

## CC-Link IE Field Network Remote IO-Link Module Function Block Reference (For MELSEC-Q/L)

Applicable module:

NZ2GF2S-60IOLD8

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Reference Manual Revision History

Reference Manual Number	Date	Description
FBM-M233-A	2018/10/31	First edition

## 1. Overview

### 1. 1. FB Library Overview

This FB Library is using for Remote IO-Link Module NZ2GF2S-60IOLD8 with CC-Link IE Field Network.

### 1. 2. Function of the FB Library

Item	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 and disables the detection of disconnection error. This module FB disables input/output in IO-Link mode and turns off input/output in SIO mode. This module FB is used 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. 3. System Configuration Examples

Programmable controller CPUs connect to remote IO-Link module by using CC-Link IE Field Network master/local module as follows.

(1) Q series system configuration Example



No.	Hardware	Description						
1)	Base module	Refer to Using CPU module User's manual.						
2)	Power module	Refer to Using CPU module User's manual.						
3)	Q series programmable controller CPU	This FB library can be used in following programmable controller CPU modules.						
		<table><tr><th>Series</th><th>Model</th></tr><tr><td rowspan="3">MELSEC-Q series*1</td><td>Basic model QCPU*2</td></tr><tr><td>High performance model QCPU*3</td></tr><tr><td>Universal model QCPU</td></tr></table>	Series	Model	MELSEC-Q series*1	Basic model QCPU*2	High performance model QCPU*3	Universal model QCPU
		Series	Model					
		MELSEC-Q series*1	Basic model QCPU*2					
			High performance model QCPU*3					
Universal model QCPU								
*1 Not applicable to QCPU (A mode).								
*2 The first five digits of the serial number are "04122" or later.								
*3 The first five digits of the serial number are "04122" or later.								
4)	CC-Link IE Field Network master/local module	This FB library can be used in the following module.						
		<table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2		
		Series	Model					
MELSEC-Q series	QJ71GF11-T2							
5)	Remote IO-Link Module	NZ2GF2S-60IOLD8						
6)	GX Works2	Ver1.580E or later.						

(2) L series system configuration Example



No.	Hardware	Description				
1)	Power module	Refer to Using CPU module User's manual.				
2)	L series programmable controller CPU	<div>This FB library can be used in following programmable controller CPU modules.</div> <table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-L series*1</td><td>-</td></tr></table> <div>*1 The first five digits of the serial number are "13012" or later.</div>	Series	Model	MELSEC-L series*1	-
Series	Model					
MELSEC-L series*1	-					
3)	CC-Link IE Field Network master/local module	<div>This FB library can be used in the following CC-Link IE Field Network interface</div> <table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-L series	LJ71GF11-T2
Series	Model					
MELSEC-L series	LJ71GF11-T2					
4)	END cover	Refer to Using CPU module User's manual.				
5)	Remote IO-Link Module	NZ2GF2S-60IOLD8				
6)	GX Works2	Ver1.580E or later				

#### 1. 4. Settings of CC-Link IE Field Network Master/Local Module

This section explains the settings of CC-Link IE Field Network master/local module based on Section "1.3 System Configuration Examples". Set the following items using GX Works2.

##### (1) Network parameters

Item	Description
Network Type	Select the CC IE Field (Master Station).
Start I/O No.	Set the Start I/O number of the master/local module in increments of 16 points. Set "0000" as an example.
Network No.	Set the network number of the master/local module Set "1" as an example.

Select "Set network configuration setting in CC IE Field configuration window" checkbox.

☒ Set network configuration setting in CC IE Field configuration window

	Module 1
Network Type	CC IE Field (Master Station) ▼
Start I/O No.	0000
Network No.	1
Total Stations	1
Group No.	
Station No.	0
Mode	Online (Normal Mode) ▼
	<a href="#">CC IE Field Configuration Setting</a>
	<a href="#">Network Operation Settings</a>
	<a href="#">Refresh Parameters</a>
	<a href="#">Interrupt Settings</a>
	<a href="#">Specify Station No. by Parameter</a> ▼

(2) CC IE Field configuration setting

Drag and drop " NZ2GF2S-60IOLD8" under Host Station from Module List under "IO-Link master module".

Item	Description								
STA#	Set station No. of Remote IO-Link Master Module. Set "1" as an example.								
RX/Ry Setting	RX/Ry is used as input-output signal. Points need to be the following number and above. <table><tr><th>Description of RX/Ry</th><th>Point to set</th></tr><tr><td>Input/Output points</td><td>48 points</td></tr></table> Set "48 points" as an example.	Description of RX/Ry	Point to set	Input/Output points	48 points				
Description of RX/Ry	Point to set								
Input/Output points	48 points								
RWw/RWr Setting	Points need to be the following number and above. <table><tr><th>Description of RWw/RWr</th><th>Point to set</th></tr><tr><td>IO-Link module</td><td>4 points</td></tr><tr><td>For process data</td><td>128 points</td></tr><tr><td>Total</td><td>132 points</td></tr></table> Set "132 points" as an example.	Description of RWw/RWr	Point to set	IO-Link module	4 points	For process data	128 points	Total	132 points
Description of RWw/RWr	Point to set								
IO-Link module	4 points								
For process data	128 points								
Total	132 points								

CC IE Field Configuration Module 1 (Start I/O: 0010)

CC IE Field Configuration Edit View Close with Discarding the Setting Close with Reflecting the Setting

Detect Now Verify

Mode Setting: Online (Standard Mode) Assignment Method: Start/End Link Scan Time (Approx.): 0.72 m

No.	Model Name	STA#	Station Type	RX/Ry Setting			RWw/RWr Setting		
				Points	Start	End	Points	Start	End
0	Host Station	0	Master Station						
1	NZ2GF2S-60IOLD8	1	Intelligent Device Station	48	0000	002F	132	0000	0083

Module List

CC IE Field Selection Find Module My Favorites

Extension Digital Input Module

Extension Digital Output Module

Extension A/D Conversion Module

Extension D/A Conversion Module

GOT2000 Series

GOT1000 Series

Bridge module (CC-Link IE Field - Specified low-power radio)

Bridge module(CC-Link IE Field Network-CC-Link)

IO-Link master module

NZ2GF2S-60IOLD8 8 channels

Bridge module(CC-Link IE Field-AnywireASLINK)

IQ-F Series (Intelligent Device Unit)

Outline

CC-Link IE Field Network Remote IO-Link Module

Specification

8 channels

IO-Link Mode:

- CQ 200mA/Channel

- L+ 1.6A/Channel

- 4A/Common

- 3- to 4-wire

SIO Mode:

- DC input

- 24VDC (sink type)

- 2- to 3-wire

- Transistor output

- 24VDC (0.2A) transistor output (source type)

- 2- to 3-wire

Manufacturer Name

Mitsubishi Electric

Station Type

Intelligent Device Station

Host Station

STA#0 Master

Total STA#:1

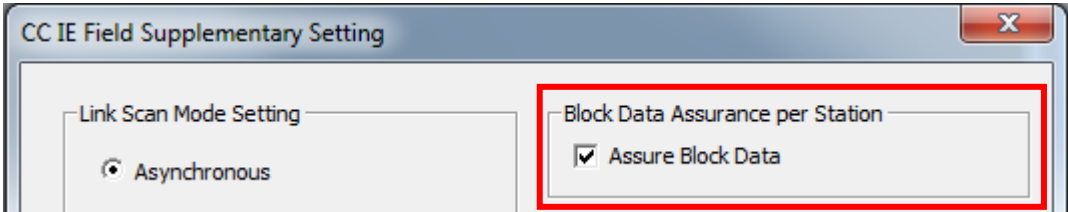
Line/Star

STA#1

NZ2GF2S-60IOLD8



In "Supplementary settings" window from "CC IE Field Configuration", "Block data assurance" needs to be enabled.



### (3) Examples of refresh parameter setting

Item	Description	Setting value
Transfer SB	Select the link refresh range of SB device.	· "Link Side Points" : 512 · "Link Side Start" : 0000 · "PLC Side Dev. Name" : SB · "PLC Side Start" : 0000
Transfer SW	Select the link refresh range of SW device.	· "Link Side Points" : 512 · "Link Side Start" : 0000 · "PLC Side Dev. Name" : SW · "PLC Side Start" : 0000
Transfer 1	Select the link refresh range of RX device.	· "Link Side Points" : 48 · "Link Side Start" : 0000 · "PLC Side Dev. Name" : X · "PLC Side Start" : 1000
Transfer 2	Select the link refresh range of RY device.	· "Link Side Points" : 48 · "Link Side Start" : 0000 · "PLC Side Dev. Name" : Y · "PLC Side Start" : 1000
Transfer 3	Select the link refresh range of RWr device.	· "Link Side Points" : 132 · "Link Side Start" : 0000 · "PLC Side Dev. Name" : W · "PLC Side Start" : 000100
Transfer 4	Select the link refresh range of RWw device.	· "Link Side Points" : 132 · "Link Side Start" : 0000 · "PLC Side Dev. Name" : W · "PLC Side Start" : 000300

Assignment Method  
☒ Points/Start  
☐ Start/End

\*Set 0000 for the start address of Link Side.

	Link Side					PLC Side			
	Dev. Name	Points	Start	End		Dev. Name	Points	Start	End
Transfer SB	SB	512	0000	01FF	↕	SB	512	0000	01FF
Transfer SW	SW	512	0000	01FF	↕	SW	512	0000	01FF
Transfer 1	RX	80	0000	004F	↕	X	80	0100	014F
Transfer 2	RY	80	0000	004F	↕	Y	80	0100	014F
Transfer 3	RWr	132	0000	0083	↕	W	132	000100	000183
Transfer 4	RWw	132	0000	0083	↕	W	132	000500	000583
Transfer 5					↕				
Transfer 6					↕				
Transfer 7					↕				
Transfer 8					↕				

#### 1. 5. Communication settings of NZ2GF2S-60IOLD8

Before communication, Station No. of NZ2GF2S-60IOLD8 need to be set.

Set communication settings of NZ2GF2S-60IOLD8 as follows.

Item	Description
STA#	Set Station No. of NZ2GF2S-60IOLD8. Set the same Station No. with Station No. of IO-Link module which is set in CC IE Field configuration setting. Set "1" as an example.

For details of setting procedure, refer to "CC-Link IE Field Network Remote IO-Link Module User's Manual".

## 1. 6. Creating of Interlock Program

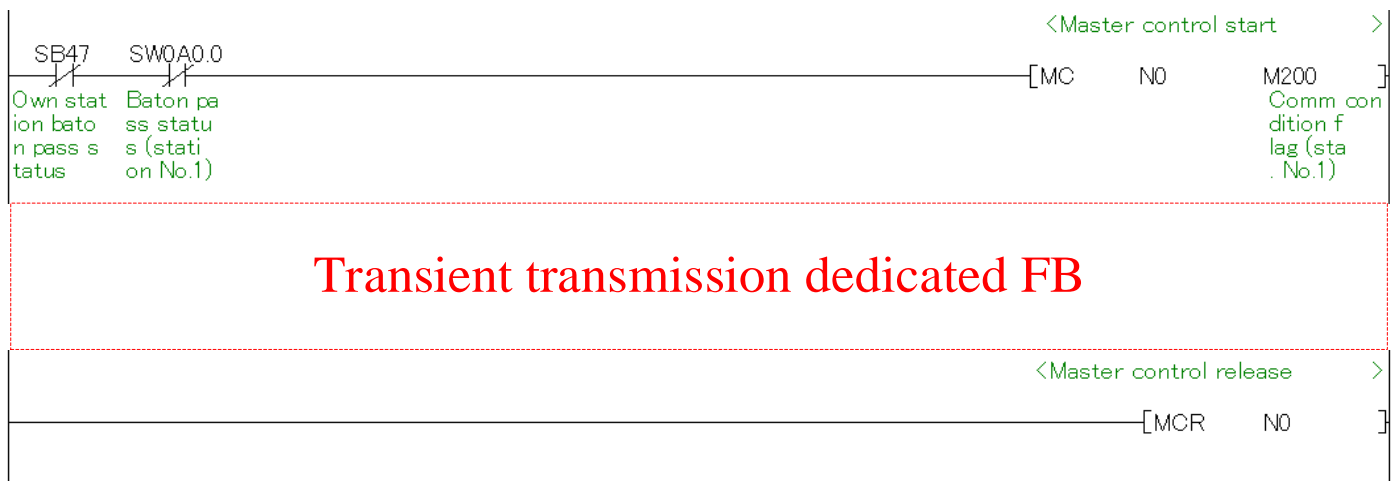
When using this FB library, need to create Interlock Program. Interlock Program example is show as follows. (Please set corresponding FB library between MC command and MCR command)

### 1. 6. 1. Interlock program of transient transmission

In the transient transmission program, please perform interlock with below link special relay (SB) and link special register (SW).

- (Master station)Own station baton pass status (SB0047)
- Each station baton pass status(SW00A0~SW00A7)

Interlock example(Station No. 1)



\*1 In this manual, all published FB library is using transient transmission.

## 1. 7. Relevant manual

CC-Link IE Field Network remote IO-Link module user's manual

## 1. 8. Note

This chapter includes information related to the function block.

It does not include information on restriction of use such as combination with modules or programmable controller CPUs.

Before using any Mitsubishi products, please read all the relevant manuals.

## 2. Details of the FB Library

### 2. 1. M+NZ2GF2S-60IOLD8\_RemoteBufMemRd (Remote buffer memory read)

**Name**

M+NZ2GF2S-60IOLD8\_RemoteBufMemRd

**FB details**

Item	Description		
Timing chart of I/O signals	Reads the value from the specified remote buffer memory.		
Symbol	<div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div><div>Remote buffer memory address</div><div>Number of read points</div></div><div><div>M+NZ2GF2S-60IOLD8_RemoteBufMemRd</div><div><div>B:FB_EN</div><div>W:iw_Start_IO_No</div><div>W:iw_Station_No</div><div>W:iw_CH_No</div><div>W:iw_Address</div><div>W:iw_ReadPoint</div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>ow_ReadData:W</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div></div><div><div>Execution status</div><div>Normal completion</div><div>Read data</div><div>Error completion</div><div>Error code</div></div></div>		
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.	
		Series	Model
		MELSEC-Q series	QJ71GF11-T2
	MELSEC-L series	LJ71GF11-T2	
	Target CPU	This FB library can be used in the following programmable controller CPU module.	
		Series	Model
MELSEC-Q series※1		Basic model QCPU※2	
		High performance model QCPU※3	
		Universal Model QCPU	
MELSEC-L series		-	
*1 Not applicable to QCPU-A (A mode)			
*2 First five digits of serial No. are “04122” or later can be used			
*3 First five digits of serial No. are “04012” or later can be used			
GX Works2	Ver1.580E or later		
Description	Ladder diagram		
Language			

Item	Description
Number of steps	<p>289 Step (for MELSEC-Q series universal model CPU)</p> <p>*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</p>
Functional description	<p>1) When FB_EN(execution command) is turned on, the remote buffer memory value for the number of points specified by iw_ReadPoint(number of read points) is read from the remote buffer memory address specified by iw_Address(remote buffer memory address). The read remote buffer memory value for the number of points specified by iw_ReadPoint(number of read points) is stored in the device starting from the one specified by ow_ReadData(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.)</p> <div data-bbox="571 770 1294 1052" data-label="Diagram"> <pre> graph LR     subgraph "remote buffer memory"         direction TB         R1[1000H]         R2[1001H]         R3[...]         R4[...]         R5[1009H]     end     subgraph "Read Data"         direction TB         D1[D100]         D2[D101]         D3[...]         D4[...]         D5[D109]     end     R1 -- Read --&gt; D1     R2 -- Read --&gt; D2     R3 -- Read --&gt; D3     R4 -- Read --&gt; D4     R5 -- Read --&gt; D5     </pre> <p>Number of read points (10Words)</p> </div> <p>2) When FB_EN (execution command) is turned off during the read processing of the +, the value for the previous read processing remains stored.</p> <p>3) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</p>
FB compilation method	Macro type

Item	Description
Restrictions And Precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>5) For the start device where the read remote buffer memory value is stored, successive areas for the number of read points are required.</li> <li>6) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>7) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>8) For this FB, it is necessary to set the circuits for all input labels.</li> </ol>
FB operation	On-demand execution type
Timing chart of I/O signals	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>【When the processing is completed successfully】</p> </div> <div style="width: 45%;"> <p>【When the processing is completed with an error】</p> </div> </div> <p>*1.1 Only for one scan is turned on.  *2 Read data is updated upon each completion of read processing.</p> <p>(1) Not processed  (2) Processing  (3) Not updated  (4) Updating  (5) Error Code</p>

## Error code

### ■Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range.The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■Input labels

Name (Comment)	Label Name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.
Remote buffer memory address	iw_Address	Word	0000 to 4DFF	Specifies the start address of the remote buffer memory to be read in hexadecimal.
Number of read points	iw_ReadPoint	Word	1 to 240	Specifies the number of points to be read.



■Output labels

Name (Comment)	Label Name	Data type	Default value	Description
Execution status	FB_ENO	Bit	OFF	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	OFF	When ON, it indicates that reading the specified remote buffer memory has been completed.
Read data	ow_ReadData	Word	0	Specifies the start device to which the read value of the remote buffer memory is stored.
Error completion	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output

### FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

## 2. 2. M+NZ2GF2S-60IOLD8\_RemoteBufMemWt (Remote buffer memory write)

Name									
M+NZ2GF2S-60IOLD8_RemoteBufMemWt									
FB details									
Item	Description								
Functional overview	Writes the value to the specified remote buffer memory.								
Symbol	<div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div><div>Remote buffer memory address</div><div>Number of read points</div><div>Write data</div></div><div><div>M+NZ2GF2S-60IOLD8_RemoteBufMemWt</div><div><div>B:FB_EN</div><div>W:lw_Start_IO_No</div><div>W:lw_Station_No</div><div>W:lw_CH_No</div><div>W:lw_Address</div><div>W:lw_WritePoint</div><div>W:lw_WriteData</div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div></div><div><div>Execution status</div><div>Normal completion</div><div>Error completion</div><div>Error code</div></div></div>								
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.							
		<table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2	MELSEC-L series	LJ71GF11-T2	
		Series	Model						
		MELSEC-Q series	QJ71GF11-T2						
	MELSEC-L series	LJ71GF11-T2							
Target CPU	This FB library can be used in the following programmable controller CPU module.								
	<table><tr><td>Series</td><td>Model</td></tr><tr><td rowspan="3">MMELSEC-Q series※1</td><td>Basic model QCPU※2</td></tr><tr><td>High performance model QCPU※3</td></tr><tr><td>Universal Model QCPU</td></tr><tr><td>MELSEC-L series</td><td>-</td></tr></table>	Series	Model	MMELSEC-Q series※1	Basic model QCPU※2	High performance model QCPU※3	Universal Model QCPU	MELSEC-L series	-
	Series	Model							
	MMELSEC-Q series※1	Basic model QCPU※2							
		High performance model QCPU※3							
Universal Model QCPU									
MELSEC-L series	-								
*1 Not applicable to QCPU-A (A mode)									
*2 First five digits of serial No. are “04122” or later can be used									
*3 First five digits of serial No. are “04012” or later can be used									
GX Works2	Ver1.580E or later								
Description	Ladder diagram								
Language									

Item	Description
Number of steps	<p>243 Step (for MELSEC-Q series universal model CPU)</p> <p>*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</p>
Functional description	<p>1) When FB_EN (execution command) is turned on, word data starting from the device specified by iw_WriteData (write data) is written to the remote buffer memory for the number of points specified by iw_WritePoint (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.)</p> <div data-bbox="451 633 1144 913" data-label="Diagram"> <pre> graph LR     subgraph WriteData [Write Data]         D100         D101         dots1[...]          D109     end     subgraph RemoteBuffer [remote buffer memory]         1000H         1001H         dots2[...]          1009H     end     D100 -- Write --&gt; 1000H     D101 -- Write --&gt; 1001H     dots1 -- Write --&gt; dots2     D109 -- Write --&gt; 1009H     </pre> </div> <p>2) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</p>
FB compilation method	Macro type
Restrictions And Precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>5) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>6) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>7) For this FB, it is necessary to set the circuits for all input labels.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)

Item	Description	
Timing chart of I/O signals	<p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Event history clear processing</p> <p>Specified remote buffer memory</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0</p> <p>(1) Not processed (2) Processing (3) Not updated (4) Updating</p>	<p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Event history clear processing</p> <p>Specified remote buffer memory</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0 (5) 0</p> <p>(5) Error Code</p>

## Error code

### ■Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range.The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■Input labels

Name(Comment)	Label Name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.
Remote buffer memory address	iw_Address	Word	0000 to 4DFF	Specify start address of the remote buffer memory to be written in hexadecimal.
Number of write points	iw_WritePoint	Word	1 to 240	Specify point to be written.
Write data	iw_WriteData	Word	-	Specifies the start device of data to be written.

## ■ Output Labels

Name (Comment)	Label name	Data type	Default value	Description
Execution status	FB_ENO	Bit	OFF	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	OFF	When ON, it indicates that writing the specified remote buffer memory has been completed.
Error completion	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output

## FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

## 2. 3. M+NZ2GF2S-60IOLD8\_OutputOnCntRd (Number of ON times integration value read)

Name								
M+NZ2GF2S-60IOLD8_OutputOnCntRd								
FB details								
Item	Description							
Functional overview	Reads the number of output ON times integration value of the IO-Link module.							
Symbol	<div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div></div><div><div>B:FB_EN</div><div>W:rw_Start_IO_No</div><div>W:rw_Station_No</div><div>W:rw_CH_No</div></div><div><div>M+NZ2GF2S-60IOLD8_OutputOnCntRd</div><div>FB_ENO:B</div><div>FB_OK:B</div><div>ow_OutputONTotals:W</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div><div><div>Execution status</div><div>Normal completion</div><div>The number of output ON times</div><div>Error completion</div><div>Error code</div></div></div>							
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.						
		<table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2	MELSEC-L series	LJ71GF11-T2
		Series	Model					
		MELSEC-Q series	QJ71GF11-T2					
	MELSEC-L series	LJ71GF11-T2						
Target CPU	This FB library can be used in the following programmable controller CPU module.							
<table><tr><td>Series</td><td>Model</td></tr><tr><td rowspan="3">MELSEC-Q series※1</td><td>Basic model QCPU※2</td></tr><tr><td>High performance model QCPU※3</td></tr><tr><td>Universal Model QCPU</td></tr><tr><td>MELSEC-L series</td><td>-</td></tr></table> <div>*1 Not applicable to QCPU-A (A mode) *2 First five digits of serial No. are “04122” or later can be used *3 First five digits of serial No. are “04012” or later can be used</div>	Series	Model	MELSEC-Q series※1	Basic model QCPU※2	High performance model QCPU※3	Universal Model QCPU	MELSEC-L series	-
Series	Model							
MELSEC-Q series※1	Basic model QCPU※2							
	High performance model QCPU※3							
	Universal Model QCPU							
MELSEC-L series	-							
GX Works2	Ver1.580E or later							
Description Language	Ladder diagram							
Number of steps	298 Step (for MELSEC-Q series universal model CPU)  *The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.							

Item	Description
Functional description	<ol style="list-style-type: none"> <li>1) By turning FB_EN(execution command) ON, the number of output ON times integration value of IO-Link module is read. The read number of output ON times integration value is stored for the following size from the device set to ow_OutputOnTotal(number of output ON times integration value). * IO-Link module: 16 words</li> <li>2) When FB_EN (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.</li> <li>3) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation method	Macro type
Restrictions And Precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>5) The device stores value of the read remote buffer memory requires continuous area of the read point.</li> <li>6) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>7) For this FB, it is necessary to set the circuits for all input labels.</li> </ol>
FB operation	On-demand execution type



Item	Description	
Timing chart of I/O signals	<p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Event history clear processing</p> <p>ow_OutputONTototal (number of output ON times)</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code)</p> <p>0</p>	<p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Event history clear processing</p> <p>ow_OutputONTototal (number of output ON times)</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code)</p> <p>0 (5) 0</p>
	<p>*1.1 Only for one scan is turned on.</p> <p>*2 Read data is updated upon each completion of read processing.</p> <p>(1) Not processed</p> <p>(2) Processing</p> <p>(3) Not updated</p> <p>(4) Updating</p> <p>(5) Error Code</p>	

## Error code

### ■Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range.The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■Input labels

Name (Comment)	Label Name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.

■Output labels

Name (Comment)	Label Name	Data type	Default value	Description
Execution status	FB_ENO	Bit	OFF	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	OFF	When ON, it indicates that reading number of output ON times integration value has been completed.
Number of output ON times integration value	ow_OutputONTotals	Word	0	Specifies the start device to which the number of output ON times integration value is stored.
Error completion	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output

### FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

2. 4. M+NZ2GF2S-60IOLD8\_OutputOnCntClr(The number of output ON times integration value clear)

Name									
M+NZ2GF2S-60IOLD8_OutputOnCntClr									
FB details									
Item	Description								
Functional overview	Clears the number of output ON times integration value of the IO-Link module.								
Symbol	<div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div><div>The number of output ON times integration value clear selection</div></div><div><div>M+NZ2GF2S-60IOLD8_OutputOnCntClr</div><div>B:FB_EN</div><div>W.iw_Start_IO_No</div><div>W.iw_Station_No</div><div>W.iw_CH_No</div><div>W.iw_OutputClrSlct</div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div><div><div>Execution status</div><div>Normal</div><div>Error completion</div><div>Error code</div></div></div>								
FB details	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.							
		<table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2	MELSEC-L series	LJ71GF11-T2	
		Series	Model						
		MELSEC-Q series	QJ71GF11-T2						
	MELSEC-L series	LJ71GF11-T2							
Target CPU	This FB library can be used in the following programmable controller CPU module.								
	<table><tr><td>Series</td><td>Model</td></tr><tr><td rowspan="3">MELSEC-Q series※1</td><td>Basic model QCPU※2</td></tr><tr><td>High performance model QCPU※3</td></tr><tr><td>Universal Model QCPU</td></tr><tr><td>MELSEC-L series</td><td>-</td></tr></table>	Series	Model	MELSEC-Q series※1	Basic model QCPU※2	High performance model QCPU※3	Universal Model QCPU	MELSEC-L series	-
	Series	Model							
	MELSEC-Q series※1	Basic model QCPU※2							
High performance model QCPU※3									
Universal Model QCPU									
MELSEC-L series	-								
*1 Not applicable to QCPU-A (A mode)									
*2 First five digits of serial No. are “04122” or later can be used									
*3 First five digits of serial No. are “04012” or later can be used									
GX Works2	Ver1.580E or later								
Description Language	Ladder diagram								
Number of steps	415 Step(for MELSEC-Q series universal model CPU) *The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.								

Item	Description
Functional description	<ol style="list-style-type: none"> <li>1) When FB_EN (execution command) is turned on, the total number of output on times selected by iw_OutputClrSlet (total number of output on times clear selection) is cleared.</li> <li>2) This FB operates only for one shot when FB_EN (execution command) is turned on.</li> <li>3) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation method	Macro type
Restrictions And Precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>5) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>6) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>7) For this FB, it is necessary to set the circuits for all input labels.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)
Timing chart of I/O signals	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Number of ON times integration value clear processing</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0</p> <p>(1) Not processed (2) Processing (3) Error code</p> </div> <div style="width: 45%;"> <p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Number of ON times integration value clear processing</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0 (3) 0</p> </div> </div>

## Error code

### ■Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range.The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
0200(Hexadecimal)	The FB can not execute because the request flag or command flag is already ON.	Turn off the relevant request flag or the command flag. Then, execute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■Input Labels

Name (Comment)	Label Name	Data type	Scope	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module.Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.
The number of output ON times integration value clear selection	iw_OutputClrSlct	Word	<ul style="list-style-type: none"> <li>IO-Link module</li> <li>b00:CH1</li> <li>b01:CH2</li> <li>b02:CH3</li> <li>b03:CH4</li> <li>b04:CH5</li> <li>b05:CH6</li> <li>b06:CH7</li> <li>b07:CH8</li> </ul>	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.)

## ■Output Labels

Name (Comment)	Label name	Data type	Default value	Description
Execution status	FB_ENO	Bit	OFF	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	OFF	When ON, it indicates that clearing the number of output ON times integration value has been completed.
Error completion	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output

## FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

2. 5. M+NZ2GF2S-60IOLD8\_UnitParamRd (Parameter Read)

Name
M+NZ2GF2S-60IOLD8_UnitParamRd
FB details

Item	Description								
Functional overview	Reads the IO-Link module parameters.								
Symbol	<div><div><div><div>M+NZ2GF2S-60IOLD8_UnitParamRd</div><div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div></div><div><div>B:FB_EN</div><div>W:iw_Start_IO_No</div><div>W:iw_Station_No</div><div>W:iw_CH_No</div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>ow_ReadData:W</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div><div><div>Execution status</div><div>Normal completion</div><div>Read data</div><div>Error completion</div><div>Error code</div></div></div></div></div></div>								
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.							
		<table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2	MELSEC-L series	LJ71GF11-T2	
		Series	Model						
	MELSEC-Q series	QJ71GF11-T2							
	MELSEC-L series	LJ71GF11-T2							
Target CPU	This FB library can be used in the following programmable controller CPU module.								
	<table><tr><td>Series</td><td>Model</td></tr><tr><td rowspan="3">MELSEC-Q series*1</td><td>Basic model QCPU*2</td></tr><tr><td>High performance model QCPU*3</td></tr><tr><td>Universal model QCPU</td></tr><tr><td>MELSEC-L series</td><td>-</td></tr></table>	Series	Model	MELSEC-Q series*1	Basic model QCPU*2	High performance model QCPU*3	Universal model QCPU	MELSEC-L series	-
	Series	Model							
	MELSEC-Q series*1	Basic model QCPU*2							
High performance model QCPU*3									
Universal model QCPU									
MELSEC-L series	-								
*1 Not applicable to QCPU-A (A mode)									
*2 First five digits of serial No. are “04122” or later									
*3 First five digits of serial No. are “04012” or later									
GX Works2	Ver1.580E or later								
Description language	Ladder diagram								
Number of steps	537 Step (for MELSEC-Q series universal model CPU)  * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.								



Item	Description
Functional description	<ol style="list-style-type: none"> <li>1) When FB_EN (execution command) is turned on, parameters of the IO-Link module are read and stored in ow_ReadData (read data).</li> <li>2) This FB is completed in several scans after FB_EN (execution command) is turned on.</li> <li>3) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>5) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>6) For this FB, it is necessary to set the circuits for all input labels.</li> <li>7) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>8) For the device where the read parameter value is stored, successive areas with the parameter size are required. About parameter data, refer to "CC-Link Field Network remote IO-Link module user's manual".</li> <li>9) This FB reads the value of the parameter area of the remote buffer memory. It may be different from the actual operation parameters.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)
Timing chart of I/O signals	<div> <p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Parameter read processing (1) (2) (3)</p> <p>ow_ReadData(Read data) 0 (3)</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0</p> <p>(1) Not processed (2) Processing (3) Parameter (4) Error code</p> </div> <div> <p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Parameter read processing (1)</p> <p>ow_ReadData(Read data) 0</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0 (4) 0</p> </div>

## Error code

### ■ Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range. The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■ Input labels

Name (comment)	Label name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.

■ Output labels

Name (comment)	Label name	Data type	Default value	Description
Execution status	FB_ENO	Bit	Off	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	Off	When ON, it indicates that reading the parameter has been completed.
Read data	ow_ReadData	Word	0	Specifies the start device to which the readparameter value is stored. About parameter data, refer to "CC-Link Field Network remote IO-Link module user's manual".
Error completion	FB_ERROR	Bit	Off	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output.

## FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

2. 6. M+NZ2GF2S-60IOLD8\_UnitParamWt(Parameter Write)

<b>Name</b>
M+NZ2GF2S-60IOLD8_UnitParamWt
<b>FB details</b>

Item	Description			
Functional overview	Writes the IO-Link module parameters.			
Symbol	<div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div><div>Write data</div></div><div><div>M+NZ2GF2S-60IOLD8_UnitParamWt</div><div><div>B:FB_EN</div><div>W:rw_Start_IO_No</div><div>W:rw_Station_No</div><div>W:rw_CH_No</div><div>W:rw_WriteData</div></div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div><div><div>Execution status</div><div>Normal completion</div><div>Error completion</div><div>Error code</div></div></div>			
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.		
		Series	Model	
		MELSEC-Q series	QJ71GF11-T2	
		MELSEC-L series	LJ71GF11-T2	
	Target CPU	This FB library can be used in the following programmable controller CPU module.		
		Series	Model	
		MELSEC-Q series*1	Basic model QCPU*2	
			High performance model QCPU*3	
			Universal model QCPU	
	MELSEC-L series	-		
			*1 Not applicable to QCPU-A (A mode)	
			*2 First five digits of serial No. are “04122” or later	
			*3 First five digits of serial No. are “04012” or later	
	GX Works2	Ver1.580E or later		
Description language	Ladder diagram			
Number of steps	784 Step(for MELSEC-Q series universal model CPU)  * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.			

Item	Description
Functional description	<ol style="list-style-type: none"> <li>1) Writes the parameters of the IO-Link module when FB_EN(execution command) is turned on.</li> <li>2) This FB is completed in several scans after FB_EN (execution command) is turned on.</li> <li>3) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>5) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>6) For this FB, it is necessary to set the circuits for all input labels.</li> <li>7) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>8) Do not power off the module or perform remote reset during execution of this FB.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)
Timing chart of I/O signals	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Parameter write processing (1) (2) (1)</p> <p>Parameter (3) (4)</p> <p>Operation condition setting request flag</p> <p>Operation condition setting completion flag</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0</p> <p>(1) Not processed (2) Processing (3) Not updated (4) Updating (5) Error code</p> </div> <div style="width: 45%;"> <p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Parameter write processing (1)</p> <p>Parameter (3)</p> <p>Operation condition setting request flag</p> <p>Operation condition setting completion flag</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0 (5) 0</p> </div> </div>

## Error code

### ■ Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range. The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
0200(Hexadecimal)	The FB can not execute because the request flag or command flag is already ON.	Turn off the relevant request flag or the command flag. Then, execute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■ Input labels

Name (comment)	Label name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.
Write data	iw_WriteData	Word	-	Specifies the start device of the parameter data to be written. About parameter data, refer to "CC-Link Field Network remote IO-Link module user's manual".

■ Output labels

Name (comment)	Label name	Data type	Default value	Description
Execution status	FB_ENO	Bit	Off	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	Off	When ON, it indicates that writing the parameter has been completed.
Error completion	FB_ERROR	Bit	Off	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output.

### FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

## 2. 7. M+NZ2GF2S-60IOLD8\_DeviceParamRd (IO-Link Device Parameter Read)

**Name**

M+NZ2GF2S-60IOLD8\_DeviceParamRd

**FB details**

Item	Description									
Functional overview	Reads the specified parameter from the IO-Link device.									
Symbol	<div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div><div>Channel of the IO-Link module</div><div>Index</div><div>Sub index</div><div>Read data size</div></div><div><div>M+NZ2GF2S-60IOLD8_DeviceParamRd</div><div><div>B:FB_EN</div><div>W:iw_Start_IO_No</div><div>W:iw_Station_No</div><div>W:iw_CH_No</div><div>W:iw_Target_CH</div><div>W:iw_Index</div><div>W:iw_SubIndex</div><div>W:iw_ReadSize</div></div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>ow_ReadSize:W</div><div>ow_ReadData:W</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div><div>ow_Result:W</div></div><div><div>Execution status</div><div>Normal completion</div><div>Read data size</div><div>Read data</div><div>Error completion</div><div>Error code</div><div>Execution result</div></div></div>									
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.								
		<table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2	MELSEC-L series	LJ71GF11-T2		
		Series	Model							
	MELSEC-Q series	QJ71GF11-T2								
MELSEC-L series	LJ71GF11-T2									
Target CPU	This FB library can be used in the following programmable controller CPU module.									
		<table><tr><td>Series</td><td>Model</td></tr><tr><td rowspan="3">MELSEC-Q series*1</td><td>Basic model QCPU*2</td></tr><tr><td>High performance model QCPU*3</td></tr><tr><td>Universal model QCPU</td></tr><tr><td>MELSEC-L series</td><td>-</td></tr></table>	Series	Model	MELSEC-Q series*1	Basic model QCPU*2	High performance model QCPU*3	Universal model QCPU	MELSEC-L series	-
		Series	Model							
		MELSEC-Q series*1	Basic model QCPU*2							
High performance model QCPU*3										
Universal model QCPU										
MELSEC-L series	-									
*1 Not applicable to QCPU-A (A mode)										
*2 First five digits of serial No. are “04122” or later										
*3 First five digits of serial No. are “04012” or later										
	GX Works2	Ver1.580E or later								
Description language	Ladder diagram									



Item	Description
Number of steps	<p>741 Step (for MELSEC-Q series universal model CPU)</p> <p>* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</p>
Functional description	<ol style="list-style-type: none"> <li>1) When FB_EN (execution command) is turned on, the parameter specified by iw_Index (index) or iw_SubIndex (sub index) is read from the IO-Link device connected to the channel of the IO-Link module specified by iw_Target_CH (channel of the IO-Link module), and data of the size specified by iw_ReadSize (read data size) is stored in ow_ReadData (read data). When iw_SubIndex (sub index) is set to 0, all the parameters of iw_Index (index) is read. When iw_SubIndex (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 ow_ReadSize (read data size). The execution result is stored in ow_Result (execution result). About command result, refer to command result list.</li> <li>2) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>5) For the device where the read parameter value is stored, successive areas with the parameter size are required. (Up to 232 bytes)</li> <li>6) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>7) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>8) For this FB, it is necessary to set the circuits for all input labels.</li> <li>9) When the read data size is set to odd number of bytes, 0 is stored for the upper one byte of the read data.</li> <li>10) Do not execute this module FB until the FB for reading/writing IO-Link device parameters is completed successfully or completed with an error.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)

Item	Description	
Timing chart of I/O signals	<div> <div> <p>【When the processing is completed successfully】</p> <p>(1) Not processed (2) Processing (3) Data (4) Updating (5) Error code</p> </div> <div> <p>【When the processing is completed with an error】</p> </div> </div>	

## Error code

### ■ Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range. The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
0102(Hexadecimal)	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 and correct the setting and excute FB again.
0201(Hexadecimal)	FB has already been run for the target IO-Link module.	Run the FB again after the Io-link device parameter read/write FB is complete.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Execution result

### ■ Execution result list

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

## Labels

### ■ Input labels

Name (comment)	Label name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.
Channel of the IO-Link module	iw_Target_CH	Word	1 to 8	Specifies the channel of the IO-Link module to which the target IO-Link device is connected.
Index	iw_Index	Word	0 to 2, 4 to 65535	Specifies the index of the parameter to be read.
Sub index	iw_SubIndex	Word	0 to 255	Specifies the sub index of the parameter to be read.
Read data size	iw_ReadSize	Word	0 to 256	Specifies data size of the parameter to be read.



## ■ Output labels

Name (comment)	Label name	Data type	Default value	Description
Execution status	FB_ENO	Bit	Off	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	Off	When ON, it indicates that reading the IO-Link device parameter has been completed.
Read data size	ow_ReadSize	Word	0	Size of the read parameter data is stored in units of byte.
Read data	ow_ReadData	Word	0	Specifies the start device to which the read parameter value is stored.
Error completion	FB_ERROR	Bit	Off	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output.
Execution result	ow_Result	Word	0	Return command result of connecting with IO-Link device.

## FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

2. 8. M+NZ2GF2S-60IOLD8\_DeviceParamWt(IO-Link Device Parameter Write)

Name
M+NZ2GF2S-60IOLD8_DeviceParamWt
FB details

Item	Description	
Functional Overview	Writes the specified parameter to the IO-Link device.	
Symbol	<div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div><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Item	Description
Number of steps	<p>729 Step (for MELSEC-Q series universal model CPU)</p> <p>* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</p>
Functional description	<p>1) When FB_EN (execution command) is turned on, data specified by iw_WriteSize (write data size) and iw_WriteData (write data) is written to the parameter specified by iw_Index (index) and iw_SubIndex (sub index) of the IO-Link device connected to the channel of the IO-Link module specified by iw_Target_CH (channel of the IO-Link module). When iw_SubIndex (sub index) is set to 0, data is written to all the parameters of iw_Index (index). When iw_SubIndex (sub index) is set to other than 0, data is written only to the parameter set by the sub index.</p> <p>The execution result is stored in ow_Result (execution result). About command result, refer to command result list.</p> <p>2) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</p>
FB compilation Method	Macro type
Restrictions and precautions	<p>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</p> <p>2) The FB cannot be used in an interrupt program.</p> <p>3) This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</p> <p>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</p> <p>5) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</p> <p>6) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</p> <p>7) For this FB, it is necessary to set the circuits for all input labels.</p> <p>8) Do not power off the module or perform remote reset during execution of this FB.</p> <p>9) Do not execute this module FB until the FB for reading/writing IO-Link device parameters is completed successfully or completed with an error.</p>
FB operation	Pulse execution type (multiple scan execution type)

Item	Description	
Timing chart of I/O signals	<p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Parameter write processing</p> <p>Specified parameter</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code)</p> <p>ow_Result(Execution result)</p> <p>(1) Not processed (2) Processing (3) Not updated (4) Updating (5) Error code</p>	<p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Parameter write processing</p> <p>Specified parameter</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code)</p> <p>ow_Result(Execution result)</p> <p>(1) Not processed (2) Processing (3) Not updated (4) Updating (5) Error code</p>



## Error code

### ■ Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range. The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
0102(Hexadecimal)	The target channel of IO-Link module is out of setting range. It is set to other than 1 to 8.	Check and correct the setting and excute FB again.
0201(Hexadecimal)	FB has already been run for the target IO-Link module.	Run the FB again after the Io-link device parameter read/write FB is complete.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Execution result

### ■ Execution result list

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

## Labels

### ■ Input labels

Name (comment)	Label name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by Own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.
Channel of the IO-Link module	iw_Target_CH	Word	1 to 8	Specifies the channel of the IO-Link module to which the target IO-Link device is connected.
Index	iw_Index	Word	2, 4 to 65535	Specifies the index of the parameter to be read.
Sub index	iw_SubIndex	Word	0 to 255	Specifies the sub index of the parameter to be read.
Write data size	iw_WriteSize	Word	1 to 232	Specifies the size of data to be written in units of byte.
Write data	iw_WriteData	Word	-	Specifies the start device of data to be written.



■ Output labels

Name (comment)	Label name	Data type	Default value	Description
Execution status	FB_ENO	Bit	Off	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	Off	When ON, it indicates that writing the IO-Link device parameter has been completed.
Error completion	FB_ERROR	Bit	Off	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output.
Execution result	ow_Result	Word	0	Return command result of connecting with IO-Link device.

### FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

2. 9. M+NZ2GF2S-60IOLD8\_DeviceChg(Device Change)

Name

M+NZ2GF2S-60IOLD8\_DeviceChg

FB Details

Item	Description								
Functional overview	Turns on the device change flag and disables the detection of disconnection error. This module FB disables input/output in IO-Link mode and turns off input/output in SIO mode. This module FB is used when the device is replaced during power-on.								
Symbol	<div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div><div>Device change selection</div></div><div><div>M+NZ2GF2S-60IOLD8_DeviceChg</div><div>B:FB_EN</div><div>W:iw_Start_IO_No</div><div>W:iw_Station_No</div><div>W:iw_CH_No</div><div>W:iw_ChangeSlet</div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div><div><div>Execution status</div><div>Normal completion</div><div>Error completion</div><div>Error code</div></div></div>								
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.							
		<table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2	MELSEC-L series	LJ71GF11-T2	
		Series	Model						
		MELSEC-Q series	QJ71GF11-T2						
MELSEC-L series	LJ71GF11-T2								
Target CPU	This FB library can be used in the following programmable controller CPU module.								
	<table><tr><th>Series</th><th>Model</th></tr><tr><td rowspan="3">MELSEC-Q Series*1</td><td>Basic model QCPU*2</td></tr><tr><td>High performance model QCPU*3</td></tr><tr><td>Universal model QCPU</td></tr><tr><td>MELSEC-L Series</td><td>-</td></tr></table>	Series	Model	MELSEC-Q Series*1	Basic model QCPU*2	High performance model QCPU*3	Universal model QCPU	MELSEC-L Series	-
	Series	Model							
	MELSEC-Q Series*1	Basic model QCPU*2							
High performance model QCPU*3									
Universal model QCPU									
MELSEC-L Series	-								
*1 Not applicable to QCPU-A (A mode)									
*2 First five digits of serial No. are “04122” or later									
*3 First five digits of serial No. are “04012” or later									
	GX Works2	Ver1.580E or later							
Description language	Ladder diagram								
Number of steps	305 Step (for MELSEC-Q series universal model CPU)  * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.								

Item	Description
Functional description	<ol style="list-style-type: none"> <li>1) When FB_EN (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 iw_ChangeSlct (device change selection). For device change flag, refer to CC-Link IE Field Network Remote IO-Link Module User's Manual. After confirming that the FB_OK (normal completion) and the CH led of the target channel have changed to flashing, please perform the device replacement.</li> <li>2) After replacing the device, set the target bit of iw_ChangeSlct (device change selection) to off, and execute this FB again.</li> <li>3) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation Method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>5) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>6) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>7) For this FB, it is necessary to set the circuits for all input labels.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)
Timing chart of I/O signals	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Device change status</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code)</p> <p>(1) Not processed (2) Processing (3) Error code</p> </div> <div style="width: 45%;"> <p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Device change status</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code)</p> <p>(1) Not processed (2) Processing (3) Error code</p> </div> </div>

## Error code

### ■ Error code list

Error	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range. The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■ Input labels

Name (Comment)	Label name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY addres of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.
Device change selection	iw_ChangeSlct	Word	<ul style="list-style-type: none"> <li>IO-Link module</li> <li>b00:CH1</li> <li>b01:CH2</li> <li>b02:CH3</li> <li>b03:CH4</li> <li>b04:CH5</li> <li>b05:CH6</li> <li>b06:CH7</li> <li>b07:CH8</li> </ul>	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

Name (Comment)	Label name	Data type	Default value	Description
Execution status	FB_ENO	Bit	Off	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	Off	When ON, it indicates that writing the device swapping flag has been completed.
Error completion	FB_ERROR	Bit	Off	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output.

### FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

2. 10. M+NZ2GF2S-60IOLD8\_EventRd(Event read)

Name
M+NZ2GF2S-60IOLD8_EventRd
FB Details

Item	Description			
Functional Overview	Reads the oldest event information from unchecked events.			
Symbol	<div><div><div>M+NZ2GF2S-60IOLD8_EventRd</div><div><div>Execution command — B:FB_EN</div><div>XY address of module mounted — W:iw_Start_IO_No</div><div>Station number — W:iw_Station_No</div><div>Channel used by own station — W:iw_CH_No</div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>ow_EventData:W</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div><div><div>Execution status</div><div>Normal completion</div><div>Event information</div><div>Error completion</div><div>Error code</div></div></div></div>			
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.		
		Series	Model	
		MELSEC-Q series	QJ71GF11-T2	
		MELSEC-L series	LJ71GF11-T2	
	Target CPU	This FB library can be used in the following programmable controller CPU module.		
Series		Model		
MELSEC-Q series*1		Basic model QCPU*2		
		High performance model QCPU*3		
		Universal model QCPU		
MELSEC-L series	-			
		*1 Not applicable to QCPU-A (A mode)		
		*2 First five digits of serial No. are “04122” or later		
		*3 First five digits of serial No. are “04012” or later		
	GX Works2	Ver1.580E or later		
Description language	Ladder diagram			
Number of steps	527 Step (for MELSEC-Q series universal model CPU) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.			



Item	Description
Functional description	<ol style="list-style-type: none"> <li>1) When FB_EN(execution command) is turned on, the information of the oldest unchecked event is read from the target module and written to ow_EventData(event information).</li> <li>2) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>4) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>5) For this FB, it is necessary to set the circuits for all input labels.</li> <li>6) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>7) For the device where the read event information value is stored, successive areas having the size of the event data for each station are required. * Station-based event data: 5 words About detail of station-based event data, refer to "CC-Link Field Network remote IO-Link module user's manual".</li> <li>8) This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)
Timing chart of I/O signals	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>【When the processing is completed successfully】</p> <p>(1) Event information (2) Error code</p> </div> <div style="width: 45%;"> <p>【When the processing is completed with an error】</p> </div> </div>

## Error code

### ■ Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range. The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
0200(Hexadecimal)	The FB can not execute because the request flag or command flag is already ON.	Turn off the relevant request flag or the command flag. Then, execute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■ Input labels

Name (Comment)	Label name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.

■ Output labels

Name (Comment)	Label name	Data Type	Default value	Description
Execution status	FB_ENO	Bit	Off	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	Off	When ON, it indicates that reading the event history has been completed.
Event information	ow_EventData	Word	0	Specifies the start device to which the read event information is stored.
Error completion	FB_ERROR	Bit	Off	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output.

### FB Version History

Version	Date	Description
1.00A	2018/10/31	New create

2. 11. M+NZ2GF2S-60IOLD8\_EventClr(Event History clear)

Name

M+NZ2GF2S-60IOLD8\_EventClr

FB Details

Item	Description								
Functional overview	Clears the event history.								
Symbol	<div><div><div>M+NZ2GF2S-60IOLD8_EventClr</div><div><div>Execution command</div><div>XY address of module mounted</div><div>Station number</div><div>Channel used by own station</div></div><div><div>B:FB_EN</div><div>W:iw_Start_IO_No</div><div>W:iw_Station_No</div><div>W:iw_CH_No</div></div><div><div>FB_ENO:B</div><div>FB_OK:B</div><div>FB_ERROR:B</div><div>ERROR_ID:W</div></div><div><div>Execution status</div><div>Normal completion</div><div>Error completion</div><div>Error code</div></div></div></div>								
Available device	Target CC-Link IE Field Network master/local module	This FB library can be used in the following module.							
		<table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-Q series</td><td>QJ71GF11-T2</td></tr><tr><td>MELSEC-L series</td><td>LJ71GF11-T2</td></tr></table>	Series	Model	MELSEC-Q series	QJ71GF11-T2	MELSEC-L series	LJ71GF11-T2	
		Series	Model						
		MELSEC-Q series	QJ71GF11-T2						
	MELSEC-L series	LJ71GF11-T2							
Target CPU	This FB library can be used in the following programmable controller CPU module.								
	<table><tr><td>Series</td><td>Model</td></tr><tr><td rowspan="3">MELSEC-Q series*1</td><td>Basic model QCPU*2</td></tr><tr><td>High performance model QCPU*3</td></tr><tr><td>Universal model QCPU</td></tr><tr><td>MELSEC-L series</td><td>-</td></tr></table>	Series	Model	MELSEC-Q series*1	Basic model QCPU*2	High performance model QCPU*3	Universal model QCPU	MELSEC-L series	-
	Series	Model							
	MELSEC-Q series*1	Basic model QCPU*2							
		High performance model QCPU*3							
Universal model QCPU									
MELSEC-L series	-								
*1 Not applicable to QCPU-A (A mode)									
*2 First five digits of serial No. are “04122” or later									
*3 First five digits of serial No. are “04122” or later									
	GX Works2	Ver1.580E or later							
Description language	Ladder diagram								
Number of steps	457 Step (for MELSEC-Q series universal model CPU) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.								

Item	Description
Functional description	<ol style="list-style-type: none"> <li>1) When FB_EN(execution command) is turned on, the event history is cleared.</li> <li>2) This FB operates only for one shot when FB_EN (execution command) is turned on.</li> <li>3) If an error occurs, FB_ERROR (completed with an error) is turned ON, and the module FB processing is suspended. In addition, error code is stored in ERROR_ID (error code). For the error code, refer to the explanation of the error code.</li> </ol>
FB compilation method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) This FB does not include the error recovery processing. Prepare the error recovery processing separately to fit the user's system and the required operation.</li> <li>2) The FB cannot be used in an interrupt program.</li> <li>3) This FB uses the REMFR/REMTO instruction. When this FB is operated simultaneously with other FBs including this FB or when the REMFR/REMTO instruction is used in a program, ensure that the channels used by own stations are not overlapped.</li> <li>4) This FB requires several scans for the processing from turning on FB_EN (execution command) to turning on FB_OK (completed successfully).</li> <li>5) This FB uses the index register areas (Z7 to Z9). When an interrupt program is used, do not use those areas.</li> <li>6) An interlock program with the transient transmission is required since this FB uses the transient transmission. Create the interlock program separately.</li> <li>7) For this FB, it is necessary to set the circuits for all input labels.</li> <li>8) Do not power off the module or perform remote reset during execution of this FB.</li> </ol>
FB operation	Pulse execution type (multiple scan execution type)
Timing chart of I/O signals	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>【When the processing is completed successfully】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Event history clear processing (1) (2) (1)</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0</p> <p>(1) Not processed (2) Processing (3) Error code</p> </div> <div style="width: 45%;"> <p>【When the processing is completed with an error】</p> <p>FB_EN(Execution command)</p> <p>FB_ENO(Execution status)</p> <p>Event history clear processing (1)</p> <p>FB_OK(Normal completion)</p> <p>FB_ERROR(Error completion)</p> <p>ERROR_ID(Error code) 0 (3) 0</p> </div> </div>

## Error code

### ■ Error code list

Error code	Description	Action
0100(Hexadecimal)	The Station number is out of the setting range. The station number is out of the range between 1 and 120.	Check and correct the setting and excute FB again.
0101(Hexadecimal)	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 and correct the setting and excute FB again.
0200(Hexadecimal)	The FB can not execute because the request flag or command flag is already ON.	Turn off the relevant request flag or the command flag. Then, execute FB again.
D000 to DAF9 (Hexadecimal)	CC-Link IE Field Network error.	Refer to master station user's manual.

## Labels

### ■ Input labels

Name (comment)	Label name	Data type	Scope	Description
Execution command	FB_EN	Bit	On or off	ON: The FB is activated. OFF: The FB is not activated.
XY address of module mounted	iw_Start_IO_No	Word	It depends on the range of I/O point of target CPU module. Refer to target CPU user's manual.	Specifies the start I/O number of CC-Link IE Field Network master/local module in hexadecimal.
Station number	iw_Station_No	Word	1 to 120	Specifies the station number of the target station.
Channel used by own station	iw_CH_No	Word	1 to 32	Specifies the channel for accessing other stations from the own station.

■ Output labels

Name (Comment)	Label name	Data Type	Default value	Description
Execution Status	FB_ENO	Bit	Off	OFF: Execution command is OFF. ON: Execution command is ON.
Normal completion	FB_OK	Bit	Off	When ON, it indicates that clearing the event history has been completed.
Error completion	FB_ERROR	Bit	Off	When ON, it indicates that an error has occurred in the FB.
Error code	ERROR_ID	Word	0	FB error code is output.

### FB Version History

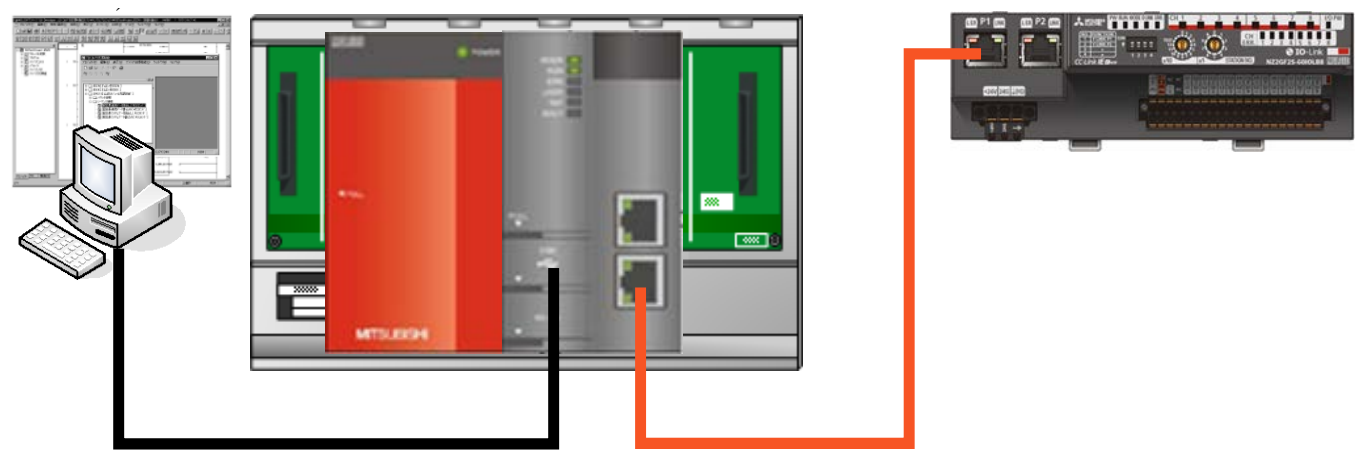
Version	Date	Description
1.00A	2018/10/31	New create

Appendix 1.FB Library Application Examples

The Application Examples of Remote IO-Link module FB are as follows.

System Configuration

(1)Q series system configuration Example



No.	Hardware
1)	Base module
2)	Power module
3)	Q series programmable controller CPU
4)	CC-Link IE Field Network master/local module: QJ71GF11-T2
5)	Remote IO-link module : NZ2GF2S-60IOLD8
6)	GX Works2



(2)L series system configuration Example



No.	Hardware
1)	Power module
2)	L series programmable controller CPU
3)	CC-Link IE Field Network master/local module : LJ71GF11-T2
4)	END cover
5)	Remote IO-Link module : NZ2GF2S-60IOLD8
6)	GX Works2

Reminder

- Every input must be provided with a value for proper FB operation. If not set, the values will be unspecified.
- Abbreviations may be used in label comments due to the limitation on the number of the characters to display in GX Works2

About setting of QJ71GF11-T2(LJ71GF11-T2) and NZ2GF2S-60IOLD8

About setting of QJ71GF11-T2(LJ71GF11-T2) and NZ2GF2S-60IOLD8 refer to 「1. 4. Settings of CC-Link IE Field Network master/local module」 and 「1. 5. Communications settings of NZ2GF2S-60IOLD8」.

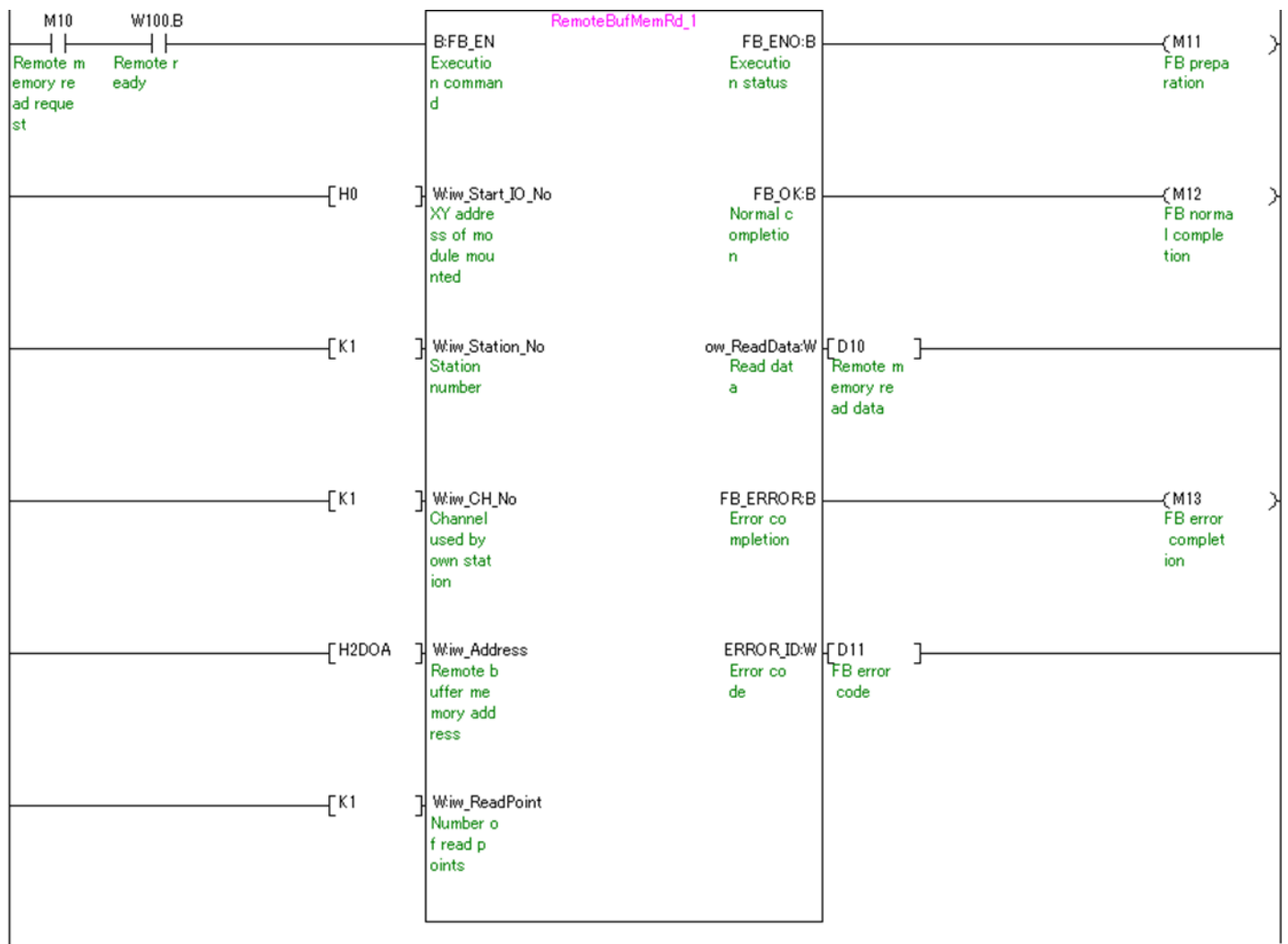
## Program

M+NZ2GF2S-60IOLD8\_RemoteBufMemRd (Remote buffer memory read)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.
iw_Address	H2D0A	Set start address of remote buffer memory read to 2DA0H.
iw_ReadPoint	K1	Set Points of remote buffer memory read to 1 point.

By turning ON M10, content of '2D0AH' remote buffer memory address is read at D10

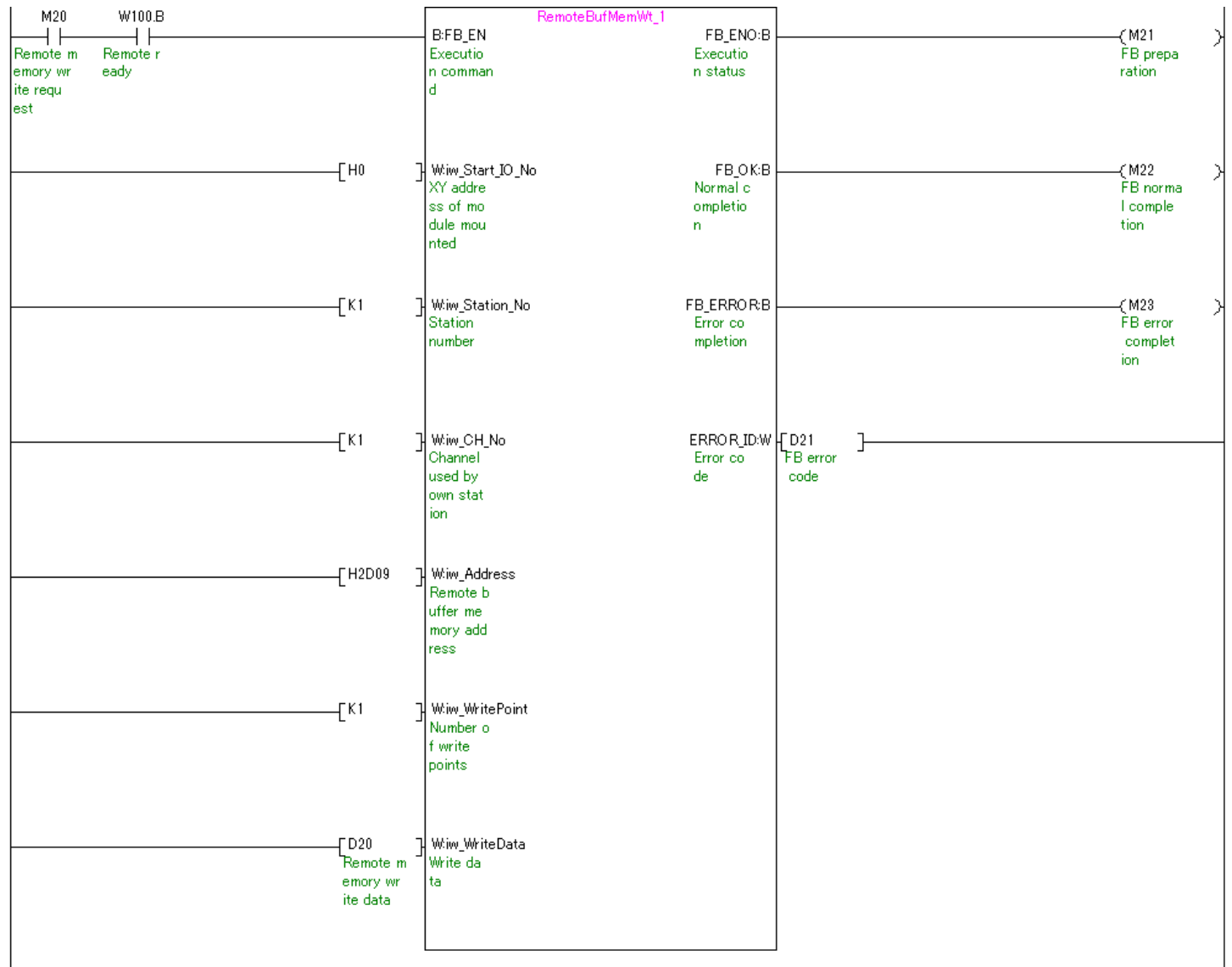


## M+NZ2GF2S-60IOLD8\_RemoteBufMemWt (Remote buffer memory write)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.
iw_Address	H2D09	Set start address of remote buffer memory write to 2D09H.
iw_WritePoint	K1	Set Points of remote buffer memory write to 1 point.

By turning ON M20, content of D20 is written to '2D09H' remote buffer memory address.

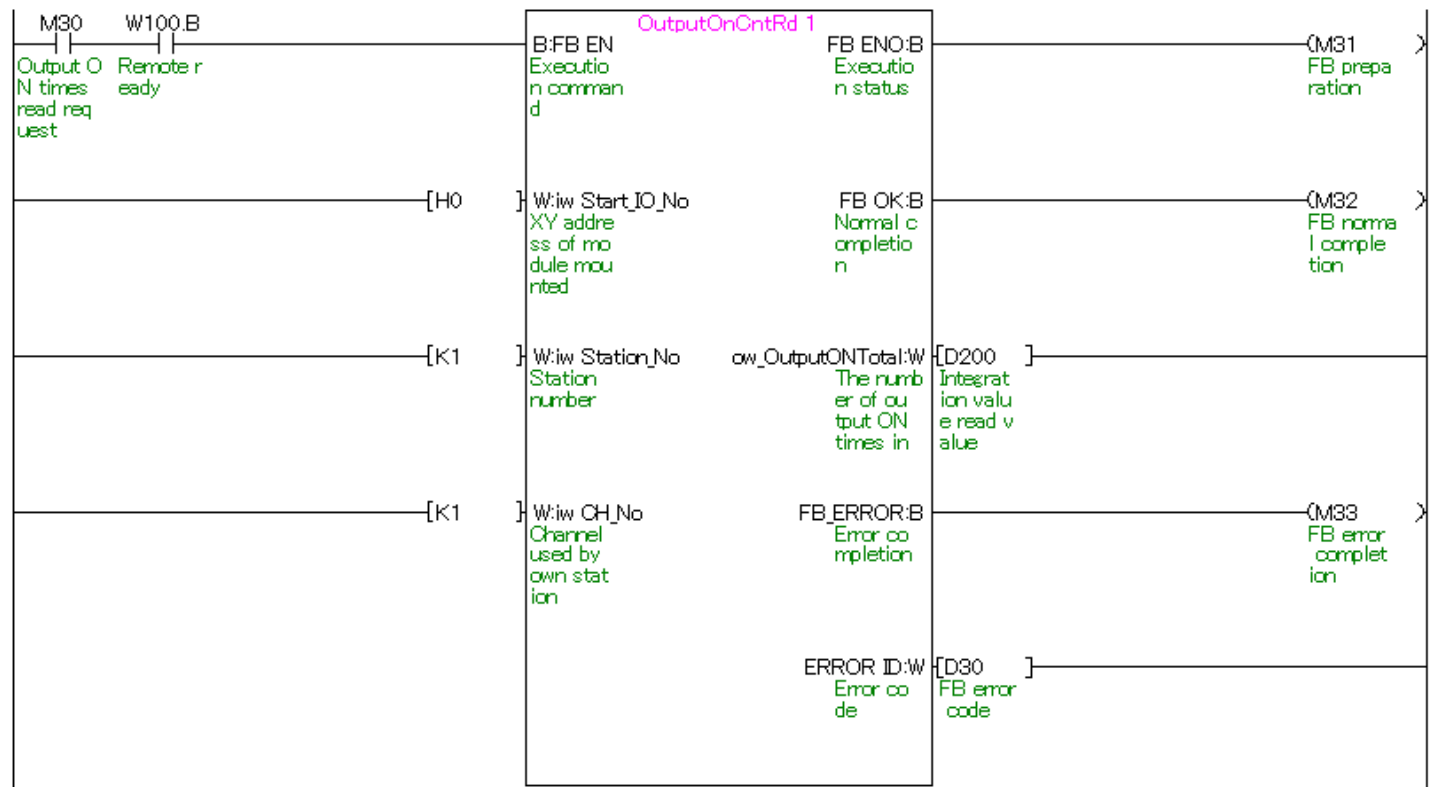


M+NZ2GF2S-60IOLD8\_OutputOnCntRd(Output ON times integration value read)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.

By turning ON M30, content of output ON times integration value is read to D200 or later.

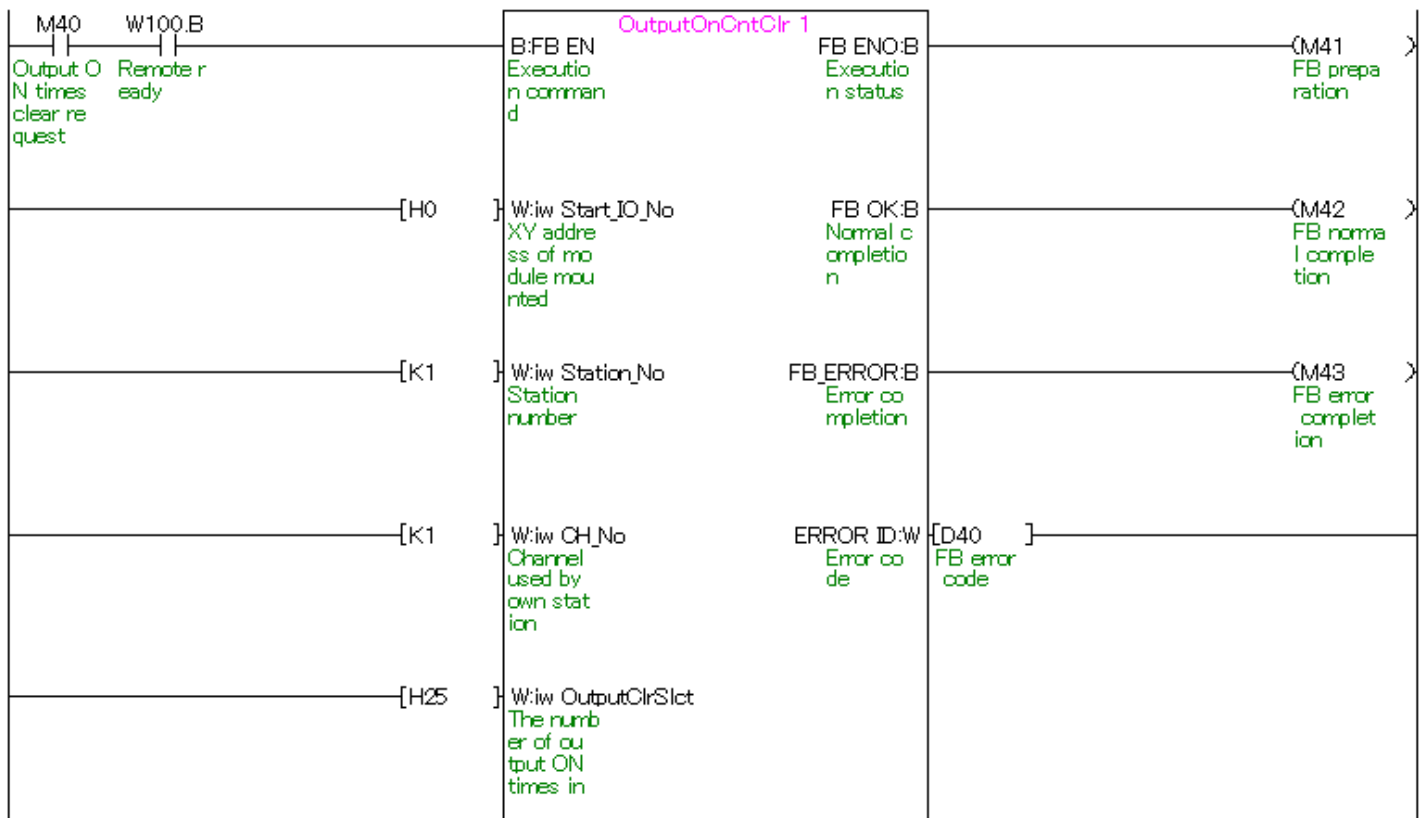


## M+NZ2GF2S-60IOLD8\_OutputOnCntClr(Output ON times integration value clear)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.
iw_OutputClrSlct	H0025	Select CH1, CH3, CH6 for range setting of module which clears output ON times integration value. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> b07   b06   b05   b04   b03   b02   b01   b00  <div style="border: 1px solid black; padding: 2px; display: flex; justify-content: space-between;"> CH8   CH7   CH6   CH5   CH4   CH3   CH2   CH1 </div> </div> </div>

By turning ON M40, CH1, CH3, CH6 of output ON times integration value is clear.

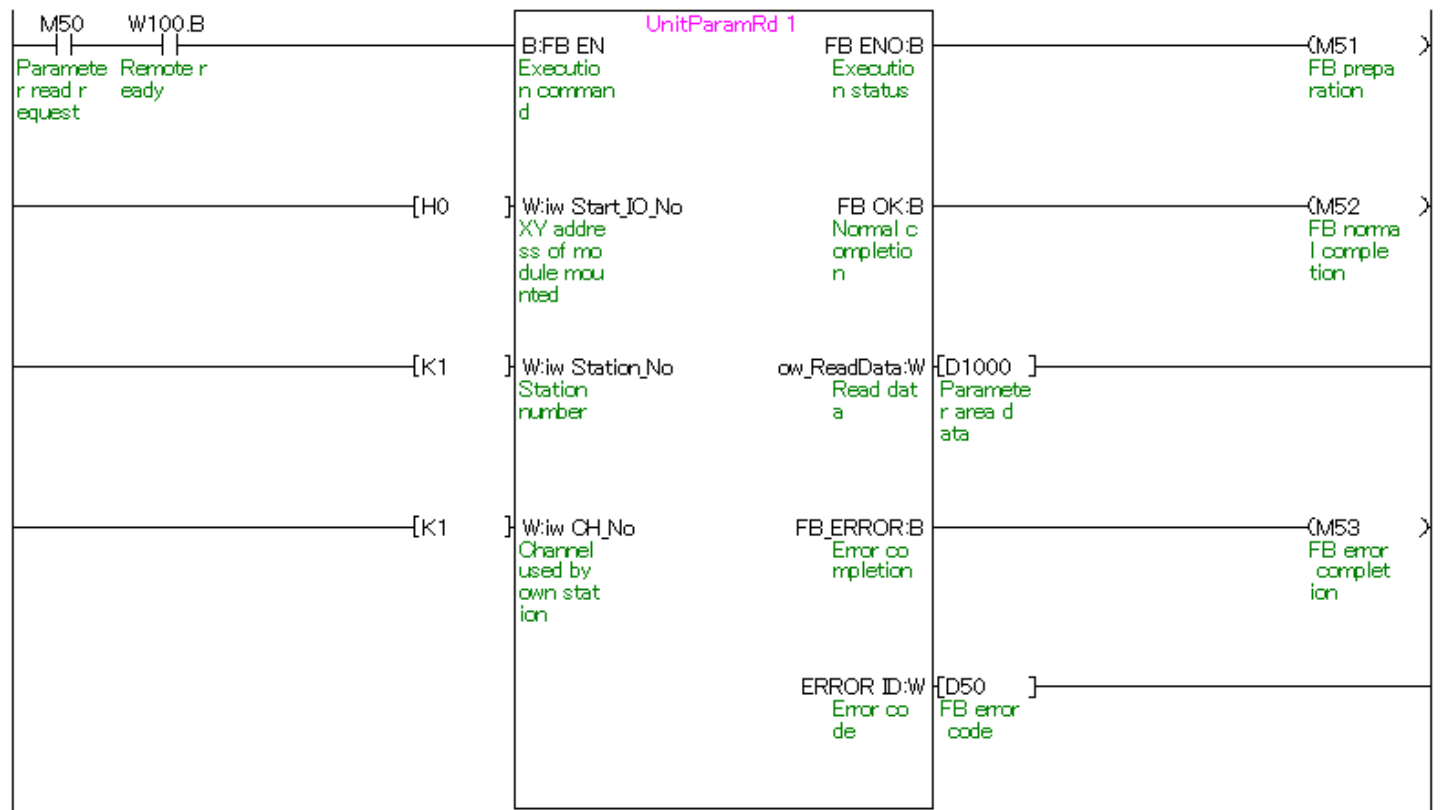


M+NZ2GF2S-60IOLD8\_UnitParamRd (Parameter read)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.

By turning ON M50, content of remote buffer memory parameter area is read to D1000 or later.

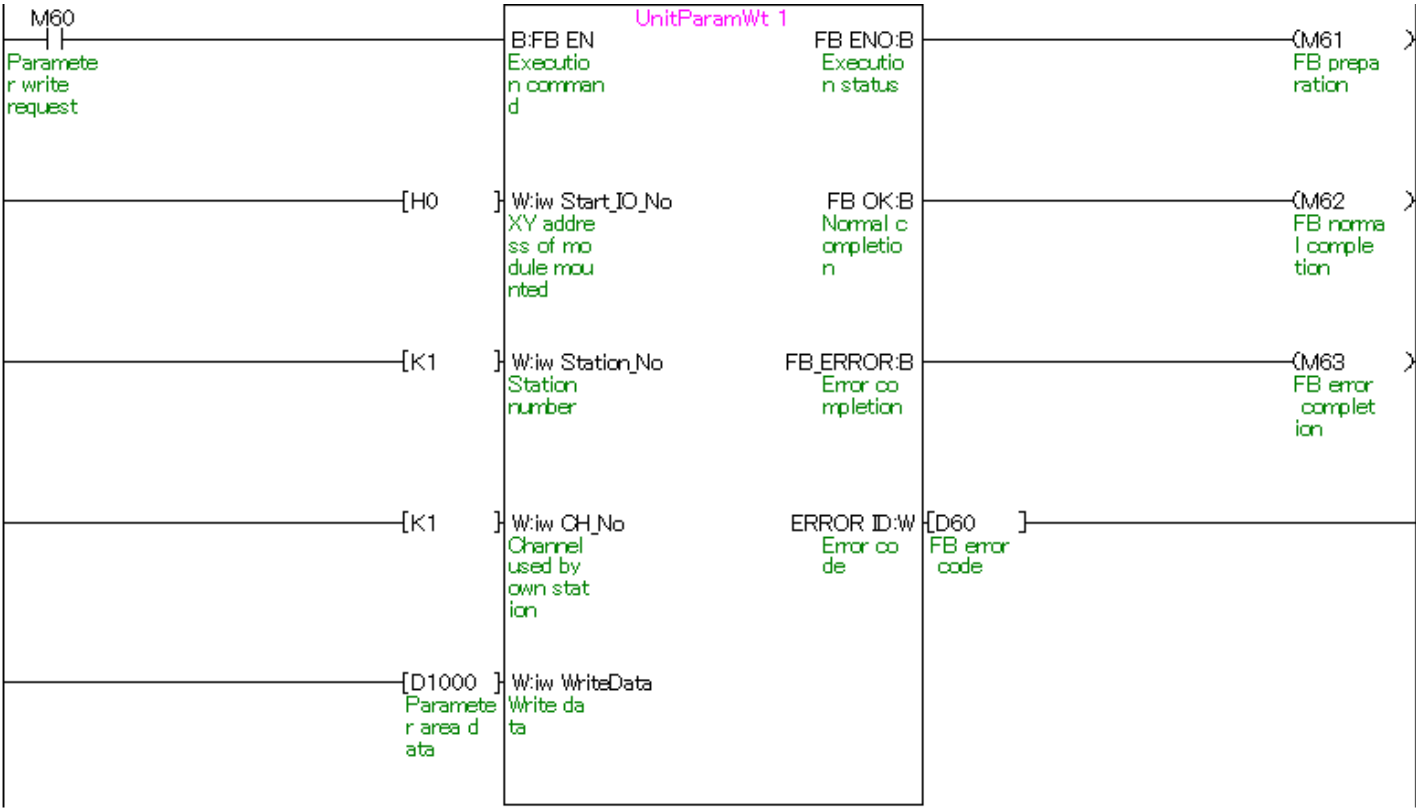


M+NZ2GF2S-60IOLD8\_UnitParamWt(Parameter write)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.

By turning ON M60, content of D1000 or later is written to remote buffer memory parameter area.



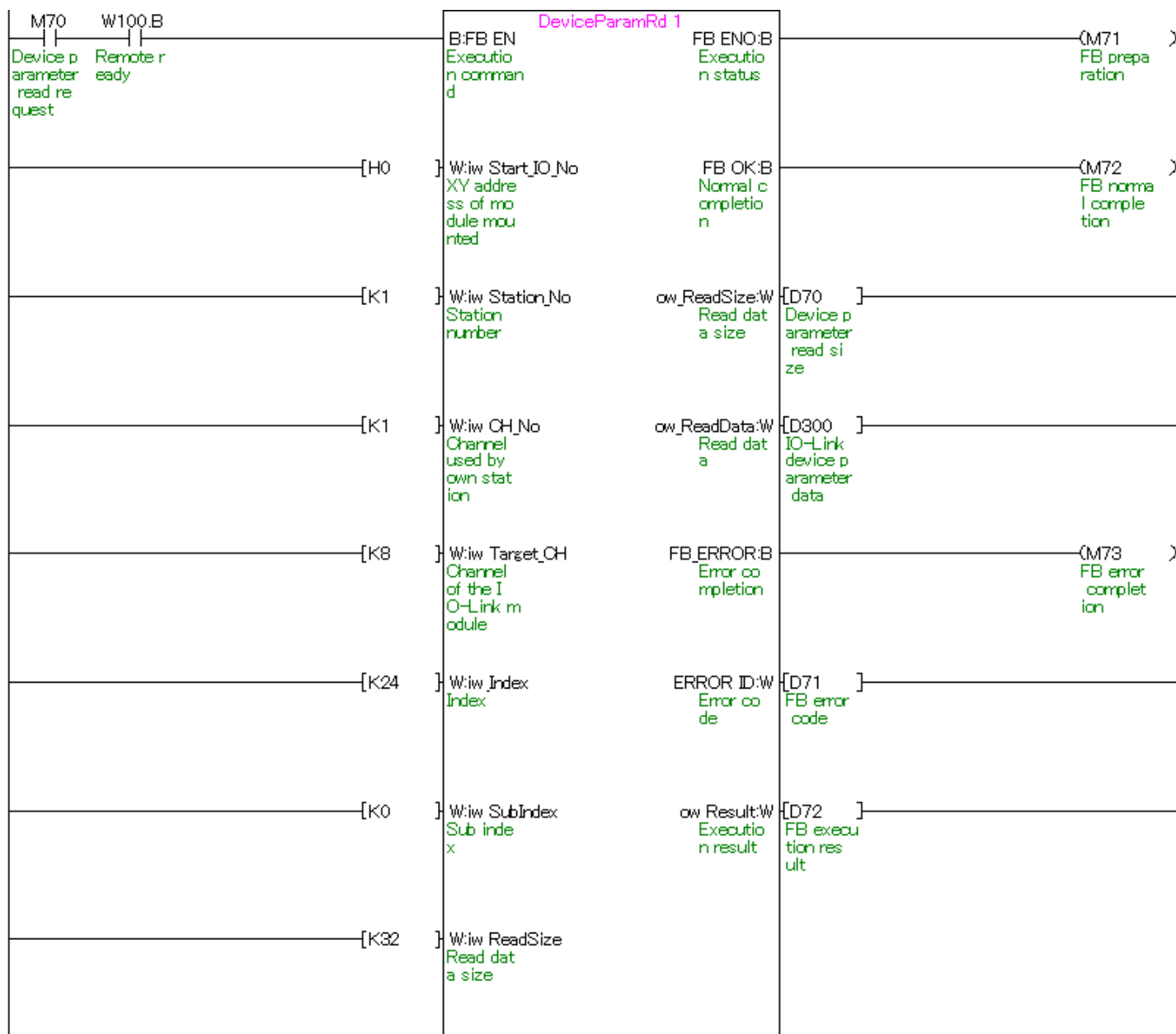
## M+NZ2GF2S-60IOLD8\_DeviceParamRd (IO-Link device parameter read)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.
iw_Target_CH	K8	Set connected IO-Link device to read as CH8.
iw_Index	K24	Set index of IO-Link device parameter to read as 24.
iw_SubIndex	K0	Set sub index of IO-Link device parameter to read as 0.
iw_ReadSize	K32	Set data size of IO-Link device parameter to read as 32.

By turning ON M70, and communicating with IO-Link device which is connecting to CH8, content of IO-Link device parameter with index No.24 is read to D300 or later.





## M+NZ2GF2S-60IOLD8\_DeviceParamWt(IO-Link device parameter write)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.
iw_Target_CH	K8	Set connected IO-Link device to write as CH8.
iw_Index	K24	Set index of IO-Link device parameter to write as 24.
iw_SubIndex	K0	Set sub index of IO-Link device parameter to write as 0.
iw_WriteSize	K32	Set data size of IO-Link device parameter to write as 32.

By turning ON M80, and communicating with connected IO-Link device which is set to CH8, content of data size from D300 or later is written to IO-Link device parameter with index No.24.

M80	W100.B	DeviceParamWt 1	
Device parameter write request	Remote ready	B:FB EN Execution command	FB ENO:B Execution status
			(M81) FB preparation
	[H0]	W:iw Start_IO_No XY address of module mounted	FB OK:B Normal completion
			(M82) FB normal completion
	[K1]	W:iw Station_No Station number	FB_ERROR:B Error completion
			(M83) FB error completion
	[K1]	W:iw CH_No Channel used by own station	ERROR ID:W Error code
			[D80] FB error code
	[K8]	W:iw Target_CH Channel of the IO-Link module	ow Result:W Execution result
			[D81] FB execution result
	[K24]	W:iw Index Index	
	[K0]	W:iw SubIndex Sub index	
	[K32]	W:iw WriteSize Write data size	
	[D300] IO-Link device parameter data	W:iw WriteData Write data	

## M+NZ2GF2S-60IOLD8\_DeviceChg (Device change)

Before device change and after device change separate execute.  
The example below shows a program with the following conditions.

### • Before device change

Label Name	Setting Values	Description								
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address)of CC-Link IE Field Network master/local module which is communicated.								
iw_Station_No	K1	Set target Station No. to 1.								
iw_CH_No	K1	Set channel to access from host station to other station to 1.								
iw_ChangeSlct	H0014	Select CH3, CH5 for range setting of device change. b07 b06 b05 b04 b03 b02 b01 b00 <table border="1"><tr><td>CH8</td><td>CH7</td><td>CH6</td><td>CH5</td><td>CH4</td><td>CH3</td><td>CH2</td><td>CH1</td></tr></table> 1:ON (Device change status is set.) 0:OFF (Device change status is not set.)	CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1
CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1			

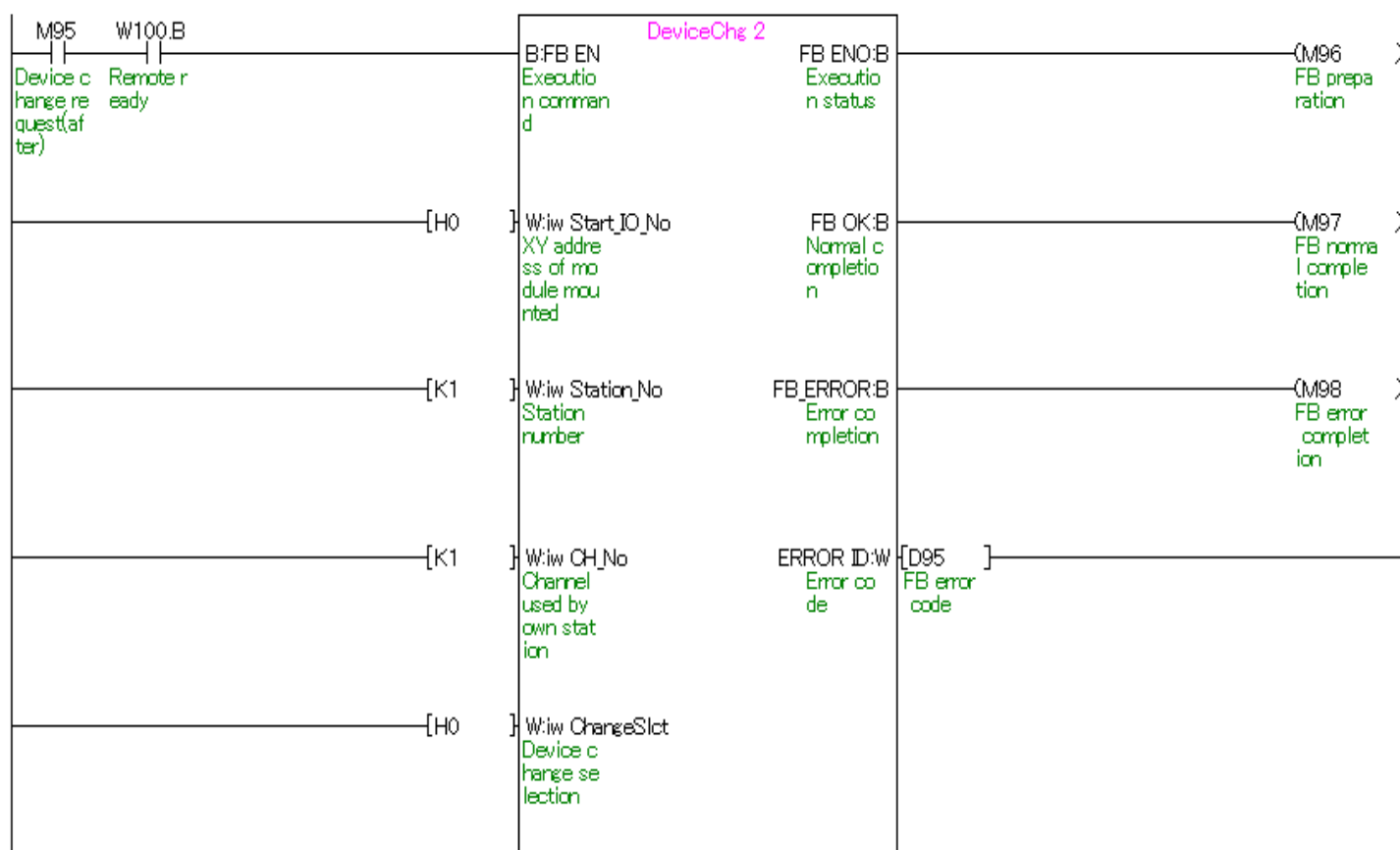
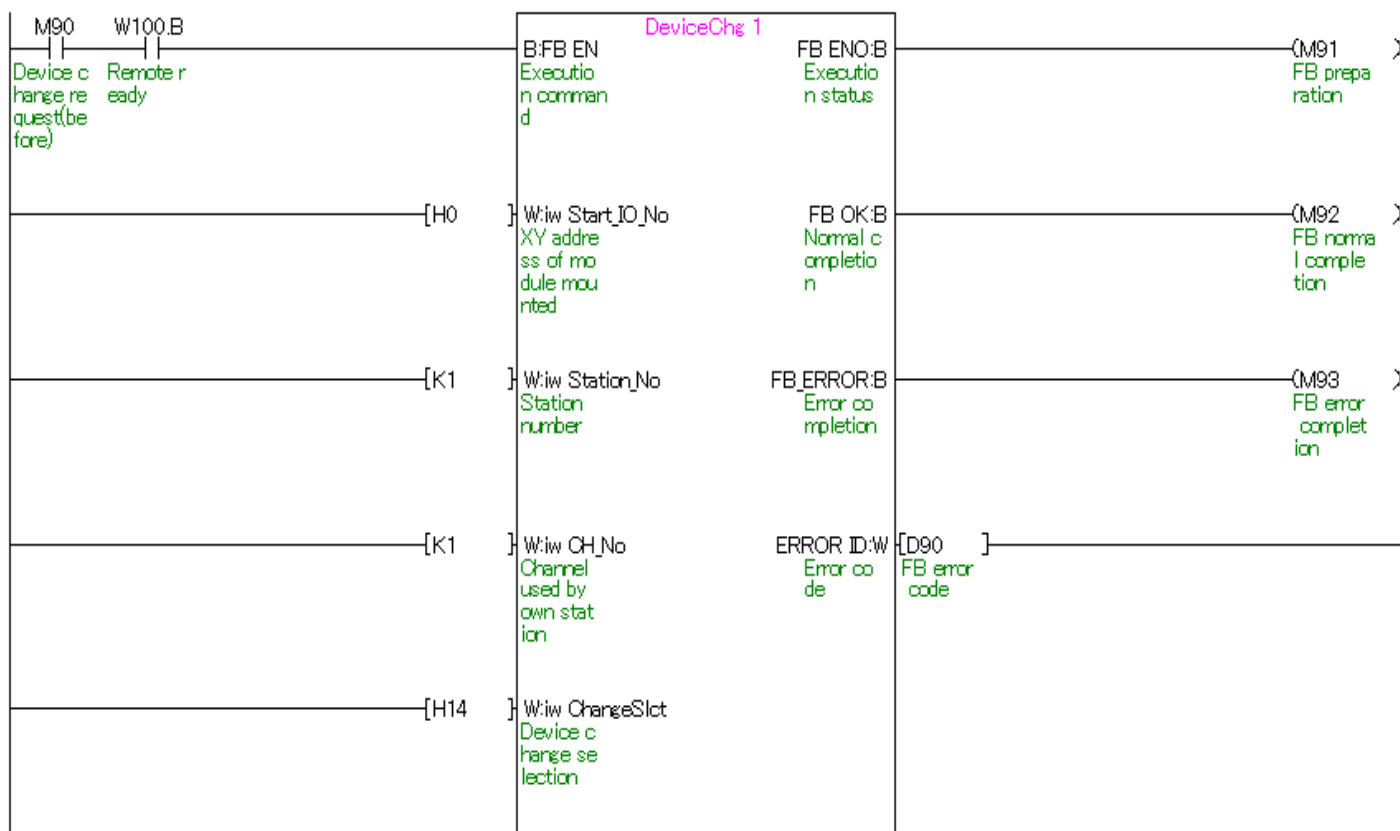
### • After device change

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.
iw_ChangeSlct	H0000	Set device change flag is OFF.

By turning ON M90, write ON for CH3, CH5 device change flag.

Device change is perform, then confirm changing result.

By turning ON M95, write OFF for CH3, CH5 device change flag.

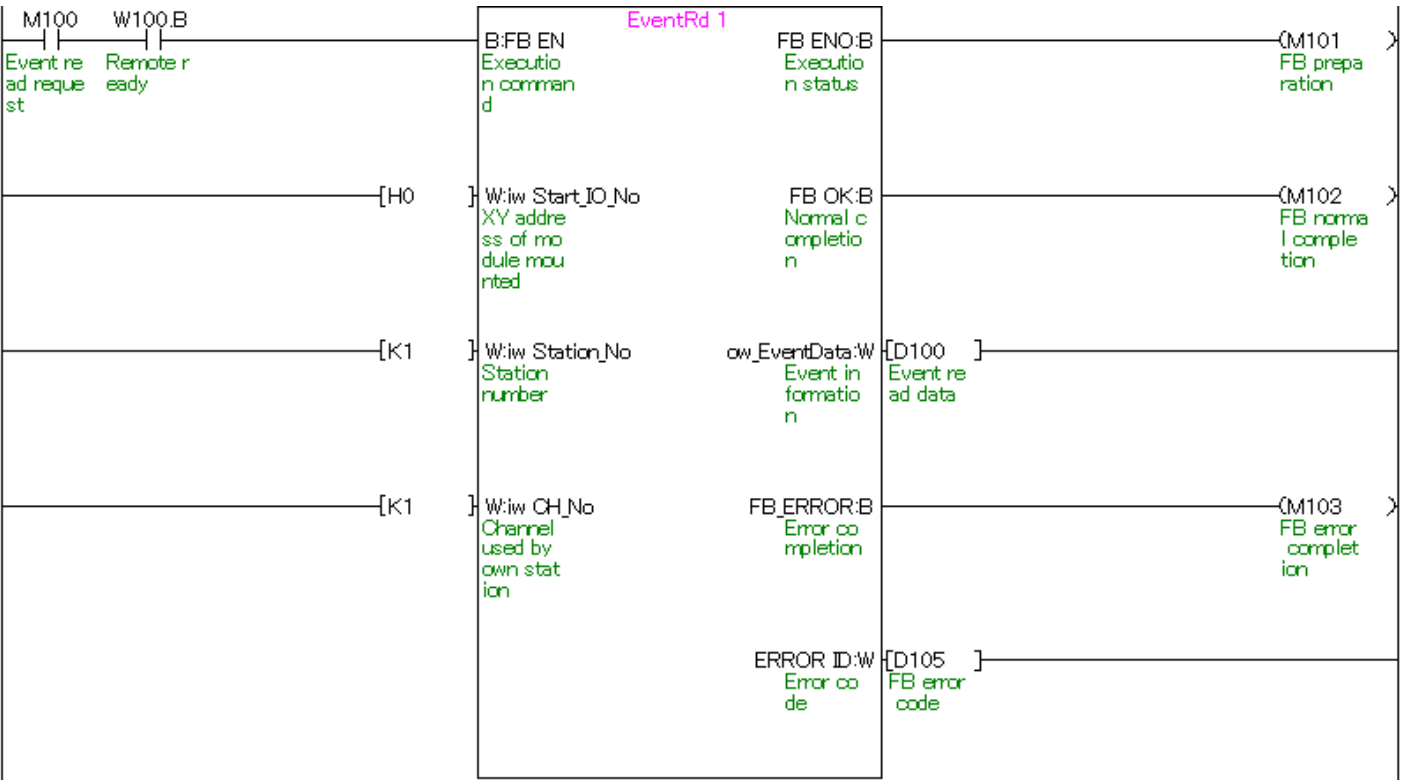


M+NZ2GF2S-60IOLD8\_EventRd(Event read)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.

By turning ON M100, the oldest event information of unconfirmed event is read to D100 or later.



M+NZ2GF2S-60IOLD8\_EventClr(Event history clear)

The example below shows a program with the following conditions.

Label Name	Setting Values	Description
iw_Start_IO_No	H0	Set 0000H to Start I/O number (Module mounted XY address) of CC-Link IE Field Network master/local module which is communicated.
iw_Station_No	K1	Set target Station No. to 1.
iw_CH_No	K1	Set channel to access from host station to other station to 1.

By turning ON M110, event history is clear.

