6 COMMUNICATIONS USING CC-LINK IE TSN

CC-Link IE TSN communications can be used by setting the network setting switches of the network interface module to CC-Link IE TSN. (S Page 77 Network mode setting)

6.1 CC-Link IE TSN System



(1) Master station (master module for CC-Link IE TSN)

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

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

For details on the system configuration of CC-Link IE TSN, refer to the user's manual for the master module to be used.

6.2 Parameter Setting

The following methods are available for setting parameters of the network interface module.

- SP Page 142 Slave station parameter automatic setting
- 🖙 Page 148 Slave station parameter processing

Point P

Before setting the parameters of the slave station using an engineering tool, refer to the manuals for the master station and the engineering tool.

Restrictions when parameters are set

There are some restrictions when parameters for the network interface module are set in the master station.

Basic settings

Set the items shown below according to the setting details.

Item		Setting details
Network configuration setting	Network synchronous communication setting	Asynchronous
	Communication period setting	Basic cycle
Network topology setting		Line topology, star topology, or mixture of star topology and line topology
Communication cycle setting	Communication cycle interval setting (Not set in units of $1\mu s$)	Either 250µs, 500µs, 1000µs, 2000µs, 4000µs, or 8000µs
	Communication cycle interval setting (Set in units of $1\mu s)$	250.00μs or more and 8000.00μs or less

Application settings

Set the items shown below according to the setting details.

Item	Setting details
Communication mode	Unicast or multicast

Slave station parameter automatic setting

The parameters are automatically set in the network interface module from the master station when the network interface module joins the network.

Write the parameters of the network interface module, which are used for the slave station parameter automatic setting, to the CPU module and save them in the CPU built-in memory or SD memory card.

The network interface module starts data link with the master station after slave station parameters are automatically set. Even if parameters enabled by turning on Initial data setting request flag (RY9) are included, the operating is not required.

Point P

To use parameters saved in an SD memory card for the CPU module, in "Setting of File/Data Use or Not in Memory Card" of "Memory Card Parameter" of the CPU module, set "Slave Station Parameter" to "Use".

Network configuration setting

Operating procedure

- **1.** Open the "CC-Link IE TSN 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".
- 2. Select the network interface module in "Module List" and drag and drop it to the list of stations or the network map.



3. Select the "Parameter Automatic Setting" checkbox.

	Ne	Madal Nama	CTA#	Chatian Turne	RX Setting	RY Setting	RWr Setting	RWw Setting	Param	eter Automatic Setting
	NO.	Model Name	STA#	Station Type	Points	Points	Points	Points		
838	0	Host Station	0	Master Station						
	1	FA3-TH1T16XC	1	Remote Station	16	16	16	16	\checkmark	<detail setting=""></detail>

- **4.** Double-click "Detail Setting" beside the "Parameter Automatic Setting" checkbox to open the "Parameter of Slave Station" window. (SP Page 152 "Parameter of Slave Station" window)
- 5. Check that "Method selection" is set to "Parameter auto-setting".

6. Double-click the item to be set, and enter the setting value.

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.

Parameter of Slave	e Station							—	
Farget Module Infor	rmation: FA3-TH1T16XC Start I/O No.:0	000 - Station N	o.:1						^ V
Method selection:	Parameter auto-setting	~	Set t	ne parameters th	nat suppo	ort parameter auto-set	ting.		^
Parameter Info	rmation			Clear A	ll " <u>R</u> ead \	/alue"	<u>C</u> lear	All "Write Value/Se	tting Value"
Select <u>A</u>	U Cancel All Se	ections	Сору	"Ini <u>t</u> ial Value" to	Write V	alue/Setting Value*	Copy "Read	Value" to "Write Va	lue/Setting Value"
Name		Initial Value	Unit	Read Value	Unit	Write Value/Setting	Unit	Setting Range	Descriptior 🔺
Input r	esponse time setting it response time setting ON count function	1ms				1	ms		By setting
X0 r	elay ON count threshol elay ON count threshol	Disable 0	Count		Count	Disa	ole 0 Count	0 to 4294967295	Set valid / Set the thr
X1 r X1 r	relay ON count threshol relay ON count threshol relay ON count threshol	Disable 0 Disable	Count		Count	Disa Disa	ole 0 Count ble	0 to 4294967295	Set valid / Set the thr Set valid /
	elay ON count threshol elay ON count threshol	0 Disable	Count		Count	Enable	0 Count	0 to 4294967295	Set the thr Set valid /
	relay ON count threshol relay ON count threshol	0 Disable	Count		Count	Disable Enable	Count	0 to 4294967295	Set the thr Set valid /
Process Option							_		>
			There	is no option in th	ie selecte	ed process.			
The value set in - For information	write value/setting value i n on items not displayed or	s set to slave s the screen, pla	tation au ease refe	tomatically by S er to the Operati	ave Stat ing Manu	ion Parameter Automa al.	tic Setting fu	nction.	^
									~
Enable safety	y module when succeed to	write <u>p</u> aramete	r					E <u>x</u> ecute Parameter	Processing
Impor	t	Export				Close with Discardin	g the Setting	Close with Ref	ecting the Setting

- 7. Click the [Close with Reflecting the Setting] button to close the "Parameter of Slave Station" window.
- 8. Select [Close with Reflecting the Setting] to close the "CC-Link IE TSN Configuration" window.
- 9. Set the refresh parameters in "Refresh Settings".
- (Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Refresh Settings]. Doubleclick "Detail Setting".
- **10.** Click the [Apply] button.
- **11.** Display the "Online Data Operation" window.
- ∑ [Online] ⇒ [Write to PLC]
- 12. Select the checkbox for "Slave Device Setting" in "CC-Link IE TSN Configuration".

🖶 🛃 CC-Link IE TSN Configuration			
Slave Device Setting	✓		Detail

Precautions

- Check that the "Parameter Automatic Setting" checkbox for the slave station is selected in the "CC-Link IE TSN Configuration" window.
- Check that the IP address of the slave station set in the "CC-Link IE TSN Configuration" window matches the IP address of the actual slave station.
- If the communication speed differs between the master station and the station for which slave station parameter automatic setting is configured, the setting may result in an error. In this case, check if the communication speed matches.

13. Click the [Detail] button for "Slave Device Setting" to display the "CC-Link IE TSN Configuration - Slave Device Setting" window.

14. Check that the checkbox for the write target network interface module is selected. Select the checkbox if not selected.

Write Target Select All Start XY Station No./ID IP Address Last Change Size (Byte) ✓ 0000 1 192.168.3.1	-Link IE TSN	N Configuration - S	Slave Device Setting				×
Target Device Select All Deselect All Start XY Station No./ID IP Address Last Change Size (Byte) Ø 0000 1 192.168.3.1 - Not Calculated	Write Target						
Select All Deselect All Start XY Station No./ID IP Address Last Change Size (Byte) ✓ 0000 1 192.168.3.1 - Not Calculated	Target 0	Device					
Start XY Station No./ID IP Address Last Change Size (Byte) 0000 1 192.168.3.1 - Not Calculated		<u>S</u> elect All	<u>D</u> eselect All				
☑ 0000 1 192.168.3.1 - Not Calculated		Start XY	Station No./ID	IP Address	Last Change	Size (Byte)	
		0000	1	192.168.3.1	-	Not Calculated	
Slave devices in which Parameter Auto-setting has been checked are shown in Target Device list. (Even if Parameter Auto-setting has been checked, slave devices in which parameter setting has not been set or in which unsupported parameter setting has been included are not shown) To allocate parameters for each slave devices, please set them from master station ([Basic Setting] - [Network Configuration Settings]).	Slave devi (Even if Pa setting has To allocate	ices in which Parameter arameter Auto-setting h s been included are not e parameters for each :	r Auto-setting has been che has been checked, slave de shown) slave devices, please set t	cked are shown in Target D vices in which parameter se hem from master station ([E	evice list. tting has not been set or in whic lasic Setting] - [Network Configur	h unsupported parameter ation Settings]).	
For the slave device in which Parameter Auto-setting has not been set, please execute parameter processing through [Parameter of Slave Station] from the Shortcut menu of the slave device through [Network Configuration Settings].	For the sla the Shorto	ave device in which Pa ut menu of the slave d	rameter Auto-setting has n Jevice through [Network Co	ot been set, please execute nfiguration Settings].	parameter processing through [Pa	arameter of Slave Station] fro	m
OK Cancel						OK Can	cel

Point P

In the "CC-Link IE TSN Configuration - Slave Device Setting" window, only the slave stations whose "Parameter Automatic Setting" checkbox is selected are displayed.

- 15. Click the [OK] button to close the "CC-Link IE TSN Configuration Slave Device Setting" window.
- **16.** Write the set parameters to the CPU module of the master station and reset the CPU module of the master station, or turn off and on the power supply of the programmable controller.
- **17.** 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

The parameter automatic setting status can be checked in Parameter automatic setting status monitor (remote buffer memory: 3B90H).

Precautions

- Set all the items for the parameter. If any item is left blank, the "Parameter of Slave Station" window cannot be closed.
- Set parameters in the "Parameter of Slave Station" window for each slave station whose "Parameter Automatic Setting" checkbox is selected.
- When the slave station parameter automatic setting is completed with an error, data link is not started. For stations whose slave station parameter automatic setting is completed with an error, Slave station parameter automatic setting function execution result (SW0160 to SW0167) of the master station turns on. To start a data link, check Slave station parameter automatic setting execution result details (SW0194) and the event history of the master/local module, and take the corrective actions corresponding to the stored error code.
- When the slave station parameter processing is executed with the slave station parameter automatic setting enabled, the network interface module operates with the parameters set by the slave station parameter processing. However, if the network interface module is powered on or reset, the module parameter settings are changed by the slave station parameter automatic setting function. Then the module operates with the changed parameters.

When changing the parameters

Operating procedure

- 1. Display the "Online Data Operation" window.
- \bigcirc [Online] \Rightarrow [Read from PLC]
- 2. Select the read source "Slave Device Setting" checkbox.

🖃 🛃 CC-Link IE TSN Configuration	✓	
Slave Device Setting	✓	Detail

3. Click the [Detail] button for "Slave Device Setting" to display the "CC-Link IE TSN Configuration - Slave Device Setting" window.

4. Check that the checkbox for the read target network interface module is selected.

Select the checkbox if not selected. All checkboxes are selected by default.

CC-Link	IE TSN	Configuration -	Slave Device Setting				
Read	Target						
	arget D		Developed All				
		Delect All	Deselect All				
		Start XY	Station No./ID	IP Address	Last Change	Size (Byte)	
		0000	1	192.168.3.1	2021/03/09 14:57:58	178	
Sla	ve devi	res stored in CPU mo	dule/Drive are shown in Tarr	et Device list.			
En	the ele	ve device in which P	arameter Auto-setting has a	ot been set plasse everyte	parameter processing through [Pa	ramater of Slave Station] fr	
the	Shortcu	it menu of the slave	device through [Network Co	nfiguration Settings].	parameter processing through (Pa	nameter or plave station in	om
						ОК Са	ncel

- 5. Click the [OK] button to close the "CC-Link IE TSN Configuration Slave Device Setting" window.
- 6. Click the [Execute] button to read the parameters from the CPU module.
- 7. Open the "CC-Link IE TSN Configuration" window.
- (Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Network Configuration Settings]. Double-click "Detail Setting".

8. Double-click "Detail Setting" beside the "Parameter Automatic Setting" checkbox to open the "Parameter of Slave Station" window.

	Ne	Madal Nama	CTA#	Chatian Turne	RX Setting	RY Setting	RWr Setting	RWw Setting	Paramet	er Automatic Setting
	NO.	Model Name	STA#	Station Type	Points	Points	Points	Points		
-	0	Host Station	0	Master Station						
	1	FA3-TH1T16XC	1	Remote Station	16	16	16	16	\checkmark	<detail setting=""></detail>

9. Check that "Method selection" is set to "Parameter auto-setting".

10. Select the items to be changed, and set new values.

arameter of Slave Station									
arget Module Information: FA3-TH1T1 Start I/O N	5XC 5.:0000 - Station N	lo.:1							^ ~
lethod selection: Parameter auto-settin	g ×	/ Set t	he parameters t	hat suppo	ort parameter auto-set	ting.			^ ~
Parameter Information			Clear A	\ " <u>R</u> ead \	/alue"	<u>C</u> lear	All "Write Value/Se	tting Value"	
Select <u>A</u> ll Cancel Al	Selections	Сору	"Ini <u>t</u> ial Value" t	o "Write V	'alue/Setting Value"	Copy "Read	Value" to "Write Va	lue/Setting V	alue"
Name	Initial Value	Unit	Read Value	Unit	Write Value/Setting	: Unit	Setting Range	Description	^
Input response time setting	ng 1ms				1	ms		By setting	
X0 relay ON count thresh	ol Disable ol 0	Count		Count	Disa	ble 0 Count	0 to 4294967295	Set valid / Set the thr	
X1 relay ON count thresh	ol Disable ol 0	Count		Count	Disa	ble 0 Count	0 to 4294967295	Set valid / Set the thr	
X2 relay ON count thresh	ol Disable ol 0	Count		Count	Disa	ble 0 Count	0 to 4294967295	Set valid / Set the thr	
X3 relay ON count thresh X3 relay ON count thresh X4 relay ON count thresh	ol 0 ol 0 ol Disable	Count		Count	Disable	0 Count	0 to 4294967295	Set the thr	
<		· ·			Disable Enable	- · ·	· · · · · · · · · · · · · · · · · · ·	>	
Process Option		There	is no option in t	he selecte	ed process.				
The value set in write value/setting va - For information on items not displaye	ue is set to slave : d on the screen, p	station au lease refi	utomatically by S er to the Operat	ilave Stat ting Manu	ion Parameter Automa al.	tic Setting fu	nction.		^ ~
Enable safety module when succeed	to write <u>p</u> aramet	er					E <u>x</u> ecute Parameter	Processing	
Import	Export				Close with Discardin	g the Setting	Close with Refl	ecting the Se	tting

- 11. Click the [Close with Reflecting the Setting] button to close the "Parameter of Slave Station" window.
- **12.** Select [Close with Reflecting the Setting] to close the "CC-Link IE TSN Configuration" window.
- **13.** Click the [Apply] button.
- 14. Display the "Online Data Operation" window.
- ♥ [Online] ⇒ [Write to PLC]
- 15. Select the checkbox for "Slave Device Setting" in "CC-Link IE TSN Configuration".

🖶 🛃 CC-Link IE TSN Configuration	V		
Slave Device Setting	✓		Detail

16. Click the [Detail] button for "Slave Device Setting" to display the "CC-Link IE TSN Configuration - Slave Device Setting" window.

17. Check that the checkbox for the write target network interface module is selected. Select the checkbox if not selected.

te Tarnet	N Configuration	- Slave De	evice Setting				
te raiget							
Target	Device						
	<u>S</u> elect All		Deselect All				
	Start XY	Statio	n No./ID	IP Address	Last Change	Size (Byte)	
	0000	1		192.168.3.1	-	Not Calculated	
Slave dev (Even if P setting ha To allocat For the sl the Shorto	vices in which Param Parameter Auto-sette been included are te parameters for ex lave device in which cut menu of the slav	eter Auto-sett 1g has been not shown) ch slave dev Parameter A re device thr	ting has been ch checked, slave d ices, please set uto-setting has r ough [Network Ω	ecked are shown in Target D evices in which parameter s them from master station ([not been set, please execute pnfiguration Settings].	evice list. etting has not been set or in Basic Setting] - [Network Conf paramèter processing throug)	which unsupported parameter figuration Settings]). h [Parameter of Slave Station]	from

- 18. Click the [OK] button to close the "CC-Link IE TSN Configuration Slave Device Setting" window.
- 19. 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.
- 20. Set the CPU module of the master station to the RUN state, and check that the D LINK LED of the network interface module is turned on.

Precautions

The parameters of a slave station not existing in the network map on the "CC-Link IE TSN Configuration" window or a slave station whose "Parameter Automatic Setting" is not selected cannot be read.

When an attempt is made to read parameters, an error message is displayed.

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.

Network configuration setting

Operating procedure

- 1. Open the "CC-Link IE TSN 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".
- 2. Select the network interface module in "Module List" and drag and drop it to the list of stations or the network map.



- 3. Select the network interface module to set parameters for, and open the "Parameter of Slave Station" window. (🖙 Page 152 "Parameter of Slave Station" window)
- Right-click the network interface module. Select [Parameter of Slave Station].
- 4. Set "Method selection" in the "Parameter of Slave Station" window to "Parameter write".

Parameter of Slave Station					
Target Module Info	rmation:	FA3-TH1T16XC Start I/O No.:0000 - Station No.			
Method selection:	Paramete	r write 🗸 🗸			
Paramete		r read			
	Paramete	r write			
Parameter Info Parameter auto-setting					

5. Double-click the item to be set, and enter the setting value.

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.

ameter of :	slave station										
get Module	Information:	FA3-TH1T16XC Start I/O No.:0	000 - Station N	0.:1							
		L									_
hod selection	on: Paramete	er write	~	The p	arameters are v	vritten to	the target module.				
Darameter	Information										_
raianetei	Information				Clear A	ll "Read \	/alue"	Clear	All "Write Value/Set	tting Value"	
Sele	ect <u>A</u> ll	Cancel All Sel	ections	Сору	"Ini <u>t</u> ial Value" to	o "Write V	alue/Setting Value"	Copy "Read	Value" to "Write Va	- lue/Setting V	alu
Nam	e		Initial Value	Unit	Read Value	Unit	Write Value/Setting	Unit	Setting Range	Description	r 🗚
🗹 📮 Ing	out response	time setting									
	Input respons	se time setting	1ms				1	ms		By setting	
	XII relay ON	count threshol	Disable				Dicable			Set valid /	7
	X0 relay ON	count threshol	0	Count		Count	Disable	Count	0 to 4294967295	Set the thr	
	X1 relay ON	count threshol	Disable				Disable			Set valid /	7
	X1 relay ON	count threshol	0	Count		Count	Enable	Count	0 to 4294967295	Set the thr	
	X2 relay ON	count threshol	Disable				Disa	ble		Set valid /	1
	X2 relay ON	count threshol	U Disable	Count		Count	Dise	U Count	U to 4294967295	Set the thr	1
	X3 relay ON	count threshol	Disable	Count		Count	Disa	0 Count	0 to #20#067205	Set the the	
	X4 relay ON	count threshol	Disable	Oburit		Oburit	Disa	ble	0 10 1201001200	Set valid /	Ł
<				- ·		- ·		0.0	o ·		Ľ
Process Op	otion			There	is no option in th	ne selecte	d process.				
The refres Accesses t	hed device val	lues of remote I/(y using the curren	O or remote reg nt connection d	gisters ma estinatio	ay be overwritte n. Please check	en. if there is	any problem with the	connection	destination.		
Process is For inform	executed acco ation on items	not displayed on	the screen, ple	in the Pl ase refe	.C CPU. r to the Operati	ng Manua	ıl.				
Enable s	afety module v	when succeed to	write <u>p</u> aramete	r					Execute Parameter	Processing	

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

Point P

- FA3-TH: The parameters are enabled right after the above procedure is complete.
- FA3-AT: The parameters are enabled by turning on Initial data setting request flag (RY9) after the above procedure is complete.

When changing the parameters

Operating procedure

- **1.** Open the "CC-Link IE TSN Configuration" window.
- [Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Network Configuration Settings]. Double-click "Detail Setting".
- 2. Open the "Parameter of Slave Station" window.
- Select a network interface module from the station list, right-click, and select [Parameter of Slave Station].
- 3. Set "Method selection" to "Parameter read".

Parameter of Slav	e Station	
Target Module Info	rmation:	FA3-TH1T16XC Start I/O No.:0000 - Station No.
Method selection:	Paramete	r read 🗸 🗸
Parameter Info	Paramete Paramete Paramete	r read r write r auto-setting

- 4. Click the [Execute Parameter Processing] button.
- 5. Click the [Yes] button.
- 6. The parameters are read from the network interface module.

Parameter of Slave Station									
Farget Module Information: FA3-THIT16XC Start I/O No.:(rget Module Information: FA3-TH1T16XC Start I/O No.:0000 - Station No.:1							< >	
Parameter read	~	The p	oarameters are r	ead from	the target module.				< >
Parameter Information			Clear A	ll " <u>R</u> ead \	/alue"	Clear	r All "Write Value/Se	tting Value"	
Select <u>A</u> ll Cance <u>l</u> All Se	ections	Сору	"Ini <u>t</u> ial Value" to	o "Write V	alue/Setting Value"	Copy "Reag	<u>d</u> Value" to "Write Va	lue/Setting V	alue"
Name	Initial Value	Unit	Read Value	Unit	Write Value/Settin	e Unit	Setting Range	Description	^
Input response time setting	1ms		1ms	_				By setting	
X0 relay ON count threshol. W relay ON count threshol.	. Disable . 0	Count	Enable 20000000	Count		Count	0 to 4294967295	Set valid / Set the thr	
X1 relay ON count threshol.	. Disable . 0 Disable	Count	Disable 0 Disable	Count		Count	0 to 4294967295	Set valid / Set the thr	
X2 relay ON count threshol X2 relay ON count threshol X3 relay ON count threshol	. Disable . 0 Disable	Count	0 Disable	Count		Count	0 to 4294967295	Set valid / Set the thr	
	. 0 . Disable	Count	0 Disable	Count		Count	0 to 4294967295	Set the thr Set valid /	
<	·	· ·	^			1 <u>0</u> .		>	
Process Option There is no option in the selected 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.									
Enable safety module when succeed to	Enable safety module when succeed to write parameter								
Import Export Close with Discarding the Setting Close with Reflecting the Setting					tting				

7. Set "Method selection" to "Parameter write".

Parameter of Slave Station							
Target Module Info	rmation:	FA3-TH1T16XC Start I/O No.:0000 - Station No.					
Method selection:	Paramete	r write 🗸 🗸					
	Paramete	r read					
	Paramete	r write					
Parameter Info	Parameter Info Parameter auto-setting						

8. Select the items to be changed, and set new values.

- Click [Copy "Read Value" to "Write Value/Setting Value"] button and paste the value.
- Select the items to be changed, and set new values.

rameter of Slave Station — 🗆 🗙								
arget Module Information: FA3-TH1T16XC Start I/O No.:0000 - Station No.:1								
Parameter write	~	The p	oarameters are v	vritten to	the target module.			^ ~
Parameter Information			Clear A	ll " <u>R</u> ead V	'alue"	<u>O</u> lear A	All "Write Value/Se	tting Value"
Select <u>A</u> ll Cancel All Sel	ections	Сору	"Ini <u>t</u> ial Value" to	Write V	alue/Setting Value"	Copy "Read V	/alue" to "Write Va	lue/Setting Value"
Name	Initial Value	Unit	Read Value	Unit	Write Value/Setting	g Unit S	Setting Range	Descriptior 🔺
✓ □ Input response time setting	1ms		1ms		1	ms		By setting
X0 relay ON count threshol X0 relay ON count threshol	Disable 0	Count	Enable 20000000	Count	Ena 20000	ible 000 Count I	0 to 4294967295	Set valid / Set the thr
X1 relay ON count threshol X1 relay ON count threshol	Disable 0 Disable	Count	Disable 0 Disable	Count	Disable Diosblo	Count I	0 to 4294967295	Set valid / Set the thr
X2 relay ON count threshol X2 relay ON count threshol X3 relay ON count threshol X3 relay ON count threshol	0 Disable	Count	0 Disable	Count	Enable	Count (0 to 4294967295	Set the thr Set valid /
	0 Disable	Count	0 Disable	Count	Disa	0 Count 1 ible	0 to 4294967295	Set the thr Set valid / 🗸
<								>
Process Option There is no option in the selected process.								
-The refreshed device values of remote I/ -Accesses the PLC CPU by using the curre -Process is executed according to the para -For information on items not displayed on	O or remote reg nt connection d ameters written the screen, ple	gisters ma estination in the PL ease refe	ay be overwritte n. Please check .C CPU. r to the Operati	n. if there is ng Manua	any problem with the	connection de	estination.	^ ~
Enable safety module when succeed to	write <u>p</u> aramete	r				E	xecute Parameter	Processing
Import	Export				Close with Discardig	ng the Setting	Close with Refl	ecting the Setting

9. Click the [Execute Parameter Processing] button.

10. Follow the on-screen instructions and click the [Yes] button.

11. The parameters are written to the network interface module.

6

"Parameter of Slave Station" window

This section shows the details on the "Parameter Processing of Slave Station" window to set parameters of the network interface module.

Window

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

Parameter of Slave Station									
Target Module Information: FA3-THIT16XC Start I/O No.:(Module Information: FA3-TH1T16XC Start I/O No.:0000 - Station No.:1							< >	
Method selection: Parameter write	ethod selection: Parameter write V			written to	the target module.				< >
Parameter Information			Clear A	\ " <u>R</u> ead \	/alue"	<u>C</u> lear	r All "Write Value/Se	tting Value"	
Select <u>A</u> ll Cance <u>l</u> All Se	elections	Сору	"Ini <u>t</u> ial Value" to	o "Write V	alue/Setting Value*	Copy "Reag	l Value" to "Write Va	lue/Setting Va	alue"
Name	Initial Value	Unit	Read Value	Unit	Write Value/Settin	g Unit	Setting Range	Description	^
Input response time setting	1ms							By setting	
X0 relay ON count threshol. X0 relay ON count threshol.	Disable 0	Count		Count		Count	0 to 4294967295	Set valid / Set the thr	
X1 relay ON count threshol. X1 relay ON count threshol.	Disable 0	Count		Count		Count	0 to 4294967295	Set valid / Set the thr	
X2 relay ON count threshol.	Disable 0	Count		Count		Count	0 to 4294967295	Set valid / Set the thr	
X3 relay ON count threshol. X3 relay ON count threshol. X4 relay ON count threshol.	Disable 0 Disable	Count		Count		Count	0 to 4294967295	Set valid / Set the thr Set valid /	
<	1	· ·				i		>	
Process Option There is no option in the selected process.									
-The refreshed device values of remote I, -Accesses the PLC CPU by using the curre -Process is executed according to the par -For information on items not displayed or	/O or remote reg ent connection d ameters written n the screen, ple	gisters m lestinatio in the Pl ease refe	ay be overwritte n. Please check .C CPU. r to the Operati	en. if there is ng Manua	any problem with the	connection	destination.		^
Enable safety module when succeed to	Enable safety module when succeed to write garameter Execute Parameter Processing								
Import	Export				Close with Discardi	ng the Settin	g Close with Refl	ecting the Set	ting

FA3-TH1T16XC, FA3-TH1M16XC

Displayed items

Item		Description	Setting range	Reference
Input response time settin	9	Setting the response time required for the module to recognize an actual input as the X signal prevents an incorrect input due to noise.	 0ms 0.2ms 1ms (default) 1.5ms 5ms 10ms 20ms 70ms 	Page 114 Input response time setting function
Relay ON count threshold setting	X□ relay ON count threshold valid/invalid setting	Set whether the relay ON count of the maintenance alarm function is valid or invalid.	Invalid (default)Valid	Page 110 Relay ON count threshold
	X⊡ relay ON count threshold setting	Set the threshold of relay ON count of the maintenance alarm function. When Relay ON count threshold valid/invalid setting (4120H) is set to be valid, this threshold is compared with the count value.	0 to 4294967295 (Default: 0)	(FA3-TH)
Elapsed operation time threshold setting		Set the threshold of the elapsed operation time of the maintenance alarm function. Note that, when the setting value is 0, an alarm for the elapsed operation time does not occur.	0 to 4294967295 (Default: 0)	Page 110 Elapsed operation time threshold

FA3-TH1T16Y, FA3-TH1T16YE, FA3-TH1M16Y, FA3-TH1M16YE

Displayed items

Item		Description	Setting range	Reference
Output HOLD/CLEAR setting		Set whether to hold or clear the last output value for the case when the module is disconnected from data link, when the CPU module operating status is STOP or RESET, or when the CPU module operation is suspended by an error.	CLEAR (default) HOLD	Page 115 Output HOLD/CLEAR setting function
Relay ON count threshold setting	Y□ relay ON count threshold valid/invalid setting	Set whether the relay ON count of the maintenance alarm function is valid or invalid.	Invalid (default)Valid	Series Page 110 Relay ON count threshold
	X⊡ relay ON count threshold setting	Set the threshold of relay ON count of the maintenance alarm function. When Relay ON count threshold valid/invalid setting (4120H) is set to be valid, this threshold is compared with the count value.	0 to 4294967295 (Default: 0)	(FA3-TH)
Elapsed operation time threshold setting		Set the threshold of the elapsed operation time of the maintenance alarm function. Note that, when the setting value is 0, an alarm for the elapsed operation time does not occur.	0 to 4294967295 (Default: 0)	Page 110 Elapsed operation time threshold

FA3-AT1T8X, FA3-AT1M8X

Displayed items

Item		Description	Setting range	Reference	
A/D conversion enable/ disable setting	CH□ A/D conversion enable/ disable setting	Set whether to enable or disable A/D conversion for each channel.	• Enable (default) • Disable	Page 119 A/D conversion enable/ disable function	
Averaging process CHD Averaging processing setting		Set sampling processing or averaging processing for each channel.	 Sampling processing (default) Time average Count average Moving average 	Page 119 A/D conversion method	
	CH⊟ Time average/Count average/Moving average	Set the time (for averaging), count (for averaging), and moving average count for each channel to which Averaging processing setting is specified.	Time average: 2 to 10000ms Count average: 4 to 65000 times Moving average: 2 to 128 times (Default: 0)		
Input signal error detection function	CH⊡ Input signal error detection setting	Set the condition ("Disable"/"Input signal error detection") to detect an error.	 Invalid (default) Input signal error detection 	েল Page 122 Input signal error detection function	
Warning output function (process alarm)	CH□ Warning output setting	Set whether to enable or disable process alarm warning output for each channel.	 Enable Disable (default) 	ে Page 124 Warning output	
	CH□ Process alarm upper upper limit value	Set any one of Process alarm upper upper limit value, Process alarm upper lower limit value,	-32768 to 32767 (Default: 0)	function (process alarm)	
	CH□ Process alarm upper lower limit value	Process alarm lower upper limit value, and Process alarm lower lower limit value.	-32768 to 32767 (Default: 0)		
	CH□ Process alarm lower upper limit value		-32768 to 32767 (Default: 0)		
	CH□ Process alarm lower lower limit value		-32768 to 32767 (Default: 0)		
Digital clipping function	CH□ Digital clipping enable/ disable setting	Set whether to enable or disable digital clipping for each channel.	Invalid (default)Valid	Page 126 Digital clipping function	
Scaling function	CH□ Scaling enable/disable setting	Set whether to enable or disable scaling for each channel.	Invalid (default)Enable	Scaling function	
	CH□ Scaling upper limit value	Set the range of values to be scale-converted for each channel.	-32000 to 32000 (Default: 0)		
	CH□ Scaling lower limit value		-32000 to 32000 (Default: 0)		
Logging cycle setting	CH□ Logging cycle unit setting	Set the unit to be used for setting the logging cycle.	• ms (default) • s	Page 106	
	CH□ Logging cycle setting	Set the logging cycle.	• ms: 1 to 32767 • s: 1 to 3600 (Default: 1)	(FA3-AT)	
Logging data setting	CH□ Logging data setting	Set whether a digital output value or scaling value is collected.	 Digital output value (default) Scaling value 		
Elapsed operation time th	reshold setting	Set the threshold of the elapsed operation time of the maintenance alarm function. Note that, when the setting value is 0, an alarm for the elapsed operation time does not occur.	0 to 4294967295 (Default: 0)	Page 110 Elapsed operation time threshold	

FA3-AT1T8Y, FA3-AT1M8Y

Displayed items

Item		Description	Setting range	Reference
D/A conversion enable/ disable setting	CH□ D/A conversion enable/ disable setting	Set whether to enable or disable D/A conversion for each channel.	• Enable • Disable (default)	ের Page 134 D/A conversion enable/ disable function
Analog output HOLD/ CLEAR setting	CH⊟ Analog output HOLD/ CLEAR setting	Set whether to hold or clear the last analog value for the case when the module is disconnected from data link, when the CPU module operating status is STOP or RESET, or when the CPU module operation is suspended by an error.	CLEAR (default) HOLD	Page 135 Analog output HOLD/CLEAR setting function
Warning output function	CH□ Warning output setting	Set whether to enable or disable warning output for each channel.	• Enable • Disable (default)	ে Page 136 Warning output
	CH□ Warning output upper limit value	Set the range of digital operation values to output a warning for each channel.	-32768 to 32767 (Default: 0)	function
	CH□ Warning output lower limit value		-32768 to 32767 (Default: 0)	
Scaling function	CH□ Scaling enable/disable setting	Set whether to enable or disable scaling for each channel.	Invalid (default)Enable	Scaling function
	CH□ Scaling upper limit value	Set the range of values to be scale-converted for each channel.	-32000 to 32000 (Default: 0)	
	CH□ Scaling lower limit value		-32000 to 32000 (Default: 0)	
Logging data setting	CH⊟ Logging data setting	Set whether a digital input value or scaling value is collected.	 Digital output value (default) Scaling value 	ে Page 106 Logging function (FA3-AT)
Elapsed operation time the	reshold setting	Set the threshold of the elapsed operation time of the maintenance alarm function. Note that, when the setting value is 0, an alarm for the elapsed operation time does not occur.	0 to 4294967295 (Default: 0)	Page 110 Elapsed operation time threshold

6.3 Programming

This chapter describes the programming procedure 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 for creating programs.

Cyclic transmission programs

For a cyclic transmission program, interlock with the following link special relay (SB) and link special register (SW).

- Data link error status of the own station (master station) (SB0049)
- Data link status (each station) (SW00B0 to SW00B7)
- User's manual for the master station used



Interlock example



(1) Program for communications with station number 1

(2) Program for communications with station number 2

Example of digital I/O

This section shows an example of the program to perform the digital input and output using the FA3-TH1T16XC and FA3-TH1T16Y.

System configuration



No.	Description		
(1)	Master station	R62P	Power supply module
		R04CPU	CPU module
		RJ71GN11-T2	Master/local module (start I/O number: 0000H to 001FH)
		RX40C7	Input module (start I/O number: 0020H to 002FH)
(2)	Remote station	FA3-TH1T16XC	Network interface module (digital input) (IP address/station number setting switches: 1)
(3)	Digital signal converte	er including the FA-TH16XR	A20S (input type) ^{*1}
(4)	Remote station	FA3-TH1T16Y	Network interface module (digital output) (IP address/station number setting switches: 2)
(5)	Digital signal converte	er including the FA-TH16YR	A11 (output type) ^{*1}
(6)	X20		Error clear switch
(7)	X1000		Push button switch
(8)	Y1010		Light

*1 For the devices connectable to the network interface module, refer to the following.

Page 16 Connectable Devices

Assignment of devices



(1) Master station

(2) Remote station (station number 1)

(3) Remote station (station number 2)

(4) CPU module

(5) Master/local module

(6) Network interface module (digital input)

(7) Network interface module (digital output)

Programming conditions

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

Devices to be used

Device	Description	
X1000	RX0 input signal (push button) of the remote station (station number 1)	FA3-TH1T16XC (RX0 to RXF)
Y1010	RY0 output signal (lamp) of the remote station (station number 2)	FA3-TH1T16Y (RY0 to RYF)
X20	Error clear switch	Input module (X20 to X2F)
D100	Latest error code (station number 1)	1
D101	Latest alarm code (station number 1)	
D102	Latest error code (station number 2)	
D103	Latest alarm code (station number 2)	
M0	Master 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 station (station number 1)	
SW0B0.1	Data link status of the remote 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)	

Parameter setting

- **1.** Create a project.
- ‴♡ [Project] ⇔ [New]

New	×
Series	🐗 RCPU 🗸 🗸
<u>Т</u> уре	12 R04 V
Mada	
Program Language	Ladder V
	OK Cancel

2. For "CPU Parameter" in "Link Direct Device Setting", set "Extended Mode (iQ-R Series Mode)".

CPU Parameter] ⇒ [Memory/Device Setting] ⇒ [Link Direct Device Setting] ⇒ [Link Direct Device Setting]

Item	Setting
😑 Link Direct Device Setting	
Link Direct Device Setting	Extended Mode (iQ-R Series Mode)

Restriction (")

When writing the module parameters of the RJ71GN11-T2 to the CPU module with the engineering tool, set "Extended Mode (iQ-R Series Mode)" for "Link Direct Device Setting".

When "Q Series Compatible Mode" is set for "Link Direct Device Setting", "Write to PLC" cannot be executed.

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

Add N	lew Module			×
FINE)		EIND	
Mod	lule Selection			
Mod	lule Type	🛃 Network Modul	e	-
Mod	dule Name	RJ71GN11-T2		-
Stati	ion Type	Master Station		-
Adva	anced Settings			
M	Iounting Position			
M	lounting Base	Main Base		
M	Iounting Slot No.	0		-
St	tart I/O No. Specification	Not Set		-
St	tart I/O No.	0000 H		
N	umber of Occupied Points per 1 Sk	32 Points		
Station Select :	n Type station type.			
		ОК	Cancel	

- **4.** Open the "CC-Link IE TSN Configuration" window and set parameters as follows.
- (Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Network Configuration Settings]. Double-click "Detail Setting".

12		IE TSP	N Configuration (Sta	rt I/O: 0	000)							– D X
÷ c	C-Link <u>I</u> l	TSN (Configuration <u>E</u> dit	t <u>V</u> iev	Close with Disca	rdi <u>ng</u> the Settin	ig Close with <u>F</u>	eflecting the s	Setting			
	Conr	ected	d/Disconnected Mo	dule De	tection D	etailed Display						Module List ×
	Mode	Settir	ng:	Onli	ne (Unicast Mode)	~ <u>A</u> s	signment Met	nod:			~	CC-Link IE TSN Selection Find Module My Favorites
	Cyclic	Trans	mission Time (Min.)	:	20.00 us	Co	mmunication P	eriod Interval	(Min.): 12	5.00 us		122 24 売田 ☆ 🖻 🗙
		No.	Model Name	STA#	Station Type	RX Setting	RY Setting	RWr Setting	RWw Setting	Paramet	er Automatic Setting	CC-Link IE TSN Module (Mitsubishi Electric Corporation)
						Points	Points	Points	Points			Master/Local Module
V		0	Host Station	0	Master Station	16	16	16	16		Detail Cettings	Motion Module
		2	FA3-TH1T16XC	2	Remote Station	10	10	10	10		<detail setting=""></detail>	GOT2000 Series
		-	1115 1111101	-	Remoce Beacon	10	10	10	10		(becan becong)	DC Input
												Iransistor Output
	<										>	H Analog Input
			L CTA#1 C3	FA #0								Analog output Seneral nurnose Inverter
			51A#1 51	IA#2								General-Purpose AC Servo
												T I/O Combined
Ho	st Statio	n										NZ2FT System:CC-Link IE TSN Fieldbus Coupler
			60 6	10								CC-Link IE TSN Module (Mitsubishi Electric Engineering Co., Ltd.)
S	TA#0	4aster		2 🖬								DC Input
	Station otal ST/	\#·2										FA3-TH1T16XC 16 points 🗸
l i	ine/Star			TU1T								
			16XC	16Y								
L			<								>	

- **5.** Check that the "Parameter Automatic Setting" checkbox is unchecked as the FA3-TH parameters are not changed in this program example.
- 6. Select [Close with Reflecting the Setting] to close the "CC-Link IE TSN Configuration" window.
- 7. Open the refresh parameter setting window and set as follows.

(Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Refresh Settings]

Mo		Link Side						CPU S	ide			
NU.	Device Name	Points	Start	End]	Target		Device Nam	ne	Points	Start	End
-	SB ,	512	00000	001FF	- 🗰 -	Specify Device	\sim	SB	\sim	512	00000	001FF
-	S₩	512	00000	001FF	- 🗰 -	Specify Device	\sim	SW	\sim	512	00000	001FF
1	RX ·	> 32	00000	0001F	- ++	Specify Device	\sim	Х	\sim	32	01000	0101F
2	RY •	> 32	00000	0001F	- 🗰 -	Specify Device	\sim	Y	\sim	32	01000	0101F
3	RWr -	> 32	00000	0001F	- ++	Specify Device	\sim	W	\sim	32	01000	0101F
4	RWw	/ 32	00000	0001F	-	Specify Device	\sim	W	\sim	32	01100	0111F

- 8. Click the [Apply] button.
- **9.** 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]
- **10.** 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.



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

Program example



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

(5) When RX0 of the remote station (station number 1) is on, RY0 of the remote 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



No.	Description		
(1)	Master station	R62P	Power supply module
		R04CPU	CPU module
		RJ71GN11-T2	Master/local module (start I/O number: 0000H to 001FH)
		RX40C7	Input module (start I/O number: 0020H to 002FH)
(2)	Remote station	FA3-AT1T8X	Network interface module (analog input) (IP address/station number setting switches: 1)
(3)	Analog signal convert	ter (input type) including the	FA-ATSVM1XV05 ^{*1}
(4)	Remote station	FA3-AT1T8Y	Network interface module (analog output) (IP address/station number setting switches: 2)
(5)	Analog signal convert	ter (output type) including th	e FA-ATSVM1YV010 ^{*1}
(6)	X20		Remote station (station number 1) digital operation value read command
(7)	X21		Remote station (station number 1) error clear command
(8)	X22		Remote station (station number 1) maximum value/minimum value read command
(9)	X23		Remote station (station number 1) maximum value/minimum value reset command
(10)	X24		Remote station (station number 2) digital value write command
(11)	X25		Remote station (station number 2) batch analog output enable command
(12)	X26		Remote station (station number 2) warning output clear command
(13)	X27		Remote station (station number 2) error clear command
(14)	AD		Thermocouple
(15)	DA		Motor controller

*1 For the devices connectable to the network interface module, refer to the following.

Assignment of devices



(1) Master station

(2) Remote station (station number 1)

(3) Remote station (station number 2)

(4) CPU module

(5) Master/local module

(6) Network interface module (analog input)

(7) Network interface module (analog output)

Programming conditions

An example of program is created under the following conditions.

■Initial setting description

Devices to be used

Remote station	Setting item	Setting details
FA3-AT1T8X (station number 1)	CH□ A/D conversion enable/disable setting	• CH1 to 4: Enable • CH7 to 8: Enable
	Input signal error detection setting	CH1, 3: Input signal error detection
	Warning output setting	 CH2: 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)	CH□ D/A conversion enable/disable setting	• CH1 to 4: Enable • CH7 to 8: Enable
	Warning output setting	CH2: Enable • CH2 Warning output upper limit value: 15000 • CH2 Warning output lower limit value: -10

Device	Description	
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	
Y100A	Error clear request flag	FA3-AT1T8X (RY0 to RY1F)
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	
D2002	CH1 Device for storing digital operation value	
D2003	CH2 Device for storing digital operation value	
D2004	CH3 Device for storing digital operation value	
D2005	CH4 Device for storing digital operation value	
D2008	CH7 Device for storing digital operation value	
D2009	CH8 Device for storing digital operation value	

Device	Description
D2010	CH1 Device for storing maximum value
D2011	CH1 Device for storing minimum value
D2012	CH2 Device for storing maximum value
D2013	CH2 Device for storing minimum value
D2014	CH3 Device for storing maximum value
D2015	CH3 Device for storing minimum value
D2016	CH4 Device for storing maximum value
D2017	CH4 Device for storing minimum value
D2022	CH7 Device for storing maximum value
D2023	CH7 Device for storing minimum value
D2024	CH8 Device for storing maximum value
D2025	CH8 Device for storing minimum value
D2030	Device for storing the latest error code
D2031	Device for storing the latest alarm code
D2032	Device for storing Input signal error detection flag
D2033	Device for storing Warning output flag
M0	Communication ready flag
M300	Maximum value/minimum value read flag
M310	REMFR instruction completion flag
M311	REMFR instruction abnormal completion flag
F1	CH2 Warning output upper limit occurrence
F2	CH2 Warning output lower limit occurrence
F3	CH1 Disconnection occurrence
F4	CH3 Disconnection occurrence
F5	Maximum value/minimum value read failure
SM400	Always ON
SB49	Data link error status of the own station (master station)
SW0B0.0	Data link status of the remote station (station number 1)
N0	Nesting

Parameter setting

- **1.** Create a project.
- ‴♡ [Project] ⇔ [New]

New		×
Series	📲 RCPU	\sim
<u>Т</u> уре	11 R04	\sim
Mode		~
Program Language	\rm Ladder	~
	ОКС	ancel

2. For "CPU Parameter" in "Link Direct Device Setting", set "Extended Mode (iQ-R Series Mode)".

CPU Parameter] ⇒ [Memory/Device Setting] ⇒ [Link Direct Device Setting] ⇒ [Link Direct Device Setting]

Item	Setting
😑 Link Direct Device Setting	
Link Direct Device Setting	Extended Mode (iQ-R Series Mode)
Protriction (1)	
When writing the module	parameters of the R I71GN11-T2 to the CPI

When writing the module parameters of the RJ71GN11-T2 to the CPU module with the engineering tool, set "Extended Mode (iQ-R Series Mode)" for "Link Direct Device Setting".

When "Q Series Compatible Mode" is set for "Link Direct Device Setting", "Write to PLC" cannot be executed.

3. Set the master/local module in the following window.

(Navigation window) ⇒ [Parameter] ⇒ [Module Information] ⇒ Right-click ⇒ [Add New Module]

dd New Module			×					
FIND		<u>F</u> IND						
Module Selection								
Module Type	🛃 Network Module		•					
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 Sk	32 Points							
tation Type elect station type.								
	ОК	Cancel						

- **4.** Open the "CC-Link IE TSN Configuration" window and set parameters as follows.
- (Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Network Configuration Settings]. Double-click "Detail Setting".

19	😰 CC-Link IE TSN Configuration (Start I/O: 0000) — 🗆 🗸								×					
÷ o	CC-Link JE TSN Configuration Edit View Close with Discarding the Setting Close with Reflecting the Setting													
	Connected/Disconnected Module Detection Detailed Display										Module List	×		
	Connected / Deconnected involue Decetion Decales Depart								~	ľ	CC-Link IE TSN Selection Find Module My Favorites			
	Cyclic	Trans	ng. mission Time (Mi	n.):	20.00 us	<u>A</u>	ommunication	Period Interva	d (Min.):	125.00	us			
						RX Setting	RY Setting	RWr Setting	RWw Settin	p Param	eter Automatic Setting	1	R General CC-Link IF TSN Module	^
		No.	Model Name	STA#	Station Type	Points	Points	Points	Points				CC-Link IE TSN Module (Mitsubishi Electric Corporation)	
-	888	0	Host Station	0	Master Station								Master/Local Module	
		1	FA3-AT1T8X	1	Remote Station	32	32	32	3	2 🗹	<detail setting=""></detail>		Motion Module	
		2	FA3-A1118Y	2	Remote Station	32	32	32	3	2 🗹	<detail setting=""></detail>	d.	GOT2000 Series	
													DC Input	
													Transistor Output	
													Analog Input	
					_								Analog Output	
			_											
			STA#1	STA#2									TI/O Combined	
				_								-1	NZ2FT System:CC-Link IE TSN Fieldbus Coupler	
Hos	t Statio	n	ĒŪ	ĒD									CC-Link IE TSN Module (Mitsubishi Electric Engineering Co., Lt	d.)
			문 🗆	부미									DC Input	
s	TA#0 I	Master	· 12 -	2.									Analog Input	
1 2	Station												FA3-AT1T8X 8 channels	~
L u	ne/Star	R#:2			_							ſ		
			FA3-AT1T I 8X	-A3-AT1 8Y	Γ									
			<								:			

5. Select the "Parameter Automatic Setting" checkbox.

	No	No. Madal Nama		Station Type	RX Setting	RY Setting	RWr Setting	RWw Setting	Parame	ter Automatic Setting
	No. Model Name		51A#		Points	Points	Points	Points		
833	0	Host Station	0	Master Station						
	1	FA3-AT1T8X	1	Remote Station	32	32	32	32	\checkmark	<detail setting=""></detail>
	2	FA3-AT1T8Y	2	Remote Station	32	32	32	32	\checkmark	<detail setting=""></detail>

- **6.** Double-click "Detail Setting" beside the "Parameter Automatic Setting" checkbox to open the "Parameter of Slave Station" window.
- 7. Check that "Method selection" is set to "Parameter auto-setting".
- 8. Click [Copy "Initial Value" to "Write Value/Setting Value"] button to initialize parameters.
- **9.** In the "Parameter of Slave Station" window, set the items as described in Initial settings. (Page 165 Initial setting description) Enter initial values to other parameters.

arameter of Slav	e Station								- 🗆	×
arget Module Info	FA3-AT1T8X Start I/O No.:0	000 - Station No	.:1							Ŷ
Method selection: Parameter auto-setting v										Ŷ
Parameter Information Olear All "Bead Value" Qear All "Write Value/Setting Value"										
Select (All Cancel All Se	lections	Сор	y "Ini <u>t</u> ial Value"	to "Writ	e Value/Setting Value"	Сору	"Rea <u>d</u> Value" to "W	rite Value/Setting V	alue"
Name ✓ A/D c — CH — CH	Unit	Unit Read Value Unit Write Value/Setting Enable Enable Enable Enable Disable En				Unit Setting Range Description Set whether to Set sempling p				
Process Option There is no option in the selected process. The value set in write value/setting value is set to slave station automatically by Slave Station Parameter Automatic Setting function For information on Items not displayed on the screen, please refer to the Operating Manual.										
enable safet	y moudle when succeed to	write parameter						Execute Par	ameter Processing	
Īmpo	rt	Export				Close with Discardi	ng the S	Setting Close wi	th Reflecting the Se	tting

10. Click the [Close with Reflecting the Setting] button to close the "Parameter of Slave Station" window.

11. Select [Close with Reflecting the Setting] to close the "CC-Link IE TSN Configuration" window.

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

(Navigation window] ⇒ [Parameter] ⇒ [Module Information] ⇒ Model ⇒ [Basic Settings] ⇒ [Refresh Settings]

Mo			Link Side				CPU Side							
NO.	Device Nam	ie	Points	Start	End		Target		Device Nam	ne	Points	Start	End	
-	SB	\sim	512	00000	001FF	- 🗰 -	Specify Device	\sim	SB	\sim	512	00000	001FF	
-	SW	\sim	512	00000	001FF	- 🗰 -	Specify Device	\sim	S₩	\sim	512	00000	001FF	
1	RX	\sim	64	00000	0003F	- 🗰 -	Specify Device	\sim	Х	\sim	64	01000	0103F	
2	RY	\sim	64	00000	0003F	- 🗰 -	Specify Device	\sim	Y	\sim	64	01000	0103F	
3	R₩r	\sim	64	00000	0003F	- 🖶 -	Specify Device	\sim	W	\sim	64	01000	0103F	
4	RWw	\sim	64	00000	0003F	-	Specify Device	\sim	W	\sim	64	01100	0113F	

13. Click the [Apply] button.

14. 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]

15. 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





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

(4) The digital operation value is read.

(31) Input signal error detection flag and Warning output flag are detected.

(36) The latest alarm code is read.

(40), (43) Processing at warning occurrence

(46), (49) Processing at input signal error occurrence

(52), (56), (73) The maximum and minimum values are read.

(82), (85) The maximum and minimum values are reset.

(88) The latest error code is read.

(91), (94) 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

For details, refer to the following.

Assignment of devices

For details, refer to the following.

Page 164 Assignment of devices

Programming conditions

For details, refer to the following.

Page 165 Programming conditions

Devices to	be used	
Device	Description	Module
X24	Digital value write command	RX40C7 (X20 to X2F)
X25	Batch analog output enable command	
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	
Y102A	Error clear request flag	FA3-AT1T8Y (RY0 to RY1F)
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	
D3002	CH1 Device for storing digital value	
D3003	CH2 Device for storing digital value	
D3004	CH3 Device for storing digital value	
D3005	CH4 Device for storing digital value	

Device	Description	Module				
D3008	CH7 Device for storing digital value					
D3009	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					
F10	CH2 Upper limit warning occurrence					
F11	CH2 Lower limit warning occurrence					
SM400	Always ON					
SB49	Data link error status of the own station (master station)					
SW0B0.1	Data link status of the remote station (station number 2)					
M1	Communication ready flag					
N1	Nesting					

Parameter setting

For details, refer to the following.

Page 167 Parameter setting

Program example





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

(4) A digital value is written.

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

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

(43) The latest alarm code is read.

(46), (49) The processing to be performed when a CH2 warning occurs is performed.

(52) The latest error code is read.

(55), (63) The latest error code and latest alarm code are cleared.