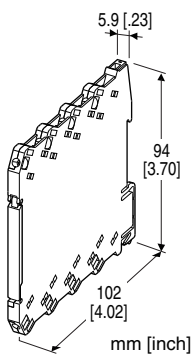**Euro Terminal Ultra-Slim Signal Conditioners M6D Series**

RTD ALARM
(PC programmable)

Functions & Features
• 5.9-mm wide ultra-slim design
• Low profile allows the M6D module mounted in a 120-mm deep panel
• PC programmable
• Linearization and upscale and downscale burnout protection
• High-density mounting
• Power and status indicator LEDs

5.9 [.23]
94 [3.70]
102 [4.02]
mm [inch]

MODEL: M6DXAR–[1]–R[2]

ORDERING INFORMATION
• Code number: M6DXAR-[1]-R[2]
Specify a code from below for each of [1] and [2].
  (e.g. M6DXAR-4-R/Q)
• Temperature range (e.g. 0 – 100°C)
• Specify the specification for option code /Q
  (e.g. /C01)

[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 ±10 %, ripple 10 %p-p max.)

[2] OPTIONS
blank: none
/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q
COATING (For the detail, refer to our web site.)
/C01: Silicone coating
/C02: Polyurethane coating

RELATED PRODUCTS
• PC configurator software (model: M6CFG)
Downloadable at our 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: Euro terminal (torque 0.3 N·m)
Power input: Via the Installation Base (model: M6DBS)
or Euro terminal (torque 0.3 N·m)
Applicable wire size: 0.2 to 2.5 mm^2, stripped length 8 mm
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 indicator LED: Green LED 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

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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.)
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

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 kΩ (Input code: 7)
If not specified, the input range is 0 - 100°C.

OUTPUT SPECIFICATIONS

■ **Relay Output**
Relay rating:
250 V AC @2 A (cos ø = 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)

Output

(3–2)ON

(3–4)ON

Input
(%)   0   50   100
          Setpoint
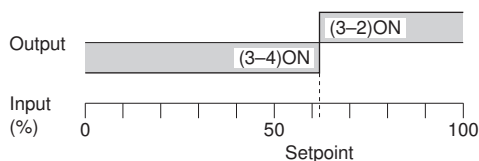
Trip operation in power failure: Terminals 3 − 4 turn ON.

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: M6DBS) 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
±0.15°C
Cu10: ±1°C
Temp. coefficient: ±0.01 %/°C (±0.006 %/°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 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output
to power to ground)

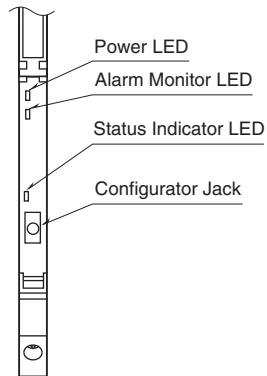## CALCULATION EXAMPLES OF SETPOINT ACCURACY

[Example] Input type Pt 100, Input range 0 – 100°C
Setpoint accuracy [1] (0.15°C [2]) ÷ Span (100°C) × 100 %
*1. Calculate the accuracy in °C
*2. 100 °C × 0.1 % = 0.1 °C ≤ 0.15 °C. 0.15 °C is used as
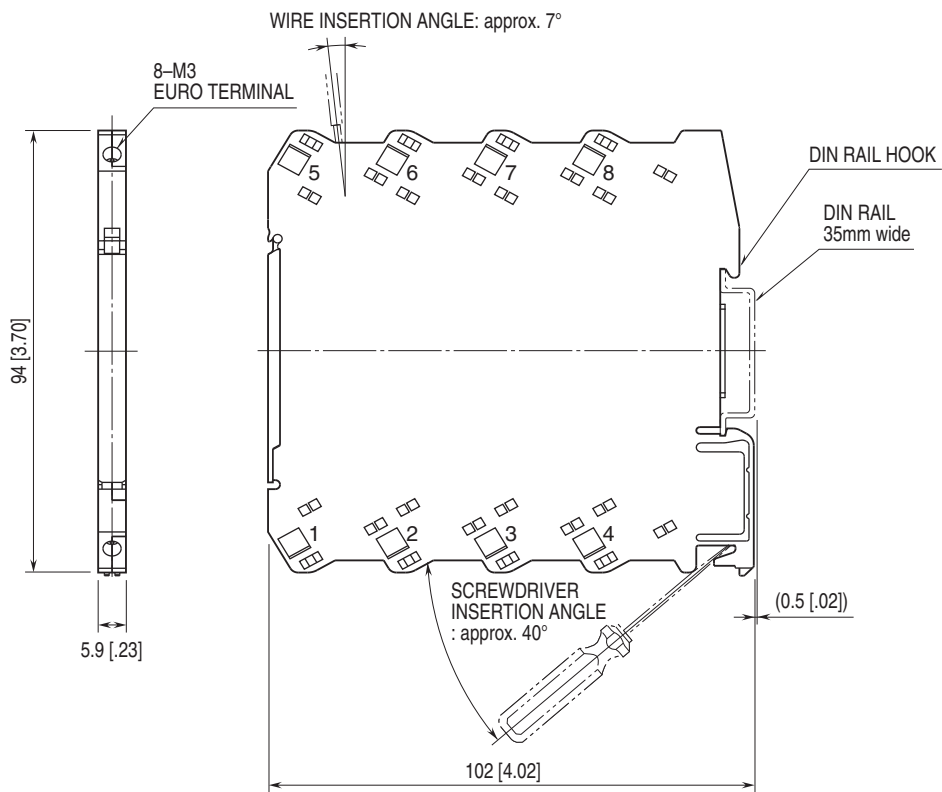input accuracy value.

STANDARDS & APPROVALS

EU conformity:
EMC Directive
  EMI EN 61000-6-4
  EMS EN 61000-6-2
Low Voltage Directive
  EN 61010-1
  Measurement Category II (output)
  Pollution Degree 2
Input or power to output: Reinforced insulation (300 V)
RoHS Directive

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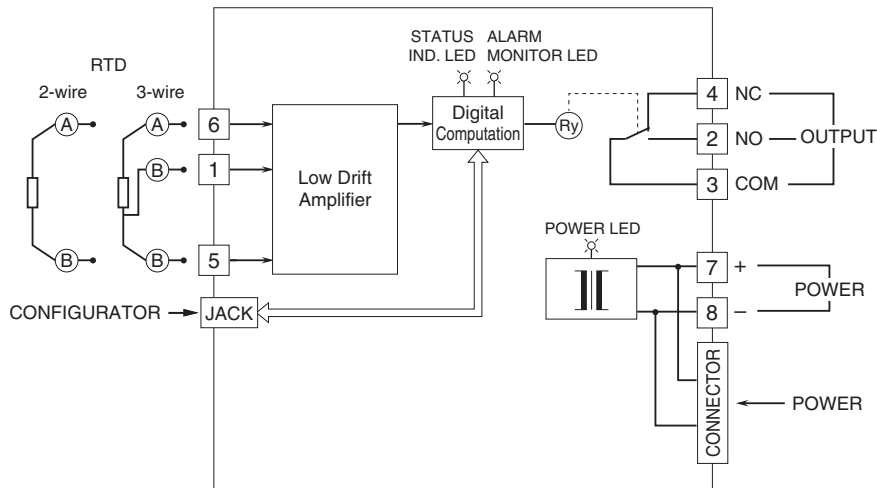## EXTERNAL VIEW

(With the cover open)

Power LED
Alarm Monitor LED
Status Indicator LED
Configurator Jack

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS   unit: mm [inch]

WIRE INSERTION ANGLE: approx. 7°

8–M3
EURO TERMINAL

DIN RAIL HOOK

DIN RAIL
35mm wide

94 [3.70]

5   6   7   8

1   2   3   4

SCREWDRIVER
INSERTION ANGLE
: approx. 40°

(0.5 [.02])

5.9 [.23]

102 [4.02]

• When mounting, no extra space is needed between units.
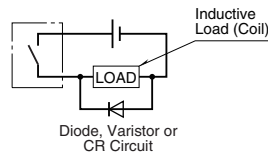
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SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ **Relay Protection**

• **AC Powered**
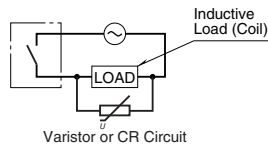
• **DC Powered**

⚠ Specifications are subject to change without notice.

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