

mitsubishi electric engineering

RFID Interface Module

MODEL

ECLEF-V680D2

FB Library Reference Manual

(For MELSEC iQ-R series)

Products for Monitoring and Traceability



CC-Link IE Field

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Reference Manual Revision History

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

Revision date	*Manual number.	Revision
Dec. 2015	50CM-D180209-A	First Edition
Sep. 2023	50CM-D180209-B	<ul style="list-style-type: none">•Redesign of front and back covers•Modified parts<ul style="list-style-type: none">Section 2.2 P+MEE-ECLEF-V680D2_Read_R (Read ID tag)Section 2.3 P+MEE-ECLEF-V680D2_Write_R (Write to ID tag)•Error correction<ul style="list-style-type: none">Appendix 2 FB Library Application Examples

Japanese manual number: 50CM-D180204

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1. Overview

1.1 Overview of the FB Library

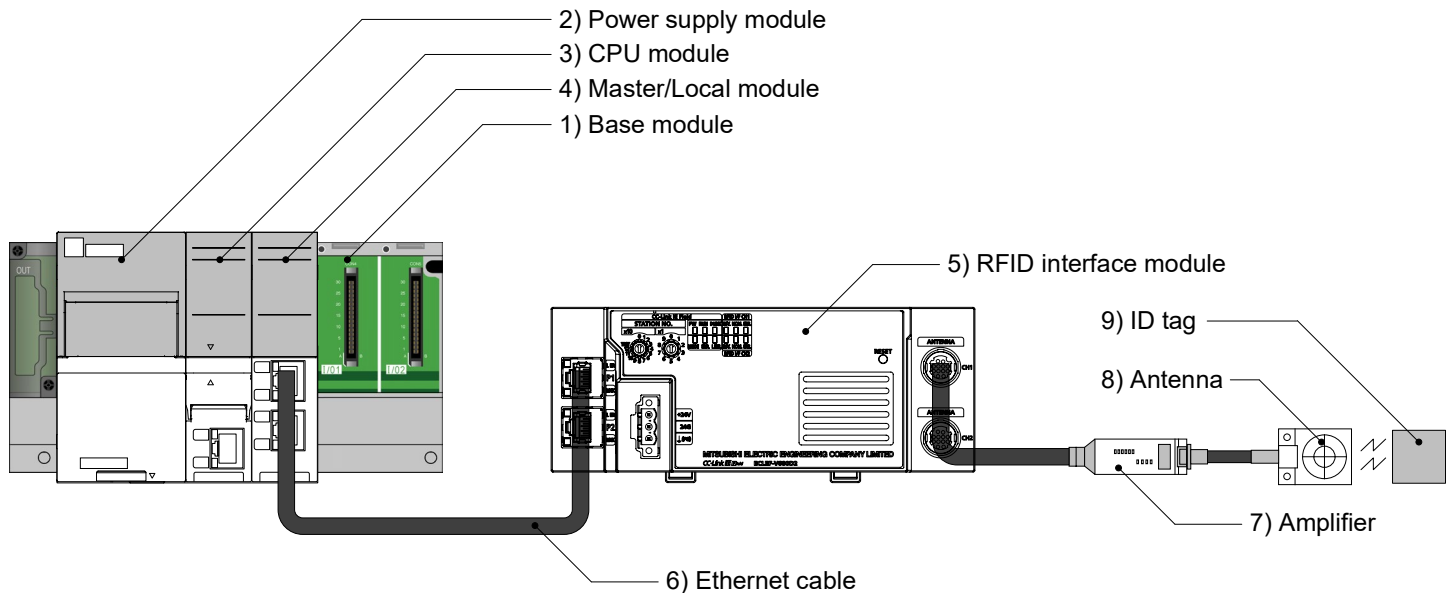
This FB library is the FB library for the system that uses the RFID interface unit ECLEF-V680D2 compatible with the OMRON V680 Series for CC-Link IE Field Network, using the MELSEC CC-Link system.

1.2 Function of the FB Library

No.	FB name (*1)	Description
1	P+MEE-ECLEF-V680D2_InitDataSet_R	Sets the initial data when a command is executed. (*2) *2 After turning on the power or releasing reset, be sure to perform this first.
2	P+MEE-ECLEF-V680D2_Read_R	Reads the data of an ID tag.
3	P+MEE-ECLEF-V680D2_Write_R	Writes data to an ID tag.
4	P+MEE-ECLEF-V680D2_Fill_R	Initializes the data of an ID tag using specified data.
5	P+MEE-ECLEF-V680D2_UIDRead_R	Reads the UID (unit identification number) of the ID tag.
6	P+MEE-ECLEF-V680D2_MeasureNoise_R	Measures the noise environment surrounding the antenna.
7	P+MEE-ECLEF-V680D2_InitDataRead_R	Reads the initial data settings.
8	P+MEE-ECLEF-V680D2_StatusRead_R	Read Module Status.
9	P+MEE-ECLEF-V680D2_Copy_R	Copies data of an ID tag between channel 1 and channel 2.

*1 This manual omits the version of the FB name.

1.3 System Configuration Examples



No.	Item	Description			
1)	PLC	Base module: MELSEC iQ-R series			
2)		Power supply module: R61P			
3)		CPU module: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>R04CPU, R08CPU, R16CPU, R32CPU, R120CPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series
Series	Model				
MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU				
4)	Master/Local module	RJ71GF11-T2			
5)	RFID interface module	ECLEF-V680D2 CC-Link IE Field Network OMRON V680 series compatible RFID interface module			
6)	Ethernet cable	Ethernet cable			
7)	Amplifier	OMRON RFID system V680 series For compatible models, refer to the user's manual.			
8)	Antenna				
9)	ID tag				

1.4 Setting the CC-Link IE Field Network Master/Local Module

This section explains the settings of CC-Link IE Field Network master/local module based on Section "1.3 System Configuration Examples". Set the following items using GX Works3.

1.4.1 Unit parameter setting

Set as follows.

Item	Description
Station type	Set "Master station".
Network No.	1
Station number setting method	Configure "Set using parameters".
Basic/applied setting method	Configure "Set using parameters".

0000-RJ71GF11-T2 Module Parameter

Setting Item List

Input the Setting Item to Search

- Required Settings
 - Station Type
 - Network Number
 - Station Number
 - Parameter Setting Method
- Basic Settings
- Application Settings

Setting Item

Item	Setting
Station Type	
<i>Station Type</i>	Master Station
Network Number	
Network Number	1
Station Number	
Setting Method	Parameter Editor
Station No.	0
Parameter Setting Method	
Setting Method of Basic/Application Settings	Parameter Editor

Explanation

Select station type (network type) of CC-Link IE field network module.

Item List Find Result

Check Restore the Default Settings

Apply

1.4.2 Setting network configuration

Set as follows.

Item	Description
Station Type	Set "Intelligent Device Station".
RX/Ry Setting	Start: 0000 End: 001F
RWw/RWr Setting	Start: 0000 End: 03FF

CC IE Field Configuration (Start I/O: 0000)

Mode Setting: Online (Standard Mode) Assignment Method: Start/End Link Scan Time (Approx.): 1.01 ms

No.	Model Name	STA#	Station Type	RX/Ry Setting			RWw/RWr Setting			Reserved/Error Invalid Station
				Points	Start	End	Points	Start	End	
0	Host Station	0	Master Station							
1	Gen. Intelligent Device Station	1	Intelligent Device Station	32	0000	001F	1024	0000	03FF	No Setting

Network Diagram:
 Host station (STA#0) --- STA#1 (Gen. Intelligent Device Station)

Module List:
 General CC IE Field Module
 CC IE Field Module (Mitsubishi Electric)
 Master/Local Module
 Communication Head Module
 Servo Amplifier(MELSERVO-J4 Series)
 Basic Digital Input Module
 Basic Digital Output Module
 Basic Analog Input Module
 Basic Analog Output Module
 Basic temperature control module
 Basic High-Speed Counter Module
 Extension Digital Input Module
 Extension Digital Output Module
 GOT2000 Series
 GOT1000 Series

Output

1.4.3 Refresh parameter setting

Set as follows.

Item	Description	
	Link Side	Link Side
Special relay (SB) refresh device	Device name: SB Start: 00000 End: 001FF	Refresh destination: specified device Device name: SB End: 00000
Special register (SW) refresh device	Device name: SW Start: 00000 End: 001FF	Refresh destination: specified device Device name: SW End: 00000
Remote input (RX) refresh device	Device name: RX Start: 00000 End: 007FF	Refresh destination: specified device Device name: X End: 01000
Remote output (RY) refresh device	Device name: RY Start: 00000 End: 007FF	Refresh destination: specified device Device name: Y End: 01000
Remote register (RWr) refresh device	Device name: RWr Start: 00000 End: 004FF	Refresh destination: specified device Device name: W End: 00100
Remote register (RWw) refresh device	Device name: RWw Start: 00000 End: 004FF	Refresh destination: specified device Device name: W End: 00600

Link fresh settings for the IQ-R series PLC:

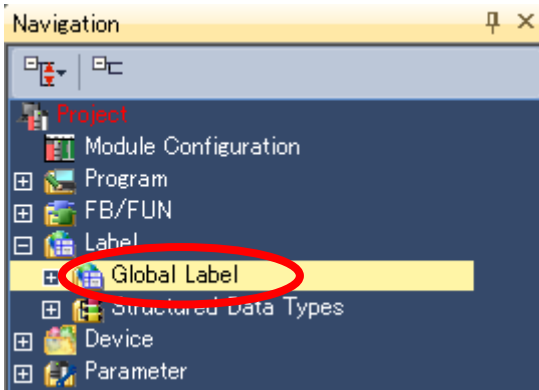
No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00000	001FF
-	SW	512	00000	001FF	Device	SW	512	00000	001FF
1	RX	2048	00000	007FF	Device	X	2048	01000	017FF
2	RY	2048	00000	007FF	Device	Y	2048	01000	017FF
3	RWr	1280	00000	004FF	Device	W	1280	00100	005FF
4	RWw	1280	00000	004FF	Device	W	1280	00600	00AFF
5									
6									
7									
8									
9									
10									
11									

Explanation
Set the end number (hexadecimal) of device range to be refreshed, when the "Points/Start" is selected as an assignment method.
[Setting range]
- SB: F to 1FFH (multiplies of 16-1 only)
- SW: 0 to 1FFH
- RX/RX: F to 3FFFH (multiplies of 16-1 only)
- RY/RWw: 3 to 1FFFH (multiplies of 4-1 only)

1.5 Setting Global Labels

Global labels must be set before using this FB. This section explains global label settings.

Select "Global label" on the project tab in the navigation window.



G_RX Configure remote input (RX) settings.

Item	Description
Label name	Enter "G_RX".
Data type	Select "Bit".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z9" to remote output (RX) entered in section 1.4.1. Enter "X1000Z9".

G_RY Configure remote output (RY) settings.

Item	Description
Label name	Enter "G_RY".
Data type	Select "Bit".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z9" to remote output (RY) entered in section 1.4.1. Enter "Y1000Z9".

G_RWr Configure remote register (RWr) settings.

Item	Description
Label name	Enter "G_RWr".
Data type	Select "Word [signed]".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z8" to remote output (RWr) entered in section 1.4.1. Enter "W100Z8".

G_RWw Configure remote register (RWw) settings.

Item	Description
Label name	Enter "G_RWw".
Data type	Select "Word [signed]".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z8" to remote output (RWw) entered in section 1.4.1. Enter "W600Z8".

Global label settings for the IQ-R series PLC

	Label Name	Data Type	Class	Assign (Device/Lab)	Initial Value
1	G_RY	Bit	VAR_GLOBAL	Y1000Z9	
2	G_RWw	Word [Signed]	VAR_GLOBAL	W600Z8	
3	G_RWr	Word [Signed]	VAR_GLOBAL	W100Z8	
4	G_RX	Bit	VAR_GLOBAL	X1000Z9	
5					

Extended Display: Automatic

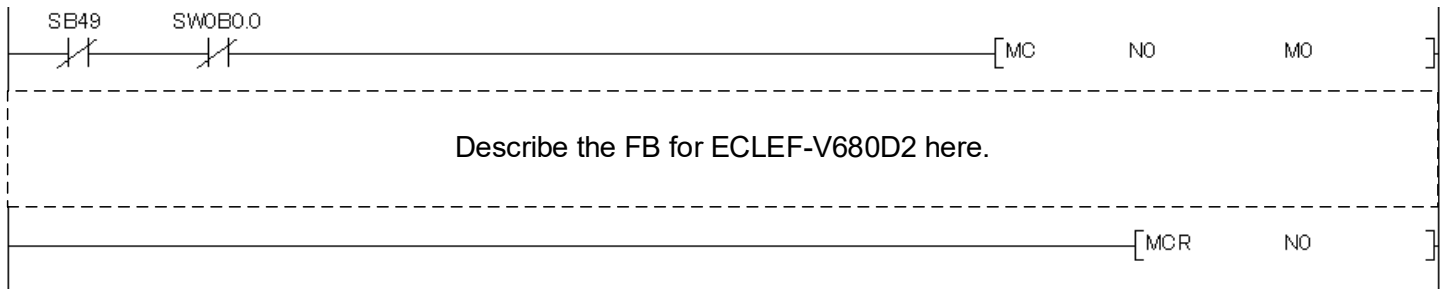
1.6 Creating Interlock Program

Interlock programs must be created for the FBs. The following is an example of an interlock program.
(Set a corresponding FB between MC and MCR instructions.)

In the interlock program, the following link special relay (SB) and the link special register (SW) should be interlocked.

- Own station data link status (SB0049)
- Each station data link status (SW00B0 to SW00B7)

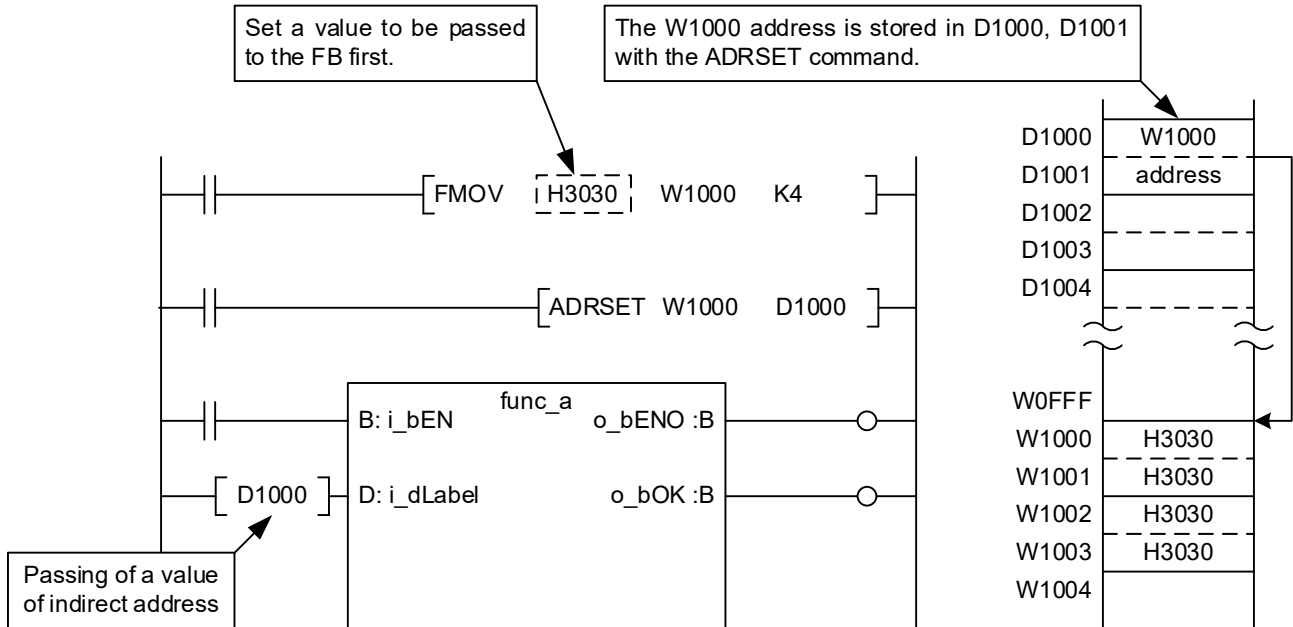
Example Interlock Examples (Station No.1)



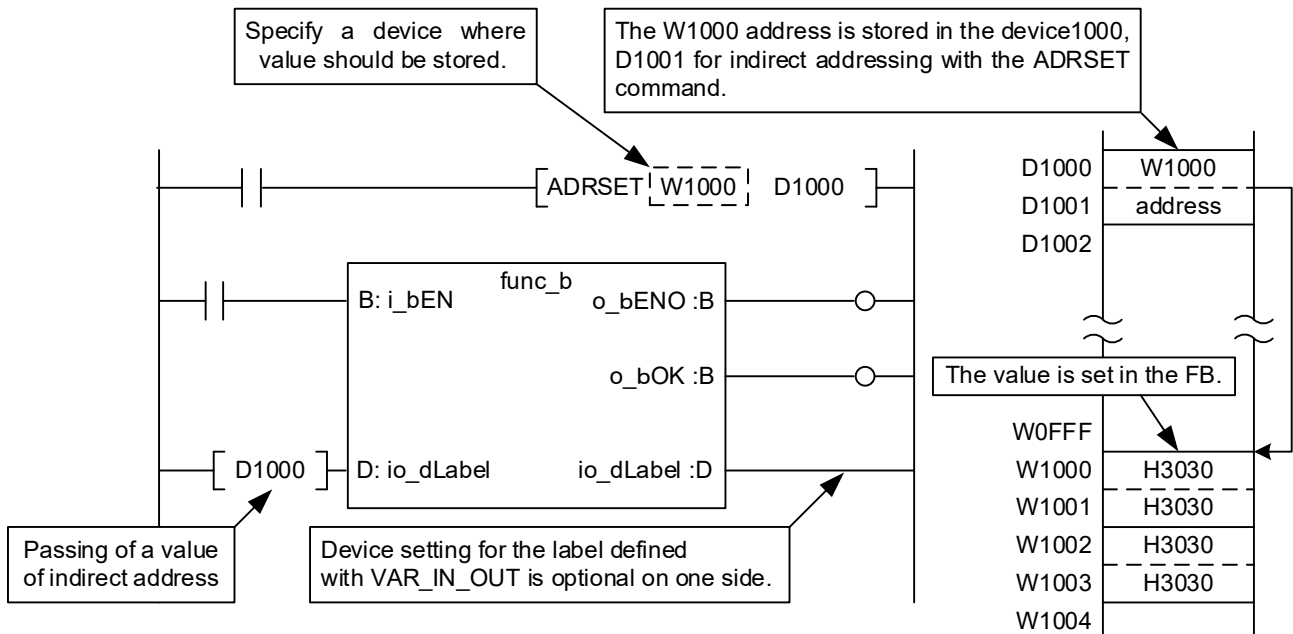
1.7 Indirect addressing

This FB library has an area for specifying an indirect address for input of the FB. Examples of using the indirect address are shown below:

(1) To pass a value (array) to the FB



(2) To get a value (array) from the FB



1.8 Relevant Manuals

- ECLEF-V680D2 RFID Interface Module User's Manual (Details) (50CM-D180190)
- MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup) (SH-081256ENG)
- MELSEC iQ-R CC-Link IE Field Network User's Manual (Application) (SH-081259ENG)

1.9 Note

Please make sure to read user's manuals for the corresponding products before using the products.

2. Details of the FB Library

2.1 P+MEE-ECLEF-V680D2_InitDataSet_R (Initial data setting)

FB Name

P+MEE-ECLEF-V680D2_InitDataSet_R

Function Overview

Item	Description																																																	
Function overview	Sets the initial data when a command is executed. This should be performed when executing initial processing or changing initial data. * After turning on the power or releasing reset, be sure to perform this first.																																																	
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">P+MEE-ECLEF-V680D2_InitDataSet_R</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 10%;">B : i_bEN</td> <td style="width: 10%;">o_bENO : B</td> <td style="width: 50%;">Execution status</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIONo</td> <td>o_bOK : B</td> <td>Normal completion</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B</td> <td>Error completion</td> </tr> <tr> <td>Communication specification (CH1)</td> <td>W : i_wCH1Communication</td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td>Communication setting (CH1)</td> <td>W : i_wCH1CommSetting</td> <td>o_bModuleErr : B</td> <td>Module error</td> </tr> <tr> <td>Processing specification (CH1)</td> <td>W : i_wCH1ProcessingNo</td> <td>o_uModuleErr : UW</td> <td>Module error code</td> </tr> <tr> <td>Auto system command wait time setting (CH1)</td> <td>W : i_wCH1Wait</td> <td></td> <td></td> </tr> <tr> <td>Communication specification (CH2)</td> <td>W : i_wCH2Communication</td> <td></td> <td></td> </tr> <tr> <td>Communication setting (CH2)</td> <td>W : i_wCH2CommSetting</td> <td></td> <td></td> </tr> <tr> <td>Processing specification (CH2)</td> <td>W : i_wCH2ProcessingNo</td> <td></td> <td></td> </tr> <tr> <td>Auto system command wait time setting (CH2)</td> <td>W : i_wCH2Wait</td> <td></td> <td></td> </tr> </tbody> </table>		P+MEE-ECLEF-V680D2_InitDataSet_R				Execution command	B : i_bEN	o_bENO : B	Execution status	Start XY address	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bErr : B	Error completion	Communication specification (CH1)	W : i_wCH1Communication	o_wErrID : W	Error code	Communication setting (CH1)	W : i_wCH1CommSetting	o_bModuleErr : B	Module error	Processing specification (CH1)	W : i_wCH1ProcessingNo	o_uModuleErr : UW	Module error code	Auto system command wait time setting (CH1)	W : i_wCH1Wait			Communication specification (CH2)	W : i_wCH2Communication			Communication setting (CH2)	W : i_wCH2CommSetting			Processing specification (CH2)	W : i_wCH2ProcessingNo			Auto system command wait time setting (CH2)	W : i_wCH2Wait		
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Applicable hardware and software	RFID Interface module	ECLEF-V680D2																																																
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Item	Description
Programming Language	Ladder
Number of steps	622Step (for MELSEC iQ-R series CPU) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.
Function description	<p>1) When i_bEN (Execution command) is turned ON, various initial data set is written to ECLEF-V680D2.</p> <p>When writing is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnOn[Turn i_bEN ON.] TurnOn --> CheckRange{Check the range of station number.} CheckRange -- Outside the range --> SetErrID[An error code is set to o_wErrID] CheckRange -- 1 to 120 --> CheckStatus{Check the status of ECLEF-V680D2} CheckStatus -- ID-BUSY signal ON --> SetErrID CheckStatus -- ID-BUSY signal OFF --> CheckError{Check ECLEF-V680D2 for error} CheckError -- Error detection signal ON --> SetModuleErr[A unit error code is set to o_uModuleErr] CheckError -- ID command completion signal ON --> WriteData[The specified initial data is written] SetErrID --> TurnOnErr[o_bErr is turned ON] SetModuleErr --> TurnOnModErr[o_bModuleErr is turned ON] WriteData --> TurnOnOK[o_bOK is turned ON] TurnOnErr --> TurnOff[i_bEN is turned OFF] TurnOnModErr --> TurnOff TurnOnOK --> TurnOff TurnOff --> End([End]) </pre> <p>2) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p> <p>3) If an error occurs in ECLEF-V680D2, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the error code explanation section for details.</p>
Compiling method	Macro type

Item	Description
Restrictions and precautions	<ol style="list-style-type: none"> 1) After turning on the power or releasing reset, be sure to perform this first. 2) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 3) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 4) Set the global label setting according to Section "1.5 Setting Global Labels". 5) The FB cannot be used in an interrupt program. 6) When multiple FBs are used, care should be taken not to use the same target station number. 7) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 8) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 9) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> ▪ i_wStartIONo (Start XY address) ▪ i_wStationNo (Station No.) ▪ i_wCH1Communication, i_wCH2Communication (Communication specification) ▪ i_wCH1CommSetting, i_wCH2CommSetting (Communication setting) ▪ i_wCH1ProcessingNo, i_wCH2ProcessingNo (Processing specification) ▪ i_wCH1Wait, i_wCH2Wait (Auto system command wait time setting) 10) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 11) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 12) If the operation of this FB is not completed, check if i_wStartIONo(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number or the remote output (RY) of the RFID interface unit is ON.
FB operation type	Pulsed execution (multiple scan execution type)

Item	Description							
Timing chart	<p>[When operation completes without error]</p>	<p>[When an error occurs]</p>						
	<p>[For Module error]</p>	<p>n: Address assigned to master station by station number setting.</p>						
Relevant manuals	<table border="0"> <tr> <td>ECLEF-V680D2 RFID Interface Module User's Manual (Details)</td> <td>(50CM-D180190)</td> </tr> <tr> <td>MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)</td> <td>(SH-081256ENG)</td> </tr> <tr> <td>MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)</td> <td>(SH-081259ENG)</td> </tr> </table>		ECLEF-V680D2 RFID Interface Module User's Manual (Details)	(50CM-D180190)	MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)	(SH-081256ENG)	MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)	(SH-081259ENG)
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Error codes

■Error code list

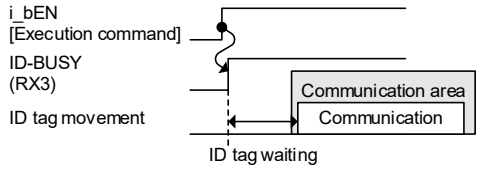
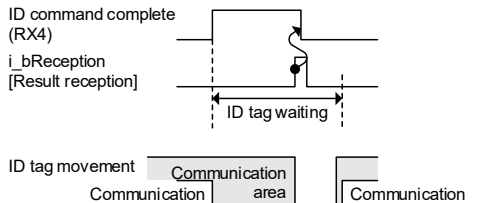
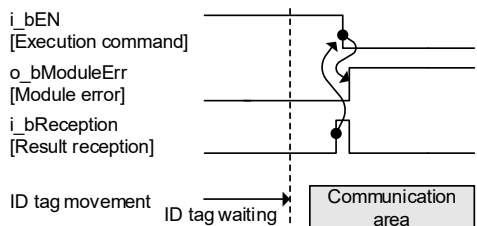
Error code	Description	Action
11 (Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
14 (Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

■Input Labels

Name	Label Name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIONo	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Communication specification	i_wCH1Communication (CH1) i_wCH2Communication (CH2)	Word	0: Trigger 1: Auto 2: Repeat auto 3: FIFO trigger 4: FIFO repeat	Specify the communication method for the ID tag.

Name	Label Name	Data type	Setting range	Description										
Communication Setting	i_wCH1CommSetting (CH1) i_wCH2CommSetting (CH2)	Word	0000 to 000F (Hexadecimal)	<p>Select the communication setting for the ID tag.</p> <table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Write verify setting 0: Execute 1: Do not execute</td> </tr> <tr> <td>1</td> <td>ID tag communication speed setting 0: Standard mode 1: High-speed mode</td> </tr> <tr> <td>2</td> <td>Write protect setting 0: Enable 1: Disable</td> </tr> <tr> <td>3</td> <td>Read/Write data code setting 0: Without ASCII/HEX conversion 1: With ASCII/HEX conversion</td> </tr> </tbody> </table>	Bit	Description	0	Write verify setting 0: Execute 1: Do not execute	1	ID tag communication speed setting 0: Standard mode 1: High-speed mode	2	Write protect setting 0: Enable 1: Disable	3	Read/Write data code setting 0: Without ASCII/HEX conversion 1: With ASCII/HEX conversion
Bit	Description													
0	Write verify setting 0: Execute 1: Do not execute													
1	ID tag communication speed setting 0: Standard mode 1: High-speed mode													
2	Write protect setting 0: Enable 1: Disable													
3	Read/Write data code setting 0: Without ASCII/HEX conversion 1: With ASCII/HEX conversion													
Processing specification	i_wCH1ProcessingNo (CH1) i_wCH2ProcessingNo (CH2)	Word	0, 1	<p>Specify the order in which data is stored for the ID tag.</p> <table border="1"> <thead> <tr> <th>Command</th> <th>Processing specification</th> </tr> </thead> <tbody> <tr> <td>Read</td> <td rowspan="3">Data storage order 0: Upper→Lower 1: Lower→Upper</td> </tr> <tr> <td>Write</td> </tr> <tr> <td>Fill Data</td> </tr> </tbody> </table> <p>For details, refer to the functional description of each command. Commands other than the above do not use Processing specification.</p>	Command	Processing specification	Read	Data storage order 0: Upper→Lower 1: Lower→Upper	Write	Fill Data				
Command	Processing specification													
Read	Data storage order 0: Upper→Lower 1: Lower→Upper													
Write														
Fill Data														

Name	Label Name	Data type	Setting range	Description
Auto system Command wait time setting	i_wCH1Wait (CH1) i_wCH2Wait (CH2)	Word	1 to 9999, 0 (Decimal)	<p>When i_wCH1Communication or i_wCH2Communication (Communication specification) is an auto system command (Auto, Repeat auto, FIFO repeat), specify the ID tag detection waiting time in the unit of 0.1 seconds.</p> <p>(For example, if the waiting time is 30 seconds, specify K300.)</p> <p>When 0 or value outside the effective range is specified, the detection waiting time is implemented until a response is received from the ID tag. The diagram below shows the waiting time when a command is executed by each FB.</p> <p>[For Auto, Repeat auto or FIFO repeat]</p>  <p>[For Repeat auto or FIFO repeat]</p>  <p>When the waiting time is set before i_bReception(Result reception) is turned ON expires, o_bModuleErr (Module error) is turned ON after i_bReception (Result reception) is turned ON.</p> 

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: Set Initial Data value error OFF: Normal
Module error code	o_uModuleErr	Word [Unsigned]	0	A description of the error occurred in the RFID interface unit is stored.

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

2.2 P+MEE-ECLEF-V680D2_Read_R (Read ID tag)

FB Name

P+MEE-ECLEF-V680D2_Read_R

Function Overview

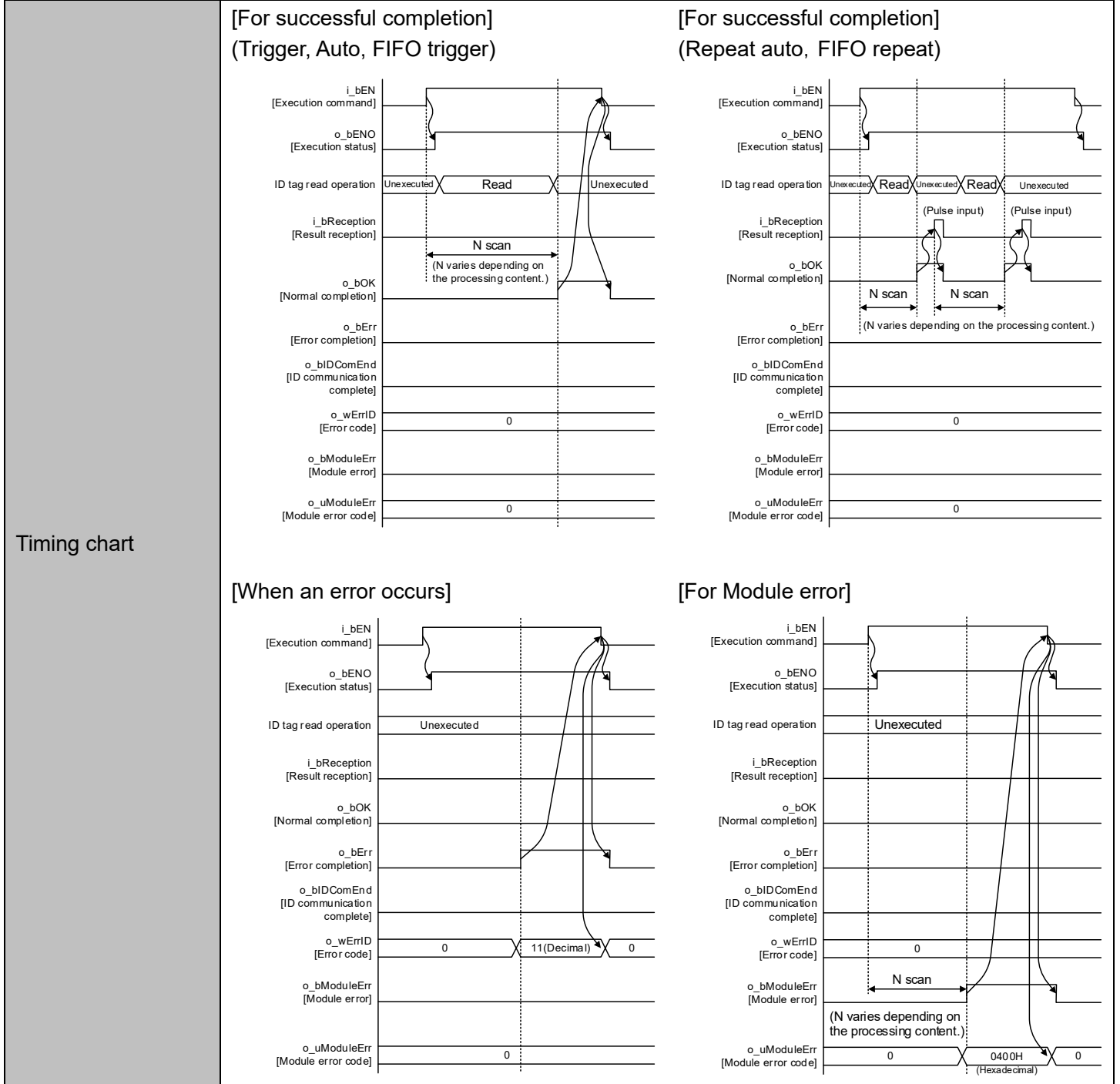
Item	Description																																					
Function overview	Reads the data of an ID tag.																																					
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">P+MEE-ECLEF-V680D2_Read_R</th> </tr> </thead> <tbody> <tr> <td style="width: 20%;">Execution command</td> <td style="width: 20%;">B : i_bEN</td> <td style="width: 20%;">o_bENO : B</td> <td style="width: 40%;">Execution status</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIONo</td> <td>o_bOK : B</td> <td>Normal completion</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B</td> <td>Error completion</td> </tr> <tr> <td>Channel No.</td> <td>W : i_wCH</td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td>Start address specification</td> <td>W : i_wAddressNo</td> <td>o_bModuleErr : B</td> <td>Module error</td> </tr> <tr> <td>Processing specification</td> <td>W : i_wReadByte</td> <td>o_uModuleErr : UW</td> <td>Module error code</td> </tr> <tr> <td>Result reception</td> <td>B : i_bReception</td> <td>io_dReadData : D</td> <td>Read data (Indirect address)</td> </tr> <tr> <td>Read data (Indirect address)</td> <td>D : io_dReadData</td> <td>o_bIDComEnd : B</td> <td>ID communication complete</td> </tr> </tbody> </table>		P+MEE-ECLEF-V680D2_Read_R				Execution command	B : i_bEN	o_bENO : B	Execution status	Start XY address	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bErr : B	Error completion	Channel No.	W : i_wCH	o_wErrID : W	Error code	Start address specification	W : i_wAddressNo	o_bModuleErr : B	Module error	Processing specification	W : i_wReadByte	o_uModuleErr : UW	Module error code	Result reception	B : i_bReception	io_dReadData : D	Read data (Indirect address)	Read data (Indirect address)	D : io_dReadData	o_bIDComEnd : B	ID communication complete
P+MEE-ECLEF-V680D2_Read_R																																						
Execution command	B : i_bEN	o_bENO : B	Execution status																																			
Start XY address	W : i_wStartIONo	o_bOK : B	Normal completion																																			
Station No.	W : i_wStationNo	o_bErr : B	Error completion																																			
Channel No.	W : i_wCH	o_wErrID : W	Error code																																			
Start address specification	W : i_wAddressNo	o_bModuleErr : B	Module error																																			
Processing specification	W : i_wReadByte	o_uModuleErr : UW	Module error code																																			
Result reception	B : i_bReception	io_dReadData : D	Read data (Indirect address)																																			
Read data (Indirect address)	D : io_dReadData	o_bIDComEnd : B	ID communication complete																																			
Applicable hardware and software	RFID interface module	ECLEF-V680D2																																				
	CC-Link IE Field Network module	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>RJ71GF11-T2</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ71GF11-T2																																
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Engineering software	GX Works3	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>Version1.015R or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.015R or later																																
Series	Model																																					
MELSEC iQ-R Series	Version1.015R or later																																					
Programming language	Ladder																																					
Number of steps	986 (for MELSEC iQ-R series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																																					

Item	Description																																		
Function description	<p>1) When i_bEN(Execution command) is turned ON, data with the number of bytes specified with i_wReadByte(Processing specification) is read from i_wAddressNo(Start address specification) in the ID tag. Data read is stored from the start device specified with io_dReadData (indirect address of read-out data). When reading is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnON[Turn i_bEN ON.] subgraph FB_processing [FB internal processing] CheckStation{Check the range of station number 1 to 120} CheckChannel{Check the channel number range 1 or 2} CheckStatus{Check the status of ECLEF-V680D2 ID-BUSY signal ON/OFF} ReadData[Read data from the ID tag] CheckError{Check ECLEF-V680D2 for error} end TurnON --> CheckStation CheckStation -- Outside the range --> Err1[An error code is set to o_wErrID o_bErr is turned ON] CheckStation -- 1 to 120 --> CheckChannel CheckChannel -- Outside the range --> Err1 CheckChannel -- 1 or 2 --> CheckStatus CheckStatus -- ID-BUSY signal ON --> Err1 CheckStatus -- ID-BUSY signal OFF --> ReadData ReadData --> CheckError CheckError -- Error detection signal ON --> Err2[A unit error code is set to o_uModuleErr o_bModuleErr is turned ON] CheckError -- ID command completion signal ON --> SetData[Set the data read in the device for which indirect address was specified in io_dReadData.] SetData --> Ok[o_bOK is turned ON] Err1 --> TurnOff[i_bEN is turned OFF] Err2 --> TurnOff Ok --> TurnOff TurnOff --> End([End]) </pre> <p>2) When Processing specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 0, data is stored in order from the upper to the lower. When it is 1, data is stored in order from the lower to the upper.</p> <p>Example</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>0: Upper to the lower</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr><td>0010</td><td>Data1</td></tr> <tr><td>0011</td><td>Data2</td></tr> <tr><td>0012</td><td>Data3</td></tr> <tr><td>0013</td><td>Data4</td></tr> </tbody> </table> <p style="margin: 0 10px;">→</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">CPU unit devices</th> </tr> </thead> <tbody> <tr><td>Data1</td><td>Data2</td></tr> <tr><td>Data3</td><td>Data4</td></tr> </tbody> </table> </td> <td style="width: 50%; vertical-align: top;"> <p>1: lower to the upper</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr><td>0010</td><td>Data1</td></tr> <tr><td>0011</td><td>Data2</td></tr> <tr><td>0012</td><td>Data3</td></tr> <tr><td>0013</td><td>Data4</td></tr> </tbody> </table> <p style="margin: 0 10px;">→</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">CPU unit devices</th> </tr> </thead> <tbody> <tr><td>Data2</td><td>Data1</td></tr> <tr><td>Data4</td><td>Data3</td></tr> </tbody> </table> </td> </tr> </table> <p>3) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 2(Repeat auto) or 4(FIFO repeat), the next ID tag detection will start when i_bReception(Result reception) is turned ON.</p>	<p>0: Upper to the lower</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr><td>0010</td><td>Data1</td></tr> <tr><td>0011</td><td>Data2</td></tr> <tr><td>0012</td><td>Data3</td></tr> <tr><td>0013</td><td>Data4</td></tr> </tbody> </table> <p style="margin: 0 10px;">→</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">CPU unit devices</th> </tr> </thead> <tbody> <tr><td>Data1</td><td>Data2</td></tr> <tr><td>Data3</td><td>Data4</td></tr> </tbody> </table>	Address	ID tag memory	0010	Data1	0011	Data2	0012	Data3	0013	Data4	CPU unit devices		Data1	Data2	Data3	Data4	<p>1: lower to the upper</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr><td>0010</td><td>Data1</td></tr> <tr><td>0011</td><td>Data2</td></tr> <tr><td>0012</td><td>Data3</td></tr> <tr><td>0013</td><td>Data4</td></tr> </tbody> </table> <p style="margin: 0 10px;">→</p> <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">CPU unit devices</th> </tr> </thead> <tbody> <tr><td>Data2</td><td>Data1</td></tr> <tr><td>Data4</td><td>Data3</td></tr> </tbody> </table>	Address	ID tag memory	0010	Data1	0011	Data2	0012	Data3	0013	Data4	CPU unit devices		Data2	Data1	Data4	Data3
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Item	Description
	<p>4) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p> <p>5) If an error occurs in ECLEF-V680D2, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the error code explanation section for details.</p> <p>6) When i_bEN(Execution command) is turned OFF during read-out operation, processing of the FB is suspended. Data read is stored in the device specified with io_dReadData (indirect address of read-out data) until processing is suspended.</p>
Compiling method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> 1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) The FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9 and data registers D5000 to D5001. When an interrupt program is used, do not use these index registers and data registers. 8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in the read of the ID tag, specify using P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) before executing this FB. 9) For io_dReadData (indirect address of read-out data), be sure to specify the indirect address of the device where data read is stored. The indirect address of the device is acquired using the ADRSET command. This may not be omitted. For details about indirect address, refer to section 1.7. 10) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> ▪ i_wStartIONo(Start XY address) ▪ i_wStationNo(Station No.) ▪ i_wCH(Channel No.) ▪ i_wAddressNo(Start address specification) ▪ i_wReadByte(Processing specification) 11) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored. 12) Enter pulse in i_bReception(Result reception). 13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using.

Item	Description
	<p>14) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".</p> <p>15) If processing of this FB is not completed, check if i_wStartlONo(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) has been completed before executing this FB.</p>

FB operation type	Pulsed execution (multiple scan execution type)
-------------------	---



Item	Description	
Relevant manuals	ECLEF-V680D2 RFID Interface Module User's Manual (Details)	(50CM-D180190)
	MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)	(SH-081256ENG)
	MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)	(SH-081259ENG)

Error codes

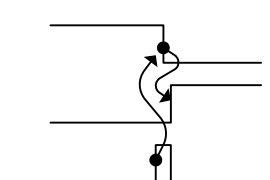
■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
12(Decimal)	Specification of i_wCH(Channel No.) is outside the range or the value is invalid.	Specify 1 or 2 for the Channel number.
13(Decimal)	i_wReadByte(Processing specification) is outside the specified range.	[Trigger] Specify value in the 0001 to 0800 range (Hexadecimal) for Processing specification. [Other than trigger] Specify the amount of data that can be read with a single ID command. For detailed range, refer to the RFID interface unit user's manual (details).
14(Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

■ Input labels

Name	Label name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIOno	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Channel No.	i_wCH	Word	1, 2	Specify the channel number where data is read.
Start address specification	i_wAddressNo	Word	0000 to FFFF (Hexadecimal)	Specify the start address where the ID tag is read.
Processing specification	i_wReadByte	Word	[Trigger] 0001 to 0800 (Hexadecimal) [Other than trigger] Depends on the amount of data that can be read with a single ID command. For detailed range, refer to the RFID interface unit user's manual (details).	Specify the number of bytes for processing to read from the ID tag.
Result reception	i_bReception	Bit	-	When the command that performs the read operation from multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag
Read data (Indirect address)	io_dReadData	Double word	00000000 to FFFFFFFF (Hexadecimal)	Specify the indirect address of the device where data read is stored. For details about indirect address, refer to section 1.7.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module Error code	o_uModuleErr	Word [Unsigned]	0	A description of the error occurred in the RFID interface unit is stored.
Read data (Indirect address)	io_dReadData	Double word	-	Data read from the ID tag is stored for the number of bytes specified with Processing specification from the device specified with the indirect address.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>o_bModuleErr [Module error]</p> <p>o_bIDComEnd [ID communication complete]</p> <p>i_bReception [Result reception]</p> </div>  </div>

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition
01A	Sep. 1, 2023	Function Optimization

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

2.3 P+MEE-ECLEF-V680D2_Write_R (Write to ID tag)

FB Name

P+MEE-ECLEF-V680D2_Write_R

Function Overview

Item	Description																																					
Function overview	Writes data to an ID tag.																																					
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Number of steps	998Step (for MELSEC iQ-R series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																																					

Item	Description																														
Function description	<p>1) When i_bEN(Execution command) is turned ON, data stored from the start devices specified with i_dWriteData (indirect address of write data) is written for the number of bytes specified with i_wWriteByte(Processing specification) from i_wAddressNo(Start address specification) in the ID tag. When writing is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnON[Turn i_bEN ON.] subgraph FB_processing [FB internal processing] CheckStation{Check the range of station number} CheckChannel{Check the channel number range} CheckStatus{Check the status of ECLEF-V680D2} WriteData[Write data to the ID tag] CheckError{Check ECLEF-V680D2 for error} end TurnON --> CheckStation CheckStation -- "Outside the range 1 to 120" --> ErrUnit[A unit error code is set to o_uModuleErr] CheckStation -- "1 to 120" --> CheckChannel CheckChannel -- "Outside the range 1 or 2" --> ErrUnit CheckChannel -- "1 or 2" --> CheckStatus CheckStatus -- "ID-BUSY signal ON" --> ErrUnit CheckStatus -- "ID-BUSY signal OFF" --> WriteData WriteData --> CheckError CheckError -- "Error detection signal ON" --> ErrID[An error code is set to o_wErrID] CheckError -- "ID command completion signal ON" --> OK[o_bOK is turned ON] ErrUnit --> ErrMod[o_bModuleErr is turned ON] ErrID --> ErrIDOut[o_bErr is turned ON] ErrMod --> TurnOff[i_bEN is turned OFF] ErrIDOut --> TurnOff OK --> TurnOff TurnOff --> End([End]) </pre> <p>2) When Processing specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 0, data is stored in order from the upper to the lower. When it is 1, data is stored in order from the lower to the upper.</p> <p>Example</p> <p>0: Upper to the lower</p> <table border="1" data-bbox="399 1590 877 1792"> <thead> <tr> <th>CPU unit devices</th> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr> <td>Data1 ; Data2</td> <td>0010</td> <td>Data1</td> </tr> <tr> <td>Data3 ; Data4</td> <td>0011</td> <td>Data2</td> </tr> <tr> <td></td> <td>0012</td> <td>Data3</td> </tr> <tr> <td></td> <td>0013</td> <td>Data4</td> </tr> </tbody> </table> <p>1: Lower to the upper</p> <table border="1" data-bbox="957 1590 1436 1792"> <thead> <tr> <th>CPU unit devices</th> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr> <td>Data2 ; Data1</td> <td>0010</td> <td>Data1</td> </tr> <tr> <td>Data4 ; Data3</td> <td>0011</td> <td>Data2</td> </tr> <tr> <td></td> <td>0012</td> <td>Data3</td> </tr> <tr> <td></td> <td>0013</td> <td>Data4</td> </tr> </tbody> </table> <p>3) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 2(Repeat auto) or 4(FIFO repeat), the next ID tag detection will start when i_bReception(Result reception) is turned ON.</p>	CPU unit devices	Address	ID tag memory	Data1 ; Data2	0010	Data1	Data3 ; Data4	0011	Data2		0012	Data3		0013	Data4	CPU unit devices	Address	ID tag memory	Data2 ; Data1	0010	Data1	Data4 ; Data3	0011	Data2		0012	Data3		0013	Data4
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Item	Description
	<p>4) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p> <p>5) If an error occurs in ECLEF-V680D2, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the error code explanation section for details.</p> <p>6) When i_bEN(Execution command) is turned OFF during write operation, processing of the FB is suspended. When data is being written to the ID tag, data before suspension is written.</p>
Compiling method	Macro type
Restrictions and precautions	<p>1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</p> <p>2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module".</p> <p>3) Set the global label setting according to Section "1.5 Setting Global Labels".</p> <p>4) The FB cannot be used in an interrupt program.</p> <p>5) When multiple FBs are used, care should be taken not to use the same target station number.</p> <p>6) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF.</p> <p>7) This FB uses index registers Z5 to Z9 and data registers D5000 to D5001. When an interrupt program is used, do not use these index registers and data registers.</p> <p>8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in the write of the ID tag, specify using P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) before executing this FB.</p> <p>9) For i_dWriteData (indirect addressing of write data), be sure to specify the indirect address of the device where data to be written was stored. The indirect address of the device is acquired using the ADRSET command. This may not be omitted. For details about indirect address, refer to section 1.7.</p> <p>10) Do not change the following values while i_bEN (Execution command) is ON.</p> <ul style="list-style-type: none"> ▪ i_wStartIOno (Start XY address) ▪ i_wStationNo (Station No.) ▪ i_wCH (Channel No.) ▪ i_wAddressNo (Start address specification) ▪ i_wWriteByte (Processing specification) ▪ i_dWriteData (Indirect addressing of write data)

Item	Description
	<p>11) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored.</p> <p>12) Enter pulse in i_bReception(Result reception).</p> <p>13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using.</p> <p>14) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".</p> <p>15) If processing of this FB is not completed, check if i_wStartIONo(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) has been completed before executing this FB.</p>
FB operation type	Pulsed execution (multiple scan execution type)

Item	Description		
Timing chart	<p>[For successful completion] (Trigger, Auto, FIFO trigger)</p>	<p>[For successful completion] (Repeat auto, FIFO repeat)</p>	
	<p>[When an error occurs]</p>	<p>[For Module error]</p>	
	Relevant manuals	ECLEF-V680D2 RFID Interface Module User's Manual (Details)	(50CM-D180190)
		MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)	(SH-081256ENG)
MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)		(SH-081259ENG)	

■Error code list

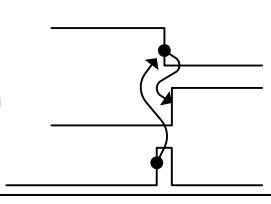
Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
12(Decimal)	Specification of i_wCH(Channel No.) is outside the range or the value is invalid.	Specify 1 or 2 for the Channel number.
13(Decimal)	i_wWriteByte(Processing specification) is outside the specified range.	[Trigger] Specify value in the 0001 to 0800 range (Hexadecimal) for Processing specification. [Other than trigger] Specify the amount of data that can be Write with a single ID command. For detailed range, refer to the RFID interface unit user's manual (details).
14(Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIONo	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Channel No.	i_wCH	Word	1, 2	Specify the channel number where writes data to an ID tag.
Start address specification	i_wAddressNo	Word	0000 to FFFF (Hexadecimal)	Specify the initial address where writes data to an ID tag.
Processing specification	i_wWriteByte	Word	[Trigger] 0001 to 0800 (Hexadecimal) [Other than trigger] Depends on the amount of data that can be write with a single ID command. For detailed range, refer to the RFID interface unit user's manual (details).	Specify the number of bytes for processing to writes data to an ID tag.
Write data (Indirect address)	i_dWriteData	Double word	00000000 to FFFFFFFF (Hexadecimal)	Specify the indirect address of the device where data to be written was stored. For details about indirect address, refer to section 1.7. For write data, write data for the number of bytes specified with i_wWriteByte(Processing specification).

Name	Label name	Data type	Setting range	Description
Result reception	i_bReception	Bit	-	When the command that performs the write operation to multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: EXECUTION COMMAND IS ON. OFF: EXECUTION COMMAND IS OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_uModuleErr	Word [Unsigned]	0	A description of the error occurred in the RFID interface unit is stored.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception] </div>  </div>

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition
01A	Sep. 1, 2023	Function Optimization

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

2.4 P+MEE-ECLEF-V680D2_Fill_R (Fill Data in ID Tag)

FB Name

P+MEE-ECLEF-V680D2_Fill_R

Function Overview

Item	Description																																					
Function overview	Initializes the data of an ID tag using specified data.																																					
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">P+MEE-ECLEF-V680D2_Fill_R</th> </tr> </thead> <tbody> <tr> <td style="width: 25%;">Execution command</td> <td style="width: 25%;">B : i_bEN</td> <td style="width: 25%;">o_bENO : B</td> <td style="width: 25%;">Execution status</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIONo</td> <td>o_bOK : B</td> <td>Normal completion</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B</td> <td>Error completion</td> </tr> <tr> <td>Channel No.</td> <td>W : i_wCH</td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td>Start address specification</td> <td>W : i_wAddressNo</td> <td>o_bModuleErr : B</td> <td>Module error</td> </tr> <tr> <td>Processing specification</td> <td>W : i_wFillByte</td> <td>o_uModuleErr : UW</td> <td>Module error code</td> </tr> <tr> <td>Fill data</td> <td>W : i_wFillData</td> <td>o_bIDComEnd : B</td> <td>ID communication complete</td> </tr> <tr> <td>Result reception</td> <td>B : i_bReception</td> <td></td> <td></td> </tr> </tbody> </table>		P+MEE-ECLEF-V680D2_Fill_R				Execution command	B : i_bEN	o_bENO : B	Execution status	Start XY address	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bErr : B	Error completion	Channel No.	W : i_wCH	o_wErrID : W	Error code	Start address specification	W : i_wAddressNo	o_bModuleErr : B	Module error	Processing specification	W : i_wFillByte	o_uModuleErr : UW	Module error code	Fill data	W : i_wFillData	o_bIDComEnd : B	ID communication complete	Result reception	B : i_bReception		
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Number of steps	865Step (for MELSEC iQ-R series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																																					

Item	Description																														
Function description	<p>1) When i_bEN(Execution command) is turned ON, the number of bytes specified with i_wFillByte(Processing specification) from i_wAddressNo(Start address specification) in the ID tag is filled. When filling is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnOn[Turn i_bEN ON.] subgraph FB_processing [FB internal processing] CheckStation{Check the range of station number. 1 to 120} CheckChannel{Check the channel number range. 1 or 2} CheckStatus{Check the status of ECLEF-V680D2. ID-BUSY signal OFF} CheckError{Check ECLEF-V680D2 for error} end TurnOn --> CheckStation CheckStation -- Outside the range --> ErrID CheckStation -- 1 to 120 --> CheckChannel CheckChannel -- Outside the range --> ErrID CheckChannel -- 1 or 2 --> CheckStatus CheckStatus -- ID-BUSY signal ON --> ErrID CheckStatus -- ID-BUSY signal OFF --> FillData[Data in the ID tag is filled] FillData --> CheckError CheckError -- Error detection signal ON --> ErrID CheckError -- ID command completion signal ON --> OK[o_bOK is turned ON] ErrID --> ErrCode[An error code is set to o_wErrID] ErrCode --> ErrOn[o_bErr is turned ON] ErrModule --> ErrCode2[A unit error code is set to o_uModuleErr] ErrModule --> ModErrOn[o_bModuleErr is turned ON] OK --> TurnOff[i_bEN is turned OFF] ErrOn --> TurnOff ModErrOn --> TurnOff ErrCode2 --> TurnOff ErrOn --> End([End]) ModErrOn --> End ErrCode2 --> End </pre> <p>2) When Processing specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 0, data is stored in order from the upper to the lower. When it is 1, data is stored in order from the lower to the upper.</p> <p>0: Upper to the lower</p> <table border="1" data-bbox="411 1529 874 1715"> <thead> <tr> <th>Fill data</th> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr> <td>Data1 Data2</td> <td>0010</td> <td>Data1</td> </tr> <tr> <td></td> <td>0011</td> <td>Data2</td> </tr> <tr> <td></td> <td>0012</td> <td>Data1</td> </tr> <tr> <td></td> <td>0013</td> <td>Data2</td> </tr> </tbody> </table> <p>1: Lower to the upper</p> <table border="1" data-bbox="970 1529 1433 1715"> <thead> <tr> <th>Fill data</th> <th>Address</th> <th>ID tag memory</th> </tr> </thead> <tbody> <tr> <td>Data2 Data1</td> <td>0010</td> <td>Data1</td> </tr> <tr> <td></td> <td>0011</td> <td>Data2</td> </tr> <tr> <td></td> <td>0012</td> <td>Data1</td> </tr> <tr> <td></td> <td>0013</td> <td>Data2</td> </tr> </tbody> </table> <p>3) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 2(Repeat auto) or 4(FIFO repeat), the next ID tag detection will start when i_bReception(Result reception) is turned ON.</p> <p>4) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p>	Fill data	Address	ID tag memory	Data1 Data2	0010	Data1		0011	Data2		0012	Data1		0013	Data2	Fill data	Address	ID tag memory	Data2 Data1	0010	Data1		0011	Data2		0012	Data1		0013	Data2
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Item	Description
	<p>5) If an error occurs in ECLEF-V680D2, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the error code explanation section for details.</p> <p>6) When i_bEN(Execution command) is turned OFF during fill operation, processing of the FB is suspended. When data is being written to the ID tag, data is written to the end.</p>
Compiling method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> 1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) The FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9. When an interrupt program is used, do not use these index registers. 8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in data fill of the ID tag, specify using P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) before executing this FB. 9) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> ▪ i_wStartIONo(Start XY address) ▪ i_wStationNo(Station No.) ▪ i_wCH(Channel No.) ▪ i_wAddressNo(Start address specification) ▪ i_wFillByte(Processing specification) ▪ i_wFillData(Fill data) 10) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored. 11) In data fill, the write protect does not function, because all data in the ID tag is initialized. 12) Enter pulse in i_bReception(Result reception). 13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 14) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".

Item	Description		
	15) If processing of this FB is not completed, check if <code>i_wStartIONo</code> (Start XY address) is correct, <code>i_wStationNo</code> (Station No.) matches the network station number, or <code>P+MEE-ECLEF-V680D2_InitDataSet_R</code> (Set Initial Data) has been completed before executing this FB.		
FB operation type	Pulsed execution (multiple scan execution type)		
Timing chart	<p>[For successful completion] (Trigger, Auto, FIFO trigger)</p>	<p>[For successful completion] (Repeat auto, FIFO repeat)</p>	
	<p>[When an error occurs]</p>	<p>[For Module error]</p>	
	Relevant manuals	ECLEF-V680D2 RFID Interface Module User's Manual (Details)	(50CM-D180190)
		MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)	(SH-081256ENG)
MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)		(SH-081259ENG)	

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
12(Decimal)	Specification of i_wCH(Channel No.) is outside the range or the value is invalid.	Specify 1 or 2 for the Channel number.
14(Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

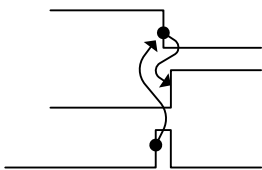
Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIONo	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Channel No.	i_wCH	Word	1, 2	Specify the channel number where the ID tag is filled.
Start address specification	i_wAddressNo	Word	0000 to FFFF (Hexadecimal)	Specify the initial address where the ID tag is filled.
Processing specification	i_wFillByte	Word	0001 to 0800, 0 (Hexadecimal) Depends on the memory capacity of the target ID tag. For detailed range, refer to the RFID interface unit user's manual (details).	Specify the number of bytes for processing to fill the ID tag. 0: Fills all data in the ID tag.

Name	Label name	Data type	Setting range	Description
Fill data	i_wFillData	Word	0000 to FFFF (Hexadecimal)	Specify data to be filled. With the fill operation, data is written for the number of bytes specified with i_wFillByte (Processing specification).
Result reception	i_bReception	Bit	-	When the command that performs the fill operation in multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: EXECUTION COMMAND IS ON. OFF: EXECUTION COMMAND IS OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_uModuleErr	Word [Unsigned]	0	A description of the error occurred in the RFID interface unit is stored.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception] </div>  </div>

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

2.5 P+MEE-ECLEF-V680D2_UIDRead_R (Read UID of ID Tag)

FB Name

P+MEE-ECLEF-V680D2_UIDRead_R

Function Overview

Item	Description																												
Function overview	Reads the UID (unit identification number) of the ID tag.																												
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">P+MEE-ECLEF-V680D2_UIDRead_R</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 40%;">B : i_bEN</td> <td style="width: 30%;">o_bENO : B</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIONo</td> <td>o_bOK : B</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B</td> </tr> <tr> <td>Channel No.</td> <td>W : i_wCH</td> <td>o_wErrID : W</td> </tr> <tr> <td>Result reception</td> <td>B : i_bReception</td> <td>o_bModuleErr : B</td> </tr> <tr> <td>UID of the ID tag (Indirect address)</td> <td>io_dUID : D</td> <td>o_uModuleErr : UW</td> </tr> <tr> <td></td> <td></td> <td>io_dUID : D</td> </tr> <tr> <td></td> <td></td> <td>o_bIDComEnd : B</td> </tr> </tbody> </table> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 30%;"></div> <div style="width: 40%;"></div> <div style="width: 30%;"> <p>Execution status</p> <p>Normal completion</p> <p>Error completion</p> <p>Error code</p> <p>Module error</p> <p>Module error code</p> <p>UID of the ID tag (Indirect address)</p> <p>ID communication complete</p> </div> </div>		P+MEE-ECLEF-V680D2_UIDRead_R			Execution command	B : i_bEN	o_bENO : B	Start XY address	W : i_wStartIONo	o_bOK : B	Station No.	W : i_wStationNo	o_bErr : B	Channel No.	W : i_wCH	o_wErrID : W	Result reception	B : i_bReception	o_bModuleErr : B	UID of the ID tag (Indirect address)	io_dUID : D	o_uModuleErr : UW			io_dUID : D			o_bIDComEnd : B
P+MEE-ECLEF-V680D2_UIDRead_R																													
Execution command	B : i_bEN	o_bENO : B																											
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Station No.	W : i_wStationNo	o_bErr : B																											
Channel No.	W : i_wCH	o_wErrID : W																											
Result reception	B : i_bReception	o_bModuleErr : B																											
UID of the ID tag (Indirect address)	io_dUID : D	o_uModuleErr : UW																											
		io_dUID : D																											
		o_bIDComEnd : B																											
Applicable hardware and software	RFID interface module	ECLEF-V680D2																											
	CC-Link IE Field Network module	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>RJ71GF11-T2</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ71GF11-T2																							
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Series	Model																												
MELSEC iQ-R Series	Version1.015R or later																												
Programming Language	Ladder																												
Number of steps	903Step (for MELSEC iQ-R series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																												

Item	Description
Function description	<p>1) When i_bEN (Execution command) is turned ON, reads the UID (unit identification number) of the ID tag. Data read is stored from the start device specified with io_dUID (indirect address of the UID of the ID tag). When reading is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnOn[Turn i_bEN ON.] subgraph FB_processing [FB internal processing] CheckStation{Check the range of station number. 1 to 120} CheckChannel{Check the channel number range 1 or 2} CheckStatus{Check the status of ECLEF-V680D2} ReadUID[Reads the UID from the ID tag] CheckError{Check ECLEF-V680D2 for error} end TurnOn --> CheckStation CheckStation -- Outside the range --> ErrOut[An error code is set to o_wErrID o_bErr is turned ON] CheckStation -- 1 to 120 --> CheckChannel CheckChannel -- Outside the range --> ErrOut CheckChannel -- 1 or 2 --> CheckStatus CheckStatus -- ID-BUSY signal ON --> ErrOut CheckStatus -- ID-BUSY signal OFF --> ReadUID ReadUID --> CheckError CheckError -- Error detection signal ON --> ErrMod[A unit error code is set to o_uModuleErr o_bModuleErr is turned ON] CheckError -- ID command completion signal ON --> OkOut[o_bOK is turned ON] ErrOut --> TurnOff[i_bEN is turned OFF] ErrMod --> TurnOff OkOut --> TurnOff TurnOff --> End([End]) </pre> <p>2) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 2(Repeat auto) or 4(FIFO repeat), the next ID tag detection will start when i_bReception(Result reception) is turned ON.</p> <p>3) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p> <p>4) If an error occurs in ECLEF-V680D2, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the error code explanation section for details.</p> <p>5) When i_bEN(Execution command) is turned OFF during read operation, processing of the FB is suspended. Data read is not stored in the device specified with io_dUID (indirect address of the UID of the ID tag).</p>
Compiling method	Macro type

Item	Description
Restrictions and precautions	<ol style="list-style-type: none"> 1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) The FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9 and data registers D5000 to D5001. When an interrupt program is used, do not use these index registers and data registers. 8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in the UID read of the ID tag, specify using P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) before executing this FB. 9) i For io_dUID (indirect address of the UID of the ID tag), be sure to specify the indirect address of the device where the UID read is stored. The indirect address of the device is acquired using the ADRSET command. This may not be omitted. For details about indirect address, refer to section 1.7. 10) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> ▪ i_wStartIONo(Start XY address) ▪ i_wStationNo(Station No.) ▪ i_wCH(Channel No.) 11) If Communication specification made in P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored. 12) Enter pulse in i_bReception(Result reception). 13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 14) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 15) If processing of this FB is not completed, check if i_wStartIONo(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) has been completed before executing this FB.
FB operation type	Pulsed execution (multiple scan execution type)

Item	Description	
Timing chart	<p>[For successful completion] (Trigger, Auto, FIFO trigger)</p>	<p>[For successful completion] (Repeat auto, FIFO repeat)</p>
	<p>[When an error occurs]</p>	<p>[For Module error]</p>
	<p>ECLEF-V680D2 RFID Interface Module User's Manual (Details)</p>	<p>(50CM-D180190)</p>
	<p>MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)</p>	<p>(SH-081256ENG)</p>
<p>Relevant manuals</p>	<p>MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)</p>	<p>(SH-081259ENG)</p>

Error codes

■Error code list

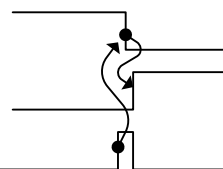
Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
12(Decimal)	Specification of i_wCH(Channel No.) is outside the range or the value is invalid.	Specify 1 or 2 for the Channel number.
14(Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIONo	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Channel No.	i_wCH	Word	1, 2	Specify the channel number where Reads the UID of the ID tag.
Result reception	i_bReception	Bit	-	When the command that performs the UID read operation from multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag.
UID of the ID tag (Indirect address)	io_dUID	Double word	00000000 to FFFFFFFF (Hexadecimal)	The UID of the ID tag is stored for 4 words from the device specified with the indirect address.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: EXECUTION COMMAND IS ON. OFF: EXECUTION COMMAND IS OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_uModuleErr	Word [Unsigned]	0	A description of the error occurred in the RFID interface unit is stored.
UID of the ID tag (Indirect address)	io_dUID	Double word	-	The UID of the ID tag is stored for 4 words from the device specified with the indirect address.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception] </div>  </div>

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

2.6 P+MEE-ECLEF-V680D2_MeasureNoise_R (Measures Noise)

FB Name

P+MEE-ECLEF-V680D2_MeasureNoise_R

Function Overview

Item	Description																									
Function overview	Measures the noise environment surrounding the antenna.																									
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">P+MEE-ECLEF-V680D2_MeasureMoise_R</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 40%;">B : i_bEN</td> <td style="width: 30%;">o_bENO : B — Execution status</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIONo</td> <td>o_bOK : B — Normal completion</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B — Error completion</td> </tr> <tr> <td>Channel No.</td> <td>W : i_wCH</td> <td>o_wErrID : W — Error code</td> </tr> <tr> <td>Measurement Result (Indirect address)</td> <td>D : io_dResult</td> <td>o_bModuleErr : B — Module error</td> </tr> <tr> <td></td> <td></td> <td>o_uModuleErr : UW — Module error code</td> </tr> <tr> <td></td> <td></td> <td>io_dResult : D — Measurement Result (Indirect address)</td> </tr> </tbody> </table>		P+MEE-ECLEF-V680D2_MeasureMoise_R			Execution command	B : i_bEN	o_bENO : B — Execution status	Start XY address	W : i_wStartIONo	o_bOK : B — Normal completion	Station No.	W : i_wStationNo	o_bErr : B — Error completion	Channel No.	W : i_wCH	o_wErrID : W — Error code	Measurement Result (Indirect address)	D : io_dResult	o_bModuleErr : B — Module error			o_uModuleErr : UW — Module error code			io_dResult : D — Measurement Result (Indirect address)
P+MEE-ECLEF-V680D2_MeasureMoise_R																										
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Measurement Result (Indirect address)	D : io_dResult	o_bModuleErr : B — Module error																								
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Applicable hardware and software	RFID interface module	ECLEF-V680D2																								
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Series	Model																									
MELSEC iQ-R Series	Version1.015R or later																									
Programming Language	Ladder																									
Number of steps	714Step (for MELSEC iQ-R series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																									

Item	Description
Function description	<p>1) When i_bEN(Execution command) is turned ON, measures the noise environment where the antenna is placed. Measurement results are stored from the start device specified with io_dResult (indirect address of measurement address). When measurement is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnOn[Turn i_bEN ON.] subgraph FB_processing [FB internal processing] CheckStation{Check the range of station number. 1 to 120} CheckChannel{Check the channel number range 1 or 2} CheckStatus{Check the status of ECLEF-V680D2} MeasureNoise[Measures the noise environment where the antenna is placed] CheckError{Check ECLEF-V680D2 for error} SetResults[Sets measurement results in the device with indirect address specified with io_dResult] TurnOnOK[o_bOK is turned ON] end TurnOn --> CheckStation CheckStation -- Outside the range --> ExitFB CheckStation -- 1 to 120 --> CheckChannel CheckChannel -- Outside the range --> ExitFB CheckChannel -- 1 or 2 --> CheckStatus CheckStatus -- ID-BUSY signal ON --> ExitFB CheckStatus -- ID-BUSY signal OFF --> MeasureNoise MeasureNoise --> CheckError CheckError -- Error detection signal ON --> SetErrorCodes[A unit error code is set to o_uModuleErr An error code is set to o_wErrID] SetErrorCodes --> TurnOnErr[o_bModuleErr is turned ON o_bErr is turned ON] CheckError -- ID command completion signal ON --> SetResults SetResults --> TurnOnOK TurnOnOK --> TurnOff[i_bEN is turned OFF] TurnOff --> End([End]) ExitFB --> TurnOff TurnOnErr --> TurnOff </pre> <p>2) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p> <p>3) If an error occurs in ECLEF-V680D2, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the error code explanation section for details.</p> <p>4) When i_bEN (Execution command) is turned OFF when measuring noise, processing of the FB is suspended. Data read is not stored in the device specified with io_dResult (indirect address of measurement results).</p>
Compiling method	Macro type

Item	Description
Restrictions and precautions	<ol style="list-style-type: none"> 1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) The FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9 and data registers D5000 to D5001. When an interrupt program is used, do not use these index registers and data registers. 8) For io_dResult (indirect address of measurement results), be sure to specify the address of the start device in the area where noise measurement results are stored. This may not be omitted. 9) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> ▪ i_wStartIONo(Start XY address) ▪ i_wStationNo(Station No.) ▪ i_wCH(Channel No.) 10) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 11) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 12) If processing of this FB is not completed, check if i_wStartIONo(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) has been completed before executing this FB.
FB operation type	Pulsed execution (multiple scan execution type)

Item	Description	
Timing chart	<p>[When operation completes without error]</p>	<p>[When an error occurs]</p>
	<p>[For Module error]</p>	
	<p>ECLEF-V680D2 RFID Interface Module User's Manual (Details)</p>	<p>(50CM-D180190)</p>
Relevant manuals	<p>MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)</p>	<p>(SH-081256ENG)</p>
	<p>MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)</p>	<p>(SH-081259ENG)</p>

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
12(Decimal)	Specification of i_wCH(Channel No.) is outside the range or the value is invalid.	Specify 1 or 2 for the Channel number.
14(Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIOno	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Channel No.	i_wCH	Word	1, 2	Specify the channel number where noise is measured
Measurement Result (Indirect address)	io_dResult	Double Word	00000000 to FFFFFFFF (Hexadecimal)	Specify the indirect address of the device where noise measurements results are stored. For details about indirect address, refer to section 1.7.

■Output labels

Name	Label name	Data type	Initial Value	Description												
Execution status	o_bENO	Bit	OFF	ON: EXECUTION COMMAND IS ON. OFF: EXECUTION COMMAND IS OFF.												
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted												
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted												
Error code	o_wErrID	Word	0	The error code that occurred in the FB is stored.												
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal												
Module error code	o_uModuleErr	Word [Unsigned]	0	A description of the error occurred in the RFID interface unit is stored.												
Measurement Result (Indirect address)	io_dResult	Double Word	-	Store noise measurement results for 3 words from the device with the indirect address specified. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3">Storage area</th> </tr> </thead> <tbody> <tr> <td>+0</td> <td>Average value</td> <td>0 to 99 (Decimal)</td> </tr> <tr> <td>+1</td> <td>Maximum value</td> <td>0 to 99 (Decimal)</td> </tr> <tr> <td>+2</td> <td>Minimum value</td> <td>0 to 99 (Decimal)</td> </tr> </tbody> </table>	Storage area			+0	Average value	0 to 99 (Decimal)	+1	Maximum value	0 to 99 (Decimal)	+2	Minimum value	0 to 99 (Decimal)
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FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

2.7 P+MEE-ECLEF-V680D2_InitDataRead_R (Read Initial Data Settings)

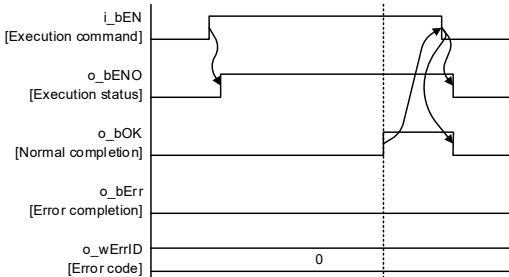
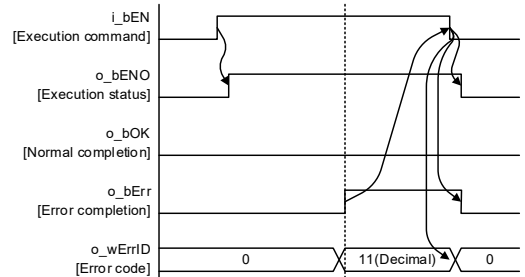
FB Name

P+MEE-ECLEF-V680D2_InitDataRead_R

Function Overview

Item	Description																												
Function overview	Reads the initial data settings.																												
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">P+MEE-ECLEF-V680D2_InitDataRead_R</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 30%;">B : i_bEN</td> <td style="width: 40%;">o_bENO : B — Execution status</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIOno</td> <td>o_bOK : B — Normal completion</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B — Error completion</td> </tr> <tr> <td>Channel No.</td> <td>W : i_wCH</td> <td>o_wErrID : W — Error code</td> </tr> <tr> <td></td> <td></td> <td>o_wCommunication : W — Communication specification</td> </tr> <tr> <td></td> <td></td> <td>o_wCommSetting : W — Communication setting</td> </tr> <tr> <td></td> <td></td> <td>o_wProcessingNo : W — Processing specification</td> </tr> <tr> <td></td> <td></td> <td>o_wWait : W — Auto system command wait time setting</td> </tr> </tbody> </table>		P+MEE-ECLEF-V680D2_InitDataRead_R			Execution command	B : i_bEN	o_bENO : B — Execution status	Start XY address	W : i_wStartIOno	o_bOK : B — Normal completion	Station No.	W : i_wStationNo	o_bErr : B — Error completion	Channel No.	W : i_wCH	o_wErrID : W — Error code			o_wCommunication : W — Communication specification			o_wCommSetting : W — Communication setting			o_wProcessingNo : W — Processing specification			o_wWait : W — Auto system command wait time setting
P+MEE-ECLEF-V680D2_InitDataRead_R																													
Execution command	B : i_bEN	o_bENO : B — Execution status																											
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Applicable hardware and software	RFID interface module	ECLEF-V680D2																											
	CC-Link IE Field Network module	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>RJ71GF11-T2</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ71GF11-T2																							
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MELSEC iQ-R Series	RJ71GF11-T2																												
CPU module	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>R04CPU, R08CPU, R16CPU, R32CPU, R120CPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU																								
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MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU																												
Engineering software	GX Works3	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>Version1.015R or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.015R or later																							
Series	Model																												
MELSEC iQ-R Series	Version1.015R or later																												
Programming Language	Ladder																												
Number of steps	673Step (for MELSEC iQ-R series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																												

Item	Description
Function description	<p>1) When i_bEN (Execution command) is turned ON, initial data is read. Data read is set in o_wCommunication(Communication specification), o_wCommSetting(Communication setting), o_wProcessingNo(Processing specification), and o_wWait(Auto system command wait time setting). When reading is completed, o_bOK (Normal completion) is turned ON.</p> <p>When reading is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnOn[Turn i_bEN ON.] subgraph FB_processing [FB internal processing] D1{Check the range of station number. 1 to 120} D2{Check the channel number range 1 or 2} D3{Check the status of ECLEF-V680D2} Read[Reads initial data] Set[Sets initial data read in o_wCommunication, o_wCommSetting, o_wProcessingNb, and o_wWait.] OK[o_bOK is turned ON] end TurnOn --> D1 D1 -- Outside the range --> Err[An error code is set to o_wErrID o_bErr is turned ON] D2 -- Outside the range --> Err D3 -- ID-BUSY signal ON --> Err D3 -- ID-BUSY signal OFF --> Read Read --> Set Set --> OK OK --> TurnOff[i_bEN is turned OFF] TurnOff --> End([End]) Err --> TurnOff </pre> <p>2) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p>
Compiling method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> 1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) The FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF.

Item	Description						
	<p>7) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program.</p> <p>8) Do not change the following values while i_bEN (Execution command) is ON.</p> <ul style="list-style-type: none"> ▪ i_wStartIOno(Start XY address) ▪ i_wStationNo(Station No.) ▪ i_wCH(Channel No.) <p>9) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using.</p> <p>10) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".</p> <p>11) If processing of this FB is not completed, check if i_wStartIOno(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) has been completed before executing this FB.</p>						
FB operation type	Pulsed execution (multiple scan execution type)						
Timing chart	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>[For successful completion]</p>  </div> <div style="width: 45%;"> <p>[When an error occurs]</p>  </div> </div>						
Relevant manuals	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">ECLEF-V680D2 RFID Interface Module User's Manual (Details)</td> <td style="text-align: right;">(50CM-D180190)</td> </tr> <tr> <td>MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)</td> <td style="text-align: right;">(SH-081256ENG)</td> </tr> <tr> <td>MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)</td> <td style="text-align: right;">(SH-081259ENG)</td> </tr> </table>	ECLEF-V680D2 RFID Interface Module User's Manual (Details)	(50CM-D180190)	MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)	(SH-081256ENG)	MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)	(SH-081259ENG)
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MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)	(SH-081259ENG)						

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
12(Decimal)	Specification of i_wCH(Channel No.) is outside the range or the value is invalid.	Specify 1 or 2 for the Channel number.
14(Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

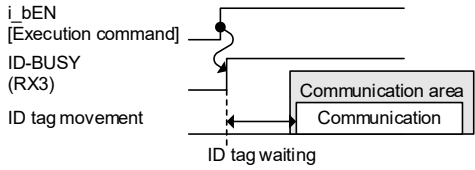
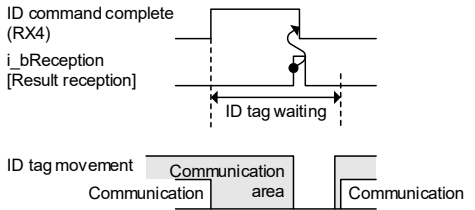
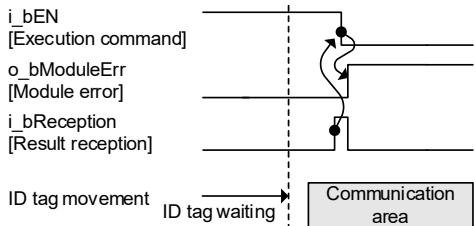
■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIONo	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Channel No.	i_wCH	Word	1, 2	Specify the Channel number where initial data read is performed.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: EXECUTION COMMAND IS ON. OFF: EXECUTION COMMAND IS OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	The error code that occurred in the FB is stored.

Name	Label name	Data type	Initial Value	Description												
Communication specification	o_wCommunication	Word	0	The communication method for the ID tag is stored. 0: Trigger 1: Auto 2: Repeat auto 3: FIFO trigger 4: FIFO repeat												
Communication setting	o_wCommSetting	Word	0	The communication setting for the ID tag is stored. <table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Write verify setting 0: Execute 1: Do not execute</td> </tr> <tr> <td>1</td> <td>ID tag communication speed setting 0: Standard mode 1: High-speed mode</td> </tr> <tr> <td>2</td> <td>Write protect setting 0: Enable 1: Disable</td> </tr> <tr> <td>3</td> <td>Read/Write data code setting 0: Without ASCII/HEX conversion 1: With ASCII/HEX conversion</td> </tr> <tr> <td>4 to 15</td> <td>0</td> </tr> </tbody> </table>	Bit	Description	0	Write verify setting 0: Execute 1: Do not execute	1	ID tag communication speed setting 0: Standard mode 1: High-speed mode	2	Write protect setting 0: Enable 1: Disable	3	Read/Write data code setting 0: Without ASCII/HEX conversion 1: With ASCII/HEX conversion	4 to 15	0
Bit	Description															
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3	Read/Write data code setting 0: Without ASCII/HEX conversion 1: With ASCII/HEX conversion															
4 to 15	0															
Processing specification	o_wProcessingNo	Word	0	The command data processing method for the ID tag is stored. <table border="1"> <thead> <tr> <th>Command</th> <th>Processing specification</th> </tr> </thead> <tbody> <tr> <td>Read</td> <td>Data storage order</td> </tr> <tr> <td>Write</td> <td>0: Upper→Lower</td> </tr> <tr> <td>Fill data</td> <td>1: Lower→Upper</td> </tr> </tbody> </table> For details, refer to the function description of each command. Commands other than the above do not use Processing specification.	Command	Processing specification	Read	Data storage order	Write	0: Upper→Lower	Fill data	1: Lower→Upper				
Command	Processing specification															
Read	Data storage order															
Write	0: Upper→Lower															
Fill data	1: Lower→Upper															

Name	Label name	Data type	Initial Value	Description
Auto system command wait time setting	o_wWait	Word	0	<p>The ID tag detection waiting time is stored in 0.1 seconds when Communication specification is an auto system command (Auto, Repeat auto, FIFO repeat).</p> <p>(For example, if the waiting time is 30 seconds, K300 is stored.)</p> <p>When waiting for detection until a response is received from the ID tag, 0 is stored.</p> <p>The diagram below shows the waiting time when a command is executed by each FB.</p> <p>[For Auto, Repeat auto or FIFO repeat]</p>  <p>[For Repeat auto or FIFO repeat]</p>  <p>When the waiting time set before i_bReception(Result reception) is turned ON expires, o_bModuleErr(Module error) is turned ON after i_bReception(Result reception) is turned ON.</p> 

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

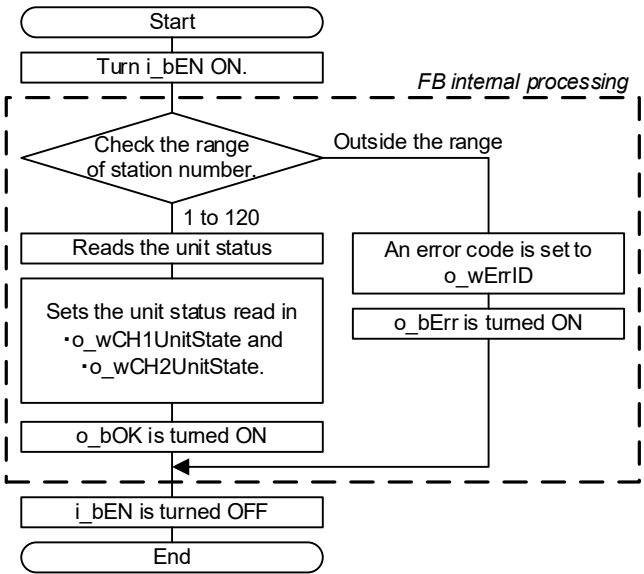
2.8 P+MEE-ECLEF-V680D2_StatusRead_R (Read Module Status)

FB Name

P+MEE-ECLEF-V680D2_StatusRead_R

Function Overview

Item	Description																						
Function overview	Read Module Status.																						
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">P+MEE-ECLEF-V680D2_StatusRead_R</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 30%;">B : i_bEN</td> <td style="width: 40%;">o_bENO : B — Execution status</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIONo</td> <td>o_bOK : B — Normal completion</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B — Error completion</td> </tr> <tr> <td></td> <td></td> <td>o_wErrID : W — Error code</td> </tr> <tr> <td></td> <td></td> <td>o_wCH1UnitState : W — Module status (CH1)</td> </tr> <tr> <td></td> <td></td> <td>o_wCH2UnitState : W — Module status (CH2)</td> </tr> </tbody> </table>		P+MEE-ECLEF-V680D2_StatusRead_R			Execution command	B : i_bEN	o_bENO : B — Execution status	Start XY address	W : i_wStartIONo	o_bOK : B — Normal completion	Station No.	W : i_wStationNo	o_bErr : B — Error completion			o_wErrID : W — Error code			o_wCH1UnitState : W — Module status (CH1)			o_wCH2UnitState : W — Module status (CH2)
P+MEE-ECLEF-V680D2_StatusRead_R																							
Execution command	B : i_bEN	o_bENO : B — Execution status																					
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Applicable hardware and software	RFID Interface module	ECLEF-V680D2																					
	CC-Link IE Field Network module	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>RJ71GF11-T2</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ71GF11-T2																	
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Series	Model																						
MELSEC iQ-R Series	Version1.015R or later																						
Programming Language	Ladder																						
Number of steps	459Step (for MELSEC iQ-R series CPU) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																						

Item	Description
Function description	<p>1) When i_bEN (Execution command) is turned ON, the unit status is read. The unit status read is set in o_wCH1UnitState and o_wCH2UnitState (Module status). When reading is completed, o_bOK (Normal completion) is turned ON.</p>  <pre> graph TD Start([Start]) --> TurnOn[Turn i_bEN ON.] subgraph FB_processing [FB internal processing] CheckRange{Check the range of station number.} ReadStatus[Reads the unit status] SetStatus[Sets the unit status read in o_wCH1UnitState and o_wCH2UnitState.] TurnOK[o_bOK is turned ON] ErrorSet[An error code is set to o_wErrID] TurnErr[o_bErr is turned ON] end TurnOn --> CheckRange CheckRange -- "1 to 120" --> ReadStatus ReadStatus --> SetStatus SetStatus --> TurnOK CheckRange -- "Outside the range" --> ErrorSet ErrorSet --> TurnErr TurnOK --> TurnOff[i_bEN is turned OFF] TurnErr --> TurnOff TurnOff --> End([End]) </pre> <p>2) This FB works only once when i_bEN(Execution command) is turned ON.</p> <p>3) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p>
Compiling method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> 1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) The FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the i_bEN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 8) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> ▪ i_wStartIONo(Start XY address) ▪ i_wStationNo(Station No.) 9) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 10) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".

Item	Description						
	11) If processing of this FB is not completed, check if i_wStartIONo(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) has been completed before executing this FB.						
FB operation type	Pulsed execution (multiple scan execution type)						
Timing chart	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>[When operation completes without error]</p> </div> <div style="text-align: center;"> <p>[When an error occurs]</p> </div> </div>						
Relevant manuals	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">ECLEF-V680D2 RFID Interface Module User's Manual (Details)</td> <td style="text-align: right;">(50CM-D180190)</td> </tr> <tr> <td>MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)</td> <td style="text-align: right;">(SH-081256ENG)</td> </tr> <tr> <td>MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)</td> <td style="text-align: right;">(SH-081259ENG)</td> </tr> </table>	ECLEF-V680D2 RFID Interface Module User's Manual (Details)	(50CM-D180190)	MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)	(SH-081256ENG)	MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)	(SH-081259ENG)
ECLEF-V680D2 RFID Interface Module User's Manual (Details)	(50CM-D180190)						
MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup)	(SH-081256ENG)						
MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)	(SH-081259ENG)						

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.

Labels

■Input labels

Name	Label Name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIONo	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	FB error code output.
Module status	o_wCH1UnitState (CH1) o_wCH2UnitState (CH2)	Word	0	The RFID Interface unit status can be verified. Bit 0: Antenna error 0: Normal or antenna not connected. The antenna different from the specified one is connected. Bit 1: Unused Bit 2: Test mode 0: In RUN mode 1: In test mode Bits 3 - 15: Unused

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

2.9 P+MEE-ECLEF-V680D2_Copy_R (Copies data of ID tag)

FB Name

P+MEE-ECLEF-V680D2_Copy_R

Function Overview

Item	Description																									
Function overview	Copies data of an ID tag between channel 1 and channel 2.																									
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">P+MEE-ECLEF-V680D2_Copy_R</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 30%;">B : i_bEN</td> <td style="width: 40%;">o_bENO : B — Execution status</td> </tr> <tr> <td>Start XY address</td> <td>W : i_wStartIONo</td> <td>o_bOK : B — Normal completion</td> </tr> <tr> <td>Station No.</td> <td>W : i_wStationNo</td> <td>o_bErr : B — Error completion</td> </tr> <tr> <td>Channel No.</td> <td>W : i_wCH</td> <td>o_wErrID : W — Error code</td> </tr> <tr> <td>Source start address specification</td> <td>W : i_wSrcAddress</td> <td>o_bModuleErr : B — Module error</td> </tr> <tr> <td>Processing specification</td> <td>W : i_wCopyByte</td> <td>o_uModuleErr : UW — Module error code</td> </tr> <tr> <td>Destination start address specification</td> <td>W : i_wDesAddress</td> <td></td> </tr> </tbody> </table>		P+MEE-ECLEF-V680D2_Copy_R			Execution command	B : i_bEN	o_bENO : B — Execution status	Start XY address	W : i_wStartIONo	o_bOK : B — Normal completion	Station No.	W : i_wStationNo	o_bErr : B — Error completion	Channel No.	W : i_wCH	o_wErrID : W — Error code	Source start address specification	W : i_wSrcAddress	o_bModuleErr : B — Module error	Processing specification	W : i_wCopyByte	o_uModuleErr : UW — Module error code	Destination start address specification	W : i_wDesAddress	
P+MEE-ECLEF-V680D2_Copy_R																										
Execution command	B : i_bEN	o_bENO : B — Execution status																								
Start XY address	W : i_wStartIONo	o_bOK : B — Normal completion																								
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Channel No.	W : i_wCH	o_wErrID : W — Error code																								
Source start address specification	W : i_wSrcAddress	o_bModuleErr : B — Module error																								
Processing specification	W : i_wCopyByte	o_uModuleErr : UW — Module error code																								
Destination start address specification	W : i_wDesAddress																									
Applicable hardware and software	RFID interface module	ECLEF-V680D2																								
	CC-Link IE Field Network module	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>RJ71GF11-T2</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ71GF11-T2																				
	Series	Model																								
MELSEC iQ-R Series	RJ71GF11-T2																									
CPU module	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>R04CPU, R08CPU, R16CPU, R32CPU, R120CPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU																					
Series	Model																									
MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU																									
Engineering software	GX Works3	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Series</th> <th style="width: 50%;">Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>Version1.015R or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.015R or later																				
Series	Model																									
MELSEC iQ-R Series	Version1.015R or later																									
Programming language	Ladder																									
Number of steps	717Step (for MELSEC iQ-R series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.																									

Item	Description
Function description	<p>1) When i_bEN(Execution command) is turned ON, data is read from the ID tag of the copy source and written to the ID tag of the copy destination. When copying is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD Start([Start]) --> TurnOn[Turn i_bEN ON.] TurnOn --> FB[FB internal processing] subgraph FB [FB internal processing] D1{Check the range of station number. 1 to 120} D2{Check the channel number range 1 or 2} D3{Check the status of ECLEF-V680D2} D4{Check ECLEF-V680D2 for error} C1[Copies data in the ID tag] E1[A unit error code is set to o_uModuleErr] E2[An error code is set to o_wErrID] O1[o_bOK is turned ON] O2[o_bModuleErr is turned ON] O3[o_bErr is turned ON] end D1 -- Outside the range --> FB_R[] D2 -- Outside the range --> FB_R D3 -- ID-BUSY signal ON --> FB_R D3 -- ID-BUSY signal OFF --> C1 D4 -- Error detection signal ON --> E1 D4 -- Error detection signal ON --> E2 D4 -- ID command completion signal ON --> O1 E1 --> FB_R E2 --> FB_R O1 --> FB_R O2 --> FB_R O3 --> FB_R FB_R --> TurnOff[i_bEN is turned OFF] TurnOff --> End([End]) </pre> <p>2) For Communication specification of the copy source, only Trigger or Auto can be specified. Communication specification of the copy destination cannot be selected. So Trigger is used for execution.</p> <p>3) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_wErrID. Refer to the error code explanation section for details.</p> <p>4) If an error occurs in ECLEF-V680D2, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the error code explanation section for details.</p> <p>5) When i_bEN(Execution command) is turned OFF during the copying process, processing of the FB is suspended. When data is being written to the ID tag, data is written to the end.</p>
Compiling method	Macro type

Item	Description
Restrictions and precautions	<ol style="list-style-type: none"> 1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) The FB cannot be used in an interrupt program. 5) Multiple FBs cannot be used. 6) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 7) For Communication specification for copying between the ID tags and auto system command waiting time settings, specify using P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) before executing this FB. 8) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> ▪ i_wStartIOno(Start XY address) ▪ i_wStationNo (Station No.) ▪ i_wCH (Channel No.) ▪ i_wSrcAddress (Source start address specification) ▪ i_wCopyByte (Processing specification) ▪ i_wDesAddress (Destination start address specification) 9) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 10) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 11) If processing of this FB is not completed, check if i_wStartIOno(Start XY address) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data) has been completed before executing this FB.
FB operation type	Pulsed execution (multiple scan execution type)

Item	Description	
Timing chart	<p>[When operation completes without error]</p>	<p>[When an error occurs]</p>
	<p>[For Module error]</p>	
	Relevant manuals	<p>ECLEF-V680D2 RFID Interface Module User's Manual (Details) MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup) MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)</p>

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 120.
12(Decimal)	Specification of i_wCH(Channel No.) is outside the range or the value is invalid.	Specify 1 or 2 for the Channel number.
14(Decimal)	ECLEF-V680D2 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Start XY address	i_wStartIOno	Word	Depends on the I/O point range of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link IE Field Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 120 (Decimal)	Specify the target station number.
Channel No.	i_wCH	Word	1, 2	Specify the channel number of the copy source.
Source start address specification	i_wSrcAddress	Word	0000 to FFFF (Hexadecimal)	Specify the start address of the ID tag of the copy source.
Processing specification	i_wCopyByte	Word	0001 to 0800 (Hexadecimal)	Specify the number of bytes for copying.
Destination start address specification	i_wDesAddress	Word	0000 to FFFF (Hexadecimal)	Specify the start address of the ID tag of the copy destination.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	FB error code output.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_uModuleErr	Word [Unsigned]	0	A description of the error occurred in the RFID interface unit is stored.

FB Version Upgrade History

Version	Date	Description
00A	Dec. 1, 2015	First Edition

Note

This chapter includes information related to this function block.

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

Please make sure to read user's manuals for the corresponding products before using the products.

Appendix1. When Using the FB for 2 or More Master/Local Modules

To use 2 or more CC-Link IE field master/local modules and to use an FB for the second and subsequent CC-Link IE field master/local modules, it is necessary to create an FB for the second and subsequent modules from the MELSOFT Library CC-Link IE field master/local module FB using the following procedure.

Four steps are required to create the FB for the second and subsequent modules.

- 1) Enter network parameters.
- 2) Set global labels
- 3) Copy MELSOFT Library to create the FB for the second module
- 4) Replace devices to create the FB for the second module

Appendix 1.1 Entering Network Parameters

Set network parameters to be used for the second module.

1) Setting the unit configuration

Add the CC-Link IE Field Network master/local unit from the unit configuration diagram.

The screenshot shows the 'Module Configuration' window with a rack diagram and an 'Element Selection' panel. The rack diagram has slots labeled POW, CPU 0, 1, 2, 3, and 4. Slot 1 is highlighted with an orange square. A red arrow points from the 'RJ71GF11-T2 CC IE Field' entry in the 'Element Selection' list to slot 1. The 'Element Selection' list includes various modules, with 'RJ71GF11-T2 CC IE Field' highlighted in yellow.

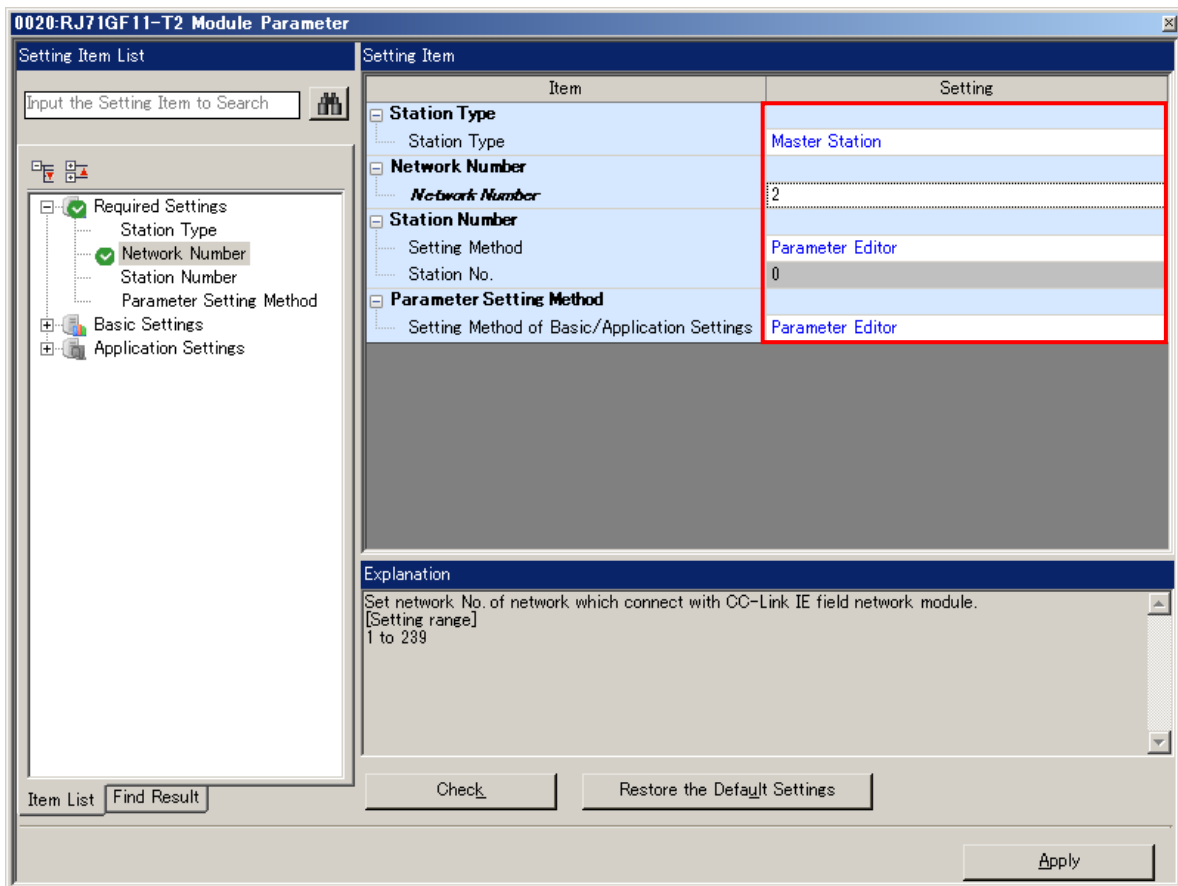
Set the starting XY address of the master/local unit of the second module to "0020".

The screenshot shows the rack configuration with slot 1 highlighted in green. Below the rack, labels 'STA# 0' and 'STA# 1' are visible. To the right, the 'Input the Configuration Detailed Information' dialog for 'RJ71GF11-T2' is open. The 'Start XY' field is set to '0020' and is highlighted with a red box. Other fields include 'Points' (32 Points), 'Control CPU', 'Network Type' (CC IE Field), and 'Station Type' (Local Station).

2) Setting unit parameters

Set unit parameters for the master/local unit of the second module as follows:

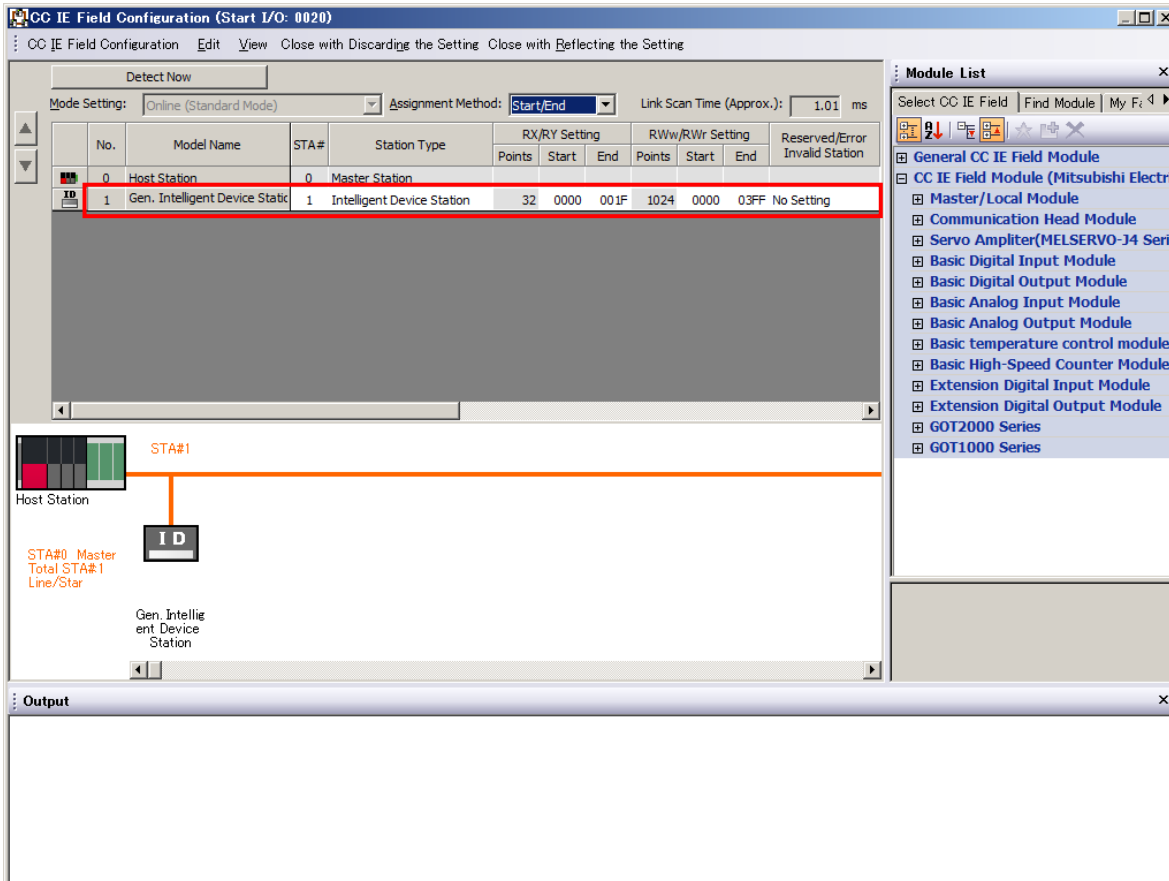
Item	Description
Station type	Set "Master station".
Network No.	2
Station number setting method	Configure "Set using parameters".
Basic/applied setting method	Configure "Set using parameters".



3) Setting network configuration

Set network configuration for the master/local unit of the second module as follows:

Item	Description
Station type	Set "Intelligent Device Station".
RX/RYS setting	Start: 0000 End: 001F
RWw/RWr setting	Start: 0000 End: 03FF



4) Link refresh setting

Configure link refresh setting for the master/local unit of the second module as follows:

Item	Description	
	Link side	Link side
Special relay (SB) refresh device	Device name: SB Start: 00000 End: 001FF	Refresh destination: specified device Device name: SB Start: 00200
Special register (SW) refresh device	Device name: SW Start: 00000 End: 001FF	Refresh destination: specified device Device name: SW Start: 00200
Remote input (RX) refresh device	Device name: RX Start: 00000 End: 007FF	Refresh destination: specified device Device name: X Start: 01800
Remote output (RY) refresh device	Device name: RY Start: 00000 End: 007FF	Refresh destination: specified device Device name: Y Start: 01800
Remote register (RWr) refresh device	Device name: RWr Start: 00000 End: 004FF	Refresh destination: specified device Device name: W Start: 00B00
Remote register (RWw) refresh device	Device name: RWw Start: 00000 End: 004FF	Refresh destination: specified device Device name: W Start: 01000

Link fresh settings for the IQ-R series PLC:

Link Side					CPU Side				
No.	Device Name	Points	Start	End	Target	Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00200	003FF
-	SW	512	00000	001FF	Device	SW	512	00200	003FF
1	RX	2048	00000	007FF	Device	X	2048	01800	01FFF
2	RY	2048	00000	007FF	Device	Y	2048	01800	01FFF
3	RWr	1280	00000	004FF	Device	W	1280	00B00	00FFF
4	RWw	1280	00000	004FF	Device	W	1280	01000	014FF
5									
6									
7									
8									
9									
10									
11									

Explanation
The end number (hexadecimal) of the device range to be refreshed is displayed.

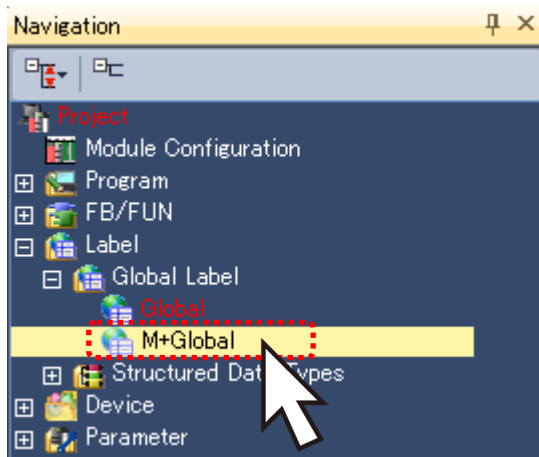
Appendix 1.2 Entering Global Labels

Enter the global labels for the second module.

Specify label names for the second module. The names must be different from the label names for the first module.

The following explains how to set the global label for the second module.

(1) Select "M+Global" under "Global label" on the project tab in the navigation window.



(2) Configure G_RX2 remote input (RX) settings.

Item	Description
Label name	Enter "G_RX2".
Data type	Select "Bit".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z9" to remote input (RX) entered in Appendix 1.1. Enter "X1800Z9".

(3) Configure G_RY2 remote output (RY) settings.

Item	Description
Label name	Enter "G_RY2".
Data type	Select "Bit".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z9" to remote output (RX) entered in Appendix 1.1. Enter "Y1800Z9".

(4) Configure G_RWr2 remote register (RWr) settings.

Item	Description
Label name	Enter "G_RWr2".
Data type	Select "Word [signed]".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z8" to remote register (RWr) entered in Appendix 1.1. Enter "W0B00Z8".

(5) Configure G_RWw2 remote register (RWw) settings.

Item	Description
Label name	Enter "G_RWw2".
Data type	Select "Word [signed]".
Class	Select "VAR_GLOBAL".
Assignment (device/label)	Enter by adding "Z8" to remote register (RWw) entered in Appendix 1.1. Enter "W1000Z8".

Link refresh setting:

No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Device	SB	512	00200	003FF
-	SW	512	00000	001FF	Device	SW	512	00200	003FF
1	RX	2048	00000	007FF	Device	X	2048	01800	01FFF
2	RY	2048	00000	007FF	Device	Y	2048	01800	01FFF
3	RWr	1280	00000	004FF	Device	W	1280	00B00	00FFF
4	RWw	1280	00000	004FF	Device	W	1280	01000	014FF
5									
6									
7									
8									
9									
10									
11									

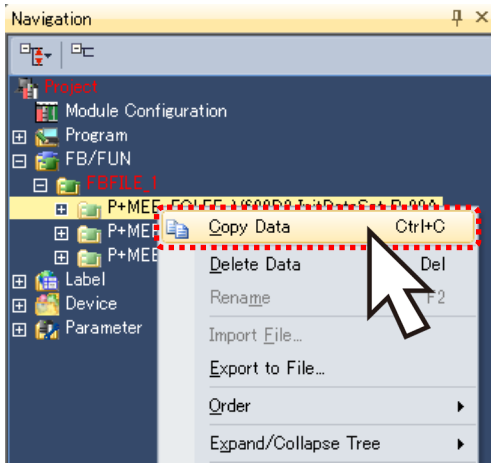
Explanation
The end number (hexadecimal) of the device range to be refreshed is displayed.

Global label setting:

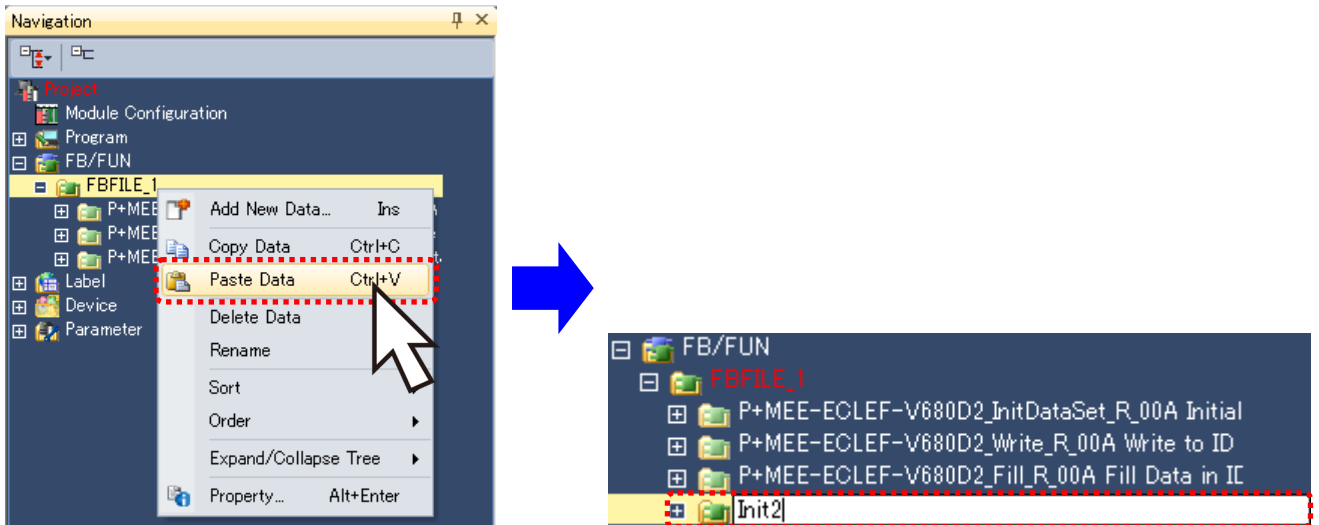
	Label Name	Data Type	Class	Assign (Device/L)	Initial Value
1	G_RY	Bit	VAR_GLOBAL	Y1000Z9	
2	G_RWw	Word [Signed]	VAR_GLOBAL	W600Z8	
3	G_RWr	Word [Signed]	VAR_GLOBAL	W100Z8	
4	G_RX	Bit	VAR_GLOBAL	X1000Z9	
5	G_RY2	Bit	VAR_GLOBAL	Y1800Z9	
6	G_RWw2	Word [Signed]	VAR_GLOBAL	W1000Z8	
7	G_RWr2	Word [Signed]	VAR_GLOBAL	W0B00Z8	
8	G_RX2	Bit	VAR_GLOBAL	X1800Z9	
9					

Appendix1.3 Copying MELSOFT Library to Create an FB for the Second Module

- (1) Select an FB necessary for the second module from the Project tab of the Navigation window. Execute the "Copy Data" command.

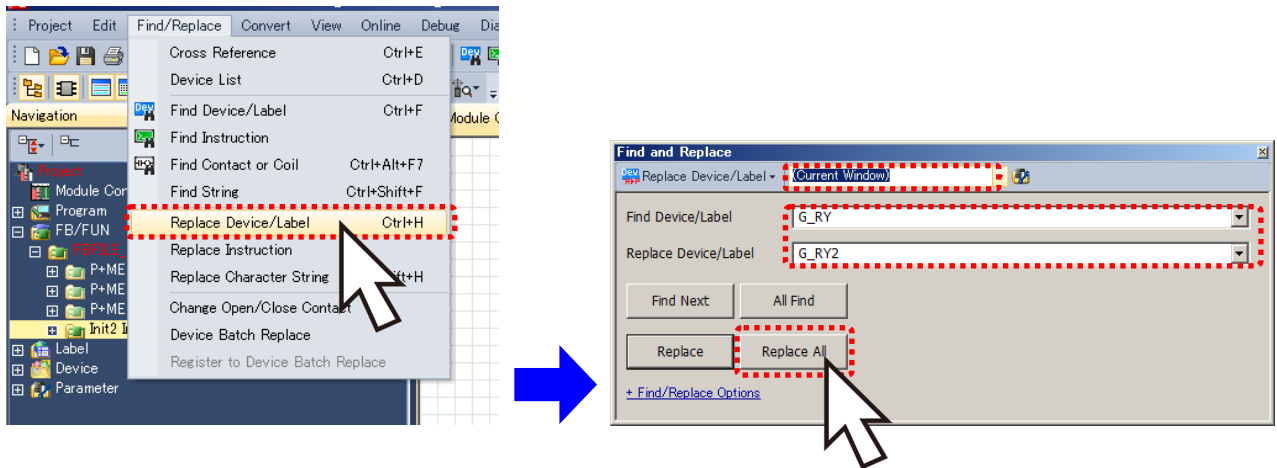


- (3) Paste the copied FB to "FB_Pool" on the Project tab of the Navigation window. Move the cursor to the pasted FB, press [F2], and enter the FB name after pasting. (Example: Init2)



Appendix 1.4 Replacing Devices to Create the FB for the Second Module

Replace all devices of G_RX, G_RY, G_RWr and G_RWw for the copied FB. Open the "Program body" for the FB added from the navigation window and select "Search/Replace (F)" → "Replace device (R)" in the menu and display the "Search/Replace" screen. Specify "(Current window)" for the search location, "G_RX" for the search device, and "G_RX2" for the replacement device. Similarly, replace all devices of "G_RY", "G_RWr", and "G_RWw" with "G_RY2", "G_RWr2", and "G_RWw2".



By performing the steps above, the CC-Link IE field master/local FB can be used for the second module.

[Point]

- (1) To use multiple FBs for the second CC-Link IE field master/local module, repeat "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
- (2) To use an FB for third or subsequent CC-Link IE field master/local modules, make sure that the "Global label name", "Data Name After Paste" that is set when pasting FB data and "Replace Device" that is set when replacing devices are not duplicated for the first and second modules.

[Note]

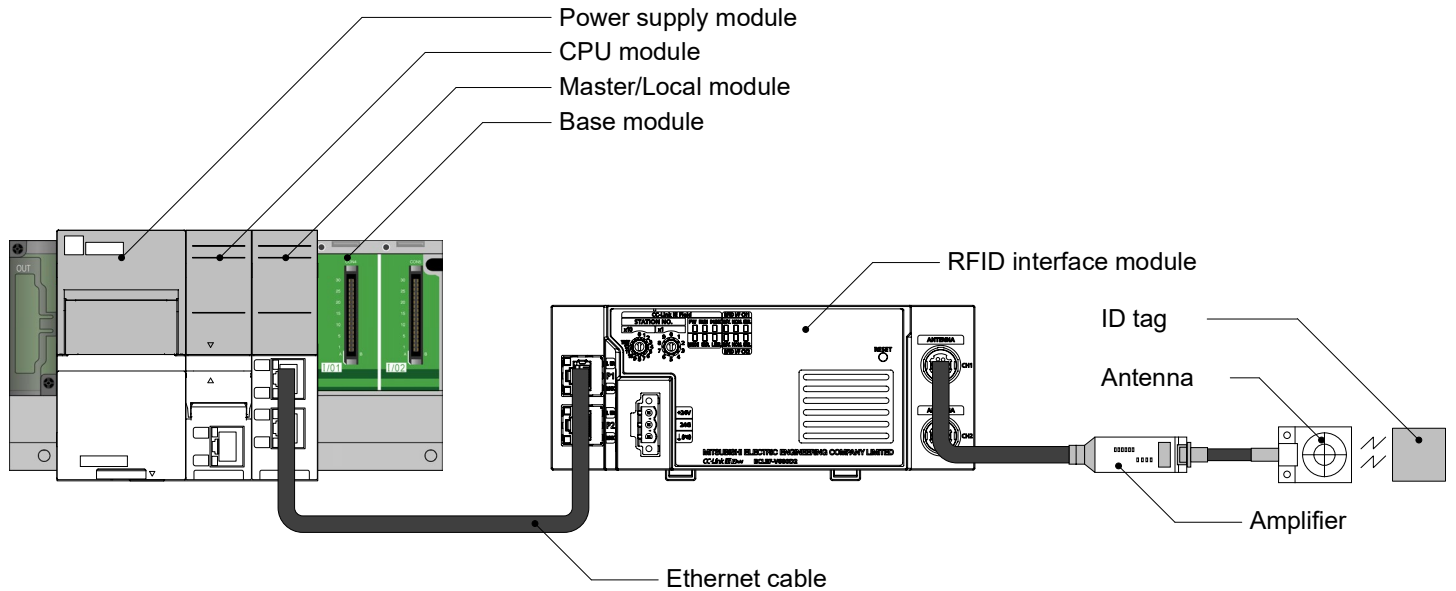
If MELSOFT Library is upgraded, MELSOFT Library FBs can be upgraded by importing them again. However, the FBs that were created by following these procedures for the second and subsequent modules are not upgraded even if the FBs are imported again.

Therefore, to upgrade FBs that were created by following these procedures, after upgrading MELSOFT Library, follow these procedures again.

Appendix 2. FB Library Application Examples

The application examples of the CC-Link IE Field Network remote RFID interface module FB are as follows.

(1) System Configuration



(2) List of devices

■ External Input (commands)

Device	FB Name	Application (ON details)
M1000	P+MEE-ECLEF-V680D2_InitDataSet_R	Set Initial Data command
M1002		Set Initial Data command retention
M1010	P+MEE-ECLEF-V680D2_Read_R	ID tag read command
M1011		ID tag read result reception
M1012		ID tag read command retention
M1020	P+MEE-ECLEF-V680D2_Write_R	ID tag write command
M1021		ID tag write result reception
M1022		ID tag write command retention
M1030	P+MEE-ECLEF-V680D2_Fill_R	ID tag data fill command
M1031		ID tag data fill result reception
M1032		ID tag data fill command retention
M1040	P+MEE-ECLEF-V680D2_UIDRead_R	ID tag UID read command
M1041		ID tag UID read result reception
M1042		ID tag UID read command retention
M1050	P+MEE-ECLEF-V680D2_MeasureNoise_R	Measure noise command
M1051		Measure noise command retention
M1060	P+MEE-ECLEF-V680D2_InitDataRead_R	Initial data read command
M1061		Initial data read command retention
M1070	P+MEE-ECLEF-V680D2_StatusRead_R	Module status read command

Device	FB Name	Application (ON details)
M1071		Module status read command retention
M1080	P+MEE-ECLEF-V680D2_Copy_R	Command to copy between ID tags
M1081		Retention of command to copy between ID tags
M1200	P+MEE-ECLEF-V680D2_InitDataSet_R P+MEE-ECLEF-V680D2_Read_R P+MEE-ECLEF-V680D2_Write_R P+MEE-ECLEF-V680D2_Fill_R P+MEE-ECLEF-V680D2_UIDRead_R P+MEE-ECLEF-V680D2_MeasureNoise_R P+MEE-ECLEF-V680D2_InitDataRead_R P+MEE-ECLEF-V680D2_StatusRead_R P+MEE-ECLEF-V680D2_Copy_R	Interlock contact (Prevents two or more FBs from being executed at the same time.)

■ External Input (data)

Device	FB Name	Application (ON details)
D2300 to D2301	P+MEE-ECLEF-V680D2_Write_R	Device for indirection of the device where data to be written to the ID tag is stored
D2302 to D2305	P+MEE-ECLEF-V680D2_Write_R	Specify data to be written to the ID tag. (up to 61 words)

■ External output (checks)

Device	FB Name	Application (ON details)
D1000	P+MEE-ECLEF-V680D2_InitDataSet_R	FB error code is stored when setting initial data
D1001		Module error code is stored when setting initial data
M1003		FB is being executed when setting initial data
M1004		FB completes successfully when setting initial data
M1005		FB terminates abnormally when setting initial data
M1006		Module error when setting initial data
D1010	P+MEE-ECLEF-V680D2_Read_R	FB error code is stored when reading data from the ID tag
D1011		Module error code is stored when reading data from the ID tag
D1200 to D1201		Device for indirection of the device where data read is stored
D1202 to D1205		Data read from the ID tag is stored. (up to 61 words)
M1013		FB is being executed when reading data from the ID tag
M1014		FB completes successfully when reading data from the ID tag
M1015		FB terminates abnormally when reading data from the ID tag
M1016		Module error when reading data from the ID tag
M1017		ID communication completes when reading data from the ID tag
D1020		P+MEE-ECLEF-V680D2_Write_R
D1021	Module error code is stored when writing data to the ID tag	
M1023	FB is being executed when writing data to the ID tag	

Device	FB Name	Application (ON details)
M1024	P+MEE-ECLEF-V680D2_Write_R	FB completes successfully when writing data to the ID tag
M1025		FB terminates abnormally when writing data to the ID tag
M1026		Module error when writing data to the ID tag
M1027		ID communication completes when writing data to the ID tag

Device	FB Name	Application (ON details)
D1030	P+MEE-ECLEF-V680D2_Fill_R	FB error code is stored when filling data in the ID tag
D1031		Module error code is stored when filling data in the ID tag
M1033		FB is being executed when filling data in the ID tag
M1034		FB completes successfully when filling data in the ID tag
M1035		FB terminates abnormally when filling data in the ID tag
M1036		Module error when filling data in the ID tag
M1037		ID communication completes when filling data in the ID tag
D1040	P+MEE-ECLEF-V680D2_UIDRead_R	FB error code is stored when reading the UID of the ID tag
D1041		Module error code is stored when reading the UID of the ID tag
D1042 to D1043		Device for indirection of the device where the UID of the ID tag is stored
D1044 to D1047		ID tag UID is stored when reading the UID of the ID tag (4 words)
M1043		FB is being executed when reading the UID of the ID tag
M1044		FB completes successfully when reading the UID of the ID tag
M1045		FB terminates abnormally when reading the UID of the ID tag
M1046		Module error when reading the UID of the ID tag
M1047		ID communication completes when reading the UID of the ID tag
D1050		P+MEE-ECLEF-V680D2_MeasureNoise_R
D1051	Module error code is stored when measuring noise	
D1052 to D1053	Device for indirection of the device where the noise measurement results are stored	
D1054 to D1056	Measurement results are stored when measuring noise (3 words)	
M1052	FB is being executed when measuring noise	
M1053	FB completes successfully when measuring noise	
M1054	FB terminates abnormally when measuring noise	
M1055	Module error when measuring noise	
D1060	P+MEE-ECLEF-V680D2_InitDataRead_R	FB error code is stored when reading initial data
D1061		Communication specification is stored when reading initial data
D1062		Communication setting is stored when reading initial data
D1063		Processing specification is stored when reading initial data
D1064		Auto system command waiting time setting is stored when reading initial data

Device	FB Name	Application (ON details)
M1062	P+MEE-ECLEF-V680D2_InitDataRead_R	FB is being executed when reading initial data
M1063		FB completes successfully when reading initial data
M1064		FB terminates abnormally when reading initial data
D1070	P+MEE-ECLEF-V680D2_StatusRead_R	FB error code is stored when reading module status
D1071		CH1 module status is stored when reading the module status
D1072		CH2 module status is stored when reading the module status
M1072		FB is being executed when reading the module status
M1073		FB completes successfully when reading the module status
M1074		FB terminates abnormally when reading the module status
M1074		FB terminates abnormally when reading the module status
D1080	P+MEE-ECLEF-V680D2_Copy_R	FB error code is stored when copying data between the ID tags
D1081		Module error code is stored when copying data between the ID tags
M1082		FB is being executed when copying data between the ID tags
M1083		FB completes successfully when copying data between the ID tags
M1084		FB terminates abnormally when copying data between the ID tags
M1085		Module error when copying data between the ID tags

(4) Example of use Setting

■Common settings

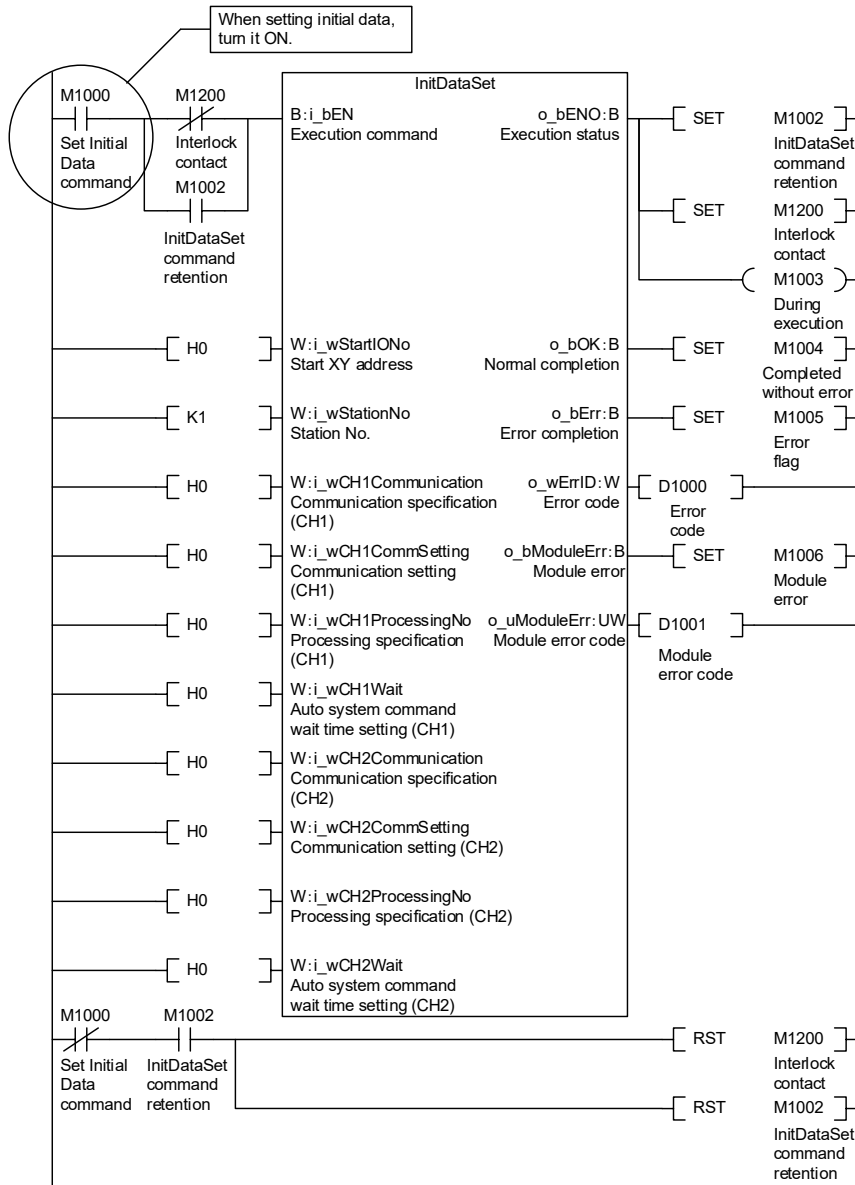
Input/Output item	Value	Description
Start XY address	H0	Specify the Start XY address where CC-Link IE Field Network system master/local unit for communication is installed.
Station No.	K1	Enter the station number of the RFID system to be connected.
Auto system command wait time setting	K0	In this example, the ID tag detection waiting time is specified in the unit of 0.1 seconds when i_wCommunication (Communication specification) is 2 (Repeat auto). In this example of use, processing continues until the response is received from the ID tag.

(5) Programs

(a) P+MEE-ECLEF-V680D2_InitDataSet_R (Set Initial Data)

Set initial data on the following conditions.

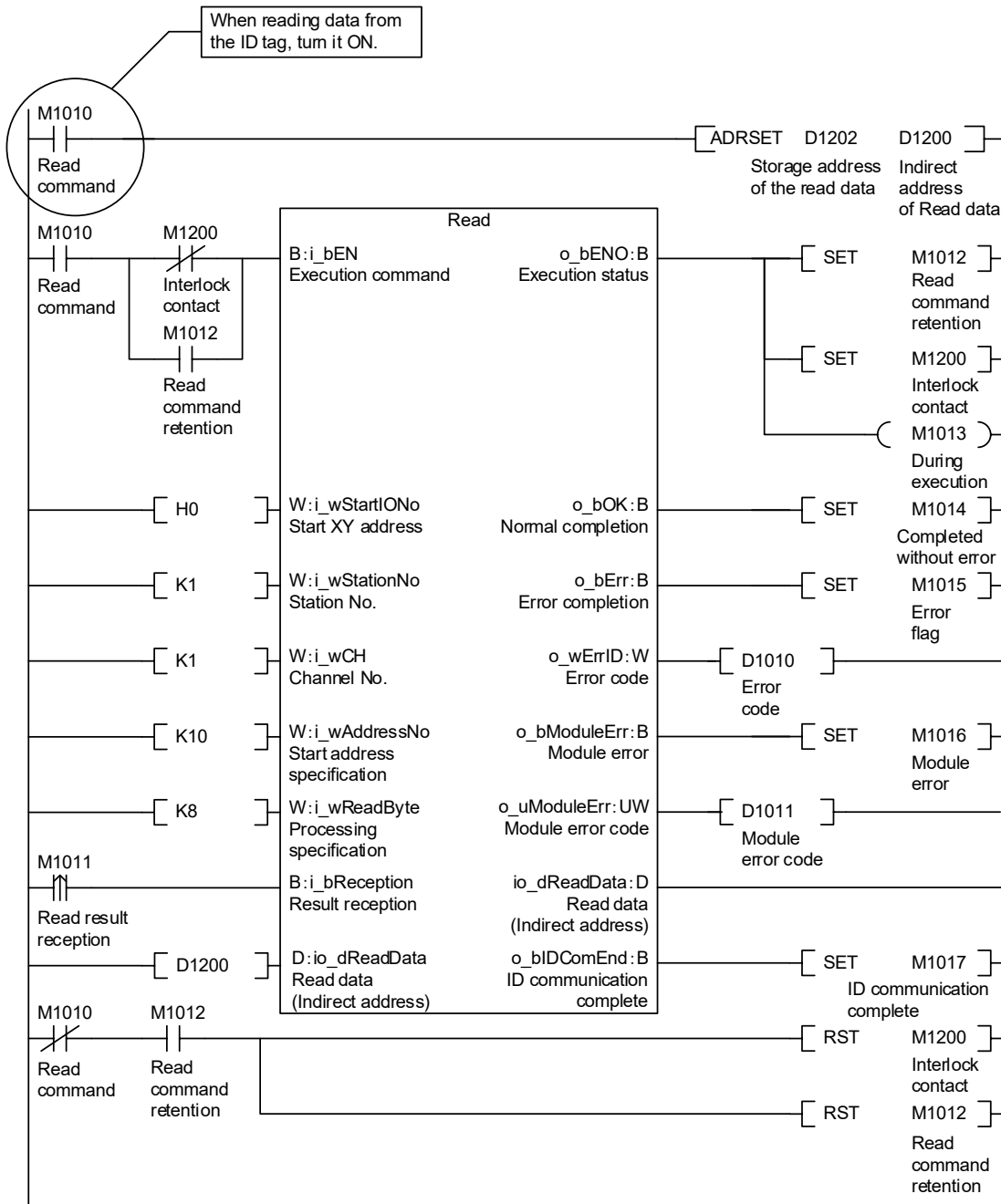
- Start XY address0
- Station No.1
- Communication specification0 (Trigger)
- Communication setting0 (Write verify setting :Execute
ID tag communication speed setting :Standard mode
Write protect setting :Enable
Read/Write data code setting :Without ASCII/HEX conversion)
- Processing specification0
- Auto system command wait time setting 0 (Detection is waited until a response is received from the ID tag.)



(b) P+MEE-ECLEF-V680D2_Read_R (Read ID tag)

Read data from the ID tag on the following conditions.

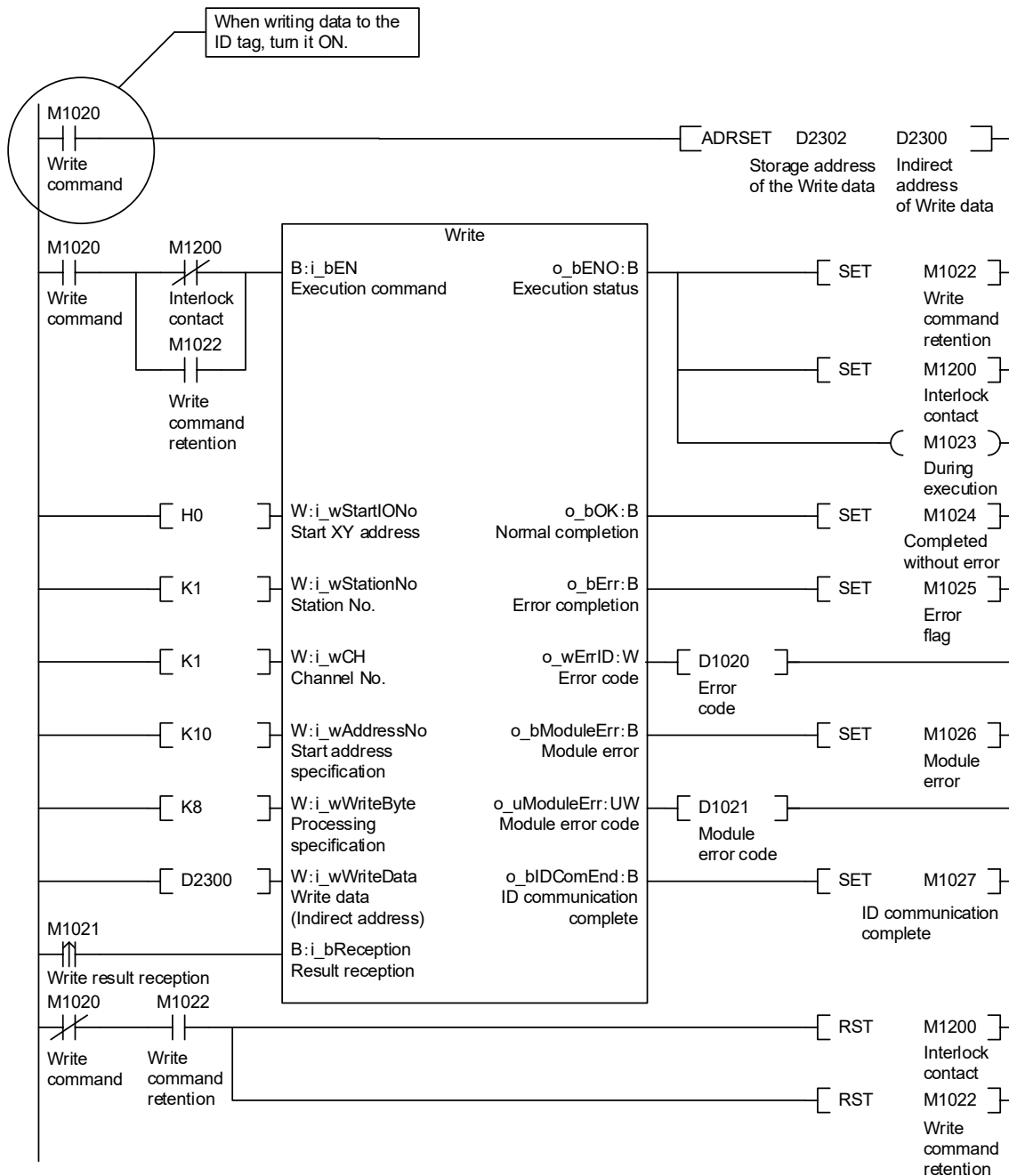
- Start XY address 0
- Station No. 1
- Channel No. 1
- Start address specification 10
- Processing specification 8 (8 bytes)
- Storage address of the Read data D1202 to D1205



(c) P+MEE-ECLEF-V680D2_Write_R (Write to ID Tag)

Write data to the ID tag on the following conditions.

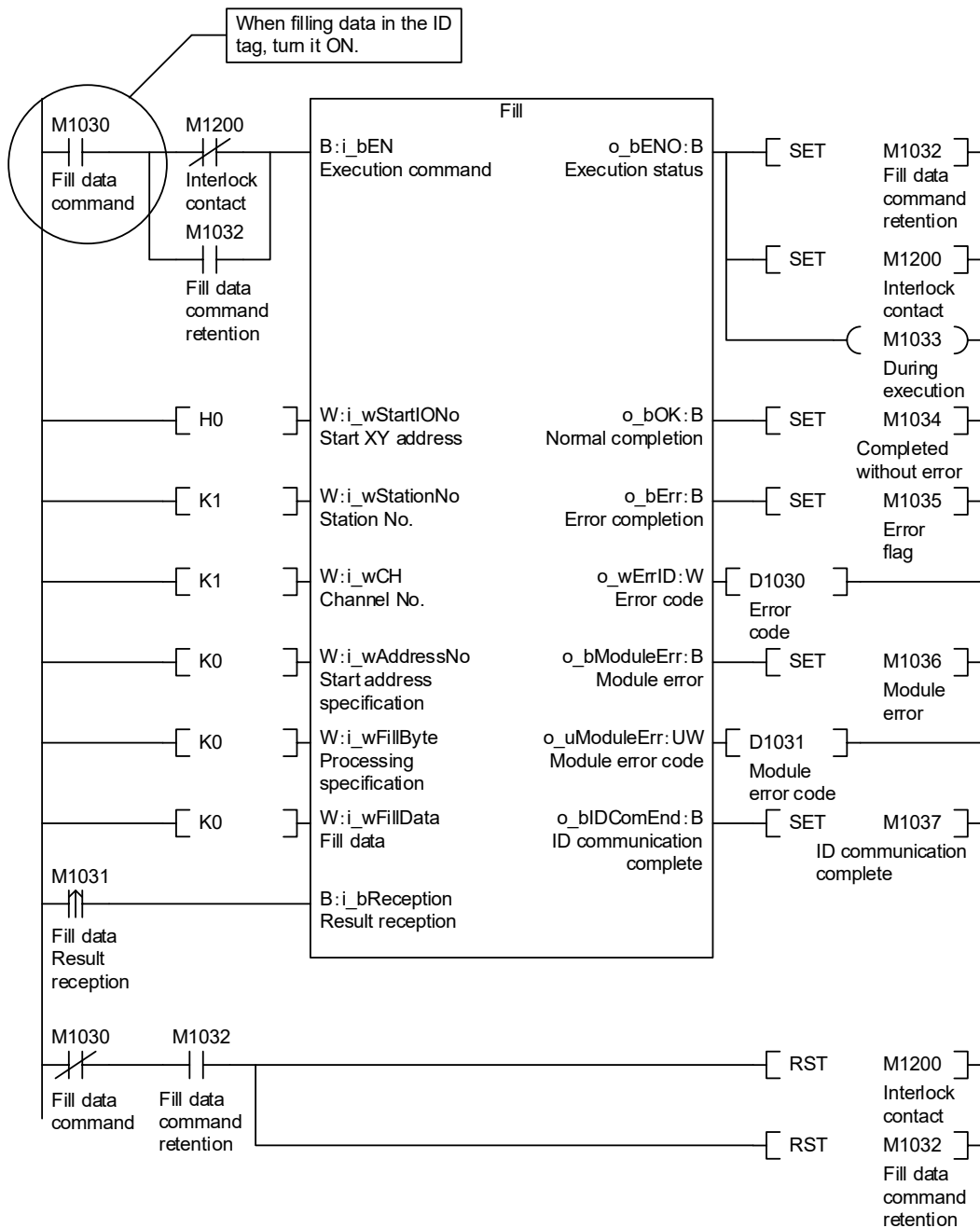
- Start XY address 0
- Station No. 1
- Channel No. 1
- Start address specification 10
- Processing specification 8 (8 bytes)
- Storage address of the Write data D2302 to D2305



(d) P+MEE-ECLEF-V680D2_Fill_R (Fill Data in ID Tag)

Fill data in the ID tag on the following conditions.

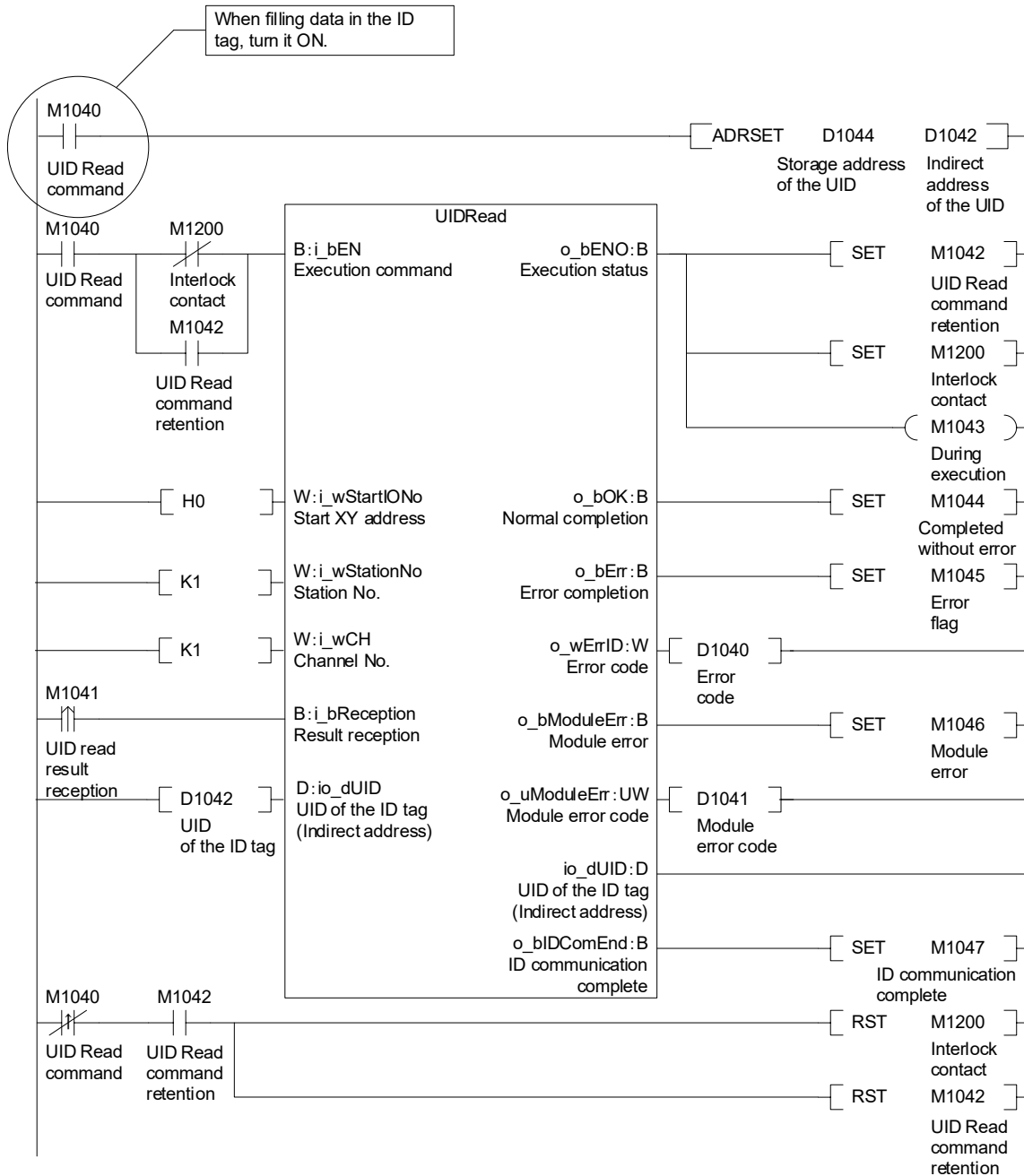
- Start XY address 0
- Station No. 1
- Channel No. 1
- Start address specification 0
- Processing specification 0 (Specify all data)
- Fill data 0



(e) P+MEE-ECLEF-V680D2_UIDRead_R (Read UID of ID Tag)

Read UID of the ID tag on the following conditions.

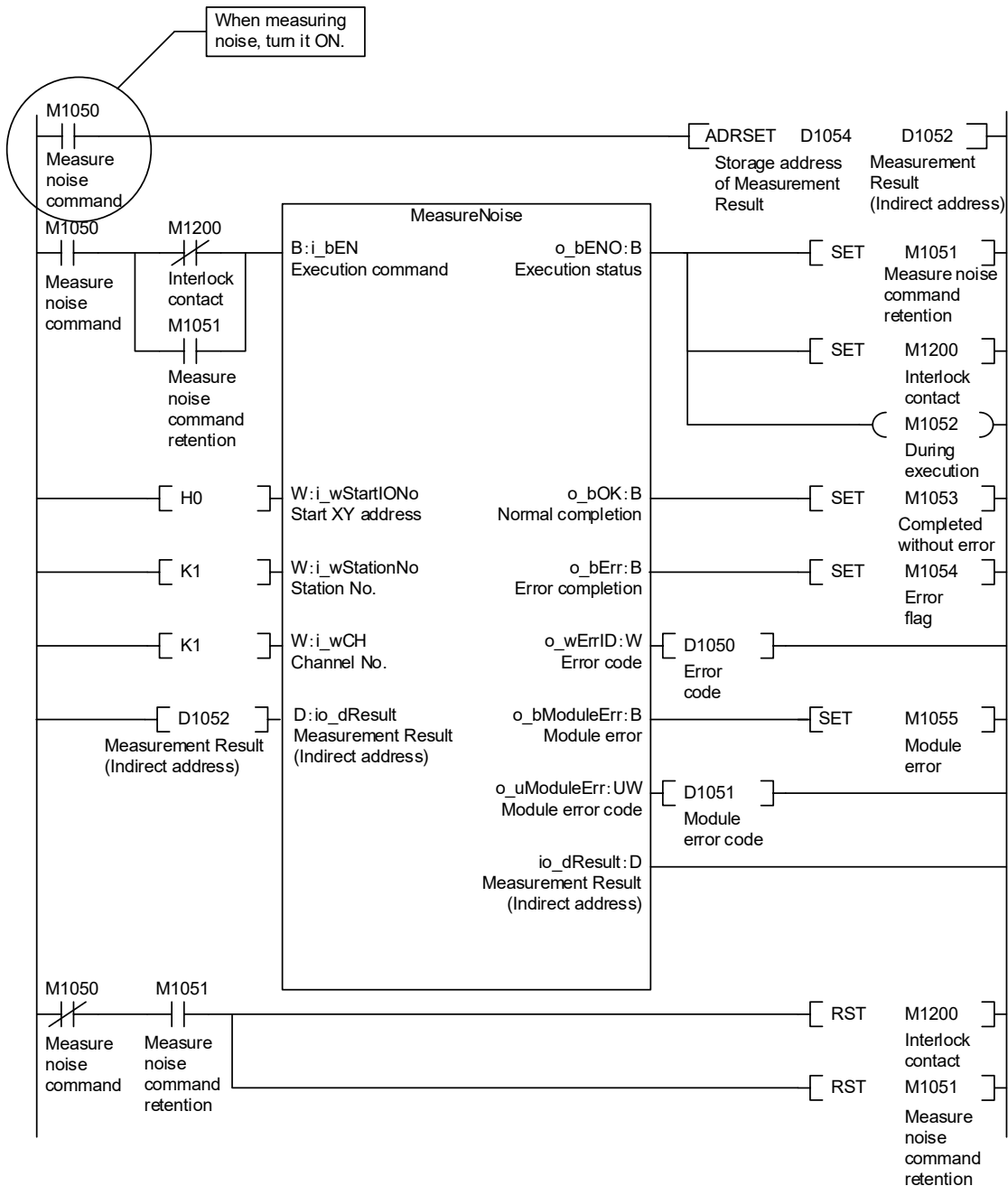
- Start XY address 0
- Station No. 1
- Channel No. 1
- Storage destination of UID D1044 to D1047



(f) P+MEE-ECLEF-V680D2_MeasureNoise_R (Measures Noise)

Measure noise on the following conditions.

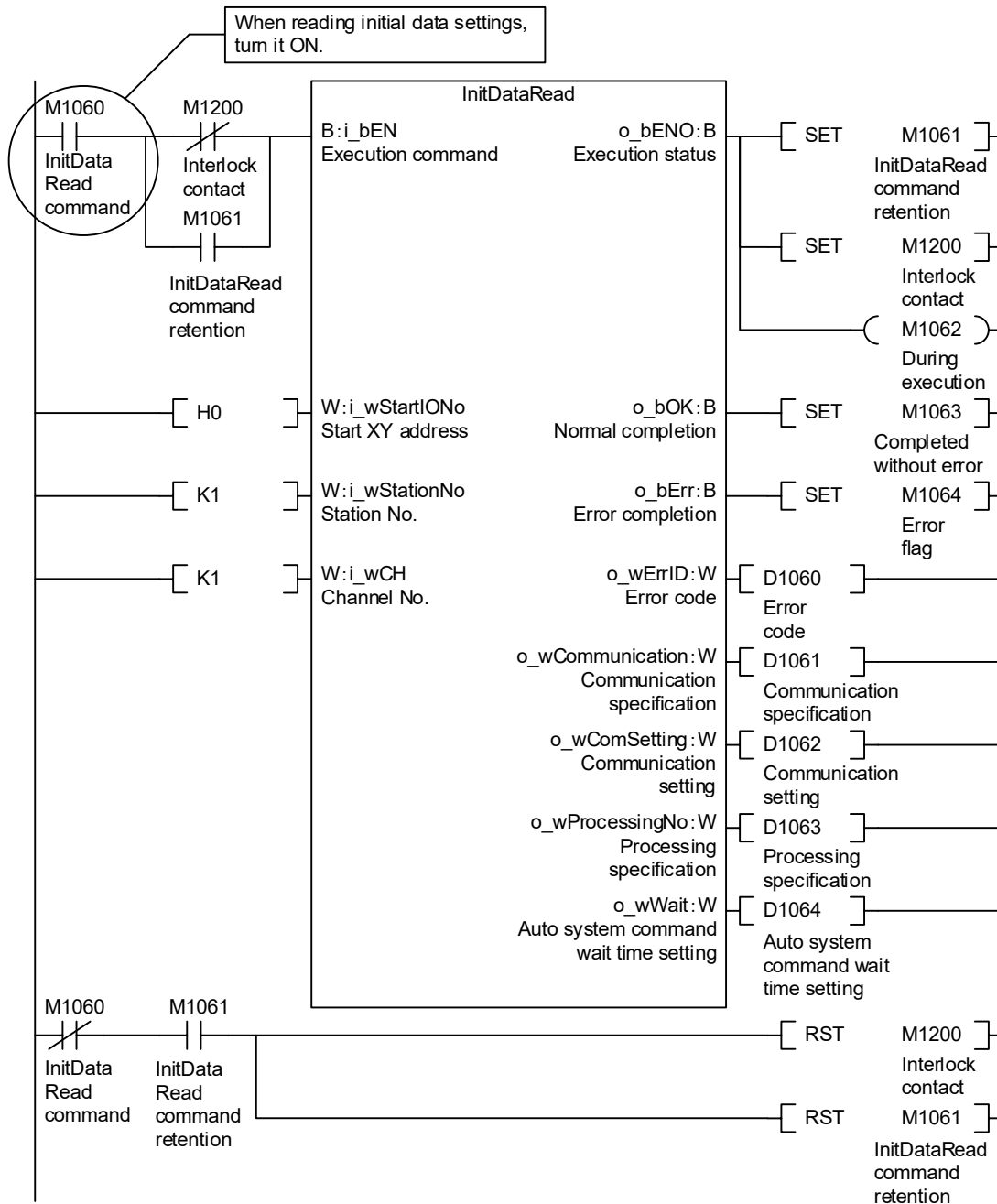
- Start XY address 0
- Station No. 1
- Channel No. 1
- Storage address of Measurement result D1054 to D1056



(g) P+MEE-ECLEF-V680D2_InitDataRead_R (Read initial data settings)

Read initial data on the following conditions.

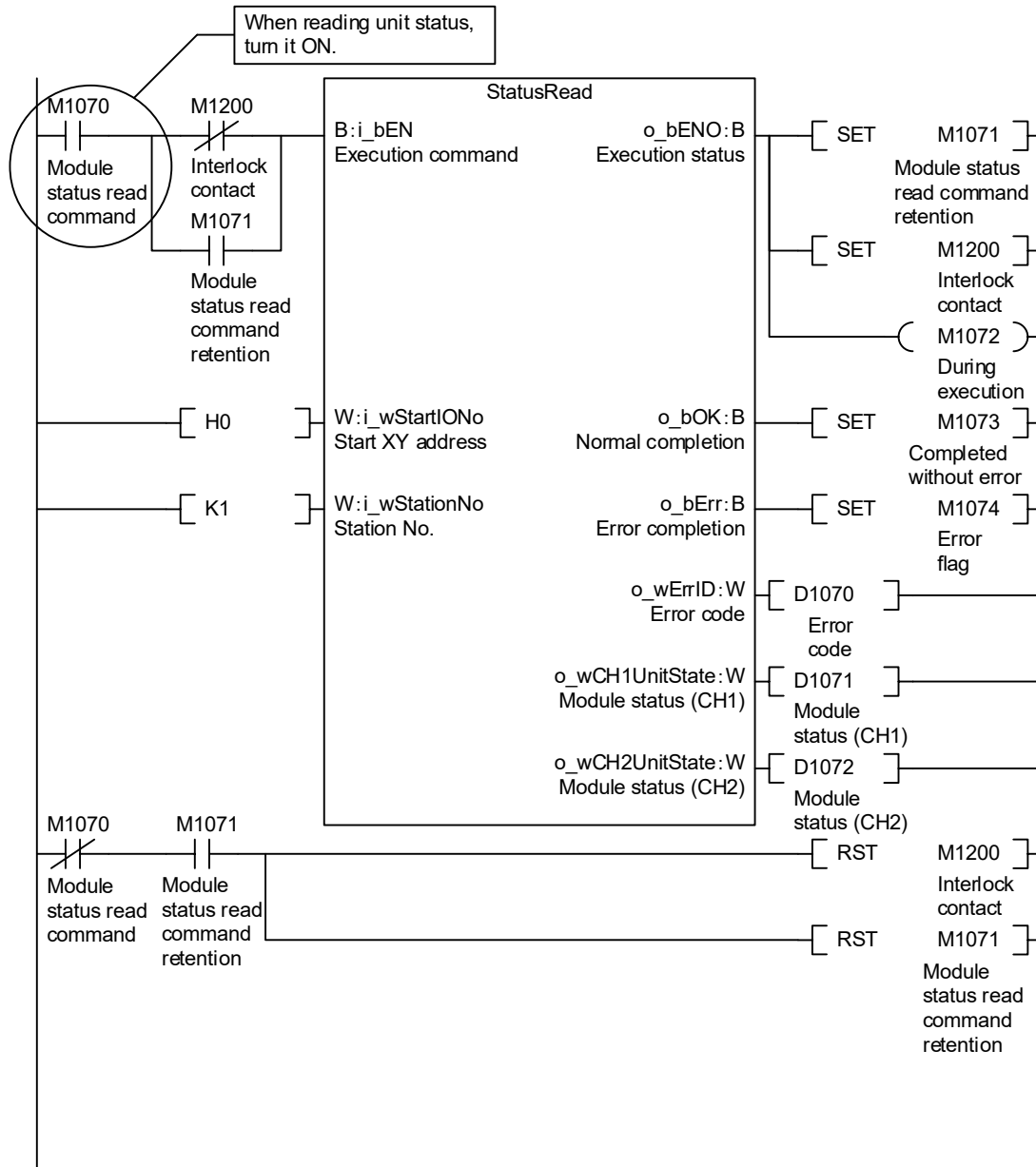
- Start XY address0
- Station No.1
- Channel No.1



(h) P+MEE-ECLEF-V680D2_StatusRead_R (Read Module Status)

Read the unit status on the following conditions.

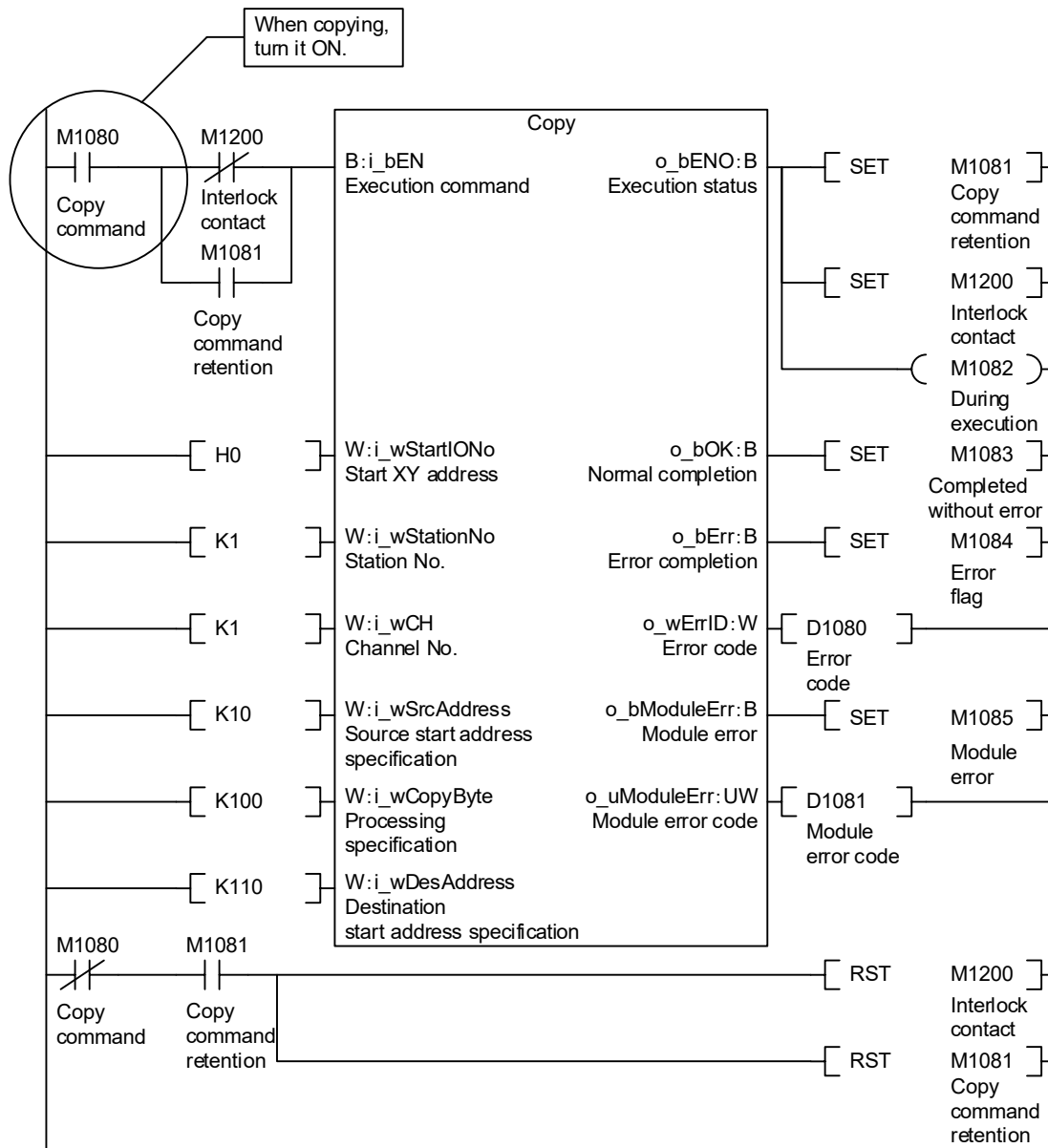
- Start XY address0
- Station No.1
- Channel No.1



(i) P+MEE-ECLEF-V680D2_Copy_R (Copies data of ID tag)

Copy data between the ID tags on the following conditions.

- Start XY address 0
- Station No. 1
- Channel No. 1
- Source start address specification 10
- Processing specification 100 (100 bytes)
- Destination start address specification · 110



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