Space-saving Two-wire Signal Conditioners B-UNIT

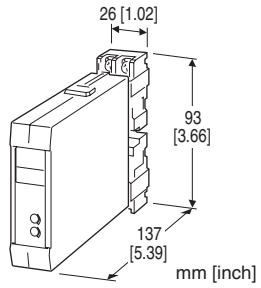
4-WIRE RTD TRANSMITTER

Functions & Features

• Accepting direct input from an RTD and providing a standard 4 – 20 mA DC signal
• Linearization
• Burnout protection
• Constant current sensing method allows large leadwire resistance up to 200 Ω
• High-density mounting

Typical Applications

• Converting into standard output
• Long distance transmission between the RTD and the transmitter
• Combination with intrinsic safety barriers



MODEL: BRE–[1][2]

ORDERING INFORMATION

• Code number: BRE-[1][2]
Specify a code from below for each of [1] and [2].
(e.g. BRE-4/BL)
• Temperature range (e.g. 0 – 500°C)

[1]INPUT RTD (4-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 +650°C, -328 to +1202°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

[2] OPTIONS

Burnout
blank: Upscale burnout
/BL: Downscale burnout

GENERAL SPECIFICATIONS

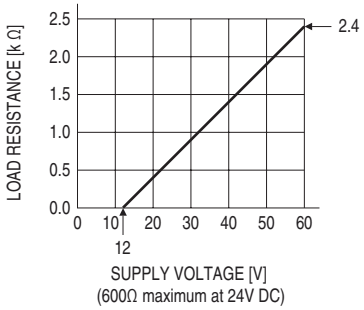
Construction: Plug-in
Connection: M3.5 screw terminals (torque 0.8 N·m)
Screw terminal: Nickel-plated steel
Housing material: Flame-resistant resin (black)
Isolation: Input to output
Overrange output: Approx. -5 to +120 %
Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)
Burnout: Upscale standard;downscale optional
Linearization: Standard

INPUT SPECIFICATIONS

Maximum leadwire resistance: 200 Ω per wire
Sensing current: Approx. 1 mA
(approx. 0.2 mA for Ni 508.4 Ω)

OUTPUT SPECIFICATIONS

Output: 4 – 20 mA DC
Load resistance vs. supply voltage:
Load Resistance (Ω) = (Supply Voltage (V) – 12 (V))
÷ 0.02 (A) (including leadwire resistance)



INSTALLATION

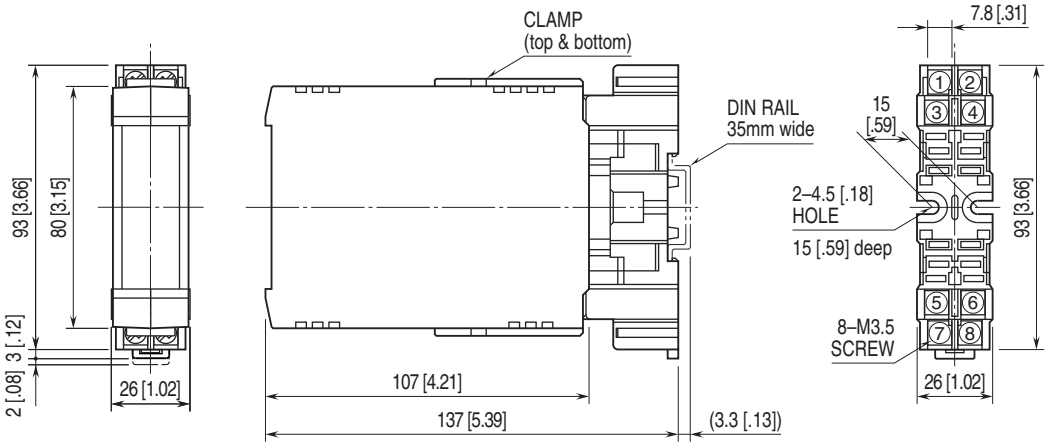
Supply voltage: 12 – 60 V DC
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail; Standard Rack Mounting Frame BX-16H available
Weight: 150 g (0.33 lb)

PERFORMANCE in percentage of span

Accuracy: ±0.2 %
Temp. coefficient: ±0.05 %/°C (±0.03 %/°F)
Response time: ≤ 0.5 sec. (0 – 90 %)

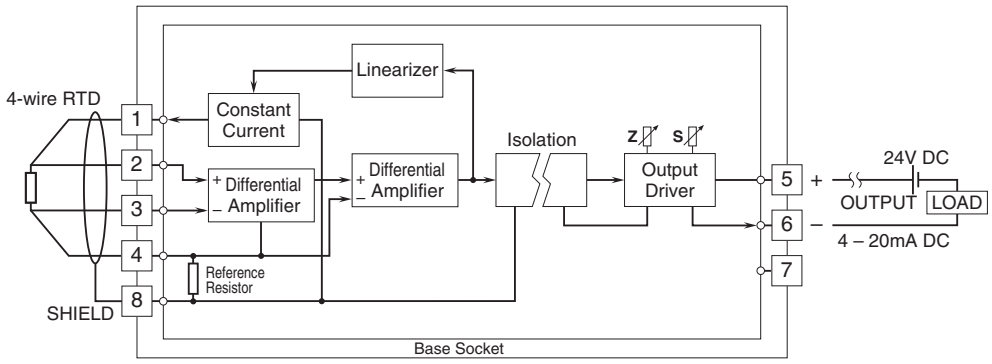
Burnout response time: ≤ 2 sec.
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 500 V AC @ 1 minute
(input to output)
1500 V AC @ 1 minute
(input or output to ground)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



•When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.