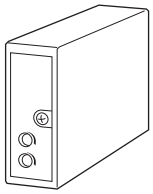
Dual Output Super-mini Signal Conditioners Pico-M Series

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 us 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 ±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 our 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 ≤ -10 %, Upscale ≥ 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)

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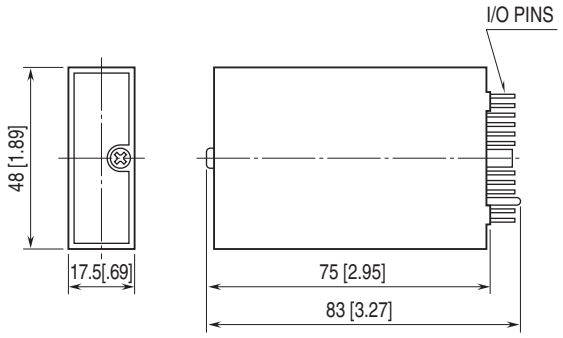
INSTALLATION

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)

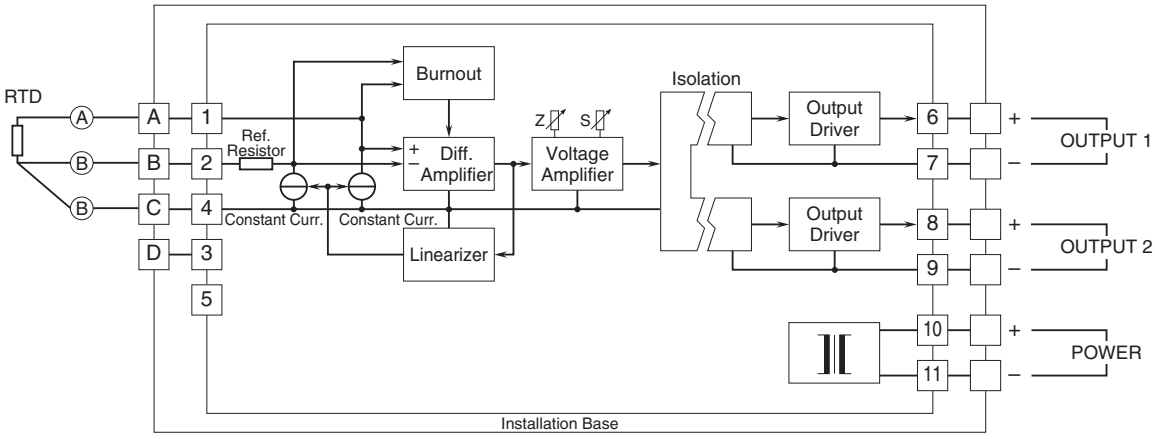
PERFORMANCE in percentage of span

Accuracy: ±0.2 %
Temp. coefficient: ±0.02 %/°C (±0.01 %/°F)
Response time: ≤ 0.2 sec. (0 – 90 %)
Burnout response: ≤ 10 sec.
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ 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.

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