PC Recorder Series

Model: PC Recorder

# Table of Contents

1.	Introduction 5									
	1.1	Versio	Versions covered in this instruction manual5							
	1.2	Precau	utions	6						
	1.3	Overvi	ew of PC Recorder	7						
		1.3.1	Functions of PC Recorder	7						
		1.3.2	Communication with I/O unit	7						
		1.3.3	System requirements	7						
	1.4	Others	5	8						
		1.4.1	Supported browser	8						
2.	Intro	ductior	1	9						
	0.4	W/hat t		0						

2.1	What t	What to prepare				
2.2	Setup	procedure	9			
2.3	Setting	js for PC Recorder	10			
	2.3.1	Installation of PC Recorder	10			
	2.3.2	Uninstallation of PC Recorder	10			
	2.3.3	Startup of PC Recorder	10			
	2.3.4	Connection between PC Recorder and I/O unit	11			
2.4	Descri	ption of PC Recorder parts	12			
		1. View (V)	12			
		2. Setting (C)	12			
		3. Adjustment (D)	12			
		4. Wireless LAN Setting (W)	12			
		5. Language(L)	12			
		6. Version (A)				
		7. Close (X)	13			

3.	. Setting					
	3.1	I/O cor	14			
		3.1.1	USB connection setting			
		3.1.2	LAN connection setting			
	3.2	I/O cha	annels	18		
		3.2.1	Analog input (AI) setting			
			<ol> <li>Basic setting</li></ol>			
		3.2.2	Digital input (DI) setting			
			1. Basic setting 2. Reset function value setting			
		3.2.3	Operation input (OI) setting			
			<ol> <li>Basic setting</li> <li>Zone setting</li> <li>Alarm zone setting</li> <li>Alarm output setting</li> <li>Reset function value setting</li> </ol>			
		3.2.4	Digital output (DO) settings 1. Basic setting			

	3.2.5	Copy of I/O channel setting	. 41	
3.3	Web H	TTP	.42	
3.4	Record	ling trend	.43	
	3.4.1	Basic setting	. 44	
		1. Recording setting	44	
		2. Normal recording	46	
		3. Trigger recording	47	
	3.4.2	Pen setting	49	
3.5	.5 Recording report			
	3.5.1	Basic setting	. 51	
	3.5.2	Channel setting	. 52	

### 4. Wireless LAN setting

5.	Reco	rding data 57				
	5.1	Trend	file			
			1. File name			
	5.0	Donor	2. Time correction			
	5.Z	Керог	1 Filo namo			
			2. Daily report			
			3. Monthly report	60		
	52	Sveter	4. Yearly report	60 61		
	5.5	Syster	nn log nie	01		
	5.4	Foldel	r structure	62		
6.	View			63		
	6.1	Descr	iption of display	63		
			1. Current date			
			2. Current time 3. Menu hutton			
			4. Trend status display			
			5. Error display	64		
			6. Screen lock display 7. Trend start button	64 64		
	6.2	Trend	display			
	0.2	6.2.1	Display items			
		•	1. Numerical display			
			2. Graph display	67		
		6.2.2	Operation	68		
			1. Switch between pages			
			<ol> <li>2. Expand/compress the time axis</li> <li>3. Changing the maximum/minimum value of the scale</li> </ol>			
			4. Write of comments			
	6.3	Trend	display (Event summary)	71		
		6.3.1	Display content	71		
		6.3.2	Operation	72		
	6.4	Trend	display (Comments summary)	73		
		6.4.1	Display content			
		6.4.2	Operation	74		
	6.5	Event	view	75		
		6.5.1	Display content	75		

56

	6.6	6.6 Overview		
		6.6.1	Display content	
	6.7	Trend f	ile	78
		6.7.1	Display content	
	6.8	Report	file	79
		6.8.1	Display content	79
	6.9	Langua	ıge	80
		6.9.1	Display content	80
		6.9.2	Operation	81
7.	Adjustment 82			

#### 

# 1. Introduction

Thank you for choosing us.

Before using this unit, read the following:

### 1.1 Versions covered in this instruction manual

This instruction manual is available for the following versions:

- About the version of the PC recorder
- This instruction manual is for version 1.0 or later of the PC Recorder.
- For instructions on confirming the version of the PC Recorder, refer to 2.46. Version (A).

#### Supported I/O unit

- This instruction manual is available for the following I/O unit:

Model	Version USB		Wireless LAN	
R7K4GUS-G16D4	1.0.x	Compatible	_	
WL7W1-G16D4	1.0.x	Compatible	Compatible	
WL7W1-G4D2	1.0.x	Compatible	Compatible	

- For instructions on confirming the version of the I/O unit, refer to 2.46. Version (A).

## 1.2 Precautions

- Precautions for connecting to I/O unit
- Connection to the unit should be established after logging in using a predetermined PC (PC Recorder) and a user account.

If the I/O unit is connected/disconnected while the PC Recorder is running, its operation is not guaranteed.

- Notes on browser-dependent display screens
- PC Recorder uses standard Web technology with a browser to achieve its display function. Therefore, note that it is subject to your browser's operating specifications (the specifications that may be changed, such as for version upgrades).

### 1.3 Overview of PC Recorder

PC Recorder (model: PC Recorder) is application software that runs on Windows.

#### 1.3.1 Functions of PC Recorder

The functions of PC Recorder can be broadly divided into the following:

- I/O unit client Data input/output is available by connecting with our I/O unit through USB, wireless LAN or wired LAN.
- Web server Web server functions are implemented. Trend and report data can be viewed in a browser.
- Settings for various functions Right-click the task tray icon to display the menu, allowing you to set various functions from the setting display.
- Trend waveform recording Trend waveform data can be saved as binary files.
- Report recording Daily, monthly, and yearly report data can be saved in CSV format.

#### 1.3.2 Communication with I/O unit

Communication with the I/O unit is conducted by connecting through USB (CDC), wireless LAN or wired LAN.

#### 1.3.3 System requirements

Refer to the table below for PC requirements for PC Recorder operation.

Item	Description
OS	A PC/AT compatible machine on which the
	following operating systems run normally:
	Windows 11
Browser	Chrome, Edge, Firefox
Language	Japanese/English

## 1.4 Others

### 1.4.1 Supported browser

The terminal (OS) and browsers on which the operation has been checked using a browser are listed below:

Terminal (OS)	Browser
Windows PC(11)	Microsoft Edge 119
	Mozilla Firefox 120
	Google Chrome 119

Note: Private/Secret mode is not supported.

Note that the operation is subject to change without notice for specification changes of the above terminal (OS) and browsers.

# 2. Introduction

# 2.1 What to prepare

In addition to the I/O unit, prepare the following items:

- · A personal computer (a USB port required)
- · A USB cable (Type-C for the I/O unit side. For the PC side, refer to the specifications of your PC.)
- · Other necessary equipments (When connecting through wireless LAN or wired LAN)

# 2.2 Setup procedure

Set up PC Recorder following the procedure below:



### 2.3 Settings for PC Recorder

Install PC Recorder on your PC.

#### 2.3.1 Installation of PC Recorder

Download PC Recorder from our website and uncompress it to any folder. Run Setup.msi in the uncompressed folder and follow the dialog to install.

If an earlier version of PC Recorder is installed, uninstall it first and then install the latest version of PC Recorder.

#### 2.3.2 Uninstallation of PC Recorder

From the Control Panel, select "All Control Panel Items" -> "Programs and Features." Select PC Recorder from the list and uninstall it.

#### 2.3.3 Startup of PC Recorder

From the Start menu, select "M-SYSTEM" - "PC Recorder" -> "PC Recorder" and run it.

PC Recorder stays resident in the task tray after startup.

#### CAUTION

• When PC Recorder starts up for the first time, a Windows Security warning pop-up may displayed. If it is displayed, click "Allow access."

#### 2.3.4 Connection between PC Recorder and I/O unit

The I/O unit and PC Recorder are connected following the procedure below:

- (1) Connect the I/O unit to the PC with a USB cable. When power is supplied from the PC to the I/O unit, the PWR indicator LED on the I/O unit lights in green.
- (2) Check the connection to the I/O unit. When the I/O unit and PC Recorder are connected properly, the RUN indicator LED on the I/O unit lights in green. It does not light up when operating in the Demo mode. ->3.1 I/O connection setting
- (3) When connecting the I/O unit to the PC through LAN, perform the setting via USB cable. The procedure is same as when connecting via USB cable. ->3.1 I/O connection setting

## 2.4 Description of PC Recorder parts

PC Recorder stays resident in the task tray after startup. Right-click the "PC Recorder" icon in the task tray to open the menu.



#### 1. View (V)

Starts the default browser and displays the Trend display. For more information, refer to 6. View.

#### 2. Setting (C)

Displays the Setting dialog. For more information, refer to 3. Setting.

#### 3. Adjustment (D)

Adjusts analog input channels 1 to 16. Refer to 7. Adjustment.

#### 4. Wireless LAN Setting (W)

Performs the setting of the unit that can connect through wireless LAN. Refer to 3.1 I/O connection setting and 4 Wireless LAN setting.

#### 5. Language(L)

Switches the language displayed on PC Recorder. Japanese and English are selectable. Click the [OK] button to apply.

Language			×
	○日本語	English	
		OK Cancel	

#### 6. Version (A)

Displays the format and version of PC Recorder and the I/O unit.



#### CAUTION

• The model (version) of the I/O unit last recognized by PC Recorder is displayed.

### 7. Close (X)

Closes PC Recorder.

• When PC Recorder is closed, trend recording ends.

# 3. Setting

Right-click the "PC Recorder" icon in the task tray and click "Setting (C)." The Setting dialog is displayed.

### 3.1 I/O connection setting

The setting for connection with the I/O unit are made as follows:

- (1) In the "Setting" display, click the "Connection" button to show the "Connection" display.
- (2) Select the connection type between the I/O unit and the PC.

Setti	ng disp	lay				
Setting			$\times$			
I/O Connection	Web	нттр Connectio	on displ	ay		
2. Select	Connectio	on				×
Record	TYPE	Demo		~	]	
Trend	USB	сом.			I/O Unit	
Trend		COM5		$\sim$	WL7W1G16D4	$\sim$
Report	LAN	Number of units	1			
incport.		IP Address	PORT	Timeout[s]	I/O Unit	
		· · · · ·	502	10	None	$\sim$
		· · · · · · · ·	502	10	None	$\sim$
			502	10	None	$\sim$
			502	10	None	$\sim$
					OK Cano	cel

Settings	Description
	Select the connection type between the I/O unit and the PC. Select "Demo", "USB",
TYPE	or "LAN".
	In case of performing the setting of the unit to connect through LAN, select "USB".

#### 3.1.1 USB connection setting

The setting for connecting the I/O unit to PC through USB are as follows:

- (1) In the "Setting" display, click "Connection" button to show the "Connection" display.
- (2) Select the connection port between the I/O unit and the PC.
- (3) Select the I/O unit connecting to the PC.

Web				$\times$			
Web							
H		onne	ectio	<mark>n disp</mark>	lay 3	. Select	
Connection							×
TYPE	USB					$\sim$ $\backslash$	
USB	сом.					I/O Unit	
	USB Serial D	evice	(COM6)			✓ WL7W1G16D4	$\sim$
LAN	Number of u	nits		1		$\sim$	
	IP Address			PORT	Timeout[s]	I/O Unit	
		$\mathbf{r}^{(i)}$		502	10	None	$\sim$
				502	10	None	$\sim$
		1		502	10	None	$\sim$
				502	10	None	$\sim$
						OK Can	cel
	Web F Connection TYPE USB LAN	Web HTTP Connection TYPE USB USB COM. USB Serial D LAN Number of u IP Address	Web HTTP Connection TYPE USB USB COM. USB Serial Device ( LAN Number of units IP Address   	Web HTTP Connection Connection TYPE USB USB COM. USB Serial Device (COM6) LAN Number of units IP Address	Web       Connection disp         Connection       Connection         TYPE       USB         USB       COM.         USB       COM.         USB Serial Device (COM6)       I         LAN       Number of units       1         IP Address       PORT         .       .       502         .       .       .         .       .       .         .       .       .         .       .       .         .       .       .         .       .       .         .       .       .         .       .       .	Web HTTP Connection display 3 Connection TYPE USB USB COM. USB Serial Device (COM6) LAN Number of units 1 IP Address PORT Timeout[s] 502 10 502 10 502 10 502 10	Web       ITTP         Connection display       3. Select         Connection       I/O Unit         TYPE       USB       V         USB       COM.       I/O Unit         USB Serial Device (COM6)       WL7W1 G16D4         LAN       Number of units       1         IP Address       PORT       Timeout[s]       I/O Unit         I       502       10       None         I       502       10       None

Settings Description				
COM. Select the connection port between the I/O unit and the PC.				
	Select the I/O unit model connecting to the PC.			
i/O Unit	For the I/O unit model, refer to Versions covered in this instruction manual.			

#### 3.1.2 LAN connection setting

The setting for connecting the I/O unit to PC through LAN are as follows:

- (1) In the "Setting" display, click "Connection" button to show the "Connection" display.
- (2) Select the number of units to connect to PC through LAN.
- (3) Set the I/O units to connect to PC through LAN.

Settir	n <mark>g displ</mark> ay	<u>/</u>				
Setting 1. Click I/O Connection Channel	Web	TTP Connection	displa	y 2. Se	lect	
	Connection					×
Record	TYPE USB	LAN COM. USB Serial Device (COM6)			I/O Unit WL7W1 G16D4	~
Report	LAN	Number of units	2	/ ~		
		IP Address	PORT	Timeout[s]	I/O Unit	
3. Set		192 . 168 . 0 . 10	502	10	WL7W1 G16D4	$\sim$
		192 . 168 . 0 . 20	502	10	WL7W1G4D2	$\sim$
			502	10	None	$\sim$
l			502	10	None	$\sim$
					OK Cance	d

Settings	Description
	Select the number of units to connect to the PC through LAN from 1, 2 or 4.
Number of unite	Set the first unit from the top, the second unit,, and the fourth unit.
	The allocation of I/O channels depends on selected number of units.
	For the allocation, refer to the table on the next page.
	Set the IP Address of I/O units to connect to the PC through LAN. (0.0.0.0 to
IF Addless	255.255.255.254. Do not set xxx.xxx.255. (xxx: 0 to 255))
DODT	Set the port number of I/O units to connect to the PC through LAN in the range of 1
FURI	to 65535.
Timoout[o]	Set the communication error timeout of units to connect to the PC through LAN in
nineoulisj	the range of 1 to 30 (sec.).
	Select the model of I/O units to connect to the PC through LAN.
I/O Unit	For the model that can connect through wireless LAN, refer to Versions covered in
	this instruction manual.

Number of units	1 <sup>st</sup> unit	2 <sup>nd</sup> unit	3 <sup>rd</sup> unit	4 <sup>th</sup> unit
	Al1 - 16			
1	DI1 - 2			
	DO1 - 2			
	Al1~8	AI9 - 16		
2	DI1	DI2		
	DO1	DO2		
	Al1 - 4	AI5 - 8	AI9 - 12	AI13 - 16
4	DI1	DI2		
	DO1	DO2		

#### CAUTION

• When connecting to I/O unit with channels exceeding the number of allocated channels, only the allocated channels will be recorded and viewed.

• Perform LAN connection setting after wireless LAN setting. -> 4. Wireless LAN setting

# 3.2 I/O channels

The I/O unit input/output setting are made as follows:

- (1) In the "Setting" display, click the "Channel" button to show the "Channel" display.
- (2) Clicking a tab for the input/output type to be set shows the corresponding display.



#### 3.2.1 Analog input (AI) setting

Make the analog input (AI) setting. There are 16 analog input channels (AI1 to AI16).

#### 1. Basic setting

Make the basic setting for the analog input (AI).

- (1) Clicking the channel to be set displays the current setting.
- (2) Make the basic setting. In reference to the table below, set the various parameters.

	AI DI	OI DO	)			2. Inp	ut	
	AI1	CH name	AI1 Name		Partitions	5	0	
	AI2 AI3	CH comment	AI1 Comment	:	Zone 5	Delay time	0	* 0.1[s]
	AI4 AI5	Scaling	100%	100.000		Name	Alarm5	
lick	AI6		0%	0.000		Lower limit	80.000	
$\sim$	AI7 AI8	Number of dec	cimal places	2	~		(Deadband)	
	AI9 AI10	Engineering ur	nit	mA	Zone4	Upper limit	80.000	
	AI11	🗌 Range limit				Delay time	0	* 0.1[s]
	AI12 AI13	Pre	100%	10.000		Name	Alarm4	
	AI14 AI15		0%	-10.000		Lower limit	60.000	
	AI16	Post	100%	5.000			(Deadband)	
			0%	1.000	Zone3	Upper limit	60.000	
						Delay time	0	* 0.1[s]
						Name	Alarm3	
						Lower limit	40.000	
							(Deadband)	
					Zone2	Upper limit	40.000	
						Delay time	0	* 0.1[s]
						Name	Alarm2	
						Lower limit	20.000	
							(Deadband)	
					Zone 1	Upper limit	20.000	
						Delay time	0	* 0.1[s]
						Name	Alarm 1	

Settings	Description
CH name	Set the name of the channel within 16 characters.
CH comment	Set the tag name or other comments about the channel within 16 characters.
Cooling	For each of 0% and 100%, set the corresponding actual quantity as a numerical
Scaling	value.
	Set the number of decimal places for numbers displayed such as on the WEB
Number of decimal places	display.
	Set this in the range of 0 to 3.
Engineering unit	Set the engineering unit that corresponds to the actual quantity set in "Scale."
	Set this within eight characters.
	Set whether to limit the range in the input range. Check the box to limit the range.
Pongo limit	(e.g.: When you input only in the range of 1 to 5V while the input range is -10 to
Range innit	+10V, select the checkbox and set -10.000 to 10.000 in "Pre", and 1.000 to 5.000 in
	"Post".)
Pre	Set the upper limit and lower limit of the input range before limiting.
Post	Set the upper limit and lower limit of the input range after limiting.

WEB display									
WED display	Trend	disp	olay				CH co	mment	CH name
	1/21 202 30 14:2	8/11/21 16:00	2028/11/21 14:26:10	2028/11/21 14:26:20	2023/11/21 14:26:30	2023/11/21 14:26:40	2023/11/21 14:26:50		II Name All Comment
Over view dis	play	_	N N	Messa				01 8	31.48
All Name All Comment - CH cc	mmon	<u></u>	H name	A15 A15	A16 A16		A17 A18 A17 A18	Eng	gineering unit
90.32 [mA]			ngineeri	ng unit	CH na	ime Cl	H comment	24.07	Event display
Date	Time	СН	Nam	ie /	Cor	nment		Message	
2023/11/21	14:28:12	AI1	All Name 🥒		All Comment 🥒		Messageő		
2023/11/21	14:28:07	AI1	All Name		All Comment		Message4		
2023/11/21	14:28:03	AI1	All Name		All Comment		Message3		
2023/11/21	14:27:57	A 1	All Name		All Comment		Message2		

#### 2. Zone setting

Make the analog input (AI) zone setting.

- (1) Clicking the channel to be set displays the current setting.
- (2) Make the zone setting. In reference to the table below, set the various parameters.

I setting					Chan	nel display	<u></u>			
$\setminus \setminus$	Cha	nnel								
	AI	DI	OI DO							
		AI1	CH name	AI1 Name		Partitions	;	0		
		AI2 AI3	CH comment	AI1 Comment	:	Zone5	Delay time	0	* 0.1[s]	
		AI4	Scaling	100%	100.000		Name	Alarm5		
Click		AI6		0%	0.000		Lower limit	80.000		
	AI7 AI8	Number of dec	timal places	2	~		(Deadband)			
		AI9 AI10 AI11	AI9 AI10 AI11	Engineering ur	nit	mA	Zone4	Upper limit	80.000	
AII0 AI11	AIII			AI11	Range limit				Delay time	0
		AI 12 AI 13	Pre	100%	10.000		Name	Alarm4		
AI14 AI15 AI16	AI14		0%	-10.000		Lower limit	60.000			
	AI 16	Post	100%	5.000			(Deadband)			
			0%	1.000	Zone3	Upper limit	60.000			
							Delay time	0	* 0.1[s]	
							Name	Alarm3		
							Lower limit	40.000		
								(Deadband)		
						Zone2	Upper limit	40.000		
							Delay time	0	* 0.1[s]	
							Name	Alarm2		
							Lower limit	20.000		
								(Deadband)		
						Zone 1	Upper limit	20.000		
							Delay time	0	* 0.1[s]	
							Name	Alarm 1		
								Alarm zone setting		

Settings	Description
Partitions	Set the partitions for use. Selectable from 0 (unused)/2/3/4/5.
Name	Set the name of each zone within 16 characters.
Color	Set a color to represent the zone on the WEB display.
	Set the time required for the transition from another zones to the corresponding
	zone to be confirmed in the range of 0.0 to 99.9 (seconds).
Delaytime	When Zone 1 is set to five seconds:
Delay lime	The transition to Zone 1 is confirmed five seconds after the input value changes in
	the state of Zone 2 and becomes less than or equal to the upper limit of Zone 1. It
	remains in Zone 2 until five seconds have elapsed.
	The upper and lower limits of the zone are set by the actual quantity. Set the upper
	limit > lower limit in order.
	When setting a hysteresis zone:
Unnorlimit	When setting a hysteresis zone between Zone 1 and Zone 2, set the hysteresis
	zone such that it is between the upper limit of Zone 1 and the lower limit of Zone
/	2. Set the other zones in the same way.
	When setting no hysteresis zone:
	When setting no hysteresis zone between Zone 1 and Zone 2, set the same value
	for the upper limit of Zone 1 and the lower limit of Zone 2. Set the other zones in
	the same way.

WEB dis	play –									
	-	Trend	disp	olay 🚽					2023/11/21	4:26:59
	173	21 2028 14:20	5:00	1023/11/2 14:26:10	1 2023/11/21 14:26:20	2023/11/21 14:26:80	2028/11/21 2 14:26:40 1	028/11/21 4:26:50	All Na All Co	Color
Over	view di	splay		Se sa	Messa				81.4	
All Name All Comment	AL N	lame	] "	A A 2	14 A 14 A 14 A	15 15 79.57	AI6 AI6 61.89	A17 A1 A17 A1	24.07	
Alarm5	[mA]	[%]	_ ,	[%]	[%]	[%]	01.85	42.40 [%]	E	vent display
	Date	Time	СН		Name	Cor	nment		Message	
	2023/11/21	14:28:12	A 11	All Name		All Comment		Messegeő		
Color	2023/11/21	14:28:07	A   1	All Name		All Comment		Message4	Calar	
	2023/11/21	14:28:03	A 11	All Name		All Comment		Message3	Color	
	2023/11/21	14:27:57	A11	All Name		AI1 Comment		Message2	-	

#### 3. Alarm zone setting

An event occurs when a transition is made to a zone set in the zone setting.

- (1) Clicking the "Alarm zone setting" button on the "Channel" display shows the "Alarm zone setting" dialog. If the partitions is 0 (unused), the click is invalid.
- (2) In reference to the table below, set the various parameters. Click the [OK] button to return to the "Channel" display.

	Channel display
	Al         Dir         00
Basic setting	A22         Proceeding         Proceeding
Alarm zone setting	Dialog         Processing unit         mA         Proved         Spore Init         00.000           Image limit         Image limit
Alarm zz z setting Basic Upper Lower	Click
Zone 5 Alarm output Reset function value Trig	liger Deadband) Pair time Name Name Name Name
Zone4 Alarm zone setting	Parent         Diment         Diment         Diment           Parent         Parent         20.000         * 6.100           Parent         Parent         Parent         Parent         Parent
Zone Zone3 M age	Alarm zone setting
Zone2	arm zone setting
Upper setting	Basic Upper Lower
Zone 1 Nessage Message 3	20162
Zone2 Message Message2	Zone4 Message Message4
Zone 1	Zone3 Message
	Message3 Zone2
	Message 2
	Zone 1 Nessage Message 1
	OK Cancel

Settings	Description
Trigger	Set whether or not to perform trigger recording when the input value changes and enters the corresponding zone. Select the checkbox if you use the trigger
	recording> 3.4.13. Trigger recording
Message	Set the message when the event occurs within 32 characters.

WEB display			Mess	Event display
Date	Time CH	Name	Comment	Message
2023/11/21	E4:28:12 All All Name	A11 Cc	mment Mes	asgeb
I rend display (E	vent summary)	All Ca	mment Mes	sigel
		AI1 Co	mment Mes	52703
9023/11/21 14:29:50 90 9023/11/21 14:30:30 90 90 90 90 90 90 90 90 90 90 90 90 90		0023/11/21 1430:30	21 0023/11/21 1430:50 C C C C C C C C C C C C C C C C C C C	Messages Messages Messages Messages

#### 4. Alarm output setting

For each zone, specified DOs can be turned ON.

- (1) Clicking the "Alarm zone setting" button on the "Channel" display shows the "Alarm zone setting" dialog. Clicking the "Alarm output" button in the specified zone shows the "Alarm output" dialog.
- (2) Select the checkboxes for the DO channels to be set and click the [OK] button.

			С	har	nnel d	isp	ay		
	Channel AI DI	OI DI							x
	ALL	DHiname	AL1			Partitions		5	~
	A12	CH comment	AL1			Zone5	Delay time	0	* 0.1[s]
Alarm zono sotting dia		Scaling	100%	100.000			Name		
Alarni Zone Setting ula	log	ht and an of da	p%	0.000		_	Lower limit	80.000	
		paner or or	cinal paces	4		Zoned	Linner limit	(Deadband)	
Alarm zone setting				×		- COLEY	Delay time	0	7 0. 1[9]
							Name		012[0]
Basic Upper Lower							Lower Imit	60.000	
								(Deadband)	
Zone 5						Zone3	Upper limit	60.000	
							Name	0	* 0.1[s]
Alarm output Reset function value 🗸 Trigger							Lower both		
							poner inte	(Dearband)	
						liak	oper limit	40.000	
Zone4					1. 0	ICK	keloy time	0	* 0.i[a]
		م الم الجر			·	7 /	Name		
	uipu		alog				Lower Imit	20.000	
						Zonet	nor lmit	(Deadband)	
Alarm output					×	pores v	time	0	* 0.1[s]
							Tian		
	_							-	
					-		•	Alarm zone setting	
	`								OK Cancel
Zone2									
Alarm output									
Zone 1									
Alarm output									
		Г	OK		Cancol				
		L	Un		Cancer				

#### 5. Reset function value setting

The operation of the specified OI can be reset during zone transition.

- (1) Clicking the "Alarm zone setting" button on the "Channel" display shows the "Alarm zone setting" dialog. Clicking the "Reset function value" button in the specified zone shows the "Reset function value" dialog.
- (2) Select the checkboxes for the OI channels to be set and click the [OK] button.

			Channel	displ	ay		
		Channel					>
		All2 Of name A	11 Name	Partitions	Palau Kena		~
		Scalon It	11 Comment 100,000	kones	Name	AlarmS	-0.1[s]
	zone setting dial	od in in	6 0.000		Lower limit	80.000	
Alam	Lone setting dia	Number of decima	places 2	~	,	(Deadband)	
				Zone4	Upper limit	80.000	
larm zone setting			×		Delay time	0	= 0.1[s]
			.000		Name	Alarm-4	
Basic Upper Lower			.000		Lower limit	60.000	
opper conci		<u></u>	00			(Deadband)	
Zone 5	2		00	Zone3	Upper limit	60.000	
					Name	Alarm 3	* 0.1[s]
Alarm output	Reset function value				Lower limit	40.000	
					pone and	(Deathand)	
				700e2	Lipper limit	40.000	
Zone4					Delay time	0	* 0, 1[s]
Zone3 Alarm output Zone2 Alarm output Zone1 Alarm output	Reset function value     Or1     Or1     Or2     Or3     Or4     Or5     Or6     Or7     Or8     Or9     Or10     Or11     Or12			jorei	Japer In Deby Inn Name	20.000 0 Alarn 1 Aarm zone setting	*0.1[s]
	□ 0113 □ 0114 □ 0115 □ 0116		OK Carcel	]			

Set each channel following the above procedure.

The channel setting already made in the "Analog Input (AI)" display can be copied to other channels and only the necessary parts can be edited. -> 3.2.5 Copy of I/O channel setting

### 3.2.2 Digital input (DI) setting

Make the digital input (DI) setting. There are two digital input channels (DI1/DI2).

#### 1. Basic setting

Make the basic setting for the digital input (DI).

(1) Clicking the channel to be set shows the current setting.

DI setting	Channel display	
DI setting	Channel display ON Display comment Color Delay time Message Trigger Reset function va OFF Display comment Color Delay time Message Trigger Reset function va	X
		3. Input

#### (2) Make the basic setting.

Settings	Description
CH name	Set the name of the channel within 16 characters.
CH comment	Set the tag name or other comments about the channel within 16 characters.
lucco et	If ON/OFF of the input signal and ON/OFF as an application signal are reversed,
Invert	select Enabled.

(3) Make the settings for each of ON and OFF.

Settings	Description					
Display comment	Set the comment for each of ON and OFF. Set this within eight characters.					
Color	Set a color to represent the status on the WEB display for each of ON and OFF.					
Delevitime	Set the delay time for each of ON and OFF.					
Delay lime	(Setting range: 0.0 to 99.9 seconds)					
Message	Set the message when the event occurs within 32 characters.					
	Set whether or not to perform trigger recording when the input value changes and					
Trigger	enters the corresponding zone. Select the checkbox if you use the trigger					
	recording> 3.4.13. Trigger recording					

Over view dis	Trend display		CH co Display con	Dil Name Dil Comment ON	H name
	comment splay comment	H name CH co	omment Mess	sage Event	display
Trend display	5:09:06 p1 p11 Name 5:09:03 p11 p11 Name 7 (Event summary)	DI1 Komment DI1 Comment DI1 Comment DI1 Comment	DIL ON DIL OFF DIL OFF DIL OFF 200	Color	
2001/1/21 2003/11/21 011.06 01.0 FF 01.0 FF	1928/11/21 1929/11/21 011 011 011 1 0Fr N	0013/11/21         0013/11/21         011	essage	Color	

#### 2. Reset function value setting

The operation of the specified OI can be reset by turning DI ON -> OFF, OFF ->ON.

- (1) Clicking the "Reset function value" button on the "Channel" display show the "Reset function value" dialog.
- (2) Select the checkboxes for the OI channels to be set and click the [OK] button.

	Channel	disp	ay	
Channel				X
AI DI DI DO				
DI1 CH name DI1			Display comment	ON
CH comment D11			Delay time	0 * 0 1[s]
Reset function value dialog		<u> </u>	Message	DI1 ON
			Trigger	
Reset function value	X		, Reset function val	lue
		OFF	Display comment	OFF
			Color	
			Delay time	0 * 0.1[s]
✓ 013			Message	DI1_OFF
014			Trigger	
		1	Reset function val	ue
				1. Click
018				· · · · · ·
019				
🗌 OI 10				
OI11				
0112				
OI 16				OK Cancel
OK	Cancel			

Set each channel following the above procedure.

The channel setting already made in the "Digital Input (DI)" display can be copied to other channels and only the necessary parts can be edited. -> 3.2.5 Copy of I/O channel setting

### 3.2.3 Operation input (OI) setting

Make the operation input (OI) setting. There are 16 operation input channels (OI1 to OI16).

#### 1. Basic setting

Make the basic setting for the operation input (OI).

- (1) Clicking the channel to be set displays the current setting.
- (2) Make the basic setting. In reference to the table below, set the various parameters.

0	setting	3			Channel	displ	ay		
	Channel AI DI		þ				2	. Input	×
	OII	CH name	OI1			Partitions		3	~
	OI2 OI3	, CH comment	OI1			Zone5	Delay time	0	* 0.1[s]
	OI4	, Number of de	cimal places	2	~		Name		0.12[0]
	OI5 OI6	, Engineering u	nit	%			, Lower limit	80.000	
	OI7 OI8	, CH setting	Addition/Subtra	ction	~	í	,	(Deadband)	
	OI9	ľ.				Zone4	Upper limit	80.000	
	OI10 OI11						, Delay time	0	* 0.1[s]
	OI12 OI13	$K1 \cdot \lambda$	$X1 + K2 \cdot J$	X2 + K	$3 \cdot X3 + A0$		Name		
	OI14						Lower limit	60.000	
	OI15 OI16	K1 Const	~ 1	~ 0.0	00	1		(Deadband)	
		X1 AI	~ 1	~ 0.0	00	Zone3	Upper limit	60.000	
	$\Lambda$	K2 Const			00		Delay time	0	* 0.1[s]
		V2 AT	× 1	~ 0.0	00		Name	Upper Err	
		A1		~ 0.0	00		Lower limit	40.000	
		K3 Const	~ 1	~ 0.0	00			(Deadband)	
- 1		X3 AI	~ 3	~ 0.0	00	Zone2	Upper limit	40.000	
		A0 Const	~ 1	~ 0.0	00		Delay time	0	* 0.1[s]
							Name	Normal	
<u> </u>	CIICK						Lower limit	20.000	
							_	(Deadband)	
						Zone 1	Upper limit	20.000	
							Delay time	0	* 0.1[s]
							Name	Lower Err	
								Alarm zone setting	
								(	OK Cancel

Settings	Description
CH name	Set the name of the channel within 16 characters.
CH comments	Set the tag name or other comments about the channel within 16 characters.
	Set the number of decimal places for numbers displayed such as on the WEB
Number of decimal places	display.
	Set this in the range of 0 to 3.
Engineering unit	Set the engineering unit.
	Set this within eight characters.
	Select from the following: Unused/ Addition/Subtraction / Multiplication / Division /
CH setting	Extraction of square root / Moving average / First order lag / exp / Common
	logarithm / Natural logarithm / Peak hold (maximum) / Peak hold (minimum) /
	Power / Analog integration / F-value operation / antilogarithm / Scaling / Time.

#### Operation specifications

Operation name	Expression	Parameter				
Addition/Subtraction	K1X1+K2X2+ K3X3+A0	K1, K2, K3, A0, X1, X2, X3:*1				
Multiplication	(K1X1+A1)(K2X2+A2)+A0	K1, K2, A0, A1, A2, X1, X2:*1				
Division	(K1X1+A <u>1)/(</u> K2X2+A2)+A0	K1, K2, A0, A1, A2, X1, X2:*1				
Extraction of square root	$10K1\sqrt{X1}$	K1, X1:*1				
	$\sum^{N-1} x$	X:*1				
Moving average	$\frac{\Delta n=0}{N}$	N: Moving average value (4/8/16/32/64)				
	IN	RST: Initialization				
		G:*1				
Eirst order lag	$G(s) = \frac{K}{K}$	T: Time constant (0 to 100 seconds)				
First order lag	$1 + T_s$	K: Gain (Constant)				
		RST: Reset				
exp	$e^{X1_n}$	X1:*1				
Common logarithm	logX1	X1:*1				
Natural logarithm	InX1	X1:*1				
		X1:*1				
Peak hold (Maximum)	MAX(X1)	RST: Initialization (MAX=X1)				
		X1:*1				
Peak hold (Minimum)	MIN(X1)	RST: Initialization (MIN=X1)				
		X1: AI1 to 16, OI1 to 16 (Actual quantity (0 to 100%))				
	N	K1: Integration rate				
Analog integration	$\sum x_n$	K2: Unit (M/H/D)				
	<i>n</i> =0	K3: Dropout (0.000 to 120.000%)				
		RST: Initialization				
Power	$X1^{\kappa_1}$	X1, K1:*1				
		X1:*1				
E value operation	$\sum_{10} \frac{X_{1-K_{1}}}{K_{2}}$	K1: Reference temperature (°C)				
r-value operation		K2: Z-value (Positive real number)				
		RST: Initialization				
Antilogarithm	10 <sup>X1</sup>	X1:*1				
		X1:*1				
Scaling		K1: Zero (Input) *2				
	K3+(K4-K3)*(X1-K1)/(K2-K1)	K2: Span (Input) *2				
		K3: Zero (Output) *2				
		K4: Span (Output) *2				
		K1 - 0: month, 1: day, 2: hour, 3: minute, 4: second, 5: day				
Timo		of week				
lime		Day of week - 0: Sunday, 1: Monday, 2: Tuesday, 3:				
		Wednesday, 4: Thursday, 5: Friday, 6: Saturday				

\*1: constants, Al1 to 16, Dl1 and 2, and Ol1 to 16 can be set. It can also be operated with Dl: ON -> 1.0, OFF -> 0.0.

\*2: The same value cannot be set for zero and span.

WEB dis	olay									
	Diay	Trend	disr	olav				CH cor	nment	
		Tiona		July				011001		<sup>/21 15:38:05</sup> CH name
2023/1 15:37:0	1/21	2028/11/21 15:37:10	2023	2028/11/21 20 15:37:30	15:37:40	1 2028/11/21 15:37:50	202	38:00		
Over vie	ew dis	play		s e	Mes			Mess	<sup>100</sup> 05 2	9.96
011			ΞC	H name	015		016	017	Engin	eering unit 🚈
71.60	СН со	mment				L nomo		ommont		
11.00	m.A]	14.3	ΞE	ngineering u	nit 🗠			omment	[%]	Event display
Normal	Data	Time	CH	News					Massa	(a
	Date	rime	UI	Name		Comment			wessa,	ge
2	023/11/21	15:39:25	011	011	A11.+/	112		Message3		
2	023/11/21	15:39:15	011	011	A11+4	N/2		Message2		
2	023/11/21	15:39:01	011	011	AI1+4	N12		Messagel		
2	023/11/21	15:38:47	011	011	A.11+7	412		Message2		

#### 2. Zone setting

Make the zone setting for operation input (OI).

- (1) Clicking the channel to be set displays the current setting.
- (2) Make the zone setting. In reference to the table below, set the various parameters.

OI setting	g		Channel	disp	lay				
Channel AI DI	OI DO					2.	Input		
	CH name OI 1			Partition	s	3 ~			
OI3	CH comment OI1			Zone5	Delay time	0	* 0.1[s]		
OI5	Number of decimal pla	ices 2	2	_ <b>_</b>	Name				
OI6 017	Engineering unit	9	%		Lower limit	80.000			
OI8 OI9	CH setting Additi	on/Subtractior	n v	/	- Unana limit	(Deadband)			
OI10 OI11				Zone4	Delay time	80.000	10.05		
OI12	$K1 \cdot X1 +$	$K2 \cdot X2$	$2 + K3 \cdot X3 + A0$		Name	_	~ 0. 1[s]		
OI 13 OI 14					Lower limit	60.000			
OI 15 OI 16	K1 Creat		0.000	•	(Deadband)				
	X1 Const V	1	V 0.000	Zone3	Upper limit	60.000			
Λ		-	• 0.000	ľ	Delay time	0	* 0.1[s]		
	K2 Const V	1	✓ 0.000	-	Name	Upper Err			
	X2 AI V	2	✓ 0.000	Lower li	Lower limit	40.000			
	K3 Const V	1	~ 0.000			(Deadband)			
	X3 AI ~	3	✓ 0.000	Zone2	Upper limit	40.000			
	A0 Const ~	1	~ 0.000		Delay time	0	* 0.1[s]		
					Name	Normal			
I. CIICK					Lower limit	20.000			
					- h	(Deadband)			
				Zone 1	Upper limit	20.000			
					pelay time	0	* 0.1[s]		
					Mame	Lower Err			
						Alarm zone setting			
						С	K Cancel		

Settings	Description
Partitions	Set the partitions for use. Selectable from 0 (unused)/2/3/4/5.
Name	Set the name of each zone within 16 characters.
Display color	Set a color to represent the zone on the WEB display.
	Set the time required for the transition from another zones to the corresponding
	zone to be confirmed in the range of 0.0 to 99.9 (seconds).
Dolov timo	When Zone 1 is set to five seconds:
Delay lime	The transition to Zone 1 is confirmed five seconds after the input value changes in
	the state of Zone 2 and becomes less than or equal to the upper limit of Zone 1. It
	remains in Zone 2 until five seconds have elapsed.
	The upper and lower limits of the zone are set by the engineering unit value. Set
	the upper limit > lower limit in order.
	<ul> <li>When setting a hysteresis zone:</li> </ul>
l lan an lineit	When setting a hysteresis zone between Zone 1 and Zone 2, set the hysteresis
Opper limit	zone such that it is between the upper limit of Zone 1 and the lower limit of Zone
/	2. Set the other zones in the same way.
Lower IIIII	When setting no hysteresis zone:
	When setting no hysteresis zone between Zone 1 and Zone 2, set the same value
	for the upper limit of Zone 1 and the lower limit of Zone 2. Set the other zones in
	the same way.

WEB di	splay												
	opiay	Trend	dis	olay							202	2/11/21 1	5-22-05
200	23/11/21 37:00	2023/11/21 15:37:10	2028	/11/21 7:20	202:3/11/21 15:37:30	2023 15:37	/11/21 ::40	2023/11/21 15:37:50	200 15:	8/11/21 88:00	202	OI1 Al1+A	2 Color
Ove	r view o	display		Mes		Mess				Mes	100 05	29.9	96
011 A11+A12 71 6	0	Name	013 013	0.00	014 014	0.00	015	0.00	016 016	00	017	018	V
Normal	[mA]	[%]		0.00	[%]	0.00 [	N6]	[%]	Ű	[%]	0.00	%]	Event display
	Date	Time	СН		Name			Comment			M	essage	
	2023/11/21	15:39:25	011	011			AI1+AI2			Message3			
	2023/11/21	15:39:15	011	011			AI1+AI2			Massage2	Color		
Color	2023/11/21	15:39:01	011	011			AI1+AI2			Messagel			
	2023/11/21	15:38:47	011	011			AI1+AI2			Message2			

#### 3. Alarm zone setting

- An event occurs when a transition is made to a zone set in the zone setting.
- (1) Clicking the "Alarm zone setting" button on the "Channel" display show the "Alarm zone setting" dialog. If the partitions is 0 (unused), the click is invalid.
- (2) In reference to the table below, set the various parameters. Click the [OK] button to return to the "Channel" display.

	Channel display	
	Channel	×
	At ot ot po	
Basic setting	Oli         Printee         Oli         Partners         3           OT2         Driconment         Oli         Zones         Delay time         0           OT4         Partners         Oli         Zones         Delay time         0	*0.1[s]
	015 Engreening unt % Lower limit 00.000 017 Of setting Addition/Subtraction V 05	
Alarm zone setting of		* 0.1[8]
	K1 · X1 + K2 · X2 + K3 · X3 + A0	
Alarm zc c setting	0.000 (testbend) 0.000 Click here a	6 0 1(e)
Basic Upper Lower	0.000 CIICK Hare Upper Err	
Zones	Zone Upper limit 40.000	
Alarm output Reset function value V Ingge		* 0.1[s]
Zone4 Alarm zone setting	Zone1 2000     Zone1 2000     Zone1 2000     Zone1 2000	
A Basic Upper Lower	Delay a O Name Lower Err	* 0.1[s]
Zone3	Airm zone setting	
essage5	Lower setting	Cancel
z	g	
Zone2 e Alarr	n zone setting	×
Upper setting	sic Upper Lower	
Zone 3 Zone 1 Message	Zone 5	
/ Message3		
Zone2	Zone4	
Message Message2	Message Message4	
70001		
LUCI	Zone 3 Nessage	
	Message3	
	Zone2	
	Message Message2	
	7one 1	
	Nessage	
	wessage II	
	OK	Cancel

Settings	Description				
	Set whether or not to perform trigger recording when the input value changes and				
Trigger	enters the corresponding zone. To use the trigger recording, select the checkbox.				
	-> 3.4.13. Trigger recording				
Message	Set the message when the event occurs within 32 characters.				

WEB o	lisplay					M	055200	Event displa	ay	
	Date	Time (	СН	Name		Comment	essage	Message	Ū	
Tranda		Listant our	bu mmond	<u> </u>	AI1+AI2		Message3	Message3		
Trend C	Trend display (Event summary)				AI1+AI2		Messeel			
							2023/11	/21 15:42:05		
2023/11/21 15:41:00	2023/11/21 15:41:10	2023/11/21 15:41:20	2023/11/21 15:41:30	2023/11/21 15:41:40	2023/11/21 15:41:50	202:3/11/2 15:42:00	/11/21 Message3	×		
	K	Message		Message1	Message2	Me 2025 2025 2025 2025 2025 2025 2025 2025	.05 /11/21 Message2 /11/21 Message1 /11/21 Message2 /11/21 Message2	Message		
### 4. Alarm output setting

For each zone, specified DOs can be turned ON.

- (1) Clicking the "Alarm zone setting" button on the "Channel" display show the "Alarm zone setting" dialog. Clicking the "Alarm output" button in the specified zone show the "Alarm output" dialog.
- (2) Select the checkboxes for the DO channels to be set and click the [OK] button.

		Ch	annel di	spl	ay		
	Channel						x
	AI DI	00 10					
	OI1	CH name OI1		Partitions		3	~
	OI2	CH comment OI1		Zone5	Delay time	0	* 0.1[s]
Alarm zono potting dia		Number of decimal places 2	Ý		Name		
Alarni zone setting ula	log	Engineering unit %	,		Lower Imit	80.000	
		OH setting Addition/Subtraction	Y			(Deadband)	
Alarm zone setting		×		Zone4	Upper limit	30.000	
······································			$+ K3 \cdot X3 + A0$		Marco		* 0.1[8]
Perio III I					lower lmit	60.000	
basic Upper Lower			0.000		position and	(Deadband)	
70005			0.000	Zone3	Upper limit	50.000	
20180			0.000		Delay time	0	* 0.1[s]
A Alexandruck Devel for strengthere			0.000		Name	Upper Err	
Alarm output Reset function value			0.000		Lower lmit	40.000	
			0.000		_	(Deadband)	
N			- 1 CI	iak	oper limit	40.000	
Zone4			🔤 I. UI	IC N	keloy time	0	* 0.i[a]
		the later		7 /	Name	Normal	
arm output Reset function value Alarm O	outpu	lt dialog		1	Lower Imit	20.000	
				$\rightarrow$		(Deadband)	
			~	Zone1	per lmit	20.000	
Zon 2 Click			<u>^</u>		Line Dime	0	* 0.1[s]
Z. Ollok						Lower Err	
Alarm output					1	Alarm zone setting	
	<b>K</b>						
	-					0	K Cancel
Zone2							
Alarm output							
Zone 1							
20101							
Alarm output							
		OK	Cancel				

### 5. Reset function value setting

The operation of the specified OI can be reset during zone transition.

- Clicking the "Alarm zone setting" button on the "Channel" display show the "Alarm zone setting" dialog.
   Clicking the "Reset function value" button in the specified zone show the "Reset function value" dialog.
- (2) Select the checkboxes for the OI channels to be set and click the [OK] button.

		C	hannel d	<b>isplay</b>	
	Chan	nal			x
	AI	00 10 10			
	0	I DH name OI1		Partitions	3 ~
	01	DH comment OI1		Zone5 Delay time	0 *0.1[s]
Alorm	zono ootting dialo	Number of decimal places	2	Name	
Alam	i zone setting ulalog	Engineering unit	%	Lower limit	80.000
		Prisetting Addition/Subtra	action v	Zened Linner Imit	(Deadband)
Alarm zone setting			×	Delay time	0 *0.1[e]
			$+ K3 \cdot X3 + A0$	Name	013[0]
Basic Upper Lower				Lower Imit	60.000
opper conci			0.000		(Deadband)
Zone 5	2.0		0.000	Zone3 Upper limit	60.000
			0.000	Delay time	0 * 0.1(s)
Alarm output	Reset function value Trigger		0.000	Lower Init	40.000
			0.000		(Deadband)
			0.000	Click	40.000
Zone4				CIICK	0 * 0.1[a]
	Butter Depart function	n voluo dio		rene	Normal
Alarm output	Reset fund Reset function	n value ula		Lower Imit	20.000
				Zone1 ner Imit	(Deadband)
700-3	Reset function value		×	time	0 *0.1[s]
20163				Nan	Lower Err
Alarm output					
				•	Alarm zone setting
					OK Cancel
Zone2	✓ 0I3				
	014				
Alarm output					
	015				
	016				
Zone 1	017				
Alarm output	018				
	019				
	0010				
	0111				
	OI 12				
	0113				
	OI14				
	OI15				
	0110				
		ОК	Cancel		

Set each channel following the above procedure.

The channel setting already made in the "Operation Input (OI)" display can be copied to other channels and only the necessary parts can be edited. -> 3.2.5 Copy of I/O channel setting

# 3.2.4 Digital output (DO) settings

Make the digital output (DO) setting. There are two digital output channels (DO1/DO2).

### 1. Basic setting

Make the basic setting for the digital output (DO).

(1) Clicking the channel to be set displays the current setting.

DO setting	Channel display	
DO setting	Channel display Channel display	ON OFF 3. Input
		OK Cancel

#### (2) Make the basic setting.

Settings	Description
CH name	Set the name of the channel within 16 characters.
CH comments	Set the tag name or other comments about the channel within 16 characters.
lucco et	If ON/OFF of the output signal and ON/OFF as an application signal are reversed,
Invert	select Enabled.

#### (3) Make the settings for each of ON and OFF.

Settings	Description
Display comment	Set the comment for each of ON and OFF. Set this within eight characters.
Color	Set a color to represent the status on the WEB display for each of ON and OFF.



Set each channel following the above procedure.

The channel setting already made in the "Digital Output (DO)" display can be copied to other channels and only the necessary parts can be edited. -> 3.2.5 Copy of I/O channel setting

# 3.2.5 Copy of I/O channel setting

It is possible to select the channel number on the left of the display (e.g., Analog Input (AI) setting) and copy the already set channel setting to another channel to edit only the necessary parts. Example: Copy of AI1 to AI16.



# 3.3 Web HTTP

Set up a simple Web server for PC Recorder.

- (1) In the "Setting" display, click the "HTTP" button to show the "HTTP" display.
- (2) Set the port number for the simple Web server.
- (3) Set the login name and password for the simple Web server.



Settings	Description
Port	Set the HTTP connection port number for the I/O unit and the PC. (0 to 65535)
Login	Set a login name within 32 characters (alphanumeric characters and "_").
Password	Set a password within 32 characters (alphanumeric characters and "_").

#### CAUTION

- The login ID and password for the simple Web server are simple functions. They do not guarantee complete security.
- After changing your login ID or password, refresh the cache by clicking the refresh button on your browser.
- Do not use the default login ID and password.
- We recommend that you change your password on a regular basis.

# 3.4 Recording trend

Assign any channels of the I/O unit to the pen and set the pen's waveform to be recorded and showed on the WEB display.

In the "Setting" display, click the "Trend" button to show the "Trend" display.

Setti	ng display			
Setting			×	
- I/O	Web	Tre	end display	
Connection	Trend			×
Channel	Basic PEN			
Click	Auto star	t	Normal start	~
Record	Storing ra	te	100ms	~
Trend	Normal reco	ording		
	Storing m	ode	Samples	~
Report	Samples		2000	
	Time	Interval	10min	~
		Hour	0	~
		Pay of week	Sun	~
	Trigger reco	ording		
	Mode		Level	~
	Pre trigge	r samples	1000 (0-5000)	
	Post trigg	er samples	1000 (1-5000)	
			OK	Cancel

## 3.4.1 Basic setting

Make the setting to record pen waveforms to a trend file.

When recording pen's waveforms, event data and comment data during the recording period are recorded in the same file.

## 1. Recording setting

Set the recording conditions for the trend.

Setting displa	ay		
Setting		×	
I/O Basic setting	Т	rend display	1. Input
Connection Channel	sic PEN		
Click	Auto start Storing rate	Normal start 100ms	<u>~</u>
Trend	Normal recording		
	Storing mode	Samples	~
Report	Samples	2000	
	Hour		
2. Input	Day of week	Sun	×
	Trigger recording		
	Mode	Level	~
	Pre trigger samples	1000 (0-5000)	
	Post trigger samples	1000 (1-5000)	
		3. Input	
		OK	Cancel

#### (1) Make the common setting. In reference to the table below, set the various parameters.

	Settings	Description
	Auto start	Select from Stop / Normal start / Trigger start.
	Storing rate	Select from 100 ms / 500 ms / 1 sec / 2 sec / 5 sec / 10 sec / 1 min / 2 min / 5 min /
Stornig rate	10 min / 30 min / 1 hour.	

(2) Make the settings for normal recording. In reference to the table below, set the various parameters.

Settings	Description
Storing mode	Select from Samples / Time.
Samples	When "Samples" is selected in String mode, the samples can be set. Set this in the range of 1000 to 50000.
Time	<ul> <li>When "Time" is selected in Storing mode, the time can be set.</li> <li>The settable interval depends on the storing rate. Refer to the table below.</li> <li>When "1 day" is selected for the interval, set "Hour." Select from 0 to 23 (hours).</li> <li>When "1 week" is selected for the interval, set "Hour" and "Day of week." Select from 0 to 23 (hours), Sun / Mon / Tue / Wed / Thu / Fri / Sat.</li> <li>When "1 month" is selected for the interval, set "Hour." Select from 0 to 23 (hours).</li> </ul>

#### Correspondence table storing rate and interval (•: selectable)

Interval								
	10	30	1	6	12	1	1	1
Storing	min	min	hour	hours	hours	day	week	month
rate								
100 ms	٠	•	•	_	_		—	I
500 ms	-	•	•	•	—	-	—	_
1 sec	_	_	•	•	•	_	_	_
2 sec	_	_	•	•	•	•	_	_
5 sec	_	_	—	•	•	•	_	_
10 sec			—	•	•	•	—	I
1 min			_	_	_	٠	•	
2 min	_	_	—	_	_	•	•	_
5 min	_	_	—	_	_	•	•	•
10 min	—	_	_	_	_	٠	•	•
30 min	—	—	—	—	—	•	•	٠
1 hour	_	_	_	_	—	_	•	•

(3) Make the settings for trigger recording. In reference to the table below, set the various parameters.

Settings	Description
Mode	Select from Level / Edge.
Pre trigger samples	Set this in the range of 0 to 5000.
Post trigger samples	Set this in the range of 1 to 5000.

# 2. Normal recording

When Normal start is set in [Auto start] on the "Trend" display, trend recording starts upon PC Recorder startup.

(1) Storing mode: Samples

When Samples is set in [Storing mode], the recorded data are saved to a trend file by samples.

(2) Storing mode: Time

When Time is set in [Storing mode], the recorded data are saved to a trend file at the time set in [Time]. For storage timing, refer to the table below.

Interval	Timing		
10 min	0, 10, 20, 30, 40, 50 minutes and 0 seconds past the hour		
30 min	0, 30 minutes and 0 seconds past the hour		
1 hour	0 minutes and 0 seconds every hour		
6 hours	0, 6, 12, 18 hours, 0 minutes, and 0 seconds		
12 hours	0, 12 hours, 0 minutes, and 0 seconds		
1 day	0 minutes and 0 seconds when set in [Hour]		
1 week	0 minutes and 0 seconds when set in [Hour] on the day of the week set in		
Т week	[Day of week]		
1	0 minutes and 0 seconds when set in [Hour] on the first day of every		
1 month	month.		

## 3. Trigger recording

When trigger recording is set in [Auto Start] on the "Trend" display, the trend is recorded for each channel of AI, DI, and OI according to the conditions set for the trigger.

(1) Mode: Level

When Level is set in [Mode] of the trigger recording on the "Trend" display, the trend is recorded as long as one or more of the AI, DI, or OI channels with trigger settings satisfy the trigger conditions. The data samples to be saved in the trend file should be set in [Pre trigger samples] and [Post trigger samples]. The data sample interval is determined by the [Common] storing rate. For details, refer to the following:



(2) Mode: Edge

When Edge is set in [Mode] of the trigger recording on the "Trend" display, trends are recorded with reference to the change point where one or more channels satisfy the trigger conditions from the non-trigger state of all channels among the trigger settings for AI, DI, and OI channels. The data samples to be saved in the file should be set in [Pre trigger samples] and [Post trigger samples]. The data sample interval is determined by the [Common] storing rate. For details, refer to the following:



### 3.4.2 Pen setting

Make the setting for pen assignments and colors for trends recorded to trend files and show on the WEB display.

For trend pens show on the WEB display, 16 pens in total can be displayed on four pages: pens 1 to 4 on page 1, pens 5 to 8 on page 2.

Setting di	splay	
Setting di	Splay       Pen setting       Trend       Basic       PEN1       PEN2       PEN4       PEN5       PEN6       PEN7       PEN8       PEN9       PEN00       PEN10       PEN11	2. Input
1. Select	PEN11 PEN12 PEN13 PEN14 PEN15 PEN16	OK Cancel

- (1) Select the pen to be set. The current setting data for the selected pen is displayed.
- (2) Make pen assignments. Set the pen in reference to the table below and click the [OK] button.

Settings	Description		
Туре	Select the type to be assigned. Selectable from None / AI / DI / OI / DO.		
CH Set the channel to be assigned. It can be selected from a list of the in channels selected in the type.			
Color Set the color of the pen.			
Upper limit Set the scaling value of 100% in the trend graph.			
Lower limit Set the scaling value of 0% in the trend graph.			

(3) In the same way, set all pens that are recorded to trend files and showed on the WEB display. It is also possible to copy the settings of a pen that has already been set and then edit only the changes.

#### Special note

• If updating data error has occurred because of communication error etc, the previous value will be held.

Example: Copy of PEN1 to PEN16.



# 3.5 Recording report

Make the report setting. PC Recorder has the function to generate daily, monthly, and yearly reports. Al and OI data can be recorded for 16 channels.

Daily report data for one hour is generated by sampling from data per second as "Momentary value," "Average value," "Maximum value (peak value (high)," or "Minimum value (peak value (low))." Monthly report data are generated from daily report data and yearly report data from monthly report data.

### 3.5.1 Basic setting

Make the basic setting for daily, monthly, and yearly reports. In reference to the table below, set the following parameters:

Setting di	splay
Setting	×
Basic setting	Report display
Connection	Report X
Channel	Basic CH Yearly report
Record	Page title Start month
Trend	Monthly report
Report	Page title Start date 1
Click	Daily report
	Page title       Start time       1
	Input
	OK Cancel

Settings	Description
Page title	Set the report title within 32 characters for each of daily, monthly, and yearly report.
Yearly report / Start month	Select the start month of the yearly report from January to December.
Monthly report / Start date	Select the start date of the monthly report from 1st to 28th.
Daily report / Start time	Select the start time of the daily report from 1 to 24 (o'clock).

# 3.5.2 Channel setting

Make the setting for the content of recording.

(1) Select the channel to be set and, in reference to the table below, set the various parameters.

•	Setting display		
Setting		×	
I/O Connection Channel Record	Channel se Web Report Basic CH CH1 CH2 CH3 CH4 CH5 CH6 CH7	Type AI CH AI1 AI1 Sampling method Yearly report Sum	Splay × / Monthly report ×
Click	CH8 CH9 CH10 CH11 CH12 CH13 CH14 CH14 CH15 CH16	Data range Data range Data range Upper limit Lower limit Error mode Mode	alue
	1. Select	Fixed value Fixed charact	I00.000 ers 2. Input

Settings	Description
Туре	Select the type of the channel to be assigned from None / AI / OI.
СН	Select the channel to be assigned.
Sampling method	Select the sampling method for the "daily/monthly data" to be recorded in the
Yearly report / Monthly report	yearly / monthly report from Total / Average / Maximum / Minimum.
Sampling method	Select the sampling method for the "hourly data" to be recorded in the daily report
Daily report	from Momentary value / Average / Maximum / Minimum.*1
	- To set an effective range for data to be recorded on the reports, check the
Data rango	"Enable" check box.
Data range	- Upper limit: Set the upper limit when "Enable" is checked.
	- Lower limit: Set the lower limit when "Enable" is checked.
	- Mode: Select the value to be recorded in the report data when data could not
	be obtained or when data outside the range set in the data range is obtained
Error modo	from Previous value / Fixed value / Fixed characters.*2
Enormode	- Fixed value: Set a value when set to "Fixed value."
	- Fixed characters: Set a character string within 24 characters when set to "Fixed
	characters."

Special note

- When "Momentary value" is selected as the sampling method, data is recorded at 0 minutes and 0 seconds of every hour.
- When the sampling method is other than "Momentary value," the "Fixed character" set in the "error mode" is recorded in the "hourly data" to be recorded in the daily report if the sampling data recorded for an hour is all an error. If even one piece of data can be obtained during one hour, the operation set in the sampling method is performed from the obtained data.
  - \*1: Description of sampling method



Momentary value : Records momentary value at the timing to confirm 1H data Average value : Records average value of sampling data among sampling intarval Peak value : Records maximum/minimum value of sampling data among sampling interval \*2: Description of conditions that result in an obtaining data error
 In case that the [Source] of "Report Display", "Channel Display" is AI:
 If the sampling data used to create the report file cannot be obtained properly due to communication abnormalities, etc, the operation will be as shown in the following figure.

[In case of USB connection]



[In case of wireless LAN connection]



In case that the [Source] of "Report Display", "Channel Display" is OI: AI & DI data specified in [CH setting] will be held as the previous value. In the same way, set all channels to be desirably recorded in the reports. It is also possible to copy the settings of a channel that has already been set and then edit only the changes. Example: Copy of CH1 to CH16.



# 4. Wireless LAN setting

Right-click "PC Recorder" icon in the task tray and click "Wireless LAN Setting (W)".

The Wireless LAN setting dialog appears.

Configure the Wireless LAN settings. Refer to the following table for setting parameters.

# Wireless LAN setting display

	Wireless LAN Setting	
1. Enter	IP Address       192 . 168 . 0 . 1         Subnet mask       255 . 255 . 255 . 0         Default gateway       0 . 0 . 0 . 0         TCP port       502         Wireless LAN mode       AP         Wireless LAN channel       6 (2.4GHz)         DHCP server       Enable         DHCP Start IP Address       192 . 168 . 0 . 2	192.168.0.1         255.255.255.0         0.0.0.0         502         AP         6 (2.4GHz)         Enable         192.168.0.2         WL7W1-G16D4
	KEY	WL7W1-G16D4
L	Pecunty	WPA2-PSK(AES) V OK Cancel

Settings	Description	Default
IP Address	Set IP Address. (0.0.0.0 to 255.255.255.255)	192.168.0.1
Subnet mask	Set Subnet mask. (0.0.0.0 to 255.255.255.255)	255.255.255.0
Default gateway	Set Default gateway. (0.0.0.0 to 255.255.255.255)	0.0.0.0
TCP port	Set TCP port. (1 to 65535)	502
Wireless LAN mode	Select AP (Access point) or ST (Station).	AP
Wireless LAN channel	Select from the following. 1 (2.4GHz) / 2 (2.4GHz) / 3 (2.4GHz) / 4 (2.4GHz) / 5 (2.4GHz) / 6 (2.4GHz) / 7 (2.4GHz) / 8 (2.4GHz) / 9 (2.4GHz) / 10 (2.4GHz) / 11 (2.4GHz) / 12 (2.4GHz) / 13 (2.4GHz) / 36 (5GHz) / 40 (5GHz) / 44 (5GHz) / 48 (5GHz)	6
DHCP server	Select Enable or Disable.	Enable
DHCP Start IP Address	Set DHCP Start IP Address. (Number of allocations: 1, expiration date: unlimited)	192.168.0.2
SSID	Set SSID within 32 characters. (half-width alphanumeric characters and "_")	WL7W1-G16D4
KEY	Set KEY in the range of 8 to 64 characters. (half-width alphanumeric characters and symbol)	WL7W1-G16D4
Security	No changes required.	_

#### CAUTION

• When configuring the Wireless LAN settings, set the I/O connection type to "USB" and perform the setting via USB. => 3.1 I/O connection setting

# 5. Recording data

PC Recorder stores three types of data files: trend files, report files, and system log files.

The data to be saved in the trend files and the report files should be set in 3.4 Recording trend and the 3.5 Recording report.

The system log is automatically saved by PC Recorder.

# 5.1 Trend file

Trend files are saved in binary format (extension: TRD).

### 1. File name

A file is created with a name consisting of the year, month, day, hour, minute, second, and millisecond (yyyymmddhhmmss///) of the first sample.

(e.g. 20231025103010500.TRD for October 25, 2023, 10:30:10, and 500 milliseconds with daylight saving time not used)

For details on trend files, refer to the table below. Also, for the folder structure, refer to 5.4 Folder structure.

Item	Description		
	File names depend on whether or not to use in daylight saving time. In daylight saving		
	time, recording is performed with "S" added to the end of the file name for the "Standard,"		
	or "D" for "DST."		
	- When daylight saving time is not used:		
Record file	YYYYMMDDhhmmsslll.TRD		
	- When daylight saving time (Standard) is used:		
	YYYYMMDDhhmmssll/S.TRD		
	- When daylight saving time (DST) is used:		
	YYYYMMDDhhmmsslllD.TRD		
Records	Setting information, trend data, event data, comment data		
	Right-click the "PC Recorder" icon in the task tray and click "View (V)." Data can be		
Dete view	viewed using a Web browser>6.2 Trend		
Data view	Data can be viewed with the waveform viewer software for TR30 (model: TRViewer).		
	TRViewer can be downloaded from our website.		
Decending conceits	- Trend data: 50000 samples × 16 pen-points		
Recording capacity	- Event data: 3000 events		
(per me)	- Comment data: 1000 comments		
	- To prevent the creation of fragmented files due to short-term continuous triggering, it is		
CAUTION	prohibited to create a file again within one second after another file is created.		
	- Actual quantity may differ slightly between PC Recorder and TRViewer.		

# 2. Time correction

If the PC time is corrected during trend data recording, the time is corrected at regular intervals for a fixed period of time to ensure time continuity. During the time correction process, the time on the WEB display is showed in yellow. -> 6.1 Description of display

Range of correction	Process
Within 180 to 0 sec	The recording cycle is extended until the corrected current time catches up with the time
Within - Too to o sec.	in the process of trend data recording. After catching up, the recording cycle is restored.
	Complements data for missing recording cycles. In addition, the recording cycle is
Within 0 to 180 sec.	shortened until the time in the process of trend data recording catches up with the
	corrected current time. After catching up, the recording cycle is restored.
Other than those above The time change is applied immediately and is not equalized.	

### Special note

If time is corrected again during the equalization process, it works as follows:
 If the change reduces the difference between the current time after the correction and the current time before the correction, the equalization process continues.
 Otherwise, the change is applied immediately.

# 5.2 Report file

Report files are saved in CSV format.

### 1. File name

Daily report files are created with a name consisting of the year, month, and day (yyyymmdd) of the first sample, monthly report files with a name consisting of the year and month (yyyymm) of the first sample, and yearly report files with a name consisting of the year (yyyy) of the first sample. Also. for the folder structure, refer to 5.4 Folder structure.

When the settings are changed, it is recorded with "\_X" added to the end of the file name. The previously recorded reports are confirmed at the time of change.

If the file in which the report data is saved is opened in Excel or another application and cannot be saved, "\_S" is added to the end of the file name and the file is temporarily saved.

Report	How to name a file	Example:
Deily year ent	Version mentals and devised by "DDT"	RPT20231025.CSV, RPT20231025_X.CSV,
Daily report	Year, month, and day followed by RPT	RPT20231025_S.CSV
	Year and month followed by "RPT"	RPT202310.CSV, RPT202310_X.CSV,
Monthly report		RPT202310_S.CSV
Yearly report	Year followed by "RPT"	RPT2023.CSV, RPT2023_X.CSV, RPT2023_S.CSV

The format of each CSV file is as follows (when 16 channels are assigned):

### 2. Daily report

	Row 1	Row 2	Row 3		Row 17
Line 1	Title of daily				
	report				
Line 2	(Blank)	CH1 name	CH2 name	•••	CH16 name
Line 3	A.D.	CU1 commont	0110		CH16 comment
	year/month/day			•••	
Line 4	(Blank)	CH1 engineering unit	CH2 engineering unit	•••	CH16 engineering unit
Line 5	1 o'clock	CH1 data	CH2 data	•••	CH16 data
Line 6	2 o'clock	CH1 data	CH2 data	•••	CH16 data
				•••	
Line 28	24 o'clock	CH1 data	CH2 data	•••	CH16 data
Line 29	Total	CH1 total value	CH2 total value	•••	CH16 total value
Line 30	Average	CH1 average value	CH2 average value	•••	CH16 average value
Line 31	Maximum	CH1 maximum value	CH2 maximum value	•••	CH16 maximum value
Line 32	Minimum	CH1 minimum value	CH2 minimum value	•••	CH16 minimum value

# 3. Monthly report

	Row 1	Row 2	Row 3		Row 17
Line 1	Title of monthly				
	report				
Line 2	(Blank)	CH1 name	CH2 name	•••	CH16 name
Line 3	A.D. year/month	CH1 comment	CH2 comment	•••	CH16 comment
Line 4	(Blank)	CH1 engineering unit	CH2 engineering unit	•••	CH16 engineering unit
Line 5	Day 1	CH1 data	CH2 data	•••	CH16 data
Line 6	Days 2	CH1 data	CH2 data	•••	CH16 data
	•••			•••	
Line 35	Day 31	CH1 data	CH2 data	•••	CH16 data
Line 36	Total	CH1 total value	CH2 total value	•••	CH16 total value
Line 37	Average	CH1 average value	CH2 average value	•••	CH16 average value
Line 38	Maximum	CH1 maximum value	CH2 maximum value	•••	CH16 maximum value
Line 39	Minimum CH1 minimum value		CH2 minimum value	•••	CH16 minimum value

## 4. Yearly report

	Row 1	Row 2	Row 3	•••	Row 17
Line 1	Title of yearly				
	report				
Line 2	(Blank)	CH1 name	CH2 name	•••	CH16 name
Line 3	A.D. year	CH1 comment	CH2 comment	•••	CH16 comment
Line 4	(Blank)	CH1 engineering unit	CH2 engineering unit	•••	CH16 engineering unit
Line 5	January	CH1 data	CH2 data	•••	CH16 data
Line 6	February	CH1 data	CH2 data	•••	CH16 data
	•••			•••	
Line 16	December	CH1 data	CH2 data	•••	CH16 data
Line 17	Total	CH1 total value	CH2 total value	•••	CH16 total value
Line 18	Average	CH1 average value	CH2 average value	•••	CH16 average value
Line 19	Maximum	CH1 maximum value	CH2 maximum value	•••	CH16 maximum value
Line 20	Minimum	CH1 minimum value	CH2 minimum value	•••	CH16 minimum value

# 5.3 System log file

The system log file is saved in text file format (filename: Log.txt).

The date/time of occurrence and details of the operations listed in the table below are additionally saved in the system log file.

(Example: When PC Recorder started at 10:30:50 on October 25, 2023, the log file of "2023/10/25 10:30:50 Start PC Recorder" was added.)

System log	Operation
Start PC Recorder	PC Recorder started.
Close PC Recorder	PC Recorder closed.
I/O ERROR	I/O communication failure
I/O OK	I/O communication recovery

# 5.4 Folder structure

Each file is saved based on the Windows "Documents" folder "C:¥Users¥[USERNAME]M-System¥PC Recorder."

([USERNAME] depends on the account.)

The folder structure under PC Recorder is shown in the figure below. Year/Month/Day folders are automatically created as more files are saved.



### CAUTION

• When the trend data recording speed is set to 10 s, 1 m, 2 m, 5 m, 10 m, 30 m, or 1 h, trend files are saved in the month folders.

# 6. **View**

Right-click the "PC Recorder" icon in the task tray and click on "View (View (V)." The Trend display is showed as the initial screen on the Web browser.

# 6.1 Description of display

The shared content is always showed at the top of each display.



### 1. Current date

Displays the current date. During the time correction, this is displayed in yellow (\_\_\_\_\_\_\_\_). -> 5.12 Time

## 2. Current time

Displays the current time. During the time correction, this is displayed in yellow (<u>Time 14:46:54</u>). -> 5.12 Time correction

### 3. Menu button

Clicking the Menu button displays the menu dialog.

				2023/11/21 13:34:5	
Trend view	NEW Event view	Over view			D
-ner				*	B
Trend file	Report file			Language	di
			:-)		
Compress Time	Expand Time Axis	Event summary	Comment	Write Comment	C
Axis			summary	03 55.00	0
					a
				Class	w
				AI4 AI4	J

### Display switching button

Button for the currently showing display appears dimmed

### **Operation Icons**

Operation icons that available on the display will appear

## 4. Trend status display

Displays the recording status of trend data. This lights in green ( Q Rec ) during recording and goes off

(O<sup>Rec</sup>) when recording is stopped. When waiting for a trigger, it blinks.

## 5. Error display

If communication with PC Recorder is lost, an error is displayed.

### 6. Screen lock display

If the screen scroll is not locked, the open key icon is displayed; if it is locked, the closed key icon is displayed. Click to toggle the screen lock status.

To print the "Trend", "Event view" or "Over view" display, "screen-lock" the display to be printed, and then print it.

# 7. Trend start button

By clicking the "Trend Start" button, you can switch between Normal start Start, Trigger recording

Trigger , and Stop trend recording Stop .

# 6.2 Trend display

Click the "Menu wenu" button and select "Trend" to go to the "Trend" display.

#### 6.2.1 Display items

The "Trend" display largely consists of the "Menu bar," "Page switching button," and "Trend area."



## 1. Numerical display

Black text indicates the current value.

Scrolling the trend graph shows the values on the right end of the graph and the text turns blue. Clicking the "numerical display area" selects the pen and deepens the background color. To deselect the pen, click "Scale display area."



For items that are displayed differently depending on the type of input/output, refer to the table below.

Item	Туре	Description			
	AI	Displays the % value or the actual quantity value.			
Distitut diamtav	DI	Displays the display comment company display to ON/OFF			
Digital display	DO	Displays the display comment corresponding to UN/UFF.			
	OI	Displays the numerical value of the actual quantity.			
		When a zone is used, the current display color is shown.			
	AI	When a zone is not used, the pen color is shown.			
Status	OI	This is displayed in a simple bar graph manner. The display color			
Status		corresponding to the whole status is shown.			
	DI	Displays solar corresponding to ON/OFE as a bar			
	DO	Displays color corresponding to ON/OFF as a bal.			
	AI	Diaplaya the enceified unit			
	OI	Displays the specified unit.			
	DI	Plank			
	DO				

### 2. Graph display

- (1) When the trend status display is "Recording" or "Waiting for trigger," the latest data is displayed at the right end of the trend graph.
- (2) When the trend status display is "Waiting for trigger," the latest data of the samples specified in "Pre trigger samples" is displayed. -> 3.4.11 Recording setting
- (3) When the trend status display transitions from "Waiting for trigger" to "Recording," the data of the samples specified in "Post trigger samples" is displayed following Step (2) above. -> 3.4.13 Trigger recording



# 6.2.2 Operation

#### 1. Switch between pages

The pages can be switched by clicking the "Page Switch" button. The maximum number of pages is four.



### 2. Expand/compress the time axis

The time axis of the trend graph can be expand/compress. The expansion and compression ratios are the settings shared among all pages.

- (1) Clicking the "Menu Menu" button displays the "menu" dialog.
- (2) Click "Compress Time Axis<sup>3</sup>" or "Expand Time Axis<sup>3</sup>" of the operation icons.

Each time the button is clicked, the time axis of the trend graph compress/expand.



#### Special note

• The time axis can be switched between four levels: 100% (unity magnification), 50%, 20%, and 10%.

### 3. Changing the maximum/minimum value of the scale

The maximum and minimum values of the scale can be changed.

- (1) Click the "Digital display area" of the pen to be changed to select it.
- (2) To change the maximum value, click on the blank area to the right of the scale; to change the minimum value, click the blank area to the left of the scale. The Change maximum/minimum value dialog is displayed.
- (3) Enter the desired value and click the [OK] button to change the maximum/minimum value of the scale.
- (4) To deselect the pen, click "Scale display area."



### 4. Write of comments

Comments can be written in the trend graph. Comments are shared and displayed on all pages. The list of comments written can be viewed on the "Trend" display (Comments summary). ->6.4 Trend display (Comments summary)

- (1) Click the "Menu Menu" button.
- (2) On the submenu, click the "Write comment
- (3) Specify the text color of comments. Specify it from the color palette.
- (4) Write comments and click the [OK] button. The comments are written to the point on the time axis where the [OK] button is pressed.



### CAUTION

- Comments are recorded when the [OK] button click is successfully accepted.
- The color palette display depends on the browser.

# 6.3 Trend display (Event summary)

With the Trend display showed, click the "Menu <sup>Menu</sup>" button and select "Event Summary <sup>20</sup>." Then the event summary information is showed on the Trend display.

#### 6.3.1 Display content

Event summary information is showed in the "Trend area" of the "Trend" display, where the digital display area, scale display area, and pen mark are showed. The event summary information is shared and showed on all pages. Clicking the [Close] button closes the event summary information and returns to the normal "Trend" display.



# 6.3.2 Operation

Clicking the "event summary" highlights the clicked summary and displays the data starting from the point where the event occurred.

When the right end of the trend graph is past data, the time display is blue. At this time, the event summary information is not updated.


## 6.4 Trend display (Comments summary)

With the Trend display showed, click the "Menu <sup>Menu</sup>" button and select "Comments Summary"." Then the comments summary information is showed on the Trend display.

### 6.4.1 Display content

Comments summary information is showed in the "Trend area" of the "Trend" display, where the digital display area, scale display area, and pen mark are showed. The comments summary information is shared and showed on all pages. Clicking the [Close] button closes the comments summary information and returns to the normal "Trend" display.



### 6.4.2 Operation

Clicking the "comments summary" highlights the clicked comments and displays the trend data starting from the point of recording.

When the right end of the trend graph is past data, the time display is blue.



## 6.5 Event view

Click the "Menu " button and select "Event view Nim" to go to the "Event view" display.

### 6.5.1 Display content

A list of Event view is displayed.

When an event that has been set for each channel by right clicking the "PC Recorder" icon in the task tray and selecting "Setting (C)" occurs, the event information is showed on this display.

On the Event view display, the event information on the 500 most recent events is displayed. It is also updated even when recording is suspended.

Event view data is cleared by right clicking the "PC Recorder" icon and clicking "Close (X)" to close.

Date 2	023/11/2	22	Time 11:46:59	Menu	Rec Carlor Stop	Scroll (the latest 500)
Dete	Time	C H	News	Comment	Havana	
Date	Time	СП	ivame	Comment	wessage	$\neg \rightarrow /$
2023/11/22	11:46:54	ALL	All Neme	All Cemment	Vessgel	Ŷ
2023/11/22	11:40:01	011		AIL+AI2	Vessigel	
2023/11/22	11:46:50	AIL	All Name	All Comment	vessige:	
2023/11/22	11:46:50	A11	All Name	All Comment	Vessigei	
2022/11/22	11-46-43	Δ11	All Name	All Comment	Vacesgol	
2023/11/22	11:46:42	DI1	011	A11+A12	Vessige2	
2023/11/22	11:46:23	A11	All Name	All Comment	Vessigeő	
2023/11/22	11:46:19	011	011	A11+A12	Vessage3	
2023/11/22	11:46:18	AI1	All Name	All Comment	Vessage4	
2023/11/22	11:46:10	A11	All Neme	All Comment	Nessege3	
2023/11/22	11:46:01	A11	All Name	All Comment	Vessige2	
2023/11/22	11:45:59	011	011	A11+A12	Vessige2	
2023/11/22	11:45:23	AI1	All Name	All Comment	Vessigel	
2023/11/22	11:45:17	011	011	AIL+A/2	Vessigel	
2023/11/22	11:45:14	A/1	All Name	All Comment	Message2	
2023/11/22	11:45:14	AI1	All Name	All Comment	Vessige3	
2023/11/22	11:44:57	AI1	All Name	All Comment	Vessige4	
2023/11/22	11:44:55	011	011	A.11.+A/2	Nessage2	
2023/11/22	11:44:19	AI1	All Name	All Comment	Vessige5	
2023/11/22	11:44:13	011	011	A/1+A/2	Vessige3	
2023/11/22	11:44:10	AI1	All Name	All Comment	Vessage4	
2023/11/22	11:44:02	AI1	All Name	All Comment	Vessige3	
2023/11/22	11:43:53	A/1	All Name	All Comment	Vessige2	
2023/11/22	11:43:51	011	011	A.IL+A/2	Vessige2	
2023/11/22	11:43:15	A/1	All Name	All: Comment	Vessigel	
2023/11/22	11:43:09	011	011	AIL+A/2	Vessigel	
2023/11/22	11:43:06	A/1	All Name	All Comment	Vessige2	* _/

## 6.6 Overview

Click the "Menu

Menu " button and select "Overview

view 🧖 ro

to go to the "Overview" display.

### 6.6.1 Display content

The current values and alarm generation status of all channels are displayed. It is updated even when recording is suspended.

Date 2023/	11/22	Time	11:46:59		Ν	lenu		🔵 Re	с			į	) of
			_		_	_	-	SI	tart	Trigge	er	Stop	
All Name	AI2	AIB		A14		A15		A16		A17	A	18	
41.30 [mA]	23.12	[%]	9.03 [%]	1	1.18 [5]	0.76	[%]	7.	.84	21.34	[%]	39.20	[%]
A19 A19 58.70	A110 A110 <b>76.88</b>	A111 A111	90.97 (%)	A112 A112 9	1 <b>8.82</b>	A113 A113 99.24	[%]	A114 A114 92	2 <b>.16</b>	A115 A115 78.60	[%]	4116 60.80	[%]
DII Nama DII Comment OFF	DI2 DI2 OFF												
OI1 AI1+AI2 <b>32.21</b> [mA] Normal	012 012 17.00	013 013	0.00	014 014 (	<b>0.00</b>	015 015 <b>0.00</b>	[%]	016 016 <b>0</b>	.00 (%)	017 017 0.00	0 0 [%]	0.00	[%]
019 019 <b>0.00</b> [%]	0110 0110 <b>0.00</b>	0111 0111	0.00	0112 0112	<b>0.00</b>	0113 0113 <b>0.00</b>	[%]	0114 0114 <b>0</b> .	.00 [%]	0115 0115 0.00	(%) [%]	0116 0116 0.00	[%]
D01 D01 Comment D01 OFF	D02 D02 Comment D02 OF	F											Ŧ
		С	H nam	e	CH co	mmen	t						
	ſ	All Nar	ne		_		AI	1 Nam	e		]		



For items that are displayed differently depending on the type of input/output, refer to the table below.

Item	Туре	Display content					
	AI	Displays the % value or the actual quantity value.					
Digital diaplay	DI	Displays the character string corresponding to ON/OEE					
Digital display	DO	Displays the character string corresponding to ON/OFF.					
	OI	Displays the numerical value of the actual quantity.					
		When a zone is used, the current zone color is shown.					
	AI	When a zone is not used, AI is displayed in blue, OI is displayed in black.					
		This is displayed in a simple bar graph manner. The display color					
Status	0I	corresponding to the whole status is shown.					
		The name corresponding to the whole status is shown.					
	DI	Display color corresponding to ON/OFF as a bar.					
	DO						
	AI						
Engineering unit	OI	Displays the specified unit.					
	DI	Diant					
	DO	Dialik.					

## 6.7 Trend file

Click the "Menu <sup>Menu</sup>" button and select "Trend file" to go to the "Trend file" display.

### 6.7.1 Display content

A list of trend files stored in the PC is displayed.

Click on the "Year/Month/Day" folder and select the trend file to view.

The content and operation of the displayed trend file are the same as in "6.2 Trend ".



#### 6.8 Report file " button and select "Report file 🛄" to go to the "Report file" display. Click the "Menu Menu 6.8.1 Display content A list of report files stored in the PC is displayed. Click the "Year/Month/Day" folder and select the report file to view. Date 2023/11/22 Time 10:45:09 Menu î d RPT\_JSON Trigger Stop Click 2023 î., ime 10:46:13 Date 2023/11/22 RPT\_JSON 2023 Click Trigger Stop RPT202311.json 2023/11 RPT20231121.json 2023/11/21 RPT20231121\_X.json 2023/11/21 File select RPT20231122.json 2023/11/22 P2 RPT\_JSON¥2023¥11¥RPT20231122.json ly Report Al1 Nam AI2 AI3 AI4 AI AI6 AI2 AI3 AI4 2023/11/22 Al1 Con AI6 AI7 AIS 52.83 96 52.56 71.48 99.95 84.00 86.65 70.85 99.96 95.44 67.67 48.42 6.77 99.97 84.22 13.55 48.62 67.84 13.68 13.89 15.41 29.88 4.22 14.83 50.26 69.38 85.54 31.11 95.41 86.71 83.94 14 18 19 24 473.68 33.16 553.27 Average 45.77 47.36 49.36 51.44 99.96 Maximum 96.88 99.95 Mi 3.56 3.40 Special note • If the settings are changed during the recording of report data, new report data is created and an "X" is added to the end of the data name.

# 6.9 Language Click the "Menu Menu" button and select "Language" to go to the "Language" display.

### 6.9.1 Display content

The currently used language is displayed as selected.



### 6.9.2 Operation

Select the language to be used from "Japanese" or "English," and click the [OK] button to switch the language.



## 7. Adjustment

Adjust analog input channels 1 to 16.

Right-click the "PC Recorder" icon in the task tray and click "Adjustment (D)." The Adjustment dialog is displayed.



- (1) Select the analog input channel to be adjusted.
- (2) Enter Offset and Gain.
- (3) Click the "Apply" button to apply the settings.

## 8. License

Below are the licenses for the functions used by PC Recorder.

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## 9. Appendix

## 9.1 Troubleshooting

Also refer to the "Frequently Asked Questions (FAQ)" on our Website.

https://www.mgco.jp/

### 9.1.1 I/O unit: lamp indication

Phenomenon	Check item	Measure
The PWR indicator lamp	Is the I/O unit turned on?	Check the connection to the PC.
does not light up.		
The RUN indicator lamp	Is the I/O unit set in the	Right-click the "PC Recorder" icon in the task
does not light up.	connection settings?	tray to open the menu. Click [Settings] to show
		the "Settings" display and then click [Connect].
		Show the "Connection" display and check the
		[I/O] settings>3.1 I/O connection setting
The WLAN indicator lamp	Are the wireless LAN settings	Right-click the "PC Recorder" icon in the task
does not light up.	configured?	tray to open the menu. Click [Wireless LAN
		Setting] to show the "Wireless LAN Setting"
		display. Then check the settings> 4 Wireless
		LAN setting
The ERR indicator lamp	Are the wireless LAN settings	Right-click the "PC Recorder" icon in the task
lights up.	correct?	tray to open the menu. Click [Wireless LAN
		Setting] to show the "Wireless LAN Setting"
		display. Then check the settings> 4 Wireless
		LAN setting
		Check your environment, such as the Wi-Fi
		router.

### 9.1.2 PC Recorder

Phenomenon	Check items	Measure
Unable to connect to the I/O	Is the I/O unit set in the	Right-click the "PC Recorder" icon in the task
unit.	connection settings?	tray to open the menu. Click [Settings] to show
		the "Settings" display and then click [Connect].
		Show the "Connection" display and check the
		[I/O] settings>3.1 I/O connection setting
		When connecting through wireless LAN, right-
		click the "PC Recorder" icon in the task tray to
		open the menu. Click [Wireless LAN Setting] to
		show the "Wireless LAN Setting" display. Then
		check the settings> 4 Wireless LAN setting
Unable to display the screen	Is the port number used by PC	Check the firewall settings on the PC.
on the Web browser.	Recorder (default: 38080) open?	
Trend data is not displayed.	Are the trend settings correct?	Right-click the "PC Recorder" icon in the task
		tray to open the menu. Click [Settings] to show
		the "Settings" display and then click [Trend].
		Show the "Trend" display and check the
		settings>3.4 Recording trend
Reports are not recorded.	Are the report settings correct?	Right-click the "PC Recorder" icon in the task
		tray to open the menu. Click [Settings] to show
		the "Settings" display and then click [Report].
		Show the "Report" display and check the
		settings>3.5 Recording report
Trend and report data are	Is PC Recorder started?	Even if the PC and the I/O unit are connected,
not recorded.		the data are not recorded if PC Recorder is not
		started up.