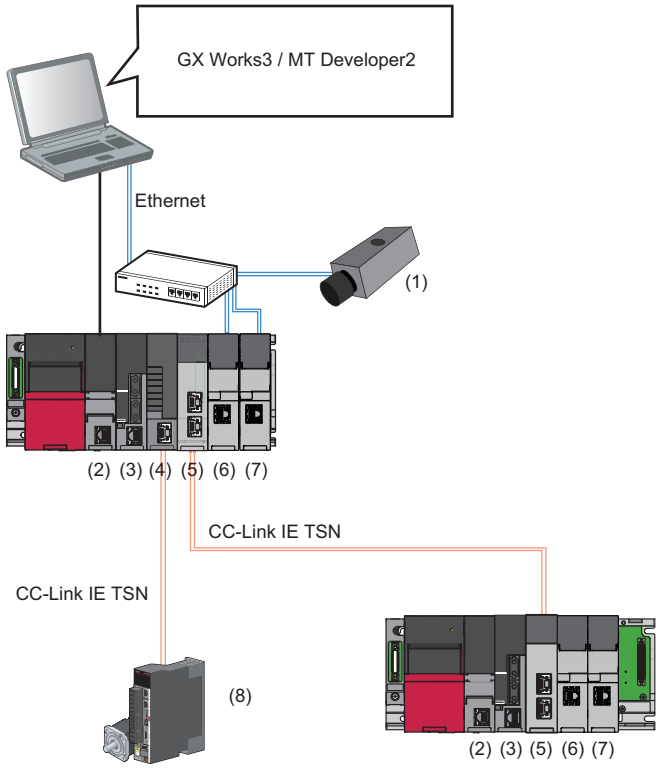
2 SYSTEM CONFIGURATION

2.1 System Configuration

This section shows the overall system configuration.

Co-recording can be performed by configuring a trigger relay device and multiple recording devices.



(1) Network camera
(2) Programmable controller CPU (trigger relay device)
(3) Motion CPU (trigger relay device, recording device)
(4) Motion module (trigger relay device, recording device)
(5) CC-Link IE TSN master/local module (trigger relay device)
(6) Recorder module (recording device)
(7) Camera recorder module (recording device)
(8) Servo amplifier

Systems on the same base units

The following shows the system configurations when performing co-recording in a system on the same base unit.

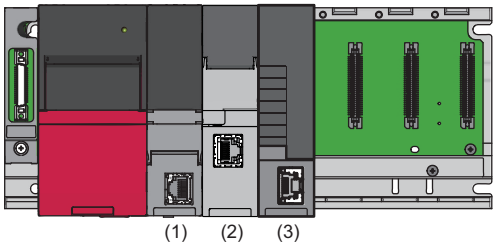
Single CPU system

The system configurations are as follows.

Co-recording can be performed among recording devices by configuring a programmable controller CPU (trigger relay device) and recording devices controlled by the programmable controller CPU.

■ Configuration example 1

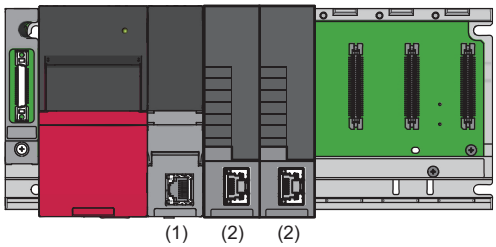
When using co-recording between a camera recorder module and motion module



(1) Programmable controller CPU (trigger relay device)
(2) Camera recorder module (recording device)
(3) Motion module (recording device)

■ Configuration example 2

When using co-recording between motion modules



(1) Programmable controller CPU (trigger relay device)
(2) Motion module (recording device)

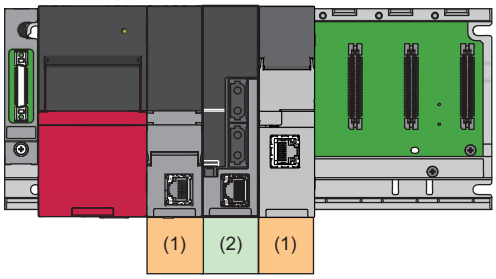
Multiple CPU system

The system configurations are as follows.

Co-recording can be performed among recording devices by configuring multiple CPUs including a programmable controller CPU or motion CPU (trigger relay device).

■ Configuration example 1

When using co-recording between a camera recorder module controlled by CPU No.1 and motion CPU No.2

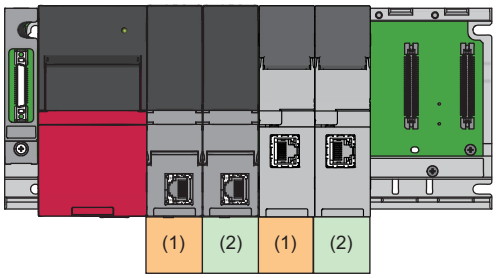


(1) Programmable controller CPU No.1 (trigger relay device)/camera recorder module (recording device) controlled by CPU No.1
(2) Motion CPU No.2 (trigger relay device or recording device*1)

*1 Recording is performed on a motion CPU itself.

■ Configuration example 2

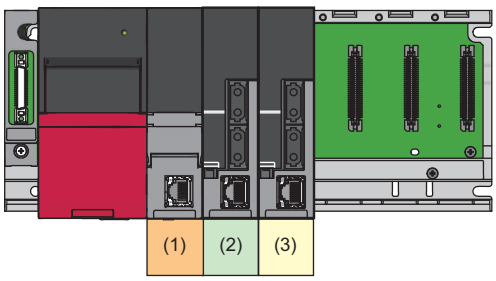
When using co-recording between a recorder module controlled by CPU No.1 and a camera recorder module controlled by CPU No.2



(1) Programmable controller CPU No.1 (trigger relay device)/recorder module (recording device) controlled by CPU No.1
(2) Programmable controller CPU No.2 (trigger relay device)/camera recorder module (recording device) controlled by CPU No.2

■ Configuration example 3

When using co-recording between motion CPU No.2 and No.3



(1) Programmable controller CPU No.1 (trigger relay device)*1
(2) Motion CPU No.2 (trigger relay device or recording device*2)
(3) Motion CPU No.3 (trigger relay device or recording device*2)

*1 Any programmable controller CPU can also be configured even if it does not support co-recording or the co-recording setting is set to "Not use."

*2 Recording is performed on a motion CPU itself.

■ Range

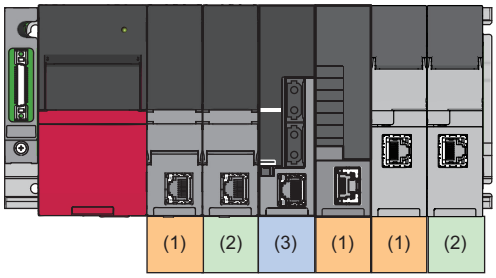
The range can be changed according to the co-recording setting for each CPU module.

For details on the co-recording setting for a CPU module, refer to the following:

☞ Page 23 Setting for a CPU module

The following configuration example is used to show the ranges and settings for co-recording.

(It is assumed that the co-recording setting is set to "Use" for a recording device controlled by a CPU module.)



(1) Programmable controller CPU No.1/recording device controlled by CPU No.1
(2) Programmable controller CPU No.2/recording device controlled by CPU No.2
(3) Motion CPU No.3

Range	Co-recording setting for each CPU module		
	CPU No.1	CPU No.2	CPU No.3
All recording devices	Use	Use	Use
CPU No.1 and CPU No.2	Use	Use	Not use

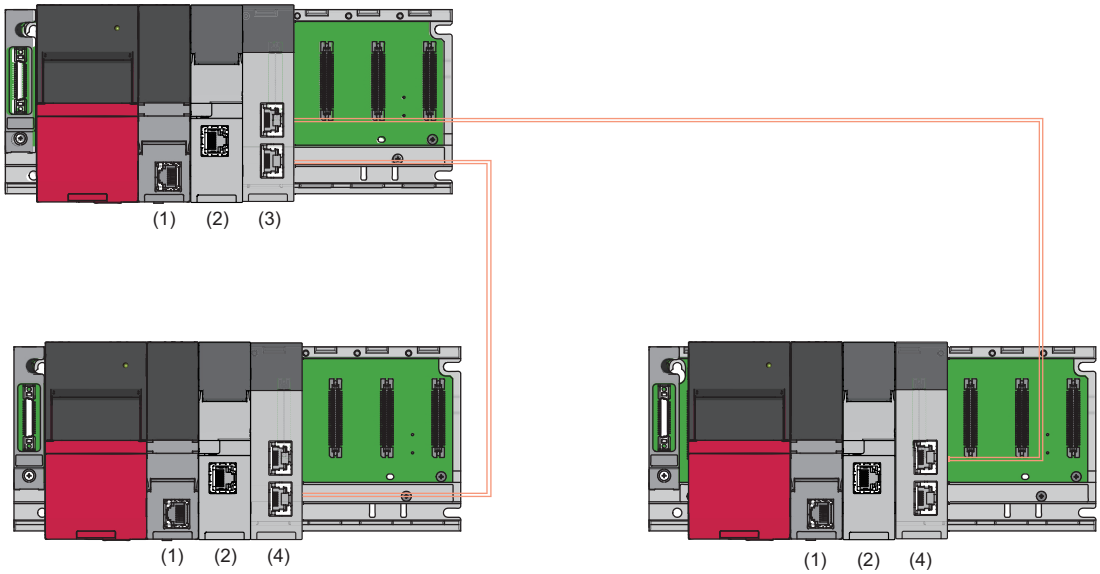
System via a network

The following shows the system configuration when performing co-recording in a system via a network.
Co-recording can be performed among recording devices via a network by configuring a network including network modules (trigger relay devices) controlled by a programmable controller CPU (trigger relay device).
The following modules can be used as network modules. (A network can be configured by including both ❶ and ❷.)

- ❶ CC-Link IE TSN master/local module (master station) or motion module
- ❷ CC-Link IE TSN master/local module (local station)

Configuration example

When using co-recording with mounting a recorder module in a system connected via CC-Link IE TSN

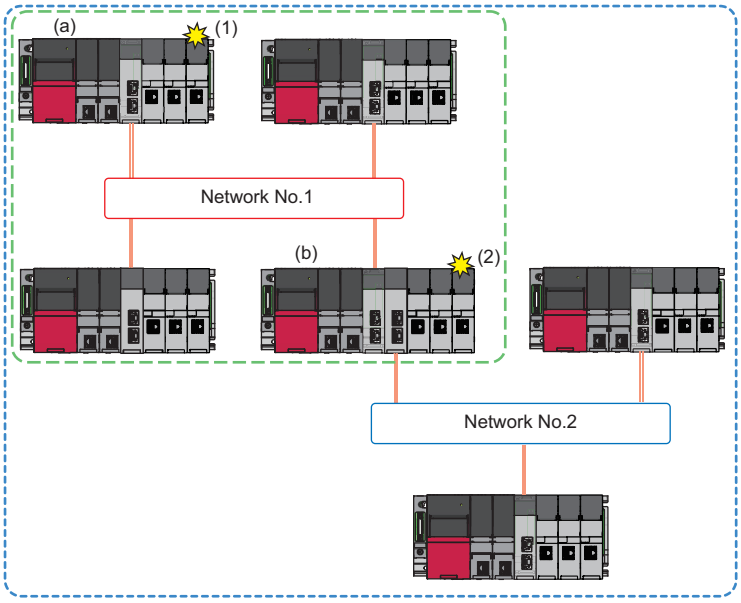


: CC-Link IE TSN network connection
(1) Programmable controller CPU (trigger relay device)
(2) Recorder module (recording device)
(3) CC-Link IE TSN master/local module (master station)*1 (trigger relay device)
(4) CC-Link IE TSN master/local module (local station) (trigger relay device)

*1 A motion module can also be used.

Precautions

- Configure network modules so that they are in the same network.
- When performing co-recording via networks, the range is up to the first layer of the network including a device in which a recording trigger is satisfied (from which a co-recording trigger is sent).



(1) A recording trigger is satisfied in the programmable controller system (a).
(2) A recording trigger is satisfied in the programmable controller system (b).
: Range of co-recording when a recording trigger is satisfied in the programmable controller system (a)
: Range of co-recording when a recording trigger is satisfied in the programmable controller system (b)

Range

The range can be changed according to the co-recording setting for each network module.

For details on the co-recording setting for each network module, refer to the following:

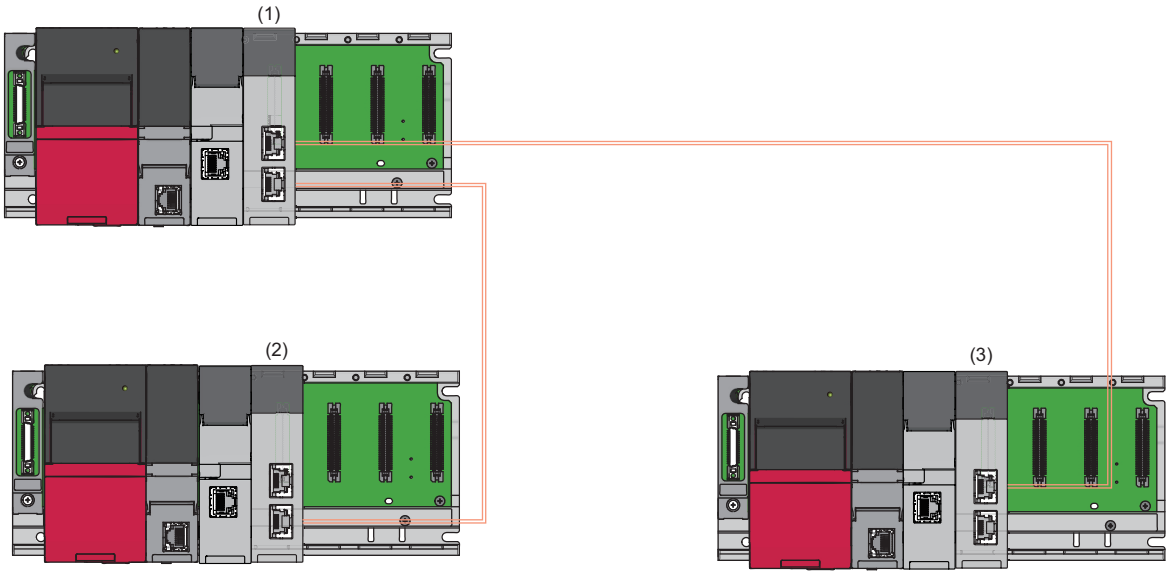
☞ Page 24 Setting for a network module

The following configuration example is used to show the ranges and settings for co-recording.

(It is assumed that the co-recording setting is set to "Use" for all trigger relay devices and recording devices, excluding network modules.)

■ In the same network

The following shows the ranges and settings for co-recording in the same network.

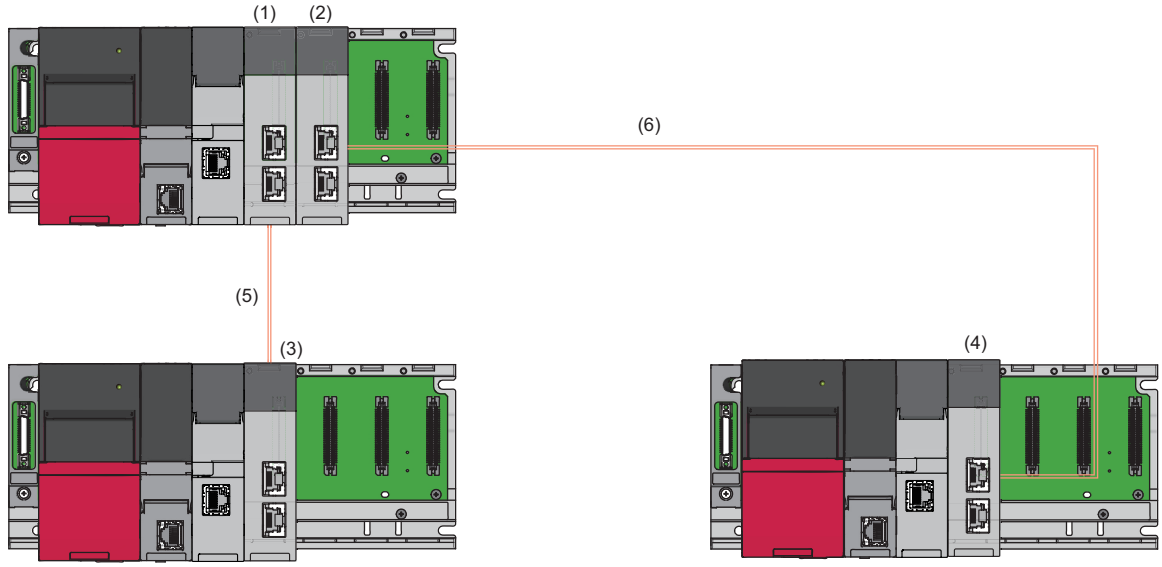


: CC-Link IE TSN network connection

Range	Co-recording setting for each network module		
	(1) Master station	(2) Local station 1	(3) Local station 2
All programmable controller systems	Use	Use	Use
Master station 1 and a programmable controller system on which local station 1 is mounted	Use	Use	Not use
Local station 1 and local station 2	Not use	Use	Use
Each programmable controller system only	Not use	Not use	Not use

■ In a different network

The following shows the ranges and settings for co-recording in a different network.



: CC-Link IE TSN network connection

Range	Co-recording setting for each network module			
	(5) Network 1		(6) Network 2	
	(1) Master station 1	(3) Local station 1	(2) Master station 2	(4) Local station 2
All programmable controller systems	Use	Use	Use	Use
Network 1 only	Use	Use	Not use	Not use
Each programmable controller system only	Not use	Not use	Not use	Not use

When a recording trigger is satisfied in a programmable controller system on which master station 1 and master station 2 are mounted, co-recording runs in the ranges above.

The range of co-recording is up to the first layer of the network including a device in which a recording trigger is satisfied; therefore, when a recording trigger is satisfied in local station 1 or local station 2, co-recording cannot be performed on the other local station.

For details, refer to the considerations in the following:

☞ Page 12 Configuration example

2.2 System Components

This section shows the CPU modules, intelligent function modules, and engineering tools that support co-recording.

CPU module list

CPU module	Model name	Firmware version
Programmable controller CPU	R00CPU	'65' or later
	R01CPU	
	R02CPU	
	R04CPU	'65' or later
	R08CPU	
	R16CPU	
	R32CPU	
	R120CPU	
	R04ENCPU	'65' or later
	R08ENCPU	
	R16ENCPU	
	R32ENCPU	
	R120ENCPU	
Motion CPU	R16MTCPU	'25' or later
	R32MTCPU	
	R64MTCPU	

Intelligent function module list

Intelligent function module	Model name	Firmware version
Recorder module	RD81RC96	'08' or later
Camera recorder module	RD81RC96-CA	'06' or later
Motion module*1	RD78G4 RD78G8 RD78G16 RD78G32 RD78G64 RD78GHV RD78GHW	'26' or later
CC-Link IE TSN master/local module	RJ71GN11-T2	'17' or later
	RJ71GN11-SX	'01' or later

*1 PLCopen motion control FB mode only

Engineering tool list

Engineering tool	Model name	Version
GX Works3	SW1DND-GXW3-E	1.090U
MT Developer2	SW1DND-MTW2-E	1.180N

3 PROCEDURE BEFORE OPERATION

This chapter shows the procedure before using co-recording.

1. System construction

Construct a system, and set parameters required for startup and configure the recording setting for each device.

For the system configurations and ranges in which co-recording runs, refer to the following:

☞ Page 8 System Configuration

For details on the recording setting, refer to the manual for each recording device.

2. Setting for co-recording

Set the co-recording setting for each device. (☞ Page 23 PARAMETER SETTINGS)

3. System startup

4. Operation check for co-recording

Satisfy a recording trigger in a recording device, and check if co-recording runs.

When performing recording on any device, it is also performed on other devices with the co-recording setting set to "Use."

Whether a co-recording trigger is sent or received can be checked in the event history of an engineering tool.

Check the time of data recorded in each recording device in the event history, and set the saving period so that the timing when a recording trigger is satisfied first is included.

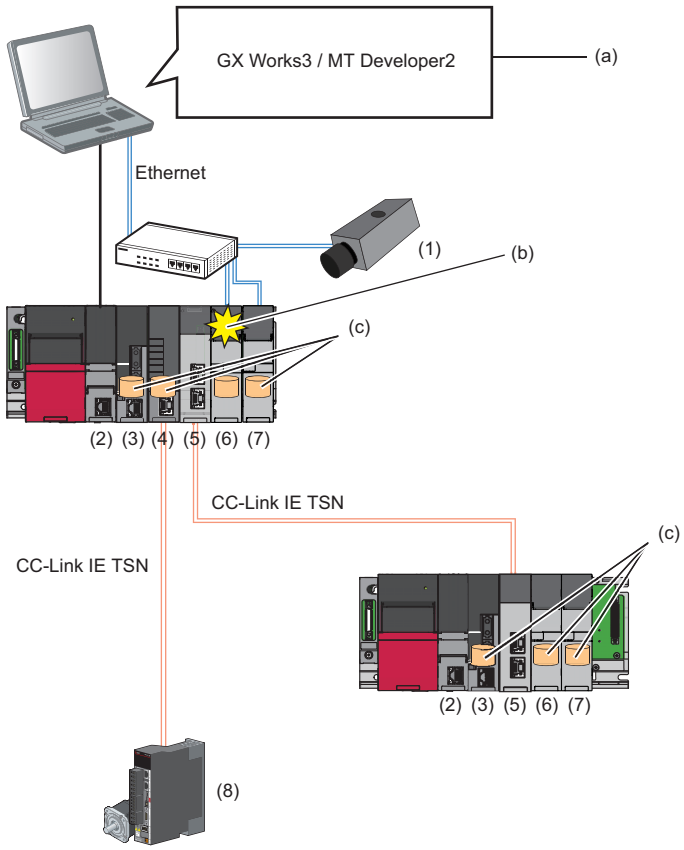
For details, refer to the following:

☞ Page 22 Continuous co-recording

MEMO

4 FUNCTION

This chapter explains the function details for co-recording.
Co-recording is a function that can be used to perform recording also on other recording devices by linking with recording in a recording device.
With this function, data is saved in related devices when a failure occurs; therefore, a cause of the failure across multiple devices can be checked.



: Saved data
(1) Network camera
(2) Programmable controller CPU (trigger relay device)
(3) Motion CPU (trigger relay device, recording device)
(4) Motion module (trigger relay device, recording device)
(5) CC-Link IE TSN master/local module (trigger relay device)
(6) Recorder module (recording device)
(7) Camera recorder module (recording device)
(8) Servo amplifier
(a) Set the co-recording setting in the setting screen for each module as necessary.
(b) When a recording trigger is satisfied, recording is performed.
(c) Recording is also performed on the target devices for co-recording.

4.1 Co-recording Operation

When a condition for saving data is met in a recording device, a recording trigger is satisfied.
Then, a co-recording trigger is sent from the recording device.*1
By receiving the co-recording trigger in another recording device via a trigger relay device, co-recording is performed.
When a trigger is sent and received in a recording device or trigger relay device, a 'co-recording trigger sending,' 'co-recording trigger receiving,' or 'co-recording trigger sending/receiving' event is saved; therefore, the operating status of co-recording can be checked in the event history.

*1 A co-recording trigger is not sent unless recording is performed even if a recording trigger is satisfied such as during data saving.

Point

- To perform co-recording, the co-recording setting must be set to "Use" for recording devices and trigger relay devices.
- This function can be used to easily identify a cause of a failure across multiple devices by analyzing saved data in a module in a station, other CPUs, and other stations via networks when the failure occurs, but it is not assumed to be performed continuously.
  Once co-recording is performed, a trigger is not sent or received for a certain period of time. For details, refer to the following:

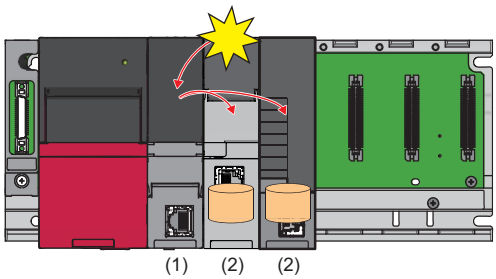
☞ Page 22 Continuous co-recording

Operation flows

The following shows the operation flows for co-recording by using each configuration as an example.

Single CPU system

When a recording trigger is satisfied in a recording device, a co-recording trigger is sent to another recording device on the same base unit via the trigger relay device (CPU module).



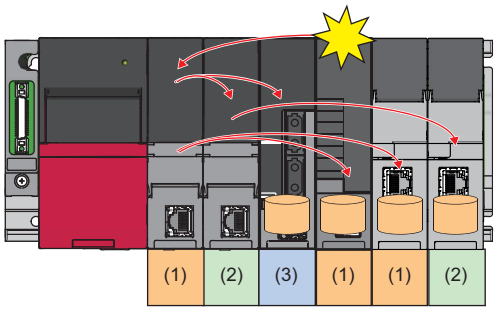
: A recording trigger is satisfied.
: A co-recording trigger is sent.
: Saved data
(1) Trigger relay device
(2) Recording device

Point

A trigger is also sent from a trigger relay device to a recording device in which a recording trigger is satisfied. For the operation when a trigger satisfied in a recording device is received in the recording device itself, refer to the manual for each recording device.

Multiple CPU system

When a recording trigger is satisfied in a recording device, a co-recording trigger is sent to other recording devices on the same base unit via a trigger relay device (CPU module) controlling each recording device.



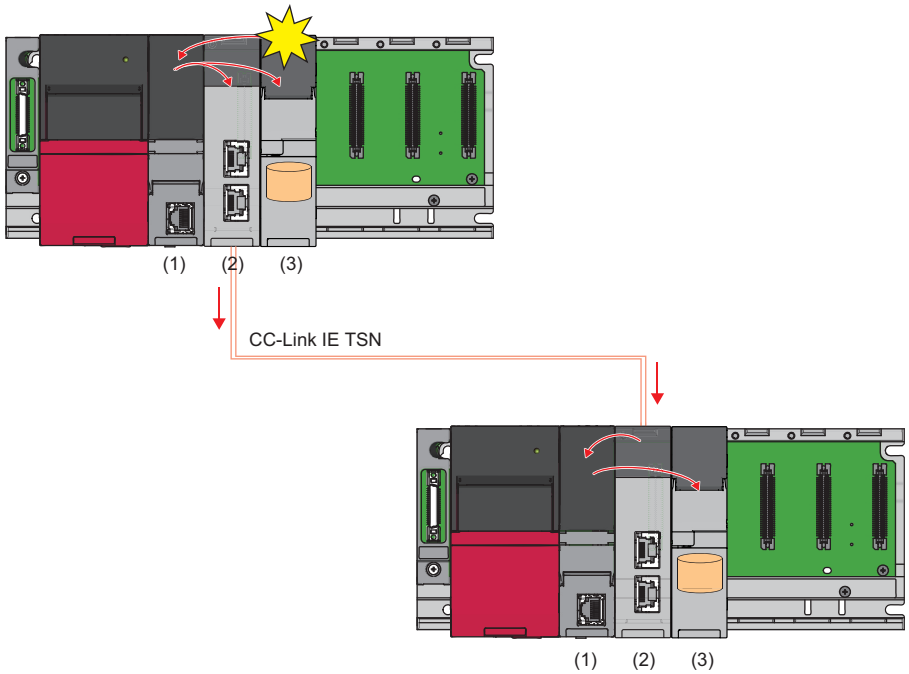
: A recording trigger is satisfied.
: A co-recording trigger is sent.
: Saved data
(1) Trigger relay device (programmable controller CPU No.1)/recording device controlled by CPU No.1
(2) Trigger relay device (programmable controller CPU No.2)/recording device controlled by CPU No.2
(3) Trigger relay device (motion CPU No.3)

Point

A trigger is also sent from a trigger relay device to a recording device in which a recording trigger is satisfied. For the operation when a trigger satisfied in a recording device is received in the recording device itself, refer to the manual for each recording device.

System via a network

When a recording trigger is satisfied in a recording device, a co-recording trigger is sent to a recording device in the network destination via trigger relay devices (CPU module and network module).



: A recording trigger is satisfied.
: A co-recording trigger is sent.
: Saved data
(1) Trigger relay device (CPU module)
(2) Trigger relay device (network module)
(3) Recording device

4.2 Considerations for Co-recording

This section shows the considerations for co-recording.

Saving in the event history

When co-recording runs, each event for trigger sending, receiving, and sending/receiving is saved in recording devices and trigger relay devices.
Depending on the operation timing of the co-recording function in each device, the order in which each event occurs and that in which it is sampled (displayed) in a CPU module may be interchanged.
For the co-recording operation, check if each event is saved.

Point

If the number of minor events, such as device/label writing operations, link-up, and link-down, exceeds its upper limit in the event history of a CPU module, a function runs to restrict (stop) saving in the event history, which may cause events for co-recording not to be saved.
If saving in the event history of a CPU module is restricted, a 'co-recording trigger sending/receiving' event for the co-recording function is not saved.
Check the co-recording operation in the event history of a recording device, other CPUs, or other stations.
MELSEC iQ-R CPU Module User's Manual (Application)
MELSEC iQ-R Motion Controller Programming Manual (Common)

Continuous co-recording

To transmit a co-recording trigger to other CPUs and CPU modules in other stations via networks, a CPU module has a trigger sending/receiving pause period (10 minutes), and the period until a co-recording trigger can be sent and received again is up to 20 minutes[*1].
If a co-recording trigger is sent immediately after a trigger sending/receiving pause period (10 minutes) elapses, the period has not elapsed in other CPUs and CPU modules in other stations due to a trigger transmission delay and the trigger may not be sent or received.
When performing co-recording continuously, consider the trigger sending/receiving pause periods and trigger transmission delay times of other CPUs and CPU modules in other stations.
Note that the trigger transmission delay time varies depending on the settings, operating statuses, processing loads, and communication statuses of recording devices or trigger relay devices.
For an actual trigger transmission delay time, satisfy a co-recording trigger at startup and check a time lag in recording data with the time in the event history, etc.

*1 Including a time lag (trigger transmission delay time) when a trigger is satisfied and trigger sending/receiving pause periods for other CPUs and CPU modules in other stations.

5 PARAMETER SETTINGS

This chapter shows the parameter settings required to use co-recording.

5.1 Setting for Co-recording

This section shows the setting for co-recording for each device.

Target device		Reference
Recording device	Motion CPU (RnMTCPU)*1	Page 23 Setting for a recording device
	Motion module*2	
	Others	
Trigger relay device	Programmable controller CPU (RnCPU/ RnENCPU)	Page 23 Setting for a CPU module
	Motion CPU (RnMTCPU)*1	
	CC-Link IE TSN master/local module	Page 24 Setting for a network module
	Motion module*2	

*1 When setting a motion CPU in one setting, the setting applies to both the settings for a recording device and CPU module.
*2 When setting a motion module in one setting, the setting applies to both the settings for a recording device and network module.

Setting for a recording device

The co-recording setting can be set in the parameter of a recording device.

For details on the parameter setting, refer to the manual for a recording device used.

Item	Description	Setting range
Co-recording Setting	Set whether to use co-recording.	• Use • Not use

Precautions

If either of the following cases applies to a CPU module, an error occurs.

In this case, a co-recording trigger is not sent from a recording device to a CPU module, but recording continues.

- The firmware version does not support co-recording (when starting a CPU module).
- The co-recording setting is set to "Not use" (when a trigger is satisfied).

For the error codes, refer to the manual for each module.

Setting for a CPU module

The co-recording setting can be set in the parameter of a CPU module.

For details on the parameter setting, refer to the manual for a CPU module used.

Item	Description	Setting range
Co-recording Setting	Set whether to send and receive a co-recording trigger between the control module of a module and other CPU modules.	• Use • Not use

Setting for a network module

The co-recording setting can be set in the parameter of a network module.

For details on the parameter setting, refer to the manual for a network module used.

Item	Description	Setting range
Co-recording Setting	Set whether to send and receive a co-recording trigger between the programmable controller system on which a module is mounted and other stations in the same network.*1*2	• Use • Not use

*1 A co-recording trigger may not be sent when performing co-recording via networks, because the range is determined by a device in which a recording trigger is satisfied.
For details, refer to the following:
☞ Page 12 System via a network

*2 Even when setting "Not use" for a network module of the master station, a co-recording trigger from another station is sent to another station.

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6 TROUBLESHOOTING

This chapter shows the troubleshooting for co-recording.

6.1 Troubleshooting by Symptom

This section shows the troubleshooting by symptom.

Co-recording does not run

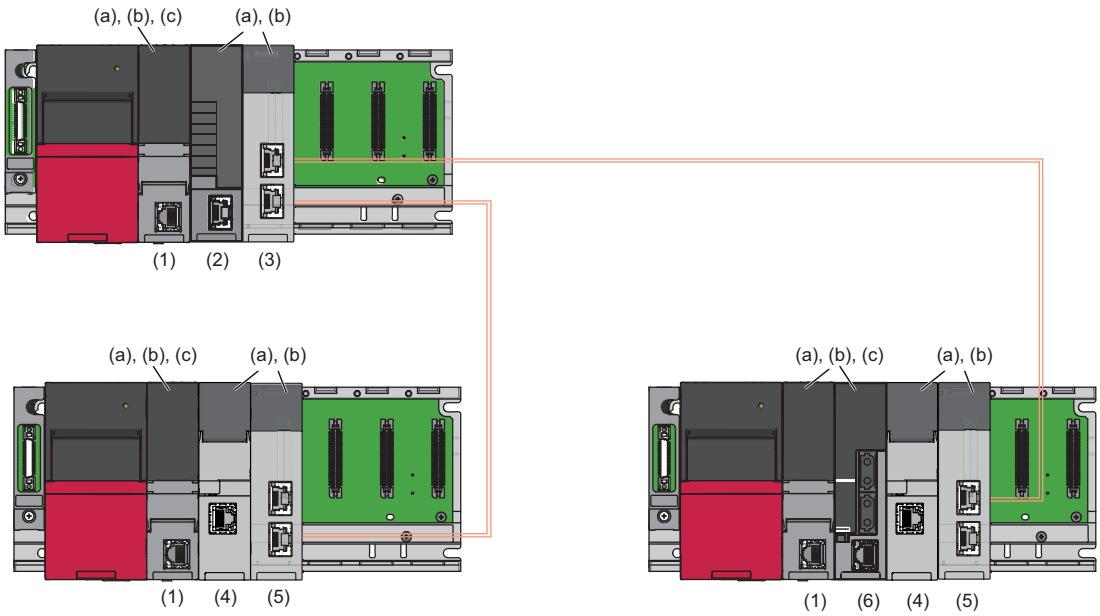
Check the following items:

Check item		Corrective action
(a)	Is a device with a firmware version supporting co-recording used?	Use a device with a firmware version supporting it. For the applicable firmware versions, refer to the following: ☞ Page 16 System Components
(b)	Is the co-recording setting set to "Use"?	Set the co-recording setting to "Use" then write it.
(c)	Is an event*1 for co-recording saved?	Check the event history, and take any necessary corrective action. ☞ Page 27 Procedure for checking the event history

*1 For details on events, refer to the following:
☞ Page 28 Event Codes

Configuration example

Refer to the following configuration to check the items (a) to (c) above.



: CC-Link IE TSN network connection
(1) Programmable controller CPU (trigger relay device)
(2) Motion module (recording device)
(3) CC-Link IE TSN master/local module (master station) (trigger relay device)
(4) Recorder module (recording device)
(5) CC-Link IE TSN master/local module (local station) (trigger relay device)
(6) Motion CPU (trigger relay device or recording device)

■ Procedure for checking the event history

If no events for co-recording are saved, follow the procedure below to check the event history and take any necessary corrective action.

1. Is a co-recording trigger receiving event registered in the event history of a device on which recording does not run?

- Yes: ☞ Page 27 When a trigger receiving event is saved
- No: ☞ Page 27 When no trigger receiving event is saved

If the symptom still persists, proceed to step 2.

2. Is a co-recording trigger sending event registered in the event history of a device in which a recording trigger is satisfied?

- Yes: Proceed to step 3.
- No: ☞ Page 27 When no trigger sending event is saved

3. Is a co-recording trigger receiving event registered in the event history of a trigger relay device for sending and receiving a co-recording trigger? (Check devices in order from a device in which a recording trigger is satisfied to one for sending and receiving a co-recording trigger.)

- Yes: Repeat this step to check the event histories of all trigger relay devices for sending and receiving co-recording triggers.
- No (The trigger relay device is a CPU module): ☞ Page 27 When no trigger sending/receiving event is saved (CPU module)
- No (The trigger relay device is a network module): ☞ Page 27 When no trigger sending/receiving event is saved (network module)

When a trigger receiving event is saved

Check point	Corrective action
Was a co-recording trigger received while recording was available on a device where recording did not run?	Check if recording is available on each device. For details, refer to the manual for a module used.

If the symptom still persists, refer to the troubleshooting for each recording device.

When no trigger receiving event is saved

Check point	Corrective action
Is the recording function running on a device where recording does not run?	Perform the recording function. For details, refer to the manual for a module used.

If the symptom still persists, refer to the troubleshooting for each recording device.

When no trigger sending event is saved

Check point	Corrective action
Is a trigger relay device in a trigger sending/receiving pause period?	Satisfy a trigger after the pause period elapses.

If the symptom still persists, refer to the troubleshooting for each recording device.

When no trigger sending/receiving event is saved (CPU module)

Check point	Corrective action
Is a CPU module in a trigger sending/receiving pause period?	Satisfy a trigger after the pause period elapses.
Is the event history logging restriction function enabled?	Check the event on the recording device side.

When no trigger sending/receiving event is saved (network module)

Check point	Corrective action
Is any station disconnected?	Reconnect the disconnected station.
Is the communication load on the network extremely high?	Reduce the frequency of transient transmissions or Ethernet communications.
Is the transient transmission time sufficiently secured in the setting for a CC-Link IE TSN master station ("Basic Settings" → "Communication Period Setting")?	Change the transient transmission time to a sufficiently long time.

The start time of sampling data saved in co-recording is after the time when a trigger is satisfied first

Check point	Corrective action
Is the data saving period before the time when a trigger is satisfied sufficiently secured in a device on which co-recording was performed?	Change the recording setting to increase the data saving period before the time when a trigger is satisfied. (This is because the time from when a recording trigger is satisfied to when recording actually starts differs for each device.) ☞ Page 22 Continuous co-recording

6.2 Error Codes

For the descriptions and corrective actions for error codes, refer to the manual for a module used.

6.3 Event Codes

This section shows the event code list related to co-recording.

Event code	Overview	Cause
00170	Co-recording trigger sending	The co-recording trigger has been sent.
00171	Co-recording trigger receiving	The co-recording trigger has been received.
00172	Co-recording trigger sending/receiving	As the trigger has been notified from the module compatible with co-recording trigger function, the module has notified the trigger to other modules.
00173	Co-recording trigger sending/receiving	The co-recording trigger received from [Trigger relay device][*1] has been sent to the network.
00174	Co-recording trigger sending/receiving	The co-recording trigger received from the network has been sent to [Trigger relay device][*1].
00175	Co-recording trigger sending/receiving	The co-recording trigger received from the network has been sent to the network.

*1 The display in the event history differs depending on a module in which an event occurred.

For the other event codes, refer to the manual for a trigger relay device or recording device in which an event occurred.

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REVISIONS

*The manual number is given on the bottom left of the back cover.

Revision date	*Manual number	Description
October 2022	SH(NA)-082553ENG-A	First edition
May 2023	SH(NA)-082553ENG-B	■Added or modified parts RELEVANT MANUALS, Section 2.2

Japanese manual number: SH-082552-B

WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.

However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place. Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.

(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.

1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
2. Failure caused by unapproved modifications, etc., to the product by the user.
3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.

(2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

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. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

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