

## Remote I/O R30 Series

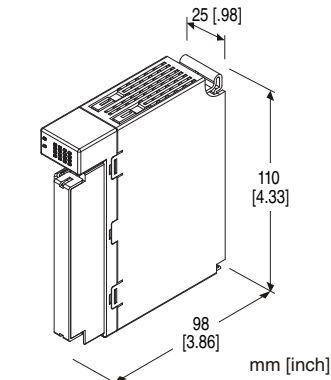
(No. ESU-9001)

### DC VOLTAGE/CURRENT INPUT MODULE

(4 points, isolated)

#### Functions & Features

- 4 channels for DC voltage/current input remote I/O module
- Isolation between input channels
- Input range of each channel is individually adjustable with PC configurator



### MODEL: R30SV4S[1]

#### ORDERING INFORMATION

- Code number: R30SV4S[1]
- Specify a code from below for [1].  
(e.g. R30SV4S/Q)
- Specify the specification for option code /Q  
(e.g. /C01/SET)

#### NO. OF CHANNELS

4: 4

#### COMMUNICATION MODE

S: Single

#### [1] OPTIONS

blank: none

/Q: With options (specify the specification)

#### SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet

#### CAUTION

##### ■ UNUSED INPUT CHANNELS

Set unused channels to "CH disabled" with PC Configurator software: R30CFG. When input range is 1 to 5 V DC or 4 to 20 mA DC, input values of the unused channels left open are to be lower than -15 %, which set a data error at the PLC or other host devices.

#### RELATED PRODUCTS

- PC configurator software (model: R30CFG)

Downloadable at our web site.

For connecting to PC, use commercially available Mini-B type USB cable. (provided by user)

#### GENERAL SPECIFICATIONS

##### Connection

**Internal bus:** Via the Installation Base (model: R30BS)

**Input:** M3 separable screw terminal (torque 0.5 N·m)

**Internal power:** Via the Installation Base (model: R30BS)

**Solderless terminal:** Refer to the drawing at the end of the section.

**Recommended manufacturer:** Japan Solderless Terminal MFG. Co., Ltd., Nichifu Co., Ltd.

(Solderless terminals with insulation sleeve do not fit.)

**Applicable wire size:** 0.25 to 0.75 mm<sup>2</sup>

**Screw terminal:** Nickel-plated steel

**Isolation:** Input 1 to input 2 to input 3 to input 4 to internal bus or internal power

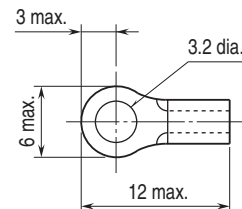
**Input range:** Selectable with PC configuration software (model: R30CFG)

**Conversion rate:** Selectable with PC configuration software (model: R30CFG)

**Status indicator LED:** RUN, ERR

(refer to the instruction manual)

■ Recommended solderless terminal size - M3 (unit: mm)



## INPUT SPECIFICATIONS

Module type: Analog input, 4 points

### ■ DC Current

Input resistor: 70  $\Omega$

Input range: -20 to +20 mA DC, 0 to 20 mA DC,  
4 to 20 mA DC

### ■ Narrow span voltage

Input resistance:  $\geq 100$  k $\Omega$

Input range: -1 to +1 V DC, 0 to 1 V DC, -0.5 to +0.5 V DC

### ■ Wide span voltage

Input resistance:  $\geq 1$  M $\Omega$

Input range: -10 to +10 V DC (\*), -5 to +5 V DC,  
0 to 10 V DC, 0 to 5 V DC, 1 to 5 V DC

(\*) Factory setting

## INSTALLATION

Current consumption: 50 mA

Operating temperature: -10 to +55°C (14 to 131°F)

Storage temperature: -20 to +65°C (-4 to +149°F)

Operating humidity: 10 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Installation Base (model: R30BS)

Weight: 160 g (0.35 lb)

## PERFORMANCE

Conversion rate / conversion accuracy:

10 ms /  $\pm 0.8\%$ , 20 ms /  $\pm 0.4\%$ , 40 ms /  $\pm 0.2\%$ , 80 ms /  
 $\pm 0.1\%$  (\*)

(\*) Factory setting

Data range: 0 - 10000 of the input range

Data allocation: 4

Temp. coefficient:  $\pm 0.015$  %/°C ( $\pm 0.008$  %/°F)

Input delay time: 50 msec.

Insulation resistance:  $\geq 100$  M $\Omega$  with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute (input 1 to input  
2 to input 3 to input 4 to internal bus or internal power)

1500 V AC @ 1 minute (power input to FE; isolated on the  
power supply module)

## STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

**CONFIGURATOR SOFTWARE SETTING**

The following parameters can be set with using PC Configurator Software (model: R30CFG)  
Refer to the users manual for the R30CFG for detailed operation of the software program.

**■ CHANNEL INDIVIDUAL SETTING**

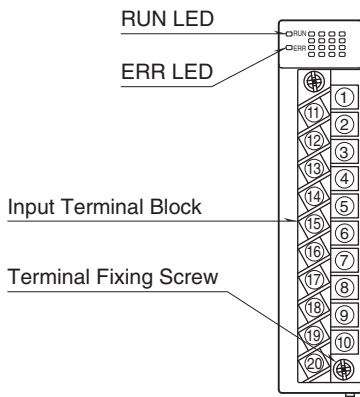
PARAMETER	SETTING RANGE	DEFAULT SETTING
Unused setting	CH enabled CH disabled	CH enabled
Input range	-10 – +10 V DC -5 – +5 V DC -1 – +1 V DC 0 – 10 V DC 0 – 5 V DC 1 – 5 V DC 0 – 1 V DC -0.5 – +0.5 V DC -20 – +20 mA DC 4 – 20 mA DC 0 – 20 mA DC	-10 – +10 V DC
Fine zero adjustment	-320.00 – +320.00 (%)	0.00 (%)
Fine gain adjustment	-3.2000 – +3.2000	1.0000
Scaled range Zero	-32 000 – +32 000	0
Scaled range Span	-32 000 – +32 000	10 000

**■ CHANNEL BATCH SETTING**

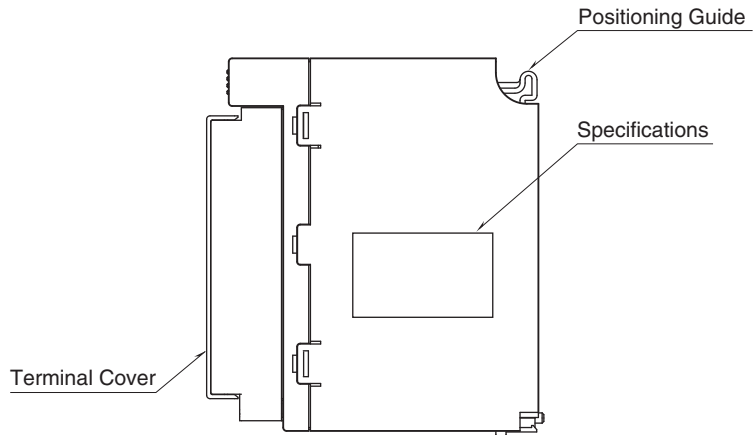
PARAMETER	SETTING RANGE	DEFAULT SETTING
Conversion rate	80 ms 40 ms 20 ms 10 ms	80 ms
Simulate input	Normal input Simulated data	Normal input

## EXTERNAL VIEW

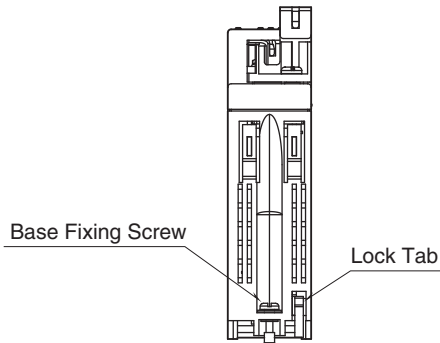
### FRONT VIEW



### SIDE VIEW



### BOTTOM VIEW

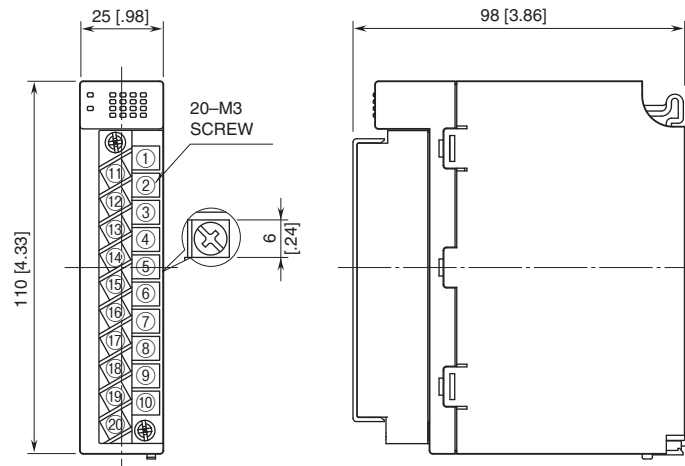


## TERMINAL ASSIGNMENTS

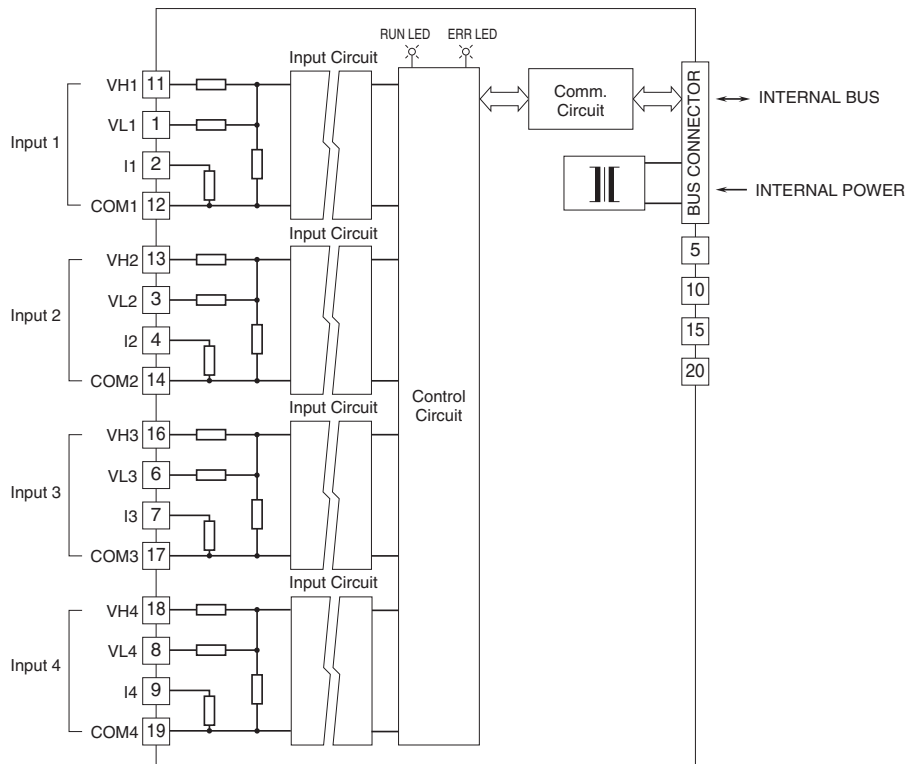
11	VL1
VH1	2
12	I1
COM1	3
13	VL2
VH2	4
14	I2
COM2	5
15	NC
NC	6
16	VL3
VH3	7
17	I3
COM3	8
18	VL4
VH4	9
19	I4
COM4	10
20	NC
NC	

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	VL1	Narrow span volt. 1	11	VH1	Wide span volt. 1
2	I1	Current 1	12	COM1	Common 1
3	VL2	Narrow span volt. 2	13	VH2	Wide span volt. 2
4	I2	Current 2	14	COM2	Common 2
5	NC	No connection	15	NC	No connection
6	VL3	Narrow span volt. 3	16	VH3	Wide span volt. 3
7	I3	Current 3	17	COM3	Common 3
8	VL4	Narrow span volt. 4	18	VH4	Wide span volt. 4
9	I4	Current 4	19	COM4	Common 4
10	NC	No connection	20	NC	No connection

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]

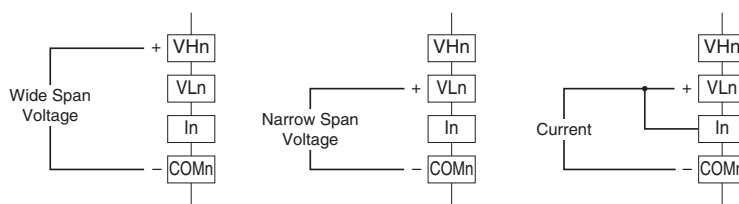


## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Note: Connect either wide or narrow span or current terminals for each channel.

### Input Connection Examples



Note: Be sure to close across VLn and In terminals for a current input.



Specifications are subject to change without notice.