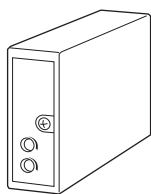


Dual Output Super-mini Signal Conditioners Pico-M Series

RTD CONVERTER

Functions & Features

- Accepting direct input from an RTD and providing two isolated process signals
- Linearization
- Burnout protection
- "Active bridge" circuit containing two constant current sources allows large leadwire resistances up to 200 Ω
- Space-saving, easy-to-maintain, multi-channel installation base



MODEL: M8RS-[1][2]-R[3]

ORDERING INFORMATION

- Code number: M8RS-[1][2]-R[3]
- Specify a code from below for each of [1] through [3].
(e.g. M8RS-46A-R/BL/Q)
- Temperature range (e.g. 0 – 500°C)
 - Specify the specification for option code /Q
(e.g. /C01 /V01)

[1] INPUT RTD (2- or 3-wire)

1: JPt 100 (JIS'89)

(Usable range: -200 to +500°C, -328 to +932°F; min.span: 50°C, 90°F)

3: Pt 100 (JIS'89)

(Usable range: -200 to +650°C, -328 to +1202°F; min.span: 50°C, 90°F)

4: Pt 100 (JIS'97, IEC)

(Usable range: -200 to +850°C, -328 to +1562°F; min.span: 50°C, 90°F)

5: Pt 50 Ω (JIS'81)

(Usable range: -200 to +500°C, -328 to +932°F; min.span: 100°C, 180°F)

6: Ni 508.4 Ω

(Usable range: -50 to +200°C, -58 to +392°F; min.span: 30°C, 54°F)

0: Specify

Note: Consult M-System for 2-wire RTD

[2] OUTPUT 1 / OUTPUT 2

6A: 1 – 5 V DC (Load resistance 2500 Ω min.)/ 4 – 20 mA DC (Load resistance 300 Ω max.)44: 0 – 10 V DC (Load Resistance 5000 Ω min.)/ 0 – 10 V DC (Load Resistance 5000 Ω min.)55: 0 – 5 V DC (Load resistance 2500 Ω min.)/ 0 – 5 V DC (Load resistance 2500 Ω min.)66: 1 – 5 V DC (Load resistance 2500 Ω min.)/ 1 – 5 V DC (Load resistance 2500 Ω min.)

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V $\pm$ 10 %, ripple 10 %p-p max.)

[3] OPTIONS (multiple selections)

Burnout

blank: Upscale burnout

/BL: Downscale burnout

Other Options

blank: none

/Q: Option other than the above (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

ADJUSTMENT

/V01: Multi-turn fine adjustment

RELATED PRODUCTS

- Installation Base or Single Mount Base Socket (model: M8BSx)

This unit must be mounted on dedicated base or socket.

GENERAL SPECIFICATIONS

Construction: Plug-in

Mounting screw: M3 screw (torque 0.3 N·m)

Housing material: Flame-resistant resin (black)

Power supply: Via the Installation Base terminals
(model: M8BSx)

Isolation: Input to output 1 to output 2 to power

Zero adjustment: -2 to +2 % (front)

Span adjustment: 98 to 102 % (front)

At burnout: Downscale $\leq$ -10 %, Upscale $\geq$ 110 %

Linearization: Standard

INPUT SPECIFICATIONS

Maximum leadwire resistance: 200 Ω per wire (3-wire)Sensing current: 2 mA (Pt); 1 mA (Ni 508.4 Ω)

INSTALLATION

Current consumption: Approx. 30 mA (50 mA for current output)

Operating temperature: 0 to 55°C (32 to 131°F)

Operating humidity: 30 to 95 %RH (non-condensing)

Mounting: Installation Base (model: M8BSx)

Weight: 70 g (2.5 oz)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.2\%$

Temp. coefficient: $\pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$)

Response time: ≤ 0.2 sec. (0 – 90 %)

Burnout response: ≤ 10 sec.

Line voltage effect: $\pm 0.1\%$ over voltage range

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

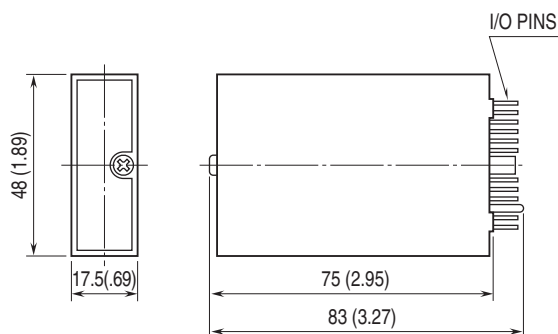
Dielectric strength:

1500 V AC @1 minute (input to output 1 or output 2 or power to ground)

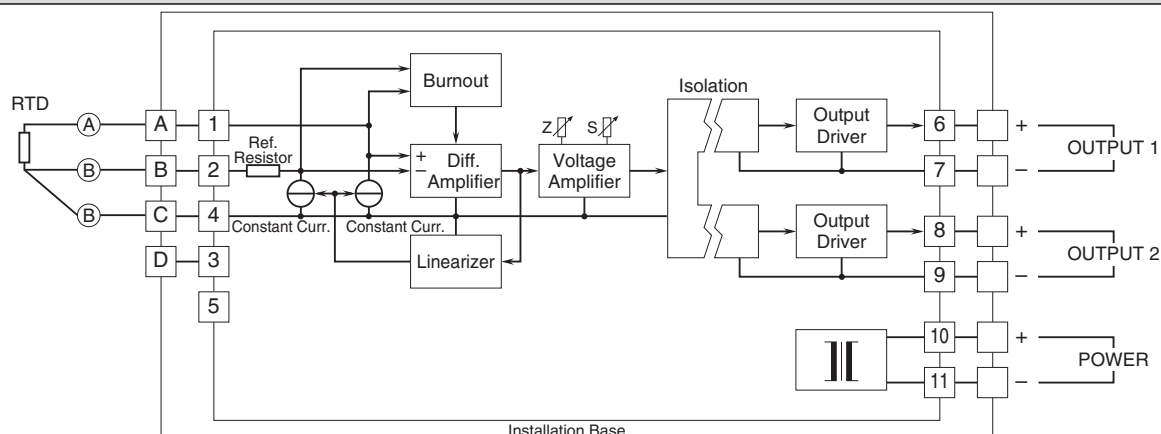
500 V AC @1 minute (output 1 to output 2 to power)

SWC test: ANSI/IEEE-C37.90.1-1989

EXTERNAL DIMENSIONS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.