

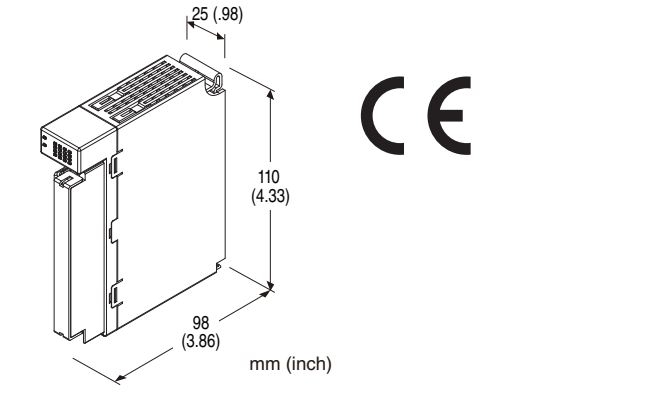
Remote I/O R30 Series

POTENTIOMETER INPUT MODULE

(4 points, isolated)

Functions & Features

- 4 channels for potentiometer input remote I/O module
- Isolation between input channels



MODEL: R30MS4S[1]

ORDERING INFORMATION

- Code number: R30MS4S[1]
- Specify a code from below for [1].
(e.g. R30MS4S/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

(No. ESU-9004)

CAUTION

■ UNUSED INPUT CHANNELS

Set unused channels to "CH disabled" with PC Configurator software (model: R30CFG). Otherwise, unused channels left open are unstable.

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: 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

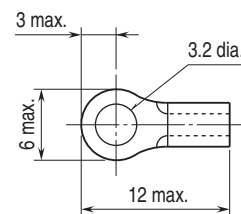
Input range: Selectable with PC configuration software (model: R30CFG)

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
Potentiometer: 100 Ω - 20 k Ω
Minimum span: 50 % of total resistance
Excitation: 0.1 V DC

INSTALLATION

Current consumption: 60 mA max.
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 / $\pm 0.2\%$ (*)
(*) Factory setting
Response time: Conversion rate x 2 + 50 msec. (0 - 90 %)
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: $\geq 100\text{ M}\Omega$ 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

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

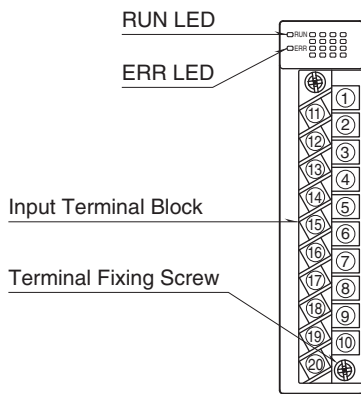
PARAMETER	SETTING RANGE	DEFAULT SETTING
Unused setting	CH enabled CH disabled	CH enabled
Zero base	-320.00 – +320.00 (%)	0.00 (%)
Full base	-320.00 – +320.00 (%)	0.00 (%)
Scaled range Zero	-32 000 – +32 000	0
Scaled range Span	-32 000 – +32 000	10 000

■ CHANNEL BATCH SETTING

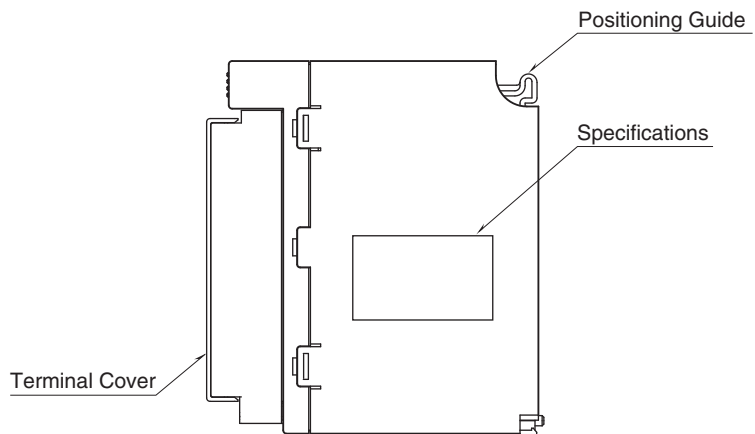
PARAMETER	SETTING RANGE	DEFAULT SETTING
Conversion rate	80 ms 40 ms 20 ms 10 ms	80 ms
Simulate input	Normal input Simulated data	Normal input

EXTERNAL VIEW

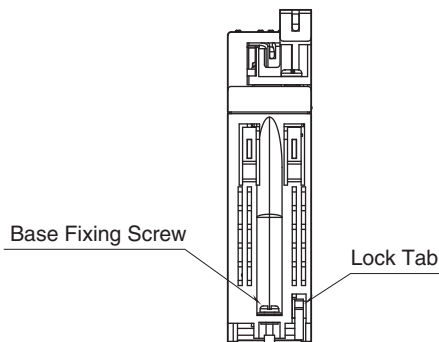
■ FRONT VIEW



■ SIDE VIEW



■ BOTTOM VIEW

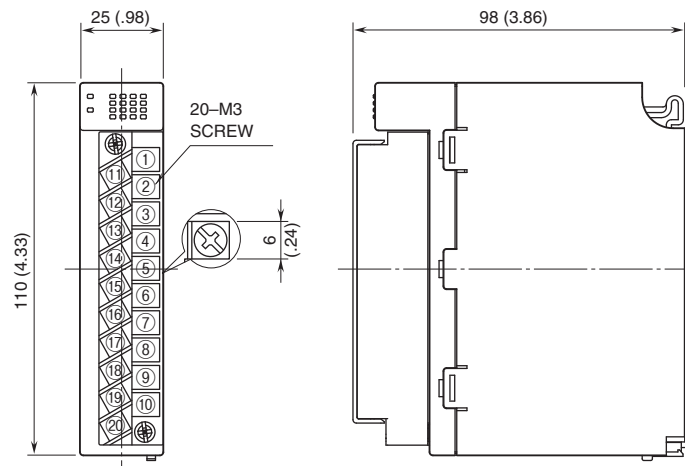


TERMINAL ASSIGNMENTS

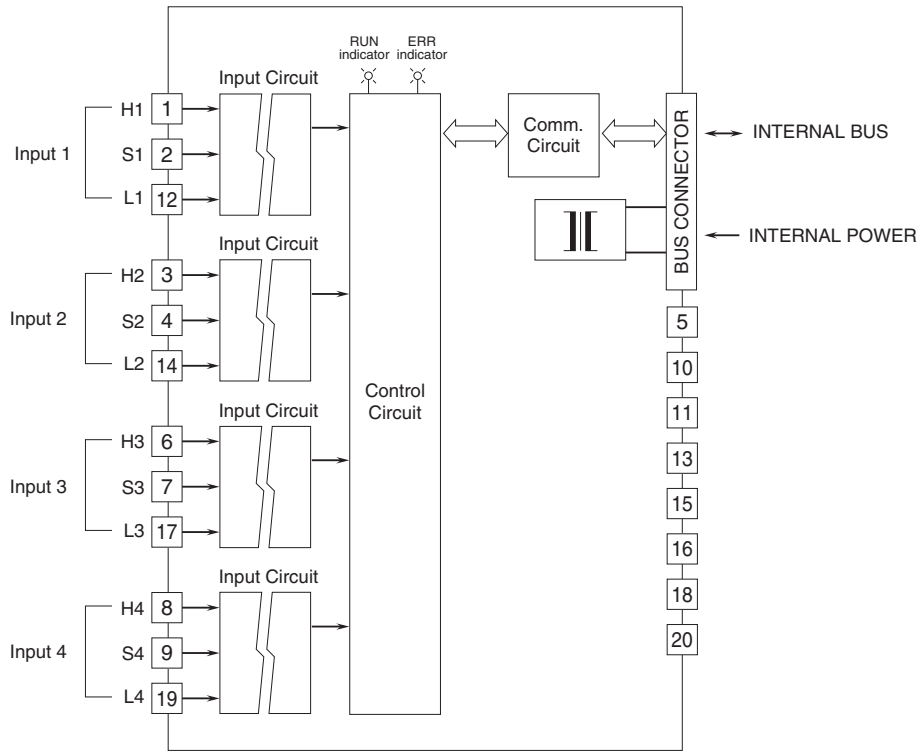
	1
11	H1
NC	2
12	S1
L1	3
13	H2
NC	4
14	S2
L2	5
15	NC
NC	6
16	H3
NC	7
17	S3
L3	8
18	H4
NC	9
19	S4
L4	10
20	NC
NC	

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	H1	Pot 1-H	11	NC	No connection
2	S1	Pot 1-S	12	L1	Pot 1-L
3	H2	Pot 2-H	13	NC	No connection
4	S2	Pot 2-S	14	L2	Pot 2-L
5	NC	No connection	15	NC	No connection
6	H3	Pot 3-H	16	NC	No connection
7	S3	Pot 3-S	17	L3	Pot 3-L
8	H4	Pot 4-H	18	NC	No connection
9	S4	Pot 4-S	19	L4	Pot 4-L
10	NC	No connection	20	NC	No connection

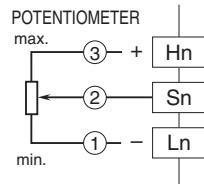
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Input Connection Examples



Specifications are subject to change without notice.