

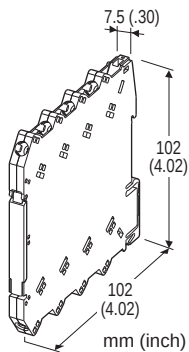
Screw Terminal Ultra-Slim Signal Conditioners M6N Series

RTD ALARM

(PC programmable)

Functions & Features

- 7.5-mm wide ultra-slim design
- Low profile allows the M6N module mounted in a 120-mm deep panel
- Provides a relay contact output at preset DC input levels
- PC programmable
- Linearization and upscale and downscale burnout protection
- High-density mounting
- Power and status indicator LEDs



MODEL: M6NXAR-[1]-R

ORDERING INFORMATION

- Code number: M6NXAR-[1]-R
Specify a code from below for [1].
(e.g. M6NXAR-4-R)
- Temperature range (e.g. 0 - 100°C)

[1] INPUT RTD

- 1: JPt 100 (JIS'89)
(Usable range: -200 to +500°C, -328 to +932°F)
- 3: Pt 100 (JIS'89)
(Usable range: -200 to +650°C, -328 to +1202°F)
- 4: Pt 100 (JIS'97, IEC)
(Usable range: -200 to +850°C, -328 to +1562°F)
- 5: Pt 50 Ω (JIS'81)
(Usable range: -200 to +649 °C, -328 to +1200°F)
- 7: Pt 1000
(Usable range: -200 to +850°C, -328 to +1562°F)
- 9: Cu 10 @25°C
(Usable range: -50 to +250°C, -58 to +482°F)
- 0: Specify (Please provide a resistance table.)

(Configurator software is used to change the input type and range. Input code 7: Pt 1000 cannot be switched to/from other input types while its temperature range can be changed.)

OUTPUT

Relay; SPDT or transfer contact

POWER INPUT

DC Power

R: 24 V DC

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

RELATED PRODUCTS

- PC configurator software (model: M6CFG)
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 and output: M3 screw terminal (torque 0.5 N·m)

Power input: Via the Installation Base (model: M6NBS)
or M3 screw terminal (torque 0.5 N·m)

Recommended solderless terminal: Max. 5.8 mm (0.23") wide; Ones with insulation sleeve do not fit.

Applicable wire size 0.2 - 2.5 mm²

Housing material: Flame-resistant resin (black)

Isolation: Input to output to power

Burnout: Upscale standard; downscale or no burnout optional by programming

In case of upscale standard, the alarm operates as if the input signal has exceeded over the range.

Linearization: Standard

Power LED: Green light turns on when the power is supplied.

Status indicator LED: Orange LED; Blinking patterns indicate different operating status of the transmitter.

Alarm monitor LED: Red LED turns on when the alarm is tripped.

Programming: Downloaded from PC

Input type and range

Input fine adjustments

User's RTD table (max. 300 points)

Burnout (Upscale, downscale or no burnout)

Alarm setpoint (input %)

Trip action (High or Low)

Relay coil (energized or de-energized)

Power ON delay time (0 to 999 sec.)



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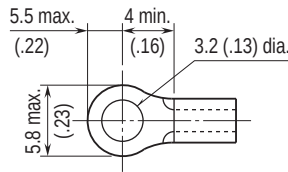
E-mail : info@xintop.com
Website : www.xintop.com

Alarm ON delay time (0 to 999 sec.)
Hysteresis (deadband) (input %)
Alarm test, and others
Configurator connection: 2.5 dia. miniature jack;
RS-232-C level

Factory default setting

Alarm setpoint: 80%
Trip action: High
Relay coil at alarm: Energized
Power ON delay time: 5 seconds
Alarm ON delay time: 0 seconds
Hysteresis (deadband): 1.0%
Burnout: Upscale

■ Recommended solderless terminal (unit: mm (inch))



INPUT SPECIFICATIONS

Input: 2- or 3-wire RTD
Maximum leadwire resistance: 10 Ω per wire
Sensing current: ≤ 1.5 mA (≤ 0.15 mA for Pt 1000)
Minimum span: 20°C or 36°F
Resistance range:
0 - 500 Ω (Input code: 1, 3, 4, 5, 9)
0 - 5 k Ω (Input code: 7)
If not specified, the input range is 100°C.

OUTPUT SPECIFICATIONS

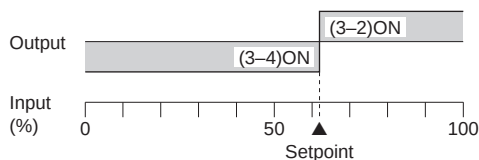
■ Relay Output

Relay rating:
250 V AC @2 A ($\cos \phi = 1$)
30 V DC @2 A (resistive load)
Maximum switching voltage: 250 V AC or 125 V DC
Maximum switching power: 500 VA or 60 W
Minimum load: 5 V DC @100 mA
Mechanical life: 5×10^6 cycles (rate 180/min.)

Alarm Trip Operation Terminal No. in parentheses

• Setting Example

Hi alarm (coil energized at alarm) or
Lo alarm (coil de-energized at alarm)



Trip operation in power failure: Terminals 3 - 4 turn ON.

INSTALLATION

Power consumption: Approx. 0.5 W
Operating temperature: -20 to +55°C (-4 to +131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Installation Base (model: M6NBS) or DIN rail
Weight: 65 g (2.3 oz)

PERFORMANCE in percentage of span

Setpoint accuracy (trip point accuracy)
Pt and JPt: Whichever greater ± 0.1 % of input range or $\pm 0.15^\circ\text{C}$
Cu10: $\pm 1^\circ\text{C}$
Temp. coefficient: ± 0.01 %/ $^\circ\text{C}$ (± 0.006 %/ $^\circ\text{F}$) of max. span
Response time: ≤ 1 sec. (0 - 100 % at 90 % setpoint)
Burnout response time: ≤ 1 sec.
Line voltage effect: ± 0.1 % over voltage range
Insulation resistance: ≥ 100 M Ω with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

CALCULATION EXAMPLES OF SETPOINT ACCURACY

[Example] Input type Pt 100, Input range 0 - 100°C
Setpoint accuracy ± 1 (0.15°C ± 2) / Span (100°C) $\times 100$ %
*1. Calculate the accuracy in $^\circ\text{C}$
*2. $100^\circ\text{C} \times 0.1\% = 0.1^\circ\text{C} \leq 0.15^\circ\text{C}$. 0.15 $^\circ\text{C}$ is used as input accuracy value.

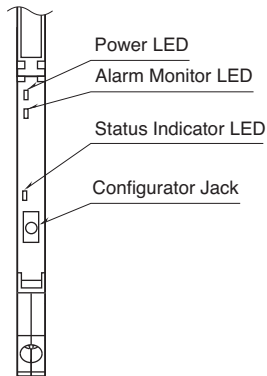
STANDARDS & APPROVALS

CE conformity:

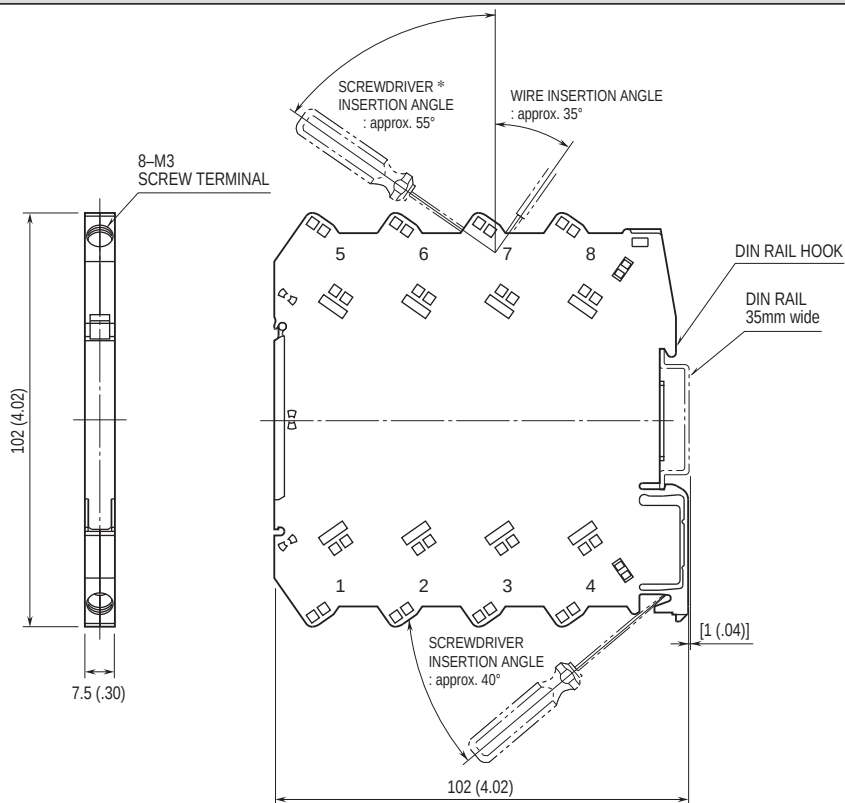
EMC Directive (2004/108/EC)
EMI EN 61000-6-4: 2007/A1: 2011
EMS EN 61000-6-2: 2005
Low Voltage Directive (2006/95/EC)
EN 61010-1: 2010
Overvoltage Category II
Pollution Degree 2
Max. operating voltage 250 V (relay output circuit)
Input or power to output: Reinforced insulation

EXTERNAL VIEW

(With the cover open)



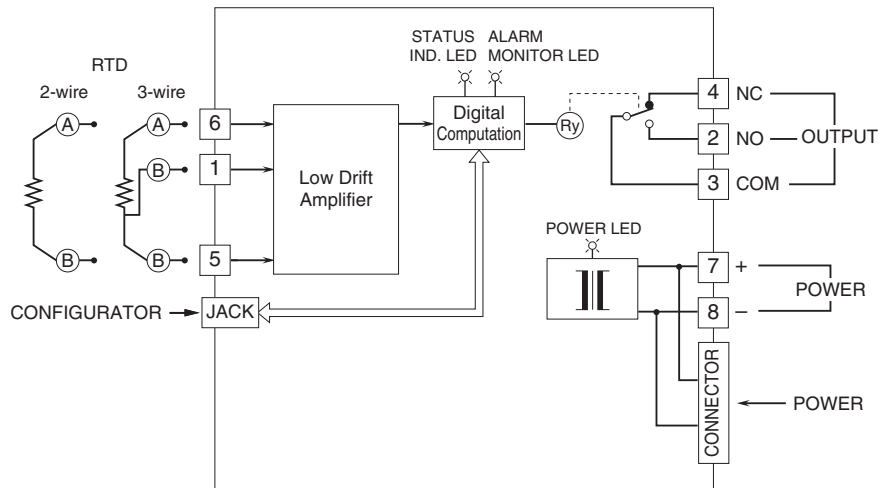
DIMENSIONS unit: mm (inch)



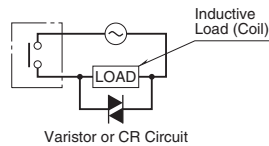
*Screwdriver stem diameter: 6 mm (.24") or less

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

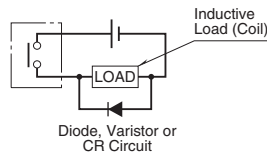
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ Relay Protection • AC Powered



• DC Powered



Specifications are subject to change without notice.