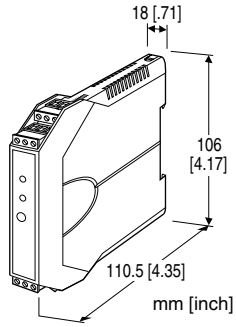
Space-saving Signal Conditioners M3-UNIT Series

CURRENT LOOP SUPPLY

Functions & Features

• Powers a two-wire transmitter with 4-20 mA DC output and galvanically isolates its output signal
• High-density mounting available
• Power indicator LED
• Smart transmitter available



MODEL: M3DY–[1]–[2][3]

ORDERING INFORMATION

• Code number: M3DY-[1]-[2][3]
Specify a code from below for each of [1] through [3].
(e.g. M3DY-A-R/Q)
• Specify the specification for option code /Q
(e.g. /C01)

INPUT

Current
4 – 20 mA DC (Input resistance approx. 250 Ω)

[1] OUTPUT

Current
A: 4 – 20 mA DC (Load resistance 550 Ω max.)
Voltage
4: 0 – 10 V DC (Load resistance 10 kΩ min.)
5: 0 – 5 V DC (Load resistance 5000 Ω min.)
6: 1 – 5 V DC (Load resistance 5000 Ω min.)

[2] POWER INPUT

DC Power
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
Universal
AD: 100 – 240 V AC / 24 – 240 V DC (universal)
(Operational voltage range 90 - 264 V AC, 47 - 66 Hz / 21.6 - 264 V DC, ripple 10 %p-p max.)

[3] 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
/C03: Rubber coating

GENERAL SPECIFICATIONS

Construction: Small-sized front terminal structure
Connection: Euro type connector terminal
(applicable wire size: 0.2 to 2.5 mm^2, stripped length 8 mm)
Housing material: Flame-resistant resin (gray)
Isolation: Input to output to power
Zero adjustment: -2 to +2 % (front)
Span adjustment: 98 to 102 % (front)
Power indicator LED: Green LED turns on when the power is supplied.

SUPPLY OUTPUT

(Across the terminals 4 – 5)
Output voltage: 24 – 28 V DC with no load
18 V DC min. at 20 mA
Current rating: ≤ 22 mA DC
• **Shortcircuit Protection**
Current limited: 45 mA max.
Protected time duration: No limit

INPUT SPECIFICATIONS

■ **DC Current**: Input resistor incorporated

INSTALLATION

Power Consumption
•**AC**:
Approx. 3 VA at 100 V
Approx. 4 VA at 200 V
Approx. 5 VA at 264 V
•**DC**: Approx. 2 W
Operating temperature: -20 to +55°C (-4 to +131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: DIN rail
Weight: 100 g (0.22 lb)

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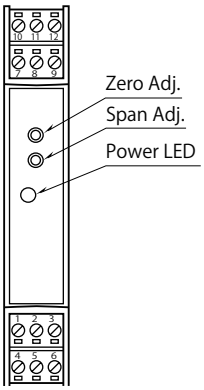
PERFORMANCE in percentage of span

Accuracy: ±0.1 %
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 100 msec. (0 – 90 %)
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)

STANDARDS & APPROVALS

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

EXTERNAL VIEW



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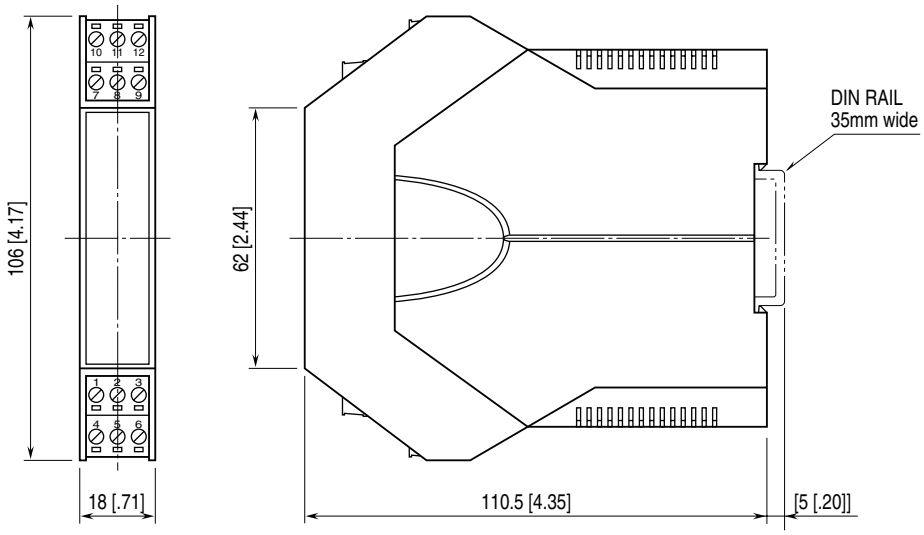
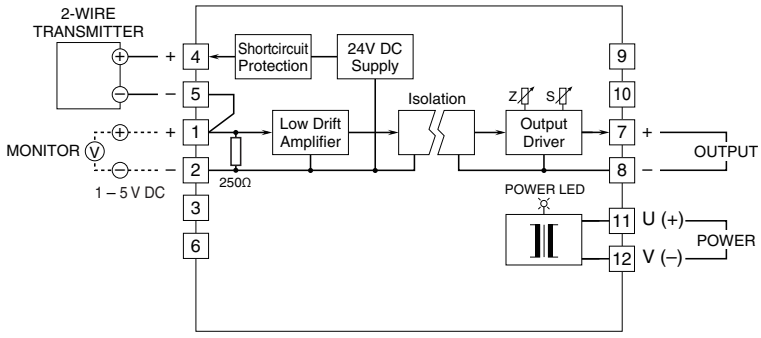
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]

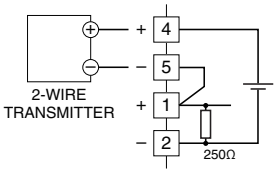


• When mounting, no extra space is needed between units.

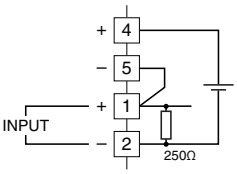
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ When Used as DC Supply



■ When Used as Isolator



⚠ Specifications are subject to change without notice.

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