

Remote I/O RT Series Configuration Software

RTXTools

INSTRUCTION MANUAL

Read this Instruction Manual before using the product. Read the safety notes carefully. Keep this Instruction Manual in a safe and convenient place for future reference.

PREFACE

This Instruction Manual describes basic matters such as how to install and use RTXTools, the configuration software for the Remote I/O RT Series, in order to use it fully. Please read this Instruction Manual thoroughly and use the product properly. Keep this Instruction Manual in a safe place and be careful not to lose it.

Product specifications and appearances presented in this Instruction Manual are subject to change without notice.

CKD Corporation provides no warranty of any kind regarding the information provided in this software, including any warranty of content, accuracy, safety, merchantability, or fitness for a particular use or purpose.

CKD Corporation shall not be responsible for any damage arising from this software.

SAFETY INFORMATION

In order to use our products safely, it is important to select, use, handle, and maintain the products properly.

Observe the warnings and precautions described in this Instruction Manual to ensure device safety.

Handling not described in this Instruction Manual may lead to an accident. Thoroughly read and understand this Instruction Manual before using the product.

To explicitly indicate the severity and likelihood of a potential harm or damage, precautions are classified into three categories: "DANGER," "WARNING," and "CAUTION."

Indicates an imminent hazard. Improper handling will cause death or serious injury to people.
Indicates a potential hazard. Improper handling may cause death or serious injury to people.
Indicates a potential hazard. Improper handling may cause injury to people or damage to property.

Some statements classified as "CAUTION" may still lead to serious results depending on the situation.

All statements that follow these labels are important and must be observed.

<Types of warning symbols>

\bigcirc	A general symbol indicating a prohibited (not permitted) action.		A symbol prohibiting touching objects or equipment.
	A symbol prohibiting putting fingers into openings.		A general symbol warning of dangers such as electric shock and burns.
	A symbol warning of dangers that occur when starting an automatic equipment.		A general symbol indicating that a specific course of action must be taken.
	A symbol instructing to read an instruction manual carefully.	Ģ	A symbol indicating that the earth terminal must be connected to the ground.

Other general precautions, tips on using the product, or technical information and terminology are indicated by the following icon.



• Contains useful information such as general precautions, supplementary information, and reference information.

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INSTRUCTION MANUALS FOR THIS PRODUCT

The manuals related to the Remote I/O RT Series are separated by purpose as follows.

- (1) Entire Remote I/O, PC software
- (2) Device units for each industrial network
- (3) Each I/O unit

"Remote I/O RT Series Instruction Manual: System Construction" is mandatory. Other manuals are not mandatory but must be referred to according to the units used.

Purpose	Manual
(1) Entire RT remote I/O system, and the PC software	"Remote I/O RT Series Instruction Manual: System" "Configuration Software Instruction Manual: RTXTools"
(2) Device unit for each industrial network	"EtherCAT [®] Compatible Device Unit Instruction Manual" "EtherNet/IP™ Compatible Device Unit Instruction Manual" "PROFINET Compatible Device Unit Instruction Manual"
(3) Each I/O unit	"WebAPI Compatible Device Unit Instruction Manual"
	"Digital I/O Unit Instruction Manual" "Analog I/O Unit Instruction Manual" "IO-Link Master Unit Instruction Manual"

LIST OF RELATED INSTRUCTION MANUALS

Instruction Manual No.	Instruction Manual Title	Content
SM-A46342	Remote I/O RT Series Instruction Manual: System Construction	Instruction manual for the entire remote I/O RT Series system. Includes explanations of the PC software RTXTools, the power supply unit RT-XP24A01N, and the End unit RT-XEE□N00N
SM-A90084	Configuration Software Instruction Manual: RTXTools (this manual)	Instruction manual for RTXTools: setting software
SM-A46343	EtherCAT [®] Compatible Device unit Instruction Manual	Instruction manual for the EtherCAT compatible device unit RT-XTECN00N
SM-A71112	EtherNet/IP™ Compatible Device unit Instruction Manual	Instruction manual for the EtherNet/IP compatible device unit RT- XTENN00N
SM-A87934	PROFINET Compatible Device unit Instruction Manual	Instruction manual for the PROFINET compatible device unit RT-XTEPN00N
SM-A95119	WebAPI Compatible Device unit Instruction Manual	Instruction manual for the WebAPI compatible device unit RT-XTEAN00N
SM-A46344	IO-Link Master Unit Instruction Manual	Instruction manual for the IO-Link master unit RT- XLMSA08N
SM-A46345	Digital I/O Unit Instruction Manual	Instruction manual for the digital I/O unit RT- X□DG□□□□
SM-A46347	Analog I/O Unit Instruction Manual	Instruction Manual for the analog I/O unit RT-X AGA0 2N
SM-A46346	Valve I/F Unit Instruction Manual	Instruction manual for the valve I/F unit RT- XVVCN32□(TVG□P-TB-□-KA1□)

Always read the Instruction Manual for each product to connected to the Remote I/O RT Series. The product types that can be connected are:

- Upper master unit of each industrial network (connected to device unit)
- IO-Link device (connected to IO-Link master unit)

Other sensors/devices (connected to digital I/O unit, analog I/O unit, IO-Link master unit)

1. PRODUCT OVERVIEW



1.1. Operating Environment

The following environment is required to operate this software.

OS	Windows®11, Windows®10, Windows®7 Professional Service Pack 1
Display	640 x 480 or higher (1280 x 800 pixels or higher recommended)
Required memory size	4 GB or more recommended
Hard disk	500 MB of free space or more
Interface	One or more USB Type-A ports

- Windows is a registered trademark of Microsoft Corporation in the United States, Japan, and other countries.
- Other company and product names mentioned herein are trademarks or registered trademarks of their respective companies.
- Driver installation is required separately for use on Windows 7. Driver files are created on the computer after RTXTools is downloaded and installed. For details, refer to the video "Driver installation (required for Windows 7 only)" on the Remote I/O product page of the CKD website: (<u>https://www.ckd.co.jp/kiki/en/</u>).

1.2. RTXTools Compatible Models

RTXTools is a configuration software for the following products:

• Various RT Series units (various RT Series units for Remote I/O)

Valve I/F Unit for TVG

Depending on the version of RTXTools, some units cannot be connected and some functions cannot be used. Use the latest version of RTXTools. The following is a list of units to be used and the corresponding RTXTools versions.

				RTXTools version			
Unit name	Model No.	Specification	V2.01	V2.00	V1.02	Up to V1.01	
	RT-XADGA16A	Input 16 points (PNP), M12	•	•	•	•	
	RT-XADGA16B	Input 16 points (NPN), M12	•	•	•	•	
	RT-XBDGA16A	Output 16 points (PNP), M12	•	•	•	•	
	RT-XBDGA16B	Output 16 points (NPN), M12	•	•	•	•	
	RT-XADGB08A	Input 8 points (PNP), M8	•	•	•	•	
Digital	RT-XADGB08B	Input 8 points (NPN), M8	•	•	•	•	
	RT-XADGC32A	Input 32 points (PNP), Terminal	•	•	N/A	N/A	
	RT-XADGC32B	Input 32 points (NPN), Terminal	•	•	N/A	N/A	
	RT-XBDGC32A	Output 32 points (PNP), Terminal	•	•	N/A	N/A	
	RT-XBDGC32B	Output 32 points (NPN), Terminal	•	•	N/A	N/A	
Digital Digital Analog IO-Link Master Valve I/F Device	RT-XAAGA02N	Input 2 ports, M12	•	•	•	•	
Analog	RT-XBAGA02N	Output 2 ports, M12	•	•	•	•	
IO-Link Master	RT-XLMSA08N	8 ports, M12	•	•	•	•	
Velve I/E	RT-XVVCN32A	TVG _D P-TB-D-KA1D	•	•	•	N/A	
	RT-XVVCN32B	TVG _D P-TB-D-KA1C	•	•	•	N/A	
	RT-XTECN00N	EtherCAT	•	•	•	•	
Device	RT-XTENN00N	EtherNet/IP	•	•	•	•	
Device	RT-XTEPN00N	PROFINET	•	•	N/A	N/A	
	RT-XTEAN00N	WebAPI	•	N/A	N/A	N/A	

Note : "• "indicates available and "N/A" indicates not available.

1.3. License Agreement

CKD Corporation retains all rights to this software (including programs, data, text, photographs, manuals, etc.). Customers may use this software by agreeing to each of the following articles.

- Customers shall not reproduce or modify the contents of this software, nor transfer, sell, lend, or distribute the software to any third party.
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- CKD Corporation provides no warranty of any kind regarding the information provided in this software, including any warranty of content, accuracy, safety, merchantability, or fitness for a particular use or purpose.
- CKD Corporation shall not be responsible for any damage arising from this software.
- The contents of this software are subject to change without notice.

1.4. RTXTools Screen Transition

The RTXTools screen transitions as follows after starting:

Start Main window [Software Configure] window CKD RTXTools MainWindo × in COMM WEB 🕎 Software Configure RTXTools **E**-3 \times Error No error COM Port \sim USB シリアル デバイス (COM5) ~ Connect Unit configuration I/O Monitor I/O Memory Error Exp/Imp Setting Zoom in Zoom out Minimum current consumption 425.000 mA 0 CKD English \sim 0.0 0.0 0.0 OMM OFO Osmi Osr Osi Ocr 0.0 0.0 -0 0 **® ®** 0.0 Software Version 2.0.0 0 0.0 0.0 0.0 (F) 0"0 0.0 \odot Select the communication port and click [Connect]. Unit No. Main 3 RT-XADGA Model number Unit features Connector Process data size(byte) Minimum current consumption DigitalInp M12 IN: 2, C 110.000 r 16Points PNP Л : 0 Settings Sub window CKD RTXTools SubWindow _ × NO.03 DigitalInput 16Points PNP View Main window Unit current status Connector-each SETS Point-each SETS Forced I/O SETS **0.0** Version 0102-0000-0000 Unit No Model number RT-XADGA16A 0"0 DigitalInput 16Points PNP Unit features Connector Process data size(byte) M12 IN: 2,OUT: 0 0.0 Minimum current consumption 110.000 mA 8 8. Reset Off_On cycle points IO Off_On cycle Error Code

0 1 τN

2

3 IN

5 IN

IN IN

IN

IN IN

0

0

0

0

0

0

0 0

1.5. RTXTools Screen Structure

1.5.1. Window structure

The RTXTools screen consists of the following elements:



- Note 1: Device unit and analog unit only
- Note 2: Digital input unit only
- Note 3: IO-Link master unit only

1.5.2. Main window

①		3 ④ - □ ×
RTXTools in COMM	• WEB —	.
Error In error 30 errors are occurred.		
Unit configuration I/O Monitor Zoom in Zoom out	I/O Memory Error Exp/Imp Se Minimum current cons	tting sumption 605.000 mA
ତା Ehwang ହୋତା ଲେଲେ < Unit No.	ng OO BOGN II CON II CON II CON II CON II CON	Reput FAP OF Reput FAP
Model number Unit features Connector Process data size(byte) Minimum current consumption	RT-XAAGA02N AnalogInput 2CH M12 IN : 4 , OUT : 0	Settings
	70.000 MA	Settings

No.	Name	Content	Reference
1	Error display area	Displays the error status.	3.3.5
2	Communication status display area	Displays the communication status.	3.3.10
3	Tab switching area	Switches tabs or selects units.	-
4	[Software configuration window] button	Opens the software configuration window [Software Configure].	3.4.5



■ [Unit configuration] main tab

Displays the configuration of each Remote I/O system unit connected.



No.	Name	Content	Reference
I	[Zoom in] button	Displays an enlarged view.	-
2	[Zoom out] button	Zooms out.	-
3	Current consumption display	Displays the total minimum current consumption.	-
4	Unit configuration display	Displays the unit configuration.	-
5	Unit details display	Displays details of the selected unit.	-
6	[Setting] button	Opens a sub window of the selected unit.	-

■ [I/O monitor] main tab

Displays the process data and forced I/O status of each Remote I/O system unit connected.

	Unit o	configura	tion I/O Monitor	I/O	Memory Error Exp/Imp Setting	
1	NO.	in funct	Unit features	IO	I/O value	•
	0	EC	Device unit EtherCA	i		
	1	$\mathbf{\hat{v}}$	AI 2CH	IN	0 CH -0.00 ↑10 1 CH 0.00 ↑10 [0x7FFE] ↓-10 [0x8000] ↓-10	L
	2	$\mathbf{\hat{v}}$	AO 2CH	оит	0 CH 0.00 ↑10 ¹ CH 0.00 ↑10 [0x0000]↓0 [0x0000]↓0	L
	3	Л	DI 16Points	IN	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	L
	4	Л	DO 16Points	OUT	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	L
	5	\odot	IO-Link 8Ports	IN IN	DI 1 0 1 2 3 4 5 6 7 DI 2 0 1 2 3 4 5 6 7	L
				IN	Port Error Flag 0 1 2 3 4 5 6 7	
2	BIN BIN	~				
_	DEC					

No.	Name	Content	Reference
1	Display area	Displays process data and forced I/O status.	3.3.7
	Drop-down list (BIN)	Displays bits ON (green) and OFF (white) in each point.	Same as above
2	Drop-down list (DEC)	Displays decimal numbers in each unit.	Same as above
	Drop-down list (HEX)	Displays hexadecimal numbers in each unit.	Same as above

■ [I/O memory] main tab

Displays in hexadecimal the input size, output size, error, forced I/O setting, input process data, and output of process data of each Remote I/O system unit connected.

	Unit configuration	I/O Monitor	I/O Mem	ory Err	or Exp	/Imp Setting		
1	NO. Model number	· Unit fea	itures	nput size	utput siz	Error	orced I/O SET ^	
	00 RT-XTECN00N	Device unit	EtherCAT	0	0			
	01 RT-XAAGA02N	AnalogInp	ut 2CH	4	0			
	02 RT-XBAGA02N	AnalogOut	out 2CH	0	4			
	03 RT-XADGA16A	igitalInput 1	6Points PN	2	0			
	04 RT-XBDGA16A	gitalOutput	16Points PM	0	2			
_ I	05 RT-XI MSA08N	MasterIO-Li	nk 8Ports	38	34		*	
2	Input size 44 byt	е		3 Outp	ut size 4	0 byte		
4	IN +0+1+2+3+4+5	-6+7+8+9+A+B	+C+D+E+F ^	OUT	+0+1+2+3	+4+5+6+7+8+0		1
	+00 7FFF7FF0000 +10 00000000000 +20 00000000000 +30 +40 +40 +50 +60 +70 +80	00 00 00 FF 00 00 00 00 00 00 00 00 00 00 00 00 00	00 00 00 00	+00 +10 +20 +30 +40 +50 +60 +70 +80	00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00	

No.	Name	Content	Reference	
1	Process data size list	Displays the process data size, error occurrence status, and forced I/O setting of each unit.	3.3.1	
2	Input size	size Displays the input size of all Remote I/O system units connected.		
3	Output size	Displays the output size of all Remote I/O system units connected.	Same as above	
4	Input process data area	Displays the input process data of all Remote I/O system units connected. The area where data is allocated is indicated in blue.	Same as above	
5	Output process data area	Displays the output process data of all Remote I/O system units connected. The area where the data of the unit selected in the "Process data size list" is allocated is indicated in red.	Same as above	

■ [Error] main tab

Displays errors and error logs for each Remote I/O system unit connected in order of importance.



No.	Name	Content	Reference
1	Diagnostic information list	Displays the unit's CH/point/port diagnostic information in the "code" column as a hexadecimal number with the corresponding bit set to 1.	3.3.5
2	Log data list	Displays a list of past errors in the order of occurrence.	3.2.4
3	[Clear] button	Clears the log.	Same as above
4	[Save] button	Outputs the error log to a CSV file. Note 1	Same as above

Note 1: CSV file is a file of comma-separated value.

• For details on the "code" and "error code" that appear in the list, refer to the Instruction Manual for each unit.

■ [Exp/Imp Setting] main tab

Export or import setting data.

	Unit config	uration I/O Monitor	I/O Memory	Error	Exp/Im	p Setting		
1	Export	t Import (2					
3	Unit No.	Model number		4	Unit No.	Model	number	٦
	00	RT-XTECN00N						
	01	RT-XAAGA02N						
	02	RT-XBAGA02N						
	03	RT-XADGA16A						
	04	RT-XBDGA16A						
	05	RT-XLMSA08N						
	•							

No.	Name	Content	Reference
1	[Export] button	Saves the setting data of all connected Remote I/O system units (left list) as an external file (.conf).	3.4.1
2	[Import] button	Specifies an external setting data file (.conf) and imports the setting data of the units in it (right list) to the connected Remote I/O system.	3.4.2
3	Unit configuration list	Displays the configuration of the connected unit.	-
4	Unit configuration list for import files	Displays the unit configuration for imported files.	3.4.2

1.5.3. Sub window

Open the [Unit Configuration] tab in the main window, and double-click the RT configuration unit or select the unit and click the [Setting] button to display a sub window.

		1		Ć				3		
<u>.</u>	CKD RTXTo	olsSubWindo	w					-		
				_			_			
NC	0.05 Ma	ster10-Lin	IK 8PC	orts			View M	1ain wi	ndow	
	Unit curi	rent status	Port	each SETS	Forced I/	O SETS	Device se	ettings	6 • •	
				Version 01	02-0102-010	01				
			Unit	No.		5				
		\odot	Mode	el number		RT-XLM	1SA08N			
			Unit	features		Master	IO-Link 8F	Ports		
			Conn	ector		M12				
			Proce	ess data size	e(byte)	IN : 38	3, OUT: 3	34		
			Minir	num curren	t consumptio	n 100.00	00 mA			
L	9 30-Ur		Data st	rage clear						
L	Port	ect operati	ion m	Input size	Output size	Error Co	de E	Error	^	
L	0	IO-Link r	node	4	4					
L	1	IO-Link r	node	4	4					
	2	IO-Link r	node	4	4					
	3	IO-Link r	node	4	4					
	4	IO-Link r	node	4	4					
	5	IO-Link r	node	4	4					
	6	IO-Link r	node	4	4					
	7	10-Link r	node	4	4				*	

No.	Name	Content	Reference
1	Unit display	Displays the unit number and unit name.	-
2	Tab switching area	Switches tabs. The type and content of the tabs vary for each unit.	-
3	[View Main window] button	Displays the main window.	-

[Unit current status] tab

Displays information for each unit or its CH/point/port. Displays error codes and errors for CH/point/port.

U	Init curre	ent status	Port	each SETS	Forced I/	O SETS	Device settings	6 •
1	0.0	3⁶ 2 😧)	Version 01	02-0102-010)1 (3)		
			Unit	No.		5		
	\bigcirc	3	Mode	el number		RT-XLM	SA08N	
			Unit	features		MasterI	O-Link 8Ports	
			Conn	ector		M12		
	<u>.</u>	2	Proce	ess data size	(byte)	IN:38	, OUT : 34	
			Minir	num curren	t consumptio	n 100.00	0 mA	
	S C	Э <mark>0</mark> 5р	ata st	rage clear		1		
6	Port	ect operatio	on mi	Input size	Output size	Error Coo	le Error	^
	0	IO-Link m	ode	4	4			
	1	IO-Link m	ode	4	4			
	2	IO-Link m	ode	4	4			
	3	IO-Link m	ode	4	4			
	4	IO-Link m	ode	4	4			
	5	IO-Link m	ode	4	4			
	6	IO-Link m	ode	4	4			
	7	IO-Link m	ode	4	4			~

No.	Name	Content	Reference
I	Unit image	Image of the selected unit.	-
2	Unit icon	Icon indicating the unit. This one indicates the IO-Link master.	-
3	Version information	Displays version information.	3.3.4
4	Unit details display	Displays details of the selected unit.	-
		These buttons are far data starses clear Off On such	3.2.3
5	button Note 1	reset, and latch reset. Note 1	3.2.7
		,	3.2.10
6	Status display area	Displays the status of each unit, including error codes. Contents vary for each unit. Note 1	-

Note 1: For details, refer to the table below.

ens Oor	Unit No.	0
	Model number	RT-XTEPN00N
C	Unit features	Device unit PROFINET
	Connector	
E	Process data size(byt	e) IN: 2,OUT: 0
0 /3	Minimum current con	sumption 100 mA
	Latch reset	
NO.	Item	Value
1	Serial number	0000034
2	MAC address	3C-83-1E-0D-00-00
3	Dip SW (0)	91
4	Rotary dip SW (×16)	00
	Rotary dip SW (×1)	00
5		

Unit cur	rent status	Port	each SETS	Forced I/	O SETS	Device SETS	Get 1
	6	•	Version 01	02-705B-001	16		
		Unit	No.		5		
0		Mode	l number		RT-XLM	ISA08N	
		Unit	features		MasterI	O-Link 8Ports	
		Conn	ector		M12		
<u> </u>	<u>e</u>	Proce	ess data size	e(byte)	IN:38	, OUT : 34	
		Minir	num curren	t consumptio	n 100 m/	Α	
9 10-11	D D	ata st	rage clear				
Port	ect operation	on m	Input size	Output size	Error Co	de Error	^
0	IO-Link m	node	4	4			
1	IO-Link m	node	4	4			
2	IO-Link m	node	4	4			
3	IO-Link m	ode	4	4			
4	IO-Link m	node	4	4			
5	IO-Link m	ode	4	4			
6	IO-Link m	node	4	4			
7	IO-Link m	ode	4	4			~

IO-Link Master

EtherCAT, EtherNet/IP, PROFINET, WebAPI device

onic cum	ent statu	IS Unit SET	S CH-each SETS	Forced I/O SETS
ð		Vers	ion 0102-0000-000	0
©	©	Unit No.		7
		Model nur	mber	RT-XAAGA02N
		Unit featu	ires	AnalogInput 2CH
		Connector		M12
		Process da	ata size(byte)	IN: 4,OUT: 0
		Minimum	current consumptio	n 70 mA
O Banado	. 0			
CH	IO	Error Code	Er	TOP
CH 0	IO IN	Error Code 0x8100	Er 'ower line error det	ror ection Hold force OFF
CH 0 1	IO IN IN	Error Code 0x8100 0x8100	Er 'ower line error det 'ower line error det	ror ection Hold force OFF ection Hold force OFF
CH 0 1	IO IN IN	Error Code 0x8100 0x8100	Er 'ower line error det 'ower line error det	ror ection Hold force OFF ection Hold force OFF
CH 0 1	IO IN IN	Error Code 0x8100 0x8100	Er 'ower line error det 'ower line error det	ror ection Hold force OFF ection Hold force OFF
CH 0 1	IO IN IN	Error Code 0x8100 0x8100	Er 'ower line error det 'ower line error det	ror ection Hold force OFF ection Hold force OFF
CH 0 1	IO IN IN	Error Code 0x8100 0x8100	Er 'ower line error det 'ower line error det	ror ection Hold force OFF ection Hold force OFF
CH 0 1	IO IN IN	Error Code 0x8100 0x8100	Er 'ower line error det 'ower line error det	ror ection Hold force OFF ection Hold force OFF

Unit current status CH-each SETS Forced I/O SETS $\boldsymbol{\mathcal{V}}$ Version 0102-0000-0000 · Ø . Ø Unit No. 8 RT-XBAGA02N AnalogOutput 2CH Model number Unit features M12 Connector Process data size(byte) IN: 0,OUT: 4 Minimum current consumption 25 mA 9 RAA CH IO Error Code Error 0x8100 ver line error detection Outputting manua 0x8100 ver line error detection Outputting manua OUT 0 1 OUT

Analog input

Analog output

Unit	Button name (⑤)	Status display type (⑥)	Reference
EtherCAT, EtherNet/IP and PROFINET device, WebAPI unit	Latch reset	No./item/value	3.2.2
IO-Link master	Data storage clear	Port / IO / input size / output size / error code / error	3.2.10
Analogue input	-	CH / IO / error code / error	
Analog output	-	CH / IO / error code / error	

ι	Unit curre	ent statu	IS Connector-e	each SETS	Poir	nt-each SETS	Forced I/O S	ETS
		3	Version	0102-0000	-000	0		
			Unit No.			2		
	© "(3	Model numb	er		RT-XADGA16	5B	
			Unit features			DigitalInput	16Points NPN	
			Connector			M12		
			Process data	size(byte)		IN: 2,OU	Т: О	
		101.16	Minimum cur	rrent consum	ptio	n 110 mA		
			Reset Off_Or	cycle 5				
(6)	points	IO	Off_On cycle	Error Code		Erro	r	^
Ĭ	0	IN	0					
	1	IN	0					
	2	IN	0					
	3	IN	0					
	4	IN	0					
	5	IN	0					
_								
	6	IN	0					

デジタル入力

l	Unit curre	ent stati	us Point-each	SETS Force	d I/O SETS
	O	0	Version	0102-0100-	FFFF
	•••		Unit No.		9
		Ð 6	Model numb	er	RT-XVVCN32A
			Unit features	;	TVGValve IF 32Points PNP
			Connector		
			Process data	size(byte)	IN: 0,OUT: 4
		96	Minimum cur	rrent consum	otion 15 mA
	Valvel [®] (PMP)		Reset Off_Or	n cycle 5	
6	points	IO	Off_On cycle	Error Code	Error ^
	0	OUT	0		
	1	OUT	0		
	2	OUT	0		
	3	OUT	0		
	4	OUT	0		
	5	OUT	0		
	6	OUT	0		
	7	OUT	0		

バルブ I/F

l	Jnit curre	ent statu	IS Point-each	SETS Force	d I/O SETS		
		3	Version	0102-0000-0	0000		
			Unit No.		1		
	(C)	\Im	Model numb	er	RT-XBD	GA16B	
			Unit features	;	Digital	Output 16Poin	ts NPN
			Connector		M12		
	OUT	نا	Process data	size(byte)	IN : 0	, OUT: 2	
		22236	Minimum cu	rrent consump	otio <mark>n 20 mA</mark>		
	10°°000 10						
	O E Depts		Reset Off_Or	n cycle 5			
6	o ∎ ∞	IO	Reset Off_Or Off_On cycle	Error Code		Error	^
6	points	IO OUT	Reset Off_Or Off_On cycle 0	Error Code		Error	^
6	© ∎ ¤oww points 0 1	IO OUT OUT	Reset Off_Or Off_On cycle 0 0	Error Code		Error	^
6	points 0 1 2	IO OUT OUT OUT	Reset Off_Or Off_On cycle 0 0 0	Error Code		Error	^
6	points 0 1 2 3	IO OUT OUT OUT OUT	Reset Off_Or Off_On cycle 0 0 0 0	Error Code		Error	^
6	points 0 1 2 3 4	IO OUT OUT OUT OUT OUT	Reset Off_Or Off_On cycle 0 0 0 0 0 0 0	Error Code		Error	^
6	points 0 1 2 3 4 5	IO OUT OUT OUT OUT OUT OUT	Reset Off_Or Off_On cycle 0 0 0 0 0 0 0 0 0	Error Code		Error	
6	points 0 1 2 3 4 5 6	IO OUT OUT OUT OUT OUT OUT OUT	Reset Off_Or Off_On cycle 0 0 0 0 0 0 0 0 0 0	error Code		Error	^

デジタル出力

Unit	Button name (⑤)	Status display type (⑥)	Reference
Digital input	Reset Off_On cycle	Point / IO / Off_On cycle / error code / error	3.2.7
Digital output	Reset Off_On cycle	Point / IO / Off_On cycle / error code / error	3.2.7
Valve I/F	Reset Off_On cycle	Point / IO / Off_On cycle / error code / error	3.2.7

■ [Unit SETS] tab (Device unit and analog input unit only)

Configures settings in each unit.

L	Init cur	rrent status Unit SETS	3		
1	Set ti	me for RT	9 Factor	y default Set all items	4
5	NO.	Unit SETS	Current value	Set value ^	
	1	Unit/input power monitoring	ON	ON	
	2	Output power monitor	ON	ON	
	3	Analog vallue byte order	Big endian	Big endian	
	4	PDO Mapping Assignment Erro	OFF	OFF	
	5	Save log ON/OFF	Save? : Yes	Save? : Yes	
	6	Maximum number of saved lo	100	100	
	7	Saving logs (method)	Stop at maximu	Stop at maximu	
	8	Time to save log	Real-time	Real-time	
	9	Error log save(record) time/m			
	10	Filter ON/OFF (Error type)	ON	ON	
	11	Filter ON/OFF (Unit ID)	ON	ON	
	12	Filter ON/OFF (Unit position n	ON	ON	
	13	Filter ON/OFF (CH number)	ON	ON	
	14	Log filter (Error type)	0	0	
	15	Log filter (Unit ID)	RT-XTECN00N	RT-XTECN00N	
	16	Log filter (Unit position number	0	0 ~	

No.	Name	Content	Referen ce
1	[Set time for RT] button Note 1	Set the time of the device unit. Note 2	3.2.1
2	[←] button	[Back] button. Returns to the previous status.	3.4.7
3	[Factory default] button	Reads the initial values (factory setting values) of the unit.	3.2.3
4	[Set all items] button	Reflects the changed settings.	-
5	Setting list	Displays and changes each setting item. Changes are made in the "set value" column. Note 3	3.2.3

Note 1: For device units.

Note 2: Click to open the "Set time window." Note 3: Depending on the setting, it may be displayed only.

■ [Connector-each SETS] tab (digital input unit only)

Sets the power line error detection for digital input units in each connector.

ι	Jnit cur	rent stat	us Connector-e	ach SETS	Point-each SETS	Forced I/O S	SETS
D	✓ Batcl	h change	mode	29	Factory defau	IIt Set all ite	ems <mark>(</mark>
5)	NO.	onnecto	Unit SE	TS	Current value	Set value	^
	⊿	0					
	1	0	Power line error	detection	Enable	Enable	
	4	1					
	1	1	Power line error	detection	Enable	Enable	
	4	2					
	1	2	Power line error	detection	Enable	Enable	
	4	3					
	1	3	Power line error	detection	Enable	Enable	
	4	4					
	1	4	Power line error	detection	Enable	Enable	
	4	5					
	1	5	Power line error	detection	Enable	Enable	
	4	6					
	1	6	Power line error	detection	Enable	Enable	
	4	7					
	1	7	Power line error	detection	Enable	Enable	¥ .

No.	Name	Content	Reference
I	[Batch change mode] check box	Check the checkbox to reflect a change in one location to all connectors' settings.	3.2.1
2	[←] button	[Back] button. Returns to the previous status.	3.4.6
3	[Factory default] button	Reads the initial values (factory setting values) of the unit.	3.2.1
4	[Set all items] button	Reflects the changed settings.	3.2.1
5	Setting list	Displays and changes the power line error detection for each connector. Changes are made in the "set value" column.	3.2.1

[Block-each SETS] tab (digital input unit (push-in terminal type) only)

Sets the power line error detection for digital input units in each connector.

U	Jnit cui	rrent stat	Block-each SETS	Point	each SETS	Forced I/O SETS	
1	Batc	h change	e mode	9	Factory defa	ult Set all ite	ms
5	NO.	onnecto	Unit SETS		Current value	Set value	^
	4	0					
	1	0	Power line error detection	tion	Error detection	Error detection	
	4	1					
	1	1	Power line error deter	tion	Error detection	Error detection	
	4	2					
	1	2	Power line error deter	tion	Error detection	Error detection	
	4	3					
	1	3	Power line error deter	tion	Error detection	Error detection	
	4	4					
	1	4	Power line error deter	tion	Error detection	Error detection	
	4	5					
	1	5	Power line error deter	tion	Error detection	Error detection	
	4	6					
	1	6	Power line error deter	tion	Error detection	Error detection	
	4	7					
	1	7	Power line error deter	tion	Error detection	Error detection	~

No.	Name	Content	Reference
1	[Batch change mode] check box	Check the checkbox to reflect a change in one location to all blocks' settings.	3.2.1
2	[←] button	[Back] button. Returns to the previous status.	3.4.6
3	[Factory default] button	Reads the initial values (factory setting values) of the unit.	3.2.1
4	[Set all items] button	Reflects the changed settings.	3.2.1
5	Setting list	Displays and changes the power line error detection for each connector. Changes are made in the "set value" column.	3.2.1

■ [CH/Point/Port-each SETS] tab

Configures settings in each CH/point/port. Each unit has a different setting unit, so it is either [CH/Point/Port-each SETS] tab.

Unit cur	rent sta	tus Port-each SETS Forced	I I/O SETS D	evice settings	•				
Batch	n change	り Write device config.	Factory defa	ult Set all ite	ms				
NO.	Port	CH-each SETS	Current value	Set value	^				
•	0								
•	1								
4	2								
1	2	Device ID	0	0					
2	2	Vendor ID	0	0					
3	2	Revision	0 0						
4	2	Input size(byte)	4	4					
5	2	Output size(byte)	4	4					
6	2	Serial number							
7	2	Select operation mode	IO-Link mode	IO-Link mode					
8	2	Device verification	Disable	Disable					
9	2	Setting backup	Disable	Disable					
10	2	Restore settings	Disable	Disable					
11	2	Synchronization of cycle time	Disable	Disable					
12	2	Communication error operation	rror operatic HOLD HOLD						
13	2	Power line error detection	ON	ON	~				

No.	Name	Content	Reference
1	[Batch change mode] check box	Check the checkbox to reflect a change in one location to the settings of all CHs/points/ports.	3.2.1
2	[←] button	[Back] button. Returns to the previous status.	3.4.6
3	[Write device config.] button Note 1	Writes the configuration information of the IO-Link device connected to the port to the IO-Link master unit. Note 2	3.2.8
4	[Factory default] button	Reads the initial values (factory setting values) of the unit.	3.2.1
5	[Set all items] button	Reflects the changed settings.	3.2.1
6	CH/point/port list	Displays and changes setting items for each CH/point/port. Changes are made in the "set value" column.	3.2.1

Note 1: For IO-Link master unit.

Note 2: Configuration information includes device ID, vendor ID, revision, input size, output size, and serial number.

■ [Forced I/O SETS] tab (for analog units)

Displays and sets the forced I/O for the selected unit.



No.	Name	Content	Reference
1	Forced I/O current value area	Displays the forced I/O current value.	3.2.5 3.2.6
2	Forced I/O setting value area	Select CH, and input values directly or using the [Analog I/O value conversion window].	Same as above
3	[Analog I/O value conversion window] button	Click the input area in the set value area to display it in the upper right corner.	Same as above
4	[Forced ON] button	0xFFFF in a batch.	Same as above
(5)	[Forced OFF] button	0x0000 in a batch.	Same as above
6	[Unit Cancel] button	Cancels the forced status.	Same as above
$\overline{\mathcal{O}}$	[Apply] button	Reflects the contents of the "forced I/O setting value area" to RT.	Same as above
8	[All Unit Cancel] button	Instructs RT to cancel the forced status on the entire Remote I/O system.	Same as above
9	Format list	Drop-down list of [Analog value], [%FS], and [DEC]. Select a display format.	Same as above
10	Input window	Input values directly.	Same as above
1	[OK] button	Input the format and value, then press to confirm.	Same as above
12	[Set all] check box	Check the checkbox to apply the setting change to all the CHs.	Same as above

■ [Forced I/O SETS] tab (for digital and valve I/F units)

Displays and sets the forced I/O for the selected unit.



No.	Name	Content	Reference
1	Forced I/O current value area	Displays the forced I/O current value.	3.2.5 3.2.6
2	Forced I/O setting value area	Click the point to switch between [Forced OFF]/ [Forced ON]/[Forced cancel] in that order.	Same as above
3	[Forced ON] button	Turns ON all points in a batch. This is reflected in the set value.	Same as above
4	[Forced OFF] button	Turns OFF all points in a batch. This is reflected in the set value.	Same as above
5	[Unit Cancel] button	Cancels the forced status of all points in a batch. Reflects to the setting value.	Same as above
6	[Apply] button	Reflects the contents of the "Forced I/O setting value area" to RT.	Same as above
0	[All Unit Cancel] button	Instructs RT to cancel the forced status on the entire Remote I/O system.	Same as above

■ [Forced I/O SETS] tab (for IO-Link master units ①)

Displays and sets the forced I/O for the selected unit. This is for fixed-size process data.



No.	Name	Content	Reference
1	Target select list	Selects the setting item from the drop-down list. Note 1	3.2.5 3.2.6
2	[Fixed-size process data] type list	Selects the data type from the drop-down list. Note 2	Same as above
3	In/Out select button	Selects [In] (forced input) or [Out] (forced output).	Same as above
4	Forced I/O current value area	Displays the forced I/O current value.	Same as above
5	Forced I/O setting value area	Click the point number to change the forced I/O. Changes in the order of [Forced OFF]/ [Forced ON]/[Forced cancel] Note 3	Same as above
6	[Forced ON] button	Turns all of the display range ON in a batch.	Same as above
$\overline{\mathcal{O}}$	[Forced OFF] button	Turns all of the display range OFF in a batch.	Same as above
8	[Unit Cancel] button	Cancels the forced status of the displayed area in a batch.	Same as above
9	[Apply] button	Reflects the contents of the "forced I/O setting value area" to RT.	Same as above
10	[All Unit Cancel] button	Instructs RT to cancel the forced status on the entire Remote I/O system.	Same as above

Note 1: Drop-down list of [Fixed-size process data], [0 Port] to [7 Port].

Note 2: Enabled only when "Fixed-size process data" is selected. The list content varies depending on [In/Out select button] selection.

Note 3: Operation is not possible when the "Reflect setting waiting" is occurring on the IO-Link master unit.

■ [Forced I/O SETS] tab (for IO-Link master units ②)

Displays and sets the forced I/O for the selected unit. This is for when the "Target select list" is chosen to "Port 0" to "Port 7".

	Unit curr	ent st	tatus	S I	Port	-eac	h SE	TS	Fo	rced	I/O	SET	S	Device settings C				
1	0 Port			~	Dig	gital	inpu	ıt 1			\sim			2		Mani	ual n	node
3	◉ In	() <mark>O</mark> l	ut														
4	FORCE +00 +10	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
5	MASK +00 +10	+0 00	+1 00	+2 00	+3 00	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
6 9	6 Forced ON Forced OFF Apply 8 9 Unit Cancel 10																	

No.	Name	Content	Reference
1	Target select list	Selects the port to be set from the drop-down list. Note 1	3.2.5 3.2.6
2	[Manual mode] check box	Selects enable/disable of the manual mode.	Same as above
3	In/Out select button	Selects [In] (forced input) or [Out] (forced output).	Same as above
4	Forced I/O FORCE area	Specifies the setting value of forced input and forced output in hexadecimal.	Same as above
5	Forced I/O MASK area	Specifies the bit to enable forced I/O in hexadecimal when [Manual mode]. Note 2	Same as above
6	[Forced ON] button	Turns all of the display range 0xFF in a batch.	Same as above
7	[Forced OFF] button	Turns all of the display range 0x00 in a batch.	Same as above
8	[Unit Cancel] button	Cancels the forced status of all of the display range in a batch.	Same as above
9	[Apply] button	Reflects the contents of the "FORCE Area" and "MASK Area" to RT.	Same as above
10	[All Unit Cancel] button	Instructs RT to cancel the forced status on the entire Remote I/O system.	Same as above

Note 1: Drop-down list of [Fixed-size process data], [0 Port] to [7 Port]. Note 2: Operation is not possible when the "Reflect setting waiting" is occurring on the IO-Link master unit.

■ [Device SETS] tab (IO-Link master unit only)

Loads the IODD file of the connected device and displays device information.

		or log ISDU	Get erro	Device settings	I/O SETS	orced				
Device s	2				IODD file	Loa				
siz utput s	nput	Device		Vendor	Mode	DR'				
4 0	M 4	PPX-R10PC-6N	ation	CKD Corpora	Link mode	0 0				
k mode-Link communication is inval 4 4										
4	4		ion is inva	nk communicat	Link mode	2 0				
4	4		ion is inva	nk communicat	Link mode	3 0				
4	4		ion is inva	k communicat	Link mode	4 0				
4	4		ion is inva	k communicat	Link mode	50				
6 O-Link modeLink communication is inval 4 4										
				k communicat	Link mode	7 0				
4 4	4	i i	ion is inva	nk communicat	Link mode	7 0				
4 4 Device set	4	l	ion is inva	k communicat	Link mode Link mode	7 O				
4 4 Device set	4	Value	ion is inva	tem	Link mode tails	7 O ort d NO.				
4 4 Device set	4	Value	217907	tem	Link mode tails Device Id	7 0 ort d NO.				
4 4 Device set	4	Value	2179073 855	tem	Link mode tails Device Id Vendor Id	7 0 ort d NO. 1				
4 4 Device set	4	Value B Dooration	217907: 855 CKD Cor	tem	Link mode tails Device Id Vendor Io Vendor N	7 0 ort d NO. 1 2 3				
e Fu	4 (4)	Value Value poration on Technology	217907 855 CKD Cor Automat	tem	Link mode tails Device Id Vendor Id Vendor N Vendor To	7 0 ort d NO. 1 2 3 4				
4 4 Device se	4 (4) / for th	Value Value poration on Technology vww.ckd.co.jp/	217907: 855 CKD Cor Automat https://v	tem	Link mode Link mode tails Device Id Vendor I Vendor N Vendor To Vendor U	7 0 ort d NO. 1 2 3 4 5				

No.	Name	Content	Reference
1	[Load IODD file] button	Specifies the IODD to be loaded. The specified IODD will be stored in the [¥Users¥¥AppData¥Roaming¥CKD¥RTXTools¥iodd] folder.	3.2.12
2	[Device scan] button	Scans the connected IO-Link device and verifies it against the loaded IODD file. Requires data necessary for verification from RT.	Same as above
3	PORT list	Displays information about the IO-Link device scanned.	Same as above
4	[Device settings] button	Displays the device sub window selected in the PORT list.	Same as above
5	[Port details] area	Displays details of the IO-Link device selected in the PORT list.	Same as above

■ [Get error log] tab (IO-Link master unit only)

Acquire the error log and display it in the "Diagnosis" and "ISDU" areas. Note 1

	Port-each SETS	Forced I/O SETS	Devi	ice settings	Get error log	ISDU	• •
1	0 Port v	Get error log 2					
	Diagnosis						_
3	Order of error	Event Qualifier		Eve	nt code		
							_
	ISDU						
4	Order of error	I-Service	Er	ror code	Additional	code	

No.	Name	Content	Reference	
I	Target select list	Select the target port from the drop-down list. Note 2	3.2.11	
2	[Get error log] button	Displays error logs in the Diagnosis and ISDU areas. Displays "No error" if there is no error. Note 1	Same as above	
3	Diagnosis area	Displays event codes in event communications.	Same as above	
4	ISDU area	Displays error responses in ISDU communications.	Same as above	

Note 1: For details on error logs, refer to the Instruction Manual for the IO-Link master unit. Note 2: This is the drop-down list of [0 Port] to [7 Port].

 When "Get error log" is performed, the error log data held at IO-Link master unit is acquired. Once the error log data is loaded, it is cleared from the IO-Link master unit.

■ [ISDU] tab (IO-Link master unit only)

Displays and changes information on ISDU communications. Reads and writes service data of IO-Link device corresponding to index/sub index.

	Port-each SETS					Forced I/O SETS							Device SETS					et e	rror lo	g ISDU	4
1		0 Port				\sim							(4)								
2	0	🖲 Rea	d	0	Wr	ite	3	Ir	nde	x [1	.6		s	ubI	ind	ex			Size	5	
6	ſ	Read	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F		Start CO	mm 🛛
		+00	43	4B	44	20	43	6F	72	70	6F	72	61	74	69	6F	6E	00			
		+10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		Succeed	ed
		+20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
		+30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		E	rror code	0x00
		+40																		م المحمد تغنامات	- d-
		+50																	f	daltional c	ode
		+60																			0x00
		+70																		•••••	
		+80																			
		+90																			
		+A0																			
		+B0																			
	I	+C0																			
		+D0																			
		+E0																			
		+F0																			
																			ŀ	IEX	~ 8

No.	Name	Content	Reference
1	Target select list Select a port from the drop-down list. Note 1		3.2.9
2	[Read]/[Write] button	Select [Read] or [Write].	Same as above
3	[Index] input area Specifies the index number of the service data of IO- Link device. Note 2		Same as above
4	[SubIndex] input area Specifies the sub index number of the service data of IO-Link device. Note 3		Same as above
5	[Size] input area	(When writing) Specifies the size of the service data of IO-Link device.	Same as above
6	Service data area Displays write/read service data.		Same as above
1	[Start COMM] button	Start COMM] buttonPerforms write/read. The performed result is displayed under the button as [Succeeded], [Failed], [Not used], etc.	
8	Display format select list	Switch the format of the service data area (⑥) by selecting from the drop-down list. Note 4	Same as above

Note 1: Drop-down list of [0 Port] to [7 Port]. Note 2: When entering hexadecimal, enter "0x" at the beginning. Otherwise, it is processed as a decimal. Note 3: If there is no input, it is processed as "0."

Note 4: Drop-down list of [HEX], [DEC], and [ASCII].

1.5.4. Device sub window Click the [Device SETS] button in the [Device SETS] tab of the IO-Link master unit to display the device sub window.

	DressenDet	a Idontifi	antion Darama	otor Obsonvet	ian Dinanasi						
	PIOCESSDau	a Identin		eter Observat	IUT Diagnosi	5					
vervie	ew										
umbe Item			Details	Â		_					
1 Device Id		21/90/3			CK						
2 Vendor Id		OSS CKD Corr	oration								
ן 1 י	Vendor Text	Automati	on Technoloav f	o							
بامتا د	Device Discription				170	- 200					
J-LINK	Device Discrip				CRU PPA IPPE	of the set					
Item Details			ils		ПП						
ODD	C:¥Users	¥ ¥Ap	pData¥Roaming	J							
Revision V0.2						1 120					
Date	2019-07-	00			Dare 2013-01-03						
Date	2019-07-	09				/					
Date	2019-07- tor	.09									
Date Donnect	2019-07- tor	09 lumbe	Name	Function	Color						
Date	2019-07- tor	lumbe	Name	Function L+	Color						
Date	2019-07- tor	09	Name Digital Out	Function L+ Other	Color						
Date	2019-07- tor	09	Name Digital Out Digital Out	Function L+ Other L-	Color						

No.	Name	Content	Reference
1	[Sub window]/[Main window] display button	Displays [Sub window]/[Main window] .	-
2	Various tabs	Tabs for each item of the IODD file. Displays according to the contents of the IODD file. Note 1	
3	Device details area	Displays details of the device loaded in the IODD file.	

Note 1: [Common][ProcessData][Identification][Parameter][Observation][Diagnosis] tabs. Displays to match the contents of the IODD.
■ [Common] tab

Displays data registered in the IODD.

	Commo	on	ProcessData	Iden	tification	Parameter	Obser	vation	Diagno	sis	
	Overvi	iew									
1	umbe		Item		Detai	ls	^				2
	1	Dev	vice Id	21790	73						
	2	Ver	ndor Id	855					- 15		
	3	Ver	ndor Name	CKD C	orporatior	ı					
	4	Ver	ndor Text	Autom	ation Tec	hnology fo	~				-
	IO-Lin	k De	evice Discripti	on					~~	and the second	4
3	Ite	em		D	etails					a final	
	IODD)	C:¥Users¥	ł	AppData	¥Roaming			LL	1	
	Revis	sion	V0.2					2	101	J	
	Date		2019-07-0	9						5 /	
	Conne	ctor									-
(5			2	lum	ibe	Name	Functior	n C	Color		6
		1		1			L+				
				2	Digita	l Out	Other				_
	3	`		3	Digita	l Out	L-				_
		$\overline{\ }$	_	4	Digita	l Out	C/Q				
			4'								_
		N	12-4								

No.	Name	Content	Reference
I	Device details	Displays device details, including vendor ID.	3.2.12
2	Logo	Displays the logo registered on the device.	Same as above
3	Device Description	Displays the description defined in the IODD file.	Same as above
4	Device image	Displays an image of the device.	Same as above
5	Connector diagram	Displays connector diagrams of the device, etc.	Same as above
6	Connector details	Displays details of the device, such as connectors, etc. Contents vary for each device.	Same as above

[ProcessData] tab

Displays process data loaded in the IODD.

	Common	ProcessData	Identificat	tion	Parameter	Observation	Diagnosis	
1		Name			Cu	rrent value		Unit
	Process I	Data In						
	Pressure			-0.0	02			
	Error lev	el		Norr	mal			
	Informat	ion Notification		No r	notification			
	Control (Dutput(DO)		OFF				
	Scale			-3				

No.	Name	Content	Reference
1	Process data details area	Displays details of the process data.	3.2.12

[Identification] tab

Displays and changes identification information of the IO-Link device connected.

ommon Proces	sData	a Identification	Paramet	ter Obser	vation D	iagnosis
☑ Sequential writi	ng			2	Read all	Set all ite
Name	R/W	Current value		Set	value	tatu Unit
Vendor Name	ro	CKD Corporation				OK
Vendor Text	ro	https://www.ckd.co	.jp/			OK
Product Name	ro	PPX-R10PC-6M				OK
Product ID	ro	PPX-R10PC-6M				OK
Product Text	ro	Digital pressure sen	sor			OK
Serial Number	ro	0624G				OK
Application-spec	i rw	***		***		OK
Hardware Revisi	ro	1.0				OK
Firmware Revision	ro	1.01				OK

No.	Name	Content	Reference
1	[Sequential writing] button	Writes sequentially.	3.2.12
2	[Read all] button	Reads data from the device.	Same as above
3	[Set all items] button	Reflects the changed settings. Note 1	Same as above
4	Details display area	Displays identification details of the selected device.	Same as above

[Parameter] tab

Displays and changes the parameters of the IO-Link device connected.

Common	Process	sData	a Identification	Parameter	Observation	Diagnosis	
Sequent Sequent	tial writi	ng			2 Read a	II Set a	all items
Nan	ne	R/W	Current value		Set value	tatu	Unit ^
Respons	e Time	rw	2.5 ms	2.	.5 ms	OK	
System (Comman	wo		Ze	ero-adjustment se	tting -	
System (Comman	wo		Re	emote Zero-adjus	tment s -	
System (Comman	wo		Ze	ero-adjust setting	unset -	
System (Comman	wo		Au	uto-reference sett	ing -	
Output C	peration	rw	N.O.	N.	.0.	-	
Output C	peration	ro	N.O.			-	
Sensing	Output 9	rw	0	0		-	
Threshol	d Value	rw	0.000	0.	.000	-	
Threshol	d Value	rw	0.000	0.	.000	-	
Hysteres	is Settin	rw	0	0		-	
Pressure	Unit Set	rw	MPa	M	Pa	OK	
ECO Sett	ing	rw	OFF	0	FF	OK	
Zero-adj	ust	ro	Not executed			OK	
Display (Color Set	rw	Red when ON, Gree	en whei Re	ed when ON, Gree	en whei OK	
Display 9	Setting o	rw	Std	St	:d	OK	
Display 9	Speed Se	rw	250ms	25	50ms	OK	
Peak / B	ottom Ho	rw	OFF	0	FF	OK	
No** Dis	play Set	rw	01	01	1	OK	
Custom [Display S	rw	AAAA	AA	AAA	OK	
Local Us	er Interf	rw	Unlocked	Ur	nlocked	OK	

No.	Name	Content	Reference
I	[Sequential writing] button	Writes sequentially.	3.2.12
2	[Read all] button	Reads data from the device.	Same as above
3	[Set all items] button	Reflects the changed settings. Note 1	Same as above
4	Details display area	Displays parameter details of the selected device.	Same as above

[Observation] tab

Displays and changes observation information of the IO-Link device connected.

Common	Proces	sData	a Identification	Parame	ter Obser	vation Di	agnosis
Seque	ential writ	ing			2	Read all	Set all items
) N	ame	R/W	Current valu	e	Set	: value	tatu Unit
Scale		ro	-3.000000				
Contro	l Output(I	o ro	ON				
Inform	nation Noti	f ro	No notification				
Error I	evel	ro	Normal				
Pressu	re	ro	-0.004				
_							
-							

No.	Name	Content	Reference
1	[Sequential writing] button	Writes sequentially.	3.2.12
2	[Read all] button	Reads data from the device.	Same as above
3	[Set all items] button	Reflects the changed settings. Note 1	Same as above
4	Details display area	Displays observation details of the selected device.	Same as above

■ [Diagnosis] tab

Displays and changes diagnosis information of the IO-Link device connected.

Common ProcessData Identification Parameter Observation Diagnosis Sequential writing 2 Read all Set all items (3) 4 Name Current value R/W Set value tatu Unit System Comman wo Restore Factory Settings Device Status ro Device is OK Detailed Device 5 ro 0x00,0x00,0x00 Notification Flag rw Notify Notify Notification Even ro no information Operating Time ro 0 Number of Data ro 0

No.	Name	Content	Reference
1	[Sequential writing] button	Writes sequentially.	3.2.12
2	[Read all] button	Reads data from the device.	Same as above
3	[Set all items] button	Reflects the changed settings. Note 1	Same as above
4	Details display area	Displays diagnosis details of the selected device.	Same as above

2. INSTALLATION

2.1. Obtaining the installer

Obtain the RTXTools installer from the company's website. Product detail page: <u>https://www.ckd.co.jp/kiki/jp/product/list?cid=190&sid=0</u>

<Procedure to obtain>

1. Click the above URL or select from the CKD website to display the product detail page

Select in this order: CKD website \rightarrow COMPONENTS TOP \rightarrow Controllers (Category) \rightarrow Remote I/O (Product Category). Also searchable with the "RT."

2. Click "Software" on the "Remote I/O" page



3. Click the installer [RTXTools.zip] on the "Software" select screen to download

4. Download complete

Extract the zip file and an "RTXTools" folder containing "Setup_eng.msi" will be created on the desktop.



2.2. Installation procedure

1. Double-click "Setup_eng.msi" to start the "Setup Wizard"

If a message that warns of installing a program from an unknown publisher is displayed at the start of the installation, select [Yes] to continue the installation.

2. Click [Next] in the "Setup Wizard" dialog box



3 Read the "License Agreement" dialog box and check the "Agree," then click [Next]

RTXTools		_		
icense Agreemer	ıt			
lease take a moment to read	the license agreement now. If you a	ccept the terms	below, clic	k ''l
gree, then Next. Otherwise	Click Lancel .			
Should any provision unenforceable, such and interpreted so original provision and the remaining full force and effe	sion of this Agreemen provision shall be mod as to best accomplish t , to the fullest exten provision of this Agreement.	nt be he lified by t .he objecti t permitte ment shall	ld to he Parti ves of t ed by la remain	be es he w, in
I I I I I I I I OVI) Corporation on April 19	3, 2023.		
Last Updated by CKL				
OIDo Not Agree				

4 Check the destination folder and click [Next]

The folder name is displayed by default. To save the file in a different folder, select it with "Browse."



5. Follow the "Confirm Installation" dialog box and click [Next]

RTXTools			-		×
Confirm Installation					
The installer is ready to install RTXT ools on g	your computer.				
Click "Next" to start the installation.					
	< <u>B</u> ack	<u>N</u> ext >		Can	cel

6. Follow the "Installation Complete" dialog box and click [Close] to close the dialog box

RTXTools			-		×
Installation Complete					5
RTXTools has been successfully installe	ed.				
Click "Close" to exit.					
	< <u>B</u> ack	Close		Can	icel



When RTXTools is installed, a PDF file of the driver for Windows 7 and its installation instructions is included in the same folder as the execution file (4: Installation folder above).

2.3. Driver installation procedure

This describes how to install the driver.

- For Windows 7. For Windows 10, the standard driver is used.
 - Do this after 2.2 "Installation procedure." Once installed, the necessary files are saved on the PC.

Connect the PC and device unit with a USB cable 1.

Cancel the "Driver software installation" dialog box 2.

A dialog box will appear, select the "Skip retrieving driver software from Windows Update" message to cancel.



3. Open [Device manager], go to [PC name] - [Other devices], right-click [CKD RTX Series], and select [Driver software update]



4. When the "Driver software update" dialog box is displayed, select "Browse the computer to find driver software (R)"



5. Select "Select from the list of device drivers on the computer (L)"

The folder name is displayed by default. To save the file in a different folder, select it with "Reference (R)."



6. Select "Port (COM and LPT)" and click [Next]

6	◎ ドライバー ソフトウェアの更新 - CKD RTX S	eries	
	次の一覧からデバイスの種類を選択してください。 共通ハードウェアの種類(H):		*
	⇒ブリンター ⇒ブロセッサ ⇒フロッピー ディスク ドライブ ⇒フロッピー ディスク ドライブ ⇒フロッピー ドライブ コントローラー		
8	■ポータブル デバイス 「「ポート (COM と LPT) 良 マウスとそのほかのポインティング デバイス 空 マリチボート ミリフリーアダプター		
	置 メディア チェンジャー デバイス コンモリ テクノロジ ドライバー ■ メモリ デバイス	ß	-

7. Click "Use disk (H).."

G	① ドライバー ソフトウェアの更新 - CKD RTX Series	
	このハードウェアのためにインストールするデバイス ドライバ ハードウェア デバイ2の製造元とモデルを選択して [たへ] を列 ディスがある場合は、「ティスの見用] を切っりして(だとい。	ーを選択してください。 りっりしてください。インストールするドライバーの
«	まが造元	
	このドライバーはデジタル署名されています。 ドライバーの署名が重要な理由	ディスク使用(H)
		します。 (次へ(N) キャンセル

8. When the "Install from floppy disk" dialog box is displayed, click "Browse (B).." to open the driver software file

The downloaded driver software file is saved in the folder selected in "4" of "2.2 Installation procedure."



🛃 RTX Tools	-		×
インストール フォルダーの選択			5
インストーラーは次のフォルダーへ RTX Tools をインストールします	•		
このフォルダーにインストールするにす[次へ]をクリックしてください。 トールするには、アドレスを入力するか[参照]をクリックしてください。	別のフォ	トルダーに	コンス
フォルダー(E):			
C¥Program Files (x86)¥CKD¥RTX Tools¥		参照(<u>R</u>)
	デ	ィスク領	域(<u>D</u>)
RTX Tools を現在のユーザー用が、またはすべてのユーザー用にインスト	ールしま	र्वः	
○すべてのユーザー(E)			
●このユーザーのみ(M)			
〈戻る(<u>B</u>) 次へ(<u>i</u>	() >	キャン	セル

9. Select "USBDriver(CKD_RTX_Driver_sha256.inf)" in the downloaded file and click [Open]



10. When the "Install from floppy disk" dialog box is displayed, click [OK]



11. When the "Driver software update" dialog box is displayed, select [Next]



Note: If a "Driver update warning" message is displayed, click [Yes] to continue.



12. When the "Windows security" dialog box is displayed, select [Install]



13. When the "Driver software update" dialog box is displayed, click [Close]

A message will be displayed saying, "Installation of the driver software for this device has finished."





• For details, refer to the video on the company's website. Product detail page:<u>https://www.ckd.co.jp/kiki/jp/product/list?cid=190&sid=0</u>

3. HOW TO USE



When using RTXTools to adjust equipment, thoroughly read the Instruction Manual for the equipment and use it properly.

• During the setting phase, the unit and its peripherals may operate unexpectedly.

3.1. Usage procedure

3.1.1. Powering up RT

Power up RT.



If there are multiple power supply units, turn them on at the same time (within 3 seconds). If the timing of the power supply is misaligned between power supply units by 3 seconds or more, a "Unit configuration error" may occur.

3.1.2. Cable connection

Connect the cables to prepare to use RTXTools. Connect RT and the computer and turn on RT.

There are two types of connections:

- USB connection Note 1
- WebAPI connection (LAN connection) Note 1: Use USB cable which connector for RT side is micro B type.

3.1.3. Start

Select RTXTools from the [CKD] folder in the Windows start menu.



When RTXTools starts up, the [Software Configure] window is displayed.

🕎 Software Configure			\times
COM Port ~			
USB シリアル デバイス (COM5)	~	Connect	
English	~		
Software Version 2.0.0			

Check that power is supplied to the power supply unit of the Remote I/O system and that the computer and device unit are connected with a USB cable before starting. If there is no USB connection, an error message is displayed.

RTXTools	×
Failed to communicate with RT.	
ОК	

RTXTools cannot be started at the same time. If RTXTools does not start, check whether it has already started. Refer to "<u>4.2 Causes of problems and troubleshooting</u>."

3.1.4. How to connect communication network

USB connection

- 1) Select the communication method to "COM port".
- Select the communication destination device. Note 1
 This software automatically detects RTs that are connected to the PC via USB and
 enumerates them as candidates for communication destinations. If PC is
 connected to multiple RTs, select the appropriate port.
- 3) Click the [Connect] button.

Software Configure	ĸ
COM Port ~	
USB シリアル デバイス (COM5) · Connect	
English v	
Software Version 2.0.0	

4) Wait for the progress bar to be displayed on the screen.

TXTools	×
Communicating with RT.Please wait.	
	Cancel

5) Once connected, the main window launches and the RT unit configuration screen is displayed.

RTXTools	in COMM	• WEE	3				
Error No error							
Unit configuration	I/O Monitor	I/O Memory	Error	Exp/Imp Setting	9		
Zoom in Zo	iom out		Minimu	m current consum	ption 425	.000 m	hΑ
		0.	0	000	0		
	Raming CO The		FFF CO	Rouse PP 0 Du	0		
	Gamma CO Ean	3	- FAR CO	20pm (94) (9) 20-12	Main		
Unit No. Model number	2	3 RT-XADGA1(6A	ROUMPER DO BOU	Main		
Unit No. Model number Unit features Connector	2 Anning (C) 12 A	3 RT-XADGA10 DigitalInput M12	6A 16Points	BOUNDER DO BOU	Main		
Unit No. Model number Unit features Connector Process data size	Grandag (2) 15 m	3 RT-XADGA10 DigitalInput M12 IN : 2 , OU	6A : 16Points	Rowier () 10-1	Main		

Check that the unit configuration screen is the same as the actual unit and the communication status of the device unit with the LED. If the "CF" LED is blinking, it is normal. Note 2

Note 1: Check the destination device (COM port) in the device manager. (Refer to Figure (5) in 4.1 RTXTools operation-related flowchart)

Note 2: End units and power supply units are not displayed on the unit configuration screen.

WebAPI(LAN) Communication

- 1) Select the communication method to "IP address".
- 2) Input the IP address.
- 3) Click the [Connect] button.

🕎 Software Configure	×
IP address ~	
192.168.1.10	✓ Connect
English	~
Software Version 2.0.0	

4) Wait for the progress bar to be displayed on the screen.

E RTXTools	×
Communicating with RT.Please wait.	
	Cancel

5) Once connected, the main window launches and the RT unit configuration screen is displayed.

RTXTools	in COMM	• WEB	·			Ī	1
Error No error							~
Unit configuration	I/O Monitor	I/O Memory Er	ror Exp,	/Imp Setting			
Zoom in Zoo	m out	Min	imum curr	ent consump	tion 425	.000 n	n/
		00	00		0		
			0.0		0 0 0		
			000		S S Main		
Unit No. Model number		C C C C C C C C C C C C C C C C C C C	00		S Main		
Unit No. Model number Unit features		3 RT-XADGA16A DigitalInput 16P	O C		S S Main		
Unit No. Model number Unit features Connector		3 RT-XADGA16A Digitalization to 500 million	oints PNP		S Main		

Check that the unit configuration screen is the same as the actual unit and the communication status of the device unit with the LED. If the "CF" LED is blinking, it is normal. Note 1

Note 1: End units and power supply units are not displayed on the unit configuration screen.



Disconnection

1) Click the [Software configuration window] button in the upper right corner of the main window.



2) The [Software Configure] window is displayed. Click the [Disconnect] button.

🕎 Software Configure		×
COM Port ~		
USB シリアル デバイス (COM5)	~	Connect
English	\sim	
Software Version 2.0.0		

3) To reconnect, click the [Connect] button.



3.1.5. Exit

1) Click the [X] button in the upper right corner of the main window.



If any sub windows are open, they are closed at the same time.



3.2. RT settings

3.2.1. Date and time settings

Set the date and time of the device unit. The date and time of the device unit is used as the date and time of the log data.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the device unit.



Main window

Sub window

 Click the [Set time for RT] button on the [Unit SETS] tab [Config] window is displayed.

.00 D	evice unit EtherCAT		View Ma	ain windov
nit cu	rrent status Unit SETS			
Set t	ime for RT	ッ Factor	ory default	Set all item
NO.	Unit SETS	Current value	Set value	,
1	Unit/input power monito	ring ON	ON	
2	Ou Config		×	
3	An			
4	PD ⊠Set internal time to	o current time.		
5	Sa 2024/03/21	9:00:54	÷ S	
6	Ma			
7	Sa	OK	Cancel Ixim	u
8	Tir			
9	Error log save(record) tin	ne/mi		
10	Filter ON/OFF (Error type	e) ON	ON	
11	Filter ON/OFF (Unit ID)	ON	ON	
12	Filter ON/OFF (Unit posit	ion ni ON	ON	
13	Filter ON/OFF (CH numbe	er) ON	ON	
14	Log filter (Error type)	0	0	
15	Log filter (Unit ID)	RT-XTECN00N	RT-XTECN00N	
16	Log filter (Unit position n	umbe 0	0	

4) Check "Set internal time to current time". To set the time manually, uncheck the box and enter the time.

Config		×
Set internal time to c	urrent time.	
2024/04/15	16:13:32	*
	ОК	Cancel

5) and click the [OK] button.

Config				2
⊠Se	t internal tin	ne to current	time.	
2024	/04/15		:13:32	•
			OK	Cancel

- The current time on the PC is displayed in the [Config] window by default.
- The effective range of the calendar is from January 1, 2000 to June 6, 2179.
- The initial value is set to 00:00:00 on January 1, 2000.
- The date and time settings are cleared when RT is turned off.

3.2.2. Latch reset

Perform a latch reset. Latch reset is to release the latch state.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the device unit.



Main window

Sub window

3) Click the [Latch reset] button on the [Unit current status] tab.

nit current	t status unit or To	
nit curren	Unit SETS	
0 ско 0 лим ⊜ го	Version 0100-010	00-000
Other OF	Unit No.	0
	Model number	RT-XTECN00N
	Unit features	Device unit EtherCAT
	Connector	
	Process data size(byte)	IN: 0,OUT: 0
	 Minimum current consu 	umption 100.000 mA
Von.		
) meat ^{re}	Latch reset	
NO.	Latch reset	Value
NO.	Latch reset Item Serial number	Value 00000034
NO. 1 2	Latch reset Item Serial number Dip SW (0)	Value 00000034 01
NO. 1 2 3	Latch reset Item Serial number Dip SW (0) Rotary dip SW (×16)	Value 00000034 01 00
NO. 1 2 3 4	Latch reset Item Serial number Dip SW (0) Rotary dip SW (×16) Rotary dip SW (×1)	Value 00000034 01 00 06
NO. 1 2 3 4	Latch reset Item Serial number Dip SW (0) Rotary dip SW (×16) Rotary dip SW (×1)	Value 00000034 01 00 06
NO. 1 2 3 4	Latch reset Item Serial number Dip SW (0) Rotary dip SW (×16) Rotary dip SW (×1)	Value 00000034 01 00 06
NO. 1 2 3 4	Latch reset Item Serial number Dip SW (0) Rotary dip SW (×16) Rotary dip SW (×1)	Value 00000034 01 00 06

4) Check the message and click "Yes". Latch reset is performed.



- For the latched LED, refer to the Instruction Manual for the device unit.
 - When a latch reset is performed, the latch state is released for the entire RT.
 In addition to using RTXTools, the latched state is also released when RT is restarted.

Displaying, changing, and loading 3.2.3. factory default values of setting data

Displays and changes the setting data of the connected unit and loads the factory default values.

CKD RTXT

Displaying

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.





Main window

Sub window

- 3) Click the setting ([xxxxSETS]") tab.
- 4) The current set values held by RT is displayed in the "current value" column.

.00 D	evice unit EtherCAT		View Main	n windov
nit cu	rrent status Unit SETS			
Set t	ime for RT	ら Facto	ry default Se	t all item
NO.	Unit SETS	Current value	Set value	
1	Unit/input power monitoring	ON	ON	
2	Output power monitor	ON	ON	
3	Analog vallue byte order	Big endian	Big endian	
4	PDO Mapping Assignment Erro	ON	ON	
5	Save log ON/OFF	Save? : No	Save? : No	
6	Maximum number of saved lo			
7	Saving logs (method)	Stop at maxim	Stop at maximu	
8	Time to save log	Per minute	Per minute	
9	Error log save(record) time/m	30	30	
10	Filter ON/OFF (Error type)	OFF	OFF	
11	Filter ON/OFF (Unit ID)	OFF	OFF	
12	Filter ON/OFF (Unit position n	OFF	OFF	
13	Filter ON/OFF (CH number)	OFF	OFF	
14	Log filter (Error type)	0	0	
15	Log filter (Unit ID)	0x00000000	0x00000000	
16	Log filter (Unit position numb	0	0	

If there is "▶" mark in the "No." column, clicking the mark displays a list of settings of each port.

Unit current status Conne	ctor-each SETS Point-each SET	TS Frank I/O CT
		Forced I/O SE
Batch change	Factory defa	ault Set all iter
NO. points CH-e	ach SETS Current value	Set value
► 0		
4 1		
1 1 Input Off_C	On cycle threshold 0	0
2 1 Input filter	time 0.1ms	0.1ms
3 1 Input hold	time 1ms	1ms
► 2		
► 3		
► 4		
► 5		
► 6		
▶ 7		
► 8		
• 9		
- 10		
	NO. points CH+e ↓ 0	NO. points CH-each SETS Current value ↓ 0

- The type of tab varies depends on the scope of the setting and unit. Types are as follows.
 - * When there is no response from RT

- *[Unit SETS]: Device unit, analog input unit
- *[Connector-each SETS]: Digital input unit
- *[Block-each SETS]: Digital input unit Push-in terminal type
- *[CH-each SETS]: Analog input/output unit
- *[Point-each SETS]: Digital input/output unit, valve I/F unit
- *[Port-each SETS]: IO-Link master unit

■ Changing

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window

Sub window

- 3) Click the setting ([xxxxxSETS]") tab. Note 1
- 4) Click the [Set value] column.
- 5) Input field, or drop-down list is displayed according to the settings. Enter or select from the drop-down list for setting value. Note 2, Note 3

.03 D	igitalInp	ut 16Points PNP		View Main window
nit cu	irrent sta	tus Connector-each SETS	Point-each SET	S Forced I/O SET
Bato	h change	9	Factory defa	ult Set all items
NO.	points	CH-each SETS	Current value	Set value
•	0			
4	1			
1	1	Input Off_On cycle threshol	ld 0	0
2	1	Input filter time	0.1ms	0.1ms
3	1	Input hold time	1ms	1ms
•	2			
•	3			
•	4			
•	5			
•	6			
•	7			
•	8			
•	9			
•	10			
•	11			
•	12			

Input field

.03 Init	DigitalIng				
.03 Init	DigitalIng				
Init		ut 16Points PNP		View Main wine	dow
	current sta	tus Connector-each SETS	Point-each SET	5 Forced I/O	SETS
В	atch change	: 19	Factory defa	ult Set all it	ems
N	D. points	CH-each SETS	Current value	Set value	^
۲	0				
4	1				
1	1	Input Off On cycle threshold	10	0	- 11
2	1	Input filter time	0.1ms	0.1ms 🗸	~
3	1	Input hold time	1ms	0.1ms	T
۲	2			1ms	
۲	3			5ms	
۲	4			20ms	
۲	5				-
۲	6				
۲	7				
۲	8				
۲	9				
۲	10				
۲	11				
•	12				~

Drop-down list

6) Click the [Set all items] button. The input contents will be set by transferring to the actual unit.

.05 M	asterIO-	Link 8Ports		View Main win	dov
nit cu	rrent stat	us Port-each SETS Ford	ed I/O SETS	Device settings	C
Batc	h change	9 Write device config.	Factory def	ault Set all it	tem
NO.	Port	CH-each SETS	Current value	Set value	
4	0				
1	0	Device ID	0	0	
2	0	Vendor ID	0	0	
3	0	Revision	0	0	
4	0	Input size(byte)	4	4	
5	0	Output size(byte)	4	4	
6	0	Serial number			
7	0	Select operation mode	IO-Link mode	IO-Link mode	
8	0	Device verification	Disable	Disable	
9	0	Setting backup	Disable	Disable	
10	0	Restore settings	Disable	Disable	
11	0	Synchronization of cycle tin	ne Disable	Disable	
12	0	Communication error opera	tic HOLD	HOLD	
13	0	Power line error detection	ON	OFF	
14	0	Signal line error detection	ON	ON	
15	0	Signal line error recovery o	DE Auto	Auto	

Note 1: [xxxxxSETS] is either of [Unit SETS], [Connector-each SETS], [Block-each SETS], [CH-each SETS], [Point-each SETS], [Port-each SETS] depending on the unit. Note 2: For details on settings, refer to the Instruction Manual ("List of settings") for each unit Note 3: For details on the drop-down list, refer to the Instruction Manual ("List of settings") for each unit

- Leading with 0x makes it a hexadecimal number.
- If the set value differs from the current value, the set value is displayed in orange. Also, the display of the relevant unit in Main window turns in yellow.



- When there is no change or no communication with RT, the [Set all items] button is grayed out.
- When "Batch change mode" is checked, input in a single connector / CH / point / port can be applied to all connectors / CH / points / ports.

Loading factory default values

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.





Sub window

- 3) Click the setting ([xxxxxSETS]") tab. Note 1
- 4) Click the [Factory default] button.

.05 M	asterIO	-Link 8Ports		View Main wind	dov
nit cu	rrent sta	tus Port-each SETS Force	d I/O SETS D	evice settings	c •
Batc	h change	9 Write device config.	Factory defa	ult Set all it	em
NO.	Port	CH-each SETS	Current value	Set value	
۵	0				
1	0	Device ID	0	0	
2	0	Vendor ID	0	0	
3	0	Revision	0	0	
4	0	Input size(byte)	4	4	
5	0	Output size(byte)	4	4	
6	0	Serial number			
7	0	Select operation mode	IO-Link mode	IO-Link mode	
8	0	Device verification	Disable	Disable	1
9	0	Setting backup	Disable	Disable	
10	0	Restore settings	Disable	Disable	
11	0	Synchronization of cycle time	Disable	Disable	
12	0	Communication error operation	HOLD	HOLD	
13	0	Power line error detection	ON	OFF	
14	0	Signal line error detection	ON	ON	
15	0	Signal line error recovery ope	Auto	Auto	

5) Factory default values are loaded.

To configure the settings with the loaded values, click the [Set all items] button.

.05 M	asterIO	-Link 8Ports		View Main windo
nit cu	rrent sta	tus Port-each SETS Force	ed I/O SETS D	evice settings C
Batc	h chang	e 9 Write device config.	Factory defa	ult Set all iter
NO.	Port	CH-each SETS	Current value	Set value
4	0			
1	0	Device ID	0	0
2	0	Vendor ID	0	0
3	0	Revision	0	0
4	0	Input size(byte)	4	4
5	0	Output size(byte)	4	4
6	0	Serial number		
7	0	Select operation mode	IO-Link mode	IO-Link mode
8	0	Device verification	Disable	Disable
9	0	Setting backup	Disable	Disable
10	0	Restore settings	Disable	Disable
11	0	Synchronization of cycle tim	e Disable	Disable
12	0	Communication error operat	ic HOLD	HOLD
13	0	Power line error detection	ON	OFF
14	0	Signal line error detection	ON	ON
15	0	Signal line error recovery op	e Auto	Auto

Note 1: [xxxxxSETS] is either of [Unit SETS], [Connector-each SETS], [Block-each SETS], [CH-each SETS], [Point-each SETS], [Port-each SETS] depending on the unit. Note 2 Refer to 3) in "
Display."

- "Factory default" value is the factory setting value
- [Factory default] is applied to all setting items and cannot be applied to only some of them.
- Refer to the instruction manuals of each unit for details on factory default values and set values.

3.2.4. Displaying, clearing, and saving log data

Displays, clears, and saves error log data.

Displaying

- 1) Opens the [Error] tab in the main window.
- 2) Check the displays in the "Log data list" field. Note 1

RTXTools		in	сомм •	WEB	—					ł
Error No error										
Unit config	gurati	on I/O M	onitor I/O	Memory Er	ror E	xp/Imp Set	ing			
Risk leve	NO.	Unit	t features	CH/points	Code		Details			
Dataila										
Details										
Details								10 (s	avin	g)
Details Error log Date		Times	Error Code	Error		Unit feat	ures	10 (s NO.	avir	g)
Details Error log Date 2000/01/	701 00	Times 0:03:10.83	Error Code 0x8000	Error hal line error	r detecgi	Unit feat talOutput 1	ures 5Points I	10 (s NO. NF 04	avir CH 08	g)
Details Error log Date 2000/01/ 2000/01/	701 00 701 00	Times 0:03:10.83 0:03:00.33	Error Code 0x8000 0x8000	Error nal line error nal line error	r detecgil r detecgil	Unit feat talOutput 1 talOutput 1	ures 5Points I 5Points I	10 (s NO. NF 04 NF 02	CH 08 14	g)
Details Error log Date 2000/01/ 2000/01/	701 00 701 00 701 00	Times):03:10.83):03:00.33):02:49.84	Error Code 0x8000 0x8000 0x8000	Error nal line error nal line error nal line error	r detecgil r detecgil r detecgil	Unit feat talOutput 1 talOutput 1 talOutput 1	ures 5Points I 5Points I 5Points I	10 (s NO. NF 04 NF 02 NF 04	CH 08 14 07	g)

Note 1: If there is no error log, nothing is displayed.

- "Log data list" displays in order from the most recent log.
- .Displays date(year/month/day), hour, error code, error, unit type, No., CH(CH/point/Port number).
- A maximum of 255 log data items can be displayed.

■ Clearing

- Opens the [Error] tab in the main window.
 Click the [Clear] button. Note 1

TTools		in CO	мм	•	WEB		-					[
rror No error													9
Jnit configur	ation I	/O Monit	tor	I/O N	demory	Erro	or E	xp/Imp S	Setting				
Risk leve N	0.	Unit fea	ature	s	CH/po	ints	Code		Detai	ls			
Details													
Details Error log										1	0 (s	avin	ıg)
Details Error log Date	Time	s Ei	тог С	Code	Er	TOF		Unit f	eatures	1	0 (s NO.	avir CH	ig)
Details Error log Date 2000/01/01	Time 00:03:1	s Er 0.83	тог C 0x80	Code 00	Er nal line e	TOT	detecgi	Unit f talOutpu	eatures t 16Poir	1 nts NF	0 (s NO. 04	avir CH 08	ig)
Details Error log Date 2000/01/01 2000/01/01	Time 00:03:1 00:03:0	s Er 0.83 0.33	тог С 0x80 0x80	Code 00	Er nal line e nal line e	TOT error (error (detecgi	Unit f italOutpu talOutpu	eatures t 16Poir t 16Poir	1 nts NF nts NF	0 (s NO. 04 02	avin CH 08 14	ig)
Details Error log Date 2000/01/01 2000/01/01 2000/01/01	Time 00:03:1 00:03:0 00:02:4	s Er 0.83 0.33 9.84	TOF C 0x80 0x80 0x80	Code 00 00	Er nal line e nal line e nal line e	TOF error (error (detecgi detecgi detecgi	Unit f talOutpu talOutpu talOutpu	eatures t 16Poir t 16Poir t 16Poir t 16Poir	1 nts NF nts NF nts NF	0 (s NO. 04 02 04	avin CH 08 14 07	ig)
Details Error log Date 2000/01/01 2000/01/01 2000/01/01 2000/01/01	Time 00:03:1 00:03:0 00:02:4 00:02:3	s Et 0.83 0.33 9.84 1.93	TOF C 0x80 0x80 0x80 0x80 0x80	Code 00 00 00 00	Er nal line e nal line e nal line e nal line e	error (error (error (detecgi detecgi detecgi detecgi	Unit f talOutpu talOutpu talOutpu talOutpu	eatures t 16Poir t 16Poir t 16Poir t 16Poir t 16Poir	1 nts NF nts NF nts NF nts NF	0 (s NO. 04 02 04 02	CH 08 14 07 13	g) ^

3) Click [OK] when the confirmation message is displayed.

RTXTools	×
Clear the log.	
OK キャンセル	

Note 1: If there is no error log or there is no communication with RT, the [Clear] button is grayed out.

■ Saving (to file)

- 1) Opens the [Error] tab in the main window.
- 2) Click the [Save] button.

TXTools	in	сомм •	WEB	-				ł
Error No error								
Unit configura	ation I/O M	onitor I/O	Memory Er	ror E	Exp/Imp Setting			
Risk leve NO). Unit	features	CH/points	Code	Deta	ils		
							_	_
Datalla								
Details								
Error log						10	(covir	20)
Error log			_			10	(3011	'9) •
Date	Times	Error Code	Error		Unit features	NC). CH	î
2000/01/01	00:03:10.83	0x8000	hal line erro	detecc	italOutput 16Poir	Its NE 0	4 08	-
2000/01/01	00.02.49.84	0x8000	hal line erro	deter	italOutput 16Poii	nts NF 0	4 07	
2000/01/01	00:02:31.93	0x8000	hal line erro	detecc	italOutput 16Poir	nts NF 0	2 13	~
								-
						<u> </u>		

3) Save as a new file. Note 1

The file name and destination can be set manually. It is saved as CSV file. Each output item is displayed enclosed in double quotation marks ("") with one line per error. Note 2

1週 名前を付けて保存				×
 ・ ・ ・	ram Files (x86) > CKD > RTX Tools	ٽ ~	P RTX Tools	D検索
整理 マ 新しいフォルダー				BI • 👔
F=3XVト ▲ G前 ▲ D=FF0グ 会議 通過間な2と 添付ファイル	更新日時 検索条件に一致する項	種類 サイ 目はありません。	17	
 ■ PC ③ 30 オブジェクト ◆ ダウンロード ■ デスクトップ 				
 ■ ドキュスント ■ ビクチャ ■ ビデオ ▲ ミュージック 				
 ローカルディスク (C × ファイルる(N): 20040409_1133355.cov ファイルる(N): an Ale (* an) 				ب
275 / Prof (電気(1)) [x38 mile (1/200)]			保存(S)	キャンセル

Note 1: CSV file is a file of comma-separated value and the initial file name is "YYYYMMDD_hhmmss.csv." "YYYYYMMDD" is the year, month, and day when the file was saved. Note 2: If there is no error log, the [Save] button is grayed out.

- Log data is saved in the device unit and deleted from the device unit when cleared.
 Clearing the log data does not affect the settings for saving log data of the
 - Clearing the log data does not affect the settings for saving log data of the device unit.
 - The time at which it is saved to the unit and to nonvolatile memory is different. For details, refer to "8.3 Error log function" in the Instruction Manual: System Construction.
 - Logging of errors can be performed under specified conditions. (Multiple selections allowed)
 - For details, refer to the "List of settings" in the Instruction Manual for each device unit.
 - A maximum of 255 log data items can be saved.

3.2.5. Forced input display and setting



When changing settings, make sure that the input/output destination is secure.

• Use caution as a change in input status due to forced input may lead to unexpected operation of the unit or peripheral devices.

Displays and sets the forced input status of units with inputs.

Display

<Forced input status of the entire connected unit>

- 1) Open the [I/O monitor] tab in the main window.
- 2) The status of process data and forced I/O setting are displayed in the [Display area].

ХΤο	ols	in COM	IM •	WEB
rror n err 45 e	or errors are	e occurred.		
Jnit c	onfigura	tion I/O Monito	r I/O	D Memory Error Exp/Imp Setting
NO.	in funct	Unit features	IO	I/O value
0	EC	Device unit Ethe	rca	
1	\mathbf{r}	AI 2CH	IN	0 CH 0.00 ↑10 1 CH 0.00 ↑10 (0x8000)↓-10 (0x8000)↓-10
2	\mathbf{r}	AO 2CH	OUT	0 CH 0.00 ↑10 1 CH 0.00 ↑10 T [0x0000]↓0 [0x0000]↓0
3	Л	DI 32Points	IN	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
4	Л	DO 32Points	OUT	T T 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
5	Л	DI 16Points	IN	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
	nr	DO 100 11	0.17	

<Forced input status of each unit>

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window

Sub window

- 3) Open the [Forced I/O SETS] tab.
- 4) Check [Forced I/O current value] area or [FORCE] and [MASK] area. The displayed area varies depending on the unit.

[Forced I/O current value] area

	View Main Windo
nit cur	rent status Unit SETS CH-each SETS Forced I/O SETS
orced	I/O current value
IO	Current value
IN	0 CH -10.00 ↑ 10 1 CH -10.00 ↑ 10 [0x0000] ↓ -10 [0x0000] ↓ -10
IO	The status can be changed by clicking.
IN	0 CH Dx0000 ↑ 10 1 CH -10.00 ↑ 10 (Cancel forcing, k0000) ↓ -10
Forced	d ON Forced OFF Apply

Analog Input



Digital Input

CKD RTXTools	SubWind	ow						- 0	×
NO.05 Maste	erIO-Li t status	nk 8Port	s ach SE1	rs Forc	ed I/O S	ETS	View M Device se	ain windo ttings c	• •
Fixed-size	o Ou	rt Digit	al input	t 1	~		🗌 Ma	anual moo	de
IO				Curre	nt value				
IN	0	1	2	3	4	5	6	7	
IO		т	he statu	ıs can be	changed	l by clic	king.		
IN	0	1	2	3	4	5	6	7	
Forced O	N Fo	rced OFF		Apply					
Un	it Cano	el		All Unit	Cancel				

[Fixed-size process data] of IO-Link master unit

[FORCE] and [MASK] area

0 Port	ent a	statu]~	Dig	gital	inpu	ut 1			~			Dev		Manu	ual n	node
In FORCE +00 +10	+0	00 +1	ut +2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
MASK +00 +10	+0 00	+1 00	+2 00	+3 00	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
Forced	ON	F	orce	d OF	F		A	pply	/								
	Unit	Cano	cel				A	All U	nit C	ance	el						

[0 Port] to [7 Port] of IO-Link master unit
Settings

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window



Sub window

- 3) Open the [Forced I/O SETS] tab.
- 4) Enter the setting value. Note 1
- 5) Click [Apply] button.
- 6) Check the message and click [Yes].



 \rightarrow

Note 1: Refer to the following settings for each unit for details.



• [All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

<Analog unit>

Enter the value using one of the following methods.

- (1) Enter directly into the [Forced I/O setting value] area
- (2) Enter using the "Analog I/O value conversion window"

(1) Direct entering into [Forced I/O setting value] area

- 1) Click [Forced I/O setting value] area.
- 2) Enter the value for forced input. Note 1

👿 CKD RTXTo	ols SubWindow	-	- 0	×
NO.01 An	alogInput 2CH	View Ma	ain windov	v
Unit curr	rent status Unit SETS CH-each SETS Forcec	I/O SETS		
IO	Current value			
IN	0 CH -10.00 ↑10 1 CH [0x0000] ↓-10 [0x0000] ↓-10			
Forced	I/O setting value			
IO	The status can be changed by cli	icking.		
IN	0 CH -10.00 ↑10 1 CH -10.00 ↑10 (0x0000) ↓-10 [0x0000] ↓-10			
Forced	ON Forced OFF Apply Unit Cancel All Unit Cancel			

3) Click [Apply] button

	contratatura I Unit Cl	ETE CH oach I	EETE Foro	ed I/O SETS	IT WITCH
inc cui			3213 1010		
TO	1/O current value	Curre	nt value		
IN	0 CH -10.00 ↑10 [0x0000]↓-1) ^{1 CH} -10.00 0 [0x0000	↑10)]↓-10		
orced	I/O setting value	a atatua ana ba	shapped by	districe	
IN	0 CH -10.00 ↑10 [0x0000]↓-1	1 CH 1 CH 10.00 0 [0xFFFF	↑10]↓-10	uncking.	
			1		

Note 1: When entering, if there is a leading 0x, it is recognized as a hexadecimal number; if not, it is recognized as a decimal number.

(2) Entering using the "Analog I/O value conversion window"

- 1) Click [Forced I/O setting value] area.
- 2) Click the icon (E) to the right of the input area.

CKD RTXTo	• SubWindow		-		;
10.01 An	alogInput 2CH	View M	lain w	indow	
Unit curr	ent status Unit SETS CH-each SETS Forced	I/O SETS			
Forced 1	/O current value				
IO	Current value				1
IN	0 CH -10.00 ↑10 ¹ CH [0x0000] ↓-10 [0x0000] ↓-10				
Forced 1	/O setting value				
IO	The status can be changed by cli	cking.			l
IN	0 CH 0x0000 1 CH -10.00 ↑ 10 ↓-10 0x00000 ↓-10				
Forced	ON Forced OFF Apply				
	Jnit Cancel All Unit Cancel				

3) Select the format (analog value/%FS/DEC) from the drop-down list.

Config		×
Format :	Value :	
Analog value 🛛 🗸	V	ОК
Analog value %FS		□ Set all
DEC		

4) Enter the value.

Config		×
Format : Analog value ~	Value :	ОК
		□ Set all

5) Click [OK]. Note 2

Config		:
Format :	Value :	
Analog value 🛛 🗸	10 V	OK
		□ Set all

Note 2: When entering, all CHs of the analog input can be set at once by checking the "Set all" checkbox.

6) Once it is entered, click the [Apply] button.

O.01 AnalogInput 2CH View Main window Unit current status Unit SETS CH-each SETS Forced I/O SETS Forced I/O current value	CKD RTXToo	ols SubWindow						×
Unit current status Unit SETS CH-each SETS Forced I/O SETS Forced I/O current value IO Current value IO IO </td <td>0.01 Ana</td> <td>logInput</td> <td>2CH</td> <td></td> <td>[</td> <td>View Ma</td> <td>ain wind</td> <td>dow</td>	0.01 Ana	logInput	2CH		[View Ma	ain wind	dow
Forced I/O current value IO Current value IN 0 CH -10.00 ↑ 10 10 10 IN 0 CH -10.00 ↑ 10 [0x0000] ↓ -10 10 Forced I/O setting value IO The status can be changed by clicking. III III 0 CH 0x0000 ↓ -10 10 10 IIII IIII IIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Unit curre	ent status	Unit SETS	CH-each SETS	Forced	I/O SETS		
IO Current value IN 0 CH -10.00 ↑ 10 1 CH -10.00 ↑ 10 IN 0 CH -10.00 ↑ 10 [0x0000] ↓ -10 [0x0000] ↓ -10 Forced I/O setting value IO The status can be changed by clicking. IN 0 CH 0x0000 ↑ 10 10 IN 0 CH 0x0000 ↓ -10 10 0x0000 ↓ -10 Forced ON Forced OFF Apply Unit Cancel All Unit Cancel All Unit Cancel	Forced I/	/O current	value					
IN 0 CH -10.00 1 0 1 CH -10.00 1 0 IN [0x0000] J-10 [0x0000] J-10 [0x0000] J-10 Forced I/O setting value IO The status can be changed by clicking. IN 0 CH 0 0 0 1 CH -10.00 1 0 IN 0 CH 0 0 1 CH -10.00 1 0 Forced ON Forced OFF Apply	IO			Current valu	e			
Forced I/O setting value IO The status can be changed by clicking. IN 0 CH 0x0000 0 0 1 CH -10.00 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IN	0 CH -10.0 [0x00	00 ↑10 ¹ 00]↓-10	CH -10.00 ↑10 [0x0000]↓-10)			
IN 0 CH 0x0000 1 CH -10.00 1 0 IN ↓ -10 ↓ 0x0000 ↓ -10 ↓ -10 Forced ON Forced OFF Apply ↓ Unit Cancel ↓ II Unit Cancel	Forced I/	/O setting v	alue The sta	tus can be change	ed by clic	:king.		
Forced ON Forced OFF Apply Unit Cancel All Unit Cancel	IN	0 CH 0x00	00 € 0 ¹	CH -10.00 ↑ 10 [0x0000] ↓ -10)			
	Forced U	ON Force	d OFF	Apply All Unit Cancel				

- The values in the upper part of the rectangle are analog values, the values in the lower part are hexadecimal process data (in []). The ↑ value that is displayed to the right of the rectangle is the maximum value in the range, and the ↓ value is the minimum value in the range.
 Rectangles indicate a forced status. Rectangles with rounded corners are [Forced] and rectangles with sharp corners are [Forced cansel].

 10.00
 [0xFFFF]
 [0x0000]
 Forced
 Forc
 - [Unit cancel] button makes the forced I/O setting value of the unit to the cancel status. Click [Apply] button to set.

<Digital unit>

1) Click the Point number to change the force status in the [Forced I/O setting value] area.

.05 Dia	italIı	nput	16P	oint	s PN	IP							liew	Mai	o wi	adou
							ah CC	TC	Dei	at a	ach (TTC	F	orce		ILLUM
nit cun	rent s	tatus		.onn	ector	-ea	in se	15	POI	nt-e	ach s	EIS		orcei	u 1/0	/ JEI
Forced	I/O ci	urren	t va	lue			0		trust							
10							u	Inten	t vai	ue						
IN	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Forced	I/O se	etting	ı val	ue												
IO				Т	he s	tatu	s can	be o	hand	bed	by cl	ickin	a.			
											-,		9.			
IN	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	C															
	_		_			_		_								
Forced	ON	For	ced	OFF			Apply	/								
	Unit (Cance	el			- 1	All Un	it Ca	ncel							

2) Setting status can be switched by clicking. Click the Point number to change and set it to the desired forced status.

F	orced		Not force	d (canceled)
ON		OFF		OFF

3) Click [Apply] button

Unit curre	nt status	Port-e	ach SET	S For	ed I/O S	SETS	Device se	ettings C
 In 	⊖ Out	Digi	tar input	1	~			
IO				Curre	ent value			
IN	0	1	2	3	4	5	6	7
IO		т	he statu	s can be	changed	l by cl	icking.	
IN	0	1	2	3	4	5	6	7
Forced C	N Force	ed OFF		Apply				
U	nit Cancel			All Uni	t Cancel			

4) Check the message and click [Yes].





[All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

<IO-Link master unit >

Select the data to change.

- (1) Fixed-size process data Note 1
- (2) Port 0 to Port 7, input process data of IO-Link device

Init current status	Port-each	SETS	Forced I/0) SETS	Device se	ettings	
0 Port Fixed-size process 0 Port	 ✓ Digital ir d 	nput 1		/	M	lanual mo	de
1 Port 2 Port		(Current val	ue			
3 Port 4 Port 5 Port 6 Port	1 2	3	3 4	5	6	7	
7 Port IO	The s	tatus ca	n be chang	ged by cl	licking.		
IN 0	1 2	3	8 4	5	6	7	
Forced ON For	ced OFF	A	pply				
Unit Cance	I	A	II Unit Cano	el			

Note 1: There are [Digital input 1], [Digital input 2], [Port error flag], [IO-Link COMM error], [Error log update], and [IO-Link input data enable flag] for fixed-size process data of input.

(1) Fixed-size process data

- Select Fixed-size process data to change.
 Click the [Fixed-size process data type list] and select the data to change the forced input status.

Fixed-size	e proces	Digi	tal input	t 1	~			1anual n	node
● In	⊖ Out	Digi Digi Port	al input al input error fla	t 1 t 2 ag					
IN	0	IO-L Erro 1 IO-L	ink CON r log up ink inp	MM error odate ut data e	nable fl	5	6	7	
IO		Т	he statu	us can be	e change	d by cl	icking.		
IN	0	1	2	3	4	5	6	7	
Forced C	N For	ed OFF		Apply					
Ur	nit Cancel			All Un	it Cancel				

3) Click the Port number to change the force status in the [Forced I/O setting value] area.

Fixed-size p	roces ~ Di	gital input 1	, or ced	~ 0.0			anual mod
● In	Out						
IO			Current	value			
IN	0 1	2	3	4	5	6	7
IO		The status	can be cha	anged	by cli	cking.	
IN (0 1	2	3	4	5	6	7
Forced ON	Forced OF	F	Apply				
Unit	Cancel		All Unit Ca	ancel			

4) Setting status can be switched by clicking. Click the Point number to change and set it to the desired forced status.

	F	orced		Not force	d (canceled)
	ON	\bigcirc	OFF		OFF

5) Click [Apply] button.

Unit curre	nt status	Port-e	ach SE	TS For	ced I/O S	EIS	Device se	ettings (
 In 	O Out	~ Digi	tai inpu	1(1	~			
IO				Curre	ent value			
IN	0	1	2	3	4	5	6	7
IO		т	he stati	us can be	changed	l by cl	icking.	
IN	0	1	2	3	4	5	6	7
Forced C	N For	ced OFF		Apply				
U	nit Cance	I		All Un	it Cancel			

6) Check the message and click [Yes].



- By using the [Forced ON] and [Forced OFF] buttons, all ports of "Fixed-size process data" can be turned ON or OFF in a batch. Click the button and then click the [Apply] button to configure the settings.
- Unit cancel] button makes the forced I/O setting value of the unit to the cancel status. Click [Apply] button to set.
- [All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

(2) Port 0 to Port 7, input process data of IO-Link device

- 1) Select Port 0 to Port 7, input process data of IO-Link device
- 2) Click [In].
- 3) Enter (hexadecimal) in [Forced I/O FORCE] area.

FORCE +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +A +B +0	
+10	+D +E +F
MASK +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +A +B +0 +00 00 00 00 00 +	+D +E +F
Forced ON Forced OFF Apply	

4) Check [Manual mode] checkbox when setting the forced status in a bit. In "manual mode", it also can be entered into "Forced I/O MASK area." In the MASK area, set the bit of the data specified in the FORCE area that is to be treated as valid data in the IO-Link master unit to 1.

0 Port]~	Di	gital	inpu	ut 1			~					Manı	ual m	node
FORCE +00 +10	+0 00	+1	+2 00	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
MASK +00 +10	+0 00	+1 00	+2 00	+3 00	+4	+5	+6	+7	+8	+9	+A	+8	+C	+D	+E	+F	
Forced	ON	F	orce	d OF	F		A	pply	/			_					

5) Once it is entered, click the [Apply] button.

0 Port	cine a	hata]~]	Di	gital	inpu	it 1			., . 			001		Mani	ual n	node
In 🖲		00	ut														
FORCE +00 +10	+0	+1 00	+2 00	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
MASK	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
+00 +10	00	00	00	00													
Forced	ON	F	orce	d OF	F		Α	pply	/								
	Unit	Can	cel				ŀ	AII U	nit C	ance	el						

6) Check the message and click [Yes].

RTXTools	×
Set force	ed I/O.
(\$U))	いいえ(<u>N</u>)

By using the [Forced ON] and [Forced OFF] buttons, the target process data can be changed to 0xFF/ 0x00 in a batch. Click the button and then click the [Apply] button to configure the settings.
Hexadecimal input is case-insensitive.
Unit cancel] button makes the forced I/O setting value of the unit to the cancel status. Click [Apply] button to set.
[All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

3.2.6. Forced output display and setting



When changing settings, ensure that the input/output destination is secure.

• Use caution as a change in output status due to forced output may lead to unexpected operation of the unit or peripheral devices.

Displays and sets the forced output status of the unit with outputs.

Display

<Forced output status of the entire connected unit>

- 1) Open the [I/O monitor] tab in the main window.
- 2) The status of process data and forced I/O setting are displayed in the [Display area].

(Tools	in COM	M •	WEB					
or error 5 errors an	e occurred.							
iit configura	tion I/O Monitor	I/O	Memory	Error	Exp/In	np Setting		
IO. in funct	Unit features	IO			I/O va	lue		
• EC	Device unit Ether	°CA						
1	AI 2CH	IN	0 CH 0. [0x8	00 ↑1 0000 ↓-	0 1 C⊢ 10	0.00 [0x8000]	↑10 ↓-10	
2	AO 2CH	OUT	0 CH 0. [0x0	00 ↑1 0000]↓0	0 1 CH	0.00 [0x0000]	†10 ↓0	
з ЛГ	DI 32Points	IN	0 1 2	3 4 5	678	9 10 11	12 13	14 15
			16 17 18	19 20 21	22 23 2	4 25 26 27	28 29 3	30 31
4	DO 32Points	OUT	0 1 2	3 4 5 192021	6 7 8 22 23 2	9 10 11 4 25 26 27	12 13 28 29 :	14 15 30 31
5	DI 16Points	IN	0 1 2	3 4 5	678	9 10 11	12 13	14 15
						ж. ж. ж. ж. <u>т</u>		

<Forced output status of each unit>

- 3) Open the [Unit configuration] tab in the main window.
- 4) Open the sub window by double-clicking the unit to be displayed.



Main window

Sub window

- 5) Open the [Forced I/O SETS] tab.
- 6) Check [Forced I/O current value] area or [FORCE] and [MASK] area. The displayed area varies depending on the unit.

[Forced I/O current value] area

NO.02 An Unit curr	alogOutput 2CH View Main window rent status CH-each SETS Forced I/O SETS
Forced	I/O current value
IO	Current value
оит	0 CH 0.00 ↑10 ^{1 CH} 0.00 ↑10 [0x0000]↓0 [0x0000]↓0
Forced	//O setting value The status can be changed by clicking.
OUT	0 CH 0.00 ↑10 1 CH 0x0000]↓0 [0x0000]↓0
Forced	ON Forced OFF Apply

Analog output



Digital output

0.05 Mast	erIO-Li nt statu: proces	ink 8Port s Port-e	s ach SE ⁻ al outp	TS Forc	ed I/O S	SETS	View M Device se	tain windo ettings c anual moo	w •
IO		uy		Curre	nt value				Π
OUT	0	1	2	3	4	5	6	7	
IO		Т	he statı	us can be	changed	d by clic	king.		ŋ
OUT	0	1	2	3	4	5	6	7	
Forced O	N Fo	orced OFF		Apply All Unit	t Cancel				

[Fixed-size process data] of IO-Link master unit

[FORCE] and [MASK] area

0 Port]~	Dig	gital	outp	out 1	L		~					Manu	ual n	node
FORCE +00 +10	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
MASK +00 +10	+0 00	+1 00	+2 00	+3 00	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
Forced	ON	F	orce	d OF	F		A	pply	/	_							
l	Jnit	Can	cel				A	AII U	nit C	ance	el						

[0 Port] to [7 Port] of IO-Link master unit

Settings

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window



Sub window

- 3) Open the [Forced I/O SETS] tab.
- 4) Enter the setting value. Note 1
- 5) Click [Apply] button.

6) Check the message and click [Yes].



 \rightarrow

Note 1: Refer to the following settings for each unit for details.

• [All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

<Analog unit>

Enter the value using one of the following methods.

- (1) Enter directly into the [Forced I/O setting value] area
- (2) Enter using the "Analog I/O value conversion window"

(1) Direct entering into [Forced I/O setting value] area

- 1) Click [Forced I/O setting value] area.
- 2) Enter the value for forced input. Note 1

CKD RTX lools	SubWindow			_	
0.02 Analo	gOutput	2CH		View Main 1	window
Unit curren	t status	CH-each SETS	Forced I/O SETS		
Forced I/O	current	value			
IO			Current value		
0 OUT	CH 0.00 [0x00	0 ↑10 ^{1 CH} 00]↓0 [0.00 ↑10 0x0000]↓0		
Forced I/O	setting v	alue			
IO		The status	can be changed by o	clicking.	
0 OUT	CH (0x000	00 ↑10 ^{1 CH}	0.00 ↑10 0x0000]↓0		
Forced OI	N Force it Cancel	d OFF A	oply Unit Cancel		

3) Click [Apply] button.

CKD RTXTo	ols SubWindow			-	· □ ×
NO.02 An	alogOutput	2CH		View Ma	in window
Unit curr	rent status	CH-each SETS	Forced I/O SETS		
Forced	I/O current	value			
IO			Current value		
OUT	0 CH 0.0 [0x00	0 ↑10 ^{1 CH} 000]↓0 [1	0.00 ↑10 0x0000]↓0		
Forced	I/O setting	/alue			
IO		The status of	can be changed by o	licking.	
OUT	0 CH 0.0 [0x00	0 ↑10 ^{1 CH} 000]↓0 [(0.00 ↑10 0x0000]↓0		
Forced	ON Force	ed OFF Ar	Unit Cancel		

Note 1: When entering, if there is a leading 0x, it is recognized as a hexadecimal number; if not, it is recognized as a decimal number.

(2) Entering using the "Analog I/O value conversion window"

- 1) Click [Forced I/O setting value] area.
- 2) Click the icon (E) to the right of the input area.

CKD RTXTo	ols SubWindow	-		×
NO.02 An	alogOutput 2CH	View Mai	n windov	N
Unit curr Forced 1	ent status CH-each SETS Forced I/O SETS /O current value			
IO	Current value			
OUT	0 CH 0.00 ↑10 1 CH 0.00 ↑10 [0x0000]↓0 [0x0000]↓0			
Forced 1	/O setting value			
IO	The status can be changed by cli	icking.		
OUT	0 CH 0k0000 €0 1 CH 0.00 ↑ 10 ↓0 0x0000 ↓0			
Forced	ON Forced OFF Apply			
	Jnit Cancel All Unit Cancel			

3) Select the format (analog_value/%FS/DEC) from the drop-down list.

Config		×
Format :	Value :	
Analog value 🛛 🗸	V	OK
Analog value %FS		🗆 Set all
DEC		

4) Enter the value.

Config		×
Format : Analog value v	Value :	ОК
		⊔ Set all

5) Click [OK]. Note 2

Config		×
Format : Analog value ~	Value : 10 V	OK
		□ Set all

Note 2: When entering, all CHs of the analog output can be set at once by checking the "Set all" checkbox.

6) Once it is entered, click the [Apply] button.

CKD RTXTools SubWindow	1			-		×
NO.02 AnalogOutput	2CH		View	Main v	window	v
Unit current status	CH-each SETS	Forced I/O SETS				
Forced I/O current	value					
IO		Current value				
0 CH 0.0 [0x00	0 ↑10 ^{1 CH}	0.00 ↑10 0x0000]↓0				
Forced I/O setting	/alue					
IO	The status of	can be changed by c	licking.			
0 CH 0.0 [0x00	0 ↑10 ^{1 CH} 000]↓0 [10.00 ↑10 0xFFFF]↓0				
Forced ON Force Unit Cancel	ed OFF Ar	Unit Cancel				



<Digital unit>

1) Click the Point number to change the force status in the [Forced I/O setting value] area.

亚 CKD RTXTools SubWindow		- o ×
NO.04 DigitalOutput	16Points PNP	View Main window
Unit current status	Point-each SETS Forced I/O SETS	
	Current value	
OUT 0 1	2 3 4 5 6 7 8 9 10 11	12 13 14 15
Forced I/O setting v	alue	
IO	The status can be changed by clicking	ng.
OUT 0 1	2 3 4 5 6 7 8 9 10 11 Cancel forcing.	12 13 14 15
Forced ON Force Unit Cancel	d OFF Apply All Unit Cancel	

2) Setting status can be switched by clicking. Click the Point number to change and set it to the desired forced status.

F	orced		Not force	d (canceled)
ON		OFF		OFF

3) Click [Apply] button.

		16P00	its PNP				View	Main	window
nit curr	ent status	Point-	each SETS	Forc	ed I/O S	SETS			
orced I	/O current	value							
IO				Current	value				
OUT	0 1	2 3	4 5 6	5 7	89	10 11	12	13	14 15
orced I IO	/O setting	value T	he status ca	an be d	hanged	bv clicki	ng.		
						,			
OUT	01	2 3	4 5 (5 7	8 9	10 11	12	13	14 15
OUT	0 1 ON Forc	2 3 ed OFF	4 5 (5 7 bly	8 9	10 11	12	13	14 15

[Unit cancel] button makes the forced I/O setting value of the unit to the cancel status. Click [Apply] button to set.
[All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

<IO-Link master unit >

- 1) Select the data to change.
 - (1) Fixed-size process data Note 1
 - (2) Port 0 to Port 7, output process data of IO-Link device

Fixed-size proces	s 🗸 Digita	al outp	ut 1	~		M	anual mod
Fixed-size proces 0 Port 1 Port	s d		Curro	at volue			
2 Port 3 Port 4 Port 5 Port 6 Port	1	2	3	4	5	6	7
7 Port IO	T	ne statu	ıs can be	change	d by cl	icking.	
OUT 0	1	2	3	4	5	6	7
Forced ON Fo	orced OFF		Apply				
Unit Cano	el		All Unit	Cancel			

Note 1: There are [Digital output 1], [Error log clear] for fixed-size process data of output.

(1) Fixed-size process data

- 1) Select Fixed-size process data.
- 2) Click the [Fixed-size process data type list] and select the data to change the forced output status.

D.05 Maste Unit currer Fixed-size	erIO-Lir at status proces Ou	Port-e Port-e Digit	s ach SE ^T al outp al outp	TS Force ut 1 ut 1	ed I/O s	SETS	View M Device se	tain windo anual moo	• • de
IO			log cit	Curre	nt value	•			
OUT	0	1	2	3	4	5	6	7	
IO		T	he statı	us can be	change	d by cl	icking.		Ţ
OUT	0	1	2	3	4	5	6	7	
Forced O	N For	ced OFF		Apply					
Ur	nit Cance	1		All Unit	Cancel				

3) Click the Port number to change the force status in the [Forced I/O setting value] area.

Fixed-size	proces	 Digit 	al outp	ut 1	~			anual mo
) In	• Ou	t						
IO				Curre	nt value			
OUT	0	1	2	3	4	5	6	7
IO		T	he statu	us can be	changed	by cli	cking.	
OUT	0	1	2	3	4	5	6	7
Forced O	N For	ced OFF		Apply				
Ur	nit Cance	el 👘		All Uni	t Cancel			

4) Setting status can be switched by clicking. Click the Point number to change and set it to the desired forced status.

F	orced		Not force	d (canceled)
ON		OFF		OFF

5) Click [Apply] button.

NO.05 MasterIO-Link 8Ports View	Main window
Unit current status Port-each SETS Forced I/O SETS Device	settings C
Fixed-size proces \checkmark Digital output 1 \checkmark	Manual mode
○ In	
IO Current value	
OUT 0 1 2 3 4 5 6	7
IO The status can be changed by clicking.	
OUT 0 1 2 3 4 5 6	7
Forced ON Forced OFF Apply	
Unit Cancel All Unit Cancel	

6) Check the message and click [Yes].



- By using the [Forced ON] and [Forced OFF] buttons, all ports of "Fixed-size process data" can be turned ON or OFF in a batch. Click the button and then click the [Apply] button to configure the settings.
 - Unit cancel] button makes the forced I/O setting value of the unit to the cancel status. Click [Apply] button to set.
 - [All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

(2) Port 0 to Port 7, input process data of IO-Link device

- 1) Select Port 0 to Port 7.
- 2) Click [Out].
- 3) Enter (hexadecimal) in [Forced I/O FORCE] area.

0 Port			~	Di	gital	outp	out 1								Mani	ual n
⊃In	Г	◎ 0	ut													
FORCE +00 +10	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
MASK	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
+00 +10	00	00	00	00												
Forced	ON	F	orce	d OF	F		A	pply	/							
1	Unit	Can	cel				A	All U	nit C	ance	el					

4) Check [Manual mode] checkbox when setting the forced status in a bit. In "manual mode," it also can be entered into "Forced I/O MASK area." In the MASK area, set the bit of the data specified in the FORCE area that is to be treated as valid data in the IO-Link master unit to 1.

0 Port			~	Dig	gital	outp	out 1	L		~			Det		Manu	ual n	node
FORCE +00 +10	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
MASK +00 +10	+0	+1 00	+2 00	+3 00	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
Forced	ON	Fo	orce	d OF	F		A	Apply	/ nit C	ance	2						

5) Once it is entered, click the [Apply] button.

0 Port	enc s		~	Di	gital	outp	out 1	L		~			Dev		Mani	ual n	node
FORCE +00 +10	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
MASK +00 +10	+0 00	+1 00	+2 00	+3 00	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	
Forced	ON Unit	Fo	orce	d OF	F		A A	Apply	/ nit C	ance	el						

6) Check the message and click [Yes].

RTXTools	\times
Set forced I/O.	
はい(Y) いいえ(N)	

By using the [Forced ON] and [Forced OFF] buttons, the target process data can be changed to 0xFF/ 0x00 in a batch. Click the button and then click the [Apply] button to configure the settings.
Hexadecimal input is case-insensitive.
Unit cancel] button makes the forced I/O setting value of the unit to the cancel status. Click [Apply] button to set.
[All Unit Cancel] button sets all the connected units to the "Forced cancel" status. Clicking the [Apply] button is not necessary.

Resetting Off_On cycle 3.2.7.

Resets the Off_On cycle.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window

2 CKD RTXTools Su NO.03 DigitalInput 16Points PNP View Main window Unit current status Connector-each SETS Point-each SETS Forced I/O SETS 0.0 Version 0102-0000-0000 Unit No. RT-XADGA16A 0'0 Model number Unit features Connector Process data size(byte) DigitalInput 16Points PNP M12 IN: 2,OUT: 0 0.0 Minimum current consumpt 110.000 mA Reset Off_On cycle points IO Off On cycle Error Code Error IN IN IN IN IN IN IN

Sub window

- 3) Open the [Unit current status] tab.
- 4) Click the [Reset Off On cycle] button. CKD RTXTools SubW

		t 16Points PNF	•		V	iew Main	window
Unit curre	ent statu	IS Connector-	each SETS	Poir	t-each SETS	Forced	I/O SET
0	3	Version	0102-0000	-000	0		
	2013	Unit No.			5		
0'0	3	Model numb	er		RT-XADGA1	6A	
		Unit features	5		DigitalInput	16Points	PNP
0		Connector			M12		
0.0	2	Process data	size(byte)		IN: 2,OU	T: 0	
	20CB	Minimum cu	rrent consum	ptio	n 110.000 m/	A	
		Reset Off Or	a cycle				
	100	110001 011_01	reycie				
points	IO	Off_On cycle	Error Code		Erro	or	^
points 0	IO IN	Off_On cycle	Error Code 0x9000	er li	Erro ne error detec	or tion Hold	force
points 0 1	IO IN IN	Off_On cycle 0 0	Error Code 0x9000 0x9000	er lin er lin	Erro ne error detec ne error detec	or tion Hold tion Hold	force force
points 0 1 2	IO IN IN IN	Off_On cycle 0 0 0	Error Code 0x9000 0x9000 0x9000	er lin er lin er lin	Erro ne error detec ne error detec ne error detec	tion Hold tion Hold tion Hold	force force force
points 0 1 2 3	IO IN IN IN IN	Off_On cycle 0 0 0 0 0	Error Code 0x9000 0x9000 0x9000 0x9000	sr lin sr lin sr lin sr lin	Erro ne error detec ne error detec ne error detec ne error detec	tion Hold tion Hold tion Hold tion Hold	force force force force
points 0 1 2 3 4	IO IN IN IN IN IN	Off_On cycle 0 0 0 0 0 0	Error Code 0x9000 0x9000 0x9000 0x9000 0x9000	st lin st lin st lin st lin st lin	Erro ne error detec ne error detec ne error detec ne error detec ne error detec	tion Hold tion Hold tion Hold tion Hold tion Hold	force force force force force
points 0 1 2 3 4 5	IO IN IN IN IN IN IN	Off_On cycle 0 0 0 0 0 0 0 0	Error Code 0x9000 0x9000 0x9000 0x9000 0x9000 0x9000	r lin r lin r lin r lin r lin r lin	Erro ne error detec ne error detec ne error detec ne error detec ne error detec ne error detec	tion Hold tion Hold tion Hold tion Hold tion Hold tion Hold tion Hold	force force force force force force
points 0 1 2 3 4 5 6	IO IN IN IN IN IN IN IN	Off_On cycle 0 0 0 0 0 0 0 0 0 0	Error Code 0x9000 0x9000 0x9000 0x9000 0x9000 0x9000 0x9000	r lin r lin r lin r lin r lin r lin r lin	Error ne error detec ne error detec ne error detec ne error detec ne error detec ne error detec ne error detec	tion Hold tion Hold tion Hold tion Hold tion Hold tion Hold tion Hold	force force force force force force force

 \rightarrow

5) When the [Config] window opens, click the point number to be reset. To select all points, click the [Select all] button.



6) Once selected, click [OK].

3.2.8. Configuration write instruction

Writes the actual configuration of the device. Reads the configuration information of devices connected to the unit and overwrites the IO-Link master unit settings. Operates only in IO-Link mode.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the IO-Link master unit.





Main window

Sub window

- 3) Open the [Port-each SETS] tab.
- 4) Click the [Write device config.] button.

				View Main wind
nit cu	rrent sta	tus Port-each SETS Forced	I/O SETS De	evice settings 0
] Batc	h chang	Write device config.	Factory defau	JIt Set all ite
NO	Deart		Comment on loss	Caturalus
NO.	Port	CH-each SETS	Current value	Set value
4	0	Denise ID	0	0
1	0	Vender ID	0	0
2	0	Vendor ID Revision	0	0
2	0	Revision Input size(bute)	4	4
4 E	0	Output size(byte)	4	4
6	0	Serial number	4	4
7	0	Select operation mode	IO-Link mode	IO-Link mode
9	0	Device verification	3 types verifica	3 types verifica
0	0	Setting backup	Disable	Disable
10	0	Restore settings	Enable	Enable
11	0	Synchronization of cycle time	Enable	Enable
12	0	Communication error operation	HOLD	HOLD
13	0	Power line error detection	ON	ON
14	0	Signal line error detection	ON	ON
15	0	Signal line error recovery one	Auto	Auto

5) When the [Config] window opens, click the port number to be written. To select all ports, click the [Select all] button.



6) Once selected, click [OK].



Configuration information includes device ID, vendor ID, revision, input size, output size, and serial number. For details, refer to the Instruction Manual for the IO-Link master unit.

3.2.9. ISDU communication

Performs ISDU communication. By specifying an index / sub index, the service data of the device connected to the unit is read/written. Operates only in IO-Link mode.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the IO-Link master unit.



Main window

Sub window

- 3) Open the [ISDU] tab.
- 4) Select the target [Port] from the drop-down list.

.05 14	asu	en	0-1		K O	-01	LS							_				view ma	in w	inac	N.
orced	I/C	SE	TS		Dev	ice	set	ttin	gs	Ge	et e	rro	r lo	g	IS	DU				[٩
0 Pon			j`	~																	
Rea	d	0	Wri	ite		Ir	Ide	×			s	ubI	nde	ex			Si	ze			
Read	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F		Star	+	MM	
+00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		Star		anna -	
+10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+90	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00					
+E0	00	00	00	00	00	00	00	00													
+F0																					
																		HEX			,

Read

1) Check [Read].

05	lact	orT	0.1	lie	6 8	Por	te											lieur	Mari		a de c	
.051	1051	en	0-1		K O	FUI	LS										V	lew	Mai	n wi	naov	v
orced	I I/C	SE	TS		Dev	ice	set	ttin	qs	Ge	et e	rro	r lo	g	IS	DU					•	T
				_					-													
0 Por	t			~																		
🖲 Rea	ad	0	Wri	ite		Ir	nde	хΓ			s	ubI	nde	ex		٦.	Siz	re 🗌				
_		_					_			_	-					_						_
Read	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F			Start	t CO	MM	
+00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+90	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_					
+E0	00	00	00	00	00	00	00	00									_					
+F0																	_	_				_
																		HE	X			~

- 2) Input in [Index] the index of the service data of the IO-Link device.
- 3) Input the sub index in [SubIndex].If there is no input for sub index, it is processed as 0.
- 4) Click the [Start COMM] button.

.05 1	ası	eri	0-1		ĸo	POI	ts											viev	vМ	aın	win	dow
orced	I/C	SE	TS		Dev	ice	set	tin	gs	Ge	et e	rro	r lo	g	IS	DU						٩
0 Dord																						
U POI				~		_		_							_	-						
Rea	d	0	Wri	ite		Ir	nde	x)x1	0	S	ubI	inde	ex			Si	ze				
Read	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F			Sta	art (COM	м
+00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+90	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00						
+E0	00	00	00	00	00	00	00	00														
+F0																						
																		HE	x			~

5) Check the read data.

The data is displayed in bytes. Also, the read result is displayed below the button by "Succeeded"/"Failed."

.05 Mas	terIO-Lin	k 8Ports				View Main w	indow
orced I/	O SETS	Device setting	s Ge	t error log	ISDU		•
0 Port	~						
OPOIL	Ť						
Read	○ Write	Index 0	x10	SubIndex		Size	
Read +	0 + 1 + 2 + 3	+4 +5 +6 +7	+8 +9	+A +B +C +[) +E +E	Start CO	MM
+00						Start CO	-
+10						Failed	
+20						<u>1</u>	
+30						Error code	0x0(
+40							
+50						Additional c	ode
+60						ii -	0x0(
+70						1	
+80							
+90							
+A0							
+B0						-i -	
+C0						-i -	
+D0						-	
+E0						-	
+F0							
	يسابعه بلغا يعلن		_			HEX	\sim

6) Select the format of the display area from the drop-down list (HEX/DEC/ASCII) as needed.

CKD RTXTools SubWindow	- 0 ×
IO.05 MasterIO-Link 8Ports	View Main window
Forced I/O SETS Device settings Get error log ISDU	• •
0 Port ~	
Read O Write Index 0x10 SubIndex	Size
Read 10 11 12 13 14 15 16 17 18 10 14 18 10 10 15 15	Start COMM
+00	Start COMM
+10	Failed
+20	
+30	Error code 0x00
+40	
+50	Additional code
+60	0x00
+70	
+80	
+90	
+A0	-
+80	-
+00	-
+50	-
+50	-

	HEX
	ASCII
	NOCI

Write

1) Check [Write].

orced	110																View Main window
	1/0	SE	TS		Dev	ice	set	ttin	gs	Ge	et e	rro	r lo	g	IS	DU	•
0 Port	_		ì	~		_											
) Rea	d	\odot	Wri	ite		Ir	nde	x)x1	0	s	ubI	nde	ex			Size
Write	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	Start COMM
+00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Failed
+20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Error code 0x00
+40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	a data a series da
+50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Additional code
+60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	0x00
+70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+90	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
+E0	00	00	00	00	00	00	00	00									

- 2) Input in [Index] the index of the service data of the IO-Link device.
 3) Input the sub index in [SubIndex] and the size in [Size].
 4) Write the data in [Service data area].

0.05 M	ast	eri	0-1	LINI	K 8	Por	τs											View Main w	/indow
orced	I/O	SE	TS		Dev	ice	set	ttin	gs	Ge	et e	rro	r lo	g	IS	DU			4
0 Port			`	~			_	_	_			_			_				
🔾 Rea	d	۲	Wri	te	L	In	Ide	x 2	2		s	ubI	nde	ex			S	ize 1	
Write	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F		Start CO	MM
+00	82	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		Faile	d
+20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		Error code	0x0
+40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		Additional	code
+60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			0x0
+70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+90	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_		
+C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_		
+D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_		
+E0	00	00	00	00	00	00	00	00									_		
+F0																	_		
																		HEX	~

5) Click the [Start COMM] button, and the writing result is displayed below the button as "Succeeded"/"Failed."

0.05 M	ast	erl	0-	Lin	k 8	Por	ts										V	'iew Main	wind
Forced	I/C	SE	TS		Dev	/ice	set	ttin	as	G	et e	rro	r lo	a	IS	DU			
														0					
0 Port	1			~															
○ Rea	d	۲	Wri	ite		Ir	nde	x	2		s	ubI	nd	ex			Siz	e 1	
Write	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F		Start (OMM
+00	82	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ξ.		
+10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		Fail	ed
+20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	- i	Error cod	e 0)
+40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	i		
+50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		Additiona	I code
+60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_		0)
+70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+90	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_		
+80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_		
+00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	_		
+00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
+==0	00	00	00	00	00	00	00	00									_		
++0																	-1		



• To input a hexadecimal number in the index / sub index, add 0x to the beginning. If there is no 0x, it is processed as a decimal number.

Data storage clear 3.2.10.

Performs data storage clear. Deletes the setting data of the connected devices backed up to the IO-Link master unit. Operates only in IO-Link mode.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the IO-Link master unit.



Main window

Sub window

- 3) Open the [Unit current status] tab.
- 4) Click the [Data storage clear] button.

100 110	ster10-Lin	k 8Pc	rts			View Main wind
nit curi	rent status	Port	-each SETS	Forced I/	O SETS	Device settings
	6	•	Version 01	02-0102-010)1	
		Unit	No.		5	
0	0	Mode	l number		RT-XLM	SA08N
		Unit	features		MasterI	O-Link 8Ports
		Conn	ector		M12	
		Proce	ess data size	(byte)	IN : 38	, OUT : 34
		Minir	num curren	t consumptio	n 100.00	0 mA
20-Un	0 0	ata st	rage clear			
Port	ect operation	on m	Input size	Output size	Error Coo	le Error
0	IO-Link m	node	4	4	0x0200	Device mismatch
1	IO-Link m	node	4	4		
2	IO-Link m	node	4	4		
3	IO-Link m	node	4	4		
4	IO-Link m	node	4	4		
5	IO-Link m	node	4	4		
6	IO-Link m	node	4	4		
	TO Link m	anda	4	4		

5) When the [Config] window opens, click the port number to be cleared. To select all ports, click the [Select all] button.



6) Once selected, click [OK].

Config									Х
Select all				Select	t target				
Deselect	0	1	2	3	4	5	6	7	
					Ľ	OK		Cancel	

3.2.11. Loading IO-Link error log

Loads the following error logs (device errors) of the IO-Link master unit.

- Event codes in event communications
- Error responses in ISDU communications
- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the IO-Link master unit.





Main window

Sub window

- 3) Open the [Get error log] tab.
- 4) Select the port to be retrieved from the drop-down list.
- 5) Click the [Get error log] button.

orced I/O SETS	Device settings	Get error			
0 Port v	Get error log				
rder of error	Event Qualifier		Event	t code	
ISDU					
Order of error	I-Service	Error	code	Additional	code

6) Check the content of the message window and click [Yes].



7) Check the error log displayed.

orced I/O SE	TS Device settings	Get e	rror log	ISDU			•
0 Port v	Get error log						
Diagnosis Order of error	Event Oualifie	r	Ev	ent code			
0	0x5C		0xFFFE				
ISDU							
Order of error	I-Service	Er	ror code	Ad	ditional	code	

- If it fails to obtain, a message is displayed.
- If there was no error, [No error] is displayed.
- When the error log has been obtained, both [Diagnosis] and [ISDU] area will be cleared.
- When RT is not communicated, the button becomes disabled.

3.2.12. Device information display and setting (IODD file)

Loads the IODD file of the IO-Link device connected to the IO-Link master unit to configure settings and display information for that device.

Display

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the IO-Link master unit.





Main window

Sub window

3) Open the [Device SETS] tab.

					VIEW IN		1044
orce	d I/O SETS	Device settings	Get error log	ISDU			•
Lo	ad IODD file	:			D	evice sca	in
OR'	Mode	Vendor		Device	nput siz	utput si:	^
0 0	D-Link mode	Scan the dev	ice.		4	0	
1 (D-Link mode	Link communication	on is inval		4	4	
2 0	D-Link mode	Link communication	on is inval		4	4	
3 0	D-Link mode	Link communicatio	on is inval		4	4	
40	D-Link mode	Link communicatio	on is inval		4	4	
6 0	D-Link mode	Link communicatio	n is inval		4	4	-
7 0	D-Link mode		4	4	~		
Port	details				Dev	vice setti	nas
10		Thomas		Malura		Tee betti	
NO		Item		Value			î

<Loading IODD file>

1) Click the [Load IODD file] button.

		Davice cettings	Cot arrest la a	TODU			
prce	a I/O SETS	Device settings	Get error log	ISDU			
Loi	ad IODD file				D	evice sca	an
DR'	Mode	Vendor		Device	nput siz	utput si:	^
0 0)-Link mode	Scan the dev	rice.		- 4	0	
1 0)-Link mode	Link communication	on is inval		4	4	
2 0)-Link mode	Link communicatio	on is inval		4	4	
3 0)-Link mode	Link communication	on is inval		4	4	
4 0)-Link mode	Link communication	on is inval		4	4	
5 0	-Link mode	Link communicatio	on is inval		4	4	
60	-Link mode	Link communicatio	on is inval		4	4	
/ (P-LINK mode	Link communicatio	on is invai		4	4	~
ort o	letails				Dev	vice setti	ng
NO.		Item		Value			^
							1

- 2) Select the folder containing the IODD file for the connected device that has been saved beforehand, and click "Open." Note 1
- 3) A message is displayed when the IODD file has been registered. Check the message and click [OK] button.

RTXTools	×
IODD file registered.	
ОК	

Note 1: Download the IODD file by following to the Instruction Manual of each device . There is no specification for the folder location to save the file.
<Scanning a device> (Operation required each time: When RTXTools connect to RT.)

1) Click the [Device scan] button. RTXTools verifies the loaded IODD file against the scanned device.



2) Check the message and click [Yes] button.

RTXTools		×
?	Read device information and set to IO-Link Master unit. It may change the process data size. Continue?	
	はい(Y) いいえ(N)	

3) If the data in the IODD file matches, device information is displayed in the [PORT list] and [Port details area].

	daster to-Lin	k 8Ports			View M	1ain win	dov
nit c	urrent status	Port-each SET	S Forced I/0	D SETS	Device se	ettings	6 1
Loa	d IODD file				D	evice so	an
OR'	Mode	Vendor		Device	nput siz	utput si	. ^
0 þ	-Link mode	CKD Corporat	tion PPX-	R10PC-6	6M 4	0	2
10	-Link mode-Lin	nk communicatio	n is inval		4	4	1
20	-Link mode-Lir	nk communicatio	n is inval		4	4	
30	-Link mode-Lin	nk communicatio	n is inval		4	4	
40	-Link modeLin	4	4				
50	-LINK MOUCEN						
6 0	-Link model in	nk communicatio	n is inval		4	4	
6 0 7 0	-Link mode-Lin -Link mode-Lin	nk communication nk communication	n is inval n is inval		4	4	~
6 0 7 0 Port d	-Link modeLir -Link modeLir etails	nk communication nk communication	n is inval n is inval		4 4 De	4 4 vice sett	v
6 0 7 0 Port d	-Link mode-Lir -Link mode-Lir etails	nk communication nk communication tem	on is inval on is inval	Value	4 4 De	4 4 vice sett	v tings
6 0 7 0 ort d NO.	-Link mode-Lin -Link mode-Lin etails I Device Id	nk communication nk communication tem	on is inval on is inval 2179073	Value	4 4 De	4 4 vice sett	v tings
6 0 7 0 Port d NO. 1 2	-Link mod←Lir -Link mod←Lir etails Device Id Vendor Id	nk communication nk communication tem	n is inval n is inval 2179073 855	Value	4 4 De	4 4 vice sett	v ting:
6 0 7 0 Port d NO. 1 2 3	-Link mod←Lir -Link mod←Lir etails Device Id Vendor Id Vendor Nan	ik communicatic ik communicatic tem	n is inval n is inval 2179073 855 CKD Corporati	Value	4 4 De	4 4 vice sett	tings
6 0 7 0 ort d NO. 1 2 3 4	-Link mod←Lir -Link mod←Lir etails Device Id Vendor Id Vendor Nan Vendor Text	nk communicatic	n is inval n is inval 2179073 855 CKD Corporati Automation Te	Value	4 4 De	4 4 vice sett	¢ tings
6 0 7 0 rort d NO. 1 2 3 4 5	-Link mod←Lir -Link mod←Lir etails Device Id Vendor Id Vendor Nan Vendor Text Vendor URI	nk communicatic nk communicatic tem	2179073 855 CKD Corporati Automation Te https://www.	Value ion echnolog	4 4 Der	4 4 vice sett	v ting:

	A message is dia vendor ID and information is not	splaye device displa	d if the IODD file has not been registe ID matching those of the connected yed.	ered in which the d device. Device
		RTXTools	×	
<i>I</i>			IODD file corresponding to device ID/vendor ID is not registered in RTXTools Target port 0 Click on the "Load IODD File" button to register the IODD file.	
			ОК	

<Loading Device settings>

- Display the [Device sub window]. There are two methods as following.
 (1) Double click the target device in the [PORT list]
 - (2) Select the target device in the [PORT list] and click [Device setting] button

.05 M	asterIO-Link 8Ports			View N	1ain wind	dow	NO.05	MasterIO-L	ink 8Ports			View N	1ain wind	dow
orced	I/O SETS Device sett	ings Get error l	og ISDU			• •	Force	d I/O SETS	Device settings	Get error	log ISDU			•
Load	I IODD file			D	evice sca	an	Lo	ad IODD file				C	evice sca	an
OR'	Mode Ven	ndor	Device	nput siz	utput si:	^	OR	Mode	Vendor		Device	nput siz	utput si:	^
0 0-	Link mode CKD Cor	poration P	PX-R10PC-6M	4	0		0 0	D-Link mode	CKD Corpora	tion	PPX-R10PC-6M	4	0	1
1 0-	Link modeLink commun	nication is inval		4	4		1 0	D-Link mode	Link communicati	on is inval		4	4	
2 0-	Link mode Link commun	nication is inval		4	4		2 (D-Link mode	Link communication	on is inval		4	4	
3 0-	Link mode Link commun	nication is inval		4	4		3 0	D-Link mode	Link communicati	on is inval		4	4	
4 0-	Link modeLink commun	lication is inval		4	4		40	D-Link mode	Link communication	on is inval		4	4	
6 0-	Link modelink commun	ication is inval		4	4		50	D-Link mode	Link communicati	on is inval		4	4	
7 0-	Link mode Link commun	nication is inval		4	4	~	7 (D-Link mode	Link communicati	on is inval		4	4	~
ort de	tails			De	vice setti	ngs	Port	details				De	vice setti	ings
NO.	Item		Value			^	NO		Item		Value			^
1	Device Id	2179073					1	Device Id	1	2179073				
2	Vendor Id	855					2	Vendor I	d	855				
3	Vendor Name	CKD Corpor	ration				3	Vendor N	ame	CKD Corp	oration			
4	Vendor Text	Automation	Technology f	or the F	u		4	Vendor T	ext	Automatic	n Technology f	or the F	u	
5	Vendor URL	https://ww	w.ckd.co.jp/				5	Vendor U	RL	https://w	ww.ckd.co.ip/			
6	Device Family	PPX				~	6	Device Fa	milv	PPX				

Double click [PORT list]

Click [Device setting] button

- 2) [Device SubWindow] is opened. Click the needed tab.
- 3) Click [Read all] button.

mmon Brocos	cDate	Identification	Paramotor	Obconvistion	Diagnosis
Sequential writ	ina		rarameter	Dead all	Caballitan
Sequencial write	ing .			Read all	Set all item
Name	R/W	Current value	e	Set value	tatu Unit
Vendor Name	ro	CKD Corporation			OK
Vendor Text	го				-
Product Name	ro				-
Product ID	ro	PPX-R10PC-6M			OK
Product Text	го				-
Serial Number	ro				-
Application-spec	i rw				-
Hardware Revisi	ro				-
Firmware Revisi	c ro				-

4) Check the contents displayed in [Current value] column.

.05 Mast	erIO-Li	nk 8	Ports Port 0		view Sub window	/iew Ma	in wind
ommon	Process	sData	a Identification	Parameter	Observation Dia	agnosis	
Z Sequen	tial writi	ng			Read all	Set a	ll items
Nan	ne	R/W	Current valu	ie	Set value	tatu	Jnit
Vendor N	Name	ro	CKD Corporation			OK	
Vendor 1	Fext	ro	https://www.ckd.	co.jp/		OK	
Product	Name	ro	PPX-R10PC-6M			OK	
Product	ID	ro	PPX-R10PC-6M			OK	
Product	Text	ro	Digital pressure se	ensor		OK	
Serial Nu	umber	ro	0206G			OK	
Applicati	on-speci	irw	***	***	¢	OK	
Hardwar	e Revisi	ro	1.0			OK	
Firmwar	e Revisio	ro	1.01			OK	



• Connected device information retrieved through <Load IODD file> is displayed on each tab, under the following conditions.

* Item name and parameters included in the tab follow the definitions in the loaded IODD file

* Display language is English

Settings change (Rewriting parameters defined by IODD file)

Changes the writable values of the settings loaded in the IODD file (r/w items with a w).

- 1) Display the [Device sub window]. There are two methods as following.
 - (1) Double click the target device in the [PORT list]
 - (2) Select the target device in the [PORT list] and click [Device setting] button

.05 M	lasterIO-Link 8Ports			View N	1ain wind	low	NO.05 N	lasterIO-l	ink 8Ports			View M	1ain win	do
orced	I/O SETS Device se	ttings Get erro	r log ISDU			• •	Forced	I/O SETS	Device settings	Get error	log ISDU			
Loa	d IODD file			D	evice sca	in	Loa	d IODD file	2			D	evice so	an
OR'	Mode Ve	endor	Device	nput siz	utput si:	^	OR	Mode	Vendor		Device	nput siz	utput si	1
00	-Link mode CKD C	orporation	PPX-R10PC-6M	4	0		00	Link mode	CKD Corporat	ion	PPX-R10PC-6M	4	0	1
1 0	Link modeLink commu	inication is inva		4	4		10	-Link mode	-Link communicatio	n is inval		4	4	
2 0	-Link mod-Link commu	inication is inva		4	4		2 0	-Link mode	-Link communicatio	n is inval		4	4	
30	Link modeLink commu	inication is inva		4	4		30	Link mode	-Link communicatio	n is inval		4	4	
40	Link modeLink commu	inication is inva		4	4		40	-Link mode	-Link communicatio	n is inval		4	4	
6.0	Link model ink commu	inication is inva		4	4		60	Link mode	Link communicatio	n is inval		4	4	
7 0	Link mode Link commu	inication is inva		4	4	~	7.0	Link mode	Link communicatio	n is inval		4	4	Ξ,
Port d	etails			De	vice setti	ngs	Port d	etails				De	vice sett	inc
NO.	Item		Value			^	NO.		Item		Value			٦
1	Device Id	2179073					1	Device Io	4	2179073	talde			
2	Vendor Id	855					2	Vendor I	d	855				
3	Vendor Name	CKD Corr	oration				3	Vendor N	lame	CKD Corp	oration			
4	Vendor Text	Automati	on Technology f	or the F	u		4	Vendor T	Tevt	Automatio	n Technology (for the Fi		
5	Vendor URL	https://v	ww.ckd.co.jp/				5	Vendor I	IDI	https://ww	www.ckd.co.ip/	or ale ri		
6	Device Family	PPX					3	venuor e		nups.//ww	www.cku.co.jp/			

Double click [PORT list]

Click [Device setting] button

- 2) [Device SubWindow] is opened. Click the relevant tab.
- 3) Click the relevant setting item.
- 4) Input field or drop-down list is displayed depending on the setting item. Enter or select from the drop-down list for setting value. Note 1

ommon	Proces	sData	a Identification	Parameter	Observation	Diagnosis	
Z Sequen	tial writi	ng			Read a	II Set all ite	ms
Nan	ne	R/W	Current valu	e	Set value	tatu Unit	^
Respons	e Time	rw	2.5 ms	2.5	ms	ОК	
System (Comman	wo		Zei	o-adjustment se	tting -	
System (Comman	wo		Rei	note Zero-adjust	tment s -	
System (Comman	wo		Zei	o-adjust setting	unset -	
System (Comman	wo		Aut	o-reference setti	ing -	
Output 0	Operatio	rw	N.O.	N.0).	OK	
Output 0	Operatio	ro	N.O.			OK	
Sensina	Output !	rw	EASY mode	EA	SY mode	ок	
Thresho	ld Value	rw	0.500	0.5	00 T	DK	
Inresno	d value	rw	0.505	0.5	05	ОК	
Hysteres	is Settin	rw	Lv 3	Lv	3	OK	
Pressure	Unit Se	rw	MPa	MP	a	OK	
ECO Set	ting	rw	OFF	OF	-	OK	
Zero-adj	ust	ro	Not executed			OK	
Display (Color Set	rw	Red when ON, Gre	en whei Re	l when ON, Gree	en whei OK	
Display 9	Setting o	rw	Std	Sto		OK	
Display \$	Speed Se	rw	250ms	25)ms	OK	
Peak / B	ottom Ho	rw	OFF	OF	-	OK	
No** Dis	splay Se	t rw	01	01		OK	
Custom I	Display 9	rw	AAAA	AA	AA .	OK	
Local Lie	er Interf	rw	Unlocked	Un	ocked	OK	

t all ite tu Unit	Set a	Read all Set value	Toolitantation	Sequential writing
t all ite tu Unit	Set a	Read all Set value		Sequential writing
tu Unit	tatu -	Set value		
	-		Current value	Name R/W
			0	Response Time rw
	g -	o-adjustment setting		System Comman wo
	nt s -	note Zero-adjustment		System Comman wo
	et -	o-adjust setting unset		System Comman wo
	-	o-reference setting		System Comman wo
	-		0	Pressure Unit Sel rw
	-	-	OFF	ECO Setting rw
			Not executed	Zero-adjust ro
	/hei -	d when ON, Green whe	Red when ON, Green	Display Color Set rw
	-		Std	Display Setting o rw
к	~ DK)ms v	250ms	Display Speed Serw
		Ims	orr	reak / bottom netw
		ims N		No** Display Set rw
		IOms W		Custom Display 5 rw
		ocked	Unlocked	Local User Interf rw
	- /hei -	d when ON, Green when one of the original sector of the original sec	Not executed Red when ON, Green Std 250ms On Unlocked	Zero-adjust ro Display Color Set nw Display Setting o nw Display Speed St nw reak / bottomnt nw reak / botto

Input field

Drop-down list

Note 1: By check the [Sequential writing] check box in the upper left corner of the screen, and the setting is made at the same time the change is made.

5) Click the [Set all items] button.

.05 Master 10-Li	nk 8	Ports Port 0	√iew Sub window	∕iew Main v	vind
ommon Proces	sData	a Identification Param	eter Observation Dia	ignosis	
] Sequential writi	ng		Read all	Set all ite	ems
Name	R/W	Current value	Set value	tatu Unit	^
Response Time	rw	5 ms	50 ms	OK	
System Comman	wo		Zero-adjustment setting) -	
System Comman	wo		Remote Zero-adjustmer	nts-	
System Comman	wo		Zero-adjust setting uns	et -	
System Comman	wo		Auto-reference setting	-	
Pressure Unit Se	rw	0	0	-	
ECO Setting	rw	OFF	OFF	-	
Zero-adjust	ro	Not executed		-	
Display Color Set	rw	Red when ON, Green wh	e Red when ON, Green w	hei -	
Display Setting o	rw	Std	Std	-	
Display Speed Se	rw	250ms	250ms	-	
Peak / Bottom Ho	rw	OFF	OFF	-	
No** Display Se	trw			-	
Custom Display	rw			-	
Local User Interf	rw	Unlocked	Unlocked	-	

- This software reads and writes via ISDU communication based on the parameters read.
 - Each time a setting for an item is changed, the information is rewritten through ISDU communication.
 - RT cannot read or write direct parameters.
 - Current values or set values are not displayed for direct parameters.

3.2.13. Device unit settings (IP address, etc.)

When setting this item, use USB connection for connecting RT and PC for RTXTools. Configure the setting relates to the network for device unit. Setting item varies depending on the network that the device unit corresponds to. The items can be set are as following.

Unit	Item to be set
EtherNet/IP device WebAPI device	[IP address] [Subnet mask] [Default gateway] [Authentication function (Web access)] [Login ID (WEB access)] [Password (WEB access)]
PROFINET device	[Authentication function (Web access)] [Login ID (WEB access)] [Password (WEB access)] Note 1
EtherCAT device	None

Note 1: Since IP address cannot be set on PROFINET device unit, set the address on the upper master unit.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the device unit.



Main window

Sub window

3) Open the [Unit SETS] tab.

.00 D	evice unit EtherNet/IP		View Ma	in window
Init cu	rrent status Unit SETS			
Set t	ime for RT	9 Fact	ory default	et all item
NO.	Unit SETS	Current value	e Set value	^
8	Error log save(record) tim	ne/mi 30	30	
9	Filter ON/OFF (Error type) OFF	OFF	
10	Filter ON/OFF (Unit ID)	OFF	OFF	
11	Filter ON/OFF (Unit positi	on ni OFF	OFF	
12	Filter ON/OFF (CH numbe	r) OFF	OFF	
13	Log filter (Error type)	0	0	
14	Log filter (Unit ID)	0x00000000	0x00000000	
15	Log filter (Unit position n	umbe 0	0	
16	Log filter (CH/point/port r	numt 0	0	
17	Output power ON time	14400	14400	
18	IP address	192.168.1.1	192.168.1.1	
19	Subnet mask	255.255.255.	0 255.255.255.0	
20	Default gateway	192.168.1.1	192.168.1.1	
21	Authentication function ()	Neb authentica	tic No authenticati	¢ 🚦
22	Login ID (Web access)	admin	admin	
23	Password (Web access)	pass	pass	

00 D	evice unit PROFINET		View Main window
nit cu	rrent status Unit SETS		
Set t	ime for RT	9 Factor	y default Set all item
NO.	Unit SETS	Current value	Set value
6	Saving logs (method)	Stop at maximu	Stop at maximu
7	Time to save log	Real-time	Real-time
8	Error log save(record) time/mi		
9	Filter ON/OFF (Error type)	OFF	OFF
10	Filter ON/OFF (Unit ID)	OFF	OFF
11	Filter ON/OFF (Unit position nu	OFF	OFF
12	Filter ON/OFF (CH number)	OFF	OFF
13	Log filter (Error type)	0	0
14	Log filter (Unit ID)	0x00000000	0x00000000
15	Log filter (Unit position number	0	0
16	Log filter (CH/point/port numb	0	0
17	Output power ON time	16053	16053
18	Authentication function (Web a	No authenticatio	No authenticatio
19	Login ID (Web access)		
20	Password (Web access)		

EtherNet/IP device unit

PROFINET device unit

- 4) Select and enter in the "Set value" of the relevant setting item.
- 5) Once the set values are entered, click the [Set all items] button.
- 6) (When using the set IP address)

Carry out the followings. If not, the change will not be reflected.

(1) Set the rotary switch to 0x00

(2) Restart RT

This setting is not available for WebAPI connections. Change to a USB connection before setting.

3.3. Retrieving and checking RT information



Checks the process data size. The total and individual value of the connected units for the process data size can be displayed.

<Overall display (total value)>

- 1) Open the [I/O memory] tab in the main window.
- 2) At the bottom of the process data size list, the total value (byte) of the size of each input and output is displayed.

The respective totals are also displayed at the top of the input process data area and the output process data area.

	ools	in COMM •	WEB	_			
rror No ei	rror						
Jnit	configuration	I/O Monitor I/O Mem	ory Err	ror Exp	/Imp Settin	g	
NO.	Model number	Unit features	nput size	utput siz	Error	orced I/O SE	т
06	RT-XADGB08B	igitalInput 8Points NPI	1	0			
07	RT-XAAGA02N	AnalogInput 2CH	4	0			
08	RT-XBAGA02N	AnalogOutput 2CH	0	4			
09	RT-XVVCN32A	VGValve IF 32Points PN	0	4			
		Total	51	48			
Inni	ut cizo E1 byto		Outo	ut cize 4	9 byte		
INDU	<u>IL SIZE SI DVLE</u>		Outp	ut size 4	o Dyle		_
IN	+0+1+2+3+4+5+	6+7+8+9+A+B+C+D+E+F ^	OUT	+0+1+2+3	+4+5+6+7+8+	-9+A+B+C+D+E+	FF /
+00	0 00 00 00 00 00 00 00 00	0 0 0 0 0 0 0 FF 0 0 0 0 0 0 0 0 0 0 0	+00	00 00 00 00	00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00 00 00 00 00	00
+10	0 00 00 00 00 00 00 00 00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	+10	00 00 00 00	00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00 00 00 00 00	00
	0 00 00 00 00 00 00 00 00	0 00 00 00 00 00 00 00 00 00 7F	+20	00 00 00 00	00 00 00 00 00 00 0	00 00 00 00 00 00 00 00 00 00 00 00 00	00
+20) FF /F FE		+30				
+20			+40				
+20 +30 +40			+50				
+20 +30 +40 +50			+60				
+20 +30 +40 +50 +60			1.70				
+20 +30 +40 +50 +60 +70			+70				



• The maximum process data size is 512 bytes.

<Individual display (by unit)>

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window

Sub window

×

- 3) Open the [Unit current status] tab.
- 4) Check the "Process data size (byte)".





•

If the settings of the IO-Link master have been changed, turn the power of RT ON and OFF before checking.

3.3.2. Checking identification information

Displays identification information. Identification information represents the data of a device unit that cannot be changed.

It consists mainly of hardware and software version information, serial numbers, MAC addresses, and information for each industrial network (IP addresses and IDs).

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the device unit.



Main window

Sub window

- 3) Open the [Unit current status] tab.
- 4) Check each item in the No. list. Note 1



Note 1: The display varies depending on the network that the device unit corresponds to. For details, refer to the Instruction Manual for each device unit.

3.3.3. Checking device unit switch status

Retrieves the dip switch status of the device unit and displays it in hexadecimal.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the device unit.



Main window

Sub window

3) Open the [Unit current status] tab.

 Check each item in the No. list. The status of each dip switch (Dip SW, Rotary dip SW) is displayed in a hexadecimal number. Note 1



Note 1: The settings by switch status varies depending on the network that the device unit corresponds to. For details, refer to the Instruction Manual for each device unit.



• For EtherNet/IP device units, the current IP address is displayed.

3.3.4. Checking unit version

Displays the version of the unit.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window

Sub window

- 3) Open the [Unit current status] tab.
- 4) Check the version information.
 It is displayed above the unit details and to the right of the unit's icon.
 The format is hexadecimal, separated by a space every two bytes.



3.3.5. Unit diagnostic information display

Displays diagnosis information of the unit. There are three main windows and one sub window.

Main window

<Common to all the tabs>

- 1) Display the main window.
- 2) Check the error status in the [Error display area]



I/O monitor] tab

red.

- 1) Click the [I/O memory] tab in the main window.
- Check the error status in the [Error display area] In the [Error display area], the CH/port/point where an error has occurred is displayed. The background of the unit number where an error has occurred turns

RTXTool	s	in COMM	•	WEB	
Error In error 30 erro	ors are	occurred.			
Unit con	figurat	ion I/O Monitor	I/O	Memory Error Exp/Imp Setting	
NO. ir	funct	Unit features	IO	I/O value	^
0	EC	Device unit EtherC	A		
1	Ն	AI 2CH	IN	0 CH 0.00 1 10 1 CH 0.00 1 10 [0x8000] ↓ 10 [0x8000] ↓ 10	
2	λ	AO 2CH	OUT	0 CH 0.00 ↑10 1 CH 0.00 ↑10 [0x0000]↓0 [0x0000]↓0	
з	N	DI 32Points	IN	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	
4	П	DO 32Points	OUT	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	
s	U	DI 16Points	IN	0123456789101112131415	
	nr)	0.0.470			¥

[Error] tab

- 1) Click the [Error] tab in the main window.
- Check the error status in the [Error] tab. In the [Error tab], one line is displayed for each error. Select the CH/port/point displayed and the error details are displayed.



Note 1: Importance is categorized by the error type. Details are as follows.

No.	Туре	Example
1.	Temporary error	Concurrent access notification, parameter setting errors, etc.
2.	Software error	Min range error, etc.
3.	Electrical/physical error	Power line error, signal line error, hardware error, etc.

Sub window

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.

KTools in COMM	• WEB —	sie							
		346	NO	0.07 Ana	logInpu	It 2CH		View Main	windo
or o error			L	Unit curre	ent statu	Unit SET	6 CH-each SETS	Forced I/O SETS	
						Versi	on 0102-0000-000	00	
nit configuration	I/O Memory Error Exp/Im	p Setting		°© "(3	Unit No.		7	
						Model nun	nber	RT-XAAGA02N	
Zoom in Zoom out	Minimum cur	rent consumption 730 mA				Unit featur	es	AnalogInput 2CH	
						Connector		M12	
	0.0					Process da	ta size(bvte)	IN: 4, OUT: 0	
						Minimum	current consumptio	n 70 mA	
			\rightarrow		_				
	00000			CH	IO	Error Code	E	rror	
CONTRACTOR AND				0	IN				
				1	IN				
Unit No.	0	Main							
Model number	RT-XTEPN00N								
Unit features	Device unit PROFINET	P							
Connector		-							
Process data size(byte)	IN: 2, OUT: 0	Comin on							
Minimum current consumption	100 mA	Settinos							

Main window

Sub window

- 3) Open the [Unit current status] tab.
- 4) Check the error status.

The error code and error content for each CH/port/point displayed.

.07 AN	alog1npu	IT ZCH		View Ma	in window
Init curr	ent statu	s Unit SET	S CH-each SETS	Forced I/O SETS	
		Vers	ion 0102-0000-000	0	
(C)	©	Unit No.		7	
		Model nur	nber	RT-XAAGA02N	
		Unit featu	res	AnalogInput 2CH	
		Connector		M12	
		Process da	ata size(byte)	IN: 4,OUT: 0	
		Minimum	current consumptio	n 70 mA	
) El Anek	. 0				
CH	IO	Error Code	Er	ror	
0	IN				
1	IN				



• For diagnostic information and error codes, refer to the Instruction Manual for each unit.

3.3.6. Unit configuration display Displays the unit configuration.

<Zoom in>

- 1) Open the [Unit configuration] tab in the main window.
- 2) Click the [Zoom in] button.
 - The display format becomes a scrolling display when many units are connected. CKD RTXTools MainWindow

TXTools in CC	DMM • WEB	-	2
Error No error			
Unit configuration I/O Mon	itor I/O Memory Er	ror Exp/Imp Sett	ina
	,		
Zoom in Zoom out		Minimum current c	onsumption 730 mA
0 0 0 0			
"" (<u>)</u> " () () () () () () () () () () () () ()			00000
			0.0
) <u>() </u>
			o-Link QO M Depisi NPH
K			>
Unit No.	7		Main
Model number	RT-XAAGA02N		
Connector	M12	П	· U
Process data size(byte)	IN: 4, OUT:	0	
Minimum current consum	tion 70 mA		Settings

<Zoom out>

Zooms out. The display per unit becomes smaller when many units are connected.

- 1) Open the [Unit configuration] tab in the main window.
- 2) Click the [Zoom out] button.
 - The display per unit becomes smaller when many units are connected.

TXTools IN COMM	• WEB —		•
tait an firmation			
Unit configuration I/O Monitor	I/O Memory Error	Exp/Imp Setting	
Zoom in Zoom out	М	inimum current consumpti	on 730 m/
	100 ···· 100 ···· 00) a (ii) a (ii) a (i	~
		0 0 0 0 0 0	
	0.0		
		0.0	
0 0.0 0.0	0.0	0.0	
		0.0	
		BORNER CO BANKS CO BANKS	West Dig
Unit No.	7	Mai	n
Model number	RT-XAAGA02N		_
Unit features	AnalogInput 2CH	Λ	
Connector	M12		
Process data size(byte)	IN: 4,OUT: 0		
	70 m 1	Settir	0.05

- Displays in the order of actual connection. However, end units and power supply units are not displayed.
- Unit configuration information is retrieved when RTXTools is connected to RT. If units are replaced, increased, or decreased while connected, turn the RT off and on again to retrieve the configuration information again. An error is displayed until it is retrieved again.



3.3.7. Process data display

Displays process data (input/output) of connected units.

- 1) Open the [I/O monitor] tab in the main window. The process data is displayed by unit. Note 1
- 2) Change the display format (Note 2) with the pull-down list at the bottom left of the window. Note 3

ХТос	ols	in COMM	•	WEB	-	-								
rror No erro	or													
Jnit co	onfigurat	tion I/O Monitor	I/O	Memory	Erro	r	Exp)/Im	p Se	tting				
NO. ir	n funct	Unit features	IO				I/C) val	ue					^
1	Л	DO 16Points	ουτ	0 1 2 3	34	5	6	78	91	.0 11	12	13 14	4 15	
2	Л	DI 16Points	IN	0 1 2 3	84	5	6	78	9 1	0 1 1	12	13 14	4 1 5	
3	Л	DO 32Points	OUT	0 1 2 3	34 920	5 21	6 22 2	78 324	91 252	011	12 28	13 14 29 3	415 031	
4	Л	DI 32Points	IN	0 1 2 3	34 920	5 21	6 : 22 2	78 324	9 1 25 2	0 11	12 28	13 1 29 3	4 15 0 31	
5	•	IO-Link 8Ports	IN IN	DI 1 DI 2		0	1	2	3	4	5	6	7	
			IN	Port Error F	lag	0	1	2	3	4	5	6	7	
			IN	IO-Link Err	or	0	1	2	3	4	5	6	7	
			IN	Event Flag	-	0	1	2	3	4	5	6	7	~

Note 1 The "No." of a unit with an error is displayed in red.

Note 2: Display format is [BIN] (binary), [DEC] (decimal), [HEX] (hexadecimal).

Note 3: The process data display method varies depending on the display format. For details, refer to the table below.

Unit name	Display format: BIN	Display format: DEC	Display format: HEX
Device unit	0 1 2 3 4 5 6 7	IN 042	IN 0x2A
Analog Note 4	IN 0 CH -0.00 ↑ 10 1 CH 0.00 ↑ 10 IN [0x7FFF] ↓ -10 (0x8000) ↓ -10 OUT 0 CH 0.00 ↑ 10 1 CH 0.00 ↑ 10 OUT 0 CH 0.00 ↑ 10 1 CH 0.00 ↑ 10	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	0 CH -0.00 ↑ 10 1 CH 0.00 ↑ 10 IN [0x7FFF] ↓ -10 [0x8000] ↓ -10 [0x8000] ↓ -10 [0x000] ↓ -10 </th
Digital and alve I/F unit Note 5	IN 0 1 2 3 4 5 6 7 8 9 101112131415 OUT 0 1 2 3 4 5 6 7 8 9 101112131415	IN 000 000 OUT 000 000	IN 0x0000 OUT 0x0000
IO-Link master	IN DI 1 0 1 2 3 4 5 6 7 IN D1 2 0 1 2 3 4 5 6 7 IN Port Error Flag 0 1 2 3 4 5 6 7 IN IO-Link Error 0 1 2 3 4 5 6 7 IN Event Flag 0 1 2 3 4 5 6 7 IN ProcData valid 0 1 2 3 4 5 6 7 IN Ox0FFFE01FD In 2 3 4 5 6 7	IN DI 1 000 IN DI 2 001 IN Port Error Flag 000 IN IO-Link Error 254 IN Event Flag 000 IN ProcData valid 001	IN DI 1 0x00 IN DI 2 0x01 IN Port Error Flag 0x00 IN IO-Link Error 0xFE IN Event Flag 0x00 IN ProcData valid 0x01

1	1 CH	2 0.00	↑10 ³
	(4)	[0x8000]	↓-10 5
	1 CH	0.00	↑10
	6		10
	:		

	1	Target CH
	2	Analog value
Analog	3	Max range
Analog	4	Process data (hexadecimal)
	5	Min range
	6	[CH disabled] setting (grayed out)

Note 5: The display changes as shown in the table below depending on the forced ON/OFF status.

F	orced		Not force	d (cancele	ed)
ON	\bigcirc	OFF	ON		OFF

For details, refer to "3.2.5 Forced input display and setting" and "3.2.6 Forced output display and setting."

3.3.8. LED status display

Displays the current status of the LED installed in each of the connected units.

<Overall display>

- 1) Open the [Unit configuration] tab in the main window.
- 2) The current LED status is displayed on each image of the connected unit.



<Individual display (by unit)>

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window

Sub window

3) Open the [Unit current status] tab.

4) The current LED status is displayed in the unit image.

.05 Ma	sterIO-Link	k 8Poi	ts			Vie	w Main wi	ndow
nit cur	rent status	Port-	each SETS	Forced I/	O SETS	Devic	e settings	6 1
			Version 01	02-0102-010	1			
	8	Unit N	lo.		5			
		Model	number		RT-XLM	1SA081	N	
V		Unit f	eatures		Master	IO-Linl	k 8Ports	
		Conne	ector		M12			
	Contract Tem	Proces	ss data size	e(byte)	IN : 38	3, OUT	: 34	
	1000 a	Minim	ium curren	t consumptio	n 100.00	00 mA		
	Di Di	ata str	age clear					
Port	ect operatio	on me	Input size	Output size	Error Co	de	Error	^
0	IO-Link m	ode	4	4				
1	IO-Link m	ode	4	4				
2	IO-Link m	ode	4	4				
3	IO-Link m	ode	4	4				
4	IO-Link m	ode	4	4				
5	IO-Link m	ode	4	4				
6	IO-Link m	ode	4	4				
	IO-Link mode 4		4	4				~

For LED display formats, such as colors and blinking patterns, refer to the Instruction Manual for each device unit or the Troubleshooting of the Instruction Manual: System Construction.

• Displays content that can be detected by the RTXTools.

- LED statuses relating to the connection with the upper network cannot be displayed. For LED statuses that cannot be displayed, check the actual LED status.
 - For troubleshooting corresponding to the LEDs, refer to the Instruction Manual for each unit.

3.3.9. Current consumption display

Displays the current consumption of the unit. Refer to the current consumption when increasing the number of units.

<Total value display>

- 1) Open the [Unit configuration] tab in the main window.
- 2) The total current consumption of the unit is displayed.



<Individual display (by unit)>

- 1) Open the [Unit configuration] tab in the main window.
- 2) Open the sub window by double-clicking the unit to be displayed.



Main window

Sub window

- 3) Open the [Unit current status] tab.
- 4) The current consumption of the selected unit is displayed at the bottom of the "Unit details display."

	unic Ediercai	View Main wind
nit current	status Unit SETS	
 0n0	EC Version 0100-0100	0-0000
0-15M8 0-15F	Unit No.	0
	Model number	RT-XTECN00N
R	Unit features	Device unit EtherCAT
	Connector	
	Process data size(byte)	IN: 0,OUT: 0
III (P)	Minimum current consur	nption 100.000 mA
meat ^{ra}	Latch reset	
NO.	Item	Value
1	Serial number	0000034
2	Dip SW (0)	01
3	Rotary dip SW (×16)	00
4	Rotary dip SW (×1)	06

• The unit used is [mA].

• Values are theoretical based on design. It does not include the current consumption of devices connected to the unit.



The WEB concurrent access notification indicates when more than two PCs are accessing concurrently. It operates in device units with WEB interface functions.

1) Check the top of the main window.

CKD RTXTools MainWindov	N				-		×
RTXTools	in COMM	• WEB	—]			it
Error No error							
Unit configuration	I/O Monitor	I/O Memory	Error	Exp/Imp Setting			
Zoom in Zoo	m out		Min	imum current cons	umption	730 m	hΑ
Unit No. Model number Unit features Connector Process data size(Minimum current	(byte) consumption	7 RT-XAAGA02 AnalogInput M12 IN: 4,OU 70 mA	N 2CH T: 0		Main Main Settings		

"WEB" indicates the web access status. It is depicted by icons on the right.

Display	Туре	Content
•	Communication in progress	Communicating with RT
•	WEB	WEB concurrent access in progress
-	WEB	No concurrent access
	(Grayed out)	Device unit that cannot access the WEB (EtherCAT)

3.4. Other useful functions

3.4.1. Setting data export

Exports the setting data. Saves the settings of all connected RT configuration units to a file.

- 1) Open the [Exp/Imp Setting] tab in the main window.
- 2) Click the [Export] button.

No error									
Unit confia	uration	I/O Monitor	I/O	Memory	Error	Exp/Im	p Setting		
Export	t	Import		,			-		
Unit No.	Mo	del number	^			Unit No.	Model	number	
00	RT-XTE	PNOON							
01	RT-XBD	OGA16B							
02	RT-XAD	OGA16B							
03	RT-XBD	OGC32B							
04	RT-XAD	OGC32B							
05	RT-XLN	1SA08N							
06	RT-XAE	OGB08B							
07	DT VAA		~		L				 _
•	0								

3) Check the content when the message window is displayed. Click [OK] if it is O.K.



4) Select the folder to export and click [Save].

2 名前を付けて保存					×
	0-Link_IODD		v ♂ PPX_IC)-Link_IODDの検索	,c
整理 マ 新しいフォルダー				811 -	?
Microsoft Teams へ 名前 へ Microsoft Teams Microsoft Teams Whiteboards 770 にキュント レコーディング 会議 通行フィル PC 多りオブジェクト サウソロード チス2/トップ ▼	更新百時 検索点件に一到	僅類 はす3項目はありません。	<u>9</u> 4X		
ファイル名(N): Conf_20240611_144812.cnf ファイルの種類(T): cnf file (*.cnf)					~
▲ フォルターの非表示			R	存(S) キャン1	비

5) When the export is complete, "Succeeded" and the name of the exported file are displayed to the right of the "Import" button.

onne oonniga		• I/O M	emory	Frror	Exp/Im	p Setting		
Evport	Import	Succeed	D:¥Co	nf 2024	0611 14	4812 cnf		
Export	Import	Succeed	0.400	111_2024		4012.011		
Unit No.	Model number	^		- U	Jnit No.	Model I	number	
00	RT-XTEPN00N							
01	RT-XBDGA16B							
02	RT-XADGA16B							
03	RT-XBDGC32B							
04	RT-XADGC32B							
05	RT-XLMSA08N							
06	RT-XADGB08B							
07	DT VAACAOON	~						



3.4.2. Setting data import

Imports setting data.

- 1) Open the [Exp/Imp Setting] tab in the main window.
- 2) Click the [Import] button.

RTXTools		in COMM	•	WEB					ł
Error No error									
Unit config	uration	I/O Monitor	I/O M	lemory	Error	Exp/In	np Setting]	
Export	t	Import							
Unit No.	Mo	del number	^			Unit No.	Model	number	
00	RT-XTE	PNOON							
01	RT-XBD	GA16B							
02	RT-XAD	GA16B							
03	RT-XBD	OGC32B							
04	RT-XAD	OGC32B							
05	RT-XLN	1SA08N							
06	RT-XAD	GB08B							
07	DT VA	CAOON	•		L				
	•								

3) When the file folder is displayed, select the file to import, and click [Open].

ファイルの場所(I): 🔄 test 🗸 🗸 🈏 💋 🗁 📖 🕈	
名前 2024/06/11 14:49 CNF ファイル	
デスフトップ	
5-(ブラリ	
PC	
<	>
ファイル名(N): Conf_20240611_144812.cnf 🤘 開く(O)	
ファイルの種類(T): cnf file (*.cnf) v キャンセル	V

4) When the message window is displayed, click [OK].



5) When the import is complete, "Succeeded" and the name of the imported file are displayed to the right of the "Import" button

Jnit config	uration	I/O Monitor	I/O N	1emory	Error	- Exp/In	np Setting	
Expor	t 🔽	Import	Succee	d D:¥Co	onf_20	240611_14	45645.cnf	
							'	
Unit No.	Mo	del number	^			Unit No.	Model numb	er
00	RT-XTE	PNOON		-		00	RT-XTEPN00N	
01	RT-XBE	GA16B				01	RT-XBDGA16B	
02	RT-XAE	GA16B				02	RT-XADGA16B	
03	RT-XBD	GC32B				03	RT-XBDGC32B	
04	RT-XAE	GC32B				04	RT-XADGC32B	
05	RT-XLN	1SA08N				05	RT-XLMSA08N	
06	RT-XAE	GB08B				06	RT-XADGB08B	
07	DTVA	CAODAL	~			07	DTYAACAOON	

6) Since the settings need to be reflected to each unit, click the [Set all items] button in each setting ([xxxxxSETS]tab). Note 1

Note 1: [xxxxSETS] is either of [Unit SETS], [Connector-each SETS], [Block-each SETS], [CH-each SETS], [Point-each SETS], [Port-each SETS] depending on the unit.

 The extension of the import file is .cnf. A file can be imported if its contents match the manifold configuration. The import is canceled in the following cases. * When the file does not match the manifold configuration * When there is a set value outside the range If the import fails, a message is displayed.
RTXTools X
Failed
ОК

3.4.3. Switching display language

Switches the display language.

1) Click the icon in the upper right corner of the main window to open the [Software Configure] window.



2) Select a language from the pull-down list."Japanese," "English," and "Chinese (Simplified)" can be selected.

🕎 Software Configure	×
COM Port ~	
✓ Disconnect	
English	
Software Version 2.0.1	

3.4.4. Checking the software information

Checks the version information of this software.

1) Click the icon in the upper right corner of the main window.



2) Check the software version at [Software Configure] window.

Configure	×
COM Port ~	
✓ Disconnect	
English v	
Software Version 2.0.1	

3.4.5. "Copy/paste" function

The "copy/paste" function can be used to enter set values for each unit.

■ Сору

- 1) Open each settings tab in the sub window ([xxxxxSETS]tab). Note 1
- 2) Select a "set value" on the settings tab and right-click to display "copy."

.03 Di	gitalInp	ut 1	6Points PNP		Vie	ew Main	wind	ov
nit cur	rrent sta	tus	Connector-each SETS	Point-each SE	TS	Forced	I/O S	EI
Batch	n change	•	2	Factory de	efault	Set	all ite	m
NO.	points		CH-each SETS	Current valu	ie	Set val	ue	1
4	0							
1	0	Inp	ut Off_On cycle threshol	d 1000	10)(v_	
2	0	Inp	ut filter time	0.1ms	0.	1		
3	0	Inp	ut hold time	1ms	1r	n^	טעועב	.,
Þ	1							
Þ	2							
Þ	3							
•	4							
•	5							
Þ	6							
•	7							
•	8							
•	9							
•	10							
•	11							
۶.	12							

Note 1: [xxxxSETS] is either of [Unit SETS], [Connector-each SETS], [Block-each SETS], [CH-each SETS], [Point-each SETS], [Port-each SETS] depending on the unit.

Paste

- Open each settings tab in the sub window ([xxxxSETS]tab). Note 1
 Select a "set value" to paste and right-click to display "paste."

.05 M	asterI0	-Link 8Ports		View Ma	ain windov
nit cu	rrent stat	tus Port-each SETS	Forced I/O SETS	Device set	tings C •
Batc	h change	9 Write device of	onfig. Factory	default	et all item
NO.	Port	CH-each SETS	Current va	alue Set v	/alue /
9	0	Setting backup	Disable	Disable	
10	0	Restore settings	Enable	Enable	
11	0	Synchronization of cyc	le time Enable	Enable	
12	0	Communication error of	operatic HOLD	HOLD	
13	0	Power line error detec	tion ON	ON	
14	0	Signal line error detec	tion ON	ON	
15	0	Signal line error recov	ery ope Auto	Auto	
16	0	Communication cycle t	ime Manual	Manual	
17	0	Communication cycle t	imeMar 125	125	
18	0	Input filter time	0.1ms	0 7	E-
19	0	Input hold time	1ms	1	り付け
4	1				
1	1	Device ID	0	0	
2	1	Vendor ID	0	0	
3	1	Revision	0	0	
4	1	Input size(byte)	4	4	

Note 1: [xxxxxSETS] is either of [Unit SETS], [Connector-each SETS], [Block-each SETS], [CH-each SETS], [Point-each SETS], [Port-each SETS] depending on the unit.



3.4.6. "Back" function

The "back" function can restore to original state if the entered value was incorrect when changing the setting value for each unit.

- 1) Select a "set value" on the settings tab in the sub window ([xxxxxSETS]tab) and enter. Note 1.
- 2) When the set value is changed, the "back" (" \leftarrow ") button is enabled.

0.00 D	evice unit EtherCAT		View Ma	ain window
Jnit cu	rrent status Unit SETS			
Set t	ime for RT	り Facto	ry default	Get all items
NO.	Unit SETS	Current value	Set value	^
3	Analog vallue byte order	Big endian	Big endian	
4	PDO Mapping Assignment Erro	ON	ON	
5	Save log ON/OFF	Save? : No	Save? : No	
6	Maximum number of saved log			
7	Saving logs (method)	Stop at maximu	Stop at maxim	u
8	Time to save log	Per minute	Per minute	
9	Error log save(record) time/mi	30	1	
10	Filter ON/OFF (Error type)	OFF	OFF	
11	Filter ON/OFF (Unit ID)	OFF	OFF	
12	Filter ON/OFF (Unit position nu	OFF	OFF	
13	Filter ON/OFF (CH number)	OFF	OFF	
14	Log filter (Error type)	0	0	
15	Log filter (Unit ID)	0x00000000	0x0000000	
16	Log filter (Unit position numbe	0	0	
17	Log filter (CH/point/port numb	0	0	
				~

3) Click to return to the previous value.

Note 1: [xxxxSETS] is either of [Unit SETS], [Connector-each SETS], [Block-each SETS], [CH-each SETS], [Point-each SETS], [Port-each SETS] depending on the unit.



• It cannot be used if there are no changes to the settings (it will be grayed out).

4. TROUBLESHOOTING

4.1. Steps to check at the time of trouble occurrence

If there is an error in RTXTools starting or connecting, refer to the flowchart below.



Note: For figures ① through ④ and Note 1 to 3 in the chart, refer to the followings.

🕎 Software Configure	×	🕎 Software Configure	×
COM Port Connect		COM Port 〜 USB シリアル デバイス (COM5) 〜	Disconnect
English		English ~	
Software Version 2.0.0		Software Version 2.0.0	
Figure①:When the [Connect] button is disal	oled	Figure②: When the [Connect] butt	on is enabled

CKD RTXTools MainV





in COMM . WEB RTXTools * Error In error 30 errors are occurred. Unit configuration I/O Monitor I/O Memory Error Exp/Imp Setting Zoom in Zoom out Minimum current consumption 605.000 mA 0.0 0.0 0.0 0.0 0.0 0.0 00 00 0 0 0.0 0.0 0.0 00 00 COL BOWN Main 7 RT-XLMSA08N MasterIO-Link 8Ports M12 IN : 38 , OUT : 34 100.000 mA Model numbe Unit features Connector 0 data size(byte) Settings

×

Figure 3: Main window not displayed correctly

Figure 4: Main window displayed correctly

Note 1:Refer to the [USB serial device(COM***)] displayed under [Device manager]-[Port(COM and LPT)].Note 1.1 If there are multiple devices displayed, relevant device can be identified by detaching and reattaching the USB cable connected to RT. An example is as following. Note 1.1: [***] varies depending on PC.

 ■ デバイスマネージャー - □ > ファイル(E) 操作(Δ) 表示(U) ヘルブ(E) ● ● □ □ □ ● □ ● □ ● □ ● DVD/CD-ROM ドライブ > ■ DVD/CD-ROM ドライブ > ■ DE ATA/ATAPI コントローラ- > ● USB ヨカクタ マネージャー > ● WSD 印刷プロ(バダー > ● オーボード > ● コンピューター > ● サウンド、ビデオ、およびゲーム コントローラー > ● コンピューター > ● サウンド、ビデオ、オホンド > ● フンピューター > ● オットワーク アダブター > ● ディムフレイ アダブター > ● ディムフレイ アダブター > ● オットワーク アダブター > ● オットワーク アダブター > ● コントグース デバイス (COM8) > ● マクスとそのほかのボインティング デバイス > ● マンとそのほかのボインティング デバイス > ● モジム > ● エラー > ● コンド + ULPU ボ コントローラー 			
$7r/l/l)$ 操作(A) 表示(V) $\wedge l/l/l)$ (*) (*) (*) (*) (*) * PC21185 *) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*) * (*) (*) (*) (*)	昌 デバイスマネージャー	-	×
$ \begin{array}{c c c c c c c c } \hline \hline$	ファイル(<u>F</u>) 操作(<u>A</u>) 表示(<u>V</u>) ヘルプ(<u>H</u>)		
PC21185 > DVD/CD-ROM F5/17 > DE ATA/ATAPI D/bD-5- > USB 376/9 $7x - 3yr$ > TSP 37 > USD F000000000000000000000000000000000000			
[●] DVD/CD-ROM ドライブ [●] DE ATA/ATAPI D/>DD-5- [●] USB 3 $A 2 9 7 8 - 3 7 4 - 3 7 $	✓ 봄 PC21185	 	 /
= DE ATA/ATAPI	> 🔐 DVD/CD-ROM ドライブ		
> USB 3 $\pi/99 \ qx - 3y -$ > □ WSD 080 \ JD(1/47- > □ $\pi - \pi^2 r(x) \ D(x) \ dx \ dy \ dy$	> 📹 IDE ATA/ATAPI コントローラー		
> $rest WSD 印刷プロパイダ- > est VSD 印刷プロパイダ- > est 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 $	> 🏺 USB コネクタ マネージャー		
> $\sqrt[4]{} x - \overline{y}(x + 0 \lambda \pi h k U \pm \pi)$ = $4 - \pi - \overline{v}$ > $\sqrt[4]{} y - y - y - y - y - y - y - y - y - y $	> 💼 WSD 印刷プロバイダー		
> = $\frac{1}{2} + \frac{1}{2} + \frac{1}{2}$ → $\frac{1}{2} + \frac{1}{2} + \frac{1}{2$	> 📢 オーディオの入力および出力		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	> 📖 +		
> 4 90° , $k^{2}\pi$, $k^{2}k^{0}/4$, $20^{\circ}h^{-}-5^{-}$ > $\sqrt{2}3\pi^{2}k^{2}/4$, $\sqrt{2}k^{2}/4$, $\sqrt{2}k^{$	> 🛄 コンピューター		
> $\frac{1}{2}$ > $2754 \pm 7(47)$ > $\frac{1}{2}$ $42+397 \pm 7(47)$ > $\frac{1}{2}$ 4754 ± 77 > $\frac{1}{2}$ 4754 ± 77 > $\frac{1}{2}$ 4754 ± 774 > $\frac{1}{2}$ 4754 ± 774 > $\frac{1}{2}$	> 🕠 サウンド、ビデオ、およびゲーム コントローラー		
 ▶ tetaulf+f;f(f X ▶ V)P+5tp 12x#-#>> ■ Y7+5tp 2x#-#>> ■ FitAP KF3f7 > ■ Truberp > ■ Truberp	> 🍢 システムデバイス		
 ¹ ソフトウェア コンボーネント ¹ ソフトウェア デバイス ¹ ディスプレイ アダブター ¹ マ・パンプレーアダブター ¹ マ・パンプ・フェイス デバイス ¹ ブームウェア ¹ ブームウェア ¹ ブームウェア ¹ ブーセッサ ¹ ブーレッ ¹ ブー	> 🛐 セキュリティ デバイス		
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Note 2: Refer to the Instruction Manual of device units.

Note 3: Refer to the Instruction Manual of device units for checking the network settings of RT.

4.2. Causes of problems and troubleshooting

If there are communication errors between RTXTools and connected Remote I/O system, check the table below.

No.	Condition	Cause	How to troubleshoot
1.	Not connected via WebAPI (does not	Dip switch SW1 is OFF.	Check that the dip switch SW1 of the device unit is ON. (Refer to the Instruction Manual of device unit)
	move to main window)	Unable to communicate due to a mistake in the specified IP address.	Check if the IP addresses of the PC and the RT device unit are correct. Note 1
	Error code of	An error has occurred in	 On the [Error] main tab, identify the error from the "error code" for each unit and refer to the Instruction Manual of each unit.
2.	CH/point/port diagnostic information of I/O unit has occurred	the unit-specific CH/point/port diagnostic information.	 Identify the error location from the unit position number and CH/point/port number on the [Error] main tab.
	unit has occurred		 Identify the error from the "error code" of log data and refer to the Instruction Manual of each unit.
3.	A communication error has occurred	There is no normal	Check that the USB cable connection has no problems.
		commands from RT to	Check that the connection method (USB or WEBAPI) is the intended one.
4.	There is no response from RT, communication is disconnected	It has been timed out since there is no normal operation result from RT to commands from RTXTools	Check the followings.
			unit has executed the command issued by RTXTools immediately before the message is displayed.
			If the power is OFF
		even after a certain amount	Power OFF then ON again
		of time has elapsed.	 Check that the Remote I/O system is properly assembled (if there is any connection failure)
5.	IP address, access authentication , etc. (Note 2) cannot be set	WebAPI connection is used for connecting PC and RT	Change to a USB connection, as it is not possible to configure settings through a WebAPI connection.
6.	Unable to check/find process data size for entire RT	-	Check the [I/O memory] tab in the main window. Refer to "3.3.1. Checking the process data size."
		The set process data size has not been reflected on the RTXTools	Turn RT OFF and ON before checking.
7.	RTXTools does not start	Multiple RTXTools have started.	Open Windows task manager and end them.
8.	The connected unit is not displayed in the main window Note 3	The version of RTXTools is too old to recognize the connected unit.	Update RTXTools to the latest version.
9.	Do not know how to set an IP address	-	For USB connection: Refer to "3.3.3 Checking device unit switch status" For LAN connection: Refer to the Instruction manual of a master used, since it cannot be set on RTXTools.
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10.	The process data size of IO-Link master unit is unknown	-	(IO-Link master unit) Check the total data size displayed in the lower part of the "Status display area" on the [Current status] tab.

Note 1: After making changes, turn the power ON/OFF. Note 2: Includes IP address, subnet mask, default gateway, WEB access authentication, and access login ID and password.

Note 3: Refer to Figure $\ensuremath{\mathfrak{I}}$ as an example.

5. APPENDIX

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GLOSSARY

Industrial network

A standard for exchanging signals between onsite devices (measuring and operating devices) and controllers operating in factories, etc., using digital communications.

IO-Link

IO-Link is an industrial interface standard (IEC 61131-9) that connects sensors and actuators to an upper network via digital signals.

I/O unit

A unit that performs input and output of digital and analog signals. It can control ON/OFF and loaded data by connecting switches, sensors, actuators, etc.

Remote I/O

Abbreviation for Remote input/output. A mechanism that allows input and output of measuring equipment, input devices, control devices, etc. using a network. Input/output is performed through a network, which allows reduced wiring.

Device unit

A unit that is an interface between the upper industrial network and each connected I/O unit in a Remote I/O system. RT Series operation requires one device unit.

Manifold

In this manual, it refers to the condition of multiple units combined, i.e., the entire Remote I/O system.

RT Series

A series of Remote I/O products. Includes device units, I/O units, etc.

TVG Series

A series of solenoid valves compatible with Remote I/O.

Driver

A software component that allows interaction between the operating system and the device. Installing it on a computer in advance allows the PC to recognize the connected device.

COM port

A serial port on a computer.

LAN

Abbreviation for Local Area Network. A network built within a limited area, such as an office.

WebAPI

A mechanism that provides an interface to operate an application via HTTP communication.

Access authentication

A function that controls whether or not a user is allowed to log in.

Decimal number

To express numbers using the numbers zero through nine. The digit goes up when it reaches "10."

Hexadecimal number

To express numbers using the numbers zero through nine and the letters of the alphabet from A to F. The digit goes up when it reaches "16 (0x10)." It is expressed by adding "0x" at the beginning.

DEC

Decimal number.

BIN

Binary number.

HEX

Hexadecimal number.

Bit

A basic unit of information in digital communications. It is also a symbol for binary units.

Range

Indicates a range.

%FS

Percentage of the measurable range (Full Scale).

Analog value

Input and output values of the analog unit.

Process data

Data that can be read or written by process input/output communication. A generic term for process input data and process output data.

Forced I/O

Forced input is a function that forces the input signal of an input unit (regardless of the actual input values) to be set to a manually entered value.

Forced output is a function that forces the output signal of an output unit (regardless of the instruction from the upper master) to be set to a manually entered value.

Export

To output data on the software to a file.

Import

To load a file and convert it into data on the software.

Logging

To record data.

Latch

A circuit used to hold data. RT Series has a unit with a function to hold the LED status in the event of an error (latch function).

Power line error

Indicates a short circuit, disconnection, or overheating of the input/output unit's power lines.

Signal line

Indicates a short circuit, disconnection, or overheating of the input/output unit's signal lines.

Diagnostic information

Errors that have occurred and information.

Dip switch

In RT series, it is used to set a Device unit. There are rotary type and slide type. In this Instruction Manual, it refers slide type switch.

IODD file

Abbreviation for IO Device Description file. A file that contains a description of the IO-Link device and its parameter information, such as manufacturer, part number, functions, etc.

Connector

Hardware connector part. Indicates the shape and size of M12, etc.

Block

Digital I/O unit push-in terminal block connection unit. When the unit is viewed from the top, the terminal block poles are considered to be one block with four poles each, counted from the top.

СН

Connection unit for external devices that input/output numerical values of analog I/O units, etc.

Point

A bit information connection unit for digital I/O units, valve I/F units, etc.

Port

A connection unit for communication functions such as IO-Link communication.

Diagnosis

IO-Link communication diagnostic information.

ISDU

Indicates non-cyclic communication in IO-Link communication, in which a request is made from the IO-Link master to the service data of the IO-Link device for reading, writing, etc.

Device configuration

Indicates the configuration of the IO-Link device actually connected to the IO-Link master unit.

Data storage

A memory in the IO-Link master unit that saves (backs up) the setting data of the connected IO-Link devices.

Event

Indicates errors, warnings, and notifications related to IO-Link communication.