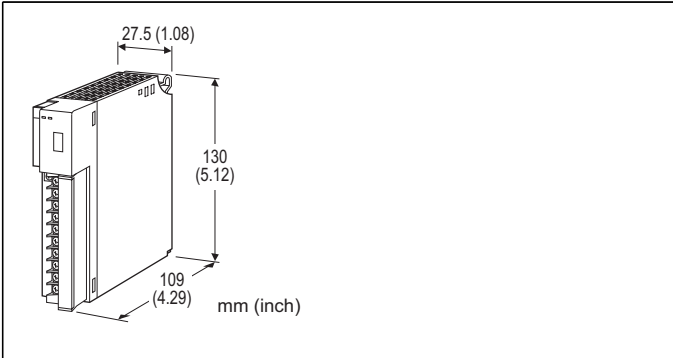


Remote I/O R3 Series

4 - 20 mA INPUT MODULE

(2-wire transmitter exc. supply with switch; 4 points, isolated)



MODEL: R3-DS4A[1][2]

ORDERING INFORMATION

- Code number: R3-DS4A[1][2]
Specify a code from below for each of [1] and [2].
(e.g. R3-DS4AW/Q)
- Specify the specification for option code /Q
(e.g. /C01/SET)

NO. OF CHANNELS

4A: 4 channels, (with excitation supply switches)

[1] COMMUNICATION MODE

S: Single

W: Dual

[2] 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-8368)

GENERAL SPECIFICATIONS

Connection

Internal bus: Via the Installation Base (model: R3-BSx)

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

Internal power: Via the Installation Base (model: R3-BSx)

Screw terminal: Nickel-plated steel

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

Excitation supply switches: DIP switches (front)

Conversion rate: Selectable with the side DIP SW

RUN indicator: Bi-color (red/green) LED;

Red when the bus A operates normally;

Green when the bus B operates normally;

Amber when both buses operate normally.

ERR indicator: Bi-color (red/green) LED;

Red with input circuit abnormality (AD converter response failure);

Green in normal operating conditions.

SUPPLY OUTPUT

(across the terminals 1 - 2, 3 - 4, 6 - 7 and 8 - 9)

Output voltage: 24 - 28 V DC with no load

16 V DC min. at 22 mA

Current rating: ≤ 22 mA DC

• **Shortcircuit Protection**

Current limited: Approx. 30 mA

Protected time duration: No limit

INPUT SPECIFICATIONS

■ **DC Current:** 4 - 20 mA DC

Input resistance: 250 Ω resistor incorporated

INSTALLATION

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

Operating humidity: 30 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Installation Base (model: R3-BSx)

Weight: 250 g (0.55 lb)

PERFORMANCE

Conversion accuracy: Refer to the table at the end of this section.

Conversion rate: 80 / 40 / 20 / 10 msec. selectable
(factory default: 80 msec.)

Data range: 0 - 10000

Data allocation: 4

Current consumption: 210 mA

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

Response time: $\leq 0.2\ \text{sec.}$ (0 - 90 %)

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)

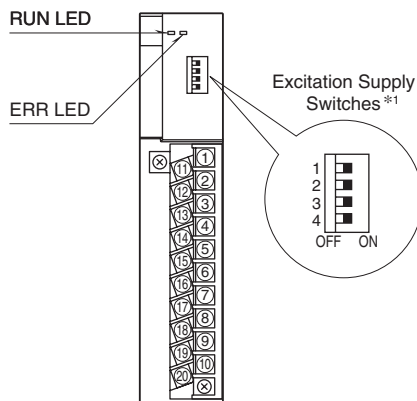
2000 V AC @ 1 minute (power input to FG; isolated on the power supply module)

Conversion accuracy:

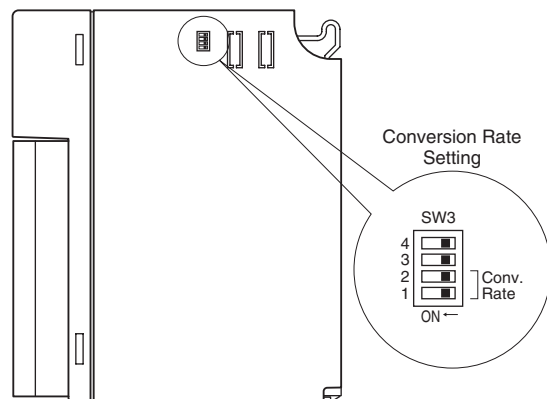
RATE	80 msec.	40 msec.	20 msec.	10 msec.
Accuracy	$\pm 0.05\%$	$\pm 0.1\%$	$\pm 0.2\%$	$\pm 0.4\%$

EXTERNAL VIEW

FRONT VIEW

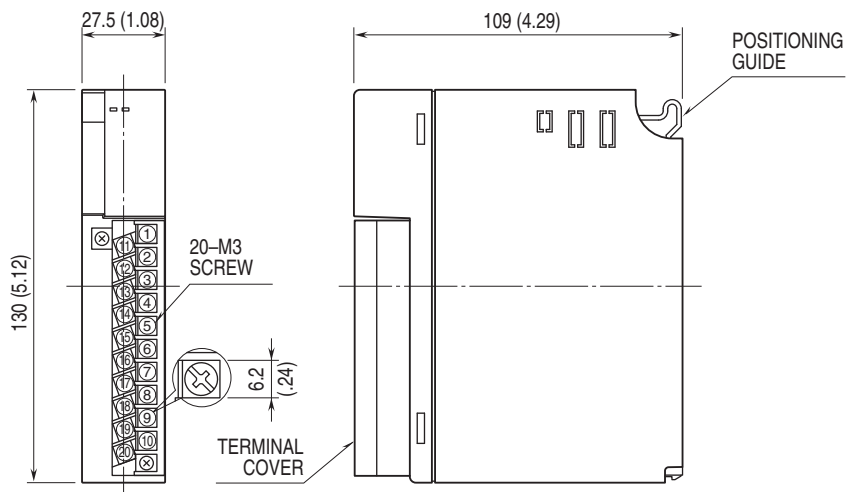


SIDE VIEW

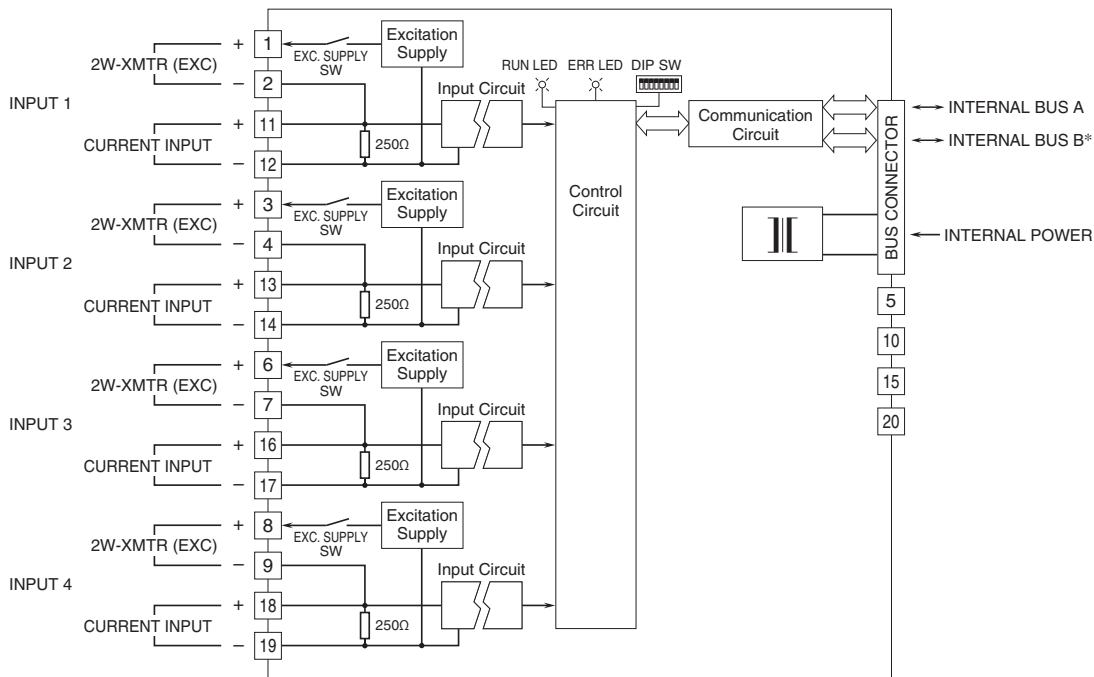


*1. Excitation supply switches 1 through 4 turn on (ON) or off (OFF) the power supply to the input 1 through 4 respectively.
(Factory set to ON)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



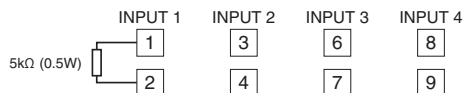
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*For dual redundant communication.

• Unused Input Channels

Turn on the excitation supply switch for the unused channels and close across the unused input terminals with a resistor (5 kΩ, 0.5W) as shown below.



Unused channels left open are equal to the input lower than -15%, which sets a data abnormality at the PLC or the host device.

Unused channels can be specified and set so on the PC Configurator Software (model: R3CON) without needing to connect resistors at the field terminals.



Specifications are subject to change without notice.