MITSUBISHI ELECTRIC

Programmable Controller

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

CONTENTS

CHAPTER 1 FUNCTION BLOCK (FB) LIST 2

CHAPTER 2 CC-Link IE Field Network WATERPROOF REMOTE IO-Link MODULE FB 4

2.1 M+NZ2GF12A-60IOLH8_CCIEFIOAdv_R 4
2.2 M+NZ2GF12A-60IOLH8_RdEventData_R 8
2.3 M+NZ2GF12A-60IOLH8_RdIdtData_R 11
2.4 M+NZ2GF12A-60IOLH8_RdInitOprSet_R 14
2.5 M+NZ2GF12A-60IOLH8_RdISDUData_R 18
2.6 M+NZ2GF12A-60IOLH8_RdStrData_R 22
2.7 M+NZ2GF12A-60IOLH8_WtDataStrSet_R 25
2.8 M+NZ2GF12A-60IOLH8_WtInitOprSet_R 29
2.9 M+NZ2GF12A-60IOLH8_WtISDUData_R 32
2.10 M+NZ2GF12A-60IOLH8_WtDeviceValid_R 36

APPENDICES 40

Appendix 1 Input/output switching command 40
Appendix 2 Mode Switching Command 41
Appendix 3 Event Clear Setting 42
Appendix 4 Upper and Lower Byte Data Swap Setting 43
Appendix 5 Process Data Size Setting 44
Appendix 6 Data Storage Setting 45
Data storage enable setting 45
Upload setting 45
Download setting 45
Data storage clear setting 45
Appendix 7 Device Validation Setting 46
Vendor ID 46
Device ID 46
Serial number 46
Appendix 8 When Setting the RJ71EN71 or RnENCPU to Ethernet + CC-Link IE Field Network 47

INSTRUCTION INDEX 57

REVISIONS 59
TRADEMARKS 60

1 FUNCTION BLOCK (FB) LIST

This chapter lists the FBs for the CC-Link IE Field Network Remote IO-Link module.

Name*1	Description
M+NZ2GF12A-60IOLH8_CCIEFIOAdv_R	Sets the process data size and the operation of each channel.
M+NZ2GF12A-60IOLH8_RdEventData_R	Reads the event data from the specified channel.
M+NZ2GF12A-60IOLH8_RdIdtData_R	Reads the gateway identification data from the NZ2GF12A-60IOLH8.
M+NZ2GF12A-60IOLH8_RdInitOprSet_R	Reads the initial operation setting from the NZ2GF12A-60IOLH8.
M+NZ2GF12A-60IOLH8_RdISDUData_R	Reads the ISDU data from the specified channel.
M+NZ2GF12A-60IOLH8_RdStrData_R	Reads the data storage from the specified channel.
M+NZ2GF12A-60IOLH8_WtDataStrSet_R	Writes the data storage setting to each channel.
M+NZ2GF12A-60IOLH8_WtInitOprSet_R	Writes the initial operation setting to the NZ2GF12A-60IOLH8.
M+NZ2GF12A-60IOLH8_WtISDUData_R	Writes the ISDU data to the specified channel.
M+NZ2GF12A-60IOLH8_WtDeviceValid_R	Configures the device validation setting of the specified channel.

*1 FB names are suffixed with the version information such as "_00A". In this reference, the suffixes are omitted.

Precautions

- These FBs are for GX Works3.
- These FBs do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- Do not use these FBs in an interrupt program.
- These FBs require the configuration of the ladder for every input labels.
- Errors not related to these FBs are not stored in o_uErrId (error code).
- These FBs use the index register areas (Z6 to Z9). When an interrupt program is used, do not use those areas in the interrupt program.
- 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.

MEMO

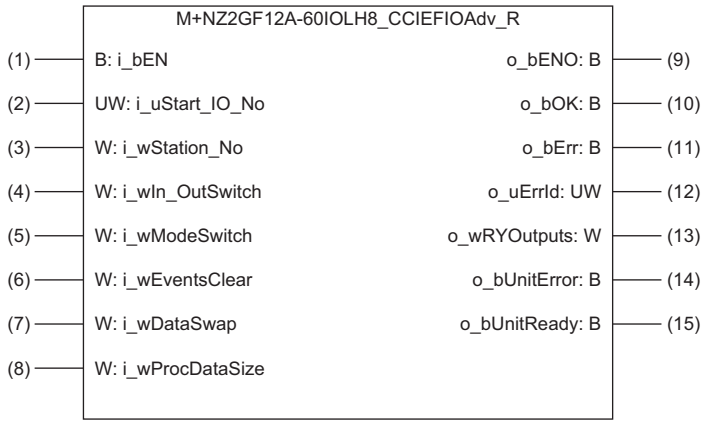
2 CC-Link IE Field Network WATERPROOF REMOTE IO-Link MODULE FB

2.1 M+NZ2GF12A-60IOLH8_CCIEFIOAdv_R

Name

M+NZ2GF12A-60IOLH8_CCIEFIOAdv_R

Overview

Item	Description
Functional overview	This FB sets the process data size and the operation of each channel.
Symbol	

Labels

■Input arguments

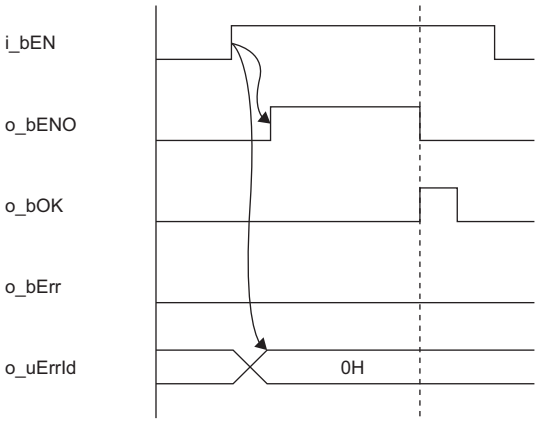
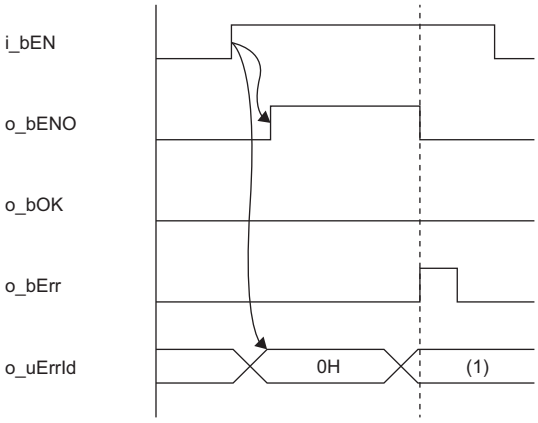
No.	Variable name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wIn_OutSwitch	Input/output switching command	Word [signed]	0000H to FFFFH	Specifies the input/output for Q/CQ of each channel. This setting is not reflected when the CQ of the corresponding channel is in the IO-Link mode. For details on the specification method, refer to the following. ☞ Page 40 Input/output switching command
(5)	i_wModeSwitch	Mode switching command	Word [signed]	00H to FFH	Specifies the mode of each channel in the lower byte. For details on the specification method, refer to the following. ☞ Page 41 Mode Switching Command
(6)	i_wEventsClear	Event clear setting	Word [signed]	00H to FFH	Specifies the event clear of each channel in the lower byte. For details on the specification method, refer to the following. ☞ Page 42 Event Clear Setting
(7)	i_wDataSwap	Upper and lower byte data swap setting	Word [signed]	00H to FFH	Specifies whether to enable/disable the upper and lower byte data swap function of each channel in the lower byte. For details on the specification method, refer to the following. ☞ Page 43 Upper and Lower Byte Data Swap Setting

No.	Variable name	Name	Data type	Scope	Description
(8)	i_wProcDataSize	Process data size setting	Word [signed]	—	Specifies the start device of the area where the process data size is stored. The (start device) + 0 to + 7 words are used for the storage area. The effective range of the process data size of each channel is from 0 to 16. If 0 or less is set, 0 is specified, and if 16 or more is set, 16 is specified. For details on the specification method, refer to the following. ☞ Page 44 Process Data Size Setting

■Output arguments

No.	Variable name	Name	Data type	Description	Default value
(9)	o_bENO	Execution status	Bit	The execution status of the FB is output. On: In execution Off: Not in execution	Off
(10)	o_bOK	Normal completion	Bit	The on state indicates that the FB processing has been completed successfully.	Off
(11)	o_bErr	Error completion	Bit	The on state indicates that the FB processing has been completed with an error.	Off
(12)	o_uErrId	Error code	Word [unsigned]	Error code is stored when the processing has been completed with an error.	0
(13)	o_wRYOutputs	Remote output value	Word [signed]	Data (two words) for the remote output is stored. The stored data is set to the following. (Output start device) + 0: Channel n input/output switching command (RY10 to RY1F) (Output start device) + 1: Channel n mode switching command (RY30 to RY37), Channel n event clear (RY38 to RY3F)	0
(14)	o_bUnitError	Error status flag	Bit	Indicates the error status in the module status area. On: Moderate or major error Off: No errors	Off
(15)	o_bUnitReady	Remote READY status	Bit	Indicates the remote READY status in the module status area. On: Remote READY is on. Off: Remote READY is off.	Off

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	520 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the process data size and the operation of each channel are set.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully  	
	• When the processing is completed with an error  (1) Error code	

Item	Description
Precautions	• If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command). • This FB outputs the I/O switching command, mode switching command, and event clear setting by converting the format of these settings to that writable to the remote output on the IO-Link module. Separately create a program for writing the output values to the remote output on the IO-Link module. • This FB does not include the processing for turning on the initial processing completed flag or the operating condition setting request flag when the processing is completed successfully. Separately create a program for turning on the initial processing completed flag or the operating condition setting request flag. • Turn on the initial processing completed flag or the operating condition setting request flag after 500ms have passed from completion of the execution of this FB.

Error code

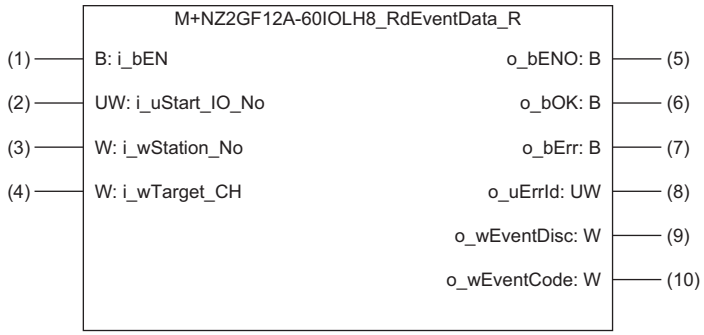
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual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

2.2 M+NZ2GF12A-60IOLH8_RdEventData_R

Name

M+NZ2GF12A-60IOLH8_RdEventData_R

Overview

Item	Description
Functional overview	This FB reads the event data from the specified channel.
Symbol	

Labels

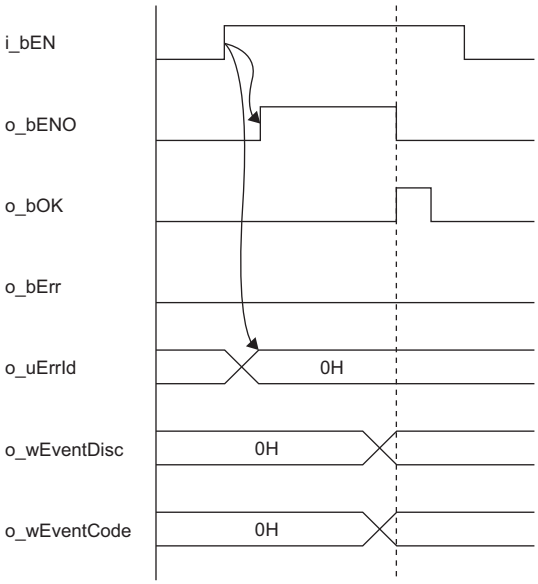
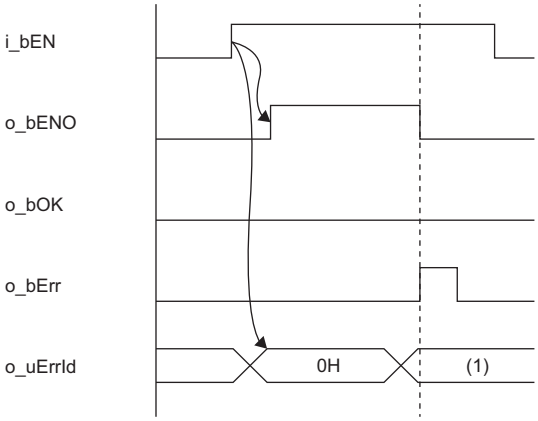
■Input arguments

No.	Variable 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 to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wTarget_CH	Target channel	Word [signed]	1 to 8	Specifies the channel from which the event data is read. If a value of 0 or less is set, channel 1 is specified, and if a value of 9 or more is set, channel 8 is specified.

■Output arguments

No.	Variable name	Name	Data type	Description	Default value
(5)	o_bENO	Execution status	Bit	The execution status of the FB is output. On: In execution Off: Not in execution	Off
(6)	o_bOK	Normal completion	Bit	The on state indicates that the FB processing has been completed successfully.	Off
(7)	o_bErr	Error completion	Bit	The on state indicates that the FB processing has been completed with an error.	Off
(8)	o_uErrId	Error code	Word [unsigned]	Error code is stored when the processing has been completed with an error.	0
(9)	o_wEventDisc	Event identifier	Word [signed]	Stores the read event identifier.	0
(10)	o_wEventCode	Event code	Word [signed]	Stores the read event code. For details on the event code, refer to the manual of the connected IO-Link device.	0

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	335 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the event data is read from the specified channel.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully 	
	• When the processing is completed with an error  (1) Error code	
Precautions	If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command).	

Error code

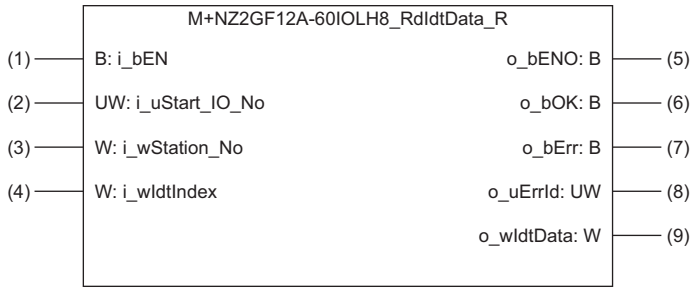
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual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

2.3 M+NZ2GF12A-60IOLH8_RdIdtData_R

Name

M+NZ2GF12A-60IOLH8_RdIdtData_R

Overview

Item	Description
Functional overview	This FB reads the gateway identification data from the NZ2GF12A-60IOLH8.
Symbol	

Labels

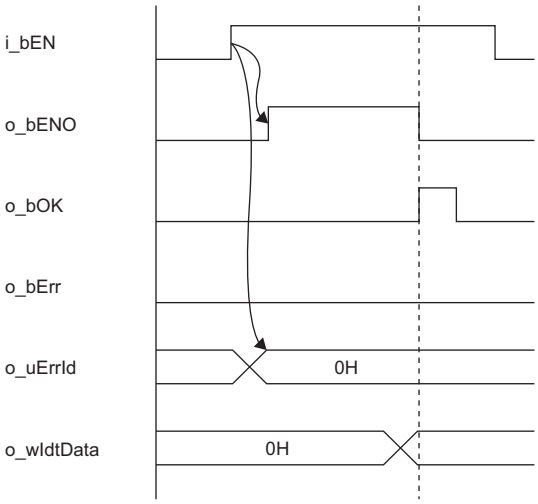
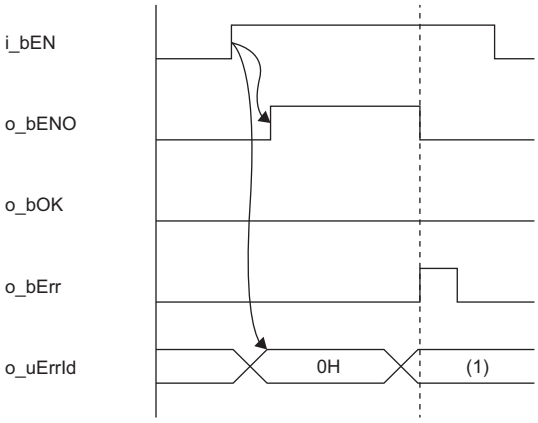
■Input arguments

No.	Variable 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 to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wIdtIndex	Gateway identification data item	Word [signed]	10H to 14H	Specifies the gateway identification data item to be read. 10H: Manufacturer 11H: Manufacturer text 12H: Product name 13H: Product ID 14H: Product text

■Output arguments

No.	Variable name	Name	Data type	Description	Default value
(5)	o_bENO	Execution status	Bit	The execution status of the FB is output. On: In execution Off: Not in execution	Off
(6)	o_bOK	Normal completion	Bit	The on state indicates that the FB processing has been completed successfully.	Off
(7)	o_bErr	Error completion	Bit	The on state indicates that the FB processing has been completed with an error.	Off
(8)	o_uErrId	Error code	Word [unsigned]	Error code is stored when the processing has been completed with an error.	0
(9)	o_wIdtData	Gateway identification data	Word [signed]	Specifies the start number of the device to store values of the gateway identification data. The size of the storage area for the gateway identification data depends on the read gateway identification data item.	0

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	334 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the gateway identification data of the specified IO-Link module is read.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully  	
	• When the processing is completed with an error  (1) Error code	
Precautions	If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command).	

Error code

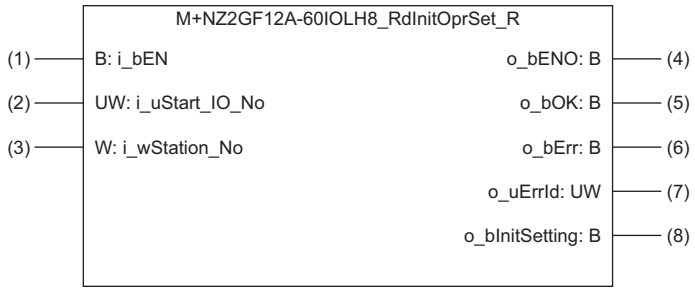
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
0101H	The gateway identification data item is out of range between 10H and 14H.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in 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+NZ2GF12A-60IOLH8_RdInitOprSet_R

Name

M+NZ2GF12A-60IOLH8_RdInitOprSet_R

Overview

Item	Description
Functional overview	This FB reads the initial operation setting from the NZ2GF12A-60IOLH8.
Symbol	

Labels

■Input arguments

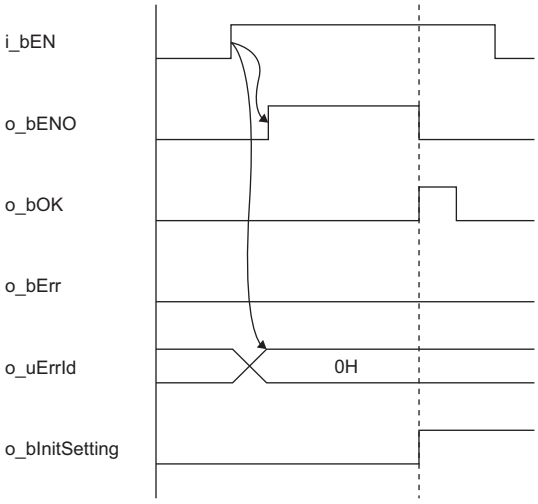
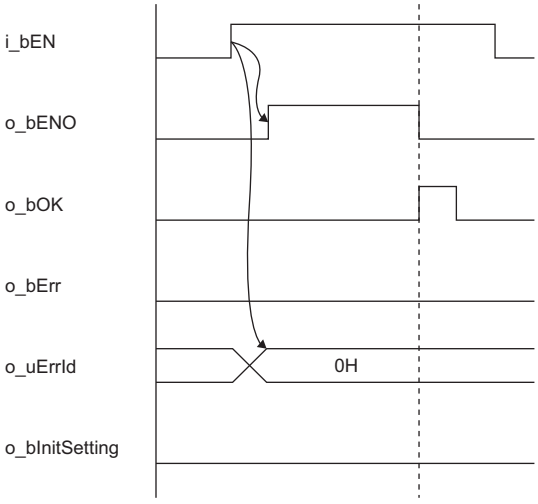
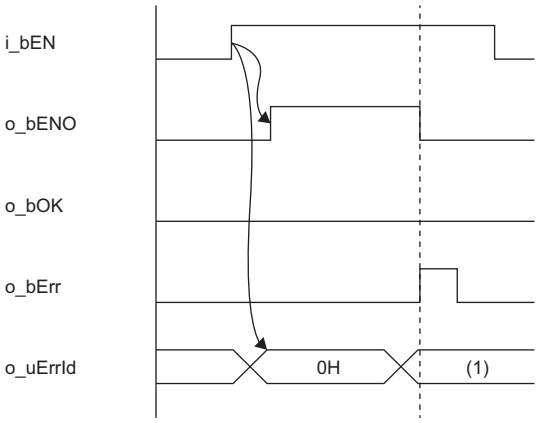
No.	Variable name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.

■Output arguments

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

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	336 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the initial operation setting is read from the specified IO-Link module.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	

Item	Description
Timing chart of I/O signals	• When the processing (with initial operation setting) is completed successfully  • When the processing (without initial operation setting) is completed successfully  • When the processing is completed with an error  (1) Error code
Precautions	If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command).

Error code

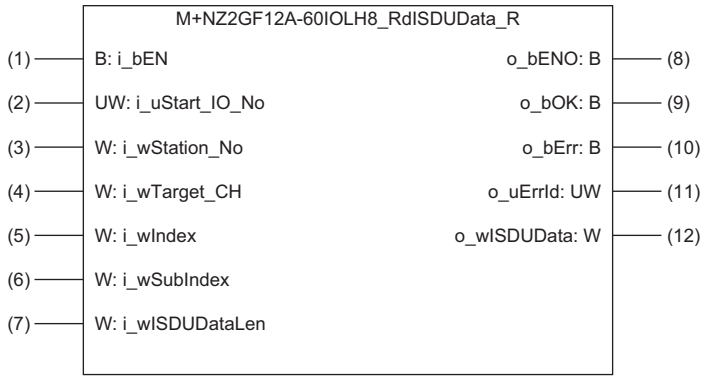
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual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

2.5 M+NZ2GF12A-60IOLH8_RdISDUData_R

Name

M+NZ2GF12A-60IOLH8_RdISDUData_R

Overview

Item	Description
Functional overview	This FB reads the ISDU data from the specified channel.
Symbol	

Labels

■Input arguments

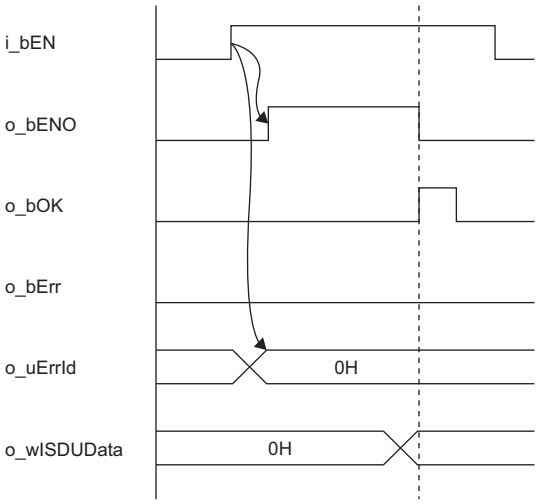
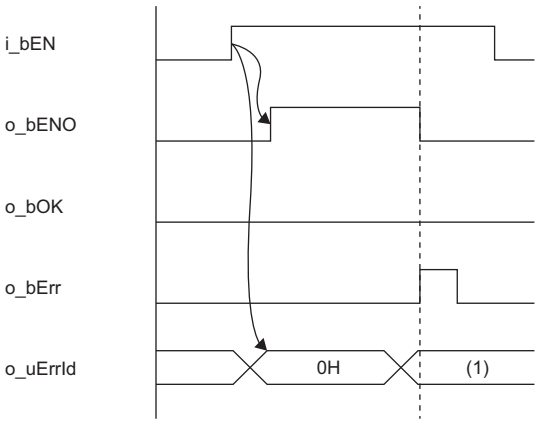
No.	Variable name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wTarget_CH	Target channel	Word [signed]	1 to 8	Specifies the channel from which the ISDU data is read. If a value of 0 or less is set, channel 1 is specified, and if a value of 9 or more is set, channel 8 is specified.
(5)	i_wIndex	Index	Word [signed]	0000H to FFFFH	Specifies the index value of the ISDU data to be read.*3
(6)	i_wSubIndex	Sub index	Word [signed]	00H to FFH	Specifies the sub index value of the ISDU data to be read in the lower byte. Data in the upper byte is ignored. Store 0.*3
(7)	i_wISDUDataLen	ISDU data length	Word [signed]	Depends on the ISDU data read.*1	Specify the ISDU data length to be read in bytes.*2

*1 For details, refer to the manual of the connected IO-Link device.
*2 When the ISDU data length is set to an odd number, the ISDU data of (specified length + 1) bytes is read.
*3 Refer to the manual of the connected IO-Link device.

■Output arguments

No.	Variable name	Name	Data type	Description	Default value
(8)	o_bENO	Execution status	Bit	The execution status of the FB is output. On: In execution Off: Not in execution	Off
(9)	o_bOK	Normal completion	Bit	The on state indicates that the FB processing has been completed successfully.	Off
(10)	o_bErr	Error completion	Bit	The on state indicates that the FB processing has been completed with an error.	Off
(11)	o_uErrId	Error code	Word [unsigned]	Error code is stored when the processing has been completed with an error.	0
(12)	o_wISDUData	ISDU data	Word [signed]	Stores the read value of the ISDU data. Specify the start device of the storage area for the ISDU data value. The size of the storage area for the ISDU data depends on the ISDU data read. Do not store other data to the device of the data storage area.	0

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	481 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the ISDU data is read from the specified channel.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully 	
	• When the processing is completed with an error  (1) Error code	
Precautions	If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command).	

Error code

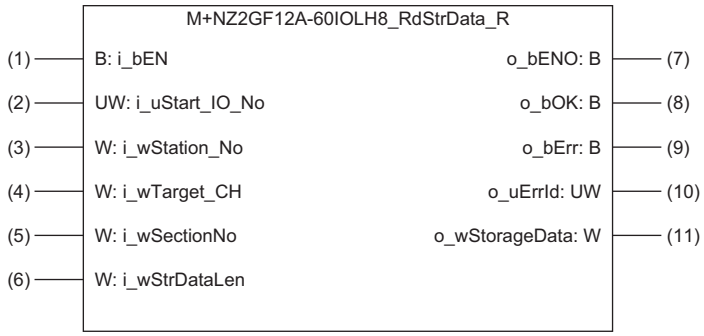
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)
E211H to E241H	A module error has occurred.	For error codes, refer to the following manual. CC-Link IE Field Network Waterproof Remote IO-Link Module User's Manual

2.6 M+NZ2GF12A-60IOLH8_RdStrData_R

Name

M+NZ2GF12A-60IOLH8_RdStrData_R

Overview

Item	Description
Functional overview	This FB reads the data storage from the specified channel.
Symbol	

Labels

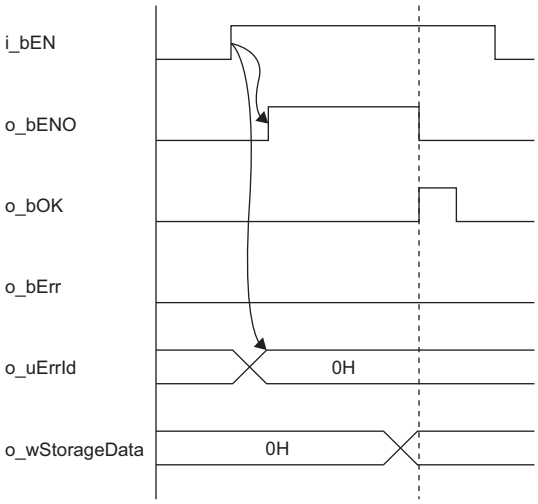
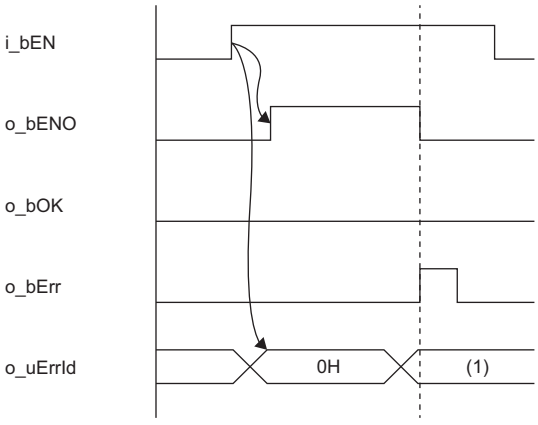
■Input arguments

No.	Variable 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 to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wTarget_CH	Target channel	Word [signed]	1 to 8	Specifies the channel from which the event data is read. If a value of 0 or less is set, channel 1 is specified, and if a value of 9 or more is set, channel 8 is specified.
(5)	i_wSectionNo	Section No.	Word [signed]	0 to 2	Specifies the section of the data storage to be read. If 0 or less is set, section 0 is specified, and if 2 or more is set, section 2 is specified.
(6)	i_wStrDataLen	Storage data length	Word [signed]	• Section 0 or 1: 0001H to 0156H • Section 2: 0001H to 0154H	Specifies the length of the data storage to be read (in words). If 0001H or less is set, the data length is specified to 0001H, and if 0156H or more is set, the data length is specified to 0156H.

■Output arguments

No.	Variable name	Name	Data type	Description	Default value
(7)	o_bENO	Execution status	Bit	The execution status of the FB is output. On: In execution Off: Not in execution	Off
(8)	o_bOK	Normal completion	Bit	The on state indicates that the FB processing has been completed successfully.	Off
(9)	o_bErr	Error completion	Bit	The on state indicates that the FB processing has been completed with an error.	Off
(10)	o_uErrId	Error code	Word [unsigned]	Error code is stored when the processing has been completed with an error.	0
(11)	o_wStorageData	Data storage	Word [signed]	Stores the read data storage. Specify the start device of the area where the data storage value is stored. The data storage is stored in the area of words specified by the data storage length (i_wStrDataLen).	0

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	362 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the data storage is read from the specified channel.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully  	
	• When the processing is completed with an error  (1) Error code	
Precautions	If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command).	

Error code

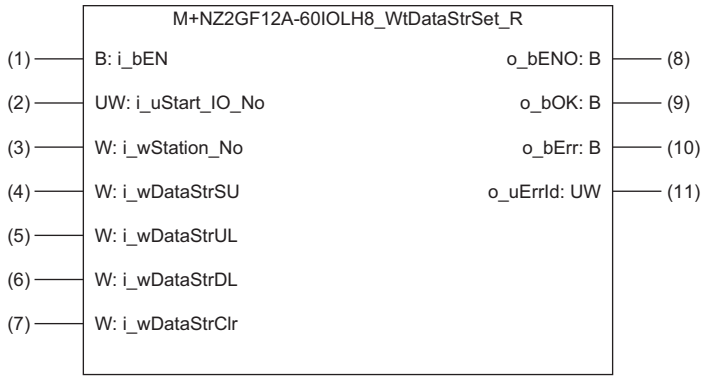
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual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

2.7 M+NZ2GF12A-60IOLH8_WtDataStrSet_R

Name

M+NZ2GF12A-60IOLH8_WtDataStrSet_R

Overview

Item	Description
Functional overview	This FB writes the data storage setting to each channel.
Symbol	

Labels

■Input arguments

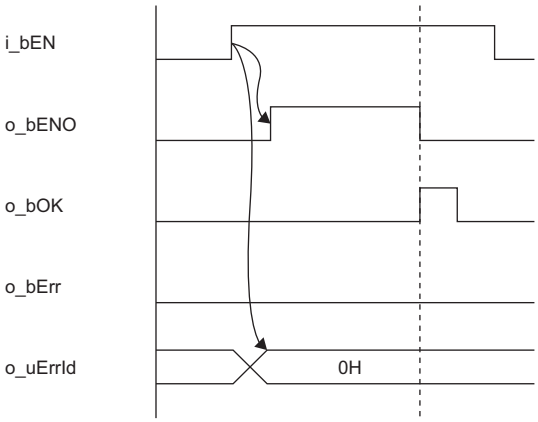
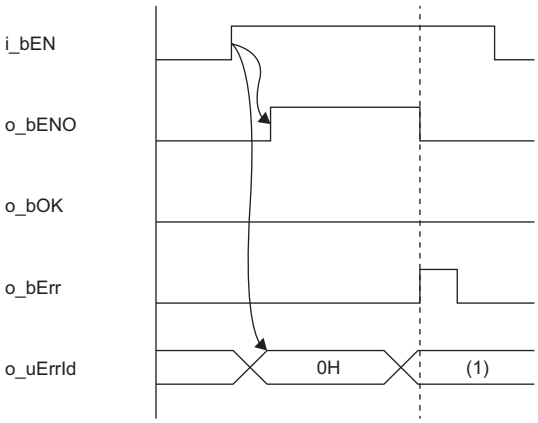
No.	Variable name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wDataStrSU	Data storage enable setting	Word [signed]	00H to FFH	Specifies whether to enable/disable the data storage of each channel in the lower byte. For details on the specification method, refer to the following.*1 ☞ Page 45 Data storage enable setting
(5)	i_wDataStrUL	Upload setting	Word [signed]	00H to FFH	Specifies whether to upload the data storage parameters of each channel to the IO-Link device parameters in the lower byte. For details on the specification method, refer to the following.*1 ☞ Page 45 Upload setting
(6)	i_wDataStrDL	Download setting	Word [signed]	00H to FFH	Specifies whether to download the parameters from the IO-Link device parameters to the data storage of each channel from the IO-Link device parameters in the lower byte. For details on the specification method, refer to the following.*1 ☞ Page 45 Download setting
(7)	i_wDataStrClr	Data storage clear setting	Word [signed]	00H to FFH	Specifies whether to clear the data storage parameters of each channel in the lower byte. For details on the specification method, refer to the following.*1 ☞ Page 45 Data storage clear setting

*1 Data in the upper byte is ignored. Store 0.

■Output arguments

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

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	683 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the data storage setting is written to each channel.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully 	
	• When the processing is completed with an error  (1) Error code	
Precautions	• If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command). • To reflect the settings in this FB, turn on the operating condition setting request flag after this FB is executed. Separately create a program to reflect the setting. • Turn on the operating condition setting request flag after 500ms have passed from completion of the execution of this FB.	

Error code

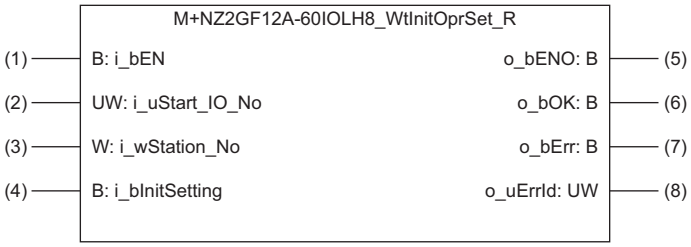
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual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

2.8 M+NZ2GF12A-60IOLH8_WtInitOprSet_R

Name

M+NZ2GF12A-60IOLH8_WtInitOprSet_R

Overview

Item	Description
Functional overview	This FB writes the initial operation setting to the NZ2GF12A-60IOLH8.
Symbol	

Labels

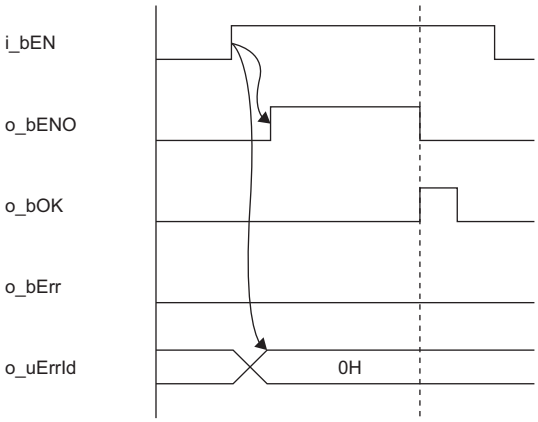
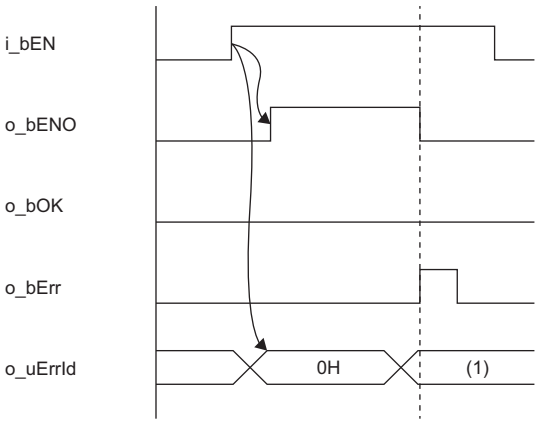
■Input arguments

No.	Variable 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 to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_bInitSetting	Initial operation setting	Bit	On or off	On: Initial operation is not performed. Off: Initial operation is performed.

■Output arguments

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

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	336 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the initial operation setting is written to the specified IO-Link module.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully  • When the processing is completed with an error  (1) Error code	
Precautions	• If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command). • To reflect the settings in this FB, turn on the operating condition setting request flag after this FB is executed. Separately create a program to reflect the setting. • Turn on the operating condition setting request flag after 500ms have passed from completion of the execution of this FB.	

Error code

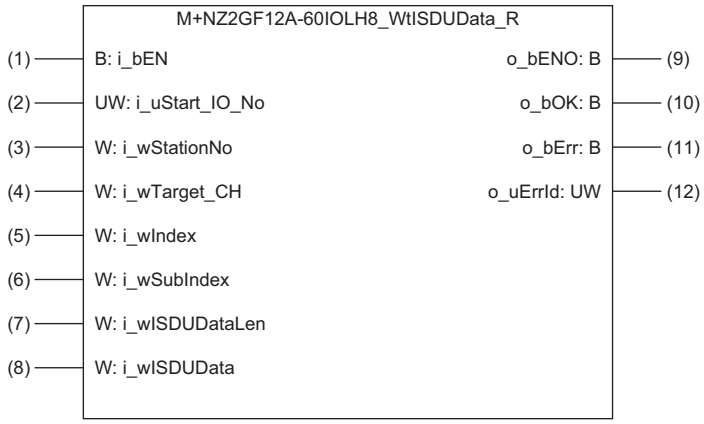
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual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

2.9 M+NZ2GF12A-60IOLH8_WtISDUData_R

Name

M+NZ2GF12A-60IOLH8_WtISDUData_R

Overview

Item	Description
Functional overview	This FB writes the ISDU data to the specified channel.
Symbol	

Labels

■Input arguments

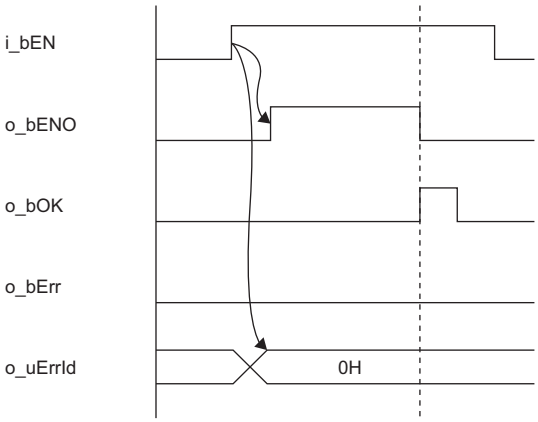
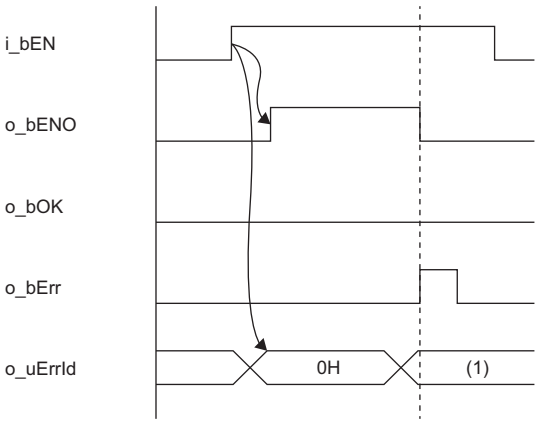
No.	Variable name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The FB is activated. Off: The FB is not activated.
(2)	i_uStart_IO_No	XY address of module mounted	Word [unsigned]	Depends on the number of I/O points of the CPU module.	Specifies the start I/O number to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStationNo	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wTarget_CH	Target channel	Word [signed]	1 to 8	Specifies the channel from which the ISDU data is read. If a value of 0 or less is set, channel 1 is specified, and if a value of 9 or more is set, channel 8 is specified.
(5)	i_wIndex	Index	Word [signed]	0000H to FFFFH	Specifies the index value of the ISDU data to be written.*3
(6)	i_wSubIndex	Sub index	Word [signed]	00H to FFH	Specifies the sub index value of the ISDU data to be written in the lower byte. Data in the upper byte is ignored. Store 0.*3
(7)	i_wISDUDataLen	ISDU data length	Word [signed]	Depends on the ISDU data to be written.*1	Specify the ISDU data length to be written (in bytes). If 0 or less is set, the data length is specified to 0, and if 118 or more is set, the data length is specified to 118.
(8)	i_wISDUData	ISDU data	Word [signed]	Depends on the ISDU data to be written.*1	Specify the content to write to the ISDU data.*2

*1 For details, refer to the manual of the connected IO-Link device.
*2 When the ISDU data length is set to an odd number, the ISDU data of (specified length + 1) bytes is read.
*3 Refer to the manual of the connected IO-Link device.

■Output arguments

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

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	413 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the ISDU data is written to the specified channel.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully  • When the processing is completed with an error  (1) Error code	
Precautions	If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command).	

Error code

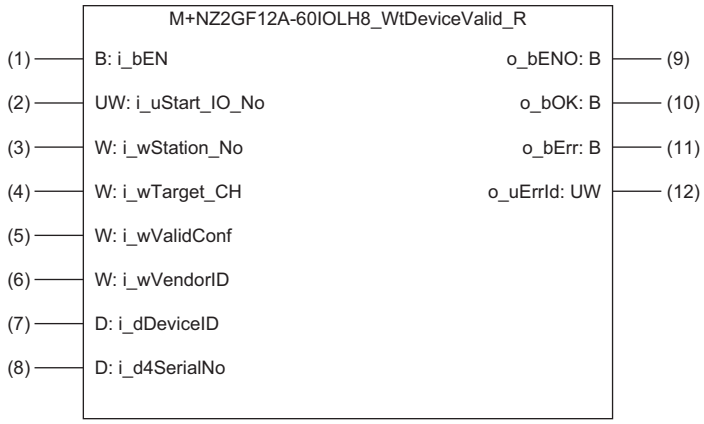
Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	A failure has occurred in CC-Link IE Field Network.	For error codes, refer to the following manual. MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)
E211H to E241H	A module error has occurred.	For error codes, refer to the following manual. CC-Link IE Field Network Waterproof Remote IO-Link Module User's Manual

2.10 M+NZ2GF12A-60IOLH8_WtDeviceValid_R

Name

M+NZ2GF12A-60IOLH8_WtDeviceValid_R

Overview

Item	Description
Functional overview	This FB configures the device validation setting of the specified channel.
Symbol	

Labels

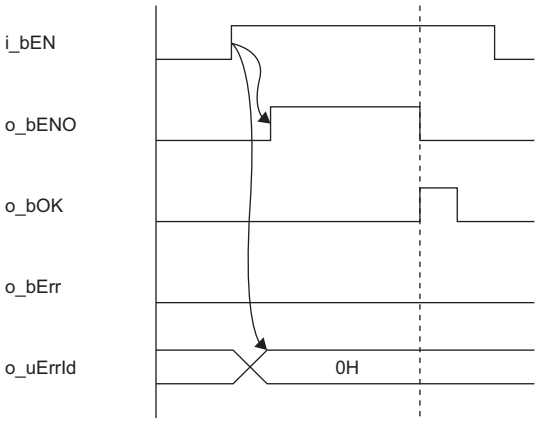
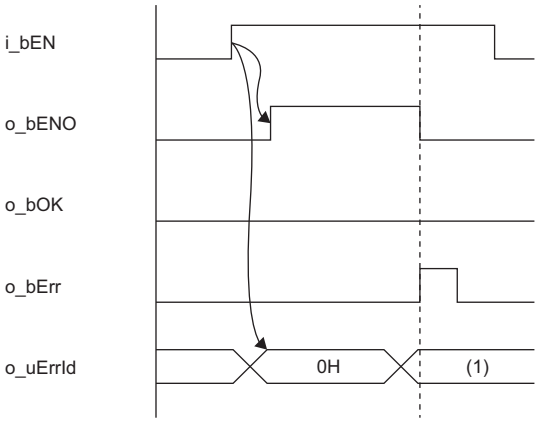
■Input arguments

No.	Variable 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 to which CC-Link IE Field Network master/local module is mounted.
(3)	i_wStation_No	Station number	Word [signed]	1 to 120	Specifies the target station number of the NZ2GF12A-60IOLH8.
(4)	i_wTarget_CH	Target channel	Word [signed]	1 to 8	Specifies the channel from which the event data is read. If a value of 0 or less is set, channel 1 is specified, and if a value of 9 or more is set, channel 8 is specified.
(5)	i_wValidConf	Device validation setting	Word [signed]	00H to 02H	Sets the device validation. 00H: Disabled 01H: Verification of compatibility 02H: Verification of identification If 00H or less is set, the device validation setting is specified to 00H, and if 02H or more is set, the device validation setting is specified to 02H.
(6)	i_wVendorID	Vendor ID	Word [signed]	0000H to FFFFH	Specifies the vendor ID to be compared with the connected IO-Link device. For details on the specification method, refer to the following. ☞ Page 46 Vendor ID
(7)	i_dDeviceID	Device ID	Double word [signed]	00000000H to 00FFFFFFH	Specifies the device ID to be compared with the connected IO-Link device. Data in the most significant byte is ignored. Store 0. For details on the specification method, refer to the following. ☞ Page 46 Device ID
(8)	i_d4SerialNo	Serial number	Double word [signed] (0..3)	—	Specifies the serial number to be compared with the connected IO-Link device. For details on the specification method, refer to the following. ☞ Page 46 Serial number

■Output arguments

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

FB details

Item	Description	
Available device	Target module	NZ2GF12A-60IOLH8
	Network module	• RJ71EN71 • RJ71GF11-T2 • RnENCPU (network part)
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	359 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 setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Functional description	When i_bEN (execution command) is turned on, the device validation of the specified channel is set.	
FB compilation method	Macro type	
FB operation	Pulse execution type (multiple scan execution type)	
FB_EN input condition	An interlock program needs to be created. Configure an interlock with the baton pass status of own station (on the master station) (SB0047), the baton pass status of each station (SW00A0 to SW00A7), and the remote READY (RWr0.b11).	
Timing chart of I/O signals	• When the processing is completed successfully  • When the processing is completed with an error  (1) Error code	
Precautions	• If this FB is used in a program that will be executed only once (such as a subroutine program and a program that uses the FOR to NEXT instruction), i_bEN (execution command) is not turned off and the operation is not performed normally. To use this FB in such programs, create a program to turn off i_bEN (execution command). • To reflect the settings in this FB, turn on the operating condition setting request flag after this FB is executed. Separately create a program to reflect the setting. • Turn on the operating condition setting request flag after 500ms have passed from completion of the execution of this FB.	

Error code

Error code	Description	Action
0100H	The station number is out of range between 1 and 120.	Check the setting, and execute the FB again.
D000H to DFFFH	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)

APPENDICES

Appendix 1 Input/output switching command

This command specifies the input/output of Q/CQ of each channel.

The channel and Q/CQ corresponding to each bit are indicated.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
CH8 Q	CH8 CQ	CH7 Q	CH7 CQ	CH6 Q	CH6 CQ	CH5 Q	CH5 CQ	CH4 Q	CH4 CQ	CH3 Q	CH3 CQ	CH2 Q	CH2 CQ	CH1 Q	CH1 CQ

0: Input, 1: Output

Appendix 2 Mode Switching Command

This command specifies the mode of each channel.

The channel corresponding to each bit is indicated.

Data in the upper byte is ignored. Store 0.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
Not used								CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

0: SIO mode, 1: IO-Link mode

A

Appendix 3 Event Clear Setting

This setting specifies whether to clear the event that has occurred on each channel.

The channel corresponding to each bit is indicated.

Data in the upper byte is ignored. Store 0.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
Not used								CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

0: All events not cleared, 1: All events cleared

Appendix 4 Upper and Lower Byte Data Swap Setting

This setting specifies the upper and lower byte data swap of each channel.

The channel corresponding to each bit is indicated.

Data in the upper byte is ignored. Store 0.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
Not used								CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

0: Upper and lower byte data swap disabled, 1: Upper and lower byte data swap enabled

A

Appendix 5 Process Data Size Setting

This setting specifies the process data size for each channel in the device of successive eight words.
Specify the process data size corresponding to each channel.
Do not store other data.

Device	Process data size
(Start device) + 0	CH1 process data size
(Start device) + 1	CH2 process data size
(Start device) + 2	CH3 process data size
(Start device) + 3	CH4 process data size
(Start device) + 4	CH5 process data size
(Start device) + 5	CH6 process data size
(Start device) + 6	CH7 process data size
(Start device) + 7	CH8 process data size

Appendix 6 Data Storage Setting

Data storage enable setting

This setting specifies whether to enable/disable the data storage of each channel.
The channel corresponding to each bit is indicated.
Data in the upper byte is ignored. Store 0.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
Not used								CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

0: Data storage disabled, 1: Data storage enabled

Upload setting

This setting specifies the data storage upload of each channel.
The channel corresponding to each bit is indicated.
Data in the upper byte is ignored. Store 0.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
Not used								CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

0: Upload disabled, 1: Upload enabled

Download setting

This setting specifies the data storage download of each channel.
The channel corresponding to each bit is indicated.
Data in the upper byte is ignored. Store 0.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
Not used								CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

0: Download disabled, 1: Download enabled

Data storage clear setting

This setting specifies whether to clear the data storage parameters of each channel.
The channel corresponding to each bit is indicated.
Data in the upper byte is ignored. Store 0.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
Not used								CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

0: Parameters not deleted, 1: Parameters deleted

Appendix 7 Device Validation Setting

Vendor ID

This setting specifies the vendor ID for the device validation.

Specify the vendor ID corresponding to each bit.

b15 to b8	b7 to b0
Vendor ID (upper)	Vendor ID (lower)

Device ID

This setting specifies the device ID for the device validation.

Specify the device ID corresponding to each bit.

b32 to b16	b15 to b0
Device ID (upper)	Device ID (lower)

Serial number

This setting specifies the serial number for the device validation.

Specify the serial number corresponding to each bit.

Device	b31 to b24	b23 to b16	b15 to b8	b7 to b0
(Start device) + 0	Serial number 4	Serial number 3	Serial number 2	Serial number 1
(Start device) + 1	Serial number 8	Serial number 7	Serial number 6	Serial number 5
(Start device) + 2	Serial number 12	Serial number 11	Serial number 10	Serial number 9
(Start device) + 3	Serial number 16	Serial number 15	Serial number 14	Serial number 13

Appendix 8 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.

Point

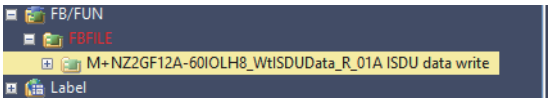
The following procedures are used for FB libraries with version 1.01 or later.

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.

Element Selection window ⇨ [Library] tab ⇨ FB to use ⇨ Right click ⇨ [Add to Project] ⇨ [Create FB File]



2. Copy the FB to be added.

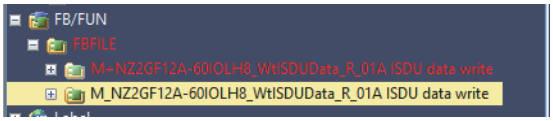
[Navigation window] ⇨ [FB/FUN] ⇨ [FBFILE] ⇨ FB to use ⇨ Right click ⇨ [Copy Data]

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]



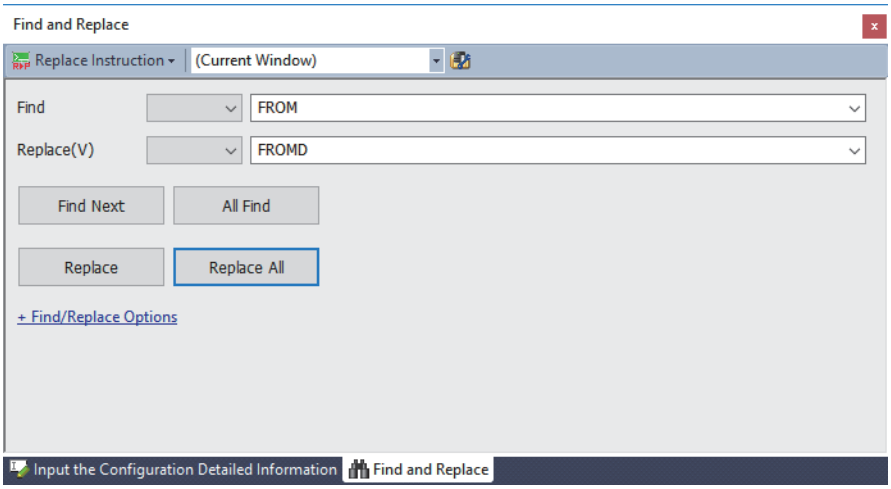
A

4. Open the program of the copied FB.

[Navigation window] ⇨ [FB/FUN] ⇨ [FBFILE] ⇨ copied FB ⇨ [ProgramBody]

5. Open the "Replace Instruction" window, then enter "FROM" in "Find" and "FROMD" in "Replace".

[Find/Replace] ⇨ [Replace Instruction]



Point

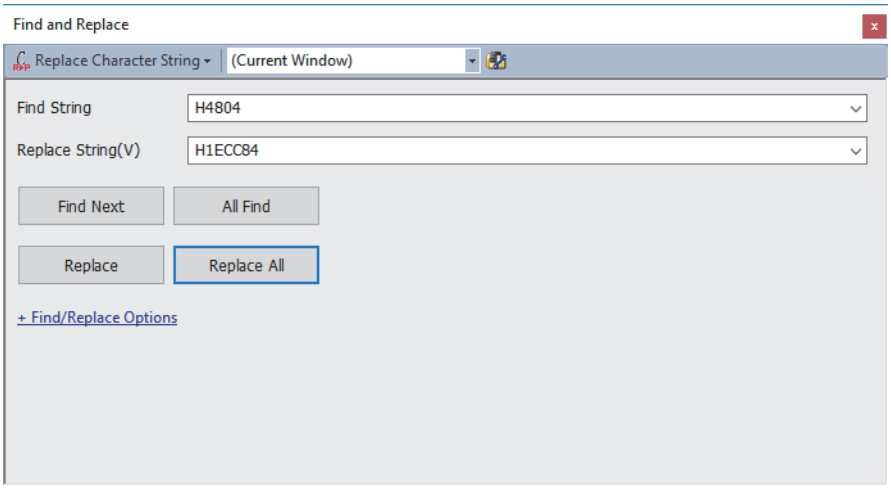
Select "(Current Window)" for "Replace Instruction". By specifying this setting, only the strings in the opened FB program can be replaced.

6. Click the [Replace All] button.

7. A message appears, then click [OK].

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

[Find/Replace] ⇨ [Replace Character String]



Find String	Replace String
H4804	H1ECC84
H48C0Z6	H1ECD40Z6
H4F00Z7	H1ED380Z7

Point

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

9. Click the [Replace All] button.

10. A message appears, then click [OK].

11. Open the local label of the copied FB.

[Navigation window] ⇨ [FB/FUN] ⇨ [FBFILE] ⇨ copied FB ⇨ [Local Label]

A

12. Change the data type of the following local label.

Label name	Data type	
	Before change	After change
wRWrOffsetTmp	Word [signed]	Double word [signed]

13. Add the following local label.

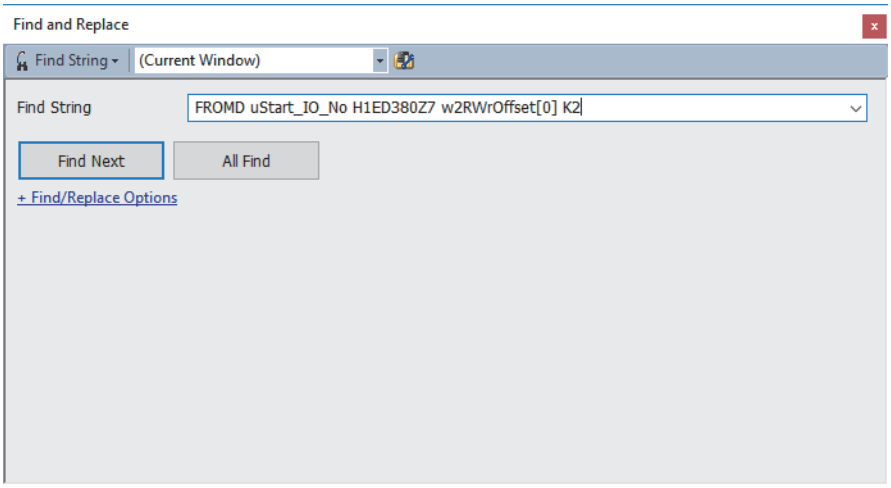
Label name	Data type	Class
dRWrOffsetStart	Double word [signed]	VAR

14. Open the program of the copied FB.

[Navigation window] ⇨ [FB/FUN] ⇨ [FBFILE] ⇨ copied FB ⇨ [ProgramBody]

15. Open the "Replace Character String" window, search for the strings shown below.

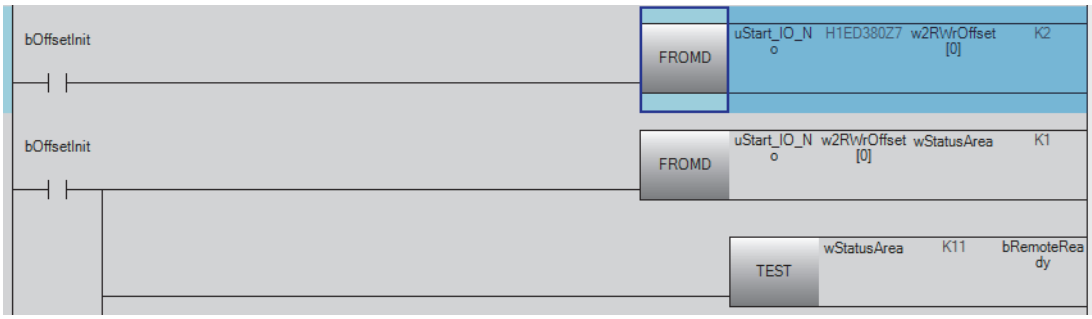
[Find/Replace] ⇨ [Find String]



Point

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

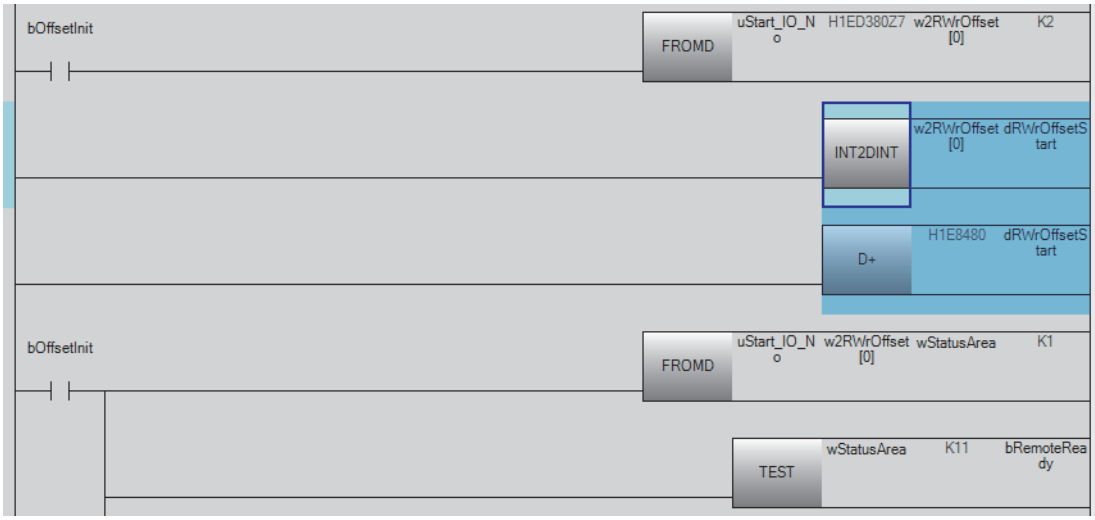
16. Click the [Find Next] button to make a jump to the target program.



17. Insert two rows just under the program.

[Edit] ⇨ [Insert Row]

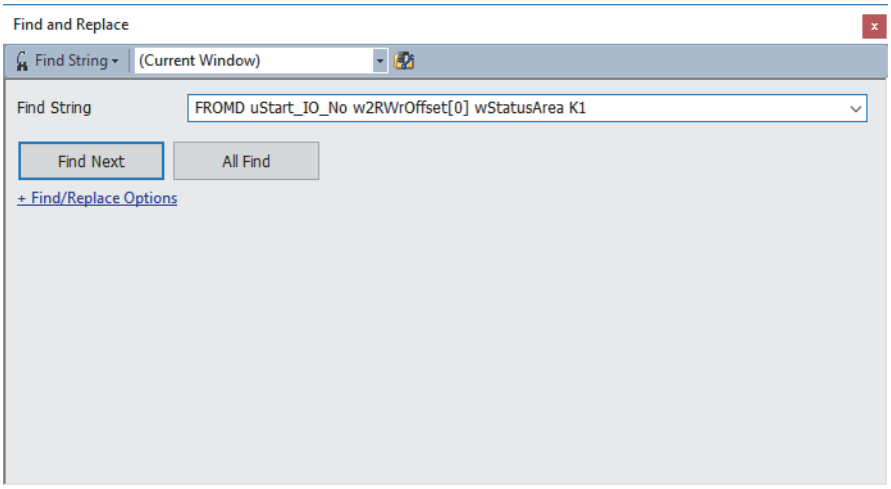
18. Enter the strings in the inserted row as below.



A

19. Open the "Replace Character String" window, search for the strings shown below.

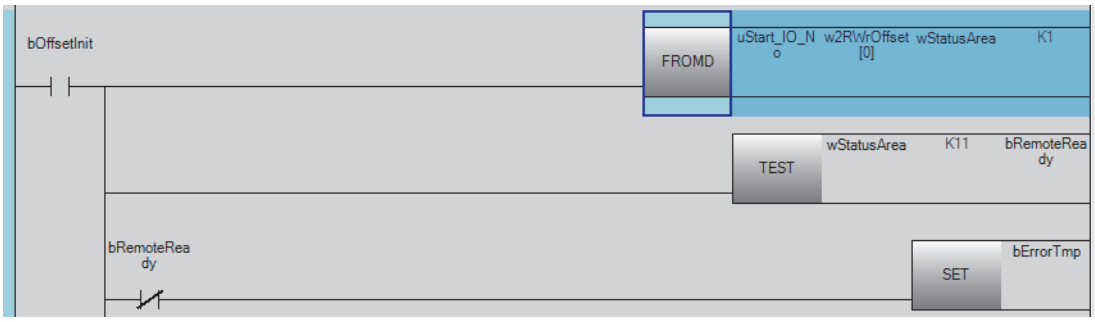
[Find/Replace] ⇨ [Find String]



Point

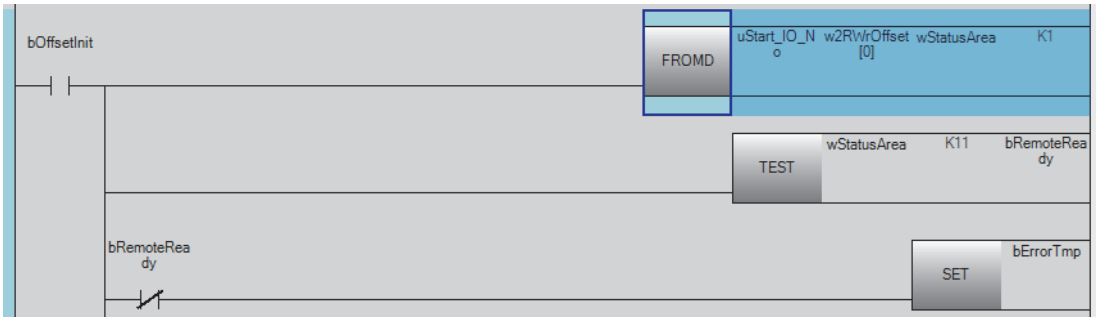
Select "(Current Window)" for "Find String". By specifying this setting, only the strings in the opened FB program can be searched.

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

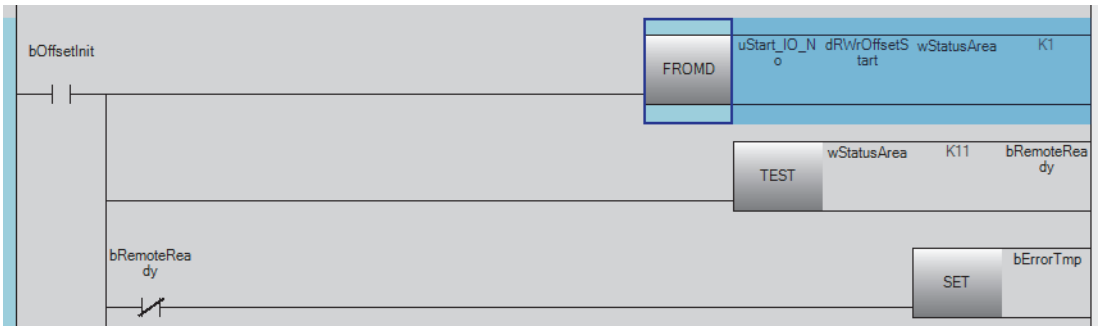


21. Change the target string as below.

• Before change



• After change



Point

The following FBs have the same strings (two) as above. Change the strings by repeating the above procedures.

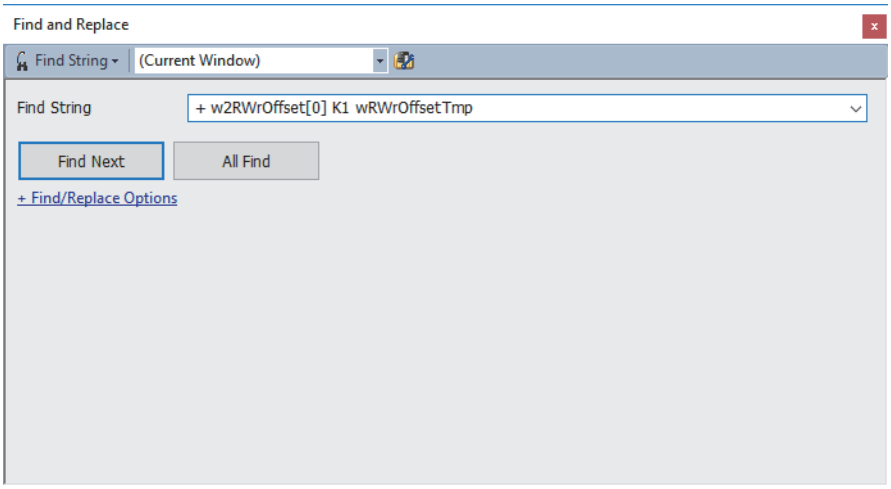
• M+NZ2GF12A-60IOLH8_RdISDUData_R

• M+NZ2GF12A-60IOLH8_WtISDUData_R

A

22. Open the "Replace Character String" window, search for the strings shown below.

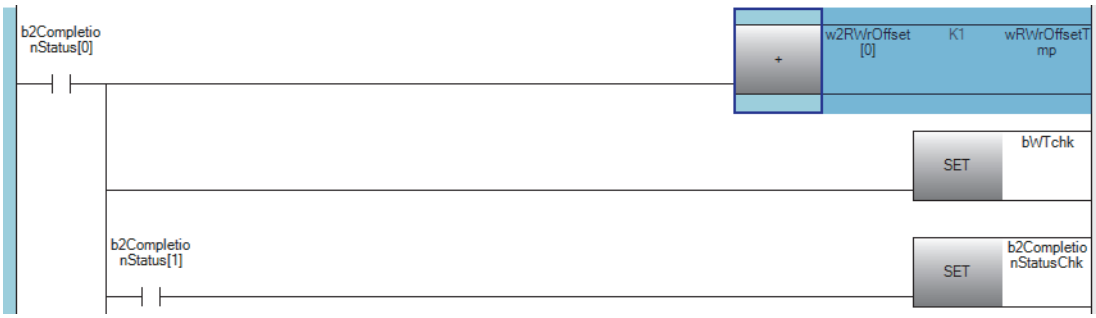
[Find/Replace] ⇨ [Find String]



Point

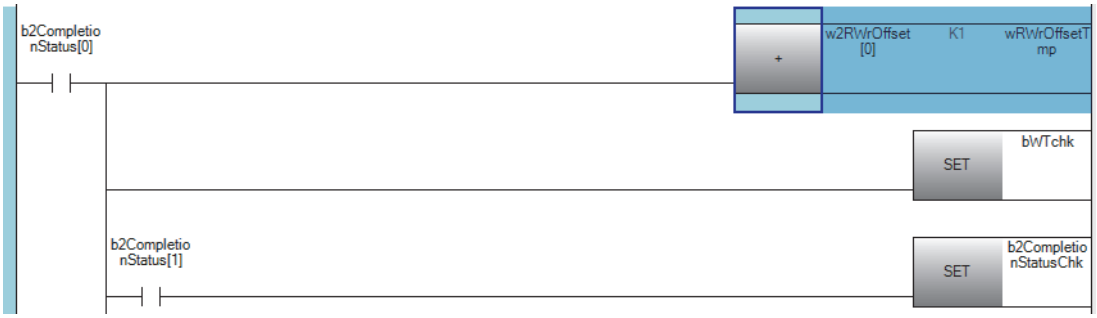
Select "(Current Window)" for "Find String". By specifying this setting, only the strings in the opened FB program can be searched.

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

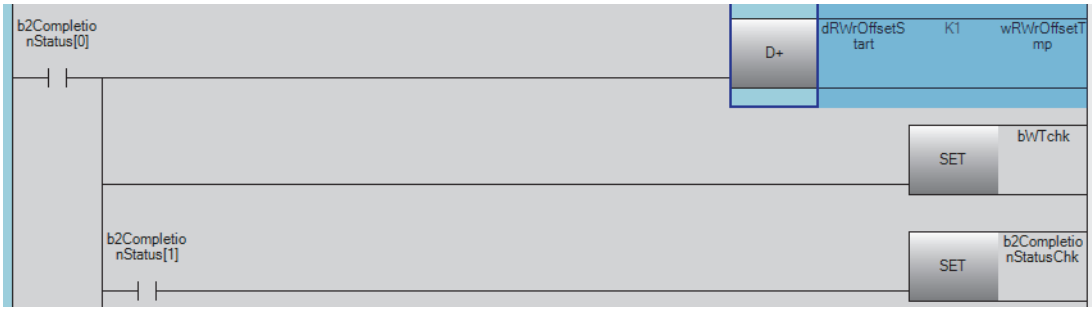


24. Change the target string as below.

• Before change



• After change



Point

Since the following FBs do not have the same strings as above, the procedures 22 to 24 are not required.

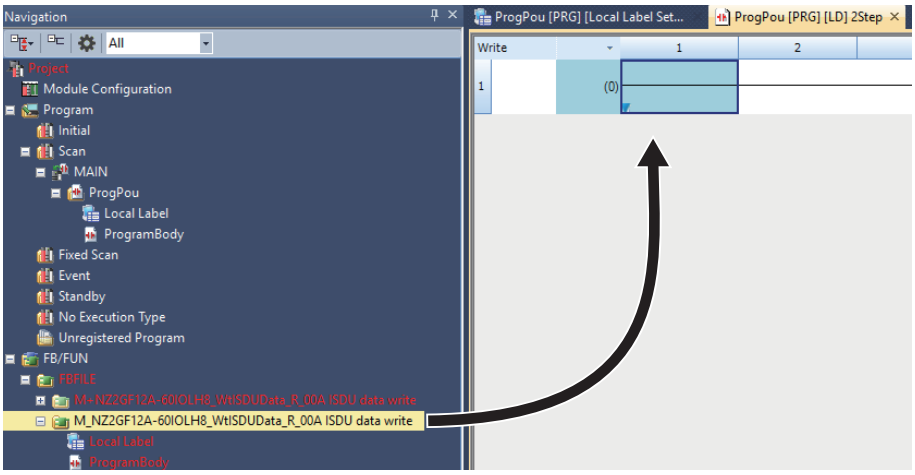
- M+NZ2GF12A-60IOLH8_CCIEFIOAdv_R
- M+NZ2GF12A-60IOLH8_RdEventData_R
- M+NZ2GF12A-60IOLH8_RdIdtData_R
- M+NZ2GF12A-60IOLH8_WtDeviceValid_R

A

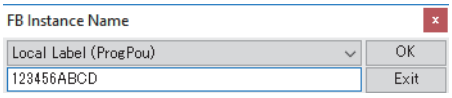
25. Close the program.

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

[Navigation window] ⇨ [Program] ⇨ [Scan] ⇨ [MAIN] ⇨ [ProgPou] ⇨ [ProgramBody]



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



28. Execute [Rebuild All].

[Convert] ⇨ [Rebuild All]

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

INSTRUCTION INDEX

M

M+NZ2GF12A-60IOLH8_CCIEFIOAdv_R 4
M+NZ2GF12A-60IOLH8_RdEventData_R 8
M+NZ2GF12A-60IOLH8_RdIdtData_R 11
M+NZ2GF12A-60IOLH8_RdInitOprSet_R 14
M+NZ2GF12A-60IOLH8_RdISDUData R 18
M+NZ2GF12A-60IOLH8_RdStrData_R 22
M+NZ2GF12A-60IOLH8_WtDataStrSet_R 25
M+NZ2GF12A-60IOLH8_WtDeviceValid_R 36
M+NZ2GF12A-60IOLH8_WtInitOprSet_R 29
M+NZ2GF12A-60IOLH8_WtISDUData_R 32

MEMO

REVISIONS

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

Revision date	*Manual number	Description
April 2018	BCN-P5999-0989-A	First edition
April 2020	BCN-P5999-0989-B	■Added or modified parts Chapter 1, Section 2.1 to 2.8, Appendix 1 to 4, Appendix 6 to 8

Japanese manual number: BCN-P5999-0964-B

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property rights which may occur as a result of using the contents noted in this manual.

© 2018 MITSUBISHI ELECTRIC CORPORATION

TRADEMARKS

IO-Link is either a registered trademark or a trademark of PROFIBUS Nutzerorganisation e.V.
The company names, system names and product names mentioned in this manual are either registered trademarks or trademarks of their respective companies.
In some cases, trademark symbols such as '™' or '®' are not specified in this manual.

BCN-P5999-0989-B(2004)

MITSUBISHI ELECTRIC CORPORATION

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

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

Specifications subject to change without notice.