

**MITSUBISHI ELECTRIC ENGINEERING**

**RFID Interface Module**

**MODEL**

**ECL2-V680D1**

# **FB Library Reference Manual**

(For MELSEC iQ-R series)

Products for Monitoring and Traceability



**CC-Link**

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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 Details
Mar. 2023	50CM-D180436-A	First Edition
Sep. 2023	50CM-D180436-B	Redesign of front and back covers

Japanese manual number: 50CM-D180186

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## 1. Overview

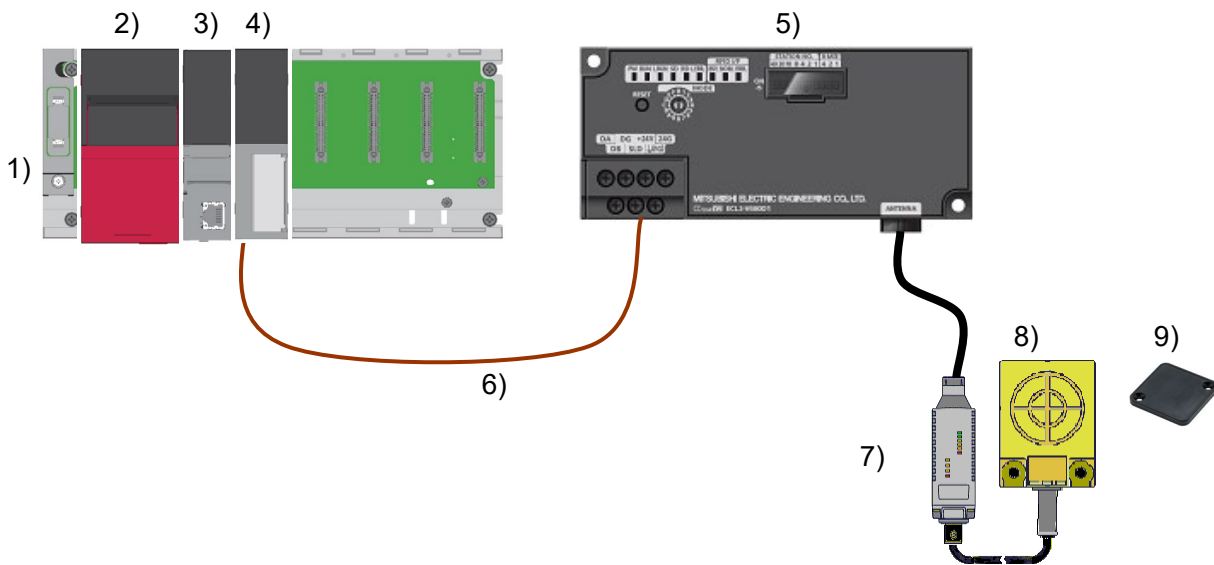
### 1.1 Overview of the FB Library

This FB library is the FB library for the system that uses the RFID interface unit ECL2-V680D1 compatible with the OMRON V680 Series for CC-Link, using the CC-Link system.

### 1.2 Function of the FB Library

No.	FB name	Description
1	P+MEE-ECL2-V680D1_InitDataSet	Sets the initial data when a command is executed. * After turning on the power or releasing reset, be sure to perform this first.
2	P+MEE-ECL2-V680D1_Read	Reads the data of an ID tag.
3	P+MEE-ECL2-V680D1_Write	Writes data to an ID tag.
4	P+MEE-ECL2-V680D1_Fill	Initializes the data of an ID tag using specified data.
5	P+MEE-ECL2-V680D1_UIDRead	Reads the UID (unit identification number) of the ID tag.
6	P+MEE-ECL2-V680D1_MeasureNoise	Measures the noise environment surrounding the antenna.
7	P+MEE-ECL2-V680D1_InitDataRead	Reads the initial data settings.
8	P+MEE-ECL2-V680D1_StatusRead	Read Module Status.

### 1.3 System Configuration Examples



No.	Item	Description			
1)	Programmable controller	Base module: MELSEC iQ-R series			
2)		Power supply module: R61P			
3)		CPU module: <table border="1"> <thead> <tr> <th>Series</th> <th>Model</th> </tr> </thead> <tbody> <tr> <td>MELSEC iQ-R Series</td> <td>R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series
Series	Model				
MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU				
4)	Master/Local module	RJ61BT11			
5)	ECL2-V680D1	CC-Link OMRON V680 series compatible RFID interface module			
6)	Cable	CC-Link 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 Master/Local Module

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

### 1.4.1 Setting the CC-Link Master/Local Module

Item	Description
Station Type	Set the station type. Select "Master station".
Communication Mode(*1)	Set the mode. Select "Remote Net Ver.1 Mode".
Transmission Speed	Set the transmission speed. Select "156kbps".
Special relay (SB) refresh device	Set the start device No. of link special relay(SB). Set [SB] to the device name, and [00000] to the start.
Special register (SW) refresh device	Set the start device No. of link special register(SW). Set [SW] to the device name, and [00000] to the start.
Remote input (RX) refresh device	Set the start device No. of remote input (RX) assigned to remote module station. Set [X] to the device name, and [01000] to the start.
Remote output (RY) refresh device	Set the start device No. of remote output (RY) assigned to remote module station. Set [Y] to the device name, and [01000] to the start.
Remote register (RW <sub>r</sub> ) refresh device	Set the start device No. of remote register (RW <sub>r</sub> ) assigned to remote module station. Set [W] to the device name, and [00000] to the start.
Remote register (RW <sub>w</sub> ) refresh device	Set the start device No. of remote register (RW <sub>w</sub> ) assigned to remote module station. Set [W] to the device name, and [00200] to the start.

(\*1) Select "Remote Net Ver.1 Mode" or "Remote Net Ver.2 Mode".

## Network parameters for the MELSEC IQ-R series

0000:RJ61BT11 Module Parameter

Setting Item List

Input the Setting Item to Search

- Required Settings
  - Station Type
  - Mode
  - Station No.
  - Transmission Speed
  - Parameter Setting Method
- Basic Settings
- Application Settings

Setting Item

Item	Setting
Station Type	Master Station
Mode	Remote Net Ver.1 Mode
Station No.	0
Transmission Speed	156kbps
Parameter Setting Method	Parameter Editor

Explanation

Set the station type.

## Link refresh settings for the MELSEC IQ-R series

0000:RJ61BT11 Module Parameter

Setting Item List

Input the Setting Item to Search

- Required Settings
  - Station Type
  - Mode
  - Station No.
  - Transmission Speed
  - Parameter Setting Method
- Basic Settings
  - Own Station Setting
  - Network Configuration Settings
  - Link Refresh Settings
  - Initial Settings
- Application Settings

Setting Item

No.	Link Side					CPU Side				
	Device Name	Points	Start	End		Target	Device Name	Points	Start	End
-	SB	512	00000	001FF	↔	Specif	SB	512	00000	001FF
-	SW	512	00000	001FF	↔	Specif	SW	512	00000	001FF
1	RX	2048	00000	007FF	↔	Specif	X	2048	01000	017FF
2	RY	2048	00000	007FF	↔	Specif	Y	2048	01000	017FF
3	RWr	256	00000	000FF	↔	Specif	W	256	00000	000FF
4	RWw	256	00000	000FF	↔	Specif	W	256	00200	002FF

Explanation

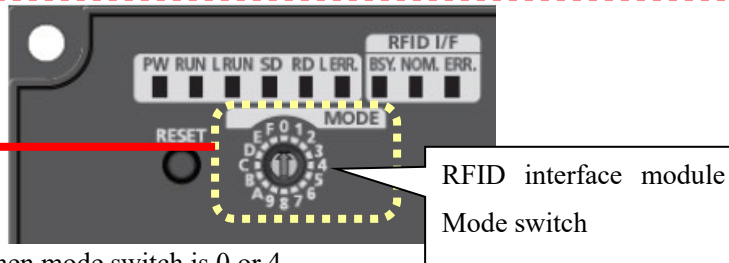
Set the memory ranges to be automatically refreshed between the CC-Link IE Control module and the CPU module.

### 1.4.2 Station information setting of CC-Link Master/Local Module

Item	Description
Station Type (*1)	Set the type of remote module station connected to the master station. Set "Remote Device Station".
Expanded Cyclic Setting (*1)	The extended cyclic settings will vary according to the setting value for the RFID interface module's mode selection switch.
STA Occupied (*1)	Set the number of stations occupied by the remote module. The STA occupied's will vary according to the setting value for the RFID interface module's mode selection switch. Select "4 Occupied Station".
Reserved/Err Invalid STA	Select the remote module's reserved station/invalid station. Select "No Setting".

(\*1) Match the station information setting to the setting for the RFID interface module's mode selection switch.

RFID interface module's Mode Switch Set Value	Station information setting	Expanded Cyclic Setting	STA Occupied	Remote Station Points
0	Remote Device Station	—	4 Occupied Station	—
4	Remote Device Station	—	2 Occupied Station	—
5	Ver.2 Remote Device Station	Double	2 Occupied Station	96 Points
6	Ver.2 Remote Device Station	Quadruple	2 Occupied Station	192 Points
7	Ver.2 Remote Device Station	Octuple	2 Occupied Station	384Points



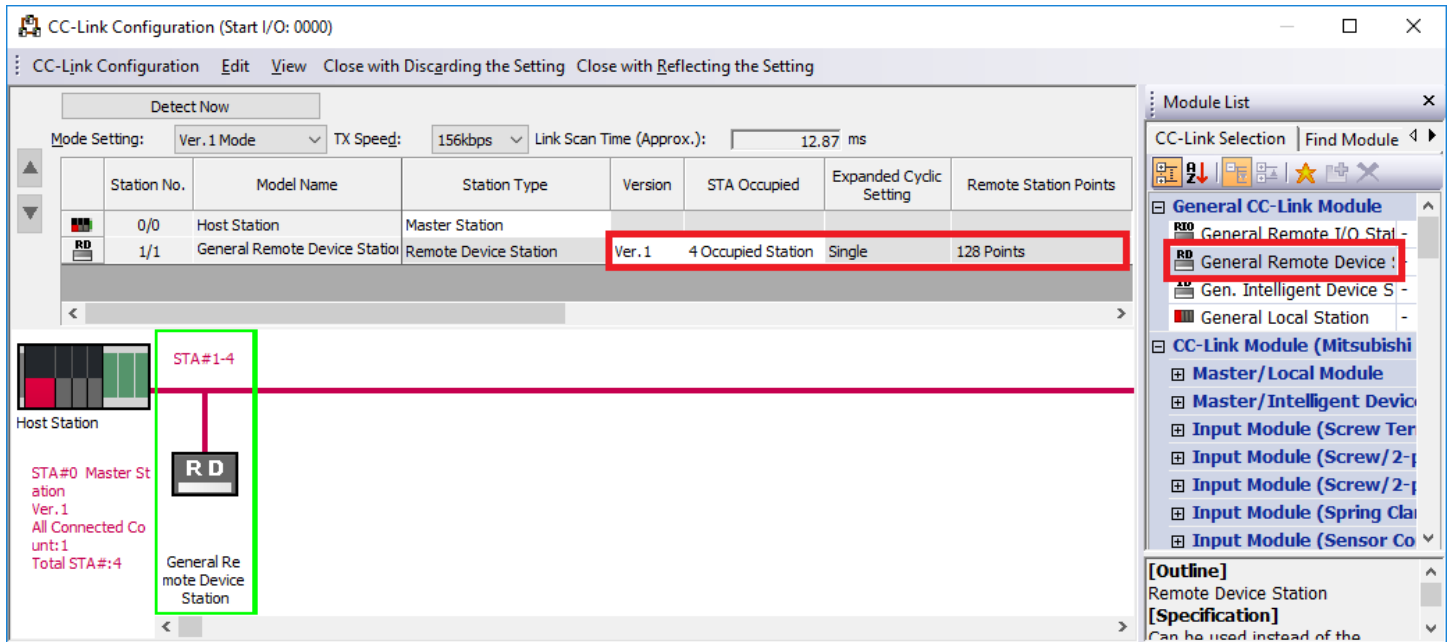
Station information settings when mode switch is 0 or 4.

	Station No.	Model Name	Station Type	Version	STA Occupied	Expanded Cyclic Setting	Remote Station Points
	0/0	Host Station	Master Station				
	1/1	General Remote Device Station	Remote Device Station	Ver.1	4 Occupied Station	Single	128 Points

Station information settings when mode switch is 5 to 7.

	Station No.	Model Name	Station Type	Version	STA Occupied	Expanded Cyclic Setting	Remote Station Points
	0/0	Host Station	Master Station				
	1/1	General Remote Device Station	Remote Device Station	Ver.2	2 Occupied Station	Octuple	384 Points

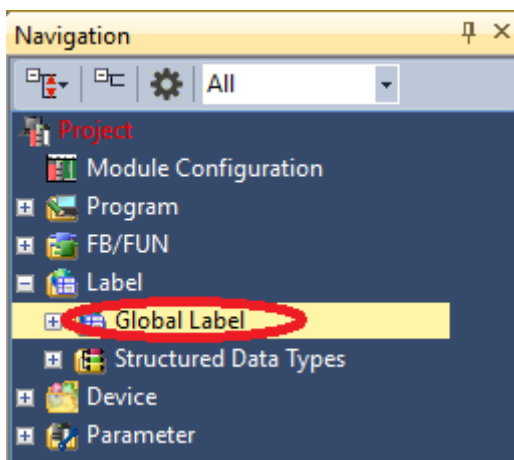




## 1.5 Setting Global Labels

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 "W0Z8".

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 "W200Z8".

Global label settings for the IQ-R series PLC

The screenshot shows the 'M+ Global [Global Label Setting]' window. It features a table with columns for Label Name, Data Type, Class, Assign (Device/Label), Initial Value, and Con. The table lists five global labels: BT11\_1, G\_RX, G\_RY, G\_RWr, and G\_RWw. Each label is associated with a specific data type and class, and has an assigned device/label. The 'Assign (Device/Label)' column includes a 'Detailed Setting' link for each entry. The window also includes a filter field, display options (Easy Display, Display Setting, Check), and a warning message: 'Warning) This file is system file. Please'.

	Label Name	Data Type	Class	Assign (Device/Label)	Initial Value	Con
1	BT11_1	M+RJ61BT11	VAR_GLOBAL	<a href="#">Detailed Setting</a>		
2	G_RX	Bit	VAR_GLOBAL	X1000Z9		
3	G_RY	Bit	VAR_GLOBAL	Y1000Z9		
4	G_RWr	Word [Signed]	VAR_GLOBAL	W0Z8		
5	G_RWw	Word [Signed]	VAR_GLOBAL	W200Z8		
6						

Extended Display: Do Not Show Always

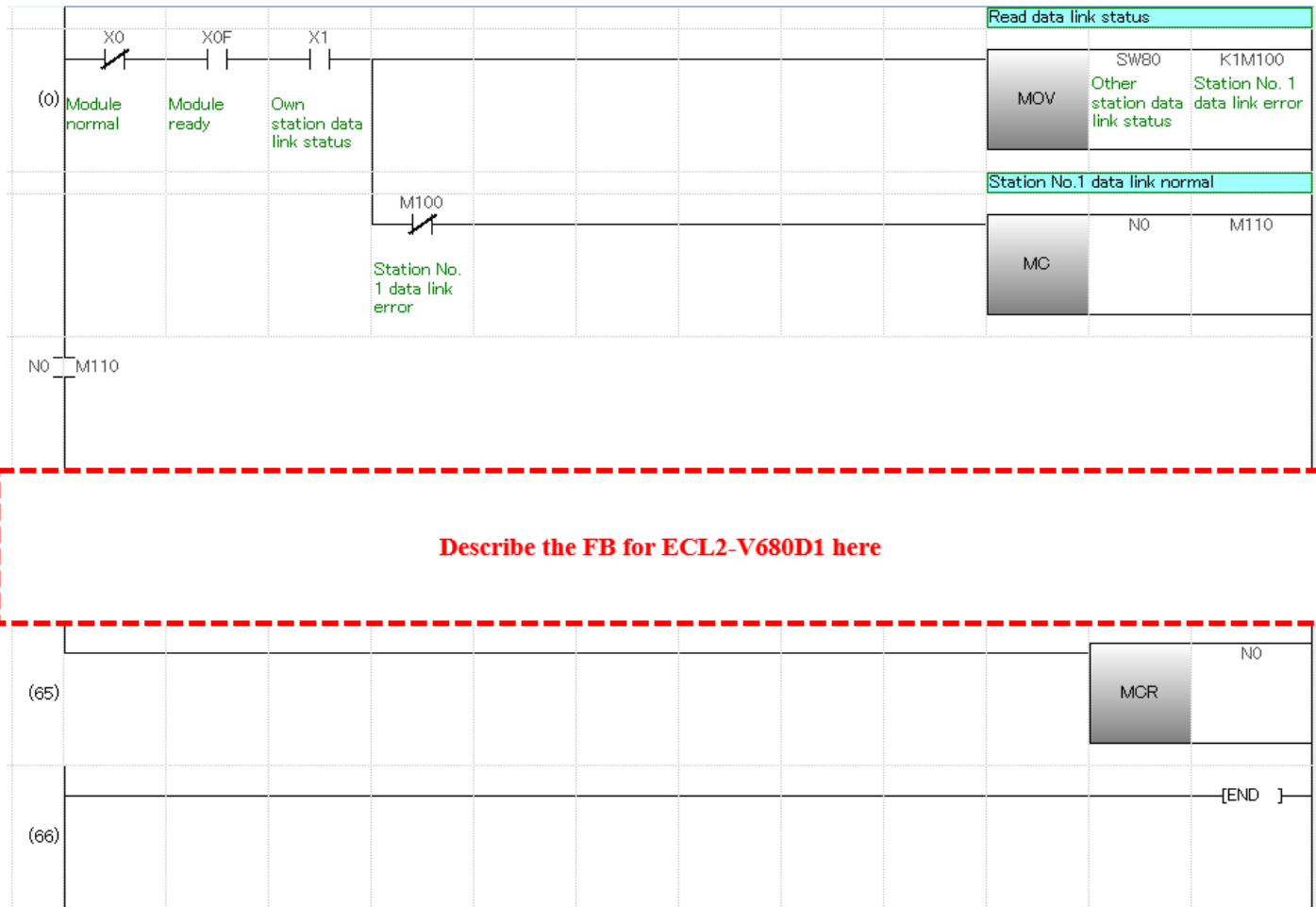
## 1.6 Creating Interlock Program

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, establish the interlock with the following device.

- Own station data link status (X1)
- Each station data link status (SW80)

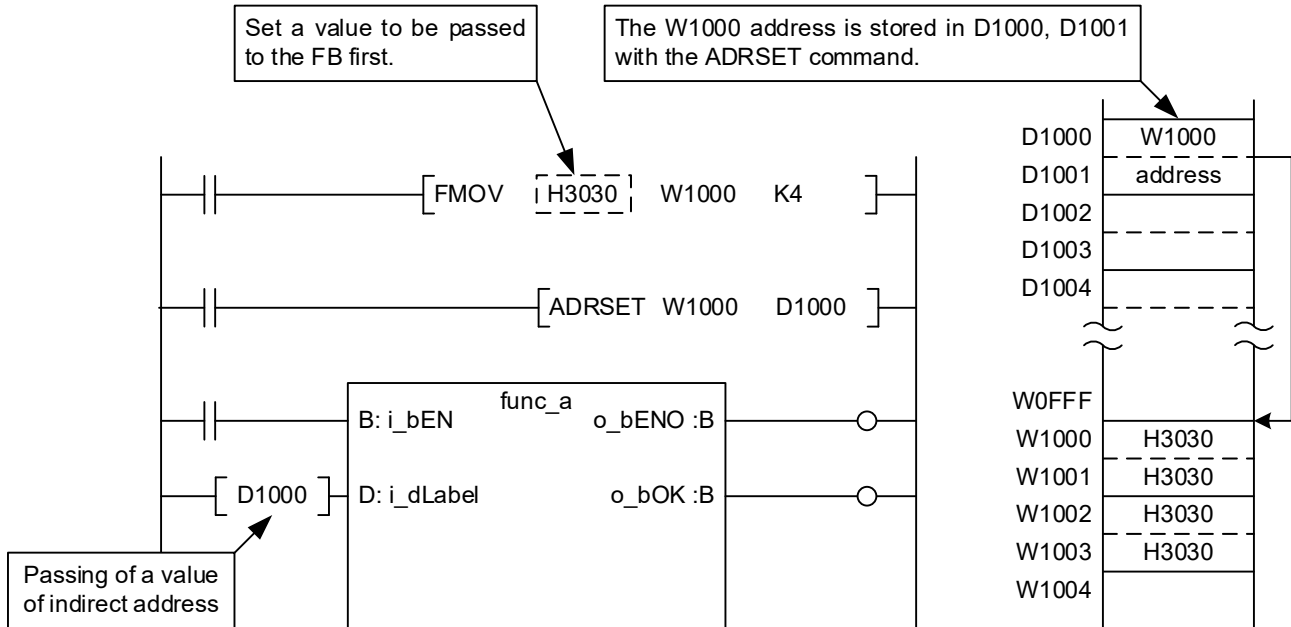
### Example Interlock Example (Station No.1)



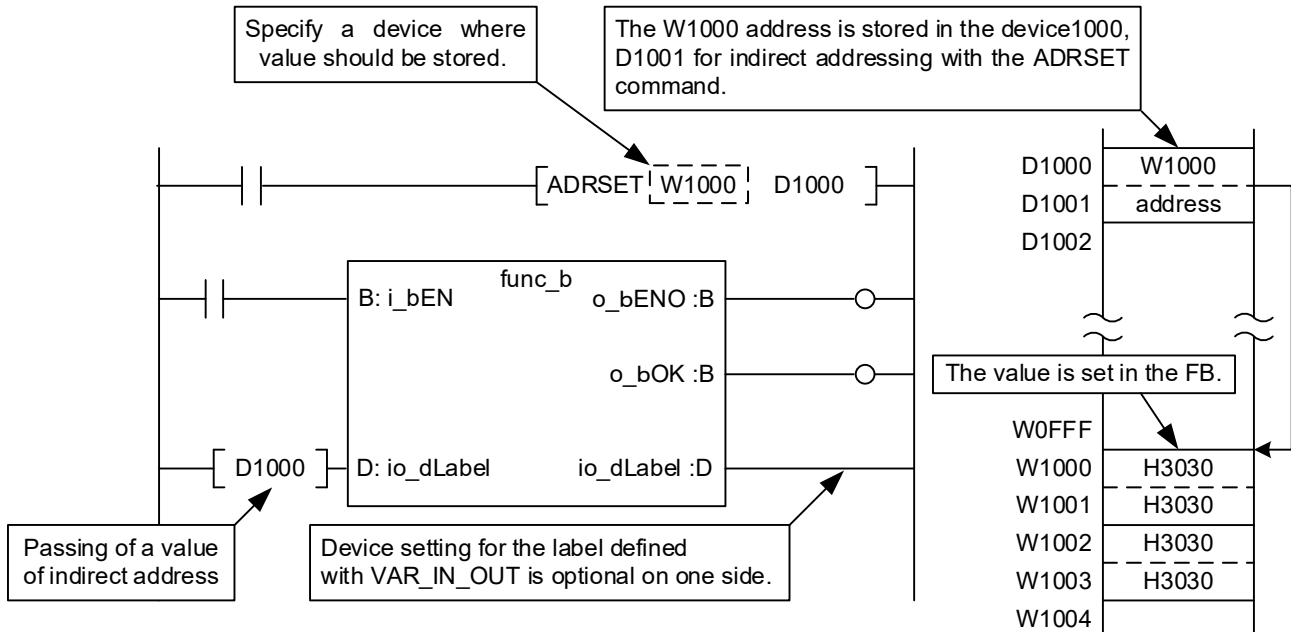
## 1.7 Indirect addressing

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

- ECL2-V680D1 RFID Interface Module User's Manual (Details)
- MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)

## 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-ECL2-V680D1\_InitDataSet (Initial data setting)

FB Name

P+MEE-ECL2-V680D1\_InitDataSet

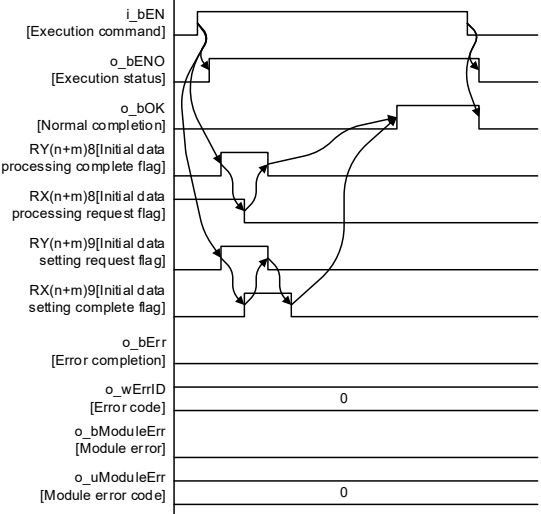
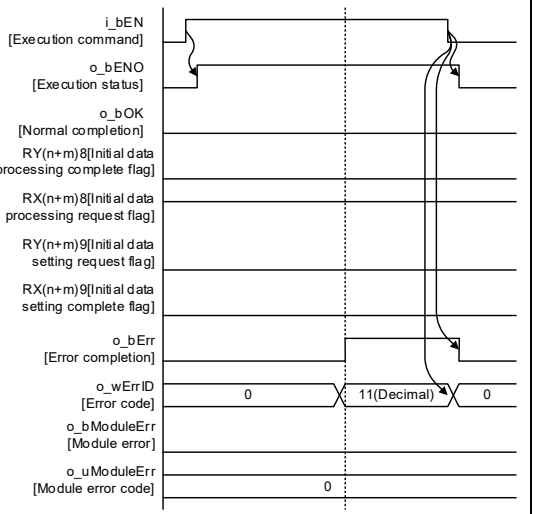
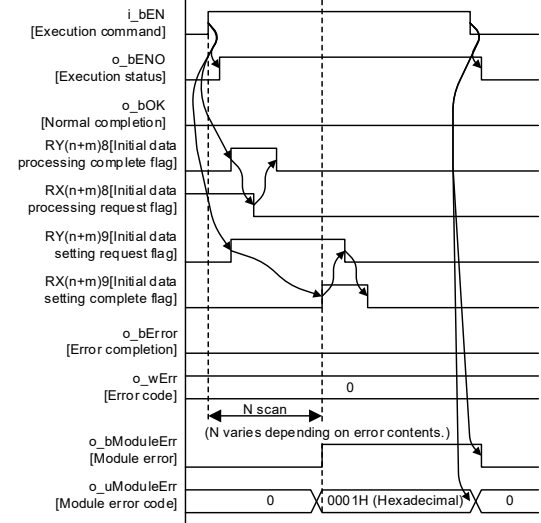
#### Function Overview

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="3" style="text-align: center;">P+MEE-ECL2-V680D1_InitDataSet</th> </tr> </thead> <tbody> <tr> <td style="text-align: right;">Execution command</td> <td style="text-align: center;">B : i_bEN</td> <td style="text-align: left;">o_bENO : B</td> </tr> <tr> <td style="text-align: right;">Start I/O No.</td> <td style="text-align: center;">W : i_wStartIONo</td> <td style="text-align: left;">o_bOK : B</td> </tr> <tr> <td style="text-align: right;">Station No.</td> <td style="text-align: center;">W : i_wStationNo</td> <td style="text-align: left;">o_bError : B</td> </tr> <tr> <td style="text-align: right;">Communication specification</td> <td style="text-align: center;">W : i_wCommunication</td> <td style="text-align: left;">o_wErrID : W</td> </tr> <tr> <td style="text-align: right;">Communication setting</td> <td style="text-align: center;">W : i_wCommSetting</td> <td style="text-align: left;">o_bModuleErr : B</td> </tr> <tr> <td style="text-align: right;">Processing specification</td> <td style="text-align: center;">W : i_wProcessingNo</td> <td style="text-align: left;">o_uModuleErr : UW</td> </tr> <tr> <td style="text-align: right;">Auto system command wait time setting</td> <td style="text-align: center;">W : i_wWait</td> <td></td> </tr> </tbody> </table>		P+MEE-ECL2-V680D1_InitDataSet			Execution command	B : i_bEN	o_bENO : B	Start I/O No.	W : i_wStartIONo	o_bOK : B	Station No.	W : i_wStationNo	o_bError : B	Communication specification	W : i_wCommunication	o_wErrID : W	Communication setting	W : i_wCommSetting	o_bModuleErr : B	Processing specification	W : i_wProcessingNo	o_uModuleErr : UW	Auto system command wait time setting	W : i_wWait	
P+MEE-ECL2-V680D1_InitDataSet																										
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Start I/O No.	W : i_wStartIONo	o_bOK : B																								
Station No.	W : i_wStationNo	o_bError : B																								
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Processing specification	W : i_wProcessingNo	o_uModuleErr : UW																								
Auto system command wait time setting	W : i_wWait																									
Applicable hardware and software	RFID Interface module	ECL2-V680D1																								
	CC-Link 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>RJ61BT11</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ61BT11																				
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MELSEC iQ-R Series	RJ61BT11																									
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, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																					
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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>Version1.00A or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.00A or later																				
		Series	Model																							
MELSEC iQ-R Series	Version1.00A or later																									
Programming Language	Ladder																									
Number of steps	794steps (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, various initial data set is written to ECL2-V680D1.</p> <p>When writing is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD     Start([Start]) --&gt; TurnOn[Turn i_bEN ON.]     TurnOn --&gt; Range{Check the range of station number.}     Range -- "Outside the range" --&gt; Range     Range -- "1 to 64" --&gt; Status{Check the status of ECL2-V680D1}     Status -- "ID-BUSY signal ON" --&gt; Status     Status -- "ID-BUSY signal OFF" --&gt; Error{Check ECL2-V680D1 for error}     Error -- "Error detection signal ON" --&gt; Error     Error -- "ID command completion signal ON" --&gt; Write[The specified initial data is written]     Write --&gt; OK[o_bOK is turned ON]     Error --&gt; UnitErr[A unit error code is set to o_uModuleErr]     UnitErr --&gt; ModErr[o_bModuleErr is turned ON]     Error --&gt; WErrID[An error code is set to o_wErrID]     WErrID --&gt; BErr[o_bErr is turned ON]     OK --&gt; TurnOff[i_bEN is turned OFF]     ModErr --&gt; TurnOff     BErr --&gt; TurnOff     TurnOff --&gt; End([End])     Range -.-&gt; FB[FB internal processing]     Status -.-&gt; FB     Error -.-&gt; FB     Write -.-&gt; FB     UnitErr -.-&gt; FB     WErrID -.-&gt; FB     </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 ECL2-V680D1, 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"> <li>1) After turning on the power or releasing reset, be sure to perform this first.</li> <li>2) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</li> <li>3) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module".</li> <li>4) Set the global label setting according to Section "1.5 Setting Global Labels".</li> <li>5) The FB cannot be used in an interrupt program.</li> <li>6) When multiple FBs are used, care should be taken not to use the same target station number.</li> <li>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.</li> <li>8) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program.</li> <li>9) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> <li>▪ i_wStartIONo (Start I/O No.)</li> <li>▪ i_wStationNo (Station No.)</li> <li>▪ i_wCommunication (Communication specification)</li> <li>▪ i_wCommSetting (Communication setting)</li> <li>▪ i_wProcessingNo (Processing specification)</li> <li>▪ i_wWait (Auto system command wait time setting)</li> </ul> </li> <li>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.</li> <li>11) Only one master/local module can be controlled by the CC-Link 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".</li> <li>12) If the operation of this FB is not completed, check if i_wStartIONo(Start I/O No.) is correct, i_wStationNo (Station No.) matches the network station number or the remote output (RY) of the RFID interface unit is ON.</li> </ol>
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> <p>m: Address assigned to mode selection switch setting.</p>	
Relevant manuals	<p>ECL2-V680D1 RFID Interface Module User's Manual (Details)</p> <p>MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)</p>	

## Error codes

### ■Error code list

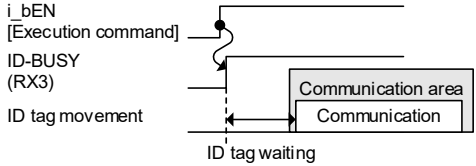
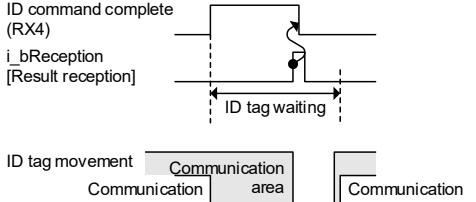
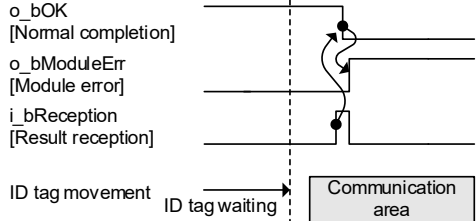
Error code	Description	Action
11 (Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
14 (Decimal)	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

## 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 I/O No.	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 master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (Decimal)	Specify the target station number.
Communication specification	i_wCommunication	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_wCommSetting	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_wProcessingNo	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_wWait	Word	1 to 9999, 0 (Decimal)	<p>When i_wCommunication (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.  (For example, if the waiting time is 30 seconds, specify K300.)  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.  [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_bError	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	0	A description of the error occurred in the RFID interface unit is stored.

FB Version Upgrade History

Version	Date	Description
1.01A	2022/3/28	English Version Addition

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-ECL2-V680D1\_Read (Read ID tag)

FB Name

P+MEE-ECL2-V680D1\_Read

### 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-ECL2-V680D1_Read</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 I/O No.</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_bError : B</td> <td>Error completion</td> </tr> <tr> <td>Start address specification</td> <td>W : i_wAddressNo</td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td>Processing specification</td> <td>W : i_wReadByte</td> <td>o_bModuleErr : B</td> <td>Module error</td> </tr> <tr> <td>Result reception</td> <td>B : i_bReception</td> <td>o_uModuleErr : UW</td> <td>Module error code</td> </tr> <tr> <td>Read data (Indirect address)</td> <td>D : io_dReadData</td> <td>io_dReadData : D</td> <td>Read data (Indirect address)</td> </tr> <tr> <td></td> <td></td> <td>o_bIDComEnd : B</td> <td>ID communication complete</td> </tr> </tbody> </table>		P+MEE-ECL2-V680D1_Read				Execution command	B : i_bEN	o_bENO : B	Execution status	Start I/O No.	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bError : B	Error completion	Start address specification	W : i_wAddressNo	o_wErrID : W	Error code	Processing specification	W : i_wReadByte	o_bModuleErr : B	Module error	Result reception	B : i_bReception	o_uModuleErr : UW	Module error code	Read data (Indirect address)	D : io_dReadData	io_dReadData : D	Read data (Indirect address)			o_bIDComEnd : B	ID communication complete
P+MEE-ECL2-V680D1_Read																																						
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Station No.	W : i_wStationNo	o_bError : B	Error completion																																			
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Processing specification	W : i_wReadByte	o_bModuleErr : B	Module error																																			
Result reception	B : i_bReception	o_uModuleErr : UW	Module error code																																			
Read data (Indirect address)	D : io_dReadData	io_dReadData : D	Read data (Indirect address)																																			
		o_bIDComEnd : B	ID communication complete																																			
Applicable hardware and software	RFID interface module	ECL2-V680D1																																				
	CC-Link 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>RJ61BT11</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ61BT11																																
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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, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																																	
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MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																																					
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>Version1.00A or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.00A or later																																
Series	Model																																					
MELSEC iQ-R Series	Version1.00A or later																																					
Programming language	Ladder																																					
Number of steps	1059steps (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]) --&gt; TurnOn[Turn i_bEN ON.]     subgraph FB_processing [FB internal processing]         CheckRange{Check the range of station number. 1 to 64}         CheckStatus{Check the status of ECL2-V680D1}         ReadData[Read data from the ID tag]         CheckError{Check ECL2-V680D1 for error}         IDComplete{ID command completion signal ON}     end     TurnOn --&gt; CheckRange     CheckRange -- Outside the range --&gt; SetErrID[An error code is set to o_wErrID]     CheckRange -- 1 to 64 --&gt; CheckStatus     CheckStatus -- ID-BUSY signal ON --&gt; SetErrID     CheckStatus -- ID-BUSY signal OFF --&gt; ReadData     ReadData --&gt; CheckError     CheckError -- Error detection signal ON --&gt; SetErrID     CheckError -- ID command completion signal ON --&gt; IDComplete     IDComplete --&gt; SetData[Set the data read in the device for which indirect address was specified in io_dReadData.]     SetData --&gt; SetOK[o_bOK is turned ON]     SetErrID --&gt; SetModuleErr[A unit error code is set to o_uModuleErr]     SetModuleErr --&gt; SetModuleErrON[o_bModuleErr is turned ON]     SetErrID --&gt; SetErrIDON[An error code is set to o_wErrID]     SetErrIDON --&gt; SetErrON[o_bErr is turned ON]     SetModuleErrON --&gt; SetOK     SetErrON --&gt; SetOK     SetOK --&gt; TurnOff[i_bEN is turned OFF]     TurnOff --&gt; End([End]) </pre>																													
	<p>2) When Processing specification made in P+MEE-ECL2-V680D1_InitDataSet (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><b>Example</b></p> <p>0: Upper to the lower</p> <table border="1" style="display: inline-table; margin-right: 20px;"> <thead> <tr> <th>Address</th> <th>ID tag memory</th> <th>CPU unit devices</th> </tr> </thead> <tbody> <tr> <td>0010</td> <td>Data1</td> <td>Data1 : Data2</td> </tr> <tr> <td>0011</td> <td>Data2</td> <td>Data3 : Data4</td> </tr> <tr> <td>0012</td> <td>Data3</td> <td></td> </tr> <tr> <td>0013</td> <td>Data4</td> <td></td> </tr> </tbody> </table> <p>1: lower to the upper</p> <table border="1" style="display: inline-table;"> <thead> <tr> <th>Address</th> <th>ID tag memory</th> <th>CPU unit devices</th> </tr> </thead> <tbody> <tr> <td>0010</td> <td>Data1</td> <td>Data2 : Data1</td> </tr> <tr> <td>0011</td> <td>Data2</td> <td>Data4 : Data3</td> </tr> <tr> <td>0012</td> <td>Data3</td> <td></td> </tr> <tr> <td>0013</td> <td>Data4</td> <td></td> </tr> </tbody> </table> <p>3) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (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> <p>5) If an error occurs in ECL2-V680D1, 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>	Address	ID tag memory	CPU unit devices	0010	Data1	Data1 : Data2	0011	Data2	Data3 : Data4	0012	Data3		0013	Data4		Address	ID tag memory	CPU unit devices	0010	Data1	Data2 : Data1	0011	Data2	Data4 : Data3	0012	Data3		0013	Data4
Address	ID tag memory	CPU unit devices																												
0010	Data1	Data1 : Data2																												
0011	Data2	Data3 : Data4																												
0012	Data3																													
0013	Data4																													
Address	ID tag memory	CPU unit devices																												
0010	Data1	Data2 : Data1																												
0011	Data2	Data4 : Data3																												
0012	Data3																													
0013	Data4																													

Item	Description
	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.
Compiling method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</li> <li>2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module".</li> <li>3) Set the global label setting according to Section "1.5 Setting Global Labels".</li> <li>4) The FB cannot be used in an interrupt program.</li> <li>5) When multiple FBs are used, care should be taken not to use the same target station number.</li> <li>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.</li> <li>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.</li> <li>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-ECL2-V680D1_InitDataSet (Set Initial Data) before executing this FB.</li> <li>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.</li> <li>10) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> <li>▪ i_wStartIONo(Start I/O No.)</li> <li>▪ i_wStationNo(Station No.)</li> <li>▪ i_wAddressNo(Start address specification)</li> <li>▪ i_wReadByte(Processing specification)</li> </ul> </li> <li>11) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored.</li> <li>12) Enter pulse in i_bReception(Result reception).</li> <li>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.</li> <li>14) Only one master/local module can be controlled by the CC-Link 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".</li> <li>15) If processing of this FB is not completed, check if i_wStartIONo(Start I/O No.) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) has been completed before executing this FB.</li> </ol>
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	<p>ECL2-V680D1 RFID Interface Module User's Manual (Details) MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)</p>	

## ■Error code list

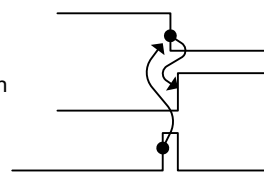
Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
13(Decimal)	i_wReadByte(Processing specification) is outside the specified range.	[Trigger] Specify value in the 0001 to 0800 range (Hexadecimal) 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)	ECL2-V680D1 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 I/O No.	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 master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (Decimal)	Specify the target station number.
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_bError	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	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.  o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception]



FB Version Upgrade History

Version	Date	Description
1.01A	2022/3/28	English Version Addition

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-ECL2-V680D1\_Write (Write to ID tag)

FB Name

P+MEE-ECL2-V680D1\_Write

### Function Overview

Item	Description																																	
Function overview	Writes data to an ID tag.																																	
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">P+MEE-ECL2-V680D1_Write</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 30%;">B : i_bEN</td> <td style="width: 30%;">o_bENO : B</td> <td style="width: 10%;">Execution status</td> </tr> <tr> <td>Start I/O No.</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_bError : B</td> <td>Error completion</td> </tr> <tr> <td>Start address specification</td> <td>W : i_wAddressNo</td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td>Processing specification</td> <td>W : i_wWriteByte</td> <td>o_bModuleErr : B</td> <td>Module error</td> </tr> <tr> <td>Write data (Indirect address)</td> <td>D : i_dWriteData</td> <td>o_uModuleErr : UW</td> <td>Module error code</td> </tr> <tr> <td>Result reception</td> <td>B : i_bReception</td> <td>o_bIDComEnd : B</td> <td>ID communication complete</td> </tr> </tbody> </table>		P+MEE-ECL2-V680D1_Write				Execution command	B : i_bEN	o_bENO : B	Execution status	Start I/O No.	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bError : B	Error completion	Start address specification	W : i_wAddressNo	o_wErrID : W	Error code	Processing specification	W : i_wWriteByte	o_bModuleErr : B	Module error	Write data (Indirect address)	D : i_dWriteData	o_uModuleErr : UW	Module error code	Result reception	B : i_bReception	o_bIDComEnd : B	ID communication complete
P+MEE-ECL2-V680D1_Write																																		
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Station No.	W : i_wStationNo	o_bError : B	Error completion																															
Start address specification	W : i_wAddressNo	o_wErrID : W	Error code																															
Processing specification	W : i_wWriteByte	o_bModuleErr : B	Module error																															
Write data (Indirect address)	D : i_dWriteData	o_uModuleErr : UW	Module error code																															
Result reception	B : i_bReception	o_bIDComEnd : B	ID communication complete																															
Applicable hardware and software	RFID interface module	ECL2-V680D1																																
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MELSEC iQ-R Series	RJ61BT11																																	
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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>Version1.00A or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.00A or later																												
Series		Model																																
MELSEC iQ-R Series	Version1.00A or later																																	
Programming Language	Ladder																																	
Number of steps	1096steps (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.</p> <p>When writing is completed, o_bOK (Normal completion) is turned ON.</p> <pre> graph TD     Start([Start]) --&gt; TurnOn[Turn i_bEN ON.]     subgraph FB_processing [FB internal processing]         CheckRange{Check the range of station number.}         CheckStatus{Check the status of ECL2-V680D1}         WriteData[Write data to the ID tag]         CheckError{Check ECL2-V680D1 for error}         SetUnitErr[A unit error code is set to o_uModuleErr]         SetErrID[An error code is set to o_wErrID]         TurnOnOK[o_bOK is turned ON]         TurnOnModErr[o_bModuleErr is turned ON]         TurnOnErr[o_bErr is turned ON]     end     TurnOn --&gt; CheckRange     CheckRange -- Outside the range --&gt; TurnOnErr     CheckRange -- 1 to 64 --&gt; CheckStatus     CheckStatus -- ID-BUSY signal ON --&gt; TurnOnErr     CheckStatus -- ID-BUSY signal OFF --&gt; WriteData     WriteData --&gt; CheckError     CheckError -- Error detection signal ON --&gt; SetErrID     CheckError -- ID command completion signal ON --&gt; TurnOnOK     SetErrID --&gt; TurnOnErr     TurnOnModErr --&gt; TurnOnErr     TurnOnErr --&gt; TurnOff[i_bEN is turned OFF]     TurnOff --&gt; End([End]) </pre> <p>2) When Processing specification made in P+MEE-ECL2-V680D1_InitDataSet (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><b>Example</b></p> <p>0: Upper to the lower</p> <table border="1" data-bbox="399 1523 877 1713"> <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 1523 1436 1713"> <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-ECL2-V680D1_InitDataSet (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
	CPU unit devices	Address	ID tag memory																												
Data1 : Data2	0010	Data1																													
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Data2 : Data1	0010	Data1																													
Data4 : Data3	0011	Data2																													
	0012	Data3																													
	0013	Data4																													

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 ECL2-V680D1, 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 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-ECL2-V680D1_InitDataSet (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"> <li>▪ i_wStartIONo (Start I/O No.)</li> <li>▪ i_wStationNo (Station No.)</li> <li>▪ i_wAddressNo (Start address specification)</li> <li>▪ i_wWriteByte (Processing specification)</li> <li>▪ i_dWriteData (Indirect addressing of write data)</li> </ul>

Item	Description
	<p>11) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (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 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 I/O No.) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECL2-V680D1_InitDataSet (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>
	<p>Relevant manuals</p> <p>ECL2-V680D1 RFID Interface Module User's Manual (Details) MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)</p>	

## ■Error code list

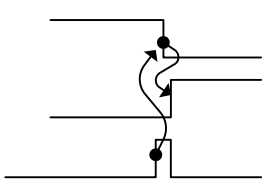
Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
13(Decimal)	i_wWriteByte(Processing specification) is outside the specified range.	[Trigger] Specify value in the 0001 to 0800 range (Hexadecimal) 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)	ECL2-V680D1 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 I/O No.	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 master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (Decimal)	Specify the target station number.
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_dWriteByte(Processing specification).
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_bError	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	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
1.01A	2022/3/28	English Version Addition

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-ECL2-V680D1\_Fill (Fill Data in ID Tag)

FB Name

P+MEE-ECL2-V680D1\_Fill

### 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-ECL2-V680D1_Fill</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 20%;">B : i_bEN</td> <td style="width: 20%;">o_bENO : B</td> <td style="width: 30%;">Execution status</td> </tr> <tr> <td>Start I/O No.</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_bError : B</td> <td>Error completion</td> </tr> <tr> <td>Start address specification</td> <td>W : i_wAddressNo</td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td>Processing specification</td> <td>W : i_wFillByte</td> <td>o_bModuleErr : B</td> <td>Module error</td> </tr> <tr> <td>Fill data</td> <td>W : i_wFillData</td> <td>o_uModuleErr : UW</td> <td>Module error code</td> </tr> <tr> <td>Result reception</td> <td>B : i_bReception</td> <td>o_bIDComEnd : B</td> <td>ID communication complete</td> </tr> </tbody> </table>		P+MEE-ECL2-V680D1_Fill				Execution command	B : i_bEN	o_bENO : B	Execution status	Start I/O No.	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bError : B	Error completion	Start address specification	W : i_wAddressNo	o_wErrID : W	Error code	Processing specification	W : i_wFillByte	o_bModuleErr : B	Module error	Fill data	W : i_wFillData	o_uModuleErr : UW	Module error code	Result reception	B : i_bReception	o_bIDComEnd : B	ID communication complete
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Processing specification	W : i_wFillByte	o_bModuleErr : B	Module error																															
Fill data	W : i_wFillData	o_uModuleErr : UW	Module error code																															
Result reception	B : i_bReception	o_bIDComEnd : B	ID communication complete																															
Applicable hardware and software	RFID interface module	ECL2-V680D1																																
	CC-Link 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>RJ61BT11</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ61BT11																												
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MELSEC iQ-R Series	Version1.00A or later																																	
Programming Language	Ladder																																	
Number of steps	867steps (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]) --&gt; TurnOn[Turn i_bEN ON.]     subgraph FB_processing [FB internal processing]         CheckRange{Check the range of station number.}         CheckStatus{Check the status of ECL2-V680D1}         FillData[Data in the ID tag is filled]         CheckError{Check ECL2-V680D1 for error}     end     TurnOn --&gt; CheckRange     CheckRange -- "Outside the range" --&gt; TurnOff[i_bEN is turned OFF]     CheckRange -- "1 to 64" --&gt; CheckStatus     CheckStatus -- "ID-BUSY signal ON" --&gt; TurnOff     CheckStatus -- "ID-BUSY signal OFF" --&gt; FillData     FillData --&gt; CheckError     CheckError -- "Error detection signal ON" --&gt; SetUnitErr[A unit error code is set to o_uModuleErr]     CheckError -- "ID command completion signal ON" --&gt; TurnOnOK[o_bOK is turned ON]     SetUnitErr --&gt; SetModuleErr[o_bModuleErr is turned ON]     SetModuleErr --&gt; TurnOff     CheckError -- "Error detection signal ON" --&gt; SetErrID[An error code is set to o_wErrID]     SetErrID --&gt; SetBErr[o_bErr is turned ON]     SetBErr --&gt; TurnOff     TurnOff --&gt; End([End])   </pre>																													
	<p>2) When Processing specification made in P+MEE-ECL2-V680D1_InitDataSet (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="399 1366 877 1568"> <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="957 1366 1436 1568"> <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-ECL2-V680D1_InitDataSet (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
Fill data	Address	ID tag memory																												
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Data2   Data1	0010	Data1																												
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	0012	Data1																												
	0013	Data2																												

Item	Description
	<p>5) If an error occurs in ECL2-V680D1, 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"> <li>1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</li> <li>2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module".</li> <li>3) Set the global label setting according to Section "1.5 Setting Global Labels".</li> <li>4) The FB cannot be used in an interrupt program.</li> <li>5) When multiple FBs are used, care should be taken not to use the same target station number.</li> <li>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.</li> <li>7) This FB uses index registers Z5 to Z9. When an interrupt program is used, do not use these index registers.</li> <li>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-ECL2-V680D1_InitDataSet (Set Initial Data) before executing this FB.</li> <li>9) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> <li>▪ i_wStartIONo(Start I/O No.)</li> <li>▪ i_wStationNo(Station No.)</li> <li>▪ i_wAddressNo(Start address specification)</li> <li>▪ i_wFillByte(Processing specification)</li> <li>▪ i_wFillData(Fill data)</li> </ul> </li> <li>10) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored.</li> <li>11) In data fill, the write protect does not function, because all data in the ID tag is initialized.</li> <li>12) Enter pulse in i_bReception(Result reception).</li> <li>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.</li> <li>14) Only one master/local module can be controlled by the CC-Link 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".</li> <li>15) If processing of this FB is not completed, check if i_wStartIONo (Start I/O No.) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) has been completed before executing this FB.</li> </ol>

Item	Description	
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>
	<p>Relevant manuals</p> <p>ECL2-V680D1 RFID Interface Module User's Manual (Details) MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)</p>	



## Error codes

### ■Error code list

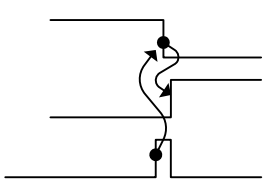
Error code	Description	Action
11(Decimal)	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
14(Decimal)	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

## 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 I/O No.	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 master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (Decimal)	Specify the target station number.
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.
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_bError	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	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: 20px;"> <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
1.01A	2022/3/28	English Version Addition

## 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-ECL2-V680D1\_UIDRead (Read UID of ID Tag)

FB Name

P+MEE-ECL2-V680D1\_UIDRead

### 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-ECL2-V680D1_UIDRead</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 I/O No.</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_bError : B — Error completion</td> </tr> <tr> <td>Result reception</td> <td>B : i_bReception</td> <td>o_wErrID : W — Error code</td> </tr> <tr> <td></td> <td></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>UID of the ID tag (Indirect address)</td> <td>D : io_dUID</td> <td>io_dUID : D — UID of the ID tag (Indirect address)</td> </tr> <tr> <td></td> <td></td> <td>o_bIDComEnd : B — ID communication complete</td> </tr> </tbody> </table>		P+MEE-ECL2-V680D1_UIDRead			Execution command	B : i_bEN	o_bENO : B — Execution status	Start I/O No.	W : i_wStartIONo	o_bOK : B — Normal completion	Station No.	W : i_wStationNo	o_bError : B — Error completion	Result reception	B : i_bReception	o_wErrID : W — Error code			o_bModuleErr : B — Module error			o_uModuleErr : UW — Module error code	UID of the ID tag (Indirect address)	D : io_dUID	io_dUID : D — UID of the ID tag (Indirect address)			o_bIDComEnd : B — ID communication complete
P+MEE-ECL2-V680D1_UIDRead																													
Execution command	B : i_bEN	o_bENO : B — Execution status																											
Start I/O No.	W : i_wStartIONo	o_bOK : B — Normal completion																											
Station No.	W : i_wStationNo	o_bError : B — Error completion																											
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		o_bModuleErr : B — Module error																											
		o_uModuleErr : UW — Module error code																											
UID of the ID tag (Indirect address)	D : io_dUID	io_dUID : D — UID of the ID tag (Indirect address)																											
		o_bIDComEnd : B — ID communication complete																											
Applicable hardware and software	RFID interface module	ECL2-V680D1																											
	CC-Link 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>RJ61BT11</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ61BT11																							
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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, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																								
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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>Version1.00A or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.00A or later																							
Series	Model																												
MELSEC iQ-R Series	Version1.00A or later																												
Programming Language	Ladder																												
Number of steps	916steps (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]) --&gt; TurnOn[Turn i_bEN ON.]     subgraph FB_processing [FB internal processing]         CheckRange{Check the range of station number.}         CheckStatus{Check the status of ECL2-V680D1}         ReadUID[Reads the UID from the ID tag]         CheckError{Check ECL2-V680D1 for error}         SetUID[Sets the read UID with indirect address specified with io_dUID.]         SetModuleErr[A unit error code is set to o_uModuleErr]         SetWErrID[An error code is set to o_wErrID]         TurnOnOK[o_bOK is turned ON]         TurnOnModuleErr[o_bModuleErr is turned ON]         TurnOnWErrID[o_bErr is turned ON]     end     TurnOn --&gt; CheckRange     CheckRange -- 1 to 64 --&gt; CheckStatus     CheckRange -- Outside the range --&gt; TurnOnOK     CheckStatus -- ID-BUSY signal ON --&gt; TurnOnOK     CheckStatus -- ID-BUSY signal OFF --&gt; ReadUID     ReadUID --&gt; CheckError     CheckError -- Error detection signal ON --&gt; SetModuleErr     CheckError -- ID command completion signal ON --&gt; SetUID     SetModuleErr --&gt; TurnOnModuleErr     SetWErrID --&gt; TurnOnWErrID     SetUID --&gt; TurnOnOK     TurnOnModuleErr --&gt; TurnOnOK     TurnOnWErrID --&gt; TurnOnOK     TurnOnOK --&gt; TurnOff[i_bEN is turned OFF]     TurnOff --&gt; End([End]) </pre> <p>2) If Communication specification made in P+MEE-ECL2-V680D1_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 ECL2-V680D1, 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"> <li>1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</li> <li>2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module".</li> <li>3) Set the global label setting according to Section "1.5 Setting Global Labels".</li> <li>4) The FB cannot be used in an interrupt program.</li> <li>5) When multiple FBs are used, care should be taken not to use the same target station number.</li> <li>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.</li> <li>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.</li> <li>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-ECL2-V680D1_InitDataSet (Set Initial Data) before executing this FB.</li> <li>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.</li> <li>10) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> <li>▪ i_wStartIONo(Start I/O No.)</li> <li>▪ i_wStationNo(Station No.)</li> </ul> </li> <li>11) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored.</li> <li>12) Enter pulse in i_bReception(Result reception).</li> <li>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.</li> <li>14) Only one master/local module can be controlled by the CC-Link 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".</li> <li>15) If processing of this FB is not completed, check if i_wStartIONo(Start I/O No.) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) has been completed before executing this FB.</li> </ol>
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>Relevant manuals</p> <p>ECL2-V680D1 RFID Interface Module User's Manual (Details)  MELSEC iQ-R CC-Link System Master/Local Module 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 64.
14(Decimal)	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

## Labels

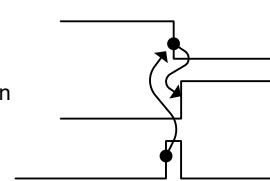
### ■Input labels

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 I/O No.	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 master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (Decimal)	Specify the target station number.
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_bError	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	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.  o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception]



FB Version Upgrade History

Version	Date	Description
1.01A	2022/3/28	English Version Addition

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-ECL2-V680D1\_MeasureNoise (Measures Noise)

FB Name

P+MEE-ECL2-V680D1\_MeasureNoise

### 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="4" style="text-align: center;">P+MEE-ECL2-V680D1_MeasureNoise</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 I/O No.</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_bError : B</td> <td>Error completion</td> </tr> <tr> <td></td> <td></td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td></td> <td></td> <td>o_bModuleErr : B</td> <td>Module error</td> </tr> <tr> <td></td> <td></td> <td>o_uModuleErr : UW</td> <td>Module error code</td> </tr> <tr> <td>Measurement Result (Indirect address)</td> <td>D : io_dResult</td> <td>io_dResult : D</td> <td>Measurement Result (Indirect address)</td> </tr> </tbody> </table>		P+MEE-ECL2-V680D1_MeasureNoise				Execution command	B : i_bEN	o_bENO : B	Execution status	Start I/O No.	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bError : B	Error completion			o_wErrID : W	Error code			o_bModuleErr : B	Module error			o_uModuleErr : UW	Module error code	Measurement Result (Indirect address)	D : io_dResult	io_dResult : D	Measurement Result (Indirect address)
P+MEE-ECL2-V680D1_MeasureNoise																																		
Execution command	B : i_bEN	o_bENO : B	Execution status																															
Start I/O No.	W : i_wStartIONo	o_bOK : B	Normal completion																															
Station No.	W : i_wStationNo	o_bError : B	Error completion																															
		o_wErrID : W	Error code																															
		o_bModuleErr : B	Module error																															
		o_uModuleErr : UW	Module error code																															
Measurement Result (Indirect address)	D : io_dResult	io_dResult : D	Measurement Result (Indirect address)																															
Applicable hardware and software	RFID interface module	ECL2-V680D1																																
	CC-Link 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>RJ61BT11</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ61BT11																												
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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, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																													
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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>Version1.00A or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.00A or later																												
Series	Model																																	
MELSEC iQ-R Series	Version1.00A or later																																	
Programming Language	Ladder																																	
Number of steps	765steps (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]) --&gt; TurnOn[Turn i_bEN ON.]     subgraph FB_processing [FB internal processing]         CheckRange{Check the range of station number. 1 to 64}         CheckStatus{Check the status of ECL2-V680D1}         MeasureNoise[Measures the noise environment where the antenna is placed]         CheckError{Check ECL2-V680D1 for error}         SetResults[Sets measurement results in the device with indirect address specified with io_dResult]     end     TurnOn --&gt; CheckRange     CheckRange -- Outside the range --&gt; SetResults     CheckRange -- 1 to 64 --&gt; CheckStatus     CheckStatus -- ID-BUSY signal ON --&gt; SetResults     CheckStatus -- ID-BUSY signal OFF --&gt; MeasureNoise     MeasureNoise --&gt; CheckError     CheckError -- Error detection signal ON --&gt; SetError1[A unit error code is set to o_uModuleErr]     CheckError -- ID command completion signal ON --&gt; SetResults     SetError1 --&gt; SetError1Out[o_bModuleErr is turned ON]     SetError2[An error code is set to o_wErrID] --&gt; SetError2Out[o_bErr is turned ON]     SetResults --&gt; SetResultsOut[o_bOK is turned ON]     SetError1Out --&gt; TurnOff[i_bEN is turned OFF]     SetError2Out --&gt; TurnOff     SetResultsOut --&gt; TurnOff     end     TurnOff --&gt; 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 ECL2-V680D1, 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"> <li>1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</li> <li>2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module".</li> <li>3) Set the global label setting according to Section "1.5 Setting Global Labels".</li> <li>4) The FB cannot be used in an interrupt program.</li> <li>5) When multiple FBs are used, care should be taken not to use the same target station number.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>9) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> <li>▪ i_wStartIONo(Start I/O No.)</li> <li>▪ i_wStationNo(Station No.)</li> </ul> </li> <li>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.</li> <li>11) Only one master/local module can be controlled by the CC-Link 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".</li> <li>12) If processing of this FB is not completed, check if i_wStartIONo(Start I/O No.) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) has been completed before executing this FB.</li> </ol>
FB operation type	Pulsed execution (multiple scan execution type)

Item	Description
Timing chart	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>[When operation completes without error]</p> </div> <div style="width: 45%;"> <p>[When an error occurs]</p> </div> </div>
	<p>[For Module error]</p>
	<p>Relevant manuals</p> <p>ECL2-V680D1 RFID Interface Module User's Manual (Details)  MELSEC iQ-R CC-Link System Master/Local Module 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 64.
14(Decimal)	ECL2-V680D1 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 I/O No.	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 master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (Decimal)	Specify the target station number.
Measurement Result (Indirect address)	io_dResult	Double Word	00000000 to FFFFFFF (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_bError	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	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: 40px;"> <thead> <tr> <th colspan="2">Storage area</th> <th></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)
Storage area																
+0	Average value	0 to 99 (Decimal)														
+1	Maximum value	0 to 99 (Decimal)														
+2	Minimum value	0 to 99 (Decimal)														

FB Version Upgrade History

Version	Date	Description
1.01A	2022/3/28	English Version Addition

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-ECL2-V680D1\_InitDataRead (Read Initial Data Settings)

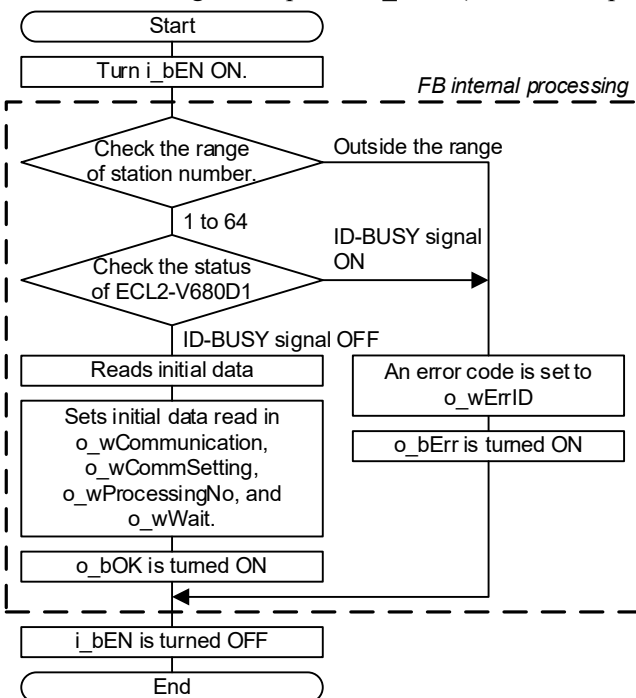
FB Name

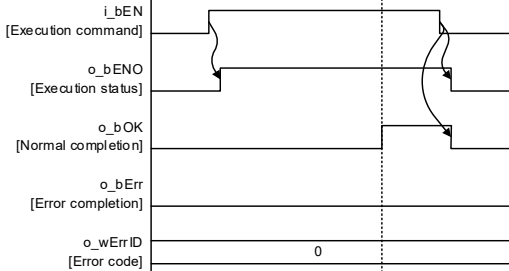
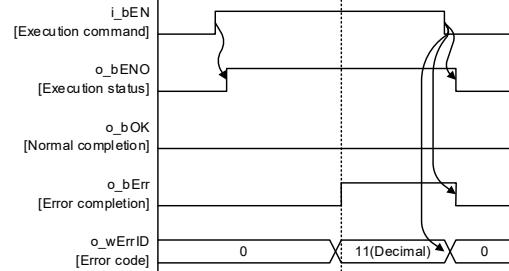
P+MEE-ECL2-V680D1\_InitDataRead

### 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-ECL2-V680D1_InitDataRead</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 I/O No.</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_bError : 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_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-ECL2-V680D1_InitDataRead			Execution command	B : i_bEN	o_bENO : B — Execution status	Start I/O No.	W : i_wStartIOno	o_bOK : B — Normal completion	Station No.	W : i_wStationNo	o_bError : B — Error completion			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-ECL2-V680D1_InitDataRead																													
Execution command	B : i_bEN	o_bENO : B — Execution status																											
Start I/O No.	W : i_wStartIOno	o_bOK : B — Normal completion																											
Station No.	W : i_wStationNo	o_bError : B — Error completion																											
		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																											
Applicable hardware and software	RFID interface module	ECL2-V680D1																											
	CC-Link 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>RJ61BT11</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ61BT11																							
	Series	Model																											
MELSEC iQ-R Series	RJ61BT11																												
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, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																								
Series	Model																												
MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																												
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>Version1.00A or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.00A or later																							
Series	Model																												
MELSEC iQ-R Series	Version1.00A or later																												
Programming Language	Ladder																												
Number of steps	704steps (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>  <pre> graph TD     Start([Start]) --&gt; TurnON[Turn i_bEN ON.]     subgraph FB_processing [FB internal processing]         CheckRange{Check the range of station number. 1 to 64}         CheckStatus{Check the status of ECL2-V680D1}         ReadData[Reads initial data]         SetData[Sets initial data read in o_wCommunication, o_wCommSetting, o_wProcessingNo, and o_wWait.]         TurnOK[o_bOK is turned ON]     end     TurnON --&gt; CheckRange     CheckRange --&gt; CheckStatus     CheckStatus -- ID-BUSY signal ON --&gt; SetErr[An error code is set to o_wErrID]     SetErr --&gt; TurnErr[o_bErr is turned ON]     CheckStatus -- ID-BUSY signal OFF --&gt; ReadData     ReadData --&gt; SetData     SetData --&gt; TurnOK     TurnErr --&gt; TurnOK     TurnOK --&gt; TurnOff[i_bEN is turned OFF]     TurnOff --&gt; 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>
Compiling method	Macro type
Restrictions and precautions	<ol style="list-style-type: none"> <li>1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</li> <li>2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module".</li> <li>3) Set the global label setting according to Section "1.5 Setting Global Labels".</li> <li>4) The FB cannot be used in an interrupt program.</li> <li>5) When multiple FBs are used, care should be taken not to use the same target station number.</li> <li>6) Please ensure that the i_bEN (Execution command) 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.</li> </ol>

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"> <li>▪ i_wStartIONo(Start I/O No.)</li> <li>▪ i_wStationNo(Station No.)</li> </ul> <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 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 I/O No.) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECL2-V680D1_InitDataSet (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="text-align: center;"> <p>[For successful completion]</p>  </div> <div style="text-align: center;"> <p>[When an error occurs]</p>  </div> </div>
Relevant manuals	<p>ECL2-V680D1 RFID Interface Module User's Manual (Details)</p> <p>MELSEC iQ-R CC-Link System Master/Local Module 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 64.
14(Decimal)	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

## Labels

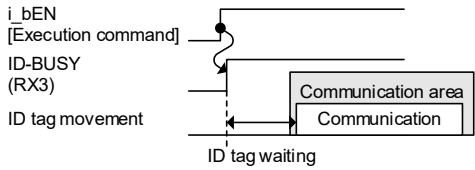
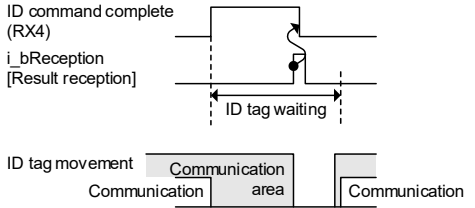
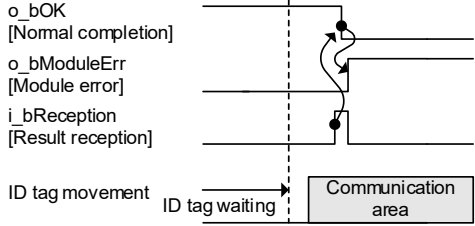
### ■Input labels

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 I/O No.	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 master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (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_bError	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.
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

Name	Label name	Data type	Initial Value	Description												
Communication setting	o_wCommSetting	Word	0	<p>The communication setting for the ID tag is stored.</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> <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															
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															
Processing specification	o_wProcessingNo	Word	0	<p>The command data processing method for the ID tag is stored.</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 function 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	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). (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
1.01A	2022/3/28	English Version Addition

## 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.

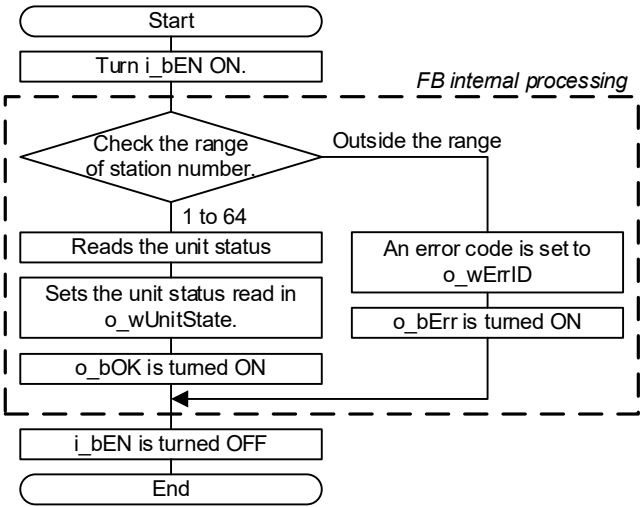
## 2.8 P+MEE-ECL2-V680D1\_StatusRead (Read Module Status)

FB Name

P+MEE-ECL2-V680D1\_StatusRead

### Function Overview

Item	Description																									
Function overview	Read Module Status.																									
Symbol	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">P+MEE-ECL2-V680D1_StatusRead</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Execution command</td> <td style="width: 30%;">B : i_bEN</td> <td style="width: 30%;">o_bENO : B</td> <td style="width: 10%;">Execution status</td> </tr> <tr> <td>Start I/O No.</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_bError : B</td> <td>Error completion</td> </tr> <tr> <td></td> <td></td> <td>o_wErrID : W</td> <td>Error code</td> </tr> <tr> <td></td> <td></td> <td>o_wUnitState : W</td> <td>Module status</td> </tr> </tbody> </table>		P+MEE-ECL2-V680D1_StatusRead				Execution command	B : i_bEN	o_bENO : B	Execution status	Start I/O No.	W : i_wStartIONo	o_bOK : B	Normal completion	Station No.	W : i_wStationNo	o_bError : B	Error completion			o_wErrID : W	Error code			o_wUnitState : W	Module status
P+MEE-ECL2-V680D1_StatusRead																										
Execution command	B : i_bEN	o_bENO : B	Execution status																							
Start I/O No.	W : i_wStartIONo	o_bOK : B	Normal completion																							
Station No.	W : i_wStationNo	o_bError : B	Error completion																							
		o_wErrID : W	Error code																							
		o_wUnitState : W	Module status																							
Applicable hardware and software	RFID Interface module	ECL2-V680D1																								
	CC-Link 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>RJ61BT11</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	RJ61BT11																				
		Series	Model																							
	MELSEC iQ-R Series	RJ61BT11																								
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, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																					
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MELSEC iQ-R Series	R04CPU, R08CPU, R16CPU, R32CPU, R120CPU, R08PCPU, R16PCPU, R32PCPU, R120PCPU, R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU																									
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>Version1.00A or later</td> </tr> </tbody> </table>	Series	Model	MELSEC iQ-R Series	Version1.00A or later																					
	Series	Model																								
MELSEC iQ-R Series	Version1.00A or later																									
Programming Language	Ladder																									
Number of steps	604steps (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_wUnitState (Module status). When reading is completed, o_bOK (Normal completion) is turned ON.</p>  <pre> graph TD     Start([Start]) --&gt; 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_wUnitState.]         TurnOK[o_bOK is turned ON]         ErrorSet[An error code is set to o_wErrID]         TurnErr[o_bErr is turned ON]         CheckRange -- "1 to 64" --&gt; ReadStatus         ReadStatus --&gt; SetStatus         SetStatus --&gt; TurnOK         CheckRange -- "Outside the range" --&gt; ErrorSet         ErrorSet --&gt; TurnErr     end     TurnOn --&gt; CheckRange     TurnOK --&gt; TurnOff[i_bEN is turned OFF]     TurnErr --&gt; TurnOff     TurnOff --&gt; End([End]) </pre> <p>2) This FB works only once when i_bEN(Execution command) is turned ON. 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"> <li>1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.</li> <li>2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module".</li> <li>3) Set the global label setting according to Section "1.5 Setting Global Labels".</li> <li>4) The FB cannot be used in an interrupt program.</li> <li>5) When multiple FBs are used, care should be taken not to use the same target station number.</li> <li>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.</li> <li>7) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program.</li> <li>8) Do not change the following values while i_bEN (Execution command) is ON. <ul style="list-style-type: none"> <li>▪ i_wStartIONo(Start I/O No.)</li> <li>▪ i_wStationNo(Station No.)</li> </ul> </li> <li>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.</li> <li>10) Only one master/local module can be controlled by the CC-Link 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".</li> </ol>



Item	Description
	11) If processing of this FB is not completed, check if i_wStartIONo(Start I/O No.) is correct, i_wStationNo (Station No.) matches the network station number, or P+MEE-ECL2-V680D1_InitDataSet (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	ECL2-V680D1 RFID Interface Module User's Manual (Details) MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)

## 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 64.

## 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 I/O No.	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 Network master/local module is mounted. (For example, enter HA0 for XA0.)
Station No.	i_wStationNo	Word	1 to 64 (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_bError	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_wErrID	Word	0	FB error code output.
Module status	o_wUnitState	Word	0	The RFID Interface unit status can be verified. Bit 0: Antenna error 0: Normal or antenna not connected. 1: 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
1.01A	2022/3/28	English Version Addition

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

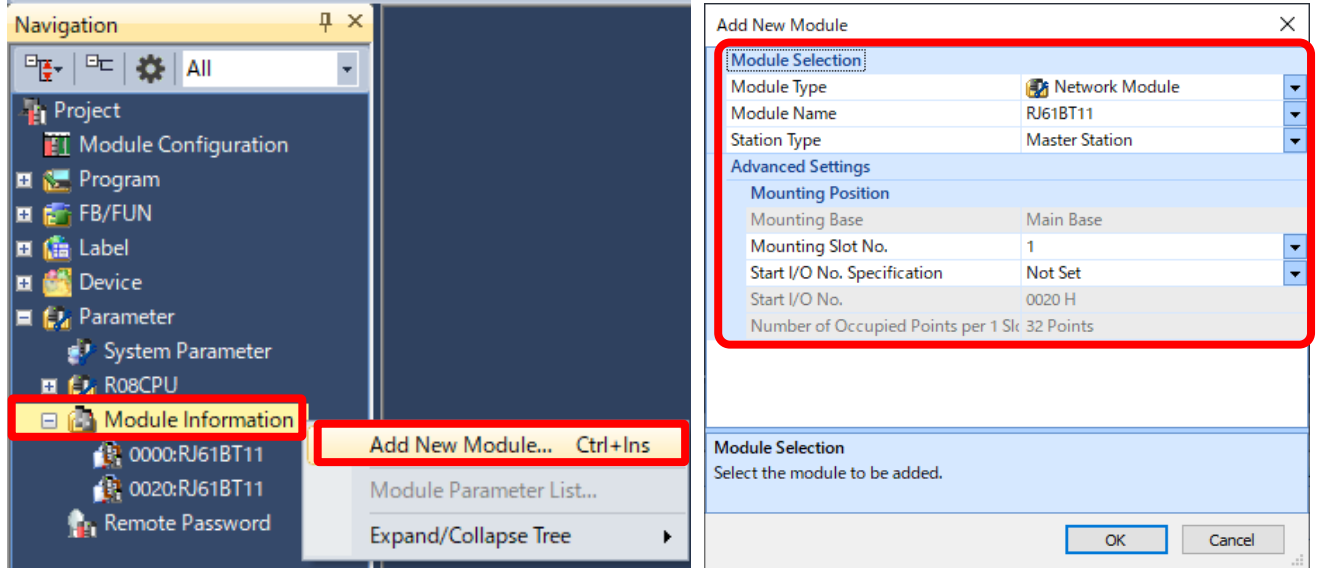
Four steps are required to create the FB for the second and subsequent modules.

- 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 Enter network parameters.

1) Set the network parameter for the second piece.

Add a second network module from "Add New Module" in "Module Information".



項目	内容
Station Type	Set the station type. Select "Master Station".
Communication Mode (*1)	Set the mode. Select "Remote Net (Ver.1 Mode)".
Transmission Speed	Set the transmission speed. Select "156kbps".
Special relay (SB) refresh device	Set the start device No. of link special relay (SB). Set [SB] to the device name, and [00200] to the start.
Special register (SW) refresh device	Set the start device No. of link special register (SW). Set [SW] to the device name, and [00200] to the start.
Remote input (RX) refresh device	Set the start device No. of remote input (RX) assigned to remote module station. Set [X] to the device name, and [02000] to the start.
Remote output (RY) refresh device	Set the start device No. of remote output (RY) assigned to remote module station. Set [Y] to the device name, and [02000] to the start.
Remote register (RW <sub>r</sub> ) refresh device	Set the start device No. of remote register (RW <sub>r</sub> ) assigned to remote module station. Set [W] to the device name, and [00100] to the start.
Remote register (RW <sub>w</sub> ) refresh device	Set the start device No. of remote register (RW <sub>w</sub> ) assigned to remote module station. Set [W] to the device name, and [00300] to the start.

(\*1) Select "Remote Net Ver.1 Mode" or "Remote Net Ver.2 Mode".

## Network parameters for the MELSEC IQ-R series

0000:RJ61BT11 Module Parameter

**Setting Item List**

Input the Setting Item to Search

- Required Settings
  - Station Type
  - Mode
  - Station No.
  - Transmission Speed
  - Parameter Setting Method
- Basic Settings
- Application Settings

**Setting Item**

Item	Setting
<b>Station Type</b>	
Station Type	Master Station
<b>Mode</b>	
Communication Mode	Remote Net Ver.1 Mode
<b>Station No.</b>	
Station No.	0
<b>Transmission Speed</b>	
Transmission Speed	156kbps
<b>Parameter Setting Method</b>	
Setting Method of Basic/Application Settings	Parameter Editor

**Explanation**

Set the station type.

Check      Restore the Default Settings

Apply

## Link refresh settings for the MELSEC IQ-R series

0020:RJ61BT11 Module Parameter

**Setting Item List**

Input the Setting Item to Search

- Required Settings
- Basic Settings
  - Own Station Setting
  - Network Configuration Settings
  - Link Refresh Settings
  - Initial Settings
- Application Settings

**Setting Item**

No.	Link Side					CPU Side			
	Device Name	Points	Start	End		Target	Device Name	Points	Start
-	SB	512	00000	001FF	Specify Devic	SB	512	00200	003FF
-	SW	512	00000	001FF	Specify Devic	SW	512	00200	003FF
1	RX	2048	00000	007FF	Specify Devic	X	2048	02000	027FF
2	RY	2048	00000	007FF	Specify Devic	Y	2048	02000	027FF
3	RWw	256	00000	000FF	Specify Devic	W	256	00100	001FF
4	RWw	256	00000	000FF	Specify Devic	W	256	00300	003FF

**Explanation**

Select a device type (RX/RX/RWw/RWw).

Check      Restore the Default Settings



Apply

2) Input the network configuration for the second piece.



項目	内容
Station Type (*1)	Set the type of remote module station connected to the master station. Set "Remote Device Station".
Expanded Cyclic Setting (*1)	The extended cyclic settings will vary according to the setting value for the RFID interface module's mode selection switch.
STA Occupied (*1)	Set the number of stations occupied by the remote module. The STA occupied's will vary according to the setting value for the RFID interface module's mode selection switch. Select "4 Occupied Station".
Reserved/ Err Invalid STA	Select the remote module's reserved station/invalid station. Select "No Setting".

(\*1) Match the station information setting to the setting for the RFID interface module's mode selection switch.

Station information settings when mode switch is 0 or 4

	Station No.	Model Name	Station Type	Version	STA Occupied	Expanded Cyclic Setting	Remote Station Points	Reserved/Err Invalid STA	Intelligent Buffer Selection (decimal-word unit)		
									Send	Receive	Auto
	0/0	Host Station	Master Station								
	1/1	General Remote Device Station	Remote Device Station	Ver.1	4 Occupied Station	Single	128 Points	No Setting			

Station information settings when mode switch is 5 to 7

	Station No.	Model Name	Station Type	Version	STA Occupied	Expanded Cyclic Setting	Remote Station Points	Reserved/Err Invalid STA	Intelligent Buffer Selection (decimal-word unit)		
									Send	Receive	Auto
	0/0	Host Station	Master Station								
	1/1	General Remote Device Station	Remote Device Station	Ver.2	2 Occupied Station	Octuple	384 Points	No Setting			

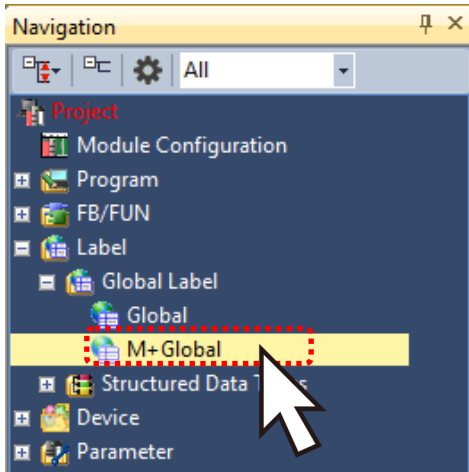
## Appendix 1.2 Entering Global Labels

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 "W400Z8".

(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 "W600Z8".

Link refresh setting:

0000:RJ61BT11 Module Parameter

Setting Item List

Setting Item

No.	Link Side				Target	CPU Side			
	Device Name	Points	Start	End		Device Name	Points	Start	End
-	SB	512	00000	001FF	Specif	SB	512	00200	003FF
-	SW	512	00000	001FF	Specif	SW	512	00200	003FF
1	RX	2048	00000	007FF	Specif	X	2048	01800	01FFF
2	RY	2048	00000	007FF	Specif	Y	2048	01800	01FFF
3	RWr	256	00000	000FF	Specif	W	256	00400	004FF
4	RWw	256	00000	000FF	Specif	W	256	00600	006FF
5									

Explanation  
Select a device type (RX/RX/RWr/RWw).

Check Restore the Default Settings Apply

Global label setting:

M+ Global [Global Label Setting]

<Filter> Easy Display Display Setting Check Warning) This file is system file. Please

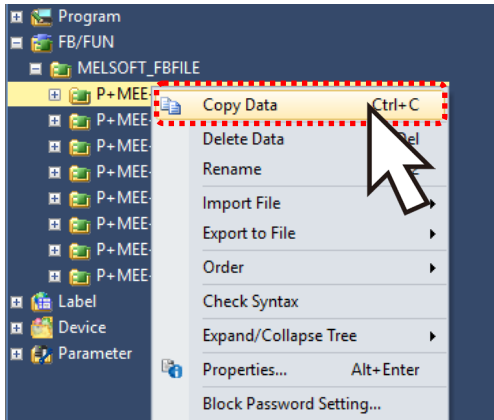
	Label Name	Data Type	Class	Assign (Device/Label)	Initial Value
1	BT11_1	M+RJ61BT11	VAR_GLOBAL	Detailed Setting	
2	G_RY	Bit	VAR_GLOBAL	X1000Z9	
3	G_RX	Bit	VAR_GLOBAL	Y1000Z9	
4	G_RWr	Word [Signed]	VAR_GLOBAL	W0Z8	
5	G_RWw	Word [Signed]	VAR_GLOBAL	W200Z8	
6	G_RY2	Bit	VAR_GLOBAL	X1800Z9	
7	G_RX2	Bit	VAR_GLOBAL	Y1800Z9	
8	G_RWr2	Word [Signed]	VAR_GLOBAL	W400Z8	
9	G_RWw2	Word [Signed]	VAR_GLOBAL	W600Z8	
10					

Extended Display: Do Not Show Always

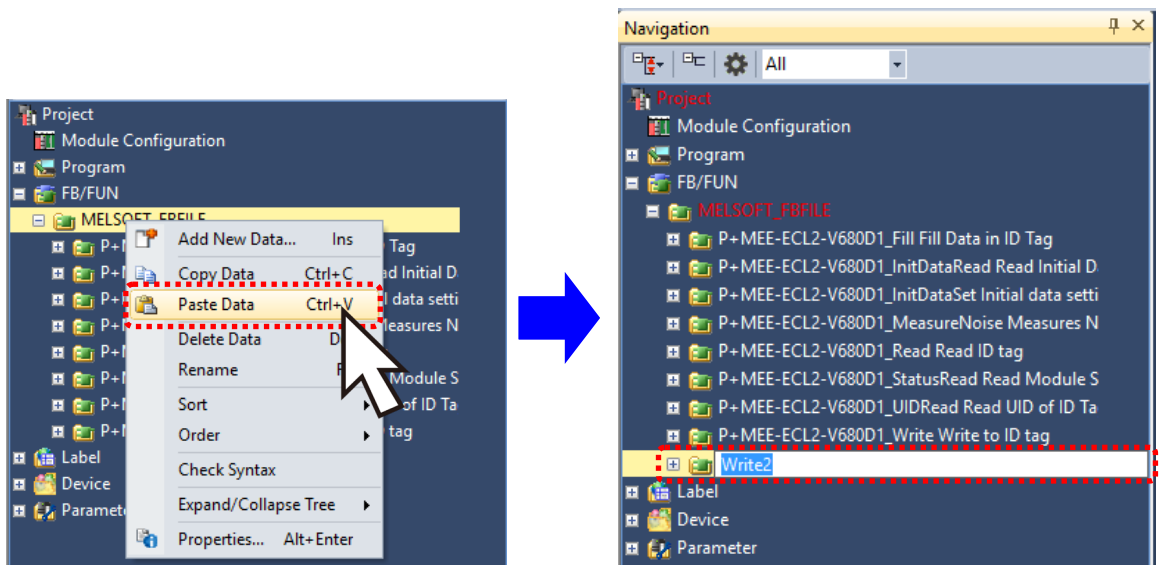


### Appendix 1.3 Copying MELSOFT Library to Create an FB for the Second Module

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

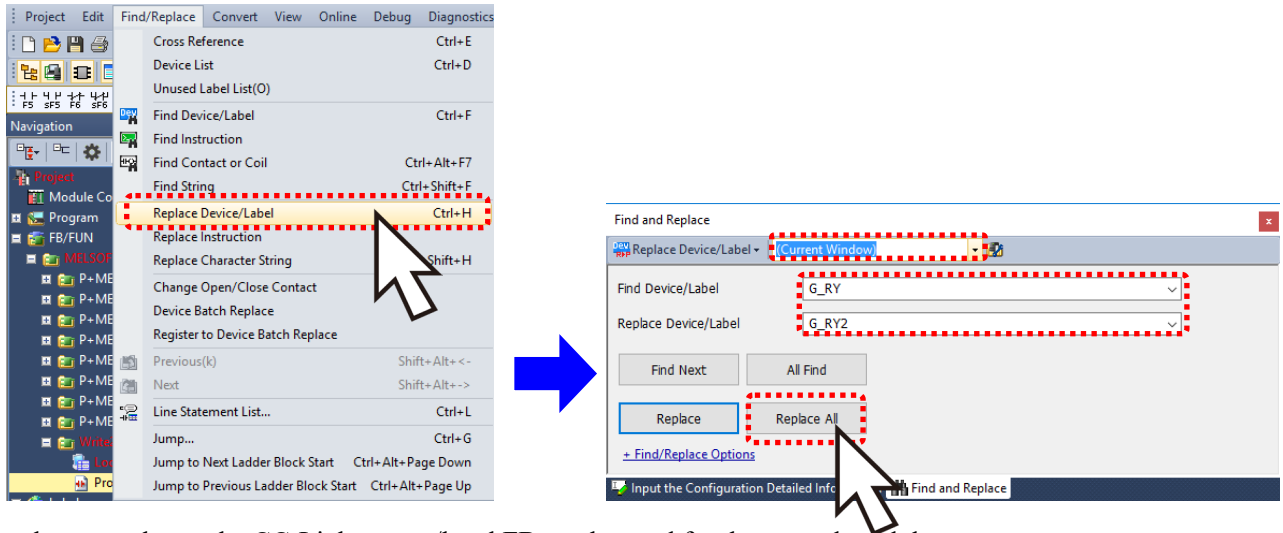


- (2) Paste the copied FB to "FB\_Pool" on the Project tab of the Navigation window. Move the cursor to the pasted FB, press [F2], and enter the FB name after pasting. (Example: Write2)



## 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 master/local FB can be used for the second module.

[Point]

- (1) To use multiple FBs for the second CC-Link 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 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]

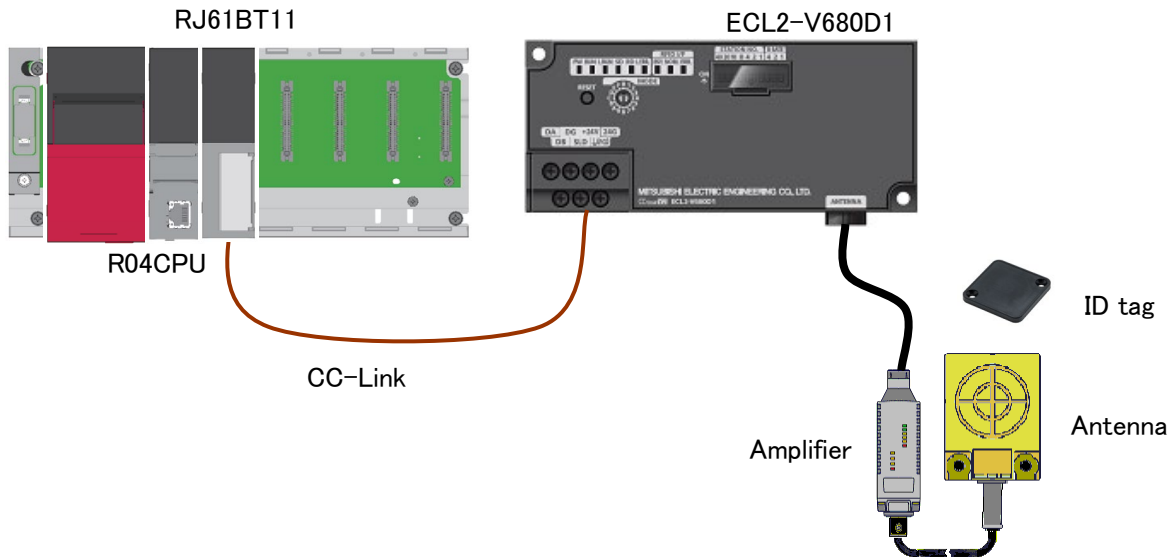
If MELSOFT Library is upgraded, MELSOFT Library FBs can be upgraded by importing them again. However, the FBs that were created by following these procedures for the second and subsequent modules are not upgraded even if the FBs are imported again.

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

## Appendix2. FB Library Application Examples

The application examples of the CC-Link 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-ECL2-V680D1_InitDataSet	Set Initial Data command
M1002		Set Initial Data command retention
M1010	P+MEE-ECL2-V680D1_Read	ID tag read command
M1011		ID tag read result reception
M1012		ID tag read command retention
M1020	P+MEE-ECL2-V680D1_Write	ID tag write command
M1021		ID tag write result reception
M1022		ID tag write command retention
M1030	P+MEE-ECL2-V680D1_Fill	ID tag data fill command
M1031		ID tag data fill result reception
M1032		ID tag data fill command retention
M1040	P+MEE-ECL2-V680D1_UIDRead	ID tag UID read command
M1041		ID tag UID read result reception
M1042		ID tag UID read command retention
M1050	P+MEE-ECL2-V680D1_MeasureNoise	Measure noise command
M1051		Measure noise command retention
M1060	P+MEE-ECL2-V680D1_InitDataRead	Initial data read command
M1061		Initial data read command retention
M1070	P+MEE-ECL2-V680D1_StatusRead	Module status read command
M1071		Module status read command retention

Device	FB Name	Application (ON details)
M1200	P+MEE-ECL2-V680D1_InitDataSet P+MEE-ECL2-V680D1_Read P+MEE-ECL2-V680D1_Write P+MEE-ECL2-V680D1_Fill P+MEE-ECL2-V680D1_UIDRead P+MEE-ECL2-V680D1_MeasureNoise P+MEE-ECL2-V680D1_InitDataRead P+MEE-ECL2-V680D1_StatusRead	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-ECL2-V680D1_Write	Device for indirection of the device where data to be written to the ID tag is stored
D2302 to D2305	P+MEE-ECL2-V680D1_Write	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-ECL2-V680D1_InitDataSet	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-ECL2-V680D1_Read
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-ECL2-V680D1_Write	
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
M1024		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
D1030	P+MEE-ECL2-V680D1_Fill	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

Device	FB Name	Application (ON details)	
M1035	P+MEE-ECL2-V680D1_UIDRead	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		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-ECL2-V680D1_MeasureNoise	FB error code is stored when measuring noise
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-ECL2-V680D1_InitDataRead		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	
M1062		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-ECL2-V680D1_StatusRead	FB error code is stored when reading module status	
D1071		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	

#### (4) Example of use Setting

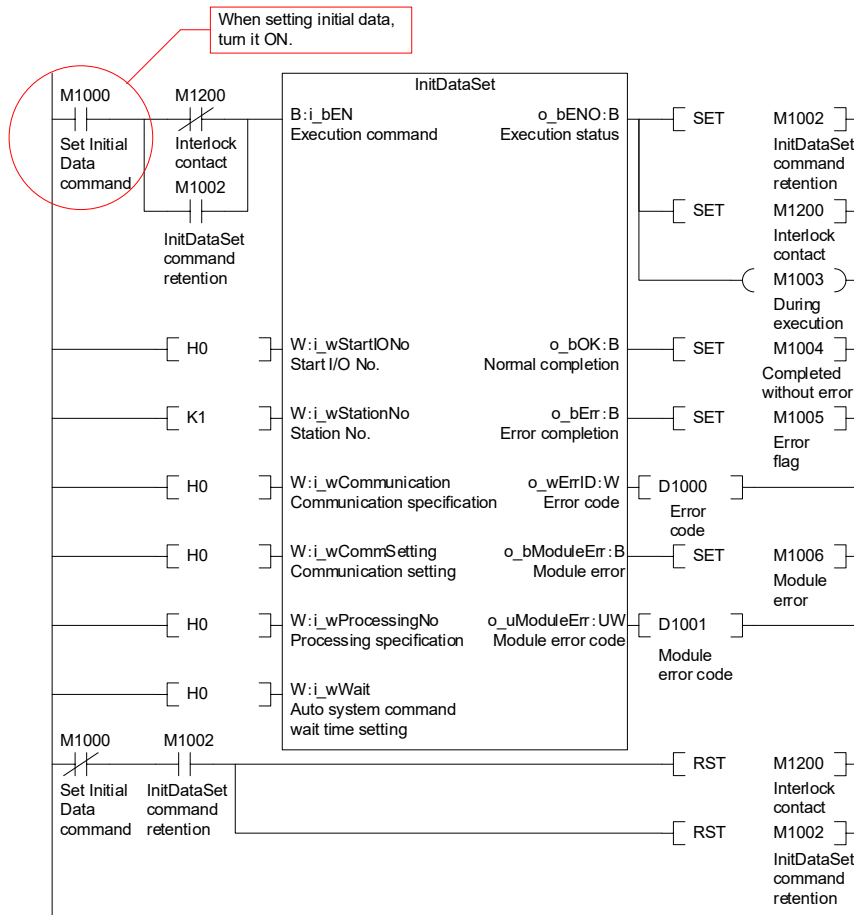
##### ■Common settings

Input/Output item	Value	Description
Start I/O No.	H0	Specify the Start I/O No where CC-Link 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.

(a) P+MEE-ECL2-V680D1\_InitDataSet (Set Initial Data)

Set initial data on the following conditions.

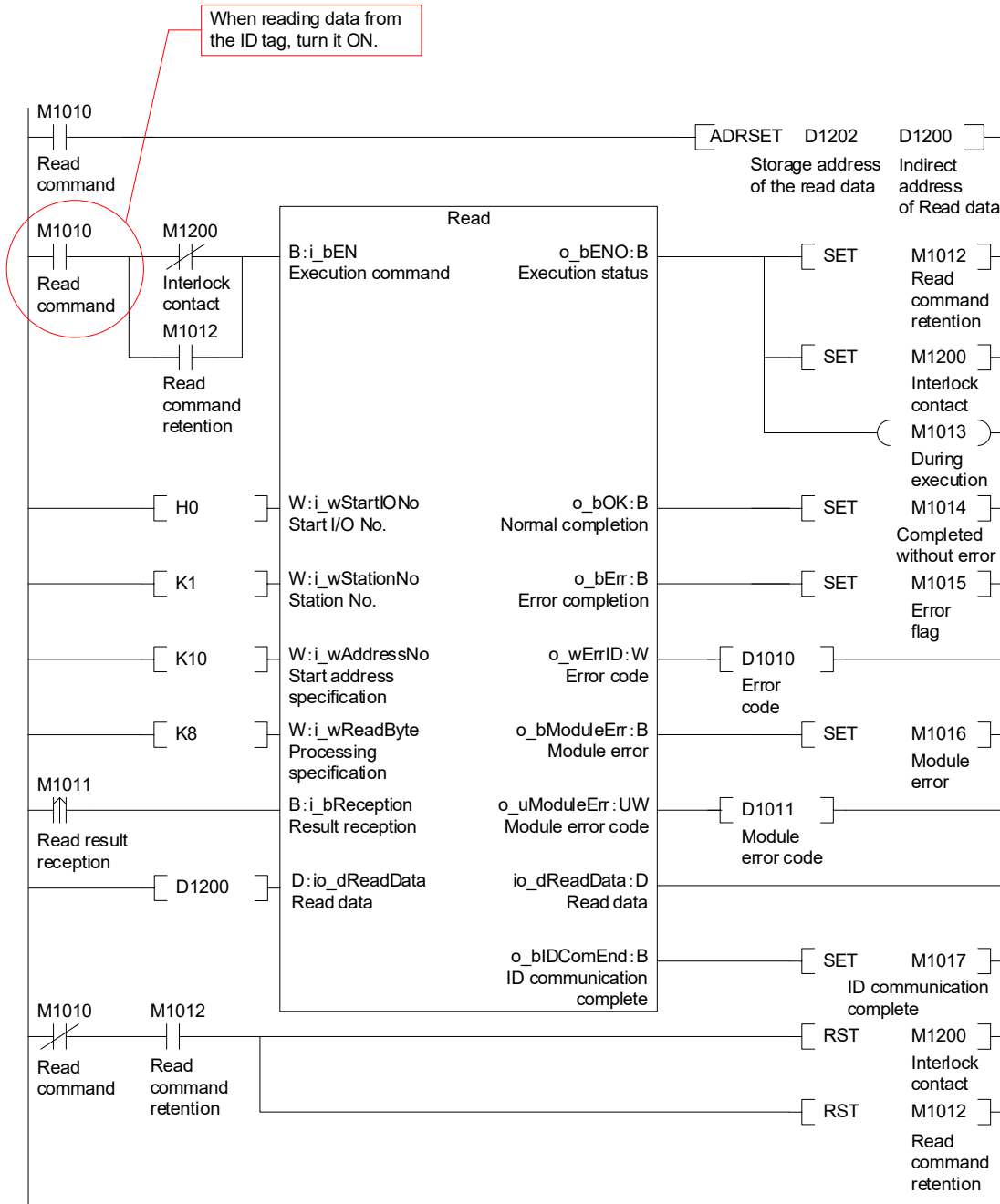
- Start I/O No. ....0
- Station No. ....1
- Communication specification ....0 (Trigger)
- Communication setting ....0 (Write verify setting :Execute  
ID tag communication speed setting :Standard mode  
Write protect setting :Enable  
Read/Write data code setting :Without ASCII/HEX conversion)
- Processing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



(b) P+MEE-ECL2-V680D1\_Read (Read ID tag)

Read data from the ID tag on the following conditions.

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

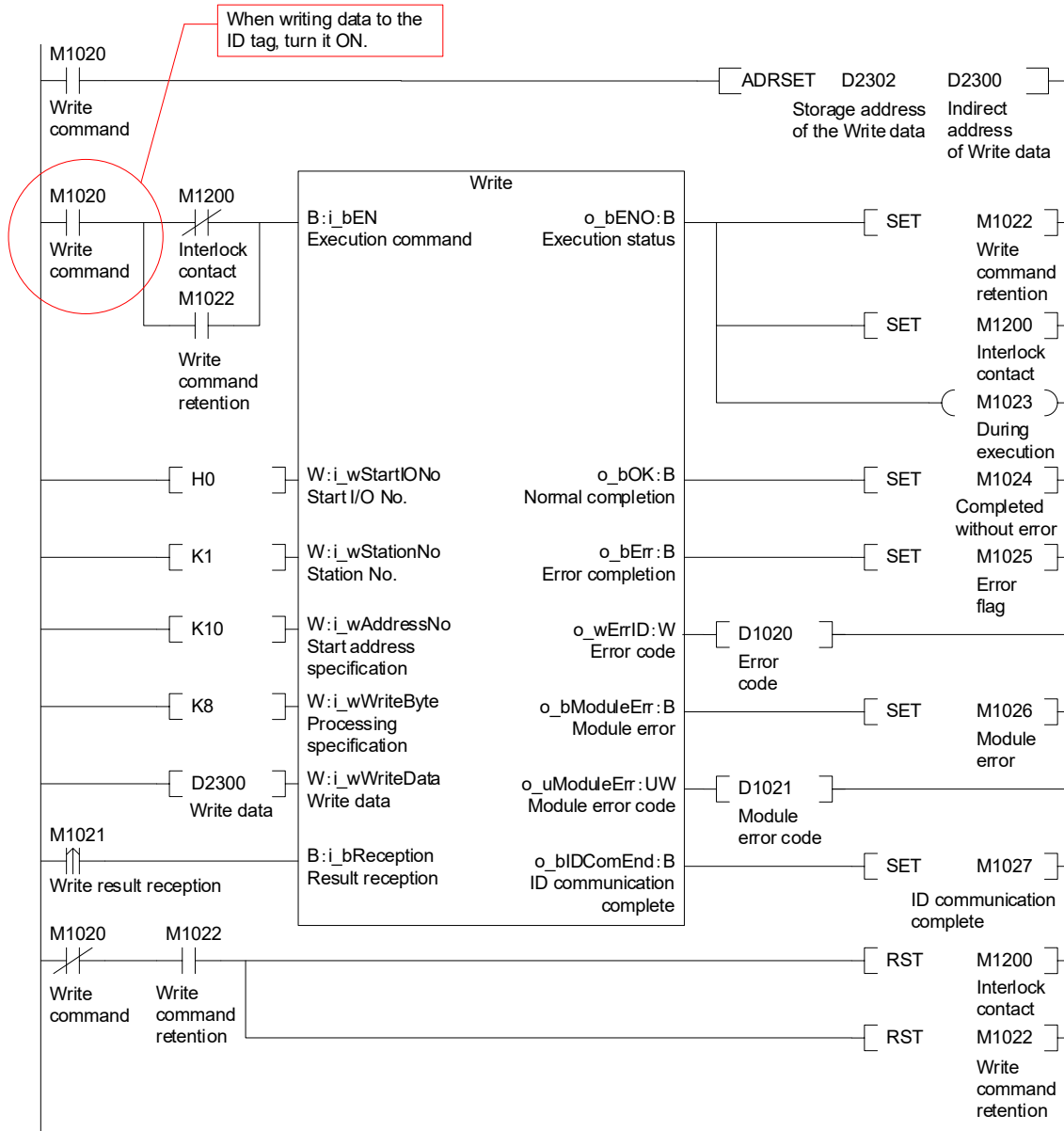




(c) P+MEE-ECL2-V680D1\_Write (Write to ID Tag)

Write data to the ID tag on the following conditions.

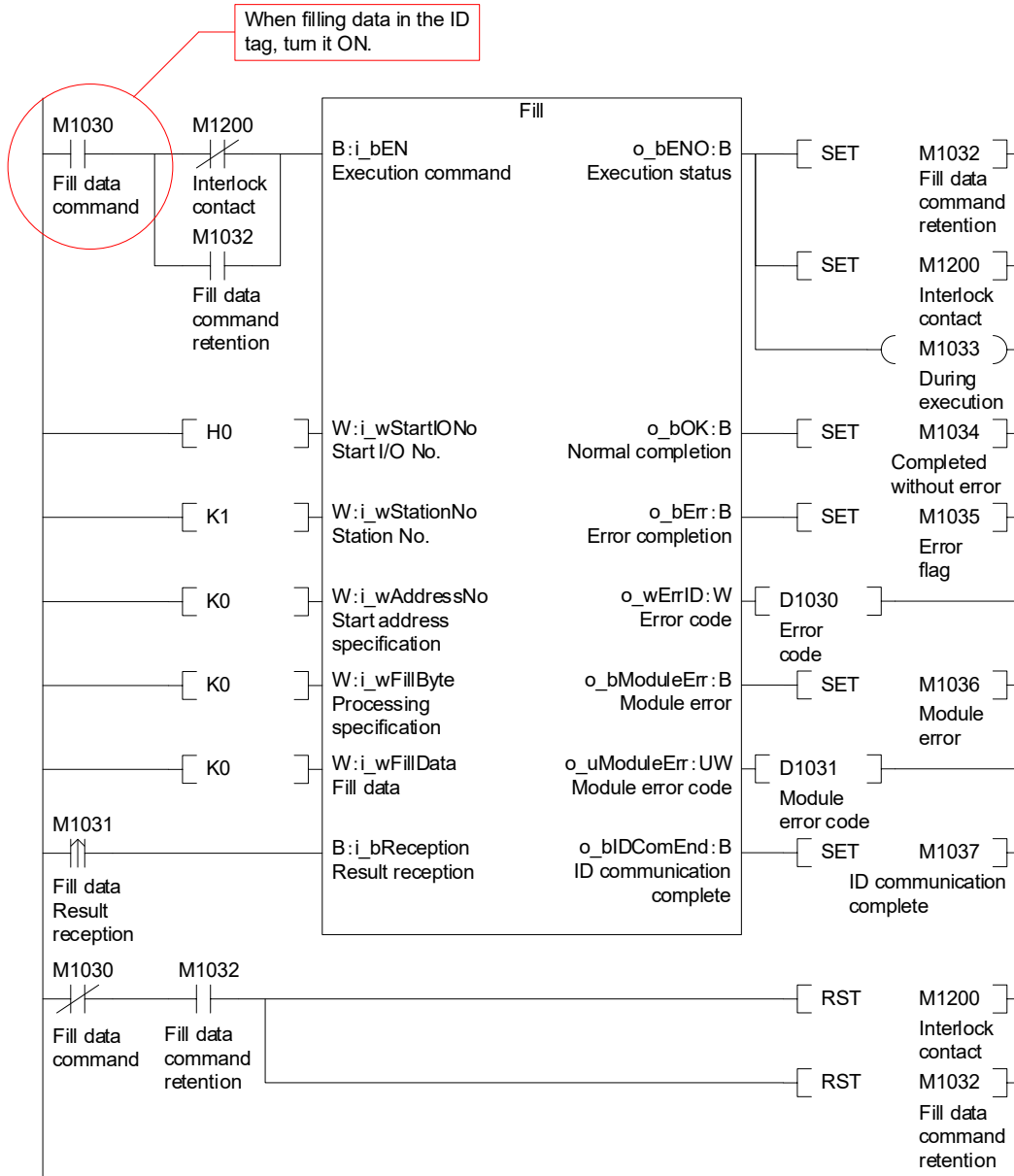
- Start I/O No. .... 0
- Station No. .... 1
- Start address specification .... 10
- Processing specification .... 8 (8 bytes)
- Storage address of the Write data .... D2302 to D2305



(d) P+MEE-ECL2-V680D1\_Fill (Fill Data in ID Tag)

Fill data in the ID tag on the following conditions.

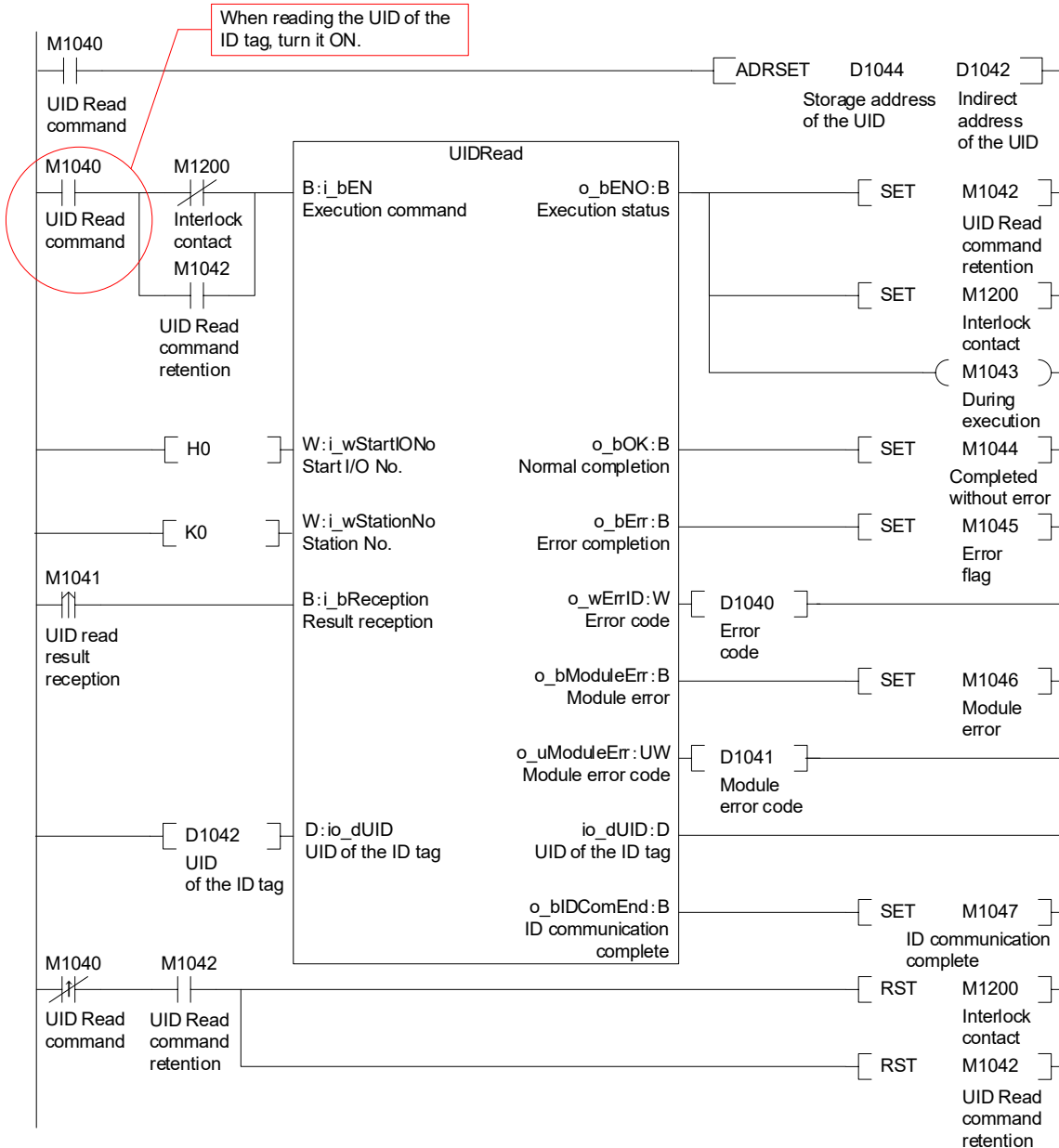
- Start I/O No. ....0
- Station No. ....1
- Start address specification ....0
- Processing specification ....0 (Specify all data)
- Fill data ....0



(e) P+MEE-ECL2-V680D1\_UIDRead (Read UID of ID Tag)

Read UID of the ID tag on the following conditions.

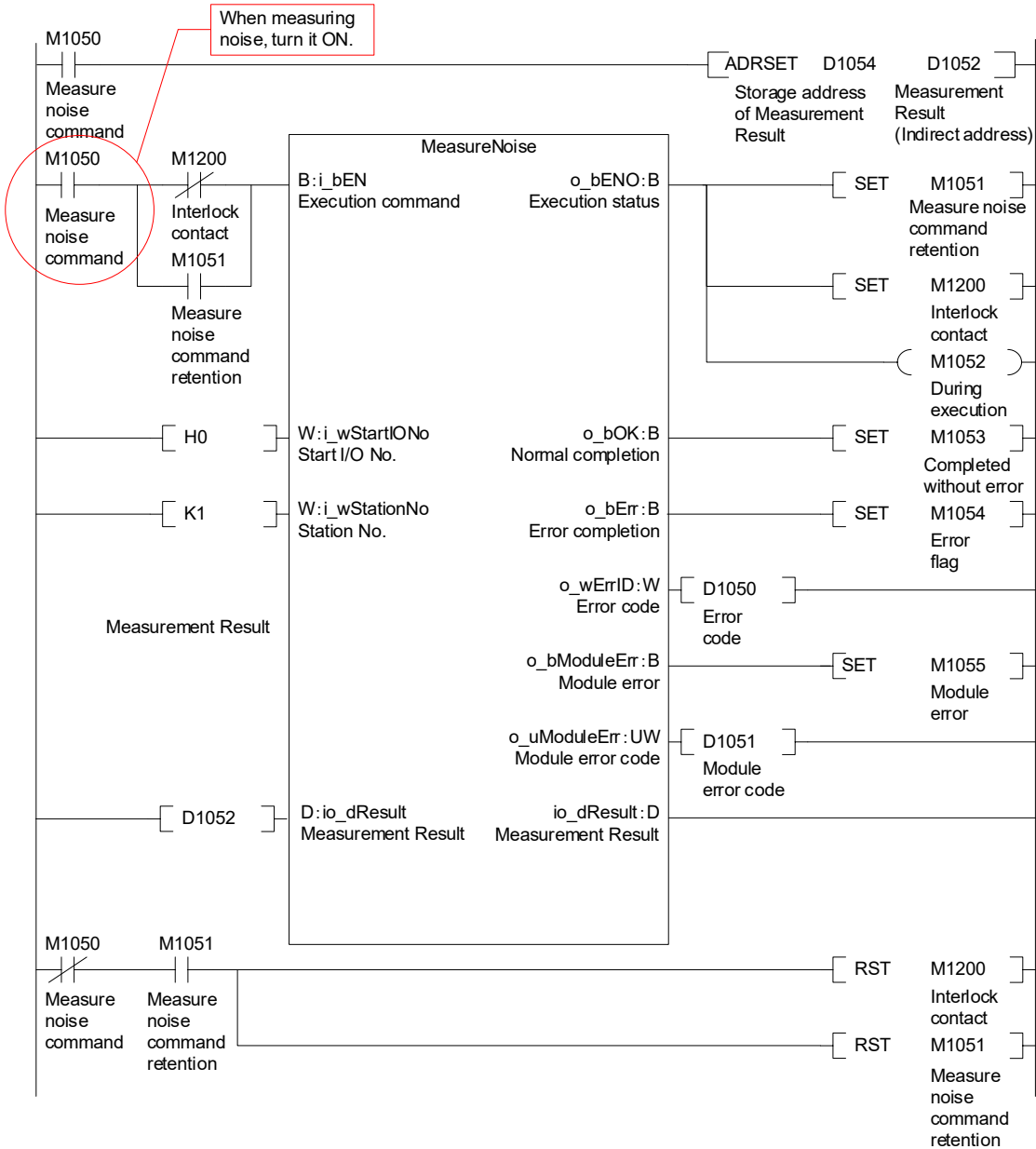
- Start I/O No. .... 0
- Station No. .... 1
- Storage destination of UID ..... D1044 to D1047



(f) P+MEE-ECL2-V680D1\_MeasureNoise (Measures Noise)

Measure noise on the following conditions.

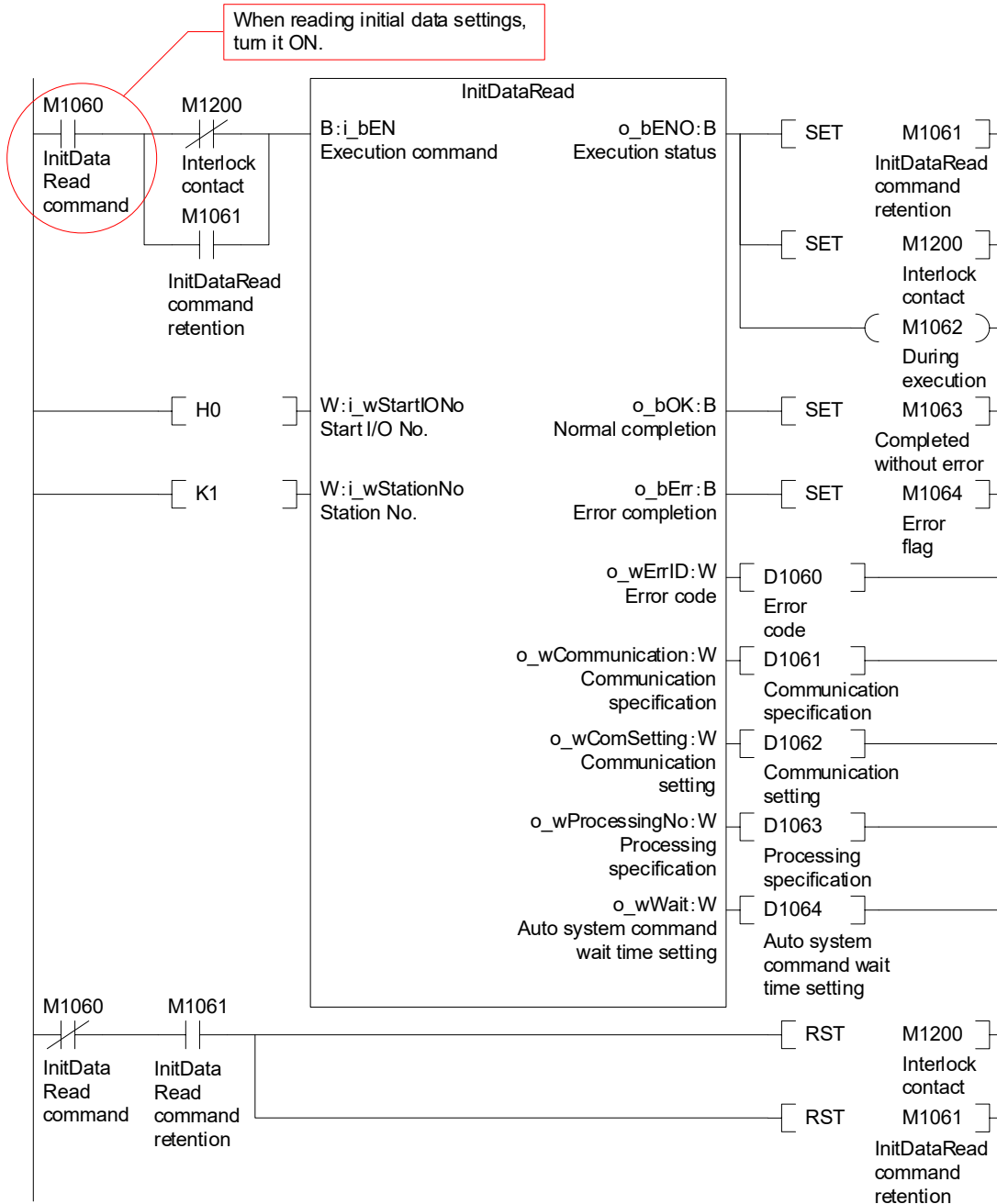
- Start I/O No. .... 0
- Station No. .... 1
- Storage address of Measurement result ..... D1054 to D1056



(g) P+MEE-ECL2-V680D1\_InitDataRead (Read initial data settings)

Read initial data on the following conditions.

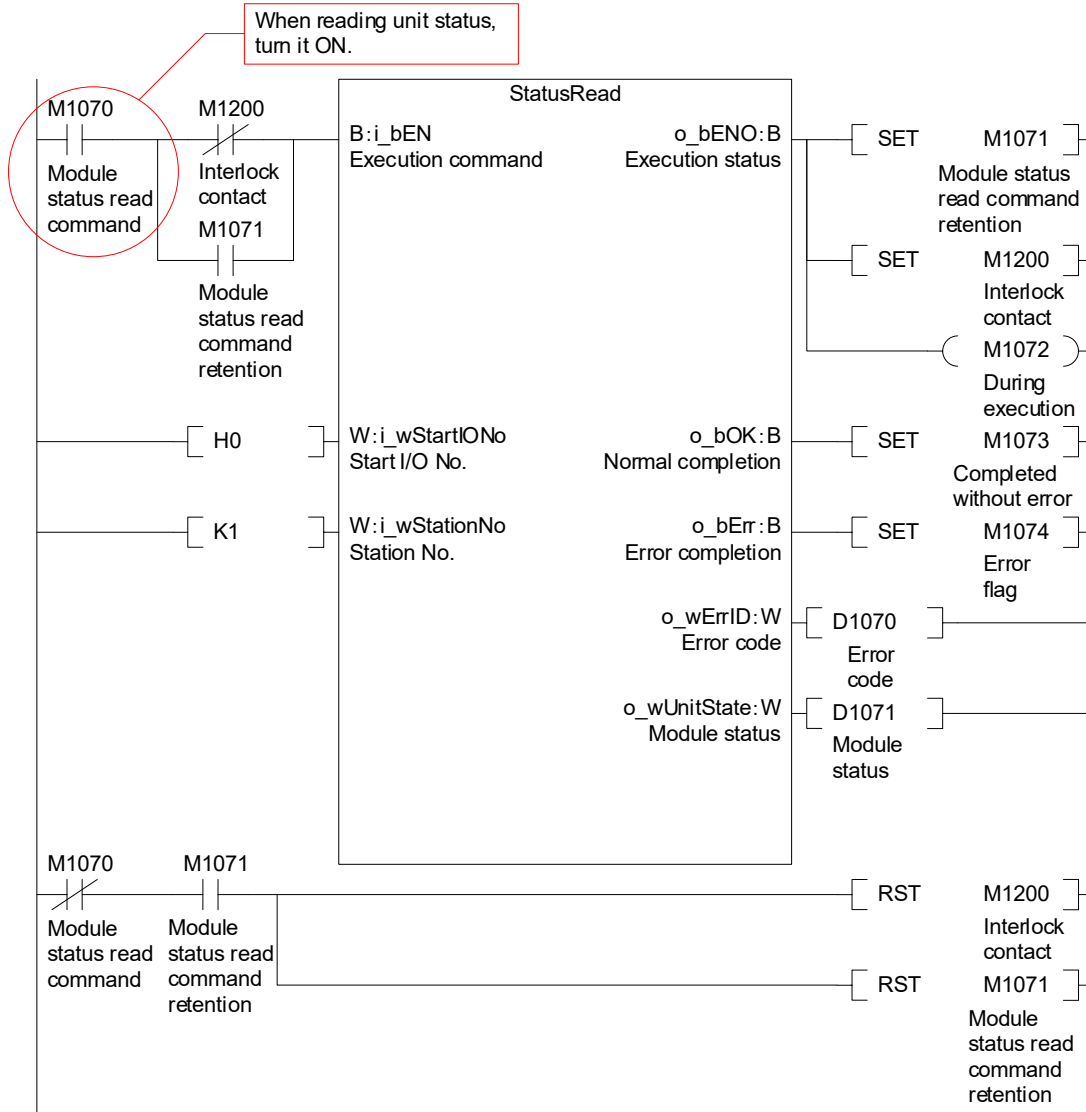
- Start I/O No. ....0
- Station No. ....1



(h) P+MEE-ECL2-V680D1\_StatusRead (Read Module Status)

Read the unit status on the following conditions.

- Start I/O No. ....0
- Station No. ....1



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Model	ECL2-V680D-M1RC1E
50CM-D180436-B(2309)MEE	

New publication, effective Sep. 2023.  
Specifications subject to change without notice.