

**R3 Series Remote I/O**  
**R3X PC CONFIGURATOR**  
**Model: R3CON**

**Users Manual**

# CONTENTS

|   |           |
|---|-----------|
| <b>1. GENERAL .....</b>   | <b>4</b>  |
| 1.1 FEATURES OF R3CON .....   | 4         |
| 1.2 HARDWARE REQUIREMENTS .....   | 4         |
| 1.3 INSTALLING & DELETING THE PROGRAM .....                                     | 4         |
| <b>2. BASIC OPERATIONS .....</b>  | <b>5</b>  |
| 2.1 STARTING / ENDING THE R3CON .....   | 5         |
| 2.2 SCREEN COMPONENTS AND FUNCTIONS .....                                       | 6         |
| 2.3 SETTING EXAMPLE .....   | 8         |
| <b>3. PARAMETER SETTING WINDOW FOR EACH I/O MODULE.....</b>                     | <b>14</b> |
| 3.1 R3-TSx, R3x-RSx, R3-RTx - THERMOCOUPLE & RTD, THERMISTOR INPUT MODULE ..... | 14        |
| 3.2 R3x-DAx, R3x-DACx, R3x-DCx, R3-PD16x, R3x-RR8 - DISCRETE I/O MODULE.....    | 16        |
| 3.3 R3x-MSx - POTENTIOMETER INPUT MODULE .....                                  | 18        |
| 3.4 R3x-DSx, R3x-SSx, R3x-SVx, R3x-YS4, R3x-YVx - ANALOG I/O MODULE .....       | 19        |
| 3.5 R3-CTx, R3-PT4, R3-CZ4 - AC CURRENT / VOLTAGE INPUT MODULE.....             | 21        |
| 3.6 R3-WTU - MULTI POWER INPUT MODULE .....                                     | 23        |
| 3.7 R3-WT4x - AC POWER INPUT MODULE .....                                       | 25        |
| 3.8 R3-WT1x - MULTI POWER INPUT MODULE .....                                    | 30        |
| 3.9 R3-PA2 - RS-422 ENCODER PULSE INPUT MODULE .....                            | 33        |
| 3.10 R3-PA4 - HIGH SPEED PULSE INPUT MODULE .....                               | 34        |
| 3.11 R3x-PA16, R3-PC16A - 16-POINT TOTALIZED PULSE INPUT MODULE .....           | 35        |
| 3.12 R3x-PA8 - 8-POINT TOTALIZED PULSE INPUT MODULE .....                       | 36        |
| 3.13 R3-PA4A, R3-PA4B - 4-POINT TOTALIZED PULSE INPUT MODULE .....              | 37        |
| 3.14 R3-ASx, R3-AVx, R3-AT4, R3-AR4, R3-AD4 - ANALOG ALARM MODULE .....         | 38        |
| 3.15 R3-BA32A, R3-BC32A - BCD I/O MODULE .....                                  | 39        |
| 3.16 R3-LC2 - STRAIN GAUGE INPUT MODULE .....                                   | 40        |
| 3.17 R3-US4 - UNIVERSAL INPUT MODULE .....                                      | 41        |
| 3.18 R3-TC2 - TEMPERATURE CONTROL MODULE .....                                  | 43        |
| 3.19 R3-MEX2 - VALVE POSITIONER MODULE.....                                     | 44        |
| <b>4. NETWORK MODULE SETTING .....</b>  | <b>46</b> |
| 4.1 R3-Nx - COM CARD SETTINGS.....  | 46        |
| 4.2 R3-NE1, TR3EX - ETHERNET SETTINGS.....                                      | 48        |
| 4.3 R3-NEIP1 - ETHERNET/IP SETTINGS .....                                       | 49        |
| 4.4 R3-NCIE1 - CC-LinkIE SETTINGS.....  | 50        |
| 4.5 R3-NMW1F - NMW1F SETTINGS .....   | 51        |
| <b>5. INTERFACE I/O MODULE SETTING.....</b>                                     | <b>53</b> |
| 5.1 R3-Gx - COM CARD SETTINGS.....  | 53        |
| 5.2 R3-GE1 - ETHERNET SETTINGS .....  | 54        |
| 5.3 PARAMETER SETTING WINDOW .....  | 55        |

|           |   |           |
|-----------|---|-----------|
| 5.4       | R3-GSLMP1 COMMUNICATION SETTINGS (GLMSP Settings).....    | 56        |
| 5.5       | R3-GSLMP1 SETTING WINDOW .....                            | 58        |
| <b>6.</b> | <b>SAVING &amp; READING PARAMETERS .....</b>              | <b>59</b> |
| 6.1       | SAVING PARAMETERS.....                                    | 59        |
| 6.2       | READING PARAMETERS AND WRITING IN MODULES.....            | 59        |
| <b>7.</b> | <b>CONFIRMING DIP SWITCH SETTINGS OF I/O MODULES.....</b> | <b>60</b> |

# 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.

---

## 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.

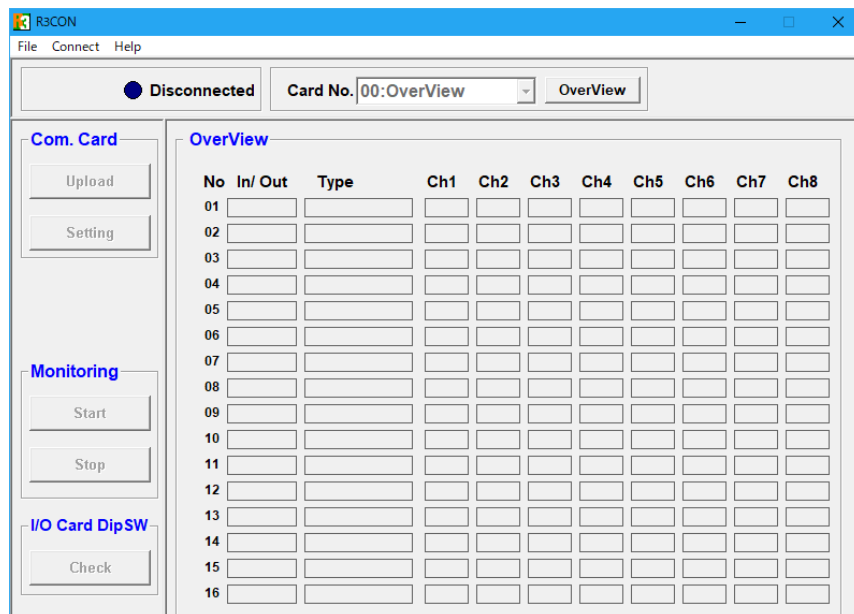
### 2.1 STARTING / ENDING THE R3CON

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

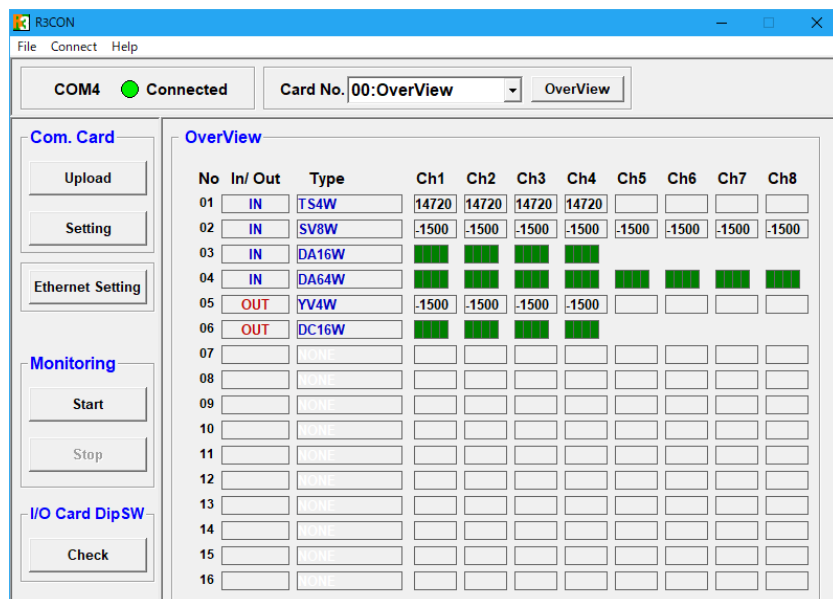
Clicking [X] button at the right end of the title bar does not end the program.

---

## 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.<br>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.<br>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

| OverView |         |       |       |       |       |       |       |       |       |       |
|----------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| No       | In/ Out | Type  | Ch1   | Ch2   | Ch3   | Ch4   | Ch5   | Ch6   | Ch7   | Ch8   |
| 01       | IN      | TS4W  | 14720 | 14720 | 14720 | 14720 |       |       |       |       |
| 02       | IN      | SV8W  | -1500 | -1500 | -1500 | -1500 | -1500 | -1500 | -1500 | -1500 |
| 03       | IN      | DA16W |       |       |       |       |       |       |       |       |
| 04       | IN      | DA64W |       |       |       |       |       |       |       |       |
| 05       | OUT     | YV4W  | -1500 | -1500 | -1500 | -1500 |       |       |       |       |
| 06       | OUT     | DC16W |       |       |       |       |       |       |       |       |
| 07       |         | NONE  |       |       |       |       |       |       |       |       |
| 08       |         | NONE  |       |       |       |       |       |       |       |       |
| 09       |         | NONE  |       |       |       |       |       |       |       |       |
| 10       |         | NONE  |       |       |       |       |       |       |       |       |
| 11       |         | NONE  |       |       |       |       |       |       |       |       |
| 12       |         | NONE  |       |       |       |       |       |       |       |       |
| 13       |         | NONE  |       |       |       |       |       |       |       |       |
| 14       |         | NONE  |       |       |       |       |       |       |       |       |
| 15       |         | NONE  |       |       |       |       |       |       |       |       |
| 16       |         | NONE  |       |       |       |       |       |       |       |       |

| 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<br>(Hexadecimal<br>for R3-WTU) | Shows data sent to the host PLC/PC.<br>Scaled data if scaling values are specified.<br>Refer to the relevant descriptions for conversion data in the data sheet of each module.<br>(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<br>(left to right) | Red / Green | Red : ON<br>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<br>(left to right) | Red / Green | Red : ON<br>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<br>(Output completion status of Do1 to Do4)           |             |                        |
| Ch8 | Di13 to Di16<br>(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.

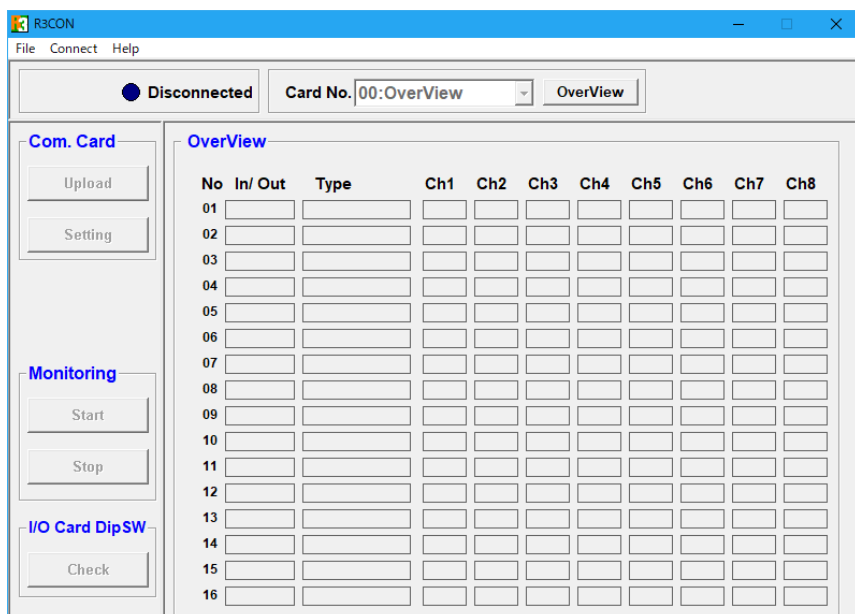
'Overview' window (main screen) appears on the screen.

'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

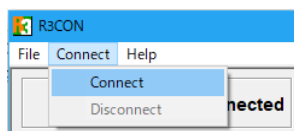
- **Driver software**

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.

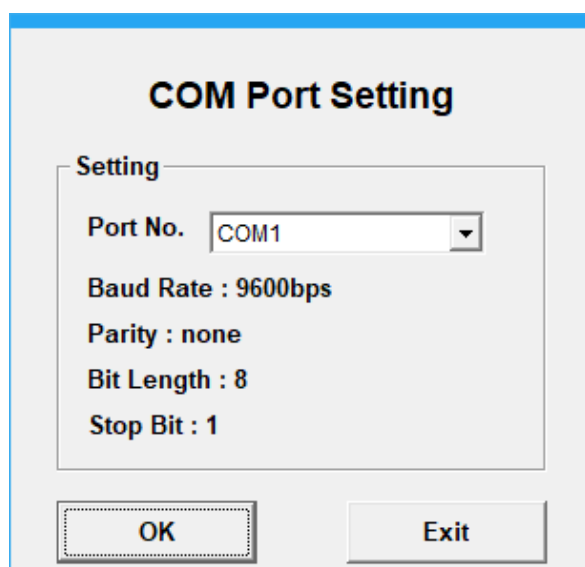
- **Connecting the R3 network module to the communication line**

Click [Connect] on the menu bar and select 'Connect' to display COM Port Setting 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.

The screenshot shows the R3CON software interface. At the top, there is a menu bar with 'File', 'Connect', and 'Help'. Below the menu bar, there is a status bar showing 'COM4' with a green 'Connected' indicator and a 'Card No.' dropdown menu set to '00:OverView'. A button labeled 'OverView' is also present.

The main interface is divided into two main sections: 'Com. Card' on the left and 'OverView' on the right.

The 'Com. Card' section contains three sub-sections: 'Com. Card' with 'Upload' and 'Setting' buttons; 'Ethernet Setting' with a button; 'Monitoring' with 'Start' and 'Stop' buttons; and 'I/O Card Dip SW' with a 'Check' button.

The 'OverView' section displays a table with the following columns: 'No', 'In/ Out', 'Type', 'Ch1', 'Ch2', 'Ch3', 'Ch4', 'Ch5', 'Ch6', 'Ch7', and 'Ch8'. The table contains 16 rows of data.

| No | In/ Out | Type  | Ch1   | Ch2   | Ch3   | Ch4   | Ch5 | Ch6 | Ch7 | Ch8 |
|----|---------|-------|-------|-------|-------|-------|-----|-----|-----|-----|
| 01 | IN      | TS4W  | 14720 | 14720 | 14720 | 14720 |     |     |     |     |
| 02 | OUT     | YV4W  | -1500 | -1500 | -1500 | -1500 |     |     |     |     |
| 03 | IN      | DA16W |       |       |       |       |     |     |     |     |
| 04 |         |       |       |       |       |       |     |     |     |     |
| 05 |         |       |       |       |       |       |     |     |     |     |
| 06 |         |       |       |       |       |       |     |     |     |     |
| 07 |         |       |       |       |       |       |     |     |     |     |
| 08 |         |       |       |       |       |       |     |     |     |     |
| 09 |         |       |       |       |       |       |     |     |     |     |
| 10 |         |       |       |       |       |       |     |     |     |     |
| 11 |         |       |       |       |       |       |     |     |     |     |
| 12 |         |       |       |       |       |       |     |     |     |     |
| 13 |         |       |       |       |       |       |     |     |     |     |
| 14 |         |       |       |       |       |       |     |     |     |     |
| 15 |         |       |       |       |       |       |     |     |     |     |
| 16 |         |       |       |       |       |       |     |     |     |     |

### 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'.

Card No. 01:TS4W OverView

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.

R3CON

File Connect Help

COM4 Connected Card No. 01:TS4W OverView

**Com. Card**

Upload

Setting

Ethernet Setting

**Monitoring**

Start

Stop

**I/O Card DipSW**

Check

**TS4W**

| Card No. | Card Type | Version No. | Burnout | Unit | Limit                    |
|----------|-----------|-------------|---------|------|--------------------------|
| 1        | TS4W      | 0.18        | UP      | C    | <input type="checkbox"/> |

**Ch. 1**

| Value | InputType | Unused                   | Zero | Scale | Adjust | Base  |
|-------|-----------|--------------------------|------|-------|--------|-------|
| 5750  | K(CA)     | <input type="checkbox"/> | 0    | 5000  | 1.0000 | 50.00 |

**Ch. 2**

| Value | InputType | Unused                   | Zero | Scale | Adjust | Base  |
|-------|-----------|--------------------------|------|-------|--------|-------|
| 5750  | K(CA)     | <input type="checkbox"/> | 0    | 5000  | 1.0000 | 50.00 |

**Ch. 3**

| Value | InputType | Unused                   | Zero | Scale | Adjust | Base  |
|-------|-----------|--------------------------|------|-------|--------|-------|
| 5750  | K(CA)     | <input type="checkbox"/> | 0    | 5000  | 1.0000 | 50.00 |

**Ch. 4**

| Value | InputType | Unused                              | Zero | Scale | Adjust | Base |
|-------|-----------|-------------------------------------|------|-------|--------|------|
| 00    | K(CA)     | <input checked="" type="checkbox"/> | 0    | 10000 | 1.0000 | 0.00 |

Upload Download

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'.

Card No.

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.

The screenshot shows the R3CON software interface. At the top, it says 'COM4 Connected' and 'Card No. 02:YV4W'. The main window is titled 'YV4W' and contains a table for channel settings. The table has columns for 'Value', 'Unused', 'Zero', 'Full', 'Scale', and 'Adjust'. Channel 1 has a value of -1500, unused box with 0, zero 0, full 10000, scale 0, and adjust 1.0000. Channel 2 has a value of -1500, unused box with 0, zero 0, full 10000, scale 0, and adjust 1.0000. Channel 3 has a value of -1500, unused box with 0, zero 0, full 10000, scale 0, and adjust 1.0000. Channel 4 has a value of -1500, unused box with 1 (red), zero 0, full 10000, scale 0, and adjust 1.0000. At the bottom, there are 'Upload' and 'Download' buttons.

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.

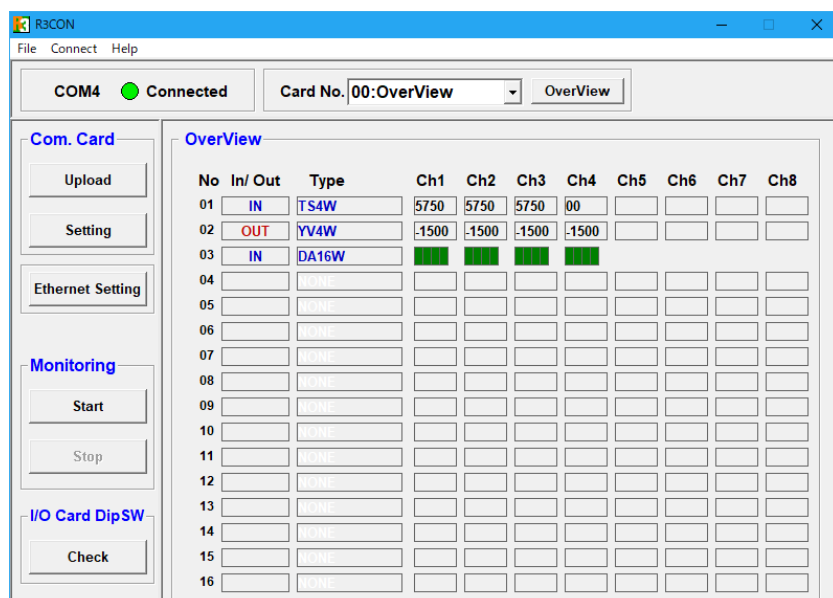
### 2.3.6 CONFIRMING NEW PARAMETERS

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

| Card No. | Card Type | Version No. | Burnout | Unit | Limit                    |
|----------|-----------|-------------|---------|------|--------------------------|
| 1        | TS4S      | 0.12        | UP      | C    | <input type="checkbox"/> |

| Ch. 1 | Value | InputType | Unused                   | Zero | Scale | Adjust | Base |
|-------|-------|-----------|--------------------------|------|-------|--------|------|
|       | 14720 | K(CA)     | <input type="checkbox"/> | 0    | 10000 | 0.00   | 0.00 |
|       |       |           |                          | Full |       | 1.0000 | 0.00 |

| Ch. 2 | Value | InputType | Unused                   | Zero | Scale | Adjust | Base |
|-------|-------|-----------|--------------------------|------|-------|--------|------|
|       | 303   | K(CA)     | <input type="checkbox"/> | 0    | 10000 | 0.00   | 0.00 |
|       |       |           |                          | Full |       | 1.0000 | 0.00 |

| Ch. 3 | Value | InputType | Unused                   | Zero | Scale | Adjust | Base |
|-------|-------|-----------|--------------------------|------|-------|--------|------|
|       | 298   | K(CA)     | <input type="checkbox"/> | 0    | 10000 | 0.00   | 0.00 |
|       |       |           |                          | Full |       | 1.0000 | 0.00 |

| Ch. 4 | Value | InputType | Unused                   | Zero | Scale | Adjust | Base |
|-------|-------|-----------|--------------------------|------|-------|--------|------|
|       | 14720 | K(CA)     | <input type="checkbox"/> | 0    | 10000 | 0.00   | 0.00 |
|       |       |           |                          | Full |       | 1.0000 | 0.00 |

##### ■ R3-TS8W

| Card No. | Card Type | Version No. | Burnout | Unit | Limit                               |
|----------|-----------|-------------|---------|------|-------------------------------------|
| 2        | TS8W      | 0.09        | DOWN    | C    | <input checked="" type="checkbox"/> |

| Unused                   | Value/Type | Scale | Adjust | Base | Unused                   | Value/Type | Scale | Adjust | Base |
|--------------------------|------------|-------|--------|------|--------------------------|------------|-------|--------|------|
| <input type="checkbox"/> | 259        | 0     | 0.00   | 0.00 | <input type="checkbox"/> | 269        | 0     | 0.00   | 0.00 |
|                          | K(CA)      | 10000 | 1.0000 | 0.00 |                          | K(CA)      | 10000 | 1.0000 | 0.00 |
| <input type="checkbox"/> | 258        | 0     | 0.00   | 0.00 | <input type="checkbox"/> | 266        | 0     | 0.00   | 0.00 |
|                          | K(CA)      | 10000 | 1.0000 | 0.00 |                          | K(CA)      | 10000 | 1.0000 | 0.00 |
| <input type="checkbox"/> | 257        | 0     | 0.00   | 0.00 | <input type="checkbox"/> | 261        | 0     | 0.00   | 0.00 |
|                          | K(CA)      | 10000 | 1.0000 | 0.00 |                          | K(CA)      | 10000 | 1.0000 | 0.00 |
| <input type="checkbox"/> | 255        | 0     | 0.00   | 0.00 | <input type="checkbox"/> | 259        | 0     | 0.00   | 0.00 |
|                          | K(CA)      | 10000 | 1.0000 | 0.00 |                          | K(CA)      | 10000 | 1.0000 | 0.00 |

<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<br>(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<br>Enter a desired value in the text box.  | -32000 to 32000   |
| Full Scale  | 100% scaling value<br>Enter a desired value in the text box.  | -32000 to 32000   |
| Zero Adjust   | Fine 0% adjustment value (bias)<br>Enter a desired % value corresponding to the scaling value in the text box.  | -320.00 to 320.00   |
| Full Adjust   | Fine 100% adjustment value (gain)<br>Enter a desired value in the text box.   | -3.2000 to 3.2000   |
| Zero Base   | 0% temperature<br>Enter a desired value in the text box.  | Setting range varies depending on the input type.   |
| Full Base   | 100% temperature<br>Enter a desired value in the text box.  | Setting range varies depending on the input type.   |
| Value   | Shows the current value of:<br>temperature (R3-TSx, R3-RSx, R3-RTx); or % data (others).  |   |
| Unused  | Enter '1' to disable the unused channel.<br>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<br>(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.<br>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%.<br>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

DA16W

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 3        | DA16W     | 0.04        |

**Data**

|       |     |        |     |
|-------|-----|--------|-----|
| Ch. 1 | OFF | Ch. 9  | OFF |
| Ch. 2 | OFF | Ch. 10 | OFF |
| Ch. 3 | OFF | Ch. 11 | OFF |
| Ch. 4 |     | Ch. 12 | OFF |
| Ch. 5 | OFF | Ch. 13 | OFF |
| Ch. 6 | OFF | Ch. 14 | OFF |
| Ch. 7 | OFF | Ch. 15 | OFF |
| Ch. 8 | OFF | Ch. 16 | OFF |

#### ■ R3-DA32W

DA32W

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 1        | DA32W     | 0.05        |

**Data**

|       |     |        |     |        |     |        |     |
|-------|-----|--------|-----|--------|-----|--------|-----|
| Ch.1  | OFF | Ch. 9  | OFF | Ch. 17 | OFF | Ch. 25 | OFF |
| Ch. 2 | OFF | Ch. 10 | OFF | Ch. 18 | OFF | Ch. 26 | OFF |
| Ch. 3 | OFF | Ch. 11 | OFF | Ch. 19 | OFF | Ch. 27 | OFF |
| Ch. 4 | OFF | Ch. 12 | OFF | Ch. 20 | OFF | Ch. 28 | OFF |
| Ch. 5 | OFF | Ch. 13 | OFF | Ch. 21 | OFF | Ch. 29 | OFF |
| Ch. 6 | OFF | Ch. 14 | OFF | Ch. 22 | OFF | Ch. 30 | OFF |
| Ch. 7 | OFF | Ch. 15 | OFF | Ch. 23 | OFF | Ch. 31 | OFF |
| Ch. 8 |     | Ch. 16 | OFF | Ch. 24 | OFF | Ch. 32 | OFF |

#### ■ R3-DAC16W

DAC16AW

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 2        | DAC16AW   | 0.03        |

**Data**

|       | DI | DO  | DO Status |
|-------|----|-----|-----------|
| Ch. 1 | ON | OFF | OFF       |
| Ch. 2 | ON | OFF | OFF       |
| Ch. 3 | ON | OFF | OFF       |
| Ch. 4 | ON | OFF | OFF       |
| Ch. 5 | ON | OFF | OFF       |
| Ch. 6 | ON | OFF | OFF       |
| Ch. 7 | ON | OFF | OFF       |
| Ch. 8 | ON | OFF | OFF       |

## ■ R3-PD16W

**PD16W**

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 3        | PD16W     | 0.10        |

|       | DI  | DO  |        | DI  | DO  |
|-------|-----|-----|--------|-----|-----|
| Ch. 1 | OFF | OFF | Ch. 9  | OFF | OFF |
| Ch. 2 | OFF | OFF | Ch. 10 | OFF | OFF |
| Ch. 3 | OFF | OFF | Ch. 11 | OFF | OFF |
| Ch. 4 | OFF | OFF | Ch. 12 | OFF | OFF |
| Ch. 5 | OFF | OFF | Ch. 13 | OFF | OFF |
| Ch. 6 | OFF | OFF | Ch. 14 | OFF | OFF |
| Ch. 7 | OFF | OFF | Ch. 15 | OFF | OFF |
| Ch. 8 | OFF | OFF | Ch. 16 | OFF | OFF |

## ■ R3-RR8W

**RR8W**

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 4        | RR8W      | 0.03        |

|       | DI  | DO  |
|-------|-----|-----|
| Ch. 1 | OFF | OFF |
| Ch. 2 | OFF | OFF |
| Ch. 3 | OFF | OFF |
| Ch. 4 | OFF | OFF |
| Ch. 5 | OFF | OFF |
| Ch. 6 | OFF | OFF |
| Ch. 7 | OFF | OFF |
| Ch. 8 | OFF | OFF |

| 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<br>(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<br>Enter a desired value in the text box..                                     | -32000 to 32000                                   |
| Full Scale  | 100% scaling value.<br>Enter a desired value in the text box..                                  | -32000 to 32000                                   |
| Zero Base   | 0% input. (% x 100)<br>Enter a desired value in the text box..                                  | 0 to 10000  |
| Full Base   | 100% input. (% x 100)<br>Enter a desired value in the text box.                                 | 0 to 10000  |
| Value       | Shows the value scaled based on the Zero Scale and Full Scale.<br>(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

- 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.
- 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.
- Enter Zero/Full scaling values in the respective fields.
- Perform steps (1) through (3) for each channel. Click <Download> to write the new setting.
- 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        |

| Ch. 1 | Value | Unused | Zero | Scale | Adjust |
|-------|-------|--------|------|-------|--------|
|       | -1500 | 0      |      | 10000 | 0.00   |
|       |       |        | Full | 10000 | 1.0000 |

| Ch. 2 | Value | Unused | Zero | Scale | Adjust |
|-------|-------|--------|------|-------|--------|
|       | -1500 | 0      |      | 0     | 0.00   |
|       |       |        | Full | 10000 | 1.0000 |

| Ch. 3 | Value | Unused | Zero | Scale | Adjust |
|-------|-------|--------|------|-------|--------|
|       | -1500 | 0      |      | 0     | 0.00   |
|       |       |        | Full | 10000 | 1.0000 |

| Ch. 4 | Value | Unused | Zero | Scale | Adjust |
|-------|-------|--------|------|-------|--------|
|       | -1500 | 1      |      | 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  | Adjust |
|-------|--------|-----------|--------|--------|
| 1 000 | 0      | 0         | 0.00   |        |
|       |        | 10000     | 1.0000 |        |
| 2 000 | 0      | 0         | 0.00   |        |
|       |        | 10000     | 1.0000 |        |
| 3 000 | 0      | 0         | 0.00   |        |
|       |        | 10000     | 1.0000 |        |
| 4 000 | 0      | 0         | 0.00   |        |
|       |        | 10000     | 1.0000 |        |
| 5 000 | 0      | 0         | 0.00   |        |
|       |        | 10000     | 1.0000 |        |
| 6 000 | 0      | 0         | 0.00   |        |
|       |        | 10000     | 1.0000 |        |
| 7 000 | 0      | 0         | 0.00   |        |
|       |        | 10000     | 1.0000 |        |
| 8 000 | 0      | 0         | 0.00   |        |
|       |        | 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

**SS16NS**

Card No.  Card Type  Version No.

|   | Value | Unused                              | Z-Adjust | F-Adjust |    | Value | Unused                              | Z-Adjust | F-Adjust |
|---|-------|-------------------------------------|----------|----------|----|-------|-------------------------------------|----------|----------|
| 1 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 9  | 4999  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |
| 2 | 4999  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 10 | 4999  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |
| 3 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 11 | 4999  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |
| 4 | 4999  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 12 | 4999  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |
| 5 | 4998  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 13 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |
| 6 | 4999  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 14 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |
| 7 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 15 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |
| 8 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   | 16 | 5000  | <input checked="" type="checkbox"/> | 0.00     | 1.0000   |

<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<br>(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<br>Enter a desired value in the text box.                                      | -32000 to 32000                                      |
| Full Scale  | 100% scaling value<br>Enter a desired value in the text box.                                    | -32000 to 32000                                      |
| Zero Adjust | Fine 0% adjustment value (bias)<br>Enter a desired value in the text box.                       | -320.00 to 320.00                                    |
| Full Adjust | Fine 100% adjustment value (gain)<br>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.<br>(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

CT4W

Card No.

1

Card Type

CT4W

Version No.

0.02

Ch. 1

Value

000

Unused

0

Zero

0

Full

10000

Scale

0

Adjust

0.00

Base

0.00

Ch. 2

Value

000

Unused

0

Zero

0

Full

10000

Scale

0

Adjust

0.00

Base

0.00

Ch. 3

Value

000

Unused

0

Zero

0

Full

10000

Scale

0

Adjust

0.00

Base

0.00

Ch. 4

Value

000

Unused

0

Zero

0

Full

10000

Scale

0

Adjust

0.00

Base

0.00

Upload

Download

#### ■ R3-CT8AW

CT8AW

Card No.

1

Card Type

CT8AW

Version No.

0.02

|   | Value | Unused | Zero | Full  | Zero | Full   | Zero | Full |
|---|-------|--------|------|-------|------|--------|------|------|
| 1 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| 2 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| 3 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| 4 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| 5 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| 6 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| 7 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| 8 | 0     | 0      | 0    | 10000 | 0.00 | 1.0000 | 0.00 | 0.00 |

Upload

Download

<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<br>(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<br>Enter a desired value in the text box.   | -32000 to 32000                                      |
| Full Scale                          | 100% scaling value<br>Enter a desired value in the text box.   | -32000 to 32000                                      |
| Zero Adjust                         | Fine 0% adjustment value (bias)<br>Enter a desired % value corresponding to the scaling value in the text box. | -320.00 to 320.00                                    |
| Full Adjust                         | Fine 100% adjustment value (gain)<br>Enter a desired value in the text box.                                    | -3.2000 to 3.2000                                    |
| Zero Base<br>(invalid for CZ (ZCT)) | 0% input (current (CT) or voltage (VT))<br>Enter a desired value in the text box.                              | Setting range varies depending<br>on the input type. |
| Full Base<br>(invalid for CZ (ZCT)) | 100% input (current (CT) or voltage (VT))<br>Enter a desired value in the text box.                            | Setting range varies depending<br>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

| WTU12ES  |           |           |         |        |      |                      |                                     |                                 |               |
|----------|-----------|-----------|---------|--------|------|----------------------|-------------------------------------|---------------------------------|---------------|
| Card No. | 1         | Card Type | WTU12ES | VerNo. | 0.01 | System Configuration |                                     |                                 |               |
| Data     | Parameter | Value     | Unit    | Scale  | Word | Ch.                  | 3 phase/4-wire,unbalanced load(3CT) |                                 |               |
| 0        | 01F4      | I         | 500     | mA     | 1    | 1W                   | #1                                  | VT rating                       |               |
|          |           |           |         |        |      |                      |                                     | Pri.                            | Sec.          |
| +1       | 00C7      | U         | 199     | V/100  | 2    | 2W                   | #1                                  |                                 |               |
| +2       | 0000      |           |         |        |      |                      |                                     | CT rating                       |               |
|          |           |           |         |        |      |                      |                                     | Clamp Sensor                    | Pri.          |
|          |           |           |         |        |      |                      |                                     | #1                              | Sec.          |
| +3       | 0003      | P         | 3       | W      | 3    | 1W                   | #1                                  | CLSE-R5                         | 5             |
|          |           |           |         |        |      |                      |                                     | A                               | 5             |
| +4       | 2710      | PF        | 10000   | %/100  | 0    | 1W                   | #1                                  | CLSE-05                         | 50            |
|          |           |           |         |        |      |                      |                                     | A                               |               |
| +5       | 1391      | I         | 5009    | mA     | 0    | 2W                   | #1                                  | LowEnd cutout                   |               |
|          |           |           |         |        |      |                      |                                     | Voltage                         | Current       |
| +6       | 0000      |           |         |        |      |                      |                                     | #1                              | 10            |
|          |           |           |         |        |      |                      |                                     | #2                              | 10            |
| +7       | 1382      | I2        | 4994    | mA     | 0    | 2W                   | #1                                  | Freq. input                     |               |
|          |           |           |         |        |      |                      |                                     | #1                              | Voltage       |
| +8       | 0000      |           |         |        |      |                      |                                     | #2                              | Current       |
| +9       | 138C      | I3        | 5004    | mA     | 0    | 2W                   | #1                                  | Calculation Method              |               |
|          |           |           |         |        |      |                      |                                     | PowerFactor sign                | Standard(IEC) |
| +10      | 0000      |           |         |        |      |                      |                                     | Reactive Power sign             | Standard(IEC) |
|          |           |           |         |        |      |                      |                                     | Apparent Power calculation      | Standard      |
| +11      | 271F      | I         | 10015   | mA     | 0    | 2W                   | #2                                  | Average(demand) update interval |               |
|          |           |           |         |        |      |                      |                                     | Current                         | 30 min.       |
| +12      | 0000      |           |         |        |      |                      |                                     | Power                           | 30 min.       |
| +13      | 1779      | P         | 6009    | W      | 0    | 1W                   | #2                                  | Reset Value                     |               |
|          |           |           |         |        |      |                      |                                     |                                 | Reset         |
| +14      | 2729      | I1        | 10025   | mA     | 0    | 1W                   | #2                                  |                                 |               |
| +15      | 157D      | F         | 5501    | Hz/100 | 0    | 1W                   | #2                                  |                                 |               |

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

| WTU12ES/D(1) |           |           |              |        |      |                      |                                     |                                 |               |
|--------------|-----------|-----------|--------------|--------|------|----------------------|-------------------------------------|---------------------------------|---------------|
| Card No.     | 1         | Card Type | WTU12ES/D(1) | VerNo. | 0.02 | System Configuration |                                     |                                 |               |
| Data         | Parameter | Value     | Unit         | Scale  | Word | Ch.                  | 3 phase/4-wire,unbalanced load(3CT) |                                 |               |
| 0            | 1384      | I         | 4996         | mA     | 0    | 2W                   | #1                                  | VT rating                       |               |
|              |           |           |              |        |      |                      |                                     | Pri.                            | Sec.          |
| +1           | 0000      |           |              |        |      |                      |                                     | CT rating                       |               |
|              |           |           |              |        |      |                      |                                     | Clamp Sensor                    | Pri.          |
|              |           |           |              |        |      |                      |                                     | #1                              | Sec.          |
| +2           | 4E27      | U         | 20007        | V/100  | 0    | 2W                   | #1                                  | CLSE-R5                         | 5             |
|              |           |           |              |        |      |                      |                                     | A                               | 5             |
| +3           | 0000      |           |              |        |      |                      |                                     | #2                              | A             |
|              |           |           |              |        |      |                      |                                     | CLSE-R5                         | 5             |
| +4           | 0BB8      | P         | 3000         | W      | 0    | 2W                   | #1                                  | LowEnd cutout                   |               |
|              |           |           |              |        |      |                      |                                     | Voltage                         | Current       |
| +5           | 0000      |           |              |        |      |                      |                                     | #1                              | 10            |
|              |           |           |              |        |      |                      |                                     | #2                              | 10            |
| +6           | 2710      | PF        | 10000        | %/100  | 0    | 2W                   | #1                                  | Freq. input                     |               |
|              |           |           |              |        |      |                      |                                     | #1                              | Voltage       |
| +7           | 0000      |           |              |        |      |                      |                                     | #2                              | Voltage       |
| +8           | 001C      | EP        | 28           | kWh/10 | 0    | 2W                   | #1                                  | Calculation Method              |               |
|              |           |           |              |        |      |                      |                                     | PowerFactor sign                | Standard(IEC) |
| +9           | 0000      |           |              |        |      |                      |                                     | Reactive Power sign             | Standard(IEC) |
| +10          | 1385      | I MAX     | 4997         | mA     | 0    | 2W                   | #1                                  | Apparent Power calculation      |               |
|              |           |           |              |        |      |                      |                                     | Standard                        |               |
| +11          | 0000      |           |              |        |      |                      |                                     | Average(demand) update interval |               |
|              |           |           |              |        |      |                      |                                     | Current                         | 30 min.       |
| +12          | 4E27      | U MIN     | 20007        | V/100  | 0    | 2W                   | #1                                  | Reset Value                     |               |
|              |           |           |              |        |      |                      |                                     |                                 | Reset         |
| +13          | 0000      |           |              |        |      |                      |                                     |                                 |               |
| +14          | 0BB7      | P AVG 1   | 2999         | W      | 0    | 2W                   | #1                                  |                                 |               |
| +15          | 0000      |           |              |        |      |                      |                                     |                                 |               |

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

| WTU12ES/D(2) |           |           |              |        |      |                      |                                     |                                 |               |
|--------------|-----------|-----------|--------------|--------|------|----------------------|-------------------------------------|---------------------------------|---------------|
| Card No.     | 2         | Card Type | WTU12ES/D(2) | VerNo. | 0.02 | System Configuration |                                     |                                 |               |
| Data         | Parameter | Value     | Unit         | Scale  | Word | Ch.                  | 3 phase/4-wire,unbalanced load(3CT) |                                 |               |
| +16          | 138B      | I         | 5003         | mA     | 0    | 2W                   | #2                                  | VT rating                       |               |
|              |           |           |              |        |      |                      |                                     | Pri.                            | Sec.          |
| +17          | 0000      |           |              |        |      |                      |                                     | CT rating                       |               |
|              |           |           |              |        |      |                      |                                     | Clamp Sensor                    | Pri.          |
|              |           |           |              |        |      |                      |                                     | #1                              | Sec.          |
| +18          | 4E34      | U         | 20020        | V/100  | 0    | 2W                   | #2                                  | CLSE-R5                         | 5             |
|              |           |           |              |        |      |                      |                                     | A                               | 5             |
| +19          | 0000      |           |              |        |      |                      |                                     | #2                              | A             |
|              |           |           |              |        |      |                      |                                     | CLSE-R5                         | 5             |
| +20          | 0BBC      | P         | 3004         | W      | 0    | 2W                   | #2                                  | LowEnd cutout                   |               |
|              |           |           |              |        |      |                      |                                     | Voltage                         | Current       |
| +21          | 0000      |           |              |        |      |                      |                                     | #1                              | 10            |
|              |           |           |              |        |      |                      |                                     | #2                              | 10            |
| +22          | 2710      | PF        | 10000        | %/100  | 0    | 2W                   | #2                                  | Freq. input                     |               |
|              |           |           |              |        |      |                      |                                     | #1                              | Voltage       |
| +23          | 0000      |           |              |        |      |                      |                                     | #2                              | Voltage       |
| +24          | 157D      | F         | 5501         | Hz/100 | 0    | 2W                   | #2                                  | Calculation Method              |               |
|              |           |           |              |        |      |                      |                                     | PowerFactor sign                | Standard(IEC) |
| +25          | 0000      |           |              |        |      |                      |                                     | Reactive Power sign             | Standard(IEC) |
| +26          | 0224      | EP        | 548          | kWh/10 | 0    | 2W                   | #2                                  | Apparent Power calculation      |               |
|              |           |           |              |        |      |                      |                                     | Standard                        |               |
| +27          | 0000      |           |              |        |      |                      |                                     | Average(demand) update interval |               |
|              |           |           |              |        |      |                      |                                     | Current                         | 30 min.       |
| +28          | 86DD      | I MAX     | 100061       | mA     | 0    | 2W                   | #2                                  | Reset Value                     |               |
|              |           |           |              |        |      |                      |                                     |                                 | Reset         |
| +29          | 0001      |           |              |        |      |                      |                                     |                                 |               |
| +30          | 4E31      | U MIN     | 20017        | V/100  | 0    | 2W                   | #2                                  |                                 |               |
| +31          | 0000      |           |              |        |      |                      |                                     |                                 |               |

<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<br>(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)<br>Single-phase/3-wire (2CT)<br>3-phase/3-wire, balanced load (1CT)<br>3-phase/3-wire, unbalanced load (2CT)<br>3-phase/4-wire, balanced load (1CT)<br>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<br>CLSE-05<br>CLSE-10<br>CLSE-20<br>CLSE-40<br>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 $\times$ 0.001 $\times$ set value)   | 0 to 999   |
|                                  | Current                    | Enter current. (Rating $\times$ 0.001 $\times$ 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.<br>- Standard (IEC) : Identical to the active energy (*)<br>- Special type 1 (IEEE) : Positive in LAG, Negative in LEAD   | Standard (IEC)<br>Special Type 1   |
|                                  | Reactive power sign        | Choose the reactive power (Q1...Q3, Q) sign.<br>- Standard (IEC): Positive from [PF = 1.0] to 180° in LAG direction<br>Negative for the other direction (*)<br>- Special type 1 : Positive in LAG, Negative in LEAD | Standard (IEC)<br>Special Type 1   |
|                                  | Apparent power Calculation | Choose the apparent power (S1...S3, S) calculation method.<br>- Standard: $S = \sqrt{P^2 + Q^2}$ (*)<br>- Sum : $S = S1 + S2 + S3$  | Standard<br>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<br>#1 Max Min (current)<br>#1 Max Min (except current)<br>#1 Average (demand)<br>#2 Sum<br>#2 Max Min (current)<br>#2 Max Min (except current)<br>#2 Average (demand)   |
| Parameter                        |                            | Choose the parameters to be measured.<br>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.<br>$10^0$ , $10^1$ , $10^2$ or $10^3$  | 0, 1, 2, 3   |
| Word                             |                            | Choose 1 or 2 words assigned to the selected parameter.<br>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<br>Whi | Who | Adjust<br>Bias/Gain | WFS | WU | WhU | Drop-Out(%) |        |     |     |
|---|----------|-----|---------------------|-----|----|-----|-------------|--------|-----|-----|
| 1 | 1000     |     | 0.00                | 0   | 0  | 3   | 2.00        |        |     |     |
|   | 12AB     | 12A | 1.0000              |     |    |     |             | PRI    | U   | SEC |
|   |          |     |                     |     |    |     |             | VT(V)  |     |     |
| 2 | 1000     |     | 0.00                | 0   | 0  | 3   | 110         | 0      | 110 |     |
|   | 12AB     | 12A | 1.0000              |     |    |     |             | CT1(A) |     |     |
|   |          |     |                     |     |    |     |             | 5      | 0   | 5   |
| 3 | 1000     |     | 0.00                | 0   | 0  | 3   |             | CT2(A) |     |     |
|   | 12AB     | 12A | 1.0000              |     |    |     |             | 5      | 0   | 5   |
|   |          |     |                     |     |    |     |             | CT3(A) |     |     |
| 4 | 1000     |     | 0.00                | 0   | 0  | 3   |             | 5      | 0   | 5   |
|   | 12AB     | 12A | 1.0000              |     |    |     |             | 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<br>Whi-L | Whi-H | Adjust<br>Bias/Gain | WFS | WU | WhU | Drop-Out(%) |        |     |     |
|---|------------|-------|---------------------|-----|----|-----|-------------|--------|-----|-----|
| 1 | 1000       |       | 0.00                | 0   | 0  | 3   | 2.00        |        |     |     |
|   | 12AB       | 0     | 1.0000              |     |    |     |             | PRI    | U   | SEC |
|   |            |       |                     |     |    |     |             | VT(V)  |     |     |
| 2 | 1000       |       | 0.00                | 0   | 0  | 3   | 110         | 0      | 110 |     |
|   | 12AB       | 0     | 1.0000              |     |    |     |             | CT1(A) |     |     |
|   |            |       |                     |     |    |     |             | 5      | 0   | 5   |
| 3 | 1000       |       | 0.00                | 0   | 0  | 3   |             | CT2(A) |     |     |
|   | 12AB       | 0     | 1.0000              |     |    |     |             | 5      | 0   | 5   |
|   |            |       |                     |     |    |     |             | CT3(A) |     |     |
| 4 | 1000       |       | 0.00                | 0   | 0  | 3   |             | 5      | 0   | 5   |
|   | 12AB       | 0     | 1.0000              |     |    |     |             | CT4(A) |     |     |
|   |            |       |                     |     |    |     |             | 5      | 0   | 5   |

Upload Download Wh Clear

## ■ Active energy incoming 16 bits

WT4111W2

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 2        | WT4111W2  | 0.01        |

|   | Whi  | Who | Adjust<br>Bias/Gain | WFS | WU | WhU | Drop-Out(%) |
|---|------|-----|---------------------|-----|----|-----|-------------|
| 1 | 12AB | 12A | 0.00                | 0   | 0  | 3   | 2.00        |
|   |      |     | 1.0000              |     |    |     |             |
| 2 | 12AB | 12A | 0.00                | 0   | 0  | 3   | 110         |
|   |      |     | 1.0000              |     |    |     |             |
| 3 | 12AB | 12A | 0.00                | 0   | 0  | 3   | 5           |
|   |      |     | 1.0000              |     |    |     |             |
| 4 | 12AB | 12A | 0.00                | 0   | 0  | 3   | 5           |
|   |      |     | 1.0000              |     |    |     |             |

PRI U SEC  
VT(V)

CT1(A) 5 0 5  
CT2(A) 5 0 5  
CT3(A) 5 0 5  
CT4(A) 5 0 5

Upload Download Wh Clear

## ■ Active energy incoming 32 bits

WT4111W3

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 2        | WT4111W3  | 0.01        |

|   | Whi-L<br>Who-L | Whi-H<br>Who-H | Adjust<br>Bias/Gain | WFS | WU | WhU | Drop-Out(%) |
|---|----------------|----------------|---------------------|-----|----|-----|-------------|
| 1 | 12AB           | 0              | 0.00                | 0   | 0  | 3   | 2.00        |
|   | 12A            | 0              | 1.0000              |     |    |     |             |
| 2 | 12AB           | 0              | 0.00                | 0   | 0  | 3   | 110         |
|   | 12A            | 0              | 1.0000              |     |    |     |             |
| 3 | 12AB           | 0              | 0.00                | 0   | 0  | 3   | 5           |
|   | 12A            | 0              | 1.0000              |     |    |     |             |
| 4 | 12AB           | 0              | 0.00                | 0   | 0  | 3   | 5           |
|   | 12A            | 0              | 1.0000              |     |    |     |             |

PRI U SEC  
VT(V)

CT1(A) 5 0 5  
CT2(A) 5 0 5  
CT3(A) 5 0 5  
CT4(A) 5 0 5

Upload Download Wh Clear

<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

Watt hour 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  $\times$  VT ratio  $\times$  CT ratio = 1000 W  $\times$  60  $\times$  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 Watt hour unit as 1 kWh:  $10^{[WU]+[WhU]} = 10^{1+2} = 1000 \text{ W} = 1 \text{ kW}$ . '2' for Ch.1 and 2, '1' for Ch.3 and '0' for Ch.4.

The active power (W) indicators below show: Ch.1 =  $3600 \times 10^1 \text{ W}$

Ch.2 =  $3600 \times 10^1 \text{ W}$

Ch.3 =  $3600 \times 10^2 \text{ W}$

Ch.4 =  $720 \times 10^3 \text{ W}$

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

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

| WT4111W0  |      |           |                  |             |    |     |             |   |     |
|---|------|-----------|------------------|-------------|----|-----|-------------|---|-----|
| Card No.  |      | Card Type |                  | Version No. |    |     |             |   |     |
| 2   |      | WT4111W0  |                  | 0.01        |    |     |             |   |     |
| W   | Whi  | Who       | Adjust Bias/Gain | WFS         | WU | WhU | Drop-Out(%) |   |     |
| 1   | 3600 |           | 0.00             | 0           | 1  | 2   | 2.00        |   |     |
|   | 12AB | 12A       | 1.0000           |             |    |     | PRI         | U | SEC |
| 2   | 3600 |           | 0.00             | 6000        | 1  | 2   | VT(V)       |   |     |
|   | 12AB | 12A       | 1.0000           |             |    |     | 6600        | 0 | 110 |
|   |      |           |                  |             |    |     | CT1(A)      |   |     |
| 3   | 3600 |           | 0.00             | 0           | 2  | 1   | 5           | 0 | 5   |
|   | 12AB | 12A       | 1.0000           |             |    |     | CT2(A)      |   |     |
|   |      |           |                  |             |    |     | 5           | 0 | 5   |
| 4   | 720  |           | 0.00             | 0           | 3  | 0   | CT3(A)      |   |     |
|   | 12AB | 12A       | 1.0000           |             |    |     | 50          | 0 | 5   |
|   |      |           |                  |             |    |     | CT4(A)      |   |     |
|   |      |           |                  |             |    |     | 100         | 0 | 5   |
| <div>Upload</div> <div>Download</div> <div>Wh Clear</div> |      |           |                  |             |    |     |             |   |     |

### [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  $\times$  VT ratio  $\times$  CT turn =  $30480 \text{ W} \times 1 \times 1$  = 30.48 kW.

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

The active power (W) indicators below show 18290 kW ( $1829 \times 10^1$ ).

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

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

| WT4A15W0                 |          |           |                     |             |    |     |             |     |     |
|--------------------------|----------|-----------|---------------------|-------------|----|-----|-------------|-----|-----|
| Card No.                 |          | Card Type |                     | Version No. |    |     |             |     |     |
| 2                        |          | WT4A15W0  |                     | 0.06        |    |     |             |     |     |
|                          | W<br>Whi | Who       | Adjust<br>Bias/Gain | WFS         | WU | WhU | Drop-Out(%) |     |     |
| 1                        | 1829     |           | 0.00                | 0           | 1  | 2   | 2.00        |     |     |
|                          | 12AB     | 12A       | 1.0000              |             |    |     | PRI         | U/T | SEC |
|                          |          |           |                     |             |    |     | VT(V)       |     |     |
| 2                        | 1829     |           | 0.00                | 0           | 1  | 2   | 220 0 220   |     |     |
|                          | 12AB     | 12A       | 1.0000              |             |    |     | CT1(A)      |     |     |
|                          |          |           |                     |             |    |     | 80 1        |     |     |
| 3                        | 1829     |           | 0.00                | 0           | 1  | 2   | CT2(A)      |     |     |
|                          | 12AB     | 12A       | 1.0000              |             |    |     | 80 1        |     |     |
|                          |          |           |                     |             |    |     | CT3(A)      |     |     |
| 4                        | 1829     |           | 0.00                | 0           | 1  | 2   | 80 1        |     |     |
|                          | 12AB     | 12A       | 1.0000              |             |    |     | CT4(A)      |     |     |
|                          |          |           |                     |             |    |     | 80 1        |     |     |
| Upload Download Wh Clear |          |           |                     |             |    |     |             |     |     |

| Item         | Function  | Setting Range<br>(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.<br>Active power = $W \times 10^{[WU]}$               |   |
| Whi          | Shows Incoming Energy 16 bits, real number (HEX), indicator only.<br>Incoming energy = $WHi \times 10^{[WU]+[WhU]}$ |   |
| Who          | Shows Outgoing Energy 16 bits, real number (HEX), indicator only.<br>Outgoing energy = $WHO \times 10^{[WU]+[WhU]}$ |   |
| 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 (% $\times 100$ )<br>Automatically calculated with VT and CT values if set to 0.           | 1 to 10000  |
| WU           | Active Power, exponent $10^n$<br>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)<br>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. Setting range cannot be modified 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

WT1111W

Card No. Card Type Version No.

2 WT1111W 0.01

|          |      |        |             |      |     |
|----------|------|--------|-------------|------|-----|
| value    | Bias | Gain   | Drop-Out(%) |      |     |
| W 624    | 0.00 | 1.0000 | PRI         | U    | SEC |
| var 360  | 0.00 | 1.0000 | VT(V) 6600  | 0    | 110 |
| cos 0866 | 0.00 | 1.0000 | CT(A) 100   | 0    | 5   |
| Hz 6000  | 0.00 | 1.0000 | FS          | Unit |     |
|          |      |        | W / var     | 0    | 3   |

|               |      |                |      |       |      |            |
|---------------|------|----------------|------|-------|------|------------|
| High          | Low  | High           | Low  | Unit  | Min. | Max.       |
| Whi 0000      | 12AB | Who 0000       | 0000 | Wh 0  | 0    | 1000000000 |
| varh LAG 0000 | 12A  | varh LEAD 0000 | 0000 | var 0 | 0    | 1000000000 |

Upload Download Wh Clear

<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 =  $10^{(W/var \text{ Unit}) + (Wh \text{ Unit})} = 10^{3+0} = 1000 \text{ Wh} = 1 \text{ kWh}$ .

Reactive energy =  $10^{(W/var \text{ Unit}) + (varh \text{ Unit})} = 10^{3+0} = 1000 \text{ varh} = 1 \text{ kvarh}$ .

The active power (W) indicator shows 624 kW ( $624 \times 10^3$ ).

The reactive power (var) indicator shows 360 kvar ( $360 \times 10^3$ ).

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) ×  $10^3 \text{ Wh} = 4779 \text{ kWh}$ .

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

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

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 ( $1584 \times 10^3$ ).

The reactive power (var) indicator shows 914 kvar ( $914 \times 10^3$ ).

The power factor (cos) indicator shows 0.866.

The frequency (Hz) indicator shows 60.00 Hz.

| WT1A15W  |      |            |          |             |      |                 |  |      |   |
|----------|------|------------|----------|-------------|------|-----------------|--|------|---|
| Card No. |      | Card Type  |          | Version No. |      |                 |  |      |   |
| 2        |      | WT1A15W    |          | 0.04        |      |                 |  |      |   |
| value    |      | Bias       |          | Gain        |      | Drop-Out(%)     |  |      |   |
| W        | 1584 | 0.00       |          | 1.0000      |      | 2.00            |  |      |   |
| var      | 914  | 0.00       |          | 1.0000      |      | PRI U/T SEC     |  |      |   |
| cos      | 0866 | 0.00       |          | 1.0000      |      | VT(V) 220 0 220 |  |      |   |
| Hz       | 6000 | 0.00       |          | 1.0000      |      | CT(A) 80 1      |  |      |   |
|          |      |            |          |             |      | FS              |  | Unit |   |
|          |      |            |          |             |      | W / var         |  | 0 1  |   |
|          |      |            |          |             |      |                 |  |      |   |
| High     |      | Low        |          | High        |      | Low             |  | Unit |   |
| Whi      | 0000 | 12AB       |          | Who         | 0000 | 0000            |  | Wh   | 2 |
| Min.     |      | Max.       |          | Min.        |      | Max.            |  |      |   |
| 0        |      | 1000000000 |          | 0           |      | 1000000000      |  |      |   |
|          |      |            |          |             |      |                 |  |      |   |
| varh     |      | 12A        |          | varh        |      | LEAD            |  | var  |   |
| LAG      |      | 0000       |          | 0000        |      | 0000            |  | 2    |   |
| Min.     |      | Max.       |          | Min.        |      | Max.            |  |      |   |
| 0        |      | 1000000000 |          | 0           |      | 1000000000      |  |      |   |
|          |      |            |          |             |      |                 |  |      |   |
| Upload   |      |            | Download |             |      | Wh Clear        |  |      |   |

| Item           | Function   | Setting Range<br>(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.<br>Active power = $W \times 10^{[W/var \text{ Unit}]}$  |   |
| var            | Shows Reactive Power 16 bits, real number, indicator only.<br>Reactive power = $var \times 10^{[W/var \text{ Unit}]}$ (not usable with single phase input) |   |
| cos            | Shows Power Factor 16 bits, real number (not usable with single phase input).<br>Power factor = $cos \times 10^{-3}$                                       |   |
| Hz             | Shows Frequency 16 bits, real number.<br>Frequency = $Hz \times 10^{-2}$   |   |
| 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)<br>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<br>Automatically calculated with VT and CT values if set to 0.   | 1 to 10000  |
| W/var Unit     | Active/Reactive Power, exponent $10^n$<br>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 $10^n$<br>Unit (Wh) = Active Energy 32 bits $\times 10^{[W/var \text{ Unit} + Wh \text{ Unit}]}$                              | -3 to 4   |
| Wh Min.        | Minimum count value<br>0 with bidirectional current; Wh Min. = $[-1] \times [Wh \text{ Max.}]$   | 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 $10^n$<br>Unit (varh) = Reactive Energy 32 bits $\times 10^{[W/var \text{ Unit} + varh \text{ Unit}]}$                      | -3 to 4   |
| varh Min.      | Minimum count value<br>0 with bidirectional current; Wh Min. = $[-1] \times [Wh \text{ Max.}]$   | 0, 1  |
| varh Max.      | Maximum count limit value  | 1 to 1 000 000 000                                |

\*1. Setting range cannot be modified 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

PA2W

|          |           |             |            |           |
|----------|-----------|-------------|------------|-----------|
| Card No. | Card Type | Version No. | Delay Time | Hold Time |
| 1        | PA2W      | 0.03        | 0.1        | 0.1       |

Ch. 1

|          |           |        |             |       |                |
|----------|-----------|--------|-------------|-------|----------------|
| Value    | Input(Hz) | 1 Mode | Alarm Level | Hyst. | Drop-Out       |
| 000      | 0-10k     | 1      | 80.00       | 5.00  | 0.10           |
| Value(H) | Value(L)  | 2      | 100000000   | 1000  | Zero Scale     |
| 0000     | 0000      | 2      | 20.00       | 5.00  | Reset Position |
| Position | 0         |        | 100000000   | 1000  | Full Scale     |
|          |           |        |             |       | Max.Position   |
|          |           |        |             |       | 10000          |
|          |           |        |             |       | 100000000      |

Ch. 2

|          |           |        |             |       |                |
|----------|-----------|--------|-------------|-------|----------------|
| Value    | Input(Hz) | 1 Mode | Alarm Level | Hyst. | Drop-Out       |
| 000      | 0-10k     | 1      | 80.00       | 5.00  | 0.10           |
| Value(H) | Value(L)  | 2      | 100000000   | 1000  | Zero Scale     |
| 0000     | 0000      | 2      | 20.00       | 5.00  | Reset Position |
| Position | 0         |        | 100000000   | 1000  | Full Scale     |
|          |           |        |             |       | Max.Position   |
|          |           |        |             |       | 10000          |
|          |           |        |             |       | 100000000      |

Upload Download Clear

<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<br>(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<br>Enter a desired value in the text box.  | -32000 to 32000  |
| Full Scale     | 100% scaling value<br>Enter a desired value in the text box.  | -32000 to 32000  |
| Max. Position  | The maximum position value<br>Enter a desired value in the text box.  | 0 to 100 000 000   |
| Reset Position | The initial position value used when reset<br>Enter a desired value in the text box.  | 0 to 100 000 000   |
| Drop-Out       | Low-end cutout value in %<br>Enter a desired value in the text box.   | 0.1 to 50.00   |
| Mode           | Choose the alarm operation mode.<br>1 : Speed/High 2 : Speed/Low 3 : Position/High 4 : Position/Low   | 1, 2, 3, 4   |
| Alarm Level    | Enter the alarm setpoints.<br>Upper row : Speed (%)<br>Lower row : Position   | Speed: 0.00 to 100.00<br>Position: -100 000 000 to 100 000 000 |
| Hyst.          | Enter the hysteresis value.<br>Upper row : Speed<br>Lower row : Position  | Speed: 0.00 to 100.00<br>Position: -100 000 000 to 100 000 000 |
| Delay Time     | Enter the alarm delay time in seconds.<br>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.<br>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

PA4S

Card No. Card Type Version No.

1 PA4S 0.01

Ch. 1

Value Input(Hz) Gain Th. Adjust Drop-Out Edge 0:UP/1:DOWN Zero/Full Scale

000 0-100k High 40.00 0.10 1 0 10000

Ch. 2

000 0-100k High 40.00 0.10 0 0 10000

Ch. 3

000 0-100k High 40.00 0.10 0 0 10000

Ch. 4

000 0-100k High 40.00 0.10 0 0 10000

Upload Download

<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<br>(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<br>Enter a desired value in the text box.                       | -32000 to 32000                                   |
| Full Scale  | 100% scaling value<br>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<br>1 : Down or Sink                |
| Drop-Out    | Low-end cutout value in %<br>Enter a desired value in the text box.              | 0.01 to 50.00                                     |
| Th. Adjust  | Input detecting level (threshold) in %<br>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

PA16W

Card No. Card Type Version No.

5 PA16W 2.01

|   | Value | Max   | Preset |    | Value | Max   | Preset |
|---|-------|-------|--------|----|-------|-------|--------|
| 1 | 0     | 10000 |        | 9  | 0     | 10000 |        |
| 2 | 0     | 10000 |        | 10 | 0     | 10000 |        |
| 3 | 0     | 10000 |        | 11 | 0     | 10000 |        |
| 4 | 0     | 10000 |        | 12 | 0     | 10000 |        |
| 5 | 0     | 10000 |        | 13 | 0     | 10000 |        |
| 6 | 0     | 10000 |        | 14 | 0     | 10000 |        |
| 7 | 0     | 10000 |        | 15 | 0     | 10000 |        |
| 8 | 0     | 10000 |        | 16 | 0     | 10000 |        |

Upload Download Clear Preset

<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<br>(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<br>(R3-PA16 V2.01 or<br>higher) | Enter the total count value.<br>Press Preset button to change the total count value. | 0 to maximum count limit                          |

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

PA8S

Card No. Card Type Version No.

1 PA8S 0.05

|   | Value | Min | Max     | Preset |
|---|-------|-----|---------|--------|
| 1 | 0     | 0   | 9999999 |        |
| 2 | 0     | 0   | 9999999 |        |
| 3 | 0     | 0   | 9999999 |        |
| 4 | 0     | 0   | 9999999 |        |
| 5 | 0     | 0   | 9999999 |        |
| 6 | 0     | 0   | 9999999 |        |
| 7 | 0     | 0   | 9999999 |        |
| 8 | 0     | 0   | 9999999 |        |

Upload Download Clear Preset

<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<br>(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.<br>Enter a desired value in the text box. | 0, 1   |
| Max         | The maximum count limit value<br>Enter a desired value in the text box.                | 10 000 to 2 147 483 647                              |
| Preset      | Enter the total count value.<br>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

The screenshot shows the R3CON software window. At the top, there's a menu bar with 'File', 'Connect', and 'Help'. Below it, a status bar shows 'COM1' and a green 'Connected' indicator. The main area is divided into several sections. On the left, there's a 'Com. Card' section with 'Upload' and 'Setting' buttons, and an 'Ethernet Setting' button. Below that is a 'Monitoring' section with 'Start' and 'Stop' buttons. At the bottom left is an 'I/O Card DipSW' section with a 'Check' button. The main part of the window is titled 'PA4AW' and contains a table of settings for four channels. Each channel has fields for 'Card No.', 'Card Type', 'Version No.', 'Value\_H(Hex)', 'Value\_L(Hex)', 'Max.', 'Min.', 'Dividing Ratio', 'Edge', and 'Th. Adjust'. There are also 'Upload', 'Download', and 'Clear' buttons at the bottom of the PA4AW section.

<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<br>(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.<br>Unchecked: keep the total count value at downloading.<br>(Available with version 0.10 or higher. Resets the total count value at downloading when the version is 0.09 or earlier.)* <sup>1</sup> |  |
| 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<br>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

AV4S

Card No. Card Type Version No.

6 AV4S 0.01

0 15 Power ON Delay Time Hold Time

5.0 1.0 1.0

|     | Value | Unused | Hyst. | Alarm Level  | H/L | Alarm Level  | H/L |
|-----|-------|--------|-------|--------------|-----|--------------|-----|
| Ch1 | 49.98 | 0      | 5.00  | A1(0) 80.00  | 1   | A3(2) 40.00  | 0   |
|     |       |        |       | A2(1) 60.00  | 1   | A4(3) 20.00  | 0   |
| Ch2 | 49.51 | 0      | 5.00  | A1(4) 80.00  | 1   | A3(6) 40.00  | 0   |
|     |       |        |       | A2(5) 60.00  | 1   | A4(7) 20.00  | 0   |
| Ch3 | 49.83 | 0      | 5.00  | A1(8) 80.00  | 1   | A3(10) 40.00 | 0   |
|     |       |        |       | A2(9) 60.00  | 1   | A4(11) 20.00 | 0   |
| Ch4 | 49.83 | 0      | 5.00  | A1(12) 80.00 | 1   | A3(14) 40.00 | 0   |
|     |       |        |       | A2(13) 60.00 | 1   | A4(15) 20.00 | 0   |

Upload Download

#### ■ R3-AV8W

AV8W

Card No. Card Type Version No.

1 AV8W 0.04

0 15 16 31 Power ON Delay Time Hold Time

5.0 1.0 1.0

|     | Value | Un | used | Hyst. | Alarm1 Cond. | Alarm2 Cond. | Alarm3 Cond. | Alarm4 Cond. |
|-----|-------|----|------|-------|--------------|--------------|--------------|--------------|
|     |       |    |      |       | Bit Pos.     | Level        | Dir          | Bit Pos.     |
| Ch1 | 50.00 | 0  | 5.00 | 0     | 80.00        | 1            | 1            | 60.00        |
|     |       |    |      | 4     | 80.00        | 1            | 5            | 60.00        |
| Ch2 | 50.00 | 0  | 5.00 | 8     | 80.00        | 1            | 9            | 60.00        |
|     |       |    |      | 12    | 80.00        | 1            | 13           | 60.00        |
| Ch3 | 50.00 | 0  | 5.00 | 16    | 80.00        | 1            | 17           | 60.00        |
|     |       |    |      | 20    | 80.00        | 1            | 21           | 60.00        |
| Ch4 | 49.99 | 0  | 5.00 | 24    | 80.00        | 1            | 25           | 60.00        |
|     |       |    |      | 28    | 80.00        | 1            | 29           | 60.00        |
| Ch5 | 50.00 | 0  | 5.00 | 32    | 80.00        | 1            | 33           | 60.00        |
|     |       |    |      | 36    | 80.00        | 1            | 37           | 60.00        |
| Ch6 | 50.00 | 0  | 5.00 | 40    | 80.00        | 1            | 41           | 60.00        |
|     |       |    |      | 44    | 80.00        | 1            | 45           | 60.00        |
| Ch7 | 50.00 | 0  | 5.00 | 48    | 80.00        | 1            | 49           | 60.00        |
|     |       |    |      | 52    | 80.00        | 1            | 53           | 60.00        |
| Ch8 | 50.00 | 0  | 5.00 | 56    | 80.00        | 1            | 57           | 60.00        |
|     |       |    |      | 60    | 80.00        | 1            | 61           | 60.00        |

Upload Download

<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<br>(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* <sup>1</sup>                      |
| Alarm Level | Enter the alarm setpoint (%).   | 0.00 to 100.00* <sup>2</sup>                      |
| Value       | Shows currently monitored value   |   |
| Power ON    | Enter the power on delay time in seconds.<br>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.<br>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.<br>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.<br>0 : Low alarm trip 1 : High alarm trip   | 0, 1  |

\*1. 0.0 to 900.0°C or 0 to 1620°F for R3-AT4; 0.0 to 1,000.0°C or 0 to 1800°F for R3-AR4

\*2. -270.0 to +2400.0°C or -454 to 4352°F for R3-AT4; -200.0 to +850.0°C or -328 to +1562°F 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<br>(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).<br>0 : Close 1 : Open   | 0, 1   |
| Strobe Logic  | Choose the strobe signal logic (ON).<br>0 : Close 1 : Open                                  | 0, 1   |
| Data Exchange | Choose big-endian or little-endian data representation.<br>0 : Little-endian 1 : Big-endian | 0, 1   |

### 3.16 R3-LC2 - STRAIN GAUGE INPUT MODULE

LC2W

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 1        | LC2W      | 0.01        |

| Ch. 1      |            |           |
|------------|------------|-----------|
| Value      | Unused     |           |
| 11500      | 0          |           |
| Zero       | Scale      | Adjust    |
|            | 0          | 0.00      |
| Full       | 10000      | 1.0000    |
| Tare ratio | Load ratio | Th.Adjust |
| 0          | 5000       | 500       |

| Ch. 2      |            |           |
|------------|------------|-----------|
| Value      | Unused     |           |
| 11500      | 0          |           |
| Zero       | Scale      | Adjust    |
|            | 0          | 0.00      |
| Full       | 10000      | 1.0000    |
| Tare ratio | Load ratio | Th.Adjust |
| 0          | 10000      | 500       |

Upload Download

<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<br>(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<br>Enter a desired value in the text box.                                    | -32000 to 32000                                   |
| Full Scale  | 100% scaling value<br>Enter a desired value in the text box.                                  | -32000 to 32000                                   |
| Zero Adjust | Fine 0% adjustment value (bias)<br>Enter a desired value in the text box.                     | -320.00 to 320.00                                 |
| Full Adjust | Fine 100% adjustment value (gain)<br>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.<br>(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

US4W

Card No.  Card Type  Version No.  Unit  ADC Speed  Limit ☐

Value InputType Unused Burnout Scale Adjust Base

Ch.1 CJC SW ☐ Zero     
    Full

Ch.2 CJC SW ☒ Zero     
    Full

Ch.3 CJC SW ☐ Zero     
    Full

Ch.4 CJC SW ☐ Zero     
    Full

<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<br>(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:<br>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.<br>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<br>Enter a desired value in the text box.  | -32000 to 32000                                   |
| Full Scale  | 100% scaling value<br>Enter a desired value in the text box.  | -32000 to 32000                                   |
| Zero Adjust | Fine 0% adjustment value (bias)<br>Enter a desired % value corresponding to the scaling value in the text box.  | -320.00 to 320.00                                 |
| Full Adjust | Fine 100% adjustment value (gain)<br>Enter a desired value in the text box.   | -3.2000 to 3.2000                                 |
| Zero Base   | Enter 0% value.<br>Enter a desired value in the text box.   | -999 to 99999                                     |
| Full Base   | Enter 100% value.<br>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.<br>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).<br>No CJC for B thermocouple  | Checked : ON<br>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.

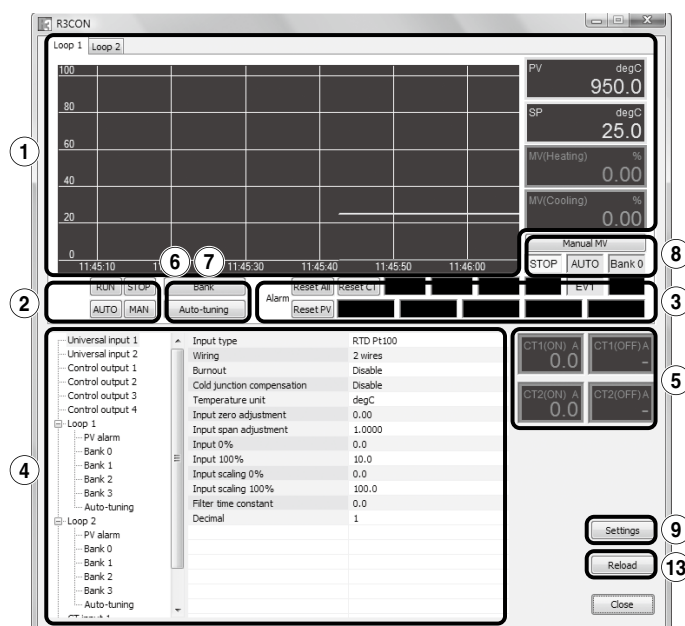
Example: DC voltage input, Input type: -6 to +6 V (For both R3-US4 and R3-US4/A)

|                    |                     |
|--------------------|---------------------|
| 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 tab 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 value 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

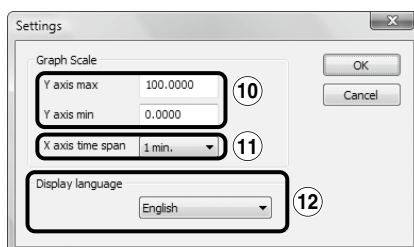
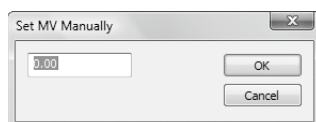
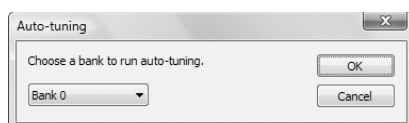
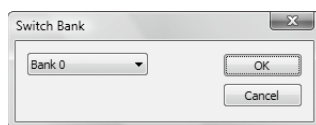
Specify a full-scale time span for X axis. Selectable among:  
10 sec. 30 sec. 1 min. 3 min. 5 min.  
10 min. 15 min. 30 min. 1 hour 2 hours

#### (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

**MEX2W**

|                 |                  |                    |
|-----------------|------------------|--------------------|
| <b>Card No.</b> | <b>Card Type</b> | <b>Version No.</b> |
| 1               | MEX2W            | 0.09               |

**Ch. 1**

Position: 18.7 Deadband: 1.5 %

Position Setpoint: 0.0 Restart Time: 2500 msec

Motor Deadlock Detecting Time: 120 sec

Ch Enable/Disable: **Enable** Position (Raw): 3077

**Ch. 2**

Position: 100.4 Deadband: 0.7 %

Position Setpoint: 0.0 Restart Time: 2000 msec

Motor Deadlock Detecting Time: 120 sec

Ch Enable/Disable: **Disable** Position (Raw): 8142

**Test Mode**

Ch. ☒ Ch.1 ☐ Ch.2

Test Mode ☒ OFF ☐ ON

Position Setpoint: 0.0 **SET**

**User Full Position Setting**

☒ Ch1 ☐ Ch2

**Set Open Position**

**Set Close Position**

**Coarse** **Fine**

Open

Close

**Fine Adj. Level**

☐ L1 ☒ L2 ☐ L3

**End Open Pos. Setting**

**Upload** **Download**

<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<br>(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<br>0.3<br>0.5<br>0.7<br>1.0<br>1.5 (default)<br>2.0<br>3.0<br>5.0<br>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.<br>Shows the position in scaling value based on the factory default setting.<br>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   |
|------|--|
|      | Select the channel for which the full positions are to be adjusted.<br>The channel cannot be switched while User Full Position Setting is performed.                 |
|      | Click to start adjusting the full-open position.<br>The button is active when User Full Position Setting is not performed.   |
|      | Click to start adjusting the full-closed position.<br>The button is active when User Full Position Setting is not performed.   |
|      | Click to save and end the position setting.<br>(1) Grayed-out when User Full Position Setting is not performed.  |
|      | (2) The button is active while the full-open position is being adjusted.<br>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.<br>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   |
|      | Select the level of the output volume (motor driving time) for fine adjustment output.<br>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  |
|------|---|
|      | Select the channel for driving the motor.   |
|      | Check ON/OFF to Turn ON/OFF Test mode.<br>When Test mode is ON, position instructions from the host device are ignored.<br>Be sure to turn OFF when the test is complete. |
|      | Set the target position in scaling value based on the full positions set by the user.   |
|      | Click to drive the motor.   |

## 4. NETWORK MODULE SETTING

### 4.1 R3-Nx - COM CARD SETTINGS

#### ■ Network module version V1.00 or earlier versions

**Com.Card Settings**

Card Name  
NE1

Version  
V0.05

SW1 SW2 SW3  
00,00,05

Status  
00 DOWN

Time (0.1sec)  
30

Upload Download Exit

<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<br>(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     | <div>Shows a value in hexadecimal in which the position of DIP switch on the module is expressed as ON: 1, OFF: 0.<br/>In case of no DIP switch, “0” or “1” is displayed.<br/>E.g., “D6” is displayed when SW1 is in the position shown below.</div> <table><tr><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td></tr><tr><td>(1)</td><td>(1)</td><td>(0)</td><td>(1)</td><td>(0)</td><td>(1)</td><td>(1)</td><td>(0)</td></tr><tr><td colspan="4">D (hexadecimal)</td><td colspan="4">6 (hexadecimal)</td></tr></table> | 8   | 7   | 6               | 5   | 4   | 3   | 2 | 1 | ON | ON | OFF | ON | OFF | ON | ON | OFF | (1) | (1) | (0) | (1) | (0) | (1) | (1) | (0) | D (hexadecimal) |  |  |  | 6 (hexadecimal) |  |  |  |  |
| 8               | 7   | 6   | 5   | 4               | 3   | 2   | 1   |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| ON              | ON  | OFF   | ON  | OFF             | ON  | ON  | OFF |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| (1)             | (1)   | (0)   | (1) | (0)             | (1) | (1) | (0) |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| D (hexadecimal) |   |   |     | 6 (hexadecimal) |     |     |     |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| Status          | Shows the current status of the network module<br>(‘00’ - ‘UP’ or ‘00’ - ‘DOWN’ in normal conditions)   |   |     |                 |     |     |     |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| Time            | Enter the elapsed ‘no communication’ time to detect.<br>0.1-second increments   | 2 to 32000<br>30 to 32000 for the<br>R3-NL1, -NL2<br>(The power supply must be<br>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<br>(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<br>‘00’ - ‘UP’ or ‘00’ - ‘DOWN’ in normal conditions<br>In case of R3-NMW1F, ‘7’ - ‘UP’ or ‘7’ - ‘DOWN’ in normal conditions  |   |     |                 |     |     |     |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| Time                                 | Enter the elapsed ‘no communication’ time to detect.<br>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.<br>In case of no DIP switch, “0” or “1” is displayed.<br>E.g., “D6” is displayed when SW1 is in the position shown below. <table><tr><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td></tr><tr><td>(1)</td><td>(1)</td><td>(0)</td><td>(1)</td><td>(0)</td><td>(1)</td><td>(1)</td><td>(0)</td></tr><tr><td colspan="4">D (hexadecimal)</td><td colspan="4">6 (hexadecimal)</td></tr></table> | 8   | 7   | 6               | 5   | 4   | 3   | 2 | 1 | ON | ON | OFF | ON | OFF | ON | ON | OFF | (1) | (1) | (0) | (1) | (0) | (1) | (1) | (0) | D (hexadecimal) |  |  |  | 6 (hexadecimal) |  |  |  |  |
| 8                                    | 7  | 6   | 5   | 4               | 3   | 2   | 1   |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| ON                                   | ON   | OFF   | ON  | OFF             | ON  | ON  | OFF |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| (1)                                  | (1)  | (0)   | (1) | (0)             | (1) | (1) | (0) |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| D (hexadecimal)                      |  |   |     | 6 (hexadecimal) |     |     |     |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| In Slot                              | Enter the input module slot number to be directly output. *1<br>0 : via Host or PLC<br>1 thr. 16 : Input module slot number  | 0, 1 through 16                                   |     |                 |     |     |     |   |   |    |    |     |    |     |    |    |     |     |     |     |     |     |     |     |     |                 |  |  |  |                 |  |  |  |  |
| Fieldbus Activate<br>Delay SW 0 sec. | Internal function setting<br>(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.

## NOTE

When 'Time' or 'In Slot' has been changed, turn off and on the power supply to the R3 network module.

## 4.2 R3-NE1, TR3EX - ETHERNET SETTINGS

**Ethernet Settings**

IP Address: 192 168 0 1

Subnet Mask: 255 255 255 0

MAC Address: 00-10-9C-FF-F5-01

Default Gateway: 192 168 0 100

TCP Socket: Port1 502, Port2 502, Port3 502, Port4 502

Linger (0.1sec): 1 1800, 2 1800, 3 1800, 4 1800

Buttons: Upload, Download, Exit

<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<br>(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<br>Except 0.0.0.0<br>(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.<br>TCP Socket closed after no communication (Set 1800 for 180.0 sec.) for<br>the preset time. | 0 to 32767 (integer)                                 |

\*1. TCP socket is selectable from 1 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

### Ethernet Settings

IP Address

172163222

Subnet Mask

2552552550

MAC Address

00-10-9C-23-00-13

Default Gateway

1721631

Upload

Download

Exit

- <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<br>(must be used within this range) |
|-----------------|--|--|
| IP Address      | Enter IP Address   | 0 to 255 (integer)                                   |
| Subnet Mask     | Enter Subnet Mask<br>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<br>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<br>(Use within the range.) | Default |
|--|--|---------|
| Network No.                                      | 1 to 239                                 | 1       |
| Station ID                                       | Display only                             | ----    |
| MAC Address                                      | Display only                             | ----    |
| Link Status                                      | Display only* <sup>1</sup>               | ----    |
| Main/Sub switching delay time<br>(0 - 5000 msec) | 0 to 5000 msec.* <sup>2</sup>            | 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<br>(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 /<br>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<br>(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<br>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<br>(must be used within this range)  | Default               |
|---|--|---|-----------------------|
| PAN-ID                                  | PAN-ID   | 0000 to FFFE*1<br>(hexadecimal, 4 digits)   | 0000                  |
| Radio channel number<br>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<br>(hexadecimal, 4 digits)   | 0000                  |
| Network name                            | Network name   | English one-byte characters within<br>16 characters*4   | Blank                 |
| Encryption key                          | Encryption key   | 0000...0 to FFFF...F*5<br>(hexadecimal, 32 digits)  | 0000...0              |
| Transmitter power<br>output             | Transmitter power output   | 0.16 mW / 1 mW / 20 mW  | 20 mW                 |
| Communication timeout<br>(100msec)      | Wireless module frame timer value*6  | 0 to 32767 (100 msec.)  | 30                    |
| Number of devices in a<br>network       | Network configuration<br>(No. of child devices with the identical ID)                    | 1 – 30 / 31 – 60 / 61 – 100 (devices) /<br>Fixed + Low speed movement*7                             | 1 – 30                |
| Packet filtering                        | Disabling/enabling Packet filtering*8  | Disable / Enable  | Enable                |
| Filter timeout on polling<br>(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 ·<br>delaytime middle /<br>Changing frequency · delaytime<br>large*11 | Standard              |
| Network join mode                       | Network join mode setting  | V3-compatible mode /<br>Fast join mode*12   | V3-compatible<br>mode |
| Retry times before route<br>switching   | Number of times of retry of data transmission<br>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

**Com.Card Settings**

Card Name  
GC1S

Version  
V0.02

Status  
00 DOWN

Time (0.1sec)  
30

Upload Download Exit

<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<br>(must be used within this range) |
|-----------|---|--|
| Card Name | Shows the interface module type   |  |
| Version*1 | Shows the firmware version No. of the interface I/O module  |  |
| Status*2  | Shows the current status of the interface I/O module<br>(‘00’ - ‘UP’ or ‘00’ - ‘DOWN’ in normal conditions) |  |
| Time*2    | Enter the elapsed ‘no communication’ time to detect.<br>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. For R3-GE1 version 4.00 or later, the firmware version of the main CPU will be displayed.

\*2. No view with the R3-GLSMP1.

## 5.2 R3-GE1 - ETHERNET SETTINGS

### Ethernet Settings

**IP Address**

**Subnet Mask**

**MAC Address**

**Default Gateway**

**TCP Socket**

Port1

Port2

Port3

Port4

**Linger (0.1sec)**

1

2

3

4

<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<br>(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<br>Except 0.0.0.0<br>(R3-GE1 Ver. 4.06 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.<br>TCP Socket closed after no communication (Set 1800 for 180.0 sec.) for the preset time. | 0 to 32767 (integer)                                 |

\*1. TCP socket is selectable from 1 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 interface I/O module to validate the setting.

## 5.3 PARAMETER SETTING WINDOW

GC1(1)

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 1        | GC1(1)    | p.02        |

| Input Value | Output Value | Input Value | Output Value |
|-------------|--------------|-------------|--------------|
| +0 0000     | 0000         | +8 0000     | 0000         |
| +1 0000     | 0000         | +9 0000     | 0000         |
| +2 0000     | 0000         | +10 0000    | 0000         |
| +3 0000     | 0000         | +11 0000    | 0000         |
| +4 0000     | 0000         | +12 0000    | 0000         |
| +5 0000     | 0000         | +13 0000    | 0000         |
| +6 0000     | 0000         | +14 0000    | 0000         |
| +7 0000     | 0000         | +15 0000    | 0000         |

GC1(2)

| Card No. | Card Type | Version No. |
|----------|-----------|-------------|
| 2        | GC1(2)    | p.02        |

| Input Value | Output Value | Input Value | Output Value |
|-------------|--------------|-------------|--------------|
| +16 0000    | 0000         | +24 0000    | 0000         |
| +17 0000    | 0000         | +25 0000    | 0000         |
| +18 0000    | 0000         | +26 0000    | 0000         |
| +19 0000    | 0000         | +27 0000    | 0000         |
| +20 0000    | 0000         | +28 0000    | 0000         |
| +21 0000    | 0000         | +29 0000    | 0000         |
| +22 0000    | 0000         | +30 0000    | 0000         |
| +23 0000    | 0000         | +31 0000    | 0000         |

| Item         | Function  |
|--------------|---|
| Card No.     | Shows Slot No.  |
| Card Type    | Shows interface I/O module type.<br>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.<br>For R3-GE1 version 4.00 or later, the following version will be displayed.<br>When connecting PC Configurator Cable to R3-GE1: Firmware version of the main CPU<br>When connecting PC Configurator Cable to network module: Firmware version of the sub CPU |
| Input Value  | Shows the current input value (HEX).<br>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.)

**GSLMP Settings**

**SLMP settings**

Pause period: 100 m sec

IP address: 192 168 0 250

Subnet mask: 255 255 255 0

Default gateway: 192 168 0 1

Protocol type: 16 or 32 bit

Processor No.: 03FF H

SLMP timeout: 3 sec

Network No.: 0

Station No.: 255

SLMP server IP address: 192 168 0 2

SLMP server Port No.: 8192

Entry No.: 5

OK

MAC Address: 00-10-9C-00-FF-FE

**Card settings**

|         | I/O type | Ch. No. | SLMP device | Device address |      |
|---------|----------|---------|-------------|----------------|------|
|         |          |         |             | Hex.           | Dec. |
| Entry 1 | AI       | 8       | SD          |                | 400  |
| Entry 2 | AI       | 7       | W           | ABC            |      |
| Entry 3 | DI       | 8       | SM          |                | 200  |
| Entry 4 | DO       | 4       | Y           | DEF            |      |
| Entry 5 | AO       | 12      | SD          |                | 600  |
| Entry 6 |          |         |             |                |      |
| Entry 7 |          |         |             |                |      |
| Entry 8 |          |         |             |                |      |
| Entry 9 |          |         |             |                |      |
| Entry10 |          |         |             |                |      |
| Entry11 |          |         |             |                |      |
| Entry12 |          |         |             |                |      |
| Entry13 |          |         |             |                |      |
| Entry14 |          |         |             |                |      |
| Entry15 |          |         |             |                |      |
| Entry16 |          |         |             |                |      |

Upload Download Read File Save File Exit

<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-GSLMP1

<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 | Begin address of read and write memory (hexadecimal)                           |
| Device address Dec. | Device address Dec. *6 | Begin 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.

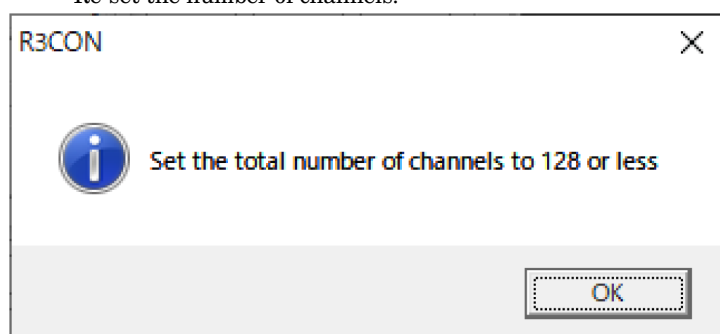


Table 1. Device type

| 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.

**R3CON**

File Connect Help

COM10 ● Connected Card No. 01:GSLMP1(1) OverView

**Com. Card**

Upload

Setting

GSLMP Setting

**Monitoring**

Start

Stop

**I/O Card DipSW**

Check

**GSLMP1/1**

Card No. 1 Card Type GSLMP1/1 Version No. 1.04

I/O card settings

I/O card type AI

Channel No. 15

monitor

**Input Value**

|   |      |    |      |
|---|------|----|------|
| 1 | 0000 | 9  | 0000 |
| 2 | 0000 | 10 | 0000 |
| 3 | 0000 | 11 | 0000 |
| 4 | 0000 | 12 | 0000 |
| 5 | 0000 | 13 | 0000 |
| 6 | 0000 | 14 | 0000 |
| 7 | 0000 | 15 | 0000 |
| 8 | 0000 | 16 |      |

| 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<br>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.

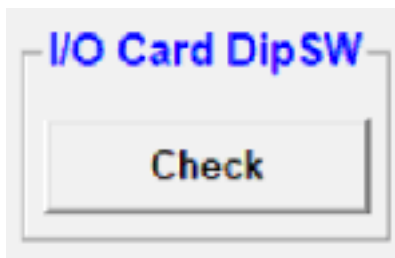
Click <Download> on the parameter setting window of each module to write the parameters in the module.

- (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.

The screenshot shows the 'I/O Card DipSW Check' window. It contains a table with 16 rows (Slot 1 to Slot 16) and several columns. The first two columns are 'Card Name' and 'Version'. The next three columns are 'SW1 (BIN)', 'SW2 (BIN)', and 'SW3 (BIN)', each with sub-columns 1 through 8. Black squares indicate the switch is ON, and white squares indicate it is OFF. At the bottom, there is an 'Exit' button and a legend: 'ON = [black square]' and 'OFF = [white square]'.

|         | Card Name | Version | SW1 (BIN) |   |   |   |   |   |   |   | SW2 (BIN) |   |   |   |   |   |   |   | SW3 (BIN) |   |   |   |   |   |   |   |
|---------|-----------|---------|-----------|---|---|---|---|---|---|---|-----------|---|---|---|---|---|---|---|-----------|---|---|---|---|---|---|---|
|         |           |         | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Slot 1  | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 2  | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 3  | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 4  | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 5  | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 6  | DA32WT    | 1.07    |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 7  | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 8  | SV8BW     | 0.09    |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 9  | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 10 | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 11 | SS8W      | 0.11    |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 12 | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 13 | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 14 | AS8W      | 0.04    |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 15 | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |
| Slot 16 | -         | -       |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |

---

### 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.