Super-mini Signal Conditioners F2 Series

CURRENT LOOP SUPPLY

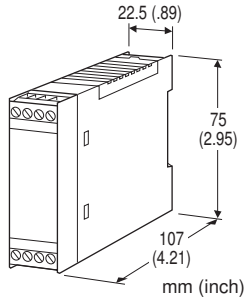
(non-isolated)

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: F2D–24–R[1]

ORDERING INFORMATION

- Code number: F2D-24-R[1]

Specify a code from below for [1].
(e.g. F2D-24-R/Q)

- Specify the specification for option code /Q
(e.g. /C01)

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

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[1] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

GENERAL SPECIFICATIONS

Construction: Stand-alone; terminal access at the front

Connection: Euro type connector terminal
(applicable wire size: 0.2 to 2.5 mm^2, stripped length 7 mm)

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

Current consumption

•**DC**: Approx. 80 mA

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

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

Mounting: 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

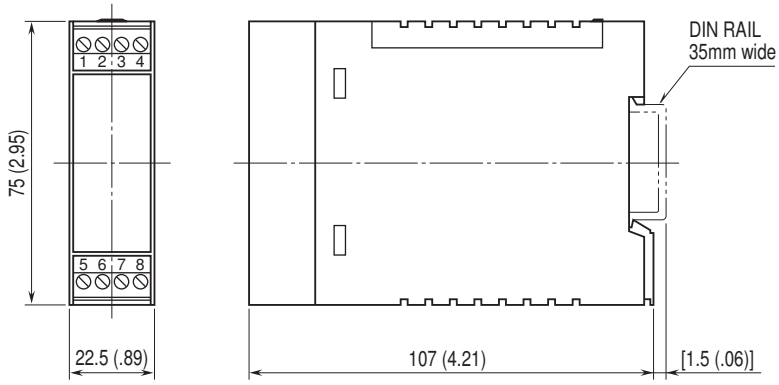
EN 50581

Approval:

UL/C-UL general safety requirements

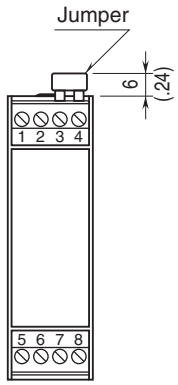
(UL 3111-1, CAN/CSA-C22.2 No.1010-1)

EXTERNAL DIMENSIONS unit: mm (inch)

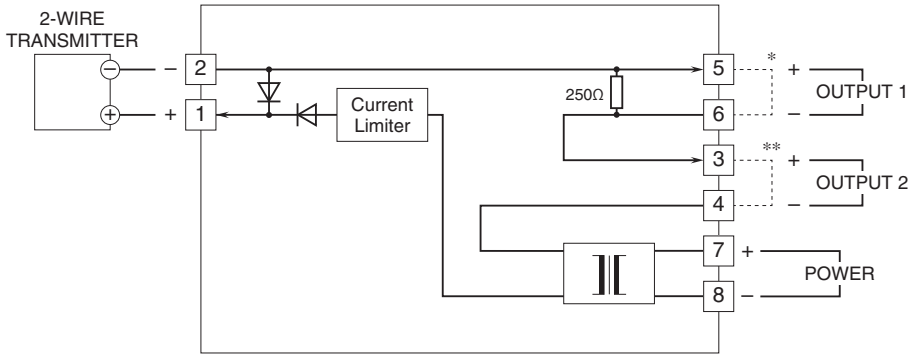


• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



* Short across these terminals using the attached jumper (or leadwire) for large voltage allowance at Output 2.
Be sure to match specifications of smart transmitter.
Do not connect a capacitive load to Output 1.

**Be sure to short across these terminals using the attached jumper (or leadwire) when not using Output 2.

⚠ Specifications are subject to change without notice.