

FATEC

**Mitsubishi Programmable Controllers
Training Manual
CC-Link IE Field Network
(for GX Works3)**

SAFETY PRECAUTIONS

(Always read these instructions before using the products.)

When designing the system, always read the relevant manuals and give sufficient consideration to safety. During the exercise, pay full attention to the following points and handle the product correctly.

[EXERCISE PRECAUTIONS]

WARNING

- Do not touch the terminals while the power is on to prevent electric shock.
 - Before opening the safety cover, turn off the power or ensure the safety.
-

CAUTION

- Follow the instructor's direction during the exercise.
 - Do not remove the module of the demonstration machine or change wirings without permission. Doing so may cause failures, malfunctions, personal injuries and/or a fire.
 - Turn off the power before mounting or removing the module. Failure to do so may result in malfunctions of the module or electric shock.
 - When the demonstration machine (such as X/Y table) emits abnormal odor/sound, press the "Power switch" or "Emergency switch" to turn off.
 - When a problem occurs, notify the instructor as soon as possible.
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REVISIONS

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

Revision date	*Manual number	Description
February 2016	SH(NA)-081899ENG-A	First edition

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CONTENTS

SAFETY PRECAUTIONS	A - 1
REVISIONS	A - 3
INTRODUCTION	A - 7
RELEVANT MANUALS	A - 7
ABBREVIATIONS AND TERMS	A - 8

CHAPTER 1 OVERVIEW **1 - 1**

1.1 Features	1 - 1
1.2 CC-Link IE Field Network	1 - 7
1.2.1 CC-Link IE Field Network configuration	1 - 7
1.2.2 Communications in CC-Link IE Field Network	1 - 9

CHAPTER 2 SPECIFICATIONS AND OPERATION SETTINGS **2 - 1**

2.1 SPECIFICATIONS	2 - 1
2.1.1 Performance specifications	2 - 1
2.1.2 Precautions for system configuration	2 - 2
2.1.3 I/O signals of the master/local module	2 - 5
2.1.4 Buffer memory of the master/local module	2 - 7
2.2 Operation Settings	2 - 9
2.2.1 Required settings	2 - 9
2.2.2 Setting network parameters and link refresh parameters	2 - 10

CHAPTER 3 EXERCISE 1 COMMUNICATION WITH DIGITAL INPUTS AND OUTPUTS **3 - 1**

3.1 System Configuration	3 - 1
3.2 Part Names and Settings	3 - 3
3.2.1 Part names and settings of the master/local module	3 - 3
3.2.2 Part names and settings of the remote I/O module	3 - 6
3.3 Wiring	3 - 10
3.4 Parameter Settings	3 - 12
3.4.1 Starting GX Works3	3 - 12
3.4.2 Adding master/local module data	3 - 15
3.4.3 Parameter settings (master station)	3 - 18
3.4.4 Specifying a connection destination	3 - 22
3.4.5 Writing parameters	3 - 24
3.4.6 Parameter settings (remote I/O station)	3 - 26
3.5 Diagnostic Function (Checking the Network Status)	3 - 29
3.6 Monitoring and Test of the Remote I/O Station	3 - 30
3.7 Creating a Sequence Program	3 - 32
3.8 Communication with the Remote I/O Station	3 - 32

CHAPTER 4 EXERCISE 2 COMMUNICATION WITH ANALOG INPUTS AND OUTPUTS **4 - 1**

4.1 System Configuration	4 - 1
4.2 Part Names and Settings	4 - 2
4.2.1 Part names and settings of the analog-digital converter module	4 - 2
4.2.2 Part names and settings of the digital-analog converter module	4 - 7
4.3 Parameter Settings	4 - 11

4.3.1	Parameter settings (master station)	4 - 11
4.3.2	Parameter settings (remote device station).	4 - 13
4.4	Creating a Sequence Program	4 - 14
4.5	Communications with the Remote Device Station.	4 - 16
4.5.1	Communications using a sequence program	4 - 16
4.5.2	Monitoring and test of the remote device station.	4 - 17

CHAPTER 5 EXERCISE 3 (COMMUNICATION BETWEEN THE MASTER STATION AND LOCAL STATION) 5 - 1

5.1	System Configuration	5 - 1
5.2	Parameter Settings	5 - 2
5.2.1	Parameter settings (master station)	5 - 2
5.2.2	Parameter settings (local station)	5 - 4
5.3	Creating a Sequence Program	5 - 6
5.4	Communication between the Master Station and Local Station.	5 - 9

CHAPTER 6 DIAGNOSTIC FUNCTION 6 - 1

6.1	CC-Link IE Field Diagnostics	6 - 1
6.2	System Monitor	6 - 9

APPENDICES App. - 1

Appendix 1	Comparison of Network Specifications	App. - 1
Appendix 2	Error Codes	App. - 2
Appendix 3	List of Link Special Relay (SB) Areas	App. - 19
Appendix 4	List of Link Special Register (SW) Areas.	App. - 37
Appendix 5	Device Assignment Tables	App. - 56

INTRODUCTION

This school textbook helps you to easily understand a CC-Link IE Field Network system with the MELSEC iQ-R series. For a good understanding of the CC-Link IE Field Network system features, this textbook describes the system in which remote I/O modules or remote device modules are connected with GX Works3.

RELEVANT MANUALS

Manual name [manual number]	Description	Available form
MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup) [SH-081256ENG]	Specifications, procedures before operation, system configuration, wiring, and communication examples of Ethernet, CC-Link IE Controller Network, and CC-Link IE Field Network	e-Manual EPUB PDF
MELSEC iQ-R CC-Link IE Field Network User's Manual (Application) [SH-081259ENG]	Functions, parameter settings, programming, troubleshooting, I/O signals, and buffer memory of CC-Link IE Field Network	e-Manual EPUB PDF
GX Works3 Operating Manual [SH-081215ENG]	System configuration of GX Works3, parameter settings, and operation method of the online function	e-Manual EPUB PDF
CC-Link IE Field Network Remote I/O Module User's Manual [SH-081114ENG]	Required procedures, system configuration, parameter settings, functions, and troubleshooting of the NZ2GF2B1N-16D/ NZ2GF2B1N-16T remote I/O module	e-Manual EPUB PDF
CC-Link IE Field Network Analog-Digital Converter Module User's Manual [SH-081451ENG]	Required procedures, system configuration, parameter settings, functions, and troubleshooting of the NZ2GF2BN-60AD4 analog-digital converter module	e-Manual EPUB PDF
CC-Link IE Field Network Digital-Analog Converter Module User's Manual [SH-081453ENG]	Required procedures, system configuration, parameter settings, functions, and troubleshooting of the NZ2GF2BN-60DA4 digital-analog converter module	e-Manual EPUB PDF

Point

e-Manual refers to the Mitsubishi 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.
- The hardware specifications of each part can be found from the product figures.
- Pages that users often browse can be bookmarked.

ABBREVIATIONS AND TERMS

The following table lists the abbreviations and terms used in this textbook.

Term	Description
Baton pass	A token to send data over a network
Buffer memory	A memory in an intelligent function module, where data (such as setting values and monitoring values) are stored. When using the CPU module, the memory is indicated for storing data (such as setting values and monitored values) of the Ethernet function and data used for data communication of the multiple CPU function.
CC-Link	A field network system where data processing for control and information can be simultaneously performed at high speed.
CCPASET	A generic term for the G.CCPASET and GP.CCPASET
Control CPU	A CPU module that controls connected I/O modules and intelligent function modules. In a multiple CPU system, there are multiple CPU modules and each connected module can be controlled by a different CPU module.
CPU module	A generic term for the MELSEC IQ-R series CPU module
Cyclic transmission	A function by which data are periodically exchanged among stations on the network using link devices
Data link	A generic term for cyclic transmission and transient transmission
Dedicated instruction	An instruction for using functions of the module
Device	A device (X, Y, M, D, or others) in a CPU module
Disconnection	A process of stopping data link if a data link error occurs
Engineering tool	The product name of the software package for the MELSEC programmable controllers
Ethernet device	A generic term for the devices supporting IP communication (such as personal computers)
FTP	The abbreviation for File Transfer Protocol. This protocol is used to transfer data files over a network.
Head module	The abbreviation for the LJ72GF15-T2 CC-Link IE Field Network head module
Intelligent device station	A station that exchanges I/O signals (bit data) and I/O data (word data) with another station. This station responds to a transient transmission request from another station and also issues a transient transmission request to another station.
Intelligent function module	A module that has functions other than input and output, such as an A/D converter module and D/A converter module
Label	A label that represents a device in a given character string
Link device	A device (RX, RY, RWr, or RWw) in a module on CC-Link IE Field Network
Link refresh	Automatic data transfer between a link device of the master/local module and a device in a CPU module
Link special register (SW)	Word data that indicates the operating status and data link status of a module on CC-Link IE Field Network
Link special relay (SB)	Bit data that indicates the operating status and data link status of a module on CC-Link IE Field Network
Local station	A station that performs cyclic transmission and transient transmission with the master station and other local stations
Master operating station	A station that controls the entire network in the network where a master station and submaster station are connected. Only one master station can be used in a network.
Master station	A station that controls the entire network. This station can perform cyclic transmission and transient transmission with all stations. Only one master station can be used in a network.
Master/local module	A generic term for the RJ71GF11-T2 CC-Link IE Field Network master/local module and the RJ71EN71 (when CC-Link IE Field Network function is used)
MELSECNET/10	The abbreviation for the MELSECNET/10 network system
MELSECNET/H	The abbreviation for the MELSECNET/H network system
Module label	A label that represents one of memory areas (I/O signals and buffer memory areas) specific to each module in a given character string. GX Works3 automatically generates this label, which can be used as a global label.
Network module	A generic term for the following modules: <ul style="list-style-type: none"> • Ethernet interface module • CC-Link IE Controller Network module • Module on CC-Link IE Field Network • MELSECNET/H network module • MELSECNET/10 network module
READ	A generic term for the JP.READ and GP.READ
RECV	A generic term for the JP.RECV and GP.RECV
Relay station	A station that includes two or more network modules. Data are passed through this station to stations on other networks
REMFR	A generic term for the JP.REMFR and ZP.REMFR

Term	Description
Remote device station	A station that exchanges I/O signals (bit data) and I/O data (word data) with another station. This station responds to a transient transmission request from another station.
Remote I/O station	A station that exchanges I/O signals (bit data) with the master station by cyclic transmission
Remote input (RX)	Bit data input from a slave station to the master station (For some areas in a local station, data are output in the opposite direction.)
Remote output (RY)	Bit data output from the master station to a slave station (For some areas in a local station, data are output in the opposite direction.)
Remote register (RW _r)	Word data input from a slave station to the master station (For some areas in a local station, data are output in the opposite direction.)
Remote register (RW _w)	Word data output from the master station to a slave station (For some areas in a local station, data are output in the opposite direction.)
REMTO	A generic term for the JP.REMTO and ZP.REMTO
REQ	A generic term for the J.REQ, JP.REQ, G.REQ, and GP.REQ
Reserved station	A station reserved for future use. This station is not actually connected, but counted as a connected station.
Return	A process of restarting data link when a station recovers from an error
RIRD	A generic term for the J.RIRD, JP.RIRD, G.RIRD, and GP.RIRD
RIWT	A generic term for the J.RIWT, JP.RIWT, G.RIWT, and GP.RIWT
Routing	A process of selecting paths for communication with other networks. There are two types of routing: dynamic routing that auto-selects the communication routes, and static routing where communication routes are arbitrarily set.
Seamless communication	Communication that allows users to access a different kind of networks without having to consider the differences as if data were exchanged within one single network
SEND	A generic term for the JP.SEND and GP.SEND
Slave station	A generic term for a local station, remote I/O station, remote device station, and intelligent device station
Submaster operating station	A station that monitors the status of a master operating station in the network where a master station and submaster station are connected. Only one master station can be used in a network.
Submaster station	A station that serves as a master station to control the entire network if the master station is disconnected. Only one master station can be used in a network.
Transient transmission	A function of communication with another station, which is used when requested by a dedicated instruction or the engineering tool
UINI	A generic term for the G.UINI, GP.UINI, Z.UINI, and ZP.UINI

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1 OVERVIEW

CC-Link IE Field Network is a high-speed and large-capacity open field network that is based on Ethernet (1000BASE-T).

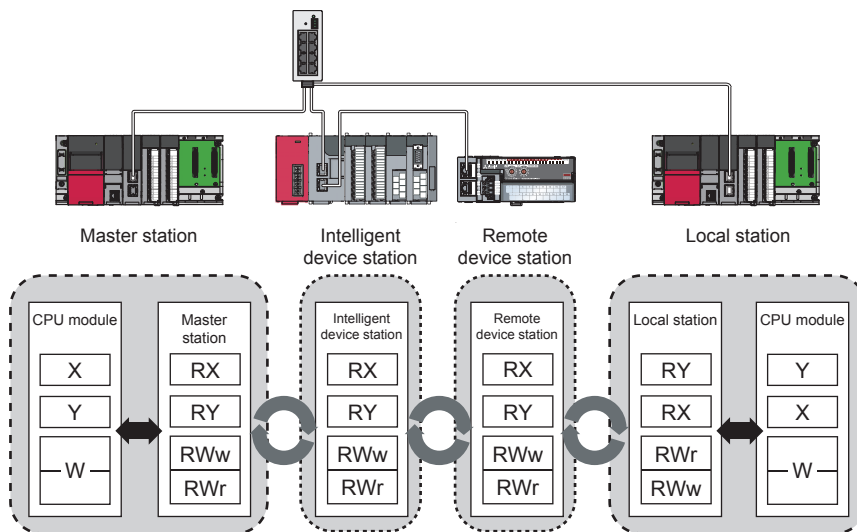
1.1 Features

Data communication

CC-Link IE Field Network enables the high-speed and large-capacity data communication with slave stations.

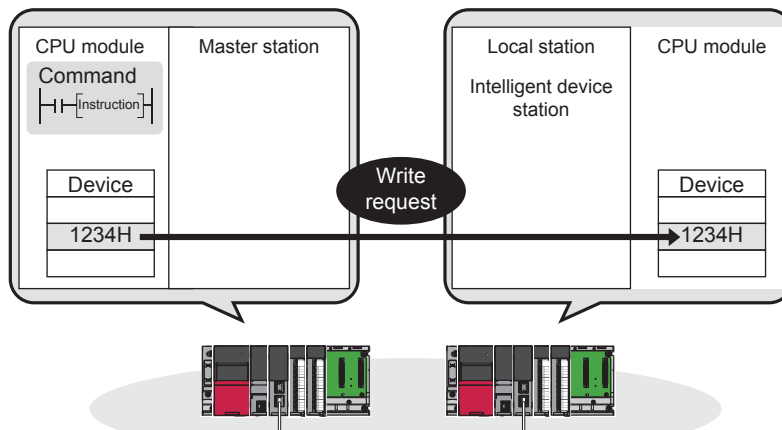
■ Periodic communications (cyclic transmission)

Data is periodically communicated among stations on the same network.



■ Irregular communications (transient transmission)

Data is communicated at the timing of a communication request.

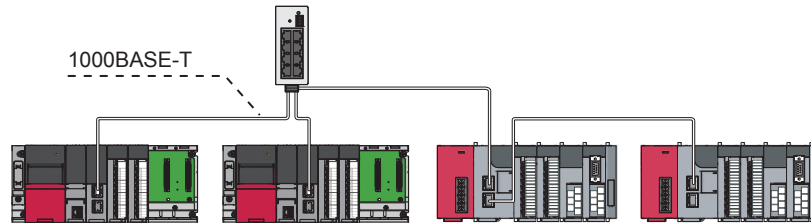


Communication speed of 1Gbps

Because the communication speed is 1Gbps, high-speed data communication is possible. Because the communication response performance has been improved, the takt time can be shortened.

Use of Ethernet standards-compliant cables

The 1000BASE-T compliant with Ethernet standards is used for a connection interface. Use of commercially available 1000BASE-T-compliant Ethernet cables reduces the wiring cost.

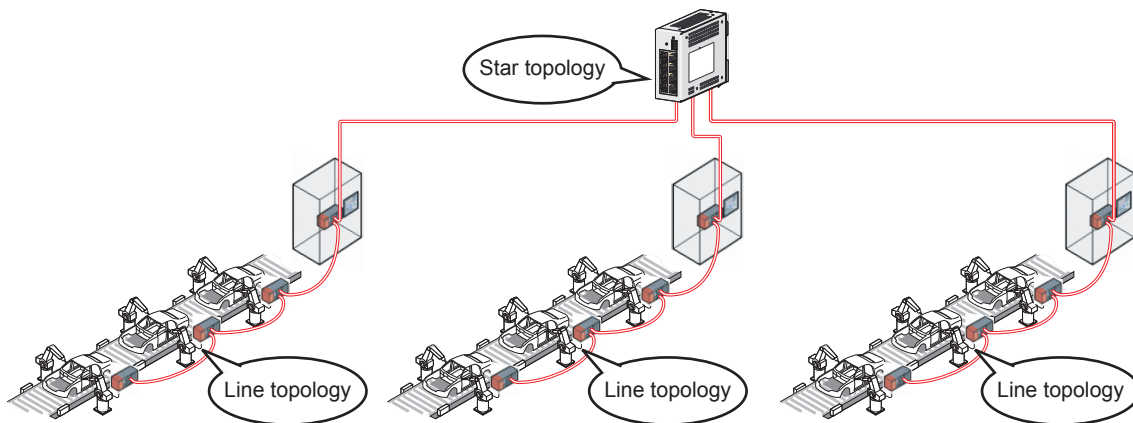


Flexible wiring according to system arrangement

Wiring types of a network are star topology, line topology, and ring topology.

For star topology, switching hubs compliant with the 1000BASE-T can be used.

Because star topology and line topology can be combined in a network, flexible wiring is possible such as star topology for between control panels and line topology for lines.



Setting and diagnostics with GX Works3

■Setting with software

Parameters of a master/local module can be set in windows of GX Works3. Users do not need to create programs for setting parameters.

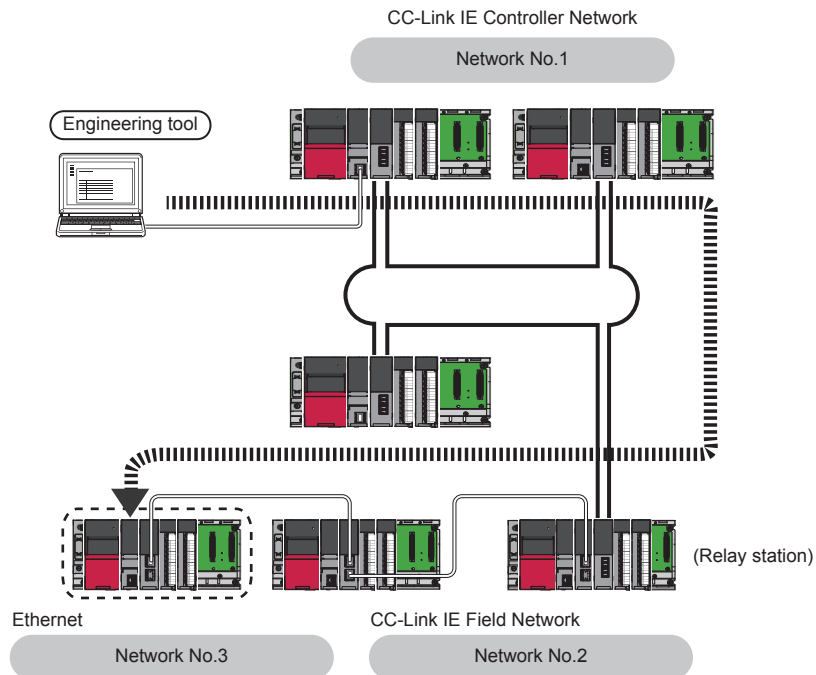
■Checking the CC-Link IE Field Network status in window

The CC-Link IE Field Network status can be checked with GX Works3. Because GX Works3 displays faulty areas, error causes, and event history, the time taken from occurrence of an error to when the system is recovered can be shortened.

Seamless access to different networks

For tests or monitoring with GX Works3, GX Works3 can seamlessly access a system configured with different networks via the CC-Link IE Field Network. Ethernet, CC-Link IE Controller Network, and CC-Link Networks can be accessed.

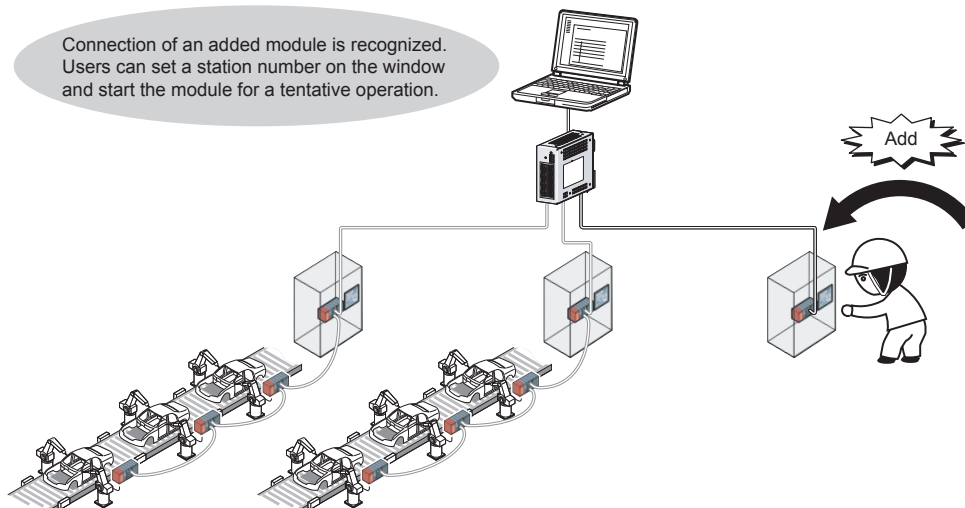
With this feature, an access destination can be changed without changes of wiring between a personal computer and a programmable controller.



Adding and replacing CC-Link IE Field Network devices without stopping the system

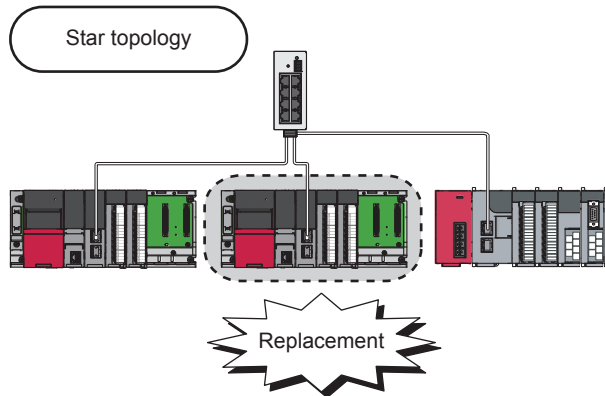
Adding CC-Link IE Field Network devices

Users can add CC-Link IE Field Network devices where no parameters have been set without powering off the system.



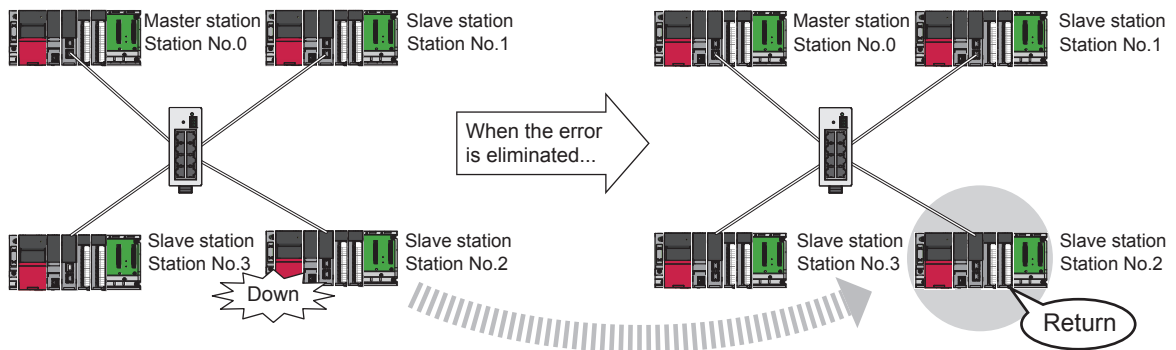
■Replacing CC-Link IE Field Network devices

In star topology, slave stations can be replaced without powering off the entire system.



■Automatic return when a disconnected station becomes normal

When a station that was disconnected due to a data link error becomes normal, it automatically returns to the network and data link is restarted.



Seamless communication to Ethernet devices

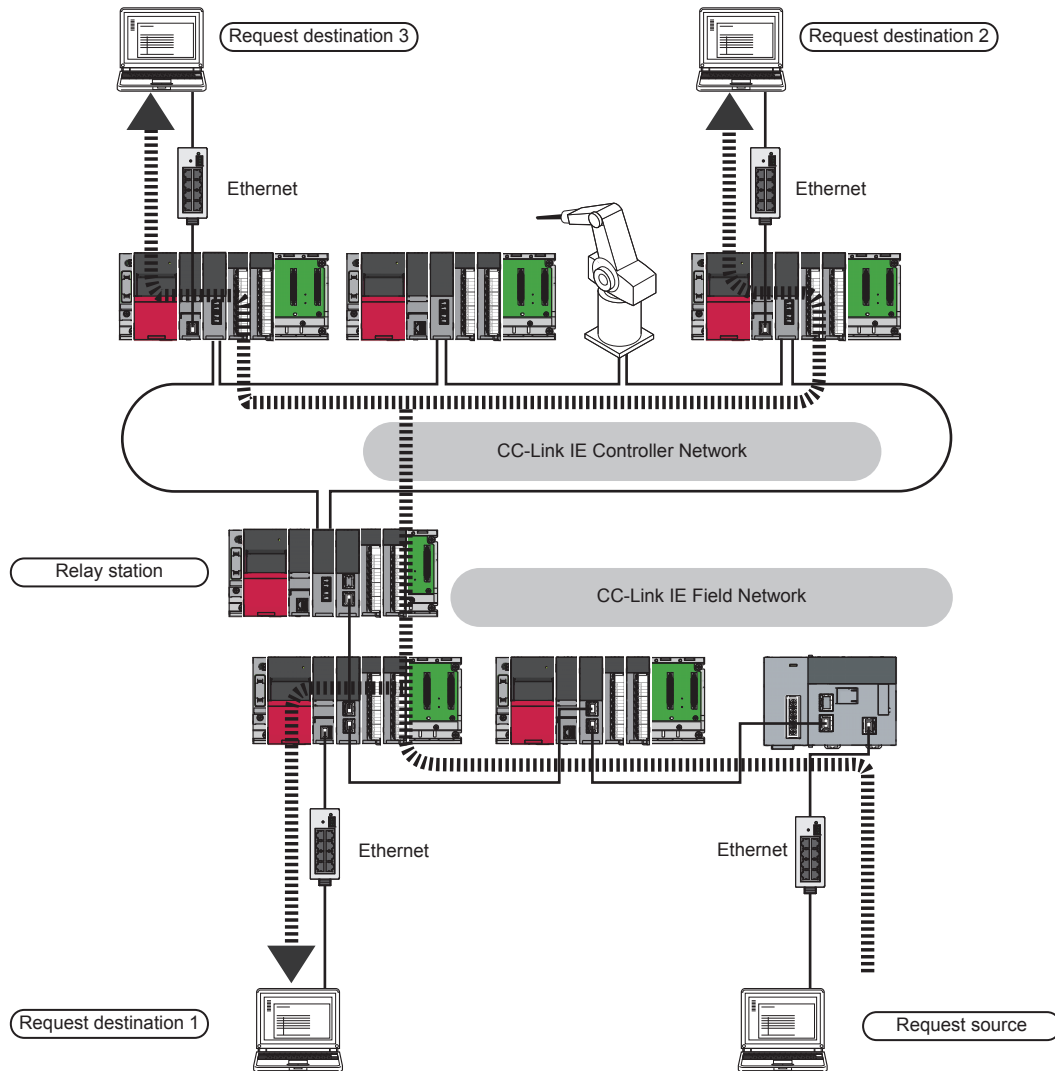
This function enables communications using the specified IP address over CC-Link IE Field Network.

For example, a personal computer can communicate with the FTP server.

To connect devices, CC-Link IE Field Network is used and Ethernet is not required. Thus, the wiring cost can be reduced. Specify an IP packet with the IP packet transfer function to relay the communication from the CC-Link IE Field Network to others.

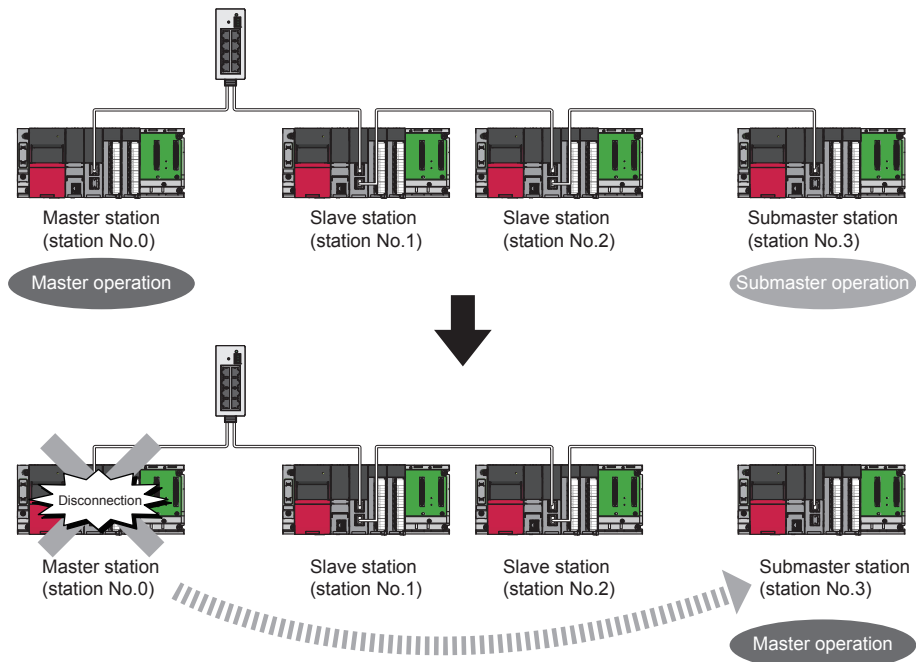
Ex.

When relaying to the CC-Link IE Controller Network



Data link continues even though the master station is disconnected.

This function allows the submaster station to control slave stations instead of the master station when the master station is disconnected in a system where the master station and submaster station are connected on the same network. Using this function prevents the entire network from going down due to disconnection of the master station.



Sharing project data in local stations

Station numbers of a local station (own station) can be set in the program.

When there are local stations with the same program and network parameters (excluding the station numbers), setting the station numbers using a program allows project data items other than the station number to be the same, leading to reduced development work hours.

1.2 CC-Link IE Field Network

This section describes the basic configuration and communications of the CC-Link IE Field Network.

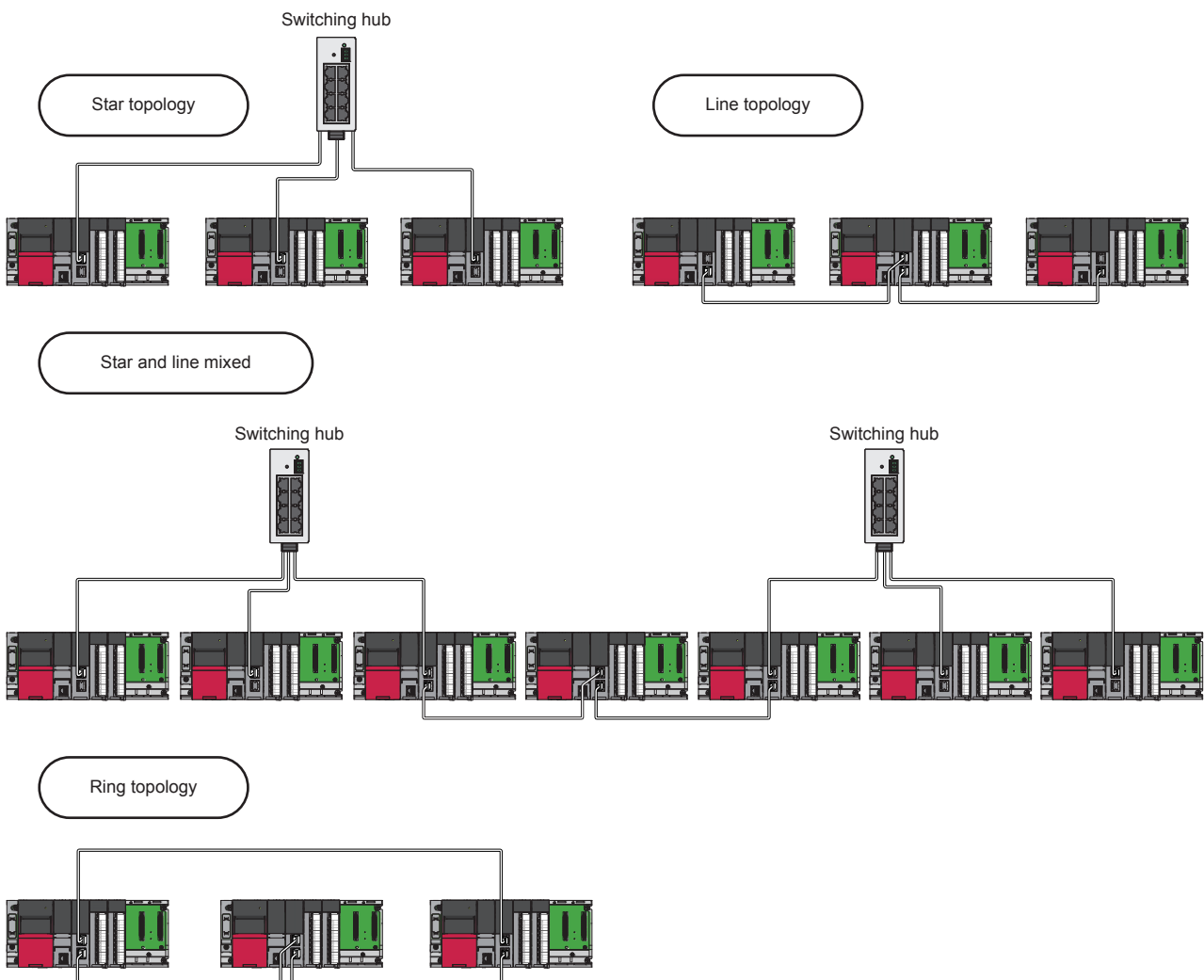
1.2.1 CC-Link IE Field Network configuration

CC-Link IE Field Network is configured using Ethernet cables.

Network topology

For the CC-Link IE Field Network-equipped master/local module, configure the network in star topology, line topology, or ring topology using the Ethernet cables.

Star topology and line topology can be combined in a network. Ring topology cannot be combined with star or line topology.



Item	Description
Star topology	The network is configured into a star shape using a switching hub and Ethernet cables. Slave stations can be easily added to the network using this topology.*1 When an error occurs in a slave station, data link can be continued with the stations that are operating normally.
Line topology	The network is configured into a line using Ethernet cables. A switching hub is not required.*1 When an error occurs in a slave station, the stations connected after the faulty station will be disconnected. <div style="text-align: center;"> </div>
Ring topology	The network is configured into a ring using Ethernet cables. A switching hub is not required.*1 When an error occurs in a slave station, data link can be continued with the stations that are operating normally. For the RJ71EN71, ring topology is available only when "CC-Link IE Field" is selected as network type for P1 connector. <div style="text-align: center;"> </div>

*1 Add/remove slave stations one by one. If multiple slave stations are added/removed at a time, all stations on the network will be reconnected, and an error may momentarily occur in all the stations.

Station number and connection position

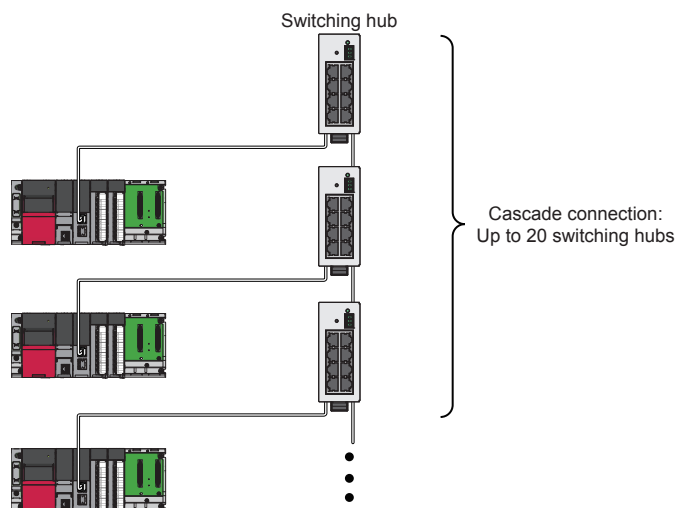
Modules can be connected in any order regardless of the station number.



- (1) Station number 1
- (2) Station number 0 (master station)
- (3) Station number 3
- (4) Station number 2

Cascade connection

Cascade connection is available up to 20 levels.



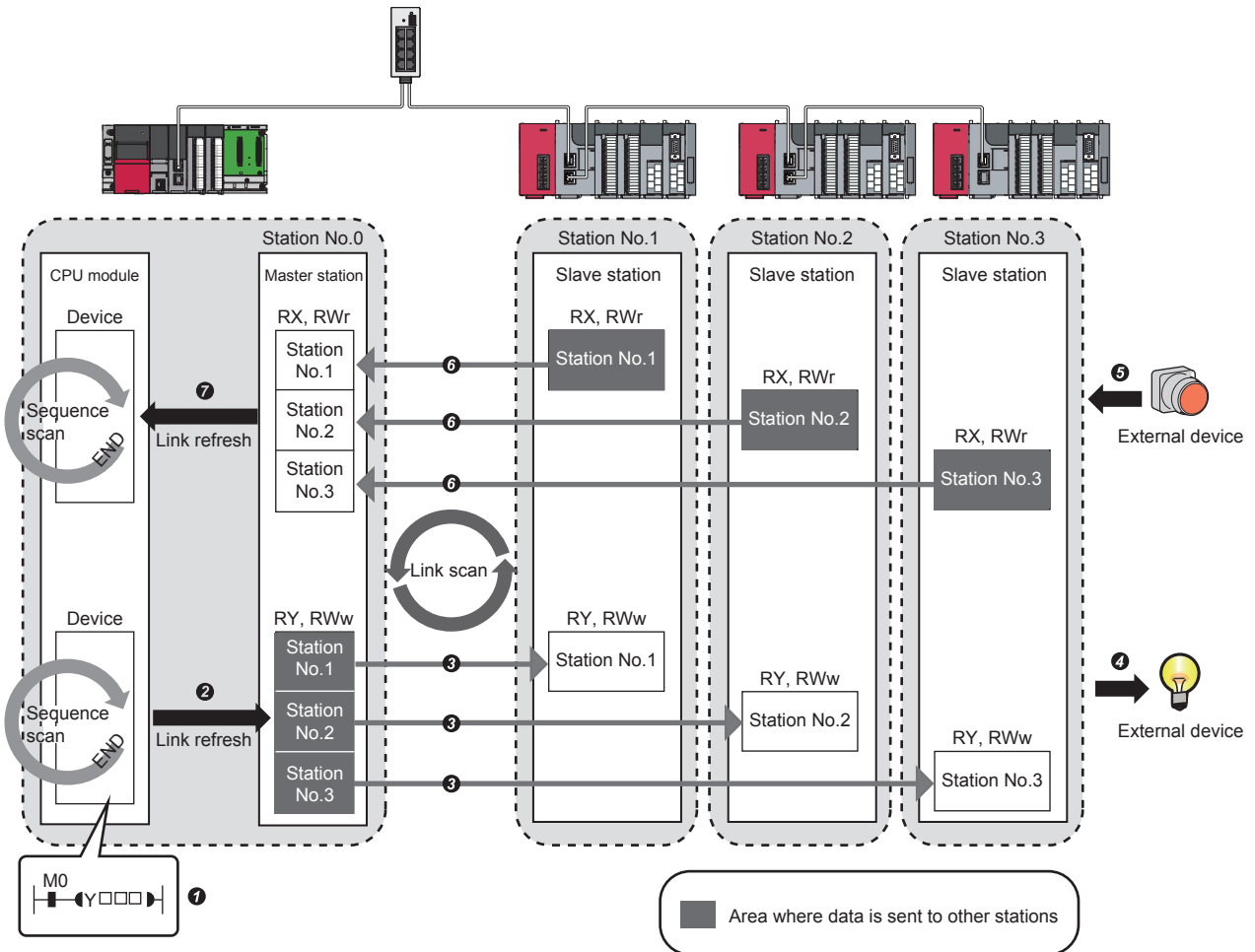
1.2.2 Communications in CC-Link IE Field Network

Cyclic transmission

This function allows data to be periodically exchanged among stations on the same network using link devices.

Master station and slave stations (except for local stations)

One-to-one communication is possible between the master and slave stations. The status data of the link devices (RY, RWw) of the master station is output to the external device of the slave station, and the input status information from the external device of the slave station is stored in the link devices (RX, RWr) of the master station.



• Output from the master station

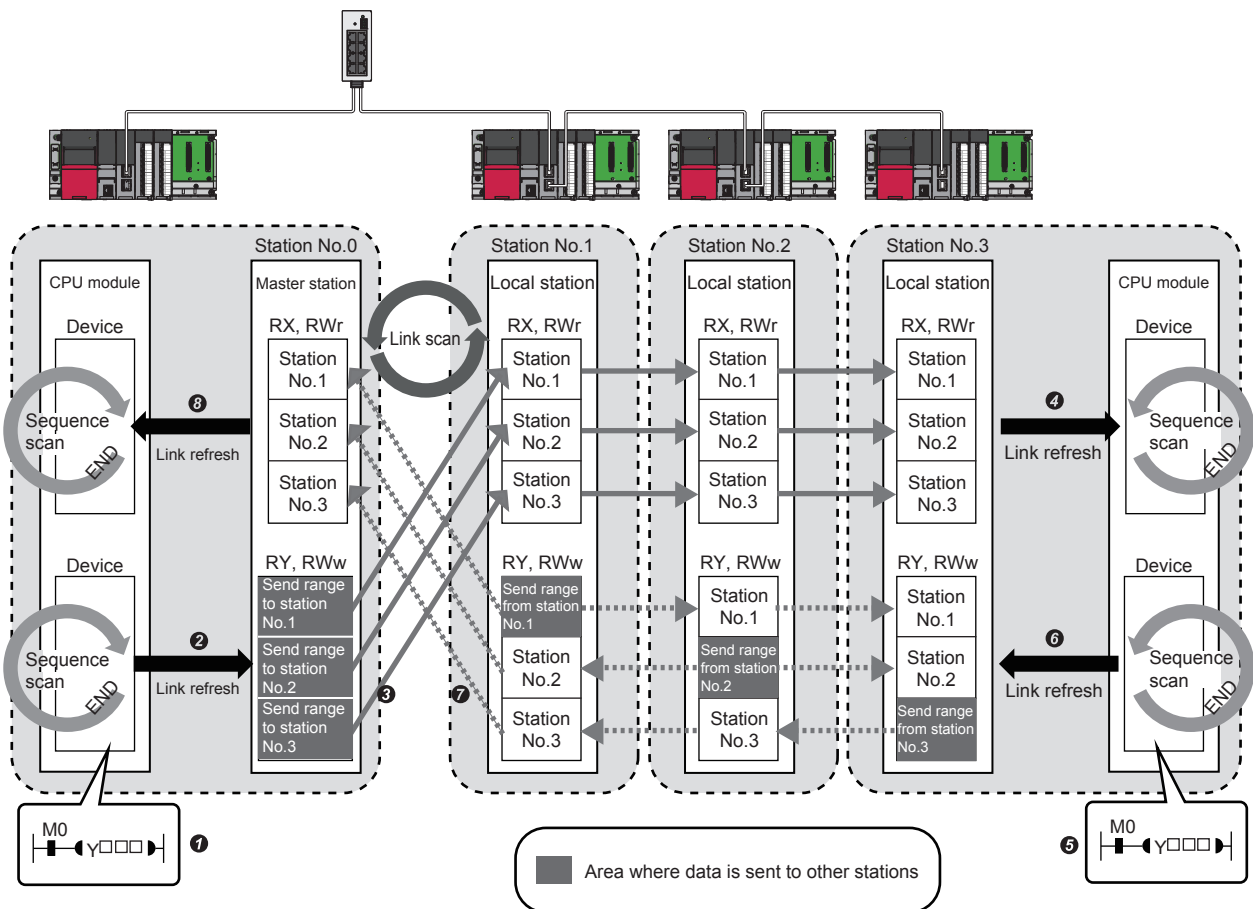
- ① The device of the CPU module turns on.
- ② The status data of the device of the CPU module are stored in the link devices (RY, RWw) of the master station by link refresh.
- ③ The status data of the link devices (RY, RWw) of the master station are stored in the link devices (RY, RWw) of each slave station by link scan.
- ④ The status data of the link devices (RY, RWw) of the slave station are output to the external device.

• Input from the slave station

- ⑤ The status data of the external device are stored in the link devices (RX, RWr) of the slave station.
- ⑥ The status data of the link devices (RX, RWr) of the slave station are stored in the link devices (RX, RWr) of the master station by link scan.
- ⑦ The status data of the link devices (RX, RWr) of the master station are stored in the devices of the CPU module by link refresh.

■ Master station and local stations

Data can be written into the send range of the link devices (RY, RWw) of each station and can be sent to any station on the same network. The status data of the link devices (RY, RWw) of the master station are stored in the link devices (RX, RWr) of each local station. The status data of the link devices (RY, RWw) of local stations are stored in the link devices (RX, RWr) of the master station and the link devices (RY, RWw) of other local stations.



• Output from the master station

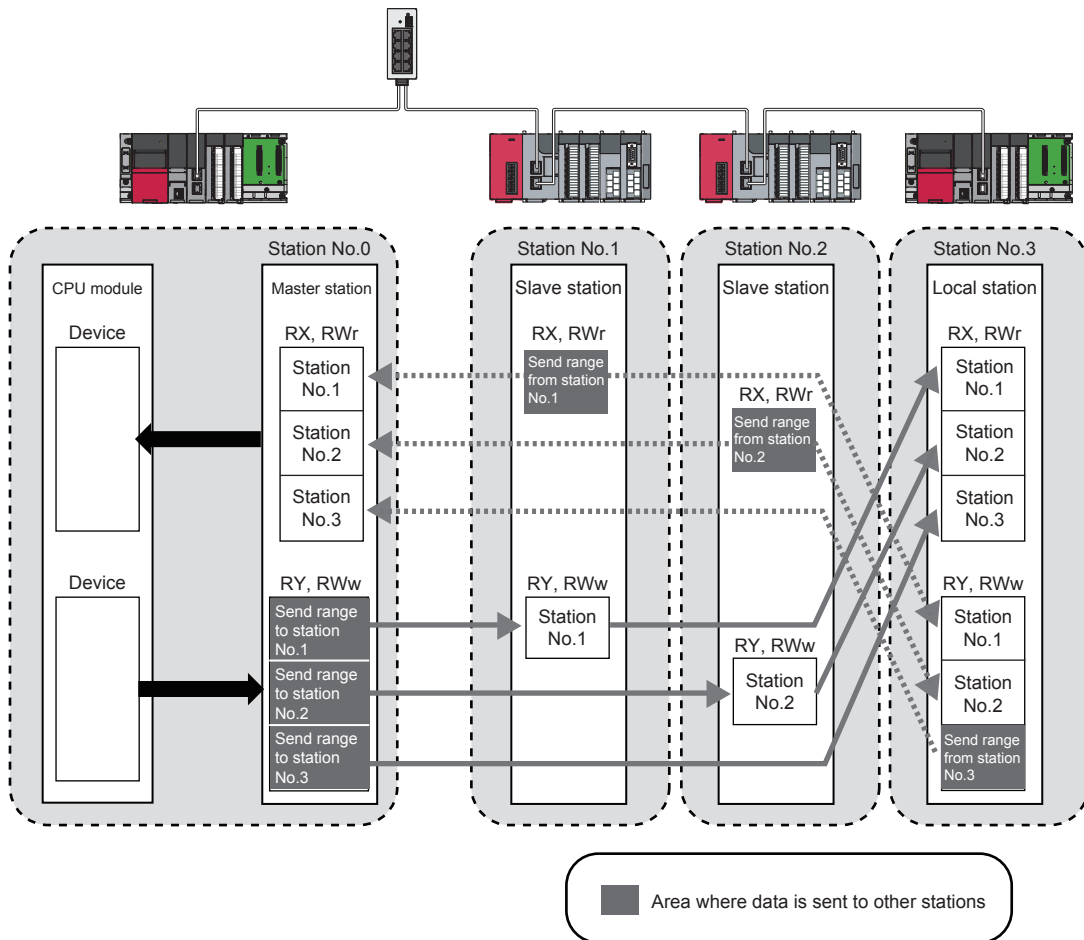
- ① The device of the CPU module turns on.
- ② The status data of the device of the CPU module are stored in the link devices (RY, RWw) of the master station by link refresh.
- ③ The status data of the link devices (RY, RWw) of the master station are stored in the link devices (RX, RWr) of the local station by link scan.
- ④ The status data of the link devices (RX, RWr) of the local station are stored in the devices of the CPU module.

• Input from the local station

- ⑤ The device of the CPU module turns on.
- ⑥ The device status data of the CPU module are stored in the own station send range of the link devices (RY, RWw).
- ⑦ The status data of the link devices (RY, RWw) of the local station are stored in the link devices (RX, RWr) of the master station by link scan.
- ⑧ The status data of the link devices (RX, RWr) of the master station are stored in the devices of the CPU module by link refresh.

■ **Coexistence of local stations and the other slave stations (other than local stations)**

The data of all slave stations are also stored in the local stations in the same way as the master station.



Transient transmission

This function allows communications with other stations when a request is made by a method such as a dedicated instruction and engineering tool. Communications with different networks is also possible.

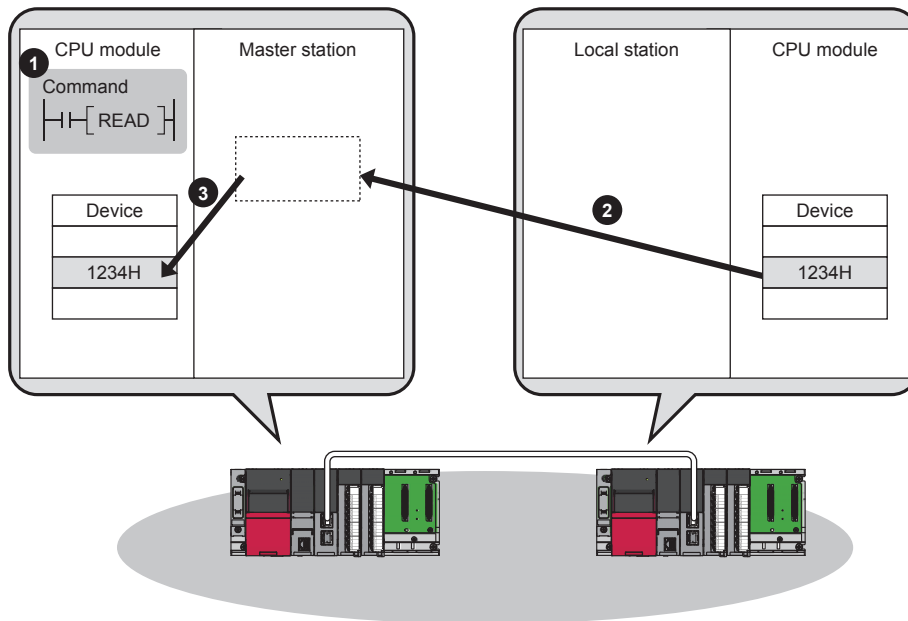
■ Communications within the same network

This function performs the transient transmission to other stations using dedicated instructions and the engineering tool. For details on dedicated instructions, refer to the following.

📖 MELSEC iQ-R Programming Manual (Instructions, Standard Functions/Function Blocks)

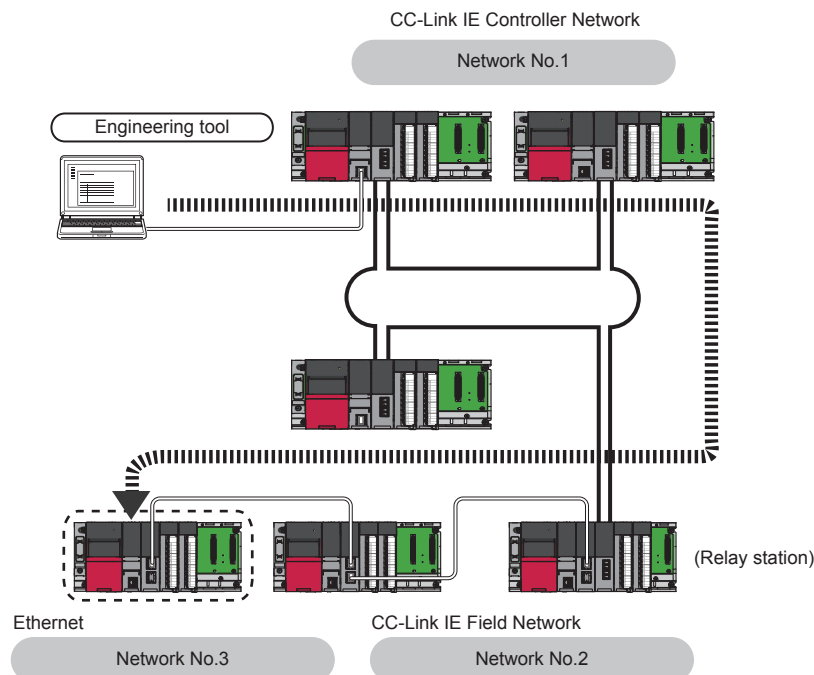
Ex.

Accessing a programmable controller of another station using the dedicated instruction (READ instruction)



■ Communications with different networks

This function performs the transient transmission seamlessly to stations on different networks using dedicated instructions and the engineering tool.



Communications can be made with stations up to eight networks apart (number of relay stations: 7).

2 SPECIFICATIONS AND OPERATION SETTINGS

This chapter describes the specifications and operation settings of the CC-Link IE Field network for the MELSEC iQ-R series. For details, refer to the following.

- 📖 MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)
- 📖 MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

2.1 SPECIFICATIONS

2.1.1 Performance specifications

The following table lists the performance specifications of CC-Link IE Field Network.

Item		RJ71GF11-T2		
Maximum number of link points per network		RX	16K points (16384 points, 2K bytes)	
		RY	16K points (16384 points, 2K bytes)	
		RWr	8K points (8192 points, 16K bytes)	
		RWw	8K points (8192 points, 16K bytes)	
Maximum number of link points per station	Master station	RX	16K points (16384 points, 2K bytes)	
		RY	16K points (16384 points, 2K bytes)	
		RWr	8K points (8192 points, 16K bytes)	
		RWw	8K points (8192 points, 16K bytes)	
	When the submaster function is used	Master operating station	RX	16K points
			RY	16K points (Own station send range is 2K points.)
			RWr	8K points
			RWw	8K points (Own station send range is 1024 points.) 8K points when communication mode is "High-Speed" (Own station send range is 256 points.)
		Submaster operating station*1	RX	2K points (assigned for the station number 0 or submaster station)
			RY	2K points (assigned for the station number 0 or submaster station)
			RWr	1024 points (assigned for the station number 0 or submaster station) 256 points when communication mode is "High-Speed"
			RWw	1024 points (assigned for the station number 0 or submaster station) 256 points when communication mode is "High-Speed"
	Local station*1	RX	2K points (2048 points, 256 bytes)	
		RY	2K points (2048 points, 256 bytes)	
		RWr	1K points (1024 points, 2K bytes) 256 points (512 bytes) when communication mode is "High-Speed"	
		RWw	1K points (1024 points, 2K bytes) 256 points (512 bytes) when communication mode is "High-Speed"	
Transient transmission capacity		1920 bytes maximum		
Communication speed		1Gbps		
Network topology		Line topology, star topology (coexistence of line topology and star topology is also possible), and ring topology		
Communication cable		Ethernet cable which satisfies 1000BASE-T standard: Category 5e or higher, straight cable (double shielded, STP)		
Maximum station-to-station distance		100m (conforms to ANSI/TIA/EIA-568-B (Category 5e))		
Overall cable distance		Line topology: 12000m (when 121 stations are connected) Star topology: Depends on the system configuration. Ring topology: 12100m (when 121 stations are connected)		
Number of cascade connections		20 levels maximum		
Maximum number of connectable stations		121 stations (master station: 1, slave station: 120)		
Maximum number of networks		239		
Communication method		Token passing		

*1 The maximum number of points that a master station can assign to one station. A submaster station and a local station can receive the data from other stations in addition to this number of points.

2.1.2 Precautions for system configuration

Addition of slave stations (including a submaster station)


If a slave station (including a submaster station) is added to a system having 120 slave stations (including a submaster station), the system operates as follows.

■When the firmware version of the master station is "05" or later

Baton pass and data link are not performed in the slave stations (including a submaster station) added after the 121st station, and other stations continues baton pass and data link.

Even if the disconnected stations are returned to a system having 121 or more slave stations (including a submaster station), the stations may not start data link.

Point

- Whether 121 or more slave stations (including a submaster station) are connected can be checked using 'Number of connected modules over occurrence status' (SB0099). Number of connected modules detected by 'Number of connected modules over occurrence status' (SB0099) is the total of the slave stations (including a submaster station) which are currently connected and the disconnected stations (slave stations which were previously connected).
- The number of stations which were previously connected can be cleared by executing the network map update of the CC-Link IE Field Network diagnostics. ( MELSEC iQ-R CC-Link IE Field Network User's Manual (Application))
- A data link error may momentarily occur in all the stations and outputs of the connected slave stations may turn off since all stations on the network will be reconnected when executing the network map update. Set output data if needed.

■When the firmware version of the master station is "04" or earlier

All stations will fail and data link cannot be performed.

Connecting devices to the same network

Do not connect the devices as described below. Doing so may cause the disconnection of all stations.


- The devices having different network types (such as CC-Link IE Controller Network and CC-Link IE Controller Network) are connected to the same network line.
- The Ethernet devices (such as personal computers) in various networks are connected to one switching hub.

Incorrectly configured ring topology

Do not use a switching hub for ring topology.

Ring topology

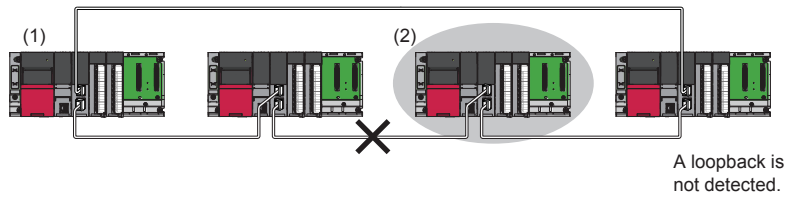
When using a ring topology, select "Ring" in the following setting for the master station.

-  Navigation window ⇒ [Parameter] ⇒ [Module Information] ⇒ Target module ⇒ [Module Parameter] ⇒ [Basic Settings] ⇒ [Network Topology]

Offline mode station in ring topology

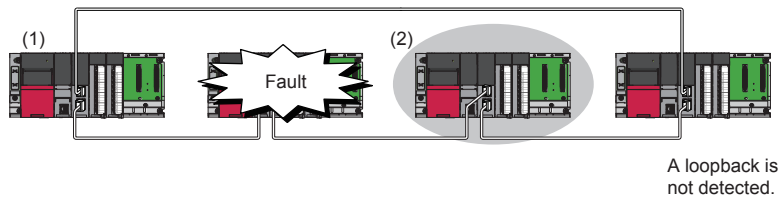
In the following conditions, the station connected to a station in the offline mode cannot detect loopback.

- One of the Ethernet cables connected to the station in the offline mode is disconnected.



- (1) Master station
- (2) Station in offline mode

- A station connected to the station in the offline mode is disconnected.



- (1) Master station
- (2) Station in offline mode

To detect loopback, set the station in the offline mode as a reserved station.

When the station in the offline mode is disconnected, loopback can be detected.

Point

The following stations operate in the same way as a station in the offline mode.

- A station in the RESET state
- A station with no station number setting

Connecting/disconnecting a cable and powering off/on a device

When the operations listed below are performed, the following will occur depending on the firmware version of the control station.


Network configuration	Operation
Star topology	<ul style="list-style-type: none">• Powering off and on a slave station or switching hub• Connecting/disconnecting an Ethernet cable connected to the switching hub• Disconnecting an Ethernet cable from a slave station and connecting it to another slave station or a switching hub• Disconnecting more than 9 stations, or half the number of slave stations or more in the system• Changing the network topology when adding a slave station
Line topology, ring topology	<ul style="list-style-type: none">• Simultaneously powering off/on multiple stations• Simultaneously connecting/disconnecting Ethernet cables to/from multiple stations (When a data link faulty station returns, a data link error will occur in all the stations.)• Disconnecting more than 9 stations, or half the number of slave stations or more in the system• Changing the network topology when adding a slave station

■When the firmware version of the master station is "05" or later

The actual network configuration and the network map of the CC-Link IE Field Network diagnostics may be a mismatch. Whether mismatch is occurred or not can be checked using 'Network configuration mismatch occurrence status' (SB0098). When using a ring topology, the following may be occurred.

- The station number of the loopback station cannot be detected correctly.
- Even if a switching hub is used, data link does not stop.

Point

The actual network configuration and network map can be matched by executing the network map update of the CC-Link IE Field Network diagnostics. ( MELSEC iQ-R CC-Link IE Field Network User's Manual (Application))

A data link error may momentarily occur in all the stations and outputs of the connected slave stations may turn off since all stations on the network will be reconnected when executing the network map update. Set output data if needed.

■When the firmware version of the master station is "04" or earlier


A data link error may momentarily occur in all the stations and outputs of the connected slave stations may turn off since all stations on the network will be reconnected. Set output data if needed.

Output hold when a data link error occurs

Setting the following allows to hold the outputs when a data link error occurs.

■Master/local module

Select the "Hold" in the following setting.

 Navigation window ⇒ [Parameter] ⇒ [Module Information] ⇒ Target module ⇒ [Module Parameter] ⇒ [Application Settings] ⇒ [Supplementary Cyclic Settings] ⇒ [I/O Maintenance Settings] ⇒ [Data Link Error Station Setting]

Connected station numbers

Do not duplicate station numbers. Data link may be stopped when the station number is duplicated.

2.1.3 I/O signals of the master/local module

This section describes the I/O signals for the CPU module. The I/O signal assignment of when the start I/O number of the master/local module is "0" is listed below.

List of I/O signals

The following table lists I/O signals. The device X is an input signal from the master/local module to the CPU module. The device Y is an output signal from the CPU module to the master/local module.

Input signals

Device No.	Signal name
X0	Module failure
X1	Own station data link status
X2	Use prohibited
X3	Other stations data link status
X4 to XE	Use prohibited
XF	Module ready
X10 to X1F	Use prohibited

Output signals

Device No.	Signal name
Y0 to Y1F	Use prohibited

Point

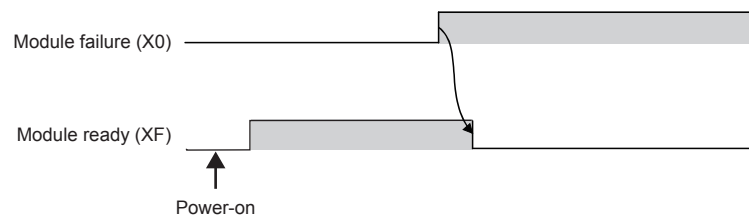
Do not use (turn on) any "use prohibited" signals as an input or output signal to the CPU module. Doing so may cause malfunction of the programmable controller system.

Details of I/O signals

Module failure (X0)

This signal is used to check the status of the master/local module.

- Off: Module normal
- On: Module failure



Own station data link status (X1)

This signal is used to check the data link status of the own station.

- Off: Data link stop
- On: Data link in progress

'Data link error status of own station' (SB0049) has the same signal, but when using it in a program, use either X1 or 'Data link error status of own station' (SB0049) only. Also note that the on/off conditions for X1 and SB0049 are reversed. If an error occurs, the cause of the fault can be checked by CC-Link IE Field Network diagnostics or 'Cause of data link stop' (SW0049).

■Other stations data link status (X3)

This signal is used to check the data link status of other stations.

- Off: All stations normal
- On: Faulty station found

'Data link error status of each station' (SB00B0) has the same signal, but when using it in a program, use either X3 or 'Data link error status of each station' (SB00B0) only.

If an error occurs, the faulty station can be checked by CC-Link IE Field Network diagnostics or with 'Data link status of each station' (SW00B0 to SW00B7).

■Module ready (XF)

This signal is used to check the status of module operation preparation.

- Off: Not available for module operation
- On: Available for module operation

For the module ready timing chart, refer to Module failure (X0).

2.1.4 Buffer memory of the master/local module

The buffer memory is used to exchange data between the master/local module and the CPU module. Buffer memory values are defaulted when the CPU module is reset or the system is powered off.

List of buffer memory addresses

Address (decimal)	Address (hexadecimal)	Name	Initial value	Read, write	
0 to 1023	0H to 3FFH	Link device area	0	Read	
1024 to 2047	400H to 7FFH			Remote input (RX)	Read, write
2048 to 10239	800H to 27FFH			Remote output (RY)	
10240 to 18431	2800H to 47FFH			Remote register (RWw)	
18432 to 18463	4800H to 481FH			Remote register (RWr)	Read
				Link special relay (SB)	<ul style="list-style-type: none"> • 18432 to 18433 for read and write • 18434 to 18463 for read only
18464 to 18975	4820H to 4A1FH	Link special register (SW)		<ul style="list-style-type: none"> • 18464 to 18495 for read and write • 18496 to 18975 for read only 	
18976 to 19455	4A20H to 4BFFH	System area			
19456	4C00H	RX offset/size information	0	Read	
19457	4C01H				Station No.1 RX offset
					Station No.1 RX size
					⋮
19694	4CEEH				Station No.120 RX offset
19695	4CEFH				Station No.120 RX size
19696	4CF0H				Station No.0 RX offset
19697	4CF1H				Station No.0 RX size
19698 to 19711	4CF2H to 4CFFH	System area			
19712	4D00H	RY offset/size information	0	Read	
19713	4D01H				Station No.1 RY offset
					Station No.1 RY size
					⋮
19950	4DEEH				Station No.120 RY offset
19951	4DEFH				Station No.120 RY size
19952	4DF0H				Station No.0 RY offset
19953	4DF1H				Station No.0 RY size
19954 to 19967	4DF2H to 4DFFH	System area			
19968	4E00H	RWw offset/size information	0	Read	
19969	4E01H				Station No.1 RWw offset
					Station No.1 RWw size
					⋮
20206	4EEEH				Station No.120 RWw offset
20207	4EEFH				Station No.120 RWw size
20208	4EF0H				Station No.0 RWw offset
20209	4EF1H				Station No.0 RWw size
20210 to 20223	4EF2H to 4EFFH	System area			
20224	4F00H	RWr offset/size information	0	Read	
20225	4F01H				Station No.1 RWr offset
					Station No.1 RWr size
					⋮
20462	4FEEH				Station No.120 RWr offset
20463	4FEFH				Station No.120 RWr size
20464	4FF0H				Station No.0 RWr offset
20465	4FF1H				Station No. 0 RWr size
20466 to 20511	4FF2H to 501FH	System area			

Address (decimal)	Address (hexadecimal)	Name	Initial value	Read, write	
20512	5020H	Own station (network card) information	Manufacturer code	0	Read
20513	5021H		Model type		
20514	5022H		Model code	1	
20515	5023H		Version		
20516 to 20519	5024H to 5027H	System area			
20520	5028H	Own station (controller) information	Controller information valid/invalid flag	0	Read
20521	5029H		Manufacturer code		
20522	502AH		Model type		
20523	502BH		Model code		
20524	502CH		Version		
20525 to 20534	502DH to 5036H		Model name string		
20535 to 20536	5037H to 5038H		Vendor-specific device information		
20537 to 20543	5039H to 503FH		System area		
20544	5040H	Other station (network card) information (station No.1)	Manufacturer code	0	Read
20545	5041H		Model type		
20546	5042H		Model code		
20547	5043H		Version		
20548 to 20551	5044H to 5047H	System area			
20552	5048H	Other station (controller) information (station No.1)	Controller information valid/invalid flag	0	Read
20553	5049H		Manufacturer code		
20554	504AH		Model type		
20555	504BH		Model code		
20556	504CH		Version		
20557 to 20566	504DH to 5066H		Model name string		
20567 to 20568	5057H to 5058H		Vendor-specific device information		
20569 to 20575	5059H to 505FH		System area		
20576 to 24383	5060H to 5F3FH	Other station information (station No.2 to 120)	Same as other station information (station No.1)		
24384 to 24415	5F40H to 5F5FH	Other station information (station No.0)	Same as other station information (station No.1)		
24416 to 24479	5F60H to 5F9FH	System area			
24480	5FA0H	Communication path determination status (network No.1 to 16)	0	Read	
24481 to 24495	5FA1H to 5FAFH	Communication path determination status (network No.17 to 256)	0	Read	
24496 to 65535	5FA2H to FFFFH	System area			

Point 

- Do not write data to "System area". Doing so may cause malfunction of the programmable controller system.
- If the value in an area of one word in size becomes equal to or higher than 65536, the count stops at 65535 (FFFFH).

2.2 Operation Settings

This section describes the settings required before operation.

2.2.1 Required settings

Follow the procedures below to perform the settings required before operation. The detailed procedures are described in exercises in chapter 3 or later. Thus, detailed explanations are omitted here.

1. Mounting modules

Mount a master/local module on a base unit.

2. System configuration (wiring)

Connect each module with an Ethernet cable.

3. Setting of each module

Set station numbers and parameters to each module.

4. Loop test

Perform the loop test in the master station and check whether the communication can be normally performed with set parameters.

5. Programming

Create a sequence program.

6. Debugging

Debug the program using the CC-Link IE Field Network diagnostics.

2.2.2 Setting network parameters and link refresh parameters

Setting network parameters for the MELSEC iQ-R series

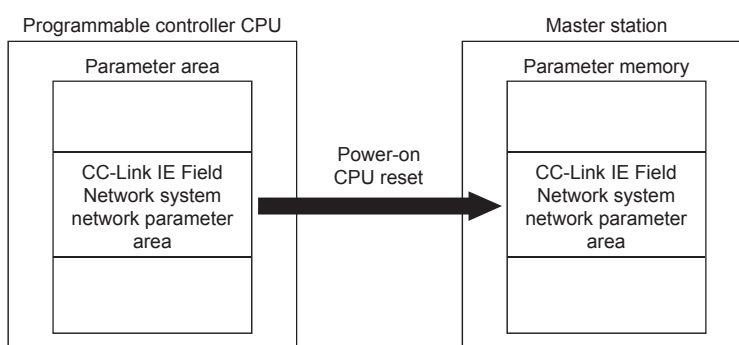
Network parameters for controlling the CC-Link IE Field Network are set with GX Works3 and written into parameter areas of the programmable controller CPU.

Areas for storing network parameters

Network parameters written in the programmable controller CPU are transferred to the parameter memory of the master station when the power is turned on or when the programmable controller CPU is reset.

Data in the parameter memory of the master station is deleted when the power is turned off or when the programmable controller CPU is reset.

(Data is transferred again from the programmable controller CPU when the power is turned on or the programmable controller CPU is reset.)



Setting link refresh parameters for the MELSEC iQ-R series

Link refresh parameters for updating devices between the master/local module and the programmable controller CPU are set with GX Works3 and written into parameter areas of the programmable controller CPU.

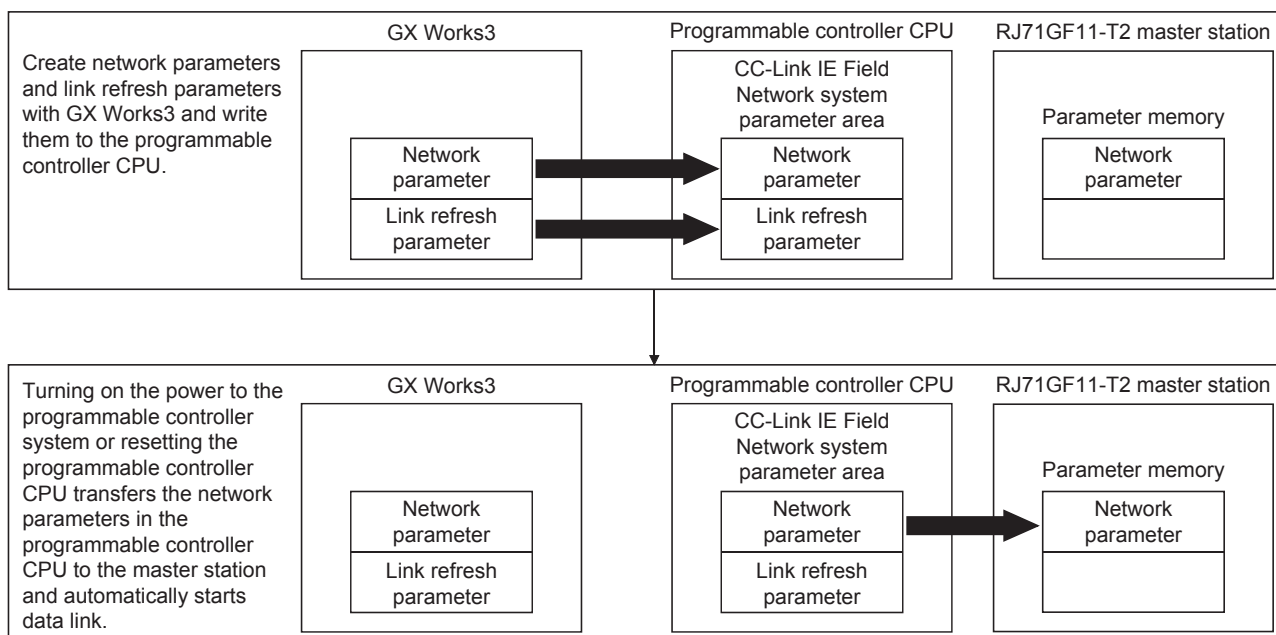
(Link refresh parameters are not transferred to the master station.)

Link refresh parameters cannot be set with a sequence program.

*1 Link refresh parameters are set on the window for network parameters with GX Works3. Link refresh parameters and network parameters are written to the programmable controller CPU at the same time.

Procedures from parameter settings to data link startup

Follow the procedures below from parameter settings to data link startup.



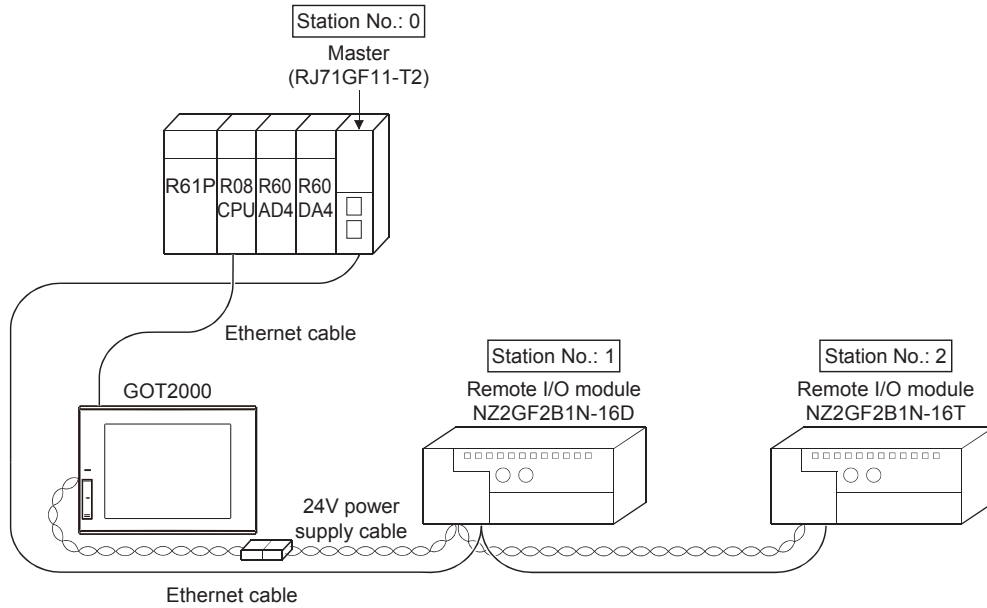
3 EXERCISE 1 COMMUNICATION WITH DIGITAL INPUTS AND OUTPUTS

This exercise is for the system where only remote I/O modules are connected.

3.1 System Configuration

The following figure shows the system configuration of the demonstration machine for Exercise 1.

Module configuration



I/O assignment

R61P (Power supply)	R61P (CPU No.1)	R60 AD4 (16 points)	R60 DA4 (16 points)	RJ71 GF11-T2 (32 points) X20 Y20 to to X3F Y3F
------------------------	--------------------	---------------------------	---------------------------	---

X100
to
X10F

Y170
to
Y17F

GOT2000

Initial indication device D0

Initial indication device D1

Initial indication device D10 (32 bits)

Initial input device D20

Initial input device D21

Initial input device D30 (32 bits)

Screen 1

Screen 2


Screen 3



Upper section: The indication device can be changed.
Lower section: Data is displayed.



Upper section: The input device can be changed.
Lower section: The input data can be set and displayed.

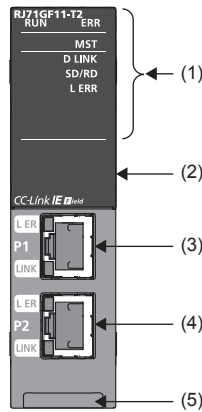
- Touching  switches the screen.
- The initial value is automatically set to a device number in the upper section (trigger action function).
- Touching the "Initialize Input/Indication Device" button also initializes the device number.

3.2 Part Names and Settings

3.2.1 Part names and settings of the master/local module

This section describes the part names and settings of the RJ71GF11-T2.

Part names



No.	Name	Description
(1)	RUN LED	Indicates the operating status. On: Normal operation Off: Error (MELSEC iQ-R CC-Link IE Field Network User's Manual (Application))
	ERR LED ^{*1}	Indicates the error status of the module. On: Error or at error detection on all stations (MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)) Flashing (500ms interval): A data link faulty station was detected. Flashing (200ms interval): Error (MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)) Off: Normal operation
	MST LED	Indicates the operating status. On: Operating as a master station Flashing: Operating as a submaster station Off: Operating as a local station
	D LINK LED ^{*1}	Indicates the data link status. On: Data link (cyclic transmission being performed) Flashing: Data link (cyclic transmission stopped) Off: Data link not performed (disconnection)
	SD/RD LED	Indicates the data sending/receiving status. On: Data being sent or received Off: Data not sent nor received
	L ERR LED ^{*1}	Indicates the receive data and line error status. When the L ERR LED is on, the port in which the error was detected can be checked with the L ER LED of P1 or P2. On: Abnormal data received or loopback being performed Off: Normal data received and loopback not performed
(2)	Dot matrix LED	Displays the station number set in the module and the module communication test result. Station number not set: "— — —" Master station: 0 Submaster station, local station: 1 to 120 In offline mode: "..." For display of the module communication test result, refer to the following. (MELSEC iQ-R CC-Link IE Field Network User's Manual (Application))
(3)	Ethernet port (P1)	PORT1 connector for CC-Link IE Field Network Connect an Ethernet cable.
	L ER LED	Indicates the port status. On: Abnormal data received or loopback being performed Off: Normal data received and loopback not performed
	LINK LED	Indicates the link status. On: Link-up Off: Link-down

No.	Name	Description
(4)	Ethernet port (P2)	PORT2 connector for CC-Link IE Field Network Connect an Ethernet cable.
	L ER LED	Same as the P1 connector
	LINK LED	
(5)	Production information marking	Shows the production information (16 digits) of the module.



*1 The LED is always off in offline mode.

Parameter settings

This section describes the parameter settings required for communications between the master/local module and other stations.

The parameter settings of the RJ71GF11-T2 are described on Page 3 - 18 Parameter settings (master station) or later. Thus, detailed explanations are omitted here.

■Setting procedure

1. Select program elements (objects) from the Element Selection window and arrange them in the Module Configuration window.
-  Double-click [Module Configuration] in the Navigation window.
2. The parameters of the master/local module includes the required settings, basic settings, and application settings. Double-click the master/local module on the Module Configuration window to set parameters.
3. After setting parameters, click the [Apply] button.
4. Write the parameters to the CPU module using the engineering tool.
-  [Online] ⇄ [Write to PLC]
5. The parameters are reflected by resetting the CPU module or powering off and on the system.

■Setting items

Set the station type, network number, or other parameters for the master/local module.

Item		Description
Required Settings	Station Type	Set the station type of the master/local module.
	Network Number	Set the network number of the master/local module.
	Station Number	Set the station number of the master/local module.
	Parameter Setting Method	Select whether to set "Basic Settings" and "Application Settings" items of the master/local module in parameter editor or in program.
Basic Settings	Network Configuration Settings	Set parameters of slave stations (the number of points and assignment of link devices) in the master station and submaster station.
	Link Refresh Settings	Set link refresh ranges between the devices of the CPU module and the link special relay (SB), link special register (SW), and link devices of the master/local module, or between the module label of the CPU module and the link special relay (SB) and link special register (SW) of the master/local module.
	Network Topology	Select the topology type according to the actual network configuration.
	Submaster Parameters	Configure the settings for the submaster station. Select whether to set "Network Configuration Settings" in "Basic Settings" or other parameters for the submaster station, or to read parameters of the master station.
	Operation of Master Station after Reconnection	When using the submaster function, select the operation of the master station for when it returned after disconnection.

Item		Description
Application Settings	Supplementary Cyclic Settings	Set the link scan mode, station-based block data assurance, and I/O maintenance settings.
	Interrupt Settings	Set conditions for sending an interrupt request to the CPU module.
	IP Address	Set the IP address of the master station and submaster station to communicate with Ethernet device over CC-Link IE Field Network.
	Communication Mode	Set the communication mode of the own station.
	Parameter Name	Set a name for the module parameter if desired.
	Dynamic Routing	Select whether to enable the dynamic routing function.
	Event Reception from Other Stations	Select whether to obtain the events occurring in the other stations.
	Module Operation Mode	Set the mode of the master/local module.
Interlink Transmission Settings	Set link device ranges when cyclic data are transferred from a station in the own network to a station in another network.	

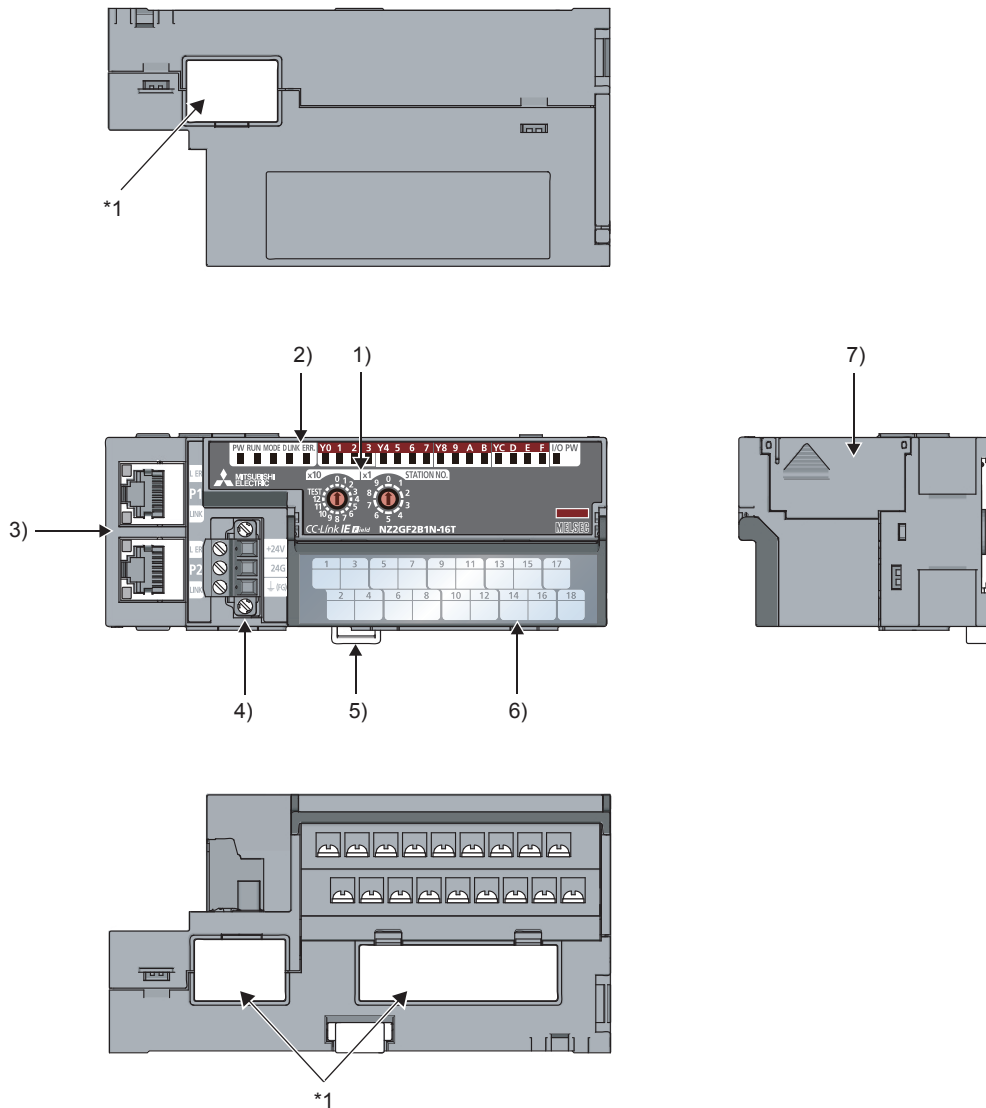
Point 

When the parameters of required settings are not set, the module operates as a local station of network No.1 and station No.1.

3.2.2 Part names and settings of the remote I/O module

This section describes the part names and settings of the NZ2GF2B1N-16D and NZ2GF2B1N-16T.

Part names



*1 Do not remove these stickers because they are used for our maintenance purposes.

No.	Name	Application
1)	Station number setting switch	<p>A rotary switch for the following setting and test.</p> <ul style="list-style-type: none"> • Station number setting • Unit test <p>When operating the station number setting switch, use a flathead screwdriver with 3.5mm or less width of the tip.</p>

No.	Name	Application
2)	X0 LED to XF LED (green)	Indicates the on/off states of inputs.*1 <ul style="list-style-type: none"> • On: Input ON • Off: Input OFF
	Y0 LED to YF LED (green)	Indicates the on/off states of outputs.*2 <ul style="list-style-type: none"> • On: Output ON • Off: Output OFF
	I/O PW LED (green)	Indicates the status of the power supply from the external power supply. <ul style="list-style-type: none"> • On: External power supply ON • Off: External power supply OFF
	RUN LED (green)	Indicates the operating status of the I/O module. <ul style="list-style-type: none"> • On: Operating normally. • Off: A major error has occurred.
	PW LED (green)	Indicates the power supply status of the main I/O module. <ul style="list-style-type: none"> • On: Power supply ON • Off: Power supply OFF
	MODE LED (green)	Indicates the mode of the main I/O module. <ul style="list-style-type: none"> • On: Online mode • Flashing: Unit test mode • Off: The unit test is completed.
	ERR. LED (red)	Indicates the error status of the main I/O module. <ul style="list-style-type: none"> • On: A module error has occurred. • Flashing: A minor error has occurred. • Off: Operating normally.
	D LINK LED (green)	Indicates the data link status of the main I/O module. <ul style="list-style-type: none"> • On: Data link in operation. (cyclic transmission in progress) • Flashing: Data link in operation. (cyclic transmission stopped) • Off: Data link not performed. (disconnected)
3)	P1	PORT1 connector for CC-Link IE Field Network (RJ45 connector) Connect an Ethernet cable. There are no restrictions on the connection order of the cables for the P1 connector and P2 connector.
	L ER LED (red)	<ul style="list-style-type: none"> • On: Module received abnormal data, or module performing loopback • Off: Module received normal data, or module not performing loopback
	LINK LED (green)	<ul style="list-style-type: none"> • On: Linkup in progress • Off: Linkdown in progress
	P2	PORT2 connector for CC-Link IE Field Network (RJ45 connector) Connect an Ethernet cable. There are no restrictions on the connection order of the cables for the P1 connector and P2 connector.
	L ER LED (red)	(Same as the LEDs of "P1" connector)
	LINK LED (green)	
4)	Terminal block for module power supply and FG	A terminal block to connect the module power supply (24VDC) and FG.
5)	DIN rail hook	A hook to mount an I/O module on a DIN rail
6)	Terminal cover	Covers for preventing electric shock while the power is on
	I/O terminal block	A terminal block for I/O power supply and I/O signals
7)	Extension connector cover	A cover to protect a connector of an extension module.

*1 The status of actual input signals that are externally input is indicated on the LEDs regardless of the setting of the input OFF delay function.

*2 Output commands from the module are indicated on the LEDs regardless of the status of the external power supply.

I/O module status and LED status

The following table lists the correspondence between the I/O module status and the LED status.

I/O module status		Data link status	LED status				
			PW LED	RUN LED	MODE LED	D LINK LED	ERR. LED
Disconnected		Disconnection	On	On	On	Off	Off
Data link in operation		Data link in operation	On	On	On	On	Off
Reserved station setting in progress		Cyclic stop	On	On	On	Flashing	Off
Data link stop		Cyclic stop	On	On	On	Flashing	Off
Unit test	In progress	—	On	On	Flashing	Off	Off
	Normal completion	—	On	On	Off	Off	Off
	Abnormal completion	—	On	On	Off	Off	On
Communication error		Cyclic stop	On	On	On	Flashing	Off
Error	Major error	—	On	Off	*1	*2	On*3
	Moderate error	—	On	On	*1	*2	On
Warning	Minor error	—	On	On	*1	*2	Flashing

*1 Either of on or off

*2 Either of on, flashing, or off

*3 When the module has failed, the LED may not turn on.

Station number setting

Set the station number of each module as follows.

NZ2GF2B1N-16D: Station number 01
NZ2GF2B1N-16T: Station number 02

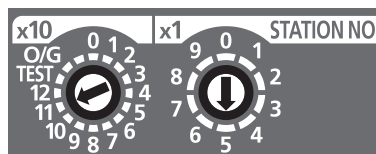
Setting procedure

Set the station number with the rotary switches on the front of the module. The setting value of the station number becomes valid when the module is powered on. Thus, set the station number when the module is powered off.

- The hundreds and tens places of the station number are set with x10.
- The ones place of the station number is set with x1.

Ex.

To set the station to 115, set the switches as shown below.



Setting range

Set the station number from 1 to 120. Setting the value other than 1 to 120 causes a communication error and the D LINK LED flashes.

Point

- Do not change the station number setting switches while the module is powered on. Changing the station number setting switches causes a minor error and flashes the ERR. LED. Returning the station number setting switches to the previous setting eliminates the error after five seconds and turns off the ERR. LED.
- Do not set a station number duplicated with other station numbers. If the station number is duplicated, a communication error occurs and the D LINK LED does not turn on.


Parameter settings

Write the module parameters to the CPU module of the master station in advance.

The parameter settings of the NZ2GF2B1N-16D and NZ2GF2B1N-16T are described on Page 3 - 26 Parameter settings (remote I/O station) or later. Thus, detailed explanations are omitted here.

■Setting procedure

1. Set parameters on the "CC IE Field Configuration" dialog box.

 Right-click the module to be set from the list of stations ⇒ [Online] ⇒ [Parameter Processing of Slave Station].

2. After setting parameters, click the [Execute] button to write the parameters to the module.

■Setting items

• NZ2GF2B1N-16D

Item	Description
Input response time setting	This function prevents an incorrect input due to noise by setting the response time until the module recognizes an actual input as the X signal.
Output HOLD/CLEAR setting	When the I/O module is disconnected from data link, or the CPU module operating status is STOP, whether to hold or clear the last output value can be set.
Cyclic data update watch time setting	The update intervals of cyclic data are monitored. The last output value is held or cleared when the cyclic transmission stop status continues longer than the set monitoring time.
Mode switch	This function switches the mode to the normal mode or synchronous communication mode.
Initial operation setting	Set whether the initial processing using the program is necessary or not when the data link is established.
Input OFF delay setting	This function turns off an X signal after a predetermined time passed from when an actual input becomes off from on.

• NZ2GF2B1N-16T

Item	Description
Input response time setting	This function prevents an incorrect input due to noise by setting the response time until the module recognizes an actual input as the X signal.
Output HOLD/CLEAR setting	When the I/O module is disconnected from data link, or the CPU module operating status is STOP, whether to hold or clear the last output value can be set.
Cyclic data update watch time setting	The update intervals of cyclic data are monitored. The last output value is held or cleared when the cyclic transmission stop status continues longer than the set monitoring time.
Mode switch	This function switches the mode to the normal mode or synchronous communication mode.
Initial operation setting	Set whether the initial processing using the program is necessary or not when the data link is established.
Number of ON times integration function enable	The number of ON times of each output point is counted within the range of 0 to 2147483647.
Fast logic setting	This function controls output according to the input status inside the I/O module and without communication with the master station.

3.3 Wiring

Set the wiring type to line topology and connect Ethernet cables and 24V power supply cables as shown in Page 3 - 1 System Configuration.

When wiring modules, always turn off the power supply.

Wiring methods

The following describes connection and disconnection of the Ethernet cable.

■Connecting the cable

1. Push the Ethernet cable connector into the RJ71GF11-T2 until it clicks. Pay attention to the connector's direction.
2. Lightly pull it to check that it is securely connected.
3. Check whether the LINK LED of the port connected with an Ethernet cable is on.*1

*1 The time between the cable connection and the LINK LED turning on may vary. The LINK LED usually turns on in a few seconds. Note, however, that the time may be extended further if the link-up processing is repeated depending on the status of the device on the line. If the LINK LED does not turn on, refer to the following and take corrective actions.

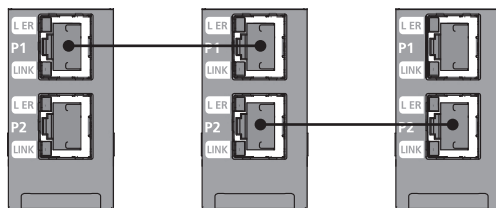
📖 MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)



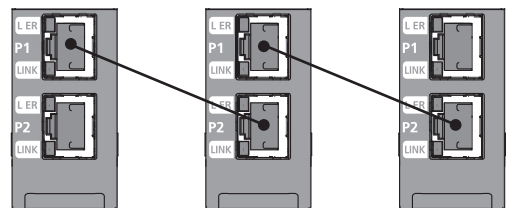
Both P1 connector and P2 connector can be used.

- When only one connector is used in star topology, either P1 connector or P2 connector is applicable.
- When two connectors are used in line topology and ring topology, the cable can be connected between P1 and P1, P2 and P2, or between P1 and P2.

Connection between P1s or P2s



Connection between P1 and P2



■Disconnecting the cable

1. Press the latch down and unplug the Ethernet cable.

■ Precautions

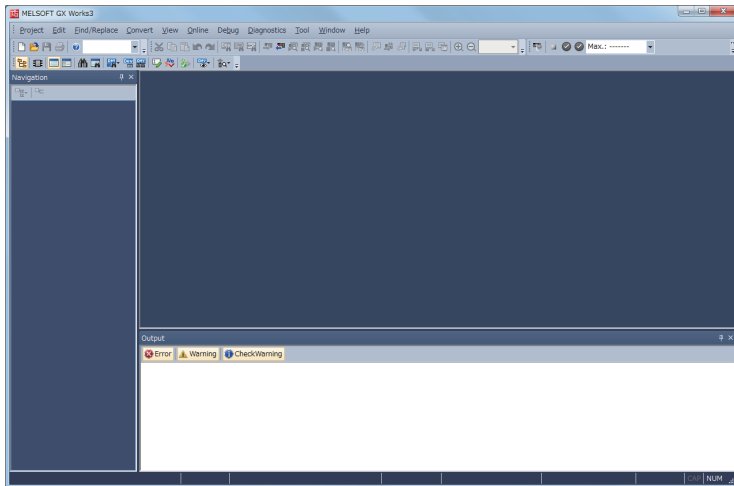
- Place the Ethernet cable in a duct or clamp them. If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the module or cables or malfunction due to poor contact.
- Do not touch the core of the cable-side or module-side connector, and protect it from dirt or dust. If oil from your hand, dirt or dust is attached to the core, it can increase transmission loss, arising a problem in data link.
- Check that the Ethernet cable is not disconnected or not shorted and there is no problem with the connector connection.
- Do not use Ethernet cables with broken latches. Doing so may cause the cable to unplug or malfunction.
- Hold the connector part when connecting and disconnecting the Ethernet cable. Pulling the cable connected to the module may result in malfunction or damage to the module or cable.
- For connectors without Ethernet cable, attached connector cover should be placed to prevent foreign matter such as dirt or dust.
- The maximum station-to-station distance of the Ethernet cable is 100m. However, the length may be shorter depending on the operating environment of the cable. For details, contact your cable manufacturer.
- The bend radius of the Ethernet cable is limited. For details, check the specifications of the Ethernet cable to be used.

3.4 Parameter Settings

3.4.1 Starting GX Works3

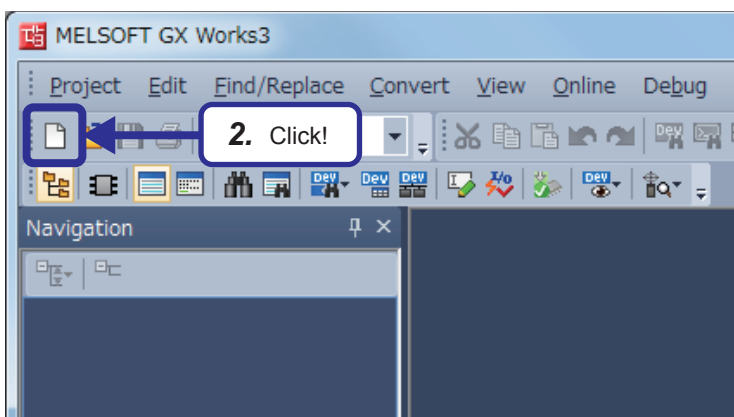
Start GX Works3 to set parameters of the master station.


Operating procedure



1. Click [MELSOFT] ⇒ [GX Works3] ⇒ [GX Works3] from the Windows® Start menu*1.

*1 Select [Start] ⇒ [All apps] or [Start] ⇒ [All Programs].

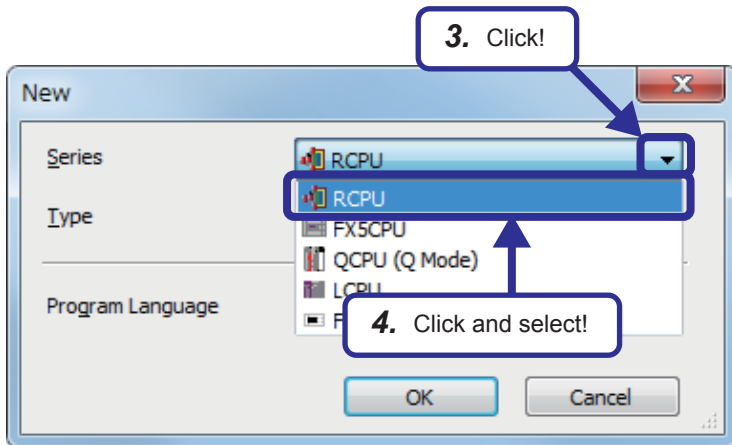


2. Click  on the toolbar or select [Project] ⇒ [New] from the menu (Ctrl + N).

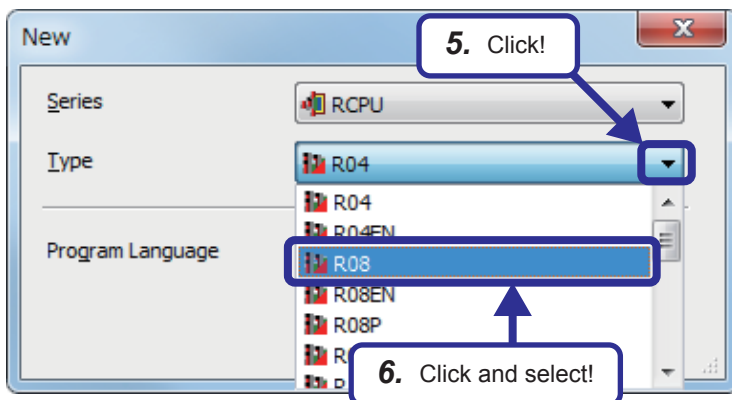


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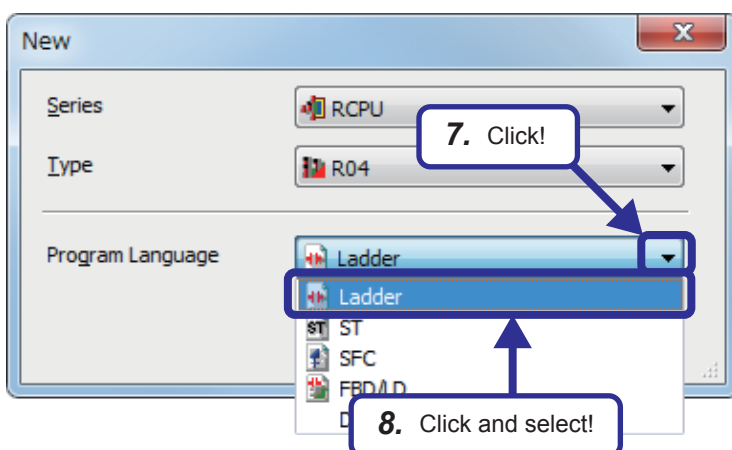
(From the previous page)



3. Click the list button of "Series".
4. Select "RCPU" from the drop-down menu.



5. Click the list button of "Type".
6. Select "R08" from the drop-down menu.

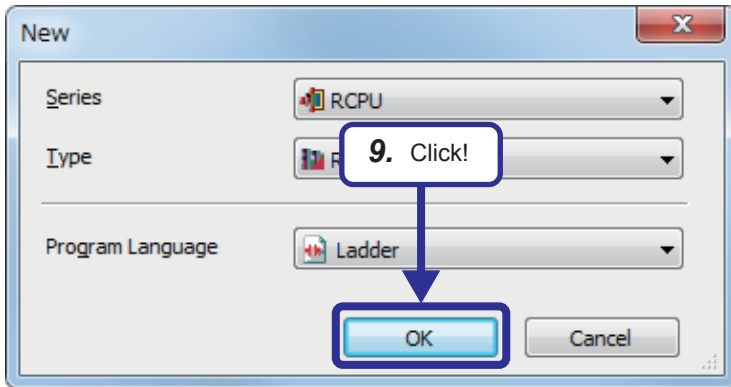


7. Click the list button of "Program Language".
8. Select "Ladder" from the drop-down menu.

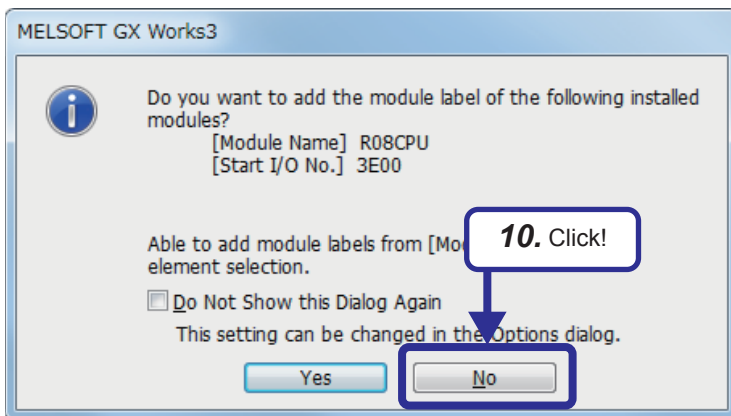


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9. Click the [OK] button.

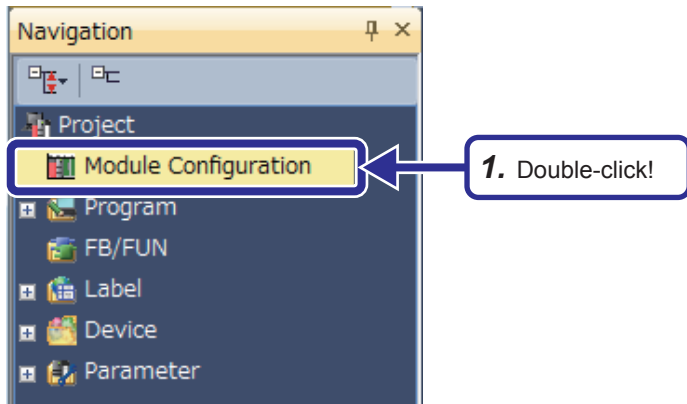


10. The confirmation window for adding the module label of the selected module type ("R08" in this case) appears. Click the [No] button.

3.4.2 Adding master/local module data

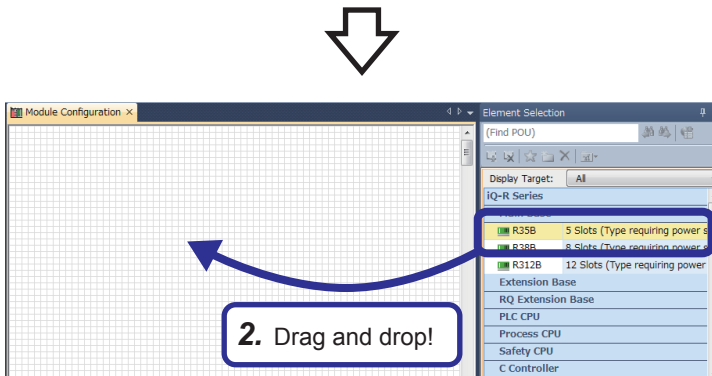
Adding a master/local module in the module configuration enables users to set parameters of the master/local module.

Operating procedure

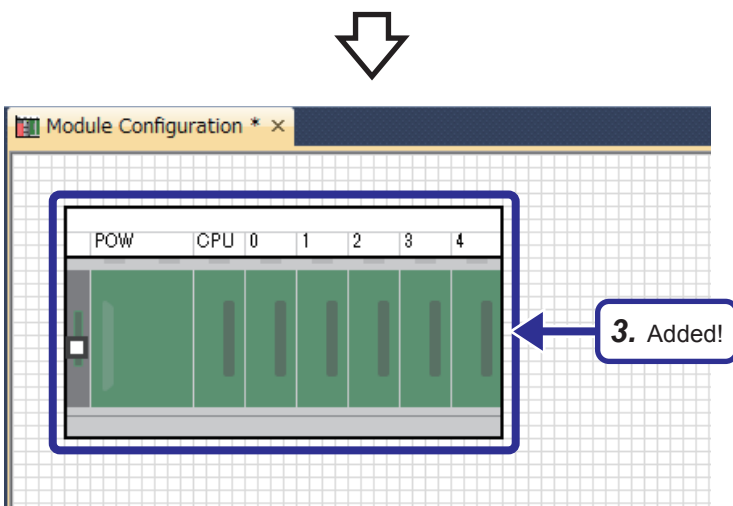


1. Double-click [Module Configuration] in the Navigation window.
When the dialog box about parameter information appears, click the [OK] button.

3



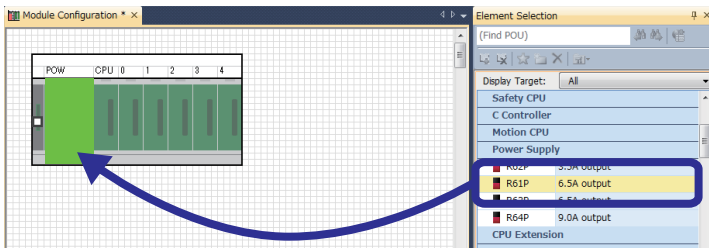
2. The "Module Configuration" window appears. Select "R35B" from "Main Base" in the "Element Selection" window, and drag and drop it to the "Module Configuration" window.



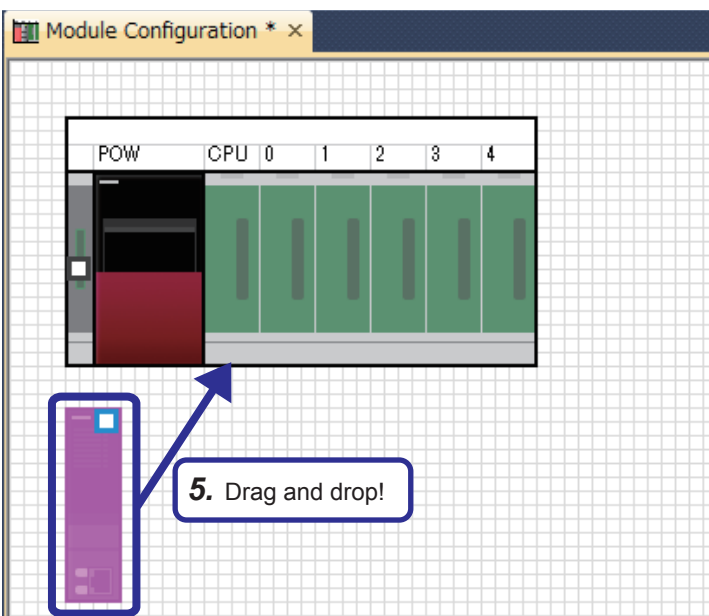
3. "R35B" is added on the "Module Configuration" window.

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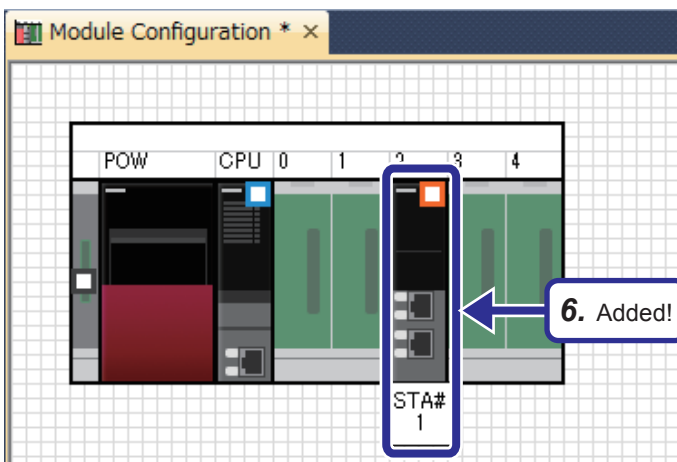
(From the previous page)



4. Drag and drop!



5. Drag and drop!



6. Added!



(To the next page)

4. Select "R61P" from "Power Supply" in the "Element Selection" window, and drag and drop it to the power supply slot of the R35B on the "Module Configuration" window.

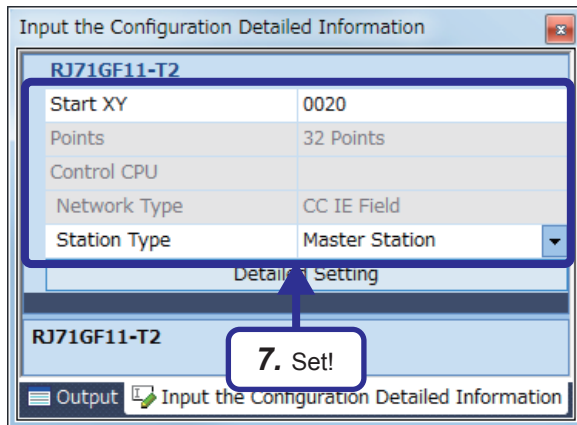
While the power supply module is being dragged and dropped, the slot where the power supply module can be arranged is highlighted.

5. Add the R08CPU that has already been arranged in the module configuration to the CPU slot of the R35B.

When the R08CPU has not been arranged in the module configuration, add the R08CPU from the "Element Selection" window in the same way as for the power supply module.

6. Add "RJ71GF11-T2" from "Network Module" in the "Element Selection" window to the slot No.2 of the R35B.

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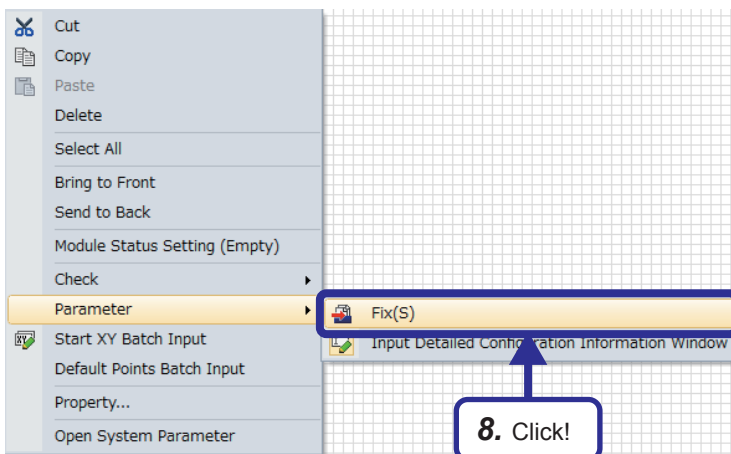


7. Right-click the RJ71GF11-T2, and click [Parameter] → [Input Detailed Configuration Information Window] from the menu to display the "Input the Configuration Detailed Information" window. Set parameters as follows.

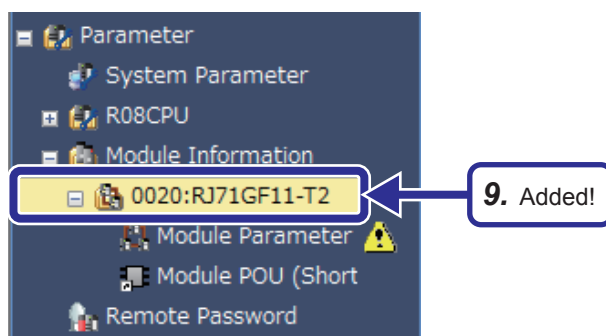
[Setting details]

Start XY: 0020

Station Type: Master Station



8. After the settings, right-click the RJ71GF11-T2 and Click [Parameter] → [Fix] from the menu to fix the parameters.
(Click the [No] button on the confirmation window for adding the module label.)

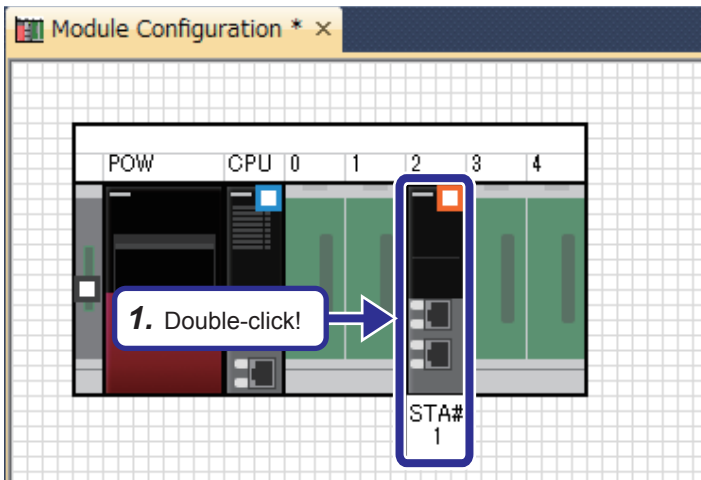


9. The specified data of the master/local module is added to the "Navigation" window.

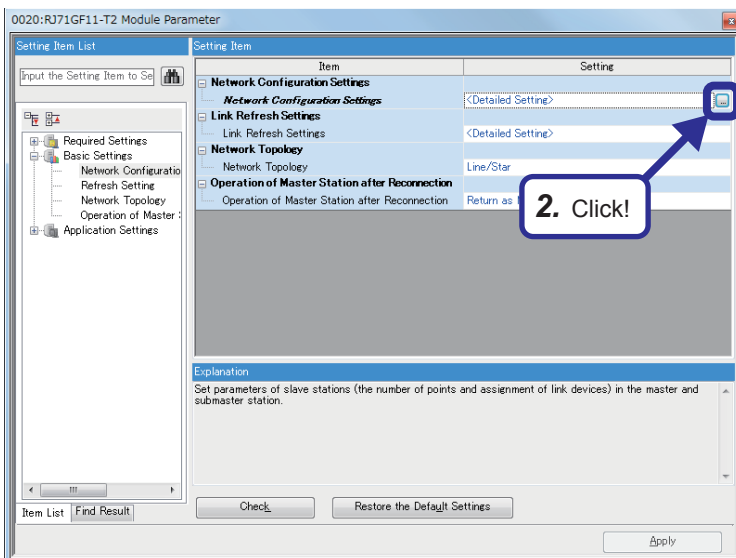
3.4.3 Parameter settings (master station)


Set parameters of the master station.

Operating procedure



1. Double-click the RJ71GF11-T2 in the module configuration.

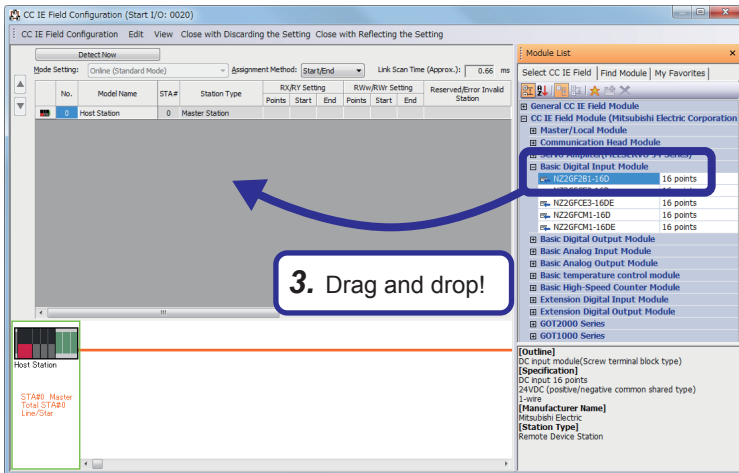


2. The "RJ71GF11-T2 Module Parameter" dialog box appears. Select "Network Configuration Settings" of "Basic Settings" in "Setting Item List" and click the  button.



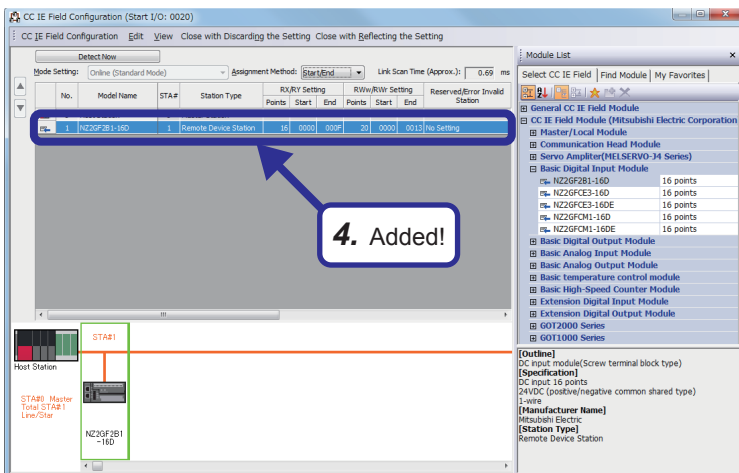
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3. The "CC IE Field Configuration" dialog box appears. Select "NZ2GF2B1-16D" from "Master/Local Module" in "Module List" and drag and drop it to the list of stations or the network map.

3

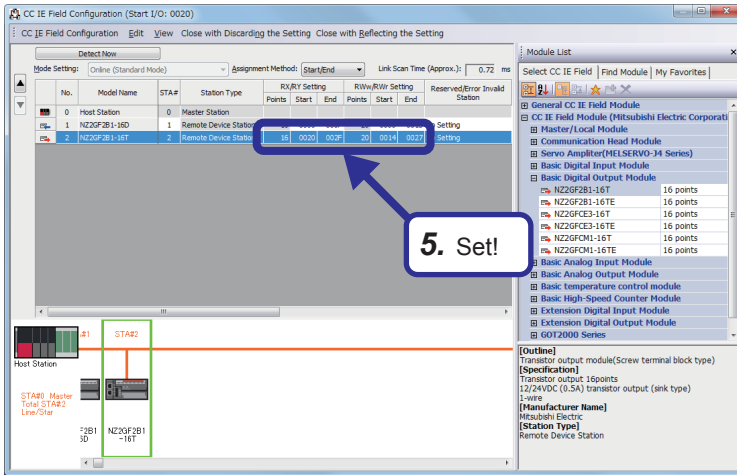


4. "NZ2GF2B1-16D" is added to the list of stations.



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5. With the same procedure, add "NZ2GF2B1-16T" from "Basic Digital Output Module" in "Module List" and set parameters as follows.

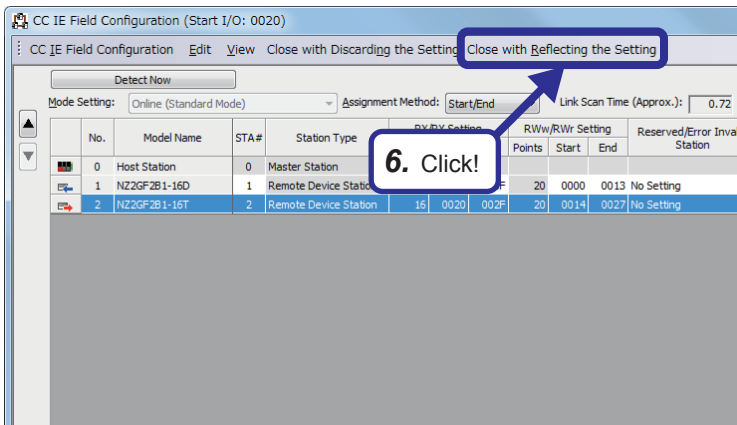
[Setting details]

RX/RX Setting Start: 0020

End: 002F

RWw/RWw Setting Start: 0014

End: 0027

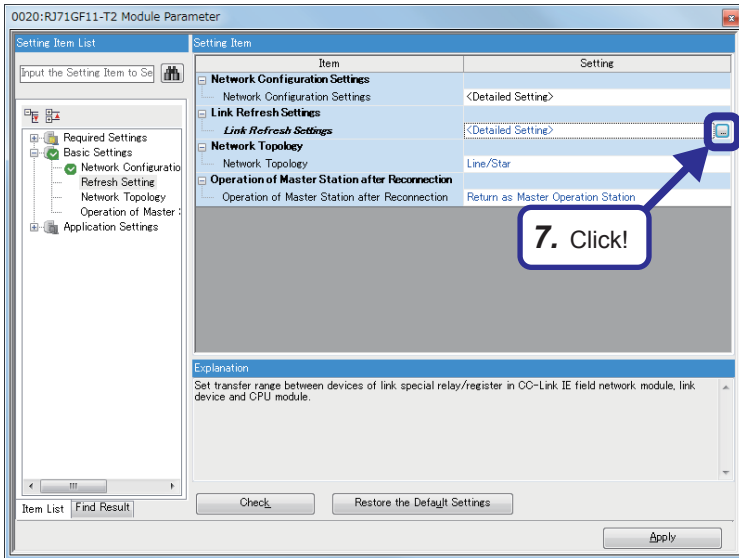



6. After the settings, click "Close with Reflecting the Setting" in the menu to close the "CC IE Field Configuration" dialog box.



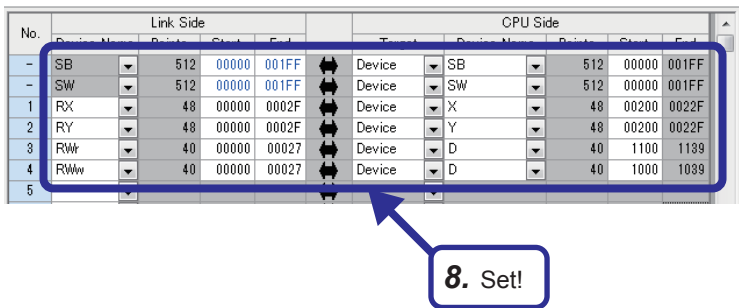
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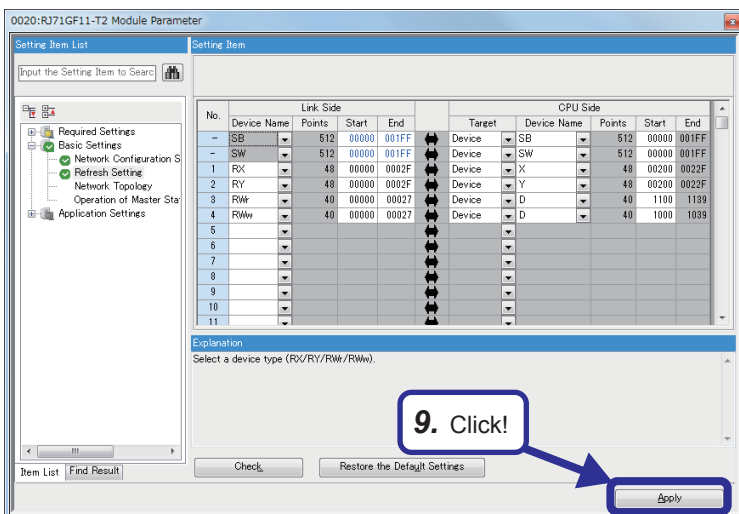


7. Select "Link Refresh Settings" and click the  button.

3



8. Set link devices and ranges as shown on the left.

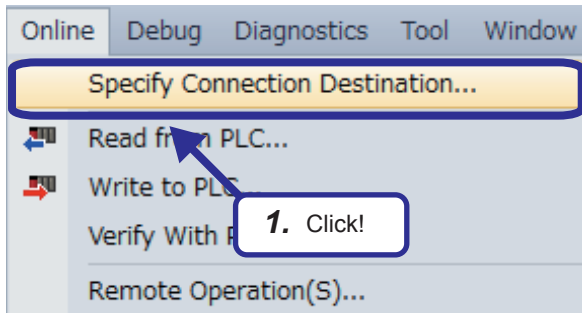


9. Click the [Apply] button to close the "RJ71GF11-T2 Module Parameter" dialog box.

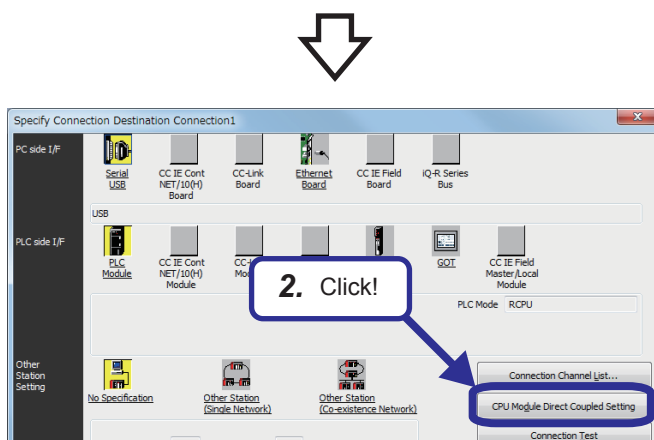
3.4.4 Specifying a connection destination

To set parameters of the remote I/O station, write parameters of the master station to the CPU module. Specify a connection destination.

Operating procedure

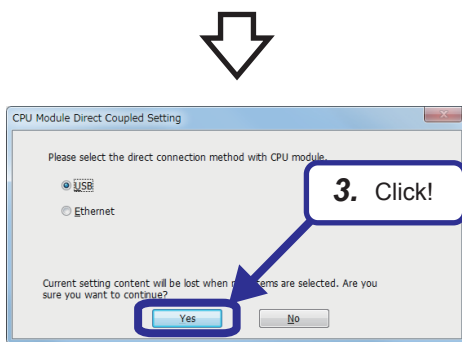


1. Select [Online] ⇒ [Specify Connection Destination] from the menu of the engineering tool.

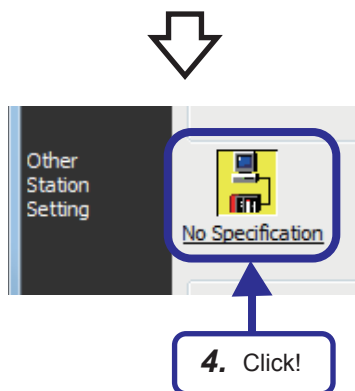


2. Click the [CPU Module Direct Coupled Setting] button on the "Specify Connection Destination Connection" window.

The "CPU Module Direct Coupled Setting" dialog box appears.



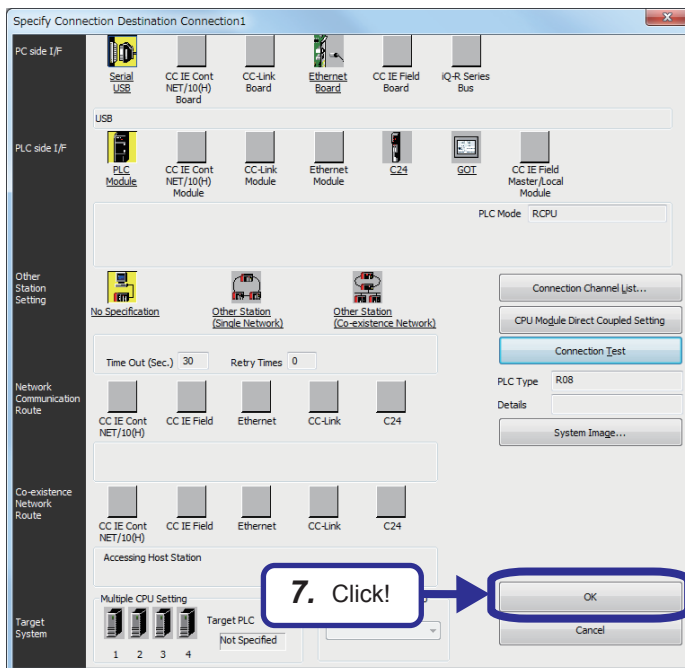
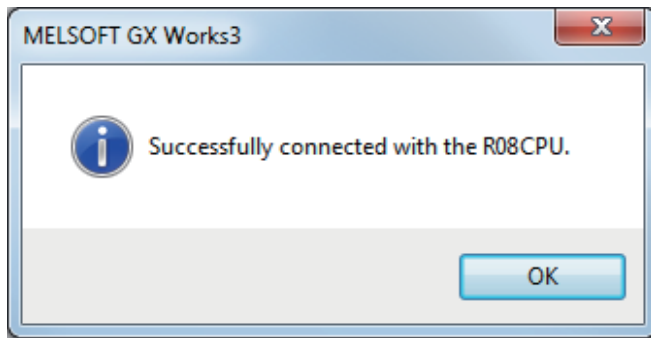
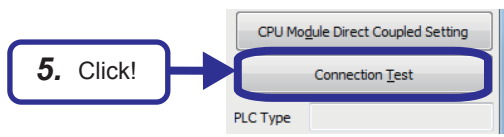
3. Select the connection method, and click the [Yes] button.



4. Click "No Specification" of "Other Station Setting".

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5. Click the [Connection Test] button.

6. Check that the master/local modules are successfully connected with the CPU module.

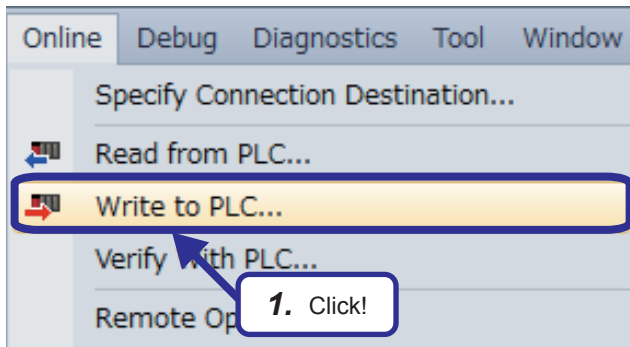
7. Click the [OK] button.

3.4.5 Writing parameters

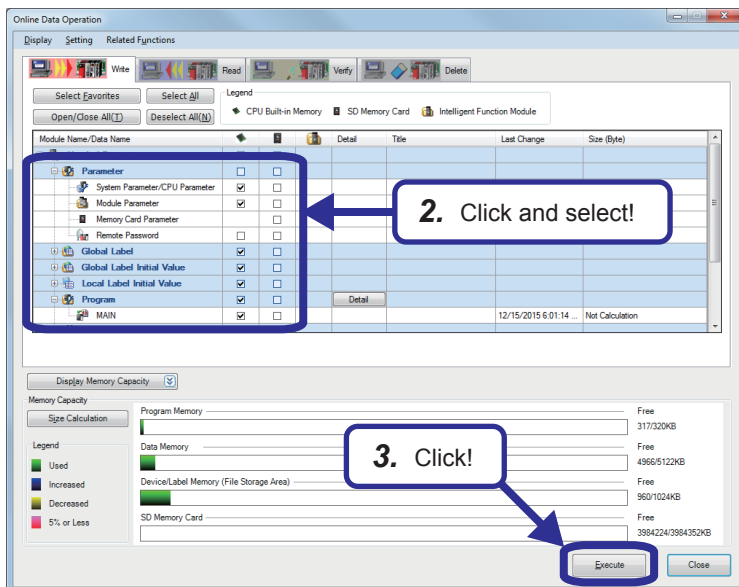
Write the set parameters of the master station to the CPU module.

When the CPU module already has written data, select [Online] ⇒ [CPU Memory Operation] to initialize the memory before writing parameters of the master station.

Operating procedure



1. Select [Online] ⇒ [Write to PLC] from the menu of the engineering tool.



2. The "Online Data Operation" dialog box appears. Select the following items.

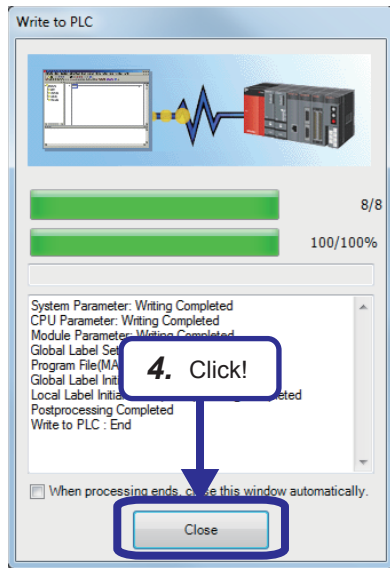
- "System Parameter/CPU Parameter"
- "Module Parameter"

3. Click the [Execute] button.



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4. The Write to PLC dialog box appears.

5. When writing the data is completed, the message "Completed" is displayed. Click the [Close] button.

3.4.6 Parameter settings (remote I/O station)

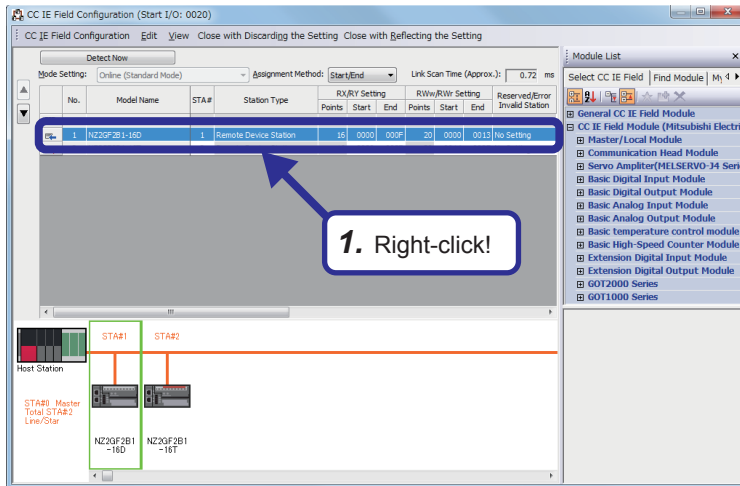
Set parameters of the remote I/O station.

Before setting parameters of the remote I/O station, write parameters of the master station to the CPU module.

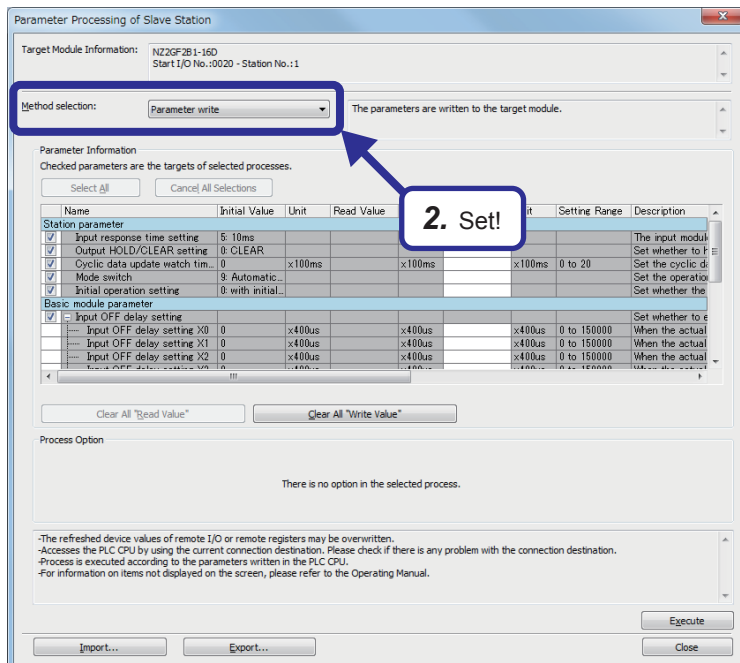


To set parameters of slave stations, write parameters of the master station to the CPU module in advance.

Operating procedure



1. Open the "CC IE Field Configuration" dialog box, right-click the NZ2GF2B1-16D in the list of stations, and click [Online] ⇒ [Parameter Processing of Slave Station].

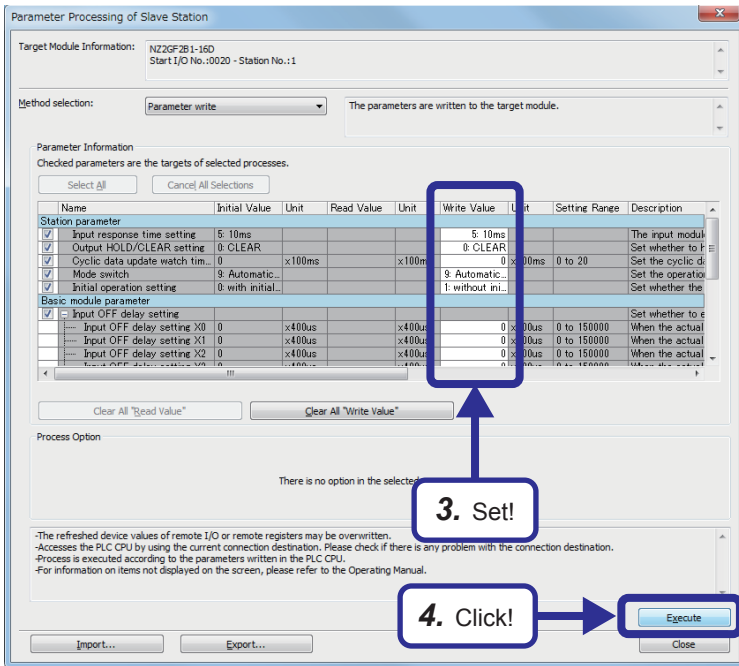


2. The "Parameter Processing of Slave Station" dialog box appears. Set "Method selection" to "Parameter write".



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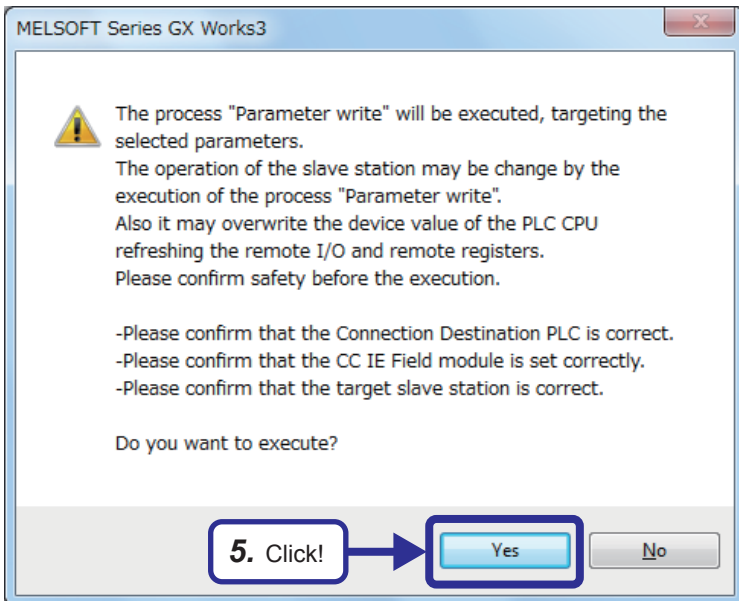


3. Set an initial value for each item and set "Initial operation setting" as follows.

"Initial operation setting": "1: without initial operation setting"

4. Click the [Execute] button.

3

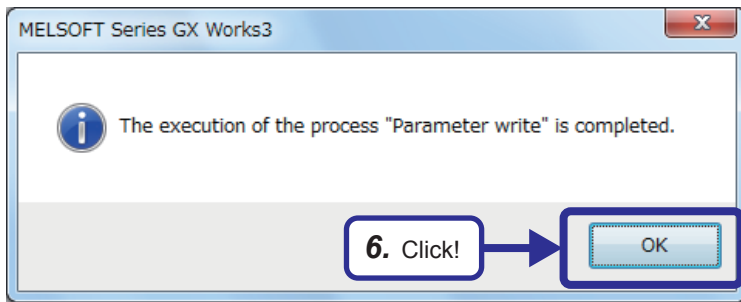


5. The dialog box shown on the left appears. Click the [Yes] button.

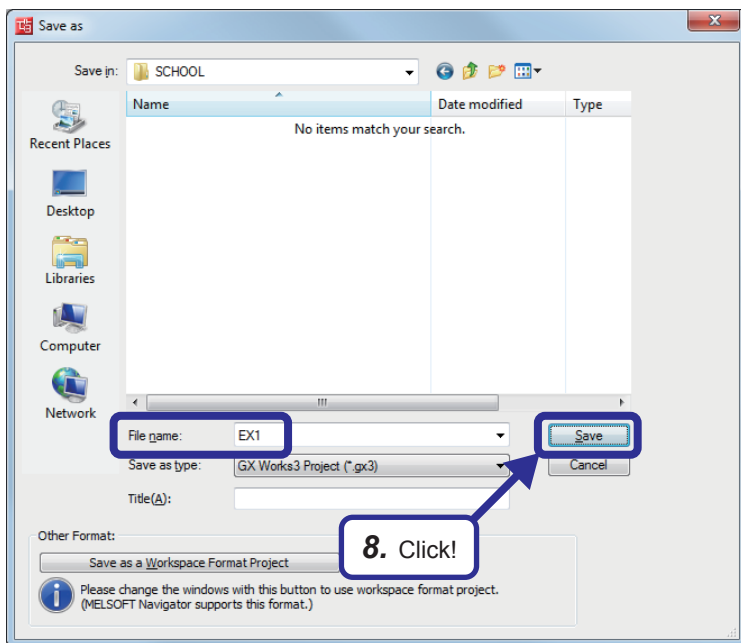


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6. When writing parameters is completed, click the [OK] button.
7. With the same procedure, set the write value of "Initial operation setting" to "1: without initial processing" for the NZ2GF2B1-16T and write parameters.



8. After setting parameters, click [Project] ⇒ [Save As] from the menu to save the project.

Save destination: Desired location

File name: EX1

Title: Blank

3.5 Diagnostic Function (Checking the Network Status)


Check the status of CC-Link IE Field Network using the engineering tool.

The error locations, error causes, and corrective actions can be checked in the engineering tool.

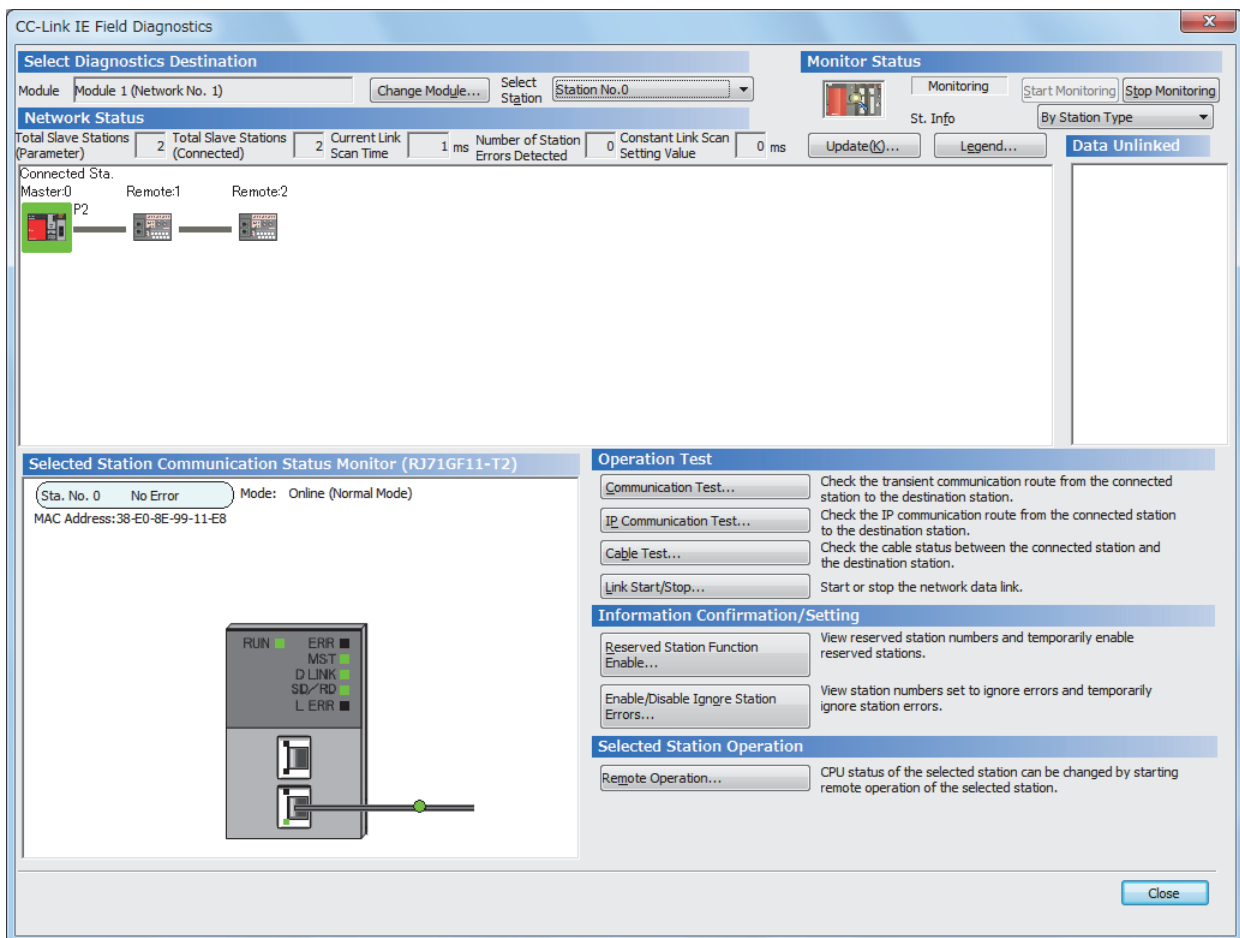
Checking the network status

After starting up the system, check whether data link can be normally performed using the CC-Link IE Field Network diagnostics in the engineering tool.

1. Set the RUN/STOP/RESET switch of the CPU module to the RESET position (for approximately one second) to reset the CPU module.
2. Start the CC-Link IE Field Network diagnostics.

 [Diagnostics] ⇒ [CC-Link IE Field Diagnostics]

If the following display appears, data link is normal.



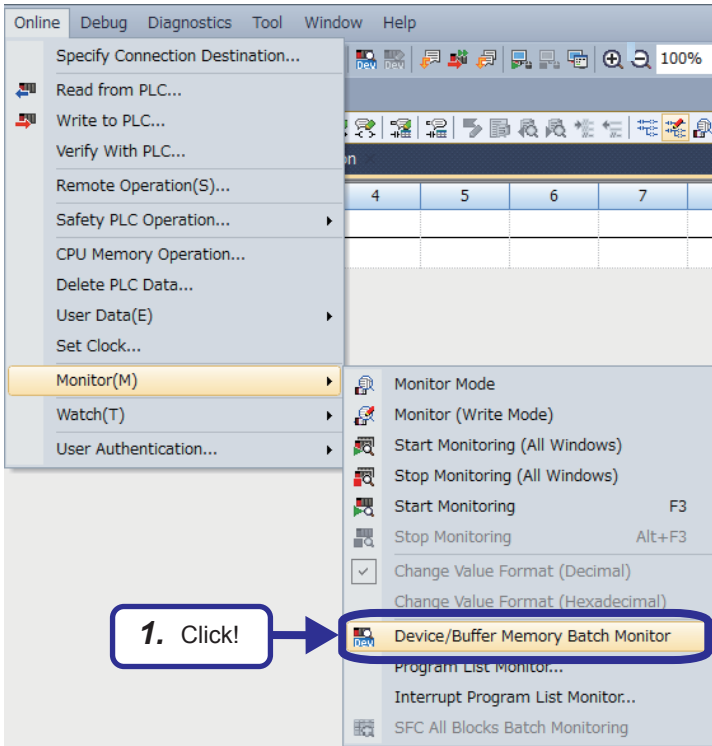
If an error icon appears in "Network Status" area on the "CC-Link IE Field Diagnostics" window, use the CC-Link IE Field Network diagnostics to identify the cause of the error and take corrective actions.

3.6 Monitoring and Test of the Remote I/O Station

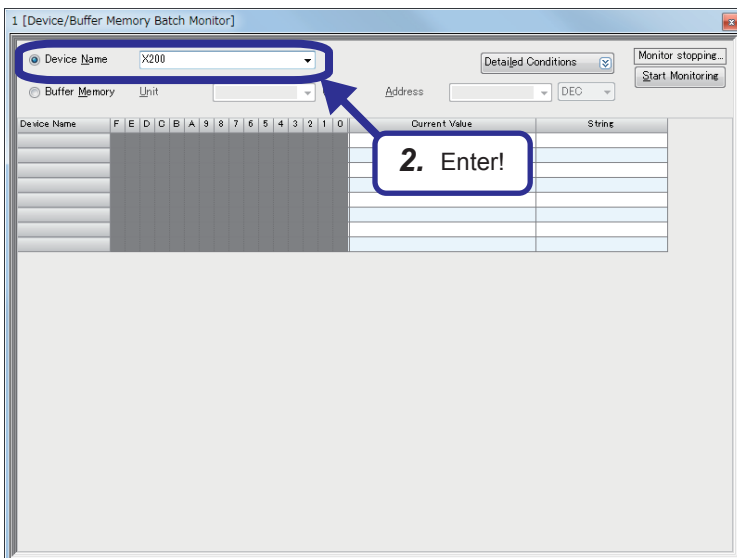
To check that parameters have been properly set and that data link and device link refresh have been performed, monitor and test I/O signals of the remote I/O station.

Set the RUN/STOP/RESET switch to the STOP position.

Operating procedure



1. Select [Online] ⇒ [Monitor] ⇒ [Device/Buffer Memory Batch Monitor] from the menu of the engineering tool.

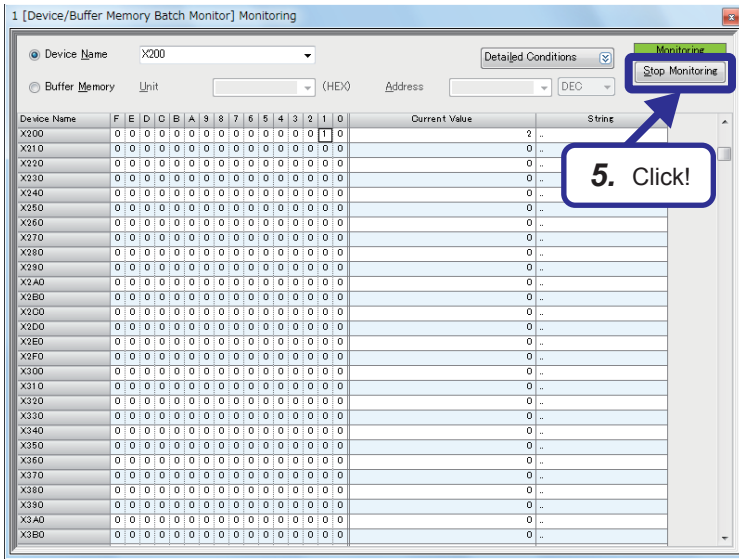


2. The "Device/Buffer Memory Batch Monitor" dialog box appears. Enter "X200" in "Device Name" and press the **Enter** key.
3. Turn on the switch connected to the terminal block "X1" of the NZ2GF2B1N-16D.



(To the next page)

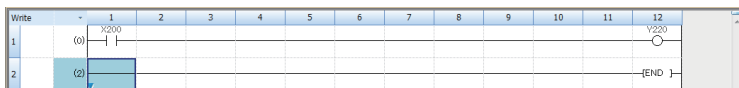
(From the previous page)



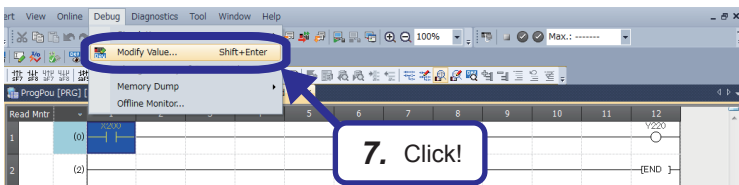
4. Check that X201 turns on in the "Device/Buffer Memory Batch Monitor" dialog box. This means that data link and link refresh of the input (RX) were performed normally.

5. Click the [Stop Monitoring] button.

3



6. Create a temporal ladder program as shown in the left figure and write it to the CPU module. Reset the CPU module with the RUN/STOP/RESET switch and set the switch to the RUN position.



7. Select [Online] ⇒ [Monitor] ⇒ [Monitor Mode] to switch the mode to the monitor mode. Select "X200" and click [Debug] ⇒ [Modify Value].

8. Check that turning on or off "X200" turns on or off Y0 of the NZ2GF2B1N-16T. This means that data link and link refresh of the output (RY) were performed normally.

Monitoring and test of the remote I/O station are completed.

3.7 Creating a Sequence Program

Setting sheet

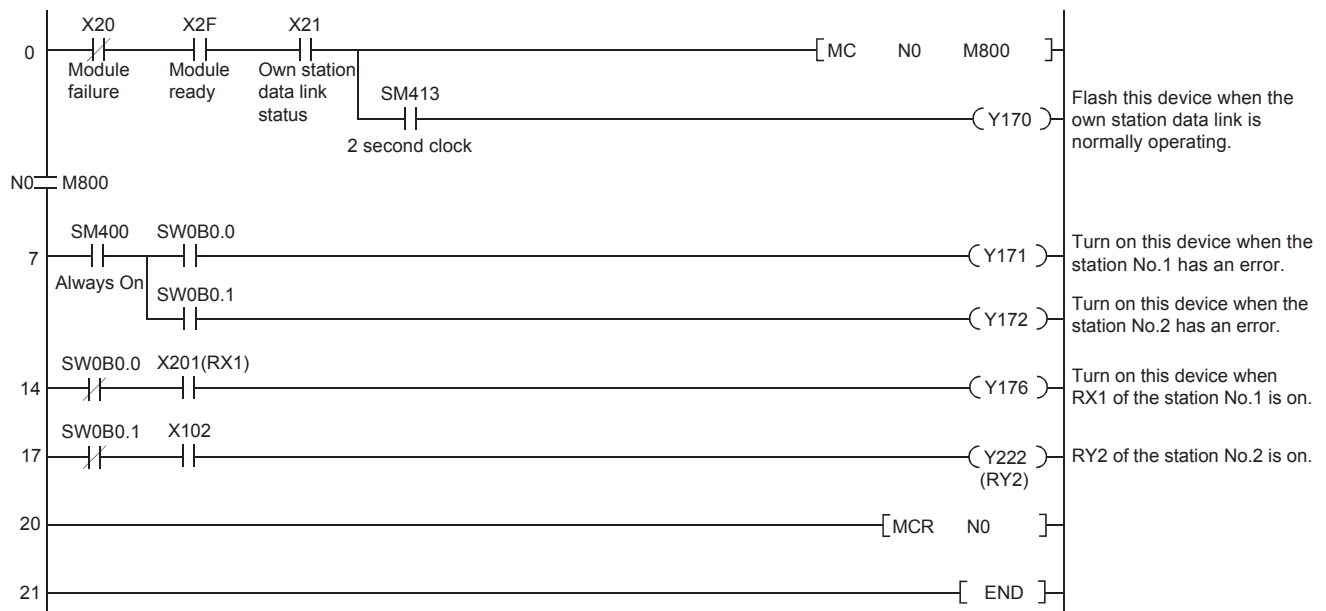
■ Device assignment table

Station No.	Device							
	RX → (X)		RY → (Y)		RWw → (D)		RWr → (D)	
	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side
1	0000 to 000F	00200 to 0020F	0000 to 000F	00200 to 0020F	0000 to 0013	1000 to 1019	0000 to 0013	1100 to 1119
2	0020 to 002F	00220 to 0022F	0020 to 002F	00220 to 0022F	0014 to 0027	1020 to 1039	0014 to 0027	1120 to 1139

Sequence program

Create the following sequence program and write it to the CPU module.

Project name	EX1
--------------	-----



3.8 Communication with the Remote I/O Station

In a sequence program, an input signal (RX) from the remote I/O station triggers a signal to be output from an output module. A signal input from an input module triggers a signal (RY) to be output to the remote I/O station.

Switch operation of the demonstration machine

1. Set the RUN/STOP/RESET switch of the CPU module to the RESET position (for approximately one second) to reset the CPU module.
2. Set the RUN/STOP/RESET switch to the RUN position.
Y170: Flashes depending on the own station data link status (Data link normal).
3. Turn on the switch of the terminal block of the NZ2GF2B1N-16D.
Y176: Turns on when RX1 is on.
4. Turn on X102.
LED "Y2" of the NZ2GF2B1N-16T: On

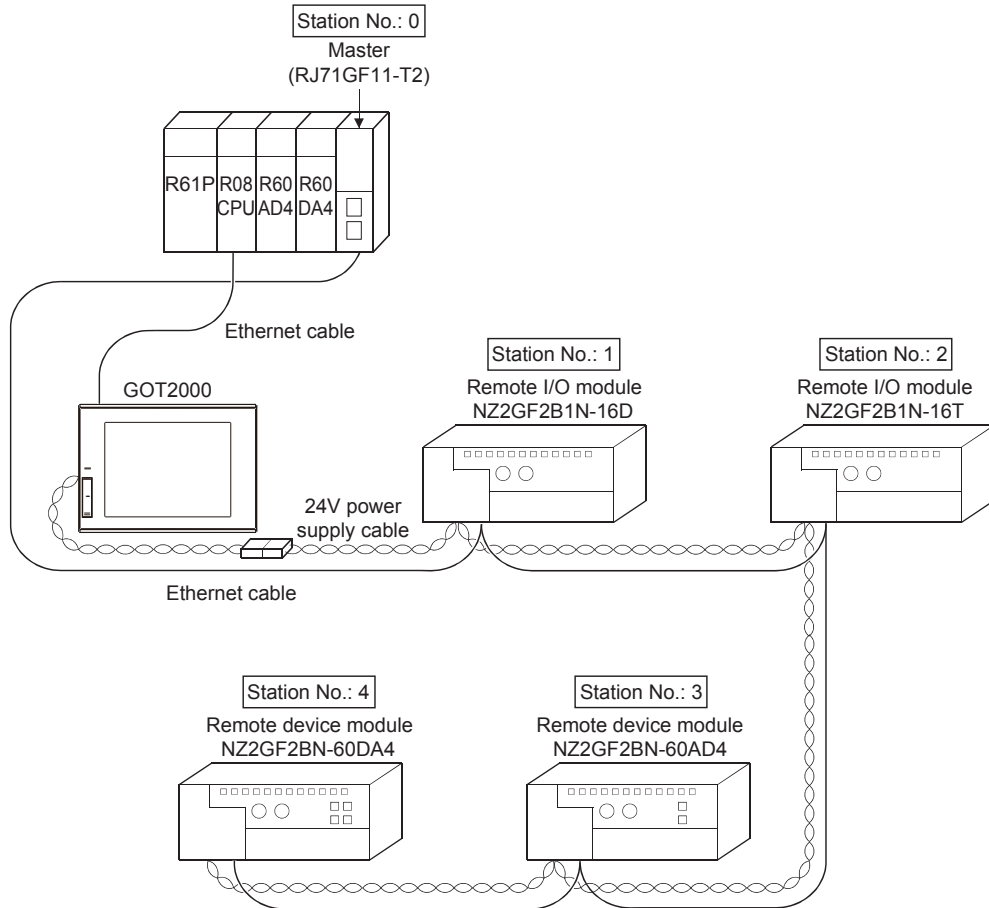
4 EXERCISE 2 COMMUNICATION WITH ANALOG INPUTS AND OUTPUTS

This exercise is for the system where remote I/O modules and remote device modules (A/D, D/A) are connected.

4.1 System Configuration

The following figure shows the system configuration of the demonstration machine for Exercise 2.

Wire modules with Ethernet cables as shown below.

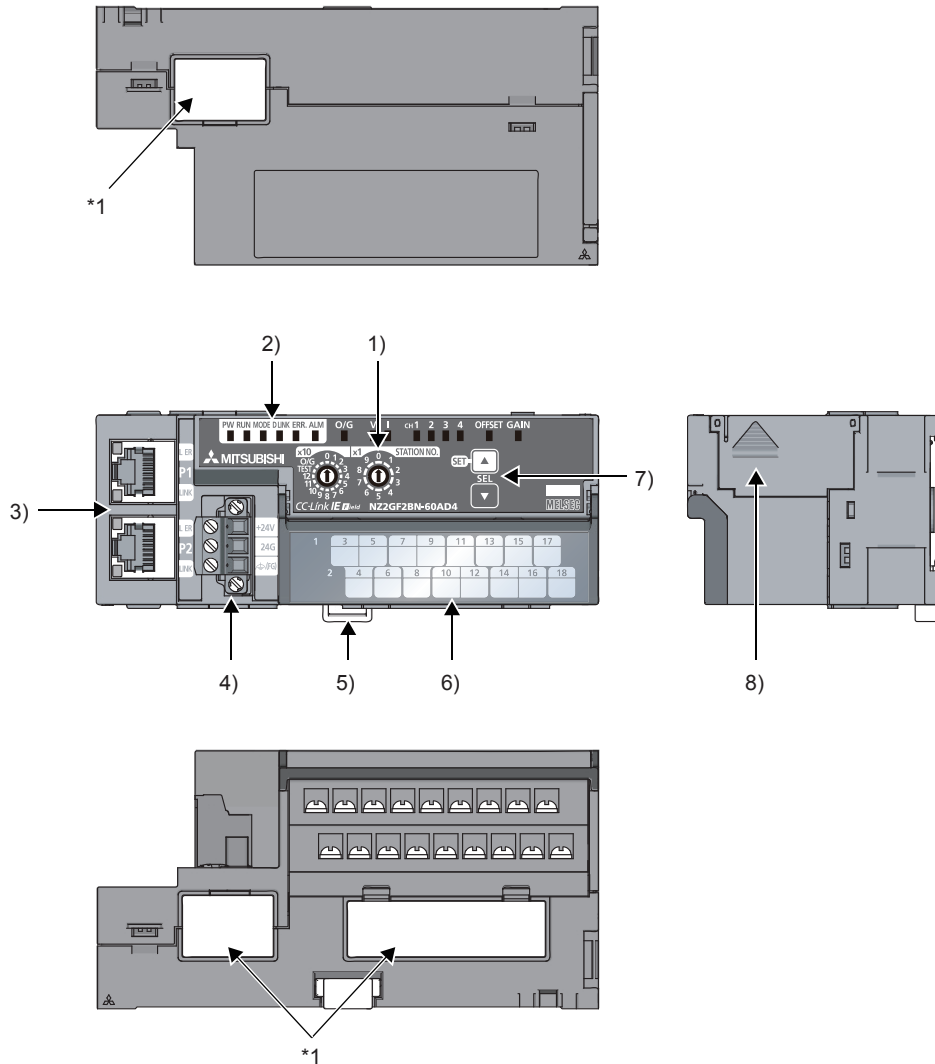


4.2 Part Names and Settings

4.2.1 Part names and settings of the analog-digital converter module

This section describes the part names and settings of the NZ2GF2BN-60AD4.

Part names



*1 Do not remove these stickers because they are used for our maintenance

No.	Name	Application
1)	Station number setting switch	<p>A rotary switch for the following setting and test.</p> <ul style="list-style-type: none"> • Station number setting • Offset/gain setting • Unit test <p>When operating the station number setting switch, use a flathead screwdriver with 3.5mm or less width of the tip.</p>

No.	Name	Application									
2)	PW LED (green)	Indicates the power supply status of the A/D converter module.									
		On	Power supply ON								
		Off	Power supply OFF								
	RUN LED (green)	Indicates the operating status of the A/D converter module.									
		On	Operating normally. Writing data to the non-volatile memory in the offset/gain setting mode								
		Off	A major error has occurred.								
	MODE LED (green)	Indicates the mode of the A/D converter module.									
		On	In online mode								
		Flashing	In unit test mode								
	D LINK LED (green)	Indicates the data link status of the A/D converter module.									
		On	Data link in operation. (cyclic transmission in progress)								
		Flashing	Data link in operation. (cyclic transmission stopped)								
	ERR. LED (red)	Indicates the error status of the A/D converter module.									
		On	A moderate error or major error has occurred.								
		Flashing	A warning has occurred.								
	ALM LED (red)	Indicates the warning status of the A/D converter module.									
		On	A warning (process alarm) has occurred.								
		Flashing	An input signal error has been detected.								
	O/G LED (green)	Indicates the module is in the offset/gain setting mode.									
		On	In offset/gain setting mode								
		Off	In a mode other than the offset/gain setting mode								
V LED (green), I LED (green)	Indicates the user range of a setting target selected in the offset/gain setting mode.										
	<table border="1"> <thead> <tr> <th>Setting target</th> <th>V LED</th> <th>I LED</th> </tr> </thead> <tbody> <tr> <td>User range setting 1 (voltage)</td> <td>On</td> <td>Off</td> </tr> <tr> <td>User range setting 2 (voltage/current)</td> <td>Off</td> <td>On</td> </tr> </tbody> </table>		Setting target	V LED	I LED	User range setting 1 (voltage)	On	Off	User range setting 2 (voltage/current)	Off	On
	Setting target	V LED	I LED								
User range setting 1 (voltage)	On	Off									
User range setting 2 (voltage/current)	Off	On									
CH1 to CH4 LED (green)	Indicates the channel of a setting target selected in the offset/gain setting mode.										
	On	The channel of the number for which the LED turns on is the setting target.									
	Off	The channel of the number for which the LED turns off is not the setting target.									
OFFSET LED (green), GAIN LED (green)	Indicates whether the selected setting is offset or gain in the offset/gain setting mode.										
	<table border="1"> <thead> <tr> <th>Setting target</th> <th>OFFSET LED</th> <th>GAIN LED</th> </tr> </thead> <tbody> <tr> <td>Offset</td> <td>On</td> <td>Off</td> </tr> <tr> <td>Gain</td> <td>Off</td> <td>On</td> </tr> </tbody> </table>		Setting target	OFFSET LED	GAIN LED	Offset	On	Off	Gain	Off	On
	Setting target	OFFSET LED	GAIN LED								
Offset	On	Off									
Gain	Off	On									
3)	P1	PORT1 connector for CC-Link IE Field Network (RJ45 connector) Connect an Ethernet cable. There are no restrictions on the connection order of the cables for the P1 connector and P2 connector.									
		L ER LED (red)	On	<ul style="list-style-type: none"> The module has received abnormal data. The module is performing loopback. 							
			Off	<ul style="list-style-type: none"> The module has received normal data. The module is not performing loopback. 							
		LINK LED (green)	On	Link-up							
	Off		Link-down								
	P2	PORT2 connector for CC-Link IE Field Network (RJ45 connector) Connect an Ethernet cable. There are no restrictions on the connection order of the cables for the P1 connector and P2 connector.									
		L ER LED (red)	(same as the LEDs of the "P1" connector)								
LINK LED (green)		(same as the LEDs of the "P1" connector)									

No.	Name	Application
4)	Terminal block for module power supply and FG	A terminal block to connect the module power supply (24VDC) and FG.
5)	DIN rail hook	A hook to mount a module on a DIN rail.
6)	Terminal cover	Covers for preventing electric shock while the power is on
	Terminal block for analog input signals	A two-piece screw terminal block for the connection to an external device
7)	SET/SEL button	Select a setting target by pressing the ▲ button or ▼ button in the offset/gain setting mode.
8)	Extension connector cover	A cover to protect a connector of an extension module. Do not remove the cover when an extension module is not connected to the connector.

■Module status and LED status

The following table shows how module status and LED status correspond each other.

Module status		Data link status	LED status						
			PW LED	RUN LED	MODE LED	D LINK LED	ERR. LED	ALM LED	O/G LED
Normal mode	Disconnected	Disconnection	On	On	On	Off	Off	Off	Off
	Data link in progress	Data link in progress	On	On	On	On	Off	Off	Off
	Reserved station setting in progress	Cyclic stop	On	On	On	Flashing	Off	Off	Off
	Data link stop	Cyclic stop	On	On	On	Flashing	Off	Off	Off
Offset/gain setting mode		—	On	On	Off	Flashing	Off	*1	On
Unit test	In progress	—	On	On	Flashing	*1	Off	Off	Off
	Normal completion	—	On	On	Off	Off	Off	Off	Off
	Abnormal completion	—	On	On	Off	Off	On	Off	Off
Communication error		Cyclic stop	On	On	On	Flashing	Off	Off	Off
Error	Major error	—	On	On	*2	*1	On*3	*1	Off
	Moderate error	—	On	On	*2	*1	On	*1	Off
Warning	Minor error	—	On	On	*2	*1	Flashing	*1	Off
Alarm	Warning issued	—	On	On	On	*1	*1	On	Off
	Input signal error	—	On	On	On	*1	*1	Flashing	Off

*1 Either of On, Flashing, or Off.

*2 Either of On or Off.

*3 When the module has failed, the LED may not turn on.

Station number setting

Set the station number as follows.

NZ2GF2BN-60AD4: Station number 03

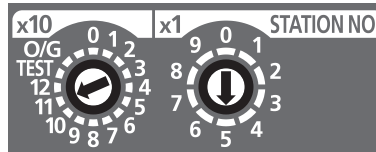
■Setting procedure

Set the station number with the rotary switches on the front of the module. The setting value of the station number becomes valid when the module is powered on. Thus, set the station number when the module is powered off.

- The hundreds and tens places of the station number are set with x10.
- The ones place of the station number is set with x1.

Ex.

To set the station to 115, set the switches as shown below.



■Setting range

Set the station number from 1 to 120. Setting the value other than 1 to 120 causes a communication error and the D LINK LED flashes.

Point

- Do not change the station number setting switches while the module is powered on. Changing the station number setting switches causes a minor error and flashes the ERR. LED. Returning the station number setting switches to the previous setting eliminates the error after five seconds and turns off the ERR. LED.
- Do not set a station number duplicated with other station numbers. If the station number is duplicated, a communication error occurs and the D LINK LED does not turn on.

Parameter settings

Write the network parameters to the CPU module of the master station in advance.

The parameter settings of the NZ2GF2BN-60AD4 are described on Page 4 - 13 Parameter settings (remote device station) or later. Thus, detailed explanations are omitted here.

■Setting procedure

1. Set parameters on the CC IE Field Configuration dialog box.

Right-click the module to be set from the list of stations ⇒ [Online] ⇒ [Parameter Processing of Slave Station].

2. After setting parameters, click the [Execute] button to write the parameters to the module.

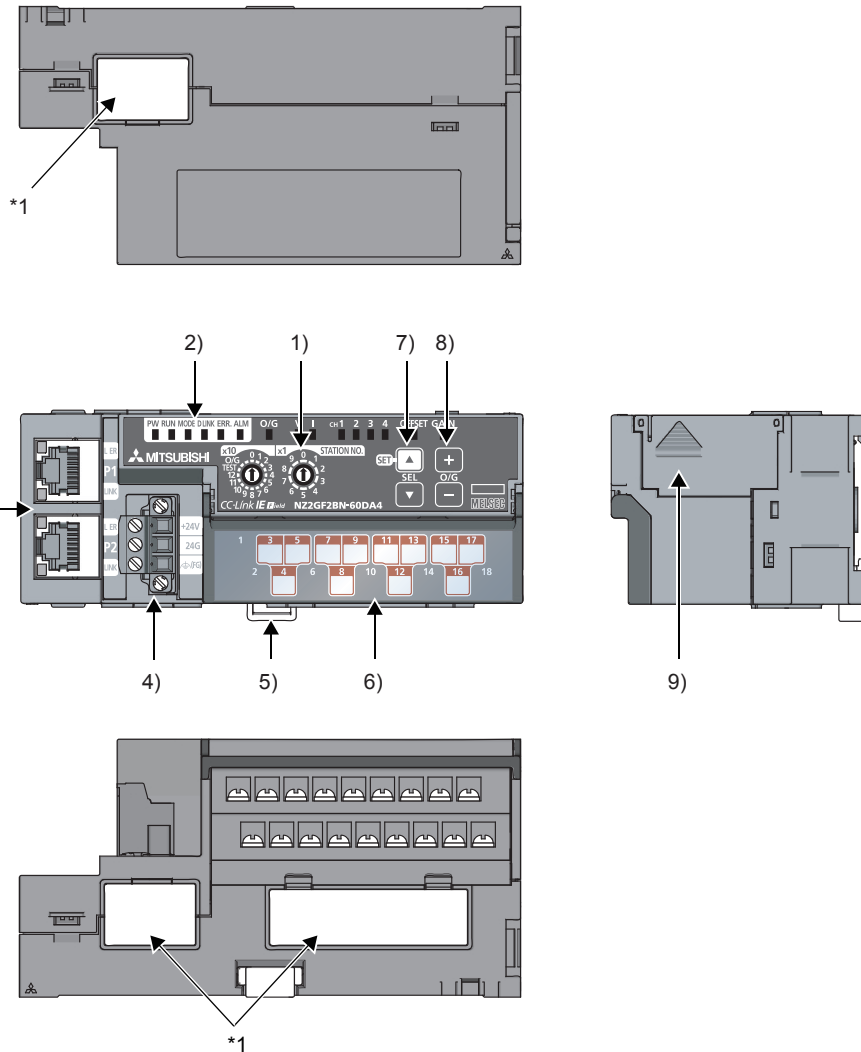
■ Setting items

Item	Description
Mode switch	Switches the mode to the normal mode, trigger conversion mode, or synchronous communication mode.
Conversion speed setting	Sets a conversion speed.
External signal assignment function	Allows remote input or output signals of the A/D converter module to be assigned to I/O signals of the extension I/O module connected.
Cyclic data update watch time setting	Monitors the update intervals of cyclic data. The last output value is held or cleared when the cyclic transmission stop status continues longer than the set monitoring time.
Extension I/O setting	Configures the input response time setting of an extension digital input module and the output HOLD/CLEAR setting of an extension digital output module.
A/D conversion enable/disable setting	Allows A/D conversion to be enabled or disabled for each channel.
Range setting	Sets an input range for each channel.
Average processing setting	Sets whether to perform the averaging processing or not for each channel.
Input signal error detection function	Detects a disconnection of an analog input signal.
Warning output function	Outputs a warning when a digital operation value falls within the warning output range set in advance.
Digital clipping function	Fixes the range of a digital operation value between the maximum digital output value and the minimum digital output value if an input voltage or current exceeds the input range.
Scaling function	Performs scale conversion on a digital output value with the range of the scaling lower limit value and the scaling upper limit value, both of which are set at desired values.

4.2.2 Part names and settings of the digital-analog converter module

This section describes the part names and settings of the NZ2GF2BN-60DA4.

Part names



*1 Do not remove these stickers because they are used for our maintenance

No.	Name	Application
1)	Station number setting switch	<p>A rotary switch for the following setting and test.</p> <ul style="list-style-type: none"> • Station number setting • Offset/gain setting • Unit test <p>When operating the station number setting switch, use a flathead screwdriver with 3.5mm or less width of the tip.</p>

No.	Name	Application									
2)	PW LED (green)	Indicates the power supply status of the D/A converter module.									
		On	Power supply ON								
		Off	Power supply OFF								
	RUN LED (green)	Indicates the operating status of the D/A converter module.									
		On	Operating normally. Writing data to the non-volatile memory in the offset/gain setting mode								
		Off	A major error has occurred.								
	MODE LED (green)	Indicates the mode of the D/A converter module.									
		On	In online mode								
		Flashing	In unit test mode								
	D LINK LED (green)	Indicates the data link status of the D/A converter module.									
		On	Data link in operation. (cyclic transmission in progress)								
		Flashing	Data link in operation. (cyclic transmission stopped)								
	ERR. LED (red)	Indicates the error status of the D/A converter module.									
		On	A moderate error or major error has occurred.								
		Flashing	A warning has occurred.								
	ALM LED (red)	Indicates the warning status of the D/A converter module.									
		On	Warning issued								
		Flashing	An out-of-range digital value error has occurred.								
	O/G LED (green)	Indicates the module is in the offset/gain setting mode.									
		On	In offset/gain setting mode								
		Off	In a mode other than the offset/gain setting mode								
	V LED (green), I LED (green)	Indicates the user range of a setting target selected in the offset/gain setting mode.									
			<table border="1"> <thead> <tr> <th>Setting target</th> <th>V LED</th> <th>I LED</th> </tr> </thead> <tbody> <tr> <td>User range setting 1 (voltage)</td> <td>On</td> <td>Off</td> </tr> <tr> <td>User range setting 2 (current)</td> <td>Off</td> <td>On</td> </tr> </tbody> </table>	Setting target	V LED	I LED	User range setting 1 (voltage)	On	Off	User range setting 2 (current)	Off
Setting target		V LED	I LED								
User range setting 1 (voltage)		On	Off								
User range setting 2 (current)	Off	On									
CH1 to CH4 LED (green)	Indicates the channel of a setting target selected in the offset/gain setting mode.										
	On	The channel of the number for which the LED turns on is the setting target.									
	Off	The channel of the number for which the LED turns off is not the setting target.									
OFFSET LED (green), GAIN LED (green)	Indicates whether the selected setting is offset or gain in the offset/gain setting mode.										
		<table border="1"> <thead> <tr> <th>Setting target</th> <th>OFFSET LED</th> <th>GAIN LED</th> </tr> </thead> <tbody> <tr> <td>Offset</td> <td>On</td> <td>Off</td> </tr> <tr> <td>Gain</td> <td>Off</td> <td>On</td> </tr> </tbody> </table>	Setting target	OFFSET LED	GAIN LED	Offset	On	Off	Gain	Off	On
	Setting target	OFFSET LED	GAIN LED								
	Offset	On	Off								
Gain	Off	On									
3)	P1	PORT1 connector for CC-Link IE Field Network (RJ45 connector) Connect an Ethernet cable. There are no restrictions on the connection order of the cables for the P1 connector and P2 connector.									
		L ER LED (red)	On	<ul style="list-style-type: none"> The module has received abnormal data. The module is performing loopback. 							
			Off	<ul style="list-style-type: none"> The module has received normal data. The module is not performing loopback. 							
		LINK LED (green)	On	Link-up							
			Off	Link-down							
		P2	PORT2 connector for CC-Link IE Field Network (RJ45 connector) Connect an Ethernet cable. There are no restrictions on the connection order of the cables for the P1 connector and P2 connector.								
L ER LED (red)	(same as the LEDs of the "P1" connector)										
LINK LED (green)	(same as the LEDs of the "P1" connector)										

No.	Name	Application
4)	Terminal block for module power supply and FG	A terminal block to connect the module power supply (24VDC) and FG.
5)	DIN rail hook	A hook to mount a module on a DIN rail.
6)	Terminal cover	Covers for preventing electric shock while the power is on
	Terminal block for analog input signals	A two-piece screw terminal block for the connection to an external device
7)	SET/SEL button	Select a setting target by pressing the ▲ button or ▼ button in the offset/gain setting mode.
8)	+/- button	Set an analog output value by pressing the + button or - button in the offset/gain setting mode.
9)	Extension connector cover	A cover to protect a connector of an extension module. Do not remove the cover when an extension module is not connected to the connector.

■ Module status and LED status

The following table shows how module status and LED status correspond each other.

Module status		Data link status	LED status						
			PW LED	RUN LED	MODE LED	D LINK LED	ERR. LED	ALM LED	O/G LED
Normal mode	Disconnected	Disconnection	On	On	On	Off	Off	Off	Off
	Data link in progress	Data link in progress	On	On	On	On	Off	Off	Off
	Reserved station setting in progress	Cyclic stop	On	On	On	Flashing	Off	Off	Off
	Data link stop	Cyclic stop	On	On	On	Flashing	Off	Off	Off
Offset/gain setting mode		—	On	Off	Off	Off	Off	Off	Off
Unit test	In progress	—	On	On	Flashing	*1	Off	Off	Off
	Normal completion	—	On	On	Off	Off	Off	Off	Off
	Abnormal completion	—	On	On	Off	Off	On	Off	Off
Communication error		Cyclic stop	On	On	On	Flashing	On	Off	Off
Error	Major error	—	On	Off	*2	*1	On*3	*1	Off
	Moderate error	—	On	On	*2	*1	On	*1	Off
Warning	Minor error	—	On	On	*2	*1	Flashing	*1	Off
Alarm	Warning issued	—	On	On	On	*1	*1	On	Off
	An out-of-range digital value error has occurred.	—	On	On	On	*1	*1	Flashing	Off

*1 Either of On, Flashing, or Off.

*2 Either of On or Off.

*3 When the module has failed, the LED may not turn on.

Station number setting

Set the station number as follows.

NZ2GF2BN-60DA4: Station number 04

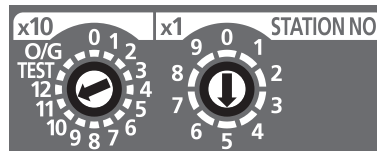
■Setting procedure

Set the station number with the rotary switches on the front of the module. The setting value of the station number becomes valid when the module is powered on. Thus, set the station number when the module is powered off.

- The hundreds and tens places of the station number are set with x10.
- The ones place of the station number is set with x1.

Ex.

To set the station to 115, set the switches as shown below.



■Setting range

Set the station number from 1 to 120. Setting the value other than 1 to 120 causes a communication error and the D LINK LED flashes.

Point

- Do not change the station number setting switches while the module is powered on. Changing the station number setting switches causes a minor error and flashes the ERR. LED. Returning the station number setting switches to the previous setting eliminates the error after five seconds and turns off the ERR. LED.
- Do not set a station number duplicated with other station numbers. If the station number is duplicated, a communication error occurs and the D LINK LED does not turn on.

Parameter settings

Write the network parameters to the CPU module of the master station in advance.

The parameter settings of the NZ2GF2BN-60DA4 are described on Page 4 - 13 Parameter settings (remote device station) or later. Thus, detailed explanations are omitted here.

■Setting procedure

1. Set parameters on the CC IE Field Configuration dialog box.

Right-click the module to be set from the list of stations ⇒ [Online] ⇒ [Parameter Processing of Slave Station].

2. After setting parameters, click the [Execute] button to write the parameters to the module.

■Setting items

Item	Description
Mode switch	Switches the mode to the normal mode, trigger output mode, or synchronous communication mode.
External signal assignment function	This function allows remote input or output signals of the D/A converter module to be assigned to I/O signals of the extension I/O module connected.
Cyclic data update watch time setting	Monitors the update intervals of cyclic data. The last output value is held or cleared when the cyclic transmission stop status continues longer than the set monitoring time.
Extension I/O setting	Configures the input response time setting of an extension digital input module and the output HOLD/CLEAR setting of an extension digital output module.
D/A conversion enable/disable setting	Allows D/A conversion to be enabled or disabled for each channel.
Range setting	Sets an output range for each channel.
Analog HOLD/CLEAR setting	Allows the selection of whether to hold or clear the analog value output when the CPU module is in the following operating status: RUN, STOP, or a stop error.
Warning output function	Outputs a warning when a digital operation value falls within the warning output range set in advance.
Scaling function	Performs scale conversion on a digital output value with the range of the scaling lower limit value and the scaling upper limit value, both of which are set at desired values.

4.3 Parameter Settings

Set parameters of the master station and remote device station.

Set parameters of the master station first, and write them to the CPU module.

For how to write parameters, refer to Page 3 - 24 Writing parameters.

4.3.1 Parameter settings (master station)

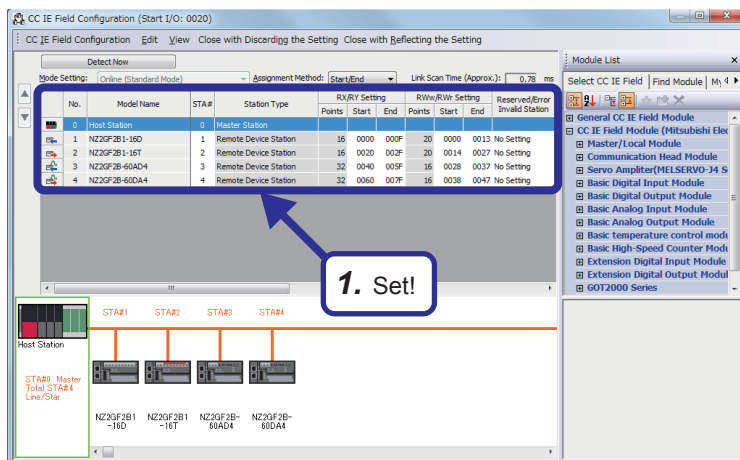
Set parameters of the master station.

(Use the remote I/O station setting of Exercise 1 in Exercise 2 as well.)

For how to set parameters, refer to Page 3 - 18 Parameter settings (master station).

4

Operating procedure



1. Select "NZ2GF2B-60DA4" from "Basic Analog Input Module" of "Module List" on the network map display area, drag and drop it to the list of stations or network map, and configure the settings as follows.

[Setting details]

RX/RV Setting Start: 0040

End: 005F

RWw/RWv Setting Start: 0028

End: 0037

Select "NZ2GF2B-60AD4" from "Basic Analog Output Module" of "Module List", drag and drop it to the list of stations or network map, and configure the settings as follows.

[Setting details]

RX/RV Setting Start: 0060

End: 007F

RWw/RWv Setting Start: 0038

End: 0047



(To the next page)

(From the previous page)



No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00000	001FF
-	SW	512	00000	001FF	Device	SW	512	00000	001FF
1	RX	128	00000	0007F	Device	X	128	00200	0027F
2	RY	128	00000	0007F	Device	Y	128	00200	0027F
3	RW	72	00000	00047	Device	D	72	1100	1171
4	RWw	72	00000	00047	Device	D	72	1000	1071
5									

2. Set the link refresh parameters as shown on the left.

2. Set!



0020:RJ71GF11-T2 Module Parameter

Setting Item List

Input the Setting Item to Search

Required Settings

- Basic Settings
- Network Configuration Settings
- Refresh Setting
- Network Topology
- Operation of Master Station after
- Application Settings

No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00000	001FF
-	SW	512	00000	001FF	Device	SW	512	00000	001FF
1	RX	128	00000	0007F	Device	X	128	00200	0027F
2	RY	128	00000	0007F	Device	Y	128	00200	0027F
3	RW	72	00000	00047	Device	D	72	1100	1171
4	RWw	72	00000	00047	Device	D	72	1000	1071
5									
6									
7									
8									
9									
10									
11									

Explanation

Select a device type (RX/RX/RW/RWw).

Item List | Find Result

Check Restore the Default Settings

Apply

3. Click the [Apply] button to close the "RJ71GF11-T2 Module Parameter" dialog box.

3. Click!

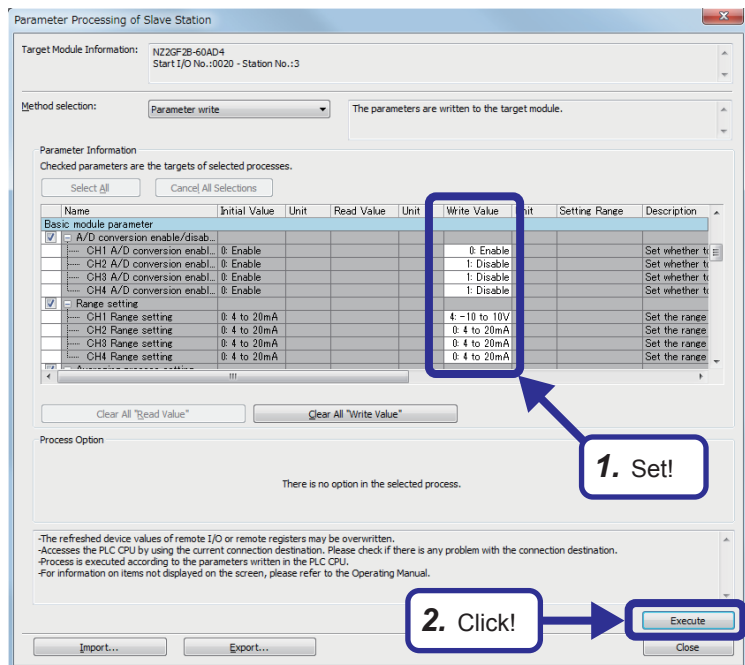
4.3.2 Parameter settings (remote device station)

Set parameters of the remote device station.

Before setting parameters of the remote device station, write parameters of the master station to the CPU module.

For how to set parameters, refer to Page 3 - 26 Parameter settings (remote I/O station).

Operating procedure



1. Set values in the "Write Value" rows of the NZ2GF2B-60AD4 as follows.

CH2 to 4 A/D conversion enable/disable setting: 1: Disable

CH1 Range setting: 4: -10 to 10V

CH1 Averaging process setting: 1: Time average

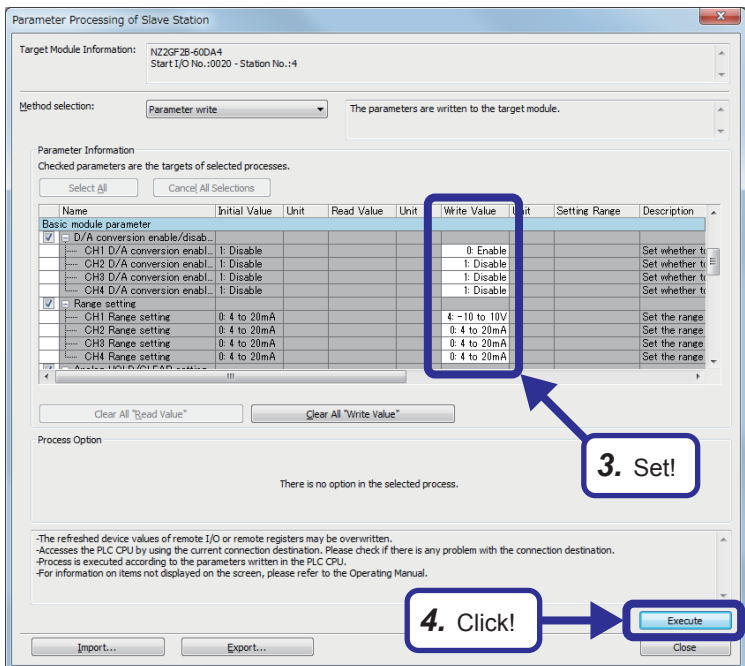
CH1 Time average/Count average/Moving average: 500

CH1 Scaling enable/disable setting: 0: Enable

CH1 Scaling upper limit value: 32000

CH1 Scaling lower limit value: -32000

2. Click the [Execute] button to write the parameters.



3. Set values in the "Write Value" rows of the NZ2GF2B-60DA4 as follows.

CH1 D/A conversion enable/disable setting: 0: Enable

CH1 Range setting: 4: -10 to 10V

CH1 Scaling enable/disable setting: 0: Enable

CH1 Scaling upper limit value: 32000

CH1 Scaling lower limit value: -32000

4. Click the [Execute] button to write the parameters.

5. After setting parameters, save the project with the file name "EX2".

4.4 Creating a Sequence Program

Setting sheet

Device assignment table

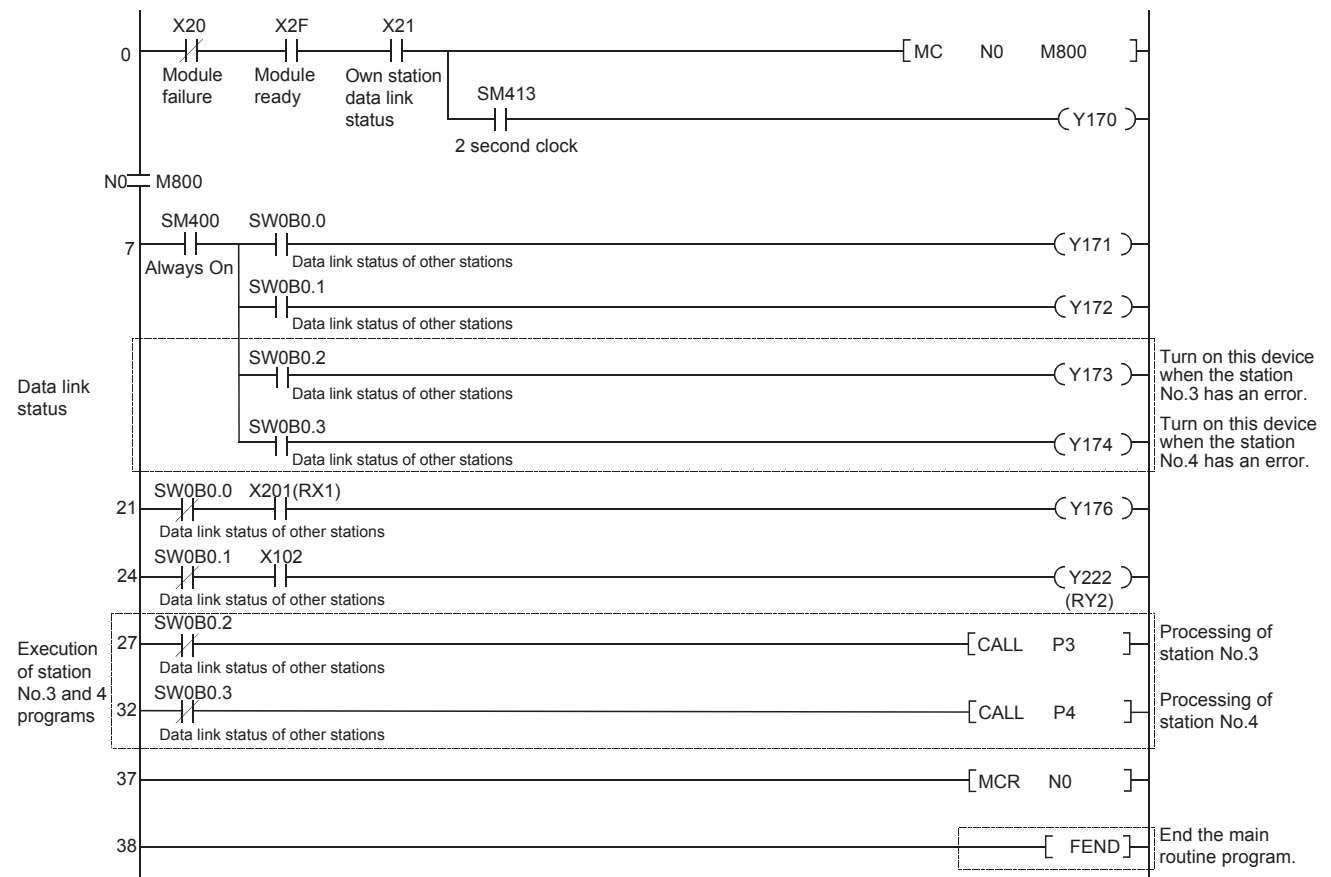
Station No.	Device							
	RX → (X)		RY → (Y)		RWw → (D)		RWr → (D)	
	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side
1	0000 to 000F	00200 to 0020F	0000 to 000F	00200 to 0020F	0000 to 0013	1000 to 1019	0000 to 0013	1100 to 1119
2	0020 to 002F	00220 to 0022F	0020 to 002F	00220 to 0022F	0014 to 0027	1020 to 1039	0014 to 0027	1120 to 1139
3	0040 to 005F	00240 to 0025F	0040 to 005F	00240 to 0025F	0028 to 0037	1040 to 1055	0028 to 0037	1140 to 1155
4	0060 to 007F	00260 to 0027F	0060 to 007F	00260 to 0027F	0038 to 0047	1056 to 1071	0038 to 0047	1156 to 1171

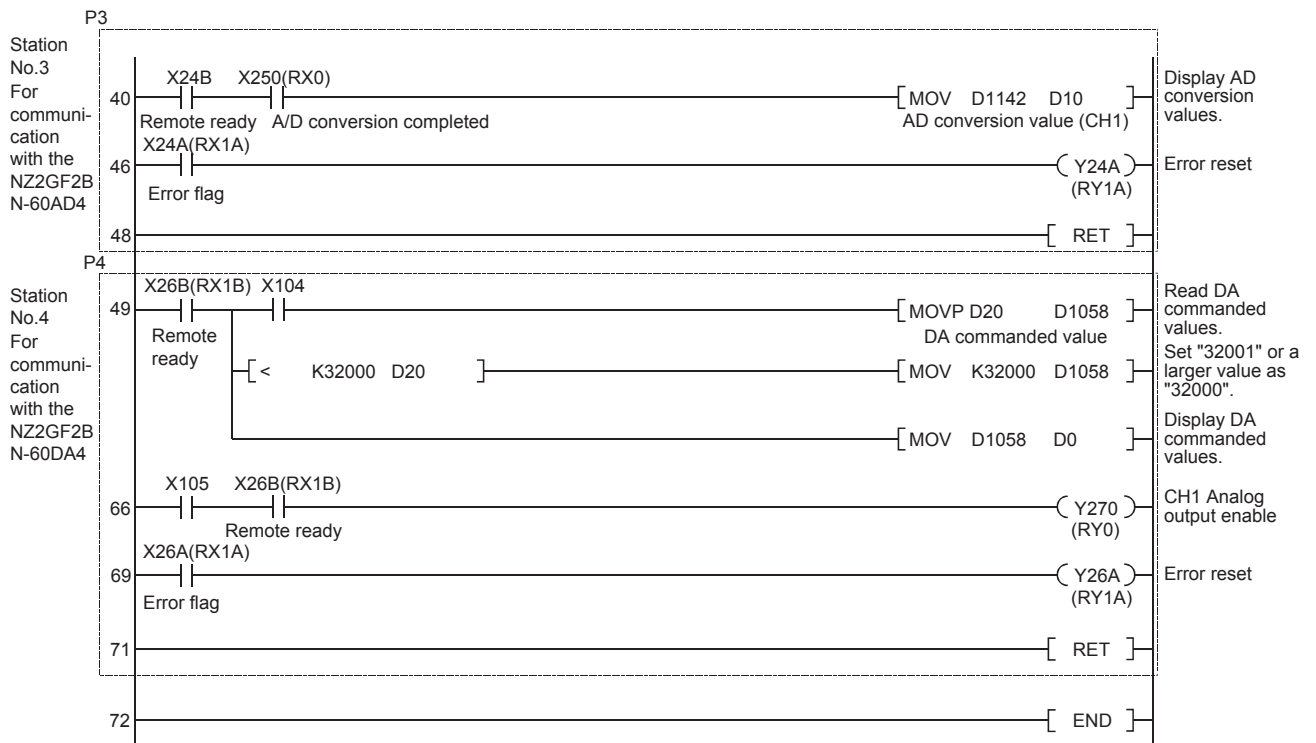
Sequence program

Create the following sequence program and write it to the CPU module.

Ladders surrounded with broken lines (----) are added or changed from the sequence program of Exercise 1.

Project name	EX2
--------------	-----





4.5 Communications with the Remote Device Station

4.5.1 Communications using a sequence program

The communications with the remote device station are performed using the sequence program written to the CPU module.

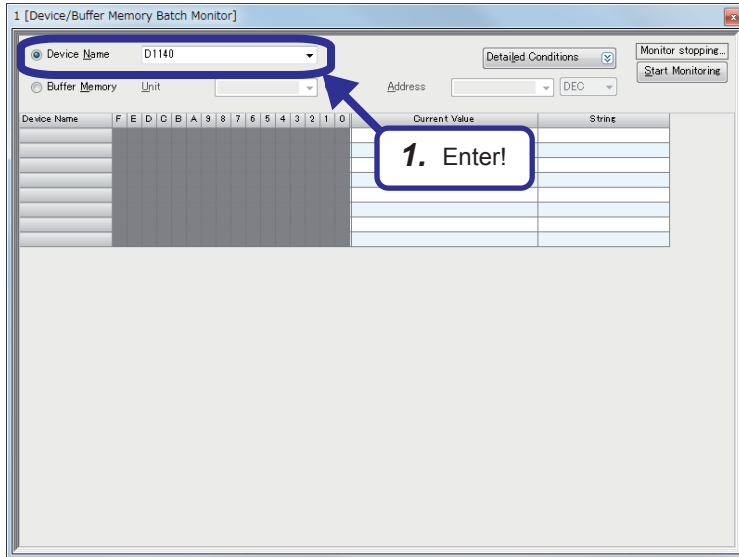
Switch operation of the demonstration machine

- 1.** Set the RUN/STOP/RESET switch of the CPU module to the "RESET" position (for approximately one second) to reset the status.
- 2.** Set the RUN/STOP/RESET switch to the RUN position.
Y170: Flashes depending on the own station data link status (Data link normal).
- 3.** Initial indication device D10: Displays a digital output value.
Turn the volume for input.
The digital output value changes in response to changes of the input voltmeter (A/D INPUT).
- 4.** Set "16000" to the initial input device D20 as an example and turn on X104.
Initial indication device D0: Displays "16000".
- 5.** Turn on X105 for DA output.
The output voltmeter (D/A OUTPUT) on the screen 3 indicates approximately 5V.
- 6.** Change the setting of the initial indication device D20 (range: 0 to 32000) in the same way, and turn on X104 again (ON → OFF → ON) for DA output.

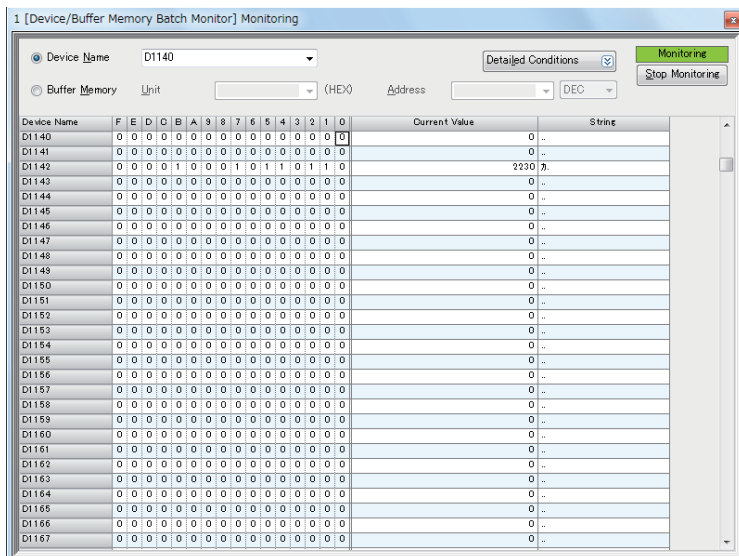
4.5.2 Monitoring and test of the remote device station

In the communication with the remote device station, monitoring and test are performed by GX Works3.
For monitoring and device test, refer to Page 3 - 30 Monitoring and Test of the Remote I/O Station.

Operating procedure



1. Enter "D1140" in "Device Name" and press the **Enter** key on the "Device/Buffer Memory Batch Monitor" dialog box.

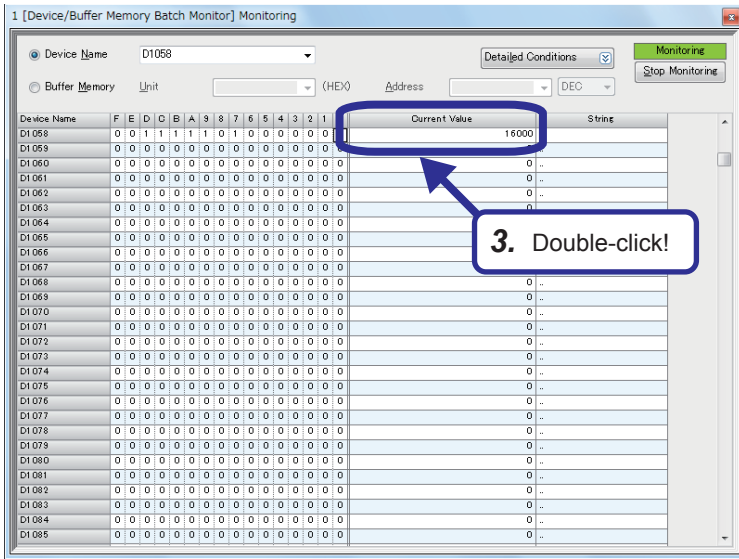


2. Check that a digital output value is stored in D1142.

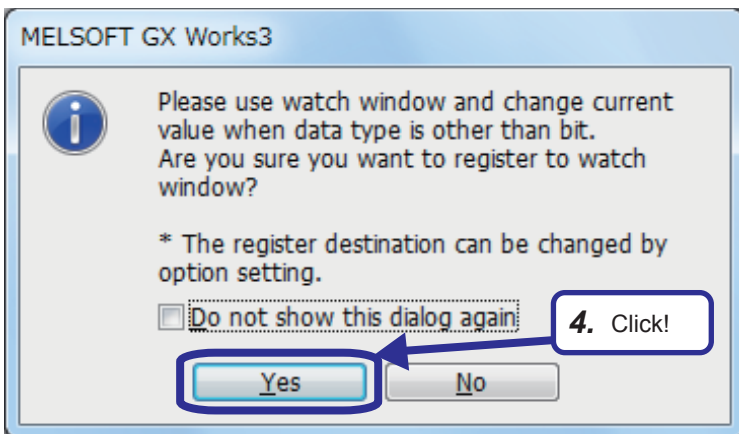


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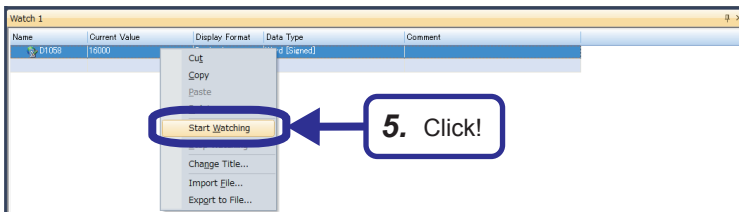
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3. Check the device "D1058" and double-click the "Current Value" row.



4. The dialog box shown on the left appears. Click the [Yes] button.

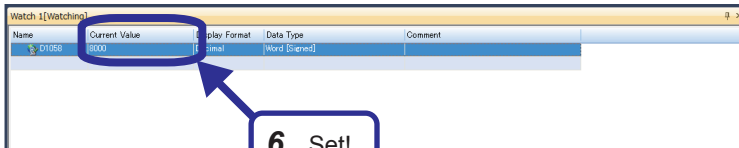


5. A watch window appears. Right-click the "Current Value" row and click the "Start Watching" menu.

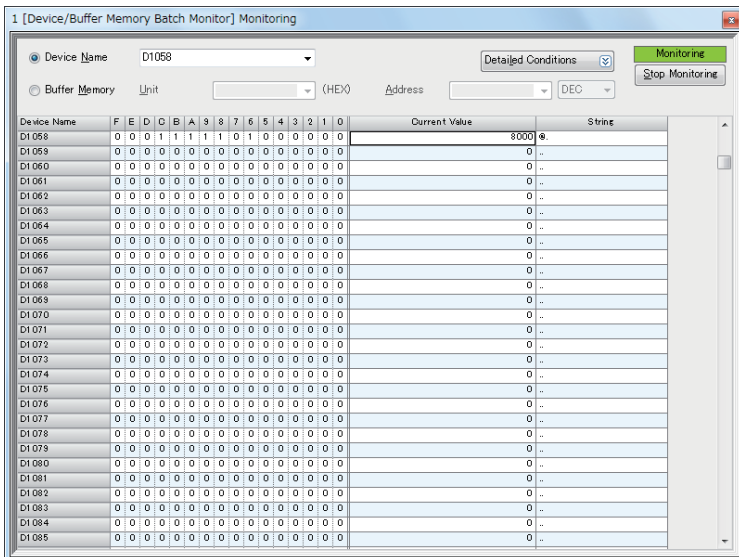


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6. Set "8000" in "Current Value".



7. The value "8000" is stored in CH1 Digital value setting area of the NZ2GF2BN-60DA4, and the output voltmeter (D/A OUTPUT) on the screen 3 indicates approximately 2.5V.

Monitoring and test of the remote device station are completed.

MEMO

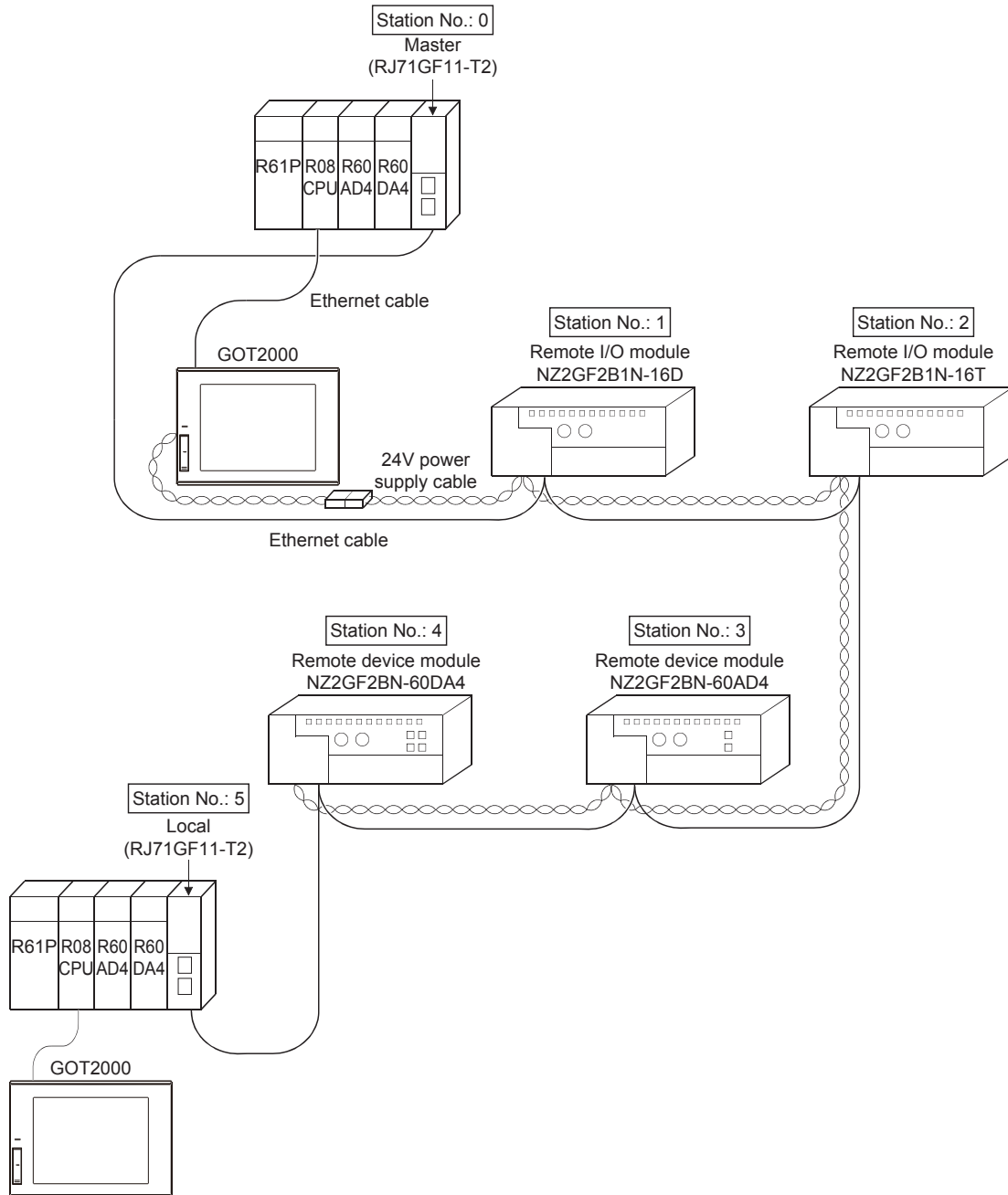
5 EXERCISE 3 (COMMUNICATION BETWEEN THE MASTER STATION AND LOCAL STATION)

This exercise is for when a local station is added to the system for exercise 2.

5.1 System Configuration

The following figure shows the system configuration of the demonstration machine for Exercise 3.

Wire modules with Ethernet cables as shown below.



5.2 Parameter Settings

Set parameters of the master station and local station.

After setting parameters, write them to the CPU module.

For how to write parameters, refer to Page 3 - 24 Writing parameters.

5.2.1 Parameter settings (master station)

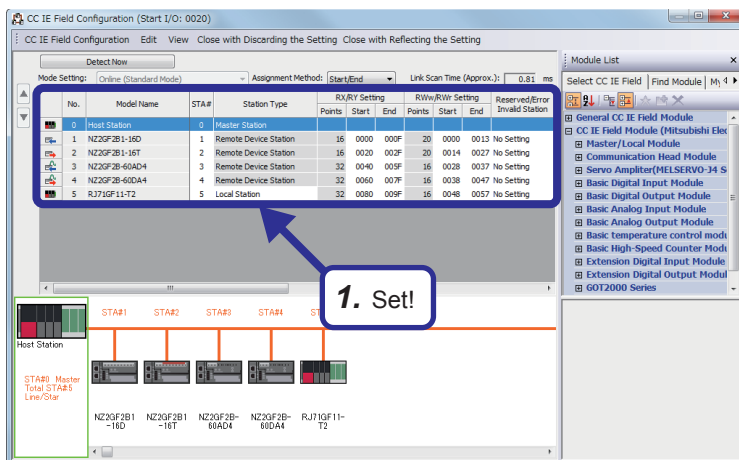
Set parameters of the master station.

(In this exercise, use the remote I/O station setting of Exercise 1 and the remote device station setting of Exercise 2.)

For how to set parameters, refer to Page 3 - 18 Parameter settings (master station).

Operating procedure

1. Select "RJ71GF11-T2" from "Master/Local Module" in "Module List" on the "CC IE Field Configuration" dialog box, drag and drop it to the list of stations or network map, and configure the settings as follows.



[Setting details]

RX/RX Setting Start: 0080

End: 009F

RWw/RWr Setting Start: 0048

End: 0057

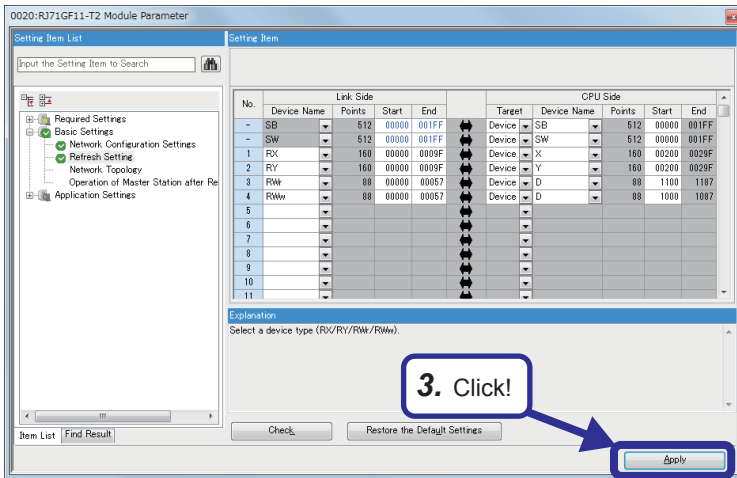
2. Set the link refresh parameters as shown on the left.

No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00000	001FF
-	SW	512	00000	001FF	Device	SW	512	00000	001FF
1	RX	160	00000	0009F	Device	X	160	00200	0029F
2	RY	160	00000	0009F	Device	Y	160	00200	0029F
3	RWw	88	00000	00057	Device	D	88	1100	1187
4	RWw	88	00000	00057	Device	D	88	1000	1087
5									

2. Set!

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3. Click the [Apply] button to close the "RJ71GF11-T2 Module Parameter" dialog box.

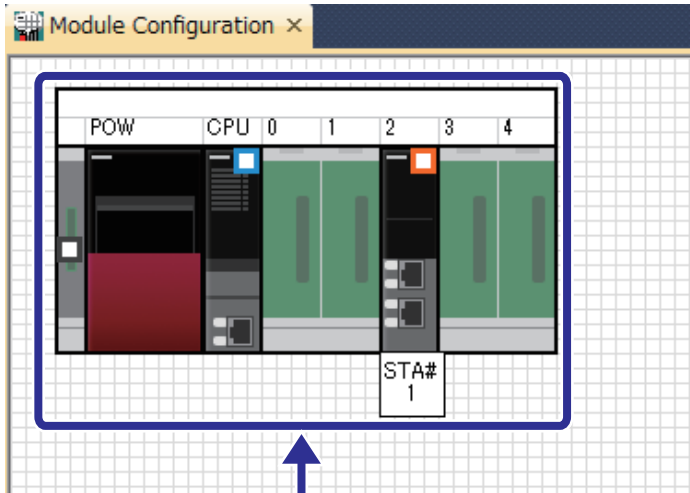
4. After setting parameters, save the project with the file name "EX3-M".

5.2.2 Parameter settings (local station)

In a project different from the one in which parameters of the master station have been set, add a local module in the module configuration and set parameters of the local station.

For how to create a module configuration, refer to Page 3 - 15 Adding master/local module data.

Operating procedure



1. Create a new project and add a master/local module by following the procedure described in Page 3 - 15 Adding master/local module data. After configuring the following settings, fix parameters.

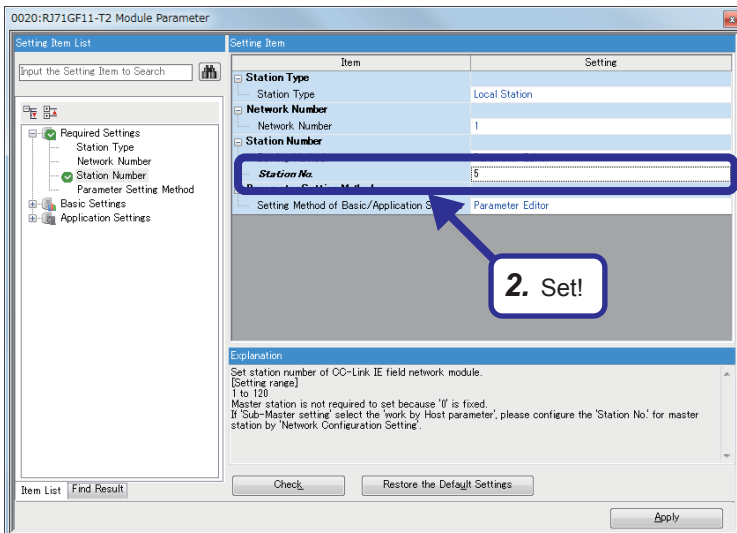
(Click the [No] button on the confirmation window for adding the module label.)

[Setting details]

Start XY: 0020

Station Type: Local Station

2. Double-click the RJ71GF11-T2 on the "Module Configuration" window to open the "RJ71GF11-T2 Module Parameter" dialog box. Set "5" for "Station No."



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No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00000	001FF
-	SW	512	00000	001FF	Device	SW	512	00000	001FF
1	RX	160	00000	0009F	Device	X	160	00200	0029F
2	RY	160	00000	0009F	Device	Y	160	00200	0029F
3	RW	88	00000	00057	Device	D	88	1000	1087
4	RWw	88	00000	00057	Device	D	88	1100	1187
5									

3. Set!



0020:RJ71GF11-T2 Module Parameter

Setting Item List

Setting Item

Input the Setting Item to Search

Required Settings
Basic Settings
Refresh Setting
Application Settings

No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00000	001FF
-	SW	512	00000	001FF	Device	SW	512	00000	001FF
1	RX	160	00000	0009F	Device	X	160	00200	0029F
2	RY	160	00000	0009F	Device	Y	160	00200	0029F
3	RW	88	00000	00057	Device	D	88	1000	1087
4	RWw	88	00000	00057	Device	D	88	1100	1187
5									
6									
7									
8									
9									
10									
11									

Explanation
Set the number of points (decima) of devices to be refreshed, when the "Start/End" is selected as an assignment method.
[Setting range]
- SB: 16 to 512 (multiples of 16 only)
- SW: 1 to 512
- RX/RX: 16 to 8192 (multiples of 16)
- RW/RWw: 4 to 8192 (multiples of 4)

Item List Find Result

Check Restore the Default Settings

Apply

4. Click!

3. Set the link refresh parameters as shown on the left.

4. Click the [Apply] button to close the "RJ71GF11-T2 Module Parameter" dialog box.

5. After setting parameters, save the project with the file name "EX3-L".

5.3 Creating a Sequence Program

Setting sheet

■ Device assignment table

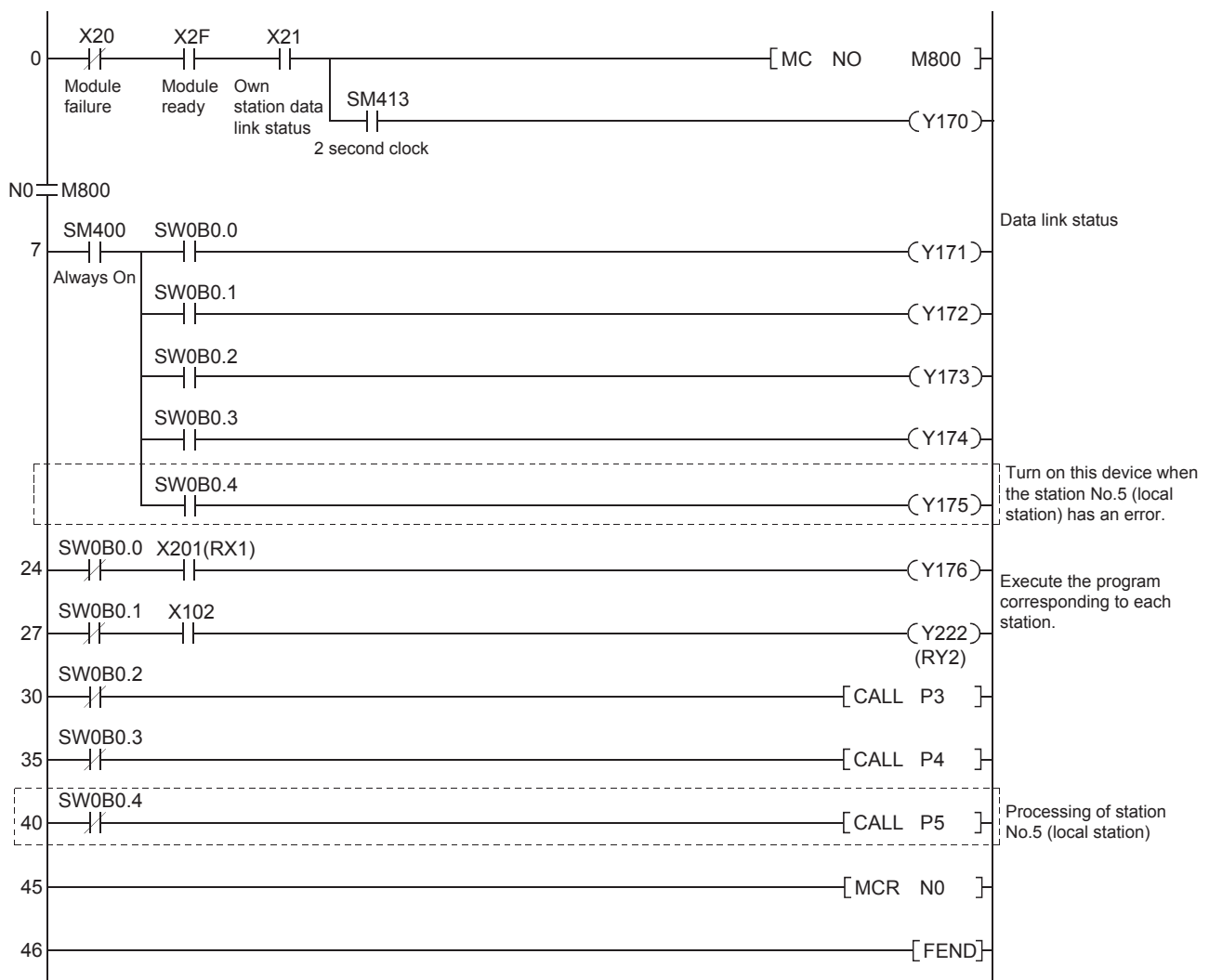
Station No.	Device							
	RX → (X)		RY → (Y)		RWw → (D)		RWr → (D)	
	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side
1	0000 to 000F	00200 to 0020F	0000 to 000F	00200 to 0020F	0000 to 0013	1000 to 1019	0000 to 0013	1100 to 1119
2	0020 to 002F	00220 to 0022F	0020 to 002F	00220 to 0022F	0014 to 0027	1020 to 1039	0014 to 0027	1120 to 1139
3	0040 to 005F	00240 to 0025F	0040 to 005F	00240 to 0025F	0028 to 0037	1040 to 1055	0028 to 0037	1140 to 1155
4	0060 to 007F	00260 to 0027F	0060 to 007F	00260 to 0027F	0038 to 0047	1056 to 1071	0038 to 0047	1156 to 1171
5	0080 to 009F	00280 to 0029F	0080 to 009F	00280 to 0029F	0048 to 0057	1072 to 1087	0048 to 0057	1172 to 1187

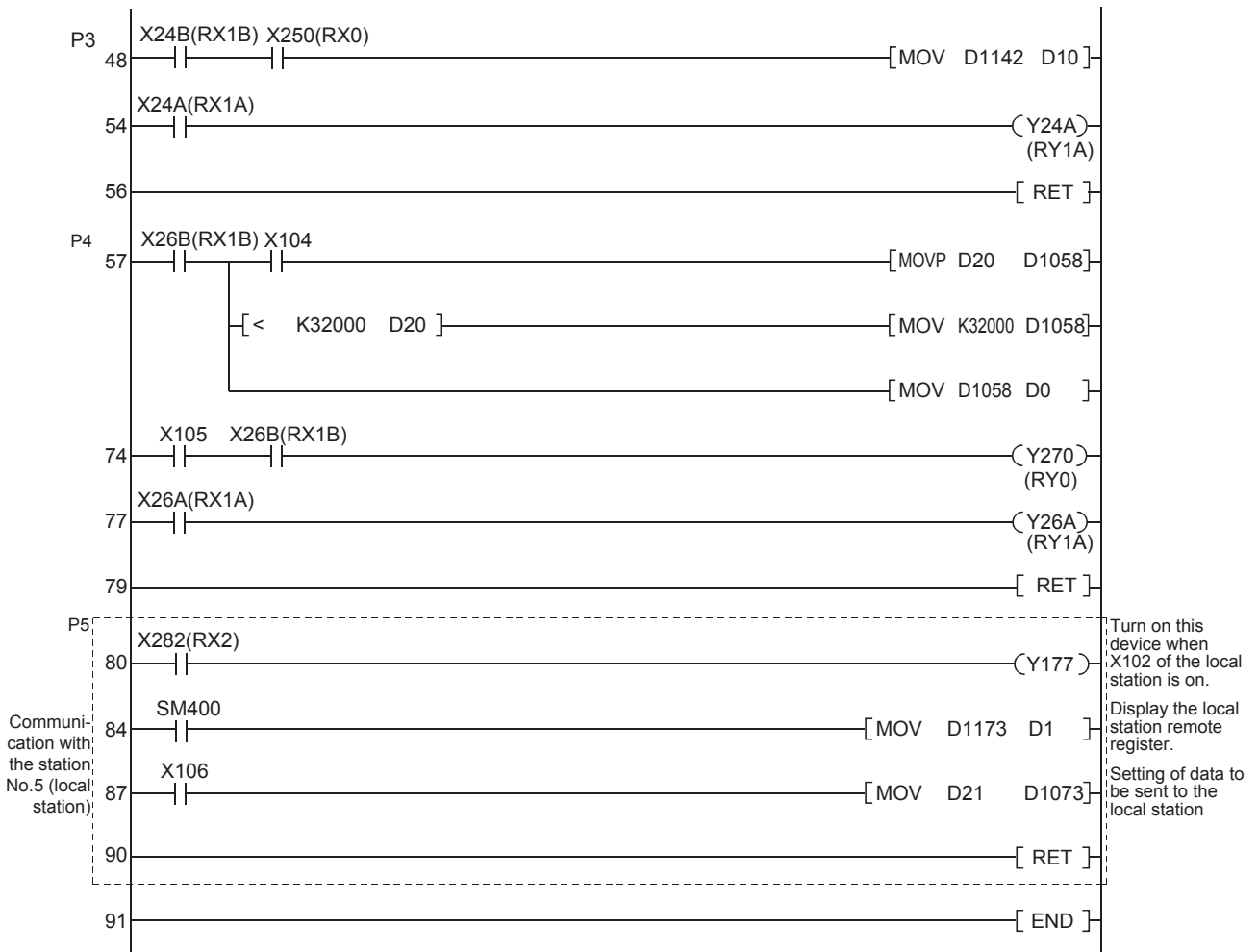
Sequence program (master station side)

Create the following sequence program and write it to the CPU module of the master station.

Ladders surrounded with broken lines (----) are added or changed from the sequence program of Exercise 2.

Project name	EX3-M
--------------	-------

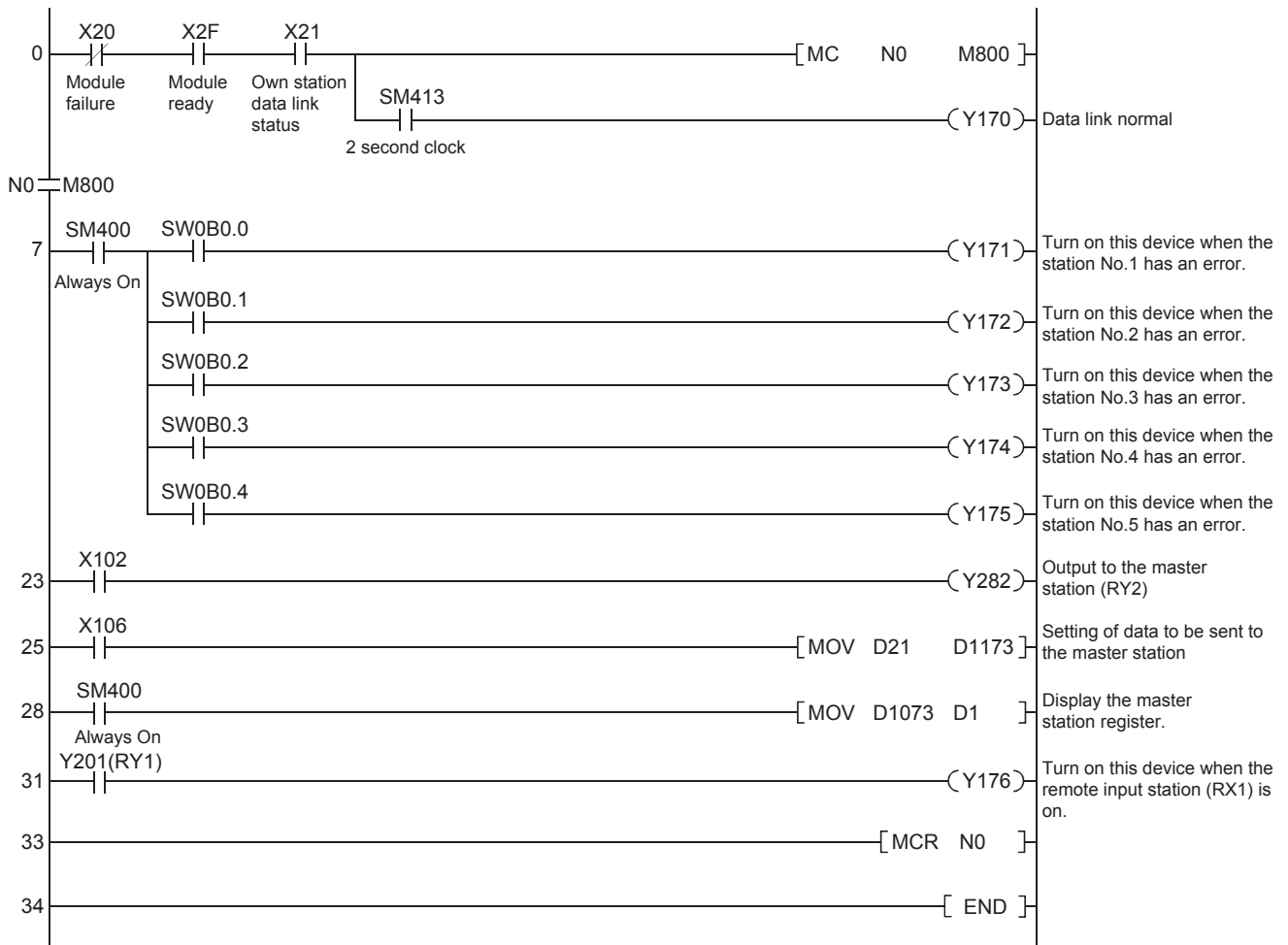




Sequence program (local station side)

Create the following sequence program and write it to the CPU module of the local station.

Project name	EX3-L
--------------	-------



5.4 Communication between the Master Station and Local Station

Switch operation of the demonstration machine

1. Set the RUN/STOP/RESET switches of the CPU modules of both the master station and local station to the "RESET" position (for approximately one second) to reset the CPU modules.
2. Set the RUN/STOP/RESET switches of the CPU modules of both the master station and local station to the "RUN" position.
Y170: Flashes depending on the own station data link status (Data link normal).
3. Turn on X102 of the local station.
When X102 in the local station program is turned on, Y282 turns on.
When X282 in the master station program is turned on, Y177 turns on.
 - Master station side
Y177: On
4. Check that the value set in the initial input device D21 of the master station and the one of the local station are sent to each other.
 - Master station → Local station
 - (1) Set a value in the initial input device D21 of the master station. (Example: 1234)
 - (2) Turn on X106 of the master station.
 - (3) Check the initial indication device D1 of the local station.
 - Local station → Master station
 - (1) Set a value in the initial input device D21 of the local station. (Example: 5678)
 - (2) Turn on X106 of the local station.
 - (3) Check the initial indication device D1 of the master station.
5. Turn on the terminal block switch of the remote I/O station (NZ2GF2B1N-16D).
Y176 turns on when Y201 (RY1) turns on in the local station program.
*1 X201 (RX1) of the master station corresponds to Y201 (RY1) of the local station.

MEMO

6 DIAGNOSTIC FUNCTION

This chapter describes how to check wiring and network status with CC-Link IE Field Network diagnostics and system monitor and troubleshooting for when an error occurred.

6.1 CC-Link IE Field Diagnostics

Perform the CC-Link IE Field Network diagnostics to check the network status, wiring, and error details or to perform an operation test for troubleshooting.

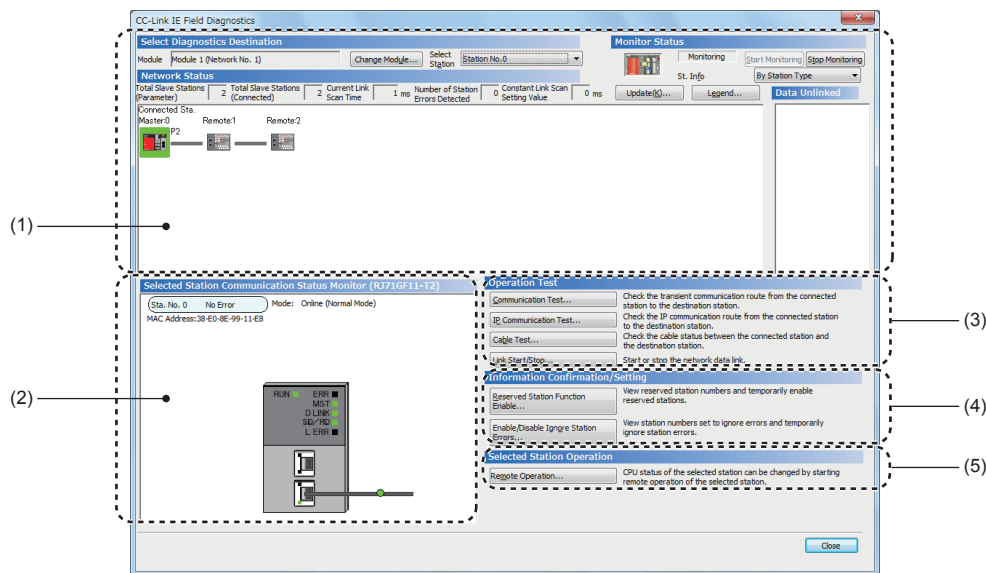
For wiring, refer to Page 1 - 7 CC-Link IE Field Network configuration.

List of items to be diagnosed

The following table lists items that can be diagnosed by the CC-Link IE Field Network diagnostics.

For details, refer to the following.

📖 MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)



○: Diagnosed △: Diagnosed with restrictions ×: Not diagnosed

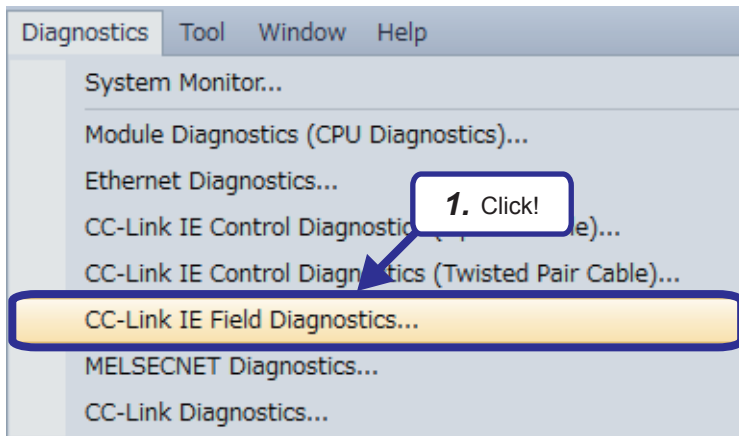
Item	The engineering tool is connected to:		Restrictions
	Master station, submaster station	Local station	
(1) Network map and error status Cable disconnection and disconnected station	○	○	—
	○	○	
(2) Status of the selected station and the error definition Station number setting of the slave station	○	○	This item is not displayed when the selected module does not support "Selected Station Communication Status Monitor" of the engineering tool.
	○ ¹	×	
(3) Communication Test IP Communication Test Cable Test Link Start/Stop	○	○	To start/stop data link of another station, the engineering tool must be connected to the master station (or the master operating station when the submaster function is used).
	○	○	
	○	○	
	○ ¹	△	

Item		The engineering tool is connected to:		Restrictions
		Master station, submaster station	Local station	
(4)	Reserved Station Function Enable	○*1	△	When the engineering tool is connected to a local station, reserved stations are only displayed (cannot be set).
	Enable/Disable Ignore Station Errors	○*1	△	When the engineering tool is connected to a local station, temporary error invalid stations are only displayed (cannot be set).
(5)	Remote Operation	○	○	When the selected station is other than MELSEC iQ-R series, this function cannot be executed.

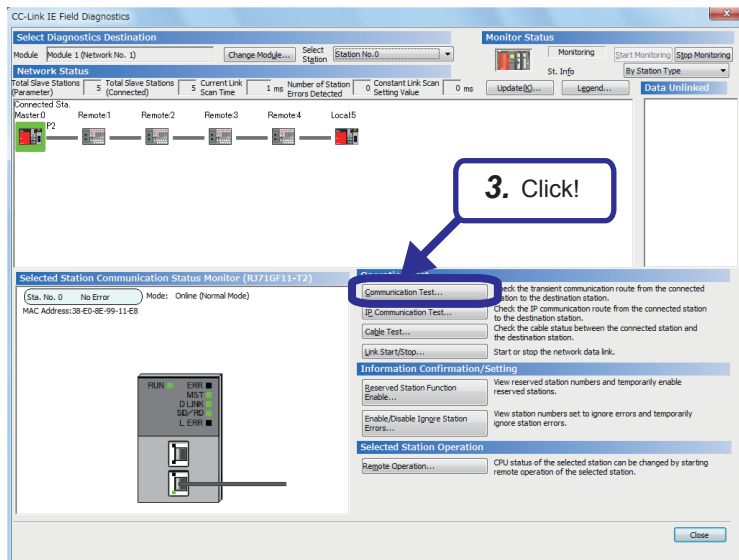
*1 When the own station operates as a submaster operating station, the function cannot be executed.

Diagnostics

Operating procedure



1. Click [Diagnostics] ⇒ [CC-Link IE Field Diagnostics].



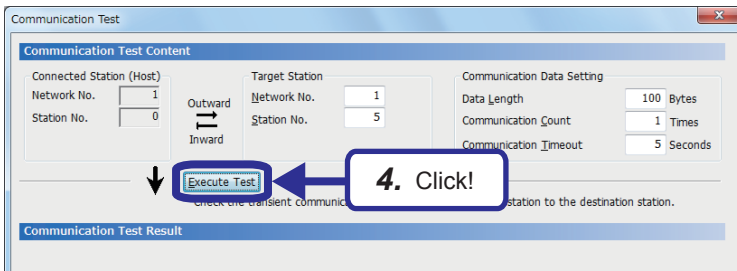
2. The "CC-Link IE Field Diagnostics" dialog box appears. Check that the communication has been performed in the order of the current connection.
The system configuration of the demonstration machine for Exercise 3 is used in this case.
3. Click the [Communication Test] button to check if transient transmission data can be properly routed from the own station to the communication target.



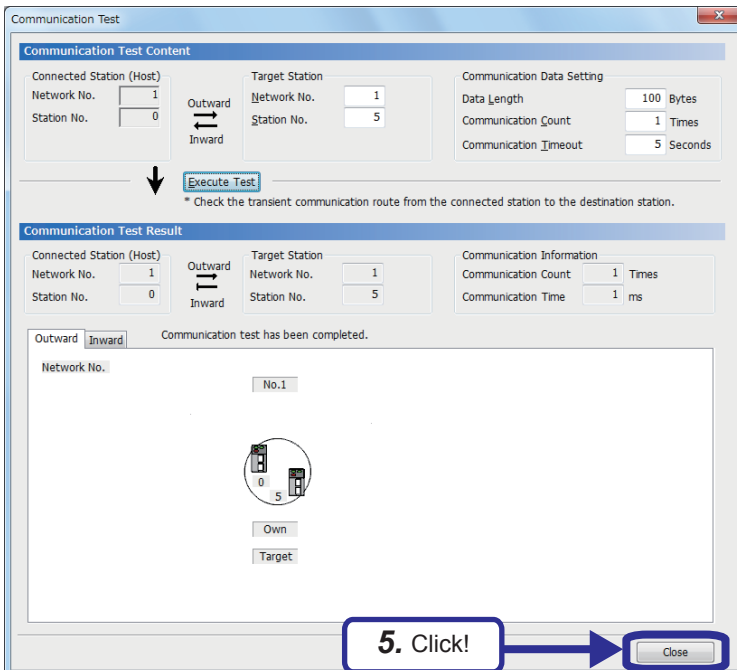
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4. The "Communication Test" dialog box appears. Set the station number of the access destination to which the communication test is performed and click the [Execute Test] button.



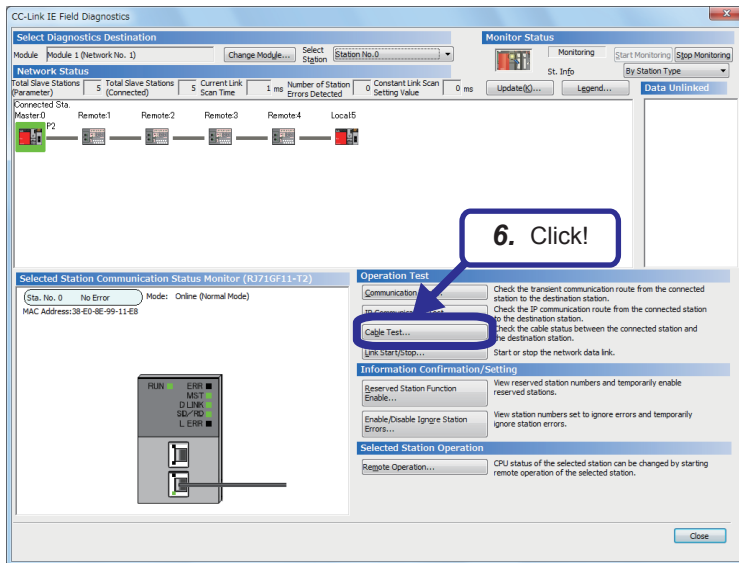
5. When a communication test result is displayed, check that no error has occurred in the communication path from the own station to the access destination and click the [Close] button.



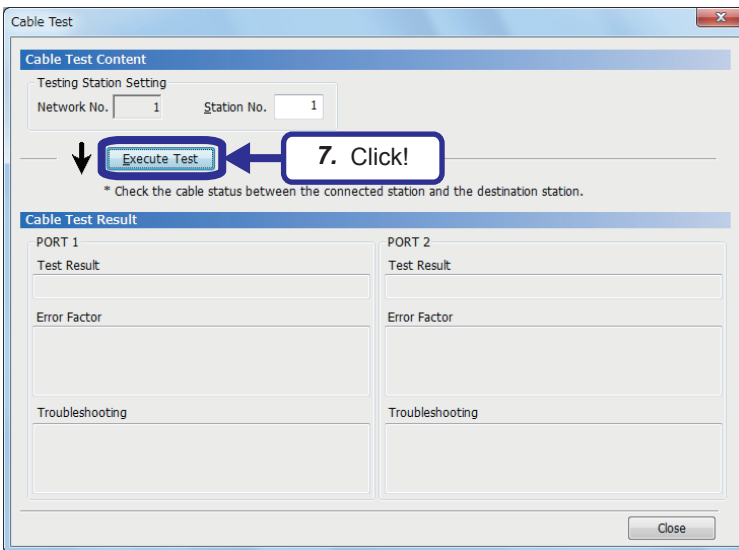
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6. Click the [Cable Test] button to check if Ethernet cables are properly connected.



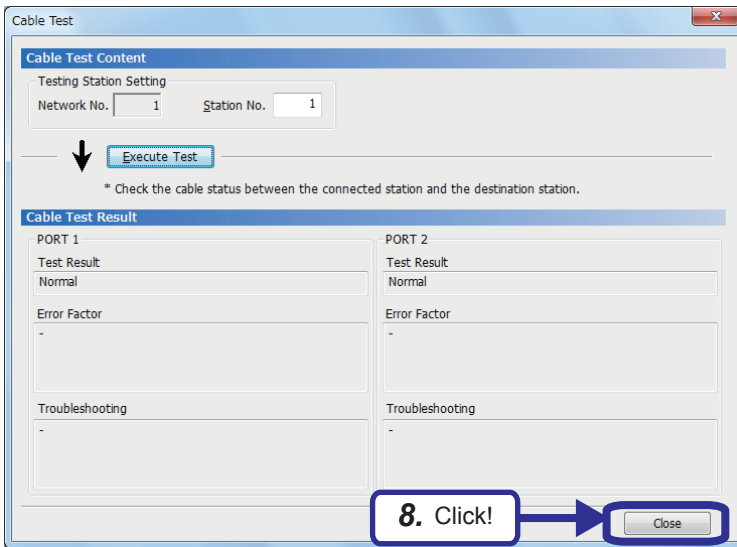
7. The "Cable Test" dialog box appears. Set the station number to which the cable test is performed and click the [Execute Test] button.



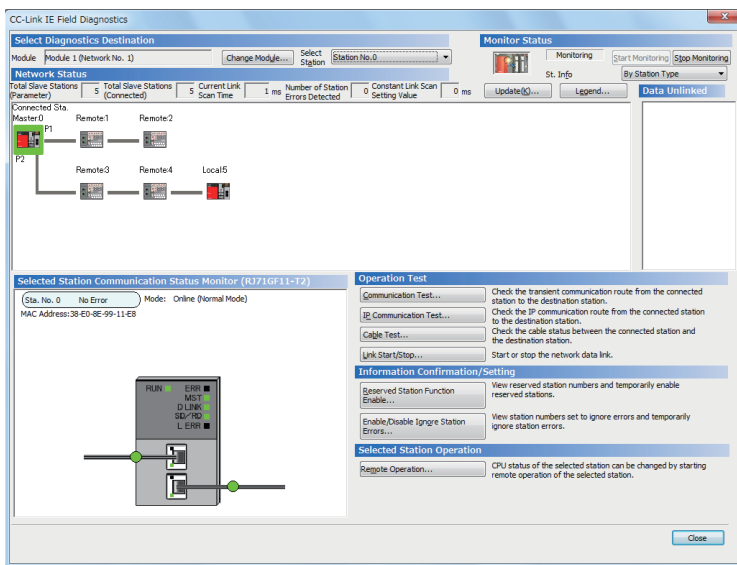
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8. When a cable test result is displayed, check that no error has occurred in the port to which an Ethernet cable is connected in the demonstration machine of the set station number and click the [Close] button.



9. To check the diagnostic window of when the wiring type is changed, connect the terminal of the NZ2GF2B1N-16T to the master module with the Ethernet cable between the NZ2GF2B1N-16T and NZ2GF2BN-60AD4. (This operation sets the wiring type to the branched line topology.)

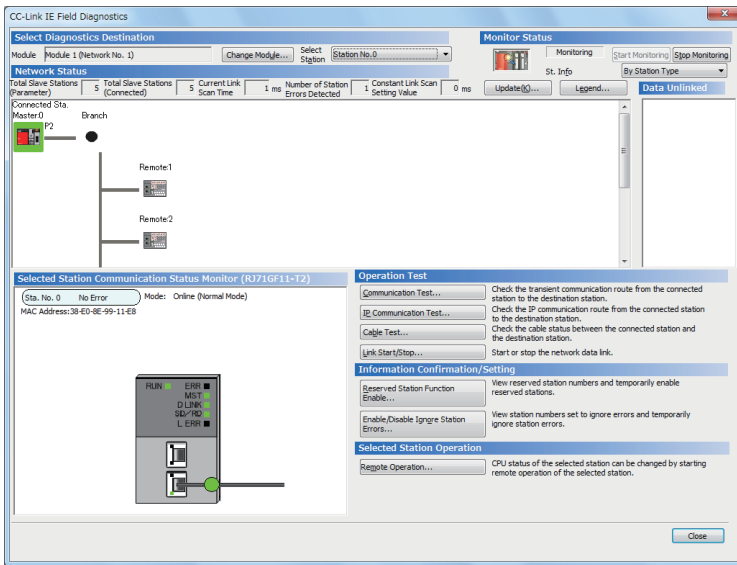
10. Check that the network status on the CC-Link IE Field Diagnostics dialog box has changed.



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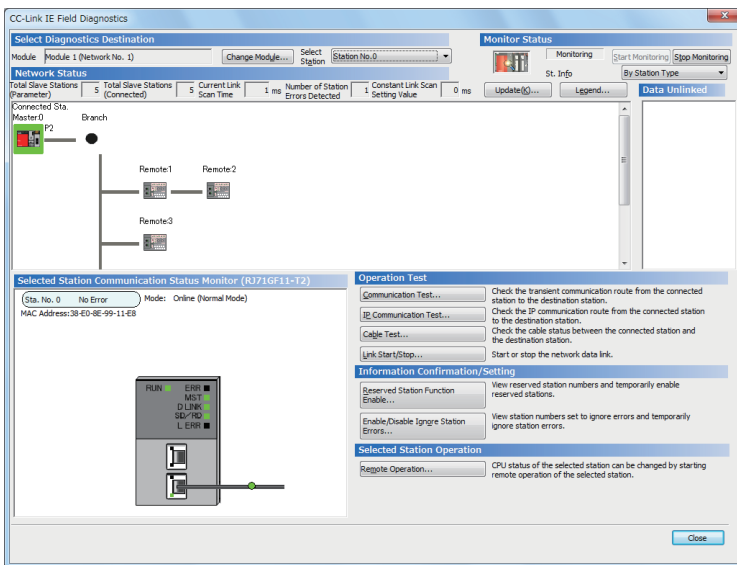


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11. Connect the Ethernet cables of all the modules to a switching hub.
(This operation sets the wiring type to the star topology.)

12. Check that the network status on the CC-Link IE Field Diagnostics dialog box has changed.



13. Connect the Ethernet cable of one module to another switching hub.
(This operation sets the wiring type to the mixed topology of line and star.)

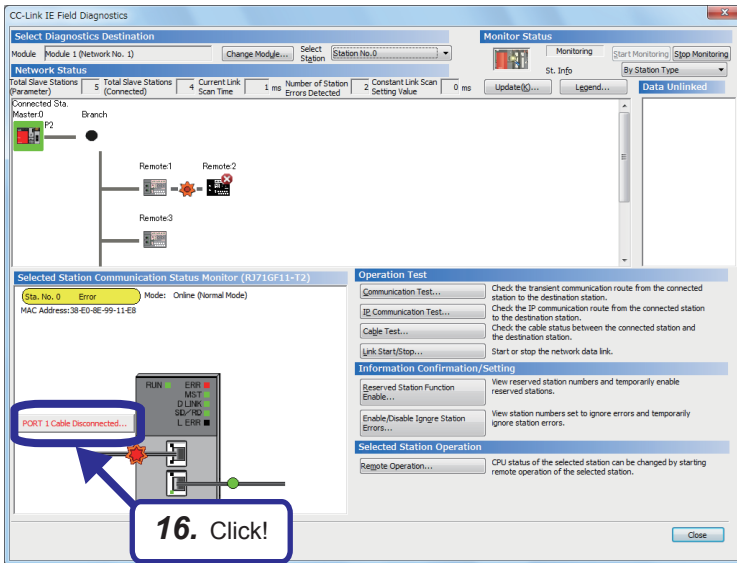
14. Check that the network status on the CC-Link IE Field Diagnostics dialog box has changed.



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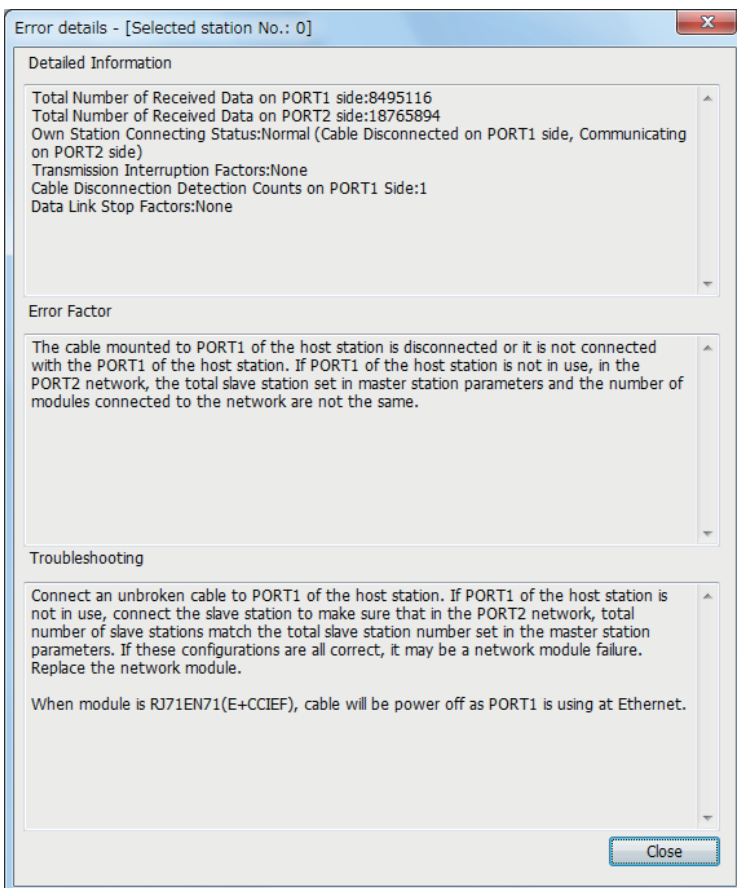


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15. To check the error details of when a network trouble has occurred, disconnect the Ethernet cable of one module and check the CC-Link IE Field Diagnostics dialog box with a network disconnected.

16. Select the module in which an error has occurred and click the button shown on the left to check error details.



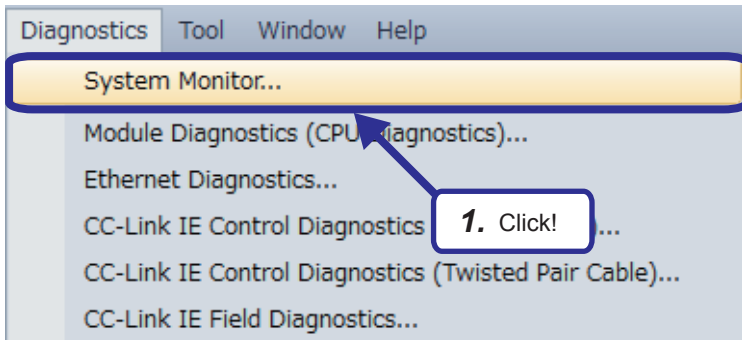
17. Check the error details.

6.2 System Monitor

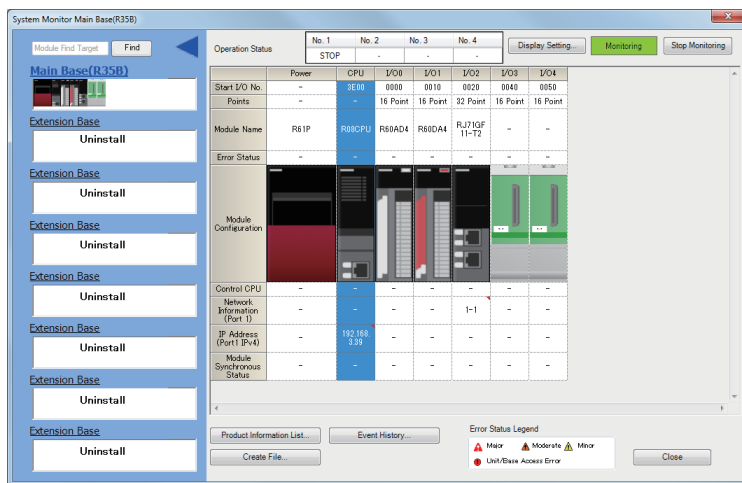
The system monitor displays the module configuration of the operating system and detailed information of each module. Users can check error status and diagnose the module where an error has occurred.

Diagnostics

Operating procedure



1. Click [Diagnostics] ⇒ [System Monitor].



2. The System Monitor dialog box appears and it displays the module configuration of the demonstration machine.



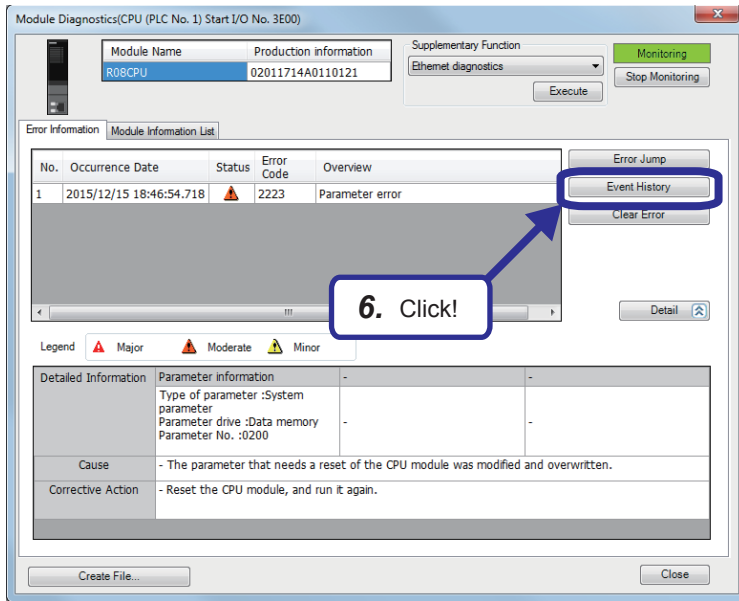
3. When an error has occurred, the error is displayed as shown in the figure on the left.
4. Double-click the CPU module where the error has occurred.



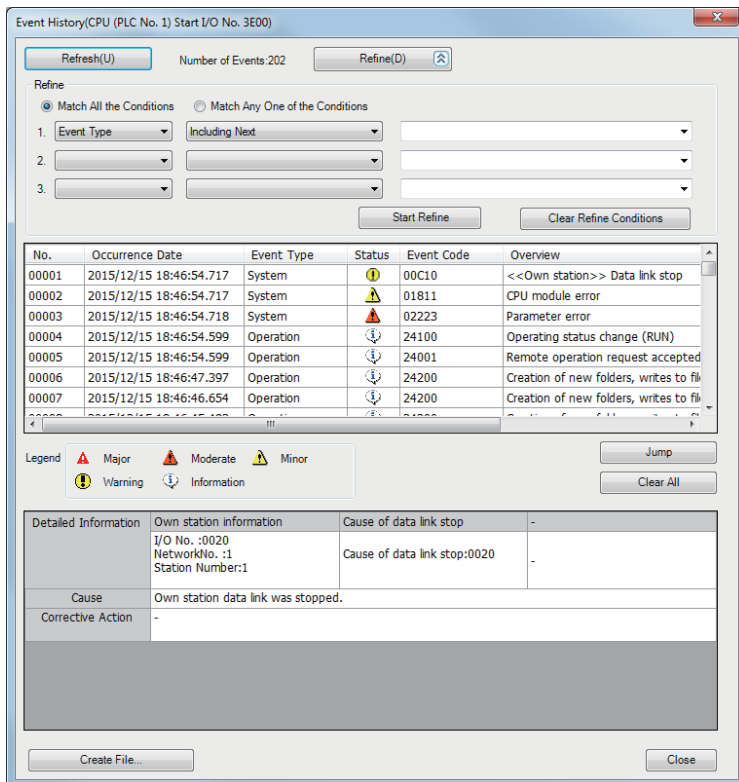
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5. The "Module Diagnostics" dialog box appears. Check error details.
6. Click the [Event History] button.



7. The "Event History" dialog box appears. Check module error information, operation history, and system information history. Detailed information of the error history is displayed when a CPU module and intelligent function module that have supported the module error collection function are used.

APPENDICES

Appendix 1 Comparison of Network Specifications

The following tables list the specifications of each network.

■ Comparison of CC-Link IE Controller Network and MELSECNET/H specifications

		CC-Link IE Controller Network		MELSECNET/H		
		Twisted pair	Optical duplex loop	Optical loop system	Coaxial bus system	Twisted bus system
Communication speed (bps)		1G		25M	10M	10M (Max.)
Maximum number of link points (words)	Per network	128K		16K		
	Per station	128K		16K		
Maximum number of connectable stations per network		120		64	32	32
Distance	Overall cable distance (km)	12	66	30	2.5 ^{*1}	0.1 (at 10Mbps)
	Maximum station-to-station distance (m)	100	550 (when the outside diameter of the core is 50μm)	1000	500	100 (at 10Mbps)
Wiring	Topology	Star topology, line topology, ring topology	Ring topology	Ring topology	Bus topology	Bus topology
	Cable	General-purpose Ethernet cable (Category 5e or higher, double shielded twisted pair)	General-purpose Ethernet cable (Multi-mode optical fiber)	Optical cable	Coaxial cable	Twisted cable

*1 When a repeater hub is used

■ Comparison of CC-Link IE Field Network and CC-Link specifications

		CC-Link IE Field Network	CC-Link
Communication speed (bps)		1G	10M (Max.)
Maximum number of link points (words)	Per network	16K ^{*1}	4K ^{*1}
	Per station	2K ^{*1}	256 ^{*1} (4 stations occupied)
Maximum number of connectable stations per network		121	65
Distance	Overall cable distance (km)	12	1.1 ^{*2} (at 10Mbps)
	Maximum station-to-station distance (m)	100	100 (at 10Mbps)
Wiring	Topology	Star topology, line topology, ring topology	Bus topology, T-branch topology, star topology
	Cable	General-purpose Ethernet cable (Category 5e or higher, double shielded twisted pair)	Twisted cable (CC-Link dedicated cable)

*1 Maximum number of link points (RW_r + RW_w)

*2 When a repeater hub is used

Appendix 2 Error Codes

This section lists the error codes, error details and causes, and action for the errors occur in the processings for data communication between master/local module and external devices or caused by processing requests from the CPU module on the own station.

Error codes are classified into major error, moderate error, and minor error, and can be checked in "Error Information" in the "Module Diagnostics" window.

Error code	Error details and cause	Action	Detailed information
1080H	The number of writes to the flash ROM has exceeded 100000.	Replace the module.	—
1800H	A connection failure was detected in the network.	Correct the wiring status.	—
1811H	An error was detected in the CPU module.	Check the error of the CPU module and take action using the module diagnostics of the engineering tool.	—
1830H	Number of reception requests of transient transmission (link dedicated instruction) exceeded upper limit of simultaneously processable requests.	Lower the transient transmission usage frequency, and then perform again.	—
1845H	Too many processings of transient transmission (link dedicated instruction) and cannot perform transient transmission.	Correct the transient transmission execution count.	—
1D01H	The network synchronization communication setting in the network configuration setting of the master station does not match the network synchronization communication setting of the controlled slave station (synchronization enable/disabled).	<ul style="list-style-type: none"> Set the "Network Synchronous Communication" for the corresponding local station to the "Synchronous" in "Network Configuration Settings" under "Basic Settings" of the master station. Set the corresponding module to the same setting as the master station using the local station's inter-module synchronization setting. 	Parameter information <ul style="list-style-type: none"> Parameter storage location Parameter type I/O No. Parameter No.
1D10H	Cyclic transmission skip occurred.	<ul style="list-style-type: none"> Increase the inter-module synchronization cycle value set in "Fixed Scan Interval Setting" under "Synchronization Setting within the Modules" in the system parameters so that the execution time of synchronization interrupt program does not exceed the inter-module synchronization cycle. Reduce the program processing time by reducing the program volume so that the execution time of synchronization interrupt program does not exceed the inter-module synchronization cycle. Reduce the refresh processing time by reducing the data targeted for synchronization refreshing so that the execution time of synchronization interrupt program does not exceed the inter-module synchronization cycle. Set modules not requiring synchronization to asynchronous so that the execution time of synchronization interrupt program does not exceed the inter-module synchronization cycle. 	—
1D20H	The module cannot normally communicate with the synchronized slave station on CC-Link IE Field Network.	<ul style="list-style-type: none"> Set the inter-module synchronization cycle to longer than the current value in "Fixed Scan Interval Setting" under "Synchronization Setting within the Modules" in the system parameters. Check if the switching hub and the cables are connected properly. After taking the above actions, power on the system again or reset the CPU module. 	—
20E0H	The module cannot communicate with the CPU module.	The hardware failure of the CPU module may have been occurred. Please consult your local Mitsubishi representative.	—
2220H	The parameter setting is corrupted.	Check the detailed information of the error by executing module diagnostics using the engineering tool, and write the displayed parameter. If the error occurs again even after taking the above, the possible cause is a hardware failure of the module. Please consult your local Mitsubishi representative.	Parameter information <ul style="list-style-type: none"> Parameter type

Error code	Error details and cause	Action	Detailed information
2221H	The set value is out of the range.	<ul style="list-style-type: none"> Check the detailed information of the error by executing module diagnostics using the engineering tool, and correct the parameter setting corresponding to the displayed number. When the parameter No. is "0101", the cycle value which is not applicable to the slave station is set in "Fixed Scan Interval Setting" under "Synchronization Setting within the Modules" in the system parameters. Refer to the manual for the slave station used, and correct the setting. 	Parameter information <ul style="list-style-type: none"> Parameter type I/O No. Parameter No. Network No. Station No.
24C0H to 24C3H	An error was detected on the system bus.	<ul style="list-style-type: none"> Take measures to reduce noise. Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the module, base unit, or extension cable. Please consult your local Mitsubishi representative. 	System configuration information <ul style="list-style-type: none"> I/O No. Base No. Slot No. CPU No.
24C6H	An error was detected on the system bus.	<ul style="list-style-type: none"> Take measures to reduce noise. Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the module, base unit, or extension cable. Please consult your local Mitsubishi representative. 	—
2600H	The cyclic processing does not finish before the start timing for the next inter-module synchronization cycle.	<ul style="list-style-type: none"> Increase the value set in "Fixed Scan Interval Setting" under "Synchronization Setting within the Modules" in the system parameters so that the link scan time does not exceed the inter-module synchronization cycle. Reduce the number of cyclic assignment points and the number of connected slave modules, and decrease the link scan time. 	—
2610H	An inter-module synchronization signal error (synchronization loss) was detected.	<ul style="list-style-type: none"> Take measures to reduce noise. Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the module, base unit, or extension cable. Please consult your local Mitsubishi representative. 	—
3000H	<p>Any of following items are set in the module which is set as a target in "Synchronization Setting within the Modules" in the system parameters.</p> <ul style="list-style-type: none"> "Setting Method" under "Station Number" in "Required Settings" is set to "Program". "Setting Method of Basic/Application Settings" under "Parameter Setting Method" in "Required Settings" is set to "Program". "Station Type" under "Station Type" in "Required Settings" is set to "Submaster Station". "Network Topology" in "Basic Settings" is set to "Ring". "Link Scan Mode" under "Supplementary Cyclic Settings" in "Application Settings" is set to "Constant Link Scan" or "Sequence Scan Synchronous Setting". A station in which "Station Type" is set to "Submaster station" is set in "Network Configuration Settings" of "Basic Settings". <p>Although a slave station in which "Network Synchronous Communication" in "Network Configuration Settings" of "Basic Settings" is set to "Synchronous" exists, the system parameter and control CPU are in the any of following states.</p> <ul style="list-style-type: none"> The master/local module is not set as the target module in "Synchronization Setting within the Modules" in the system parameters. The control CPU is a CPU module in which the inter-module synchronization function cannot be used. 	Correct parameter shown in cause.	Parameter information <ul style="list-style-type: none"> Parameter type I/O No. Parameter No.



Error code	Error details and cause	Action	Detailed information
3001H	<ul style="list-style-type: none"> A station with the same station number was found in the same network. Multiple master stations and submaster stations were detected in the same network. 	<p>Correct the station number or station type of the station where the error was detected.</p> <p>After taking the above actions, power off and on or reset all stations where the error was detected.</p>	Parameter information <ul style="list-style-type: none"> Parameter type I/O No. Parameter No.
	A station of CC-Link IE Controller Network (Ethernet cable) was found in the same network.	<p>Divide it into CC-Link IE Controller Network (Ethernet cable) and the network.</p> <p>After taking the above actions, power off and on or reset all stations where the error was detected.</p>	
3004H	The number of points set in "RWw/RWr setting" for the remote device station (safety station) is less than 16 in "Network Configuration Settings" of "Basic Settings".	Set "RWw/RWr Setting" for the remote device station (safety station) to 16 points in "Network Configuration Settings" of "Basic Settings".	Parameter information <ul style="list-style-type: none"> Parameter type I/O No. Parameter No. Network No. Station No.
3040H	Response data of the dedicated instruction cannot be created.	<ul style="list-style-type: none"> Increase the request interval. Decrease the number of request nodes. Wait for a response to the previous request before sending the next request. Correct the timeout value. 	—
3600H	The inter-module synchronization cycle setting does not match the master station setting.	Correct the parameter so that all modules performing inter-module synchronization have the same frequency setting.	Parameter information <ul style="list-style-type: none"> Parameter storage location Parameter type I/O No. Parameter No.
3601H	The network synchronization communication setting in the network configuration setting of the master station does not match the inter-module synchronization target module of the own station.	Check the network configuration setting and check if inter-module synchronization is set.	Parameter information <ul style="list-style-type: none"> Parameter storage location Parameter type I/O No. Parameter No.
3602H	Inter-module synchronization cycle failure occurred between networks.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Check if the switching hub and the cables are connected properly. If the request source is on another network, check if the routing parameters are set correctly, and take action. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
3C00H to 3C03H	A hardware failure has been detected.	<ul style="list-style-type: none"> Take measures to reduce noise. Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the module, base unit, or extension cable. Please consult your local Mitsubishi representative. 	—
3C0FH to 3C11H	A hardware failure has been detected.	<ul style="list-style-type: none"> Take measures to reduce noise. Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the module, base unit, or extension cable. Please consult your local Mitsubishi representative. 	—
3C14H	A hardware failure has been detected.	Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the error module or CPU module. Please consult your local Mitsubishi representative.	—
3C2FH	An error was detected in the memory.	Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the error module. Please consult your local Mitsubishi representative.	—
3E00H	An error was detected in the network module.	Reset the CPU module, and run it again. If the error occurs again even after taking the above, the possible cause is a hardware failure of the error module. Please consult your local Mitsubishi representative.	—

Error code	Error details and cause	Action	Detailed information
3E01H	Network type of the own station is unexpected setting.	Rewrite the module parameter using the engineering tool. If the error occurs again even after taking the above, the possible cause is a hardware failure of the error module. Please consult your local Mitsubishi representative.	—
4000H to 4FFFH	Errors detected by the CPU module (MELSEC iQ-R CPU Module User's Manual (Application))		
D000H	An error was detected in the network module.	Please consult your local Mitsubishi representative.	—
D038H	The target station specified in the IP communication test is not connected.	If the own station, target station, or relay station is disconnected from the network, identify the cause of the disconnection and take action.	—
D039H	There is a station that does not support the IP packet transfer function on the communication path of the IP communication test.	Check the station on the communication path of the IP communication test, and check whether the module in the station supports the IP packet transfer function.	—
D041H	The number of communication stations is incorrect.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • If the number of slave stations (including a submaster station) per network is more than 120, reduce it to 120 or less. 	—
D080H to D083H	An error was detected in the network module.	Please consult your local Mitsubishi representative.	—
D0A0H	Transmission response wait timeout has occurred in transient transmission.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • When the own station, target station, or relay station detected an error, identify the cause of the error and take action. • Lower the transient transmission usage frequency, and then perform again. • When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. • Check if the switching hub and the cables at the request source are connected properly. 	—
D0A1H	Transmission completion wait timeout has occurred in transient transmission.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • When the own station, target station, or relay station detected an error, identify the cause of the error and take action. • Lower the transient transmission usage frequency, and then perform again. • When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. • Check if the switching hub and the cables at the request source are connected properly. 	—
D0A2H	Transmission processing wait timeout has occurred in transient transmission.	<ul style="list-style-type: none"> • Lower the transient transmission usage frequency, and then perform again. • Check if the switching hub and the cables at the request source are connected properly. 	—
D0A3H	Send processing of the transient transmission has failed.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • When the own station, target station, or relay station detected an error, identify the cause of the error and take action. • Correct the target station number of transient data, and retry the operation. • When the access destination is a module with a different network number, check if the "Routing Setting" is correctly set. 	—

Error code	Error details and cause	Action	Detailed information
D0A4H to D0A6H	Transient transmission failed.	<ul style="list-style-type: none"> • Check if the switching hub and the cables at the request source are connected properly. • Connect the cable to the other port on the request source, and retry the operation. • Lower the transient transmission usage frequency, and then perform again. 	—
D0C0H	Reserved station specification was performed again during processing of the specification.	Retry the operation after a while.	—
D0C1H	Temporary reserved station cancel specification was performed again during processing of the specification.	Retry the operation after a while.	—
D0C4H	Temporary error invalid station setting was performed again during processing of the setting.	Retry the operation after a while.	—
D0C5H	Temporary error invalid station setting cancel specification was performed again during processing of the specification.	Retry the operation after a while.	—
D0D0H	Station number setting of the other stations has failed.	Retry the operation after a while.	—
D200H	When the transient transmission was executed, data was received twice.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • Check if the switching hub and the cables at the request source are connected properly. • If the request source is on another network, check if the "Routing Setting" is set correctly, and take action. 	—
D202H	The send buffer is full.	<ul style="list-style-type: none"> • Lower the transient transmission usage frequency, and then perform again. • When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. • Check if the switching hub and the cables at the request source are connected properly. 	—
D203H	The number of read data or write address of the transient transmission is incorrect.	Correct the read data or write address at the transient request source, and retry the operation.	—
D204H	The network number of transient transmission is incorrect.	<ul style="list-style-type: none"> • Correct the network number at the request source, and retry the operation. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set. 	—
D205H	The target station number of transient transmission is incorrect.	Correct the target station number at the request source, and retry the operation.	—
D206H	The network number of transient transmission is incorrect.	<ul style="list-style-type: none"> • Correct the network number at the request source, and retry the operation. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set. 	—
D207H	In transient transmission, the number of relay to other networks exceeded seven.	<ul style="list-style-type: none"> • Change the system configuration so that the number of relay stations may be seven or less. • Check if "Routing Setting" in the CPU parameters is correctly set. 	—
D208H	The network number of transient transmission is incorrect.	<ul style="list-style-type: none"> • Correct the network number at the request source, and retry the operation. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set. 	—
D209H	The target station number of transient transmission is incorrect.	Correct the target station number at the request source, and retry the operation.	—
D20AH	The target station number of transient transmission is incorrect.	Correct the target station number at the request source, and retry the operation.	—
D20BH	When there was no master station, specified master station was specified for transient transmission.	Correct the target station number at the request source, and retry the operation.	—
D20CH	When there was no master station, current master station was specified for transient transmission.	Correct the target station number at the request source, and retry the operation.	—

APPENDICES

Error code	Error details and cause	Action	Detailed information
D20DH	Transmission completion wait timeout has occurred in transient data transmission.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • When the own station, target station, or relay station detected an error, identify the cause of the error and take action. • Lower the transient transmission usage frequency, and then perform again. • When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. • Check if the switching hub and the cables at the request source are connected properly. 	—
D20EH	The header information of transient transmission is incorrect.	Correct the header information at the request source, and retry the operation.	—
D20FH	In transient transmission, the command which cannot be requested to all or a group of stations was executed with all stations specification or group specification.	Check that the command can be requested to all or a group of stations at the request source, and retry the operation.	—
D210H	The target station number of transient transmission is incorrect.	Correct the header information at the request source, and retry the operation.	—
D211H	Transient transmission was performed when the station number of the own station has not been set yet.	Set the station number using the UINI instruction, and perform transient transmission again.	—
D212H	Transient transmission failed.	<ul style="list-style-type: none"> • Check if the switching hub and the cables at the request source are connected properly. • Connect the cable to the other port on the request source, and retry the operation. • Lower the transient transmission usage frequency, and then perform again. 	—
D213H	The command of transient transmission is incorrect.	Correct the request command at the request source, and retry the operation.	—
D214H	The data length of transient transmission is incorrect.	Correct the data length at the transient request source, and retry the operation.	—
D215H	The module operation mode is set to a mode in which transient transmission cannot be executed.	Change "Module Operation Mode" in "Application Settings" to "Online", and retry the operation.	—
D216H	The command of transient transmission is incorrect.	Correct the request command at the request source, and retry the operation.	—
D217H	The command of transient transmission is incorrect.	Correct the request command at the request source, and retry the operation.	—
D218H	The number of read/write data of transient transmission is incorrect.	Correct the number of read or write device data at the request source, and retry the operation.	—
D219H	The attribute code of transient transmission is incorrect.	Correct the attribute code at the request source, and retry the operation.	—
D21AH	The access code of transient transmission is incorrect.	Correct the access code at the request source, and retry the operation.	—
D21BH	A transient transmission error was detected.	<ul style="list-style-type: none"> • Abnormal transient data were issued from the CPU module. • Replace the CPU module and retry the operation. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D21CH	A transient transmission error was detected.	<ul style="list-style-type: none"> • Abnormal transient data were issued from the CPU module. • Replace the CPU module and retry the operation. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D21DH	The network number of transient transmission is incorrect.	<ul style="list-style-type: none"> • A cable test cannot be executed for a different network. Correct "Testing Station Setting", and execute the cable test again. • Transient data that cannot be sent to a different network were received. Correct the network number or the target station number at the request source, and retry the operation. 	—

Error code	Error details and cause	Action	Detailed information
D21EH	The target station number of transient transmission is incorrect.	<ul style="list-style-type: none"> A communication test cannot be executed on a relay sending station. Correct "Target Station" setting, and execute the communication test again. Transient data of the application type that cannot be executed on the own station were received. Correct the application type or the target station number at the request source, and retry the operation. 	—
D21FH	The target station type specification of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> The SEND instruction cannot be executed on the target station. Modify the program to the one without the SEND instruction. 	—
D220H	The master station does not exist.	Add the master station to the network.	—
D222H	The command of transient transmission is incorrect.	Correct the request command at the request source, and retry the operation.	—
D223H	A transient transmission error was detected.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Check if the switching hub and the cables are connected properly. If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D224H	A transient transmission error was detected.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Check if the switching hub and the cables are connected properly. If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D22EH	Station number setting is not available for the target station.	<ul style="list-style-type: none"> Although change of the target station number was attempted online from the master station (submaster station), the target station does not have the online station number setting function. Check the manual for the target station if the station number setting function is available. If the module supports the function, please consult your local Mitsubishi representative. 	—
D22FH	Baton pass has not been performed in the target station.	Check the communication status of the station whose station number is to be changed.	—
D230H	The target station of station number change is incorrectly specified.	<ul style="list-style-type: none"> The station number change was attempted for the own station (master station or submaster station). Check that no station number is set for the target station. 	—
D231H	The station number has been already set for the target station of station number change.	<ul style="list-style-type: none"> The station number has been already set for the target station. Check that no station number is set for the target station. 	—
D232H	The target station of station number change does not exist.	<ul style="list-style-type: none"> The station where the station number change was attempted does not exist. Check that no station number is set for the target station. 	—
D233H	The station number specified for station number change is incorrect.	Set the station number within 1 to 120, and retry the operation.	—
D234H	Baton pass has not been performed.	Check the communication status.	—

Error code	Error details and cause	Action	Detailed information
D235H	A transient transmission error was detected.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • Check if the switching hub and the cables are connected properly. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D236H	The TTL of the IP data is incorrect.	Correct the TTL at the IP request source and retry the operation.	—
D237H	The IP address setting is not correctly set.	Correct the IP address of the master station (submaster station).	—
D238H	The send queue is full.	<ul style="list-style-type: none"> • Pause the transient transmission temporarily, and retry the operation. • Lower the transient transmission usage frequency, and then perform again. • Use the COM instruction to increase the frequency of transient transmission. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D239H	SLMP transmission failed.	<ul style="list-style-type: none"> • Retry the operation after a while. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D23AH	The subheader in the SLMP data is incorrect.	Correct the subheader information at the request source, and retry the operation.	—
D23BH	The network number in the SLMP data is incorrect.	Correct the network number at the request source, and retry the operation.	—
D23CH	The target station number in the SLMP data is incorrect.	Correct the station number at the request source and retry the operation.	—
D23DH	The request data in the SLMP data is incorrect.	The device information acquisition request in the "CC IE Field Configuration" window displayed in "Network Configuration Settings" of the engineering tool is incorrect. Close the "CC IE Field Configuration" window, and request it again.	—
D23EH	The request data in the SLMP data is incorrect.	The device information acquisition request in the "CC IE Field Configuration" window displayed in "Network Configuration Settings" of the engineering tool is incorrect. Close the "CC IE Field Configuration" window, and request it again.	—
D240H	The network number specification of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> • Execute again after correcting the network number at the request source. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D241H	The target station number of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> • Execute again after correcting the target station number at the request source. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D242H	The command code of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> • Execute again after correcting the command code at the request source. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D243H	The channel specified in the dedicated instruction is incorrect.	<ul style="list-style-type: none"> • Execute again after correcting the used channel within the allowable range at the request source. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D244H	The transient data is incorrect.	<ul style="list-style-type: none"> • Correct the transient data at the request source, and retry the operation. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—

Error code	Error details and cause	Action	Detailed information
D245H	The target station number of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the target station number at the request source. If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D246H	The transient data is incorrect.	<ul style="list-style-type: none"> Correct the transient data at the request source, and retry the operation. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D247H	When the dedicated instruction was executed, response from the target station was received twice.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Check if the switching hub and the cables at the request source are connected properly. If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D249H	The target station's CPU type of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the CPU type of the target station at the request source. If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D24AH	The arrival monitoring time of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the arrival monitoring time at the request source. When the own station, target station, or relay station detected an error, identify the cause of the error and take action. Lower the transient transmission usage frequency, and then perform again. When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. Check if the switching hub and the cables at the request source are connected properly. 	—
D24BH	The number of resends specified in the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the number of resends at the request source. When the own station, target station, or relay station detected an error, identify the cause of the error and take action. Lower the transient transmission usage frequency, and then perform again. When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. Check if the switching hub and the cables at the request source are connected properly. 	—
D24CH	The network number specification of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the network number at the request source. If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D24DH	The channel specified in the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Set 1 to 2 for the target channel number in the control data when executing the SEND instruction. Set 1 to 32 for the channel number when executing the REMFR/REMTO instruction. Execute again after correcting the number of the channel used by own station in the control data. 	—
D24EH	The target station setting in the dedicated instruction is incorrect.	<ul style="list-style-type: none"> The value set for the control block of the dedicated instruction is out of range. Execute again after correcting the value. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—

Error code	Error details and cause	Action	Detailed information
D24FH	The dedicated instruction was executed when the station number of the own station has not been set yet.	<ul style="list-style-type: none"> Specify the station number using the UINI instruction, and execute the instruction again. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D251H	When the dedicated instruction was executed, arrival check error has occurred.	<ul style="list-style-type: none"> Execute again after increasing the number of resends at the request source. When the own station, target station, or relay station detected an error, identify the cause of the error and take action. Lower the transient transmission usage frequency, and then perform again. When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. Check if the switching hub and the cables at the request source are connected properly. 	—
D252H	Transmission completion wait timeout has occurred when the dedicated instruction was executed.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Execute again after increasing the number of resends at the request source. Lower the transient transmission usage frequency, and then perform again. When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D253H	A response timeout has occurred when the dedicated instruction was executed.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Execute again after increasing the number of resends at the request source. Lower the transient transmission usage frequency, and then perform again. When "Dynamic Routing" in "Application Settings" is set to "Enable", check the 'Communication path determination status' (Un\G24480 to Un\G24495) and check if communication to the target network number is possible. For the RECV instruction, execute again after correcting the channels used by own station in the control data. For the RECV instruction, check that 'RECV execution request flag CH1' (SB0030) to 'RECV execution request flag CH8' (SB0037) are on. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D254H	A dedicated instruction which the target station does not support was executed.	<ul style="list-style-type: none"> Change the target station at the station that executed the SEND instruction. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D255H	The target station number of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the target station number in the control data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D256H	The execution/error completion type of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the execution/error completion type type in the control data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D257H	The request type of the REQ instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the request type in the request data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—

Error code	Error details and cause	Action	Detailed information
D258H	The control station does not exist when the dedicated instruction was executed to the specified control station or current control station.	<ul style="list-style-type: none"> Execute again after correcting the target station number in the control data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D25AH	The dedicated instruction was executed specifying the channel in use.	<ul style="list-style-type: none"> Retry the operation after a while. Change the channels used by own station or the target station's channel in the control data. 	—
D25BH	The dedicated instruction was executed specifying the channel in use.	Change the channels used by own station or the target station's channel in the control data.	—
D25CH	The function version specification of the dedicated instruction is incorrect.	<ul style="list-style-type: none"> The value set for the control block of the dedicated instruction is out of range. Execute again after correcting the value. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D25DH	The transient data is incorrect.	<ul style="list-style-type: none"> Correct the transient data at the request source, and retry the operation. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D25EH	Dedicated instructions which cannot be executed simultaneously were executed.	<ul style="list-style-type: none"> Another CC-Link dedicated instruction is in execution. Execute again after a while. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D25FH	The REMFR/REMTO instruction was executed from the module with a station type which cannot execute it.	The REMFR/REMTO instruction can only be used for the master station, local station, and submaster station. Modify the program to the one without the instructions.	—
D260H	The REMTO instruction was executed from the module with a station type which cannot execute it.	The REMTO instruction can only be used for a master operating station.	—
D261H	The CCPASET instruction was executed from the module with a station type which cannot execute it.	Parameter setting using the CCPASET instruction cannot be configured on local stations. Configure the parameter setting on the master station.	—
D262H	The total number of slave stations specified in the CCPASET instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the total number of slave stations in the control data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D263H	The constant link scan time setting of the CCPASET instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the constant link scan time in the control data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D264H	The station number setting of the CCPASET instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the station number in the setting data within 1 to 120. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D265H	The station number specified for the CCPASET instruction is already in use.	<ul style="list-style-type: none"> Execute again after correcting the station number in the setting data to a unique value. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D266H	The slave station setting information of the CCPASET instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the slave station setting information in the setting data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D267H	The station type of the CCPASET instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the station type in the setting data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D268H	The link device range assignment specified for each station in the CCPASET instruction is incorrect.	<ul style="list-style-type: none"> Execute again after correcting the offset or size of the slave station link device in the setting data. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D269H	The station type of the REMFR/REMTO instruction target station is not an intelligent device station/remote device station.	Set an intelligent device station/remote device station as a target station of the REMFR/REMTO instruction.	—
D26AH	The target station of the REMFR/REMTO instruction does not exist.	Return the target station of the REMFR or REMTO instruction.	—

APPENDICES

Error code	Error details and cause	Action	Detailed information
D26BH	The network number setting of the CCPASET instruction execution station is incorrect.	Set "Network Number" under "Network Number" of "Required Settings" to a value within 1 to 239.	—
D26FH	The station number specified for submaster station in the CCPASET instruction is incorrect.	When executing the CCPASET instruction, set a submaster station number in the slave station setting information (control data) within 1 to 120.	—
D270H	Multiple submaster stations are set in the CCPASET instruction.	When executing the CCPASET instruction, set one submaster station in the station type in slave station setting information (control data).	—
D271H	A submaster station is specified in the reserved station setting of the CCPASET instruction.	When executing the CCPASET instruction, do not set a submaster station number in reserved station specification (control data).	—
D272H	A submaster station is specified in the error invalid station setting of the CCPASET instruction.	When executing the CCPASET instruction, do not set a submaster station number in error invalid station setting (control data).	—
D273H	The request data size of transient transmission is incorrect.	<ul style="list-style-type: none"> • Correct the request command at the request source, and retry the operation. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D274H	The routing setting is not correctly set.	<ul style="list-style-type: none"> • Correct the network number at the request source, and retry the operation. • If the request source is on another network, check if "Routing Setting" in the CPU parameters is correctly set. 	—
D275H	Other dedicated instructions are in execution and the executed instruction cannot be processed.	<ul style="list-style-type: none"> • Other dedicated instructions are in execution. Execute again after a while. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D276H	The station type of the dedicated instruction target station is incorrect.	<ul style="list-style-type: none"> • Execute again after correcting the station type of the target station at the request source. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D280H	The request command of transient transmission is incorrect.	Correct the request command at the request source, and retry the operation.	—
D281H	Transient reception failed.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • When the target station or the relay station is overloaded and cannot receive transient data, send the data to the target/relay station after the load on the station is reduced. 	—
D282H	The receive queue is full.	<ul style="list-style-type: none"> • Pause the transient transmission temporarily, and retry the operation. • Lower the transient transmission usage frequency, and then perform again. • Use the COM instruction to increase the frequency of transient transmission. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D283H	Transient transmission failed.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • Connect the cable to the other port on the request source, and retry the operation. • Lower the transient transmission usage frequency, and then perform again. 	—
D284H	The target execution module in the SLMP data is incorrect.	Correct the target execution module in the SLMP header, and retry the operation.	—
D2A0H	The receive buffer is full.	<ul style="list-style-type: none"> • Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. • When the target station or the relay station is overloaded and cannot receive transient data, send the data to the target/relay station after the load on the station is reduced. 	—

Error code	Error details and cause	Action	Detailed information
D2A1H	The send buffer is full.	<ul style="list-style-type: none"> Lower the transient transmission usage frequency, and then perform again. Check if the switching hub and the cables at the request source are connected properly. 	—
D2A2H	Transmission completion wait timeout has occurred in transient transmission.	<ul style="list-style-type: none"> Lower the transient transmission usage frequency, and then perform again. When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. Check if the switching hub and the cables at the request source are connected properly. 	—
D2A3H	The data length in the transient transmission frame is incorrect.	Correct the number of data (frame length) at the request source, and retry the operation.	—
D2A4H	The header information in the transient transmission frame is incorrect.	Correct the header information at the request source, and retry the operation.	—
D2A5H	The target station number in the transient transmission frame is incorrect.	Correct the target station number at the request source, and retry the operation.	—
D2A6H	The request source number in the transient transmission frame is incorrect.	Correct the request source number at the request source, and retry the operation.	—
D2A7H	The header information in the transient transmission frame is incorrect.	Correct the header information at the request source, and retry the operation.	—
D2A8H	The header information in the transient transmission frame is incorrect.	Correct the header information at the request source, and retry the operation.	—
D2A9H	The target network number in the transient transmission frame is incorrect.	Correct the target network number at the request source, and retry the operation.	—
D2AAH	The target station number in the transient transmission frame is incorrect.	Correct the target station number at the request source, and retry the operation.	—
D2ABH	The request source network number in the transient transmission frame is incorrect.	Correct the network number of the request source at the request source, and retry the operation.	—
D2ACH	The request source station number in the transient transmission frame is incorrect.	Correct the station number of the request source at the request source, and retry the operation.	—
D2ADH	The data length in the transient transmission frame is incorrect.	Correct the number of data (frame length) at the request source, and retry the operation.	—
D2AEH	The target station number in the transient transmission frame is incorrect.	<ul style="list-style-type: none"> The own station received transient data addressed to another station. Correct the network and target station numbers, and retry the operation. Check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D2AFH	The own station number was specified as the target station number of transient transmission.	<ul style="list-style-type: none"> Transient data transmission addressed to the own station was requested. Check the network number and target station number, and retry the operation. Check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D2B0H	Transient transmission failed.	<ul style="list-style-type: none"> Check if the switching hub and the cables at the request source are connected properly. Connect the cable to the other port on the request source, and retry the operation. Lower the transient transmission usage frequency, and then perform again. 	—
D2B1H	The receive queue is full.	<ul style="list-style-type: none"> Pause the transient transmission temporarily, and retry the operation. Lower the transient transmission usage frequency, and then perform again. Use the COM instruction to increase the frequency of transient transmission. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D2E0H	During execution of the IP communication test, the test was retried.	Retry the IP communication test after a while. (Up to four IP communication tests can be simultaneously executed.)	—

Error code	Error details and cause	Action	Detailed information
D2E1H	The IP communication test was completed with an error (no response to ping).	<ul style="list-style-type: none"> • Check "Communication Target" of the IP communication test. • Check and correct the status of the cable connection and line between the CC-Link IE Field Network gateway setting station and the communication destination. • Enable a response to the ping command (ICMP echo request) in the firewall settings on the personal computer or antivirus software. 	—
D61FH	Parameter setting by the CCPASET instruction has failed.	Execute again after setting "Setting Method of Basic/ Application Settings" under "Parameter Setting Method" in "Required Settings" to "Program".	—
D620H	The transient data is incorrect.	<ul style="list-style-type: none"> • Correct the transient data at the request source, and retry the operation. • If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D630H	Parameter setting of a local station by the CCPASET instruction has failed.	Execute again after setting "Setting Method of Basic/ Application Settings" under "Parameter Setting Method" in "Required Settings" to "Program".	—
D636H	The UINI instruction was executed at a station other than local stations.	<p>Use one of the following methods and execute the UINI instruction to the local station again.</p> <ul style="list-style-type: none"> • Set "Station Type" under "Station Type" to "Local Station". • Set "Setting Method" under "Station Number" in "Required Settings" to "Program". • Check if the master/local module specified in the argument of the UINI instruction is the local station. 	—
D637H	The UINI instruction was executed at a station where the station number has been already set by parameter.	Execute again after setting "Setting Method" under "Station Number" in "Required Settings" to "Program".	—
D638H	The station number set for the own station by the UINI instruction is already used for the other station.	Correct the station number to be set using the UINI instruction to the station number not used for other stations, and execute the UINI instruction again.	—
D639H	After setting a station number with the UINI instruction, the instruction was executed again.	Station number setting with the UINI instruction is limited to one time only. Execute again after resetting the CPU module.	—
D701H	Temporary error invalid station setting/cancel or reserved station setting cancel/restoration was executed without specifying the target station.	Set the target station(s) in 'Reserved station function disable/temporary error invalid station setting' (SW0010 to SW0017), and retry the operation.	—
D706H	Temporary error invalid station setting/cancel or reserved station setting cancel/restoration was executed from a local station.	Temporary error invalid station setting/cancel or reserved station setting cancel/restoration cannot be executed from a local station. Retry the operation from the master station.	—
D70BH	Temporary error invalid station setting/cancel and reserved station cancel/restoration was executed simultaneously.	<p>Temporary error invalid station setting/cancel using SB0010 and SB0011 or reserved station cancel/restoration using SB0012 and SB0013 cannot be simultaneously executed.</p> <p>Retry the operation so that only one bit in SB0010 to SB0013 may turn on after all bits in them are turned off.</p>	—
D720H	Link startup/stop direction is incorrect.	Check the setting, and stop or start data link.	—
D721H	Link start/stop was requested from another station during link start/stop processing.	Retry the operation after the stop or restart of data link is completed.	—
D722H	Link start/stop was requested from the own station during link start/stop processing.	Retry the operation after the stop or restart of data link is completed.	—
D723H	System link start/stop was requested during link start/stop processing.	Retry the operation after the stop or restart of data link is completed.	—
D724H	Link startup/stop station specification is incorrect.	Check the setting, and stop or start data link.	—
D725H	System link start/stop was requested from a local station.	A local station cannot start or stop data link of all or multiple stations. Perform these operations from the master station.	—
D726H	The request command of transient transmission is incorrect.	Correct the request command at the request station, and retry the operation.	—

Error code	Error details and cause	Action	Detailed information
D727H	Link start was requested from a station other than the station which had requested link stop.	<ul style="list-style-type: none"> Data link start was instructed from a station different from the one that had instructed the data link stop. Instruct data link start and data link stop from the same station. The method of the data link start differs from that of the data link stop. Instruct the data link start using the same method as the data link stop. (Ex. Data link is stopped using the CC-Link IE Field Network diagnostics, and the data link is started using a program.) Data link start has failed. Forcibly restart the data link. 	—
D728H	Data link startup instruction was executed to the station which is performing data link.	Execute the data link startup instruction to the station where data link had been stopped.	—
D729H	Link stop of the own station was instructed in the station with no station number setting.	Specify the station number using the UINI instruction, and execute the instruction again.	—
D731H	Forced master switching command was executed from a station other than the submaster station operating as a master operating station.	Perform the forced master switch to the submaster station operating as a master operating station.	—
D740H	Transient transmission failed.	<ul style="list-style-type: none"> If a slave station is disconnected from the network, identify the cause of the disconnection and take action. When data link is stopped in the slave station, identify the cause of the data link stop and take action. Retry the operation after a slave station is replaced and new one is added. 	—
D741H	A station type error of the execution station was detected.	<ul style="list-style-type: none"> Perform the operation after data link starts on the master operating station. The operation cannot be performed in the local station and submaster operating station. Perform the operation in the master operating station. 	—
D742H	Transient transmission failed.	After completion of the transient transmission, retry the operation.	—
D743H	A station type error of the execution station was detected.	The operation cannot be performed on a local station. Perform the operation in the master station and submaster station.	—
D744H	Flash ROM clear failed.	<ul style="list-style-type: none"> The flash ROM may be faulty. Check the wire and cable distances and grounding condition of each device, and take measures against noise. Execute the module communication test. If the error occurs again even after taking the above, the possible cause is a hardware failure of the module. Please consult your local Mitsubishi representative. 	—
D783H	A transient transmission error was detected.	<ul style="list-style-type: none"> Close the CC-Link IE Field Network diagnostics window in the engineering tool, and perform the diagnostics again. Check the read request data at the request station, and retry the operation. 	—
D784H	A transient transmission error was detected.	<ul style="list-style-type: none"> Close the CC-Link IE Field Network diagnostics window in the engineering tool, and perform the diagnostics again. Check the read request data at the request station, and retry the operation. 	—
D806H	The receive queue is full.	<ul style="list-style-type: none"> Lower the transient transmission usage frequency, and then perform again. Check if the switching hub and the cables are connected properly. Use the COM instruction to increase the frequency of transient transmission. 	—
D840H	Number of transient request exceeded the upper limit of simultaneously processable requests.	<ul style="list-style-type: none"> Pause the transient transmission temporarily, and retry the operation. Lower the transient transmission usage frequency, and then perform again. 	—

Error code	Error details and cause	Action	Detailed information
D841H	The request data size of memory read/write command is out of range.	Correct the read or write size specification at the transient request source, and retry the operation.	—
D842H	<ul style="list-style-type: none"> Routing information to the destination network number is not registered. In transient transmission, the number of relay to other networks exceeded seven. 	<ul style="list-style-type: none"> Correct the target network number at the request source, and retry the operation. Correct the communication path from the transient request source to the destination, and retry the operation. When the dynamic routing is not used, or the module of the series other than MELSEC iQ-R is included, retry the operation after correcting the routing parameter (routing setting). Change the system configuration so that the number of relay stations may be seven or less. 	—
D843H	The module operation mode is set to a mode in which transient transmission cannot be executed.	After completion of the module communication test, retry the operation.	—
D844H	Incorrect frame is received. <ul style="list-style-type: none"> Unsupported pre-conversion protocol Unsupported frame type Application header variable part Application header HDS Application header RTP Read command not requiring response 	Correct the request data at the transient request source, and retry the operation.	—
D902H	The online test data is incorrect.	<ul style="list-style-type: none"> Correct the data at the station that started the online test, and retry the operation. If the error occurs again even after taking the above, please consult your local Mitsubishi representative. 	—
D903H	During execution of the communication test, the test was retried.	After completion of the communication test, retry the operation.	—
D905H	A communication monitoring timeout has occurred in communication test.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Then, retry the operation. Check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D906H	Transmission completion wait timeout has occurred in communication test.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Then, retry the operation. Lower the transient transmission usage frequency, and then perform again. When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. Check if "Routing Setting" in the CPU parameters is correctly set, and take action. 	—
D909H	The header information of transient transmission is incorrect.	Correct the header information at the request source, and retry the operation.	—
D90AH	During execution of the communication test, the test was retried.	Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. Then, retry the operation.	—
D90BH	The number of stations which communicates in the network is out of the range.	<ul style="list-style-type: none"> Check the network status using the CC-Link IE Field Network diagnostics of the engineering tool, and take action. If the number of slave stations per network is more than 120, reduce it to 120 or less. 	—
D90CH	The target station specified for the communication test is incorrect.	<ul style="list-style-type: none"> Correct "Target Station" of communication test, and retry the operation. The own station, relay sending station, and the station which is mounted with the same CPU module cannot be specified as "Target Station". 	—
D90DH	During execution of the cable test, the test was retried.	After completion of the cable test, retry the operation.	—
D90EH	The IP packet transfer function is not supported.	The transfer destination of the IP data does not support the IP packet transfer function.	—
D90FH	During execution of the IP communication test, the test was retried.	Retry the operation after a while.	—

Error code	Error details and cause	Action	Detailed information
D910H	The IP address of the own station has not been set.	Check the destination IP address of the IP communication test.	—
D911H	The destination IP address setting of IP communication test is incorrect.	Check the destination IP address of the IP communication test.	—
D912H	Transient transmission failed.	<ul style="list-style-type: none"> • Lower the transient transmission usage frequency, and then perform again. • When "Communication Mode" in "Application Settings" of the master station (submaster station) is set to "High-Speed", change it to "Normal" and retry the operation. • Check if the switching hub and the cables are connected properly. 	—
D913H to D917H	An error was detected in the network module.	Please consult your local Mitsubishi representative.	—
DA00H	An error was detected in the network module.	Please consult your local Mitsubishi representative.	—
DA01H	An error was detected in the network module.	Please consult your local Mitsubishi representative.	—
DA10H to DA17H	An error was detected in the network module.	Please consult your local Mitsubishi representative.	—
DA19H	An error was detected in the network module.	Please consult your local Mitsubishi representative.	—

Appendix 3 List of Link Special Relay (SB) Areas

The link special relay (SB) is turned on/off depending on various factors during data link. Any error status of the data link can be checked by using or monitoring it in the program.

Application of the link special relay (SB)

By using the link special relay (SB), the status of CC-Link IE Field Network can be checked from HMI (Human Machine Interfaces) as well as the engineering tool.

Refresh of the link special relay (SB)

To use the link special relay (SB), set them in "Refresh Setting" in "Basic Settings" so that they are refreshed to the devices or labels of the CPU module.

Ranges turned on/off by users and by the system

The following ranges correspond to when the link special relay (SB) areas are assigned from SB0000 to SB01FF.

- Turned on/off by users: SB0000 to SB001F
- Turned on/off by the system: SB0020 to SB01FF

List of link special relay (SB) areas

The following table lists the link special relay (SB) areas when they are assigned from SB0000 to SB01FF.



Do not turn on or off areas whose numbers are not on the list. Doing so may cause malfunction of the programmable controller system.

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0000	Link startup of own station	Starts data link (cyclic transmission) of the own station. Off: Startup not requested On: Startup requested (valid at rising edge) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.	○	○
SB0001	Link stop of own station	Stops data link (cyclic transmission) of the own station. Off: Stop not requested On: Stop requested (valid at rising edge) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.	○	○
SB0002	System link startup	Starts data link (cyclic transmission) of the entire system. The station where cyclic transmission is started is specified in 'Link startup/stop direction' (SW0000) and 'Link startup/stop station specification' (SW0001 to SB0008). Off: Startup not requested On: Startup requested (valid at rising edge) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.	○ (Master operating station only)	×



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0003	System link stop	Stops data link (cyclic transmission) of the entire system. The station where cyclic transmission is stopped is specified in 'Link startup/stop direction' (SW0000) and 'Link startup/stop station specification' (SW0001 to SW0008). Off: Stop not requested On: Stop requested (valid at rising edge) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.	○ (Master operating station only)	×
SB0006	Clear communication error count	Clears the link special register areas related to communication errors (SW0068 to SW006B, SW0074 to SW0077, SW007C to SW007F, SW0120 to SW015F) to 0. Off: Clear not requested On: Clear requested (valid while on)	○	○
SB0010	Temporary error invalid station setting request	Sets the station specified in 'Reserved station function disable/temporary error invalid station setting' (SW0010 to SW0017) as a temporary error invalid station. Off: No request On: Request issued (When this relay is turned off, the error definition stored in 'Temporary error invalid station setting result' (SW0054) is cleared.)	○ (Master operating station only)	×
SB0011	Temporary error invalid station setting cancel request	Cancels the temporary error invalid station setting for the station specified in 'Reserved station function disable/temporary error invalid station setting' (SW0010 to SW0017). Off: No request On: Request issued (When this relay is turned off, the error definition stored in 'Temporary error invalid station setting cancel result' (SW0055) is cleared.)	○ (Master operating station only)	×
SB0012	Reserved station function disable request	Temporarily cancels the reserved station specification for the station specified in 'Reserved station function disable/temporary error invalid station setting' (SW0010 to SW0017). Off: No request On: Request issued (When this relay is turned off, the error definition stored in 'Result of reserved station function disable request' (SW0056) is cleared.)	○ (Master operating station only)	×
SB0013	Reserved station specification enable request	Enables the reserved station specification for the station specified in 'Reserved station function disable/temporary error invalid station setting' (SW0010 to SW0017). (This can only be requested for the stations whose reserved station setting is temporarily cancelled) Off: No request On: Request issued (When this relay is turned off, the error definition stored in 'Result of reserved station function enable request' (SW0057) is cleared.)	○ (Master operating station only)	×
SB0019	Forced master switching command	Switches the operation of the master station to master operation when submaster station is operating as a master. Off: Switch not requested On: Switch requested (valid at rising edge) (Conditions) • This relay is enabled only when the submaster station is operating as a master.	○ (Only for the submaster station operating as a master)	×
SB0030	RECV execution request flag CH1	Stores the data reception status of own station channel 1. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○

APPENDICES

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0031	RECV execution request flag CH2	Stores the data reception status of own station channel 2. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0032	RECV execution request flag CH3	Stores the data reception status of own station channel 3. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○*1	○*1
SB0033	RECV execution request flag CH4	Stores the data reception status of own station channel 4. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○*1	○*1
SB0034	RECV execution request flag CH5	Stores the data reception status of own station channel 5. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○*1	○*1
SB0035	RECV execution request flag CH6	Stores the data reception status of own station channel 6. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○*1	○*1
SB0036	RECV execution request flag CH7	Stores the data reception status of own station channel 7. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○*1	○*1
SB0037	RECV execution request flag CH8	Stores the data reception status of own station channel 8. Off: No data received On: Data received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○*1	○*1
SB0040	Network type of own station	Stores the network type of the own station. On: CC-Link IE Field Network	○	○
SB0043	Module operation mode of own station	Stores the module operation mode of the own station. Off: Online mode On: Other than online mode	○	○
SB0044	Station setting 1 of own station	Stores the station type of the own station. Off: Slave station (other than the master station) On: Master station	○	○



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0045	Station setting 2 of own station	Stores whether the station is local station or not when the own station is a slave station. Off: Other than a local station (submaster station, remote device station, intelligent device station) On: Local station (Conditions) • This relay is enabled when 'Station setting 1 of own station' (SB0044) is off.	○ (Submaster station only)	○
SB0046	Station number setting status of own station	Stores the station number setting status. Off: Station number set On: Station number not set If parameters are set using the engineering tool, this relay is always OFF.	○	○
SB0047	Baton pass status of own station	Stores the baton pass status (transient transmission availability) of the own station. Off: Normal On: Error When this relay is turned on, the cause of the error can be checked with 'Baton pass status of own station' (SW0047) and 'Cause of baton pass interruption' (SW0048). Depending on the link refresh timing, the update of 'Baton pass status of own station' (SW0047) and 'Cause of baton pass interruption' (SW0048) may be offset by one sequence scan.	○	○
SB0049	Data link error status of own station	Stores the data link error status of the own station. Off: Normal On: Error When this relay is turned on, the cause of the error can be checked with 'Cause of data link stop' (SW0049). Depending on the link refresh timing, the update of 'Cause of data link stop' (SW0049) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB004A	CPU minor error status of own station	Stores the minor error occurrence status of the CPU module on the own station. Off: No minor error On: Minor error	○	○
SB004B	CPU moderate/major error status of own station	Stores the moderate/major error occurrence status of the CPU module on the own station. Off: No moderate/major error On: Moderate/major error	○	○
SB004C	CPU operating status of own station	Stores the operating status of the CPU module on the own station. Off: RUN On: STOP, PAUSE, or moderate/major error	○	○
SB004D	Received parameter error	Stores the status of received parameter. (For the master station, this relay stores the parameter status of the own station) Off: Normal On: Error	○	○
SB004E	Master/submaster function operation status of own station	Stores the operation status of the own station when the submaster function is being used. Off: Master operating station On: Submaster operating station (Conditions) This relay is enabled for either of the following. • 'Station setting 1 of own station' (SB0044) is on. • Both 'Station setting 1 of own station' (SB0044) and 'Station setting 2 of own station' (SB0045) are off.	○	×

APPENDICES

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB004F	Station number status of the operating station	Stores the station number setting method when the station type of the own station is local station. Off: Set by parameters On: Set by program (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	×	○
SB0050	Link startup request accept status of own station	Stores the acceptance status of 'Link startup of own station' (SB0000). Off: Not accepted (SB0000 is off.) On: Accepted (SB0000 is on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0051	Link startup completion status of own station	Stores the status of link startup processing requested with 'Link startup of own station' (SB0000). Off: Link startup not completed (SB0000, SB0050 are off.) On: Link startup completed (SB0000, SB0050 are on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0052	Link stop request accept status of own station	Stores the acceptance status of 'Link stop of own station' (SB0001). Off: Not accepted (SB0001 is off.) On: Accepted (SB0001 is on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0053	Link stop completion status of own station	Stores the link stop processing status requested with 'Link stop of own station' (SB0001). Off: Not completed (SB0001, SB0052 are off.) On: Completed (SB0001, SB0052 are on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0054	System link startup request accept status	Stores the acceptance status of 'System link startup' (SB0002). Off: Not accepted (SB0002 is off.) On: Accepted (SB0002 is on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○ (Master operating station only)	×
SB0055	System link startup completion status	Stores the status of link startup processing requested with 'System link startup' (SB0002). Off: Not completed (SB0002, SB0054 are off.) On: Completed (SB0002, SB0054 are on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○ (Master operating station only)	×



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0056	System link stop request accept status	Stores the acceptance status of 'System link stop' (SB0003). Off: Not accepted (SB0003 is off.) On: Accepted (SB0003 is on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	<input type="radio"/> (Master operating station only)	×
SB0057	System link stop completion status	Stores the status of link stop processing requested with 'System link stop' (SB0003). Off: Not completed (SB0003, SB0056 are off.) On: Completed (SB0003, SB0056 are on.) (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	<input type="radio"/> (Master operating station only)	×
SB0058	Temporary error invalid station setting request accept status	Stores the acceptance status of 'Temporary error invalid station setting request' (SB0010). Off: Not accepted (SB0010 is off.) On: Accepted (SB0010 is on.)	<input type="radio"/> (Master operating station only)	×
SB0059	Temporary error invalid station setting request completion status	Stores the status of temporary error invalid station setting processing requested with 'Temporary error invalid station setting request' (SB0010). Off: Not completed (SB0010, SB0058 are off.) On: Completed successfully or ended with an error (SB0010, SB0058 are on.)	<input type="radio"/> (Master operating station only)	×
SB005A	Temporary error invalid station setting cancel request accept status	Stores the acceptance status of 'Temporary error invalid station setting cancel request' (SB0011). Off: Not accepted (SB0011 is off.) On: Accepted (SB0011 is on.)	<input type="radio"/> (Master operating station only)	×
SB005B	Temporary error invalid station setting cancel completion status	Stores the status of temporary error invalid station setting cancellation processing requested with 'Temporary error invalid station setting cancel request' (SB0011). Off: Not completed (SB0011, SB005A are off.) On: Completed successfully or ended with an error (SB0011, SB005A are on.)	<input type="radio"/> (Master operating station only)	×
SB005C	Reserved station function disable request accept status	Stores the acceptance status of 'Reserved station function disable request' (SB0012). Off: Not accepted (SB0012 is off.) On: Accepted (SB0012 is on.)	<input type="radio"/> (Master operating station only)	×
SB005D	Reserved station function disable completion status	Stores the status of temporary cancellation processing for reserved station specification which is requested with 'Reserved station function disable request' (SB0012). Off: Not completed (SB0012, SB005C are off.) On: Completed successfully or ended with an error (SB0012, SB005C are on.)	<input type="radio"/> (Master operating station only)	×
SB005E	Reserved station setting enable request accept status	Stores the acceptance status of 'Reserved station specification enable request' (SB0013). Off: Not accepted (SB0013 is off.) On: Accepted (SB0013 is on.)	<input type="radio"/> (Master operating station only)	×
SB005F	Reserved station setting enable completion status	Stores the temporary cancellation processing status for reserved station specification, which is requested with 'Reserved station specification enable request' (SB0013). Off: Not completed (SB0013, SB005E are off.) On: Completed successfully or ended with an error (SB0013, SB005E are on.)	<input type="radio"/> (Master operating station only)	×

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0060	Constant link scan status	Stores the operation status of link scan mode. Off: Link scan mode is not set to constant link scan On: Link scan mode is set to constant link scan (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0065	Loopback status	Stores the loopback status for the loopback function. The station number of the loopback station can be checked with 'Loopback station number 1' (SW0070) and 'Loopback station number 2' (SW0071). Off: Normal (no loopback stations) On: Loopback being performed (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off, or 'Network topology setting' (SB0078) is on. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○ (Master operating station only)	×
SB0066	Forced master switching enable status	Stores whether SB0019 is executable. Off: Not executable On: Executable	○ (Submaster station only)	×
SB0067	Forced master switching acceptance status	Stores the acceptance status of SB0019. Off: Not accepted (SB0019 is off.) On: Accepted (SB0019 is on.)	○ (Submaster station only)	×
SB0068	Forced master switching operation status	Stores the status of forced master switch processing requested with 'Forced master switching command' (SB0019). Off: Not completed (SB0019, SB0067 are off.) On: Completed successfully or ended with an error (SB0019, SB0067 are on.)	○ (Submaster station only)	×
SB006A	PORT1 link-down status of own station	Stores the link down status of the own station P1 side. Off: Link-up On: Link-down The time that link-up starts after power-on or Ethernet cable connection may vary. Normally link-up takes several seconds. Depending on device status on the line, a link-up processing is repeated, resulting in the increase in the time.	○	○
SB006B	PORT2 link-down status of own station	Stores the link down status of the own station P2 side. Off: Link-up On: Link-down The time that link-up starts after power-on or Ethernet cable connection may vary. Normally link-up takes several seconds. Depending on device status on the line, a link-up processing is repeated, resulting in the increase in the time.	○	○
SB006C	PORT1 current error frame reception status of own station (1)	Stores if a receive frame error line status caution level is currently occurring in the P1 side of the own station. Off: A receive frame error line status caution level is not occurring. On: A receive frame error line status caution level is occurring.	○	○
SB006D	PORT2 current error frame reception status of own station (1)	Stores if a receive frame error line status caution level is currently occurring in the P2 side of the own station. Off: A receive frame error line status caution level is not occurring. On: A receive frame error line status caution level is occurring.	○	○
SB006E	PORT1 error frame reception detection status of own station (latch) (1)	Stores if a receive frame error line status caution level has occurred in the P1 side of the own station from power-on until the present. Off: A receive frame error line status caution level has not yet occurred. On: A receive frame error line status caution level has occurred.	○	○
SB006F	PORT2 error frame reception detection status of own station (latch) (1)	Stores if a receive frame error line status caution level has occurred in the P2 side of the own station from power-on until the present. Off: A receive frame error line status caution level has not yet occurred. On: A receive frame error line status caution level has occurred.	○	○



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0070	Master station information	Stores the data link status when the submaster function is being used. Off: Data link by the master station On: Data link by the submaster station	○	○
SB0071	Submaster station information	Stores whether a submaster station exists. Off: No submaster station On: Submaster station exists	○	○
SB0072	Scan mode setting information	Stores the setting status of link scan mode. Off: Asynchronous with sequence scan or constant link scan On: Synchronous with sequence scan	○	○
SB0074	Reserved station specification status	Stores the status of reserved station specification by parameter. The station number of the station set as a reserved station can be checked with 'Reserved station setting status' (SW00C0 to SW00C7). Off: Not specified On: Specified	○	○
SB0075	Error invalid station setting status	Stores the status of error invalid station setting by parameter. The station number of the station set as an error invalid station can be checked with 'Error invalid station setting status' (SW00D0 to SW00D7). Off: Not specified On: Specified	○	○
SB0076	Submaster station setting information	Stores whether a submaster station is set. Off: No setting On: Set	○	×
SB0077	Parameter reception status	Stores the status of parameter reception from the master station. Off: Reception completed On: Reception not completed	○ (Submaster station only)	○
SB0078	Network topology setting	Stores the setting status of "Network Topology" in "Basic Settings" for the own station (master operating station). Off: Line topology, star topology, or coexistence of star and line topologies On: Ring topology	○ (Master operating station only)	×
SB0079	Master station return setting information	Stores the setting status of the "Operation of Master Station after Reconnection" in "Basic Settings" for the own station (master station). Off: Return as master operating station On: Return as submaster operating station	○ (Master station only)	×
SB007B	Input data status of data link faulty station	Stores the setting status of "Data Link Error Station Setting" under "I/O Maintenance Settings" in "Supplementary Cyclic Settings" of "Application Settings" for the own station. Off: Clear On: Hold	○	○
SB007D	Hold/clear status setting for CPU STOP	Stores the setting status of "Output Hold/Clear Setting during CPU STOP" under "I/O Maintenance Settings" in "Supplementary Cyclic Settings" of "Application Settings" for the own station. Off: Hold On: Clear	○	○
SB007F	IP address setting status	Stores the status of the IP address setting by parameter. Off: No setting On: Set For local stations, this relay stores the acceptance status of the IP address from the master station.	○	○
SB0080	Mismatch status of the master operating station IP address	Comparison result of the IP addresses set for the submaster operating station and for the master operating station is stored. Off: Match On: Mismatch	○	×
SB008C	PORT1 current error frame reception status of own station (2)	Stores if a receive frame error line status warning level is currently occurring in the P1 side of the own station. Off: A receive frame error line status warning level is not occurring. On: A receive frame error line status warning level is occurring.	○	○

APPENDICES

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB008D	PORT2 current error frame reception status of own station (2)	Stores if a receive frame error line status warning level is currently occurring in the P2 side of the own station. Off: A receive frame error line status warning level is not occurring. On: A receive frame error line status warning level is occurring.	○	○
SB008E	PORT1 error frame reception detection status of own station (latch) (2)	Stores if a receive frame error line status warning level has occurred in the P1 side of the own station from power-on until the present. Off: A receive frame error line status warning level has not yet occurred. On: A receive frame error line status warning level has occurred.	○	○
SB008F	PORT2 error frame reception detection status of own station (latch) (2)	Stores if a receive frame error line status warning level has occurred in the P2 side of the own station from power-on until the present. Off: A receive frame error line status warning level has not yet occurred. On: A receive frame error line status warning level has occurred.	○	○
SB0098	Network configuration mismatch occurrence status	Stores the match or mismatch status of the actual network configuration and the network map of the CC-Link IE Field Network diagnostics. Off: Match On: Mismatch After return or addition of the slave station, SB0098 may be turned on regardless of the actual match/mismatch status.	○ (Master operating station only)	×
SB0099	Number of connected modules over occurrence status	Stores whether the number of slave stations (including a submaster station) connected is 120 or less, or 121 or more. Off: 120 or less On: 121 or more Number of connected modules is the total of the slave stations (including a submaster station) which are currently connected and the disconnected stations (slave stations which were previously connected).	○ (Master operating station only)	×
SB00A0	Baton pass error status of each station	Stores the baton pass status of each station. Off: All stations normal On: Faulty station exists When this relay is turned on, the status of each station can be checked with 'Baton pass status of each station' (SW00A0 to SW00A7). Depending on the link refresh timing, the update of 'Baton pass status of each station' (SW00A0 to SW00A7) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. • Reserved stations and stations higher than the maximum station number are ignored.	○	○
SB00A1	Baton pass error status of master station	Stores the baton pass status of the master station (master operating station). Off: Normal On: Error (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB00AF	Baton pass error status of station No.0	Stores the baton pass status of the station No.0. Off: Normal On: Error (Conditions) • This relay is enabled when the submaster function is used.	○	○



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB00B0	Data link error status of each station	<p>Stores the data link status of each station.</p> <p>Off: All stations normal On: Faulty station exists</p> <p>When this relay is turned on, the status of each station can be checked with 'Data link status of each station' (SW00B0 to SW00B7).</p> <p>Depending on the link refresh timing, the update of 'Data link status of each station' (SW00B0 to SW00B7) may be offset by one sequence scan.</p> <p>If the master station is powered on before slave stations, data link may be reconfigured. During the reconfiguration (maximum three seconds), 'Data link error status of each station' (SB00B0) is turned on (error). Starting up the master station last can prevent data link from being reconnected and 'Data link error status of each station' (SB00B0) from being turned on (error).</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. • Reserved stations and stations higher than the maximum station number are ignored. 	○	○
SB00B1	Data link error status of master station	<p>Stores the data link status of the master station (master operating station).</p> <p>Off: Normal On: Error</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. 	○	○
SB00B8	Network connection status of each station	<p>Stores whether a network connected station exists.</p> <p>Off: No network connected station On: Network connected station exists</p> <p>When this relay is turned on, the status of each station can be checked with 'Network connection status' (SW00B8 to SW00BF).</p> <p>Depending on the link refresh timing, the update of 'Network connection status' (SW00B8 to SW00BF) may be offset by one sequence scan.</p>	○	○
SB00BF	Data link error status of station No.0	<p>Stores the data link status of the station No.0.</p> <p>Off: Normal On: Error</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This relay is enabled when the submaster function is used. 	○	○
SB00C0	Reserved station setting status	<p>Stores whether a reserved station is set.</p> <p>Off: No setting On: Set</p> <p>When this relay is turned on, the status of each station can be checked with 'Reserved station setting status' (SW00C0 to SW00C7).</p> <p>Depending on the link refresh timing, the update of 'Reserved station setting status' (SW00C0 to SW00C7) may be offset by one sequence scan.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. 	○	○

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB00D0	Error invalid station setting current status	Set whether an error invalid station is set. Off: No setting On: Set When this relay is turned on, the status of each station can be checked with 'Error invalid station setting status' (SW00D0 to SW00D7). Depending on the link refresh timing, the update of 'Error invalid station setting status' (SW00D0 to SW00D7) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	<input type="radio"/>	<input type="radio"/>
SB00E0	Temporary error invalid station setting status	Stores whether a temporary error invalid station is set. Off: No setting On: Set When this relay is turned on, the status of each station can be checked with 'Temporary error invalid station setting status' (SW00E0 to SW00E7). Depending on the link refresh timing, the update of 'Temporary error invalid station setting status' (SW00E0 to SW00E7) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	<input type="radio"/>	<input type="radio"/>
SB00E8	Station type match status of each station	Stores the station type match status of each station. Off: Station type match in all stations On: Station type mismatch exists When this relay is turned on, the status of each station can be checked with 'Station type match status' (SW00E8 to SW00EF). Depending on the link refresh timing, the update of 'Station type match status' (SW00E8 to SW00EF) may be offset by one sequence scan.	<input type="radio"/>	<input type="radio"/>
SB00F0	CPU operating status of each station	Stores the operating status of the CPU module on each station. Off: All stations are at RUN or STEP-RUN state On: Station at STOP or PAUSE state, or station with a moderate/major error exists. When this relay is turned on, the status of each station can be checked with 'CPU operating status of each station' (SW00F0 to SW00F7). Depending on the link refresh timing, the update of 'CPU operating status of each station' (SW00F0 to SW00F7) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	<input type="radio"/>	<input type="radio"/>
SB00F1	CPU operating status of master station	Stores the operating status of the CPU module on the master station (master operating station). Off: RUN or STEP-RUN state On: STOP state, PAUSE state, or moderate/major error (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	<input type="radio"/>	<input type="radio"/>



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB00F8	Network number match status	Stores the network number match status of each station. Off: Network number match in all stations On: Network number mismatch station exists When this relay is turned on, the status of each station can be checked with 'Network number match status' (SW00F8 to SW00FF). Depending on the link refresh timing, the update 'Network number match status' (SW00F8 to SW00FF) may be offset by one sequence scan.	○	○
SB00FF	CPU operating status of station No.0	Stores the operating status of the CPU module on the station No.0. Off: RUN or STEP-RUN state On: STOP state, PAUSE state, or moderate/major error (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB0100	CPU moderate/major error status of each station	For local stations, the moderate/major error occurrence status of the CPU module on each station is stored. For remote I/O stations, remote device stations, and intelligent device stations, the moderate/major error occurrence status of each station is stored. Off: No moderate/major error On: Station with a moderate/major error exists. When this relay is turned on, the status of each station can be checked with 'CPU moderate/major error status of each station' (SW0100 to SW0107). Depending on the link refresh timing, the update of 'CPU moderate/major error status of each station' (SW0100 to SW0107) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0101	CPU moderate/major error status of master station	Stores the moderate/major error occurrence status of the CPU module on the master station (master operation station). Off: No moderate/major error On: Moderate/major error (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0108	Station number duplication occurrence status	Stores the station number duplication occurrence status of each station. Off: Station number not duplicated On: Station number duplicated When this relay is turned on, the status of each station can be checked with 'Station number duplication occurrence status' (SW0108 to SW010F). Depending on the link refresh timing, the update of 'Station number duplication occurrence status' (SW0108 to SW010F) may be offset by one sequence scan.	○	○
SB010F	CPU moderate/major error status of station No.0	Stores the moderate/major error occurrence status of the CPU module on the station No.0. Off: No moderate/major error On: Moderate/major error (Conditions) • This relay is enabled when the submaster function is used.	○	○

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0110	CPU minor error status of each station	<p>For local stations, the minor error occurrence status of the CPU module on each station is stored.</p> <p>For remote I/O stations, remote device stations, and intelligent device stations, the minor error occurrence status of each station is stored.</p> <p>Off: All stations normal or station with a moderate/major error exists.</p> <p>On: Station with a minor error exists.</p> <p>When this relay is turned on, the status of each station can be checked with 'CPU minor error status of each station' (SW0110 to SW0117).</p> <p>Depending on the link refresh timing, the update of 'CPU minor error status of each station' (SW0110 to SW0117) may be offset by one sequence scan.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This relay is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. 	○	○
SB0111	CPU minor error status of master station	<p>Stores the minor error occurrence status of the CPU module on the master station (master operating station).</p> <p>Off: No minor errors, or a moderate/major error being occurred</p> <p>On: Minor error</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This relay is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. 	○	○
SB011F	CPU minor error status of station No.0	<p>Stores the minor error occurrence status of the CPU module on the station No.0.</p> <p>Off: No minor errors, or a moderate/major error being occurred</p> <p>On: Minor error</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This relay is enabled when the submaster function is used. 	○	○
SB0120	PORT1 current error frame reception status (1)	<p>Stores if a receive frame error line status caution level is currently occurring in the P1 side of each station.</p> <p>Off: A receive frame error line status caution level is not occurring in any stations.</p> <p>On: A receive frame error line status caution level is occurring in one or more stations.</p> <p>If a receive frame error line status caution level is occurring, the status of each station can be checked with 'PORT1 current error frame reception status of each station (1)' (SW0120 to SW0127).</p> <p>Depending on the link refresh timing, the update of 'PORT1 current error frame reception status of each station (1)' (SW0120 to SW0127) may be offset by one sequence scan.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This relay is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. 	○	○
SB0121	PORT1 current error frame reception status of master station	<p>Stores whether the error frame is currently received at the P1 side of the master station (master operating station).</p> <p>Off: Not received</p> <p>On: Currently receiving</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This relay is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. 	○	○



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0128	PORT1 current error frame reception status (2)	Stores if a receive frame error line status warning level is currently occurring in the P1 side of each station. Off: A receive frame error line status warning level is not occurring in any stations. On: A receive frame error line status warning level is occurring in one or more stations. If a receive frame error line status warning level is occurring, the status of each station can be checked with 'PORT1 current error frame reception status of each station (2)' (SW0128 to SW012F). Depending on the link refresh timing, the update of 'PORT1 current error frame reception status of each station (2)' (SW0128 to SW012F) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0129	PORT1 current error frame reception status of station No.0 (2)	Stores if a receive frame error line status warning level is currently occurring in the P1 side of the station No.0. Off: A receive frame error line status warning level is not occurring. On: A receive frame error line status warning level is occurring. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB012F	PORT1 current error frame reception status of station No.0 (1)	Stores if a receive frame error line status caution level is currently occurring in the P1 side of the station No.0. Off: A receive frame error line status caution level is not occurring. On: A receive frame error line status caution level is occurring. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB0130	PORT2 current error frame reception status (1)	Stores if a receive frame error line status caution level is currently occurring in the P2 side of each station. Off: A receive frame error line status caution level is not occurring in any stations. On: A receive frame error line status caution level is occurring in one or more stations. If a receive frame error line status caution level is occurring, the status of each station can be checked with 'PORT2 current error frame reception status of each station (1)' (SW0130 to SW0137). Depending on the link refresh timing, the update of 'PORT2 current error frame reception status of each station (1)' (SW0130 to SW0137) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0131	PORT2 current error frame reception status of master station	Stores whether the error frame is currently received at the P2 side of the master station (master operating station). Off: Not received On: Currently receiving (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0138	PORT2 current error frame reception status (2)	Stores if a receive frame error line status warning level is currently occurring in the P2 side of each station. Off: A receive frame error line status warning level is not occurring in any stations. On: A receive frame error line status warning level is occurring in one or more stations. If a receive frame error line status warning level is occurring, the status of each station can be checked with 'PORT2 current error frame reception status of each station (2)' (SW0138 to SW013F). Depending on the link refresh timing, the update of 'PORT2 current error frame reception status of each station (2)' (SW0138 to SW013F) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0139	PORT2 current error frame reception status of station No.0 (2)	Stores if a receive frame error line status warning level is currently occurring in the P2 side of the station No.0. Off: A receive frame error line status warning level is not occurring. On: A receive frame error line status warning level is occurring. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB013F	PORT2 current error frame reception status of station No.0 (1)	Stores if a receive frame error line status caution level is currently occurring in the P2 side of the station No.0. Off: A receive frame error line status caution level is not occurring. On: A receive frame error line status caution level is occurring. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB0140	PORT1 error frame reception detection status (1)	Stores if a receive frame error line status caution level has occurred in the P1 side of each station from power-on until the present. Off: A receive frame error line status caution level has not yet occurred in any stations. On: A receive frame error line status caution level has occurred in one or more stations. If a receive frame error line status caution level has occurred, the status of each station can be checked with 'PORT1 error frame reception detection status (1)' (SW0140 to SW0147). Depending on the link refresh timing, the update of 'PORT1 error frame reception detection status (1)' (SW0140 to SW0147) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0141	PORT1 error frame detection of master station	Stores whether the error frame was received at the P1 side of the master station (master operating station) from power-on to the present. Off: Not received On: Received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0148	PORT1 error frame reception detection status (2)	Stores if a receive frame error line status warning level has occurred in the P1 side of each station from power-on until the present. Off: A receive frame error line status warning level has not yet occurred in any stations. On: A receive frame error line status warning level has occurred in one or more stations. If a receive frame error line status warning level has occurred, the status of each station can be checked with 'PORT1 error frame reception detection status (2)' (SW0148 to SW014F). Depending on the link refresh timing, the update of 'PORT1 error frame reception detection status (2)' (SW0148 to SW014F) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0149	PORT1 error frame reception detection status of station No.0 (2)	Stores if a receive frame error line status warning level has occurred in the P1 side of the station No.0 from power-on until the present. Off: A receive frame error line status warning level has not yet occurred. On: A receive frame error line status warning level has occurred at least once. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB014F	PORT1 error frame reception detection status of station No.0 (1)	Stores if a receive frame error line status caution level has occurred in the P1 side of the station No.0 from power-on until the present. Off: A receive frame error line status caution level has not yet occurred. On: A receive frame error line status caution level has occurred at least once. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB0150	PORT2 error frame reception detection status (1)	Stores if a receive frame error line status caution level has occurred in the P2 side of each station from power-on until the present. Off: A receive frame error line status caution level has not yet occurred in any stations. On: A receive frame error line status caution level has occurred in one or more stations. If a receive frame error line status caution level has occurred, the status of each station can be checked with 'PORT2 error frame reception detection status (1)' (SW0150 to SW0157). Depending on the link refresh timing, the update of 'PORT2 error frame reception detection status (1)' (SW0150 to SW0157) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0151	PORT2 error frame detection of master station	Stores whether the error frame was received at the P2 side of the master station (master operating station) from power-on to the present. Off: Not received On:Received (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0158	PORT2 error frame reception detection status (2)	Stores if a receive frame error line status warning level has occurred in the P2 side of each station from power-on until the present. Off: A receive frame error line status warning level has not yet occurred in any stations. On: A receive frame error line status warning level has occurred in one or more stations. If a receive frame error line status warning level has occurred, the status of each station can be checked with 'PORT2 error frame reception detection status (2)' (SW0158 to SW015F). Depending on the link refresh timing, the update of 'PORT2 error frame reception detection status (2)' (SW0158 to SW015F) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB0159	PORT2 error frame reception detection status of station No.0 (2)	Stores if a receive frame error line status warning level has occurred in the P2 side of the station No.0 from power-on until the present. Off: A receive frame error line status warning level has not yet occurred. On: A receive frame error line status warning level has occurred at least once. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB015F	PORT2 error frame reception detection status of station No.0 (1)	Stores if a receive frame error line status caution level has occurred in the P2 side of the station No.0 from power-on until the present. Off: A receive frame error line status caution level has not yet occurred. On: A receive frame error line status caution level has occurred at least once. (Conditions) • This relay is enabled when the submaster function is used.	○	○
SB0170	Parameter error status of each station	Stores the parameter error status of each station. Off: All stations normal On: Faulty station exists When this relay is turned on, the status of each station can be checked with 'Parameter error status of each station' (SW0170 to SW0177). Depending on the link refresh timing, the update of 'Parameter error status of each station' (SW0170 to SW0177) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. • Reserved stations and stations higher than the maximum station number are ignored.	○	○
SB017F	Parameter error status of station No.0	Stores the parameter error status of the station No.0. Off: Normal On: Error (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. • This relay is enabled when the submaster function is used.	○	○



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SB0180	Reserved station function disable status	Stores whether there is a station whose reserved station setting is temporarily canceled. Off: Not exist On: Exists When this relay is turned on, the status of each station can be checked with "Reserved station cancel setting status" (SW0180 to SW0187). Depending on the link refresh timing, the update of 'Reserved station cancel setting status' (SW0180 to SW0187) may be offset by one sequence scan. (Conditions) • This relay is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held.	○	○
SB01E1	Setting status of CC-Link IE Field Network synchronous communication function	Stores the setting status of the CC-Link IE Field Network synchronous communication function. Off: No setting On: Set	○ (Master station only)	×
SB01E9	Inter-module synchronization cycle over flag	Stores the cycle over occurrence status of the inter-module synchronization function. This relay is turned on if output preparation processing (link scan for network modules) is not completed within the inter-module synchronization cycle. Off: Processing time overflow has not occurred. On: Processing time overflow has occurred. Once this relay is turned on, it remains turned on even if the processing is operated within the specified inter-module synchronization cycle. The status is cleared by turning off and on the power supply or resetting the CPU module.	○	○

*1 This relay is enabled only for the RJ71EN71 or the RnENCPU (network part) when the CC-Link IE Field Network function is used.

Appendix 4 List of Link Special Register (SW) Areas

The link special register (SW) stores the information during data link as a numerical value. Error locations and causes can be checked by using or monitoring the link special register (SW) in programs.

Application of the link special register (SW)

By using the link special register (SW), the status of CC-Link IE Field Network can be checked from HMI (Human Machine Interfaces) as well as the engineering tool.

Refresh of the link special register (SW)

To use the link special register (SW), set them in "Refresh Setting" under "Basic Settings" so that they are refreshed to the devices or labels of the CPU module.

Range where data are stored by users and range where data are stored by the system

The following ranges correspond to when the link special register (SW) areas are assigned from SW0000 to SW01FF.

- Stored by users: SW0000 to SW001F
- Stored by the system: SW0020 to SW01FF

List of link special register (SW) areas

The following table lists the link special register (SW) areas when they are assigned from SW0000 to SW01FF.



Do not write any data to an area whose number is not on the list. Doing so may cause malfunction of the programmable controller system.

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SW0000	Link startup/stop direction	Set the content of data link startup/stop directions. 00H: Own station 01H: All stations 02H: Specified stations 80H: Own station enforced (enabled only for data link startup) 81H: All stations enforced (enabled only for data link startup) 82H: Specified stations enforced (enabled only for data link startup) <ul style="list-style-type: none"> • Data link startup/stop is performed by 'System link startup' (SB0002) or 'System link stop' (SB0003). • When 02H (specified station) or 82H (specified station enforced) is selected, the own station is not included. 	○ (Master operating station only)	×



No.	Name	Description	Availability																																																																																																																																																										
			Master station (submaster station)	Local station																																																																																																																																																									
SW0001 to SW0008	Link startup/stop station specification	<p>Set the station number to start or stop data link when 02H or 82H is set in 'Link startup/stop direction' (SW0000).</p> <p>0: Startup or stop not requested 1: Startup or stop requested</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0001</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0002</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0003</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0004</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0005</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0006</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0007</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0008</td> <td>—</td> <td>—</td> <td>—</td> <td>125</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number.</p> <ul style="list-style-type: none"> To specify the master station operating as a submaster station (station number 0), turn on the bit of the station number 125. While the submaster station is operating as a master operating station, setting of the submaster station number is ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0001	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0002	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0003	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0004	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0005	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0006	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0007	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0008	—	—	—	125	—	—	—	—	120	119	118	117	116	115	114	113	○ (Master operating station only)	×
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW0001	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW0002	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
SW0003	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																													
SW0004	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
SW0005	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																													
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SW0007	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
SW0008	—	—	—	125	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW0009	RIRD/RIWT instruction arrival monitoring time	<p>Specify the monitoring time until the RIRD/RIWT instruction completion.</p> <p>If the instruction is not completed within the time, it will be resent for the number of times specified in 'RIRD/RIWT instruction resend count' (SW000B).</p> <p>0: 10 seconds (default) 1 to 360: 1 to 360 seconds</p> <p>If a value other than the above is specified, 360 seconds will be applied.</p>	○	○																																																																																																																																																									
SW000B	RIRD/RIWT instruction resend count	<p>Specify the number of times the instruction is to be resent when it is not completed within the monitoring time specified in 'RIRD/RIWT instruction arrival monitoring time' (SW0009).</p> <p>0: Not resent (default) 1 to 7: 1 to 7 times</p> <p>If a value other than the above is specified, 7 times will be applied.</p>	○	○																																																																																																																																																									
SW0010 to SW0017	Reserved station function disable/ temporary error invalid station setting	<p>Specify the slave station for which the reserved station setting is to be temporary canceled/restored, or the temporary error invalid station setting is to be set/ canceled.</p> <p>0: Not specified 1: Specified</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0010</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0011</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0012</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0013</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0014</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0015</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0016</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0017</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> For some stations, reserved station setting cannot be temporarily canceled/restored or temporary error invalid station setting cannot be set/canceled. When the submaster station number is specified, the setting is ignored. Stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0010	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0011	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0012	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0013	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0014	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0015	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0016	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0017	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○ (Master operating station only)	×
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW0010	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW0011	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
SW0012	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																													
SW0013	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
SW0014	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																													
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SW0016	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
SW0017	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW001A	REMFRR/REMTO instruction resend count	<p>Set the number of resends for the REMFR/REMTO instruction.</p> <p>0: Not resent (default) Other than the above: Number of times that is set</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. 	○ (Master operating station only)	×																																																																																																																																																									

APPENDICES

No.	Name	Description	Availability											
			Master station (submaster station)	Local station										
SW001B	REMFR/REMTO instruction response wait timer time	Set the response wait time for the REMFR/REMTO instruction. 0: 10 seconds (default) Other than the above: Number of seconds that is set (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○ (Master operating station only)	×										
SW0030	Link dedicated instructions processing result CH1	Stores the processing results of the link dedicated instruction that used channel 1 of the own station. 0: Completed normally 1 or greater: Completed with an error (Error code is stored.)	○	○										
SW0031	Link dedicated instructions processing result CH2	Stores the processing results of the link dedicated instruction that used channel 2 of the own station. 0: Completed normally 1 or greater: Completed with an error (Error code is stored.)	○	○										
SW0040	Network number	Stores the network number of the own station. Range: 1 to 239	○	○										
SW0042	Station number	Stores the station number of the own station. Range: 1 to 120, 125 (master station), 255 (station number not set)	○	○										
SW0043	Mode status of own station	Stores the module operation mode setting or communication mode of the own station. 0: Online mode, normal (local station: online mode) 1: Online mode, high speed 2: Offline mode 3: Online mode, high-speed remote net B: Module communication test mode	○	○										
SW0044	Submaster station number	Stores the submaster station number that has been set using a parameter. Range: 1 to 120	○	○										
SW0046	Module type	Stores the hardware status of the own station. <table border="1" style="margin-left: 40px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">to</td> <td style="text-align: center;">b2</td> <td style="text-align: center;">b1</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">to</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table> Model type 00: Module 01: Board 10: Display	b15	to	b2	b1	b0	0	to	0	0	0	○	○
b15	to	b2	b1	b0										
0	to	0	0	0										
SW0047	Baton pass status of own station	Stores the baton pass status (transient transmission availability) of the own station. 0: Data link in progress 2: Baton pass in progress 3: Baton pass being terminated 4: Test in progress 5: Offline	○	○										
SW0048	Cause of baton pass interruption	Stores the cause of interruption in the communication (baton pass) of the own station. 00H: At normal communication or power-on 30H: Cable disconnection 33H: Disconnection or return in progress 40H: Offline mode 60H: Network topology setting error	○	○										



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SW0049	Cause of data link stop	Stores the cause which stopped the data link of the own station. 00H: At normal communication or power-on 01H: Stop direction 02H: Monitoring time timeout 05H: No slave station (master station only) 10H: Parameter not received (local station only) 11H: Station number of the own station out of the range 12H: Reserved station setting of the own station 13H: Own station number duplication 14H: Master station duplication/submaster station duplication 16H: Station number not set 18H: Parameter error 19H: Parameter communication in progress 1AH: Station type mismatch 1BH: Parameter mismatch 1DH: Initial processing of CC-Link IE Field Network synchronous communication 20H: CPU module moderate error, major error 60H: Illegal ring connection (master station only)	○	○
SW004A	Data link stop request station	Stores the station number of the station that performed the data link stop request for the own station. Range: 1 to 120, 125 (master station) The data link stop request is performed by 'System link stop' (SB0003). (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○	○
SW004B	CPU status of own station	Stores the status of the CPU module on the own station. 00H: No CPU module mounted 01H: STOP (normal) 02H: STOP (moderate/major error) 03H: STOP (minor error) 04H: RUN (normal) 05H: RUN (minor error) 07H: PAUSE 0EH: Reset in progress 0FH: Initial processing	○	○
SW004C	Parameter setting status	Stores the status of parameter settings. 0: Normal 1 or greater: Error definition (Error code is stored.) (Conditions) • This register is enabled when 'Received parameter error' (SB004D) is on.	○	○
SW0050	Link startup result of own station	Stores the results when data link is started by 'Link startup of own station' (SB0000). 0: Normal 1 or greater: Error definition (Error code is stored.) When 'Link startup of own station' (SB0000) is turned off, the stored error definition is cleared. (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○	○
SW0051	Link stop result of own station	Stores the results when data link is stopped by 'Link stop of own station' (SB0001). 0: Normal 1 or greater: Error definition (Error code is stored.) When 'Link stop of own station' (SB0001) is turned off, the stored error definition is cleared. (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○	○

APPENDICES

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SW0052	System link startup result	Stores the results when data link is started by 'System link startup' (SB0002). 0: Normal 1 or greater: Error definition in own station (Error code is stored.) When 'System link startup' (SB0002) is turned off, the stored error definition is cleared. (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○ (Master operating station only)	×
SW0053	System link stop result	Stores the results when data link is stopped by 'System link stop' (SB0003). 0: Normal 1 or greater: Error definition in own station (Error code is stored.) When 'System link stop' (SB0003) is turned off, the stored error definition is cleared. (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○ (Master operating station only)	×
SW0054	Temporary error invalid station setting result	Stores the results when executing the temporary error invalid station setting by 'Temporary error invalid station setting request' (SB0010). 0: Normal 1 or greater: Error definition (Error code is stored.) When 'Temporary error invalid station setting request' (SB0010) is turned off, the stored error definition is cleared.	○ (Master operating station only)	×
SW0055	Temporary error invalid station setting cancel result	Stores the results when canceling the temporary error invalid station setting by 'Temporary error invalid station setting cancel request' (SB0011). 0: Normal 1 or greater: Error definition (Error code is stored.) When 'Temporary error invalid station setting cancel request' (SB0011) is turned off, the stored error definition is cleared.	○ (Master operating station only)	×
SW0056	Result of reserved station function disable request	Stores the results when disabling the reserved station function by 'Reserved station function disable request' (SB0012). 0: Normal 1 or greater: Error definition (Error code is stored.) When 'Reserved station function disable request' (SB0012) is turned off, the stored error definition is cleared.	○ (Master operating station only)	×
SW0057	Result of reserved station function enable request	Stores the results when reserved station function disable is undone by 'Reserved station specification enable request' (SB0013). 0: Normal 1 or greater: Error definition (Error code is stored.) When 'Reserved station specification enable request' (SB0013) is turned off, the stored error definition is cleared.	○ (Master operating station only)	×
SW0058	Total number of slave stations setting value	Stores the total number of slave stations that are set by the parameters. Range: 1 to 120	○	○
SW0059	Total number of slave stations present value	Stores the total number of slave stations that are actually connected by data link. Range: 1 to 120 (0 when own station is disconnected)	○	○
SW005A	Maximum baton pass station number	Stores the maximum station number of the stations where the baton pass is normally performed. Range: 1 to 120 (0 when own station is disconnected) (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○	○
SW005B	Maximum data link station number	Stores the maximum station number of the station where the data link is normally performed. Range: 1 to 120 (0 when own station is disconnected) (Conditions) • This register is enabled when 'Data link error status of own station' (SB0049) is off.	○	○
SW005C	Forced master switching command result	Stores the execution result of 'Forced master switching command' (SB0019). 0: Normal 1 or greater: Error definition (Error code is stored.)	○ (Submaster station only)	×



No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SW0060	Maximum link scan time	Stores the maximum value of the link scan time during cyclic transmission. (Unit: ms) (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	<input type="radio"/>	<input type="radio"/>
SW0061	Minimum link scan time	Stores the minimum value of the link scan time during cyclic transmission. (Unit: ms) (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	<input type="radio"/>	<input type="radio"/>
SW0062	Current link scan time	Stores the present value of the link scan time during cyclic transmission. (Unit: ms) The stored value contains a maximum error of 1ms. (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	<input type="radio"/>	<input type="radio"/>
SW0063	Constant link scan time setting value	Stores the setting value of the constant link scan time that is set in "Supplementary Cyclic Settings" of "Application Settings". 0: No setting 1 to 200: Setting value of constant link scan time (Unit: ms) (Conditions) • This register is enabled when 'Data link error status of own station' (SB0049) is off.	<input type="radio"/>	<input type="radio"/>
SW0064	Connection status of own station	Stores the connection status of the own station. 00H: Normal (communication in progress on P1 and P2) 01H: Normal (communication in progress on P1, cable disconnected on P2) 04H: Normal (loopback communication in progress on P1, cable disconnected on P2) 10H: Normal (cable disconnected on P1, communication in progress on P2) 11H: Disconnecting (cable disconnected on P1 and P2) 12H: Disconnecting (cable disconnected on P1, establishing line on P2) 21H: Disconnecting (establishing line on P1, cable disconnected on P2) 22H: Disconnecting (establishing line on P1 and P2) 40H: Normal (cable disconnected on P1, loopback communication in progress on P2)	<input type="radio"/>	<input type="radio"/>
SW0066	Actual link scan time of lower 1 word	Stores the link scan time during cyclic transmission. (Unit: μ s)	<input type="radio"/>	<input type="radio"/>
SW0067	Actual link scan time of upper 1 word			
SW0068	PORT1 receive error occurrence rate of own station (max.)	Stores the occurrence rate (maximum value) of received error frames at the P1 side of the own station. (Unit: %) When 'Clear communication error count' (SB0006) is turned on, the stored value for the occurrence rate is cleared.	<input type="radio"/>	<input type="radio"/>
SW0069	PORT1 receive error occurrence rate of own station (present)	Stores the occurrence rate (present value) of received error frames at the P1 side of the own station. (Unit: %) When 'Clear communication error count' (SB0006) is turned on, the stored value for the occurrence rate is cleared.	<input type="radio"/>	<input type="radio"/>
SW006A	PORT2 receive error occurrence rate of own station (max.)	Stores the occurrence rate (maximum value) of received error frames at the P2 side of the own station. (Unit: %) When 'Clear communication error count' (SB0006) is turned on, the stored value for the occurrence rate is cleared.	<input type="radio"/>	<input type="radio"/>
SW006B	PORT2 receive error occurrence rate of own station (present)	Stores the occurrence rate (present value) of received error frames at the P2 side of the own station. (Unit: %) When 'Clear communication error count' (SB0006) is turned on, the stored value for the occurrence rate is cleared.	<input type="radio"/>	<input type="radio"/>

APPENDICES

No.	Name	Description	Availability	
			Master station (submaster station)	Local station
SW006D	Master operating station number	Stores the station number of a master operating station. 0: No submaster function setting 1 to 120: Station number of the submaster station (master operating station) 125: Master station (master operating station) (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○	○
SW006E	Submaster operating station number	Stores the station number of a submaster operating station. 0: No submaster function setting 1 to 120: Station number of the submaster station (submaster operating station) 125: Master station (submaster operating station) (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○	○
SW0070	Loopback station number 1	Stores the number of the station where loopback is being performed. 0: No loopback stations 1 to 120: Station number of the slave station or submaster station carrying out loopback 125: Master station carrying out loopback 255: Station with no station number set carrying out loopback If loopback occurs at a station whose station number is duplicated, the station number is stored in this register. (Conditions) • This register is enabled when 'Baton pass status of own station' (SB0047) is off and 'Network configuration mismatch occurrence status' (SB0098) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held.	○ (Master operating station only)	×
SW0071	Loopback station number 2			
SW0074	PORT1 cable disconnection detection count	Stores the cumulative count that was detected for cable disconnections at the P1 side. When 'Clear communication error count' (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFH (maximum value 65535) is counted, the value returns to 0 and the module continues to count.	○	○
SW0075	PORT1 receive error detection count	Stores the cumulative count that error data was received at the P1 side. The count stores only error data that is not transmitted to all stations. When 'Clear communication error count' (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFH (maximum value 65535) is counted, counting stops.	○	○
SW0076	PORT1 total number of received data of lower 1 word	Stores the cumulative count that data was received at the P1 side. When 'Clear communication error count' (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFFFFFH (maximum value 4294967295) is counted, counting stops.	○	○
SW0077	PORT1 total number of received data of upper 1 word			
SW007C	PORT2 cable disconnection detection count	Stores the cumulative count that was detected for cable disconnections at the P2 side. When 'Clear communication error count' (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFH (maximum value 65535) is counted, the value returns to 0 and the module continues to count.	○	○
SW007D	PORT2 receive error detection count	Stores the cumulative count that error data was received at the P2 side. The count stores only error data that is not transmitted to all stations. When 'Clear communication error count' (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFH (maximum value 65535) is counted, counting stops.	○	○
SW007E	PORT2 total number of received data of lower 1 word	Stores the cumulative count that data was received at the P2 side. When 'Clear communication error count' (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFFFFFH (maximum value 4294967295) is counted, counting stops.	○	○
SW007F	PORT2 total number of received data of upper 1 word			



No.	Name	Description	Availability																																																																																																																																																										
			Master station (submaster station)	Local station																																																																																																																																																									
SW0080 to SW009F	REMFRR/REMTO instruction execution status	Stores the execution status of the REMFRR/REMTO instruction for each channel. SW0080 to SW009F: Channel 1 to Channel 32 0: Completed normally 1 or greater: Completed with an error (Error code is stored.)	○	○																																																																																																																																																									
SW00A0 to SW00A7	Baton pass status of each station	Stores the baton pass status of each station. 0: Baton pass normal station 1: Baton pass faulty station <ul style="list-style-type: none"> If multiple stations change from faulty to normal, because they are reconnected to the network one by one per link scan, the time until the status changes to "0: Baton pass normal station" may vary by several seconds. If cables are connected/disconnected or the module is reset in line and ring topologies, the token may be lost or a reconstruction may occur, causing the baton pass status to detect an error in the first link scan. <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00A0</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00A1</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00A2</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00A3</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00A4</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00A5</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00A6</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00A7</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0. (Conditions) <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. Reserved stations and stations higher than the maximum station number are ignored. </p>		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00A0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00A1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00A2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00A3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00A4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00A5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00A6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00A7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW00B8 to SW00BF	Network connection status	<p>Stores the network connection status.</p> <p>0: Station not connected to network 1: Station connected to network</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00B8</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00B9</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00BA</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00BB</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00BC</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00BD</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00BE</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00BF</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is not affected by 'Baton pass status of each station' (SW00A0 to SW00A7), 'Data link error status of each station' (SB00B0), and 'Data link status of each station' (SW00B0 to SW00B7). This register is enabled only for the station which has the same network number as a master operating station. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00B8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00B9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00BA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00BB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00BC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00BD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00BE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00BF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW00BB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
SW00BC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																													
SW00BD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																													
SW00BE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
SW00BF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW00C0 to SW00C7	Reserved station setting status	<p>Stores the reserved station setting status of each station.</p> <p>0: Station other than a reserved station (included reserved stations that have been temporarily canceled) 1: Reserved station</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00C0</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00C1</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00C2</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00C3</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00C4</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00C5</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00C6</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00C7</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). Stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00C0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00C1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00C2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00C3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00C4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00C5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00C6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00C7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW00C0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
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SW00C6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
SW00C7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													



No.	Name	Description	Availability																																																																																																																																																										
			Master station (submaster station)	Local station																																																																																																																																																									
SW00C8 to SW00CF	Parameter setting status	<p>Stores the status of parameter settings.</p> <p>0: Station not set in the parameter 1: Station set in the parameter</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00C8</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW00C9</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW00CA</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW00CB</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW00CC</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW00CD</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW00CE</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW00CF</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00C8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00C9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00CA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00CB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00CC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00CD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00CE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00CF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW00C8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
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SW00CE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
SW00CF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW00D0 to SW00D7	Error invalid station setting status	<p>Stores the error invalid station setting status of each station.</p> <p>0: Station other than an error invalid station 1: Error invalid station</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00D0</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW00D1</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW00D2</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW00D3</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW00D4</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW00D5</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW00D6</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW00D7</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on, data prior to error is held. Stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00D0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00D1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00D2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00D3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00D4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00D5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00D6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00D7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW00D0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW00D1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
SW00D2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																													
SW00D3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
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SW00D6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
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SW00E0 to SW00E7	Temporary error invalid station setting status	<p>Stores the temporary error invalid station setting status of each station.</p> <p>0: Station other than a temporary error invalid station 1: Temporary error invalid station</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00E0</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW00E1</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW00E2</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW00E3</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW00E4</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW00E5</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW00E6</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW00E7</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). Reserved stations and stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00E0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00E1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00E2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00E3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00E4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00E5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00E6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00E7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW00E8 to SW00EF	Station type match status	<p>Stores the match status between the station type set in the master station and that of the slave station.</p> <p>0: Station type match 1: Station type mismatch</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW00E8</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW00E9</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW00EA</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW00EB</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW00EC</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW00ED</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW00EE</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW00EF</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled only for the station in which 'Network connection status' (SW00B8 to SW00BF) is on and is connected to the network. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00E8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00E9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00EA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00EB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00EC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00ED	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00EE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00EF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW00F0 to SW00F7	CPU operating status of each station	<p>Stores the CPU operating status of each station.</p> <p>0: RUN, STEP-RUN 1: STOP, PAUSE, or a moderate or serious error occurring</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW00F0</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW00F1</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW00F2</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW00F3</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW00F4</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW00F5</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW00F6</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW00F7</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). Reserved stations and stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00F0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00F1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00F2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00F3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00F4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00F5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00F6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00F7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW00FD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																													
SW00FE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
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SW0100 to SW0107	CPU moderate/major error status of each station	<p>For local stations, the moderate/major error occurrence status of the CPU module on each station is stored.</p> <p>For remote I/O stations, remote device stations, and intelligent device stations, the moderate/major error occurrence status of each station is stored.</p> <p>0: No moderate/major error 1: Moderate or serious error occurring</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0100</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0101</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0102</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0103</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0104</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0105</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0106</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0107</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). • Reserved stations and stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0100	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0101	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0102	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0103	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0104	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0105	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0106	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0107	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW0101	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
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SW0107	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW0108 to SW010F	Station number duplication occurrence status	<p>Stores the station number duplication occurrence status.</p> <p>0: Station number not duplicated 1: Station number duplicated</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0108</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0109</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW010A</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW010B</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW010C</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW010D</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW010E</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW010F</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p>		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0108	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0109	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW010A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW010B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW010C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW010D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW010E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW010F	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW0110 to SW0117	CPU minor error status of each station	<p>For local stations, the minor error occurrence status of the CPU module on each station is stored.</p> <p>For remote I/O stations, remote device stations, and intelligent device stations, the minor error occurrence status of each station is stored.</p> <p>0: Normal operation, or a moderate or serious error occurring 1: Minor error occurring</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0110</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW0111</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW0112</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW0113</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW0114</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW0115</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW0116</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW0117</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). • Reserved stations and stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0110	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0111	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0112	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0113	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0114	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0115	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0116	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0117	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW0117	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
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SW0128 to SW012F	PORT1 current error frame reception status of each station (2)	<p>Stores the station number where a receive frame error line status warning level is currently occurring in the P1 side of each station.</p> <p>0: A receive frame error line status warning level is not occurring. 1: A receive frame error line status warning level is occurring.</p> <p>When 'Clear communication error count' (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0128</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0129</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW012A</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW012B</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW012C</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW012D</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW012E</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW012F</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0128	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0129	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW012A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW012B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW012C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW012D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW012E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW012F	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW0138 to SW013F	PORT2 current error frame reception status of each station (2)	<p>Stores the station number where a receive frame error line status warning level is currently occurring in the P2 side of each station.</p> <p>0: A receive frame error line status warning level is not occurring. 1: A receive frame error line status warning level is occurring.</p> <p>When 'Clear communication error count' (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0138</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0139</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW013A</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW013B</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW013C</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW013D</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW013E</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW013F</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0138	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0139	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW013A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW013B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW013C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW013D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW013E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW013F	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW0140 to SW0147	PORT1 error frame reception detection status (1)	<p>Stores the station number where a receive frame error line status caution level has occurred in the P1 side of each station from power-on until the present.</p> <p>0: A receive frame error line status caution level has not yet occurred. 1: A receive frame error line status caution level has occurred.</p> <p>When 'Clear communication error count' (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0140</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0141</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0142</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0143</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0144</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0145</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0146</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0147</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0140	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0141	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0142	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0143	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0144	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0145	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0146	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0147	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
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SW0150 to SW0157	PORT2 error frame reception detection status (1)	<p>Stores the station number where a receive frame error line status caution level has occurred in the P2 side of each station from power-on until the present.</p> <p>0: A receive frame error line status caution level has not yet occurred. 1: A receive frame error line status caution level has occurred.</p> <p>When 'Clear communication error count' (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0150</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW0151</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW0152</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW0153</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW0154</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW0155</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW0156</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW0157</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0150	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0151	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0152	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0153	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0154	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0155	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0156	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0157	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW0150	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW0151	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
SW0152	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																													
SW0153	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
SW0154	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																													
SW0155	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																													
SW0156	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
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SW0158 to SW015F	PORT2 error frame reception detection status (2)	<p>Stores the station number where a receive frame error line status warning level has occurred in the P2 side of each station from power-on until the present.</p> <p>0: A receive frame error line status warning level has not yet occurred. 1: A receive frame error line status warning level has occurred.</p> <p>When 'Clear communication error count' (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0158</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW0159</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW015A</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW015B</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW015C</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW015D</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW015E</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW015F</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0158	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0159	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW015A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW015B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW015C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW015D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW015E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW015F	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW0158	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW0159	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
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SW015F	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW0170 to SW0177	Parameter error status of each station	<p>Stores the parameter error status of each station.</p> <p>0: No error 1: Errors</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0170</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW0171</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW0172</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW0173</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW0174</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW0175</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW0176</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW0177</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). Reserved stations and stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0170	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0171	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0172	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0173	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0174	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0175	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0176	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0177	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW0170	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW0171	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
SW0172	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																													
SW0173	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
SW0174	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																													
SW0175	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																													
SW0176	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
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SW0180 to SW0187	Reserved station cancel setting status	<p>Stores the reserved station cancel setting status of each station.</p> <p>0: No temporary cancel of the reserved station setting 1: Temporary cancel of the reserved station setting</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0180</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0181</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0182</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0183</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0184</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0185</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0186</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0187</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when 'Baton pass status of own station' (SB0047) is off. • When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). • Stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0180	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0181	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0182	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0183	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0184	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0185	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0186	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0187	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○	○
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																														
SW0180	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																														
SW0181	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																														
SW0182	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																														
SW0183	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																														
SW0184	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																														
SW0185	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																														
SW0186	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																														
SW0187	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW0198	Link dedicated instructions processing result CH3	<p>Stores the processing results of the link dedicated instruction that used channel 3 of the own station.</p> <p>0: Completed normally 1 or greater: Completed with an error (Error code is stored.)</p>	○*1	○*1																																																																																																																																																										
SW0199	Link dedicated instructions processing result CH4	<p>Stores the processing results of the link dedicated instruction that used channel 4 of the own station.</p> <p>0: Completed normally 1 or greater: Completed with an error (Error code is stored.)</p>	○*1	○*1																																																																																																																																																										
SW019A	Link dedicated instructions processing result CH5	<p>Stores the processing results of the link dedicated instruction that used channel 5 of the own station.</p> <p>0: Completed normally 1 or greater: Completed with an error (Error code is stored.)</p>	○*1	○*1																																																																																																																																																										
SW019B	Link dedicated instructions processing result CH6	<p>Stores the processing results of the link dedicated instruction that used channel 6 of the own station.</p> <p>0: Completed normally 1 or greater: Completed with an error (Error code is stored.)</p>	○*1	○*1																																																																																																																																																										
SW019C	Link dedicated instructions processing result CH7	<p>Stores the processing results of the link dedicated instruction that used channel 7 of the own station.</p> <p>0: Completed normally 1 or greater: Completed with an error (Error code is stored.)</p>	○*1	○*1																																																																																																																																																										
SW019D	Link dedicated instructions processing result CH8	<p>Stores the processing results of the link dedicated instruction that used channel 8 of the own station.</p> <p>0: Completed normally 1 or greater: Completed with an error (Error code is stored.)</p>	○*1	○*1																																																																																																																																																										

No.	Name	Description	Availability																																																																																																																																																										
			Master station (submaster station)	Local station																																																																																																																																																									
SW01C0 to SW01C7	Information of CC-Link IE Field Network synchronous communication function of each station	<p>Stores the information about support or non-support of CC-Link IE Field Network synchronous communication function for each station.</p> <p>0: Not supported 1: Supported</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW01C0</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW01C1</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW01C2</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW01C3</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW01C4</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW01C5</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW01C6</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW01C7</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). Stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW01C0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW01C1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW01C2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW01C3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW01C4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW01C5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW01C6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW01C7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○ (Master station only)	×
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW01C0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW01C1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
SW01C2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																													
SW01C3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
SW01C4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																													
SW01C5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																													
SW01C6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
SW01C7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW01C8 to SW01CF	Synchronous/asynchronous operating status information of each station	<p>Stores the information about operating status of CC-Link IE Field Network synchronous communication function for each station.</p> <p>0: Asynchronous setting 1: Synchronous setting</p> <p>Stations which are not executing an inter-module synchronous interrupt program because the CPU operating status is currently a status such as STOP, that is unable to execute the program, are also treated as an asynchronous setting.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW01C8</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW01C9</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW01CA</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW01CB</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW01CC</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW01CD</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW01CE</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW01CF</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each number in the table represents a station number. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when 'Baton pass status of own station' (SB0047) is off. When 'Baton pass status of own station' (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in 'Baton pass status of each station' (SW00A0 to SW00A7). Stations higher than the maximum station number are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW01C8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW01C9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW01CA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW01CB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW01CC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW01CD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW01CE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW01CF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	○ (Master station only)	×
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																													
SW01C8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																													
SW01C9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																													
SW01CA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																													
SW01CB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																													
SW01CC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																													
SW01CD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																													
SW01CE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																													
SW01CF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																													
SW01E9	Inter-module synchronization cycle over count	<p>Stores the cumulative count that a link scan could not complete an Inter-module synchronization cycle.</p> <p>The stored count is cleared by turning off and on the power supply or resetting the CPU module.</p> <ul style="list-style-type: none"> 0: Cycle over not occurred 1 to 65535: Cumulative number of times 	○	○																																																																																																																																																									
SW01EA to SW01EB	Inter-module synchronization cycle setting value	<p>Stores the setting value in "Fixed Scan Interval Setting" under "Synchronization Setting within the Modules" in the system parameters. (Unit: μs)</p> <p>0 when "Not Use" is set in "Synchronization Setting within the Modules" in the system parameters.</p>	○ (Master station only)	×																																																																																																																																																									

*1 This register is enabled only for the RJ71EN71 or the RnENCPU (network part) when the CC-Link IE Field Network function is used.



Appendix 5 Device Assignment Tables

The following tables list the number of points and assignments of devices used in Exercises 1 to 3.

Exercise 1 Communication with digital inputs and outputs

Station No.	Device							
	RX → (X)		RY → (Y)		RWw → (D)		RWr → (D)	
	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side
1	0000 to 000F	00200 to 0020F	0000 to 000F	00200 to 0020F	0000 to 0013	1000 to 1019	0000 to 0013	1100 to 1119
2	0020 to 002F	00220 to 0022F	0020 to 002F	00220 to 0022F	0014 to 0027	1020 to 1039	0014 to 0027	1120 to 1139

Exercise 2 Communication with analog inputs and outputs

Station No.	Device							
	RX → (X)		RY → (Y)		RWw → (D)		RWr → (D)	
	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side
1	0000 to 000F	00200 to 0020F	0000 to 000F	00200 to 0020F	0000 to 0013	1000 to 1019	0000 to 0013	1100 to 1119
2	0020 to 002F	00220 to 0022F	0020 to 002F	00220 to 0022F	0014 to 0027	1020 to 1039	0014 to 0027	1120 to 1139
3	0040 to 005F	00240 to 0025F	0040 to 005F	00240 to 0025F	0028 to 0037	1040 to 1055	0028 to 0037	1140 to 1155
4	0060 to 007F	00260 to 0027F	0060 to 007F	00260 to 0027F	0038 to 0047	1056 to 1071	0038 to 0047	1156 to 1171

Exercise 3 Communication between the master station and local station

Station No.	Device							
	RX → (X)		RY → (Y)		RWw → (D)		RWr → (D)	
	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side	Remote side	CPU side
1	0000 to 000F	00200 to 0020F	0000 to 000F	00200 to 0020F	0000 to 0013	1000 to 1019	0000 to 0013	1100 to 1119
2	0020 to 002F	00220 to 0022F	0020 to 002F	00220 to 0022F	0014 to 0027	1020 to 1039	0014 to 0027	1120 to 1139
3	0040 to 005F	00240 to 0025F	0040 to 005F	00240 to 0025F	0028 to 0037	1040 to 1055	0028 to 0037	1140 to 1155
4	0060 to 007F	00260 to 0027F	0060 to 007F	00260 to 0027F	0038 to 0047	1056 to 1071	0038 to 0047	1156 to 1171
5	0080 to 009F	00280 to 0029F	0080 to 009F	00280 to 0029F	0048 to 0057	1072 to 1087	0048 to 0057	1172 to 1187

Mitsubishi Programmable Controllers Training Manual CC-Link IE Field Network(for GX Works3)

MODEL	
MODEL CODE	
SH(NA)-081899ENG-A(1602)MEE	

MITSUBISHI ELECTRIC CORPORATION

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