

Programmable Controller

MELSEC iQ-F
series

MELSEC iQ-F
FX5 Ethernet/CC-Link IE
Function Block Reference

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1 FUNCTION BLOCK (FB) LIST

This Function Block (FB) list shows the FBs used with the MELSEC iQ-F FX5 Ethernet/CC-Link IE Field Network module.

FX5 Ethernet-equipped module FB

Name*1	Description
M+model_ConnectionOpen	Opens (establishes) a connection.
M+model_ConnectionClose	Closes (disconnects) the connection.
M+model_Recv_Socket	Reads the data received from the target device through socket communication.
M+model_Send_Socket	Sends data to the target device through socket communication.
M+FX5UCPU-EN_SLMP_DeviceRead_IP	Reads data from the SLMP-compatible device by specifying IP address.
M+FX5UCPU-EN_SLMP_DeviceWrite_IP	Writes data to the SLMP-compatible device by specifying IP address.
M+FX5UCPU-EN_SLMP_DeviceRead_Active	Perform the open/close processing and reading device data of SLMP compatible devices by Active connection.
M+FX5UCPUEN_SLMP_DeviceWrite_Active	Perform the open/close processing and writing device data of SLMP compatible devices by Active connection.
M+FX5UCPUEN_SLMP_DeviceCodeConversion	Calculate the value to be input to the device code for SLMP communication.
M+FX5UCPU-EN_ModbusTcp_ClientRead	Perform the open/close processing and reading by MODBUS/TCP client in socket communication
M+FX5UCPU-EN_ModbusTcp_ClientWrite	Perform the open/close processing and writing by MODBUS/TCP client in socket communication

*1 Note that this reference does not describe the FB version information which is displayed such as "_00A" at the end of FB name

CC-Link IE Field Network FB

Name*1	Description
M+FX5CCLIEF_DeviceRead	Reads data from a specified device in the programmable controller of another station.
M+FX5CCLIEF_DeviceWrite	Writes data to a specified device in the programmable controller of another station.
M+FX5CCLIEF_Send	Sends data to the programmable controller of another station.
M+FX5CCLIEF_Recv	Reads the data received from the programmable controller of another station.
M+FX5CCLIEF_SetParameter	Sets parameters for a module.
M+FX5CCLIEF_StationNoSet	Sets the station number for the own station.

*1 Note that this reference does not describe the FB version information which is displayed such as "_00A" at the end of FB name

2 FX5 ETHERNET-EQUIPPED MODULE FB

2.1 M+model_ConnectionOpen

Name

According to the module in use, module names for FBs are as follows:

■FX5U, FX5UC CPU

M+FX5UCPU-EN_ConnectionOpen

■FX5-ENET

M+FX5ENET_ConnectionOpen

Overview

Item	Description																
Overview	Opens (establishes) a connection for data communication with target device.																
Symbol	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 10px auto;"> <p style="text-align: center;">M+FX5UCPU-EN_ConnectionOpen</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">(1) B : i_bEN</td> <td style="width: 30%;"></td> <td style="width: 30%;">o_bENO : B</td> <td style="width: 10%;">(4)</td> </tr> <tr> <td>(2) DUT: i_stModule</td> <td></td> <td>o_bOK : B</td> <td>(5)</td> </tr> <tr> <td>(3) UW : i_uConnectionNo</td> <td></td> <td>o_bErr : B</td> <td>(6)</td> </tr> <tr> <td></td> <td></td> <td>o_uErrId : UW</td> <td>(7)</td> </tr> </table> <p>(8) pbi_bUseParameters (9) pbi_uProtocol (10) pbi_uOpen_System (11) pbi_uLocal_Port_No (12) pbi_uTarget_Port_No (13) pbi_u2IP_Address</p> </div> <p>The above FB is an example for the FX5U, FX5UC CPU.</p>	(1) B : i_bEN		o_bENO : B	(4)	(2) DUT: i_stModule		o_bOK : B	(5)	(3) UW : i_uConnectionNo		o_bErr : B	(6)			o_uErrId : UW	(7)
(1) B : i_bEN		o_bENO : B	(4)														
(2) DUT: i_stModule		o_bOK : B	(5)														
(3) UW : i_uConnectionNo		o_bErr : B	(6)														
		o_uErrId : UW	(7)														

Labels

■Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module for which the FB is to be executed. Specify the module label of the modules. (Example: FX5UCPU, FX5ENET_1)
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	The setting range differs depending on the target module.	Specify the number of the connection to be opened. ■FX5U, FX5UC CPU 1 to 8 ■FX5-ENET 1 to 32

■Output label

No.	Variable name	Name	Data type	Default value	Description
(4)	o_bENO	Execution status	Bit	OFF	The execution status of the FB is output. ON: In execution OFF: Not in execution
(5)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the device has been read out correctly.
(6)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(7)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.

Public label

No.	Variable name	Name	Data type	Range	Description												
(8)	pbi_bUseParameters	Parameter used	Bit	ON, OFF	Specify whether to use the parameter values set by the engineering tool or the following operation parameter values when processing for opening a connection. <ul style="list-style-type: none"> • OFF: Performs open processing according to the target device configuration setting made by the engineering tool. (The following operation parameters need not be set. Any settings are ignored if made.) • ON: Performs open processing according to the following operation parameters. 												
(9)	pbi_uProtocol	Protocol	Word [Unsigned]/Bit String [16-bit]	0, 1 ^{*1}	Select the protocol to be used for the connection to be opened. <ul style="list-style-type: none"> • 0: TCP/IP • 1: UDP/IP 												
(10)	pbi_uOpen_System	Open method	Word [Unsigned]/Bit String [16-bit]	0 to 2 ^{*1}	Select the connection open method. <ul style="list-style-type: none"> • 0: Active open or UDP/IP • 1: Unpassive open • 2: Fullpassive open 												
(11)	pbi_uLocal_Port_No	Own node port number	Word [Unsigned]/Bit String [16-bit]	1 to 5548, 5570 to 65534	Specify the port number of the own node. Own node port numbers 1 to 1023 are generally reserved port numbers, and 61440 to 65534 are used by other communication functions. Therefore, port numbers 1024 to 5548 and 5570 to 61439 should be used.												
(12)	pbi_uTarget_Port_No	Destination port number	Word [Unsigned]/Bit String [16-bit]	The setting range differs depending on the target module.	Specify the destination port number. <ul style="list-style-type: none"> ■FX5U, FX5UC CPU 1 to 65534 ■FX5-ENET 1 to 65535^{*2} 												
(13)	pbi_u2IP_Address	IP address of target device	Word [Unsigned]/Bit String [16-bit] (0..1)	The setting range differs depending on the target module.	Specify the IP address of target device. <table border="1" style="margin-left: 20px;"> <tr> <td></td> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8 b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td>1st word</td> <td style="text-align: center;">Third octet</td> <td style="text-align: center;">Fourth octet</td> <td></td> </tr> <tr> <td>2nd word</td> <td style="text-align: center;">First octet</td> <td style="text-align: center;">Second octet</td> <td></td> </tr> </table> <ul style="list-style-type: none"> ■FX5U, FX5UC CPU 0.0.0.1 to 223.255.255.254^{*3} ■FX5-ENET 0.0.0.1 to 223.255.255.255^{*4} 		b15	b8 b7	b0	1st word	Third octet	Fourth octet		2nd word	First octet	Second octet	
	b15	b8 b7	b0														
1st word	Third octet	Fourth octet															
2nd word	First octet	Second octet															

*1 If a value out of the effective range is set, the same settings as those for 0 are used.

*2 The connection specifying 65535 receives data from all port numbers (only when UDP/IP is selected in the protocol). To send the data, specify the number from 1 to 65534. The connection specifying 65535 cannot send the data.

*3 If a value out of the effective range is set, 192.168.1.1 is used as the IP address of target device.

*4 Specify 255.255.255.255 when performing simultaneous broadcast.

FB details

Item	Description	
Available device	Target module	FX5-ENET
	Target CPU	FX5U CPU, FX5UC CPU
	Engineering tool	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU GX Works3 Version 1.030G or later ■FX5-ENET GX Works3 Version 1.050C or later
Language	Ladder diagram	
Number of basic steps	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU 161 steps ■FX5-ENET 156 steps <p>The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual.</p>	
Processing	<ul style="list-style-type: none"> • Turning on i_bEN (execution command) opens a connection for data communication with the target device. • If an error occurs, o_bErr (error completion) is turned on, and the error code is stored in o_uErrId (error code). Refer to Page 6 Error code for details on the error codes. 	

Item	Description
FB compilation method	Macro type
FB operation	Pulsed execution (multiple scan execution type)
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion]</p>
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the following instructions. <ul style="list-style-type: none"> ■FX5U, FX5UC CPU SP.SOCOPEN instruction ■FX5-ENET GP.OPEN instruction Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the above instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). If this FB is executed for the connection for which parameters are already set by "External Device Configuration", make settings so that the parameters specified by this FB are overwritten. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication) or MELSEC iQ-F FX5-ENET User's Manual.

Error code

Error code (hexadecimal)	Description	Action
All error code	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Same as the error code caused by the connection establishment (SP.SOCOPEN) instruction. ■FX5-ENET Same as the error code caused by the connection establishment (GP.OPEN) instruction. 	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication) ■FX5-ENET Refer to the MELSEC iQ-F FX5-ENET User's Manual

2.2 M+model_ConnectionClose

Name

According to the module in use, module names for FBs are as follows:

■FX5U, FX5UC CPU

M+FX5UCPU-EN_ConnectionClose

■FX5-ENET

M+FX5ENET_ConnectionClose

Overview

Item	Description
Overview	Closes (disconnects) a connection for data communication with target device.
Symbol	<p>The above FB is an example for the FX5U, FX5UC CPU.</p>

Labels

■Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module for which the FB is to be executed. Specify the module label of the modules. (Example: FX5UCPU, FX5ENET_1)
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	The setting range differs depending on the target module.	Specify the number of the connection to be closed. This function closes all connections if FFFFH is specified. ■FX5U, FX5UC CPU 1 to 8 ■FX5-ENET 1 to 32

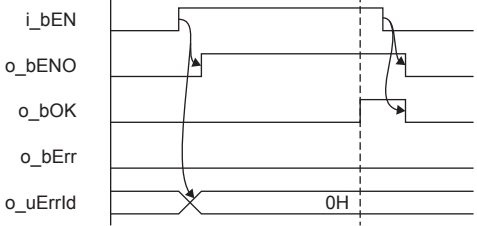
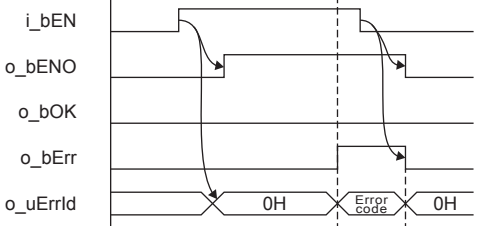
■Output label

No.	Variable name	Name	Data type	Default value	Description
(4)	o_bENO	Execution status	Bit	OFF	The execution status of the FB is output. ON: In execution OFF: Not in execution
(5)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the device has been read out correctly.
(6)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(7)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.

Public label

No.	Variable name	Name	Data type	Range	Description
(8)	pbo_uErrConn_No	Error connection No.	Word [Unsigned]/Bit String [16-bit]	—	The number of the connection for which close processing was completed with an error is stored. If FFFFH is specified in i_uConnectionNo (Connection No.), the number of the connection for which close processing was first completed with an error is stored.

FB details

Item	Description	
Available device	Target module	FX5-ENET
	Target CPU	FX5U CPU, FX5UC CPU
	Engineering tool	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU GX Works3 Version 1.030G or later ■FX5-ENET GX Works3 Version 1.050C or later
Language	Ladder diagram	
Number of basic steps	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU 136 steps ■FX5-ENET 143 steps <p>The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual.</p>	
Processing	<ul style="list-style-type: none"> • When i_bEN (execution command) is turned on, this function closes a connection for data communication with target device. • The function closes all connections if FFFFH is specified for the connection number in the input argument. • If the function fails to close even one connection among those specified to be closed, it is completed with an error. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[For error completion]</p> 	

Item	Description
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the following instructions. <ul style="list-style-type: none"> ■FX5U, FX5UC CPU SP.SOC_CLOSE instruction ■FX5-ENET GP.CLOSE instruction Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the above instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication) or MELSEC iQ-F FX5-ENET User's Manual.

Error code

Error code (hexadecimal)	Description	Action
All error code	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Same as the error code caused by the disconnection (SP.SOC_CLOSE) instruction. ■FX5-ENET Same as the error code caused by the disconnection (GP.CLOSE) instruction. 	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication) ■FX5-ENET Refer to the MELSEC iQ-F FX5-ENET User's Manual

2.3 M+model_Recv_Socket

Name

According to the module in use, module names for FBs are as follows:

■FX5U, FX5UC CPU

M+FX5UCPU-EN_Recv_Socket

■FX5-ENET

M+FX5ENET_Recv_Socket

Overview

Item	Description																								
Overview	Reads the data received by socket communication.																								
Symbol	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> <p style="text-align: center;">M+FX5UCPU-EN_Recv_Socket</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; vertical-align: top;">(1) B : i_bEN</td> <td style="width: 5%;"></td> <td style="width: 50%;"></td> <td style="width: 15%; vertical-align: top;">o_bENO : B (4)</td> </tr> <tr> <td style="vertical-align: top;">(2) DUT: i_stModule</td> <td></td> <td></td> <td style="vertical-align: top;">o_bOK : B (5)</td> </tr> <tr> <td style="vertical-align: top;">(3) UW : i_uConnectionNo</td> <td></td> <td></td> <td style="vertical-align: top;">o_bErr : B (6)</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="vertical-align: top;">o_uErrId : UW (7)</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="vertical-align: top;">o_uRecvData : UW (8)</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">(9) pbi_bReadTiming</td> <td></td> </tr> </table> </div> <p>The above FB is an example for the FX5U, FX5UC CPU.</p>	(1) B : i_bEN			o_bENO : B (4)	(2) DUT: i_stModule			o_bOK : B (5)	(3) UW : i_uConnectionNo			o_bErr : B (6)				o_uErrId : UW (7)				o_uRecvData : UW (8)			(9) pbi_bReadTiming	
(1) B : i_bEN			o_bENO : B (4)																						
(2) DUT: i_stModule			o_bOK : B (5)																						
(3) UW : i_uConnectionNo			o_bErr : B (6)																						
			o_uErrId : UW (7)																						
			o_uRecvData : UW (8)																						
		(9) pbi_bReadTiming																							

Labels

■Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module for which the FB is to be executed. Specify the module label of the modules. (Example: FX5UCPU, FX5ENET_1)
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	The setting range differs depending on the target module.	Specify the connection number for receiving data. ■FX5U, FX5UC CPU 1 to 8 ■FX5-ENET 1 to 32

■Output label

No.	Variable name	Name	Data type	Default value	Description
(4)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(5)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that reading of the received data has completed normally.
(6)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(7)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.

No.	Variable name	Name	Data type	Default value	Description																									
(8)	o_uRecvData	Receive data storage destination	Word [Unsigned]/Bit String [16-bit]	—	<p>Specify the receive data length and the start number of the device for storing received data.</p> <table border="1"> <tr> <td></td> <td>b15</td> <td>b8</td> <td>b7</td> <td>b0</td> </tr> <tr> <td>1st word</td> <td colspan="4">Received data length (unit: bytes)</td> </tr> <tr> <td>2nd word</td> <td colspan="2">Received data 2</td> <td colspan="2">Received data 1</td> </tr> <tr> <td>⋮</td> <td colspan="4">⋮</td> </tr> <tr> <td>nth word</td> <td colspan="2">Received data 2n-2</td> <td colspan="2">Received data 2n-3</td> </tr> </table> <ul style="list-style-type: none"> The received data length is 1 to 2046 bytes. Receive data is stored in the word area in order from the first half (b0 to b7) to the second half (b8 to b15). 		b15	b8	b7	b0	1st word	Received data length (unit: bytes)				2nd word	Received data 2		Received data 1		⋮	⋮				nth word	Received data 2n-2		Received data 2n-3	
	b15	b8	b7	b0																										
1st word	Received data length (unit: bytes)																													
2nd word	Received data 2		Received data 1																											
⋮	⋮																													
nth word	Received data 2n-2		Received data 2n-3																											

Public label

No.	Variable name	Name	Data type	Range	Description
(9)	pbi_bReadTiming	Read timing	Bit	ON, OFF	<p>Specify the timing of executing data read processing.</p> <ul style="list-style-type: none"> OFF: Start reading soon after the module FB starts. ON: Start reading in the first END processing after the module FB starts. <p>The setting is ignored in FX5U, FX5UC CPU because it reads the data in the END processing.</p>

FB details

Item	Description						
Available device	<table border="1"> <tr> <td>Target module</td> <td>FX5-ENET</td> </tr> <tr> <td>Target CPU</td> <td>FX5U CPU, FX5UC CPU</td> </tr> <tr> <td>Engineering tool</td> <td> <ul style="list-style-type: none"> FX5U, FX5UC CPU GX Works3 Version 1.030G or later FX5-ENET GX Works3 Version 1.050C or later </td> </tr> </table>	Target module	FX5-ENET	Target CPU	FX5U CPU, FX5UC CPU	Engineering tool	<ul style="list-style-type: none"> FX5U, FX5UC CPU GX Works3 Version 1.030G or later FX5-ENET GX Works3 Version 1.050C or later
Target module	FX5-ENET						
Target CPU	FX5U CPU, FX5UC CPU						
Engineering tool	<ul style="list-style-type: none"> FX5U, FX5UC CPU GX Works3 Version 1.030G or later FX5-ENET GX Works3 Version 1.050C or later 						
Language	Ladder diagram						
Number of basic steps	<ul style="list-style-type: none"> FX5U, FX5UC CPU 61 steps FX5-ENET 68 steps <p>The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual.</p>						
Processing	<ul style="list-style-type: none"> When i_bEN (execution command) is turned on, this function reads the data received to the connection specified by the input argument. If an error occurs during data receiving, o_bErr (error completion) is turned on, and the error code is stored in o_uErrId (error code). Refer to Page 12 Error code for details on the error codes. 						
FB compilation method	Macro type						
FB operation	Pulsed execution (multiple scan execution type)						
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion]</p>						

Item	Description
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the following instructions. <ul style="list-style-type: none"> ■FX5U, FX5UC CPU SP.SOCRCV instruction ■FX5-ENET GP.SOCRCV instruction Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the above instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication) or MELSEC iQ-F FX5-ENET User's Manual.

Error code

Error code (hexadecimal)	Description	Action
All error code	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Same as the error code caused by the data receiving (SP.SOCRCV) instruction. ■FX5-ENET Same as the error code caused by the data receiving (GP.SOCRCV) instruction. 	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication) ■FX5-ENET Refer to the MELSEC iQ-F FX5-ENET User's Manual

2.4 M+model_Send_Socket

Name

According to the module in use, module names for FBs are as follows:

■FX5U, FX5UC CPU

M+FX5UCPU-EN_Send_Socket

■FX5-ENET

M+FX5ENET_Send_Socket

Overview

Item	Description								
Overview	Sends the data to the target device of the specified connection.								
Symbol	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p style="text-align: center; margin: 0;">M+FX5UCPU-EN_Send_Socket</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding: 2px;">(1) B : i_bEN</td> <td style="width: 50%; padding: 2px;">o_bENO : B (5)</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">(2) DUT: i_stModule</td> <td style="padding: 2px;">o_bOK : B (6)</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">(3) UW : i_uConnectionNo</td> <td style="padding: 2px;">o_bErr : B (7)</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">(4) UW : i_uSendData</td> <td style="padding: 2px;">o_uErrId : UW (8)</td> </tr> </table> </div> <p>The above FB is an example for the FX5U, FX5UC CPU.</p>	(1) B : i_bEN	o_bENO : B (5)	(2) DUT: i_stModule	o_bOK : B (6)	(3) UW : i_uConnectionNo	o_bErr : B (7)	(4) UW : i_uSendData	o_uErrId : UW (8)
(1) B : i_bEN	o_bENO : B (5)								
(2) DUT: i_stModule	o_bOK : B (6)								
(3) UW : i_uConnectionNo	o_bErr : B (7)								
(4) UW : i_uSendData	o_uErrId : UW (8)								

Labels

■Input label

No.	Variable name	Name	Data type	Range	Description																									
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.																									
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module for which the FB is to be executed. Specify the module label of the modules. (Example: FX5UCPU, FX5ENET_1)																									
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	The setting range differs depending on the target module.	Specify the connection number for sending data. ■FX5U, FX5UC CPU 1 to 8 ■FX5-ENET 1 to 32																									
(4)	i_uSendData	Send data storage destination	Word [Unsigned]/Bit String [16-bit]	—	Specify the send data length and the start number of the device containing the send data. <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 0 10px;"></td> <td style="text-align: center; padding: 0 5px;">b15</td> <td style="text-align: center; padding: 0 5px;">b8</td> <td style="text-align: center; padding: 0 5px;">b7</td> <td style="text-align: center; padding: 0 5px;">b0</td> </tr> <tr> <td style="padding: 5px 0;">1st word</td> <td colspan="4" style="border: 1px solid black; text-align: center;">Send data length (unit: bytes)</td> </tr> <tr> <td style="padding: 5px 0;">2nd word</td> <td colspan="2" style="border: 1px solid black; text-align: center;">Send data 2</td> <td colspan="2" style="border: 1px solid black; text-align: center;">Send data 1</td> </tr> <tr> <td style="padding: 5px 0;">⋮</td> <td colspan="4" style="border: 1px solid black; text-align: center;">⋮</td> </tr> <tr> <td style="padding: 5px 0;">nth word</td> <td colspan="2" style="border: 1px solid black; text-align: center;">Send data 2n-2</td> <td colspan="2" style="border: 1px solid black; text-align: center;">Send data 2n-3</td> </tr> </table> <ul style="list-style-type: none"> • The sent data length is 1 to 2046 bytes. • Data is sent in the word area in order from the first half (b0 to b7) to the second half (b8 to b15). 		b15	b8	b7	b0	1st word	Send data length (unit: bytes)				2nd word	Send data 2		Send data 1		⋮	⋮				nth word	Send data 2n-2		Send data 2n-3	
	b15	b8	b7	b0																										
1st word	Send data length (unit: bytes)																													
2nd word	Send data 2		Send data 1																											
⋮	⋮																													
nth word	Send data 2n-2		Send data 2n-3																											

■Output label

No.	Variable name	Name	Data type	Default value	Description
(5)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(6)	o_bOK	Normal completion	Bit	OFF	Data has been sent normally when this output is on
(7)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(8)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.

FB details

Item	Description
Available device	Target module FX5-ENET
	Target CPU FX5U CPU, FX5UC CPU
	Engineering tool <ul style="list-style-type: none"> ■FX5U, FX5UC CPU GX Works3 Version 1.030G or later ■FX5-ENET GX Works3 Version 1.050C or later
Language	Ladder diagram
Number of basic steps	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU 62 steps ■FX5-ENET 69 steps <p>The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual.</p>
Processing	<ul style="list-style-type: none"> • When i_bEN (Execution command) is turned on, this function sends the data to the target device of the connection specified by the input argument. • If an error occurs during data sending, o_bErr (error completion) is turned on, and the error code is stored in o_uErrId (error code). Refer to Page 15 Error code for details on the error codes.
FB compilation method	Macro type
FB operation	Pulsed execution (multiple scan execution type)
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion]</p>
Restrictions or precautions	<ul style="list-style-type: none"> • This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. • This FB uses the following instructions. <ul style="list-style-type: none"> ■FX5U, FX5UC CPU SP.SOCSND instruction ■FX5-ENET GP.SOCSND instruction • Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the above instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. • This FB cannot be used in an interrupt program. • Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). • Every input must be provided with a value for proper FB operation. • Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication) or MELSEC iQ-F FX5-ENET User's Manual.

Error code

Error code (hexadecimal)	Description	Action
All error code	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Same as the error code caused by the data sending (SP.SOCSND) instruction. ■FX5-ENET Same as the error code caused by the data sending (GP.SOCSND) instruction. 	<ul style="list-style-type: none"> ■FX5U, FX5UC CPU Refer to the MELSEC IQ-F FX5 User's Manual (Ethernet Communication) ■FX5-ENET Refer to the MELSEC IQ-F FX5-ENET User's Manual

2.5 M+FX5UCPU-EN_SLMP_DeviceRead_IP

Name

M+FX5UCPU-EN_SLMP_DeviceRead_IP

Overview

Item	Description																																																		
Overview	Reads data from the target device with IP address specification.																																																		
Symbol	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">M+FX5UCPU-EN_SLMP_DeviceRead_IP</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: right;">(1) B : i_bEN</td> <td style="width: 40%;"></td> <td style="width: 10%; text-align: left;">o_bENO : B</td> <td style="width: 10%;"></td> <td style="width: 10%; text-align: right;">(10)</td> </tr> <tr> <td style="text-align: right;">(2) DUT: i_stModule</td> <td></td> <td style="text-align: left;">o_bOK : B</td> <td></td> <td style="text-align: right;">(11)</td> </tr> <tr> <td style="text-align: right;">(3) UW : i_u2IP_Address</td> <td></td> <td style="text-align: left;">o_bErr : B</td> <td></td> <td style="text-align: right;">(12)</td> </tr> <tr> <td style="text-align: right;">(4) UW : i_uSubCommand</td> <td></td> <td style="text-align: left;">o_uErrId : UW</td> <td></td> <td style="text-align: right;">(13)</td> </tr> <tr> <td style="text-align: right;">(5) UW : i_uDeviceCode</td> <td></td> <td style="text-align: left;">o_uReadData : UW</td> <td></td> <td style="text-align: right;">(14)</td> </tr> <tr> <td style="text-align: right;">(6) UW : i_u2DeviceNo</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(7) UW : i_uDevicePoints</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(8) UW : i_uChannel</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(9) UW : i_uTarget_Port_No</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;"> (15) pbi_uRequestModuleIO (16) pbi_uResendCountMax (17) pbi_uMonitorTime (18) pbo_uResendCount (19) pbo_u4ErrTime (20) pbo_u2ErrIP_Address </td> <td></td> <td></td> <td></td> </tr> </table> </div>	(1) B : i_bEN		o_bENO : B		(10)	(2) DUT: i_stModule		o_bOK : B		(11)	(3) UW : i_u2IP_Address		o_bErr : B		(12)	(4) UW : i_uSubCommand		o_uErrId : UW		(13)	(5) UW : i_uDeviceCode		o_uReadData : UW		(14)	(6) UW : i_u2DeviceNo					(7) UW : i_uDevicePoints					(8) UW : i_uChannel					(9) UW : i_uTarget_Port_No						(15) pbi_uRequestModuleIO (16) pbi_uResendCountMax (17) pbi_uMonitorTime (18) pbo_uResendCount (19) pbo_u4ErrTime (20) pbo_u2ErrIP_Address			
(1) B : i_bEN		o_bENO : B		(10)																																															
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Labels

Input label

No.	Variable name	Name	Data type	Range	Description												
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.												
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the CPU module.												
(3)	i_u2IP_Address	IP address of target device	Word [Unsigned]/Bit String [16-bit] (0..1)	0.0.0.1 to 223.255.255.254	Specify the IP address of target device. Specify the third and fourth octets to the 1st word, and first and second octets to the 2nd word. <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8 b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: right;">1st word</td> <td style="border: 1px solid black; text-align: center;">Third octet</td> <td style="border: 1px solid black; text-align: center;">Fourth octet</td> <td></td> </tr> <tr> <td style="text-align: right;">2nd word</td> <td style="border: 1px solid black; text-align: center;">First octet</td> <td style="border: 1px solid black; text-align: center;">Second octet</td> <td></td> </tr> </table>		b15	b8 b7	b0	1st word	Third octet	Fourth octet		2nd word	First octet	Second octet	
	b15	b8 b7	b0														
1st word	Third octet	Fourth octet															
2nd word	First octet	Second octet															
(4)	i_uSubCommand	Sub command	Word [Unsigned]/Bit String [16-bit]	0 to 3	Specify the read unit and specification method of a device. <ul style="list-style-type: none"> • 0th bit: Specify whether the device is read in units of words or in units of bits. 0: In units of words 1: In units of bits • 1st bit: Specify the combination of the number of digits of the device code and start device number of the device to be read. 0: Specify the device code in 2 digits and the start device number in 6 digits (for MELSEC-Q/L series). 1: Specify the device code in 4 digits and the start device number in 8 digits (for MELSEC iQ-R series).^{*1} 												

No.	Variable name	Name	Data type	Range	Description
(5)	i_uDeviceCode	Device code	Word [Unsigned]/Bit String [16-bit]	—	Specify the device code of the device to be read in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 0: 2 digits When the 1st bit of the subcommand is 1: 4 digits
(6)	i_u2DeviceNo	Head device No.	Word [Unsigned]/Bit String [16-bit] (0..1)	—	Specify the start device number of the device to be read in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 0: 6 digits When the 1st bit of the subcommand is 1: 8 digits
(7)	i_uDevicePoints	Number of device points	Word [Unsigned]/Bit String [16-bit]	1 to 960, 1 to 3972	Specify the number of device points of the device to be read in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 1: 0 to 960 digits When the 1st bit of the subcommand is 1: 1 to 3972 digits²
(8)	i_uChannel	Own station channel	Word [Unsigned]/Bit String [16-bit]	—	Specify the channel to be used by own station.
(9)	i_uTarget_Port_No	Destination port number	Word [Unsigned]/Bit String [16-bit]	1 to 65534	Specify the UDP port number of target device.

*1 It can be specified when the target device for reading is MELSEC iQ-R Series. It cannot be specified when the target device for reading is MELSEC Q/L Series or MELSEC iQ-F Series.

*2 The allowable range is 1 to 3584 when the target device for reading is MELSEC iQ-F Series.

Output label

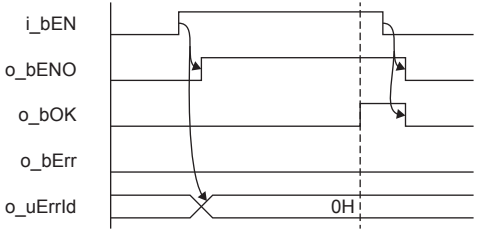
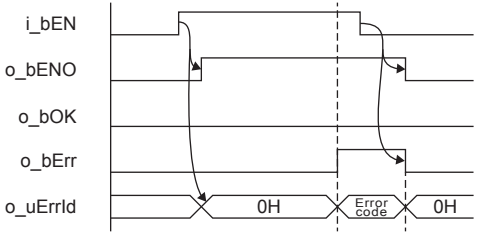
No.	Variable name	Name	Data type	Default value	Description																																																																
(10)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.																																																																
(11)	o_bOK	Normal completion	Bit	OFF	Device reading has been completed normally when this output is on.																																																																
(12)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.																																																																
(13)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.																																																																
(14)	o_uReadData	Read data storage destination	Word [Unsigned]/Bit String [16-bit]	0	Specify the start device number of the device for storing the read data. <ul style="list-style-type: none"> When the 0th bit of the subcommand is 0, the device data is read in units of words. <p>Example: When reading the bit device M100 to M115 (one word) in units of words</p> <p>1st word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">M115</td> <td style="text-align: center;">. . .</td> <td style="text-align: center;">M100</td> <td></td> </tr> </table> <p>Example: When reading the word device D0 to D2 in units of words</p> <p>1st word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> <tr> <td colspan="4" style="text-align: center;">D0</td> </tr> </table> <p>2nd word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">2</td> </tr> <tr> <td colspan="4" style="text-align: center;">D1</td> </tr> </table> <p>3rd word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">D</td> <td style="text-align: center;">E</td> <td style="text-align: center;">F</td> </tr> <tr> <td colspan="4" style="text-align: center;">D2</td> </tr> </table>	b15	b8	b7	b0	1	2	3	4	0	0	1	0	0	1	0	0	0	0	1	1	0	1	0	0	M115	. . .	M100		b15	b8	b7	b0	1	2	3	4	D0				b15	b8	b7	b0	0	0	0	2	D1				b15	b8	b7	b0	1	D	E	F	D2			
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b15	b8	b7	b0																																																																		
1	D	E	F																																																																		
D2																																																																					

No.	Variable name	Name	Data type	Default value	Description																														
(14)	o_uReadData	Read data storage destination	Word [Unsigned]/Bit String [16-bit]	0	<ul style="list-style-type: none"> When the 0th bit of the subcommand is 1, read the device data in units of bits. <p>Example: When reading the bit device M100 to M107 in units of bits</p> <p>1st word :</p> <table border="1"> <tr> <td>b15</td> <td></td> <td>b8 b7</td> <td></td> <td>b0</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>M102</td> <td>M103</td> <td>M100</td> <td>M101</td> <td></td> </tr> </table> <p>2nd word :</p> <table border="1"> <tr> <td>b15</td> <td></td> <td>b8 b7</td> <td></td> <td>b0</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>M106</td> <td>M107</td> <td>M104</td> <td>M105</td> <td></td> </tr> </table>	b15		b8 b7		b0	0	1	0	0		M102	M103	M100	M101		b15		b8 b7		b0	1	1	0	0		M106	M107	M104	M105	
b15		b8 b7		b0																															
0	1	0	0																																
M102	M103	M100	M101																																
b15		b8 b7		b0																															
1	1	0	0																																
M106	M107	M104	M105																																


Public label

No.	Variable name	Name	Data type	Range	Description															
(15)	pbi_uRequestModuleIO	Requested module I/O No.	Word [Unsigned]/Bit String [16-bit]	03FFH, 03E0H to 03E3H, 03D0H to 03D3H	<p>Specify the module of the access destination.</p> <ul style="list-style-type: none"> 03FFH: Own station, control CPU 03E0H: Multiple CPU No.1 03E1H: Multiple CPU No.2 03E2H: Multiple CPU No.3 03E3H: Multiple CPU No.4 03D0H: To control system CPU 03D1H: To standby CPU 03D2H: To system A CPU 03D3H: To system B CPU 															
(16)	pbi_uResendCountMax	Maximum number of resends	Word [Unsigned]/Bit String [16-bit]	0 to 15	<p>Specify the number of resends to be performed if the data transfer is not completed within the monitoring time specified by "arrival monitoring time".</p> <ul style="list-style-type: none"> 0 to 15 															
(17)	pbi_uMonitorTime	Arrival monitoring time	Word [Unsigned]/Bit String [16-bit]	0, 1 to 32767	<p>Specify the monitoring time until completion of processing. If the processing is not completed within the monitoring time, data is resent until the value specified in "maximum number of resends" is reached.</p> <ul style="list-style-type: none"> 0: 10 s 1 to 32767: 1 to 32767 s 															
(18)	pbo_uResendCount	Number of resends	Word [Unsigned]/Bit String [16-bit]	—	The number of resends performed (result) is stored.															
(19)	pbo_u4ErrTime	Error occurrence time	Word [Unsigned]/Bit String [16-bit](0..3)	—	<p>Clock data at the time of error occurrence is stored.</p> <p>1st word</p> <ul style="list-style-type: none"> Upper 8 bits: Month (01H to 12H) Lower 8 bits: Lower 2 digits of year (00H to 99H) <p>2nd word</p> <ul style="list-style-type: none"> Upper 8 bits: Hour (00H to 23H) Lower 8 bits: Day (01H to 31H) <p>3rd word</p> <ul style="list-style-type: none"> Upper 8 bits: Second (00H to 59H) Lower 8 bits: Minute (00H to 59H) <p>4th word</p> <ul style="list-style-type: none"> Upper 8 bits: Upper 2 digits of year (00H to 99H) Lower 8 bits: Day of week (00H (Sunday) to 06H (Saturday)) 															
(20)	pbo_u2ErrIP_Address	Error-detected station IP address	Word [Unsigned]/Bit String [16-bit](0..1)	—	<p>The IP address of the station in which an error was detected is stored. The third and fourth octets are stored in the 1st word, and first and second octets are stored in the 2nd word.</p> <table border="1"> <tr> <td>b15</td> <td></td> <td>b8 b7</td> <td></td> <td>b0</td> </tr> <tr> <td>1st word</td> <td>Third octet</td> <td>Fourth octet</td> <td></td> <td></td> </tr> <tr> <td>2nd word</td> <td>First octet</td> <td>Second octet</td> <td></td> <td></td> </tr> </table>	b15		b8 b7		b0	1st word	Third octet	Fourth octet			2nd word	First octet	Second octet		
b15		b8 b7		b0																
1st word	Third octet	Fourth octet																		
2nd word	First octet	Second octet																		

FB details

Item	Description
Available device	Target CPU FX5U CPU, FX5UC CPU
	Engineering tool GX Works3 Version 1.030G or later
Language	Ladder diagram
Number of basic steps	313 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .
Processing	<ul style="list-style-type: none"> When i_bEN (start condition) is turned on, this function reads device data from the SLMP-compatible device. This FB is executed specifying the IP address of target device. This FB uses Read command (command: 0401H) of SLMP. The message of the SLMP command is binary code. (MELSEC iQ-F FX5 User's Manual (SLMP)) If the set number of device points is out of the range, o_bErr (error completion) is turned on, and the processing of FB is suspended. The error code 100 (hexadecimal) is stored in o_uErrId (error code). Refer to Page 20 Error code for details on the error codes. If an error occurs during device data reading, o_bErr (error completion) is turned on, and the error code is stored in o_uErrId (error code). Refer to Page 20 Error code for details on the error codes.
FB compilation method	Macro type
FB operation	Pulsed execution (multiple scan execution type)
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[For error completion]</p> 
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the SP.SLMPSPND instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the SP.SLMPSPND instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). In this FB, access devices (such as link direct device) that are accessed by the extension specification of SLMP cannot be read. In this FB, stations in other network cannot be set as the target station. For the port of target device where the remote password is set, execute this FB after performing the unlock processing of the remote password. When this FB is executed for the port of target device where the remote password is set, an error will occur. The target station must support "Read (command: 0401H)" of SLMP. This FB is for communications in binary code only. (Communications using ASCII code cannot be performed.) This FB uses UDP communications. Set the protocol setting of the target device to UDP. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication).

Error code

Error code (hexadecimal)	Description	Action
100H	The setting of i_uDevicePoints (number of device points) is out of the range. The set number of device points is out of the range from 1 to 960 (when the 0th bit of the sub command is 0) or out of the range from 1 to 3972 (when the 0th bit of the sub command is 1).	After reviewing the setting, re-execute the FB.
Error code other than 100H	Same as the error code caused by the SLMP frame sending (SP.SLMPSND) instruction.	Refer to the  MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

2.6 M+FX5UCPU-EN_SLMP_DeviceWrite_IP

Name

M+FX5UCPU-EN_SLMP_DeviceWrite_IP

Overview

Item	Description																																																																
Overview	Writes data to the target device by specifying IP address.																																																																
Symbol	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">M+FX5UCPU-EN_SLMP_DeviceWrite_IP</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: right;">(1)</td> <td style="width: 45%;">B : i_bEN</td> <td style="width: 45%; text-align: right;">o_bENO : B</td> <td style="width: 5%; text-align: left;">(11)</td> </tr> <tr> <td style="text-align: right;">(2)</td> <td>DUT: i_stModule</td> <td style="text-align: right;">o_bOK : B</td> <td style="text-align: left;">(12)</td> </tr> <tr> <td style="text-align: right;">(3)</td> <td>UW : i_u2IP_Address</td> <td style="text-align: right;">o_bErr : B</td> <td style="text-align: left;">(13)</td> </tr> <tr> <td style="text-align: right;">(4)</td> <td>UW : i_uSubCommand</td> <td style="text-align: right;">o_uErrId : UW</td> <td style="text-align: left;">(14)</td> </tr> <tr> <td style="text-align: right;">(5)</td> <td>UW : i_uDeviceCode</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(6)</td> <td>UW : i_u2DeviceNo</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(7)</td> <td>UW : i_uDevicePoints</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(8)</td> <td>UW : i_uWriteData</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(9)</td> <td>UW : i_uChannel</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">(10)</td> <td>UW : i_uTarget_Port_No</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(15) pbi_uRequestModuleIO</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(16) pbi_uResendCountMax</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(17) pbi_uMonitorTime</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(18) pbo_uResendCount</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(19) pbo_u4ErrTime</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(20) pbo_u2ErrIP_Address</td> <td></td> <td></td> </tr> </table> </div>	(1)	B : i_bEN	o_bENO : B	(11)	(2)	DUT: i_stModule	o_bOK : B	(12)	(3)	UW : i_u2IP_Address	o_bErr : B	(13)	(4)	UW : i_uSubCommand	o_uErrId : UW	(14)	(5)	UW : i_uDeviceCode			(6)	UW : i_u2DeviceNo			(7)	UW : i_uDevicePoints			(8)	UW : i_uWriteData			(9)	UW : i_uChannel			(10)	UW : i_uTarget_Port_No				(15) pbi_uRequestModuleIO				(16) pbi_uResendCountMax				(17) pbi_uMonitorTime				(18) pbo_uResendCount				(19) pbo_u4ErrTime				(20) pbo_u2ErrIP_Address		
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Labels

Input label

No.	Variable name	Name	Data type	Range	Description												
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.												
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the CPU module.												
(3)	i_u2IP_Address	IP address of target device	Word [Unsigned]/Bit String [16-bit] (0..1)	0.0.0.1 to 223.255.255.254	Specify the IP address of target device. Specify the third and fourth octets to the 1st word, and first and second octets to the 2nd word. <div style="text-align: center; margin-top: 10px;"> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8 b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: right;">1st word</td> <td style="border: 1px solid black; padding: 2px;">Third octet</td> <td style="border: 1px solid black; padding: 2px;">Fourth octet</td> <td></td> </tr> <tr> <td style="text-align: right;">2nd word</td> <td style="border: 1px solid black; padding: 2px;">First octet</td> <td style="border: 1px solid black; padding: 2px;">Second octet</td> <td></td> </tr> </table> </div>		b15	b8 b7	b0	1st word	Third octet	Fourth octet		2nd word	First octet	Second octet	
	b15	b8 b7	b0														
1st word	Third octet	Fourth octet															
2nd word	First octet	Second octet															
(4)	i_uSubCommand	Sub command	Word [Unsigned]/Bit String [16-bit]	0 to 3	Specify the write unit and specification method of a device. <ul style="list-style-type: none"> • 0th bit: Specify whether the device is written in units of words or in units of bits. 0: In units of words 1: In units of bits • 1st bit: Specify the combination of the number of digits of the device code and start device number of the device to be written. 0: Specify the device code in 2 digits and the start device number in 6 digits. 1: Specify the device code in 4 digits and the start device number in 8 digits. *1 												

No.	Variable name	Name	Data type	Range	Description																																																																																																																
(5)	i_uDeviceCode	Device code	Word [Unsigned]/Bit String [16-bit]	—	Specify the device code of the device to be written in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 0: 2 digits When the 1st bit of the subcommand is 1: 4 digits 																																																																																																																
(6)	i_u2DeviceNo	Head device No.	Word [Unsigned]/Bit String [16-bit] (0..1)	—	Specify the start device number of the device to be written in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 0: 6 digits When the 1st bit of the subcommand is 1: 8 digits 																																																																																																																
(7)	i_uDevicePoints	Number of device points	Word [Unsigned]/Bit String [16-bit]	1 to 960, 1 to 3972	Specify the number of device points of the device to be written in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 1: 0 to 960 digits When the 1st bit of the subcommand is 1: 1 to 3972 digits² 																																																																																																																
(8)	i_uWriteData	Write data storage destination	Word [Unsigned]/Bit String [16-bit]	—	Specify the start device number of the device for storing the write data. <ul style="list-style-type: none"> When the 0th bit of the subcommand is 0, the device data is written in units of words. <p>Example: When writing the bit device M100 to M115 (one word) in units of words</p> <p>1st word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> <tr> <td style="text-align: center;">:</td> <td style="text-align: center;">:</td> <td style="text-align: center;">:</td> <td style="text-align: center;">:</td> </tr> <tr> <td style="text-align: center;">0</td> <td 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<td style="text-align: center;">. . .</td> <td style="text-align: center;">M100</td> <td style="text-align: center;">M100</td> </tr> </table> <p>Example: When writing the word device D0 to D2 in units of words</p> <p>1st word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> <tr> <td colspan="4" style="text-align: center;">}</td> </tr> <tr> <td colspan="4" style="text-align: center;">D0</td> </tr> </table> <p>2nd word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td 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M107 in units of bits</p> <p>1st word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">M102</td> <td style="text-align: center;">M103</td> <td style="text-align: center;">M100</td> <td style="text-align: center;">M101</td> </tr> </table> <p>2nd word :</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: 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M100	M100	b15	b8	b7	b0	1	2	3	4	}				D0				b15	b8	b7	b0	0	0	0	2	}				D1				b15	b8	b7	b0	1	D	E	F	}				D2				b15	b8	b7	b0	0	1	0	0	M102	M103	M100	M101	b15	b8	b7	b0	1	1	0	0	M106	M107	M104	M105
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(9)	i_uChannel	Own station channel	Word [Unsigned]/Bit String [16-bit]	1	Specify the channel to be used by own station.																																																																																																																
(10)	i_uTarget_Port_No	Destination port number	Word [Unsigned]/Bit String [16-bit]	1 to 65534	Specify the UDP port number of target device.																																																																																																																

*1 It can be specified when the target device for writing is MELSEC iQ-R Series. It cannot be specified when the target device for writing is MELSEC Q/L Series or MELSEC iQ-F Series.

*2 The allowable range is 1 to 3584 when the target device for writing is MELSEC iQ-F Series.

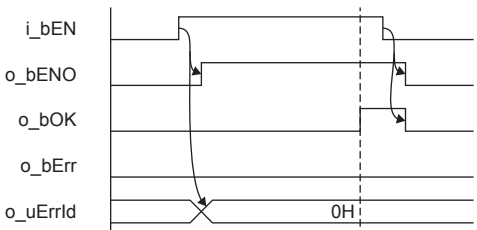
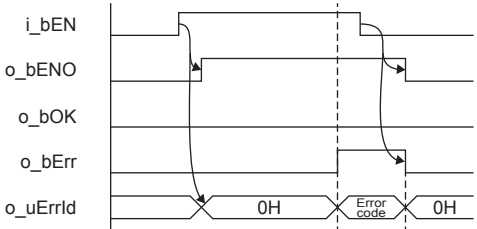
■Output label

No.	Variable name	Name	Data type	Default value	Description
(11)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(12)	o_bOK	Normal completion	Bit	OFF	Device writing has been completed normally when this output is on.
(13)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(14)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.

■Public label

No.	Variable name	Name	Data type	Range	Description												
(15)	pbi_uRequestModuleIO	Requested module I/O No.	Word [Unsigned]/Bit String [16-bit]	03FFH, 03E0H to 03E3H, 03D0H to 03D3H	Specify the module of the access destination. <ul style="list-style-type: none"> • 03FFH: Own station, control CPU • 03E0H: Multiple CPU No.1 • 03E1H: Multiple CPU No.2 • 03E2H: Multiple CPU No.3 • 03E3H: Multiple CPU No.4 • 03D0H: To control system CPU • 03D1H: To standby CPU • 03D2H: To system A CPU • 03D3H: To system B CPU 												
(16)	pbi_uResendCountMax	Maximum number of resends	Word [Unsigned]/Bit String [16-bit]	0 to 15	Specify the number of resends to be performed if the data transfer is not completed within the monitoring time specified by "arrival monitoring time". <ul style="list-style-type: none"> • 0 to 15 												
(17)	pbi_uMonitorTime	Arrival monitoring time	Word [Unsigned]/Bit String [16-bit]	0, 1 to 32767	Specify the monitoring time until completion of processing. If the processing is not completed within the monitoring time, data is resent until the value specified in "maximum number of resends" is reached. <ul style="list-style-type: none"> • 0: 10 s • 1 to 32767: 1 to 32767 s 												
(18)	pbo_uResendCount	Number of resends	Word [Unsigned]/Bit String [16-bit]	—	The number of resends performed (result) is stored.												
(19)	pbo_u4ErrTime	Error occurrence time	Word [Unsigned]/Bit String [16-bit] (0..3)	—	Clock data at the time of error occurrence is stored. <p>1st word</p> <ul style="list-style-type: none"> • Upper 8 bits: Month (01H to 12H) • Lower 8 bits: Lower 2 digits of year (00H to 99H) <p>2nd word</p> <ul style="list-style-type: none"> • Upper 8 bits: Hour (00H to 23H) • Lower 8 bits: Day (01H to 31H) <p>3rd word</p> <ul style="list-style-type: none"> • Upper 8 bits: Second (00H to 59H) • Lower 8 bits: Minute (00H to 59H) <p>4th word</p> <ul style="list-style-type: none"> • Upper 8 bits: Upper 2 digits of year (00H to 99H) • Lower 8 bits: Day of week (00H (Sunday) to 06H (Saturday)) 												
(20)	pbo_u2ErrIP_Address	Error-detected station IP address	Word [Unsigned]/Bit String [16-bit] (0..1)	—	The IP address of the station in which an error was detected is stored. The third and fourth octets are stored in the 1st word, and first and second octets are stored in the 2nd word. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8 b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td>1st word</td> <td style="text-align: center;">Third octet</td> <td style="text-align: center;">Fourth octet</td> <td></td> </tr> <tr> <td>2nd word</td> <td style="text-align: center;">First octet</td> <td style="text-align: center;">Second octet</td> <td></td> </tr> </table>		b15	b8 b7	b0	1st word	Third octet	Fourth octet		2nd word	First octet	Second octet	
	b15	b8 b7	b0														
1st word	Third octet	Fourth octet															
2nd word	First octet	Second octet															

FB details

Item	Description
Available device	Target CPU FX5U CPU, FX5UC CPU
	Engineering tool GX Works3 Version 1.030G or later
Language	Ladder diagram
Number of basic steps	346 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .
Processing	<ul style="list-style-type: none"> When i_bEN (start condition) is turned on, this function writes device data of the SLMP-compatible device. This FB is executed specifying the IP address of target device. This FB uses Write command (command: 1401H) of SLMP. The message of the SLMP command is binary code. (MELSEC iQ-F FX5 User's Manual (SLMP)) If the set number of device points is out of the range, o_bErr (error completion) is turned on, and the processing of FB is suspended. The error code 100 (hexadecimal) is stored in o_uErrId (error code). Refer to Page 25 Error code for details on the error codes. If an error occurs during device data writing, o_bErr (error completion) is turned on, and the error code is stored in o_uErrId (error code). Refer to Page 25 Error code for details on the error codes.
FB compilation method	Macro type
FB operation	Pulsed execution (multiple scan execution type)
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[For error completion]</p> 
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the SP.SLMPSEND instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the SP.SLMPSEND instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). In this FB, access devices (such as link direct device) that are accessed by the extension specification of SLMP cannot be written. In this FB, stations in other network cannot be set as the target station. For the port of target device where the remote password is set, execute this FB after performing the unlock processing of the remote password. When this FB is executed for the port of target device where the remote password is set, an error will occur. The target station must support "Write (command: 1401H)" of SLMP. This FB is for communications in binary code only. (Communications using ASCII code cannot be performed.) This FB uses UDP communications. Set the protocol setting of the target device to UDP. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication).

Error code

Error code (hexadecimal)	Description	Action
100H	The setting of i_uDevicePoints (number of device points) is out of the range. The set number of device points is out of the range from 1 to 960 (when the 0th bit of the sub command is 0) or out of the range from 1 to 3972 (when the 0th bit of the sub command is 1).	After reviewing the setting, re-execute the FB.
Error code other than 100H	Same as the error code caused by the SLMP frame sending (SP.SLMPSND) instruction.	Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

2.7 M+FX5UCPU-EN_SLMP_DeviceRead_Active

Name

M+FX5UCPU-EN_SLMP_DeviceRead_Active

Overview

Item	Description																																								
Overview	Perform the open/close processing and reading device data of SLMP compatible devices by Active connection.																																								
Symbol	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">M+FX5UCPU-EN_SLMP_DeviceRead_Active</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">(1)</td> <td style="width: 40%;">B : i_bEN</td> <td style="width: 40%;"></td> <td style="width: 10%;">o_bENO : B</td> <td style="width: 10%;">(9)</td> </tr> <tr> <td>(2)</td> <td>DUT: i_stModule</td> <td></td> <td>o_bOK : B</td> <td>(10)</td> </tr> <tr> <td>(3)</td> <td>UW : i_uConnectionNo</td> <td></td> <td>o_bErr : B</td> <td>(11)</td> </tr> <tr> <td>(4)</td> <td>B : i_bEnableRead</td> <td>o_bReadComplete : B</td> <td></td> <td>(12)</td> </tr> <tr> <td>(5)</td> <td>UW : i_uSubCommand</td> <td></td> <td>o_uErrId : UW</td> <td>(13)</td> </tr> <tr> <td>(6)</td> <td>UW : i_uDeviceCode</td> <td></td> <td>o_bUnitErr : B</td> <td>(14)</td> </tr> <tr> <td>(7)</td> <td>UW : i_u2DeviceNo</td> <td></td> <td>o_uUnitErrId : UW</td> <td>(15)</td> </tr> <tr> <td>(8)</td> <td>UW : i_uDevicePoints</td> <td></td> <td>o_uReadData : UW</td> <td>(16)</td> </tr> </table> <p>(17) pbi_bUseParameters (18) pbi_uLocal_Port_No (19) pbi_uTarget_Port_No (20) pbi_u2IP_Address (21) pbi_uRequestModuleIO</p> </div>	(1)	B : i_bEN		o_bENO : B	(9)	(2)	DUT: i_stModule		o_bOK : B	(10)	(3)	UW : i_uConnectionNo		o_bErr : B	(11)	(4)	B : i_bEnableRead	o_bReadComplete : B		(12)	(5)	UW : i_uSubCommand		o_uErrId : UW	(13)	(6)	UW : i_uDeviceCode		o_bUnitErr : B	(14)	(7)	UW : i_u2DeviceNo		o_uUnitErrId : UW	(15)	(8)	UW : i_uDevicePoints		o_uReadData : UW	(16)
(1)	B : i_bEN		o_bENO : B	(9)																																					
(2)	DUT: i_stModule		o_bOK : B	(10)																																					
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(7)	UW : i_u2DeviceNo		o_uUnitErrId : UW	(15)																																					
(8)	UW : i_uDevicePoints		o_uReadData : UW	(16)																																					

Labels

Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the CPU module.
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	1 to 8	Specify the connection number for receiving data.
(4)	i_bEnableRead	Reading execution	Bit	ON, OFF	ON: Execute reading OFF: Not execute reading
(5)	i_uSubCommand	Sub command	Word [Unsigned]/Bit String [16-bit]	0 to 3	Specify the read unit and specification method of a device. <ul style="list-style-type: none"> • 0th bit: Specify whether the device is read in units of words or in units of bits. 0: In units of words 1: In units of bits • 1st bit: Specify the combination of the number of digits of the device code and start device number of the device to be read. 0: Specify the device code in 2 digits and the start device number in 6 digits (for MELSEC-Q/L series). 1: Specify the device code in 4 digits and the start device number in 8 digits (for MELSEC iQ-R series).^{*1}
(6)	i_uDeviceCode	Device code	Word [Unsigned]/Bit String [16-bit]	—	Specify the device code of the device to be read in binary code. <ul style="list-style-type: none"> • When the 1st bit of the subcommand is 0: 2 digits • When the 1st bit of the subcommand is 1: 4 digits

No.	Variable name	Name	Data type	Range	Description
(7)	i_u2DeviceNo	Head device No.	Word [Unsigned]/Bit String [16-bit] (0..1)	—	Specify the start device number of the device to be read in binary code. <ul style="list-style-type: none"> • When the 1st bit of the subcommand is 0: 6 digits • When the 1st bit of the subcommand is 1: 8 digits
(8)	i_uDevicePoints	Number of device points	Word [Unsigned]/Bit String [16-bit]	1 to 960, 1 to 3972	Specify the number of device points of the device to be read in binary code. <ul style="list-style-type: none"> • When the 1st bit of the subcommand is 1: 0 to 960 digits • When the 1st bit of the subcommand is 1: 1 to 3972 digits^{*2}

*1 It can be specified when the target device for reading is MELSEC iQ-R Series. It cannot be specified when the target device for reading is MELSEC Q/L Series or MELSEC iQ-F Series.

*2 The allowable range is 1 to 3584 when the target device for reading is MELSEC iQ-F Series.

■Output label

No.	Variable name	Name	Data type	Default value	Description
(9)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(10)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the opening of the connection has completed normally.
(11)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(12)	o_bReadComplete	Reading completion	Bit	OFF	When this label is ON, it indicates that the reading has completed normally.
(13)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.
(14)	o_bUnitErr	Module error outbreak flag	Bit	OFF	The on state indicates that a module error has occurred.
(15)	o_uUnitErrId	Module error code	Word [Unsigned]/Bit String [16-bit]	0	The error code of an error occurred in the module is stored.

No.	Variable name	Name	Data type	Default value	Description																																				
(16)	o_uReadData	Read data storage destination	Word [Unsigned]/Bit String [16-bit]	0	<p>Specify the start device number of the device for storing the read data.</p> <ul style="list-style-type: none"> When the 0th bit of the subcommand is 0, the device data is read in units of words. <p>Example: When reading the bit device M100 to M115 (one word) in units of words</p> <p>1st word:</p> <table border="1"> <tr> <td>b15</td> <td>b8 b7</td> <td>b0</td> </tr> <tr> <td>1</td> <td>2</td> <td>3 4</td> </tr> </table> <p>0 0 0 1 0 0 1 0 0 0 1 1 0 1 0 0 M115 . . . M100</p> <p>Example: When reading the word device D0 to D2 in units of words</p> <p>1st word:</p> <table border="1"> <tr> <td>b15</td> <td>b8 b7</td> <td>b0</td> </tr> <tr> <td>1</td> <td>2</td> <td>3 4</td> </tr> </table> <p>D0</p> <p>2nd word:</p> <table border="1"> <tr> <td>b15</td> <td>b8 b7</td> <td>b0</td> </tr> <tr> <td>0</td> <td>0</td> <td>0 2</td> </tr> </table> <p>D1</p> <p>3rd word:</p> <table border="1"> <tr> <td>b15</td> <td>b8 b7</td> <td>b0</td> </tr> <tr> <td>1</td> <td>D</td> <td>E F</td> </tr> </table> <p>D2</p> <ul style="list-style-type: none"> When the 0th bit of the subcommand is 1, read the device data in units of bits. <p>Example: When reading the bit device M100 to M107 in units of bits</p> <p>1st word:</p> <table border="1"> <tr> <td>b15</td> <td>b8 b7</td> <td>b0</td> </tr> <tr> <td>0</td> <td>1</td> <td>0 0</td> </tr> </table> <p>M102 M103 M100 M101</p> <p>2nd word:</p> <table border="1"> <tr> <td>b15</td> <td>b8 b7</td> <td>b0</td> </tr> <tr> <td>1</td> <td>1</td> <td>0 0</td> </tr> </table> <p>M106 M107 M104 M105</p>	b15	b8 b7	b0	1	2	3 4	b15	b8 b7	b0	1	2	3 4	b15	b8 b7	b0	0	0	0 2	b15	b8 b7	b0	1	D	E F	b15	b8 b7	b0	0	1	0 0	b15	b8 b7	b0	1	1	0 0
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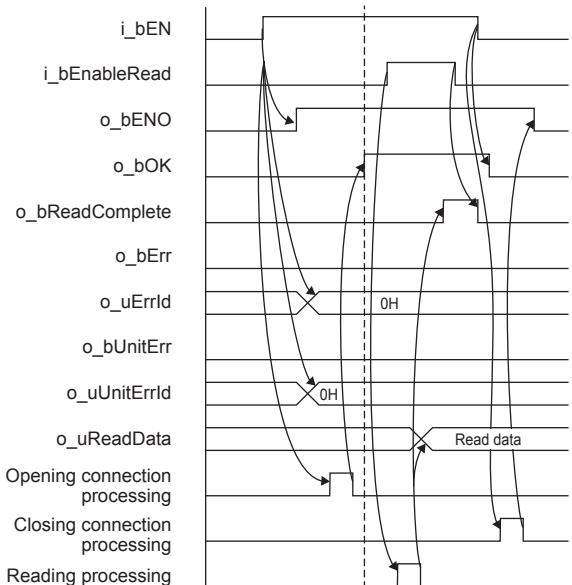
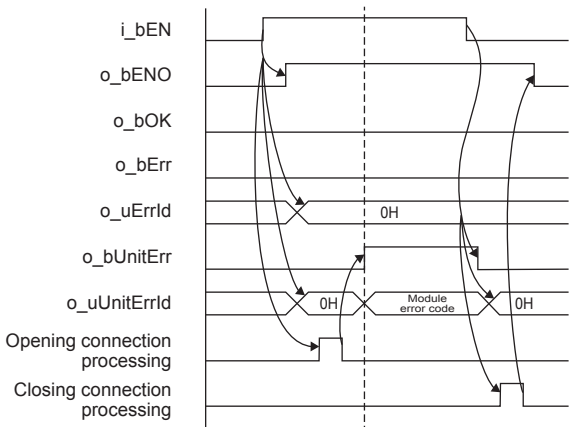
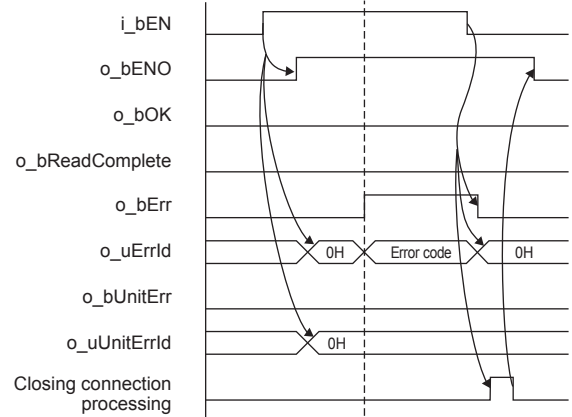
Public label

No.	Variable name	Name	Data type	Range	Description									
(17)	pbi_bUseParameters	Parameter used	Bit	ON, OFF	<p>Specify whether to use the parameter values set by the engineering tool or the following operation parameter values when processing for opening a connection.</p> <ul style="list-style-type: none"> OFF: Performs open processing according to the target device configuration setting made by the engineering tool. (The following operation parameters need not be set. Any settings are ignored if made.) ON: Performs open processing according to the following operation parameters. 									
(18)	pbi_uLocal_Port_No	Own node port number	Word [Unsigned]/Bit String [16-bit]	1 to 5548, 5570 to 65534	<p>Specify the port number of the own node.</p> <p>Own node port numbers 1 to 1023 are generally reserved port numbers, and 61440 to 65534 are used by other communication functions. Therefore, port numbers 1024 to 5548 and 5570 to 61439 should be used.</p>									
(19)	pbi_uTarget_Port_No	Destination port number	Word [Unsigned]/Bit String [16-bit]	1 to 65534	Specify the destination port number.									
(20)	pbi_u2IP_Address	IP address of target device	Word [Unsigned]/Bit String [16-bit](0..1)	0.0.0.1 to 223.255.255.254	<p>Specify the IP address of target device.</p> <table border="1"> <tr> <td>b15</td> <td>b8 b7</td> <td>b0</td> </tr> <tr> <td>1st word</td> <td>Third octet</td> <td>Fourth octet</td> </tr> <tr> <td>2nd word</td> <td>First octet</td> <td>Second octet</td> </tr> </table>	b15	b8 b7	b0	1st word	Third octet	Fourth octet	2nd word	First octet	Second octet
b15	b8 b7	b0												
1st word	Third octet	Fourth octet												
2nd word	First octet	Second octet												

No.	Variable name	Name	Data type	Range	Description
(21)	pbi_uRequestModuleIO	Requested module I/O No.	Word [Unsigned]/Bit String [16-bit]	03FFH, 03E0H to 03E3H, 03D0H to 03D3H	Specify the module of the access destination. <ul style="list-style-type: none"> • 03FFH: Own station, control CPU • 03E0H: Multiple CPU No.1 • 03E1H: Multiple CPU No.2 • 03E2H: Multiple CPU No.3 • 03E3H: Multiple CPU No.4 • 03D0H: To control system CPU • 03D1H: To standby CPU • 03D2H: To system A CPU • 03D3H: To system B CPU

FB details

Item	Description	
Available device	Target CPU	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.040S or later
Language	Ladder diagram	
Number of basic steps	960 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .	
Processing	<ul style="list-style-type: none"> • Perform Active open processing by turning i_bEN (Execution command) on. When the connection is the open status, the open processing is not executed. After the open processing has completed, o_bOK (Normal completion) turns on. • Perform Active close processing by turning i_bEN (Execution command) off. When the connection is the closed status, the close processing is not executed. • Execute reading from the external device according to the description set for arguments of input by turning i_bEnableRead (Reading execution) on, and the data is output to o_uReadData (Read data storage destination). • When the setting values of device points are out of range, o_bErr (Error completion) turns on, and the FB processing are stopped. Also, Error code 100 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 31 Error code. • The target connection needs to be opened by Active connection of TCP. When the connection is opened while these conditions are not satisfied, o_bErr (Error completion) turns on, and the FB processing is stopped. Also, Error code 101 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 31 Error code. • When an error has occurred in the reading processing of the open/close/information of the connection, or the reading processing by SLMP, o_bUnitErr (Module error outbreak flag) turns on. Also, an error code is stored in o_uUnitErrId (Module error code). For the error code, refer to Page 31 Error code. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	

Item	Description
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[When a module error has occurred]</p>  <p>[For error completion]</p> 

Item	Description
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses SP.SOCCINF instruction, SP.SOCOPEN instruction, SP.SOCCLOSE instruction, SP.SOCRRCV instruction, and SP.SOCSND instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion), o_bErr (Error completion), or o_bUnitErr (Module error outbreak flag) turns on. By turning off i_bEN (Execution command), o_bOK (Normal completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) turn off, and then o_uErrId (Error code) and o_uUnitErrId (Module error code) are cleared to zero. However, when performing writing during RUN of this FB, o_bOK (Normal completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) may not be turned on. In that case, turn off and on i_bEN (Execution command) again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). In this FB, access devices (such as link direct device) that are accessed by the extension specification of SLMP cannot be read. In this FB, stations in other network cannot be set as the target station. For the port of target device where the remote password is set, execute this FB after performing the unlock processing of the remote password. When this FB is executed for the port of target device where the remote password is set, an error will occur. The target station must support "Read (command: 0401H)" of SLMP. This FB is for communications in binary code only. (Communications using ASCII code cannot be performed.) This FB uses TCP communications. Set the protocol setting of the target device to TCP. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication).

Error code

Error code (hexadecimal)	Description	Action
100H	<p>The setting of i_uDevicePoints (number of device points) is out of the range.</p> <p>The set number of device points is out of the range from 1 to 960 (when the 0th bit of the sub command is 0) or out of the range from 1 to 3972 (when the 0th bit of the sub command is 1).</p>	After reviewing the setting, re-execute the FB.
101H	<p>The target connection is opened by any of the following conditions.</p> <ul style="list-style-type: none"> UDP/IP connection Unpassive open Fullpassive open 	Close the target connection, review the setting and execute the FB again.
Error code other than the above	<p>Same as the error code caused by the following instruction. Stored in o_uUnitErrId (Module error code).</p> <ul style="list-style-type: none"> Reading connection information (SP.SOCCINF) instruction Opening a connection (SP.SOCOPEN) instruction Closing a connection (SP.SOCCLOSE) instruction Receive data (SP.SOCRRCV) instruction Send data (SP.SOCSND) instruction 	Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

2.8 M+FX5UCPU-EN_SLMP_DeviceWrite_Active

Name

M+FX5UCPU-EN_SLMP_DeviceWrite_Active

Overview

Item	Description																																				
Overview	Perform the open/close processing and writing device data of SLMP compatible devices by Active connection.																																				
Symbol	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">M+FX5UCPU-EN_SLMP_DeviceWrite_Active</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; vertical-align: top;">(1)</td> <td style="width: 40%;">B : i_bEN</td> <td style="width: 40%; text-align: right;">o_bENO : B</td> <td style="width: 10%; text-align: right;">(10)</td> </tr> <tr> <td style="vertical-align: top;">(2)</td> <td>DUT: i_stModule</td> <td style="text-align: right;">o_bOK : B</td> <td style="text-align: right;">(11)</td> </tr> <tr> <td style="vertical-align: top;">(3)</td> <td>UW : i_uConnectionNo</td> <td style="text-align: right;">o_bErr : B</td> <td style="text-align: right;">(12)</td> </tr> <tr> <td style="vertical-align: top;">(4)</td> <td>B : i_bEnableWrite</td> <td style="text-align: right;">o_bReadComplete : B</td> <td style="text-align: right;">(13)</td> </tr> <tr> <td style="vertical-align: top;">(5)</td> <td>UW : i_uSubCommand</td> <td style="text-align: right;">o_uErrId : UW</td> <td style="text-align: right;">(14)</td> </tr> <tr> <td style="vertical-align: top;">(6)</td> <td>UW : i_uDeviceCode</td> <td style="text-align: right;">o_bUnitErr : B</td> <td style="text-align: right;">(15)</td> </tr> <tr> <td style="vertical-align: top;">(7)</td> <td>UW : i_u2DeviceNo</td> <td style="text-align: right;">o_uUnitErrId : UW</td> <td style="text-align: right;">(16)</td> </tr> <tr> <td style="vertical-align: top;">(8)</td> <td>UW : i_uDevicePoints</td> <td></td> <td></td> </tr> <tr> <td style="vertical-align: top;">(9)</td> <td>UW : i_uWriteData</td> <td></td> <td></td> </tr> </table> <p style="margin-left: 20px;"> (17) pbi_bUseParameters (18) pbi_uLocal_Port_No (19) pbi_uTarget_Port_No (20) pbi_u2IP_Address (21) pbi_uRequestModuleIO </p> </div>	(1)	B : i_bEN	o_bENO : B	(10)	(2)	DUT: i_stModule	o_bOK : B	(11)	(3)	UW : i_uConnectionNo	o_bErr : B	(12)	(4)	B : i_bEnableWrite	o_bReadComplete : B	(13)	(5)	UW : i_uSubCommand	o_uErrId : UW	(14)	(6)	UW : i_uDeviceCode	o_bUnitErr : B	(15)	(7)	UW : i_u2DeviceNo	o_uUnitErrId : UW	(16)	(8)	UW : i_uDevicePoints			(9)	UW : i_uWriteData		
(1)	B : i_bEN	o_bENO : B	(10)																																		
(2)	DUT: i_stModule	o_bOK : B	(11)																																		
(3)	UW : i_uConnectionNo	o_bErr : B	(12)																																		
(4)	B : i_bEnableWrite	o_bReadComplete : B	(13)																																		
(5)	UW : i_uSubCommand	o_uErrId : UW	(14)																																		
(6)	UW : i_uDeviceCode	o_bUnitErr : B	(15)																																		
(7)	UW : i_u2DeviceNo	o_uUnitErrId : UW	(16)																																		
(8)	UW : i_uDevicePoints																																				
(9)	UW : i_uWriteData																																				

Labels

Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the CPU module.
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	1 to 8	Specify the connection number for sending data.
(4)	i_bEnableWrite	Writing execution	Bit	ON, OFF	ON: Execute writing OFF: Not execute writing
(5)	i_uSubCommand	Sub command	Word [Unsigned]/Bit String [16-bit]	0 to 3	Specify the write unit and specification method of a device. • 0th bit: Specify whether the device is written in units of words or in units of bits. 0: In units of words 1: In units of bits • 1st bit: Specify the combination of the number of digits of the device code and start device number of the device to be written. 0: Specify the device code in 2 digits and the start device number in 6 digits. 1: Specify the device code in 4 digits and the start device number in 8 digits. ¹
(6)	i_uDeviceCode	Device code	Word [Unsigned]/Bit String [16-bit]	—	Specify the device code of the device to be written in binary code. • When the 1st bit of the subcommand is 0: 2 digits • When the 1st bit of the subcommand is 1: 4 digits

No.	Variable name	Name	Data type	Range	Description																																																												
(7)	i_u2DeviceNo	Head device No.	Word [Unsigned]/Bit String [16-bit] (0..1)	—	Specify the start device number of the device to be written in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 0: 6 digits When the 1st bit of the subcommand is 1: 8 digits 																																																												
(8)	i_uDevicePoints	Number of device points	Word [Unsigned]/Bit String [16-bit]	1 to 960, 1 to 3972	Specify the number of device points of the device to be written in binary code. <ul style="list-style-type: none"> When the 1st bit of the subcommand is 1: 0 to 960 digits When the 1st bit of the subcommand is 1: 1 to 3972 digits^{*2} 																																																												
(9)	i_uWriteData	Write data storage destination	Word [Unsigned]/Bit String [16-bit]	—	Specify the start device number of the device for storing the write data. <ul style="list-style-type: none"> When the 0th bit of the subcommand is 0, the device data is written in units of words. Example: When writing the bit device M100 to M115 (one word) in units of words 1st word: <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> </table> <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">1</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">1</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">1</td><td style="text-align: center;">1</td><td style="text-align: center;">0</td><td style="text-align: center;">1</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">M115</td><td></td><td></td><td></td><td></td><td style="text-align: center;">...</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">M100</td> </tr> </table> When the 0th bit of the subcommand is 1, the device data is written in units of bits. Example: When writing the word device D0 to D2 in units of words 1st word: <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> </table> <div style="margin-left: 40px;">} D0</div> 2nd word: <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">2</td> </tr> </table> <div style="margin-left: 40px;">} D1</div> 3rd word: <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">D</td> <td style="text-align: center;">E</td> <td style="text-align: center;">F</td> </tr> </table> <div style="margin-left: 40px;">} D2</div> 	b15	b8	b7	b0	1	2	3	4	0	0	1	0	0	1	0	0	1	1	0	1	0	0	M115					...								M100	b15	b8	b7	b0	1	2	3	4	b15	b8	b7	b0	0	0	0	2	b15	b8	b7	b0	1	D	E	F
b15	b8	b7	b0																																																														
1	2	3	4																																																														
0	0	1	0	0	1	0	0	1	1	0	1	0	0																																																				
M115					...								M100																																																				
b15	b8	b7	b0																																																														
1	2	3	4																																																														
b15	b8	b7	b0																																																														
0	0	0	2																																																														
b15	b8	b7	b0																																																														
1	D	E	F																																																														

*1 It can be specified when the target device for writing is MELSEC iQ-R Series. It cannot be specified when the target device for writing is MELSEC Q/L Series or MELSEC iQ-F Series.

*2 The allowable range is 1 to 3584 when the target device for writing is MELSEC iQ-F Series.

Output label

No.	Variable name	Name	Data type	Default value	Description
(10)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(11)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the opening of the connection has completed normally.
(12)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(13)	o_bWriteComplete	Writing completion	Bit	OFF	When this label is ON, it indicates that the writing has completed normally.
(14)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.
(15)	o_bUnitErr	Module error outbreak flag	Bit	OFF	The on state indicates that a module error has occurred.
(16)	o_uUnitErrId	Module error code	Word [Unsigned]/Bit String [16-bit]	0	The error code of an error occurred in the module is stored.

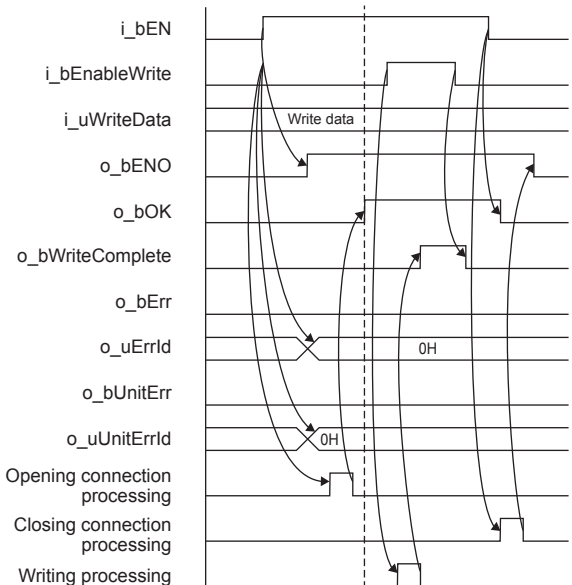
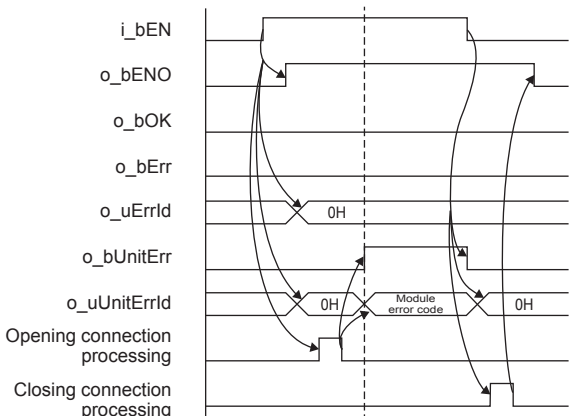
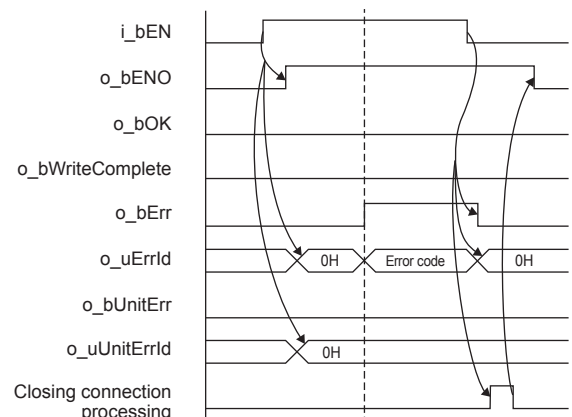
Public label

No.	Variable name	Name	Data type	Range	Description												
(17)	pbi_bUseParameters	Parameter used	Bit	ON, OFF	Specify whether to use the parameter values set by the engineering tool or the following operation parameter values when processing for opening a connection. <ul style="list-style-type: none"> • OFF: Performs open processing according to the target device configuration setting made by the engineering tool. (The following operation parameters need not be set. Any settings are ignored if made.) • ON: Performs open processing according to the following operation parameters. 												
(18)	pbi_uLocal_Port_No	Own node port number	Word [Unsigned]/Bit String [16-bit]	1 to 5548, 5570 to 65534	Specify the port number of the own node. Own node port numbers 1 to 1023 are generally reserved port numbers, and 61440 to 65534 are used by other communication functions. Therefore, port numbers 1024 to 5548 and 5570 to 61439 should be used.												
(19)	pbi_uTarget_Port_No	Destination port number	Word [Unsigned]/Bit String [16-bit]	1 to 65534	Specify the destination port number.												
(20)	pbi_u2IP_Address	IP address of target device	Word [Unsigned]/Bit String [16-bit] (0..1)	0.0.0.1 to 223.255.255.254	Specify the IP address of target device. <div style="text-align: center;"> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px;">b15</td> <td style="padding: 2px;">b8</td> <td style="padding: 2px;">b7</td> <td style="padding: 2px;">b0</td> </tr> <tr> <td style="padding: 2px;">1st word</td> <td style="padding: 2px;">Third octet</td> <td style="padding: 2px;">Fourth octet</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">2nd word</td> <td style="padding: 2px;">First octet</td> <td style="padding: 2px;">Second octet</td> <td style="padding: 2px;"></td> </tr> </table> </div>	b15	b8	b7	b0	1st word	Third octet	Fourth octet		2nd word	First octet	Second octet	
b15	b8	b7	b0														
1st word	Third octet	Fourth octet															
2nd word	First octet	Second octet															
(21)	pbi_uRequestModuleIO	Requested module I/O No.	Word [Unsigned]/Bit String [16-bit]	03FFH, 03E0H to 03E3H, 03D0H to 03D3H	Specify the module of the access destination. <ul style="list-style-type: none"> • 03FFH: Own station, control CPU • 03E0H: Multiple CPU No.1 • 03E1H: Multiple CPU No.2 • 03E2H: Multiple CPU No.3 • 03E3H: Multiple CPU No.4 • 03D0H: To control system CPU • 03D1H: To standby CPU • 03D2H: To system A CPU • 03D3H: To system B CPU 												

FB details

Item	Description	
Available device	Target CPU	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.040S or later
Language	Ladder diagram	
Number of basic steps	836 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual.	

Item	Description
Processing	<ul style="list-style-type: none"> • Perform Active open processing by turning i_bEN (Execution command) on. When the connection is the open status, the open processing is not executed. After the open processing has completed, o_bOK (Normal completion) turns on. • Perform Active close processing by turning i_bEN (Execution command) off. When the connection is the closed status, the close processing is not executed. • Execute writing to the external device according to the description set for arguments of input by turning i_bEnableWrite (Writing execution) on. When the writing has completed normally, o_bWriteComplete (Writing completion) turns on. • When the setting values of device points are out of range, o_bErr (Error completion) turns on, and the FB processing are stopped. Also, Error code 100 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 37 Error code. • The target connection needs to be opened by Active connection of TCP. When the connection is opened while these conditions are not satisfied, o_bErr (Error completion) turns on, and the FB processing is stopped. Also, Error code 101 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 37 Error code. • When an error has occurred in the writing processing of the open/close/information of the connection, or the writing processing by SLMP, o_bUnitErr (Module error outbreak flag) turns on. Also, an error code is stored in o_uUnitErrId (Module error code). For the error code, refer to Page 37 Error code.
FB compilation method	Macro type
FB operation	Pulsed execution (multiple scan execution type)

Item	Description
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[When a module error has occurred]</p>  <p>[For error completion]</p> 

Item	Description
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses SP.SOCCINF instruction, SP.SOCOPEN instruction, SP.SOCCLOSE instruction, SP.SOCRVC instruction, and SP.SOCSND instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion), o_bErr (Error completion), or o_bUnitErr (Module error outbreak flag) turns on. By turning off i_bEN (Execution command), o_bOK (Normal completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) turn off, and then o_uErrId (Error code) and o_uUnitErrId (Module error code) are cleared to zero. However, when performing writing during RUN of this FB, o_bOK (Normal completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) may not be turned on. In that case, turn off and on i_bEN (Execution command) again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). In this FB, access devices (such as link direct device) that are accessed by the extension specification of SLMP cannot be written. In this FB, stations in other network cannot be set as the target station. For the port of target device where the remote password is set, execute this FB after performing the unlock processing of the remote password. When this FB is executed for the port of target device where the remote password is set, an error will occur. The target station must support "Write (command: 1401H)" of SLMP. This FB is for communications in binary code only. (Communications using ASCII code cannot be performed.) This FB uses TCP communications. Set the protocol setting of the target device to TCP. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC IQ-F FX5 User's Manual (Ethernet Communication).

Error code

Error code (hexadecimal)	Description	Action
100H	<p>The setting of i_uDevicePoints (number of device points) is out of the range.</p> <p>The set number of device points is out of the range from 1 to 960 (when the 0th bit of the sub command is 0) or out of the range from 1 to 3972 (when the 0th bit of the sub command is 1).</p>	After reviewing the setting, re-execute the FB.
101H	<p>The target connection is opened by any of the following conditions.</p> <ul style="list-style-type: none"> UDP/IP connection Unpassive open Fullpassive open 	Close the target connection, review the setting and execute the FB again.
Error code other than the above	<p>Same as the error code caused by the following instruction. Stored in o_uUnitErrId (Module error code).</p> <ul style="list-style-type: none"> Reading connection information (SP.SOCCINF) instruction Opening a connection (SP.SOCOPEN) instruction Closing a connection (SP.SOCCLOSE) instruction Receive data (SP.SOCRVC) instruction Send data (SP.SOCSND) instruction 	Refer to the MELSEC IQ-F FX5 User's Manual (Ethernet Communication)

2.9 M+FX5UCPU-EN_SLMP_DeviceCodeConversion

Name

M+FX5UCPU-EN_SLMP_DeviceCodeConversion

Overview

Item	Description																				
Overview	Calculate the value to be input to the device code for SLMP communication.																				
Symbol	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p style="text-align: center;">M+FX5UCPU-EN_SLMP_DeviceCodeConversion</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(1) B : i_bEN</td> <td style="width: 35%;"></td> <td style="width: 15%;">o_bENO : B</td> <td style="width: 35%;">(3)</td> </tr> <tr> <td>(2) S : i_s2DeviceCode</td> <td></td> <td>o_bOK : B</td> <td>(4)</td> </tr> <tr> <td></td> <td></td> <td>o_bErr : B</td> <td>(5)</td> </tr> <tr> <td></td> <td></td> <td>o_uErrId : UW</td> <td>(6)</td> </tr> <tr> <td></td> <td></td> <td>o_uDeviceCode : UW</td> <td>(7)</td> </tr> </table> </div>	(1) B : i_bEN		o_bENO : B	(3)	(2) S : i_s2DeviceCode		o_bOK : B	(4)			o_bErr : B	(5)			o_uErrId : UW	(6)			o_uDeviceCode : UW	(7)
(1) B : i_bEN		o_bENO : B	(3)																		
(2) S : i_s2DeviceCode		o_bOK : B	(4)																		
		o_bErr : B	(5)																		
		o_uErrId : UW	(6)																		
		o_uDeviceCode : UW	(7)																		

Labels

Input label

No.	Variable name	Name	Data type	Range	Description															
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.															
(2)	i_s2DeviceCode	Device code (input)	Character string (32) (0..1)	—	Stores the device code (string). (Ex.) When inputting the device code "LSTN" <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td style="text-align: right; padding-right: 5px;">b15</td> <td style="border: 1px solid black; width: 40px; height: 20px;"></td> <td style="text-align: center; padding: 0 5px;">b8 b7</td> <td style="border: 1px solid black; width: 40px; height: 20px;"></td> <td style="text-align: right; padding-left: 5px;">b0</td> </tr> <tr> <td>1st word</td> <td style="text-align: center;">L</td> <td></td> <td style="text-align: center;">S</td> <td></td> </tr> <tr> <td>2nd word</td> <td style="text-align: center;">T</td> <td></td> <td style="text-align: center;">N</td> <td></td> </tr> </table> Input K0 in a part which characters are not input. For the details of the device code, refer to the MELSEC iQ-F FX5 User's Manual (SLMP) .	b15		b8 b7		b0	1st word	L		S		2nd word	T		N	
b15		b8 b7		b0																
1st word	L		S																	
2nd word	T		N																	

Output label

No.	Variable name	Name	Data type	Default value	Description
(3)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(4)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the conversion of the device code has completed normally.
(5)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(6)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.
(7)	o_uDeviceCode	Device code (output)	Word [Unsigned]/Bit String [16-bit]	0	Stores the converted device code.

FB details

Item	Description
Available device	Target CPU FX5U CPU, FX5UC CPU
	Engineering tool GX Works3 Version 1.040S or later
Language	Ladder diagram
Number of basic steps	580 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .
Processing	<ul style="list-style-type: none"> Convert i_s2DeviceCode (device code (input)) to the binary code by turning i_bEN (Execution command) on, and the binary code is output to o_uDeviceCode (device code (output)). When the values of i_s2DeviceCode (device code (input)) are incorrect, o_bErr (Error completion) turns on, and the FB processing is stopped. Also, Error code 102 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 39 Error code.
FB compilation method	Macro type
FB operation	Pulsed execution (single scan execution type)
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion]</p>
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command).

Error code

Error code (hexadecimal)	Description	Action
102H	The set values of i_s2DeviceCode (device code (input)) are incorrect.	Set the device code described in the MELSEC iQ-F FX5 User's Manual (SLMP) or SLMP Reference Manual .

2.10 M+FX5UCPU-EN_ModbusTcp_ClientRead

Name

M+FX5UCPU-EN_ModbusTcp_ClientRead

Overview

Item	Description																																
Overview	Perform the open/close processing and reading by MODBUS/TCP client in socket communication.																																
Symbol	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">M+FX5UCPU-EN_ModbusTcp_ClientRead</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(1) B : i_bEN</td> <td style="width: 35%;"></td> <td style="width: 15%;">o_bENO : B</td> <td style="width: 35%;">(8)</td> </tr> <tr> <td>(2) DUT: i_stModule</td> <td></td> <td>o_bOK : B</td> <td>(9)</td> </tr> <tr> <td>(3) UW : i_uConnectionNo</td> <td></td> <td>o_bErr : B</td> <td>(10)</td> </tr> <tr> <td>(4) B : i_bEnableRead</td> <td>o_bReadComplete : B</td> <td></td> <td>(11)</td> </tr> <tr> <td>(5) B : i_bBitOrWord</td> <td></td> <td>o_uErrId : UW</td> <td>(12)</td> </tr> <tr> <td>(6) UW : i_uModbusAddress</td> <td></td> <td>o_bUnitErr : B</td> <td>(13)</td> </tr> <tr> <td>(7) UW : i_uAccessPoints</td> <td></td> <td>o_uUnitErrId : UW</td> <td>(14)</td> </tr> <tr> <td></td> <td></td> <td>o_uReadData : UW</td> <td>(15)</td> </tr> </table> <p style="margin-top: 10px;"> (16) pbi_bUseParameters (17) pbi_uLocal_Port_No (18) pbi_uTarget_Port_No (19) pbi_u2IP_Address (20) pbi_uCommunication_ID </p> </div>	(1) B : i_bEN		o_bENO : B	(8)	(2) DUT: i_stModule		o_bOK : B	(9)	(3) UW : i_uConnectionNo		o_bErr : B	(10)	(4) B : i_bEnableRead	o_bReadComplete : B		(11)	(5) B : i_bBitOrWord		o_uErrId : UW	(12)	(6) UW : i_uModbusAddress		o_bUnitErr : B	(13)	(7) UW : i_uAccessPoints		o_uUnitErrId : UW	(14)			o_uReadData : UW	(15)
(1) B : i_bEN		o_bENO : B	(8)																														
(2) DUT: i_stModule		o_bOK : B	(9)																														
(3) UW : i_uConnectionNo		o_bErr : B	(10)																														
(4) B : i_bEnableRead	o_bReadComplete : B		(11)																														
(5) B : i_bBitOrWord		o_uErrId : UW	(12)																														
(6) UW : i_uModbusAddress		o_bUnitErr : B	(13)																														
(7) UW : i_uAccessPoints		o_uUnitErrId : UW	(14)																														
		o_uReadData : UW	(15)																														

Labels

Input label

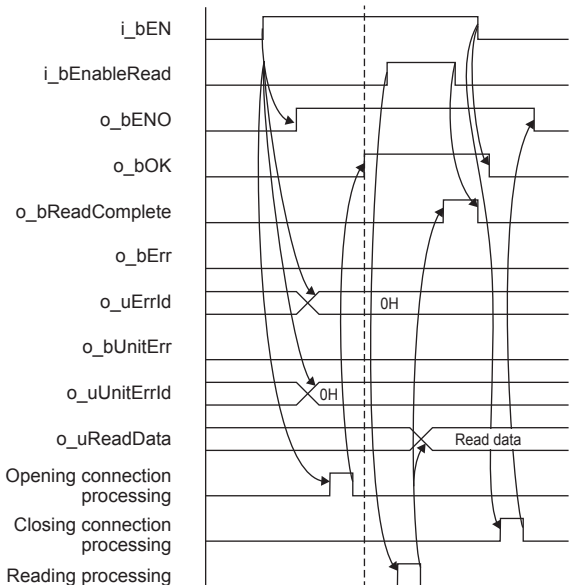
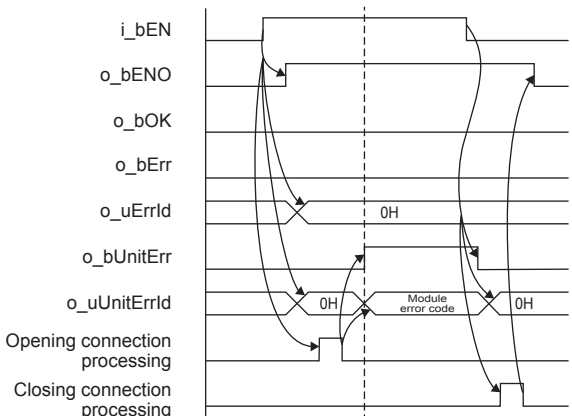
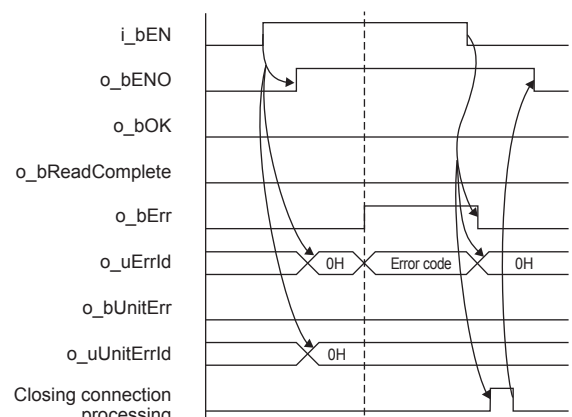
No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the CPU module.
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	1 to 8	Specify the connection number for receiving data.
(4)	i_bEnableRead	Reading execution	Bit	ON, OFF	ON: Execute reading OFF: Not execute reading
(5)	i_bBitOrWord	Bit/word selection	Bit	ON, OFF	ON: Select bit for read device OFF: Select word for read device
(6)	i_uModbusAddress	MODBUS address	Word [Unsigned]/Bit String [16-bit]	0000H to FFFFH	Specify the head MODBUS address which executes reading.
(7)	i_uAccessPoints	Access points	Word [Unsigned]/Bit String [16-bit]	1 to 2000, 1 to 125	When selecting bit: 1 to 2000 When selecting word: 1 to 125

Output label

No.	Variable name	Name	Data type	Default value	Description
(8)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(9)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the opening of the connection has completed normally.
(10)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(11)	o_bReadComplete	Reading completion	Bit	OFF	When this label is ON, it indicates that the reading has completed normally.
(12)	o_uErrId	Error code	Word [Unsigned]/Bit String [16-bit]	0	Stores the error code that occurred in the FB.

FB details

Item	Description	
Available device	Target CPU	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.045X or later
Language	Ladder diagram	
Number of basic steps	813 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .	
Processing	<ul style="list-style-type: none"> Perform Active open processing by turning i_bEN (Execution command) on. When the connection is the open status, the open processing is not executed. After the open processing has completed, o_bOK (Normal completion) turns on. Perform Active close processing by turning i_bEN (Execution command) off. When the connection is the closed status, the close processing is not executed. Execute reading from the external device according to the description set for arguments of input by turning i_bEnableRead (Reading execution) on, and the data is output to o_uReadData (Read data storage destination). When the setting values of i_uAccessPoints (Access points) are out of range, o_bErr (Error completion) turns on, and the FB processing are stopped. Also, Error code 100 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 44 Error code. The target connection needs to be opened by Active connection of TCP. When the connection is opened while these conditions are not satisfied, o_bErr (Error completion) turns on, and the FB processing is stopped. Also, Error code 101 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 44 Error code. When an error has occurred in the reading processing of the open/close/information of the connection, or the reading processing by MODBUS/TCP client, o_bUnitErr (Module error outbreak flag) turns on. Also, an error code is stored in o_uUnitErrId (Module error code). For the error code, refer to Page 44 Error code. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	

Item	Description
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[When a module error has occurred]</p>  <p>[For error completion]</p> 

Item	Description
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses SP.SOCCINF instruction, SP.SOCOPEN instruction, SP.SOCCLOSE instruction, SP.SOCRCV instruction, and SP.SOCSND instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion), o_bReadComplete (Reading completion), o_bErr (Error completion), or o_bUnitErr (Module error outbreak flag) turns on. By turning off i_bEN (Execution command), o_bOK (Normal completion), o_bReadComplete (Reading completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) turn off, and then o_uErrId (Error code) and o_uUnitErrId (Module error code) are cleared to zero. However, when performing writing during RUN of this FB, o_bOK (Normal completion), o_bReadComplete (Reading completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) may not be turned on. In that case, turn off and on i_bEN (Execution command) again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). In this FB, stations in other network cannot be set as the target station. This FB is for communications in binary code only. (Communications using ASCII code cannot be performed.) This FB uses TCP communications. Set the protocol setting of the target device to TCP. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication).

Error code

Error code (hexadecimal)	Description	Action
100H	The setting values of i_uAccessPoints (Access points) are out of range. Access points are set to the value other than 1 to 2000 (when bit is selected), or 1 to 125 (when word is selected).	After reviewing the setting, re-execute the FB.
101H	The target connection is opened by any of the following conditions. <ul style="list-style-type: none"> UDP/IP connection Unpassive open Fullpassive open 	Close the target connection, review the setting and execute the FB again.
Error code other than the above	Same as the error code caused by the following instruction. Stored in o_uUnitErrId (Module error code). <ul style="list-style-type: none"> Reading connection information (SP.SOCCINF) instruction Opening a connection (SP.SOCOPEN) instruction Closing a connection (SP.SOCCLOSE) instruction Receive data (SP.SOCRCV) instruction Send data (SP.SOCSND) instruction 	Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

2.11 M+FX5UCPU-EN_ModbusTcp_ClientWrite

Name

M+FX5UCPU-EN_ModbusTcp_ClientWrite

Overview

Item	Description																																
Overview	Perform the open/close processing and writing by MODBUS/TCP client in socket communication.																																
Symbol	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">M+FX5UCPU-EN_ModbusTcp_ClientWrite</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: right;">(1)</td> <td style="width: 45%;">B : i_bEN</td> <td style="width: 45%; text-align: right;">o_bENO : B</td> <td style="width: 5%; text-align: left;">(9)</td> </tr> <tr> <td style="text-align: right;">(2)</td> <td>DUT: i_stModule</td> <td style="text-align: right;">o_bOK : B</td> <td style="text-align: left;">(10)</td> </tr> <tr> <td style="text-align: right;">(3)</td> <td>UW : i_uConnectionNo</td> <td style="text-align: right;">o_bErr : B</td> <td style="text-align: left;">(11)</td> </tr> <tr> <td style="text-align: right;">(4)</td> <td>B : i_bEnableWrite</td> <td style="text-align: right;">o_bWriteComplete : B</td> <td style="text-align: left;">(12)</td> </tr> <tr> <td style="text-align: right;">(5)</td> <td>B : i_bBitOrWord</td> <td style="text-align: right;">o_uErrId : UW</td> <td style="text-align: left;">(13)</td> </tr> <tr> <td style="text-align: right;">(6)</td> <td>UW : i_uModbusAddress</td> <td style="text-align: right;">o_bUnitErr : B</td> <td style="text-align: left;">(14)</td> </tr> <tr> <td style="text-align: right;">(7)</td> <td>UW : i_uAccessPoints</td> <td style="text-align: right;">o_uUnitErrId : UW</td> <td style="text-align: left;">(15)</td> </tr> <tr> <td style="text-align: right;">(8)</td> <td>UW : i_uWriteData</td> <td></td> <td></td> </tr> </table> <p style="margin-left: 20px;"> (16) pbi_bUseParameters (17) pbi_uLocal_Port_No (18) pbi_uTarget_Port_No (19) pbi_u2IP_Address (20) pbi_uCommunication_ID </p> </div>	(1)	B : i_bEN	o_bENO : B	(9)	(2)	DUT: i_stModule	o_bOK : B	(10)	(3)	UW : i_uConnectionNo	o_bErr : B	(11)	(4)	B : i_bEnableWrite	o_bWriteComplete : B	(12)	(5)	B : i_bBitOrWord	o_uErrId : UW	(13)	(6)	UW : i_uModbusAddress	o_bUnitErr : B	(14)	(7)	UW : i_uAccessPoints	o_uUnitErrId : UW	(15)	(8)	UW : i_uWriteData		
(1)	B : i_bEN	o_bENO : B	(9)																														
(2)	DUT: i_stModule	o_bOK : B	(10)																														
(3)	UW : i_uConnectionNo	o_bErr : B	(11)																														
(4)	B : i_bEnableWrite	o_bWriteComplete : B	(12)																														
(5)	B : i_bBitOrWord	o_uErrId : UW	(13)																														
(6)	UW : i_uModbusAddress	o_bUnitErr : B	(14)																														
(7)	UW : i_uAccessPoints	o_uUnitErrId : UW	(15)																														
(8)	UW : i_uWriteData																																

Labels

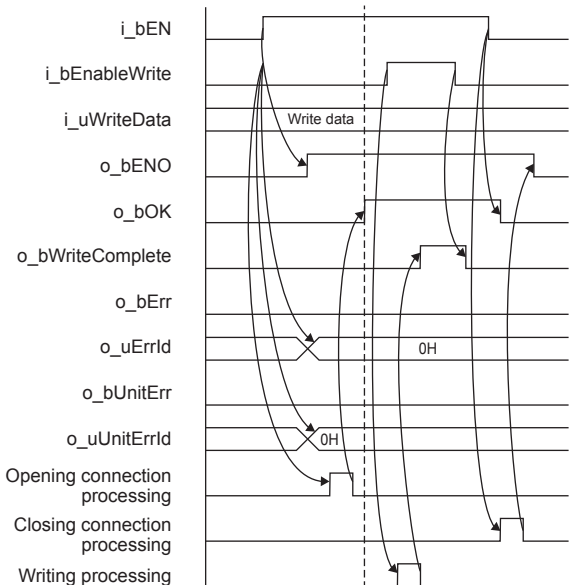
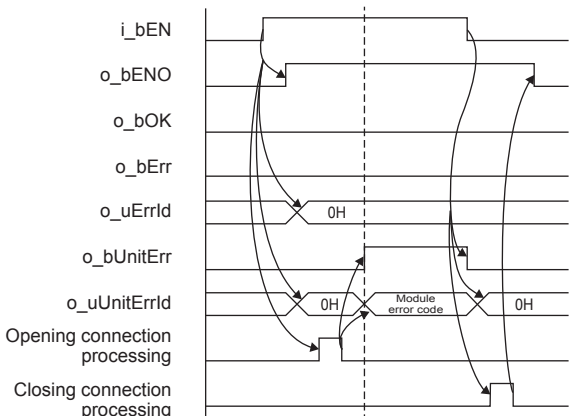
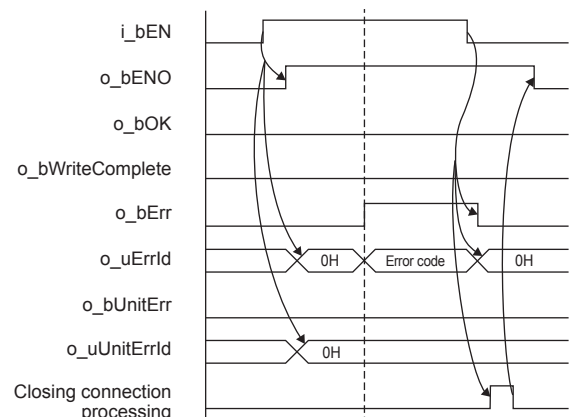
Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the CPU module.
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	1 to 8	Specify the connection number for sending data.
(4)	i_bEnableWrite	Writing execution	Bit	ON, OFF	ON: Execute writing OFF: Not execute writing
(5)	i_bBitOrWord	Bit/word selection	Bit	ON, OFF	ON: Select bit for write device OFF: Select word for write device
(6)	i_uModbusAddress	MODBUS address	Word [Unsigned]/Bit String [16-bit]	0000H to FFFFH	Specify the head MODBUS address which executes writing.
(7)	i_uAccessPoints	Access points	Word [Unsigned]/Bit String [16-bit]	1 to 1968, 1 to 123	When selecting bit: 1 to 1968 When selecting word: 1 to 123

No.	Variable name	Name	Data type	Range	Description															
(17)	pbi_uLocal_Port_No	Own node port number	Word [Unsigned]/Bit String [16-bit]	1 to 5548, 5570 to 65534	Specify the port number of the own node. Own node port numbers 1 to 1023 are generally reserved port numbers, and 61440 to 65534 are used by other communication functions. Therefore, port numbers 1024 to 5548 and 5570 to 61439 should be used.															
(18)	pbi_uTarget_Port_No	Destination port number	Word [Unsigned]/Bit String [16-bit]	1 to 65534	Specify the destination port number.															
(19)	pbi_u2IP_Address	IP address of target device	Word [Unsigned]/Bit String [16-bit] (0..1)	0.0.0.1 to 223.255.255.254	Specify the IP address of target device. <table border="1" style="margin-left: 20px;"> <tr> <td></td> <td style="text-align: center;">b15</td> <td style="text-align: center;">b8</td> <td style="text-align: center;">b7</td> <td style="text-align: center;">b0</td> </tr> <tr> <td>1st word</td> <td style="text-align: center;">Third octet</td> <td colspan="2"></td> <td style="text-align: center;">Fourth octet</td> </tr> <tr> <td>2nd word</td> <td colspan="2" style="text-align: center;">First octet</td> <td colspan="2" style="text-align: center;">Second octet</td> </tr> </table>		b15	b8	b7	b0	1st word	Third octet			Fourth octet	2nd word	First octet		Second octet	
	b15	b8	b7	b0																
1st word	Third octet			Fourth octet																
2nd word	First octet		Second octet																	
(20)	pbi_uCommunication_ID	Communication ID	Word [Unsigned]/Bit String [16-bit]	0000H to FFFFH	Client uses this label for matching with response message from the server.															

FB details

Item	Description
Available device	Target CPU FX5U CPU, FX5UC CPU
	Engineering tool GX Works3 Version 1.045X or later
Language	Ladder diagram
Number of basic steps	883 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .
Processing	<ul style="list-style-type: none"> Perform Active open processing by turning i_bEN (Execution command) on. When the connection is the open status, the open processing is not executed. After the open processing has completed, o_bOK (Normal completion) turns on. Perform Active close processing by turning i_bEN (Execution command) off. When the connection is the closed status, the close processing is not executed. Execute writing to the external device according to the description set for arguments of input by turning i_bEnableWrite (Writing execution) on. When the writing has completed normally, o_bWriteComplete (Writing completion) turns on. When the setting values of i_uAccessPoints (Access points) are out of range, o_bErr (Error completion) turns on, and the FB processing are stopped. Also, Error code 100 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 49 Error code. The target connection needs to be opened by Active connection of TCP. When the connection is opened while these conditions are not satisfied, o_bErr (Error completion) turns on, and the FB processing is stopped. Also, Error code 101 (Hexadecimal) is stored in o_uErrId (Error code). For the error code, refer to Page 49 Error code. When an error has occurred in the writing processing of the open/close/information of the connection, or the writing processing by MODBUS/TCP client, o_bUnitErr (Module error outbreak flag) turns on. Also, an error code is stored in o_uUnitErrId (Module error code). For the error code, refer to Page 49 Error code.
FB compilation method	Macro type
FB operation	Pulsed execution (multiple scan execution type)

Item	Description
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[When a module error has occurred]</p>  <p>[For error completion]</p> 

Item	Description
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses SP.SOCCINF instruction, SP.SOCOPEN instruction, SP.SOCCLOSE instruction, SP.SOCRCV instruction, and SP.SOCSND instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion), o_bWriteComplete (Writing completion), o_bErr (Error completion), or o_bUnitErr (Module error outbreak flag) turns on. By turning off i_bEN (Execution command), o_bOK (Normal completion), o_bWriteComplete (Writing completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) turn off, and then o_uErrId (Error code) and o_uUnitErrId (Module error code) are cleared to zero. However, when performing writing during RUN of this FB, o_bOK (Normal completion), o_bWriteComplete (Writing completion), o_bErr (Error completion), and o_bUnitErr (Module error outbreak flag) may not be turned on. In that case, turn off and on i_bEN (Execution command) again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). In this FB, stations in other network cannot be set as the target station. This FB is for communications in binary code only. (Communications using ASCII code cannot be performed.) This FB uses TCP communications. Set the protocol setting of the target device to TCP. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication).

Error code

Error code (hexadecimal)	Description	Action
100H	The setting values of i_uAccessPoints (Access points) are out of range. Access points are set to the value other than 1 to 1968 (when bit is selected), or 1 to 123 (when word is selected).	After reviewing the setting, re-execute the FB.
101H	The target connection is opened by any of the following conditions. <ul style="list-style-type: none"> UDP/IP connection Unpassive open Fullpassive open 	Close the target connection, review the setting and execute the FB again.
Error code other than the above	Same as the error code caused by the following instruction. Stored in o_uUnitErrId (Module error code). <ul style="list-style-type: none"> Reading connection information (SP.SOCCINF) instruction Opening a connection (SP.SOCOPEN) instruction Closing a connection (SP.SOCCLOSE) instruction Receive data (SP.SOCRCV) instruction Send data (SP.SOCSND) instruction 	Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

3 CC-LINK IE FIELD NETWORK MODULE FB

3.1 M+FX5CCLIEF_DeviceRead

Name

M+FX5CCLIEF_DeviceRead

Overview

Item	Description																																	
Overview	Reads data from a specified device in the programmable controller of another station.																																	
Symbol	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">M+FX5CCLIEF_DeviceRead</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: right;">(1)</td> <td style="width: 45%;">B : i_bEN</td> <td style="width: 45%; text-align: right;">o_bENO : B</td> <td style="width: 5%; text-align: left;">(7)</td> </tr> <tr> <td style="text-align: right;">(2)</td> <td>DUT: i_stModule</td> <td style="text-align: right;">o_bOK : B</td> <td style="text-align: left;">(8)</td> </tr> <tr> <td style="text-align: right;">(3)</td> <td>UW : i_u2TargetAddress</td> <td style="text-align: right;">o_bErr : B</td> <td style="text-align: left;">(9)</td> </tr> <tr> <td style="text-align: right;">(4)</td> <td>UW : i_uDataLength</td> <td style="text-align: right;">o_uErrId : UW</td> <td style="text-align: left;">(10)</td> </tr> <tr> <td style="text-align: right;">(5)</td> <td>S : i_s32TargetDevice</td> <td style="text-align: right;">o_uReadData : UW</td> <td style="text-align: left;">(11)</td> </tr> <tr> <td style="text-align: right;">(6)</td> <td>UW : i_uChannel</td> <td></td> <td></td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr><td>(12) pbi_uCPU_Type</td></tr> <tr><td>(13) pbi_uResendCountMax</td></tr> <tr><td>(14) pbi_uTimeUnit</td></tr> <tr><td>(15) pbi_uMonitorTime</td></tr> <tr><td>(16) pbi_bStationSpecific</td></tr> <tr><td>(17) pbo_uResendCount</td></tr> <tr><td>(18) pbo_u4ErrTime</td></tr> <tr><td>(19) pbo_uErrNetworkNo</td></tr> <tr><td>(20) pbo_uErrStationNo</td></tr> </table> </div>	(1)	B : i_bEN	o_bENO : B	(7)	(2)	DUT: i_stModule	o_bOK : B	(8)	(3)	UW : i_u2TargetAddress	o_bErr : B	(9)	(4)	UW : i_uDataLength	o_uErrId : UW	(10)	(5)	S : i_s32TargetDevice	o_uReadData : UW	(11)	(6)	UW : i_uChannel			(12) pbi_uCPU_Type	(13) pbi_uResendCountMax	(14) pbi_uTimeUnit	(15) pbi_uMonitorTime	(16) pbi_bStationSpecific	(17) pbo_uResendCount	(18) pbo_u4ErrTime	(19) pbo_uErrNetworkNo	(20) pbo_uErrStationNo
(1)	B : i_bEN	o_bENO : B	(7)																															
(2)	DUT: i_stModule	o_bOK : B	(8)																															
(3)	UW : i_u2TargetAddress	o_bErr : B	(9)																															
(4)	UW : i_uDataLength	o_uErrId : UW	(10)																															
(5)	S : i_s32TargetDevice	o_uReadData : UW	(11)																															
(6)	UW : i_uChannel																																	
(12) pbi_uCPU_Type																																		
(13) pbi_uResendCountMax																																		
(14) pbi_uTimeUnit																																		
(15) pbi_uMonitorTime																																		
(16) pbi_bStationSpecific																																		
(17) pbo_uResendCount																																		
(18) pbo_u4ErrTime																																		
(19) pbo_uErrNetworkNo																																		
(20) pbo_uErrStationNo																																		

Labels

Input label

No.	Variable name	Name	Data type	Range	Description									
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.									
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the FX5-CCLIEF.									
(3)	i_u2TargetAddress	Target station address	Word [unsigned] (0..1)	—	<p>Specify the network number and station number for the target station. To specify with a label, use an array for the data type.</p> <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td style="text-align: right; padding-right: 5px;">b15</td> <td style="border: 1px solid black; width: 150px; height: 20px;"></td> <td style="text-align: left; padding-left: 5px;">b0</td> </tr> <tr> <td style="text-align: right; padding-right: 5px;">1st word</td> <td style="border: 1px solid black; width: 150px; height: 20px; text-align: center;">Network number: 1 to 239</td> <td></td> </tr> <tr> <td style="text-align: right; padding-right: 5px;">2nd word</td> <td style="border: 1px solid black; width: 150px; height: 20px; text-align: center;">Station number</td> <td></td> </tr> </table> <p>Station number of Ethernet or CC-Link IE Controller Network</p> <ul style="list-style-type: none"> • 1 to 120 <p>Station number of CC-Link IE Field Network</p> <ul style="list-style-type: none"> • 125: Master station • 126: Master operating station • 1 to 120: Local station, remote device station, intelligent device station, submaster station 	b15		b0	1st word	Network number: 1 to 239		2nd word	Station number	
b15		b0												
1st word	Network number: 1 to 239													
2nd word	Station number													
(4)	i_uDataLength	Read data length	Word [unsigned]	1 to 960	<p>Specify the number of words to be read.</p> <ul style="list-style-type: none"> • When reading data from RCP, QCPU, LCP, or FX5CPU: 1 to 960 • When reading data from QnACP: 1 to 480 									

No.	Variable name	Name	Data type	Range	Description
(5)	i_s32TargetDevice	Target station read device	Character string (32)	—	Specify the head device of the target station from which data is to be read. Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE) for details on specifying the device.
(6)	i_uChannel	Own station channel	Word [unsigned]	1, 2	Specify the channel to be used by own station.

■Output label

No.	Variable name	Name	Data type	Default value	Description
(7)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(8)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the device has been read out correctly.
(9)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(10)	o_uErrId	Error code	Word [unsigned]	0	Stores the error code that occurred in the FB.
(11)	o_uReadData	Read data storage device	Word [unsigned]	0	Specify the start number of the device for storing the read data.

■Public label

No.	Variable name	Name	Data type	Range	Description
(12)	pbi_uCPU_Type	Target station CPU type	Word [unsigned]	0000H, 03D0H to 03D3H, 03E0H to 03E3H, 03FFH	Specify the CPU type of the target station. <ul style="list-style-type: none"> • 0000H: To CPU of target station (control CPU) • 03D0H: To control system CPU • 03D1H: To standby CPU • 03D2H: To system A CPU • 03D3H: To system B CPU • 03E0H: To multiple CPU No. 1 • 03E1H: To multiple CPU No. 2 • 03E2H: To multiple CPU No. 3 • 03E3H: To multiple CPU No. 4 • 03FFH: To CPU of target station (control CPU)
(13)	pbi_uResendCountMax	Maximum number of resends	Word [unsigned]	0 to 15	Specify the number of resends to be performed if the data transfer is not completed within the monitoring time specified by "arrival monitoring time". <ul style="list-style-type: none"> • 0 to 15
(14)	pbi_uTimeUnit	Arrival monitoring time unit	Word [unsigned]	—	This label is not used in the FB program and does not need to be set.
(15)	pbi_uMonitorTime	Arrival monitoring time	Word [unsigned]	0, 1 to 32767	Specify the monitoring time until completion of processing. If the processing is not completed within the monitoring time, data is resent until the value specified in "maximum number of resends" is reached. 0: 10 s 1 to 32767: 1 to 32767 s
(16)	pbi_bStationSpecific	Target station address specification method	Bit	—	This label is not used in the FB program and does not need to be set.
(17)	pbo_uResendCount	Number of resends	Word [unsigned]	—	The number of resends performed (result) is stored.
(18)	pbo_u4ErrTime	Error occurrence time	Word [unsigned] (0..3)	—	Clock data at the time of error occurrence is stored. 1st word <ul style="list-style-type: none"> • Upper 8 bits: Month (01H to 12H) • Lower 8 bits: Lower 2 digits of year (00H to 99H) 2nd word <ul style="list-style-type: none"> • Upper 8 bits: Hour (00H to 23H) • Lower 8 bits: Day (01H to 31H) 3rd word <ul style="list-style-type: none"> • Upper 8 bits: Second (00H to 59H) • Lower 8 bits: Minute (00H to 59H) 4th word <ul style="list-style-type: none"> • Upper 8 bits: Upper 2 digits of year (00H to 99H) • Lower 8 bits: Day of week (00H (Sunday) to 06H (Saturday))
(19)	pbo_uErrNetworkNo	Error detection network number	Word [unsigned]	—	The network number of the station in which an error was detected is stored.

No.	Variable name	Name	Data type	Range	Description
(20)	pbo_uErrStationNo	Error-detected station number	Word [unsigned]	—	The station number of the station in which an error was detected is stored. CC-Link IE Field Network station number <ul style="list-style-type: none"> • 125: Master station • 1 to 120: Local station, remote device station, intelligent device station, submaster station

FB details

Item	Description	
Available device	Target module	FX5-CCLIEF
	CPU module	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.025B or later
Language	Ladder diagram	
Number of basic steps	138 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .	
Processing	<ul style="list-style-type: none"> • When i_bEN (Execution command) is turned ON, data corresponding to the read data length is read from the read device of the specified target station address. • If an error occurs during device read, o_bErr (Error completion) turns ON, and the error code is stored in o_uErrId (Error code). Refer to Page 53 Error code for details on the error codes. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion] (For instruction error)</p>	
Restrictions or precautions	<ul style="list-style-type: none"> • This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. • This FB uses the G(P).READ instruction. • Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the GP.READ instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. • This FB cannot be used in an interrupt program. • Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). • When using several of these FBs, make sure that the target station address and own station channel do not overlap. • Every input must be provided with a value for proper FB operation. • Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE). 	

Error code

Error code (hexadecimal)	Description	Action
D000H to DFFFH	This error code is the same as the error code that occurs with the (GP.READ) instruction for reading data in the programmable controller of another station.	Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE)

3.2 M+FX5CCLIEF_DeviceWrite

Name

M+FX5CCLIEF_DeviceWrite

Overview

Item	Description																																																																								
Overview	Writes data to a specified device in the programmable controller of another station.																																																																								
Symbol	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">M+FX5CCLIEF_DeviceWrite</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; vertical-align: top;">(1)</td> <td style="width: 40%;">B : i_bEN</td> <td style="width: 40%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td style="vertical-align: top;">(2)</td> <td>DUT: i_stModule</td> <td style="vertical-align: top;">o_bENO : B</td> <td style="vertical-align: top;">(8)</td> </tr> <tr> <td style="vertical-align: top;">(3)</td> <td>UW : i_u2TargetAddress</td> <td style="vertical-align: top;">o_bOK : B</td> <td style="vertical-align: top;">(9)</td> </tr> <tr> <td style="vertical-align: top;">(4)</td> <td>UW : i_uDataLength</td> <td style="vertical-align: top;">o_bErr : B</td> <td style="vertical-align: top;">(10)</td> </tr> <tr> <td style="vertical-align: top;">(5)</td> <td>UW : i_uWriteData</td> <td style="vertical-align: top;">o_uErrId : UW</td> <td style="vertical-align: top;">(11)</td> </tr> <tr> <td style="vertical-align: top;">(6)</td> <td>S : i_s32TargetDevice</td> <td></td> <td></td> </tr> <tr> <td style="vertical-align: top;">(7)</td> <td>UW : i_uChannel</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(12) pbi_uCPU_Type</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(13) pbi_uTargetStation</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(14) pbi_bArrivalConfirm</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(15) pbi_uResendCountMax</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(16) pbi_uTimeUnit</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(17) pbi_uMonitorTime</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(18) pbi_bStationSpecific</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(19) pbo_uResendCount</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(20) pbo_u4ErrTime</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(21) pbo_uErrNetworkNo</td> <td></td> <td></td> </tr> <tr> <td></td> <td>(22) pbo_uErrStationNo</td> <td></td> <td></td> </tr> </table> </div>	(1)	B : i_bEN			(2)	DUT: i_stModule	o_bENO : B	(8)	(3)	UW : i_u2TargetAddress	o_bOK : B	(9)	(4)	UW : i_uDataLength	o_bErr : B	(10)	(5)	UW : i_uWriteData	o_uErrId : UW	(11)	(6)	S : i_s32TargetDevice			(7)	UW : i_uChannel				(12) pbi_uCPU_Type				(13) pbi_uTargetStation				(14) pbi_bArrivalConfirm				(15) pbi_uResendCountMax				(16) pbi_uTimeUnit				(17) pbi_uMonitorTime				(18) pbi_bStationSpecific				(19) pbo_uResendCount				(20) pbo_u4ErrTime				(21) pbo_uErrNetworkNo				(22) pbo_uErrStationNo		
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Labels

Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the FX5-CCLIEF.

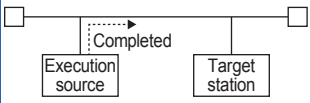
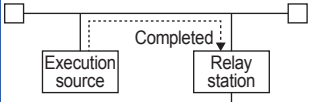
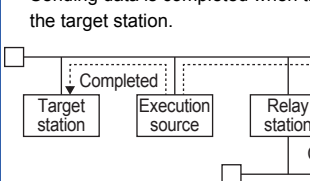
No.	Variable name	Name	Data type	Range	Description																														
(3)	i_u2TargetAddress	Target station address	Word [unsigned]	—	<p>Specify the network number and station number for the target station. To specify with a label, use an array for the data type.</p> <p>■When "target station specification method" is set to 0 to specify a station number</p> <table border="1" style="margin-left: 40px;"> <tr> <td style="text-align: right;">b15</td> <td style="text-align: left;">b0</td> </tr> <tr> <td colspan="2" style="text-align: center;">1st word</td> </tr> <tr> <td colspan="2" style="text-align: center;">Network number: 1 to 239</td> </tr> <tr> <td colspan="2" style="text-align: center;">2nd word</td> </tr> <tr> <td colspan="2" style="text-align: center;">Station number</td> </tr> </table> <p>Station number of Ethernet or CC-Link IE Controller Network</p> <ul style="list-style-type: none"> • 1 to 120 <p>Station number of CC-Link IE Field Network</p> <ul style="list-style-type: none"> • 125: Master station • 126: Master operating station • 1 to 120: Local station, remote device station, intelligent device station, submaster station <p>■When "target station specification method" is set to 1 to specify a group</p> <table border="1" style="margin-left: 40px;"> <tr> <td style="text-align: right;">b15</td> <td style="text-align: left;">b0</td> </tr> <tr> <td colspan="2" style="text-align: center;">1st word</td> </tr> <tr> <td colspan="2" style="text-align: center;">Network number: 1 to 239</td> </tr> <tr> <td colspan="2" style="text-align: center;">2nd word</td> </tr> <tr> <td colspan="2" style="text-align: center;">Transient transmission group number: 1 to 32</td> </tr> </table> <p>■When "target station specification method" is set to 2 to specify all stations</p> <table border="1" style="margin-left: 40px;"> <tr> <td style="text-align: right;">b15</td> <td style="text-align: left;">b0</td> </tr> <tr> <td colspan="2" style="text-align: center;">1st word</td> </tr> <tr> <td colspan="2" style="text-align: center;">Network number: 1 to 239</td> </tr> <tr> <td colspan="2" style="text-align: center;">2nd word</td> </tr> <tr> <td colspan="2" style="text-align: center;">0 (The set value is ignored.)</td> </tr> </table>	b15	b0	1st word		Network number: 1 to 239		2nd word		Station number		b15	b0	1st word		Network number: 1 to 239		2nd word		Transient transmission group number: 1 to 32		b15	b0	1st word		Network number: 1 to 239		2nd word		0 (The set value is ignored.)	
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2nd word																																			
0 (The set value is ignored.)																																			
(4)	i_uDataLength	Write data length	Word [unsigned]	1 to 960	<p>Specify the number of words to be written.</p> <ul style="list-style-type: none"> • When reading data from RCP, QCPU, LCP, or FX5CPU: 1 to 960 • When reading data from QnACPU: 1 to 480 																														
(5)	i_uWriteData	Write data storage device	Word [unsigned]	—	Specify the head device of own station containing the write data.																														
(6)	i_s32TargetDevice	Target station write device	Character string	—	<p>Specify the head device of the target station to which data is to be written.</p> <p>Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE) for details on specifying the device.</p>																														
(7)	i_uChannel	Own station channel	Word [unsigned]	1, 2	Specify the channel to be used by own station.																														

■Output label

No.	Variable name	Name	Data type	Default value	Description
(8)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(9)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the device has been written in correctly.
(10)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(11)	o_uErrId	Error code	Word [unsigned]	0	The error code that occurred in the FB is stored.

■Public label

No.	Variable name	Name	Data type	Default value	Description
(12)	pbi_uCPU_Type	Target station CPU type	Word [unsigned]	0000H, 03D0H to 03D3H, 03E0H to 03E3H, 03FFH	<p>Specify the CPU type of the target station.</p> <ul style="list-style-type: none"> • 0000H: To CPU of target station (control CPU) • 03D0H: To control system CPU • 03D1H: To standby CPU • 03D2H: To system A CPU • 03D3H: To system B CPU • 03E0H: To multiple CPU No. 1 • 03E1H: To multiple CPU No. 2 • 03E2H: To multiple CPU No. 3 • 03E3H: To multiple CPU No. 4 • 03FFH: To CPU of target station (control CPU)

No.	Variable name	Name	Data type	Default value	Description
(13)	pbi_uTargetStation	Target station specification method	Word [unsigned]	0 to 2	<p>Specify the target station specification method.</p> <ul style="list-style-type: none"> • 0: Station number specification → Station with the station number specified in "target station address" • 1: Group specification → All stations with the transient transmission group number specified with "target station address specification" • 2: All stations → All stations with the network number specified with "target station address specification" (Broadcast simultaneously to all stations excluding own station) <p>Group specification cannot be used when the target group is the CC-Link IE Field network.</p> <p>Group specification and All station specification can be specified only when "Arrival acknowledgment" = OFF (None).</p> <p>When using Group specification or All station specification, set the CPU type of the target station to "0000H" or "03FFH".</p>
(14)	pbi_bArrivalConfirm	Arrival acknowledgment	Bit	ON, OFF	<p>Specify whether to use arrival acknowledgment.</p> <p>■OFF: None</p> <ul style="list-style-type: none"> • When the target station is within the own network, sending data from the own station completes the sending.  <ul style="list-style-type: none"> • When the target station is within another network, data arrival to the relay station within the own network completes the sending.  <p>■ON: Check</p> <ul style="list-style-type: none"> • Sending data is completed when the data is written to the target station. 
(15)	pbi_uResendCountMax	Maximum number of resends	Word [unsigned]	0 to 15	<p>Specify the number of resends to be performed if the data transfer is not completed within the monitoring time specified by "arrival monitoring time".</p> <ul style="list-style-type: none"> • 0 to 15
(16)	pbi_uTimeUnit	Arrival monitoring time unit	Word [unsigned]	—	This label is not used in the FB program and does not need to be set.
(17)	pbi_uMonitorTime	Arrival monitoring time	Word [unsigned]	0, 1 to 32767	<p>Specify the monitoring time until completion of processing. If the processing is not completed within the monitoring time, data is resent until the value specified in "maximum number of resends" is reached.</p> <p>0: 10 s 1 to 32767: 1 to 32767 s</p>
(18)	pbi_bStationSpecific	Target station address specification method	Bit	—	This label is not used in the FB program and does not need to be set.
(19)	pbo_uResendCount	Number of resends	Word [unsigned]	—	The number of resends performed (result) is stored.

No.	Variable name	Name	Data type	Default value	Description
(20)	pbo_u4ErrTime	Error occurrence time	Word [unsigned] (0..3)	—	Clock data at the time of error occurrence is stored. 1st word • Upper 8 bits: Month (01H to 12H) • Lower 8 bits: Lower 2 digits of year (00H to 99H) 2nd word • Upper 8 bits: Hour (00H to 23H) • Lower 8 bits: Day (01H to 31H) 3rd word • Upper 8 bits: Second (00H to 59H) • Lower 8 bits: Minute (00H to 59H) 4th word • Upper 8 bits: Upper 2 digits of year (00H to 99H) • Lower 8 bits: Day of week (00H (Sunday) to 06H (Saturday))
(21)	pbo_uErrNetworkNo	Error detection network number	Word [unsigned]	—	The network number of the station in which an error was detected is stored.
(22)	pbo_uErrStationNo	Error-detected station number	Word [unsigned]	—	The station number of the station in which an error was detected is stored. CC-Link IE Field Network station number • 125: Master station • 1 to 120: Local station, remote device station, intelligent device station, submaster station

FB details

Item	Description	
Available device	Target module	FX5-CCLIEF
	CPU module	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.025B or later
Language	Ladder diagram	
Number of basic steps	161 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .	
Processing	<ul style="list-style-type: none"> When i_bEN (Execution command) is turned ON, data corresponding to the write data length is written from the device specified with the write data storage device into the target station write device of the specified target station address. If an error occurs during device write, o_bErr (Error completion) turns ON, and the error code is stored in o_uErrId (Error code). Refer to Page 58 Error code for details on the error codes. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion] (For instruction error)</p>	

Item	Description
Restrictions or precautions	<ul style="list-style-type: none"> • This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. • This FB uses the G(P).WRITE instruction. • Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the GP.WRITE instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. • This FB cannot be used in an interrupt program. • Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). • When using several of these FBs, make sure that the target station address and own station channel do not overlap. • Every input must be provided with a value for proper FB operation. • Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE).

Error code

Error code (hexadecimal)	Description	Action
D000H to DFFFH	This error code is the same as the error code that occurs with the (GP.WRITE) instruction for writing data in the programmable controller of another station.	Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE)

3.3 M+FX5CCLIEF_Send

Name

M+FX5CCLIEF_Send

Overview

Item	Description																																																																																
Overview	Sends data to the programmable controller of another station.																																																																																
Symbol	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">M+FX5CCLIEF_Send</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(1) B : i_bEN</td> <td style="width: 40%;"></td> <td style="width: 15%;">o_bENO : B</td> <td style="width: 10%;"></td> <td style="width: 10%;">(9)</td> </tr> <tr> <td>(2) DUT: i_stModule</td> <td></td> <td>o_bOK : B</td> <td></td> <td>(10)</td> </tr> <tr> <td>(3) UW : i_uTargetNetworkNo</td> <td></td> <td>o_bErr : B</td> <td></td> <td>(11)</td> </tr> <tr> <td>(4) UW : i_uTargetStationNo</td> <td></td> <td>o_uErrId : UW</td> <td></td> <td>(12)</td> </tr> <tr> <td>(5) UW : i_uChannel</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(6) UW : i_uTargetChannel</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(7) UW : i_uDataLength</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(8) UW : i_uSendData</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(13) pbi_uTargetStation</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(14) pbi_bArrivalConfirm</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(15) pbi_uResendCountMax</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(16) pbi_uMonitorTime</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(17) pbo_uResendCount</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(18) pbo_u4ErrTime</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(19) pbo_uErrNetworkNo</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>(20) pbo_uErrStationNo</td> <td></td> <td></td> <td></td> </tr> </table> </div>	(1) B : i_bEN		o_bENO : B		(9)	(2) DUT: i_stModule		o_bOK : B		(10)	(3) UW : i_uTargetNetworkNo		o_bErr : B		(11)	(4) UW : i_uTargetStationNo		o_uErrId : UW		(12)	(5) UW : i_uChannel					(6) UW : i_uTargetChannel					(7) UW : i_uDataLength					(8) UW : i_uSendData						(13) pbi_uTargetStation					(14) pbi_bArrivalConfirm					(15) pbi_uResendCountMax					(16) pbi_uMonitorTime					(17) pbo_uResendCount					(18) pbo_u4ErrTime					(19) pbo_uErrNetworkNo					(20) pbo_uErrStationNo			
(1) B : i_bEN		o_bENO : B		(9)																																																																													
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	(19) pbo_uErrNetworkNo																																																																																
	(20) pbo_uErrStationNo																																																																																

Labels

Input label

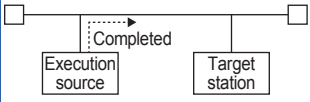
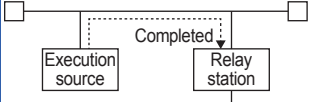
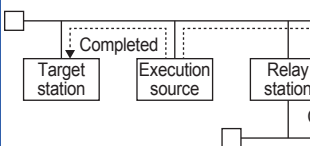
No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the FX5-CCLIEF.
(3)	i_uTargetNetworkNo	Target network number	Word [unsigned]	1 to 239	Specify the network number of the target station.
(4)	i_uTargetStationNo	Target station number	Word [unsigned]	—	Specify the station number of the target station or the transient transmission group number. ■ When "target station specification method" is set to 0 to specify a station number CC-Link IE Field Network station number <ul style="list-style-type: none"> • 125: Master station • 126: Master operating station • 1 to 120: Local station, remote device station, intelligent device station, submaster station ■ When "target station specification method" is set to 1 to specify a group Specify the transient transmission group number <ul style="list-style-type: none"> • 1 to 32 ■ When "target station specification method" is set to 2 to specify all stations The setting is ignored.
(5)	i_uChannel	Own station channel	Word [unsigned]	1, 2	Specify the channel to be used by own station.
(6)	i_uTargetChannel	Target station data storage channel	Word [unsigned]	1 to 8	Specify the channel of the target station for storing data. When the target station is a CC-Link IE Field Network master/local module, specify 1 or 2.

No.	Variable name	Name	Data type	Range	Description
(7)	i_uDataLength	Send data length	Word [unsigned]	1 to 960	Specify the number of words to be sent. <ul style="list-style-type: none"> When reading data from RCPU, QCPU, LCPU, or FX5CPU: 1 to 960 When reading data from QnACPU: 1 to 480
(8)	i_uSendData	Send data storage device	Word [unsigned]	—	Specify the head device of own station containing the send data.

■Output label



No.	Variable name	Name	Data type	Default value	Description
(9)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(10)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the data has been sent correctly.
(11)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(12)	o_uErrId	Error code	Word [unsigned]	0	Stores the error code that occurred in the FB.

■Public label

No.	Variable name	Name	Data type	Range	Description
(13)	pbi_uTargetStation	Target station specification method	Word [unsigned]	0 to 2	Specify the target station specification method. <ul style="list-style-type: none"> 0: Station number specification → Station with the station number specified in "Target station number" 1: Group specification → All stations with the transient transmission group number specified with "target station number" 2: All stations → All stations with the network number specified with "target station network number" (Broadcast simultaneously to all stations excluding own station) Group specification cannot be used when the target group is the CC-Link IE Field network. Group specification and All station specification can be specified only when "Arrival acknowledgment" = OFF (None).
(14)	pbi_bArrivalConfirm	Arrival acknowledgment	Bit	ON, OFF	Specify whether to use arrival acknowledgment. ■OFF: None <ul style="list-style-type: none"> When the target station is within the own network, sending data from the own station completes the sending.  <ul style="list-style-type: none"> When the target station is within another network, data arrival to the relay station within the own network completes the sending.  ■ON: Check <ul style="list-style-type: none"> Sending data is completed when the data is written to the target station. 
(15)	pbi_uResendCountMax	Maximum number of resends	Word [unsigned]	0 to 15	Specify the number of resends to be performed if the data transfer is not completed within the monitoring time specified by "arrival monitoring time". <ul style="list-style-type: none"> 0 to 15

No.	Variable name	Name	Data type	Range	Description
(16)	pbi_uMonitorTime	Arrival monitoring time	Word [unsigned]	0, 1 to 32767	Specify the monitoring time until completion of processing. If the processing is not completed within the monitoring time, data is resent until the value specified in "maximum number of resends" is reached. 0: 10 s 1 to 32767: 1 to 32767 s
(17)	pbo_uResendCount	Number of resends	Word [unsigned]	—	The number of resends performed (result) is stored.
(18)	pbo_u4ErrTime	Error occurrence time	Word [unsigned] (0..3)	—	Clock data at the time of error occurrence is stored. 1st word • Upper 8 bits: Month (01H to 12H) • Lower 8 bits: Lower 2 digits of year (00H to 99H) 2nd word • Upper 8 bits: Hour (00H to 23H) • Lower 8 bits: Day (01H to 31H) 3rd word • Upper 8 bits: Second (00H to 59H) • Lower 8 bits: Minute (00H to 59H) 4th word • Upper 8 bits: Upper 2 digits of year (00H to 99H) • Lower 8 bits: Day of week (00H (Sunday) to 06H (Saturday))
(19)	pbo_uErrNetworkNo	Error detection network number	Word [unsigned]	—	The network number of the station in which an error was detected is stored.
(20)	pbo_uErrStationNo	Error-detected station number	Word [unsigned]	—	The station number of the station in which an error was detected is stored. CC-Link IE Field Network station number • 125: Master station • 1 to 120: Local station, remote device station, intelligent device station, submaster station

FB details

Item	Description	
Available device	Target module	FX5-CCLIEF
	CPU module	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.025B or later
Language	Ladder diagram	
Number of basic steps	158 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to  GX Works3 Operating Manual.	
Processing	<ul style="list-style-type: none"> When i_bEN (Execution command) is turned ON, data corresponding to the send data length is sent from the send data storage device to the specified target station address. If an error occurs while sending data, o_bErr (Error completion) turns ON, and the error code is stored in o_uErrId (Error code). Refer to  Page 62 Error code for details on the error codes. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	

Item	Description
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion] (For instruction error)</p>

Restrictions or precautions	<ul style="list-style-type: none"> • This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. • This FB uses the G(P).SEND instruction. • Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the GP.SEND instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. • This FB cannot be used in an interrupt program. • Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). • When using several of these FBs, make sure that the target station address and own station channel do not overlap. • Every input must be provided with a value for proper FB operation. • Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE).
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Error code

Error code (hexadecimal)	Description	Action
D000H to DFFFH	This error code is the same as the error code that occurs with the (GP.SEND) instruction for sending data to the programmable controller of another station.	Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE)

3.4 M+FX5CCLIEF_Recv

Name

M+FX5CCLIEF_Recv

Overview

Item	Description																												
Overview	Reads the data received from the programmable controller of another station.																												
Symbol	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">M+FX5CCLIEF_Recv</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(1) B : i_bEN</td> <td style="width: 50%;"></td> <td style="width: 15%;">o_bENO : B</td> <td style="width: 10%;">(4)</td> </tr> <tr> <td>(2) DUT: i_stModule</td> <td></td> <td>o_bOK : B</td> <td>(5)</td> </tr> <tr> <td>(3) UW : i_uRecvChannel</td> <td></td> <td>o_bErr : B</td> <td>(6)</td> </tr> <tr> <td></td> <td></td> <td>o_uErrId : UW</td> <td>(7)</td> </tr> <tr> <td></td> <td></td> <td>o_uRecvDataLength : UW</td> <td>(8)</td> </tr> <tr> <td></td> <td></td> <td>o_uRecvData : UW</td> <td>(9)</td> </tr> <tr> <td colspan="4" style="text-align: center; padding-top: 10px;"> (10) pbi_bReadTiming (11) pbi_uMonitorTime (12) pbo_uResendCount (13) pbo_u4ErrTime (14) pbo_uErrNetworkNo (15) pbo_uErrStationNo (16) pbo_uSendNetworkNo (17) pbo_uSendStationNo (18) pbo_uSendChannel </td> </tr> </table> </div>	(1) B : i_bEN		o_bENO : B	(4)	(2) DUT: i_stModule		o_bOK : B	(5)	(3) UW : i_uRecvChannel		o_bErr : B	(6)			o_uErrId : UW	(7)			o_uRecvDataLength : UW	(8)			o_uRecvData : UW	(9)	(10) pbi_bReadTiming (11) pbi_uMonitorTime (12) pbo_uResendCount (13) pbo_u4ErrTime (14) pbo_uErrNetworkNo (15) pbo_uErrStationNo (16) pbo_uSendNetworkNo (17) pbo_uSendStationNo (18) pbo_uSendChannel			
(1) B : i_bEN		o_bENO : B	(4)																										
(2) DUT: i_stModule		o_bOK : B	(5)																										
(3) UW : i_uRecvChannel		o_bErr : B	(6)																										
		o_uErrId : UW	(7)																										
		o_uRecvDataLength : UW	(8)																										
		o_uRecvData : UW	(9)																										
(10) pbi_bReadTiming (11) pbi_uMonitorTime (12) pbo_uResendCount (13) pbo_u4ErrTime (14) pbo_uErrNetworkNo (15) pbo_uErrStationNo (16) pbo_uSendNetworkNo (17) pbo_uSendStationNo (18) pbo_uSendChannel																													

Labels

■Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the FX5-CCLIEF.
(3)	i_uRecvChannel	Receive data storage channel	Word [unsigned]	1, 2	Specify the channel containing the data to be read.

■Output label

No.	Variable name	Name	Data type	Default value	Description
(4)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(5)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that reading of the received data has completed normally.
(6)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(7)	o_uErrId	Error code	Word [unsigned]	0	Stores the error code that occurred in the FB.
(8)	o_uRecvDataLength	Receive data length	Word [unsigned]	0	The number of received data is stored. 1 to 960 words
(9)	o_uRecvData	Receive data storage device	Word [unsigned]	0	Specify the start number of the device for storing received data.

Public label

No.	Variable name	Name	Data type	Default value	Description
(10)	pbi_bReadTiming	Read timing	Bit	—	This label is not used in the FB program and does not need to be set. Data is read at the first END processing after the unit FB is started.
(11)	pbi_uMonitorTime	Arrival monitoring time	Word [unsigned]	0, 1 to 32767	Specify the time to monitor until completion of the process. If the processing is not completed within the monitoring time, it will end with an error. 0: 10 s 1 to 32767: 1 to 32767 s
(12)	pbo_uResendCount	Number of resends	Word [unsigned]	—	This label is not used in the FB program and does not need to be set.
(13)	pbo_u4ErrTime	Error occurrence time	Word [unsigned] (0..3)	—	Clock data at the time of error occurrence is stored. 1st word • Upper 8 bits: Month (01H to 12H) • Lower 8 bits: Lower 2 digits of year (00H to 99H) 2nd word • Upper 8 bits: Hour (00H to 23H) • Lower 8 bits: Day (01H to 31H) 3rd word • Upper 8 bits: Second (00H to 59H) • Lower 8 bits: Minute (00H to 59H) 4th word • Upper 8 bits: Upper 2 digits of year (00H to 99H) • Lower 8 bits: Day of week (00H (Sunday) to 06H (Saturday))
(14)	pbo_uErrNetworkNo	Error detection network number	Word [unsigned]	—	The network number of the station in which an error was detected is stored.
(15)	pbo_uErrStationNo	Error-detected station number	Word [unsigned]	—	The station number of the station in which an error was detected is stored. CC-Link IE Field Network station number • 125: Master station • 1 to 120: Local station, remote device station, intelligent device station, submaster station
(16)	pbo_uSendNetworkNo	Send station network number	Word [unsigned]	—	The network number of the send station is stored.
(17)	pbo_uSendStationNo	Send station number	Word [unsigned]	—	The station number of the send station is stored. CC-Link IE Field Network station number • 125: Master station • 1 to 120: Local station, remote device station, intelligent device station, submaster station
(18)	pbo_uSendChannel	Channel used by send station	Word [unsigned]	1 to 8	The channel number used by the send station is stored.

FB details

Item	Description	
Available device	Target module	FX5-CCLIEF
	CPU module	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.025B or later
Language	Ladder diagram	
Number of basic steps	132 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .	
Processing	<ul style="list-style-type: none"> When i_bEN (Execution command) is turned ON, the received data is read from the specified received data storage channel and saved into the received data storage device. If an error occurs while receiving the data, o_bErr (Error completion) turns ON, and the error code is stored in o_uErrId (Error code). Refer to Page 65 Error code for details on the error codes. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion] (For instruction error)</p>	
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the GP.RECV instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the GP.RECV instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). When using several of these FBs, make sure that the receive data storage channel do not overlap. Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE). 	

Error code

Error code (hexadecimal)	Description	Action
D000H to DFFFH	This error code is the same as the error code that occurs with the (GP.RECV) instruction for reading data received from the programmable controller of another station.	Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE)

Public label

No.	Variable name	Name	Data type	Range	Description	
(11)	pbi_uConstantLinkScanTime	Constant link scan time	Word [unsigned]	—	This label is not used in the FB program and does not need to be set.	
(12)	pbi_ulpAddress	Upper 2 digits of IP address	Word [unsigned]	—		
(13)	pbi_bNetworkConfigurationSetFlg	Presence of network configuration setting data	Bit	—		
(14)	pbi_bReservedStationSetFlg	Presence of reserved station specification data	Bit	—		
(15)	pbi_bErrInvalidStationSetFlg	Presence of error invalid station setting data	Bit	—		
(16)	pbi_bSubMasterSet	Presence of submaster function	Bit	—		
(17)	pbi_bIP_PacketTransferFlg	Presence of IP packet transfer function	Bit	—		
(18)	pbi_bDataLinkFaultyStationSet	Data link faulty station setting	Bit	ON, OFF		Specify whether to hold or clear the input data from a data link faulty station. OFF: clear ON: hold
(19)	pbi_bCPU_StopOutputSet	Output setting for CPU STOP	Bit	ON, OFF		Specify whether to hold or clear the output data when the operating status of a CPU module is STOP. OFF: hold ON: clear
(20)	pbi_bCPU_StopErrorOutputSet	Output setting for CPU stop error	Bit	ON, OFF		Specify whether to hold or clear the output data when the operating status of a CPU module is STOP. OFF: clear ON: hold
(21)	pbi_bLinkScanModeSet	Link scan mode setting	Bit	—		This label is not used in the FB program and does not need to be set.
(22)	pbi_bTopologySet	Network topology setting	Bit	—		
(23)	pbi_bMasterReturnSet	Master station return time operation setting	Bit	—		
(24)	pbi_bSubMasterOperateParam	Submaster station parameter operation setting	Bit	—		

FB details

Item	Description	
Available device	Target module	FX5-CCLIEF
	CPU module	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.025B or later
Language	Ladder diagram	
Number of basic steps	96 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .	
Processing	<ul style="list-style-type: none"> When i_bEN (Execution command) is turned ON, the parameters are set in the module. If an error occurs while setting the parameters, o_bErr (Error completion) turns ON, and the error code is stored in o_uErrId (Error code). Refer to Page 68 Error code for details on the error codes. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	
Timing chart of I/O signals	<p>[For normal completion]</p> <p>[For error completion] (For instruction error)</p>	
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the GP.CCPASET instruction. The module parameter "Parameter Setting Method" must be set to "Set with Program" to enable the GP.CCPASET instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the GP.CCPASET instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE). 	

Error code

Error code (hexadecimal)	Description	Action
D000H to DFFFH	This error code is the same as the error code that occurs with the parameter set (GP.CCPASET) instruction.	Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE)

3.6 M+FX5CCLIEF_StationNoSet

Name

M+FX5CCLIEF_StationNoSet

Overview

Item	Description
Overview	Sets the station number for the own station.
Symbol	<pre> graph LR subgraph M+FX5CCLIEF_StationNoSet direction TB i_bEN((1) B : i_bEN) i_stModule((2) DUT: i_stModule) i_uSetStationNo((3) UW : i_uSetStationNo) o_bENO((4) o_bENO : B) o_bOK((5) o_bOK : B) o_bErr((6) o_bErr : B) o_uErrId((7) o_uErrId : UW) end </pre>

Labels

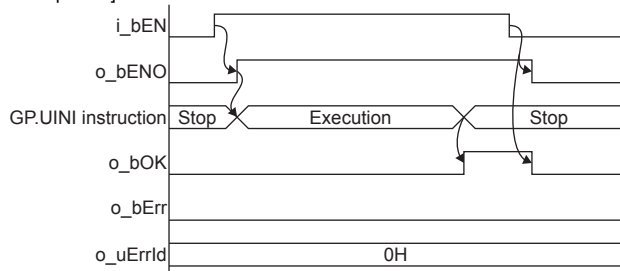
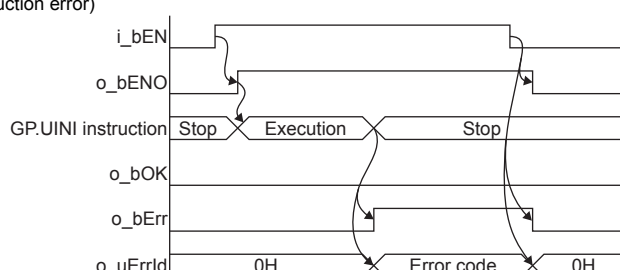
■Input label

No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the FX5-CCLIEF.
(3)	i_uSetStationNo	Setting station number	Word [unsigned]	1 to 120	Specifies the station number to be set.

■Output label

No.	Variable name	Name	Data type	Default value	Description
(4)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.
(5)	o_bOK	Normal completion	Bit	OFF	When this label is ON, it indicates that the station number has been set correctly.
(6)	o_bErr	Error completion	Bit	OFF	When this label is ON, it indicates that an error has occurred in the FB.
(7)	o_uErrId	Error code	Word [unsigned]	0	Stores the error code that occurred in the FB.

FB details

Item	Description	
Available device	Target module	FX5-CCLIEF
	CPU module	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.025B or later
Language	Ladder diagram	
Number of basic steps	81 steps The number of FB steps integrated in the program varies depending on the CPU module used, the input/output definition, and the setting options of GX Works3. For the setting options of GX Works3, refer to GX Works3 Operating Manual .	
Processing	<ul style="list-style-type: none"> When i_bEN (Execution command) is turned ON, the number is set to the station number specified with the set station number. If an error occurs while setting the own station number, o_bErr (Error completion) turns ON, and the error code is stored in o_uErrId (Error code). Refer to Page 70 Error code for details on the error codes. 	
FB compilation method	Macro type	
FB operation	Pulsed execution (multiple scan execution type)	
Timing chart of I/O signals	<p>[For normal completion]</p>  <p>[For error completion] (For instruction error)</p> 	
Restrictions or precautions	<ul style="list-style-type: none"> This FB does not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation. This FB uses the GP.UINI instruction. The module parameter "Station Setting Method" must be set to "Set with Program" to enable the GP.UINI instruction. Turn off i_bEN (Execution command) after o_bOK (Normal completion) or o_bErr (Error completion) is turned on. By turning off i_bEN (Execution command), o_bOK (Normal completion) or o_bErr (Error completion) is turned off and o_uErrId (Error code) is cleared to 0. However, because the GP.UINI instruction which is a pulse instruction in the FB is used, if a write is performed while the FB is executed, the instruction may not be executed, and o_bOK (Normal completion) and o_bErr (Error completion) may not turn on. If this happens, turn i_bEN (Execute command) from off to on again. This FB cannot be used in an interrupt program. Do not use this FB in programs that are executed only once, such as a subroutine program or FOR-NEXT loop, because i_bEN (Execution command) cannot be turned off and the normal operation cannot be acquired. Always use this FB in programs that can turn off i_bEN (Execution command). Every input must be provided with a value for proper FB operation. Set the module parameters in GX Works3 in accordance with the connected equipment and system. For the module parameters, refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE). 	

Error code

Error code (hexadecimal)	Description	Action
D000H to DFFFH	This error code is the same as the error code that occurs with the own station number setting (GP.UINI) instruction.	Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE)

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REVISIONS

Revision date	Revision	Description
May 2016	A	First Edition
October 2016	B	■Added or modified parts Chapter 1, 2
April 2017	C	■Added or modified parts Chapter 2, 3
October 2017	D	■Added or modified parts Chapter 1, Section 2.7, 2.8, 2.9
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