

Plug-in Signal Conditioners M-UNIT

CURRENT LOOP SUPPLY

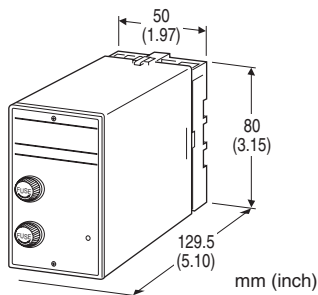
(10 – 50mA loop)

Functions & Features

- Powering a 10 – 50 mA DC current loop
- Electrically isolating output signal from power input
- Shortcircuit protection with fuses
- High-density mounting

Typical Applications

- Various 2-wire transmitters



MODEL: DS-48-[1][2]

ORDERING INFORMATION

- Code number: DS-48-[1][2]
- Specify a code from below for each [1] and [2]. (e.g. DS-48-B/Q)
- Specify the specification for option code /Q (e.g. /C01/S01)

SUPPLY OUTPUT

48: 48 V DC (unregulated)

INPUT

Current

10 – 50 mA DC (Input resistance approx. 100 Ω)

OUTPUT

Voltage

1 – 5 V DC (Load resistance 100 kΩ min.)

[1] POWER INPUT

AC Power

- B: 100 V AC
- C: 110 V AC

D: 115 V AC

F: 120 V AC

G: 200 V AC

H: 220 V AC

J: 240 V AC

DC Power

R: 24 V DC

[2] OPTIONS

blank: none

/Q: With options (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

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input or output to power

Power fuse: 250 V, 0.5 A (size: 5.2 x 20 mm)

Loop fuse: 125 V, 0.1 A (size: 5.2 x 20 mm)

Loop monitor terminals: Output 1 – 5 V DC

Power LED: Red light turns on in normal voltage level.

SUPPLY OUTPUT

Output voltage: 48 V DC ±10 % (with 100 % power input)

Current rating: ≤ 60mA DC

INPUT SPECIFICATIONS

- **DC Current:** Input resistor incorporated

INSTALLATION

Power input

• **AC:** Operational voltage range: rating ±10 %, 50/60 ±2 Hz, approx. 3 VA

• **DC:** Operational voltage range: 24 V ±10 %, approx. 120 mA (ripple 10 %p-p max.)

Operating temperature: -5 to +60°C (23 to 140°F)

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

Mounting: Surface or DIN rail

Weight: 350 g (0.77 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)

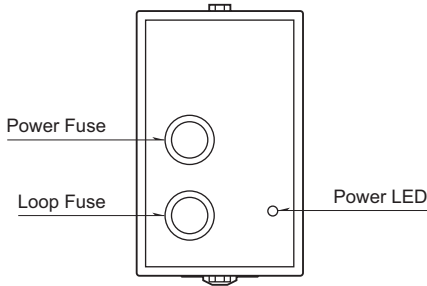
Insulation resistance: $\geq 100\text{ M}\Omega$ with 500 V DC

Dielectric strength: 1000 V AC @ 1 minute

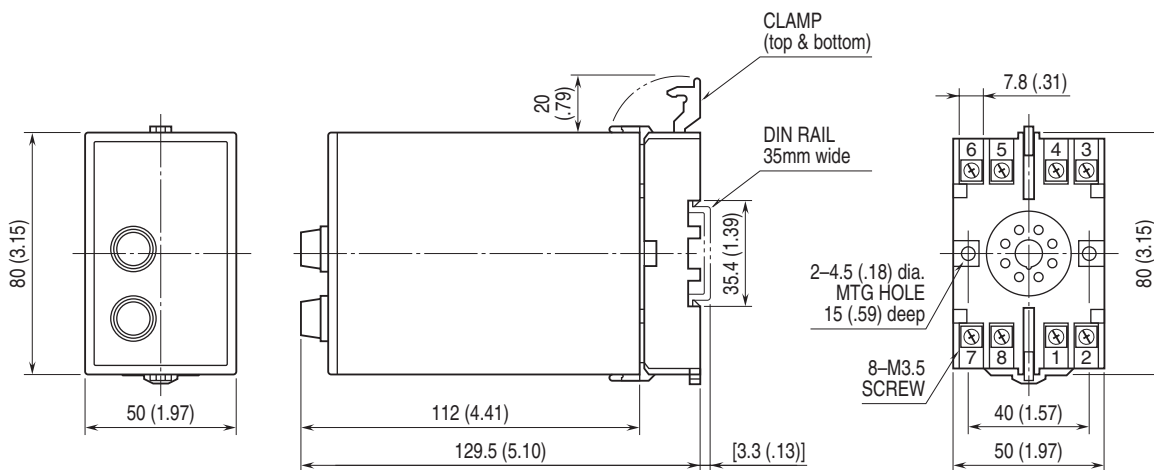
(input or output to power)

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

EXTERNAL VIEW

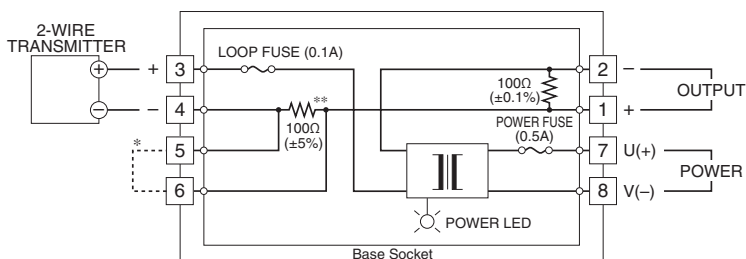


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*The DS-48 incorporates a resistor [100 Ω $\pm 5\%$] for adjusting load on the current loop (**). When the resistor is not required, short across terminals 5 - 6, or connect the 2-wire transmitter to terminals 3(+) - 6(-).





Specifications are subject to change without notice.



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