

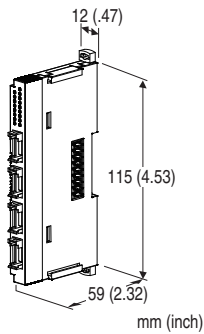
Remote I/O R8 Series

RTD INPUT MODULE

(4 points, non-isolated)

Functions & Features

- Accepts direct input from an RTD and provides an isolated, linearized DC signal compact size remote I/O module
- 100 msec. conversion rate per channel



MODEL: R8-RS4N[1]

ORDERING INFORMATION

- Code number: R8-RS4N[1]
Specify a code from below for [1].
(e.g. R8-RS4N/Q)
- Specify the specification for option code /Q
(e.g. /C01)

[1] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

RELATED PRODUCTS

- PC configurator software (model: R8CFG)
Downloadable at M-System's web site.
A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

GENERAL SPECIFICATIONS

Connection

- **Input:** 4-pin e-CON connector

PWB connector XN2D-1474-S002 (Omron)

Recommended cable connector XN2A-1470 (Omron)

Applicable wire size 0.08 mm² (AWG28) - 0.5 mm² (AWG20)

Outer sheath diameter: max. 1.5 dia

(The cable connector is not included in the package.

Refer to the specifications of the product.)

•Excitation supply, internal bus:

Connected to internal bus connector

•**Internal power:** Supplied from internal bus connector

Isolation: Input to exc. supply to internal bus or internal power

Zero adjustments: -32000 - 32000 (PC programming)

Span adjustments: -32000 - 32000 (PC programming)

Configurator software can handle 100 - 200°C as numerical value of 0 - 10000

Input sensor setting: DIP switches on the side or with PC

Burnout detection: Selectable with the side DIP SW

Linearization: Standard

Module address: With rotary switch

Converted data range:

• Engineering unit value (°C, K) × 10 (integer)

• Engineering unit value (°F)

Terminating resistor: Built-in (DIP Switch, default: disable)

Configuration mode: With DIP switches on the side panel

Status indicator: Bi-color (red/green) LED; Refer to the instruction manual.

Input status indicators: Red LED; Refer to the instruction manual.

INPUT SPECIFICATIONS

Maximum leadwire resistance: 20 Ω per wire

Sensing current: ≤ 0.33 mA

RTD	°C			
	BURNOUT DISPLAY VALUE		ACCURACY RANGE	CONVERSION ACCURACY*1
	Lower	Upper		
Pt 100 (JIS' 97, IEC)	-240	+950	-200 to +850	±0.20
Pt 1000	-240	+950	-200 to +850	±0.40
Pt 50 Ω (JIS' 81)	-235	+750	-200 to +649	±0.40
JPt 100 (JIS' 89)	-235	+610	-200 to +510	±0.20

RTD	°F			
	BURNOUT DISPLAY VALUE		ACCURACY RANGE	CONVERSION ACCURACY*1
	Lower	Upper		
Pt 100 (JIS' 97, IEC)	-400	+1742	-328 to +1562	±0.36
Pt 1000	-400	+1742	-328 to +1562	±0.72
Pt 50 Ω (JIS' 81)	-391	+1382	-328 to +1200	±0.72
JPt 100 (JIS' 89)	-391	+1130	-328 to +950	±0.36

Specify Pt 100 (JIS '97) for Pt 100 (JIS '89), as it is covered with accuracy range of Pt 100 (JIS '97).

*1. This value or ±0.1% of span whichever is greater.

INSTALLATION

Max. current consumption: 100 mA
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: DIN rail
Weight: 60 g (2.12 oz)

PERFORMANCE

Conversion rate: 100 msec. per channel
Data allocation: 2
Module addresses in use: 2
Temp. coefficient: ±0.03 %/°C (±0.02 %/°F)
Burnout response time: ≤ 1 sec.
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1000V AC @1 minute
 (input to exc. supply to internal bus or internal power to ground)

STANDARDS & APPROVALS

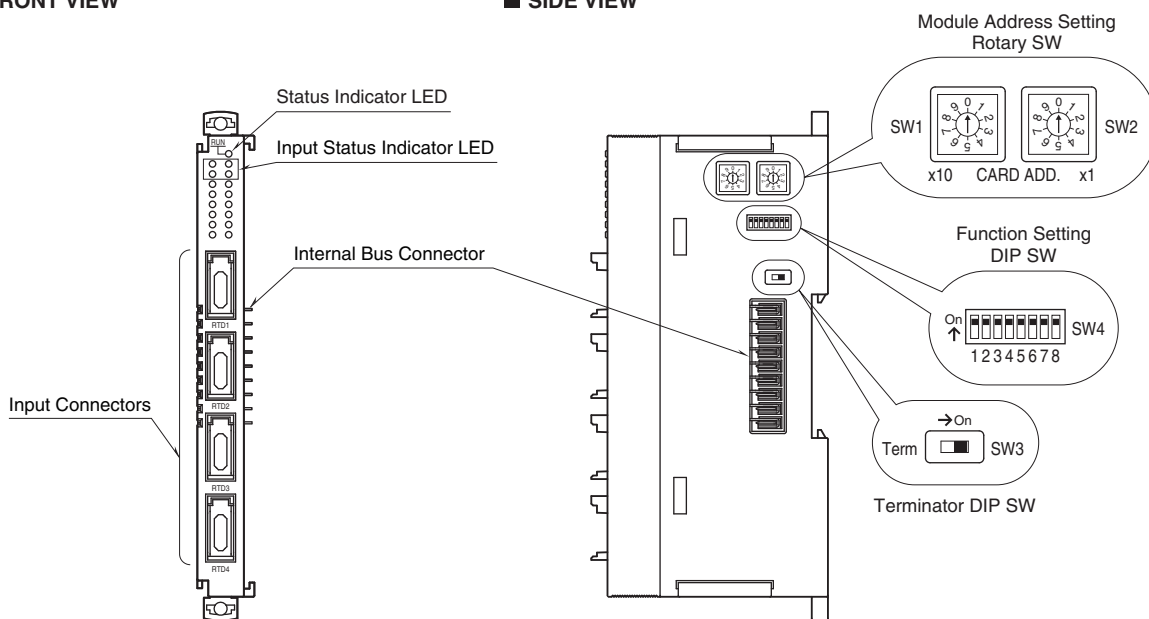
EU conformity:

EMC Directive
 EMI EN 61000-6-4
 EMS EN 61000-6-2
 RoHS Directive
 EN 50581

EXTERNAL VIEW

FRONT VIEW

SIDE VIEW



OPERATING MODE SETTING

(*) Factory setting

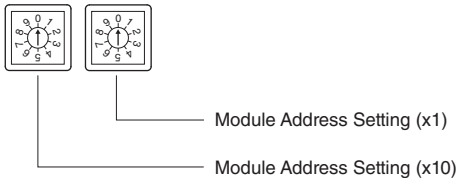
Caution ! - SW4-3 through 4-6 are unused. Be sure to turn off unused ones.

■ Module Address

The left switch determines the tenth place digit, while the right switch does the ones place digit of the address.

Address is selected between 0 to 30.

(Factory setting: 0)



■ RTD

Same setting for all channels. Use PC Configurator to set independent settings per channel.

RTD	SW4	
	1	2
Pt 100 (JIS'97, IEC) (*)	OFF	OFF
Pt 1000	OFF	ON
Pt 50 Ω (JIS'81)	ON	OFF
JPt 100 (JIS'89)	ON	ON

■ Burnout

BURNOUT	SW4
	7
Upscale (*)	OFF
Downscale	ON

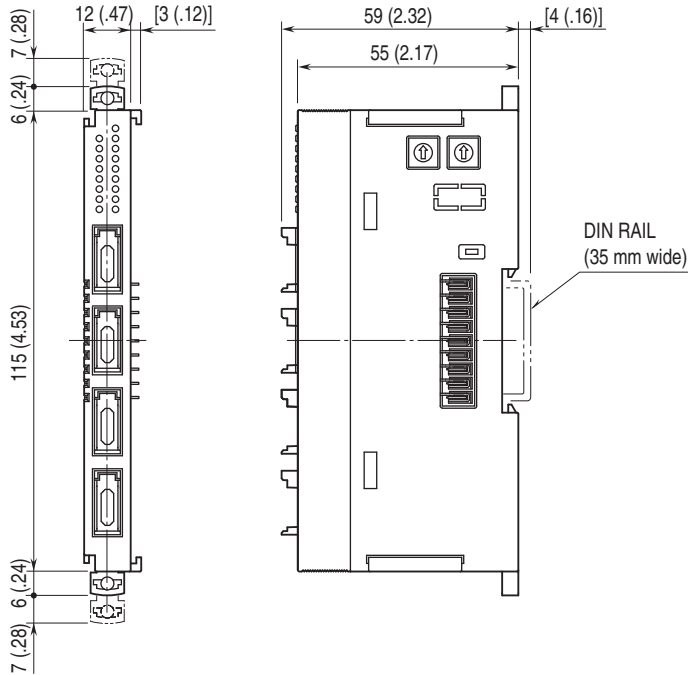
■ Configuration Mode

CONFIGURATION MODE	SW4
	8
DIP switch setting (*)	OFF
PC Configurator and communication	ON

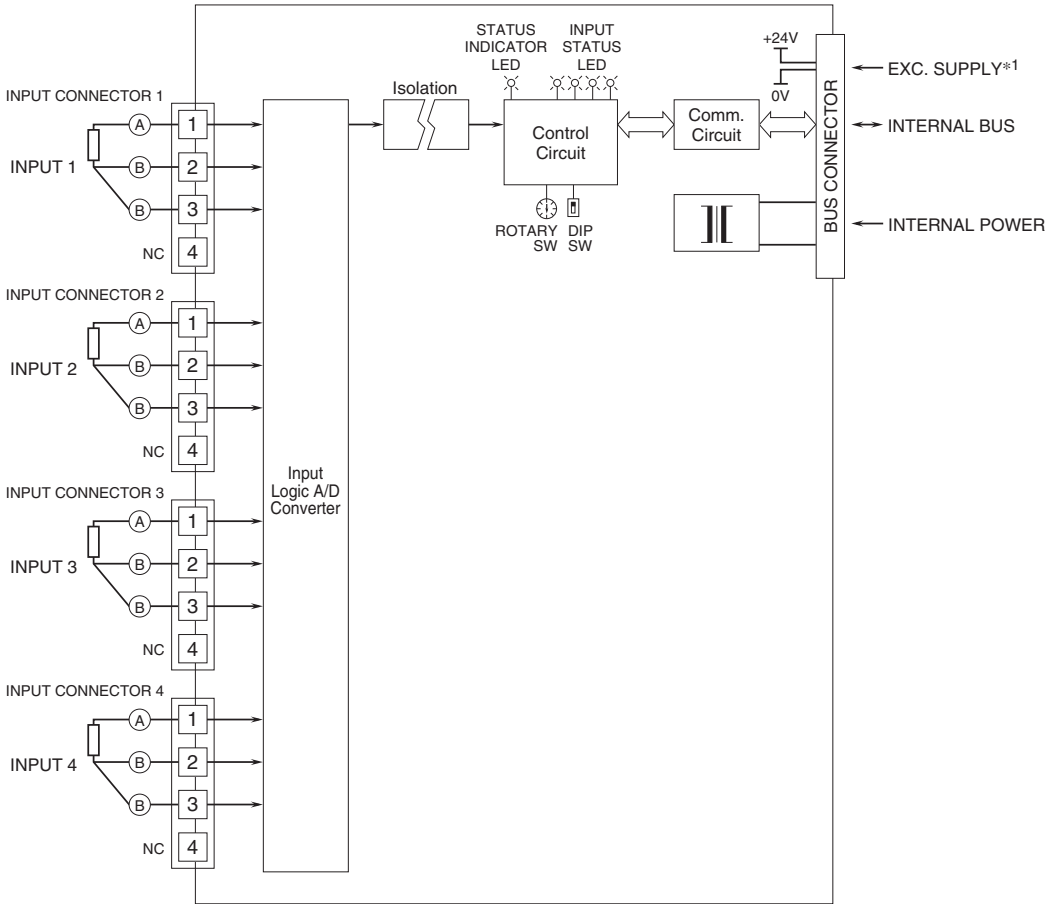
■ Terminator DIP SW

TERMINATOR SW	SW3
Without (*)	OFF
With	ON

DIMENSIONS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1. Not used.



Specifications are subject to change without notice.