Super-mini Signal Conditioners Mini-M Series

CURRENT LOOP SUPPLY

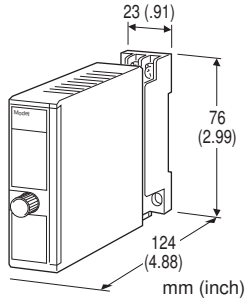
(non-isolated)

Functions & Features

- Powers a 4 – 20 mA DC current loop
- Electrically isolating output signal from power input
- Shortcircuit protection
- Applicable to smart transmitters

Typical Applications

- Various 2-wire transmitters



MODEL: M2D–24–[1][2]

ORDERING INFORMATION

- Code number: M2D-24-[1][2]
  Specify a code from below for each [1] and [2].
  (e.g. M2D-24-R/CE/Q)
- Specify the specification for option code /Q
  (e.g. /C01/S01)

SUPPLY OUTPUT

24: 24 V DC

INPUT

Current

4 – 20 mA DC (Input resistance 250 Ω)

OUTPUT 1

Voltage

1 – 5 V DC (Load resistance 250 kΩ min.)

OUTPUT 2

Current

4 – 20 mA DC

[1] POWER INPUT

AC Power

M: 85 – 264 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)
(Select '/N' for 'Standards & Approvals' code.)

DC Power

R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
R2: 11 – 27 V DC
(Operational voltage range 11 – 27 V, ripple 10 %p-p max.)
(Select '/N' for 'Standards & Approvals' code.)
P: 110 V DC
(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)
(Select '/N' for 'Standards & Approvals' code.)

[2] OPTIONS (multiple selections)

Standards & Approvals (must be specified)

/N: Without CE or UL
/CE: CE marking
/UL: UL approval, CE marking

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 M-System's web site.)

/C01: Silicone coating
/C02: Polyurethane coating
/C03: Rubber coating (UL not available)

TERMINAL SCREW MATERIAL

/S01: Stainless steel (UL not available)

GENERAL SPECIFICATIONS

Construction: Plug-in
Connection: M3 screw terminals (torque 0.8 N·m)
Screw terminal: Chromated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Input or output to power

SUPPLY OUTPUT

Output voltage: 24 – 28 V DC with no load
Current rating: ≤ 22 mA DC
• **Shortcircuit Protection**
Current limited: 35 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. 3 W

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface or DIN rail

Weight: 150 g (0.33 lb)

PERFORMANCE in percentage of span

Accuracy: ±0.1 % (accuracy of the receiving resistor)

Temp. coefficient: ±0.003 %/°C (±0.002 %/°F) (temp. coefficient of the receiving resistor)

Line voltage effect to supply output: ±3 % over voltage range

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength: 2000 V AC @1 minute (input or output to power to ground)

STANDARDS & APPROVALS

EU conformity:

EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2

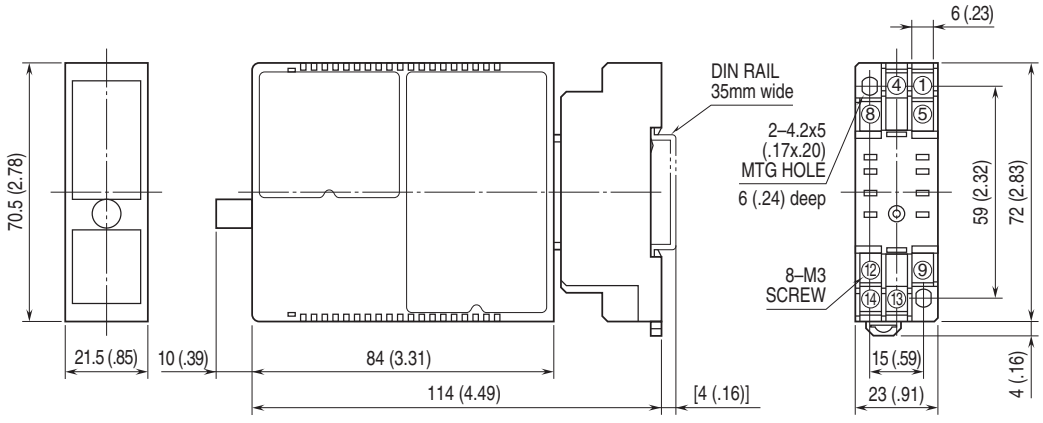
RoHS Directive
EN 50581

Approval:

UL/C-UL nonincendive Class I, Division 2,
Groups A, B, C, and D
(ANSI/ISA-12.12.01, CAN/CSA-C22.2 No.213)

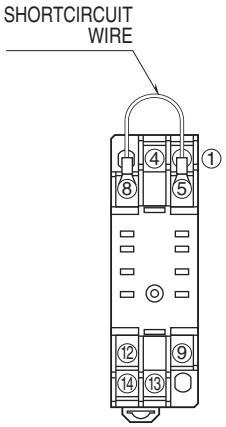
UL/C-UL general safety requirements
(UL 61010-1, CAN/CSA-C22.2 No.61010-1)

EXTERNAL DIMENSIONS unit: mm (inch)

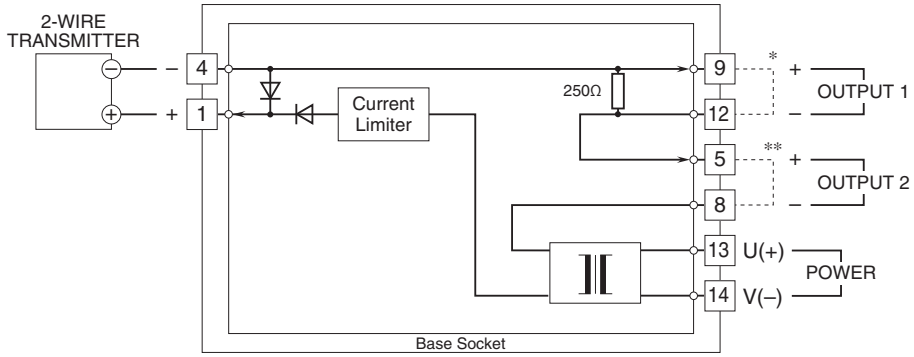


• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



* Short across these terminals for large voltage allowance at Output 2.
Be sure to match specifications of smart transmitter.
Do not connect a capacitive load to Output 1.
**Short across these terminals when not using output 2.

⚠ Specifications are subject to change without notice.