R3 Series Remote I/O

R3X PC CONFIGURATOR
Model: R3CON

Users Manual

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1. GENERAL

This manual assumes that the user is familiar with basic operations of Windows 10 or Windows 7 and terminology used in the operating systems.
For more information about particular operation or terminology on Windows, please refer to manuals provided with the system.

1.1 FEATURES OF R3CON

The R3 Series are modular I/Os with open field networking capabilities, for such as DeviceNet and PROFIBUS. These remote I/O modules can be directly connected to a Windows PC via PC Configurator Cable.
The R3CON software is used to help program various parameters such as I/O scaling, zero/span adjustments to match the user's needs.

GENERAL FUNCTIONS OF R3CON

■ PARAMETERS CONFIGURATION FOR EACH CHANNEL

I/O range scaling and zero/span adjustments are available for each I/O module.
For temperature input modules (models: R3-TSx, R3-RSx), scaled temperature range (0% and 100%) can be also programmed.

■ CONFIGURATION OF UNUSED CHANNELS

Each unused channel of an analog I/O module can be set to 'Unused' in order to cancel unwanted burnout or input errors detected at the host PLC if the channel is left open.

■ MONITORING

You can check analog I/O data using configured data.
For discrete I/O modules, ON/OFF status of each channel can be monitored.

1.2 HARDWARE REQUIREMENTS

- DOS/V compatible PC with Windows 10 or Windows 7 appropriately installed.
- PC Configurator Cable
  MCN-CON or COP-US for the network modules other than R3-NCIE1 and R3-NECT1
  Type A–Mini B USB cable (commercially available) for R3-NCIE1 and R3-NECT1

1.3 INSTALLING & DELETING THE PROGRAM

The program, provided as compressed archive, can be downloaded at our web site.

■ INSTALLING

Decompress the archive and execute 'setup.exe' to start up the R3CON installer program.
Follow instructions on the Windows.

■ DELETING

Open [Control Panel > Add/Remove Programs].
Select [R3CON] from the program list and click <Delete> button.

NOTE
If you have already the R3CON program installed in your PC, remove it before installing a new one.

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2. BASIC OPERATIONS

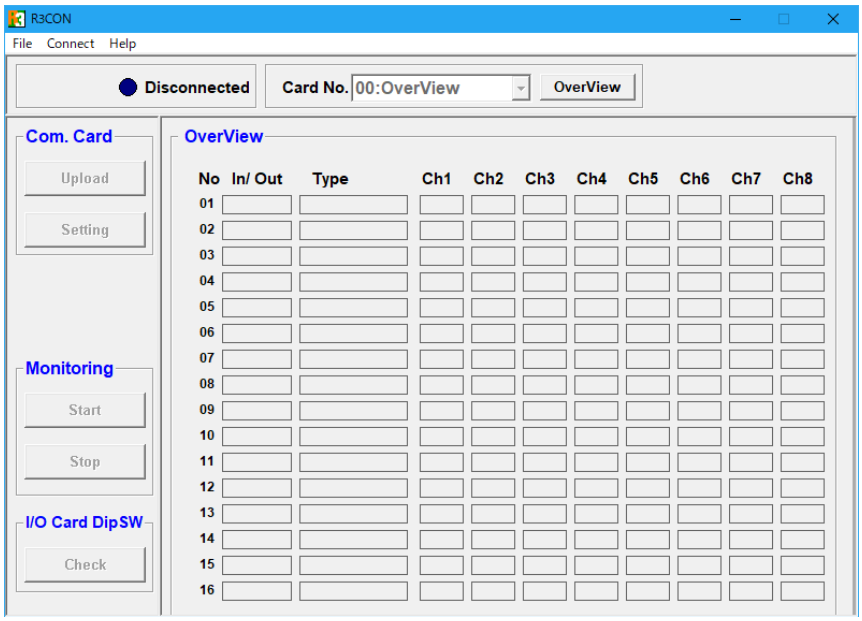
Connect the R3 network module to the PC via a configuration cable.
Confirm the hardware connection in order to write the setting data to the network module and each I/O module.

2.1 STARTING / ENDING THE R3CON

Display images shown in this manual may change in detail when the software version is updated.

■ STARTING THE R3CON

Press [Start] on the task bar and choose [R3CON] from [Program] menu.
The main screen of the R3CON as shown below will be displayed.



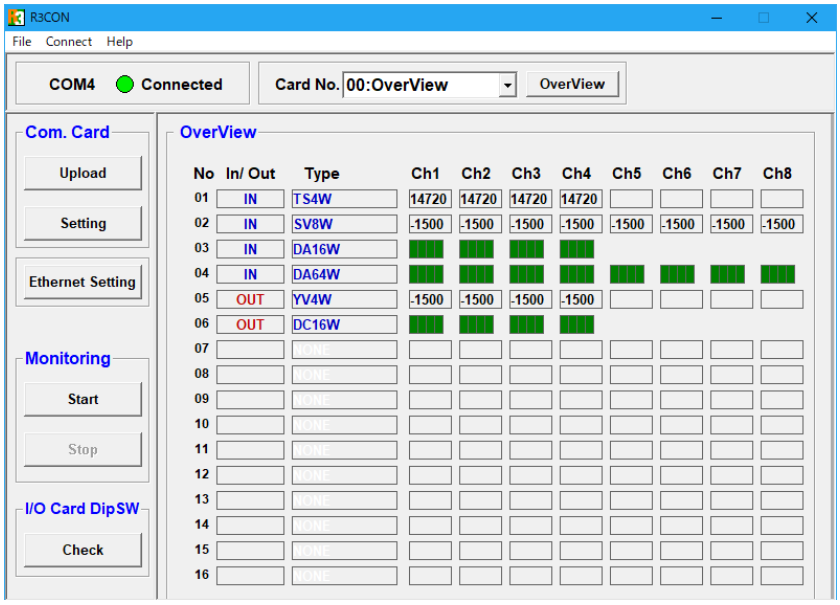
■ ENDING THE R3CON

Click [File] on the menu bar and select [Exit] to quit the program.

NOTE
Clicking [X] button at the right end of the title bar does not end the program.

2.2 SCREEN COMPONENTS AND FUNCTIONS

The R3CON main screen is composed of the menu bar at the top, control panels below the menu bar and on the left, 'Overview' window in the center frame, and various pop-up windows.
In this section, functions of the menu bar, control buttons, and respective windows are explained.



■ MENU BAR

Menu	Submenu	Function
File	Open	Reading parameter settings from a file to display on the screen. To read from a file, the R3 network module must be connected, and the content of the file must match the data written in the module.
	Save	Saving the parameters as a file. To save a file, the R3 network module must be connected.
	Exit	Ending the R3CON program.
Connect	Connect	Connecting to the communication line.
	Disconnect	Disconnecting from the communication line.

■ CONTROL PANEL

[Card No.] pull-down menu : Click the down arrow at the right to display a pull-down menu of selectable module numbers. Select a module to switch the 'Overview' window to the parameter setting window for the module.

<Overview> button : Click the button to show the module configuration on the 'Overview' window. Click this button to switch the center frame back to 'Overview' window from each module's parameter setting window.

<Upload> button : Click the button to upload I/O module's setting information.

<Setting> button : Click the button to open 'Com. Card Settings' screen.

<Ethernet Setting> button : Click the button to open 'Ethernet Settings' screen for the R3-NE1 or TR3EX module. (The button is active only when the R3-NE1 or TR3EX module is connected.)

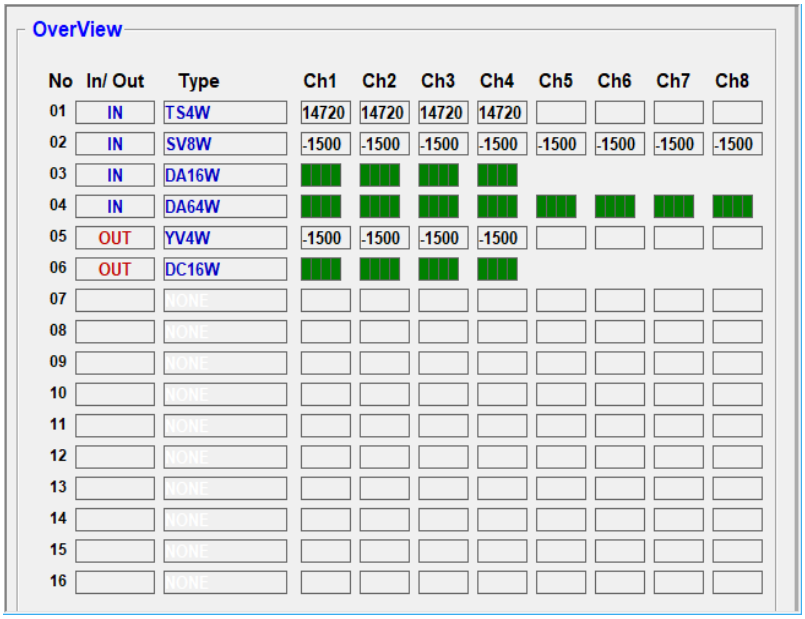
<Start> button : Click the button to start monitoring the system.

<Stop> button : Click the button to stop monitoring the system.

NOTE

Be sure to click <Upload> button to read the current setting to display on the screen whenever a new module number is selected.

■ 'OVERVIEW' WINDOW



Item	Function	Type	Detail
No.	Slot No.	----	----
In/Out	Input or Output	IN	Input module
		OUT	Output module
Type	I/O Module Type	None	No module mounted
		Model No.	Model No. mounted on the Slot
		Red	ON

• Analog I/O module

Ch1	Analog I/O value for Ch. 1	Decimal data (Hexadecimal for R3-WTU)	Shows data sent to the host PLC/PC. Scaled data if scaling values are specified. Refer to the relevant descriptions for conversion data in the data sheet of each module. (R3-WTU data 0 to 7 are assigned to Ch1 to Ch8.)
Ch2	Analog I/O value for Ch. 2		
Ch3	Analog I/O value for Ch. 3		
Ch4	Analog I/O value for Ch. 4		
Ch5	Analog I/O value for Ch. 5		
Ch6	Analog I/O value for Ch. 6		
Ch7	Analog I/O value for Ch. 7		
Ch8	Analog I/O value for Ch. 8		

• Discrete input / output module

Ch1	On/Off status of discrete I/O for Ch1 to Ch4 (left to right)	Red / Green	Red : ON Green: OFF
Ch2	On/Off status of discrete I/O for Ch5 to Ch8		
Ch3	On/Off status of discrete I/O for Ch9 to Ch12		
Ch4	On/Off status of discrete I/O for Ch13 to Ch16		
Ch5	On/Off status of discrete I/O for Ch17 to Ch20		
Ch6	On/Off status of discrete I/O for Ch21 to Ch24		
Ch7	On/Off status of discrete I/O for Ch25 to Ch28		
Ch8	On/Off status of discrete I/O for Ch29 to Ch32		

• Discrete I/O module (ex. R3-DAC16)

Ch1	On/Off status of discrete input for Ch1 to Ch4 (left to right)	Red / Green	Red : ON Green: OFF
Ch2	On/Off status of discrete input for Ch5 to Ch8		
Ch3	Non-display		
Ch4	Non-display		
Ch5	On/Off status of discrete output for Ch1 to Ch4		
Ch6	On/Off status of discrete output for Ch5 to Ch8		
Ch7	Di9 to Di12 (Output completion status of Do1 to Do4)		
Ch8	Di13 to Di16 (Output completion status of Do1 to Do4)		

NOTE
'Overview' window only shows analog I/O values for up to 8 channels and On/Off status of discrete I/O for up to 32 channels. Go to the parameter setting window of each I/O module to confirm the whole channels.

2.3 SETTING EXAMPLE

In this section, basic setting procedure is explained using a simple example as follows:

■ Configuration Example

Slot No. 1: Model: R3-TS4W (thermocouple input, 4 ch.)
Ch. 1 thr. 3 zero / span scaling: 0 / 5000
Ch. 1 thr. 3 zero / span adjustments: 0.00 / 1.00
Ch. 1 thr. 3 0% / 100% temperature: 0 / 50
Ch. 4: Unused

Slot No. 2: Model: R3-YV4W (DC voltage output, 4 ch.)
Ch. 1 thr. 3 zero / span scaling: 0 / 10000
Ch. 1 thr. 3 zero / span adjustments: 0.00 / 1.00
Ch. 4: Unused

Slot No. 3: Model: R3-DA16W

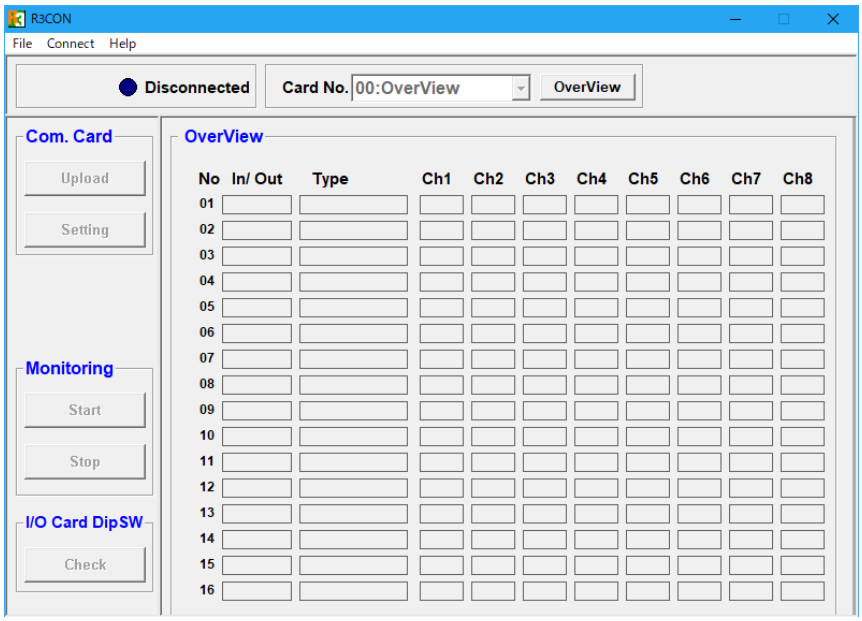
All other slots are vacant.

■ Procedure

(1) Starting the R3CON program
(2) Connecting to the communication line
(3) Uploading the current configuration and setting from the R3 network module
(4) Configuring the slot No. 1 module (T/C input, 4 ch.) and downloading the new parameters
(5) Configuring the slot No. 2 module (DC voltage output, 4 ch.) and downloading the new parameters
(6) Confirming new configuration
(7) Monitoring
(8) Disconnecting the communication line

2.3.1 STARTING THE R3CON PROGRAM

Press [Start] on the task bar on your PC and choose [R3CON] from [Program] menu.
'Overview' window (main screen) appears on the screen.
'Overview' window allows to confirm all the mounted I/O modules and monitor their current status.
The frame of 'Overview' window is replaced with the detailed setting and monitoring frame for a particular I/O module when the module is selected.
Refer to Section 3 for details.
The figure below shows the initial state, with no I/O module selected and thus no values are displayed for monitoring.



2.3.2 CONNECTING TO THE COMMUNICATION LINE

- **PC Configurator Cable**

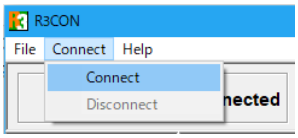
  MCN-CON or COP-US for the network modules other than R3-NCIE1 and R3-NECT1
  Type A–Mini B USB cable (commercially available) for R3-NCIE1 and R3-NECT1

- **Driver software**

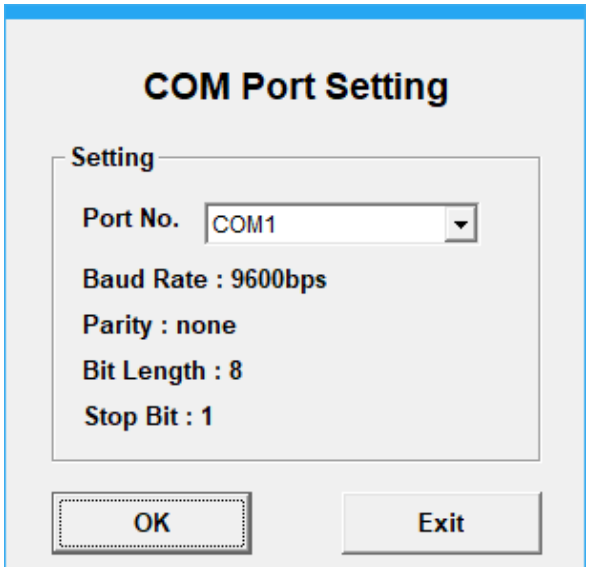
  When the network module is R3-NCIE1 or R3-NECT1, the dedicated driver software needs to be installed on a PC.
  If the PC has internet environment, the driver software will be installed by Windows Update when connected to R3-NCIE1 or R3-NECT1.
  The driver software is also downloadable at our web site.

- **Connecting the R3 network module to the communication line**

  Click [Connect] on the menu bar and select 'Connect' to display COM Port Setting pop-up window as shown below.



Confirm that the power is supplied to the R3 modules and that the configurator jack of the R3 network module and the COM port of the PC is firmly connected with a cable (use USB cable to connect to R3-NCIE1 or R3-NECT1).
Choose the usable COM port (COM1 to COM16) and click OK.



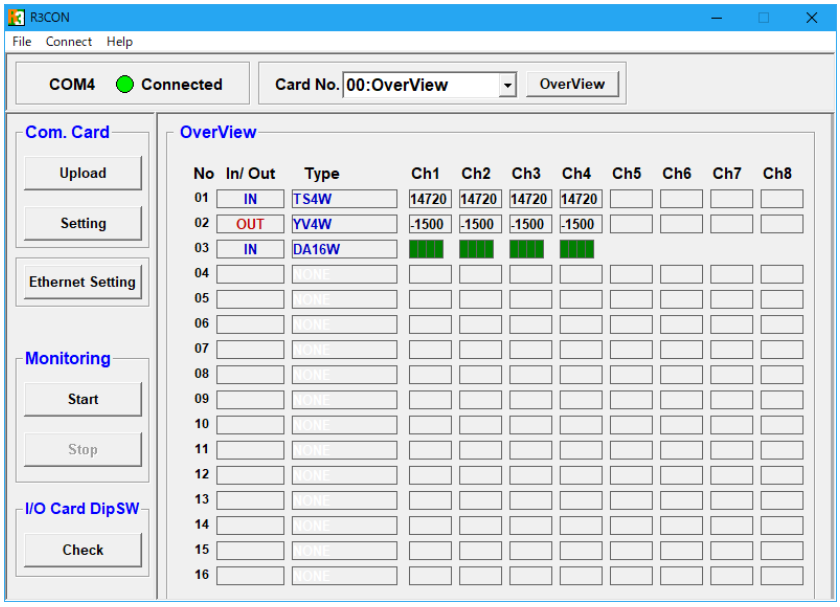
If a connection test succeeds and the communication line is established, the communication status indicator turns green and the connected COM port number (e.g. 'COM2') is shown.

NOTE

Be sure to set the baud rate to 9600 bps.
If the status indicator does not turn green and a message of connection test failure appears, confirm again the connection between the R3 and PC, and the COM port driver status on the PC.

2.3.3 CONFIRMING THE HARDWARE TYPE & CURRENT SETTING

Click <Upload> button at the top of the 'COM. Card' control panel to display the present module configuration and respective I/O module types as shown below.



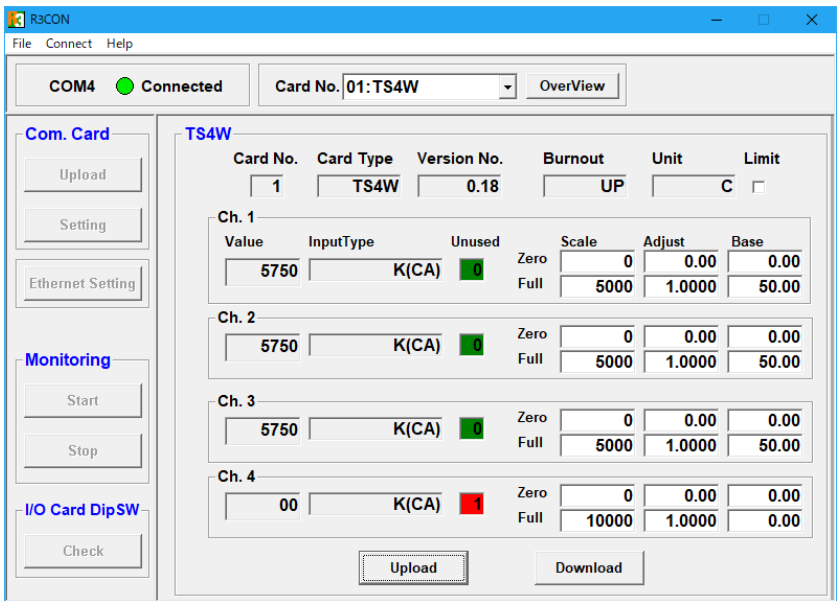
2.3.4 CONFIGURING SLOT NO. 1 MODULE (T/C input, 4 ch.)

Click the down arrow of 'Card No.' pull-down menu and select '01'.
The frame of 'Overview' window is now replaced with the parameter setting window for the slot No. 1 'TS4W'.

Click <Upload> button at the bottom to confirm the present Card No. 01 setting.
Change parameter values as follows:

	Ch. 1	Ch. 2	Ch. 3	Ch. 4
Zero Scale	0	0	0	0
Full Scale	5000	5000	5000	10000
Zero Adjust	0.00	0.00	0.00	0.00
Full Adjust	1.0000	1.0000	1.0000	1.0000
Zero Base	0.00	0.00	0.00	0.00
Full Base	50.00	50.00	50.00	0.00
Unused	0 : Used	0 : Used	0 : Used	1 : Unused

Be sure to enter '1' under [Unused] box for Ch. 4 to disable the unused channel.
When all figures are correctly entered, the center frame should look as follows.



Click <Download> button at the bottom to write the whole setting entered on the screen in the currently selected module (i.e. R3-TS4W).
Analog input is scaled according to the new setting and the scaled value is shown in 'Value' field.
Perform fine adjustment for the parameter values, if necessary, while monitoring the scaled value.

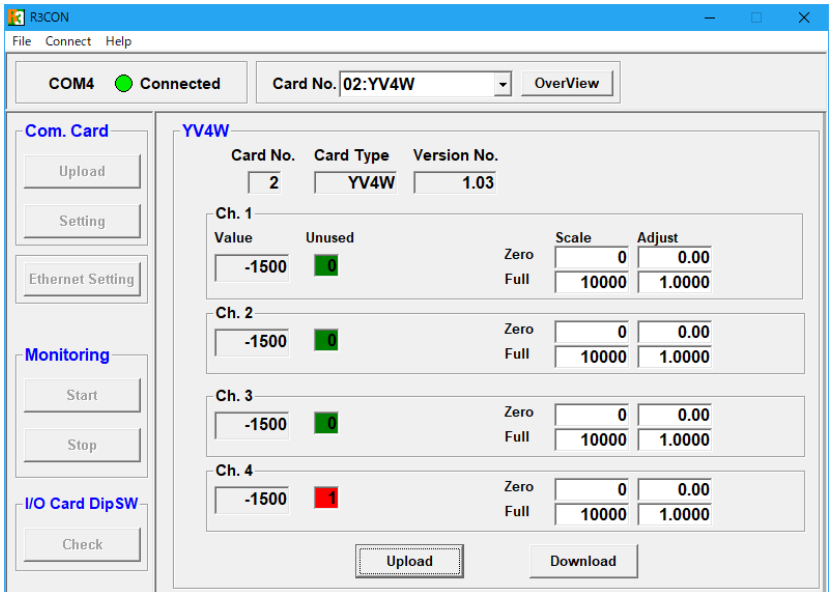
2.3.5 CONFIGURING SLOT NO. 2 MODULE (DC voltage output, 4 ch.)

Click the down arrow of 'Card No.' pull-down menu and select '02'.
The frame of 'Overview' window is now replaced with the parameter setting window for slot No. 2 'YV4W'.

Click <Upload> button at the bottom to confirm the present Card No. 02 setting.
Change parameter values as follows:

	Ch. 1	Ch. 2	Ch. 3	Ch. 4
Zero Scale	0	0	0	0
Full Scale	10000	10000	10000	10000
Zero Adjust	0.00	0.00	0.00	0.00
Full Adjust	1.0000	1.0000	1.0000	1.0000
Unused	0 : Used	0 : Used	0 : Used	1 : Unused

Enter '1' under [Unused] box for Ch. 4 to disable the unused channel.
When all figures are correctly entered, the center frame should look as follows.



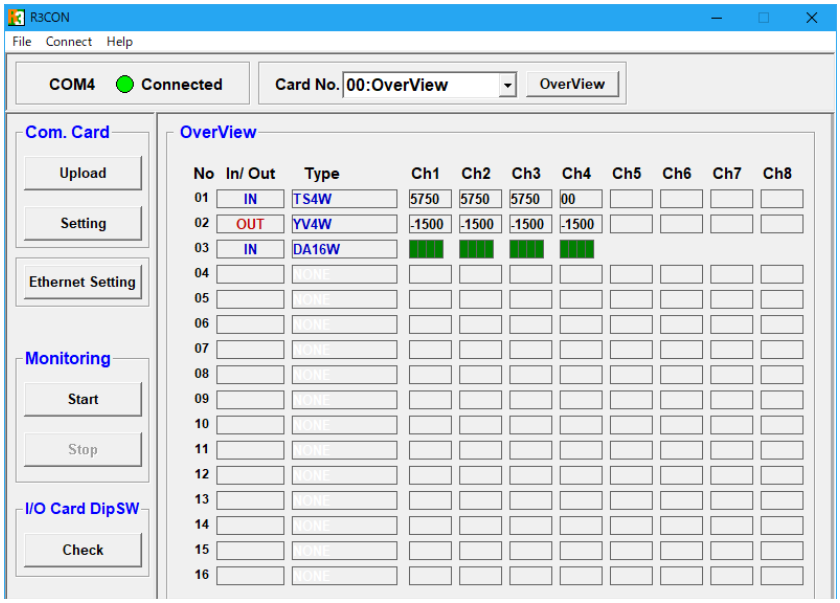
Click <Download> button at the bottom to write the whole setting entered on the screen in the currently selected module (i.e. R3-YV4W).
Analog output is scaled according to the new setting and the scaled value is shown in 'Value' field.
Perform fine adjustment for the parameter values, if necessary, while monitoring the scaled value.

2.3.6 CONFIRMING NEW PARAMETERS

Upload the configuration after the new setting has been downloaded.
By doing so, confirm that the new parameter values have been applied by comparing the currently displayed setting with the applied new setting.

2.3.7 MONITORING

Click <Start> button on 'Monitoring' control panel to start monitoring analog input values and discrete signal status on the screen.



Monitor analog and discrete I/O signals and confirm that the R3 modules are operating normally.
For discrete signals, the 16 square indicators represent respective channels (Ch.1 through Ch.16) from left to right.
Each indicator turns Green when the signal is OFF, and turns Red when ON.
Click <Stop> on 'Monitoring' control panel to stop monitoring.

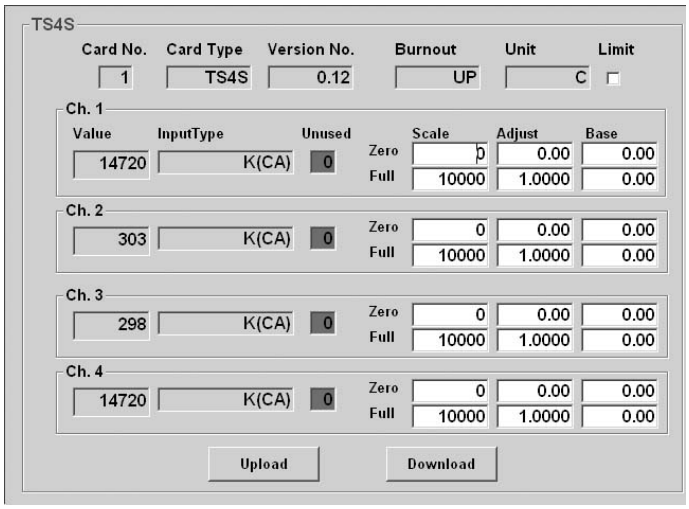
2.3.8 DISCONNECTING THE COMMUNICATION LINE

Click [Connect] on the menu bar and select 'Disconnect'.

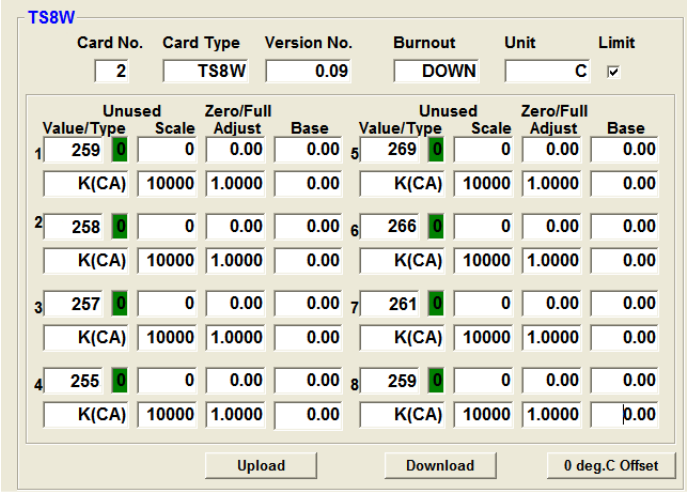
3. PARAMETER SETTING WINDOW FOR EACH I/O MODULE

3.1 R3-TSx, R3x-RSx, R3-RTx - THERMOCOUPLE & RTD, THERMISTOR INPUT MODULE

■ R3-TS4S



■ R3-TS8W



<Upload> button	: Uploads the setting written in the module to display on the screen.
<Download> button	: Downloads the setting configured on the screen to the module.
<0 deg. C Offset> button	: Appears only for R3-TS8A. Click the button to open the 0 degree Celsius Offset window.

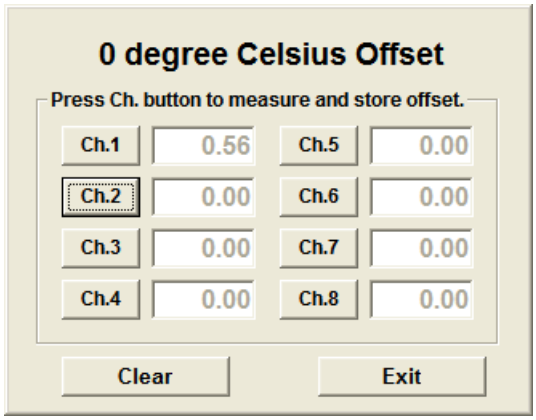
Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Input Type	Shows input type (T/C or RTD)	
Burnout	Shows the burnout protection type (Upscale or Downscale)	
Zero Scale	0% scaling value Enter a desired value in the text box.	-32000 to 32000
Full Scale	100% scaling value Enter a desired value in the text box.	-32000 to 32000
Zero Adjust	Fine 0% adjustment value (bias) Enter a desired % value correspoding to the scaling value in the text box.	-320.00 to 320.00
Full Adjust	Fine 100% adjustment value (gain) Enter a desired value in the text box.	-3.2000 to 3.2000
Zero Base	0% temperature Enter a desired value in the text box.	Setting range varies depending on the input type.
Full Base	100% temperature Enter a desired value in the text box.	Setting range varies depending on the input type.
Value	Shows the current value of: temperature (R3-TSx, R3-RSx, R3-RTx); or % data (others).	
Unused	Enter '1' to disable the unused channel. No input processing (input = 0, no burnout or error detection) for the disabled channel.	0 or 1
Unit	Shows the temperature unit in °C, °F, or K.	C, F, K
Limit (R3-TS V0.10 or higher, R3-TS8A, and R3-RTx)	Check the box to limit the input range within Zero Scale and Full Scale when scaling is set. When no scaling is set and/or when the check box is not selected, the input range is limited within -15 to +115%.	No check mark: Input value is limited to a scaling value within -15 to 115%. Check-marked: Input value is limited within Zero Scale to Full Scale.

NOTE

If both Zero Scale and Full Scale values are equal, Scaling is processed assuming Zero Scale = 0, Full Scale = 10000.

Scaling is disabled when both Zero Base and Full Base values are equal.
In such a case, raw data is sent by: with °C temperature unit, multiplying raw data by 10 (e.g. 255 if 25.5°C); and with °F temperature unit, truncating raw data to an integer (e.g. 135 if 135.4°F).

■ 0 degree Celsius Offset (available only for R3-TS8A)

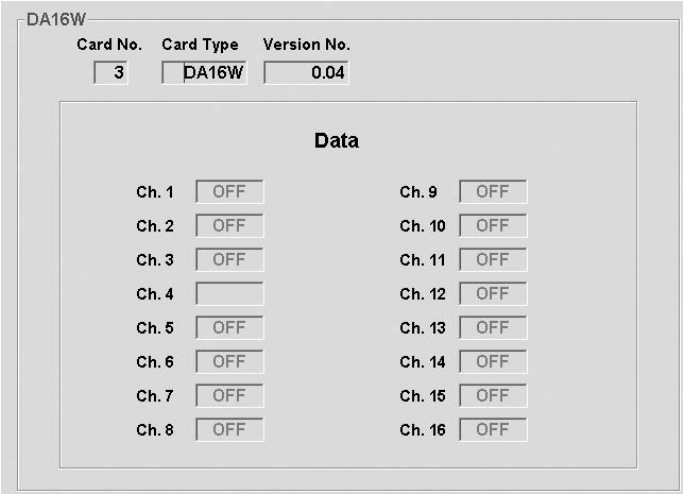


- The offset values written in the R3-TS8A module are displayed when the window is opened.
- Perform and keep 0°C measurement for calibration.

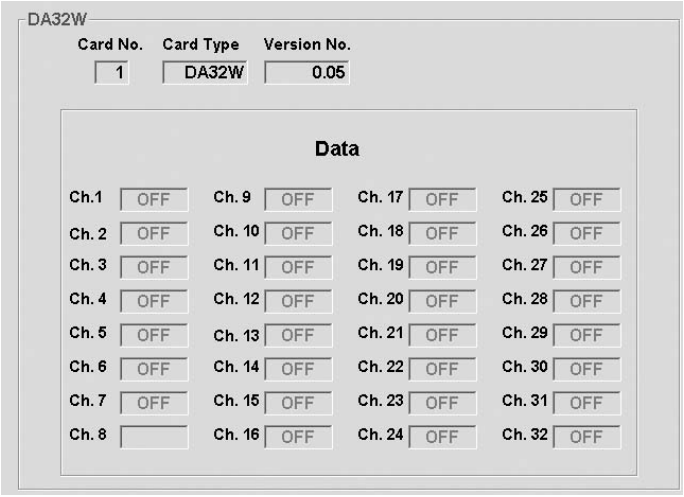
<Ch. 1 through Ch. 8> buttons : Click the channel button to calibrate while the measurement is stable.
The value measured when the button clicked is displayed on the window and recorded as the offset value on R3-TS8A.
<Clear> button : Clears all the channels' offset values.
<Exit> button : Closes the 0 degree Celsius Offset window.

3.2 R3x-DAx, R3x-DACx, R3x-DCx, R3-PD16x, R3x-RR8 - DISCRETE I/O MODULE

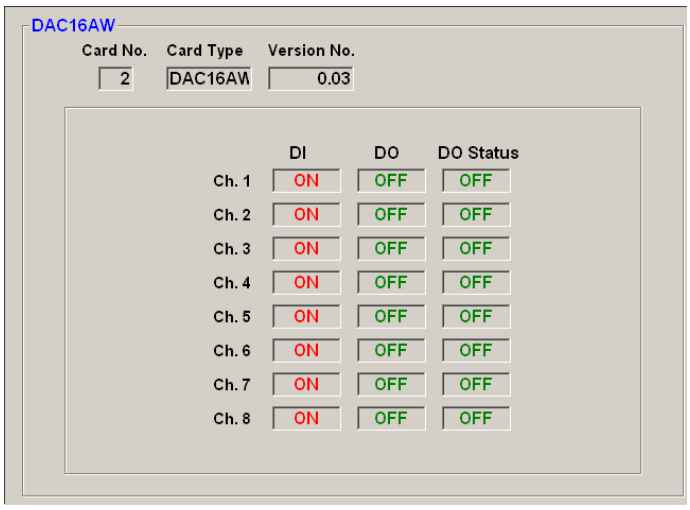
■ **R3-DA16W**



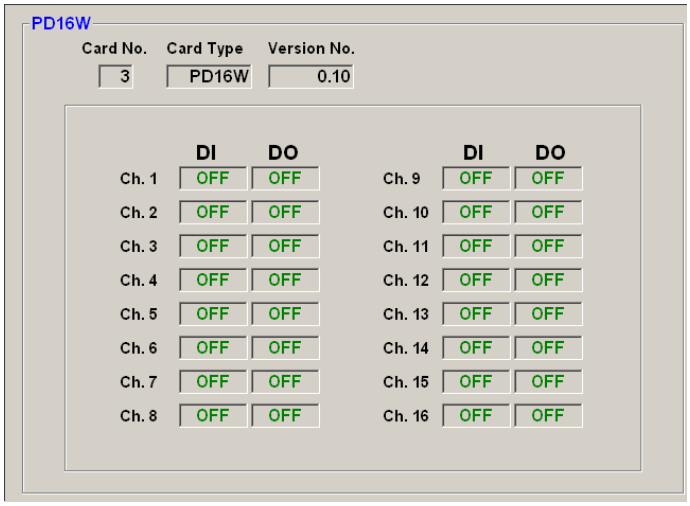
■ **R3-DA32W**



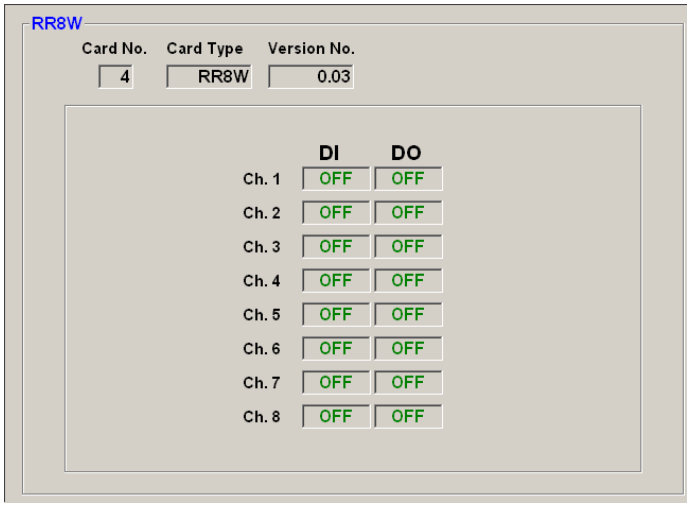
■ **R3-DAC16W**



■ **R3-PD16W**



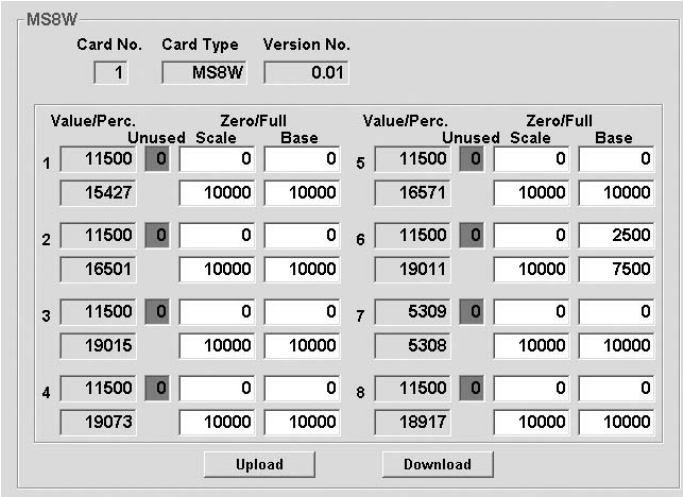
■ **R3-RR8W**



Item	Function
Card No.	Shows Slot No.
Card Type	Shows I/O module type.
Version No.	Shows I/O module's firmware version No.
Data	Shows current input or output data status.

3.3 R3x-MSx - POTENTIOMETER INPUT MODULE

■ R3-MS8W



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Zero Scale	0% scaling value Enter a desired value in the text box..	-32000 to 32000
Full Scale	100% scaling value. Enter a desired value in the text box..	-32000 to 32000
Zero Base	0% input. (% x 100) Enter a desired value in the text box..	0 to 10000
Full Base	100% input. (% x 100) Enter a desired value in the text box.	0 to 10000
Value	Shows the value scaled based on the Zero Scale and Full Scale. (Values sent to the host PLC)	
Perc.	Shows the current raw data value without affected by Zero/Full base scaling. (0 to 10000)	
Unused	Enter '1' to disable the unused channel.	0 or 1

■ SETTING POTENTIOMETER INPUT TYPE MODULES

(1) Enable the input channel.
 -- Confirm that Unused box is green indicating '0.'
 -- If it is red indicating '1,' enter '0' and click <Download>. Confirm it has turned green.
(2) Set 0% and 100% positions.
 -- 0% position : Set the wiper at 0% position .
 Read the value in 'Perc.' field and enter the read value in 'Zero base' field.
 -- 100% position: Set the wiper at 100% position .
 Read the value in 'Perc.' field and enter the read value in 'Full base' field.
(3) Enter Zero/Full scaling values in the respective fields.
(4) Perform steps (1) through (3) for each channel. Click <Download> to write the new setting.
(5) Confirm the setting.
 -- changes accordingly based on the set scaling values.

NOTE
Perc. shows the actual potentiometer input value in % (10000 = 100.00%).
This value is not affected by Zero/Full scale or Zero/Full base ranges.
Zero base and Full base are set to 0 and 10000, respectively at default.

3.4 R3x-DSx, R3x-SSx, R3x-SVx, R3x-YS4, R3x-YVx - ANALOG I/O MODULE

■ R3-YV4W

YV4W

Card No.	Card Type	Version No.
2	YV4W	0.04

	Value	Unused		Scale	Adjust
Ch. 1	-1500	0	Zero	0	0.00
			Full	10000	1.0000
Ch. 2	-1500	0	Zero	0	0.00
			Full	10000	1.0000
Ch. 3	-1500	0	Zero	0	0.00
			Full	10000	1.0000
Ch. 4	-1500	1	Zero	0	0.00
			Full	10000	1.0000

Upload Download

■ R3-YV8W

YV8W

Card No.	Card Type	Version No.
1	YV8W	0.05

	Value	Unused	Zero/Full Scale	Zero/Full Adjust		Value	Unused	Zero/Full Scale	Zero/Full Adjust
1	000	0	0	0.00	5	000	0	0	0.00
			10000	1.0000				10000	1.0000
2	000	0	0	0.00	6	000	0	0	0.00
			10000	1.0000				10000	1.0000
3	000	0	0	0.00	7	000	0	0	0.00
			10000	1.0000				10000	1.0000
4	000	0	0	0.00	8	000	0	0	0.00
			10000	1.0000				10000	1.0000

Upload Download

■ R3-SS16NS

Scaling Setting Screen

SS16NS

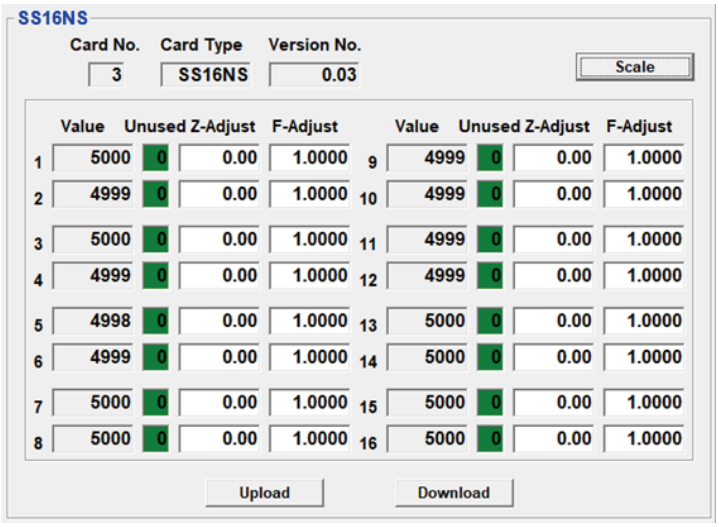
Card No.	Card Type	Version No.
3	SS16NS	0.03

Adjust

	Value	Unused	Z-Scale	F-Scale		Value	Unused	Z-Scale	F-Scale
1	5000	0	0	10000	9	4999	0	0	10000
2	4999	0	0	10000	10	4999	0	0	10000
3	5000	0	0	10000	11	4999	0	0	10000
4	4999	0	0	10000	12	4999	0	0	10000
5	4998	0	0	10000	13	5000	0	0	10000
6	5000	0	0	10000	14	5000	0	0	10000
7	5000	0	0	10000	15	5000	0	0	10000
8	5000	0	0	10000	16	5000	0	0	10000

Upload Download

Zero Adjustemtn / SpanAdjustment Setting Screen

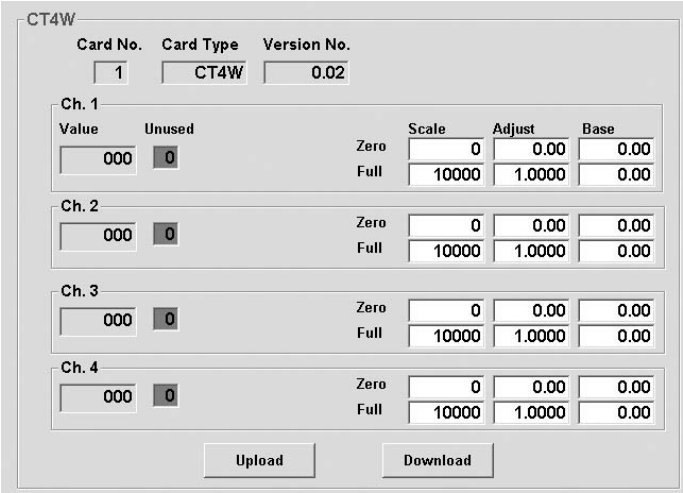


<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Adjust/Scale> button : Switches the scaling setting screen and zero adjustment / span adjustment setting screen.
Displayed only when using R3-SV16N and R3-SS16N.

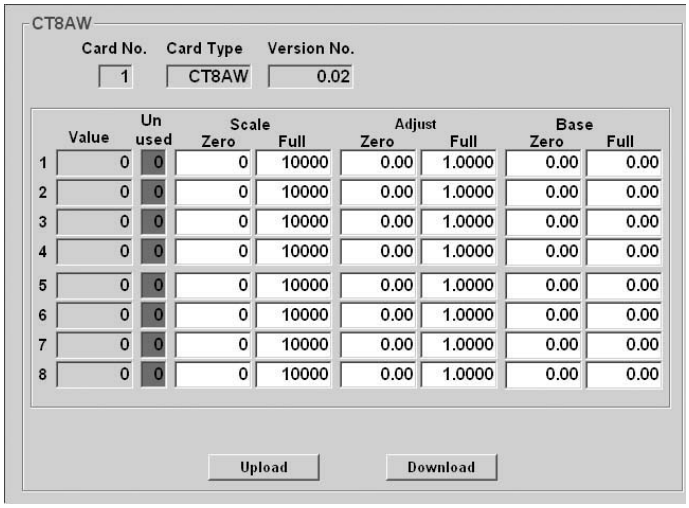
Item	Function	Selectable Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Zero Scale	0% scaling value Enter a desired value in the text box.	-32000 to 32000
Full Scale	100% scaling value Enter a desired value in the text box.	-32000 to 32000
Zero Adjust	Fine 0% adjustment value (bias) Enter a desired value in the text box.	-320.00 to 320.00
Full Adjust	Fine 100% adjustment value (gain) Enter a desired value in the text box.	-3.2000 to 3.2000
Value	Shows the value scaled based on the Zero Scale and Full Scale. (Values sent to the host PLC)	
Unused	Enter '1' to disable the unused channel.	0 or 1

3.5 R3-CTx, R3-PT4, R3-CZ4 - AC CURRENT / VOLTAGE INPUT MODULE

■ R3-CT4W



■ R3-CT8AW



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Zero Scale	0% scaling value Enter a desired value in the text box.	-32000 to 32000
Full Scale	100% scaling value Enter a desired value in the text box.	-32000 to 32000
Zero Adjust	Fine 0% adjustment value (bias) Enter a desired % value correspoding to the scaling value in the text box.	-320.00 to 320.00
Full Adjust	Fine 100% adjustment value (gain) Enter a desired value in the text box.	-3.2000 to 3.2000
Zero Base (invalid for CZ (ZCT))	0% input (current (CT) or voltage (VT)) Enter a desired value in the text box.	Setting range varies depending on the input type.
Full Base (invalid for CZ (ZCT))	100% input (current (CT) or voltage (VT)) Enter a desired value in the text box.	Setting range varies depending on the input type.
Value	Shows the current value based on the scaled range.	
Unused	Enter '1' to disable the unused channel.	0 or 1

■ SETTING CT / PT INPUT TYPE MODULES

(1) Enable the input channel.

-- Confirm that Unused box is green indicating '0.'

-- If it is red indicating '1,' enter '0' and click <Download>. Confirm it has turned green.

(2) Enter Zero/Full base values in the respective fields.

(3) Enter Zero/Full scaling values in the respective fields.

(4) Perform steps (1) through (3) for each channel. Click <Download> to write the new setting.

(5) Confirm the setting.

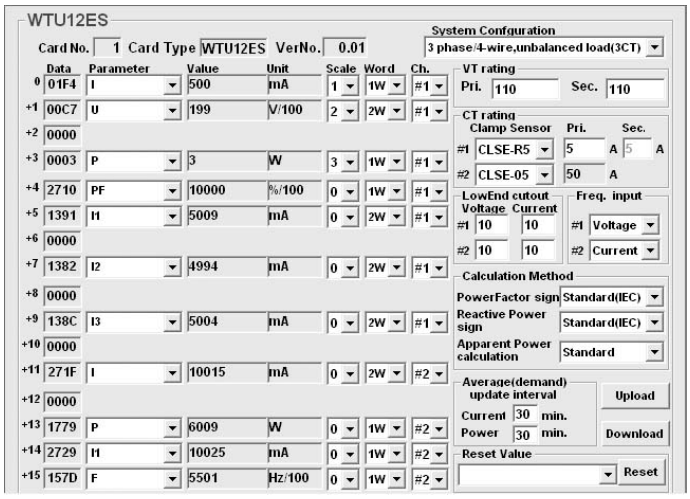
-- Change the input values and confirm that the value in the 'Value' field changes accordingly based on the set scaling values.

NOTE

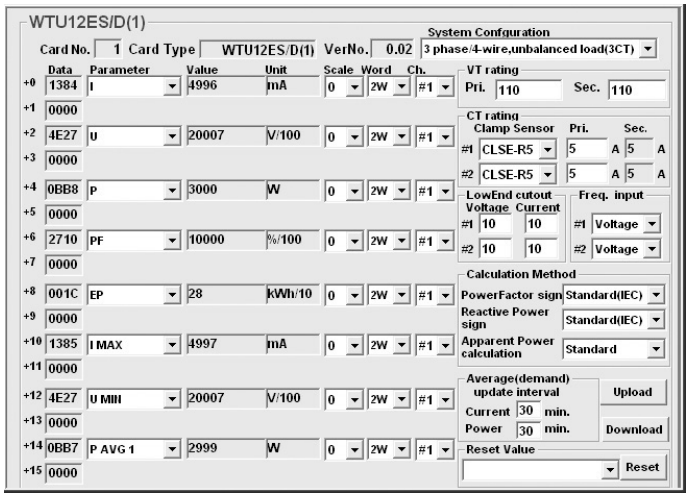
Input range is also selectable with DIP switches on the module for the CT or PT input type model.
Enter 0 in both 'Zero base' and 'Full base' fields to enable the DIP switch setting.
The DIP switch setting is disabled if values other than 0 are entered.

3.6 R3-WTU - MULTI POWER INPUT MODULE

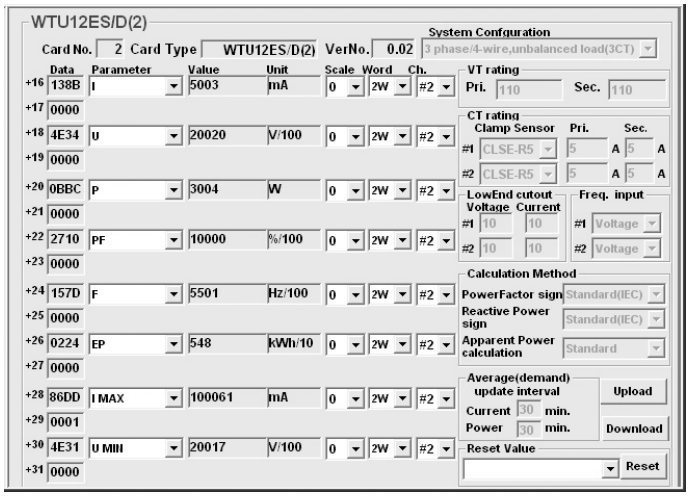
■ R3-WTU1xES



■ R3-WTU1xES/D(1), Data Allocation Area 0 to +15



■ R3-WTU1xES/D(2), Data Allocation Area +16 to +31



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Reset> button : Reset the value of the parameter selected from the pull-down menu of the [Reset Value].

Item		Function	Selectable Range (must be used within this range)
Card No.		Shows Slot No.	
Card Type		Shows I/O module type.	
Version No.		Shows firmware version No.	
System Configuration		Choose the system connection method	Single-phase/2-wire (1CT)
			Single-phase/3-wire (2CT)
			3-phase/3-wire, balanced load (1CT)
			3-phase/3-wire, unbalanced load (2CT)
			3-phase/4-wire, balanced load (1CT)
			3-phase/4-wire, unbalanced load (3CT)
VT Rating	Pri.	Enter VT primary voltage rating.	50 to 400 000
	Sec.	Enter VT secondary voltage rating.	50 to 500
CT Rating	Clamp sensor	Choose the clamp sensor type.	CLSE-R5 CLSE-05 CLSE-10 CLSE-20 CLSE-40 CLSE-60
	Pri.	Enter CT primary current rating (for CLSE-R5 only).	1 to 20 000
	Sec.	Enter CT secondary current rating (for CLSE-R5 only).	5
Low-end cutout	Voltage	Enter voltage. (Rating × 0.001 × set value)	0 to 999
	Current	Enter current. (Rating × 0.001 × set value)	0 to 999
Freq. input		Choose the signal for frequency measurement.	Voltage or Current
Calculation method	Power factor sign	Choose the power factor (PF1...PF3, PF) sign. - Standard (IEC) : Identical to the active energy (*) - Special type 1 (IEEE) : Positive in LAG, Negative in LEAD	Standard (IEC) Special Type 1
	Reactive power sign	Choose the reactive power (Q1...Q3, Q) sign. - Standard (IEC): Positive from [PF = 1.0] to 180° in LAG direction Negative for the other direction (*) - Special type 1 :Positive in LAG, Negative in LEAD	Standard (IEC) Special Type 1
	Apparent power Calculation	Choose the apparent power (S1...S3, S) calculation method. - Standard: $S = \sqrt{P2 + Q2}$ (*) - Sum : S = S1 + S2 + S3	Standard Sum
Average (demand) update interval	Current	Enter interval time to calculate average current (in minutes).	1 to 60
	Power	Enter interval time to calculate average (demand) power (in minutes).	1 to 60
Reset value		Choose the parameter to be reset.	#1 Sum #1 Max Min (current) #1 Max Min (except current) #1 Average (demand) #2 Sum #2 Max Min (current) #2 Max Min (except current) #2 Average (demand)
Parameter		Choose the parameters to be measured. Caution : If one parameter is set to 'Invalid,' all other parameters listed below this one are reset.	Refer to the R3-WTU instruction manual.
Value		Shows the current value of the selected parameter.	
Unit		Shows the engineering unit for the selected parameter.	
Scale		Choose the scaling factor of the selected parameter. 10^0, 10^1, 10^2 or 10^3	0, 1, 2, 3
Word		Choose 1 or 2 words assigned to the selected parameter. Caution : If one word length is changed, all other parameters listed below this one are reset.	1W or 2W
Ch.		Choose 1 system or 2 systems.	#1 or #2

3.7 R3-WT4x - AC POWER INPUT MODULE

■ Active power 16 bits / Active energy incoming 16 bits / Active energy outgoing 16 bits

WT4111W0

Card No.	Card Type	Version No.
2	WT4111W0	0.01

	W Whi	Who	Adjust Bias/Gain	WFS	WU	WhU	Drop-Out(%)			
1	1000		0.00	0	0	3	2.00			
	12AB	12A	1.0000					PRI VT(V)	U	SEC
2	1000		0.00	0	0	3		110	0	110
	12AB	12A	1.0000					CT1(A)		
3	1000		0.00	0	0	3		5	0	5
	12AB	12A	1.0000					CT2(A)		
4	1000		0.00	0	0	3		5	0	5
	12AB	12A	1.0000					CT3(A)		
								5	0	5
								CT4(A)		
								5	0	5

Upload Download Wh Clear

■ Active power 16 bits / Active energy incoming 32 bits

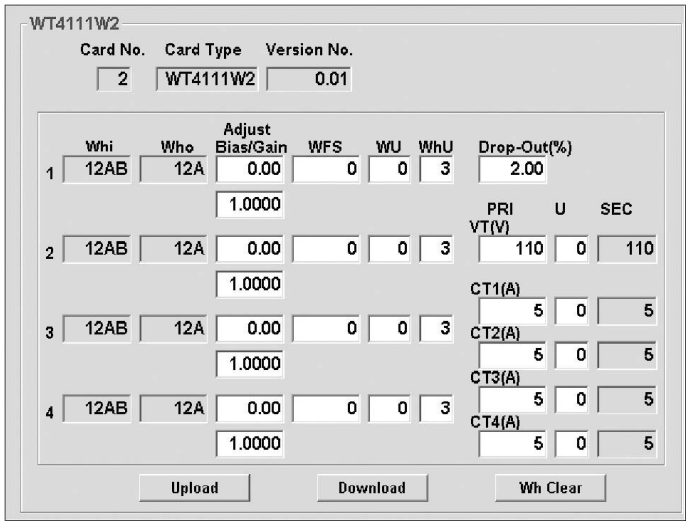
WT4111W1

Card No.	Card Type	Version No.
2	WT4111W1	0.01

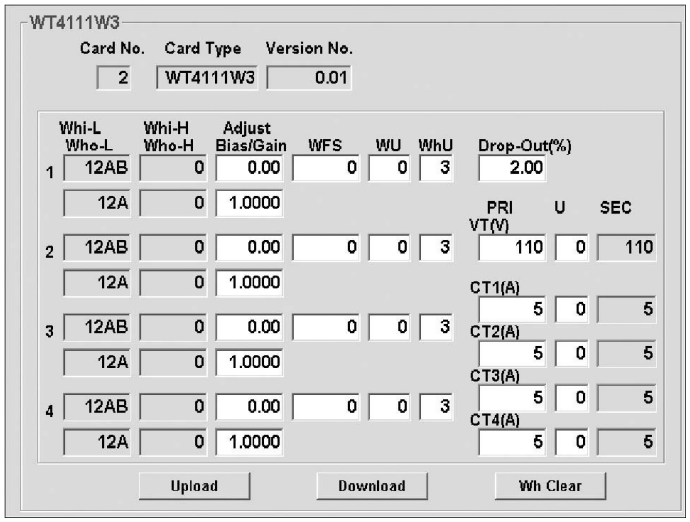
	W Whi-L	Whi-H	Adjust Bias/Gain	WFS	WU	WhU	Drop-Out(%)			
1	1000		0.00	0	0	3	2.00			
	12AB	0	1.0000					PRI VT(V)	U	SEC
2	1000		0.00	0	0	3		110	0	110
	12AB	0	1.0000					CT1(A)		
3	1000		0.00	0	0	3		5	0	5
	12AB	0	1.0000					CT2(A)		
4	1000		0.00	0	0	3		5	0	5
	12AB	0	1.0000					CT3(A)		
								5	0	5
								CT4(A)		
								5	0	5

Upload Download Wh Clear

■ **Active energy incoming 16 bits**



■ **Active energy incoming 32 bits**



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Wh Clear> : Clears the incoming/outgoing watthours of the module.

[Example 1]

Module type : R3-WT4111W
Active power : 16 bits
Active energy : incoming 16 bits / outgoing 16 bits
VT ratio : 6600/110 V
CT ratio : Ch. 1 = 5/5 A, Ch.2 = 5/5 A, Ch.3 = 50/5 A, Ch.4 = 100/5 A
Watthour unit: 1 kWh

Ch. 1 : Automatic setting. Enter '0' in WFS field. '1' is automatically set as WU.
Primary wattage is calculated accordingly by the equation: Transducer input range × VT ratio × CT ratio = 1000 W × 60 × 1 = 60 kW.

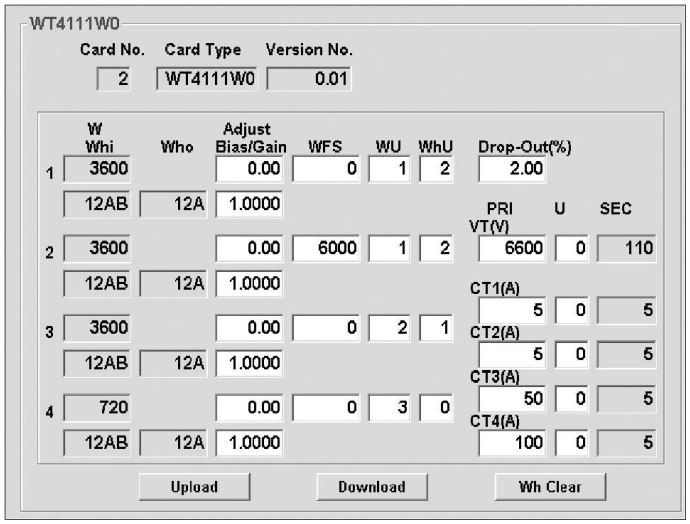
Ch. 2 : Manual setting. Enter '6000' in WFS and '1' in WU to set 60000 W as the primary range.

Ch. 3 & 4 : Automatically calculated.
Adjust the value WhU in order to get the Watthour unit as 1 kWh: $10^{[WU]+[WhU]} = 10^{1+2}$ = 1000 W = 1 kW. '2' for Ch.1 and 2, '1' for Ch.3 and '0' for Ch.4.

The active power (W) indicators below show: Ch.1 = 3600×10^{1} W
Ch.2 = 3600×10^{1} W
Ch.3 = 3600×10^{2} W
Ch.4 = 720×10^{3} W

The active energy incoming (Whi) indicator below show: 12AB(HEX) × 10^{3} Wh = 4779 kWh.

The active energy outgoing (Who) indicator below show: 12A(HEX) × 10^{3} Wh = 298 kWh.



[Example 2]

Module type : R3-WT4A15W
Active power : 16 bits
Active energy : incoming 16 bits / outgoing 16 bits
VT ratio : 220/220 V
CT turn : 1T
Watthour unit: 1 kWh

Automatic setting. Enter '0' in WFS field. '1' is automatically set as WU.

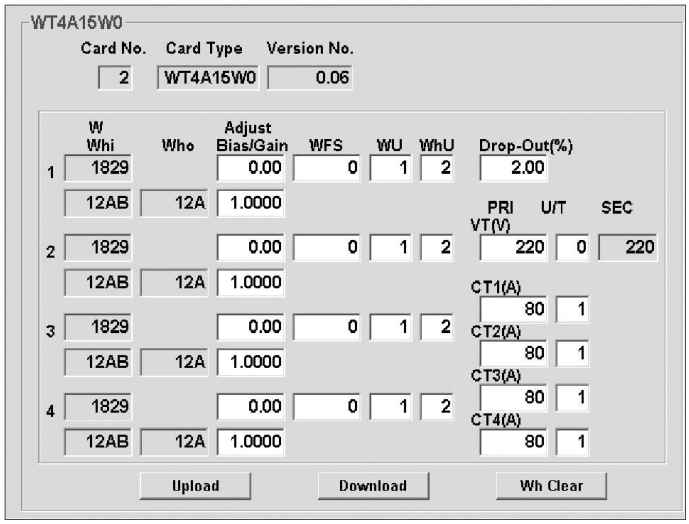
Primary wattage is calculated accordingly by the equation: Transducer input range × VT ratio × CT turn = 30480 W × 1 × 1 = 30.48 kW.

Adjust the value WhU to '2' in order to get the Watthour unit as 1 kWh: $10^{[WU]+[WhU]} = 10^{1+2} = 1000$ W = 1 kW.

The active power (W) indicators below show 18290 kW (1829×10^{1}).

The active energy incoming (Whi) indicator below show 12AB (HEX) × 10^{3} Wh = 4779 kWh.

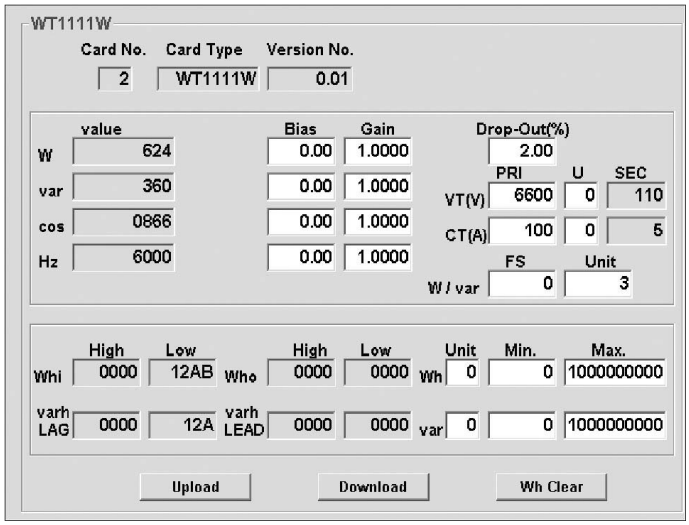
The active energy outgoing (Who) indicator below show 12A (HEX) × 10^{3} Wh = 298 kWh.



Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
W	Shows Active Power 16 bits, real number (HEX), indicator only. Active power = W × $10^{[WU]}$	
Whi	Shows Incoming Energy 16 bits, real number (HEX), indicator only. Incoming energy = WHi × $10^{[WU]+[WhU]}$	
Who	Shows Outgoing Energy 16 bits, real number (HEX), indicator only. Outgoing energy = WHo × $10^{[WU]+[WhU]}$	
Bias	Enter fine 0% adjustment value, active power.	-320.00 to 320.00
Gain	Enter fine adjustment value, active power.	-3.2000 to 3.2000
WFS	Active Power, span value (% × 100) Automatically calculated with VT and CT values if set to 0.	1 to 10000
WU	Active Power, exponent 10^{n} Automatically calculated with VT and CT values if set to 0.	-126 to 126
WhU	Incoming/Outgoing Energy unit, exponent 10^{n}	-3 to 4
VT (V) PRI	Primary voltage	1 to 10000
VT (V) U	Primary voltage, exponent 10^{n}	-126 to 126
VT (V) SEC	Secondary voltage, indicator only	
CTn (A) PRI	Primary current	1 to 100 *1
CTn (A) U/T	Primary current, exponent 10^{n} (WT4) Primary current, CT turns (WT4A, WT4B) (1 is usually set.)	-126 to 126 *2
CTn (A) SEC	Secondary current, indicator only	
Drop-Out (%)	Low-end cutout value in %	0.00 to 10.00
WHi-H	Shows Incoming Energy 32 bits, upper 16 bits (HEX), indicator only.	
WHi-L	Shows Incoming Energy 32 bits, lower 16 bits (HEX), indicator only.	
WHo-H	Shows Outgoing Energy 32 bits, upper 16 bits (HEX), indicator only.	
WHo-L	Shows Outgoing Energy 32 bits, lower 16 bits (HEX), indicator only.	

*1. 1 to 999 in case of R3-WT4A and R3-WT4B
*2. 1 to 99 in case of R3-WT4A and R3-WT4B

3.8 R3-WT1x - MULTI POWER INPUT MODULE



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Wh Clear> : Clears the incoming/outgoing watthours of the module.

[Example 1] (window above)

Module type :R3-WT1111W
VT ratio : 6600/110 V
CT ratio : 100/5 A
Watthour unit: 1 kWh
varhour unit : 1 kvarh

Set '6600' in VT (V) PRI field, '0' in U. Set '100' in CT (A) PRI field, '0' in U.

Enter '0' in W/var FS field. Unit is automatically set.

Primary wattage is calculated accordingly by the equation: Transducer input range × VT ratio × CT ratio = 1000 W × 60 × 20 = 1200000 W = 1200 kW.

Adjust the value Wh/var Unit to '0' in order to get the Watt/varhour units as 1 kWh and 1 kvarh respectively:

Active energy = $10^{[\text{W/var Unit}]+[\text{Wh Unit}]} = 10^{3+0}$ = 1000 Wh = 1 kWh.
Reactive energy = $10^{[\text{W/var Unit}]+[\text{varh Unit}]} = 10^{3+0}$ = 1000 varh = 1 kvarh.

The active power (W) indicator shows 624 kW (624×10^3).

The reactive power (var) indicator shows 360 kvar (360×10^3).

The power factor (cos) indicator shows 0.866.

The frequency (Hz) indicator shows 60.00 Hz.

The active energy incoming (Whi) indicator shows 12AB(HEX) × 10^3 Wh = 4779 kWh.

The active energy outgoing (Who) indicator shows 0 kWh.

The reactive energy LAG (varh LAG) indicator shows 12A(HEX) × 10^3 varh = 298 kvarh.

The reactive energy LEAD (varh LEAD) indicator shows 0 kvarh.

[Example 2] (window below)

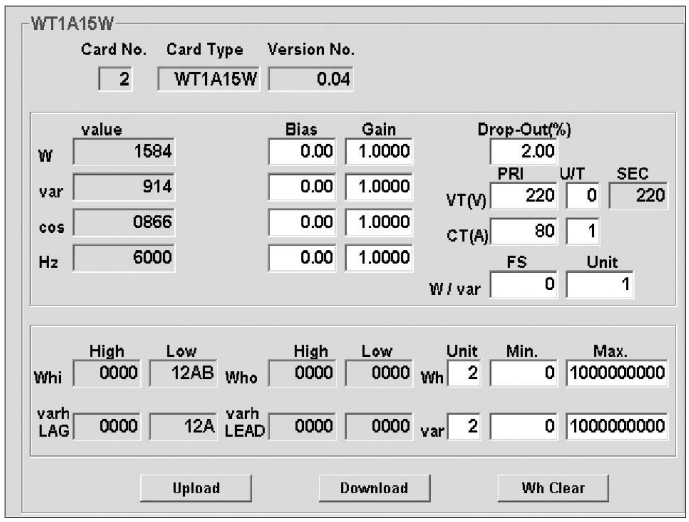
Module type : R3-WT1A15W
VT ratio : 220/220 V
CT turn : 1T
Watthour unit: 1 kWh
varhour unit : 1 kvarh

The active power (W) indicator shows 1584 kW (1584 × 10^3).

The reactive power (var) indicator shows 914 kvar (914 × 10^3).

The power factor (cos) indicator shows 0.866.

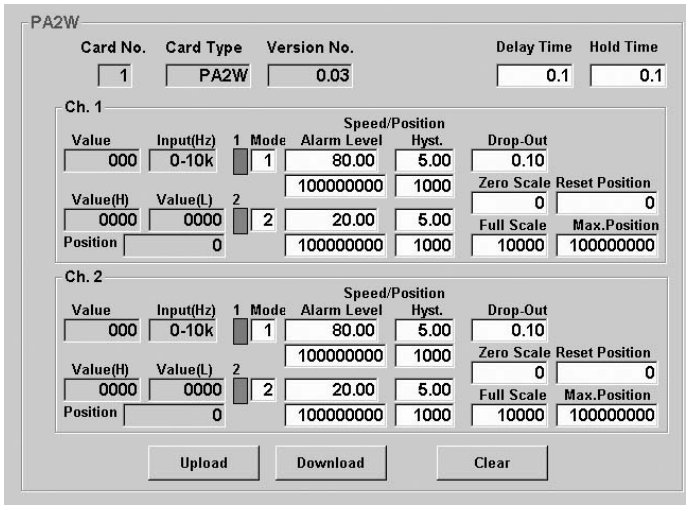
The frequency (Hz) indicator shows 60.00 Hz.



Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
W	Shows Active Power 16 bits, real number, indicator only. Active power = W × $10^{[W/var\ Unit]}$	
var	Shows Reactive Power 16 bits, real number, indicator only. Reactive power = var × $10^{[W/var\ Unit]}$ (not usable with single phase input)	
cos	Shows Power Factor 16 bits, real number (not usable with single phase input). Power factor = cos × 10^{-3}	
Hz	Shows Frequency 16 bits, real number. Frequency = Hz × 10^{-2}	
Bias	Enter fine 0% adjustment value.	-320.00 to 320.00
Gain	Enter fine 100% adjustment value.	-3.2000 to 3.2000
Drop-Out (%)	Low-end cutout value in %	0.00 to 10.00
VT (V) PRI	Primary voltage	1 to 10000
VT (V) U	Primary voltage, Exponent (10^{n})	0 to 126
VT (V) SEC	Secondary voltage, indicator only	
CT (A) PRI	Primary current	1 to 100 *1
CT (A) U/T	Primary current, exponent 10^{n} (WT1) Primary current, CT turns (WT1A, WT1B) (1 is usually set.)	0 to 126 *2
CT (A) SEC	Secondary current (WT1 only), indicator only	
W/var FS	Active/Reactive Power, span value Automatically calculated with VT and CT values if set to 0.	1 to 10000
W/var Unit	Active/Reactive Power, exponent 10^{n} Automatically calculated with VT and CT values if set to 0.	-126 to 126
Whi High	Shows Incoming Energy 32 bits, upper 16 bits (HEX), indicator only.	
Whi Low	Shows Incoming Energy 32 bits, lower 16 bits (HEX), indicator only.	
Who High	Shows Outgoing Energy 32 bits, upper 16 bits (HEX), indicator only.	
Who Low	Shows Outgoing Energy 32 bits, lower 16 bits (HEX), indicator only.	
Wh Unit	Active Energy unit, exponent 10^{n} Unit (Wh) = Active Energy 32 bits × $10^{[W/var\ Unit + Wh\ Unit]}$	-3 to 4
Wh Min.	Minimum count value 0 with bidirectional current; Wh Min. = [-1] × [Wh Max.]	0, 1
Wh Max.	Maximum count limit value	1 to 1 000 000 000
varh LAG High	Shows LAG Reactive Energy 32 bits, upper 16 bits (HEX), indicator only.	
varh LAG Low	Shows LAG Reactive Energy 32 bits, lower 16 bits (HEX), indicator only.	
varh LEAD High	Shows LEAD Reactive Energy 32 bits, upper 16 bits (HEX), indicator only.	
varh LEAD Low	Shows LEAD Reactive Energy 32 bits, lower 16 bits (HEX), indicator only.	
varh Unit	Reactive Energy unit, exponent 10^{n} Unit (varh) = Reactive Energy 32 bits × $10^{[W/var\ Unit + varh\ Unit]}$	-3 to 4
varh Min.	Minimum count value 0 with bidirectional current; Wh Min. = [-1] × [Wh Max.]	0, 1
varh Max.	Maximum count limit value	1 to 1 000 000 000

*1. 1 to 999 in case of R3-WT1A and R3-WT1B
*2. 1 to 99 in case of R3-WT1A and R3-WT1B

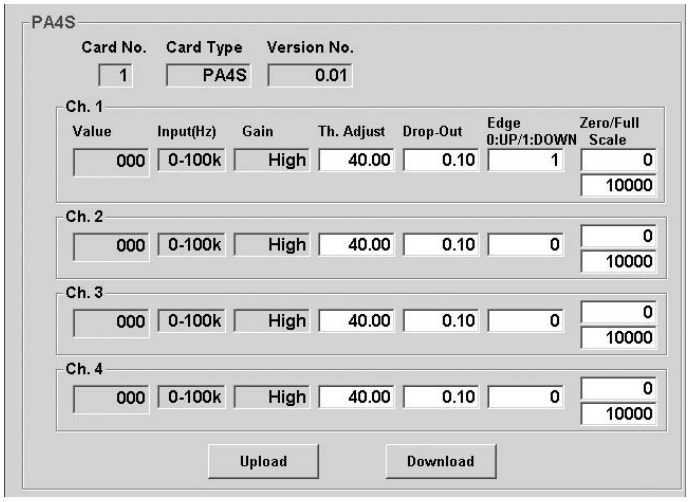
3.9 R3-PA2 - RS-422 ENCODER PULSE INPUT MODULE



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Clear> button : Clears the position values for both channels.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Zero Scale	0% scaling value Enter a desired value in the text box.	-32000 to 32000
Full Scale	100% scaling value Enter a desired value in the text box.	-32000 to 32000
Max. Position	The maximum position value Enter a desired value in the text box.	0 to 100 000 000
Reset Position	The initial position value used when reset Enter a desired value in the text box.	0 to 100 000 000
Drop-Out	Low-end cutout value in % Enter a desired value in the text box.	0.1 to 50.00
Mode	Choose the alarm operation mode. 1 : Speed/High 2 : Speed/Low 3 : Position/High 4 : Position/Low	1, 2, 3, 4
Alarm Level	Enter the alarm setpoints. Upper row : Speed (%) Lower row : Position	Speed: 0.00 to 100.00 Position: -100 000 000 to 100 000 000
Hyst.	Enter the hysteresis value. Upper row : Speed Lower row : Position	Speed: 0.00 to 100.00 Position: -100 000 000 to 100 000 000
Delay Time	Enter the alarm delay time in seconds. The alarm is tripped if the alarm condition continues for the delay time.	0.0 to 60.0
Hold Time	Enter the alarm hold time in seconds. Once tripped, the alarm is held for the hold time duration even when the alarm condition is canceled before such time elapses.	0.0 to 60.0

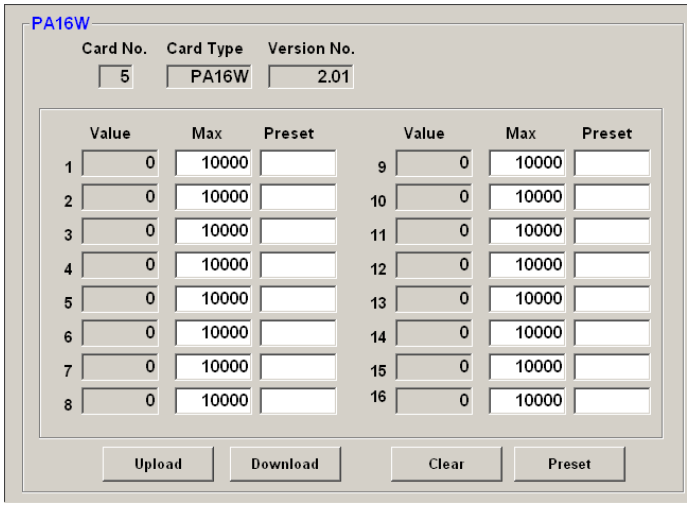
3.10 R3-PA4 - HIGH SPEED PULSE INPUT MODULE



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Zero Scale	0% scaling value Enter a desired value in the text box.	-32000 to 32000
Full Scale	100% scaling value Enter a desired value in the text box.	-32000 to 32000
Edge	Enter ‘0’ or ‘1’ selecting pulse edges to detect.	0 : Up or Rise 1 : Down or Sink
Drop-Out	Low-end cutout value in % Enter a desired value in the text box.	0.01 to 50.00
Th. Adjust	Input detecting level (threshold) in % Enter a desired value in the text box.	15.00 to 100.00
Gain	Shows the input amplification ratio. (High or Low)	
Value	Shows the current value based on the scaled range.	
Input (Hz)	Shows the current input frequency range.	

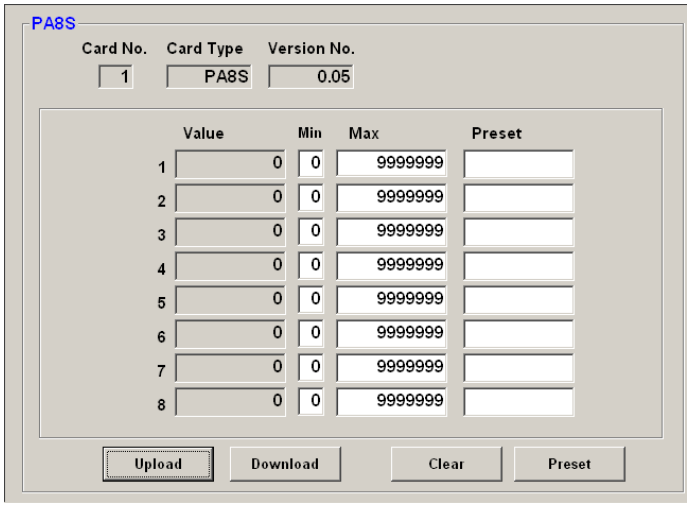
3.11 R3x-PA16, R3-PC16A - 16-POINT TOTALIZED PULSE INPUT MODULE



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Clear> button : Resets the total count values.
<Preset> button : Changes the total count values.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Value	Shows the present total count value (decimal).	
Max	Enter the maximum count limit.	1 to 65535
Preset (R3-PA16 V2.01 or higher)	Enter the total count value. Press Preset button to change the total count value.	0 to maximum count limit

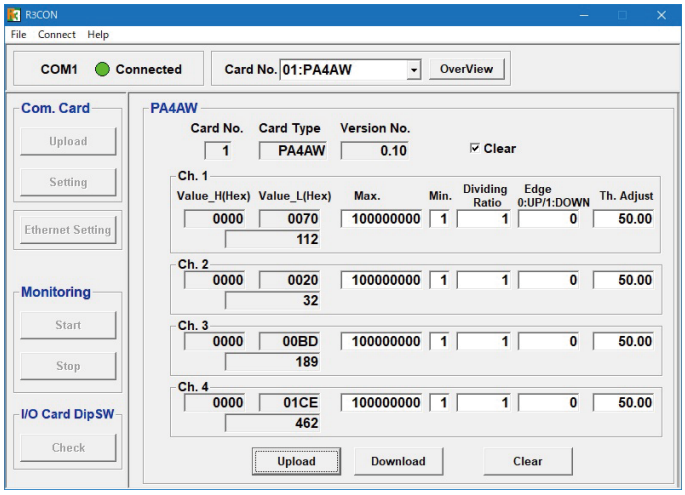
3.12 R3x-PA8 - 8-POINT TOTALIZED PULSE INPUT MODULE



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Clear> button : Resets the total count values.
<Preset> button : Changes the total count values.

Item	Function	Selectable Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Value	Shows the present total count value (decimal).	
Min	Counter reset value when an overflow occurs. Enter a desired value in the text box.	0, 1
Max	The maximum count limit value Enter a desired value in the text box.	10 000 to 2 147 483 647
Preset	Enter the total count value. Press Preset button to change the total count value.	0 to maximum count limit

3.13 R3-PA4A, R3-PA4B - 4-POINT TOTALIZED PULSE INPUT MODULE



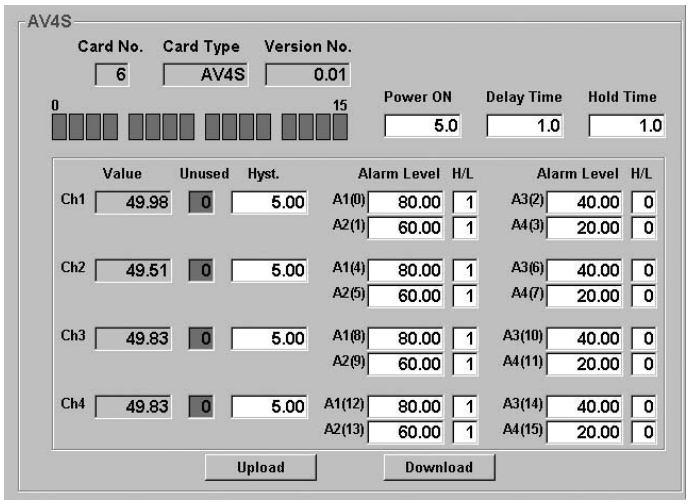
<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Clear> button : Resets the total count value.

Item	Function	Selectable Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Clear	Checked: resets the total count value at downloading. Unchecked: keep the total count value at downloading. (Available with version 0.10 or higher. Resets the total count value at downloading when the version is 0.09 or earlier.)*1	
Value (H)	Shows the total count value, upper 16 bits (hexadecimal).	
Value (L)	Shows the total count value, lower 16 bits (hexadecimal).	
Value	Shows the total count value, 32 bits (decimal).	
Max.	Enter the maximum count limit.	1 000 to 800 000 000
Min.	Enter the minimum count value.	0 or 1
Dividing Ratio	Enter a ratio in order to scale input frequency.	1 to 50000
Edge	Enter '0' or '1' selecting pulse edges to detect.	0 : Up or Rise 1 : Down or Sink
Th. Adjust.	Enter input detecting level (threshold) in %.	15.00 to 100.00

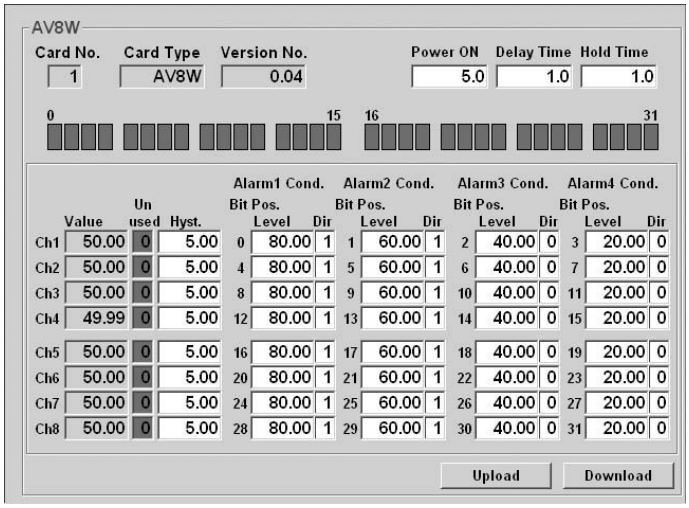
*1. The total count value may deviate if the data is downloaded without resetting. Resetting the total count value is recommended when changing the settings.

3.14 R3-ASx, R3-AVx, R3-AT4, R3-AR4, R3-AD4 - ANALOG ALARM MODULE

■ R3-AV4S



■ R3-AV8W

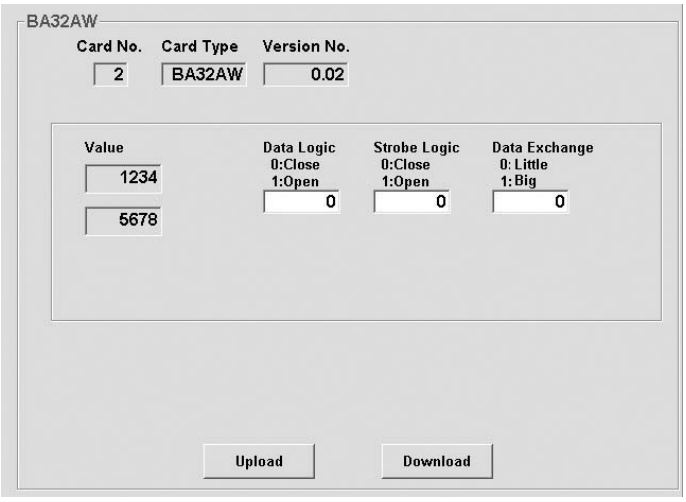


<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Unused	Enter '1' to disable the unused channel.	0 or 1
UHyst.	Enter the hysteresis value (%).	0.00 to 100.00*1
Alarm Level	Enter the alarm setpoint (%).	0.00 to 100.00*2
Value	Shows currently monitored value	
Power ON	Enter the power on delay time in seconds. Alarm is not triggered for the time duration after the power is supplied.	0.0 to 99.0
Delay Time	Enter the alarm on delay time in seconds. Alarm is not triggered for the time duration after the input goes into the alarm range.	0.0 to 99.0
Hold Time	Enter the alarm hold time in seconds. Alarm remains triggered for the minimum time duration even if the input goes out of the alarm range.	0.0 to 99.0
H / L	Choose High or Low alarm. 0 : Low alarm trip 1 : High alarm trip	0, 1

*1. 0.0 to 900.0°C or 0 to 1620ºF for R3-AT4; 0.0 to 1,000.0°C or 0 to 1800ºF for R3-AR4
*2. -270.0 to +2400.0°C or -454 to 4352ºF for R3-AT4; -200.0 to +850.0°C or -328 to +1562ºF for R3-AR4

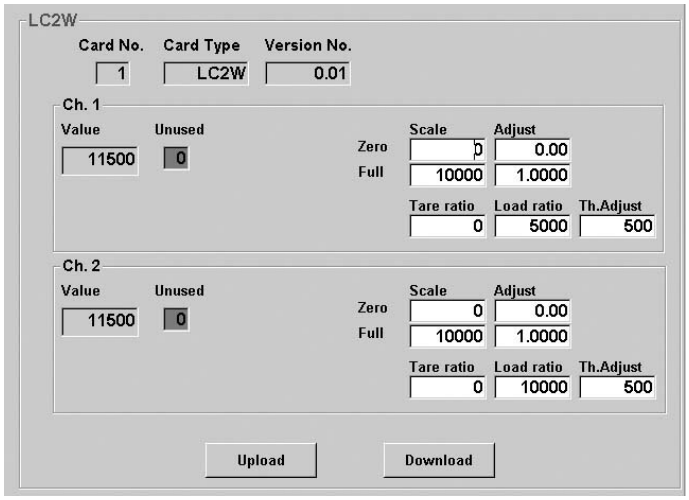
3.15 R3-BA32A, R3-BC32A - BCD I/O MODULE



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

Item	Function	Selectable Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Value	Shows currently monitored value.	
Data Logic	Choose I/O data logic (ON). 0 : Close 1 : Open	0, 1
Strobe Logic	Choose the strobe signal logic (ON). 0 : Close 1 : Open	0, 1
Data Exchange	Choose big-endian or little-endian data representation. 0 : Little-endian 1 : Big-endian	0, 1

3.16 R3-LC2 - STRAIN GAUGE INPUT MODULE

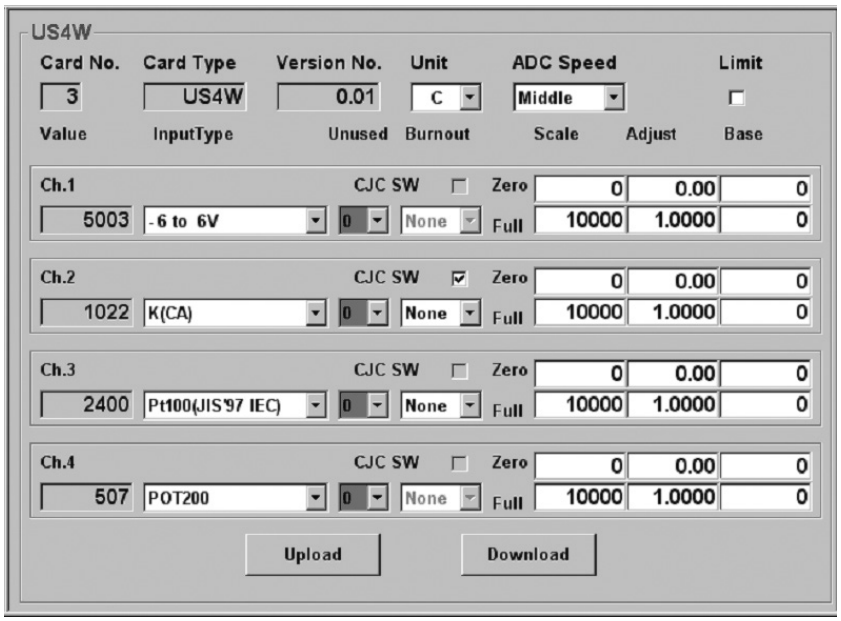


<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Zero Scale	0% scaling value Enter a desired value in the text box.	-32000 to 32000
Full Scale	100% scaling value Enter a desired value in the text box.	-32000 to 32000
Zero Adjust	Fine 0% adjustment value (bias) Enter a desired value in the text box.	-320.00 to 320.00
Full Adjust	Fine 100% adjustment value (gain) Enter a desired value in the text box.	-3.2000 to 3.2000
Tare Ratio	Enter the multiplication ratio used to adjust tare. (% × 100)	0 to 10000
Load Ratio	Enter the multiplication ratio used to adjust zero/span by applying a partial load. (% × 100)	1000 to 10000
Th. Adjust	Enter the threshold value for 0% input. (% × 100)	0 to 10000
Value	Shows the current value based on the scaled range. (Value sent to the host PLC)	
Unused	Enter '1' to disable the unused channel.	0 or 1

3.17 R3-US4 - UNIVERSAL INPUT MODULE

■ R3-US4, R3-US4/A



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

NOTE
Parameters which are not available for particular models or input types are grayed out.

Item	Function	Setting Range (must be used within this range)
Card No.	Shows Slot No.	
Card Type	Shows I/O module type.	
Version No.	Shows firmware version No.	
Unit	Shows the temperature unit in °C, °F or K.	C, F, K (C, F)*1
ADC Speed	Shows the A/D conversion speed.	Middle, Low (Low)*1
Value	Shows the current value of: temperature (T/C and RTD input); or % (DC and potentiometer input).	
Input Type	Shows the input type setting.	See the R3-US4 data sheet.
Unused	Enter '1' to disable the unused channel. No input processing (input = 0, no burnout or error detection) for the disabled channel.	0 or 1
Burnout	Shows the burnout type setting. (None, Upscale, Downscale)	None, Up, Down
Zero Scale	0% scaling value Enter a desired value in the text box.	-32000 to 32000
Full Scale	100% scaling value Enter a desired value in the text box.	-32000 to 32000
Zero Adjust	Fine 0% adjustment value (bias) Enter a desired % value correspoding to the scaling value in the text box.	-320.00 to 320.00
Full Adjust	Fine 100% adjustment value (gain) Enter a desired value in the text box.	-3.2000 to 3.2000
Zero Base	Enter 0% value. Enter a desired value in the text box.	-999 to 99999
Full Base	Enter 100% value. Enter a desired value in the text box.	-999 to 99999
Limit	Check the box to limit the input range within Zero Scale and Full Scale when scaling is set. When no scaling is set and/or when the check box is not selected, the input range is limited within -10 to +110%. (For the temperature input, it is limited within the scale value corresponded with its usable range.)	
CJC SW	Check the box to enable CJC (Cold Junction Compensation). No CJC for B thermocouple	Checked : ON Unchecked : OFF

*1. In parentheses is for R3-US4/A

NOTE

■ Scaling is disabled when both Zero Base and Full Base values are equal.

- DC & Potentiometer: Raw data is multiplied by 100 (e.g. 50% is converted into 5000).
- T/C & RTD:

  R3-US4: The input module will send raw data by: with °C temperature unit, multiplying raw data by 10 (e.g. 105 if 10.5°C); and with °F temperature unit, truncating raw data to an integer.
  R3-US4/A: The input module will send raw data by: with °C temperature unit, multiplying raw data by 100 (e.g. 1050 if 10.5°C); and with °F temperature unit, multiplying raw data by 10.

■ Scaling is enabled when Zero Base and Full Base values are different.

- DC & Potentiometer: Scaling is processed with the raw data multiplied by 100 (e.g. 5000 if 50%).
- T/C & RTD:

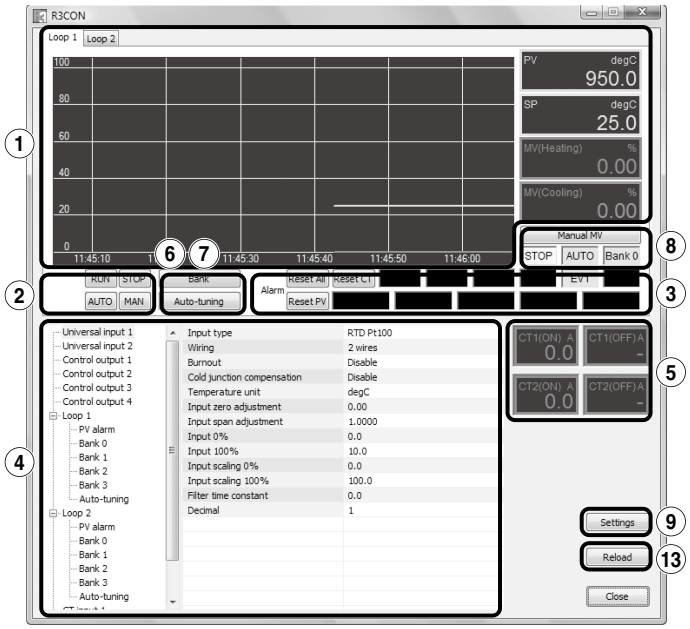
  R3-US4: Scaling is processed with engineering value (e.g. For 200°C, scaling is based on 200).
  R3-US4/A: For °C temperature unit, Scaling is processed with temperature multiplied by 100 (e.g. For 10.5°C, scaling is based on 1050). For °F temperature unit, Scaling is processed with the value multiplied by 10.

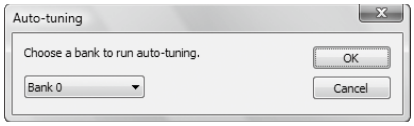
Example: DC voltage input, Input type: -6 to +6 V (For both R3-US4 and R3-US4/A)

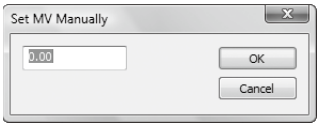
Zero Base : 0	Full Base : 10000
Zero Adjust : 0	Full Adjust: 1.0000
Zero Scale : -6000	Full Scale : 6000

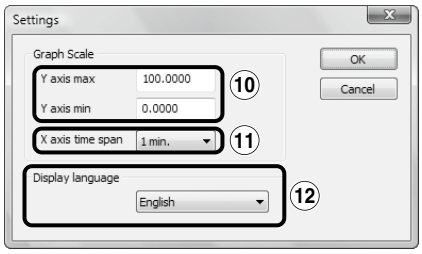
With the above setting, 0 to 10000 (-6 to 6 V) is scaled to -6000 to +6000.

3.18 R3-TC2 - TEMPERATURE CONTROL MODULE









(1) MONITOR WINDOW
Trend graph shows PV, SP and MV for loop 1 and 2.
Choose Loop 1 or Loop 2 tub at the top.
Trend data for both loops is continuously stored even though only one loop is chosen at a moment.

(2) SWITCHING OPERATION / MODE
Control operation and mode is set with the buttons.

(3) ALARM INDICATORS / RESET BUTTONS
Alarm status of the selected loop is indicated.
Various alarm status can be reset by clicking [Reset PV], [Reset CT] and [Reset All].

(4) SETTING ITEMS TREE & LIST
Setting parameters are grouped in the menu tree.
Choose a specific group to show a parameter list to choose from. Modified selections / values are written in the device immediately.
For setting details, refer to the R3-TC2 instruction manual.

(5) CT INPUT INDICATORS
CTx(ON) display shows current value when the relevant control output is ON; while CTx(OFF) shows current when it is OFF.
‘ - ’ shows that the control output has not been switched on or off during the last control cycle.

(6) BANK
[Switch Bank] dialog box appears when [Bank] button is clicked.
Choose a bank and click OK to apply the change.

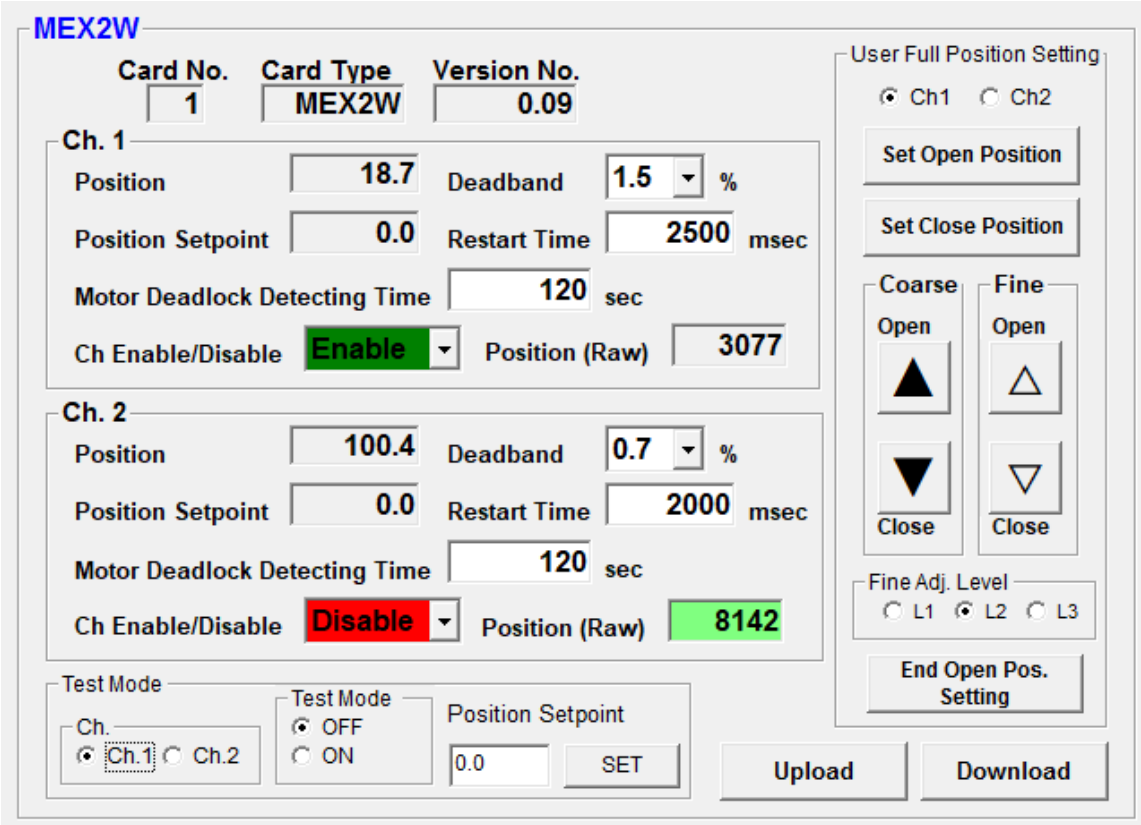
(7) AUTO-TUNING
[Auto-tuning] dialog box appears when [Auto-tuning] is clicked.
Choose a bank and click OK to start auto-tuning for the specified bank.

(8) MANUAL MV
[Set MV Manually] dialog box appears when [Manual MV] button is clicked.
Enter a MV value and click OK to apply the change (only in MAN mode).

(9) SETTINGS
Graph scales in the trend graph and display language can be changed.
[Settings] dialog box appears when the button is clicked.
(10) Y axis max / Y axis min
Specify a full-scale temperature range for Y axis.
Selectable from -9999.9999 to +9999.9999.
Minimum span is of 0.2.
(11) X axis time span
Specify a full-scale time span for X axis.
Selectable among:
10 sec. 30 sec. 1 min. 3 min. 5 min.
10 min. 15 min. 30 min. 1 hour 2 hours
(12) Display Language
English and Japanese can be switched.

(13) RELOAD
Used to upload the setting from the device.
Alternatively press F5 button on the keyboard to reload.

3.19 R3-MEX2 - VALVE POSITIONER MODULE



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.

■ Ch1, Ch2 Setting

ITEM	FUNCTION	SETTING RANGE (must be used within this range)
Card No.	Shows Slot No.	–
Card Type	Shows I/O module type	–
Version No.	Shows the firmware version No. of the module	–
Position	Position in scaling value	*1
Position Setpoint	Position setpoint instructed by the host device	*1
Motor Deadlock Detecting Time	Sets the timer value for Motor deadlock detection (sec.)	60 to 1000 (default: 120)
Ch Enable / Disable	Enables or disables the channel	Enable, Disable
Deadband	Sets the deadband in %	0.1 0.3 0.5 0.7 1.0 1.5 (default) 2.0 3.0 5.0 8.0
Restart Time	Sets the timer value for the restart limiting timer (msec.)	500 to 10000 (default: 2000)
Position (Raw)	The value is shown only while User Full Position Setting is performed. Shows the position in scaling value based on the factory default setting. During the position setting, the background color turns green when the value has fallen within the settable range.	

*1. The value is not updated during the position setting.

■User Full Position Setting

ITEM	FUNCTION
Ch1 Ch2	Select the channel for which the full positions are to be adjusted. The channel cannot be switched while User Full Position Setting is performed.
Set Open Position	Click to start adjusting the full-open position. The button is active when User Full Position Setting is not performed.
Set Close Position	Click to start adjusting the full-closed position. The button is active when User Full Position Setting is not performed.
End Setting (1) End Open Pos. Setting (2) End Close Pos. Setting (3)	Click to save and end the position setting. (1) Grayed-out when User Full Position Setting is not performed. (2) The button is active while the full-open position is being adjusted. Click to save the present position as the full-open position and end the adjustment. (3) The button is active while the full-closed position is being adjusted. Click to save the present position as the full-closed position and end the adjustment.
▲	Keep clicking to provide opening output.
▼	Keep clicking to provide closing output.
△	Keep clicking to provide fine adjustment output in the opening direction. *2
▽	Keep clicking to provide fine adjustment output in the closing direction. *2
L1 L2 L3	Select the level of the output volume (motor driving time) for fine adjustment output. L1: small, L2: medium, L3: large

*2. Motor Deadlock detection and the restart limiting timer are not available while User Full Position Setting is performed.
Output from the MEX2 turns OFF when the position reaches 0% in the factory default scaling value.
Output from the MEX2 turns OFF when the position reaches 100% in the factory default scaling value.

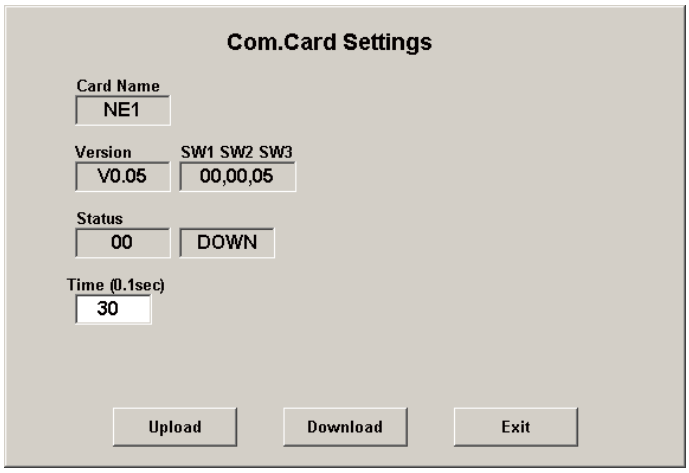
■Test Mode

ITEM	FUNCTION
Ch1 Ch2	Select the channel for driving the motor.
OFF ON	Check ON/OFF to Turn ON/OFF Test mode. When Test mode is ON, position instructions from the host device are ignored. Be sure to turn OFF when the test is complete.
Position Setpoint 0.0	Set the target position in scaling value based on the full positions set by the user.
SET	Click to drive the motor.

4. NETWORK MODULE SETTING

4.1 R3-Nx - COM CARD SETTINGS

■ Network module version V1.00 or earlier versions



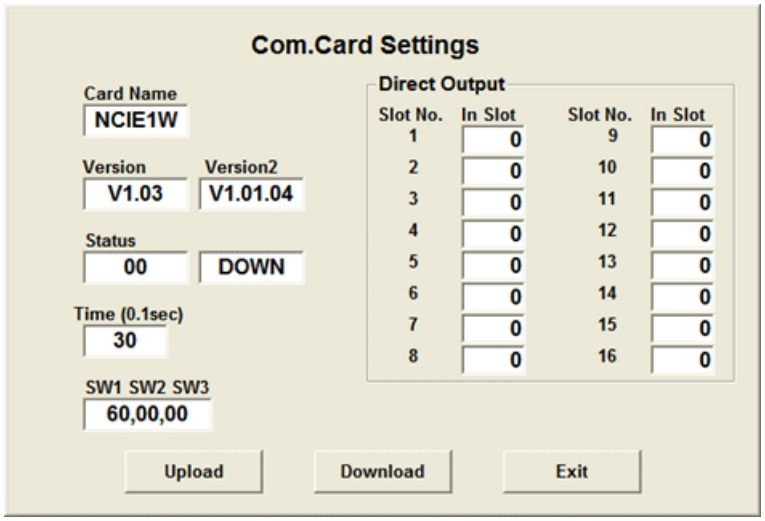
<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Exit> button : Closes the window.

Item	Function	Setting Range (must be used within this range)
Card Name	Shows the network module type (excluding power input type)	
Version	Shows the firmware version No. of the network module	
SW1 SW2 SW3	Shows a value in hexadecimal in which the position of DIP switch on the module is expressed as ON: 1, OFF: 0. In case of no DIP switch, “0” or “1” is displayed. E.g., “D6” is displayed when SW1 is in the position shown below. 8: ON (1), 7: ON (1), 6: OFF (0), 5: ON (1) — D (hexadecimal) 4: OFF (0), 3: ON (1), 2: ON (1), 1: OFF (0) — 6 (hexadecimal)	
Status	Shows the current status of the network module (‘00’ - ‘UP’ or ‘00’ - ‘DOWN’ in normal conditions)	
Time	Enter the elapsed ‘no communication’ time to detect. 0.1-second increments	2 to 32000 30 to 32000 for the R3-NL1, -NL2 (The power supply must be turned off and on.)

NOTE
We recommend to set the no communication time to (approx.) 30 (3 seconds).
If this setting is too close to the actual communication cycle, RUN contact output may be left open with the RUN LED turns off even when the communication is in normal status.

■ **Network module (except R3-NP1) version V1.01 or higher versions**

Data of input modules can be output directly to the respectively specified local output modules not via the host device. (Output module version must be V1.01 or higher.)

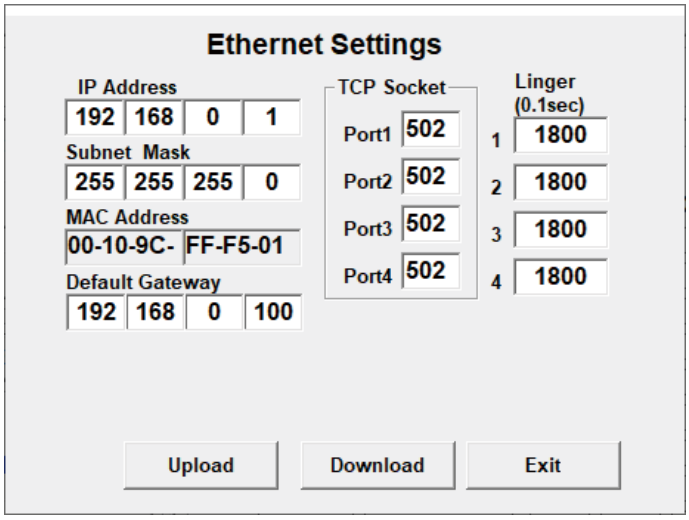


<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Exit> button : Closes the window.

Item	Function	Setting Range (must be used within this range)
Card Name	Shows the network module type (excluding power input type)	
Version	Shows the firmware version No. of the network module	
Version2	Shows the CPU version No. of the network side in case of R3-NCIE1.	
Status	Shows the current status of the network module '00' - 'UP' or '00' - 'DOWN' in normal conditions In case of R3-NMW1F, '7' - 'UP' or '7' - 'DOWN' in normal conditions	
Time	Enter the elapsed 'no communication' time to detect. 0.1-second increments (Not displayed with R3-NECT1)	2 to 32000
SW1 SW2 SW3	Shows a value in hexadecimal in which the position of DIP switch on the module is expressed as ON: 1, OFF: 0. In case of no DIP switch, "0" or "1" is displayed. E.g., "D6" is displayed when SW1 is in the position shown below. 8: ON (1), 7: ON (1), 6: OFF (0), 5: ON (1) — D (hexadecimal) 4: OFF (0), 3: ON (1), 2: ON (1), 1: OFF (0) — 6 (hexadecimal)	
In Slot	Enter the input module slot number to be directly output. *1 0 : via Host or PLC 1 thr. 16 : Input module slot number	0, 1 through 16
Fieldbus Activate Delay SW 0 sec.	Internal function setting (Displayed for V2.04 or later of R3-NE1, V2.05 or later of R3-NM1, V2.01 or later of R3-NM4 and TR3EX)	Use without check mark.

*1 The host PLC cannot output to the slots for which 'In Slot' are specified for 'Direct Output'.
In case of thermocouple input (model: R3-TSx) or RTD input (model: R3-RSx), the input is handled in real value.
Use the scaling function to match the temperature range to the output range.

4.2 R3-NE1, TR3EX - ETHERNET SETTINGS



<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Exit> button : Closes the window.

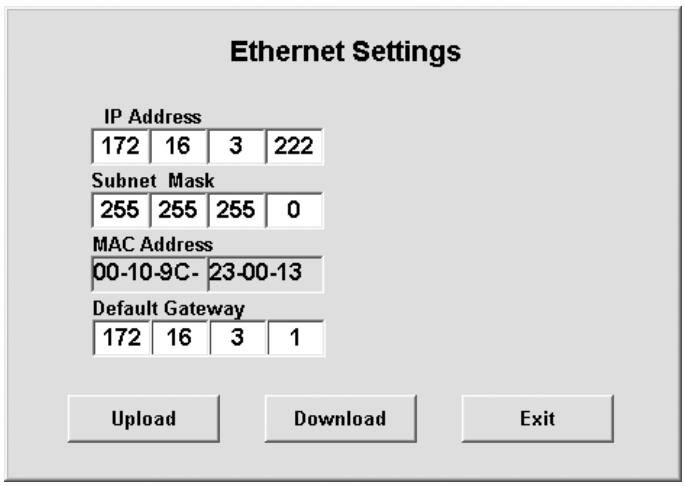
Item	Function	Selectable Range (must be used within this range)
IP Address	Enter IP Address	0 to 255 (integer)
Subnet Mask	Enter Subnet Mask	0 to 255 (integer)
MAC Address	Shows MAC Address	
Default Gateway	Enter Default Gateway Address Except 0.0.0.0 (R3-NE1 Ver. 4.01 or later)	0 to 255 (integer)
TCP Socket	Enter TCP Socket Port No. to each port (1 thr. 4)	502*1
Linger	Enter time to close TCP Socket. TCP Socket closed after no communication (Set 1800 for 180.0 sec.) for the preset time.	0 to 32767 (integer)

*1. TCP socket is slectable from 0 to 32000, but basically set 502 for Modbus/TCP.

NOTE

When Ethernet setting is complete, turn off and on the power supply to the R3 network module to validate the setting.

4.3 R3-NEIP1 - ETHERNET/IP SETTINGS



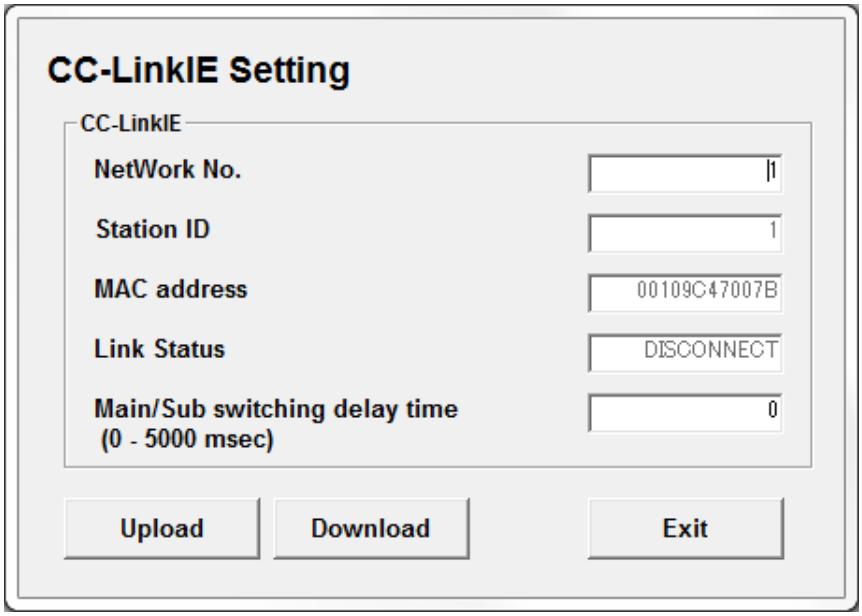
<Upload> button : Uploads the Ethernet communication setting written in the network interface module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Exit> button : Closes the window.

Item	Function	Selectable Range (must be used within this range)
IP Address	Enter IP Address	0 to 255 (integer)
Subnet Mask	Enter Subnet Mask Set the Subnet Mask to a value that allows IP Address and Default Gateway belong to the same class.	0 to 255 (integer)
MAC Address	Shows MAC Address	
Default Gateway	Enter Default Gateway Address Except 0.0.0.0	0 to 255 (integer)

NOTE
When Ethernet setting is complete, turn off and on the power supply to the R3 network module to validate the setting.

4.4 R3-NCIE1 - CC-LinkIE SETTINGS

When <NCIE1 Setting> button is clicked with the PC connected to R3-NCIE1 module, configuration window for R3-NCIE1 (CC-LinkIE Setting) appears.



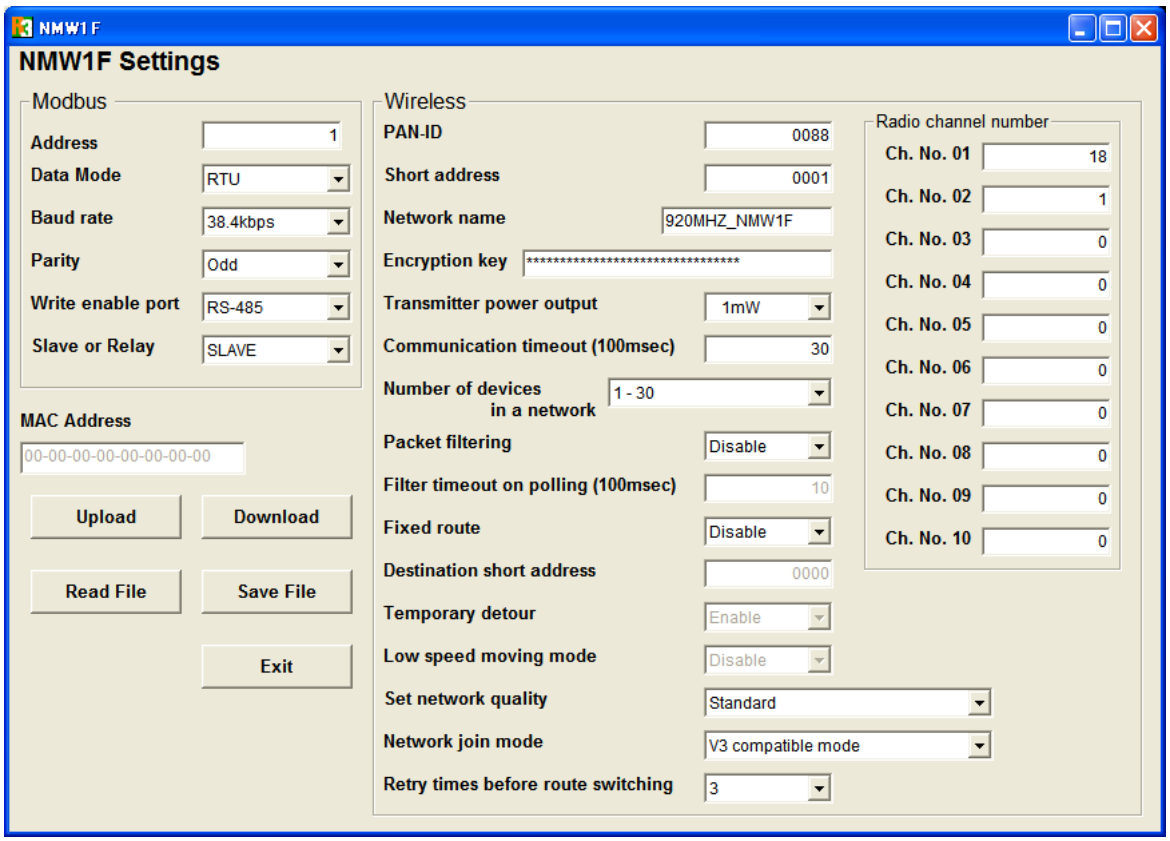
<Upload> button : Uploads the communication setting written in the network interface module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Exit> button : Closes the window.

Item	Setting range (Use within the range.)	Default
Network No.	1 to 239	1
Station ID	Display only	----
MAC Address	Display only	----
Link Status	Display only*1	----
Main/Sub switching delay time (0 - 5000 msec)	0 to 5000 msec.*2	0

*1. Status in uploading is displayed.
*2. Available for R3-NCIE1/W only.

4.5 R3-NMW1F - NMW1F SETTINGS

With the PC connected to R3-NMW1F module, click <NMW1F Setting> button on the main screen to open the (NMW1F Settings) window for Modbus and Wireless settings of R3-NMW1F.
"No communication" time for devices connected via RS-485 is set in "Time" on the (Com. Card Settings) window. See Section "4.1 R3-Nx - COM CARD SETTINGS".



<MAC Address> : Shows MAC Address. Not editable.
<Upload> button : Uploads the communication setting written in the network interface module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Read File> button : Reads the setting of R3-NMW1F from the file. *1
<Save File> button : Saves the setting configured on the screen as a file (extension: nmw1f). *1
<Exit> button : Closes the setting window.
*1. The setting on the (Com. Card Settings) window is not saved.

4.5.1 MODBUS SETTINGS

Item	Function	Selectable Range (must be used within this range)	Default
Address	Node address	1 to 247	1
Data Mode	Communication mode (RTU, ASCII) *1	RTU / ASCII	RTU
Baud rate	Transmission speed	38.4 kbps / 19.2 kbps / 9600 bps / 4800 bps	38.4 kbps
Parity	None parity, Odd parity, Even parity	None / Odd / Even	None
Write enable port	Com port that enables writing to the Coil/Holding Register *2 (RS-485 Com port, Wireless Com port)	RS-485 / Wireless	RS-485
Slave or Relay	SLAVE: operates with devices connected via RS-485 as slaves RELAY: relays data received wirelessly to the devices connected via RS-485	SLAVE / RELAY	SLAVE

*1. Fixed to "RTU" when "Slave or Relay" is set to "RELAY".
*2. Fixed to "Wireless" when "Slave or Relay" is set to "RELAY".

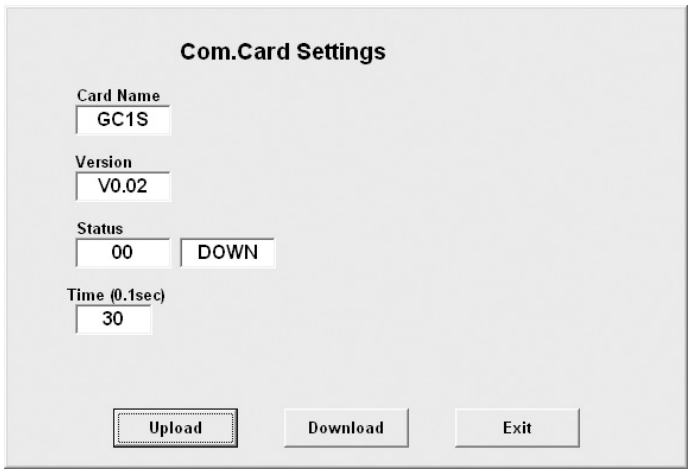
4.5.2 Wireless Settings

Item	Function	Selectable Range (must be used within this range)	Default
PAN-ID	PAN-ID	0000 to FFFE*1 (hexadecimal, 4 digits)	0000
Radio channel number Ch. No.1 to 10	Channel No. setting	0 (invalid), 1 to 43*2	0
Short address	Short address	0000 (invalid), 0001 to FFFD*3 (hexadecimal, 4 digits)	0000
Network name	Network name	English one-byte characters within 16 characters*4	Blank
Encryption key	Encryption key	0000...0 to FFFF...F*5 (hexadecimal, 32 digits)	0000...0
Transmitter power output	Transmitter power output	0.16 mW / 1 mW / 20 mW	20 mW
Communication timeout (100msec)	Wireless module frame timer value*6	0 to 32767 (100 msec.)	30
Number of devices in a network	Network configuration (No. of child devices with the identical ID)	1 – 30 / 31 – 60 / 61 – 100 (devices) / Fixed + Low speed movement*7	1 – 30
Packet filtering	Disabling/enabling Packet filtering*8	Disable / Enable	Enable
Filter timeout on polling (100 msec)	Timeout for packet filtering*9	10 to 600 (100 msec.)	10
Fixed route	Disabling/enabling fixed route	Disable / Enable	Disable
Destination short address	Destination short address	0000 to FFFD (hexadecimal, 4 digits)	0000
Temporary detour	Temporary detour	Disable / Enable	Enable
Low speed moving mode	Low speed moving mode setting	Disable / Enable*10	Disable
Set network quality	Network quality setting	Standard / Changing frequency · delaytime middle / Changing frequency · delaytime large*11	Standard
Network join mode	Network join mode setting	V3-compatible mode / Fast join mode*12	V3-compatible mode
Retry times before route switching	Number of times of retry of data transmission to child devices before route switching	1 to 3 (times)*13	3

*1. Set to “0000” to remain in the unconfigured state.
*2. At least one channel number must be valid.
*3. Wireless communication is disconnected when the short address is set to “0000”.
*4. One-byte space, “-”, “_”, “.”, and “@” are usable. Wireless communication is disconnected if the network name is blank.
5. An asterisk “” is usually displayed. Click inside the text box to display and edit the encryption key. The encryption key must consist of 32 digits.
*6. Communication timeout period for a query to be received by wirelessly connected devices. 920RUN LED turns OFF when the set timeout period has elapsed.
*7. Select “Fixed + Low speed movement” when there is one or more child devices set to Low speed moving mode.
*8. Disable or enable the packet filtering function. Timeout period can be set to the packet filtering timer within the range from 10 to 600 (x 100 msec.).
*9. Timeout until a response is sent after reception of a query. While a response is yet to be sent, queries newly received during the set timeout period are ignored. Responses yet to be sent, if any, are discarded when the timeout period has elapsed.
*10. Set child devices located on a moving equipment to “Enable” (relay function is disabled), and set other devices (that require the relay function) to “Disable.”
*11. Normally, select “Standard”. When “Changing frequency · delaytime large” is selected, the packet arrival rate within the network becomes high while the delay time becomes longer.
*12. Select “V3 compatible mode” when there is one or more child devices set to Low speed moving mode. All the devices in the network must be set identically.
*13. The number of times data is sent to child devices before route switching. Or, the number of times the current route is checked before the route is switched when a communication error has occurred. Normally, set to 3.

5. INTERFACE I/O MODULE SETTING

5.1 R3-Gx - COM CARD SETTINGS



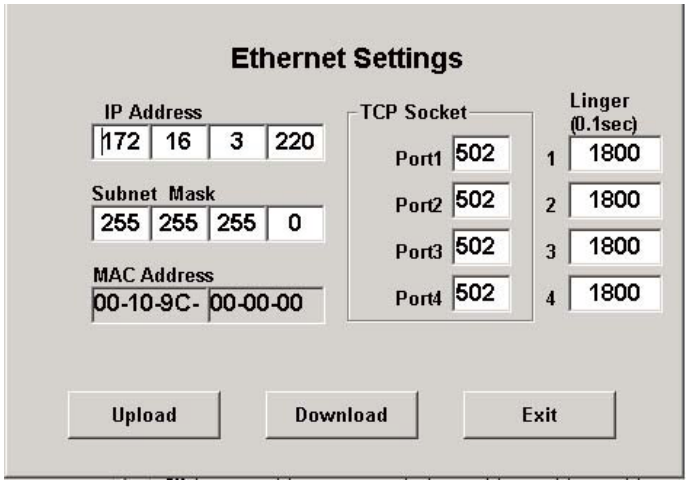
<Upload> button : Uploads the setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Exit> button : Closes the window.

Item	Function	Selectable Range (must be used within this range)
Card Name	Shows the interface module type	
Version	Shows the firmware version No. of the interface I/O module	
Status*1	Shows the current status of the interface I/O module ('00' - 'UP' or '00' - 'DOWN' in normal conditions)	
Time*1	Enter the elapsed 'no communication' time to detect. 0.1-second increments	2 to 32000

NOTE
We recommend to set the no communication time to (approx.) 30 (3 seconds).
If this setting is too close to the actual communication cycle, RUN contact output may be left open with the RUN LED turned off even when the communication is in normal status.
For R3-GC1, R3-GD1 and R3-GFL1, the set value is invalid.

*1. No view with the R3-GLSMP1.

5.2 R3-GE1 - ETHERNET SETTINGS

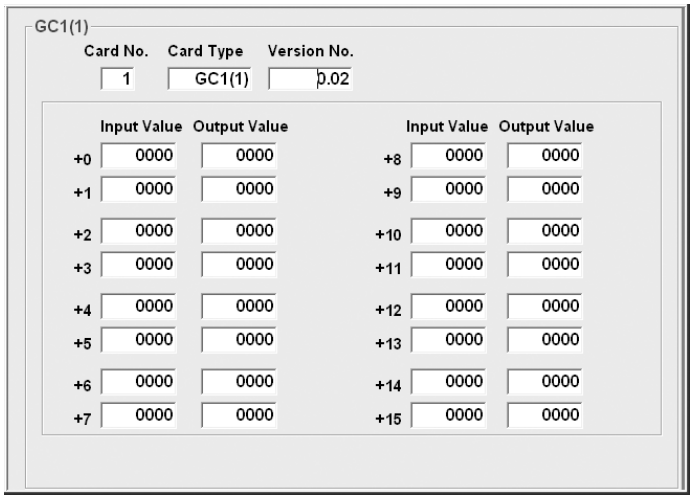


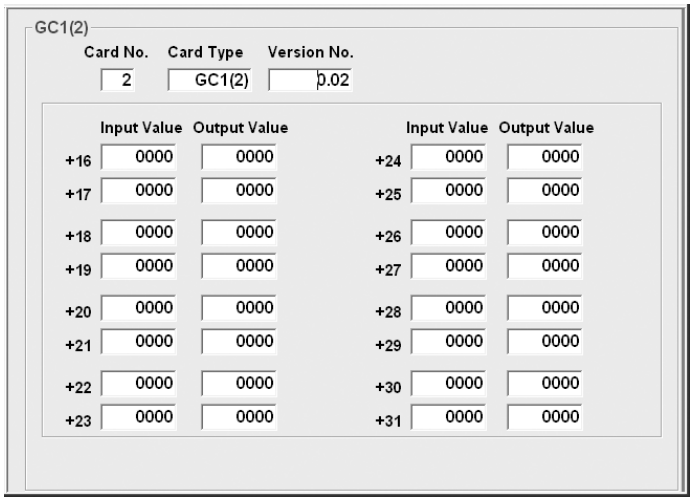
<Upload> button : Uploads the Ethernet communication setting written in the module to display on the screen.
<Download> button : Downloads the setting configured on the screen to the module.
<Exit> button : Closes the window.

Item	Function	Selectable Range (must be used within this range)
IP Address	Enter IP Address	0 to 255 (integer)
Subnet Mask	Enter Subnet Mask	0 to 255 (integer)
MAC Address	Shows MAC Address	
TCP Socket	Enter TCP Socket Port No. to each port (1 thr. 4)	0 or integer greater than 0
Linger	Enter time to close TCP Socket. TCP Socket closed after no communication (Set 1800 for 180.0 sec.) for the preset time.	0 to 32767 (integer)

NOTE
When Ethernet setting is complete, turn off and on the power supply to the R3 interface I/O module to validate the setting.

5.3 PARAMETER SETTING WINDOW

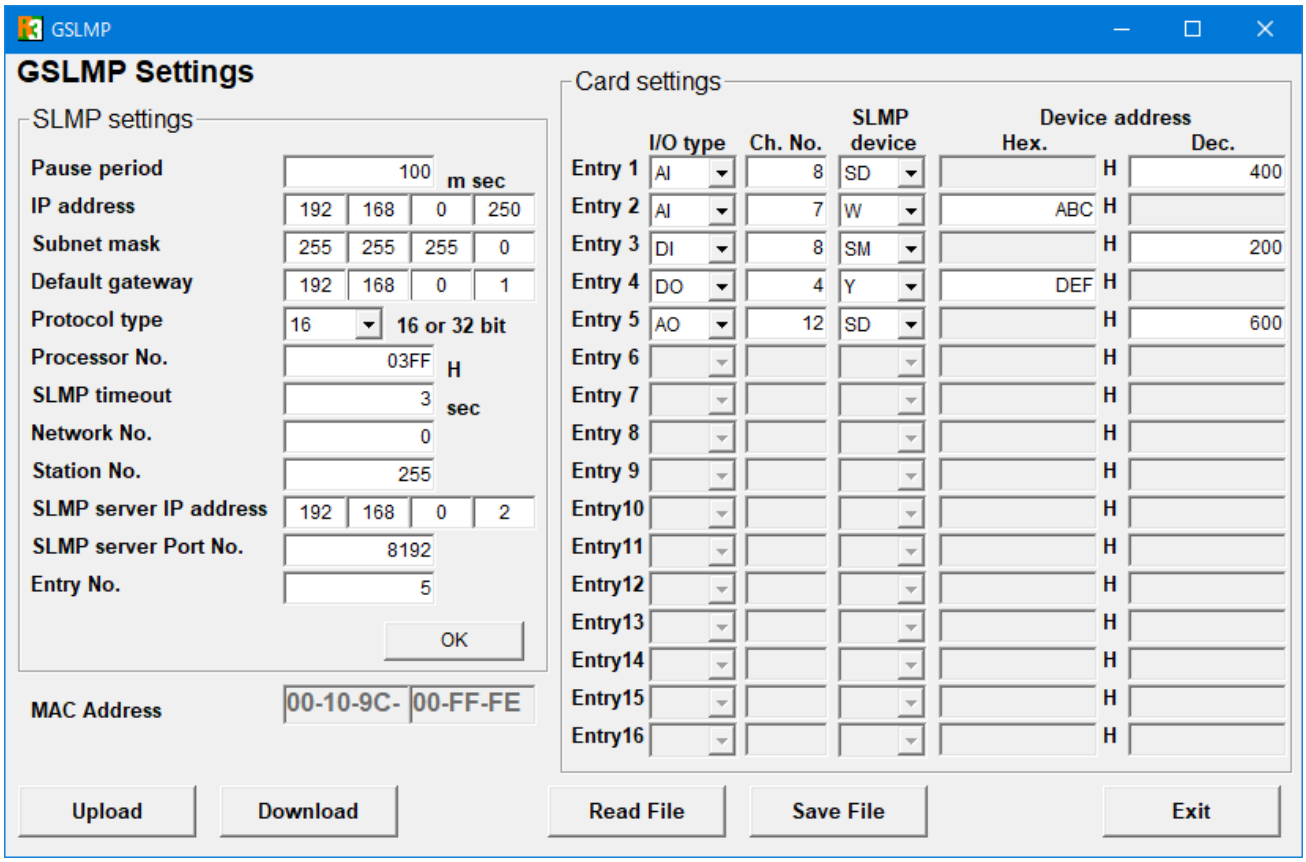




Item	Function
Card No.	Shows Slot No.
Card Type	Shows interface I/O module type. The views consist of GC1(1) through GC1(8), because the interface I/O module is allocated to maximum 8 slots.
Version No..	Shows firmware version No.
Input Value	Shows the current input value (HEX). The channel number is sequential number from beginning.
Output Value	Shows the current output value (HEX).

5.4 R3-GSLMP1 COMMUNICATION SETTINGS (GLMSP Settings)

With the PC connected to the R3-GSLMP1 module, click <GLSMP Setting> button on the main screen to open the (GLSMP Settings) window for SLMP and Card settings of R3-GSLMP1.
(Connect the PC Configurator Cable to the CONFIG port of the R3-GSLMP1.)



<MAC Address> : Shows MAC Address. Display only. Not editable.
<OK> button : Confirms the configuration of SLMP settings and reflects to card settings.
<Upload> button : Uploads the setting written in the R3-GSLMP1
<Download> button : Downloads the setting configured on the screen to the R3-GLSMP1
<Read File> button : Reads the setting on the screen from the file.
<Save File> button : Saves the setting configured on the screen as a file. (extension: gsl).
<Exit> button : Closes the setting window.

5.4.1 SLMP Settings

Item	Function	Range	Default
Pause period	Pause period (msec.)*1	0 – 10000	100
IP address	IP address of the R3-GSLMP1	0.0.0.0 – 255.255.255.255	192.168.0.1
Subnet mask	Subnet mask	0.0.0.0 – 255.255.255.255	255.255.255.0
Default gateway	Default gateway	0.0.0.0 – 255.255.255.255	192.168.0.100
Protocol type	Communication protocol of SLMP server*2	16 bit, 32 bit	32 bit
Processor No.	Processor No. (hexadecimal)	0000 – FFFF	03FF
SLMP timeout	Communication timeout (sec.)	1 – 10	3
Network No.	Network No.	0 – 239	0
Stations No.	Stations No.	1 – 120, 125, 126, 255	255
SLMP server IP address	SLMP server IP address	0.0.0.0 – 255.255.255.255	192.168.0.2
SLMP server Port No.	SLMP server Port No.	0 – 65535	8192
Entry No.	No. of communication entries *3	0 – 16	0

*1. Command transmitting intervals to SLMP server.
*2. Determined by the model of SLMP server (PLC).
*3. The number of entries (registrations) of commands sent to SLMP server.

5.4.2 Card Setting

Item	Function	Range
I/O type	I/O type	AI (Analog Input), AO (Analog Output), DI (Digital Input), DO (Digital Output)
Ch. No.	No. of channels *4	1 - 16
SLMP device	Device type *5	Read and write to device
Device address Hex.	Device address Hex. *6	Bigin address of read and write memory (hexadecimal)
Device address Dec.	Device address Dec. *6	Bigin address of read and write memory (decimal)

*4. Specify the number of the device to read/write. For example, set to “8”, reads 8 points from the specified “Device address” (begin address of the memory). The total number of channels set in Entry No. must be 128 or less.
*5. Available device type differs depend on the settings of protocol type and I/O type (Refer to Table 1)
*6. Hexadecimal or decimal is determined by the device type.

Note) When the total number of channels overs 128, following pop-up appears on the screen.
Re-set the number of channels.

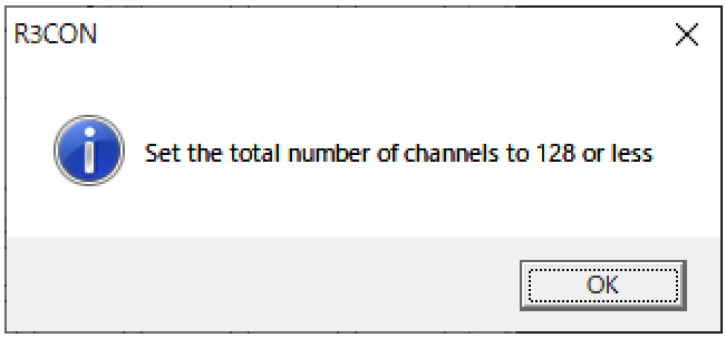
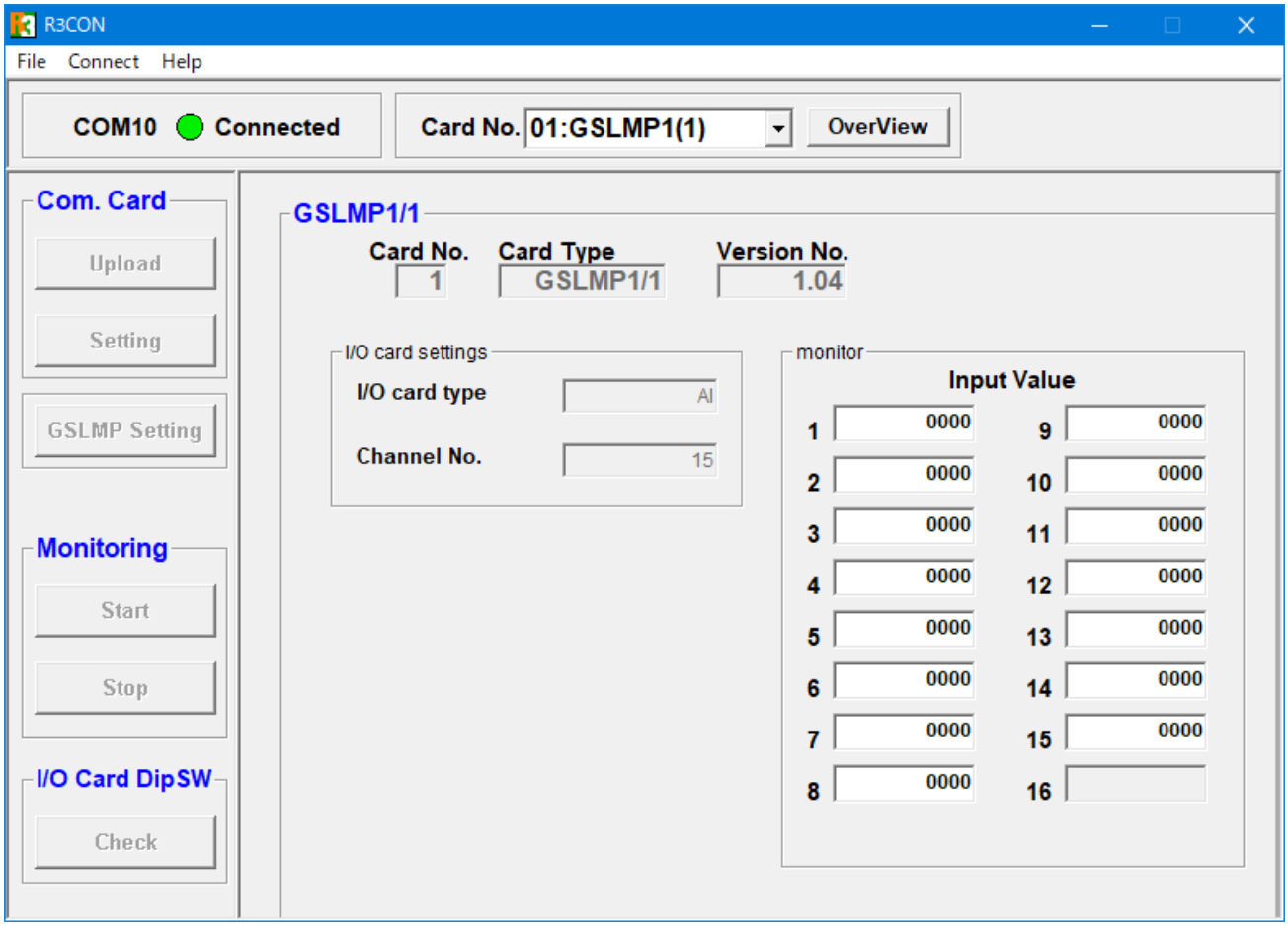


Table 1. Device type

AI / AO 32 bit	AI / AO 16 bit	DI / DO 32 bit	DI / DO 16 bit
SD: Special Register	SD: Special Register	SM: Special relay	SM: Special relay
D: Data Register	D: Data Register	X: Input	X: Input
W: Link Register	W: Link Register	Y: Output	Y: Output
TN: Timer, Current value	TN: Timer, Current value	M: Internal relay	M: Internal relay
STN: Retentive timer, Current value	STN: Retentive timer, Current value	L: Latch relay	L: Latch relay
CN: Counter, Current value	CN: Counter, Current value	F: Annunciator	F: Annunciator
SW, Link special Register	SW, Link special Register	V: Edge relay	V: Edge relay
Z: Index Register	Z: Index Register	B: Link relay	B: Link relay
R: File Register	R: File Register	-	S: STEP RELAY
ZR: File Register	ZR: File Register	TS: Timer, Contact	TS: Timer, Contact
RD: Module refresh Register	-	TC: Timer, Coil	TC: Timer, Coil
		LTS: Long timer, Contact	-
		LTC: Long timer, Coil	-
		STS: Retentive timer, Contact	STS: Retentive timer, Contact
		STC: Retentive timer, Coil	STC: Retentive timer, Coil
		LSTS: Long retentive timer, Contact	-
		LSTC: Long retentive timer, Coil	-
		CS: Counter, Contact	CS: Counter, Contact
		CC: Counter, Coil	CC: Counter, Coil
		LCS: Long counter, Contact	LCS: Long counter, Contact
		LCC: Long counter, Coil	LCC: Long counter, Coil
		SB: Link special relay	SB: Link special relay

5.5 R3-GSLMP1 SETTING WINDOW

Setting window of the R3-GSLMP1 virtual I/O card.
No setting items. Display only.



Item	Function
Card No.	Card No. of virtual I/O module
Card Type	Shows the card type of virtual I/O module
Version No.	Shows the firmware version No.
I/O card type	Data type of virtual I/O module AI (Analog Input), AO (Analog Output), DI (Digital Input), DO (Digital Output)
Channel No.	The number of channels of virtual I/O module
Input Value / Output Value	Input value or output value (hexadecimal)

6. SAVING & READING PARAMETERS

Click [File] on the menu bar.

6.1 SAVING PARAMETERS

Parameters of respective I/O modules can be saved in a file.
Follow the procedure below.

(1) Execute <Upload> on the parameter setting window of each I/O module.
(2) Change the setting values, if necessary, then execute <Download>.
(3) Click 'Overview' button to display 'Overview' window.
(4) Click [File] on the menu bar and select [Save].
(5) Specify a location and a file name to save. Extension: uJx

6.2 READING PARAMETERS AND WRITING IN MODULES

Parameters of I/O modules saved in a file can be read and displayed on the screen.
Note that the read parameters are not downloaded automatically to the respective modules.
Click <Download> on the parameter setting window of each module to write the parameters in the module.

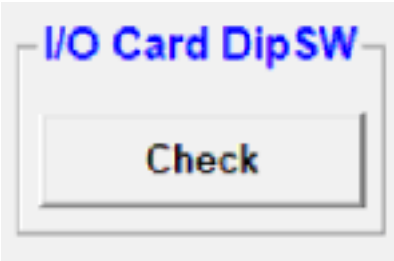
(1) Click [Connect] on the menu bar and select [Connect] to connect the module.
(2) Click <Upload> button on the main screen to read settings of all I/O modules to display on 'Overview' window.
(3) Click [File] on the menu bar and select [Open].
(4) Locate the file and open it.
(5) Select a module from the 'Card Type" pull down menu to display the parameter setting window of the module.
(6) Change the setting values, if necessary, then execute <Download>.

7. CONFIRMING DIP SWITCH SETTINGS OF I/O MODULES

DIP Switch settings of I/O modules and Interface I/O modules can be confirmed on the 'I/O Card DipSW Check' window by the following procedure.

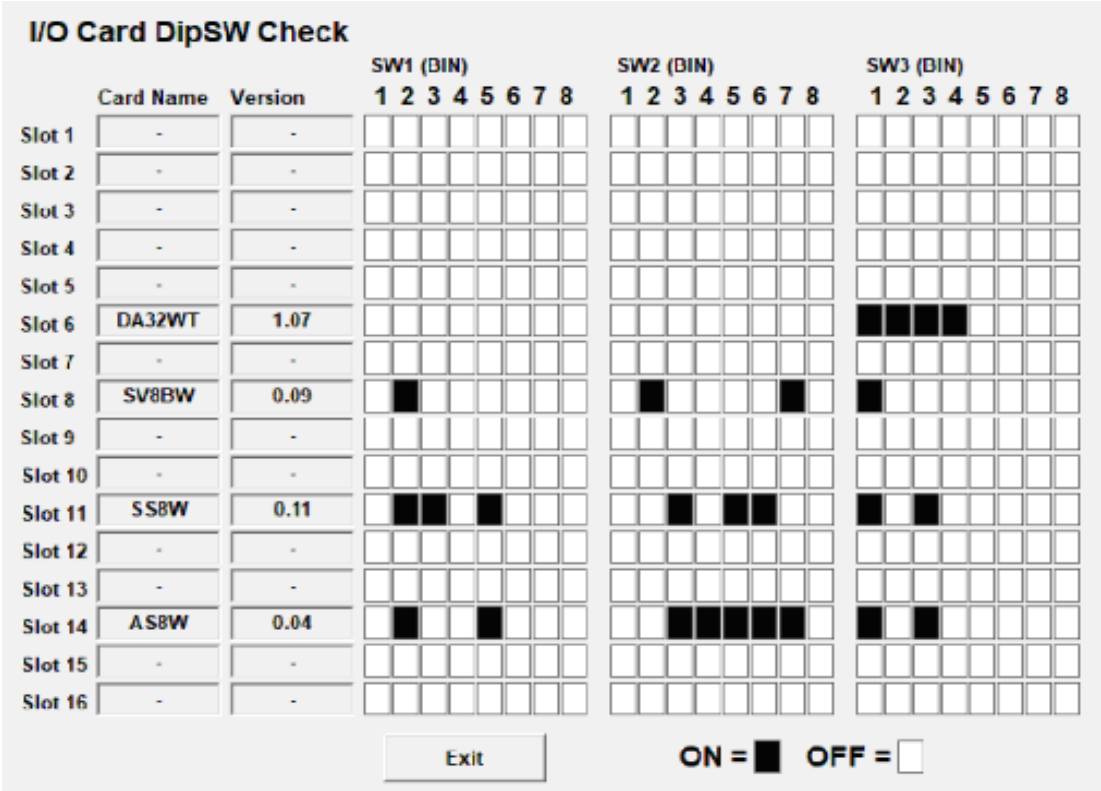
(1) Click <Upload> button on the main screen to read all the I/O modules' information to display on the 'Overview' window.

(2) Click <Check> button on 'I/O Card DipSW' control panel to switch the 'Overview' window with the 'I/O Card DipSW Check' window.



NOTE
This function is available from R3CON version 2.50.

'I/O Card DipSW Check' screen shows DIP Switch settings of the respective modules.



NOTE
Indicated as 'ON' or 'OFF' if no DIP switch is provided on the module or the DIP switches are not configured.

(3) Click <Exit> button to return to the 'Overview' screen. Confirm that <Check> button is disabled.

NOTE
To confirm the DIP switch settings again, repeat the procedure from the start.

■ APPLICABLE MODELS

I/O module	SW1	SW2	SW3
R3–AD4	–	–	✓
R3–AR4	✓	✓	✓
R3–ASx	✓	✓	✓
R3–AT4	✓	✓	✓
R3–AVx	✓	✓	✓
R3–BA32A	–	–	✓
R3–BC32A	–	–	✓
R3–CTx	✓	✓	✓
R3–CZ4	✓	✓	✓
R3–DAx	–	–	✓
R3–DAC16x	✓	✓	✓
R3–DC8	–	–	✓
R3–DC8D	–	–	–
R3–DC16x	–	–	✓
R3–DC32x	–	–	✓
R3–DC64x	–	–	✓
R3–DSx	–	–	✓
R3–LC2	✓	–	✓
R3–MSx	–	–	✓
R3–PA2	✓	✓	✓
R3–PA4x	✓	✓	✓
R3–PA8	–	–	✓
R3–PA16	–	–	✓
R3–PC16x	✓	–	✓
R3–PD16x	✓	✓	✓
R3–RR8	–	–	✓
R3–RSx	✓	✓	✓
R3–RTx	✓	✓	✓
R3–SSx	✓	✓	✓
R3–SS8N	–	–	✓
R3–SV16N	✓	✓	✓
R3–SVx	✓	✓	✓
R3–TSx	✓	✓	✓
R3–US4	–	–	–
R3–WT1x	✓	✓	✓
R3–WT4x	✓	✓	✓
R3–WTU	–	–	–
R3–YS4	–	–	✓
R3–YVx	✓	✓	✓

Interface I/O module	SW1	SW2	SW3
R3–GC1	–	–	✓
R3–GD1	✓	–	–
R3–GFL1	✓	–	–
R3–GM1	✓	✓	✓

■ NON-APPLICABLE MODELS

I/O module	SW1	SW2	SW3
R3–TC2	–	–	–

NOTE

This function is available also for R3S series and R3Y series from R3CON version 2.50.