

## Plug-in Signal Conditioners M-UNIT

### CURRENT LOOP SUPPLY

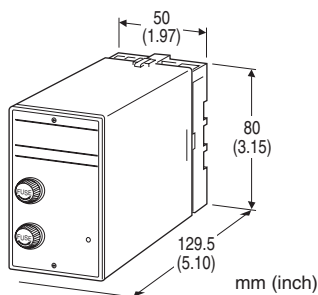
(10 – 50mA loop)

#### 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 of [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 Pilot LED:** Red LED turns on in normal voltage level.

### SUPPLY OUTPUT

**Output voltage:** 48 V DC  $\pm 10\%$  (with 100 % power input)

**Current rating:**  $\leq 60$  mA DC

### INPUT SPECIFICATIONS

- **DC Current:** Input resistor incorporated

### INSTALLATION

#### Power input

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

• **DC:** Operational voltage range: 24 V  $\pm 10\%$ , 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)

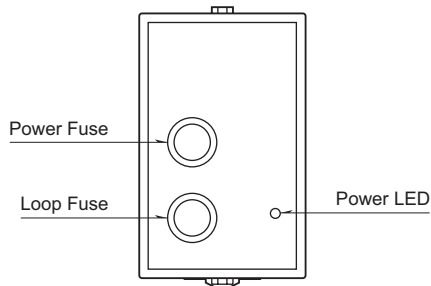
**Insulation resistance:**  $\geq 100\text{ M}\Omega$  with 500 V DC

**Dielectric strength:** 1000 V AC @ 1 minute

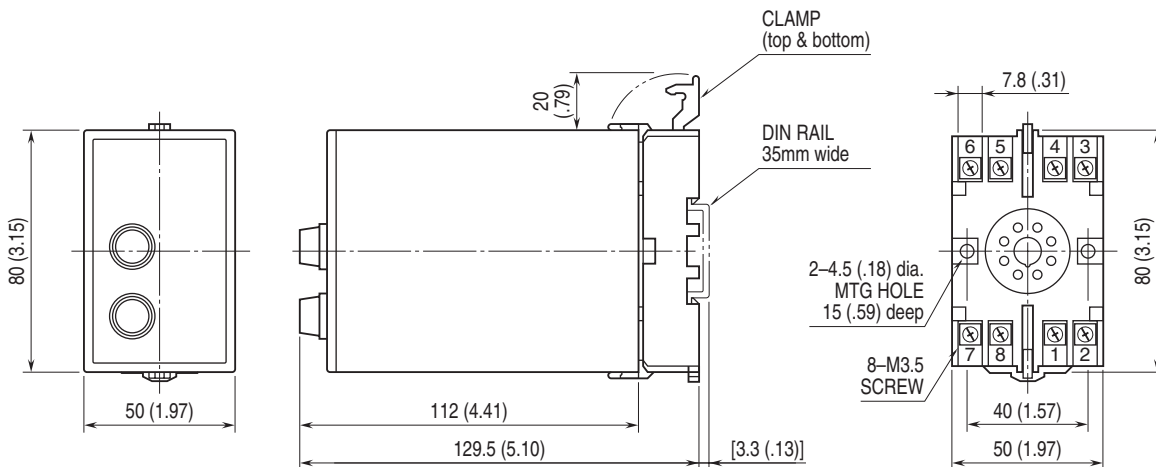
(input or output to power)

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

## EXTERNAL VIEW

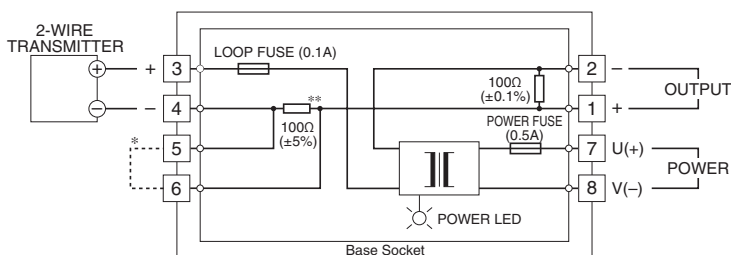


## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*The DS-48 incorporates a resistor [100 $\Omega$   $\pm 5\%$ ] 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.