7 CC-LINK IE FIELD NETWORK COMMUNICATIONS

The network interface module operates as a remote device station on CC-Link IE Field Network. For details, refer to the user's manual for the master module used.

7.1 System Configuration



(1) Master station (CC-Link IE Field Network-equipped master/local module)

(2), (4) Remote device station (network interface module)

(3), (5) Converter (Page 16 Connectable Devices)

Precautions

■Network setting switches

Check that the switches are set as follows. (Page 77 Network mode setting)



- Switch 1: Off
- Switch 2: On
- Switch 3: Off
- Switch 4: Off

Supported network interface modules

The following shows the network interface module versions compatible with CC-Link IE Field Network.

Model	Software version	Hardware version
• FA3-TH1T16XC • FA3-TH1T16Y • FA3-TH1T16YE • FA3-AT1T8X • FA3-AT1T8Y	Ver. B or later	Ver. B or later
• FA3-TH1M16XC • FA3-TH1M16Y • FA3-TH1M16YE • FA3-AT1M8X • FA3-AT1M8Y	There is no restriction.	There is no restriction.

The software and hardware versions can be checked on the rating plate. (Frage 318 How to Check the Production Information)

Supported master modules

The master modules in the homepage of CC-Link Partner Association can be used. Refer to the following URL. www.cc-link.org

Before using the module, check the specifications.

For the MELSEC-Q series, the QJ71GF11-T2, the first five digits of whose serial number are "14102" or later, can be used.

Supported engineering tool

Always keep the engineering tool up to date.

When the latest version is necessary, please consult your local Mitsubishi Electric representative.

For the MELSEC-Q series, the GX Works2 (Version 1.90U or later) can be used.

However, the error history cannot be checked using an engineering tool (network diagnostics) when the GX Works2 is used. Check the error history by either of the following methods.

- Checking using an engineering tool (command execution of slave station): F Page 112 Command execution of slave station
- Checking using a remote buffer memory: SP Page 98 Checking using a remote buffer memory

Supported profile

To set up the parameters of the network interface module by using the engineering tool, the profile is required.

When the latest profile of the network interface module is necessary, please consult your local Mitsubishi Electric representative.

In the CC-Link IE Field Network system, use Ver. 1.1 or later.

A network interface module is added to "Module List" in the window for setting the network configuration by profile registration to the engineering tool of the master station.

For registration of the profile, refer to the following.

GX Works3 Operating Manual

GX Works2 Version 1 Operating Manual (Common)

Supported Ethernet cable

Refer to the manual for the master module used.

Supported switching hub

Refer to the manual for the master module used.

7.2 Functions

This section describes the details on the functions only available in the CC-Link IE Field Network system.

For the common functions of the network interface modules available for CC-Link IE Field Network, refer to the following.

Communications using dedicated instructions

Data can be read/written by using the following dedicated instructions in the master station.

When the dedicated instruction is completed with an error, and D203H is stored in the completion status of the control data (s1), check the address and number of word points.

Classification	Dedicated instruction	Description
Read	RIRD	Reads data from the remote buffer memory in units of words. (Access code: 00H, attribute code: 05H)
Write	RIWT	Writes data to the remote buffer memory in units of words. (Access code: 00H, attribute code: 05H)

Precautions

For a single network interface module, do not execute multiple dedicated instructions at the same time. If multiple dedicated instructions are executed at the same time, the network interface module may be unable to receive the dedicated instructions and the dedicated instructions may time out.

7.3 Parameter Setting

Set parameters for the network interface module using the engineering tool connected to the master station.

To set parameters for a module other than the MELSEC iQ-R series in the master station, refer to the manual for the module used.

Slave station parameter processing

This processing writes the network interface module parameters to the network interface module directly from the engineering tool of the master station. (The parameters are saved in the non-volatile memory.)

Network configuration setting

Operating procedure

- 1. Open the "CC IE Field Configuration" window in the engineering tool of the master station.
- [Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Network Configuration Settings]. Double-click "Detail Setting".

For details on the network configuration settings, refer to the following.

2. Select the network interface module in "Module List" and drag and drop it to the list of stations or the network map.



- **3.** Set the following items for the network interface module displayed in the station list. For "RX/RY Setting" and "RWw/RWr Setting", set values within the range of link points. (🖙 Page 18 Ethernet Communication Specifications)
- "STA#": Same as the value of the IP address/station number setting switches
- "RX/RY Setting": Default value for "Points" (Change is available for "Start" and "End" as long as "Points" remains the same.)
- "RWw/RWr Setting": Default value for "Points" (Change is available for "Start" and "End" as long as "Points" remains the same.)
- **4.** Select the network interface module to set parameters for, and open the "Parameter Processing of Slave Station" window.

C Right-click the network interface module. ⇒ [Online] ⇒ [Parameter Processing of Slave Station]

5. Set "Method selection" in the "Parameter Processing of Slave Station" window to "Parameter write" and input values in the "Write Value" column.

The "Parameter Processing of Slave Station" window of the FA3-TH1T16XC is shown as an example.

arameter Processing of S	Slave Station							—		×
arget Module Information:	FA3-TH1T16XC Start I/O No.:000	0 - Station No	.:1							^ ~
1ethod selection:	Parameter write			The parameters are written to the target module.						
Davameter Information	Parameter read Parameter write									~
Farameter information				Clear	All " <u>R</u> ead	Value"		<u>C</u> lear All "Write	e Value"	
Select <u>A</u> ll	Cance <u>I</u> All Se	lections		Copy "Ini <u>t</u> ial	Value" to '	"Write Value"		Copy "Rea <u>d</u> Value" to	"Write Value"	
Name		Initial Value	Unit	Read Value	Unit	Write Value	Unit	Setting Range	Description	^
Moudle parameter										
🖂 📮 Input response	time setting									
Input respons	e time setting	1ms							By setting th	
Module control data										
🖂 📮 Relay ON count	function									
- X0 relay ON o	ount threshold	Disable							Set valid / in	
- X0 relay ON o	ount threshold	0	Count		Count		Count	0 to 4294967295	Set the thre	
- X1 relay ON o	ount threshold	Disable							Set valid / in	
- X1 relay ON o	ount threshold	0	Count		Count		Count	0 to 4294967295	Set the thre	
1 10 1 01									C	
Process Option		т	here is n	o option in the s	elected pr	ocess.				
-The refreshed device val -Accesses the PLC CPU by -Process is executed acco -For information on items	ues of remote I/O v using the current rding to the param not displayed on t when succeed to w	or remote reg connection de neters written he screen, ple rite garamete	isters ma stination in the PL ase refe r	y be overwritten Please check if C CPU. to the Operatin	n. there is a g Manual.	ny problem with	the conne	ection destination. Execute Paramet	er Processing	~
Import		Export						ок	Cancel	

To save the parameter setting values in a CSV file, click the [Export] button.

To read the parameter setting values from a CSV file, click the [Import] button.

- 6. Click the [Execute Parameter Processing] button.
- 7. Follow the on-screen instructions and click the [Yes] button.
- 8. Click [OK] to close the "Parameter Processing of Slave Station" window.
- 9. Click [Close with Reflecting the Setting] to close the "CC IE Field Configuration" window.

Point P

The parameters are enabled right after the above procedure is complete.

The data saved in the remote buffer memory is saved in the non-volatile memory either automatically or by turning on and off Initial data setting request flag (RY9). (I Page 52 Saving data in the non-volatile memory)

Precautions

Even improper parameters are saved in the non-volatile memory. If the module is powered on or reset in this state, the improper parameters are read from the non-volatile memory and an error occurs. In that case, check the error code and take the corrective actions corresponding to the error code. (Page 300 How to check an error/alarm)

When changing the parameters

Refer to the following and replace "CC-Link IE TSN Configuration" window with "CC IE Field Configuration" window.

7.4 Programming

This section describes the programming of the network interface module.

When applying the program example provided in this section to an actual system, ensure the applicability and confirm that it will not cause system control problems.

This section describes an example of program in which the GX Works3 is used. For the programs in which engineering tools other than GX Works3, refer to the user's manual for the master module to be used.

Programming precautions

This section describes the precautions when creating programs using a MELSEC iQ-R series master module.

Cyclic transmission interlock program

For a cyclic transmission program, configure an interlock between the following link special relay (SB) and the link special register (SW) so that the process is executed while the cyclic transmission is normally performed between the master station and slave station.

- SB0049: Data link error status of the own station (master station)
- SW00B0.0: Data link status (each station) (station number 1)
- SW00B0.1: Data link status (each station) (station number 2)

Der's manual for the master station used

Ex.

SB49	SWOED.0	-Емс	N0	M0	3
(1)					
			—[мск	N0	3
SB49	SW0E0.1	—[мс	N1	M1	3
(2)					
			[мск	N1	3

(1) Program for communications with station number 1

(2) Program for communications with station number 2

7

Example of digital I/O

The following shows an example of the program to turn on/off lamps when the push button switch is turned on/off in the CC-Link IE Field Network system.

System configuration



No.	Description	Model	Name	Remarks
(1)	Master station	R62P	Power supply module	-
		R04CPU	CPU module	-
		RJ71GF11-T2	CC-Link IE Field Network master/local module	Start I/O number: 0000H to 001FH
		RX40C7	DC input module (positive/negative common shared type)	Start I/O number: 0020H to 002FH
(6)		—	Error clear switch	X20
(2)	Remote device FA3-TH1T16XC station		Network interface module (digital input)	IP address/station number setting switch: 1
(3)	(station number 1)	FA-TH16XRA20S	Digital signal converter (input type)	SP Page 16 Network interface module (digital input/output)
(7)		—	Push button switch	X1000
(4)	Remote device FA3-TH1T16Y station		Network interface module (digital output)	IP address/station number setting switch: 2
(5)	(station number 2)	FA-TH16YRA11	Digital signal converter (output type)	Series Page 16 Network interface module (digital input/output)
(8)		_	Light	Y1010

Assignment of devices



(1) Master station

(2) Remote device station (station number 1)

(3) Remote device station (station number 2)

(4) CPU module

(5) CC-Link IE Field Network master/local module

(6) Network interface module (digital input)

(7) Network interface module (digital output)

Parameter setting

Connect an engineering tool to the CPU module of the master station and create a project.

- **1.** Set the CPU module in the following window.
- ∛ [Project] ⇒ [New]

New		×
<u>S</u> eries	🐗 RCPU	~
<u>Т</u> уре	12 R04	~
Program Language	N Ladder	v l
r rogram zangaage	Eddaci	
	ОК	Cancel

- **2.** Set the master/local module in the following window.
- [Navigation window] ⇒ [Parameter] ⇒ Right-click [Module Information] ⇒ [Add New Module]

Add New Module			×
FIND		EIND	
Module Selection			
Module Type	le	-	
Module Name	RJ71GN11-T2		-
Station Type	Master Station		-
Advanced Settings			
Mounting Position			
Mounting Base	Main Base		
Mounting Slot No.	0	-	
Start I/O No. Specification	Not Set		-
Start I/O No.	0000 H		
Number of Occupied Points per 1	32 Points		
Station Type			
Select station type.			
	ОК	Cancel	

3. Configure the settings on the "CC IE Field Configuration" window as follows. (Page 179 Slave station parameter processing)

8	CC IE I	Field (Configuration (St	art I/O:	0000)								—		×		
i co	<u>I</u> E Fie	ld Cor	nfiguration <u>E</u> di	t <u>V</u> iew	Tool Close with Disc	cardi <u>ng</u> t	the Setti	ing Clo	se with	<u>R</u> eflecti	ng the S	etting					
	Detect Now Module List										Module List			×			
	Mode :	Setting	Online (Standard	Mode)	 <u>A</u>ssignmen 	t Start/E	nd 🗸		Link Sca	an Time	0.72	CC IE Field Selection Find Module My Favorites					
		No.	Model Name	STA#	Station Type	RX,	/RY Setti	ng	RWw	/RWr Se	tting	〒乳↓ 〒 = ☆ ☆ ☆					
V		0	Lest Ctation	0	Master Ctation	Points	Start	End	Points	Start	End	General CC IE Field Module					
		1	FA3-TH1T16YC	1	Remote Device Station	16	0000	0005	16	0000	000F	CC IE Field Module (Mitsubishi Electric Corporation)					
		2	FA3-TH1T16Y	2	Remote Device Station	16	0010	001F	16	0010	001F	CC IE Field Module (Mitsubishi Electric Er	ngineerir	ng Co.,	Ltd.)		
	<			-					_		>	Analog Input					
		_	STA#1 STA	#2													
												THIT IS C	16 poir	nts			
自局	3			i								B DC Output	10 000				
			우리 우리	3								FA3-TH1T16Y	16 poir	nts			
ST	A#0	Mas	3									FA3-TH1T16YE	16 poir	nts			
To	tal ST	A#:															
2	o/Star		FA3-TH1 FA3-T	FH1 SY													
	iej Stai		(>						
Su	melac	entary	Information									2			×		
;				1.	101 I I I I I I I I I I I I I I I I I I			_									
Plea	resh d ase ref	fer to t	that are assignent the following supp	ea to m plement	ary information for the o	appear i levice ra	n iight bl inge	ue.									
	Suppler	menta	rv												_		
I	nform	ation:															
	Suppl	emen	tary Information		lutput												

4. Open the refresh parameter setting window and set as follows.

(Refresh Settings) (Refresh Settings) (Terresh Settings) (Refresh Set

No			Link Side				CPU Side							
INU.	Device Nam	e	Points	Start	End		Target		Device Name		Points	Start	End	
-	SB	\sim	512	00000	001 FF	- 🗰 -	Specify Device	\sim	SB	\sim	512	00000	001 FF	
-	SW	\sim	512	00000	001 FF	- 🗰 -	Specify Device	\sim	SW	\sim	512	00000	001 FF	
1	RX	\sim	32	00000	0001 F	- 🗰 -	Specify Device	\sim	Х	\sim	32	01 000	01 01 F	
2	RY	\sim	32	00000	0001 F	- 🗰 -	Specify Device	\sim	Υ	\sim	32	01 000	01 01 F	
3	RWr	\sim	32	00000	0001 F	- 🗰 -	Specify Device	\sim	W	\sim	32	01 000	01 01 F	
4	RWw	\sim	32	00000	0001 F	- 🗰 -	Specify Device	\sim	W	\sim	32	01100	0111F	

- **5.** Click the [Apply] button.
- **6.** Write the set parameters to the CPU module of the master station and reset the CPU module of the master station, or power on the programmable controller.
- ∑ [Online] ⇔ [Write to PLC]
- **7.** Set the CPU module of the master station to RUN, and check that the D LINK LED of the network interface module is turned on.

Point P

In the program example, the default settings are used for parameters other than the above.

Program example

Devices to be used

Device	Description										
X1000	RX0 input signal (push button switch) of the remote device station (station number 1)	FA3-TH1T16XC (RX0 to RXF)									
Y1010	RY0 output signal (lamp) of the remote device station (station number 2)	FA3-TH1T16Y (RY0 to RYF)									
X20	Error clear switch	Input module (X20 to X2F)									
D100	atest error code (station number 1)										
D101	_atest alarm code (station number 1)										
D102	Latest error code (station number 2)										
D103	atest alarm code (station number 2)										
M0	Vaster control contacts										
N0	Nesting										
SB49	Data link error status of the own station (master station)										
SM400	Always ON										
SW0B0.0	Data link status of the remote device station (station number 1)										
SW0B0.1	Data link status of the remote device station (station number 2)										
W1000	Latest error code (station number 1) (device to be written by link refresh)										
W1001	Latest alarm code (station number 1) (device to be written by link refresh)										
W1010	Latest error code (station number 2) (device to be written by link refresh)										
W1011	Latest alarm code (station number 2) (device to be written by link refresh)										
W1100.A	Error clear request flag (station number 1)										
W1110.A	Error clear request flag (station number 2)										



(0) Data link status of the remote device station (station number 1 and 2) is checked.

(5) When RX0 of the remote device station (station number 1) is on, RY0 of the remote device station (station number 2) is turned on.

(7) The latest error code and latest alarm code are read.

(16), (19) The latest error code and latest alarm code are cleared.

Program example for A/D conversion

This section shows an example of the program to perform A/D conversion using the FA3-AT1T8X and FA3-AT1T8Y.

System configuration







(4)

No.	Station name	Model	Name	Remarks		
(1)	Master station	R62P	Power supply module	—		
		R04CPU	CPU module	—		
		RJ71GF11-T2	CC-Link IE Field Network master/local module	Start I/O number: 0000H to 001FH		
		RX40C7	DC input module (positive/negative common shared type)	Start I/O number: 0020H to 002FH		
(6)		—	Remote device station (station number 1) digital operation value read command	X20		
(7)		—	Remote device station (station number 1) error clear command	X21		
(8)		—	Remote device station (station number 1) maximum value/ minimum value read command	X22		
(9)		—	Remote device station (station number 1) maximum value/ minimum value reset command	X23		
(10)		—	Remote device station (station number 2) digital value write command	X24		
(11)		—	Remote device station (station number 2) batch analog output enable command	X25		
(12)		—	Remote device station (station number 2) error clear command	X26		
(2)	Remote device station	FA3-AT1T8X	Network interface module (analog input)	IP address/station number setting switches: 1		
(3)	(station number 1)	FA-ATSVM1XV05	Analog signal converter (input type)	Page 16 Network interface module (digital input/output)		
(13)		—	Thermocouple	AD		
(4)	Remote device station FA3-AT1T8Y (station number 2) FA-ATSVM1YV010		Network interface module (analog output)	IP address/station number setting switches: 2		
(5)			Analog signal converter (output type)	SP Page 16 Network interface module (digital input/output)		
(14)			Motor controller	DA		

Assignment of devices



(1) Master station

(2) Remote device station (station number 1)

(3) Remote device station (station number 2)

(4) CPU module

(5) CC-Link IE Field Network master/local module

(6) Network interface module (analog input)

(7) Network interface module (analog output)

7

Parameter setting

- 1. Configure the settings for the CPU module in the same way as the example for digital I/O. (Page 184 Parameter setting)
- 2. Configure the settings for the master/local module in the same way as the example for digital I/O. (SP Page 184 Parameter setting)
- **3.** Configure the settings on the "CC IE Field Configuration" window as follows. (Page 179 Slave station parameter processing)

8	😫 CC IE Field Configuration (Start I/O: 0000) — 🗆 🗙																	
i co	C <u>I</u> E Fie	ld Cor	figuration	<u>E</u> dit <u>V</u>	iew <u>T</u> ool Close with	Discardi	ing the S	Setting	Close w	/ith <u>R</u> ef	lecting th	Setting						
		Det	tect Now									Module List			×			
	Mode S	Setting:	Online (Stan	dard Mode	e) v <u>A</u> ssign	ment Sta	art/End	\sim	Lin	k Scan T	ime 0.7	CC IE Field Selection Find Module My Favorites						
		No.	Model Nam	e STA#	Station Type	RX,	RY Setti	ng	RWw	/RWr Se	etting							
		0	Host Station	ion 0	Mactor Station	Points	Start	End	Points	Start	End	General CC IE Field Module						
		1	FA3-AT1T8	X 1	Remote Device Station	32	0000	001F	32	0000	001F	CC IE Field Module (Mitsubishi Electric Co	rporatio	on)				
		2	FA3-AT1T8	Y 2	Remote Device Station	32	0020	003F	32	0020	003F	CC IE Field Module (Mitsubishi Electric En CC IE Field Module (Mitsubishi Electric En	gineerii	ıg Co.,	Ltd.)			
	<								_		>		9 chan	oola				
		_	STA#1	STA#2									o Chan	leis				
												FA3-AT1T8Y	8 chan	nels				
自見	3		Ē۵	ĒD								DC Input						
			R 🗆	H D								DC Output						
S	A#0	Mas		8														
Te	r otal ST.	A#:																
2	oo/Star	I	FA3-AT1 F	A3-AT1														
	ic _i stai	4	(>							

4. Set "Method selection" in the "Parameter Processing of Slave Station" window to "Parameter write".

Parameter Processing of Slave Station — — — X											
arget M	Iodule Information:	FA3-AT1T8X Start I/O No.:000	0 - Station No.:1								^ ~
ethod s	election:	Parameter write			✓ The parar	neters a	re written to the	target	module.		~
		Parameter read									~
Parar	meter Information	Tarameter write									
					Clear All "Read Value" Clear All "Write				l "Write Value"		
	Select <u>A</u> ll	Cancel All Se	lections		Copy "Ini <u>t</u> ial Value" to "Write Value"				Copy "Rea <u>d</u> Value" to "Write Value"		
	Name		Initial Value	Unit	Read Value	Unit	Write Value	Unit	Setting Range	Description	^
Mou	udle parameter										
	A/D conversion	enable/disable									
	- CH1 A/D con	version enable/	Enable							Set whether to	e
	CH2 A/D con	version enable/	Enable							Set whether to	e
	- CH3 A/D con	version enable/	Enable							Set whether to	е
	CH4 A/D con	version enable/	Enable							Set whether to	е
	CH5 A/D con	version enable/	Enable							Set whether to	e
	CH6 A/D con	version enable/	Enable							Set whether to	e
	CH7 A/D con	version enable/	Enable	<u> </u>						Set whether to	е.,
	0110 1/0									· · · · · ·	- ×
										,	·
Proce	ess Option		The	re is n	o option in the s	elected	process.				
-The refreshed device values of remote I/O or remote registers may be overwritten. -Accesses the PLC CPU by using the current connection destination. Please check if there is any problem with the connection destination. -Process is executed according to the parameters written in the PLC CPU. -For information on items not displayed on the screen, please refer to the Operating Manual.									~		
Ena	Enable safety module when succeed to write parameter Execute Parameter Processing								I		
				_							

Click [Copy "Read Value" to "Write Value"] button and change "Write value" as follows.

Target device information	Name	Write value		
FA3-AT1T8X	CH1 A/D conversion enable/disable setting	Enable		
Start I/O No.: 0000 - station number: 1	CH2 A/D conversion enable/disable setting	Enable		
	CH3 A/D conversion enable/disable setting	Enable		
	CH4 A/D conversion enable/disable setting	Enable		
	CH7 A/D conversion enable/disable setting	Enable		
	CH8 A/D conversion enable/disable setting	Enable		
	CH1 Input signal error detection setting	Input signal error detection		
	CH3 Input signal error detection setting	Input signal error detection		
	CH2 Warning output setting	Enable		
	CH2 Process alarm upper upper limit value	15000		
	CH2 Process alarm upper lower limit value	14000		
	CH2 Process alarm lower upper limit value	2000		
	CH2 Process alarm lower lower limit value	-10		
FA3-AT1T8Y (station number 2)	CH1 D/A conversion enable/disable setting	Enable		
Start I/O No.: 0000 - station number: 2	CH2 D/A conversion enable/disable setting	Enable		
	CH3 D/A conversion enable/disable setting	Enable		
	CH4 D/A conversion enable/disable setting	Enable		
	CH7 D/A conversion enable/disable setting	Enable		
	CH8 D/A conversion enable/disable setting	Enable		
	CH2 Warning output setting	Enable		
	CH2 Warning output upper limit value	15000		
	CH2 Warning output lower limit value	-10		

5. Open the refresh parameter setting window and set as follows.

(Refresh Settings) ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Refresh Settings]

No	Link Side					CPU Side							
INU.	Device Name		Points	Start	End		Target		Device Name		Points	Start	End
-	SB	×	512	00000	001 FF	- 🗰 -	Specify Devi	\sim	SB	\sim	512	00000	001 FF
-	SW	\sim	512	00000	001 FF	- 🗰 -	Specify Devi	\sim	SW	\sim	512	00000	001 FF
1	RX	\sim	64	00000	0003F	- 🗰 -	Specify Devi	\sim	Х	\sim	64	01 000	01 03 F
2	RY	\sim	64	00000	0003F	- 🗰 -	Specify Devi	\sim	Y	\sim	64	01 000	01 03 F
3	RWr	\sim	64	00000	0003F	- 🗰 -	Specify Devi	\sim	W	\sim	64	01 000	01 03 F
4	RWw	\sim	64	00000	0003F	- 🖶 -	Specify Devi	\sim	W	\sim	64	01100	0113F

6. Click the [Apply] button.

7. Write the set parameters to the CPU module of the master station and reset the CPU module of the master station, or power on the programmable controller.

♥ [Online] ⇒ [Write to PLC]

8. Set the CPU module of the master station to RUN, and check that the D LINK LED of the network interface module is turned on.

Point P

In the program example, the default settings are used for parameters other than the above.

Program example

Devices to be used

Device	Description	Module		
X20	Digital operation value read command	RX40C7 (X20 to X2F)		
X21	Error clear command			
X22	Maximum value/minimum value read command			
X23	Maximum value/minimum value reset command			
X1009	Initial data setting completion flag	FA3-AT1T8X (RX0 to RX1F)		
X100A	Error status flag			
X100B	Remote READY			
X1010	CH1 A/D conversion completion flag			
X1011	CH2 A/D conversion completion flag			
X1012	CH3 A/D conversion completion flag			
X1013	CH4 A/D conversion completion flag			
X1016	CH7 A/D conversion completion flag			
X1017	CH8 A/D conversion completion flag			
X1018	Warning output signal			
X101C	Input signal error detection signal			
X101D	Maximum value/minimum value reset completed			
	flag			
Y1009	Initial data setting request flag	FA3-AT1T8X (RY0 to RY1F)		
Y100A	Error clear request flag			
Y101D	Maximum value/minimum value reset request			
W1000	Latest error code	FA3-AT1T8X (RWr0 to RWr1F)		
W1001	Latest alarm code			
W1002	CH1 Digital operation value			
W1003	CH2 Digital operation value			
W1004	CH3 Digital operation value			
W1005	CH4 Digital operation value			
W1008	CH7 Digital operation value			
W1009	CH8 Digital operation value			
W100A	Input signal error detection flag			
W100B	Warning output flag			
D2000	Initial processing execution status			
D2010	RIRD/RIWT instruction control data completion statu	IS		
D2011	RIRD/RIWT instruction control data target station nu	mber		
D2012	RIRD/RIWT instruction control data access code/attr	ibute code		
D2013	RIRD/RIWT instruction control data device number			
D2014	RIRD/RIWT instruction control data number of read/	write points		
D2020	RIWT instruction write data [0]			
D2021	RIWT instruction write data [1]			
D2022	RIWT instruction write data [2]			
D2023	RIWT instruction write data [3]			
D2032	CH1 Device for storing digital operation value			
D2033	CH2 Device for storing digital operation value			
D2034	CH3 Device for storing digital operation value			
D2035	CH4 Device for storing digital operation value			
D2038	CH7 Device for storing digital operation value			
D2039	CH8 Device for storing digital operation value			
D2040	CH1 Device for storing maximum value			
D2041	CH1 Device for storing minimum value			
D2042	CH2 Device for storing maximum value			
D2043	CH2 Device for storing minimum value			

Device	Description	Module			
D2044	CH3 Device for storing maximum value				
D2045	CH3 Device for storing minimum value				
D2046	CH4 Device for storing maximum value				
D2047	CH4 Device for storing minimum value				
D2052	CH7 Device for storing maximum value				
D2053	CH7 Device for storing minimum value				
D2054	CH8 Device for storing maximum value				
D2055	CH8 Device for storing minimum value				
D2060	Device for storing the latest error code				
D2061	Device for storing the latest alarm code				
D2062	Device for storing Input signal error detection flag				
D2063	Device for storing Warning output flag				
MO	Communication ready flag				
M300	Initial setting completion flag				
M310	RIWT instruction completion flag				
M311	RIWT instruction abnormal completion flag				
M320	Maximum value/minimum value read flag				
M330	RIRD instruction completion flag				
M331	RIRD instruction abnormal completion flag				
F1	Initial setting failure				
F2	CH2 Warning output upper limit occurrence				
F3	CH2 Warning output lower limit occurrence				
F4	CH1 Disconnection occurrence				
F5	CH3 Disconnection occurrence				
F6	Maximum value/minimum value read failure				
SM400	Always ON				
SB47	Baton pass status of the own station (master station)				
SB49	Data link error status of the own station (master station)				
SW0A0.0	Baton pass status of the remote device station (station number 1)				
SW0B0.0	Data link status of the remote device station (station	number 1)			
NO	Nesting				







(0) Data link status of the remote device station (station number 1) is checked.

(4), (12) Initial processing

(125) The digital operation value is read.

- (154) Input signal error detection flag and Warning output flag are detected.
- (160) The latest alarm code is read.
- (165), (169) Processing at warning occurrence
- (172), (176) The processing at input signal error occurrence is performed.
- (179), (190), (201) The maximum and minimum values are read.
- (210), (214) The maximum and minimum values are reset.

(217) The latest error code is read.

(221), (225) The latest error code and latest alarm code are cleared.

Program example for D/A Conversion

This section shows an example of the program to perform D/A conversion using the FA3-AT1T8X and FA3-AT1T8Y.

System configuration

Page 188 System configuration

Assignment of devices

Page 189 Assignment of devices

Parameter setting

Page 190 Parameter setting

Program example

Devices to be used

Device	Description	Module				
X24	Digital value write command	RX40C7 (X20 to X2F)				
X25	Batch analog output enable command	1				
X26	Warning output clear command					
X27	Error clear command					
X1029	Initial data setting completion flag	FA3-AT1T8Y (RX0 to RX1F)				
X102A	Error status flag					
X102B	Remote READY					
X103E	Warning output signal					
Y1029	Initial data setting request flag	FA3-AT1T8Y (RY0 to RY1F)				
Y102A	Error clear request flag					
Y1030	CH1 Output enable/disable flag					
Y1031	CH2 Output enable/disable flag					
Y1032	CH3 Output enable/disable flag					
Y1033	CH4 Output enable/disable flag					
Y1036	CH7 Output enable/disable flag					
Y1037	CH8 Output enable/disable flag					
W1122	CH1 Digital value	FA3-AT1T8Y (RWw0 to RWw1F)				
W1123	CH2 Digital value					
W1124	CH3 Digital value					
W1125	CH4 Digital value					
W1128	CH7 Digital value					
W1129	CH8 Digital value					
W1020	Latest error code	FA3-AT1T8Y (RWr0 to RWr1F)				
W1021	Latest alarm code					
W1022	CH1 Set value check code					
W1023	CH2 Set value check code					
W1024	CH3 Set value check code					
W1025	CH4 Set value check code					
W1028	CH7 Set value check code					
W1029	CH8 Set value check code]				
W102A	Warning output flag					
D3000	Initial processing execution status					
D3010	RIWT instruction control data (completion status)					
D3011	RIWT instruction control data (target station number)					
D3012	RIWT instruction control data (access code/attribute code)					
D3013	RIWT instruction control data (device number)					

Device	Description	Module
D3014	RIWT instruction control data (number of write points)	
D3020	RIWT instruction write data [0]	
D3021	RIWT instruction write data [1]	
D3032	CH1 Device for storing digital value	
D3033	CH2 Device for storing digital value	
D3034	CH3 Device for storing digital value	
D3035	CH4 Device for storing digital value	
D3038	CH7 Device for storing digital value	
D3039	CH8 Device for storing digital value	
D3100	Device for storing the latest error code	
D3110	Device for storing Warning output flag	
D3120	Device for storing the latest alarm code	
D3130	CH1 Device for storing set value check code	
D3131	CH2 Device for storing set value check code	
D3132	CH3 Device for storing set value check code	
D3133	CH4 Device for storing set value check code	
D3136	CH7 Device for storing set value check code	
D3137	CH8 Device for storing set value check code	
M1	Communication ready flag	
M400	Initial setting completion flag	
M410	RIWT instruction completion flag	
M411	RIWT instruction abnormal completion flag	
F10	Initial setting failure	
F11	CH2 Upper limit warning occurrence	
F12	CH2 Lower limit warning occurrence	
SM400	Always ON	
SM402	On only for 1 scan after RUN	
SB47	Baton pass status of the own station (master station)	
SB49	Data link error status of the own station (master station)	
SW0A0.1	Baton pass status of the remote device station (station number 2)	
SW0B0.1	Data link status of the remote device station (station number 2)	
N1	Nesting	
SB49	SW0B0 1	





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(0) Data link status of the remote device station (station number 2) is checked.

(5), (12) Initial processing

(117) A digital value is written.

(134) The output of the D/A conversion value is allowed.

(144) Detection processing for Warning output flag and Set value check code is performed.

(160) The latest alarm code is read.

(164), (168) The processing to be performed when a CH2 warning occurs is performed.

(171) The latest error code is read.

(175), (184) The latest error code and latest alarm code are cleared.