

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 FB

Name ^{*1}	Description
M+FX5UCPU-EN_ConnectionOpen	Opens (establishes) a connection.
M+FX5UCPU-EN_ConnectionClose	Closes (disconnects) the connection.
M+FX5UCPU-EN_Recv_Socket	Reads the data received from the target device through socket communication.
M+FX5UCPU-EN_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.

*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 FB

2.1 M+FX5UCPU-EN_ConnectionOpen

Name

M+FX5UCPU-EN_ConnectionOpen

Overview

Item	Description
Overview	Opens (establishes) a connection for data communication with target device.
Symbol	M+FX5UCPU-EN_ConnectionOpen (1) — B : i_bEN (2) — DUT: i_stModule (3) — UW : i_uConnectionNo (8) pbi_bUseParameters (9) pbi_uProtocol (10) pbi_uOpen_System (11) pbi_uLocal_Port_No (12) pbi_uTarget_Port_No (13) pbi_u2IP_Address o_bENO : B — (4) o_bOK : B — (5) 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 label of the CPU module.
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	1 to 8	Specify the number of the connection to be opened.

■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. • 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. • 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. • 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]	1 to 65534	Specify the destination port number.
(13)	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 ^{*2}	Specify the IP address of target device. b15b8b7b0 1st word Third octetFourth octet 2nd word First octetSecond octet

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

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

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	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	• 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.
FB compilation method	Macro type
FB operation	Pulsed execution (multiple scan execution type)

Item	Description
Timing chart of I/O signals	[For normal completion] [For error completion]
Restrictions or precautions	• 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.SOCOPEN 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_uErrld (Error code) is cleared to 0. However, because the SP.SOCOPEN 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).

Error code

Error code (hexadecimal)	Description	Action
All error code	Same as the error code caused by the connection establishment (SP.SOCOPEN) instruction.	Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

2.2 M+FX5UCPU-EN_ConnectionClose

Name

M+FX5UCPU-EN_ConnectionClose

2

Overview

Item	Description
Overview	Closes (disconnects) a connection for data communication with target device.
Symbol	M+FX5UCPU-EN_ConnectionClose (1) — B : i_bEN (2) — DUT: i_stModule (3) — UW : i_uConnectionNo (8) pbo_uErrConn_No o_bENO : B — (4) o_bOK : B — (5) 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 label of the CPU module.
(3)	i_uConnectionNo	Connection No.	Word [Unsigned]/Bit String [16-bit]	1 to 8	Specify the number of the connection to be closed. This function closes all connections if FFFF is specified.

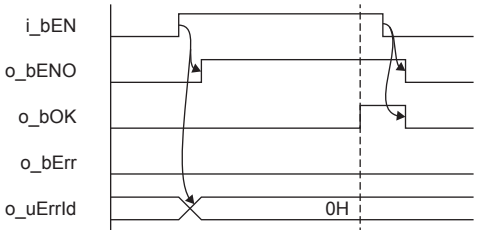
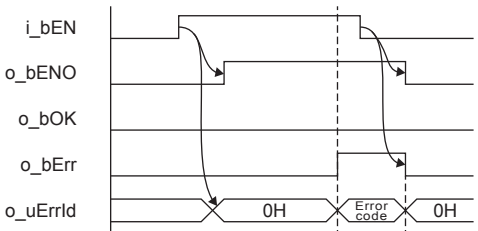
■Output label

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 FFFF is specified in "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 CPU	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.030G or later
Language	Ladder diagram	
Number of basic steps	136 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	- 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 FFFF 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	[For normal completion]  [For error completion] 	
Restrictions or precautions	- 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.SOC_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 SP.SOC_CLOSE 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).	

Error code

Error code (hexadecimal)	Description	Action
All error code	Same as the error code caused by the disconnection (SP.SOC_CLOSE) instruction.	Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

2.3 M+FX5UCPU-EN_Recv_Socket

Name

M+FX5UCPU-EN_Recv_Socket

2

Overview

Item	Description
Overview	Reads the data received by socket communication.
Symbol	M+FX5UCPU-EN_Recv_Socket (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uConnectionNo (9) pbi_bReadTiming o_bENO : B (4) o_bOK : B (5) o_bErr : B (6) o_uErrId : UW (7) o_uRecvData : 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 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.

■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.																									
(8)	o_uRecvData	Receive data storage destination	Word [Unsigned]/Bit String [16-bit]	—	Specify the receive data length and the start number of the device for storing received data. <table><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> - 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	Specify the timing of executing data read processing. - OFF: Start reading soon after the module FB starts. - ON: Start reading in the first END processing after the module FB starts. The setting is ignored in FX5U/FX5UC CPU because it reads the data in the END processing.

FB details

Item	Description
Available device	Target CPU
	FX5U CPU, FX5UC CPU
Engineering tool	Engineering tool
	GX Works3 Version 1.030G or later
Language	Ladder diagram
Number of basic steps	61 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	- 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_uErrld (error code). Refer to Page 11 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	[For normal completion] [For error completion]
Restrictions or precautions	- 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.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_uErrld (Error code) is cleared to 0. However, because the SP.SOCRCV 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).

Error code

Error code (hexadecimal)	Description	Action
All error code	Same as the error code caused by the data receiving (SP.SOCRCV) instruction.	Refer to the  MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

2.4 M+FX5UCPU-EN_Send_Socket

Name

M+FX5UCPU-EN_Send_Socket

Overview

Item	Description
Overview	Sends the data to the target device of the specified connection.
Symbol	(1) — B : i_bEN (2) — DUT: i_stModule (3) — UW : i_uConnectionNo (4) — UW : i_uSendData M+FX5UCPU-EN_Send_Socket o_bENO : B — (5) o_bOK : B — (6) o_bErr : B — (7) o_uErrId : UW — (8)

Labels

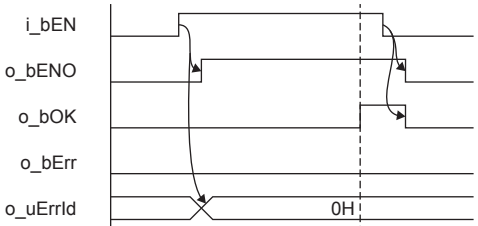
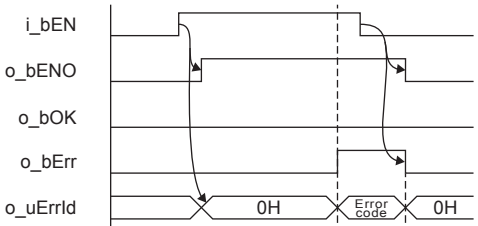
■Input label

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 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_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. b15b8b7b0 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 • 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).

■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 CPU	FX5U CPU, FX5UC CPU
	Engineering tool	GX Works3 Version 1.030G or later
Language	Ladder diagram	
Number of basic steps	62 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	- 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 13 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	[For normal completion]  [For error completion] 	
Restrictions or precautions	- 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.SOCSSND 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.SOCSSND 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).	

Error code

Error code (hexadecimal)	Description	Action
All error code	Same as the error code caused by the data sending (SP.SOCSSND) instruction.	Refer to the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

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	M+FX5UCPU-EN_SLMP_DeviceRead_IP <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2IP_Address (4) UW : i_uSubCommand (5) UW : i_uDeviceCode (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 </td> <td style="width: 50%; vertical-align: top; text-align: right;"> o_bENO : B (10) o_bOK : B (11) o_bErr : B (12) o_uErrId : UW (13) o_uReadData : UW (14) </td> </tr> </table>	(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2IP_Address (4) UW : i_uSubCommand (5) UW : i_uDeviceCode (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	o_bENO : B (10) o_bOK : B (11) o_bErr : B (12) o_uErrId : UW (13) o_uReadData : UW (14)
(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2IP_Address (4) UW : i_uSubCommand (5) UW : i_uDeviceCode (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	o_bENO : B (10) o_bOK : B (11) o_bErr : B (12) o_uErrId : UW (13) o_uReadData : UW (14)		

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><tr><td></td><td>b15</td><td>b8 b7</td><td>b0</td></tr><tr><td>1st word</td><td>Third octet</td><td colspan="2">Fourth octet</td></tr><tr><td>2nd word</td><td colspan="2">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														
(4)	i_uSubCommand	Sub command	Word [Unsigned]/Bit String [16-bit]	0 to 3	Specify the read unit and specification method of a device. 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. • 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. • 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. • 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}
(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

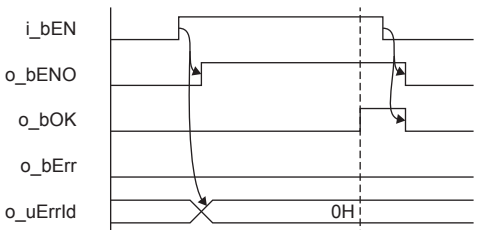
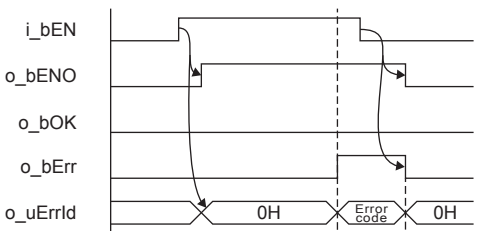
No.	Variable name	Name	Data type	Default value	Description																
(10)	o_bENO	Execution status	Bit	OFF	ON: The execution command is ON. OFF: The execution command is OFF.																
(11)	o_bOK	Normal completion	Bit	OFF	Device reading has been completed normally when this output is on.																
(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. When the 0th bit of the subcommand is 0, the device data is read in units of words. Example: When reading the bit device M100 to M115 (one word) in units of words 1st word : b15b8b7b0 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr></table> 00010010000110100 M115 . . . M100 Example: When reading the word device D0 to D2 in units of words 1st word : b15b8b7b0 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr></table> D0 2nd word : b15b8b7b0 <table><tr><td>0</td><td>0</td><td>0</td><td>2</td></tr></table> D1 3rd word : b15b8b7b0 <table><tr><td>1</td><td>D</td><td>E</td><td>F</td></tr></table> D2	1	2	3	4	1	2	3	4	0	0	0	2	1	D	E	F
1	2	3	4																		
1	2	3	4																		
0	0	0	2																		
1	D	E	F																		

No.	Variable name	Name	Data type	Default value	Description																
(14)	o_uReadData	Read data storage destination	Word [Unsigned]/Bit String [16-bit]	0	• When the 0th bit of the subcommand is 1, read the device data in units of bits. Example: When reading the bit device M100 to M107 in units of bits 1st word : b15 b8 b7 b0 <table><tr><td>0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>M102</td><td>M103</td><td>M100</td><td>M101</td></tr></table> 2nd word : b15 b8 b7 b0 <table><tr><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>M106</td><td>M107</td><td>M104</td><td>M105</td></tr></table>	0	1	0	0	M102	M103	M100	M101	1	1	0	0	M106	M107	M104	M105
0	1	0	0																		
M102	M103	M100	M101																		
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	Specify the module of the access destination. • 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". • 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. • 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. 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))						
(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. b15b8b7b0 <table><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>	1st word	Third octet	Fourth octet	2nd word	First octet	Second octet
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	- 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 18 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 18 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	[For normal completion]  [For error completion] 
Restrictions or precautions	- 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 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
100	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 100	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

2

Name

M+FX5UCPU-EN_SLMP_DeviceWrite_IP

Overview

Item	Description
Overview	Writes data to the target device by specifying IP address.
Symbol	M+FX5UCPU-EN_SLMP_DeviceWrite_IP (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2IP_Address (4) UW : i_uSubCommand (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 o_bENO : B (11) o_bOK : B (12) o_bErr : B (13) o_uErrId : UW (14) (15) pbi_uRequestModuleIO (16) pbi_uResendCountMax (17) pbi_uMonitorTime (18) pbo_uResendCount (19) pbo_u4ErrTime (20) pbo_u2ErrIP_Address

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. b15b8b7b0 1st word Third octetFourth octet 2nd word First octetSecond 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. • 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

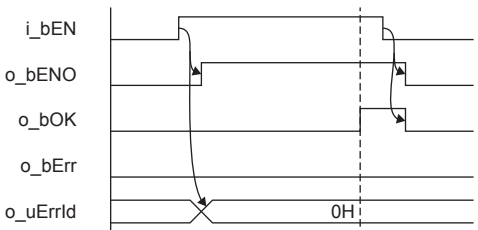
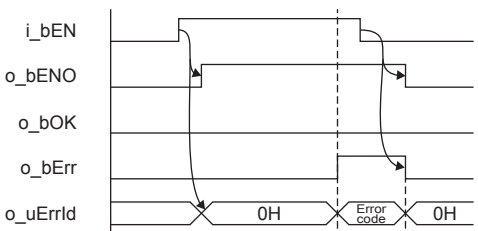
■Output label

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. • 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". • 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. • 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. 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))
(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. b15b8b7b0 1st word Third octetFourth octet 2nd word First octetSecond 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	- 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 23 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 23 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	[For normal completion]  [For error completion] 	
Restrictions or precautions	- 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
100	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 100	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)

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	M+FX5CCLIEF_DeviceRead <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2TargetAddress (4) UW : i_uDataLength (5) S : i_s32TargetDevice (6) UW : i_uChannel </td> <td style="width: 50%; vertical-align: top;"> o_bENO : B o_bOK : B o_bErr : B o_uErrId : UW o_uReadData : UW </td> </tr> </table> (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 (2) DUT: i_stModule (3) UW : i_u2TargetAddress (4) UW : i_uDataLength (5) S : i_s32TargetDevice (6) UW : i_uChannel	o_bENO : B o_bOK : B o_bErr : B o_uErrId : UW o_uReadData : UW
(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2TargetAddress (4) UW : i_uDataLength (5) S : i_s32TargetDevice (6) UW : i_uChannel	o_bENO : B o_bOK : B o_bErr : B o_uErrId : UW o_uReadData : UW		

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)	—	Specify the network number and station number for the target station. To specify with a label, use an array for the data type. b15 b0 1st word 2nd word Network number: 1 to 239 Station number Station number of Ethernet or CC-Link IE Controller Network • 1 to 120 Station number of CC-Link IE Field Network • 125: Master station • 126: Master operating station • 1 to 120: Local station, remote device station, intelligent device station, submaster station
(4)	i_uDataLength	Read data length	Word [unsigned]	1 to 960	Specify the number of words to be read. • When reading data from RCP, QCPU, LCP, or FX5CPU: 1 to 960 • When reading data from QnACPU: 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. • 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". • 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 • 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.

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 125: Master station 1 to 120: Local station, remote device station, intelligent device station, submaster station

FB details

Item	Description
Available device	Target module
	CPU module
	Engineering tool
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	- 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 27 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	[For normal completion] [For error completion] (For instruction error)
Restrictions or precautions	- 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	M+FX5CCLIEF_DeviceWrite <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2TargetAddress (4) UW : i_uDataLength (5) UW : i_uWriteData (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 </td><td style="width: 50%; vertical-align: top; text-align: right;"> o_bENO : B (8) o_bOK : B (9) o_bErr : B (10) o_uErrId : UW (11) </td></tr> </table>	(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2TargetAddress (4) UW : i_uDataLength (5) UW : i_uWriteData (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	o_bENO : B (8) o_bOK : B (9) o_bErr : B (10) o_uErrId : UW (11)
(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_u2TargetAddress (4) UW : i_uDataLength (5) UW : i_uWriteData (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	o_bENO : B (8) o_bOK : B (9) o_bErr : B (10) o_uErrId : UW (11)		

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.

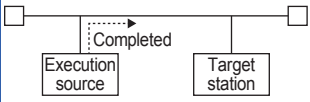
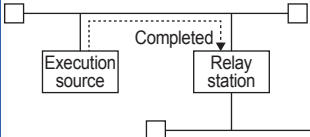
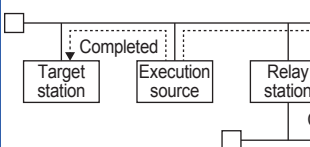
No.	Variable name	Name	Data type	Range	Description
(3)	i_u2TargetAddress	Target station address	Word [unsigned]	—	Specify the network number and station number for the target station. To specify with a label, use an array for the data type. ■When "target station specification method" is set to 0 to specify a station number b15 b0 1st word Network number: 1 to 239 2nd word Station number Station number of Ethernet or CC-Link IE Controller Network • 1 to 120 Station number of CC-Link IE Field Network • 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 b15 b0 1st word Network number: 1 to 239 2nd word Transient transmission group number: 1 to 32 ■When "target station specification method" is set to 2 to specify all stations b15 b0 1st word Network number: 1 to 239 2nd word 0 (The set value is ignored.)
(4)	i_uDataLength	Write data length	Word [unsigned]	1 to 960	Specify the number of words to be written. • 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	—	Specify the head device of the target station to which data is to be written. Refer to the MELSEC iQ-F FX5 User's Manual (CC-Link IE) for details on specifying the device.
(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	Specify the CPU type of the target station. • 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	Specify the target station specification method. • 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) 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). When using Group specification or All station specification, set the CPU type of the target station to "0000H" or "03FFH".
(14)	pbi_bArrivalConfirm	Arrival acknowledgment	Bit	ON, OFF	Specify whether to use arrival acknowledgment. ■ OFF: None • When the target station is within the own network, sending data from the own station completes the sending.  • When the target station is within another network, data arrival to the relay station within the own network completes the sending.  ■ ON: Check • 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". • 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	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
(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
	CPU module
	Engineering tool
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	- 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 32 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	[For normal completion] [For error completion] (For instruction error)

Item	Description
Restrictions or precautions	• 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	M+FX5CCLIEF_Send <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uTargetNetworkNo (4) UW : i_uTargetStationNo (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 </td><td style="width: 50%; vertical-align: top; text-align: right;"> o_bENO : B (9) o_bOK : B (10) o_bErr : B (11) o_uErrId : UW (12) </td></tr> </table>	(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uTargetNetworkNo (4) UW : i_uTargetStationNo (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	o_bENO : B (9) o_bOK : B (10) o_bErr : B (11) o_uErrId : UW (12)
(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uTargetNetworkNo (4) UW : i_uTargetStationNo (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	o_bENO : B (9) o_bOK : B (10) o_bErr : B (11) o_uErrId : UW (12)		

Labels

Input label

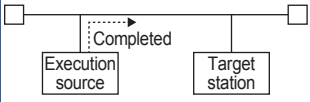
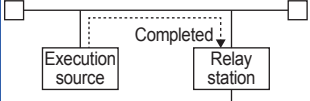
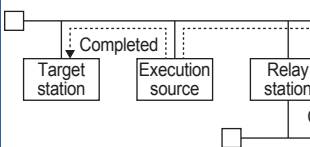
No.	Variable name	Name	Data type	Range	Description
(1)	i_bEN	Execution command	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
(2)	i_stModule	Module label	Structure	The setting range differs depending on the module label.	Specify the module label of the FX5-CCLIEF.
(3)	i_uTargetNetworkNo	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 • 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 • 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. • When reading data from RCP, QCPU, LCP, 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. • 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 • When the target station is within the own network, sending data from the own station completes the sending.  • When the target station is within another network, data arrival to the relay station within the own network completes the sending.  ■ON: Check • 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". • 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
	CPU module
	Engineering tool
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	- 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 36 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	[For normal completion] [For error completion] (For instruction error)
Restrictions or precautions	• 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).

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	M+FX5CCLIEF_Recv (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uRecvChannel (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 o_bENO : B (4) o_bOK : B (5) o_bErr : B (6) o_uErrId : UW (7) o_uRecvDataLength : UW (8) o_uRecvData : UW (9)

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.

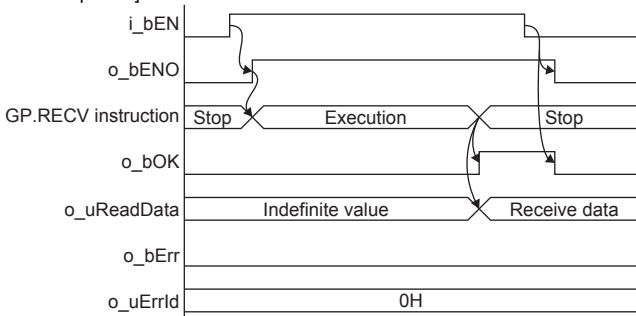
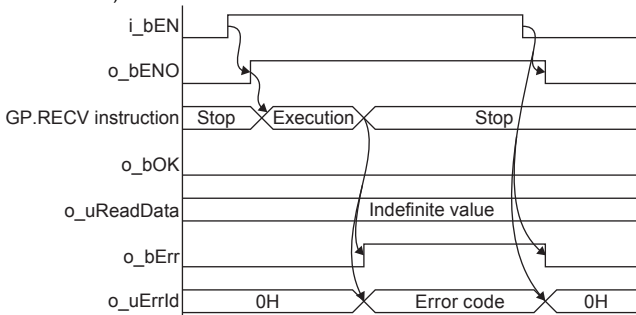
■Output label

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	- 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 39 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	[For normal completion]  [For error completion] [For instruction error] 	
Restrictions or precautions	- 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)

3.5 M+FX5CCLIEF_SetParameter

Name

M+FX5CCLIEF_SetParameter

Overview

Item	Description
Overview	Sets parameters for a module.
Symbol	M+FX5CCLIEF_SetParameter (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uTotalStations (4) UW : i_u605NetworkConfigurationSet (5) UW : i_u8ReservedStationSet (6) UW : i_u8ErrInvalidStationSet o_bENO : B (7) o_bOK : B (8) o_bErr : B (9) o_uErrId : UW (10) (11) pbi_uConstantLinkScanTime (12) pbi_ulpAddress (13) pbi_bNetworkConfigurationSetFlg (14) pbi_bReservedStationSetFlg (15) pbi_bErrInvalidStationSetFlg (16) pbi_bSubMaseterSet (17) pbi_bIP_PacketTransferFlg (18) pbi_bDatalinkFaultyStationSet (19) pbi_bCPU_StopOutputSet (20) pbi_bCPU_StopErrOutputSet (21) pbi_bLinkScanModeSet (22) pbi_bTopologySet (23) pbi_bMasterReturnSet (24) pbi_bSubMasterOperateParam

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_uTotalStations	Total number of slave stations	Word [unsigned]	—	This label is not used in the FB program and does not need to be set.
(4)	i_u605NetworkConfigurationSet	Network configuration setting data	Word [unsigned] (0..604)	—	
(5)	i_u8ReservedStationSet	Reserved station setting data	Word [unsigned] (0..7)	—	
(6)	i_u8ErrInvalidStationSet	Error invalid station setting data	Word [unsigned] (0..7)	—	

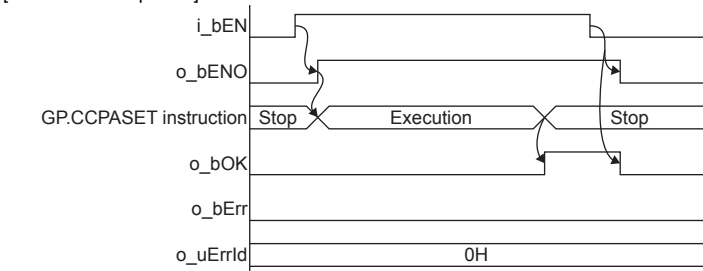
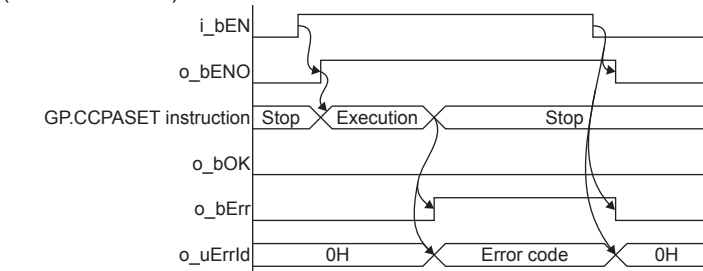
■Output label

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 parameters have been set 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.

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	- 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 42 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	[For normal completion]  [For error completion] (For instruction error) 	
Restrictions or precautions	- 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	M+FX5CCLIEF_StationNoSet <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> (1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uSetStationNo </td> <td style="width: 50%; vertical-align: top;"> o_bENO : B (4) o_bOK : B (5) o_bErr : B (6) o_uErrId : UW (7) </td> </tr> </table>	(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uSetStationNo	o_bENO : B (4) o_bOK : B (5) o_bErr : B (6) o_uErrId : UW (7)
(1) B : i_bEN (2) DUT: i_stModule (3) UW : i_uSetStationNo	o_bENO : B (4) o_bOK : B (5) o_bErr : B (6) o_uErrId : UW (7)		

Labels

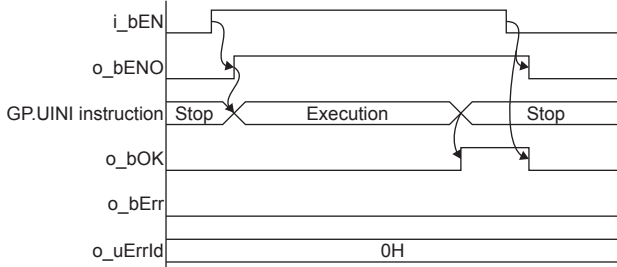
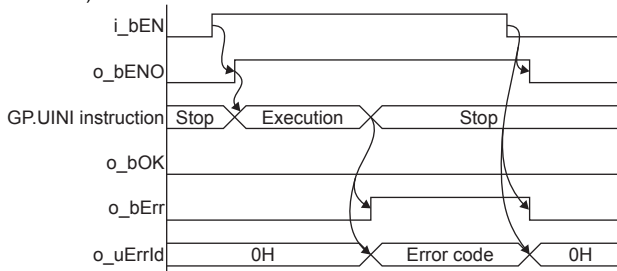
■Input label

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 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	- 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 44 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	[For normal completion]  [For error completion] (For instruction error) 	
Restrictions or precautions	- 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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MEMO

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

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