

## Plug-in Signal Conditioners M-UNIT

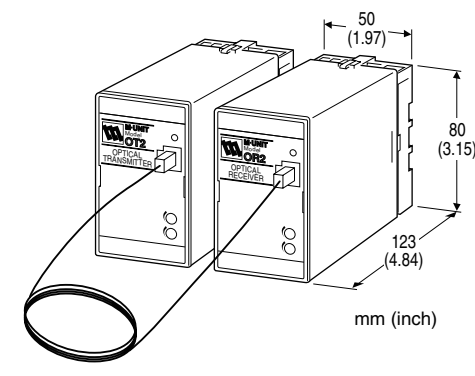
### OPTICAL TRANSMITTER

#### Functions & Features

- Isolation up to several hundred thousand volts with a fiber optics cable
- High-density mounting

#### Typical Applications

- Ion implanter
- Electron-beam devices
- Dust chamber
- Protection against inductive noises in power substations



### MODEL: OT2-[1]-[2][3]

#### ORDERING INFORMATION

- Code number: OT2-[1]-[2][3]
- Specify a code from below for each of [1] through [3].  
(e.g. OT2-6-B/Q)
- Special input range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### [1] INPUT

##### Current

- A: 4 - 20 mA DC (Input resistance 250 Ω)
- A1: 4 - 20 mA DC (Input resistance 50 Ω)
- B: 2 - 10 mA DC (Input resistance 500 Ω)
- C: 1 - 5 mA DC (Input resistance 1000 Ω)
- D: 0 - 20 mA DC (Input resistance 50 Ω)
- E: 0 - 16 mA DC (Input resistance 62.5 Ω)
- F: 0 - 10 mA DC (Input resistance 100 Ω)
- G: 0 - 1 mA DC (Input resistance 1000 Ω)
- H: 10 - 50 mA DC (Input resistance 100 Ω)
- Z: Specify current (See INPUT SPECIFICATIONS)

##### Voltage

- 1: 0 - 10 mV DC (Input resistance 10 kΩ min.)

- 2: 0 - 100 mV DC (Input resistance 100 kΩ min.)
- 3: 0 - 1 V DC (Input resistance 1 MΩ min.)
- 4: 0 - 10 V DC (Input resistance 1 MΩ min.)
- 5: 0 - 5 V DC (Input resistance 1 MΩ min.)
- 6: 1 - 5 V DC (Input resistance 1 MΩ min.)
- 4W: -10 - +10 V DC (Input resistance 1 MΩ min.)
- 0: Specify voltage (See INPUT SPECIFICATIONS)

#### [2] 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

- S: 12 V DC
- R: 24 V DC

#### [3] 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

#### RELATED PRODUCTS

- Optical receiver (Model: OR2)
- Fiber optics cable:
  - 10 meters (model: AMPCP2-10M)
  - 20 meters (model: AMPCP2-20M)
  - 30 meters (model: AMPCP2-30M)
- Optical cable used for the AMPCP2
  - Mitsubishi Chemical Super Eska SH 4001
  - Minimum bend radius: 25 mm
  - Tension strength: ≤ 70 N
- Connector used for the AMPCP2
  - Broadcom HFBR-4532Z

**GENERAL SPECIFICATIONS**

**Construction:** Plug-in

**Transmission method:** Light pulse (100 - 500 Hz)

**Maximum transmission distance:** 30 meters (98 ft)

**Connection**

**Input & power input:** M3.5 screw terminals

**Optical fiber:** Connector

**Screw terminal:** Chromated steel (standard) or stainless steel

**Housing material:** Flame-resistant resin (black)

**Isolation:** Input to power

**Zero adjustment:** -5 to +5 % (front)

**Span adjustment:** 95 to 105 % (front)

**Power indicator LED:** Green LED turns on when the power is supplied.

**INPUT SPECIFICATIONS****■ DC Current:**

Shunt resistor attached to the input terminals (0.5 W)

Specify input resistance value for code Z.

**■ DC Voltage:** -300 - +300 V DC

**Minimum span:** 10 mV

**Offset:** Max. 1.5 times span

**Input resistance**

Span 10 - 100 mV :  $\geq 10 \text{ k}\Omega$

Span 0.1 - 1 V :  $\geq 100 \text{ k}\Omega$

Span  $\geq 1 \text{ V}$  :  $\geq 1 \text{ M}\Omega$

**INSTALLATION**

**Power input**

•**AC:** Operational voltage range: rating  $\pm 10 \%$ ,

50/60  $\pm 2$  Hz, approx. 3 VA

•**DC:** Operational voltage range: rating  $\pm 10 \%$ ,

ripple 10 %p-p max., approx. 2 W (80 mA at 24 V)

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

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

**Mounting:** Surface or DIN rail

**Weight:** 400 g (0.88 lb)

**PERFORMANCE in percentage of span**

**Accuracy:**  $\pm 0.3 \%$  (Overall performance with the OT2 and OR2 combined)

**Temp. coefficient:**  $\pm 0.015 \%/^{\circ}\text{C}$  ( $\pm 0.008 \%/^{\circ}\text{F}$ )

**Response time:**  $\leq 0.6$  second (0 - 90 %) (Overall performance with the OT2 and OR2 combined)

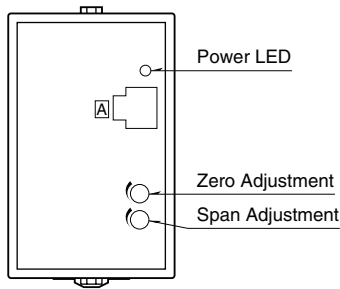
**Line voltage effect:**  $\pm 0.1 \%$  over voltage range

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

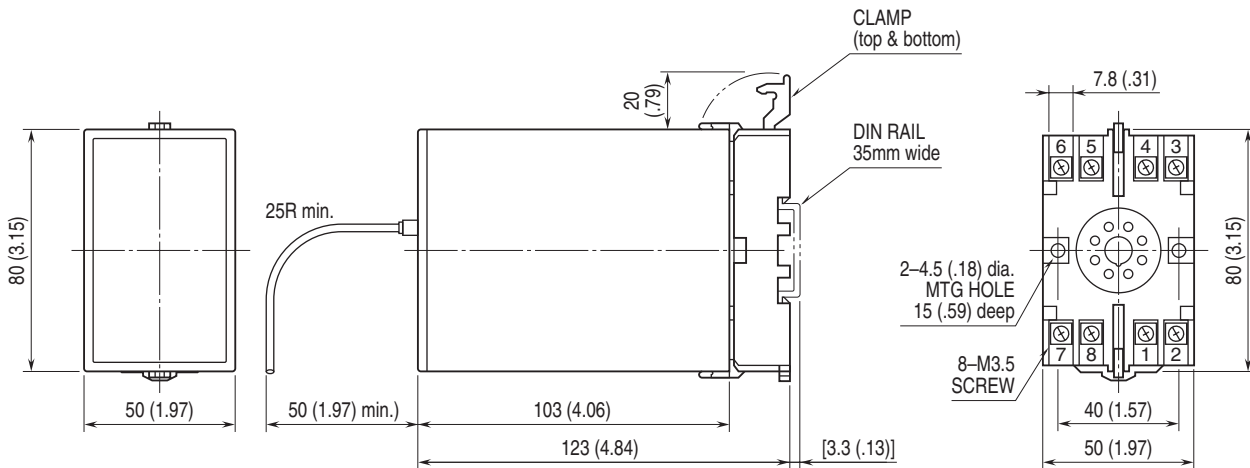
**Dielectric strength:** 2000 V AC @ 1 minute

(input to power to ground)

## EXTERNAL VIEW

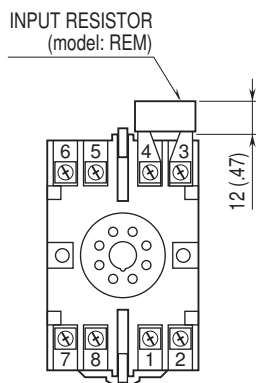


## EXTERNAL DIMENSIONS unit: mm (inch)



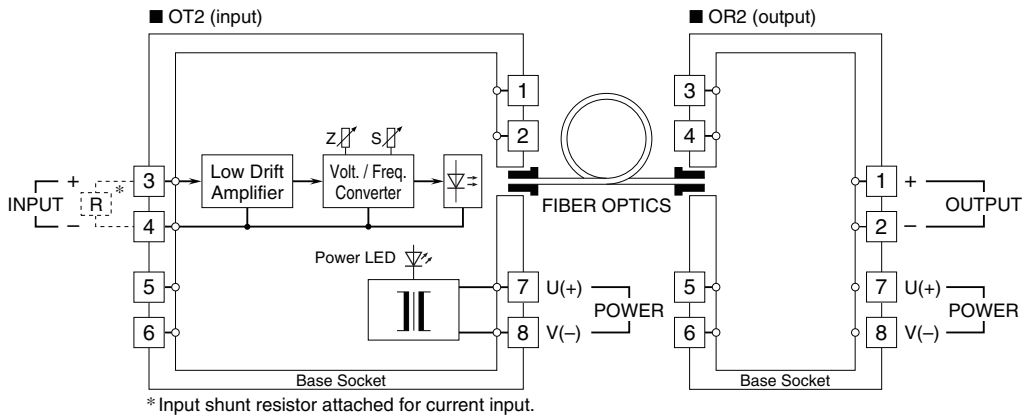
• When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.