MITSUBISHI ELECTRIC ENGINEERING

RFID Interface Module

MODEL

ECL2-V680D1

FB Library Reference Manual

(For MELSEC-Q series)

Products for Monitoring and Traceability

CC-Link

≪Table of Contents≫

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-D180435-A	First Edition
Sep. 2023	50CM-D180435-B	Redesign of front and back covers

Japanese manual number: 50CM-D180173

1. Overview

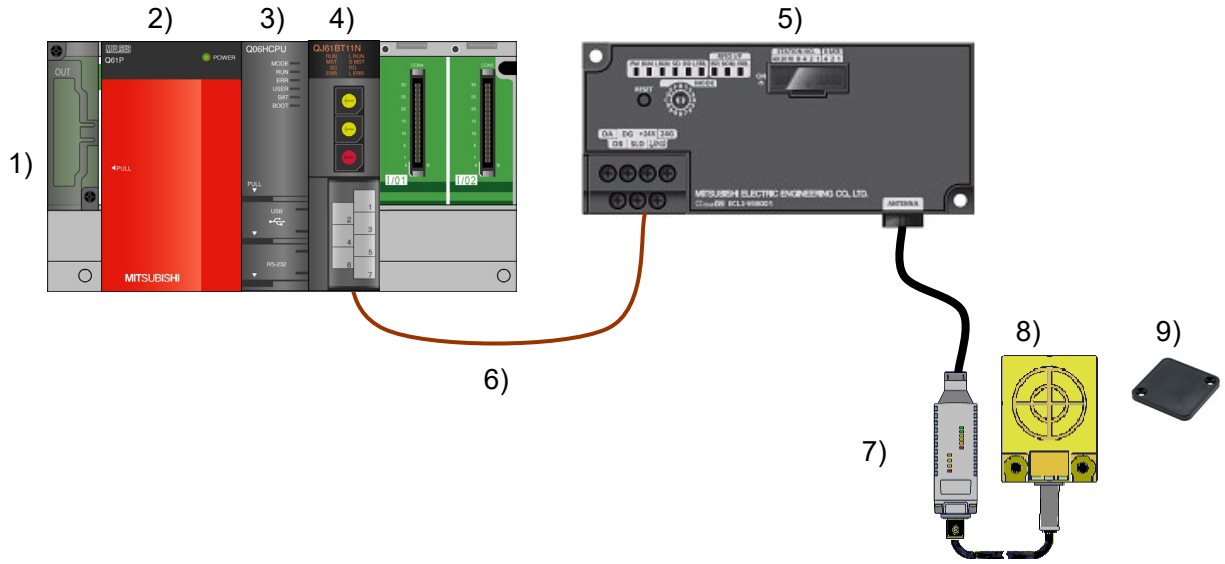
1.1 Overview of the FB Library

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(Not required for MELSEC-L series)
2)		Power supply module
3)		CPU module Series / Model MELSEC-Q Series (*1) / Basic model QCPU (*2) MELSEC-Q Series (*1) / High Performance model QCPU (*3) MELSEC-Q Series (*1) / Universal model QCPU MELSEC-L Series / LCPU (*1) QCPU-A(A mode) cannot be used. (*2) The first 5 digits of serial No. are "04122" or later (*3) The first 5 digits of serial No. are "04012" or later
4)	Master/Local module	CC-Link System Master/Local Module
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 Works2.

1.4.1 Setting the CC-Link Master/Local Module

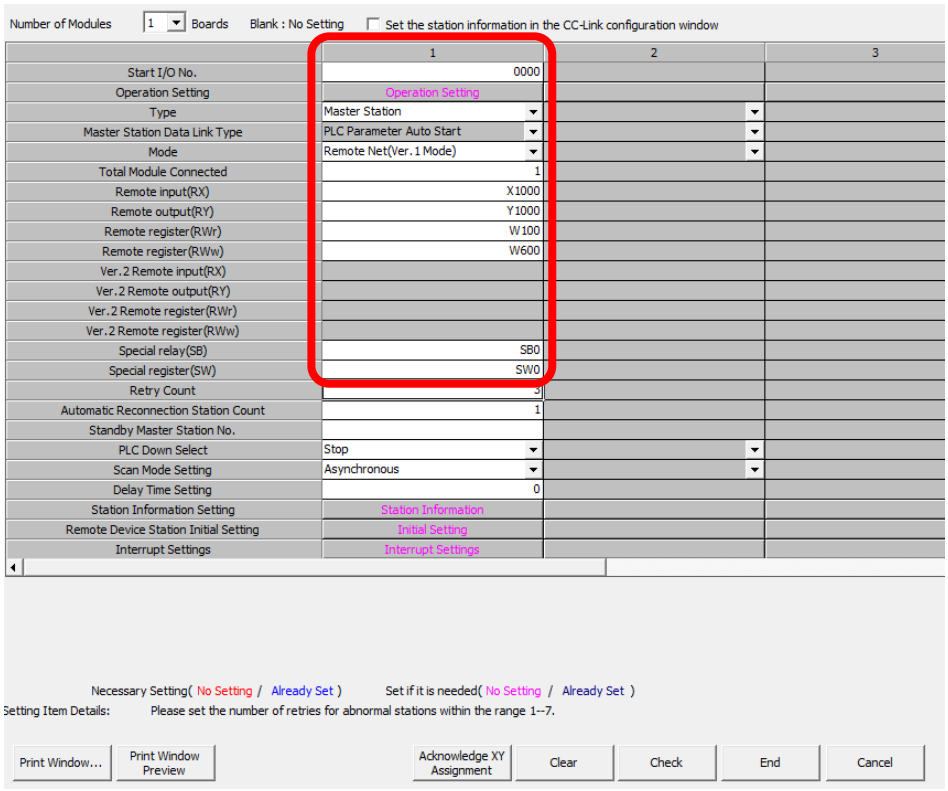
Item	Description
Start I/O No.	Set the start I/O number of master/local modules in units of 16. Set "0000".
Type	Set the station type. Select "Master Station".
Mode(*1)	Set the mode. Select "Remote Net(Ver.1 Mode)".
Transmission Speed(*2) (Only MELSEC-L series)	Set the transmission speed. Select "156kbps".
Total Module Connected	Set the number of remote modules connected to the master station. When setting a reservation station, set the number including the reservation station. Set "1".
Remote input (RX) refresh device	Set the start device No. of remote input (RX) assigned to remote module station. Set "X1000".
Remote output (RY) refresh device	Set the start device No. of remote output (RY) assigned to remote module station. Set "Y1000".
Remote register (RWr) refresh device	Set the start device No. of remote register (RWr) assigned to remote module station. Set "W100".
Remote register (RWw) refresh device	Set the start device No. of remote register (RWw) assigned to remote module station. Set "W600".
Special relay (SB) refresh device	Set the start device No. of link special relay(SB). Set "SB0".
Special register (SW) refresh device	Set the start device No. of link special register(SW). Set "SW0".

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

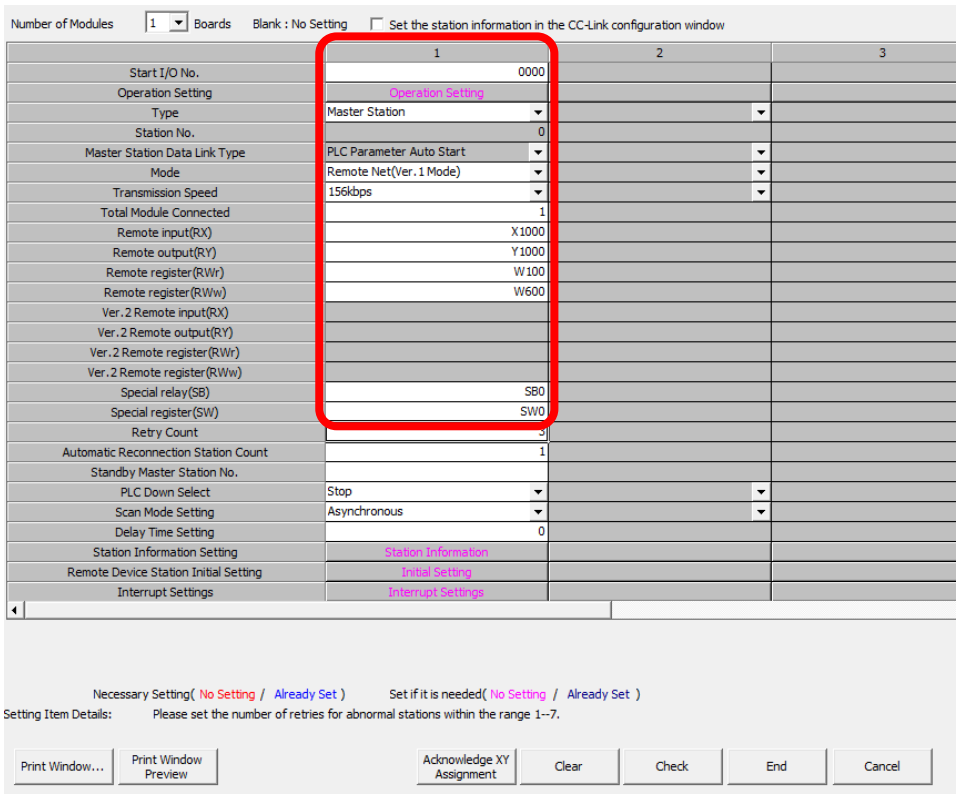
(*2) Set the transmission speed on network parameter settings in L series programmable controller.

Set with the transmission speed/mode switch on the front in Q series.

Network parameters for the MELSEC-Q series



Network parameters for the MELSEC-L series

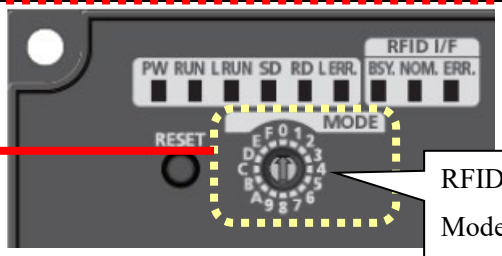


1.4.2 Station information setting of CC-Link Master/Local Module

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.
Number of Occupied Stations (*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 "Occupied Station 4".
Reserved/Invalid Station Select	Select the remote module's reserved station/invalid station. Select "No Setting".

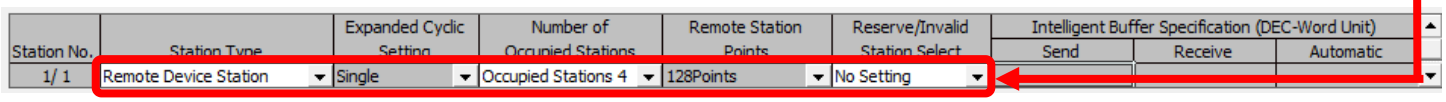
(*1) Match the station information setting to the setting for the RFID interface module's mode selection switch.

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

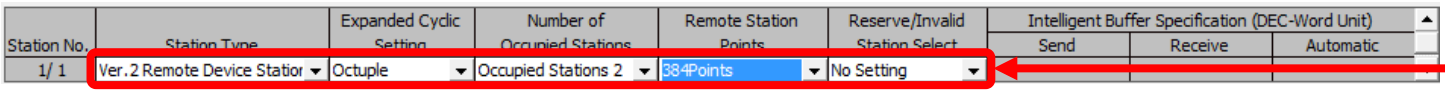


RFID interface module Mode switch

Station information settings when mode switch is 0 or 4



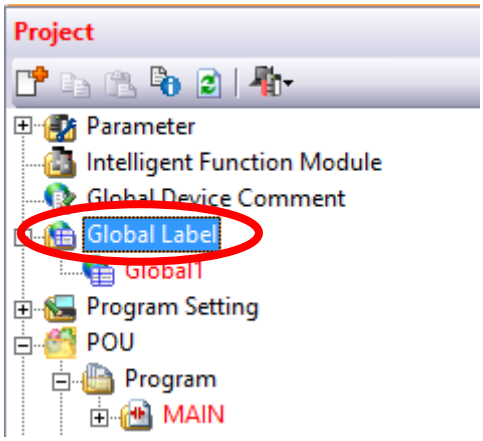
Station information settings when mode switch is 5 to 7



1.5 Setting Global Labels

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

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

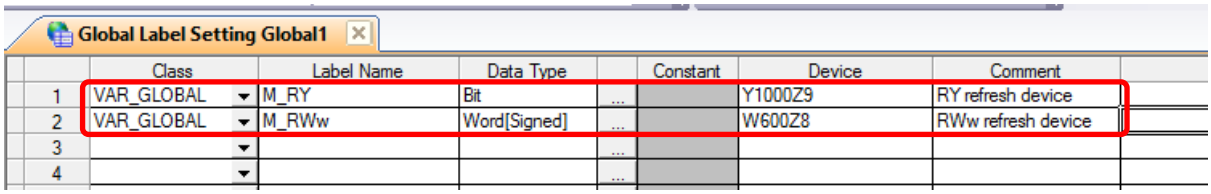


2) M_RY Configure remote output (RY) settings.

Item	Description
Class	Select “VAR_GLOBAL”.
Label name	Enter "M_RY”.
Data type	Select "Bit".
Device	Enter by adding "Z9" to remote output (RY) entered in section 1.4.1. Enter "Y1000Z9".

3) M_RWw Configure remote register (RWw) settings.

Item	Description
Class	Select “VAR_GLOBAL”.
Label name	Enter "M_RWw”.
Data type	Select "Word [signed]".
Device	Enter by adding "Z8" to remote output (RWw) entered in section 1.4.1. Enter "W600Z8”.



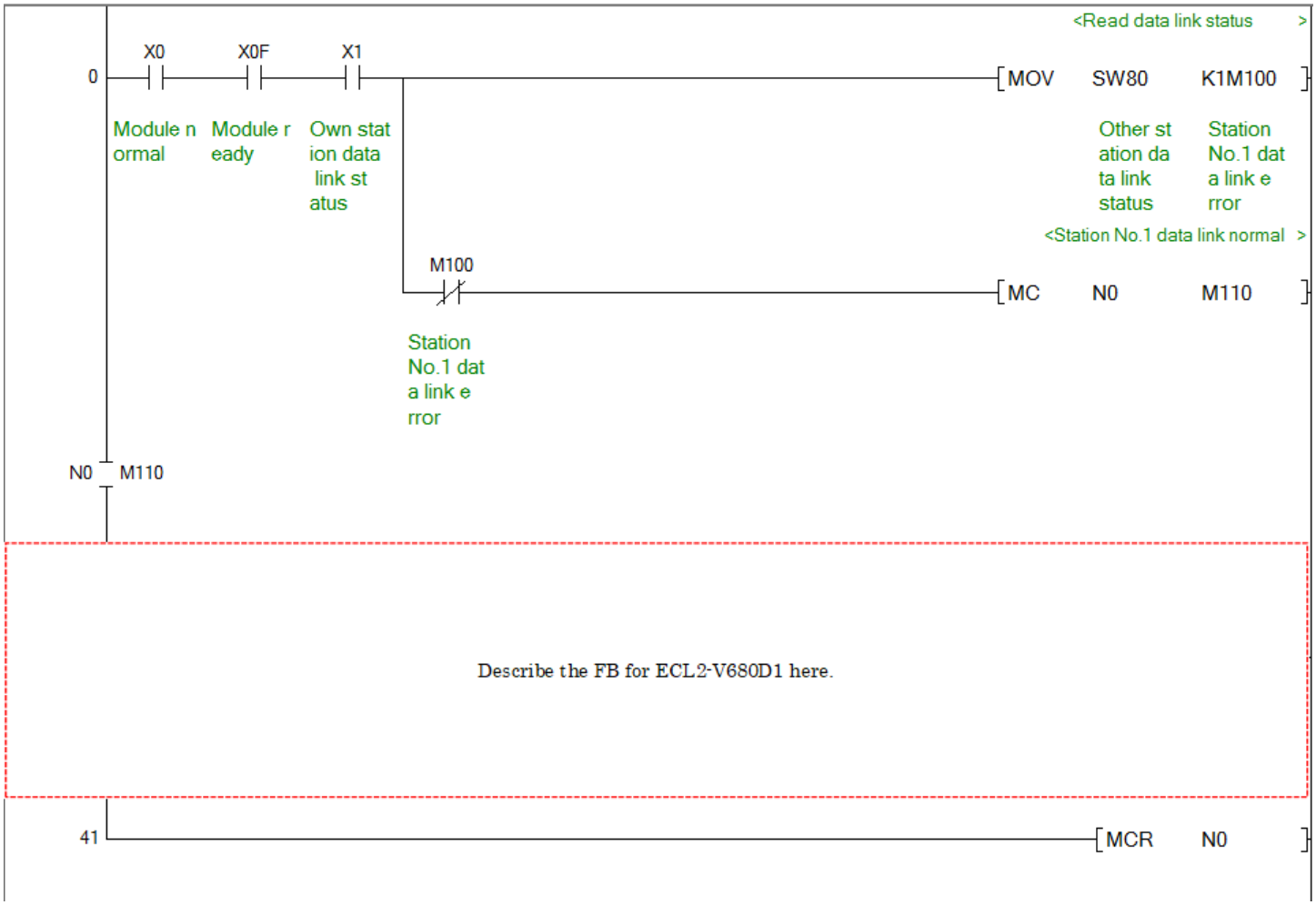
1.6 Creating Interlock Program

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 Relevant Manuals

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

1.8 Note

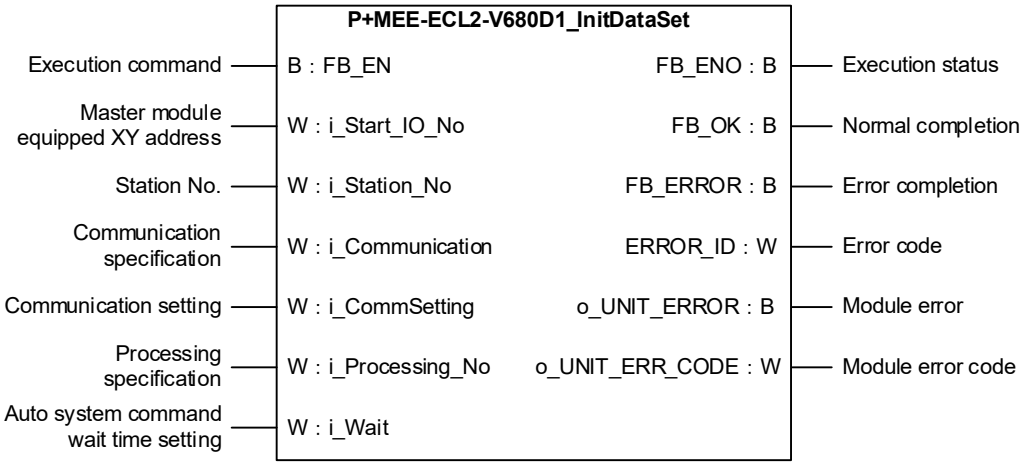
Please make sure to read user's manuals for the corresponding products before using the products.

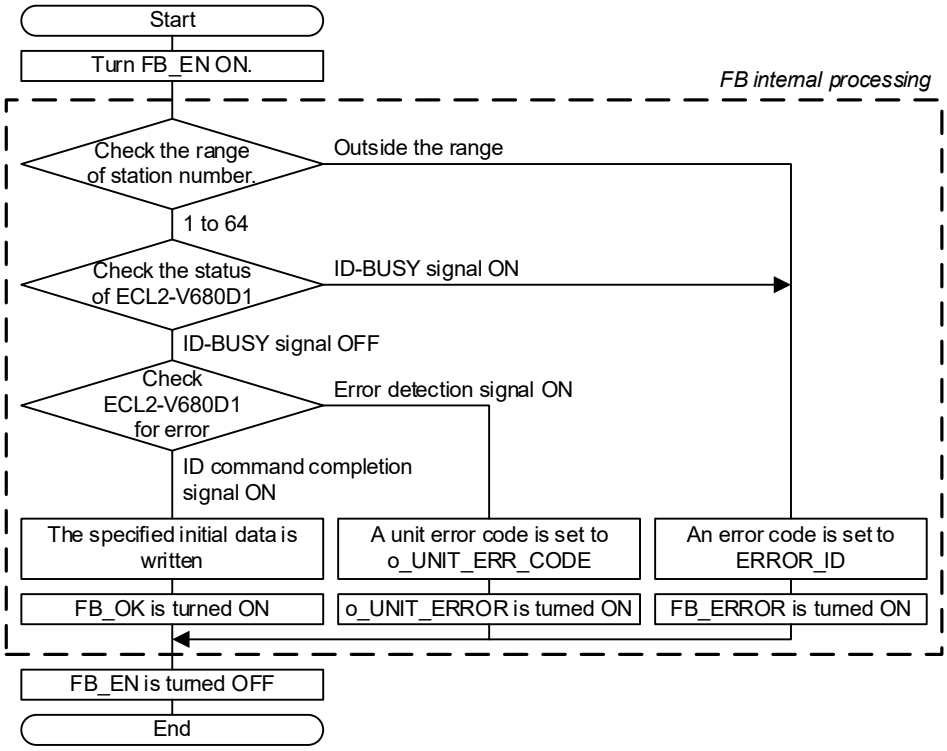
2. Details of the FB Library

2.1 P+MEE-ECL2-V680D1_InitDataSet (Initial data setting)

FB Name
P+MEE-ECL2-V680D1_InitDataSet

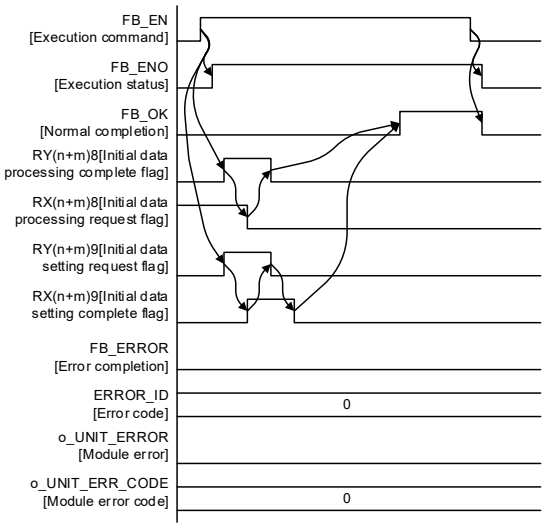
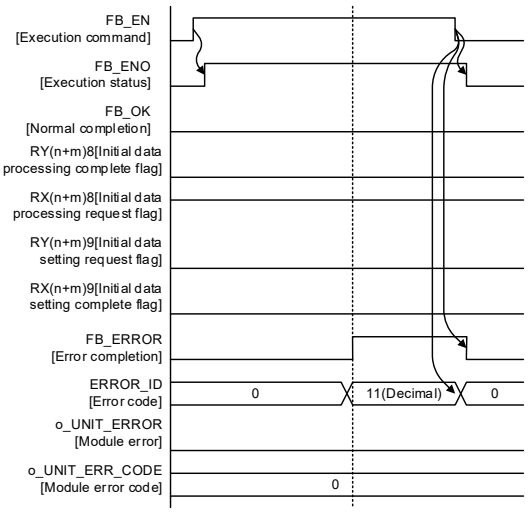
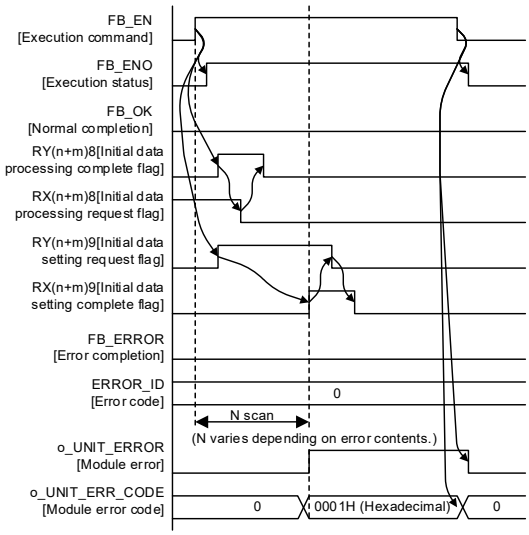
Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">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.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>RFID Interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td><table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr><tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr></table></td></tr>
<tr><td>CPU module</td><td><table><tr><th>Series</th><th>Model</th></tr><tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr><tr><td>High Performance model QCPU (*3)</td></tr><tr><td>Universal model QCPU</td></tr><tr><td>MELSEC-L Series</td><td>LCPU</td></tr></table>(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Engineering software</td><td>GX Works2
<table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr><tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr></table></td></tr>
<tr><td>Programming Language</td><td>Ladder</td></tr>
<tr><td>Number of steps</td><td>1004steps (For high performance model of MELSEC-Q series)
* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td>1) When FB_EN (Execution command) is turned ON, various initial data set is written to ECL2-V680D1.
When writing is completed, FB_OK (Normal completion) is turned ON.
 

2) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID.
Refer to the error code explanation section for details.
3) If an error occurs in ECL2-V680D1, o_UNIT_ERROR (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_UNIT_ERR_CODE (Module error code).
Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td>Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) After turning on the power or releasing reset, be sure to perform this first. 2) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 3) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 4) Set the global label setting according to Section "1.5 Setting Global Labels". 5) This FB cannot be used in an interrupt program. 6) When multiple FBs are used, care should be taken not to use the same target station number. 7) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 8) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 9) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No (Master module equipped XY address) ・ i_Station_No (Station No.) ・ i_Communication (Communication specification) ・ i_CommSetting (Communication setting) ・ i_Processing_No (Processing specification) ・ i_Wait (Auto system command wait time setting) 10) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 11) Only one master/local module can be controlled by the CC-Link system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 12) If the operation of this FB is not completed, check if i_Start_IO_No(Master module equipped XY address) is correct, i_StationNo (Station No.) matches the network station number or the remote output (RY) of the RFID interface unit is ON.
FB operation type	Pulsed execution (multiple scan execution type)

Item	Description
Timing chart	[When operation completes without error]  [When an error occurs]  [For Module error]  n: Address assigned to master station by station number setting. m: Address assigned to mode selection switch setting.
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

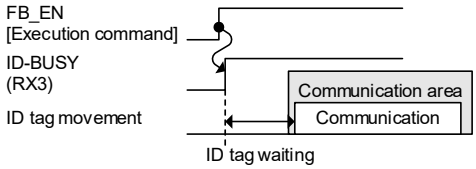
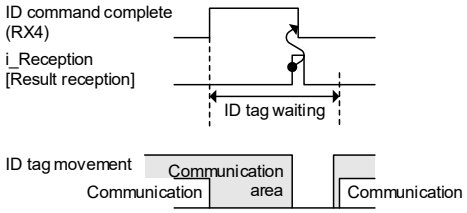
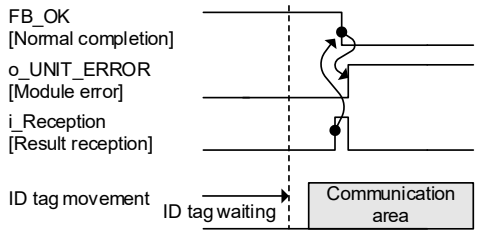
Error code	Description	Action
11 (Decimal)	Specification of i_Station_No(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
14 (Decimal)	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

■Input Labels

Name	Label Name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.
Communication specification	i_Communication	Word	0: Trigger 1: Auto 2: Repeat auto 3: FIFO trigger 4: FIFO repeat	Specify the communication method for the ID tag.

<table>
<tr><th>Name</th><th>Label Name</th><th>Data type</th><th>Setting range</th><th>Description</th></tr>
<tr><td>Communication Setting</td><td>i_CommSetting</td><td>Word</td><td>0000 to 000F (Hexadecimal)</td><td>Select the communication setting for the ID tag.<table><tr><th>Bit</th><th>Description</th></tr><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></table></td></tr>
<tr><td>Processing specification</td><td>i_Processing_No</td><td>Word</td><td>0, 1</td><td>Specify the order in which data is stored for the ID tag.<table><tr><th>Command</th><th>Processing specification</th></tr><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></table>For details, refer to the functional description of each command.
Commands other than the above do not use Processing specification.</td></tr>
</table>

Name	Label Name	Data type	Setting range	Description
Auto system Command wait time setting	i_Wait	Word	1 to 9999, 0 (Decimal)	When i_Communication (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]  [For Repeat auto or FIFO repeat]  When the waiting time is set before i_Reception(Result reception) is turned ON expires, o_UNIT_ERROR (Module error) is turned ON after i_Reception (Result reception) is turned ON. 

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	The error code that occurred in the FB is stored.
Module error	o_UNIT_ERROR	Bit	OFF	ON : Set Initial Data value error OFF: Normal
Module error code	o_UNIT_ERR_CODE	Word	0	A description of the error occurred in the RFID interface unit is stored.

FB Version Upgrade History

Version	Date	Description
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

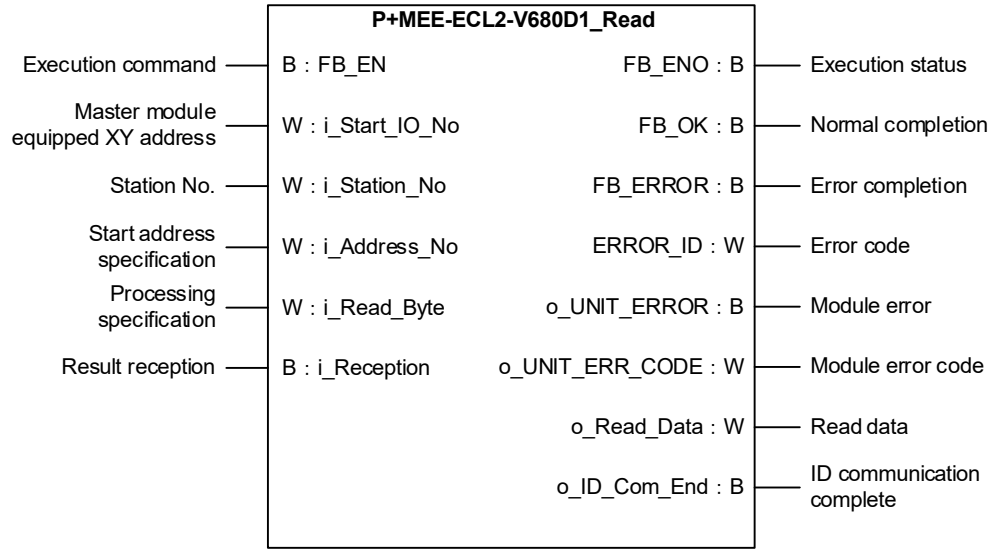
Please make sure to read user's manuals for the corresponding products before using the products.

2.2 P+MEE-ECL2-V680D1_Read (Read ID tag)

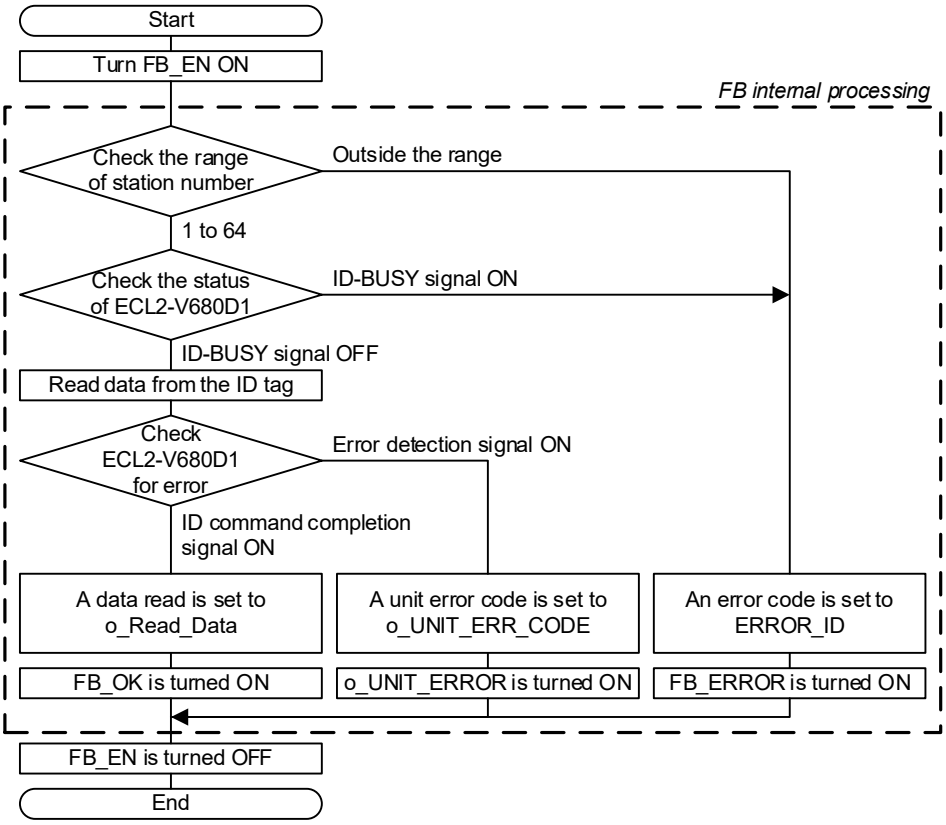
FB Name

P+MEE-ECL2-V680D1_Read

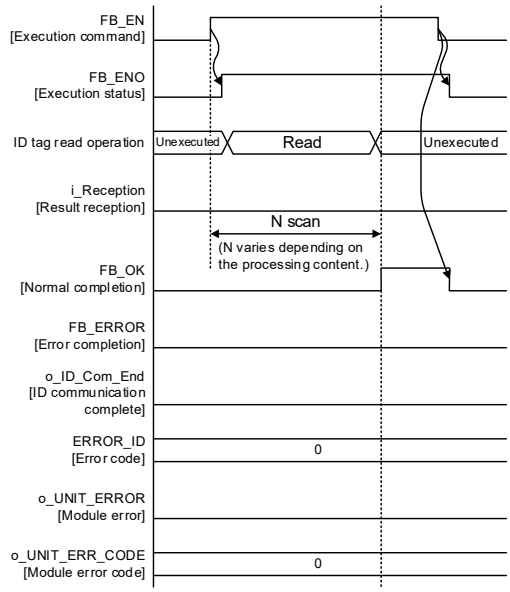
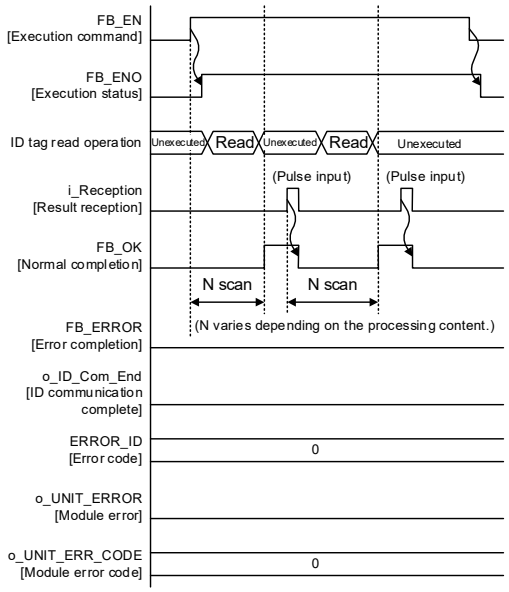
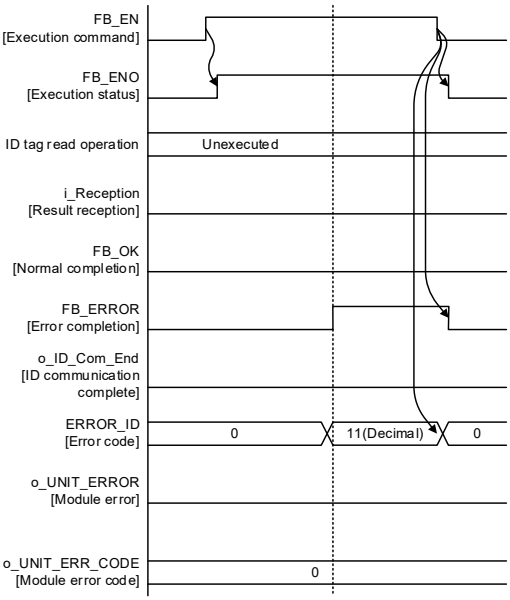
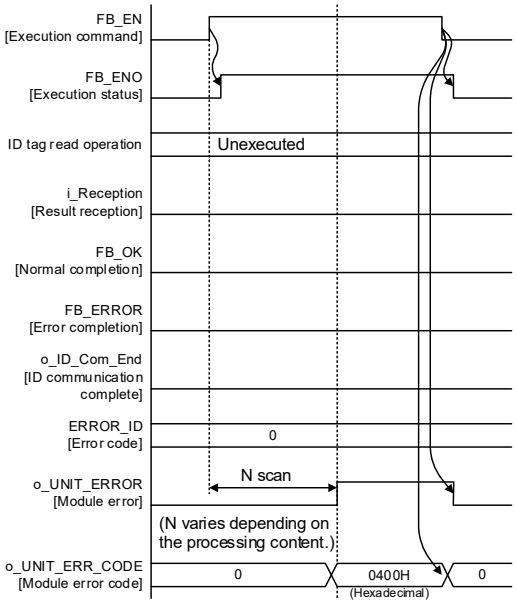
Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Reads the data of an ID tag.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>RFID interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr>
<tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr>
</table>
</td></tr>
<tr><td></td><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr>
<tr><td>High Performance model QCPU (*3)</td></tr>
<tr><td>Universal model QCPU</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Engineering software</td><td>GX Works2</td><td><table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr><tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr></table></td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">1521steps (For high performance model of MELSEC-Q series)
* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
</table>

Item	Description
Function description	1) When FB_EN(Execution command) is turned ON, data with the number of bytes specified with i_Read_Byte(Processing specification) is read from i_Address_No(Start address specification) in the ID tag. Data read is stored from the start device specified with o_Read_Data (read-out data). When reading is completed, FB_OK (Normal completion) is turned ON.  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. Example 0: Upper to the lower ID tag memory Address 0010 Data1 0011 Data2 0012 Data3 0013 Data4 → CPU unit devices Data1 Data2 Data3 Data4 1: lower to the upper ID tag memory Address 0010 Data1 0011 Data2 0012 Data3 0013 Data4 → CPU unit devices Data2 Data1 Data4 Data3 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_Reception(Result reception) is turned ON.

Item	Description
	4) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID. Refer to the error code explanation section for details. 5) If an error occurs in ECL2-V680D1, o_UNIT_ERR_CODE (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_UNIT_ERR_CODE (Module error code). Refer to the error code explanation section for details. 6) When FB_EN(Execution command) is turned OFF during read-out operation, processing of the FB is suspended. Data read is stored in the device specified with o_Read_Data (read-out data) until processing is suspended.
Compiling method	Macro type
Restrictions and precautions	1) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) This FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9 and data registers D5000 to D5001. When an interrupt program is used, do not use these index registers and data registers. 8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in the read of the ID tag, specify using P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) before executing this FB. 9) Start device which store the writing data must set at o_Read_Data (Read data).This may not be omitted. 10) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No(Master module equipped XY address) ・ i_Station_No(Station No.) ・ i_Address_No(Start address specification) ・ i_Read_Byte(Processing specification) 11) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_Reception(Result reception) is ignored. 12) Enter pulse in i_Reception(Result reception). 13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using.

Item	Description
	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". 15) If processing of this FB is not completed, check if i_Start_IO_No(Master module equipped XY address) is correct, i_Station_No (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	[For successful completion] (Trigger, Auto, FIFO trigger)  [For successful completion] (Repeat auto, FIFO repeat)  [When an error occurs]  [For Module error] 

Item	Description
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

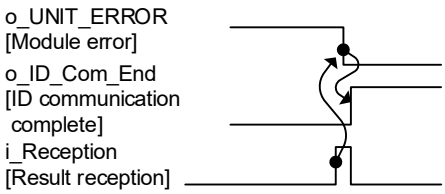
Error code	Description	Action
11(Decimal)	Specification of i_Station_No(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
13(Decimal)	i_Read_Byte(Processing specification) is outside the specified range.	[Trigger] Specify value in the 0001 to 0800 range (Hexadecimal) 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.

Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.
Start address specification	i_Address_No	Word	0000 to FFFF (Hexadecimal)	Specify the start address where the ID tag is read.
Processing specification	i_Read_Byte	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_Reception	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

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	The error code that occurred in the FB is stored.
Module error	o_UNIT_ERRO R	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module Error code	o_UNIT_ERR_ CODE	Word	0	A description of the error occurred in the RFID interface unit is stored.
Read data	o_Read_Data	Word	0	Specify the start device of the area for store the data read. Data read is stored at the number of bytes area specified by i_Read_Byte(Processing specification).
ID communication complete	o_ID_Com_End	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_Reception (Result reception) is turned ON. 

FB Version Upgrade History

Version	Date	Description
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

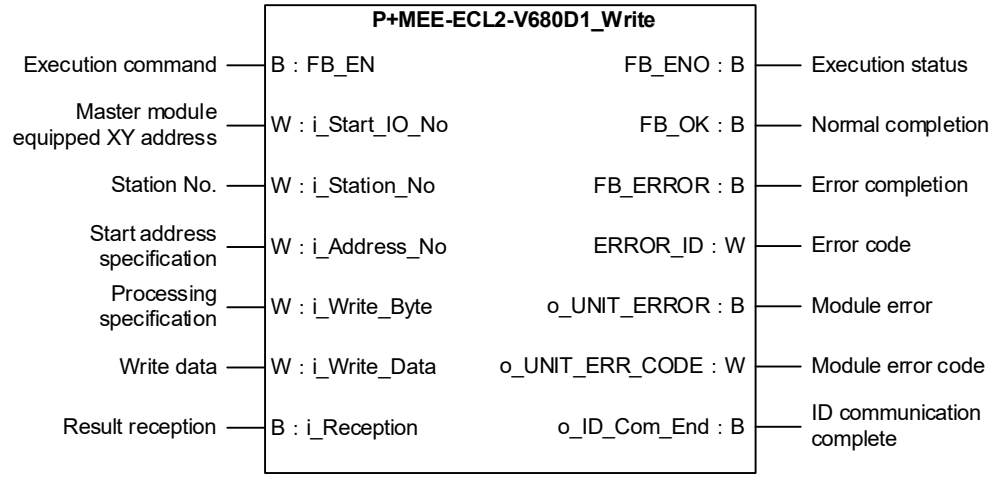
Please make sure to read user's manuals for the corresponding products before using the products.

2.3 P+MEE-ECL2-V680D1_Write (Write to ID tag)

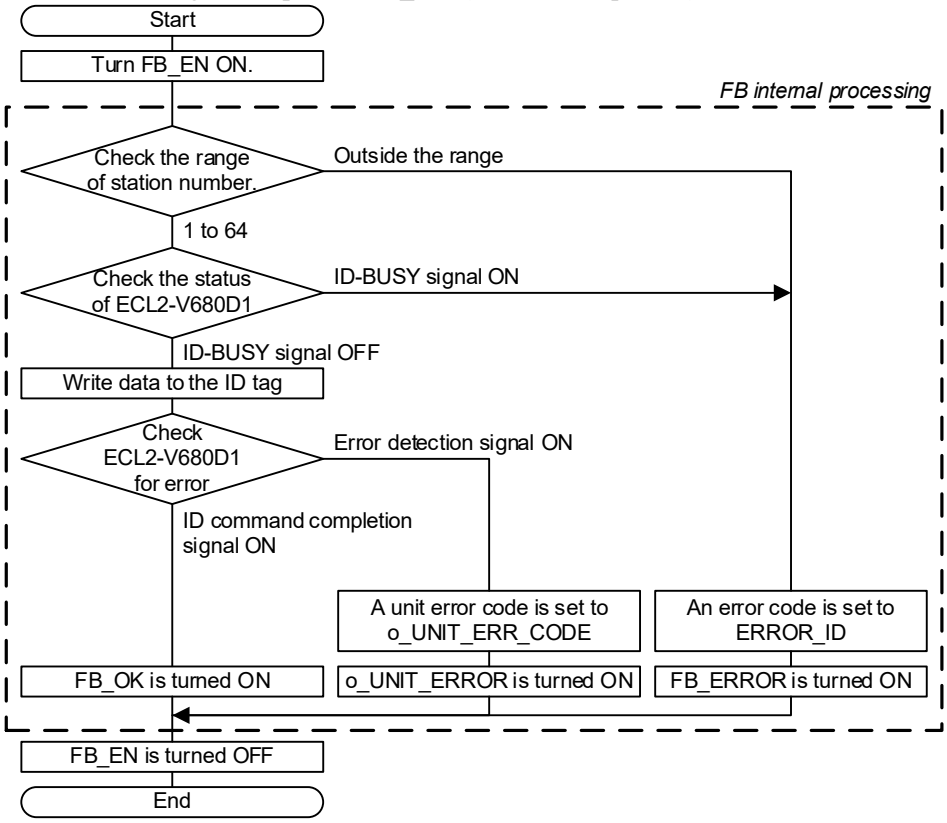
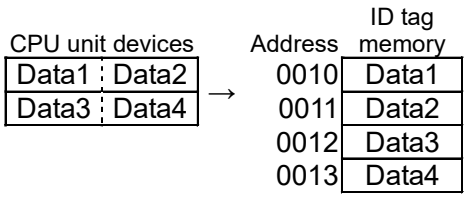
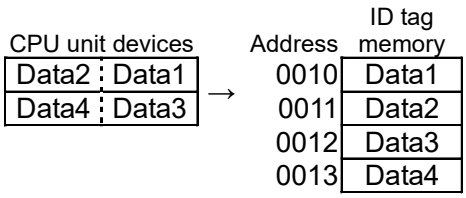
FB Name

P+MEE-ECL2-V680D1_Write

Function Overview

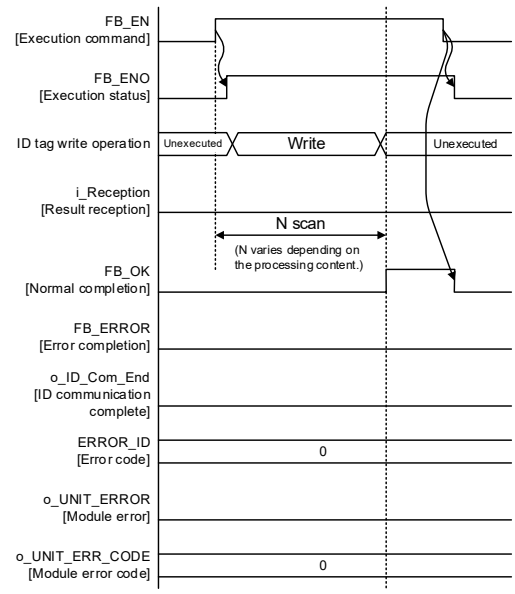
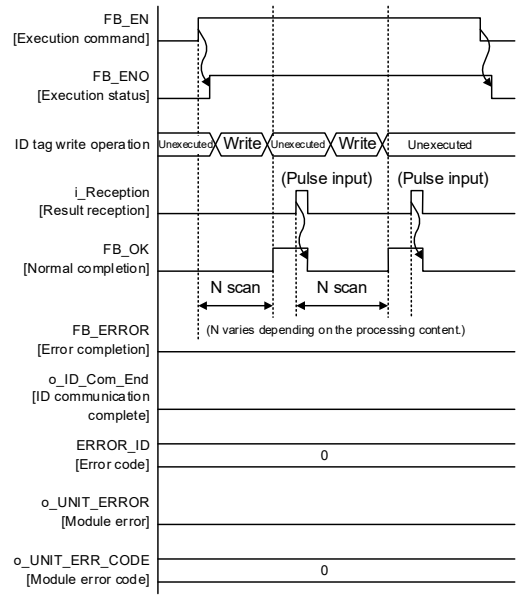
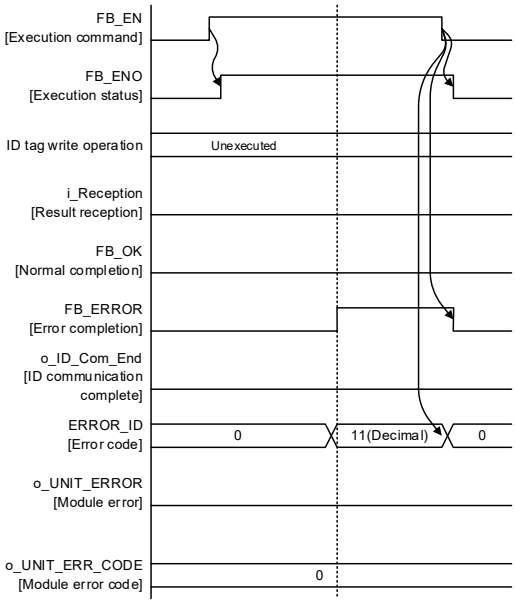
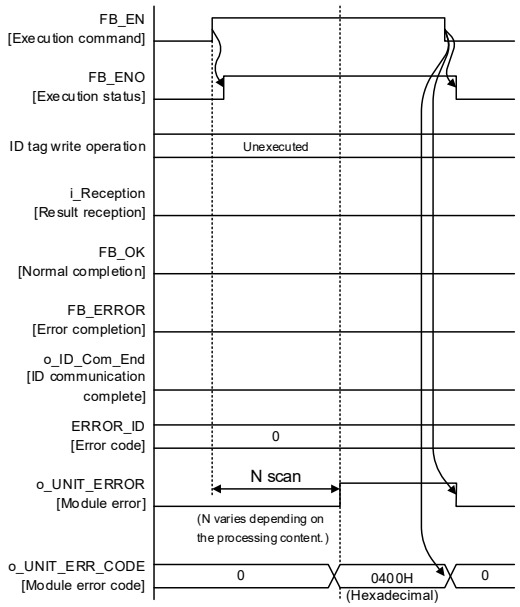
<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Writes data to an ID tag.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>RFID interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr>
<tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr>
</table>
</td></tr>
<tr><td></td><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr>
<tr><td>High Performance model QCPU (*3)</td></tr>
<tr><td>Universal model QCPU</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later
</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Engineering software</td><td>GX Works2</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr>
<tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr>
</table>
</td></tr>
<tr><td>Programming Language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">1529steps (For high performance model of MELSEC-Q series)
* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
</table>

Item	Description
Function description	1) When FB_EN(Execution command) is turned ON, data stored from the start devices specified with i_Write_Data (write data) is written for the number of bytes specified with i_Write_Byte(Processing specification) from i_Address_No(Start address specification) in the ID tag. When writing is completed, FB_OK (Normal completion) is turned ON.  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. Example 0: Upper to the lower  1: Lower to the upper  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_Reception(Result reception) is turned ON.

Item	Description
	4) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID. Refer to the error code explanation section for details. 5) If an error occurs in ECL2-V680D1, o_UNIT_ERROR (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_UNIT_ERR_CODE (Module error code). Refer to the error code explanation section for details. 6) When FB_EN(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.
Compiling method	Macro type
Restrictions and precautions	1) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) This FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9 and data registers D5000 to D5001. When an interrupt program is used, do not use these index registers and data registers. 8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in the write of the ID tag, specify using P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) before executing this FB. 9) For i_Write_Data (Write data), be sure to specify the start device in the area where data to be written was stored. This may not be omitted. 10) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No (Master module equipped XY address) ・ i_Station_No (Station No.) ・ i_Address_No (Start address specification) ・ i_Write_Byte (Processing specification) ・ i_Write_Data (write data)

Item	Description
	11) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_Reception(Result reception) is ignored. 12) Enter pulse in i_Reception(Result reception). 13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 14) Only one master/local module can be controlled by the CC-Link system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 15) If processing of this FB is not completed, check if i_Start_IO_No(Master module equipped XY address) is correct, i_Station_No (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)

Item	Description
Timing chart	[For successful completion] (Trigger, Auto, FIFO trigger)  [For successful completion] (Repeat auto, FIFO repeat)  [When an error occurs]  [For Module error] 
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

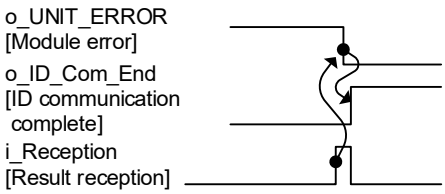
Error code	Description	Action
11(Decimal)	Specification of i_Station_No(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
13(Decimal)	i_Write_Byte(Processing specification) is outside the specified range.	[Trigger] Specify value in the 0001 to 0800 range (Hexadecimal) 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.

Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.
Start address specification	i_Address_No	Word	0000 to FFFF (Hexadecimal)	Specify the initial address where writes data to an ID tag.
Processing specification	i_Write_Byte	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	i_Write_Data	Word	0000 to FFFF (Hexadecimal)	Start device which store the writing data must set. For write data, write data for the number of bytes specified with i_Write_Byte(Processing specification).
Result reception	i_Reception	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	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	The error code that occurred in the FB is stored.
Module error	o_UNIT_ERROR	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_UNIT_ERR_CODE	Word	0	A description of the error occurred in the RFID interface unit is stored.
ID communication complete	o_ID_Com_End	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_Reception (Result reception) is turned ON. 

FB Version Upgrade History

Version	Date	Description
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

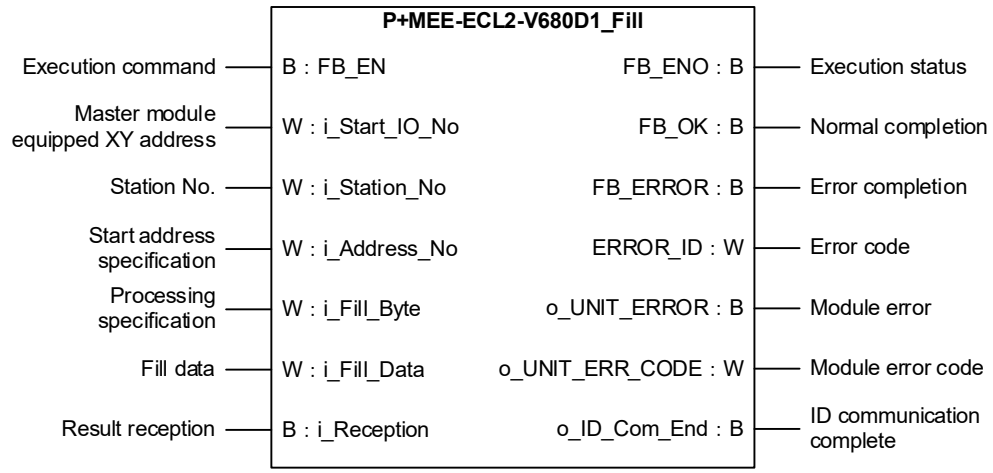
Please make sure to read user's manuals for the corresponding products before using the products.

2.4 P+MEE-ECL2-V680D1_Fill (Fill Data in ID Tag)

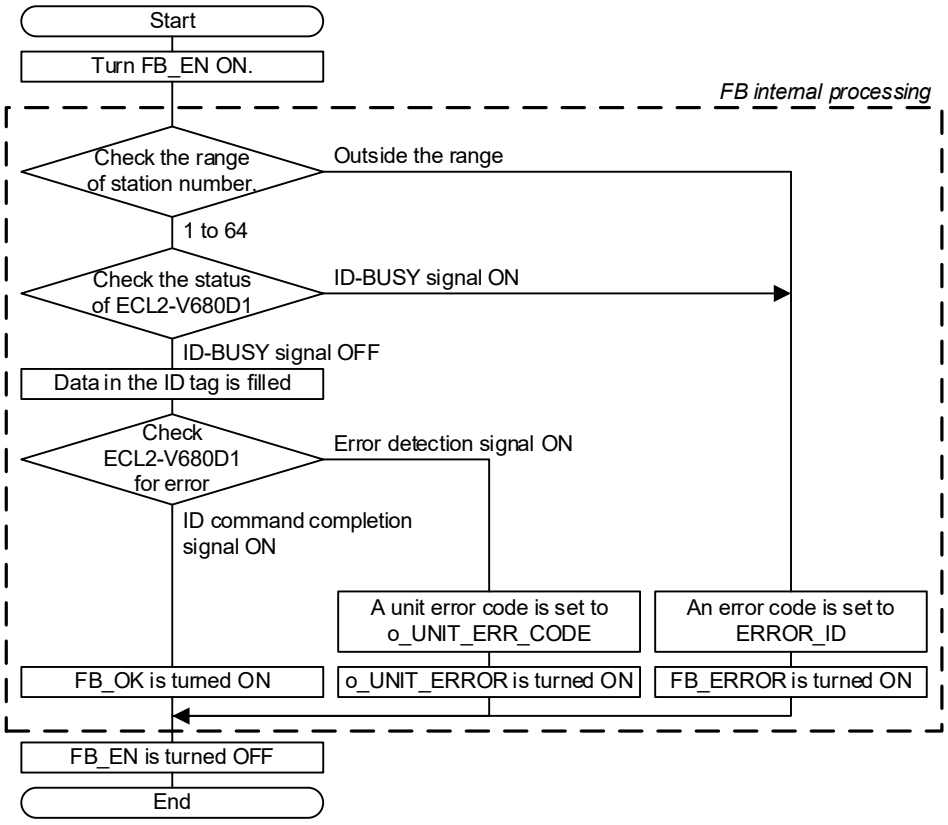
FB Name

P+MEE-ECL2-V680D1_Fill

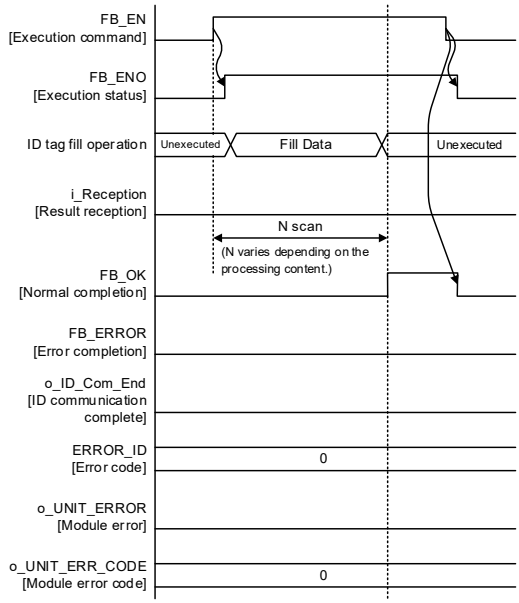
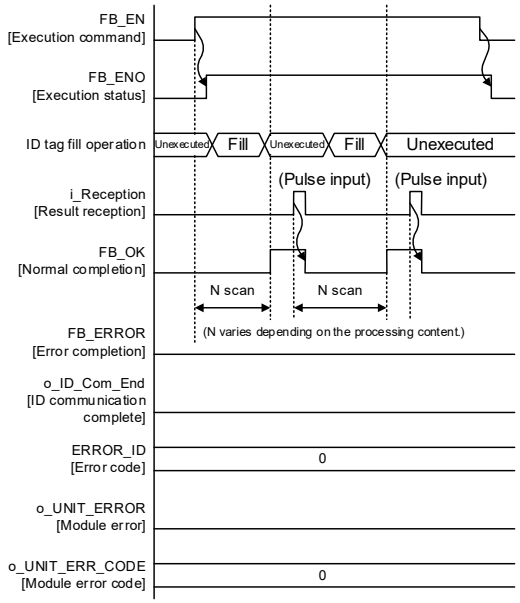
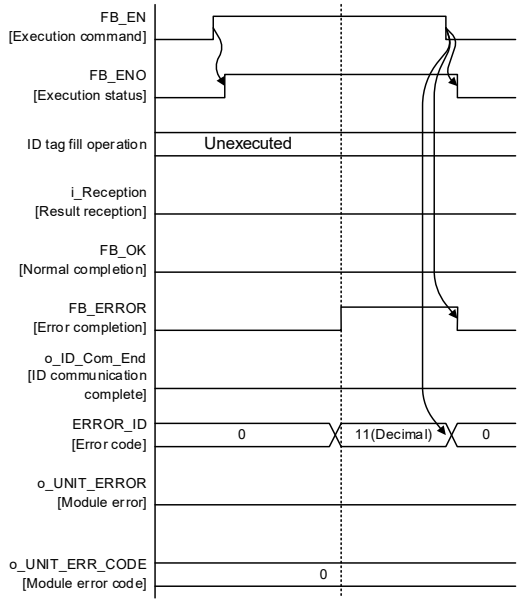
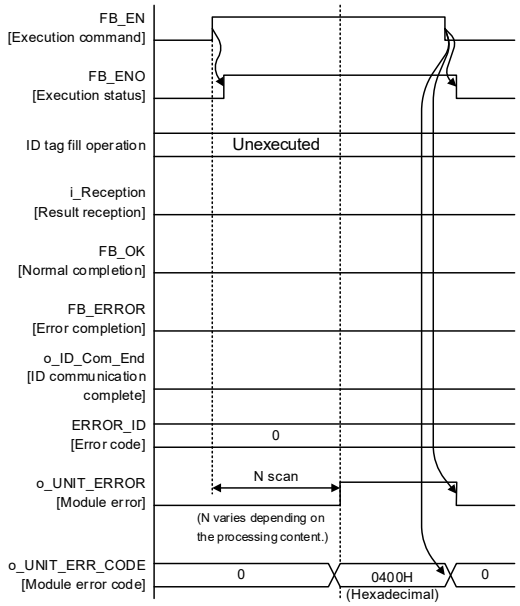
Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Initializes the data of an ID tag using specified data.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>RFID interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr>
<tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr>
<tr><td>High Performance model QCPU (*3)</td></tr>
<tr><td>Universal model QCPU</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later
</td></tr>
<tr><td>Engineering software</td><td>GX Works2</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr>
<tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr>
</table>
</td></tr>
</table>

Item	Description
Programming Language	Ladder
Number of steps	1302steps (For high performance model of MELSEC-Q 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	1) When FB_EN(Execution command) is turned ON, the number of bytes specified with i_Fill_Byte(Processing specification) from i_Address_No(Start address specification) in the ID tag is filled. When filling is completed, FB_OK (Normal completion) is turned ON.  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. 0: Upper to the lower Fill data: Data1 Data2 → ID tag memory Address 0010: Data1 Address 0011: Data2 Address 0012: Data1 Address 0013: Data2 1: Lower to the upper Fill data: Data2 Data1 → ID tag memory Address 0010: Data1 Address 0011: Data2 Address 0012: Data1 Address 0013: Data2 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_Reception(Result reception) is turned ON. 4) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID. Refer to the error code explanation section for details.

Item	Description
	5) If an error occurs in ECL2-V680D1, o_UNIT_ERROR (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_UNIT_ERR_CODE (Module error code). Refer to the error code explanation section for details. 6) When FB_EN(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.
Compiling method	Macro type
Restrictions and precautions	1) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) This FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9. When an interrupt program is used, do not use these index registers. 8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in data fill of the ID tag, specify using P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) before executing this FB. 9) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No(Master module equipped XY address) ・ i_Station_No(Station No.) ・ i_Address_No(Start address specification) ・ i_Fill_Byte(Processing specification) ・ i_Fill_Data(Fill data) 10) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_Reception(Result reception) is ignored. 11) In data fill, the write protect does not function, because all data in the ID tag is initialized. 12) Enter pulse in i_Reception(Result reception). 13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 14) Only one master/local module can be controlled by the CC-Link system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".

Item	Description
	15) If processing of this FB is not completed, check if i_Start_IO_No (Master module equipped XY address) is correct, i_Station_No (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	[For successful completion] (Trigger, Auto, FIFO trigger)  [For successful completion] (Repeat auto, FIFO repeat)  [When an error occurs]  [For Module error] 
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

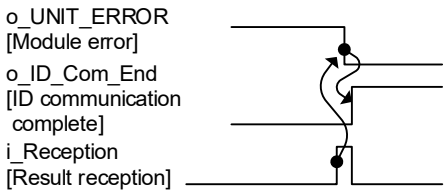
Error code	Description	Action
11(Decimal)	Specification of i_Station_No(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
14(Decimal)	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.
Start address specification	i_Address_No	Word	0000 to FFFF (Hexadecimal)	Specify the initial address where the ID tag is filled.
Processing specification	i_Fill_Byte	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_Fill_Data	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_Fill_Byte (Processing specification).
Result reception	i_Reception	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	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	The error code that occurred in the FB is stored.
Module error	o_UNIT_ERROR	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_UNIT_ERR_CODE	Word	0	A description of the error occurred in the RFID interface unit is stored.
ID communication complete	o_ID_Com_End	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_Reception (Result reception) is turned ON. 

FB Version Upgrade History

Version	Date	Description
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

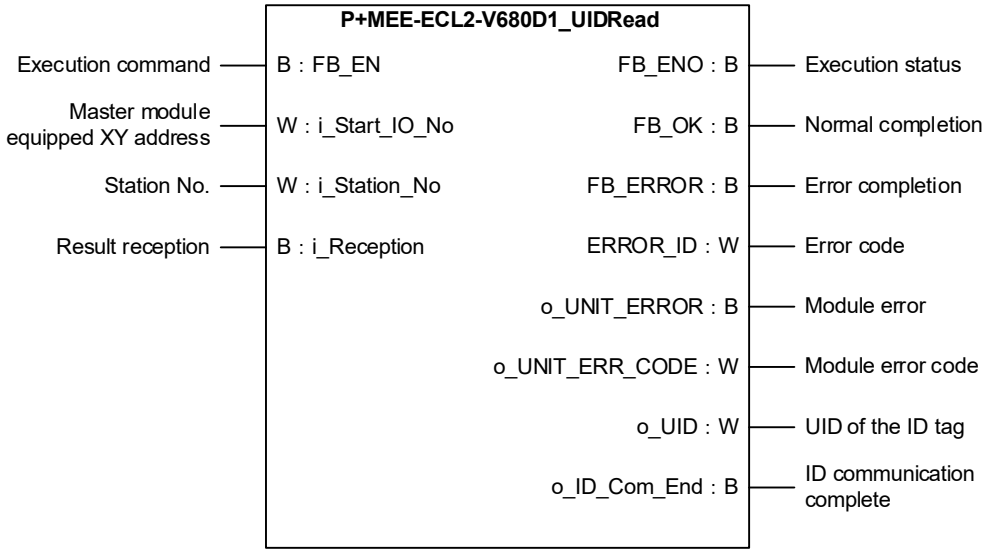
Please make sure to read user's manuals for the corresponding products before using the products.

2.5 P+MEE-ECL2-V680D1_UIDRead (Read UID of ID Tag)

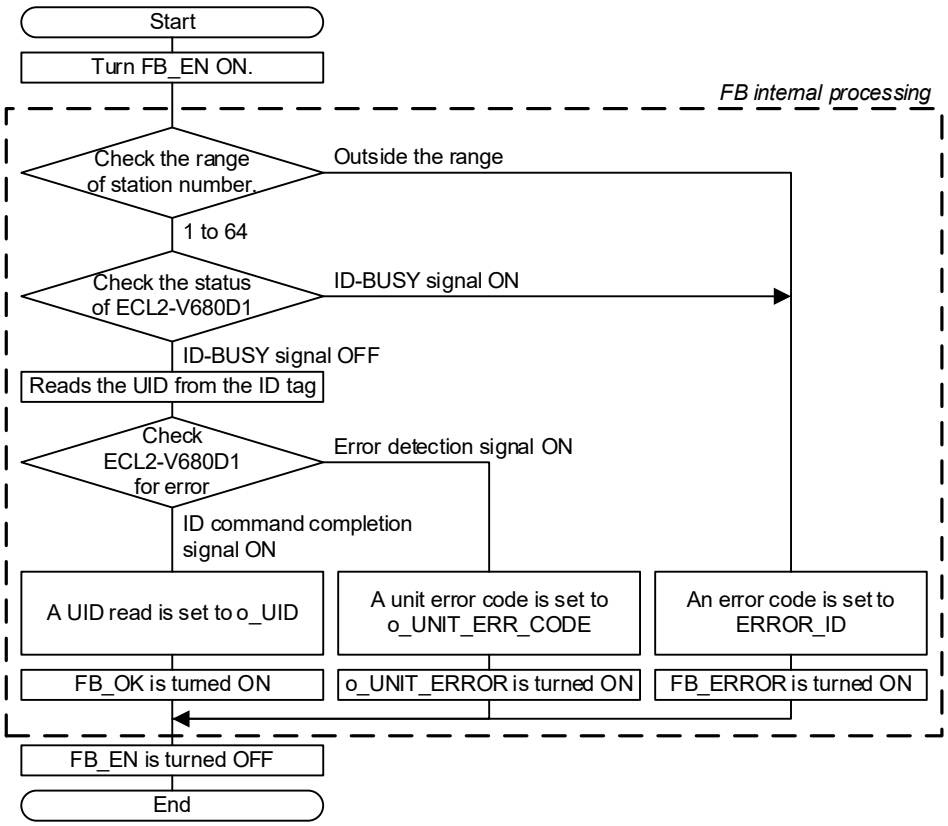
FB Name

P+MEE-ECL2-V680D1_UIDRead

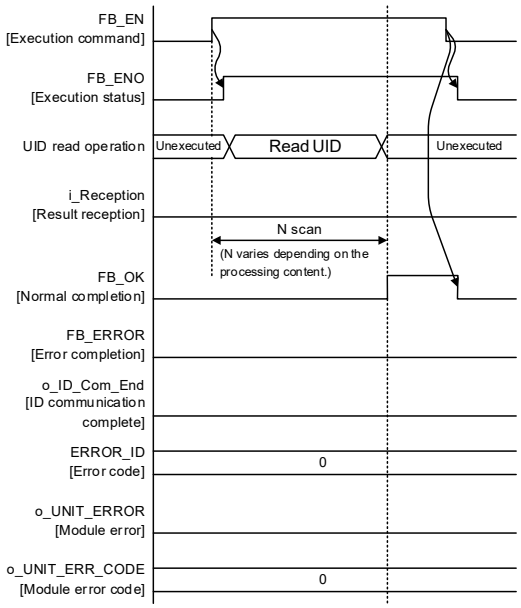
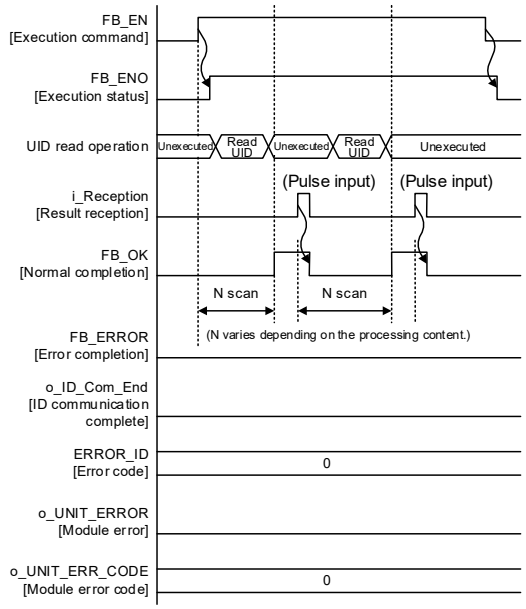
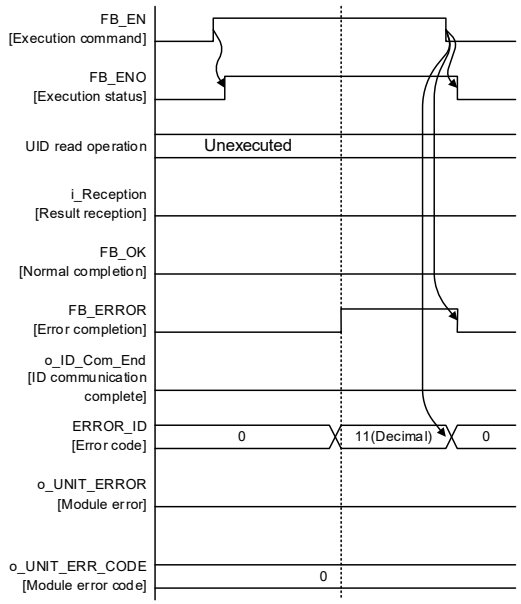
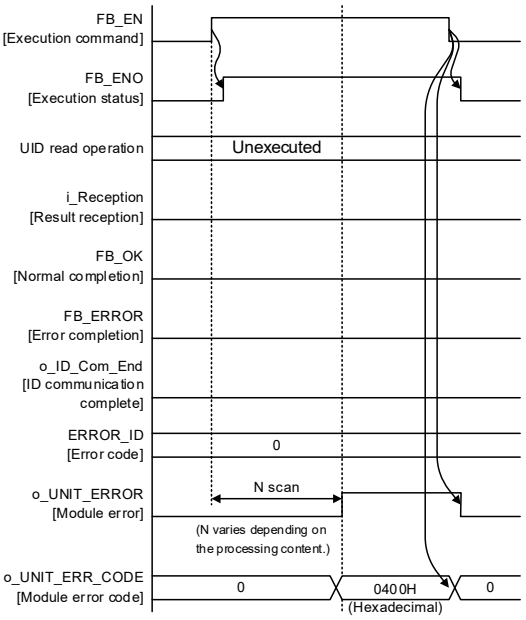
Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Reads the UID (unit identification number) of the ID tag.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>RFID interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr>
<tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr>
</table>
</td></tr>
<tr><td></td><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr>
<tr><td>High Performance model QCPU (*3)</td></tr>
<tr><td>Universal model QCPU</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later
</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Engineering software</td><td>GX Works2</td><td><table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr><tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr></table></td></tr>
<tr><td>Programming Language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">1297steps (For high performance model of MELSEC-Q series)
* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
</table>

Item	Description
Function description	1) When FB_EN (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 o_UID (UID of the ID tag). When reading is completed, FB_OK (Normal completion) is turned ON.  2) 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_Reception(Result reception) is turned ON. 3) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID. Refer to the error code explanation section for details. 4) If an error occurs in ECL2-V680D1, o_UNIT_ERROR (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_UNIT_ERR_CODE (Module error code). Refer to the error code explanation section for details. 5) When FB_EN(Execution command) is turned OFF during read operation, processing of the FB is suspended. Data read is not stored in the device specified with o_UID (UID of the ID tag).
Compiling method	Macro type

Item	Description
Restrictions and precautions	1) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) This FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9. When an interrupt program is used, do not use these index registers. 8) For Communication specification, Communication setting, Processing specification and auto system command waiting time settings in the UID read of the ID tag, specify using P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) before executing this FB. 9) Start device which store the UID read must set at o_UID(ID tag UID).This may not be omitted. 10) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No(Master module equipped XY address) ・ i_Station_No(Station No.) 11) If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_Reception(Result reception) is ignored. 12) Enter pulse in i_Reception(Result reception). 13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 14) Only one master/local module can be controlled by the CC-Link system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 15) If processing of this FB is not completed, check if i_Start_IO_No(Master module equipped XY address) is correct, i_StationNo (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)

Item	Description
Timing chart	[For successful completion] (Trigger, Auto, FIFO trigger)  [For successful completion] (Repeat auto, FIFO repeat)  [When an error occurs]  [For Module error] 
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

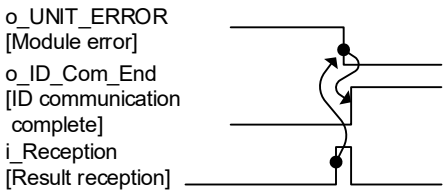
Error code	Description	Action
11(Decimal)	Specification of i_Station_No(Station No.) is outside the range.	Specify the station number within the range from 1 to 64.
14(Decimal)	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

Labels

■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.
Result reception	i_Reception	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.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	The error code that occurred in the FB is stored.
Module error	o_UNIT_ERROR	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_UNIT_ERR_CODE	Word	0	A description of the error occurred in the RFID interface unit is stored.
UID of the ID tag	o_UID	Word	0	The UID of the ID tag is stored in 4 words. Specify the start device of the area for store the UID.
ID communication complete	o_ID_Com_End	Bit	OFF	When communication is cut off on the side of the RFID interface unit due to unconnected antenna, turn ON after i_Reception (Result reception) is turned ON. 

FB Version Upgrade History

Version	Date	Description
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

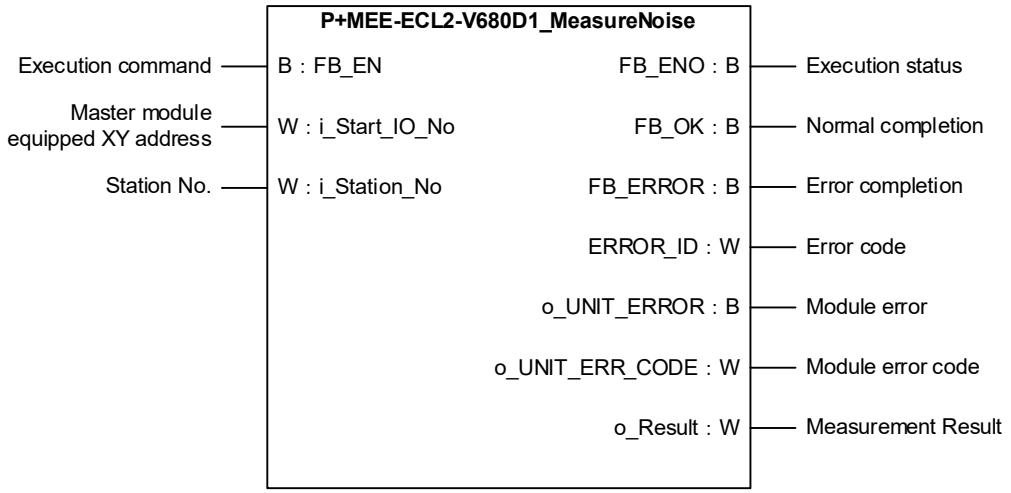
Please make sure to read user's manuals for the corresponding products before using the products.

2.6 P+MEE-ECL2-V680D1_MeasureNoise (Measures Noise)

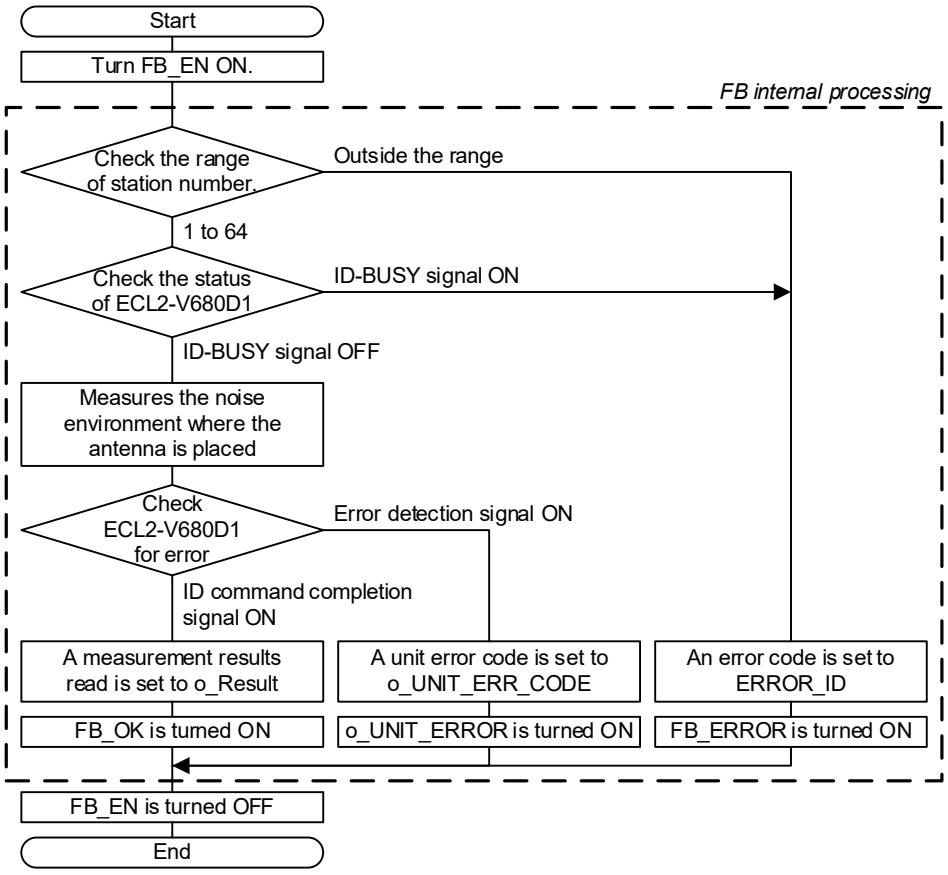
FB Name

P+MEE-ECL2-V680D1_MeasureNoise

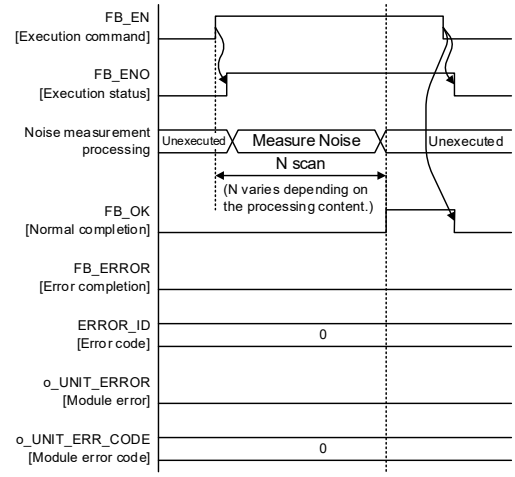
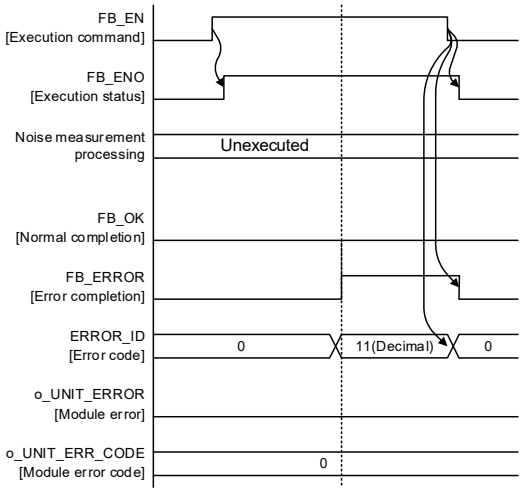
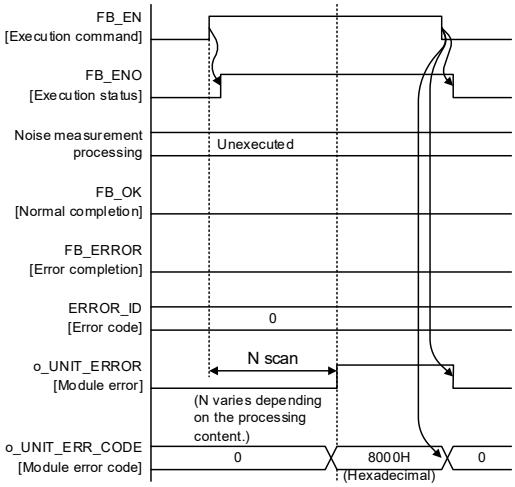
Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Measures the noise environment surrounding the antenna.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>RFID interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr>
<tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr>
<tr><td>High Performance model QCPU (*3)</td></tr>
<tr><td>Universal model QCPU</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later
</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Engineering software</td><td>GX Works2</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr>
<tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr>
</table></td></tr>
<tr><td>Programming Language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">980steps (For high performance model of MELSEC-Q series)
* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
</table>

Item	Description
Function description	1) When FB_EN(Execution command) is turned ON, measures the noise environment where the antenna is placed. Measurement results are stored from the start device specified with o_Result (Measurement result). When measurement is completed, FB_OK (Normal completion) is turned ON.  2) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID. Refer to the error code explanation section for details. 3) If an error occurs in ECL2-V680D1, o_UNIT_ERROR (Module error) is turned ON and processing is suspended. In addition, an error code is set to o_UNIT_ERR_CODE (Module error code).Refer to the error code explanation section for details. 4) When FB_EN (Execution command) is turned OFF when measuring noise, processing of the FB is suspended. Data read is not stored in the device specified with o_Result (Measurement result).
Compiling method	Macro type

Item	Description
Restrictions and precautions	1) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) This FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. 7) This FB uses index registers Z5 to Z9 When an interrupt program is used, do not use these index registers. 8) For o_Result (Measurement result), be sure to specify the start device in the area where noise measurement results are stored. This may not be omitted. 9) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No(Master module equipped XY address) ・ i_Station_No(Station No.) 10) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 11) Only one master/local module can be controlled by the CC-Link system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 12) If processing of this FB is not completed, check if i_Start_IO_No(Master module equipped XY address) is correct, i_Station_No (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)

Item	Description
Timing chart	[When operation completes without error]  [When an error occurs]  [For Module error] 
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_Station_No(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	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	The error code that occurred in the FB is stored.
Module error	o_UNIT_ERROR	Bit	OFF	ON: An error occurred in the RFID interface unit. OFF: Normal
Module error code	o_UNIT_ERR_CODE	Word	0	A description of the error occurred in the RFID interface unit is stored.
Measurement Result	o_Result	Word	0	The result of noise measurement is stored in 3 words. Storage area +0 Average value 0 to 99 (Decimal) +1 Maximum value 0 to 99 (Decimal) +2 Minimum value 0 to 99 (Decimal) Be sure to set the start device which store the measurement result.

FB Version Upgrade History

Version	Date	Description
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

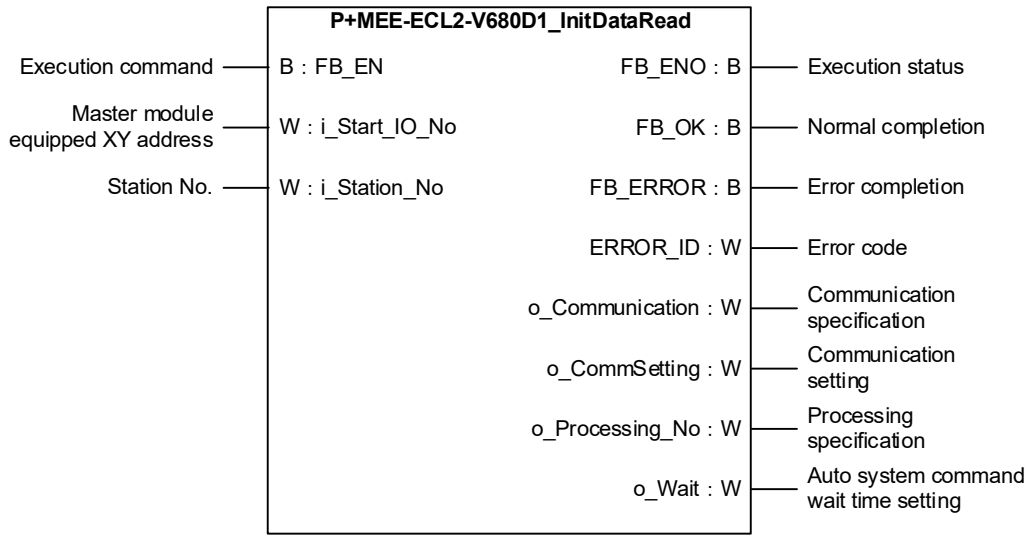
Please make sure to read user's manuals for the corresponding products before using the products.

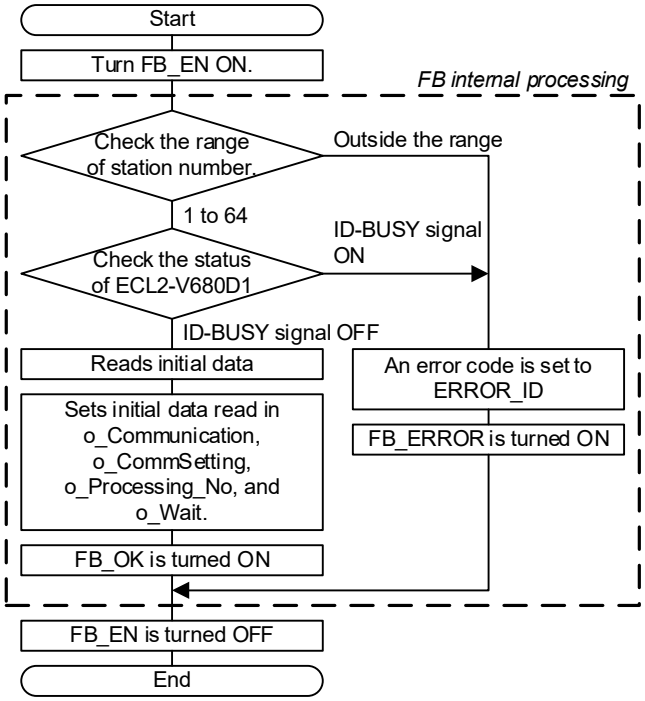
2.7 P+MEE-ECL2-V680D1_InitDataRead (Read Initial Data Settings)

FB Name

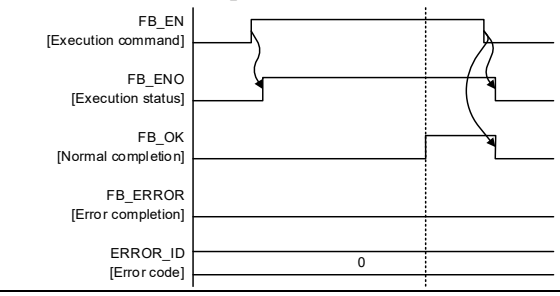
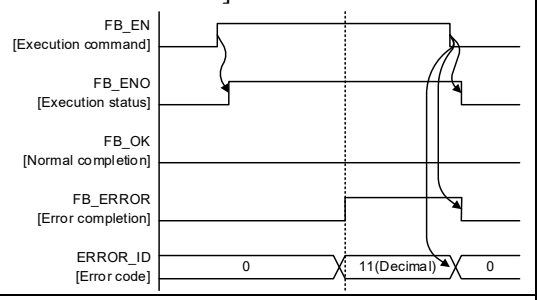
P+MEE-ECL2-V680D1_InitDataRead

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Reads the initial data settings.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>RFID interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr>
<tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr>
<tr><td>High Performance model QCPU (*3)</td></tr>
<tr><td>Universal model QCPU</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later
</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Engineering software</td><td>GX Works2
<table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr><tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr></table></td></tr>
<tr><td>Programming Language</td><td>Ladder</td></tr>
<tr><td>Number of steps</td><td>926steps (For high performance model of MELSEC-Q series)
* The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td>1) When FB_EN (Execution command) is turned ON, initial data is read. Data read is set in o_Communication(Communication specification), o_CommSetting(Communication setting), o_Processing_No(Processing specification), and o_Wait(Auto system command wait time setting).
When reading is completed, FB_OK (Normal completion) is turned ON.
 

2) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID.
Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td>Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) This FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the FB_EN (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. 7) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 8) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No(Master module equipped XY address) ・ i_Station_No(Station No.) 9) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 10) Only one master/local module can be controlled by the CC-Link system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 11) If processing of this FB is not completed, check if i_Start_IO_No(Master module equipped XY address) is correct, i_Station_No (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	[For successful completion]  [When an error occurs] 
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_Station_No(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

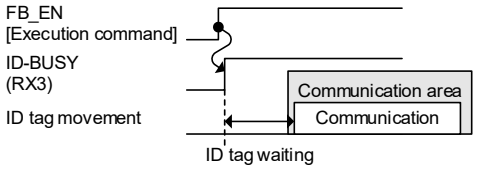
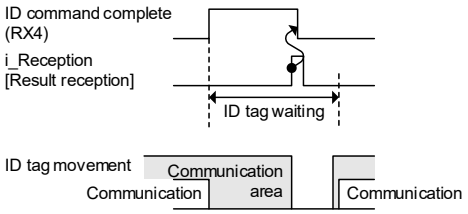
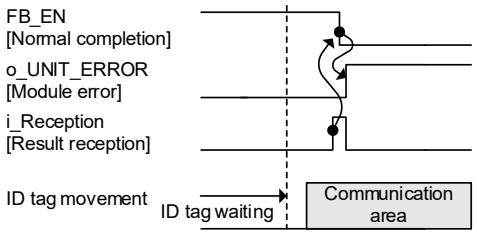
■Input labels

Name	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	The error code that occurred in the FB is stored.
Communication specification	o_Communication	Word	0	The communication method for the ID tag is stored. 0: Trigger 1: Auto 2: Repeat auto 3: FIFO trigger 4: FIFO repeat

<table>
<tr><th>Name</th><th>Label name</th><th>Data type</th><th>Initial Value</th><th>Description</th></tr>
<tr><td>Communication setting</td><td>o_CommSetting</td><td>Word</td><td>0</td><td>The communication setting for the ID tag is stored.
<table>
<tr><th>Bit</th><th>Description</th></tr>
<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>
</table></td></tr>
<tr><td>Processing specification</td><td>o_Processing_No</td><td>Word</td><td>0</td><td>The command data processing method for the ID tag is stored.
<table>
<tr><th>Command</th><th>Processing specification</th></tr>
<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>
</table>
For details, refer to the function description of each command.
Commands other than the above do not use Processing specification.</td></tr>
</table>

Name	Label name	Data type	Initial Value	Description
Auto system command wait time setting	o_Wait	Word	0	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.) When waiting for detection until a response is received from the ID tag, 0 is stored. The diagram below shows the waiting time when a command is executed by each FB. [For Auto, Repeat auto or FIFO repeat]  [For Repeat auto or FIFO repeat]  When the waiting time set before i_Reception(Result reception) is turned ON expires, o_UNIT_ERROR(Module error) is turned ON after i_Reception(Result reception) is turned ON. 

FB Version Upgrade History

Version	Date	Description
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

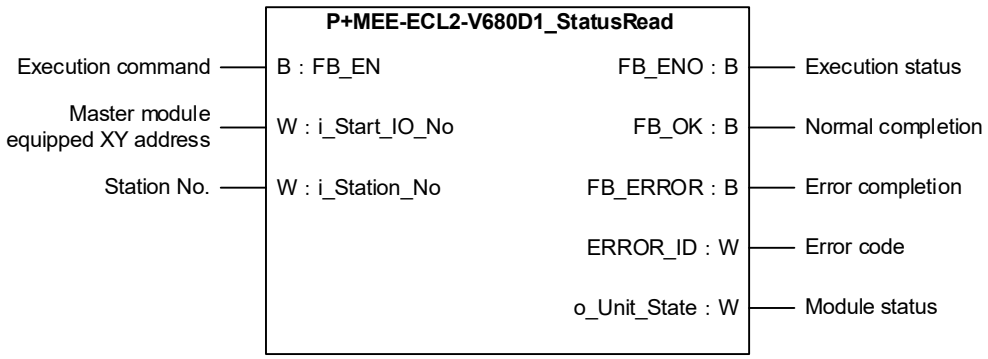
Please make sure to read user's manuals for the corresponding products before using the products.

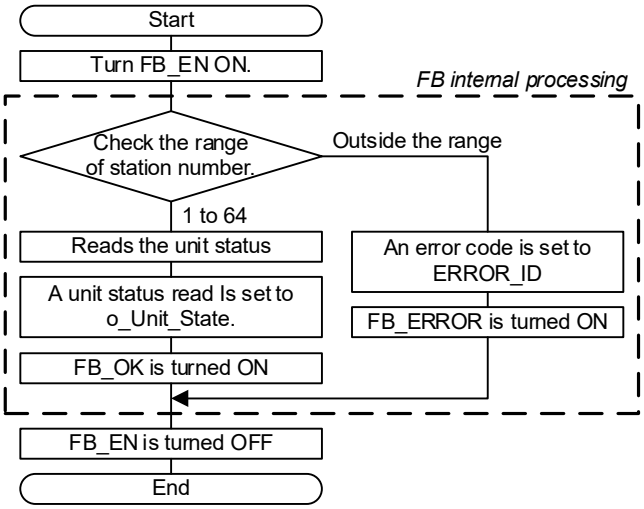
2.8 P+MEE-ECL2-V680D1_StatusRead (Read Module Status)

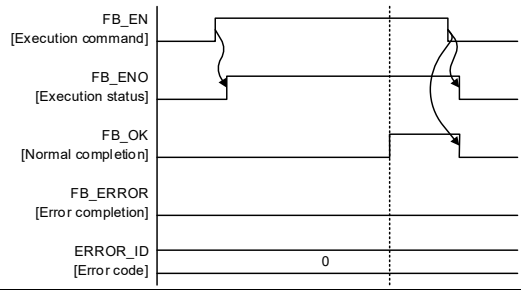
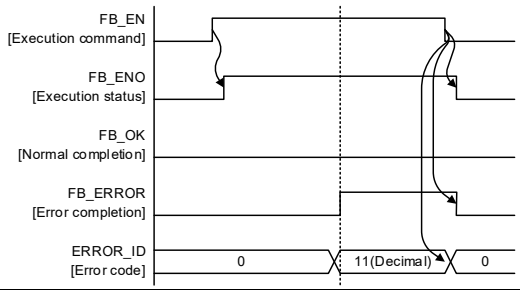
FB Name

P+MEE-ECL2-V680D1_StatusRead

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Read Module Status.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="4">Applicable hardware and software</td><td>RFID Interface module</td><td>ECL2-V680D1</td></tr>
<tr><td>CC-Link module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QJ61BT11</td></tr>
<tr><td>MELSEC-L Series</td><td>LJ61BT11
L26CPU-BT
L26CPU-PBT</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series (*1)</td><td>Basic model QCPU (*2)</td></tr>
<tr><td>High Performance model QCPU (*3)</td></tr>
<tr><td>Universal model QCPU</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
(*1) QCPU-A(A mode) cannot be used.
(*2) The first 5 digits of serial No. are "04122" or later
(*3) The first 5 digits of serial No. are "04012" or later
</td></tr>
<tr><td>GX Works2</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>Version1.11M or later</td></tr>
<tr><td>MELSEC-L Series</td><td>Version1.20W or later</td></tr>
</table>
</td></tr>
<tr><td>Programming Language</td><td colspan="2">Ladder</td></tr>
</table>

Item	Description
Number of steps	753steps (For high performance model of MELSEC-Q series) * The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.
Function description	1) When FB_EN (Execution command) is turned ON, the unit status is read. The unit status read is set in o_Unit_State (Module status). When reading is completed, FB_OK (Normal completion) is turned ON.  2) This FB works only once when FB_EN(Execution command) is turned ON. 3) If an error occurs, FB_ERROR (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to ERROR_ID. Refer to the error code explanation section for details.
Compiling method	Macro type

Item	Description
Restrictions and precautions	1) This FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) Set the refresh parameters of the network parameter setting according to Section "1.4 Setting the CC-Link Master/Local Module". 3) Set the global label setting according to Section "1.5 Setting Global Labels". 4) This FB cannot be used in an interrupt program. 5) When multiple FBs are used, care should be taken not to use the same target station number. 6) Please ensure that the FB_EN (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. 7) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 8) Do not change the following values while FB_EN (Execution command) is ON. ・ i_Start_IO_No(Master module equipped XY address) ・ i_Station_No(Station No.) 9) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur during compilation when multiple FBs are used. However, it does not cause any problem in using. 10) Only one master/local module can be controlled by the CC-Link system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules". 11) If processing of this FB is not completed, check if i_Start_IO_No(Master module equipped XY address) is correct, i_Station_No (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	[When operation completes without error]  [When an error occurs] 
Relevant manuals	ECL2-V680D1 RFID Interface Module User's Manual (Details) CC-Link System Master/Local Module User's Manual MELSEC-L CC-Link System Master/Local Module User's Manual

Error codes

■Error code list

Error code	Description	Action
11(Decimal)	Specification of i_Station_No(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	FB_EN	Bit	ON, OFF	ON: This FB is activated. OFF: This FB is not activated.
Master module equipped XY address	i_Start_IO_No	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 H10 for X10.)
Station No.	i_Station_No	Word	1 to 64 (Decimal)	Specify the target station number.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Normal completion	FB_OK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	FB_ERROR	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	ERROR_ID	Word	0	FB error code output.
Module status	o_Unit_State	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
1.00A	2020/10/21	First Edition

Note

This chapter includes information related to this function block.

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

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

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

To use 2 or more CC-Link 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.

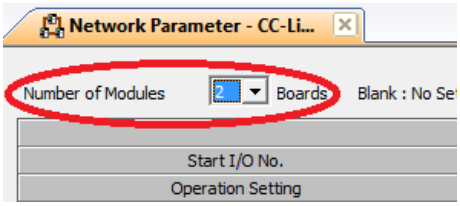
Four steps are required to create the FB for the second and subsequent modules.

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

Appendix1.1 Enter network parameters.

1) Set the network parameter for the second piece.

Set 2 to [Number of Modules] placed at upper left of network parameter setting screen.



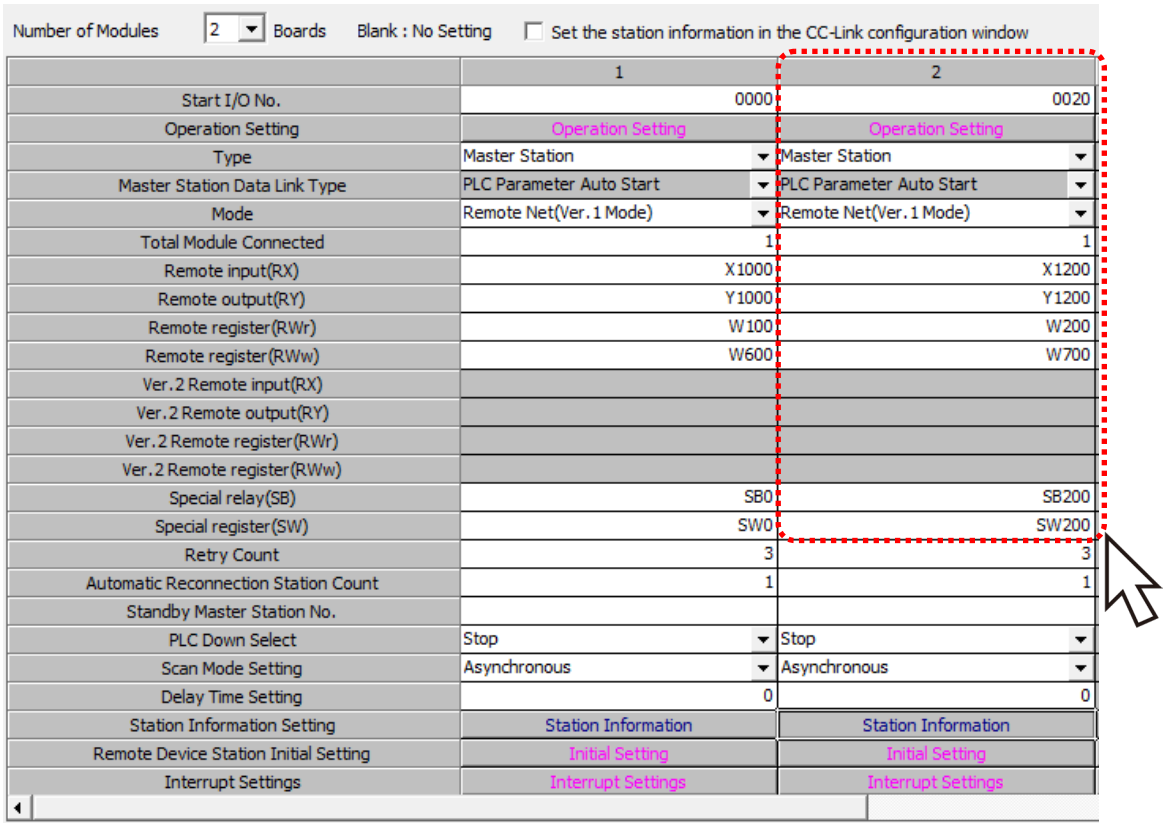
項目	内容
Start I/O No.	Set the start I/O number of master/local modules in units of 16. Set "0020".
Type	Set the station type. Select "Master Station".
Mode(*1)	Set the mode. Select "Remote Net(Ver.1 Mode)".
Transmission Speed(*2) (Only MELSEC-L series)	Set the transmission speed. Select "156kbps".
Total Module Connected	Set the number of remote modules connected to the master station. When setting a reservation station, set the number including the reservation station. Set "1".
Remote input (RX) refresh device	Set the start device No. of Remote input (RX) assigned to remote module station. Set "X1200".
Remote output (RY) refresh device	Set the start device No. of Remote output (RY) assigned to remote module station. Set "Y1200".
Remote register (RWr) refresh device	Set the start device No. of Remote register (RWr) assigned to remote module station. Set "W200".
Remote register (RWw) refresh device	Set the start device No. of Remote register (RWw) assigned to remote module station. Set "W700".
Special relay (SB) refresh device	Set the start device No. of link special relay(SB). Set "SB200".
Special register (SW) refresh device	Set the start device No. of link special register(SW). Set "SW200".

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

(*2) Set the transmission speed on network parameter settings in L series programmable controller.

Set with the transmission speed/mode switch on the front in Q series.

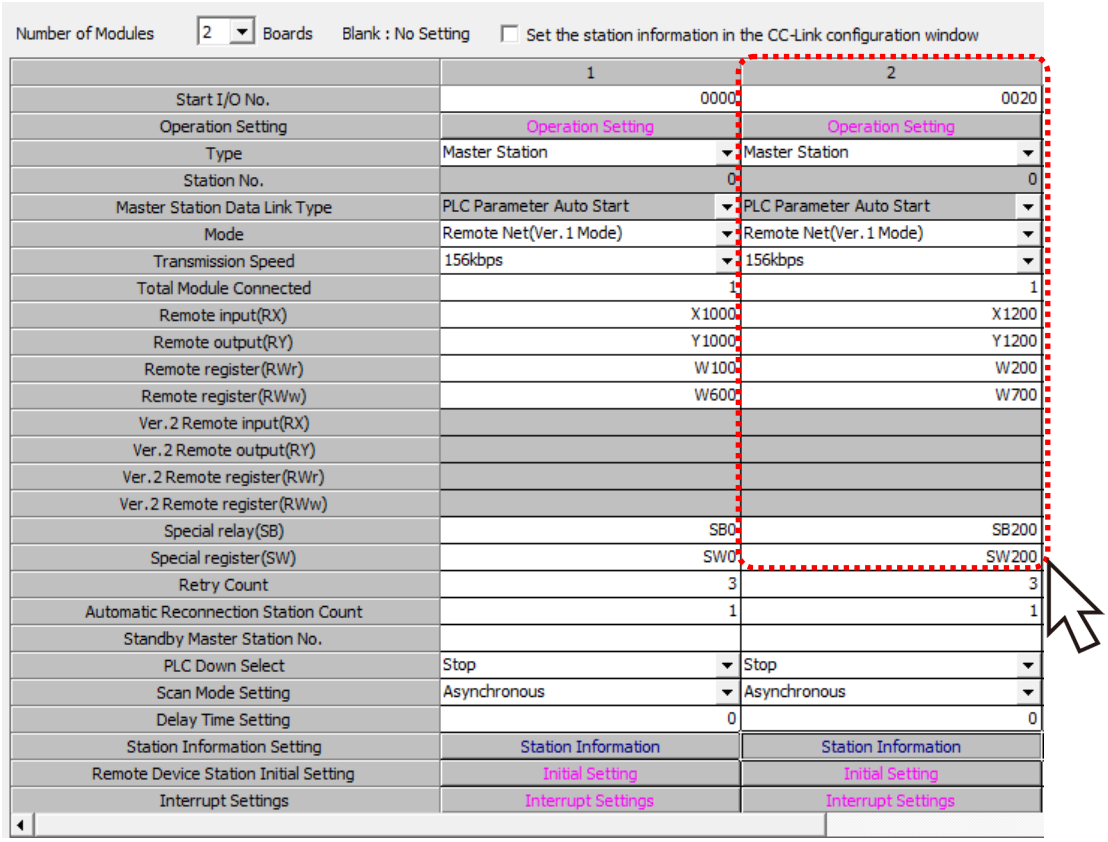
Network parameters for the Q series PLC



Number of Modules 2 Boards Blank : No Setting Set the station information in the CC-Link configuration window

	1	2
Start I/O No.	0000	0020
Operation Setting	Operation Setting	Operation Setting
Type	Master Station	Master Station
Master Station Data Link Type	PLC Parameter Auto Start	PLC Parameter Auto Start
Mode	Remote Net(Ver.1 Mode)	Remote Net(Ver.1 Mode)
Total Module Connected	1	1
Remote input(RX)	X1000	X1200
Remote output(RY)	Y1000	Y1200
Remote register(RWr)	W100	W200
Remote register(RWw)	W600	W700
Ver.2 Remote input(RX)		
Ver.2 Remote output(RY)		
Ver.2 Remote register(RWr)		
Ver.2 Remote register(RWw)		
Special relay(SB)	SB0	SB200
Special register(SW)	SW0	SW200
Retry Count	3	3
Automatic Reconnection Station Count	1	1
Standby Master Station No.		
PLC Down Select	Stop	Stop
Scan Mode Setting	Asynchronous	Asynchronous
Delay Time Setting	0	0
Station Information Setting	Station Information	Station Information
Remote Device Station Initial Setting	Initial Setting	Initial Setting
Interrupt Settings	Interrupt Settings	Interrupt Settings

Network parameters for the L series PLC



Number of Modules 2 Boards Blank : No Setting Set the station information in the CC-Link configuration window

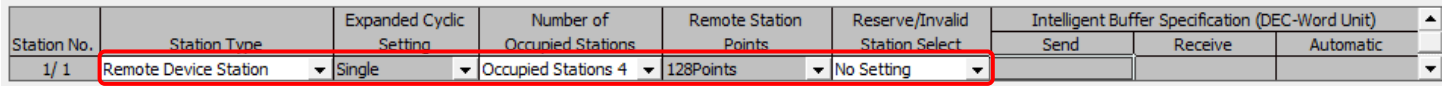
	1	2
Start I/O No.	0000	0020
Operation Setting	Operation Setting	Operation Setting
Type	Master Station	Master Station
Station No.	0	0
Master Station Data Link Type	PLC Parameter Auto Start	PLC Parameter Auto Start
Mode	Remote Net(Ver.1 Mode)	Remote Net(Ver.1 Mode)
Transmission Speed	156kbps	156kbps
Total Module Connected	1	1
Remote input(RX)	X1000	X1200
Remote output(RY)	Y1000	Y1200
Remote register(RWr)	W100	W200
Remote register(RWw)	W600	W700
Ver.2 Remote input(RX)		
Ver.2 Remote output(RY)		
Ver.2 Remote register(RWr)		
Ver.2 Remote register(RWw)		
Special relay(SB)	SB0	SB200
Special register(SW)	SW0	SW200
Retry Count	3	3
Automatic Reconnection Station Count	1	1
Standby Master Station No.		
PLC Down Select	Stop	Stop
Scan Mode Setting	Asynchronous	Asynchronous
Delay Time Setting	0	0
Station Information Setting	Station Information	Station Information
Remote Device Station Initial Setting	Initial Setting	Initial Setting
Interrupt Settings	Interrupt Settings	Interrupt Settings

2) Input the network configuration for the second piece.

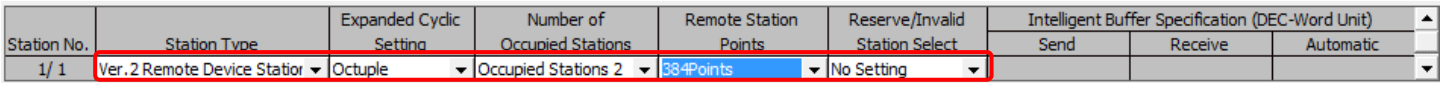
項目	内容
Station Type (*1)	Set the type of remote module station connected to the master station. Set "Remote Device Station".
Expanded Cyclic Setting (*1)	The extended cyclic settings will vary according to the setting value for the RFID interface module's mode selection switch.
Number of Occupied Stations (*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 "Occupied Station 4".
Reserved/Invalid Station Select	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 information settings when mode switch is 5 to 7



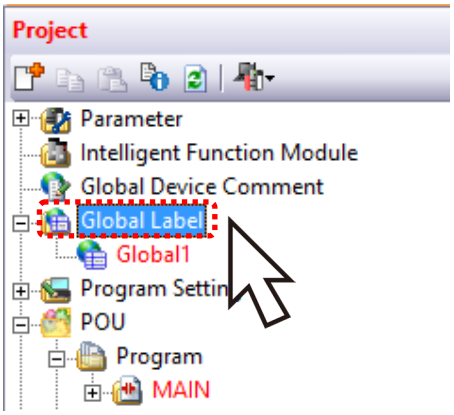
Appendix1.2 Entering Global Labels

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



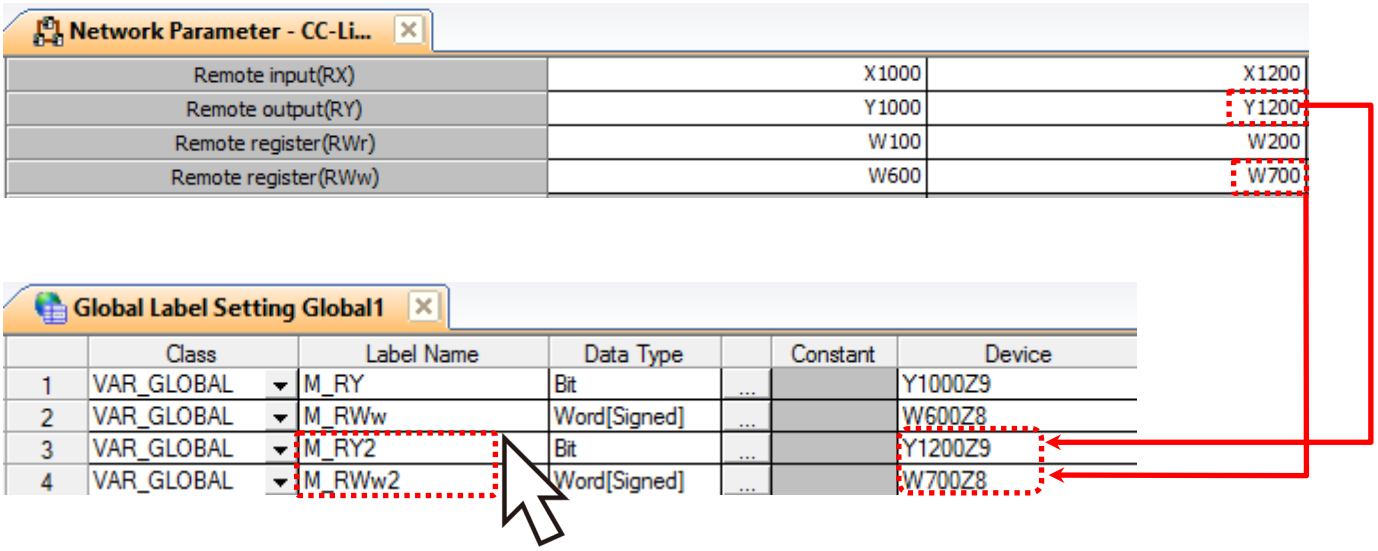
(2) Configure M_RY2 remote output (RY) settings.

Item	Description
Class	Select "VAR_GLOBAL".
Label name	Enter "M_RY2”.
Data type	Select "Bit".
Device	Enter by adding "Z9" to remote output (RX) entered in Appendix 1.1. Enter “Y1200Z9”.

(3) Configure M_RWw2 remote register (RWw) settings.

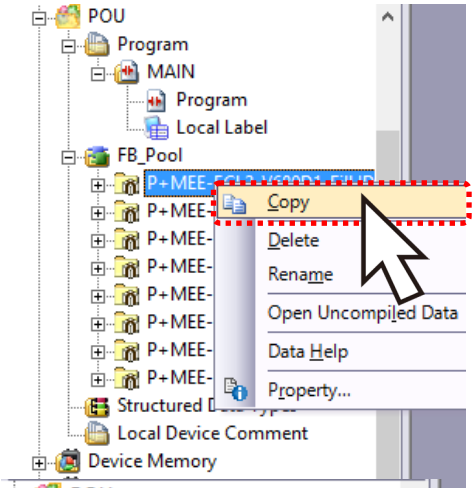
Item	Description
Class	Select "VAR_GLOBAL".
Label name	Enter "M_RWw2”.
Data type	Select "Word [signed]".
Device	Enter by adding "Z8" to remote register (RWw) entered in Appendix 1.1. Enter “W700Z8”.

Global label setting:

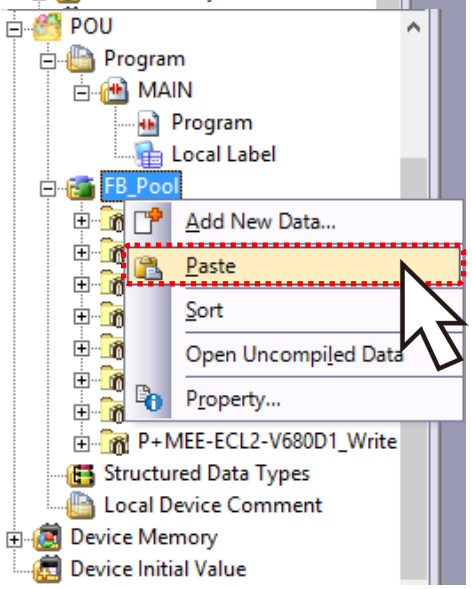


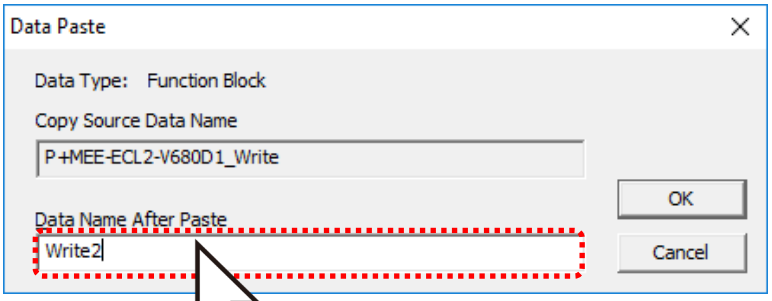
Appendix1.3 Copying MELSOFT Library to Create an FB for the Second Module

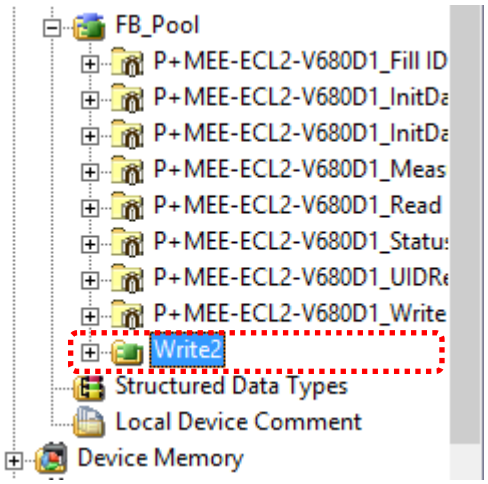
(1) Select an FB necessary for the second module from the Project tab of the Navigation window. Execute the “Copy” command.



(2) When paste the FB previously copied to [FB Pool] on the project tab placed at navigation window, a screen for entering the FB name after pasting is displayed. Enter the FB name after pasting. (Example: Write2)





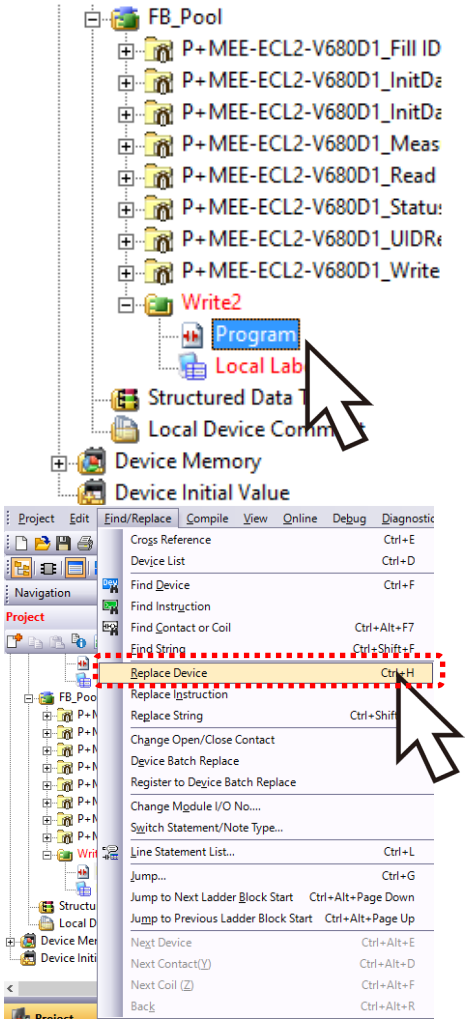


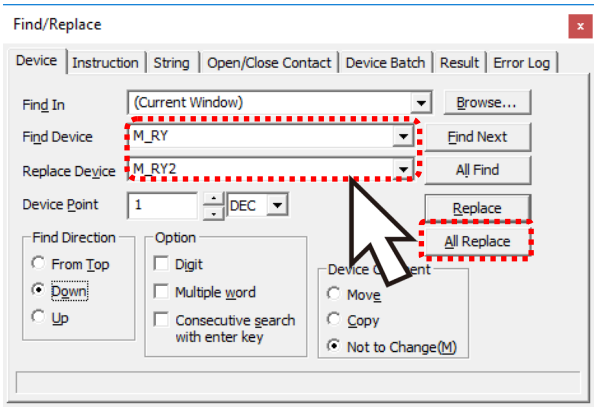
[point]

The character of "+" at P+... cannot be input.

Appendix1.4 Replacing Devices to Create the FB for the Second Module

Replace all devices of M_RY and M_RWw for the copied FB. Open the "Program" for the FB added from the navigation window and select "Find/Replace" → "Replace Device" in the menu and display the "Find/Replace" screen. Specify "(Current window)" for the search location, "M_RX" for the search device, and "M_RX2" for the replacement device. Similarly, replace all devices of "M_RWw" with "M_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]

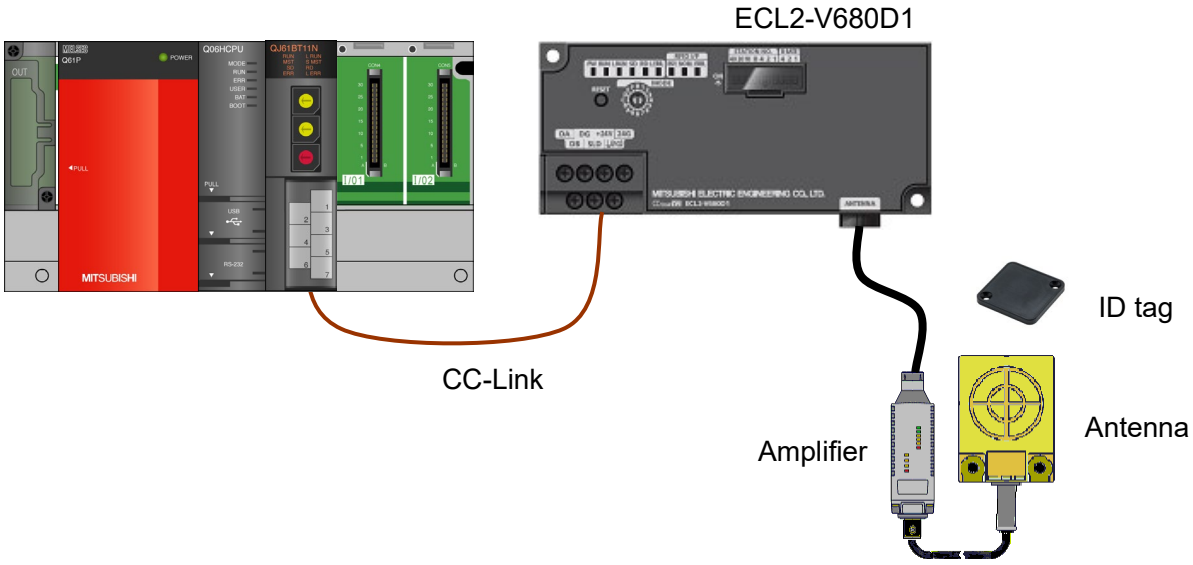
If MELSOFT Library is upgraded, MELSOFT Library FBs can be upgraded by importing them again. However, the FBs that were created by following these procedures for the second and subsequent modules are not upgraded even if the FBs are imported again.

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 D2303	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	FB error code is stored when reading data from the ID tag
D1011		Module error code is stored when reading data from the ID tag
D1200 to D1203		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	FB error code is stored when writing data to the ID tag
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
M1035		FB terminates abnormally when filling data in the ID tag
M1036		Module error when filling data in the ID tag
M1037		ID communication completes when filling data in the ID tag

Device	FB Name	Application (ON details)
D1040	P+MEE-ECL2-V680D1_UIDRead	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 D1045		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 D1054		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

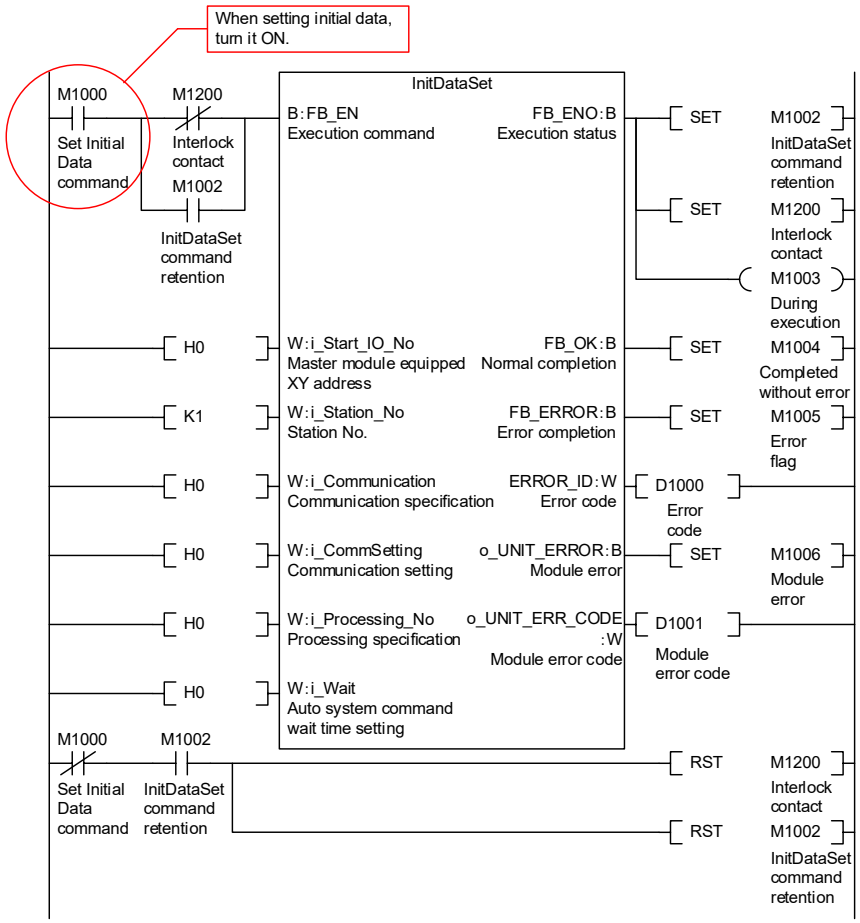
Input/Output item	Value	Description
Master module equipped XY address	H0	Specify the start XY address where the CC-Link system master/local module that communicates is installed.
Station No.	K1	Enter the station number of the RFID system to be connected.
Auto system command wait time setting	K0	In this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

(5) Programs

(a) P+MEE-ECL2-V680D1_InitDataSet (Set Initial Data)

Set initial data on the following conditions.

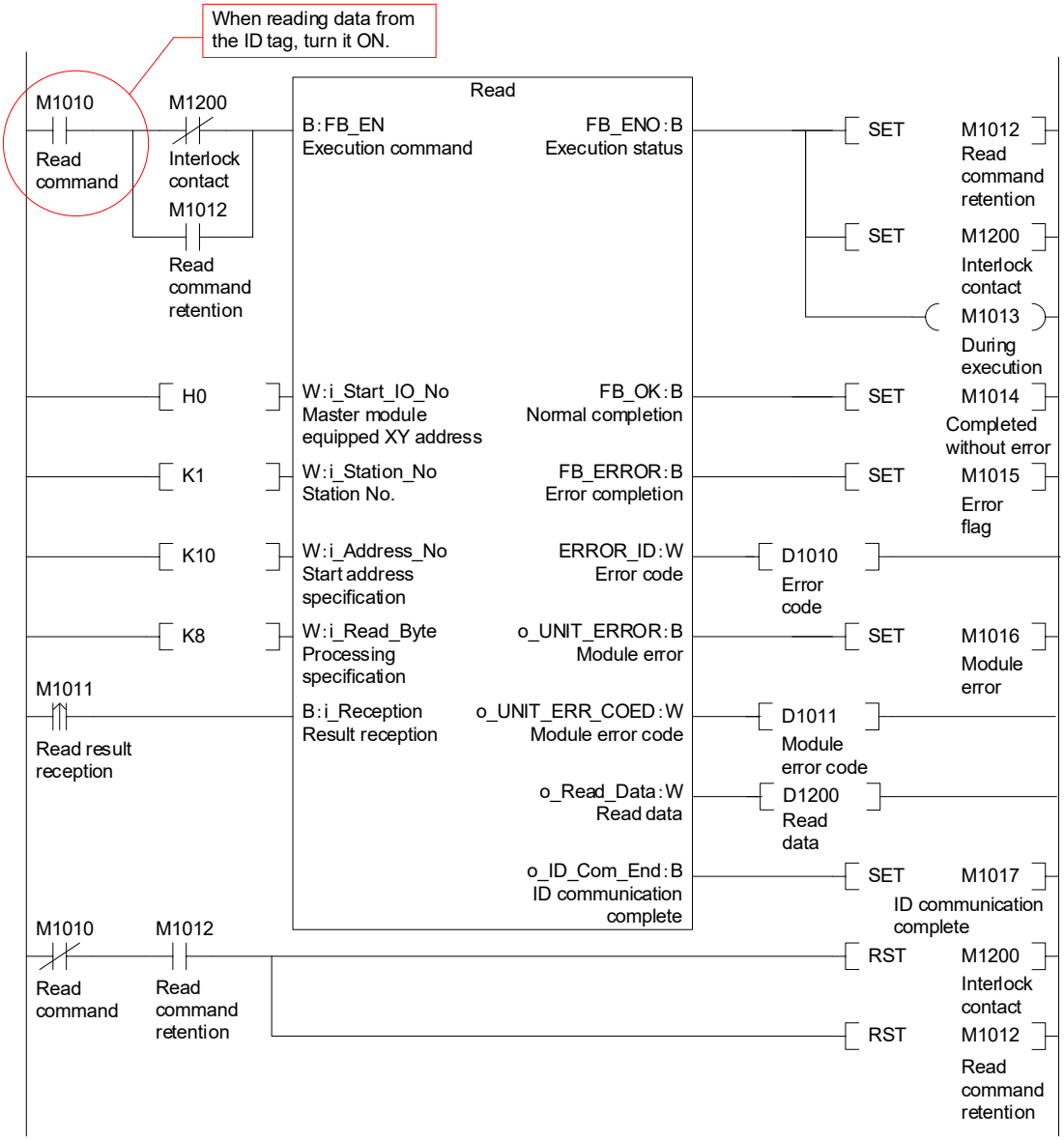
- Master module equipped XY address ·····0
- Station No. ·····1
- Communication specification·····0 (Trigger)
- Communication setting·····0 (Write verify setting :Execute
  ID tag communication speed setting :Standard mode
  Write protect setting :Enable
  Read/Write data code setting :Without ASCII/HEX 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.

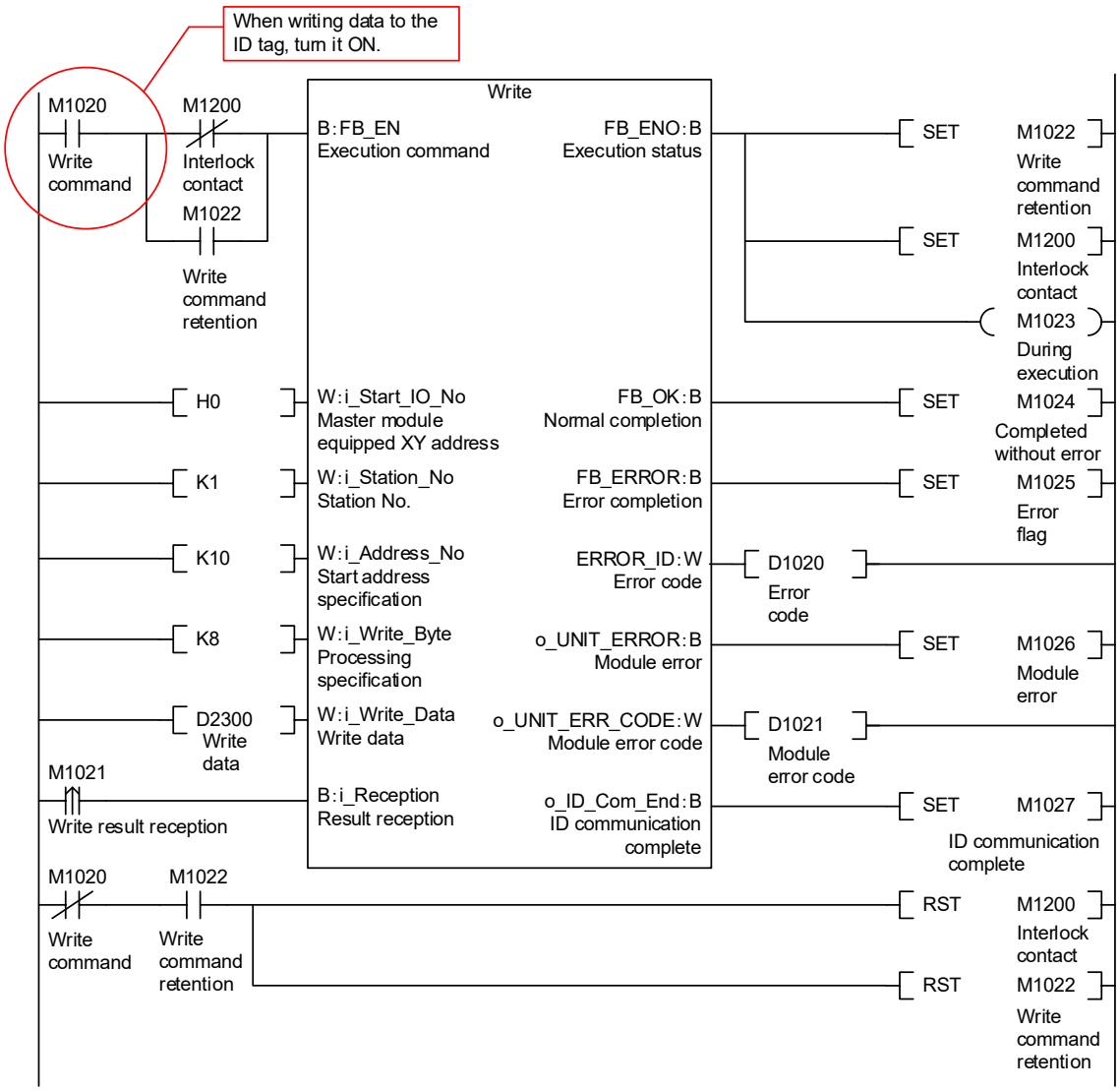
- Master module equipped XY address ·····0
- Station No. ·····1
- Start address specification·····10
- Processing specification ·····8 (8 bytes)



(c) P+MEE-ECL2-V680D1_Write (Write to ID Tag)

Write data to the ID tag on the following conditions.

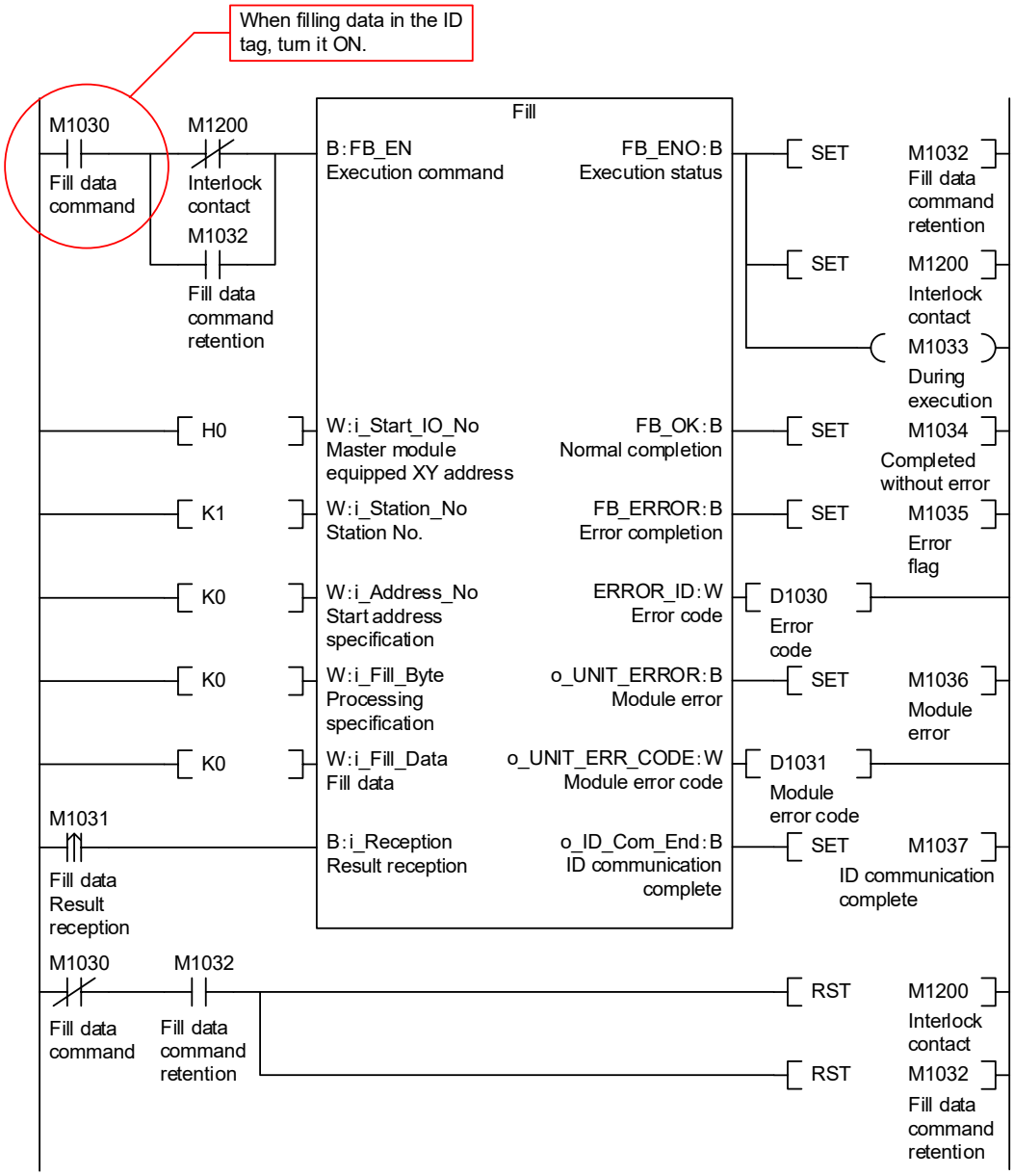
- Master module equipped XY address ·····0
- Station No. ·····1
- Start address specification·····10
- Processing specification ·····8 (8 bytes)
- Storage address of the Write data ·····D2300 to D2303



(d) P+MEE-ECL2-V680D1_Fill (Fill Data in ID Tag)

Fill data in the ID tag on the following conditions.

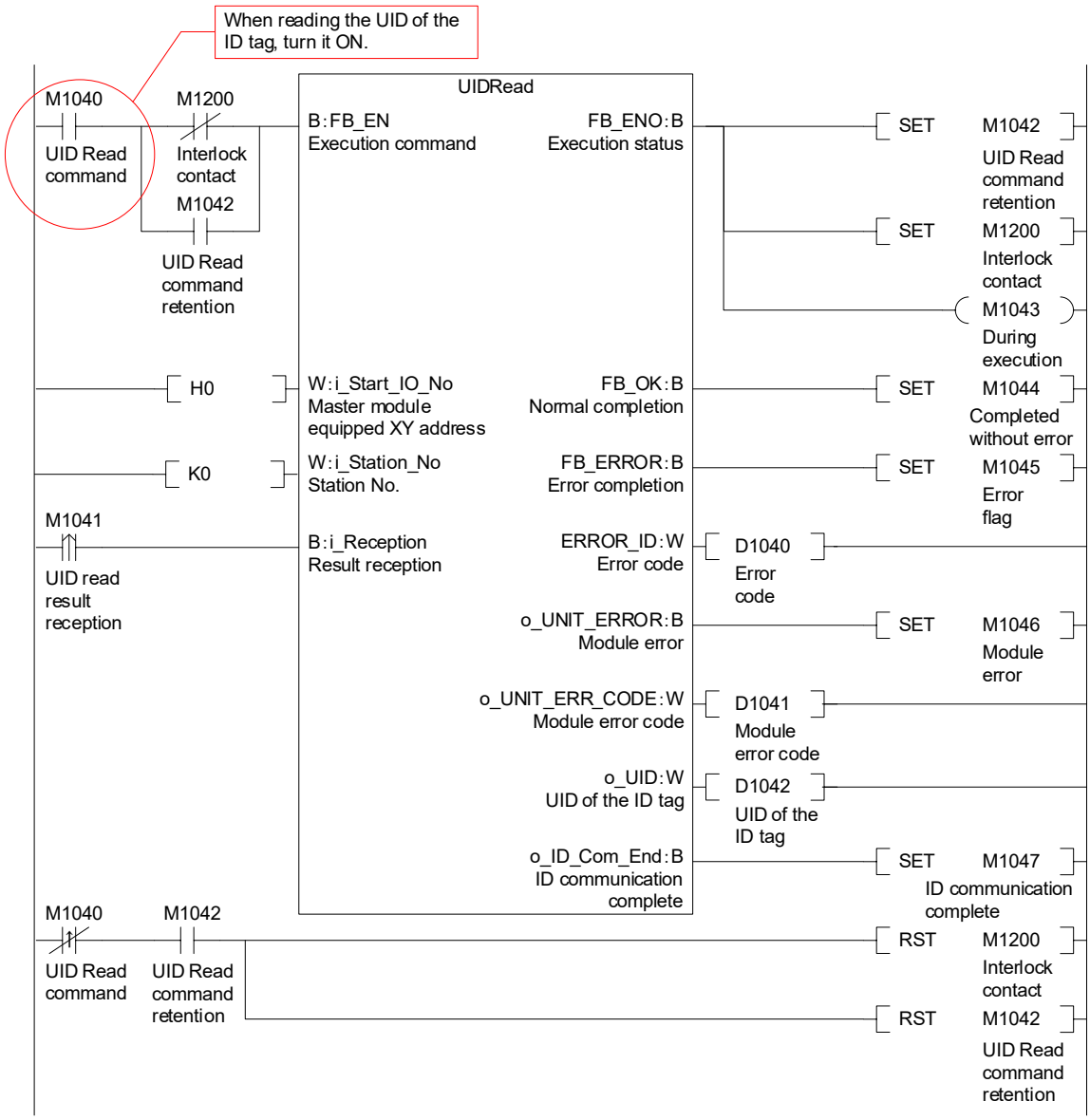
- Master module equipped XY address ·····0
- Station No. ·····1
- Start address specification·····0
- Processing specification ·····0 (Specify all data)
- Fill data ·····0



(e) P+MEE-ECL2-V680D1_UIDRead (Read UID of ID Tag)

Read UID of the ID tag on the following conditions.

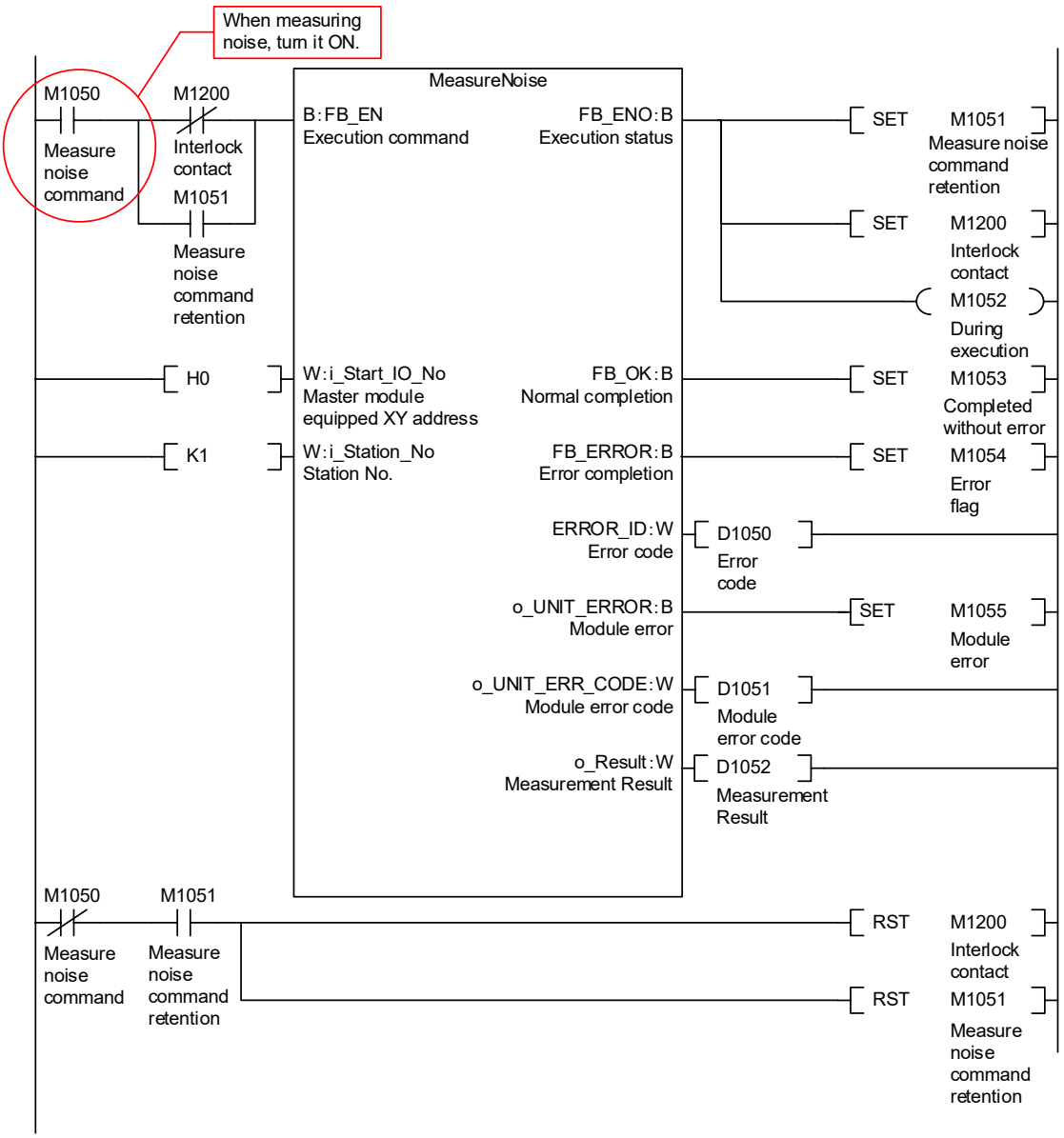
- Master module equipped XY address ·····0
- Station No. ·····1



(f) P+MEE-ECL2-V680D1_MeasureNoise (Measures Noise)

Measure noise on the following conditions.

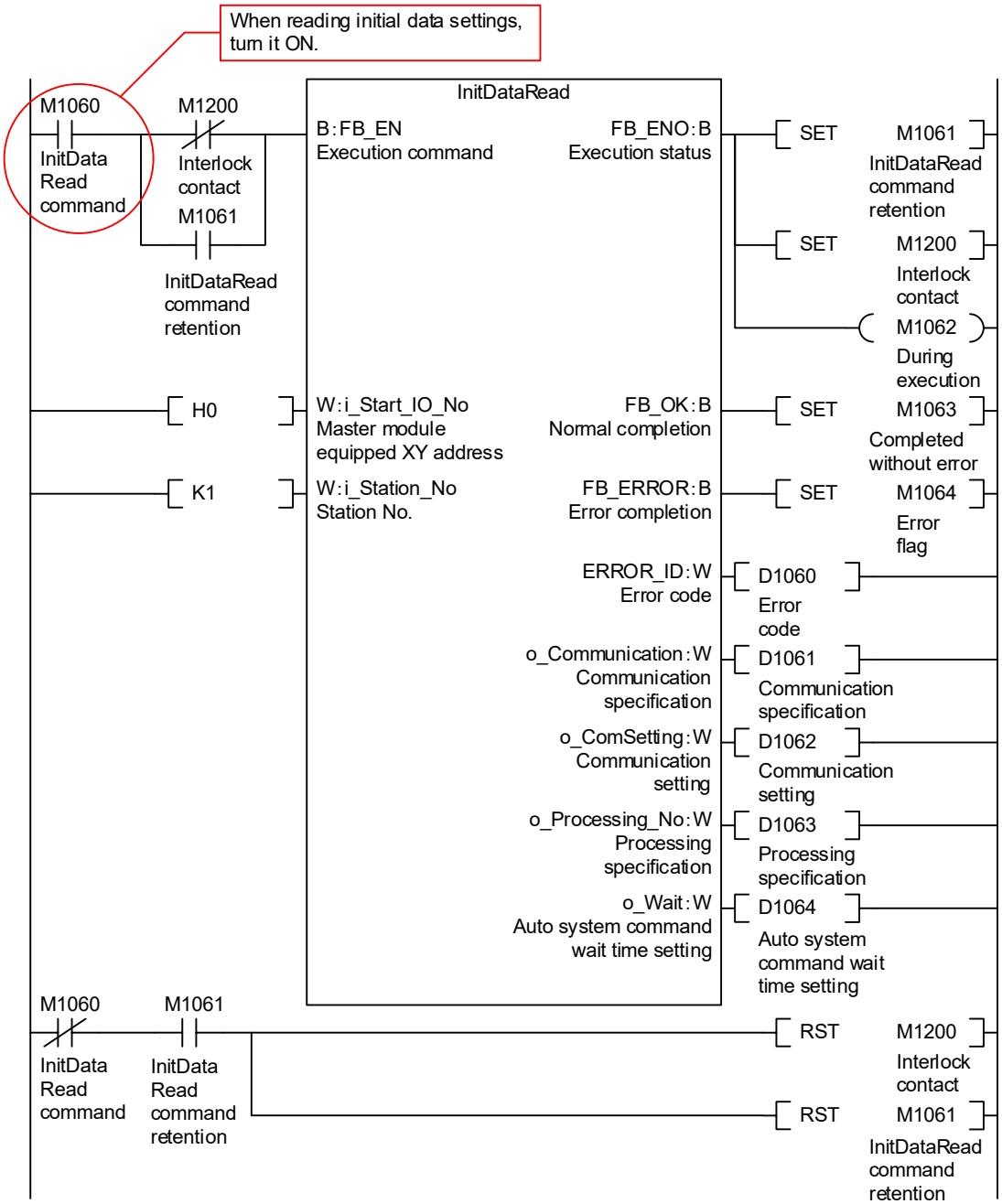
- Master module equipped XY address ····· 0
- Station No. ····· 1



(g) P+MEE-ECL2-V680D1_InitDataRead (Read initial data settings)

Read initial data on the following conditions.

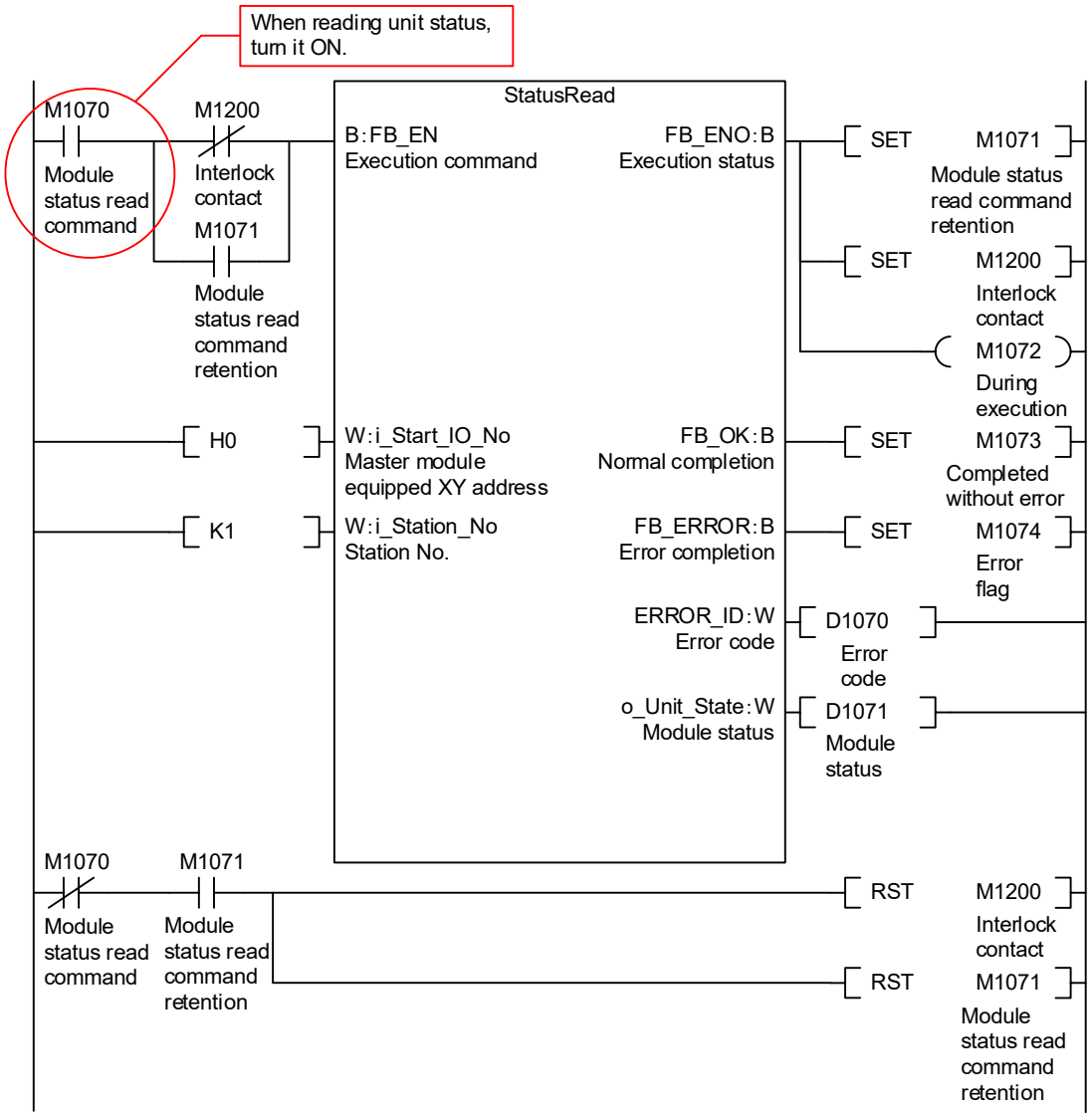
- Master module equipped XY address ·····0
- Station No. ·····1



(h) P+MEE-ECL2-V680D1_StatusRead (Read Module Status)

Read the unit status on the following conditions.

- Master module equipped XY address ·····0
- Station No. ·····1



MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED

NAGOYA ENGINEERING OFFICE | 1-9, Daiko-Minami, 1-Chome, Higashi-ku, Nagoya, Aichi 461-0047 Japan
Phone +81-52-6495 URL:https://www.mitsubishielectricengineering.com/

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