MITSUBISHI ELECTRIC ENGINEERING

RFID Interface Module MODEL ECL2-V680D1

FB Library Reference Manual

(For MELSEC iQ-F series)

Products for Monitoring and Traceability





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Reference Manual Revision History

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1. Overview

1.1. FB Library Overview

This FB library (for MELSEC iQ-F Series) is for using the ECL2-V680D1 CC-Link OMRON V680 series compatible RFID interface module.

1.2. FB Library List

No.	FB Name (*1)	Functions (*2)
1	P+MEE-ECL2-V680D1_InitDataSet_F	Sets the initial data when a command is executed. (*3)
2	P+MEE-ECL2-V680D1_Read_F	Reads data from an ID tag.
3	P+MEE-ECL2-V680D1_Write_F	Writes data to an ID tag.
4	P+MEE-ECL2-V680D1_Fill_F	Initializes data of an ID tag.
5	P+MEE-ECL2-V680D1_UIDRead_F	Reads the UID(module identification number) of an ID tag.
6	P+MEE-ECL2-V680D1_MeasureNoise_F	Measures the noise environment around an antenna.
7	P+MEE-ECL2-V680D1_InitDataRead_F	Reads the initial data setting.
8	P+MEE-ECL2-V680D1_StatusRead_F	Reads the module status.

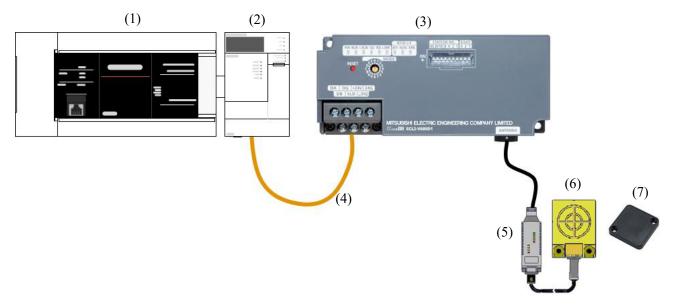
*1 Suffixed added to the end of the FB name such as "_00A" indicate the version of the FB, however, the version will not be stated in this reference manual.

*2 Label comments descriptions may be abbreviated due to the character limits of GX Works3.

*3 Always execute the FB first after the power-on or reset clear.



1.3. System Configuration Examples



No.	Item		Explanation		
		CPU module			
(1)	Due grouper chie controlor	Series	Model		
(1)	Programmable controler	MELSEC iQ-F series	FX5U CPU FX5UC CPU (*1)		
(2)	CC-Link system master/intelligent device module	FX5-CCL-MS			
(3)	CC-Link OMRON V680 series compatible RFID interface module.	ECL2-V680D1			
(4)	Cable	CC-Link Cable			
(5)	RFID amplifier	OMRON V680 series amplifier			
(6)	RFID antenna	OMRON V680 series antenna			
(7)	ID tag	OMRON V680 series ID tag	5		

*1 FX5-CNV-IFC or FX5-C1PS-5V is necessary to connected to the FX5UC CPU and FX5-CCL-MS.



1.4. About used equipment and version

The range of Station No. that can be specified depends on the equipment and version to be used.

	_	iQ-F CPUModule F/W Version				
		Version 1.050 to less than Version 1.100	Version1.100 or later (*1)			
GX Works3 Version	Version 1.042U to less than Version 1.047Z	1 to 24 stations	1 to 24 stations			
	Version 1.047Z or later	1 to 24 stations	1 to 28 stations			

*1 Version1. 100 corresponds to CPU serial number 17X *** or later.

Depending on the effective range, the setting of Link Refresh differs. Please refer to section 1.5.

Note: Input label [station number] of each FB can be entered from 1 to 28 stations as the effective range regardless of the equipment and version to be used. However, if your equipment and version does not correspond to 1 to 28 stations, please use 1 to 24 stations.



1.5. CC-Link System Master Station Module Parameter Settings

This section explains the details of the master station network parameter settings based on Section 1.3 "System Configuration Examples". The following items are set using GX Works3.

1.5.1. Required Settings

Item	Description
Station Type	Set station type.
Station Type	Select the master station
M. J. (*1)	Set the CC-Link operation mode.
Mode (*1)	Example: Select "RemoteNet Ver. 1 Mode".
T	Set the CC-Link transmission speed.
Transmission speed (*2)	Example: Select "156 kbps".

*1. Select the "RemoteNet - Ver. 1 mode" or "RemoteNet - Ver. 2 mode".

*2. Select the "156kbps/625kbps/2.5Mbps/5Mbps/10Mbps".

😫 1[U1]:FX5-CCL-MS Module ×		۹ ۵ 🗸
Setting Item List	Setting Item	
Input the Setting Item to Search	Item Station Type	Setting
	⊑ Station Type ⊡ Mode	Master Station
E - Carlings ⊕ Corlings ⊕ Corlings	Communication Mode	Remote Net Ver.1 Mode
	□Station No. □ Transmission Speed	0
	☐ Transmission Speed Parameter Setting Method	156kbps
	Setting Method of Basic/Application Settings	Parameter Editor
	Explanation	
	Set the station type.	*
Item List Find Result	Check Restore the Defaul	t Settings
		Apply



1.5.2. Basic Settings

Network Configuration Settings

Item	Description			
Station type (*1)	Set the type of remote module station connected to the master station.			
Station type (*1)	Example: Set "Remote device station".			
Varian (*1)	Set the Version.			
Version (*1)	Example:Set"Ver.1".			
	Set the number of stations occupied by the remote module.			
# of STA Occupied (*1)	Example: Select "4 Occupied Stations".			
	The extended cyclic settings will vary according to the setting value for the RFID interface			
Extended Cyclic Setting (*1)	module's mode selection switch.			
	Example: Select "Single". ("Single" is fixed when using Ver.1)			
	Select the remote module's reserved station/invalid station.			
Reserved/Err Invalid STA	Example: Select "No setting".			

*1. Match the station information setting to the setting for the RFID interface module's mode selection switch. Refer to Appendix 4. Hardware Settings.

13	CC-Link Configuration (Mounting Position No.: 1[U1])									
i o	C-Link	Configuratio								
										Module List ×
	Mode S	Setting: Ve	er. 1 Mode 🔹 🔻 TX Speed	: 156kbps 🔻 Link Scan T	Fime (Appro	x.): 12.87	ms			CC-Link Selection Find Module My 4 ▶
		Station No.	Model Name	Station Type	Version	# of STA Occupied	Expanded Cyclic Setting	Remote Station Points	Reserved/Err Invalid STA	〒 2↓ 〒 = □ 📩 🖄 🗠 🗙
T		0/0	Host Station	Master Station			octang			General CC-Link Module
	RD	1/1	General Remote Device Statio	Remote Device Station	Ver.1	4 Occupied Station	Single	128 Points	No Setting	General Remote I/O St; -
										B General Remote Device -
										B Gen. Intelligent Device
										General Local Station -
										CC-Link Module (Mitsubishi Electi
	•			III					÷	Master/Local Module
			A#1-4							Master/Intelligent Device Moo Input Module (Screw Terminal
	_	51	A#1-4							Input Module (Screw Terminal Input Module (Screw/2-piece
										Input Module (Screw/2 piece Input Module (Screw/2 piece
Hos	t Statio	on								Input Module (Screw/2 piece Input Module (Spring Clamp Te
	TA #0		R D							Input Module (Sensor Connect Input Module (Sensor Connect
	TA#0 Station	Master								Input Module (One-touch Coni
	er.1 Il Conne									🗉 Input Module (40-pin Connect 🗸
	∎Conne ount:1		eral Re							[Outline]
Т	otal ST.		te Devi							Remote Device Station
			Station							[Specification]
		•							•	Can be used instead of the remote



Link Refresh Settings

Setting for station number 1 to 28 stations

Set item	Link	side	PLC side					
Device Name	Device Name Start End		Device Name	Start	End			
SB	00000	001FF	SB	00000	001FF			
SW	00000	001FF	SW	00000	001FF			
RX	00000	0037F	Х	00100	1677			
RY	00000	0037F	Y	00100	1677			
RWr	00000	0006F	W	00000	0006F			
RWw	00000	0006F	W	00100	0016F			

	Settin	g Item												
ut the Setting Item to Search	<u>h</u>													
				Link Side						CPU Side	,			٢
r e= ⊡-[] Required Settings		Device	Name	Points	Start	End		Target		Device Name	Points	Start	End	
- Tequired Settings	-	SB	-	512	00000	001FF	- 🖶 -	Specify Device	•	SB 🖵	512	00000	001FF	
- Constantian Setting	-	SW	•	512	00000	001FF	- 🗰 -	Specify Device	•	SW 💌	512	00000	001FF	
	; 1	RX	-	896	00000	0037F	- 🗰 -	Specify Device	•	х 💽	896	100	1677	
🤕 Link Refresh Settings	2	RY	•	896	00000	0037F	- 🗰 -	Specify Device			896	100	1677	I.
🔄 🔚 Initial Settings	3	RWr	•	112	00000	0006F	- 🗰 -	Specify Device			112	00000	0006F	II.
- 🛅 Application Settings	4	RWw	•	112	00000	0006F	- 🗰 -	Specify Device	•	W 💌	112	00100	0016F	J
	Expla	nation												
	Set th	ie refresh ta	arget CP	U device.										
m List Find Result		Check		Re	store the	Default	Settings							

Setting for station number 1 to 24 stations

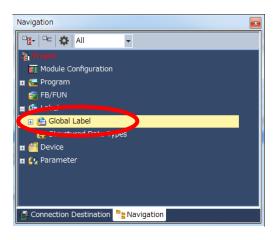
Set item	Link	side	PLC side					
Device Name	Start End		Device Name	Start	End			
SB	00000	001FF	SB	00000	001FF			
SW	00000	001FF	SW	00000	001FF			
RX	00000	002FF	Х	00100	1477			
RY	00000	002FF	Y	00100	1477			
RWr	00000	0005F	W	00000	0005F			
RWw	00000	0005F	W	00100	0015F			

ting Item List	Setting	Item												
out the Setting Item to Search														
				Link Side						CPU Side				
	No.	Device Na	ame	Points	Start	End		Target	Devic	e Name	Points	Start	End	
⊕~ 🧓 Required Settings ∃~ 💽 Basic Settings	-	SB	•	512	00000	001FF	-	Specify Device	- SB	-	512	00000	001FF	
	-	S₩	-	512	00000	001FF	- 🗰 -	Specify Device	- SW	-	512	00000	001FF	
Network Configuration Settings	1	RX	-	768	00000	002FF	- 🖨 -	Specify Device	• X	-	768	100	1477	
- 🐱 Link Refresh Settings	2	RY	-	768	00000	002FF	-	Specify Device -	• Y	-	768	100	1477	
	3	R₩r	-	96	00000	0005F	- 🖨 -	Specify Device	r W	-	96	00000	0005F	
🗄 🛅 Application Settings	4	R₩w	-	96	00000	0005F	- 🖨 -	Specify Device	r W	-	96	00100	0015F	
	5		-				- 🖶 -		-					
m List Find Result	Explana Set the	tion start numbe Check	r (hex		of the de store the									



1.6. Setting Global Labels

Global labels must be set before using this FB. This section explains global label settings. Select "Global label" on the project tab in the navigation window.





G_RX Configure remote input (RX) settings.

Item	Description
Label name	Enter "G_RX".
Data type	Select "Bit".
Class	Select "VAR_GLOBAL".
Assignment	Enter by adding "Z9" to remote output (RX) entered in section 1.5.2
(device/label)	Enter "X100Z9".

G_RY Configure remote output (RY) settings.

Item	Description
Label name	Enter "G RY".
Data type	Select "Bit".
Class	Select "VAR_GLOBAL".
Assignment	Enter by adding "Z9" to remote output (RY) entered in section 1.5.2.
(device/label)	Enter "Y100Z9".

G_RWr Configure remote register (RWr) settings.

Item	Description
Label name	Enter "G_RWr".
Data type	Select "Word [signed]".
Class	Select "VAR GLOBAL".
Assignment	Enter by adding "Z8" to remote output (RWr) entered in section 1.5.2.
(device/label)	Enter "W0Z8".

G_RWw_Configure remote register (RWw) settings.

Item	Description
Label name	Enter "G_RWw".
Data type	Select "Word [signed]".
Class	Select "VAR_GLOBAL".
Assignment	Enter by adding "Z8" to remote output (RWw) entered in section 1.5.2.
(device/label)	Enter "W100Z8".

Global label settings for the MELSEC iQ-F series PLC

٩	🚹 Global [Global Label Setting] 🗙							
E	Easy Display Display Setting Check							
		Label Name	Data Type		Class	Assign (Device/Label)		
	1	G.RX	Bit		VAR_GLOBAL	X1 00Z9		
	2	GRY	Bit		VAR_GLOBAL	Y1 00Z9		
	3	GRW	Word [Signed]		VAR_GLOBAL	W0Z8		
	4	GRWw	Word [Signed]		VAR_GLOBAL	W1 00Z8		
	5							

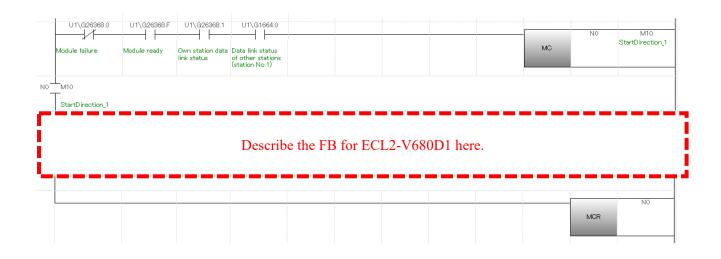


1.7. Creating Interlock Program

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 (U1\G26368.1) Example:Interlock Exsample (Station No.1) (Module No.1)



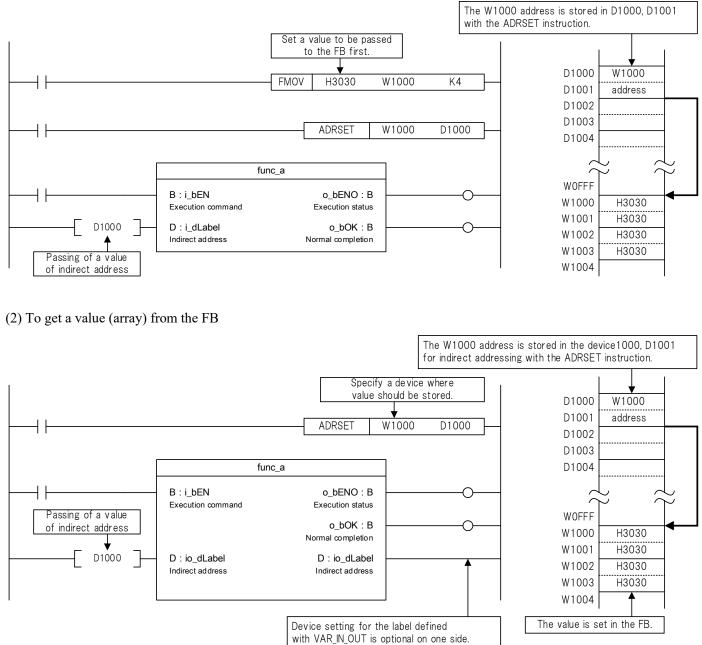


1.8. Indirect addressing

This FB library has an area for specifying an indirect address for input of the FB.

Examples of using the indirect address are shown below:

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



1.9. Relevant Manuals

ECL2-V680D1 User's Manual (Details Section) (50CM-D180160-E(1607)MEE) MELSEC iQ-F FX5 User's Manual (CC-Link) (SH(NA)-081793ENG-B)

1.10. Note

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



FB Library Details 2.

P+MEE-ECL2-V680D1_InitDataSet_F (Initial data setting) 2.1.

Name P+MEE-ECL2-V680D1_InitDataSet_F

Function Description

Items		Description			
Function overview	Sets the initial data when a command is executed. This should be performed when executing initial processing or changing initial data. * After turning on the power or releasing reset, be sure to perform this first.				
Symbol	Execution command — Module No. — Station No. — Communication processing specification — Processing specification — Auto system command wait time setting —	- W:i_wModuleNo W:i_wStationNo W:i_wCommunication o_u W:i_wCommSetting o_bMo	et_F Execution status o_bENO:B Normal completion o_bOK:B Error completion o_bErr:B Error code uterrld:UW Error code oduleErr:B Module error uterr:UW Module error code		
Target device	Module CC-Link system module	ECL2-V680D1 Series MELSEC iQ-F series	Model FX5-CCL-MS		
	CPU module	Series MELSEC iQ-F series	Model FX5U CPU FX5UC CPU		
	GX Works3	Series MELSEC iQ-F series *The range of Station No. t equipment and version to be use	Model Version 1.042U or later hat can be specified depends on the ed. Please refer to section1.4.		
Language	Ladder diagram				
Steps		e FB embedded in a program dependent of GX Works.			



Items	Description				
	 When i_bEN (Execution command) is turned ON, various initial data set is written to ECL2-V680D1.When writing is completed, o_bOK (Normal completion) is turned ON. 				
Function Description	 ECL2-V680D1. When writing is completed, o_bOK (Normal completion) is turned ON. Star Turn i_bEN ON FB internal processing Outside the range Outside the rang				
	Refer to the ECL2-V680D1 User's Manual (Details Section) for details on the settings.				
Index registers	Number of points used : 5 points Used device (Z9, Z8, Z7, Z6, Z5) *Please do not use these index registers in an interrupt program.				
FB compile format	Macro type				



Items	Description
Limitations, Precautions, etc.	 After turning on the power or releasing reset, be sure to perform this first. The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System Master Station Module Parameter Settings". Set the global label setting according to Section "1.6. Setting Global Labels ". The FB cannot be used in an interrupt program. When multiple FBs are used, care should be taken not to use the same target station number. Please ensure that the i_bEN (Execution command) signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. When i_bEN (Execution command) is ON, do not change the values set for i_wModuleNo (Module No.), i_wStationNo (Station No.), i_wCommunication (Communication specification), i_wCommSetting (Communication setting), i_wProcessingNo (Processing specification), or i_wWait (Auto system command wait time setting). 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. If this FB process does not end, confirm that the i_wStationNo (Station No.) matches the network station No. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
FB operation	Pulse execution (multiple scan execution)



Items	Description				
	[For successful completion]	[When an error occurs]			
	i_bEN [Execution command] o_bENO				
	[Execution status] o_bOK [Normal completion] RY(n+m)8[Initial data	_ [Execution status] o_bOK [Normal completion] RY(n+m)8[Initial data processing complete flag]			
	processing complete flag] RX(n+m)8[Initial data processing request flag]	RX(n+m)8[Initial data processing request flag]			
	RY(n+m)9[Initial data setting request flag]	RY(n+m)9[Initial data setting request flag] RX(n+m)9[Initial data setting			
	RX(n+m)9[Initial data setting complete flag]	- o_bErr			
	e_bErr [Error completion]	- [Error completion] 			
	[Error code] o_bModuleErr [Module error]	- o_bModuleErr (Trexadecunat) [Module error] - o uModuleErr			
	o_uModuleErr [Module error code] 0	[Module error code]			
I/O signal timings	[when a module error occurs]	n: Address assigned to master module by station			
tillings	i_bEN [Execution command]	number setting. _ m: Address assigned to mode selection switch			
	o_bENO [Execution status]	setting.			
	o_bOK [Normal completion]	-			
	RV(n+m)8[Initial data processing complete flag]	-			
	RX(n+m)8[Initial data processing request flag] RY(n+m)9[Initial data	-			
	setting request flag] RX(n+m)9[Initial data setting complete flag]	-			
	o bErr [Error completion]	-			
	o_uErrId [Error code] N scan	-			
	o_bModuleErr [Module error]	-			
	o_uModuleErr [Module error code] 0 0001H (Hexade cimal) 0	-			
Relevant manuals	ECL2-V680D1 User's Manual (Details Section) MELSEC iQ-F FX5 User's Manual (CC-Link)				
	WILLSEU IQ-F FAS User's Manual (UU-LINK)				



Error code

■Error code list

Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module No.) is	Specify the module number within the range
11100	outside the range.	from 1 to 16 (decimal).
H101	Specification of i_wStationNo (Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
H110	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

Used Labels

■Input labels

Name	Label name	Data type	Range	Description
Execution command	i_bEN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
Module No.	i_wModuleNo	Word [signed]	1 to 16 (Decimal)	Specify the module No. in which the target CC-Link system master/intelligent device module is mounted with a decimal. (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details.
Station No.	i_wStationNo	Word [signed]	1 to 28 (Decimal)	Specify the target station number to be connected to ECL2-V680D1. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
Communication specification	i_wCommunication	Word [signed]	0: Trigger 1: Auto 2: Repeat auto 3: FIFO trigger 4: FIFO repeat	Specify the communication method for the ID tag.



Name	Label name	Data type	Range	Description
Communication Setting	i_wCommSetting	Word [signed]	0000 to 000F (Hexadecimal)	Select the communication setting for the ID tag. Bit Description 0 Write verify setting 0: Execute 1: Do not execute 1 ID tag communication speed setting 0: Enable 1: Disable 3 Read/Write data code setting 0: Without ASCII/HEX conversion 1: With ASCII/HEX conversion 4 to 15
Processing specification	i_wProcessingNo	Word [signed]	0,1	Specify the order in which data is stored for theID tag.CommandProcessing specificationReadData storage orderWrite0: Upper \rightarrow LowerFill Data1: Lower \rightarrow UpperFor details, refer to the functional description of each command.Commands other than the above do not use Processing specification.



Name	Label name	Data type	Range	Description
Auto system Command wait time setting	i_wWait	Word [signed]	1 to 9999, 0 (Decimal)	When i_wCH1Communication (Communication specification) is an auto system command (Auto, Repeat auto, FIFO repeat), specify the ID tag detection waiting time in the module 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] <u>i_bEN</u> [Execution command] ID-BUSY (RX3) ID tag movement Communication ID tag movement Communication ID tag movement Communication ID tag movement Communication When the waiting time is set before i_bReception(Result reception) is turned ON expires, o_bModuleErr (Module error) is turned ON after i_bReception (Result reception) is turned ON.



■Output labels

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

FB version history

Version	Date	Details
00A	2018/6/11	First edition

Note

This chapter includes information related to this FB.

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_F (Reads data from an ID tag.)

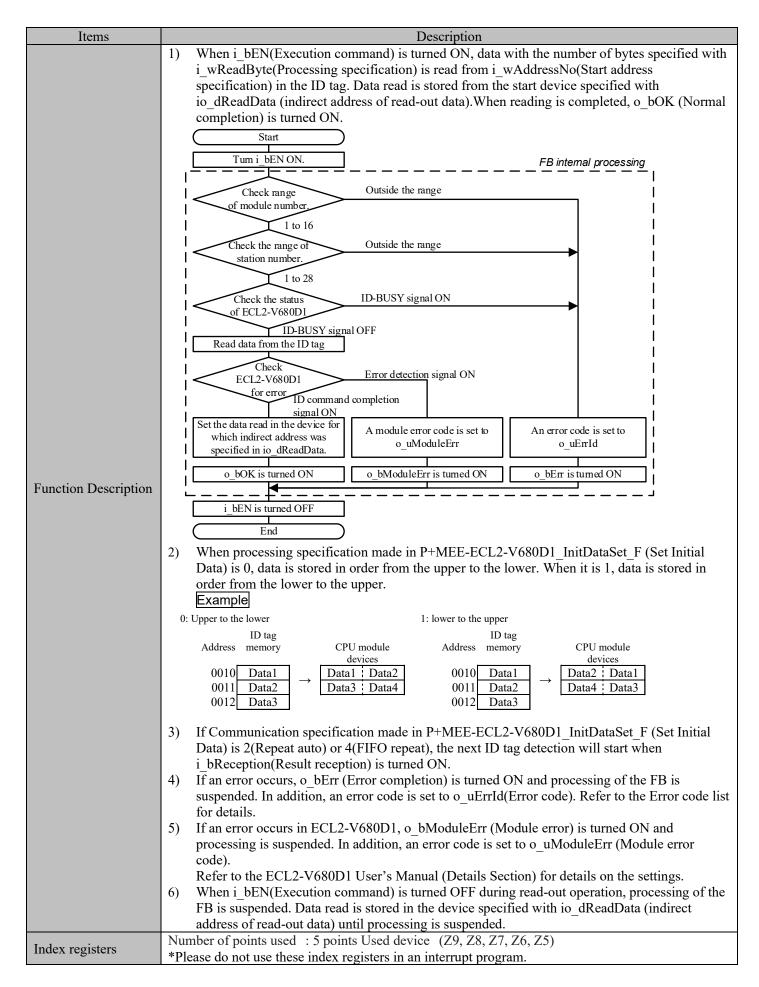
Name

P+MEE-ECL2-V680D1_Read_F

Function Description

Items		Desc	ription		
Function overview	Reads the data of an ID tag.		•		
Symbol	P+MEE-ECL2-V680D1_Read_F				
	Execution command —	B:i_bEN		o_bENO:B	Execution status
	Module No. —	W:i_wModuleNo		o_bOK:B	Normal completion
	Station No. —	W:i_wStationNo		o_bErr:B	— Error completion
	Start address specification	W:i_wAddressNo	0_	uErrId:UW	— Error code
	Number of Processing Points Specification	W:i_wReadByte	o_bM	loduleErr:B	— Module error
	Result reception —	B:i_bReception	o_uMod	luleErr:UW	— Module error code
	Read data (Indirect address)	D:io_dReadData	io_dF	ReadData : D -	Read data (Indirect address)
			o_bID	ComEnd:B	ID communication complete
	Module	ECL2-V680D1			
Target device	Widduie				
	CC-Link system module	Series MELSEC iQ-F series FX5-CCL		Model -MS	
	CPU module	Series			Model
		MELSEC iQ-F seri	ies	FX5U CP FX5UC C	
	GX Works3	Series			Model
		MELSEC iQ-F seriesVersion 1.042U or later*The range of Station No. that can be specified depends on			
		equipment and version			
Language	Ladder diagram				
Steps	1094Step (for MELSEC iQ- *The number of steps of th input/output definitions, and refer to the GX Works3 Ope	ne FB embedded in a the options setting of	a program d GX Works3	epends on . For the op	the CPU module used, the tions setting of GX Works3,



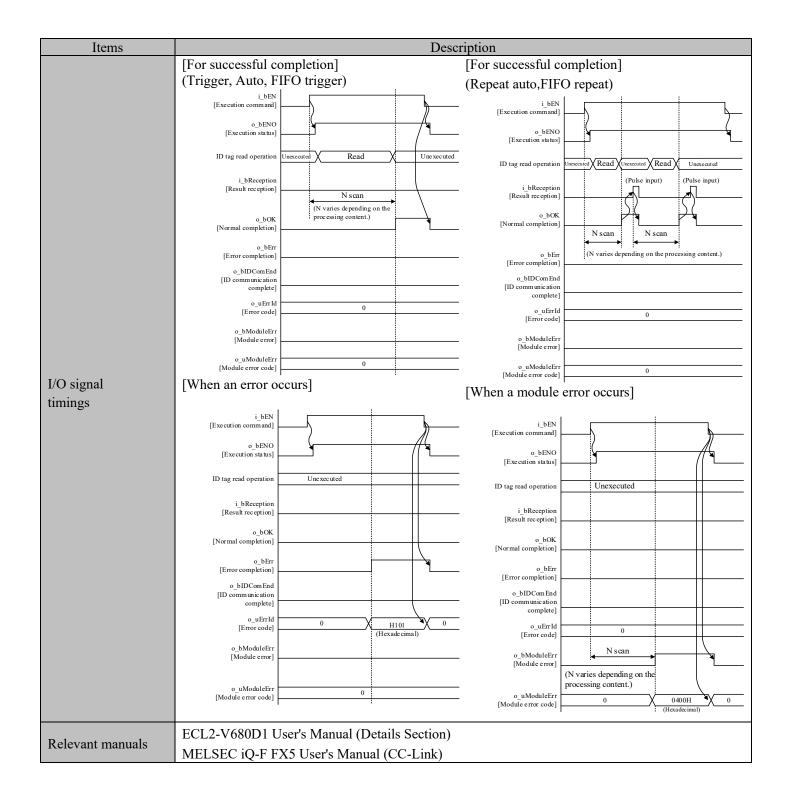


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Items	Description
FB compile	Macro type
format	
Limitations, Precautions, etc.	 The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System Master Station Module Parameter Settings". Set the global label setting according to Section "1.6. Setting Global Labels ". The FB cannot be used in an interrupt program. When multiple FBs are used, care should be taken not to use the same target station number. Please ensure that the <u>i</u> bEN (Execution command) signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. This FB uses data registers D5000 to D5001. When an interrupt program is used, do not use the data registers. Specify the ID tag read communication specification, communication setting, processing specification, and auto system command wait time setting with P+MEE-ECL2-V680D1_InitDataSet_F (Initial data setting) before executing this FB. For io_dReadData (indirect address of read-out data), be sure to specify the indirect address of the device where data read is stored. For details about indirect address, refer to section 1.8. Do not change the value for i_wModuleNo (Module No.), i_wStationNo (Station No.), i_wAddressN (Start address specification), i_wReadByte (No. of processing point specification) or io_dReadData (indirect address of read-out data) while i_bEN (Execution command) is 0N. If Communication specification made in P+MEE-ECL2-V680D1_InitDataSet_F (Set initial data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored. Enter pulse in i_bReception(Result reception). Since the Y signal is operated in the FB using the index modification, multiple coil warnings may occur du
FB operation	Pulse execution (multiple scan execution)







Error code

■Error code list

Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module	Specify the module number within the range from 1
птоо	No.) is outside the range.	to 16 (decimal).
H101	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
H103	i_wReadByte (Processing specification) is outside the range.	 [Trigger] Specify value in the 0001 to 2048 range (decimal) for Processing specification. [Other than trigger] Specify the amount of data that can be read with a single ID command. Refer to the ECL2-V680D1 User's Manual (Details Section) for detailed range.
H110	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

Used Labels

■Input labels

Name	Label name	Data type	Range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module No.	i_wModuleNo	Word [signed]	1 to 16 (Decimal)	 Specify the module No. in which the target CC-Link system master/intelligent device module is mounted with a decimal. (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details.
Station No.	i_wStationNo	Word [signed]	1 to 28 (Decimal)	Specify the target station number to be connected to ECL2-V680D1. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
Start address specification	i_wAddressNo	Word [signed]	0000 to FFFF (Hexadecimal)	Specify the start address where the ID tag is read.



Name	Label name	Data type	Range	Description
Number of Processing Points Specification	i_wReadByte	Word [signed]	[Trigger] 0001 to 2048 (Decimal) [Other than trigger] Depends on the amount of data that can be read with a single ID command. Refer to the ECL2-V680D1 User's Manual (Details Section) for detailed range.	Specify the number of bytes for processing to read from the ID tag.
Result reception	i_bReception	Bit	_	When the command that performs the read operation from multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: FB execution command is ON. OFF: FB execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_uErrId	Word [unsigned]	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface module. OFF: Normal
Module error code	o_uModuleErr	Word [unsigned]	0	A description of the error occurred in the RFID interface module is stored.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface module due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception]

■Input/Output labels

Name	Label name	Data type	Range	Description
Read data (Indirect address)	io_dReadData	Double word [signed]	00000000 to FFFFFFFF (Hexadecimal)	Specify the indirect address of the device where data read is stored. For details about indirect address, refer to section 1.8.



FB version history							
Version	Date	Details					
00A	2018/6/11	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_F (Writes to ID tag)

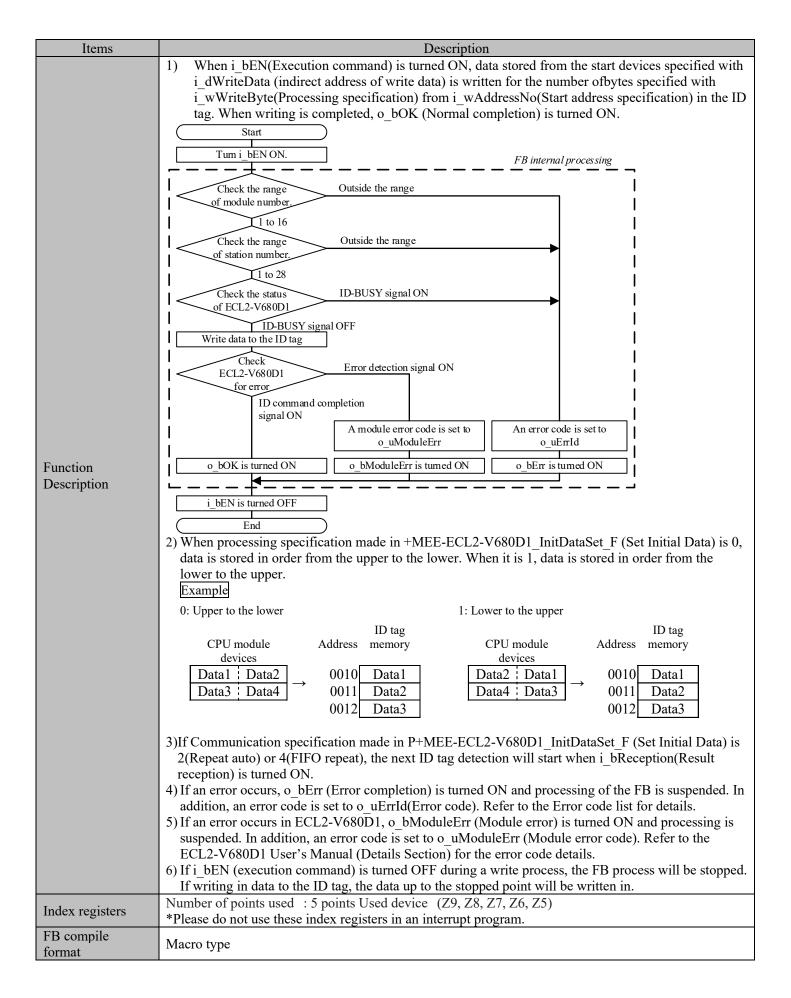
Name

P+MEE-ECL2-V680D1_Write_F

Function Description

Items	Description				
Function overview	Writes data to an ID tag.				
Symbol					
Symoor		P+MEE-ECL2-V680D1_Write_F			
	Execution command — B:i_b	EN o_bEN	O:B Execution status		
	Module No. — W:i_v	wModuleNo o_bO	K:B —— Normal completion		
	Station No. — W:i_v	wStationNo o_bE	Err:B Error completion		
	specification –	wAddressNo o_uErrId	:UW Error code		
	Points Specification –	wWriteByte o_bModuleE	Err:B Module error		
	Write data D:i_d	WriteData o_uModuleErr	:UW Module error code		
	Result reception — B:i_b	Reception o_bIDComE	nd:B ID communication complete		
Target device	Module	ECL2-V680D1			
U		Series	Model		
	CC-Link system module	MELSEC iQ-F series	FX5-CCL-MS		
	CPU module	Series	Model		
		MELSEC iQ-F series	FX5U CPU FX5UC CPU		
	GX Works3	Series	Model		
		MELSEC iQ-F series *The range of Station No. tl	Version 1.042U or later nat can be specified depends on the		
		equipment and version to be use			
Language	Ladder diagram				
Steps	1368Step (for MELSEC iQ-F	· · · · · · · · · · · · · · · · · · ·			
	*The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options setting of GX Works3. For the options setting of GX Work refer to the GX Works3 Operating Manual.				

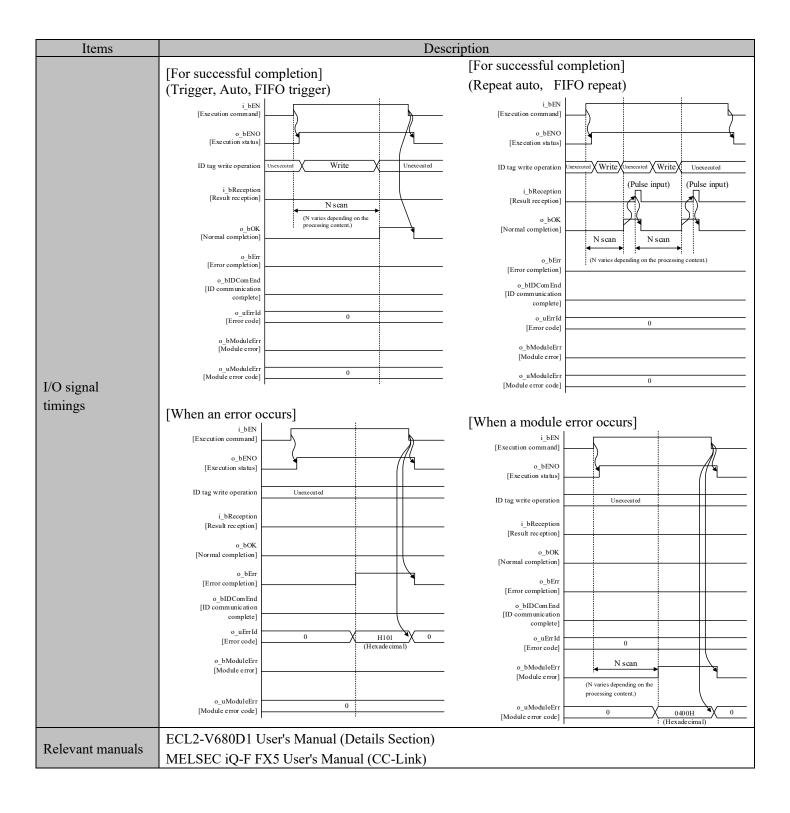






Items	Description				
	1) The FB does not include error recovery processing. Program the error recovery processing				
	separately in accordance with the required system operation.				
	2) Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System				
	Master Station Module Parameter Settings".				
	3) Set the global label setting according to Section "1.6. Setting Global Labels ".				
	4) The FB cannot be used in an interrupt program.				
	5) When multiple FBs are used, care should be taken not to use the same target station number.				
	6) Please ensure that the i_bEN (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 data registers D5000 to D5001. When an interrupt program is used, do not use the				
	data registers.				
	8) Specify the ID tag write communication specification, communication setting, processing				
	specification, and auto system command wait time setting with P+MEE-ECL2-				
	V680D1_InitDataSet_F (Initial data setting) before this FB is executed.				
Limitations,	9) For i_dWriteData (indirect addressing of write data), be sure to specify the indirect address of the				
Precautions,	device where data to be written was stored. The indirect address of the device is acquired using the				
etc.	ADRSET command. This may not be omitted. For details about indirect address, refer to section 1.8.				
	10) Do not change the value for i wModuleNo (Module No.), i wStationNo (Station No.),				
	i wAddressNo (Start address specification), i wWriteByte (No. of processing points				
	specification), i_dWriteData (indirect addressing of write data) or i_dWriteData(Indirect address)				
	while i bEN (Execution command) is ON.				
	11) If Communication specification made in P+MEE-ECL2-V680D1 InitDataSet F (Set Initial Data)				
	is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is ignored.				
	12) Enter pulse in i_bReception(Result reception).				
	13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may				
	occur during compilation when multiple FBs are used. However, it does not cause any problem in				
	using.				
	14) If this FB process does not end, check whether the i_wStationNo (Station No.) matches the				
	network station No., and that P+MEE-ECL2-V680D1_InitDataSet_F (Initial data setting) is				
	completed before this FB is executed.				
	15) The range of Station No. that can be specified depends on the equipment and version to be used.				
ED	Please refer to section 1.4.				
FB operation	Pulse execution (multiple scan execution)				







Error code

■Error code list

Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module No.) is	Specify the module number within the range
11100	outside the range.	from 1 to 16 (decimal).
H101	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
Н103	i_wWriteByte(Processing specification) is outside the range.	 [Trigger] Specify value in the 0001 to 2048 range (decimal) for Processing specification. [Other than trigger] Specify the amount of data that can be Write with a single ID command. Refer to the ECL2-V680D1 User's Manual (Details Section) for detailed range.
H110	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

Used Labels

■Input labels Name Label name Data Range Description type ON: The FB is activated. Execution i bEN Bit _ command OFF: The FB is not activated. Specify the module No. for the target CC-Link system master and intelligent device module Word Module No. i wModuleNo 1 to 16 (Decimal) with a decimal. [signed] (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details. Specify the target station number to be connected to ECL2-V680D1. Word Station No. i wStationNo 1 to 28 (Decimal) The range of Station No. that can be specified [signed] depends on the equipment and version to be used. Please refer to section 1.4. Specify the initial address where writes data to Start address Word 0000 to FFFF i wAddressNo specification [signed] (Hexadecimal) an ID tag.



Name	Label name	Data type	Range	Description
Number of Processing Points Specification	i_wWriteByte	Word [signed]	[Trigger] 0001 to 2048 (decimal) [Other than trigger] Depends on the amount of data that can be write with a single ID command. Refer to the ECL2- V680D1 User's Manual (Details Section) for detailed range.	Specify the number of bytes for processing to writes data to an ID tag.
Write data (Indirect address)	i_dWriteData	Double word [signed]	00000000 to FFFFFFF (Hexadecimal)	Specify the indirect address of the device where data to be written was stored. For details about indirect address, refer to section 1.8. For write data, write data for the number of bytes specified with i_wWriteByte (Processing specification).
Result reception	i_bReception	Bit	_	When the command that performs the write operation to multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag.

∎Output labels				
Name (comment)	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: FB execution command is on. OFF: FB execution command is off.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_uErrId	Word [unsigned]	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface module. OFF: Normal
Module error code	o_uModuleErr	Word [unsigned]	0	A description of the error occurred in the RFID interface module is stored.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface module due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception]



FB version history					
Version	Date	Details			
00A	2018/6/11	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_F (Fill Data in ID Tag)

Name

P+MEE-ECL2-V680D1_Fill_F

Function Description

Items	Description			
Function overview	Initializes the data of an ID tag using specified data.			
Symbol		P+MEE-ECL2-V680D1_Fill_F		
	Execution command —	B:i_bEN	o_bENO:B Execution status	
	Module No. —	W:i_wModuleNo	o_bOK:B —— Normal completion	
	Station No. —	W:i_wStationNo	o_bErr:B Error completion	
	Start address specification	W:i_wAddressNo o	_uErrId:UW Error code	
	Number of Processing Points Specification	W:i_wFillByte o_b	ModuleErr:B — Module error	
	Fill data —	W:i_wFillData o_uMc	oduleErr:UW Module error code	
	Result reception	B:i_bReception o_bL	DComEnd:B ID communication complete	
Target device	Module ECL2-V680D1			
	CC-Link system module	Series MELSEC iQ-F series	Model FX5-CCL-MS	
	CPU module	Series	Model FX5U CPU	
		MELSEC iQ-F series	FX5UC CPU	
	GX Works3	Series MELSEC iQ-F series *The range of Station No. t equipment and version to be us	Model Version 1.042U or later at can be specified depends on the d. Please refer to section1.4.	
Language	Ladder diagram			
Steps	 1159Step (for MELSEC iQ-F series) *The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual. 			



Items	Description		
	1) When i bEN(Execution command) is turned ON, the number of bytes specified with i wEillBute(Processing specification) from i wAddress No(Start address specification) in the ID		
	i_wFillByte(Processing specification) from i_wAddressNo(Start address specification) in the ID tag is filled.When filling is completed, o bOK (Normal completion) is turned ON.		
	(Start)		
	Tum i bEN ON.		
	FB internal processing		
	Check the range Outside the range		
	of module number.		
	Check the range Outside the range		
	of station number.		
	1 to 28		
	Check the status ID-BUSY signal ON		
	of ECL2-V680D1		
	ID-BUSY signal OFF		
	Data in the ID tag is filled		
	Check Error detection signal ON		
	for error		
	ID command completion signal ON		
	A module error code is set to o uModuleErr o uErrId		
	o bOK is turned ON o bModuleErr is turned ON o bErr is turned ON		
Function Description			
Description	i_bEN is turned OFF		
	End		
	2) When processing specification made in P+MEE-ECL2-V680D1_InitDataSet_F (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		
	ID tag ID tag		
	Fill dataAddressmemoryFill dataAddressmemoryData1Data2 \rightarrow 0010Data1Data1 \rightarrow 0010Data1		
	0011 Data2 0010 Data1 0011 Data2		
	0012 Data1 0012 Data1		
	0013 Data2 0013 Data2		
	3) If Communication specification made in P+MEE-ECL2-V680D1 InitDataSet F (Set initial		
	data) is 2(Repeat auto) or 4(FIFO repeat), the next ID tag detection will start when		
	 i_bReception(Result reception) is turned ON. 4) If an error occurs, o bErr (Error completion) is turned ON and processing of the FB is 		
	suspended. In addition, an error code is set to o uErrId(Error code).Refer to the Error code list		
	for details.		
	5) If an error occurs in ECL2-V680D1, o_bModuleErr (Module error) is turned ON and processing is suspended. In addition, an error code is set to o uModuleErr (Module error code).		
	 6) When i bEN(Execution command) is turned OFF during fill operation, processing of the FB is 		
	suspended. When data is being written to the ID tag, data is written to the end.		
Index registers	Number of points used : 5 points Used device (Z9, Z8, Z7, Z6, Z5)		
FB compile	*Please do not use these index registers in an interrupt program.		
format	Macro type		



Items	Description			
Items Limitations, Precautions, etc.	 The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System Master Station Module Parameter Settings". Set the global label setting according to Section "1.6. Setting Global Labels ". The FB cannot be used in an interrupt program. When multiple FBs are used, care should be taken not to use the same target station number. Please ensure that the i_bEN (Execution command) signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. Specify the ID tag data fill communication specification, communication setting, processing specification, and auto system command wait time setting with P+MEE-ECL2-V680D1_InitDataSet_F (Initial data setting) before this FB is executed. Do not change the value for i_wModuleNo (Module No.), i_wStationNo (Station No.), i_wAddressNo (Start address specification), i_wFillByte (No. of processing points specification), or i_wFillData (Fill data) while i_bEN (Execution command) is ON. If Communication specification, made in P+MEE-ECL2-V680D1_InitDataSet_F (Set Initial Data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i_bReception(Result reception) is _ignored. In data fill, the write protect does not function, because all data in the ID tag is initialized. Enter pulse in i_bReception(Result reception). 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. If this FB process does not end, check whether the i_wStationNo (Station No.) matches the network station No., and that P+MEE-			
	14) The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.			
FB operation	Pulse execution (multiple scan execution)			



Items	Description		
	[For successful completion]	[For successful completion]	
	(Trigger, Auto, FIFO trigger)	(Repeat auto, FIFO repeat)	
	[Execution command]	i_bEN [Execution command]	
	o_bENO [Execution status]	o_bENO [Execution status]	
	ID tag fill operation	ID tag fill operation Unexecuted Fill Unexecuted Fill Unexecuted	
	i_bReception [Result reception] N scan	i_bReception [Result reception]	
	0_bOK [Normal completion]	o_bOK [Normal completion]	
	[Error completion]	o bErr (N varies depending on the processing content.)	
	o_bIDComEnd [ID communication complete]	[Error completion] o_bIDComEnd [ID communication	
	o_uErId [Error code]	complete] o_uErrId [Error code]	
	o_bModuleErr [Module error]		
	o_uModuleErr [Module error code]	o_uModuleErr [Module error code]	
I/O signal		l l	
timings	[When an error occurs]	[When a module error occurs]	
		i_bEN	
	i_bEN [Execution command]	[Execution command]	
	o_bENO	e_bENO [Execution status]	
	[Execution status]		
	ID tag fill operation Unexecuted	ID tag fill operation Unexecuted	
	i_bReception	i_bReception [Result reception]	
	[Result reception]	o_bOK [Normal completion]	
	[Normal completion]	o_bErr [Error completion] o bIDComEnd	
	o_bIDComEnd [ID communication	[ID communication complete]	
	complete] o_uErrId [Error code]	0 uErrld 0 lError code 0 o bModuleErr	
	o_bModuleErr [Module error]	[Module e rror] (N varies depending on the processing content.)	
	o_uModuleErr [Module error code]	o_uModuleErr [Module error code] 0 0400H (Hexade cimal)	
		·· · · ·	
Relevant manuals	ECL2-V680D1 User's Manual (Details See MELSEC iQ-F FX5 User's Manual (CC-L		
		·	



Error code

■Error code list

Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module No.) is outside the range.	Specify the module number within the range from 1 to 16 (decimal).
H101	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
H110	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.

Used Labels

■Input labels

Name	Label name	Data type	Range	Description
Execution command	i_bEN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
Module No.	i_wModuleNo	Word [signed]	1 to 16 (Decimal)	Specify the module No. in which the target CC-Link system master/intelligent device module is mounted with a decimal. (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details.
Station No.	i_wStationNo	Word [signed]	1 to 28 (Decimal)	Specify the target station number to be connected to ECL2-V680D1. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
Start address specification	i_wAddressNo	Word [signed]	0000 to FFFF (Decimal)	Specify the start address where the ID tag is read.
Number of Processing Points Specification	i_wFillByte	Word [signed]	[Trigger] 0001 to 2048, 0 (Decimal) Depends on the memory capacity for the ID tag. Refer to the ECL2- V680D1 User's Manual (Details Section) for detailed range.	Specify the number of bytes to be filled in ID tag. 0: Fill all data in ID tag
Fill data	i_wFillData	Word [signed]	0000 to FFFF (Hexadecimal)	Specify data to be filled. With the fill operation, data is written for the number of bytes specified with i wFillByte (Processing specification).
Result reception	i_bReception	Bit	_	When the command that performs the fill operation in multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag.



RFID Interface Module ECL2-V680D1

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: FB execution command is ON. OFF: FB execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_uErrId	Word [unsigned]	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface module. OFF: Normal
Module error code	o_uModuleErr	Word [unsigned]	0	A description of the error occurred in the RFID interface module is stored.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface module due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception]

FB version history

Version	Date	Details
00A	2018/6/11	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_F (Read UID of ID Tag)

Name

P+MEE-ECL2-V680D1_UIDRead_F

Function Description

Items		Description		
Function overview	Reads the UID (module identification number) of the ID tag.			
Symbol		P+MEE-ECL2-V680D1_UIDRead_F		
	Execution command —	B:i_bEN	o_bEN	O:B Execution status
	Module No. —	W:i_wModuleNo	o_bO	K:B —— Normal completion
	Station No. —	W:i_wStationNo	o_bE	rr:B —— Error completion
	Result reception —	B:i_bReception	o_uErrId:	UW Error code
			o_bModuleE	rr:B — Module error
			o_uModuleErr:	UW — Module error code
	UID of the ID tag (Indirect address)	io_dUID:D	io_dUI	D:D UID of the ID tag (Indirect address)
			o_bIDComEr	nd:B ID communication complete
Target device	Module	ECL2-V680D1		
	CC-Link system module	Series MELSEC iQ-F serie	es FX5	Model 5-CCL-MS
	CPU module	Series		Model
		MELSEC iQ-F serie	20	SU CPU SUC CPU
	GX Works3	Series		Model
		MELSEC iQ-F serie		sion 1.042U or later an be specified depends on the
				ase refer to section 1.4.
Language	Ladder diagram			
Steps	 1220Step (for MELSEC iQ-F series) *The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual. 			



Items	Description			
Items	 1) When i bEN (Execution command) is turned ON, reads the UID (unit identification number) of the ID tag. Data read is stored from the start device specified with io_dUID (indirect address of the UID of the ID tag). When reading is completed, o_bOK (Normal completion) is turned ON. Start Tun i_BEN ON. FB internal processing Check the range Outside the range Out			
	UID of the ID tag). Number of points used : 5 points Used device (Z9, Z8, Z7, Z6, Z5)			
Index registers	*Please do not use these index registers in an interrupt program.			
FB compile format	Macro type			



Items	Description
	1) The FB does not include error recovery processing. Program the error recovery processing
	separately in accordance with the required system operation.
	2) Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System
	Master Station Module Parameter Settings".
	3) Set the global label setting according to Section "1.6. Setting Global Labels ".
	4) The FB cannot be used in an interrupt program.
	5) When multiple FBs are used, care should be taken not to use the same target Station number.
	6) Please ensure that the i_bEN (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 data registers D5000 to D5001. When an interrupt program is used, do not use the
	data registers.
	8) Specify the ID tag UID read communication specification, communication setting, processing
T · · · ·	specification, and auto system command wait time setting with P+MEE-ECL2-
Limitations,	V680D1_InitDataSet_F (Initial data setting) before this FB is executed.
Precautions,	9) Always specify the indirect address of the device storing the read UID for the io_dUID (ID tag
etc.	UID indirect address). The device's indirect address is retrieved with the ADRSET command. It cannot be omitted. Refer to Section 1.8 for details on the indirect address.
	10) Do not change the values for i wModuleNo (Module No.) i wStationNo (Station No.) or
	io dUID(ID tag UID indirect address) while i bEN (Execution command) is ON.
	11) If Communication specification made in P+MEE-ECL2-V680D1 InitDataSet F (Set initial
	data) is 0 (trigger), 1 (auto) or 3 (FIFO trigger), i bReception(Result reception) is ignored.
	12) Enter pulse in i bReception(Result reception).
	13) Since the Y signal is operated in the FB using the index modification, multiple coil warnings may
	occur during compilation when multiple FBs are used. However, it does not cause any problem
	in using.
	14) If this FB process does not end, check whether the i_wStationNo (Station No.) matches the
	network station No., and that P+MEE-ECL2-V680D1_InitDataSet_F (Initial data setting) is
	completed before this FB is executed.
	15) The range of Station No. that can be specified depends on the equipment and version to be used.
	Please refer to section 1.4.
FB operation	Pulsed execution (multiple scan execution type)



Items	Description		
	[For successful completion]	[For successful completion]	
	(Trigger, Auto, FIFO trigger)	(Repeat auto, FIFO repeat)	
	i_bEN [Execution command]	[Execution command]	
	o_bENO		
	UID read operation Unexecuted X Read UID X	Unexecuted UID read operation Unexecuted Read UID Viewceuted Read UID Viewceuted UID Viewceuted	
	i_bReception	i_bReception (Pulse input) (Pulse input)	
	[Result reception] N scan (N varies depending on the	[Result reception]	
	o_bOK processing content.) [Normal completion]	[Normal completion]	
	o_bErr [Error completion]	0_bErr [Error completion]	
	o_bIDComEnd [ID communication complete]	o_bIDCom End [ID communication complete]	
	o_uErrId 0 [Error code]	o_uErrId 0	
	o_bModuleErr [Module error]	o_bModuleErr [Module error]	
I/O signal	o_uModuleErr [Module error code]	o_uModuleErr [Module error code] 0	
timings	[When an error occurs]	·	
C		[When a module error occurs]	
	[Execution command]	[Execution command]	
	o_bENO [Execution status]	Execution status	
	UID read operation Unexecuted	UID read operation Unexecuted	
	i_bReception [Result reception]	i_bReception [Result reception]	
	o_bOK [Normal completion]	o_bOK [Normal completion]	
	o_bErr [Error completion]	e_bErr [Error completion]	
	o_bIDComEnd [ID communication complete]	o_bIDComEnd [ID communication complete]	
	o_uErrId [Error code] 0 H101 (Hexade cin	0 UErrId 0	
	o_bModuleErr [Module error]	o_bModuleErr [Module error] (N varies depending on the	
	o_uModuleErr [Module error code]	o_uModuleErr [Module error code] 0 0400H 0 (Hexadecimal)	
Relevant manuals	ECL2-V680D1 User's Manual (Details S MELSEC iQ-F FX5 User's Manual (CC-	Section)	



Error codes

■Error code list

Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module No.) is	Specify the module number within the range
HIUU	outside the range.	from 1 to 16 (decimal).
H101	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section 1.4.
H110	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	Range	Description
Execution command	i_bEN	Bit	_	ON: The FB is activated. OFF: The FB is not activated.
Module No.	i_wModuleNo	Word [signed]	1 to 16 (Decimal)	Specify the module No. for the target CC- Link system master and intelligent device module with a decimal. (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details.
Station No.	i_wStationNo	Word [signed]	1 to 28 (Decimal)	Specify the target station number to be connected to ECL2-V680D1. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
Result reception	i_bReception	Bit	_	When the command that performs the UID read operation from multiple ID tags is executed, input a pulse to receive the next results. ON: Starts to detect the next ID tag.



	nut	labels
∎Ouι	pui	labels

Name (comment)	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: FB execution command is ON. OFF: FB execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_uErrId	Word [unsigned]	0	The error code that occurred in the FB is stored.
Module error	o_bModuleErr	Bit	OFF	ON: An error occurred in the RFID interface module. OFF: Normal
Module error code	o_uModuleErr	Word [unsigned]	0	A description of the error occurred in the RFID interface module is stored.
ID communication complete	o_bIDComEnd	Bit	OFF	When communication is cut off on the side of the RFID interface module due to unconnected antenna, turn ON after i_bReception (Result reception) is turned ON. o_bModuleErr [Module error] o_bIDComEnd [ID communication complete] i_bReception [Result reception]

■Input/Output labels

Name	Label name	Data	Range	Description
UID of the ID tag (Indirect address)	io_dUID	type Double word [signed]	00000000 to FFFFFFF (Hexadecimal)	The UID of the ID tag is stored for 4 words from the device specified with the indirect address. For details about indirect address, refer to section 1.8.

FB version history

Version	Date	Details
00A	2018/6/11	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.



Name

P+MEE-ECL2-V680D1_MeasureNoise_F

Function Overview

Maagunag the			scription			
Function overview Measures the	Measures the noise environment surrounding the antenna.					
Symbol						
5		P+MEE-ECL2-V6	80D1_MeasureNoi	se_F		
Exec	ution command —	B:i_bEN		o_bENO:B	— Execution status	
	Module No. ——	W:i_wModuleNo		o_bOK:B	Normal completion	
	Station No. ——	W:i_wStationNo		o_bErr:B	— Error completion	
			0_1	ıErrId:UW	— Error code	
			o_bM	oduleErr:B	— Module error	
			o_uMod	uleErr:UW	— Module error code	
	urement Result	D:io_dResult	io	_dResult:D	Measurement Result (Indirect address)	
Target device Module		ECL2-V680D1				
	1.1	Serie			Model	
CC-Link sys	tem module	MELSEC iQ-F s	eries	FX5-CC	L-MS	
CPU module		Serie	S		Model	
		MELSEC iQ-F s		FX5U C	PU	
		MILLELC IQ-1 3	crics	FX5UC	CPU	
GX Works3		Serie	s		Model	
		MELSEC iQ-F s			1.042U or later	
	*The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section 1.4.					
Language Ladder diagr	Ladder diagram					
Steps 1008Step (fo	r MELSEC iQ-F	F series)				
*The number	*The number of steps of the FB embedded in a program depends on the CPU module used, the					
	input/output definitions, and the options setting of GX Works3. For the options setting of GX					
		rks3 Operating Mar				



Items	Description
	 When i_bEN(Execution command) is turned ON, measures the noise environment where the antenna is placed. Measurement results are stored from the start device specified with io_dResult (indirect address of measurement address). When measurement is completed, o_bOK (Normal completion) is turned ON.
	Start Tum i_bEN ON. FB internal processing
	Check the range of module number. 1 to 16 Check the range of station number.
	Check the status of ECL2-V680D1
Function Description	ID-BUSY signal OFF Measures the noise environment where the antenna is placed Check Error detection signal ON ECL2-V680D1
	for error ID command completion signal ON Sets measurement results in the device Sets measurement results A module error code is set to An error code is set to
	with indirect address specified with io_dResult o_uModuleErr o_uErrId o_bOK is turned ON o_bErr is turned ON
	<u>i_bEN is turned OFF</u> <u>End</u>
	 If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is suspended. In addition, an error code is set to o_uErrId(Error code). Refer to the error code explanation section for details. If an error occurs in ECL2-V680D1, o bModuleErr (Module error) is turned ON and processing
	 is suspended. In addition, an error code is set to o_uModuleErr (Module error code). Refer to the ECL2-V680D1 User's Manual (Details Section) for the error code details. 4) When i_bEN (Execution command) is turned OFF when measuring noise, processing of the FB is suspended.
Index registers	Data read is not stored in the device specified with io_dResult (indirect address of measurement results). Number of points used : 5 points Used device (Z9, Z8, Z7, Z6, Z5) *Please do not use these index registers in an interrupt program.
FB compile format	Macro type



Items	Description					
Limitations, Precautions, etc.	 The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System Master Station Module Parameter Settings". Set the global label setting according to Section "1.6. Setting Global Labels ". The FB cannot be used in an interrupt program. When multiple FBs are used, care should be taken not to use the same target Station number. Please ensure that the i_bEN (Execution command) signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. This FB uses data registers D5000 to D5001. When an interrupt program is used, do not use the data registers. For io_dResult (Indirect address of measurement results), be sure to specify the address of the start device in the area where noise measurement results are stored. This may not be omitted. Do not change the values for i_WModuleNo (Module No.), i_wStationNo (Station No.) or io_dResult(Indirect address of measurement results) while i_bEN (Execution command) is ON. 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. If this FB process does not end, check whether the i_WStationNo (Station No.) matches the network station No., and that P+MEE-ECL2-V680D1_InitDataSet_F (Initial data setting) is completed before this FB is executed. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4. 					
FB operation	Pulsed execution (multiple scan execution type)					
I/O signal timings	[For successful completion] (Execution command) (Execution summary processing content) Noise measurement processing content) (Normal completion) (Normal completion) (Normal completion) (Brenor code) (Module error (Module error code) (Module error code) (Normal completion) (Execution sums) (Execution sums) (Execution sums) (Execution sums) (Detection sums) (Execution sums) (Execution sums) (Normal completion) (Detection sums) (Execution sums) (Execution sums) (Normal completion) (Detection sums) (Execution sums) (Normal completion) (Detection sums) (Detection sums) (Detectio					
Relevant manuals	ECL2-V680D1 User's Manual (Details Section) MELSEC iQ-F FX5 User's Manual (CC-Link)					



Error codes Error code list		
Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module No.) is	Specify the module number within the range
HIUU	outside the range.	from 1 to 16 (decimal).
H101	Specification of i_wStationNo(StationNo.) is outside the range.	Specify the Station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section 1.4.
H110	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	Range	Description
Execution command	i_bEN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
Module No.	i_wModuleNo	Word [signed]	1 to 16 (Decimal)	Specify the module No. for the target CC- Link system master and intelligent device module with a decimal. (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details.
Station No.	i_wStationNo	Word [signed]	1 to 28 (Decimal)	Specify the target station number to be connected to ECL2-V680D1. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.

■Output labels

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



■Input/Output labels

Name	Label name	Data type	Range		Descript	ion
Measurement Result (Indirect address)	io_dResult	Double word [signed]	00000000 to FFFFFFF (Hexadecimal)	nois For sect Stor fron	cify the indirect addres e measurements result details about indirect ion 1.8. e noise measurement n the device with the cified. Storage area Average value Maximum value Minimum value	Its are stored. ct address, refer to results for 3 words

FB version history

Version	Date	Details
00A	2018/6/11	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_F (Read Initial Data Settings)

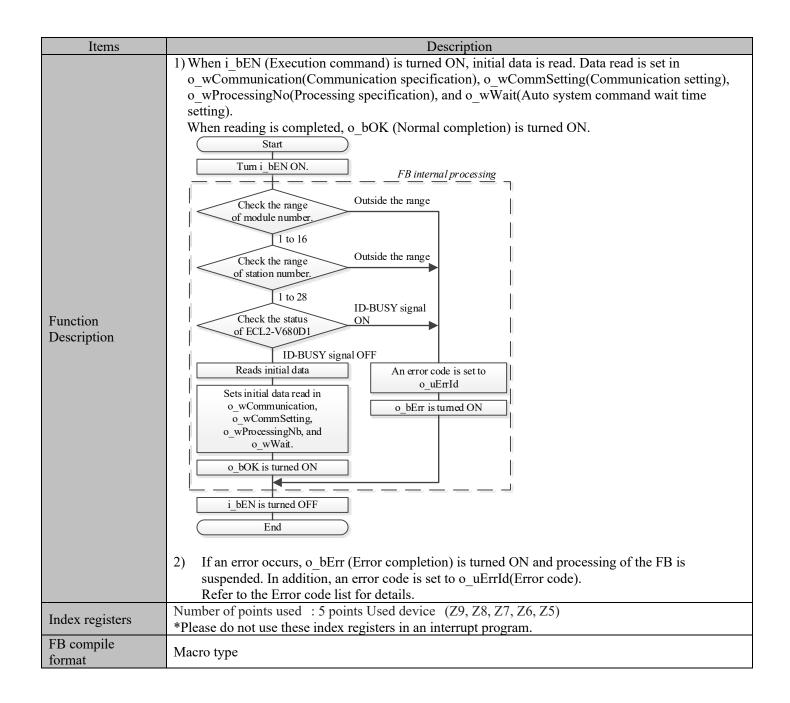
Name

P+MEE-ECL2-V680D1_InitDataRead_F

Function Overview

Items		D	escription				
Function overview	Reads the initial data settings.						
Symbol		P+MEE-ECL2-V680	D1_InitDataRead_F				
	Execution command —	B:i_bEN	o_bENO	B Execution status			
	Module No. ——	W:i_wModuleNo	o_bOK	B Normal completion			
	Station No. ——	W:i_wStationNo	o_bErr	B Error completion			
			o_uErrId:U	JW Error code			
			o_wCommunication :	specification			
			o_wCommSetting :	W Communication setting			
			o_wProcessingNo :	W Processing specification			
			o_wWait:	W Auto system command wait time setting			
Target device	Module	ECL2-V680D1					
8	CC-Link system module	Series MELSEC iQ-F		Model X5-CCL-MS			
	CPU module	Seri	es	Model			
		MELSEC iQ-F	F F	X5U CPU X5UC CPU			
	GX Works3	Series MELSEC iQ-F *The range of	series V	Model Version 1.042U or later can be specified depends on the			
	I addan diaanaa	equipment and ve	ersion to be used.	Please refer to section1.4.			
Language	Ladder diagram						
Steps	909Step (for MELSEC iQ	-F series)					
	-	nd the options setting	of GX Works3. F	on the CPU module used, the or the options setting of GX			







Items	Description
Limitations, Precautions, etc.	 The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System Master Station Module Parameter Settings". Set the global label setting according to Section "1.6. Setting Global Labels ". The FB cannot be used in an interrupt program. When multiple FBs are used, care should be taken not to use the same target station number. Please ensure that the i_bEN (Execution command) signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop because it is impossible to turn OFF. Do not change the values for i_wModuleNo (Module No.) or i_wStationNo (Station No.) while i_bEN (Execution command) is ON. 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. If this FB process does not end, check whether the i_wStationNo (Station No.) matches the network station No., and that P+MEE-ECL2-V680D1_InitDataSet_F (Initial data setting) is completed before this FB is executed. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.
FB operation	Pulsed execution (multiple scan execution type)
I/O signal timings	[For successful completion] [When an error occurs] [Execution command]
Relevant manuals	ECL2-V680D1 User's Manual MELSEC iQ-F FX5 User's Manual (CC-Link)

Error codes

■Error code list

Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module No.) is	Specify the module number within the range
11100	outside the range.	from 1 to 16 (decimal).
H101	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section 1.4.
H110	ECL2-V680D1 is executing the ID command.	Start the FB after completion of execution of the ID command.



Labels

■Input labels

Name (comment)	Label name	Data type	Range	Description
Execution command	i_bEN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
Module No.	i_wModuleNo	Word [signed]	1 to 16 (Decimal)	Specify the module No. for the target CC- Link system master and intelligent device module with a decimal. (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details.
Station No.	i_wStationNo	Word [signed]	1 to 28 (Decimal)	Specify the target station number to be connected to ECL2-V680D1. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.

■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: FB execution command is ON. OFF: FB execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_uErrId	Word [unsigned]	0	The error code that occurred in the FB is stored.
Communication specification	o_wCommunication	Word [signed]	0	The communication method for the ID tag is stored. 0: Trigger 1: Auto 2: Repeat auto 3: FIFO trigger 4: FIFO repeat



Name	Label name	Data type	Initial Value	Description
Communication setting	o_wCommSetting	Word [signed]	0	The communication setting for the ID tag is stored.BitDescription0Write verify setting 0: Execute 1: Do not execute1ID tag communication speed setting 0: Standard mode 1: High-speed mode2Write protect setting 0: Enable
Processing specification	o_wProcessingNo	Word [signed]	0	The command data processing method for the ID tag is stored. Command Processing specification Read Data storage order Write 0: Upper→Lower Fill data 1: Lower→Upper For details, refer to the function description of each command. Commands other than the above do not use Processing specification.



Name	Label name	Data type	Initial Value	Description
Auto system command wait time setting	o_wWait	Word [signed]	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] i bEN [Execution command] ID-BUSY (RX3) ID tag movement Communication ID tag movement Communication ID tag movement Communication ID tag movement Communication Result reception] When the waiting time set before i bReception(Result reception) is turned ON expires, o bModuleErr(Module error) is turned ON after i bReception(Result reception) is turned ON. o bOK [Normal completion] o bModuleErr [Module error] i bReception [Result reception] D tag movement ID tag waiting Communication ID tag movement ID tag waiting Communication

FB version history

Version	Date	Details
00A	2018/6/11	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_F (Read Module Status)

Name

P+MEE-ECL2-V680D1_StatusRead_F

Function Overview

Items		Description			
Function overview	Read Module Status.				
Symbol		P+MEE-ECL2-V680D1_StatusRe			
	Execution command —	B:i_bEN	o_bENO:B Execution status		
	Module No. —	W:i_wModuleNo	o_bOK:B Normal completion		
	Station No. —	- W:i_wStationNo	o_bErr:B Error completion		
		0	_uEmId:UW Error code		
		o_wMc	oduleState:W Module status		
Target device	Module	ECL2-V680D1			
		Series	Model		
	CC-Link system module	MELSEC iQ-F series	FX5-CCL-MS		
	CPU module	Series	Model		
		MELSEC iQ-F series	FX5U CPU FX5UC CPU		
	GX Works3	Series	Model		
		MELSEC iQ-F series	Version 1.042U or later		
		*The range of Station No. t equipment and version to be use	hat can be specified depends on the		
Language	Ladder diagram	requipment and version to be use			
Steps	759Step (for MELSEC iQ-F	series)			
Sups	*The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.				



Items	Description				
	1) When i_bEN (Execution command) is turned ON, the module status is read. The module status				
	read is set in o_wModuleState (Module status).				
	When reading is completed, o_bOK (Normal completion) is turned ON.				
	Start				
	Tum i bEN ON.				
	FB internal processing				
	Check the range of module number.				
	1 1 to 16				
	Check the range of Outside the range station number.				
Exaction	1 to 28				
Function Description	Reads the module status An error code is set to				
Description	o uEmId				
	Sets the module status read in				
	o_wModuleState. o_bErr is turned ON				
	o_bOK is turned ON				
	i bEN is turned OFF				
	(<u>End</u>)				
	2) This FB works only once when i_bEN(Execution command) is turned ON.				
	3) If an error occurs, o_bErr (Error completion) is turned ON and processing of the FB is				
	suspended. In addition, an error code is set to o_uErrId(Error code).				
	Refer to the Error code list for details.				
Index registers	Number of points used : 5 points Used device (Z9, Z8, Z7, Z6, Z5)				
ED commile	*Please do not use these index registers in an interrupt program. Macro type				
FB compile format	Macio type				
Tormat	1) The FB does not include error recovery processing. Program the error recovery processing				
	separately in accordance with the required system operation.				
	 Set the Module parameter setting refresh device as explained in section "1.5. CC-Link System 				
	Master Station Module Parameter Settings".				
	3) Set the global label setting according to Section "1.6. Setting Global Labels ".				
	4) The FB cannot be used in an interrupt program.				
	5) When multiple FBs are used, care should be taken not to use the same target station number.				
	6) Please ensure that the i_bEN (Execution command) signal is capable of being turned OFF by the				
Limitations,	program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-				
Precautions,	NEXT loop because it is impossible to turn OFF.				
etc.	7) Do not change the values for i_wModuleNo (Module No.) or i_wStationNo (Station No.) while				
	i_bEN (Execution command) is ON.				
	8) 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.				
	9) If this FB process does not end, check whether the i wStationNo (Station No.) matches the				
	network station No., and that P+MEE-ECL2-V680D1 InitDataSet F (Initial data setting) is				
	completed before this FB is executed.				
	10) The range of Station No. that can be specified depends on the equipment and version to be used.				
	Please refer to section 1.4.				
FB operation	Pulsed execution (multiple scan execution type)				



Items	Description					
	[For successful complet	tion]	[When an error occ	curs]		
	[Execution comm and]		i_bEN [Execution command]			
	o_bENO [Execution status]	(`\	o_bENO [Execution status]			
I/O signal timings	o_bOK [Normal completion]		o_bOK [Normal completion]			
5	o_bErr [Error completion]		o_bErr [Error completion]			
	o_uErrId [Error code]	0	o_uErrId [Error code]	0	H101 0 (Hexade cimal)	
	ECL2-V680D1 User's Manual (Details Section)					
Relevant manuals	MELSEC iQ-F FX5 User's Manual (CC-Link)					

Error codes

■Error code list

Error code (Hexadecimal)	Description	Action	
L100	Specification of i_wModuleNo (Module No.) is	Specify the module number within the range	
H100	outside the range.	from 1 to 16 (decimal).	
H101	Specification of i_wStationNo (Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal). The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.	

Labels

■Input labels

Name	Label name	Data type	Range	Description
Execution command	i_bEN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module No.	i_wModuleNo	Word [signed]	1 to 16 (Decimal)	Specify the module No. for the target CC-Link system master and intelligent device module with a decimal. (If the module No. is 11, specify K11.) Refer to the CPU User's Manual for details.
Station No.	i_wStationNo	Word [signed]	1 to 28 (Decimal)	Specify the target station number to be connected to ECL2-V680D1. The range of Station No. that can be specified depends on the equipment and version to be used. Please refer to section1.4.



■Output labels

Name	Label name	Data type	Initial Value	Description
Execution status	o_bENO	Bit	OFF	ON: FB execution command is ON. OFF: FB execution command is OFF.
Normal completion	o_bOK	Bit	OFF	ON: FB completed successfully OFF: FB uncompleted
Error completion	o_bErr	Bit	OFF	ON: FB terminated abnormally OFF: FB uncompleted
Error code	o_uErrId	Word [unsigned]	0	The error code that occurred in the FB is stored.
Module status	o_wModuleSt ate	Word [signed]	0	The RFID Interface module 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 to 15: Unused

FB version history

Version	Date	Details
00A	2018/6/11	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.

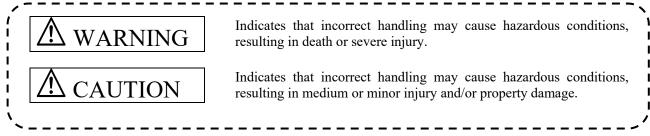


Appendix 1. SAFETY PRECAUTIONS

Before using this product, please read this reference manual and the relevant manuals introduced in this reference manual carefully and pay full attention to safety to ensure that the product is used correctly.

The precautions presented in this manual are concerned with this product only. For programmable controller system safety precautions, refer to the user's manual of the master module used.

In this reference manual, the safety precautions are ranked as "WARNING" and "CAUTION."



Note that failure to observe the \triangle CAUTION level instructions may lead to a serious consequence according to the circumstances. Always follow the precautions of both levels because they are important to personal safety.

Please keep this reference manual in an easy-to-access location for future reference, and be sure to deliver the manual to the end user.

[DESIGN PRECAUTIONS]

AWARNING

- If a data link communication error occurs, the data of the master module will be retained. Using the communication status information, configure an interlock circuit in the sequence program to ensure that the system will operate safely.
- Any of the remote I/O signals marked "Use prohibited" are used by the system. Do not use these signals. In the unlikely event such a signal is used (ON/OFF), the function of the module cannot be guaranteed.

ACAUTION

- When installing the RFID interface module and amplifier/antenna cables, do not bundle the cables with or install the cables close to the main circuit, power lines, or the like. Be sure to separate the cables and lines by about 100mm or more. Failure to do so will cause noise, resulting in malfunction.
- When storing the product, be sure to observe the defined storage ambient temperature and humidity. Failure to do so will lead to module malfunction and failure.
- Look the control panel so that only those who are trained and have acquired enough knowledge of electric facilities can open control panel.
 - Install the emergency stop switch outside the control panel so that workers can operate it easily.

[INSTALLATION PRECAUTIONS]

ACAUTION

- Use the module in an environment that reflects the general specifications stated in the user's manual. Using the module in an environment out of the general specification range results in the risk of electric shock, fire, malfunction, and product damage or deterioration.
- Fully secure the module using a DIN rail or installation screws, and fully tighten the screws within the specified torque range. If a screw is too loose, a dropped module, short circuit, or malfunction may result. If a screw is too tight, screw and/or module damage may occur, resulting in a dropped module, short circuit, or malfunction.
- Do not directly touch a powered section of the module. Doing so results in the risk of module malfunction and failure.



[WIRING PRECAUTIONS]

AWARNING

• Be sure to shut off all phases of the external power supply used by the system before performing work such as wiring. Failure to do so results in the risk of product damage, and malfunction.

A CAUTION
Fully mount the antenna cable to the module connector. After mounting, check for separation. Insufficient contact results in the risk of erroneous input and output.
Always ground the FG terminal with Class D grounding (Class 3 grounding) dedicated for the PLC. There is a risk electric shock or malfunction.
Always tighten the open terminal screws with the specified torque range (0.42 to 0.58 N.m). Failure to do so could result in short circuits.
Use an applicable crimp terminal, and tighten with the specified torque. When an open end crimp terminal is used, the terminal screw loosens, the terminal could drop off and trouble could occur.
Be sure to place the communication cables and power cables connected to the module in a duct, or secure them wit clamps. Failure to do so results in the risk of cable movement and drift, module or cable damage caused by careless pulling, and malfunction caused by insufficient cable contact.
When connecting a cable, first verify the connection interface type and then connect the cable properly. Connecting cable to a wrong interface or miswiring a cable results in the risk of module and external device malfunction.
Tighten the screws within the specified torque range. If a screw is too loose, a short circuit or malfunction may result a screw is too tight, screw and/or module damage may occur, resulting in a short circuit or malfunction.
When removing a communication cable or power cable connected to the module, do not pull the cable section. For cables with connectors, hold the connector of the section connected to the module during removal. For terminal bloc cables, loosen the screws of the terminal block and then remove the cable. Pulling a cable while it is connected to transmission due to a poor cable connection.
Do not insert or remove an antenna cable with the power ON. Doing so results in the risk of failure.
Prevent foreign matter such as dust or wire chips from entering the module. Such foreign matter may cause fire, failure, or malfunction.
Do not bunch the control wires and communication cables with the main circuit, power lines, or the like, or install them close to each other. Keep a distance of 100mm or more between them. Failure to do so may result in malfunction due to noise.
Do not invert the external power supply polarities +24V and 24G. The RFID interface module will not operate.



[STARTUP AND MAINTENANCE PRECAUTIONS]

AWARNING

Do not touch the terminals while the module is powered. Doing so results in the risk of malfunction.

ACAUTION

- Do not disassemble or modify the module. Doing so results in the risk of failure, malfunction, injury, and fire.
- Be sure to shut off all phases of the external power supply used by the system before module installation to or removal from the panel. Failure to do so results in the risk of module failure and malfunction.
- After product use begins, be sure the number of times the terminal block is installed and removed does not exceed 50 (JIS B 3502 compliant). Exceeding 50 results in the risk of malfunction.
- Be sure to shut off all phases of the external power supply used in the system before cleaning or tightening terminal screws or module screws. Failure to do so results in the risk of module failure and malfunction. If a screw is too loose, a dropped module, short circuit, or malfunction may result. If a screw is too tight, screw and/or module damage may occur, resulting in a dropped module, short circuit, or malfunction.
- The module case is made of plastic. Do not drop the case or expose the case to strong impact. Doing so results in the risk of module damage.
- Before touching the module, be sure to touch grounded metal or the like to release the static electricity from your body. Failure to do so results in the risk of module failure or malfunction.
- When cleaning, do not use thinner, benzene, acetone, or kerosene. Doing so results in the risk of module damage.
- Do not insert water or wire through the gaps in the case. Doing so results in the risk of fire or electric shock.
- This product cannot be used as a detector for physical protection. Erroneous output or malfunction may result in an accident.
- When installing or removing the antenna from the amplifier, first turn OFF the module power supply. Failure to do so results in the risk of module failure and malfunction.
- Installation of multiple antennas may result in a decrease in communication performance due to mutual interference. Refer to the description of mutual interference between antennas in the antenna user's manual.
- In the unlikely event that you feel something is wrong with the product, stop using the product immediately, turn OFF the power supply, and consult with your local Mitsubishi service center or representative. Continued use as is results in the risk of module failure and malfunction.
- Do not use the product in locations where chemical products and oil are scattered. Doing so results in the risk of module failure and malfunction.
- When using the product, be sure to observe the defined ambient temperature and humidity. Failure to do so results in the risk of module failure and malfunction.
- Do not touch any connectors when the module is powered. Doing so results in the risk of module malfunction caused by the static electricity in your body.

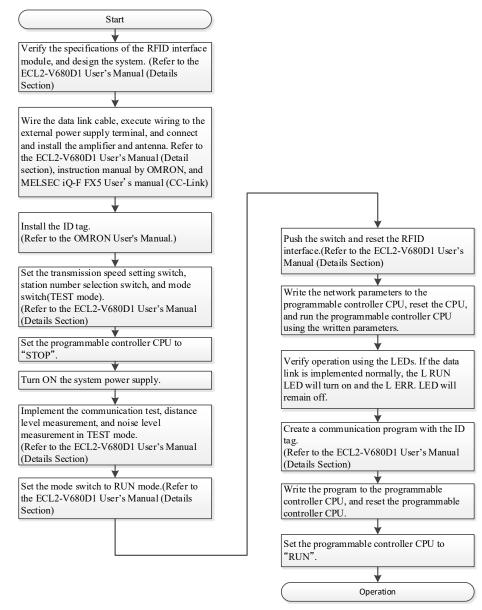
[DISPOSAL PRECAUTIONS]

CAUTION

At the time of disposal, treat the product as industrial waste.



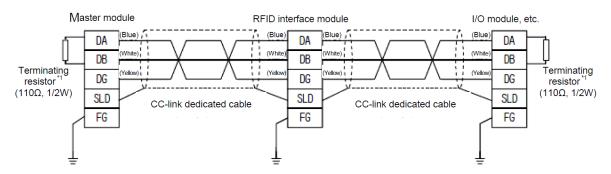
Appendix 2. Setup and Procedures Prior to Operation



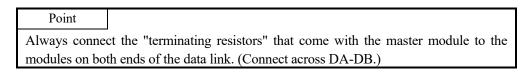


Appendix 3. Explanation of Connections and Wiring

- Always use the designated cable for the CC-Link dedicated cable.
- Always connect between the CC-Link module and each station of the CC-Link with the FG line in the control panel with the following type of FG terminal.



Use CE compatible products for the module power supply and the power supply connected to the external supply power. Always ground the FG terminal.

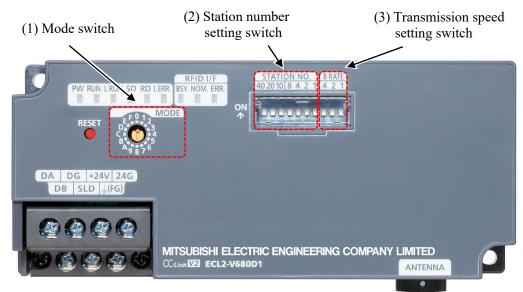


Wire the external power supply terminal as shown below.





Appendix 4. Hardware Settings



(1) Mode switch

Set Value	Station Type	Version	Number of Occupied Stations	Expanded Cyclic Setting	Remote station points
0	Remote Device Station	Ver.1	4 stations	—	128Points
4	Remote Device Station	Ver.1	2 stations	—	64Points
5	Remote Device Station	Ver.2	2 stations	Double	96 Points
6	Remote Device Station	Ver.2	2 stations	Quadruple	192 Points
7	Remote Device Station	Ver.2	2 stations	Octuple	384 Points

(2) Station number setting switch

Station	10's Place			1's Place			
No.	40	20	10	8	4	2	1
1	OFF	OFF	OFF	OFF	OFF	OFF	ON
2	OFF	OFF	OFF	OFF	OFF	ON	OFF
3	OFF	OFF	OFF	OFF	OFF	ON	ON
4	OFF	OFF	OFF	OFF	ON	OFF	OFF
:	:	:	•	•	•	•	:
25	OFF	ON	OFF	OFF	ON	OFF	ON
26	OFF	ON	OFF	OFF	ON	ON	OFF
27	OFF	ON	OFF	OFF	ON	ON	ON
28	OFF	ON	OFF	ON	OFF	OFF	OFF

(3) Transmission speed setting switch

C -4 V-las		Transmission		
Set Value	4	2	1	Speed
0	OFF	OFF	OFF	156kbps
1	OFF	OFF	ON	625kbps
2	OFF	ON	OFF	2.5Mbps
3	OFF	ON	ON	5.0Mbps
4	ON	OFF	OFF	10Mbps

* Refer to the ECL2-V680D1 User's Manual (Details Section) for details on the settings.



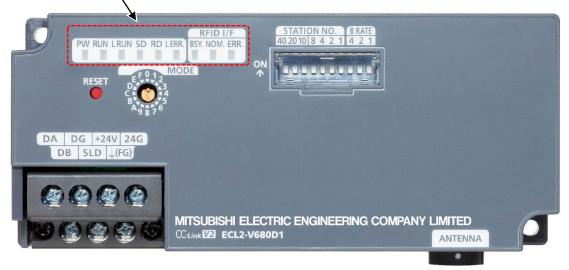
Appendix 5. Verifying the connection

Follow the instruction below to verify the connection between ECL2-V680D1 and Programmable controller.

- 1. Set up [1.5. CC-Link System Master Station Module Parameter Settings].
- 2. Connect ECL2-V680D1 and Programmable controller.
- 3. Confirm indicator LED ECL2-V680D1 is as the following table.

Name	Description			
PW	Indicates the power supply status.			
	On: Power on			
RUN	Indicates normal operation.			
	On: Operating normally in RUN mode.			
L RUN	Indicates the CC-Link data communication			
	status.			
	On: When communication is normal			
SD	Indicates the CC-Link data send status.			
	On: Sending data			
RD	Indicates the CC-Link data reception status.			
	On: Receiving data			
L ERR.	Indicates a CC-Link error.			
	Off: Operating normally			
BSY.	Indicates the operating status.			
	Off: Standby			
NOM.	Indicates the communication complete status.			
	Off: Standby or abnormal end			
ERR.	Indicates whether or not an error exists.			
	Off: Normal			

Indicators LED





Appendix 6. Error code list

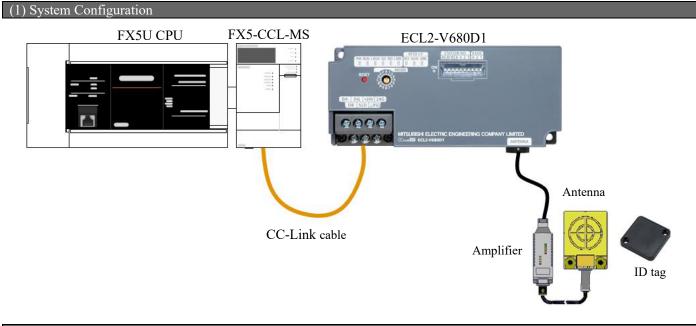
A list of error codes is given below.

Error code list Error code (Hexadecimal)	Description	Action
H100	Specification of i_wModuleNo (Module No.) is	Specify the module number within the range
	outside the range.	from 1 to 16 (decimal).
H101	Specification of i_wStationNo(Station No.) is outside the range.	Specify the station number within the range from 1 to 28 (decimal).
H103	•P+MEE-ECL2-V680D1 Read F	[Trigger]
	i_wReadByte(Processing specification) is outside the specified range.	Specify value in the 0001 to 2048 range (decimal) for Processing specification. [Other than trigger] Specify the amount of data that can be read with a single ID command. Refer to the ECL2-V680D1 User's Manual (Details Section) for detailed range.
	•P+MEE-ECL2-V680D1_Write_F	[Trigger]
	i_wWriteByte(Processing specification) is outside the specified range.	Specify value in the 0001 to 2048 range (decimal) for Processing specification. [Other than trigger] Specify the amount of data that can be written with a single ID command. Refer to the ECL2-V680D1 User's Manual (Details Section) for detailed range.
H110 ECI 2-V680D1 is executing the ID command		Start the FB after completion of execution of the ID command.



Appendix 7. FB Library Application Examples

An example of writing the data into the ID tag using the CC-Link system is given below.



(2) List of devices

External Input (commands)

Device	ED Name	$\mathbf{A} = 1 \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \begin{bmatrix} \mathbf{A} \\ \mathbf{A} \end{bmatrix} \end{bmatrix} $
	FB Name	Application (ON details)
M100	P+MEE-ECL2-V680D1 InitDataSet F	Set Initial Data command
M102		Set Initial Data command retention
M110		ID tag read command
M111	P+MEE-ECL2-V680D1_Read_F	ID tag read result reception
M112		ID tag read command retention
M120		ID tag write command
M121	P+MEE-ECL2-V680D1_Write_F	ID tag write result reception
M122		ID tag write command retention
M130		ID tag data fill command
M131	P+MEE-ECL2-V680D1 Fill F	ID tag data fill result reception
M132		ID tag data fill command retention
M140		ID tag UID read command
M141	P+MEE-ECL2-V680D1_UIDRead_F	ID tag UID read result reception
M142		ID tag UID read command retention
M150		Measure noise command
M151	P+MEE-ECL2-V680D1_MeasureNoise_F	Measure noise command retention
M160	BIMEE ECL 2 V690D1 InitDataBaad E	Initial data read command
M161	P+MEE-ECL2-V680D1_InitDataRead_F	Initial data read command retention
M170	DIMEE ECI 2 V690D1 Status Basid E	Module status read command
M171	P+MEE-ECL2-V680D1_StatusRead_F	Module status read command retention
	P+MEE-ECL2-V680D1 InitDataSet F	
	P+MEE-ECL2-V680D1 Read F	
	P+MEE-ECL2-V680D1 Write F	
1000	P+MEE-ECL2-V680D1 Fill F	Interlock contact
M200	P+MEE-ECL2-V680D1 UIDRead F	(Prevents two or more FBs from being executed at the same time.)
	P+MEE-ECL2-V680D1 MeasureNoise F	
	P+MEE-ECL2-V680D1 InitDataRead F	
	P+MEE-ECL2-V680D1 StatusRead F	
L		1



■External Input (data)

Device	FB Name	Application (ON details)
D2300 to D2301	P+MEE-ECL2-V680D1_Write_F	Device for indirection of the device where data to be written to the ID tag is stored
D2302 to D2305	P+MEE-ECL2-V680D1_Write_F	Specify data to be written to the ID tag. (up to 61 words)

External output (checks)

Device	FB Name	Application (ON details)
D100	T D T dille	FB error code is stored when setting initial data
D101		Module error code is stored when setting initial data
M103	P+MEE-ECL2-V680D1_InitDataSet_F	FB is being executed when setting initial data
M104		FB completes successfully when setting initial data
M105		FB terminates abnormally when setting initial data
M106		Module error when setting initial data
D110		FB error code is stored when reading data from the ID tag
D111		Module error code is stored when reading data from the ID tag
D1200 to		
D1201		Device for indirection of the device where data read is stored
D1202 to		Data read from the ID tag is stored. (up to 61 words)
D1205	P+MEE-ECL2-V680D1 Read F	
M113		FB is being executed when reading data from the ID tag
M114		FB completes successfully when reading data from the ID tag
M115		FB terminates abnormally when reading data from the ID tag
M116		Module error when reading data from the ID tag
M117		ID communication completes when reading data from the ID tag
D120	-	FB error code is stored when writing data to the ID tag
D121		Module error code is stored when writing data to the ID tag
M123		FB is being executed when writing data to the ID tag
M124	P+MEE-ECL2-V680D1 Write F	FB completes successfully when writing data to the ID tag
M125		FB terminates abnormally when writing data to the ID tag
M126		Module error when writing data to the ID tag
M127		ID communication completes when writing data to the ID tag
D130		FB error code is stored when filling data in the ID tag
D131		Module error code is stored when filling data in the ID tag
M133		FB is being executed when filling data in the ID tag
M134	P+MEE-ECL2-V680D1_Fill_F	FB completes successfully when filling data in the ID tag
M135		FB terminates abnormally when filling data in the ID tag
M136		Module error when filling data in the ID tag
M137		ID communication completes when filling data in the ID tag
D140		FB error code is stored when reading the UID of the ID tag
D141		Module error code is stored when reading the UID of the ID tag
D142 to		Device for indirection of the device where the UID of the ID tag is
D143		stored
D144 to		ID tag UID is stored when reading the UID of the ID tag (4 words)
D147	P+MEE-ECL2-V680D1_UIDRead_F	
M143		FB is being executed when reading the UID of the ID tag
M144		FB completes successfully when reading the UID of the ID tag
M145		FB terminates abnormally when reading the UID of the ID tag
M146		Module error when reading the UID of the ID tag
M147		ID communication completes when reading the UID of the ID tag



FB Name	Application (ON details)
P+MEE-ECL2-V680D1_MeasureNoise_F	FB error code is stored when measuring noise
	Module error code is stored when measuring noise
	Device for indirection of the device where the noise measurement
	results are stored
	Measurement results are stored when measuring noise
	(3 words)
	FB is being executed when measuring noise
	FB completes successfully when measuring noise
	FB terminates abnormally when measuring noise
	Module error when measuring noise
P+MEE-ECL2-V680D1_InitDataRead_F	FB error code is stored when reading initial data
	Communication specification is stored when reading initial data
	Communication setting is stored when reading initial data
	Processing specification is stored when reading initial data
	Auto system command waiting time setting is stored when reading initial data
	FB is being executed when reading initial data
	FB completes successfully when reading initial data
	FB terminates abnormally when reading initial data
P+MEE-ECL2-V680D1_StatusRead_F	FB error code is stored when reading module status
	Module status is stored when reading the module
	status
	FB is being executed when reading the module status
	FB completes successfully when reading the module
	status
	FB terminates abnormally when reading the module
	status
	P+MEE-ECL2-V680D1_MeasureNoise_F P+MEE-ECL2-V680D1_InitDataRead_F

(3) Example of use Setting

■Common settings

Input/Output item Va		Description
Module No.	K1	Specify the module No. in which the CC-Link system master/intelligent device module for communication is mounted.
Station No.	K1	Enter the station number of the RFID system to be connected.



(a) P+MEE-ECL2-V680D1_InitDataSet_F (Set initial data)

- Set initial data on the following conditions.
 - Module No. · · · · 1

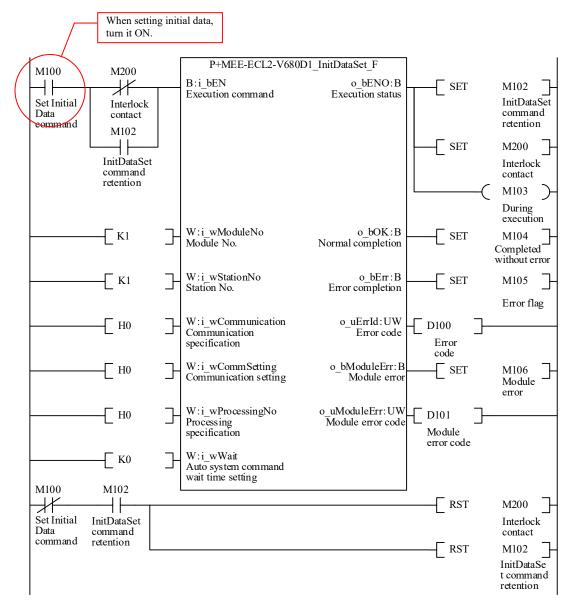
 - •Communication specification ·······0 (Trigger)

•Communication setting0 (Write verify setting :Execute

ID tag communication speed setting :Standard mode

- Write protect setting :Enable
- Read/Write data code setting :Without ASCII/HEX conversion)

•Auto system command wait time setting 0 (Detection is waited until a response is received from the ID tag.)

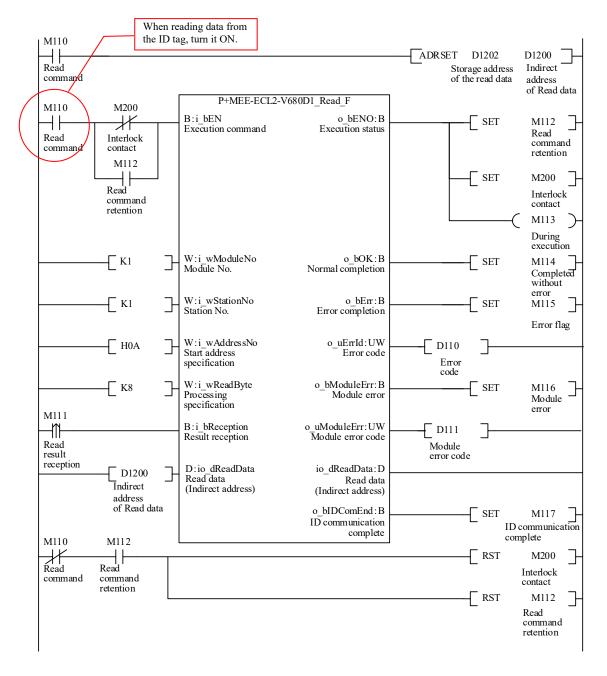




(b) P+MEE-ECL2-V680D1 Read F (Read ID tag)

Read data from the ID tag on the following conditions.

- Start address specification ······0AH
- Storage address of the Read data ······D1202 to D1205

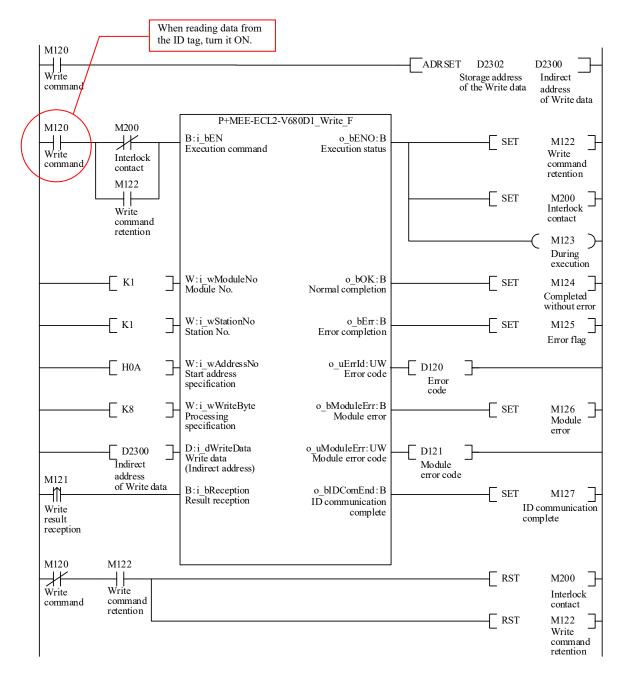




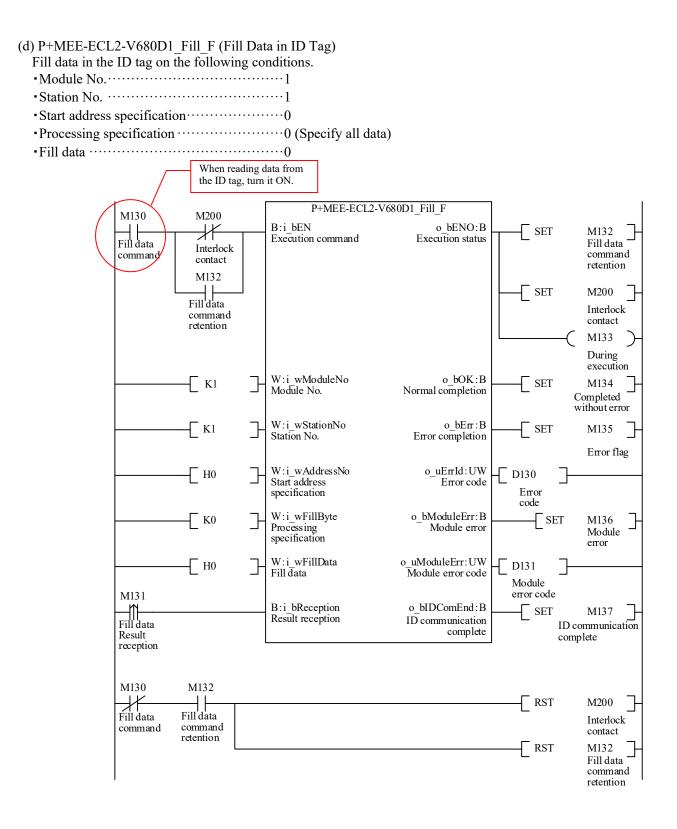
(c) P+MEE-ECL2-V680D1 Write F (Write to ID Tag)

Write data to the ID tag on the following conditions.

- Station No. ······1
- Start address specification ······0AH
- Storage address of the Write dataD2302 to D2305







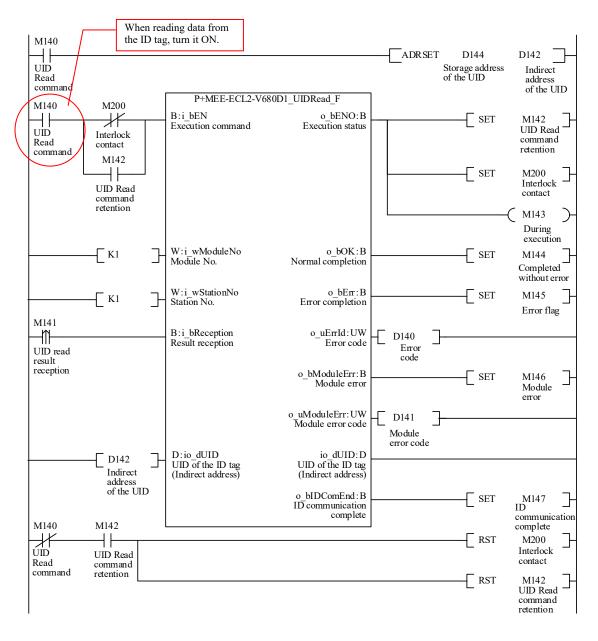


(e) P+MEE-ECL2-V680D1_UIDRead_F (Read UID of ID Tag)

Read UID of the ID tag on the following conditions.

• Module No. · · · · 1

• Storage destination of UID ······ D144 to D147



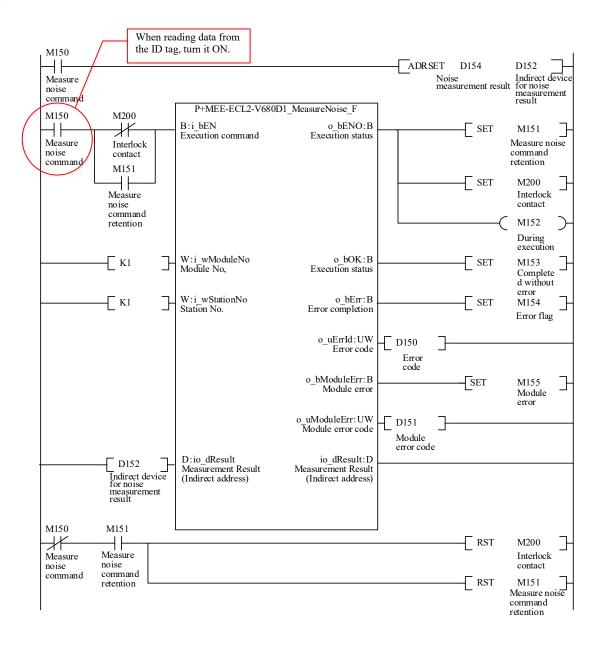


(f) P+MEE-ECL2-V680D1 MeasureNoise F (Measures Noise)

Measure noise on the following conditions.

- Station No. · · · · · · 1

• Storage address of Measurement result D154 to D156

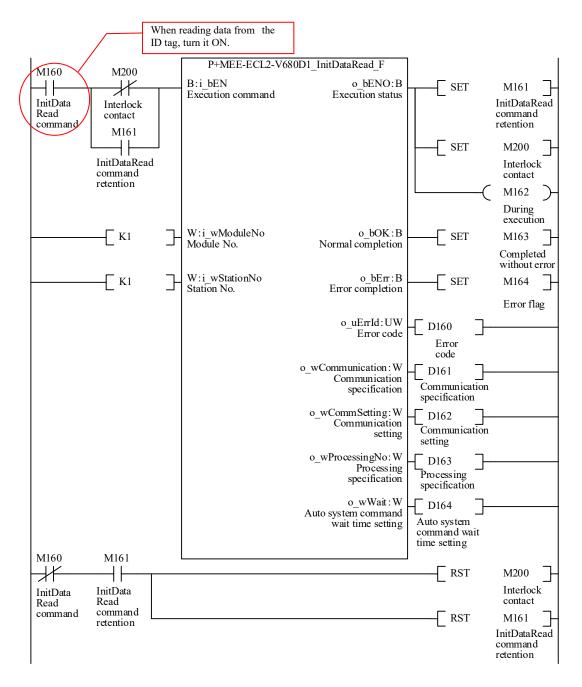




(g) P+MEE-ECL2-V680D1 InitDataRead F (Read initial data settings)

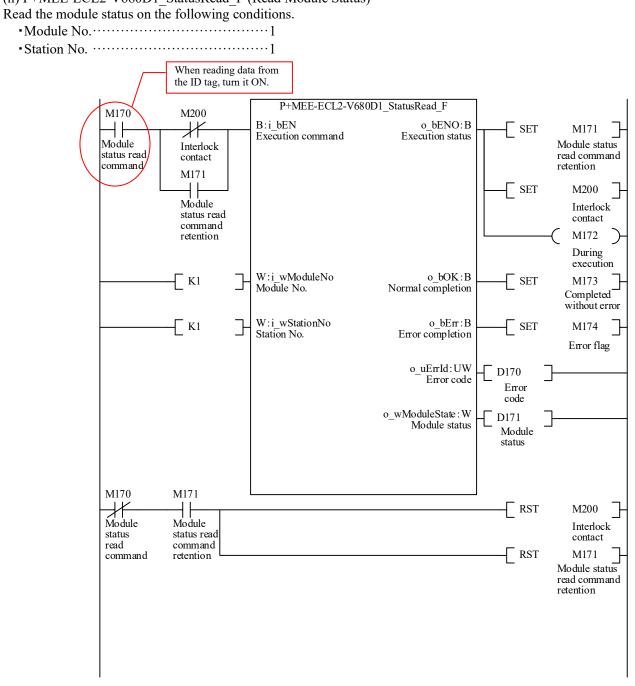
Read initial data on the following conditions.

• Module No. · · · · 1





(h) P+MEE-ECL2-V680D1_StatusRead_F (Read Module Status)





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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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