

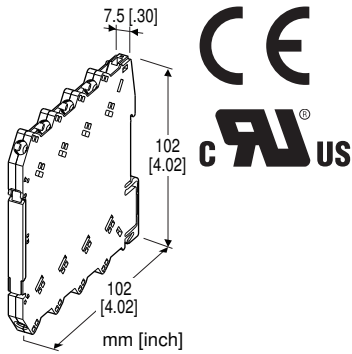
**Screw Terminal Ultra-Slim Signal Conditioners M6N/MI Series**

**4W:** -10 – +10 V DC (Load resistance 20 kΩ min.)  
**5W:** -5 – +5 V DC (Load resistance 10 kΩ min.)  
**0:** Specify voltage (See OUTPUT SPECIFICATIONS)

**FREQUENCY TRANSMITTER**

**Functions & Features**

- 7.5-mm wide ultra-slim design
- Low profile allows the M6N module mounted in a 120-mm deep panel
- Converts the output from a pulse-type transducer into a standard process signal
- High-density mounting
- Power indicator LED



**MODEL: M6NPA-[1][2]-R[3]/MI**

**/MI : Odm model**

**ORDERING INFORMATION**

- Code number: M6NPA-[1][2]-R[3]/MI
- Specify a code from below for each of [1] through [3].  
(e.g. M6NPA-CA-R/UL/Q)
- Frequency range (e.g. 0 – 1 kHz)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01)

**[1] INPUT**

- A1:** Open collector
- A2:** Mechanical contact
- C:** 5 V pulse (sensitivity 2 V)
- D:** 24 V pulse (sensitivity 10 V)

**[2] OUTPUT**

- Current**
- A:** 4 – 20 mA DC (Load resistance 550 Ω max.)
- Z:** Specify current (See OUTPUT SPECIFICATIONS)
- Voltage**
- 4:** 0 – 10 V DC (Load resistance 10 kΩ min.)
- 5:** 0 – 5 V DC (Load resistance 5000 Ω min.)
- 6:** 1 – 5 V DC (Load resistance 5000 Ω min.)

**POWER INPUT**

DC Power  
**R:** 24 V DC  
 (Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

**[3] OPTIONS (multiple selections)**

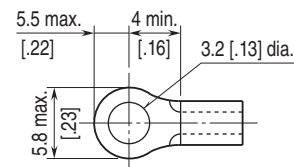
- Standards & Approvals
- blank:** CE marking
- /UL:** UL approval, CE marking
- Other Options
- blank:** none
- /Q:** Option other than the above (specify the specification)

**SPECIFICATIONS OF OPTION: Q**

- COATING
- /C01:** Silicone coating
- /C02:** Polyurethane coating

**GENERAL SPECIFICATIONS**

- Connection**
- Input and output:** M3 screw terminal (torque 0.5 N·m)
- Power input:** Via the Installation Base (model: M6NBS) or M3 screw terminal (torque 0.5 N·m)
- Recommended solderless terminal:** Max. 5.8 mm (0.23") wide; Ones with insulation sleeve do not fit.
- Applicable wire size: 0.2 – 2.5 mm<sup>2</sup>
- Housing material:** Flame-resistant resin (black)
- Isolation:** Input to output to power
- Zero adjustment:** -2 to +2 % (front)  
(Output code 4W, 5W: Adjustable at 0V.)
- Span adjustment:** 98 to 102 % (front)
- Chattering protection:** Filter provided for mechanical contact input
- Power indicator LED:** Green LED turns on when the power is supplied.
- Recommended solderless terminal (unit: mm [inch])



**INPUT SPECIFICATIONS**

- **Open Collector**
- Frequency range:** 0 – 0.01 Hz through 100 kHz

**Pulse width time requirement:**  $\geq 4 \mu\text{sec.}$  for both H and L levels

**Sensing voltage/current:** 2.5 V DC @1 mA (approx.)

**Detecting levels:**  $\leq 750 \Omega/0.75 \text{ V}$  for ON;  
 $\geq 3 \text{ k}\Omega/1.6 \text{ V}$  for OFF

■ **Mechanical Contact**

**Frequency range:** 0 - 0.01 Hz through 30 Hz

**Pulse width time requirement:**  $\geq 10 \text{ msec.}$  for both ON and OFF

**Sensing voltage/current:** 2.5 V DC @1 mA (approx.)

**Detecting levels:**  $\leq 750 \Omega/0.75 \text{ V}$  for ON;  
 $\geq 3 \text{ k}\Omega/1.6 \text{ V}$  for OFF

■ **Voltage Pulse**

**Frequency range:** 0 - 0.01 Hz through 100 kHz

**Pulse width time requirement:**  $\geq 4 \mu\text{sec.}$  for both H and L levels

**Waveform:** Square or sine

**Input impedance:**  $\geq 10 \text{ k}\Omega$

**Max. voltage between input terminals:**  $\pm 50 \text{ V}$

**Detecting H level**

5 V pulse:  $\geq 3 \text{ V}$

24 V pulse:  $\geq 14 \text{ V}$

**Detecting L level**

5 V pulse:  $\leq 1 \text{ V}$

24 V pulse:  $\leq 6 \text{ V}$

## OUTPUT SPECIFICATIONS

■ **DC Current:** 2 - 20 mA DC (and 0 - 1 mA DC)

**Minimum span:** 1 mA

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 11 V max.

■ **DC Voltage:** 0 - 10 V DC

**Minimum span:** 1 V

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 1 mA max.; at  $\geq 1 \text{ V}$

## INSTALLATION

**Power consumption:** Approx. 0.5 W

**Operating temperature:**  $-20$  to  $+55^\circ\text{C}$  ( $-4$  to  $+131^\circ\text{F}$ )

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

**Mounting:** Installation Base (model: M6NBS) or DIN rail

**Weight:** 60 g (2.1 oz)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1 \%$

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

**Response time:** Max. 0.5 sec. + 1 pulse cycle (0 - 90 %)

**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 output to power to ground)

## STANDARDS & APPROVALS

**EU conformity:**

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

**Approval:**

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

Groups A, B, C, and D hazardous locations

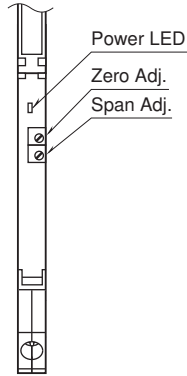
(ANSI/ISA-12.12.01, CAN/CSA-C22.2 No.213)

UL/C-UL general safety requirements

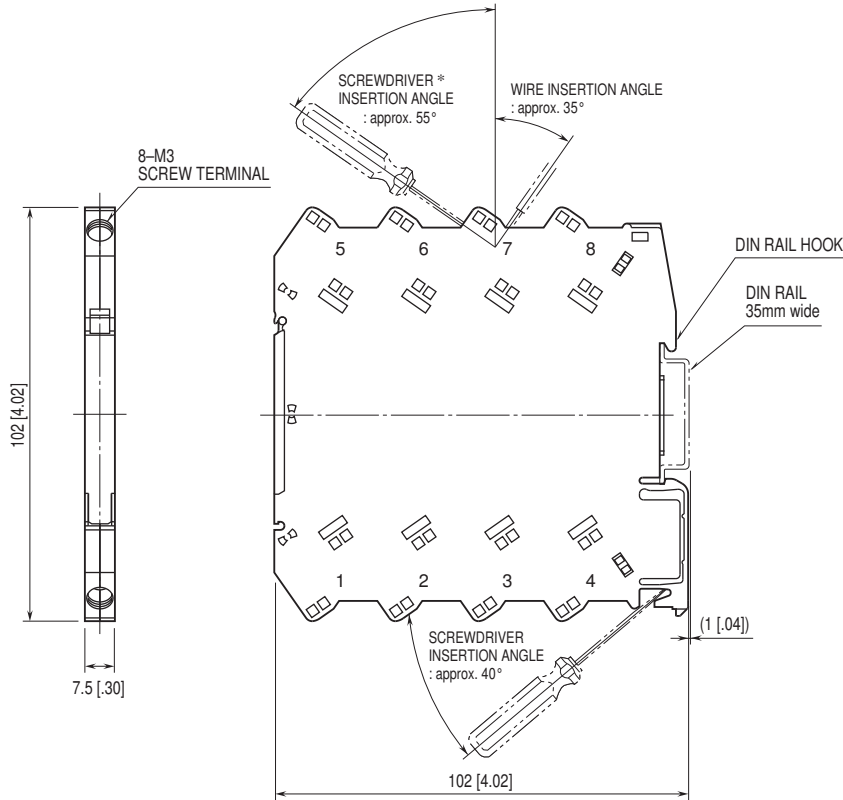
(UL 61010-1, CAN/CSA-C22.2 No.61010-1)

**EXTERNAL VIEW**

(With the cover open)



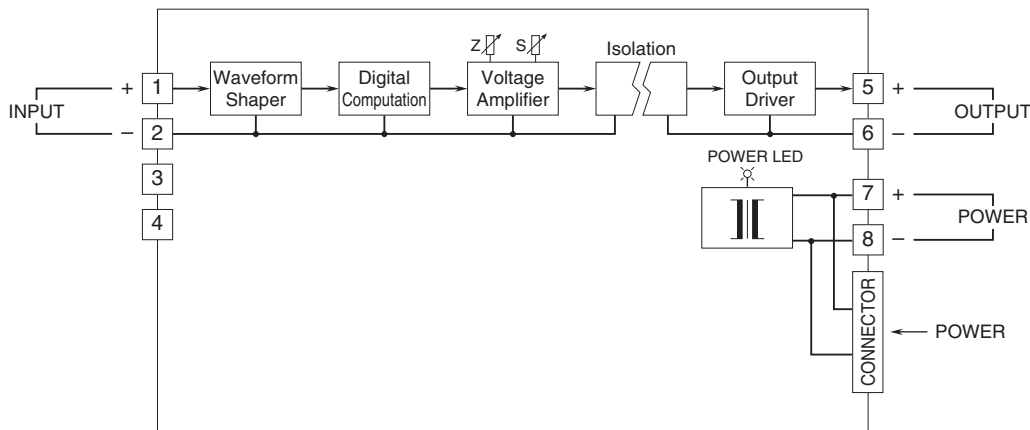
**EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS** unit: mm [inch]



\*Screwdriver stem diameter: 6 mm [.24"] or less

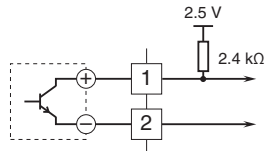
• When mounting, no extra space is needed between units.

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**

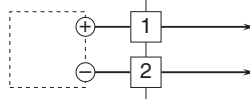


**Input Connection Examples**

■ Open Collector or Mechanical Contact



■ Voltage Pulse



Specifications are subject to change without notice.