

Remote I/O R30 Series

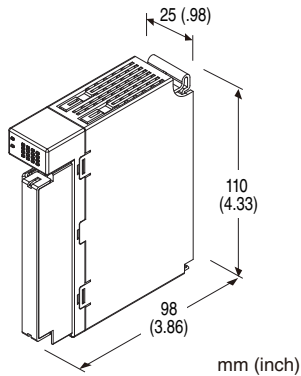
(No. ESU-9001)

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 M-System's 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 M-System's 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 supply: 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 mm²

Screw terminal: Nickel-plated steel

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

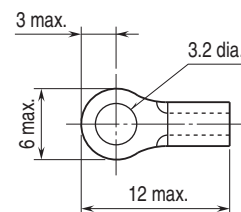
Input range: Selectable with PC configuration software (model: R30CFG)

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 Ω

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

■ Narrow span voltage

Input resistance: $\geq 100 \text{ k}\Omega$

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

■ Wide span voltage

Input resistance: $\geq 1 \text{ M}\Omega$

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: $\pm 0.015 \text{ \%}/^\circ\text{C}$ ($\pm 0.008 \text{ \%}/^\circ\text{F}$)

Input delay time: 50 ms

Insulation resistance: $\geq 100 \text{ M}\Omega$ 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

EN 50581

CONFIGURATOR SOFTWARE SETTING

With configurator software, settings shown below are available.
Refer to the software manual of R30CFG for detailed operation.

■ CHANNEL INDIVIDUAL SETTING

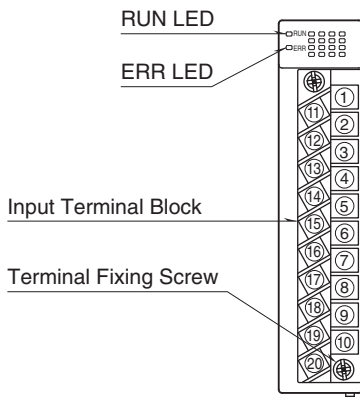
ITEM	USABLE RANGE	DEFAULT SETTING
Unused setting	CH enabled CH disabled	CH enabled
Input range	-10 – +10 V DC -5 – +5 V DC -1 – +1 V DC 0 – 10 V DC 0 – 5 V DC 1 – 5 V DC 0 – 1 V DC -0.5 – +0.5 V DC -20 – +20 mA DC 4 – 20 mA DC 0 – 20 mA DC	-10 – +10 V DC
Fine zero adjustment	-320.00 – +320.00 (%)	0.00 (%)
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

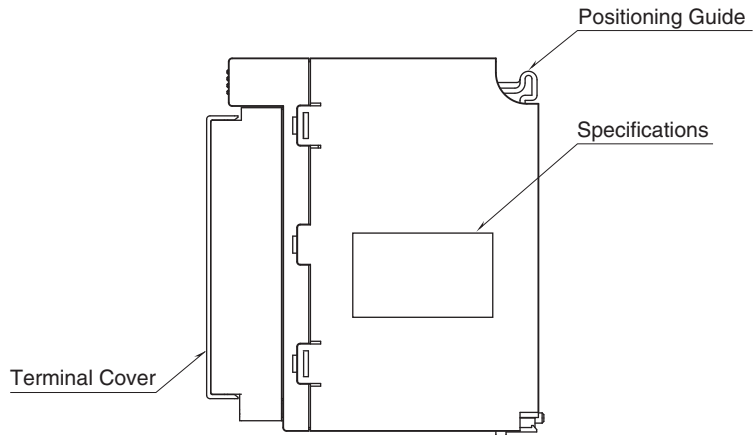
ITEM	USABLE RANGE	DEFAULT SETTING
Conversion rate	80 ms 40 ms 20 ms 10 ms	80 ms
simulate input	Normal input Simulated data	Normal input

EXTERNAL VIEW

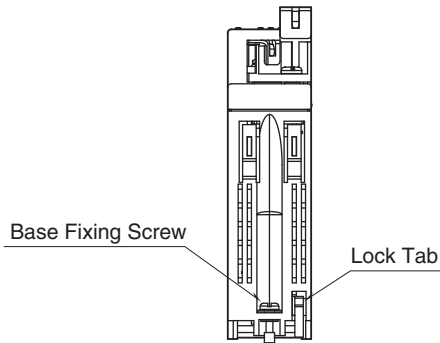
FRONT VIEW



SIDE VIEW



BOTTOM VIEW

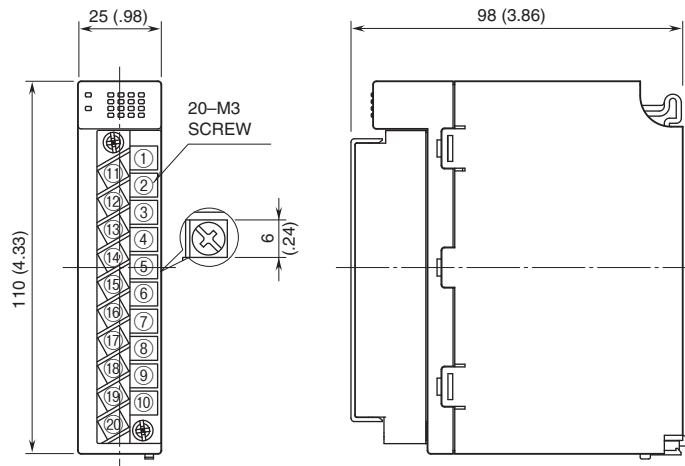


TERMINAL ASSIGNMENTS

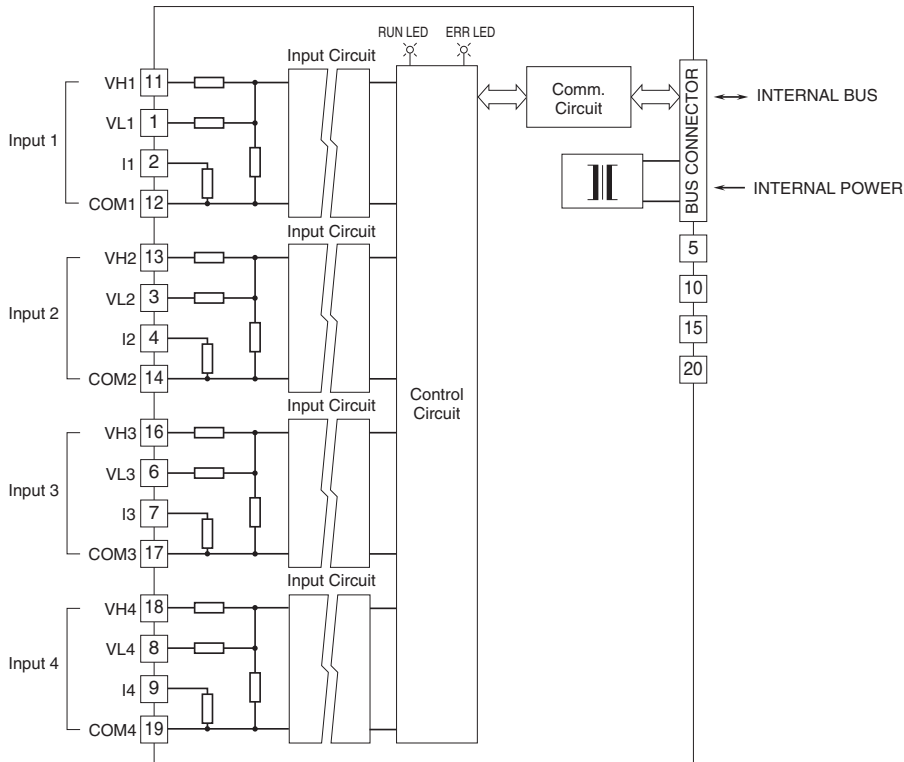
11	1
VH1	VL1
12	2
COM1	I1
13	3
VH2	VL2
14	4
COM2	I2
15	5
NC	NC
16	6
VH3	VL3
17	7
COM3	I3
18	8
VH4	VL4
19	9
COM4	I4
20	10
NC	NC

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)

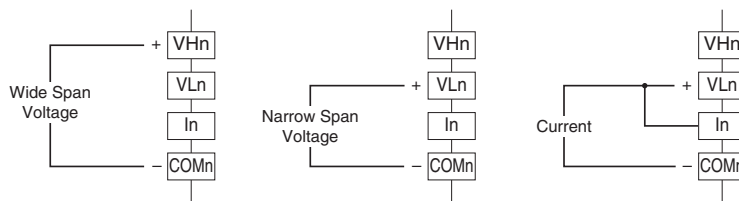


SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



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.