

**Programmable Controller** 

## CC-Link IE Field Network Remote IO-Link Module Function Block Reference (For MELSEC iQ-R)

## SAFETY PRECAUTIONS

(Read these precautions before using Mitsubishi Electric programmable controllers.)

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

The precautions given in this manual are concerned with the products only. For the safety precautions of the programmable controller system, refer to the MELSEC iQ-R Module Configuration Manual.

In this manual, the safety precautions are classified into two levels: " MARNING" and " CAUTION".

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage

 Image: CAUTION
 minor or moderate injury or property damage.

 Under some circumstances, failure to observe the precautions given under " CAUTION" may lead to serious

consequences.

Observe the precautions of both levels because they are important for personal and system safety.

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

## **CONDITIONS OF USE FOR THE PRODUCT**

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;

i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and

ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries. MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.

("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

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

## INTRODUCTION

Thank you for purchasing the Mitsubishi Electric MELSEC iQ-R series programmable controllers.

This manual describes the module function blocks for the relevant product listed below.

Before using the products, please read this manual and the relevant manuals carefully and develop familiarity with the functions and performance of the MELSEC iQ-R series programmable controller to handle the products correctly. When applying the program examples provided in this manual to an actual system, ensure the applicability and confirm that it will not cause system control problems.

Please make sure that the end users read this manual.

### **Relevant product**

NZ2GF2S-60IOLD8

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## **RELEVANT MANUALS**

Manual name [manual number]	Description
CC-Link IE Field Network Remote IO-Link Module Function Block Reference (For MELSEC iQ-R) [BCN-P5999-1048] (this manual)	Specifications, functions, and input/output labels for module FBs of the CC-Link IE Field Network remote IO-Link module
CC-Link IE Field Network Remote IO-Link Module User's Manual [SH-081917ENG]	Part names, specifications, procedures before operation, system configuration, installation, wiring, parameter settings, functions, programming, and troubleshooting of the IO-Link module

### Point P

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

e-Manual has the following features:

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

## TERMS

Unless otherwise specified, this manual uses the following terms.

Term	Description
Buffer memory	Memory in an intelligent function module to store data such as setting values and monitor values. For CPU modules, it refers to memory to store data such as setting values and monitor values of the Ethernet function, or data used for data communication of the multiple CPU system function.
CC-Link IE Field Network	A high-speed and large-capacity open field network that is based on Ethernet (1000BASE-T)
Dedicated instruction	An instruction that simplifies programming for using functions of intelligent function modules
Engineering tool	A tool used for setting up programmable controllers, programming, debugging, and maintenance
Transient transmission	A function of communication with another station, which is used when requested by a dedicated instruction or the engineering tool.

## **GENERIC TERMS AND ABBREVIATIONS**

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

Generic term/abbreviation	Description
CPU module	A generic term for MELSEC iQ-R series CPU modules
IO-Link mode	A generic term for IO-Link (standard) mode and IO-Link (sink input) mode
IO-Link module	An abbreviation for CC-Link IE Field Network remote IO-Link module
Master/local module	A generic term for the following modules: • RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
REMFR	A generic term for the JP.REMFR and ZP.REMFR
REMTO	A generic term for the JP.REMTO and ZP.REMTO
RnENCPU (network part)	A module on the right-hand side of the RnENCPU (L MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup))
SIO mode	A generic term for SIO (sink input) mode and SIO (source output) mode

# 1 OVERVIEW

The FBs described in this manual are module FBs (for GX Works3) to be used in the CC-Link IE Field Network remote IO-Link module.

## **1.1** Function Block (FB) List

This section lists the module FBs described in this manual. An FB name ends in the FB version information such as "\_00A"; however, this reference manual leaves it out.

Name	Description
M+NZ2GF2S-60IOLD8_RemoteBufMemRd	Reads the value from the specified remote buffer memory.
M+NZ2GF2S-60IOLD8_RemoteBufMemWt	Writes the value to the specified remote buffer memory.
M+NZ2GF2S-60IOLD8_OutputOnCntRd	Reads the number of output ON times integration value of the IO-Link module.
M+NZ2GF2S-60IOLD8_OutputOnCntClr	Clears the number of output ON times integration value of the IO-Link module.
M+NZ2GF2S-60IOLD8_UnitParamRd	Reads the IO-Link module parameters.
M+NZ2GF2S-60IOLD8_UnitParamWt	Writes the IO-Link module parameters.
M+NZ2GF2S-60IOLD8_DeviceParamRd	Reads the specified parameter from the IO-Link device.
M+NZ2GF2S-60IOLD8_DeviceParamWt	Writes the specified parameter to the IO-Link device.
M+NZ2GF2S-60IOLD8_DeviceChg	Turns on the device change flag to disable the detection of disconnection error. This FB also disables input/output in IO-Link mode and turns off input/output in SIO mode. Use the FB when the device is replaced during power-on.
M+NZ2GF2S-60IOLD8_EventRd	Reads the oldest event information from unchecked events.
M+NZ2GF2S-60IOLD8_EventClr	Clears the event history.

## **1.2** How to Obtain

For the FB library, please consult your local Mitsubishi Electric representative.

For how to register the FB library, refer to the GX Works3 Operating Manual.

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## **1.3** System Configuration

The following shows the system configuration for using the module FBs in this manual.



(1) Master/local module

(2) IO-Link module

(3) IO-Link device

For the specifications of modules to be used, refer to the user's manual for each module.

## 2 CC-Link IE Field Network REMOTE IO-Link MODULE FB

## 2.1 M+NZ2GF2S-60IOLD8\_RemoteBufMemRd

### Overview

This FB reads the value from the specified remote buffer memory.

	M+NZ2GF2S-60IOLD8_Re	emoteBufMemRd	
(1) —	B:i_bEN	o_bENO:B	— (7)
(2) —	UW:i_uStart_IO_No	o_bOK:B	— (8)
(3) —	UW:i_uStation_No	o_uReadData:UW	— (9)
(4) —	UW:i_uCH_No	o_bErr:B	— (10)
(5) —	UW:i_uAddress	o_uErrld:UW	— (11)
(6) —	UW:i_uReadPoint		

### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.
(5)	i_uAddress	Remote buffer memory address	Word [unsigned]	0000H to 4DFFH	Specifies the start address of the remote buffer memory to be read.
(6)	i_uReadPoint	Number of read points	Word [unsigned]	1 to 240	Specifies the number of points to be read.

### Output labels

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No.	Label name	Name	Data type	Default value	Description
(7)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution
(8)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.
(9)	o_uReadData	Read data	Word [unsigned]	0	Specifies the start device to which the read value of the remote buffer memory is stored.
(10)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.
(11)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.

### Available device

#### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

• MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	212 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	On-demand execution type
FB_EN input condition	None

### **Functional description**

- When i\_bEN (execution command) is turned on, the remote buffer memory value for the number of points specified by i\_uReadPoint (number of read points) is read from the remote buffer memory address specified by i\_uAddress (remote buffer memory address).
- The read remote buffer memory value for the number of points specified by i\_uReadPoint (number of read points) is stored in the device starting from the one specified by o\_uReadData (read data). (For example, when the remote buffer memory address of the input label is 1000H, the number of read points is 10, and the read data of the output label is D100, the specified remote buffer memory value is stored in D100 to D109.)



- (1) Number of read points (10 words)
- (2) Remote buffer memory
- (3) Read data
- (4) Read

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### Timing chart of I/O signals

### ■Normal completion

i\_bEN

o\_bENO

o\_uReadData



o\_bErr

o\_uErrld

o\_bOK

(1) Not processed

(2) Processing

(3) Not updated

(4) Updating

(a) Only for one scan is turned on.

(b) Read data is updated upon each completion of read processing.

### ■Error completion

i\_bEN

o\_bENO

Remote buffer memory read processing

o\_uReadData

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed

(2) Not updated

(3) Error code



#### Precautions

- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.

MELSEC iQ-R Programmable Controller CPU Module User's Manual

- If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- This FB uses the REMFR instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- When i\_bEN (execution command) is turned off during the read processing of the remote buffer memory, the value for the previous read processing remains stored.
- For the start device where the read remote buffer memory value is stored, successive areas for the number of read points are required.
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

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## 2.2 M+NZ2GF2S-60IOLD8\_RemoteBufMemWt

### Overview

This FB writes the value to the specified remote buffer memory.



### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description		
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.		
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.		
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.		
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.		
(5)	i_uAddress	Remote buffer memory address	Word [unsigned]	0000H to 4DFFH	Specifies the start address of the remote buffer memory to be written.		
(6)	i_uWritePoint	Number of write points	Word [unsigned]	1 to 240	Specifies the number of points to be written.		
(7)	i_uWriteData	Write data	Word [unsigned]	_	Specifies the start device of data to be written.		

### Output labels

No.	Label name	Name	Data type	Default value	Description
(8)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution
(9)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.
(10)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.
(11)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.

### Available device

### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	288 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### **Functional description**

When i\_bEN (execution command) is turned on, word data starting from the device specified by i\_uWriteData (write data) is written to the remote buffer memory for the number of points specified by i\_uWritePoint (number of write points). (For example, when the remote buffer memory address of the input label is 1000H, the number of write points is 10, and the write data is D100, the value in D100 to D109 is written to the specified remote buffer memory.)



(1) Number of write points (10 words)

- (2) Write data
- (3) Remote buffer memory
- (4) Write

### Timing chart of I/O signals

### ■Normal completion

i\_bEN

o\_bENO



Specified remote buffer memory

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed

(2) Processing

(3) Not updated

(4) Updating

### ■Error completion

i\_bEN

o\_bENO

Remote buffer memory write processing

Specified remote buffer memory

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed(2) Not updated(3) Error code



OFF		
	(1)	
	(1)	<u> </u>
	(3)	
OFF		
0	(5)	0

#### Precautions

- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.

MELSEC iQ-R Programmable Controller CPU Module User's Manual

- If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- This FB uses the REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual.

## 2.3 M+NZ2GF2S-60IOLD8\_OutputOnCntRd

### Overview

This FB reads the number of output ON times integration value of the IO-Link module.



### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description	
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.	
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.	
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.	
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.	

### Output labels

No.	Label name	Name	Data type	Default value	Description		
(5)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution		
(6)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.		
(7)	o_uOutputONTotal	The number of output ON times integration value	Word [unsigned]	0	Specifies the start device to which the number of output ON times integration value is stored.		
(8)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.		
(9)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.		

### Available device

#### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	308 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	On-demand execution type
FB_EN input condition	None

### **Functional description**

• When i\_bEN (execution command) is turned on, the number of output ON times integration value of the IO-Link module is read. For the read number of output ON times integration value, 16-word data is stored in the device starting from the one specified by o\_uOutputONTotal (the number of output ON times integration value).

### Timing chart of I/O signals

### ■Normal completion

i\_bEN

o\_bENO

Number of ON times integration value read processing

o\_uOutputONTotal

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed

(2) Processing

(3) Not updated

(4) Updating

(a) Only for one scan is turned on.

(b) Read data is updated upon each completion of read processing.

### ■Error completion

i\_bEN

o\_bENO

Number of ON times integration value read processing

o\_uOutputONTotal

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed

(2) Not updated

(3) Error code





#### Precautions

- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.

MELSEC iQ-R Programmable Controller CPU Module User's Manual

- When i\_bEN (execution command) is turned off during the read processing of the number of output ON times integration value, the value for the previous read processing remains stored.
- If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- This FB uses the REMFR instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### Error codes

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

## 2.4 M+NZ2GF2S-60IOLD8\_OutputOnCntClr

### Overview

This FB clears the number of output ON times integration value of the IO-Link module.



### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description	
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.	
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.	
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.	
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.	
(5)	i_uOutputClrSlct	The number of output ON times integration value clear selection	Word [unsigned]	IO-Link module • b00: CH1 • b01: CH2 • b02: CH3 • b03: CH4 • b04: CH5 • b05: CH6 • b06: CH7 • b07: CH8	Sets the range of which the number of output ON times integration value is cleared. (For example, set 0025H to clear CH1, CH3, and CH6.)	

Out	Output labels					
No.	Label name	Name	Data type	Default value	Description	
(6)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution	
(7)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.	
(8)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.	
(9)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.	

### Available device

### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	376 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### **Functional description**

- When i\_bEN (execution command) is turned on, the total number of output on times selected by i\_uOutputClrSlct (total number of output on times clear selection) is cleared.
- This FB operates only for one shot when i\_bEN (execution command) is turned on.

### Timing chart of I/O signals

#### ■Normal completion

ON OFF ON o\_bENO OFF Number of ON times integration value (1)(2) clear processing o bOK OFF OFF o\_bErr o\_uErrld

OFF

OFF

0

(1) Not processed (2) Processing

### Error completion

i\_bEN

i\_bEN

o\_bENO

Number of ON times integration value clear processing

o\_bOK

o\_bErr

o\_uErrld

20

(1) Not processed

(2) Error code

### Precautions

• These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.

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• Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following. MELSEC iQ-R Programmable Controller CPU Module User's Manual

• If an error occurs, o bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).

- This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- · An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- · These FBs require the configuration of the ladder for every input labels.
- · Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.



(1)

(3)

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
0200H	The FB fails to be executed because the request flag or the command flag has already been turned on.	Turn off the number of output ON times integration value clear command (address: 2E80H). Then, check that the number of output ON times integration value clear completed (address: 2E81H) is off, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

## 2.5 M+NZ2GF2S-60IOLD8\_UnitParamRd

### Overview

#### This FB reads the IO-Link module parameters.



### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description	
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.	
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.	
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.	
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.	

### Output labels

No.	Label name	Name	Data	Default value	Description
			type		
(5)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution
(6)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.
(7)	o_uReadData	Read data	Word [unsigned]	0	Specifies the start device to which the read parameter value is stored.
(8)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.
(9)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.

### Available device

### **CC-Link IE Field Network remote IO-Link module**

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point *P* 

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	443 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### Functional description

- When i\_bEN (execution command) is turned on, parameters of the IO-Link module are read and stored in o\_uReadData (read data).
- The read parameter is stored in the following structure.

Offset address	Parameter type	Channel	Name <sup>*1</sup>
+0	Individual Station Parameters	—	Input Response Time Setting
+1		—	Output HOLD/CLEAR Setting
+2	Individual Module Parameters	CH1	Operation Mode
+3 and +4			Reserved Area
+5			Device Validation Setting
+6 and +7			Input OFF Delay Setting
+8			Input Data Mask
+9			Byte Position Swap
+10			Event Retrieval Setting
+11 to +27			Bit Slicing Setting
+28 to +45			Reserved Area
+46 to +89		CH2	Same as CH1
+90 to +133		СНЗ	
+134 to +177		CH4	
+178 to +221		CH5	
+222 to +265		CH6	
+266 to +309		CH7	
+310 to +353	]	CH8	

\*1 For detail on the parameters, refer to the following.

CC-Link IE Field Network Remote IO-Link Module User's Manual

• This FB is completed in several scans after i\_bEN (execution command) is turned on.

### Timing chart of I/O signals

#### ■Normal completion

i\_bEN

o\_bENO

Parameter read processing

o\_uReadData

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed

- (2) Processing
- (3) Parameter



### ■Error completion



(1) Not processe (2) Error code

### Precautions

• These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.

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- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.
   MELSEC iQ-R Programmable Controller CPU Module User's Manual
- If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o uErrId (error code).
- This FB uses the REMFR instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- For the start device where the read parameter value is stored, successive areas with the parameter size are required.
- This FB reads values from the parameter area of the remote buffer memory. Therefore, the read values may differ from actual operation parameters.
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

## 2.6 M+NZ2GF2S-60IOLD8\_UnitParamWt

### Overview

This FB writes the IO-Link module parameters.



### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description	
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.	
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.	
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.	
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.	
(5)	i_uWriteData	Write data	Word [unsigned]	—	Specifies the start device of the parameter data to be written.	

### **Output labels**

No.	Label name	Name	Data type	Default value	Description
(6)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution
(7)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.
(8)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.
(9)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.

### Available device

### **CC-Link IE Field Network remote IO-Link module**

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point *P* 

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	696 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### Functional description

- Writes the parameters of the IO-Link module when i\_bEN (execution command) is turned on.
- The written parameter is stored in the following structure.

Offset address	Parameter type	Channel	Name <sup>*1</sup>
+0	Individual Station Parameters	—	Input Response Time Setting
+1		—	Output HOLD/CLEAR Setting
+2	Individual Module Parameters	CH1	Operation Mode
+3 and +4			Reserved Area
			(Set to 0.)
+5			Device Validation Setting
+6 and +7			Input OFF Delay Setting
+8			Input Data Mask
+9			Byte Position Swap
+10	-		Event Retrieval Setting
+11 to +27			Bit Slicing Setting
+28 to +45			Reserved Area
			(Set to 0.)
+46 to +89		CH2	Same as CH1
+90 to +133		СНЗ	
+134 to +177		CH4	
+178 to +221		CH5	
+222 to +265		CH6	
+266 to +309	]	CH7	
+310 to +353	]	CH8	

\*1 For detail on the parameters, refer to the following.

- CC-Link IE Field Network Remote IO-Link Module User's Manual
- This FB is completed in several scans after i\_bEN (execution command) is turned on.

### Timing chart of I/O signals

### ■Normal completion

i\_bEN

o\_bENO

Parameter write processing

Parameter

Operation condition setting request flag

Operation condition setting completion flag

o\_bOK

o\_bErr

o\_uErrld

- (1) Not processed
- (2) Processing
- (3) Not updated(4) Updating



### ■Error completion



(1) Not processe(2) Not updated

(2) Not updated (3) Error code

### Precautions

- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.
   MELSEC iQ-R Programmable Controller CPU Module User's Manual

• If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrId (error code).

- This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- Do not power off the module or perform remote reset during execution of this FB.
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
0200H	The FB fails to be executed because the request flag or the command flag has already been turned on.	Turn off Operating condition setting request flag (address: 2D07H). Then, check that Operating condition setting completion flag (address: 2D08H) is off, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual.

## 2.7 M+NZ2GF2S-60IOLD8\_DeviceParamRd

### Overview

This FB reads the specified parameter from the IO-Link device.



### Labels

Inpu	nput labels						
No.	Label name	Name	Data type	Scope	Description		
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.		
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.		
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.		
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.		
(5)	i_uTarget_CH	Channel of the IO-Link module	Word [unsigned]	1 to 8	Specifies the channel of the IO-Link module to which the target IO-Link device is connected.		
(6)	i_uIndex	Index	Word [unsigned]	0 to 2, 4 to 65535	Specifies the index of the parameter to be read.		
(7)	i_uSubIndex	Sub index	Word [unsigned]	0 to 255	Specifies the sub index of the parameter to be read.		
(8)	i_uReadSize	Read data size	Word [unsigned]	0 to 256	Specifies data size of the parameter to be read.		

Out	Output labels						
No.	Label name	Name	Data type	Default value	Description		
(9)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution		
(10)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.		
(11)	o_uReadSize	Read data size	Word [unsigned]	0	Size of the read parameter data is stored in units of byte.		
(12)	o_uReadData	Read data	Word [unsigned]	0	Specifies the start device to which the read parameter value is stored.		
(13)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.		
(14)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.		
(15)	o_uResult	Execution result	Word [unsigned]	0	The execution result of communications with IO-Link device is stored.		

### Available device

#### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	786 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### **Functional description**

- When i\_bEN (execution command) is turned on, the parameter specified by i\_uIndex (index) or i\_uSubIndex (sub index) is read from the IO-Link device connected to the channel of the IO-Link module specified by i\_uTarget\_CH (channel of the IO-Link module), and data of the size specified by i\_uReadSize (read data size) is stored in o\_uReadData (read data).
- When i\_uSubIndex (sub index) is set to 0, all the parameters of i\_uIndex (index) is read.
- When i\_uSubIndex (sub index) is set to other than 0, parameter is read according to the sub index. In addition, the actual size of the read data is stored in o\_uReadSize (read data size).
- The execution result is stored in o\_uResult (execution result). (

### Timing chart of I/O signals

### ■Normal completion

i\_bEN

o\_bENO

Parameter read processing

o\_uReadData o\_uReadSize

o\_bOK

o\_bErr

o\_uErrld

o\_uResult

(1) Not processed

(2) Processing

(3) Data

(4) Updating

### ■Error completion

i\_bEN

o\_bENO

Parameter read processing

o\_uReadData o\_uReadSize

o\_bOK

o\_bErr

o\_uErrld

o\_uResult

(1) Not processed

(2) Error code





### Precautions

- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.

MELSEC iQ-R Programmable Controller CPU Module User's Manual

- If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- For the start device where the read parameter value is stored, successive areas with the read data size are required. (Up to 256 bytes)
- When the read data size is set to odd number of bytes, 0 is stored for the upper one byte of the read data.
- Do not execute this FB until the FB for reading/writing IO-Link device parameters is completed successfully or completed with an error.
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
0102H	The channel of the IO-Link module is out of the setting range. The channel of the IO-Link module is out of the range between 1 and 8.	Check the setting, and execute the FB again.
0201H	The FB is being executed for the target IO-Link module.	Execute the FB again after the completion of the FB for reading/ writing IO-Link device parameters that is being executed. If this error occurs even though another IO-Link device parameter read/write FB is not executed, power off and on the IO-Link module.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

### **Execution result**

Execution	Description	Action
result		
0000H	The FB has been completed successfully.	No actions are required.
0001H	No data is available for reading.	Check the following settings, and execute the FB again.
		Index
		Sub index
1000H, 1100H,	Communications have failed.	Check the connection with the IO-Link device.
5600H		
5700H, 8023H,	IO-Link device does not support the function.	Refer to the manual of the IO-Link device used.
8035H		
8011H	Index is out of the setting range.	Check the setting, and execute the FB again.
8012H	Sub index is out of the setting range.	Check the setting, and execute the FB again.
8020H to	Service becomes temporarily unavailable.	Execute the FB again after a while.
8022H, 8036H,		
8082H		
8040H to 8041H	Parameter setting is invalid.	Refer to the manual of the IO-Link device used.
8100H to 81FFH	Error unique to the IO-Link device used has occurred.	Refer to the manual of the IO-Link device used.

## 2.8 M+NZ2GF2S-60IOLD8\_DeviceParamWt

### Overview

This FB writes the specified parameter to the IO-Link device.

	M+NZ2GF2S-60IOLD8_DeviceParamWt		
(1) —	B:i_bEN	o_bENO:B	— (10)
(2) —	UW:i_uStart_IO_No	o_bOK:B	— (11)
(3) —	UW:i_uStation_No	o_bErr:B	— (12)
(4) —	UW:i_uCH_No	o_uErrld:UW	— (13)
(5) —	UW:i_uTarget_CH	o_uResult:UW	— (14)
(6) —	UW:i_uIndex		
(7) —	UW:i_uSubIndex		
(8) —	UW:i_uWriteSize		
(9) —	UW:i_uWriteData		

### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description	
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.	
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.	
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.	
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.	
(5)	i_uTarget_CH	Channel of the IO-Link module	Word [unsigned]	1 to 8	Specifies the channel of the IO-Link module to which the target IO-Link device is connected.	
(6)	i_uIndex	Index	Word [unsigned]	2, 4 to 65535	Specifies the index of the parameter to be written.	
(7)	i_uSubIndex	Sub index	Word [unsigned]	0 to 255	Specifies the sub index of the parameter to be written.	
(8)	i_uWriteSize	Write data size	Word [unsigned]	1 to 232	Specifies the size of data to be written in units of byte.	
(9)	i_uWriteData	Write data	Word [unsigned]	—	Specifies the start device of data to be written.	

Output labels							
No.	Label name	Name	Data type	Default value	Description		
(10)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution		
(11)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.		
(12)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.		
(13)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.		
(14)	o_uResult	Execution result	Word [unsigned]	0	The execution result of communications with IO-Link device is stored.		

### Available device

### **CC-Link IE Field Network remote IO-Link module**

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	723 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### **Functional description**

- When i\_bEN (execution command) is turned on, data specified by i\_uWriteSize (write data size) and i\_uWriteData (write data) is written to the parameter specified by i\_uIndex (index) and i\_uSubIndex (sub index) of the IO-Link device connected to the channel of the IO-Link module specified by i\_uTarget\_CH (channel of the IO-Link module).
- When i\_uSubIndex (sub index) is set to 0, data is written to all the parameters of i\_uIndex (index).
- When i\_uSubIndex (sub index) is set to other than 0, data is written only to the parameter set by the sub index. The execution result is stored in o\_uResult (execution result). ( SP Page 41 Execution result)

### Timing chart of I/O signals

### ■Normal completion

i\_bEN

o\_bENO

Parameter write processing

Specified parameter

o\_bOK

o\_bErr

o\_uErrld

o\_uResult

(1) Not processed

(2) Processing

(3) Not updated

### (4) Updating

### Error completion

i\_bEN

o\_bENO

Parameter write processing

Specified parameter

o\_bOK

o\_bErr

o\_uErrld

o\_uResult

(1) Not processed

(2) Not updated

(3) Error code





2

### Precautions

- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.

MELSEC iQ-R Programmable Controller CPU Module User's Manual

- If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- · Do not power off the module or perform remote reset during execution of this FB.
- Do not execute this FB until the FB for reading/writing IO-Link device parameters is completed successfully or completed with an error.
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
0102H	The channel of the IO-Link module is out of the setting range. The channel of the IO-Link module is out of the range between 1 and 8.	Check the setting, and execute the FB again.
0201H	The FB is being executed for the target IO-Link module.	Execute the FB again after the completion of the FB for reading/ writing IO-Link device parameters that is being executed. If this error occurs even though another IO-Link device parameter read/write FB is not executed, power off and on the IO-Link module.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

### **Execution result**

Execution result	Description	Action
0000H	The FB has been completed successfully.	No actions are required.
1000H, 1100H, 5600H	Communications have failed.	Check the connection with the IO-Link device.
5700H, 8023H, 8035H	IO-Link device does not support the function.	Refer to the manual of the IO-Link device used.
8011H	Index is out of the setting range.	Check the setting, and execute the FB again.
8012H	Sub index is out of the setting range.	Check the setting, and execute the FB again.
8020H to 8022H, 8036H, 8082H	Service becomes temporarily unavailable.	Execute the FB again after a while.
8030H	Write data is out of the setting range.	Refer to the manual of the IO-Link device used.
8031H	Write data exceeds the upper limit value.	Refer to the manual of the IO-Link device used.
8032H	Write data falls below the lower limit value.	Refer to the manual of the IO-Link device used.
8033H to 8034H	Write data size is out of the setting range.	Refer to the manual of the IO-Link device used.
8040H to 8041H	Parameter setting is invalid.	Refer to the manual of the IO-Link device used.
8100H to 81FFH	Error unique to the IO-Link device used has occurred.	Refer to the manual of the IO-Link device used.

## 2.9 M+NZ2GF2S-60IOLD8\_DeviceChg

### Overview

This FB turns on the device change flag and disables the detection of disconnection error. The FB also disables input/output in IO-Link mode and turns off input/output in SIO mode.

Use the FB when the device is replaced during power-on.



### Labels

### Input labels

-	-						
No.	Label name	Name	Data type	Scope	Description		
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.		
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.		
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.		
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.		
(5)	i_uChangeSlct	Device change selection	Word [unsigned]	IO-Link module • b00: CH1 • b01: CH2 • b02: CH3 • b03: CH4 • b04: CH5 • b05: CH6 • b06: CH7 • b07: CH8	Specifies the channel of the IO-Link module to which the target device is connected. (For example, set 0025H to set CH1, CH3 and CH6 as the target of the device replacement.)		

### Output labels

No.	Label name	Name	Data type	Default value	Description		
(6)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution		
(7)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.		
(8)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.		
(9)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.		

### Available device

### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	270 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### **Functional description**

- When i\_bEN (execution command) is turned on, the device change flags for all the channels of the IO-Link module are collectively set according to the settings specified by i\_uChangeSlct (device change selection).
- For device change flag, refer to the CC-Link IE Field Network Remote IO-Link Module User's Manual.
- Before replacing the device, when o\_bOK (completed successfully) is turned on and IO-Link mode is used, check that the CHLED of the channel of the IO-Link module selected by the device change selection is flashing.

### Timing chart of I/O signals

#### ■Normal completion

i\_bEN

o\_bENO

o bOK

o\_bErr

o\_uErrld



ON

ON

(1)

(3)

OFF

OFF

OFF

0

o\_bENO Device change status

o\_bOK

i\_bEN

o\_bErr

o\_uErrld

(1) Not processed

(2) Error code

### Precautions

• These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.

0

• Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.

MELSEC iQ-R Programmable Controller CPU Module User's Manual

- If an error occurs, o bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- After the device is replaced, set the target bit of i\_uChangeSlct (device change selection) to off, and execute this FB again.
- This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- · An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.



### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

## 2.10 M+NZ2GF2S-60IOLD8\_EventRd

### Overview

This FB reads the oldest event information from unchecked events.



### Labels

### Input labels

•					
No.	Label name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.

### Output labels

No.	Label name	Name	Data	Default value	Description
			type		
(5)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output.
					On: In execution
					Off: Not in execution
(6)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed
					successfully.
(7)	o_uEventData	Event information	Word	0	Specifies the start device to which the read event information is
			[unsigned]		stored.
(8)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed
					with an error.
(9)	o_uErrld	Error code	Word	0	Error code is stored when the processing has been completed with
			[unsigned]		an error.

### Available device

#### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	532 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### **Functional description**

• When i\_bEN (execution command) is turned on, the information of the oldest unchecked event is read from the target module and written to o\_uEventData (event information).

### Timing chart of I/O signals

#### ■Normal completion

	ON
i_bEN	OFF
o_bENO	OFF ON
o_uEventData	0 (1)
o_bOK	OFF
o_bErr	OFF
o_uErrld	0
(1) Event information	
Error completion	
i_bEN	OFF
o_bENO	OFF ON
o_uEventData	0
o_bOK	OFF
o_bErr	

OFF

### Precautions

o\_uErrld (1) Error code

- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following. MELSEC iQ-R Programmable Controller CPU Module User's Manual
- If an error occurs, o bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- This FB requires several scans for the processing from turning on i bEN (execution command) to turning on o bOK (completed successfully).
- · For the start device where the read event information value is stored, successive areas having the size of the event data for each station (5 words) are required. For details on the event data for each station, refer to the following.

CC-Link IE Field Network Remote IO-Link Module User's Manual

- This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- · An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- · Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.

### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
0200H	The FB fails to be executed because the request flag or the command flag has already been turned on.	Turn off Event read request flag (address: 2D09H). Then, check that Event read completion flag (address: 2D0AH) is off, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual.

## 2.11 M+NZ2GF2S-60IOLD8\_EventCIr

### Overview

#### Clears the event history.

	M+NZ2GF2S-60IOLD8_	EventClr
(1) —	B:i_bEN	o_bENO:B (5)
(2) —	UW:i_uStart_IO_No	o_bOK:B — (6)
(3) —	UW:i_uStation_No	o_bErr:B — (7)
(4) —	UW:i_uCH_No	o_uErrld:UW — (8)

### Labels

### Input labels

No.	Label name	Name	Data type	Scope	Description		
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.		
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number, indicating the upper three digits in four-digit hexadecimal, to which the master/local module is mounted.		
(3)	i_uStation_No	Station number	Word [unsigned]	1 to 120	Specifies the target station number of the IO-Link module.		
(4)	i_uCH_No	Channel used by own station	Word [unsigned]	1 to 32	Specifies the channel for accessing other stations from the own station.		

### Output labels

No.	Label name	Name	Data type	Default value	Description
(5)	o_bENO	Execution status	Bit	Off	The execution status of the FB is output. On: In execution Off: Not in execution
(6)	o_bOK	Normal completion	Bit	Off	The on state indicates that the FB processing has been completed successfully.
(7)	o_bErr	Error completion	Bit	Off	The on state indicates that the FB processing has been completed with an error.
(8)	o_uErrld	Error code	Word [unsigned]	0	Error code is stored when the processing has been completed with an error.

### Available device

#### ■CC-Link IE Field Network remote IO-Link module

Target module	Engineering tool
NZ2GF2S-60IOLD8	GX Works3

### ■Network module

- RJ71EN71
- RJ71GF11-T2
- RnENCPU (network part)

#### ■CPU module

MELSEC iQ-R series programmable controller CPU

Point P

For the CPU modules classified as the programmable controller CPU, refer to the MELSEC iQ-R Module Configuration Manual.

### **Basic specifications**

Item	Description
Language	Ladder diagram
Number of basic steps	487 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options settings of GX Works3. For the option settings of GX Works3, refer to the GX Works3 Operating Manual.
FB compilation method	Macro type
FB operation	Pulse execution type (multiple scan execution type)
FB_EN input condition	None

### **Functional description**

- When i\_bEN (execution command) is turned on, the event history is cleared.
- This FB operates only for one shot when i\_bEN (execution command) is turned on.

### Timing chart of I/O signals

#### ■Normal completion

i\_bEN

o\_bENO

Event history clear processing

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed (2) Processing

### Error completion

i\_bEN

o\_bENO

Event history clear processing

o\_bOK

o\_bErr

o\_uErrld

(1) Not processed

(2) Error code

### Precautions

• These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.

0

• Use these FBs in a scan execution type program. When these FBs are used in a scan execution type program, do not use them in an interrupt program with an interrupt pointer (I). For details on the program execution type, refer to the following.

MELSEC iQ-R Programmable Controller CPU Module User's Manual

ON

ON

ON

OFF

OFF

OFF

OFF

0

- If an error occurs, o\_bErr (completed with an error) is turned on, and the FB processing is suspended. In addition, the error code is stored in o\_uErrld (error code).
- This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with multiple FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the same channels are not used by own station.
- Do not power off the module or perform remote reset during execution of this FB.
- This FB requires several scans for the processing from turning on i\_bEN (execution command) to turning on o\_bOK (completed successfully).
- An interlock program for the transient transmission is required since these FBs use the transient transmission. Create the interlock program separately.
- These FBs use the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Change "Memory/Device Setting" of "CPU Parameter" so that the memory capacity required to use these FBs is secured. Failure to do so may result in an error in GX Works3.



(1)

(3)



### **Error codes**

Error code	Description	Action
0100H	The station number is out of the range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The channel used by own station is out of the setting range. The channel used by own station is out of the range between 1 and 32.	Check the setting, and execute the FB again.
0200H	The FB fails to be executed because the request flag or the command flag has already been turned on.	Turn off Event history clear command (address: 2D00H). Then, check that Event history clear completed (address: 2D01H) is off, and execute the FB again.
D000H to DAF9H	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

# APPENDIX

### Appendix 1 When Setting the RJ71EN71 or RnENCPU to Ethernet + CC-Link IE Field Network

2000000 is added to the original buffer memory addresses of "CC-Link IE Field" when "Port 1 Network Type" to "Ethernet" and "Port 2 Network Type" to "CC-Link IE Field" are set for the RJ71EN71 or RnENCPU.

Therefore, when the network module is set to "E+CCIEF" and FBs in this manual are used, new FBs need to be created by adding 2000000 to the buffer memory addresses currently referred to.

### Operating procedure

1. Select the FB to use from the [Library] tab in the Element Selection window.

The selected FB will be added to FB/FUN.

 $\heartsuit$  Element Selection window  $\Rightarrow$  [Library] tab  $\Rightarrow$  FB to use  $\Rightarrow$  Right click  $\Rightarrow$  [Add to Project]  $\Rightarrow$  [Create FB File]



2. Copy the FB to be added.

<sup>™</sup> [Navigation window] ⇔ [FB/FUN] ⇔ [FBFILE] ⇔ FB to use ⇔ Right click ⇔ [Copy Data]

3. Paste the copied FB.

The copied FB will be added to FB/FUN.

- Original FB name: M+□□□
- Copied FB name: M\_□□□

"♡ [Navigation window] ⇔ [FB/FUN] ⇔ [FBFILE] ⇔ Right click ⇔ [Paste Data]



4. Open the program of the copied FB.

(Navigation window] ⇒ [FB/FUN] ⇒ [FBFILE] ⇒ copied FB ⇒ [ProgramBody]

5. Open the "Replace Character String" window, then enter the strings shown below to "Find String" and "Replace String".

[Find/Replace] ⇒ [Replace Character String]

Find and Replace		x
Replace Character Strin	ng 🗸 🛛 (Current Window) 🚽 🐼	
Find String	G18528 ~	<i>,</i>
Replace String(V)	G2018528 ~	•
Find Next	All Find	
Replace	Replace All	
+ Find/Replace Options		

Find String	Replace String
G18528	G2018528
G18591	G2018591

### Point P

Select "(Current Window)" for "Replace Character String". By specifying this setting, only the strings in the opened FB program can be replaced.

- 6. Click the [Replace All] button.
- 7. A message appears, then click [OK].
- 8. Open the "Replace Character String" window, search for the strings shown below.
- ‴◯ [Find/Replace] ⇔ [Find String]

Find and Replace		×
G Find String - Curre	ent Window) 🚽 🛃	
Find String	FROM U029 U029\G2022428 uUnitstate K1	~
Find Next	All Find	
+ Find/Replace Options		
Point P -		

Select "(Current Window)" for "Find String". By specifying this setting, only the strings in the opened FB program can be searched.

**9.** Click the [Find Next] button to make a jump to the target program.

		U0Z9	U0Z9	uUnitstate	K1
	FROM		\G2U22428		
			uUnitstate	H0B	bRemoteReady
		TEST			
		-			
					h\s/TComminit
bRemoteReady				0.57	DWIComminit
				SEI	

### **10.** Change the target string as below.

### • Before change



### After change

		MOV	U0Z9 \G2000000Z7	uUnitstate
	TEST	uUnitstate	HOB	bRemoteReady
bRemoteReady			SET	bWTCommInit

### **11.** Insert a row just above the changed program.

(Edit] ⇒ [Insert Row]

**12.** Enter the string in the inserted row as below.

		MOV	U0Z9 \G2020224Z8	Z7
		MOV	U0Z9 \G2000000Z7	uUnitstate
	TEST	uUnitstate	HOB	bRemoteReady
bRemoteReady			SET	bWTCommInit

### **13.** Close the program.

14. Paste the changed FB by dragging and dropping it.

 $\bigcirc [Navigation window] \Rightarrow [Program] \Rightarrow [Scan] \Rightarrow [MAIN] \Rightarrow [ProgPou] \Rightarrow [ProgramBody]$ 



15. Enter any name in the "FB Instance Name".

FB Instance Name		x
Local Label (ProgPou)	~	OK
123456ABCD		Exit

16. Execute [Rebuild All].

‴◯ [Convert] ⇒ [Rebuild All]

**17.** Use the input/output label with the device assigned according to the FBs.

## **INSTRUCTION INDEX**

### Μ

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M+NZ2GF2S-60IOLD8_DeviceParamRd 30	)
M+NZ2GF2S-60IOLD8 DeviceParamWt 36	ò
M+NZ2GF2S-60IOLD8 EventClr	)
M+NZ2GF2S-60IOLD8_EventRd 46	;
M+NZ2GF2S-60IOLD8_OutputOnCntClr 18	5
M+NZ2GF2S-60IOLD8 OutputOnCntRd 14	ŀ
M+NZ2GF2S-60IOLD8 RemoteBufMemRd 6	5
M+NZ2GF2S-60IOLD8_RemoteBufMemWt 10	)
M+NZ2GF2S-60IOLD8 UnitParamRd	2
M+NZ2GF2S-60IOLD8 UnitParamWt	;

## REVISIONS

Revision date	*Manual number	Description		
October, 2018	BCN-P5999-1048-A	First edition		
April, 2020	BCN-P5999-1048-B	■Added or modified parts Chapter 1, Appendix 1		
October, 2024	BCN-P5999-1048-C	■Added or modified parts SAFETY PRECAUTIONS, CONDITIONS OF USE FOR THE PRODUCT, INTRODUCTION, RELEVANT MANUALS, TERMS, GENERIC TERMS AND ABBREVIATIONS, Chapter 1, 2, INFORMATION AND SERVICES		

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

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