

Super-mini Signal Conditioners Mini-M Series

CURRENT LOOP SUPPLY

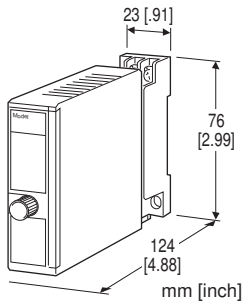
(non-isolated)

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 of [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, UKCA or UL

/CE: CE marking

/UK: CE, UKCA 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 our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating (UL not available)

/C04: Polyolefin 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: $\pm 0.1\%$ (accuracy of the receiving resistor)

Temp. coefficient: $\pm 0.003\%/^{\circ}\text{C}$ ($\pm 0.002\%/^{\circ}\text{F}$) (temp. coefficient of the receiving resistor)

Line voltage effect to supply output: $\pm 3\%$ over voltage range

Insulation resistance: $\geq 100\text{ M}\Omega$ 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

UK conformity (UKCA):

The UK legislations and designated standards are equivalent to the applicable EU directives.

(Refer to our website for more information about the legislations and designated standards.)

Approval:

UL/C-UL nonincendive Class I, Division 2,

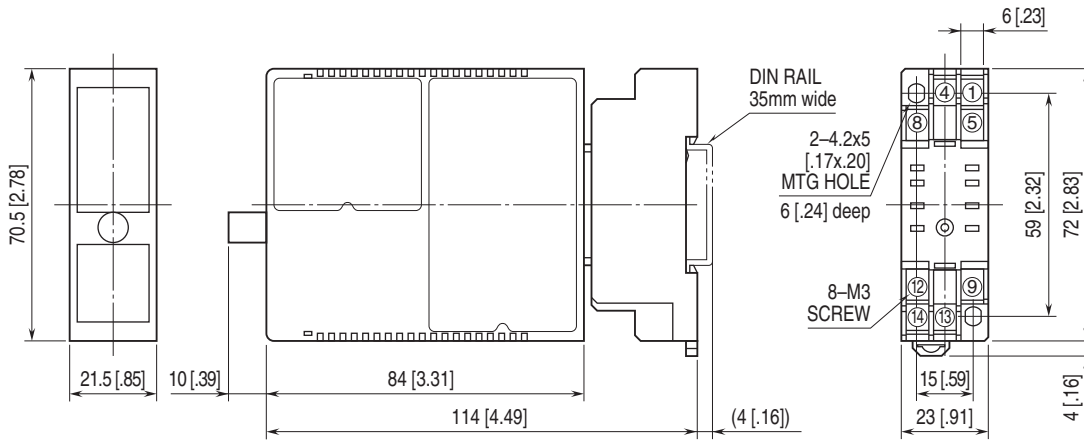
Groups A, B, C, and D

(ANSI/ISA-12.12.01, CAN/CSA-C22.2 No.213)

UL/C-UL general safety requirements

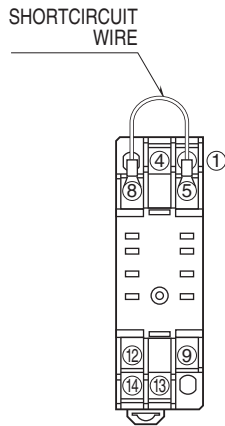
(UL 61010-1, CAN/CSA-C22.2 No.61010-1)

EXTERNAL DIMENSIONS unit: mm [inch]

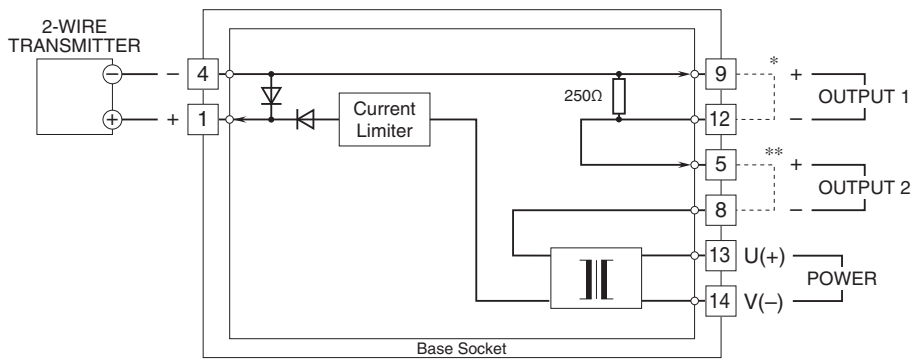


• When mounting, no extra space is needed between units.

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.