

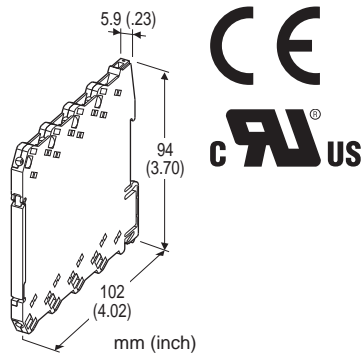
## Euro Terminal Ultra-Slim Signal Conditioners M6D Series

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

### FREQUENCY TRANSMITTER

#### Functions & Features

- 5.9-mm wide ultra-slim design
- Low profile allows the M6D 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
- UL approval



### POWER INPUT

#### DC Power

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

### [3] OPTIONS

#### STANDARDS & APPROVALS

blank: CE marking  
/UL: UL approval (CE marking)

### GENERAL SPECIFICATIONS

#### Connection

**Input and output:** Euro terminal (torque 0.3 N·m)

**Power input:** Via the Installation Base (model: M6DBS)  
or Euro terminal (torque 0.3 N·m)

**Applicable wire size:** 0.2 to 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 LED:** Green light turns on when the power is supplied.

### MODEL: M6DPA-[1][2]-R[3]

### ORDERING INFORMATION

- Code number: M6DPA-[1][2]-R[3]  
Specify a code from below for each [1] through [3].  
(e.g. M6DPA-CA-R/UL)
- Frequency range (e.g. 0 – 1 kHz)
- Special output range (For codes Z & 0)

### [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.)  
4W: -10 – +10 V DC (Load resistance 20 kΩ min.)

### INPUT SPECIFICATIONS

#### • Open Collector

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

**Pulse width time requirement:** ≥ 4 μsec. for both H and L levels

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

**Detecting levels:** ≤ 750 Ω for ON; ≥ 3 kΩ for OFF

#### • Mechanical Contact

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

**Pulse width time requirement:** ≥ 10 msec. for both ON and OFF

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

**Detecting levels:** ≤ 750 Ω for ON; ≥ 3 kΩ for OFF

#### • Voltage Pulse

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

**Pulse width time requirement:** ≥ 4 μsec. for both H and L levels

**Waveform:** Square or sine

**Input impedance:** ≥ 10 kΩ

**Max. voltage between input terminals:** ±50 V

**Detecting H level**

5 V pulse: ≥ 3 V

24 V pulse:  $\geq 14$  V

**Detecting L level**

5 V pulse:  $\leq 1$  V

24 V pulse:  $\leq 6$  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  $\geq 1$  V

## INSTALLATION

**Power consumption:** Approx. 0.5 W

**Operating temperature:** -20 to +55°C (-4 to +131°F)

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

**Mounting:** Installation Base (model: M6DBS) or DIN rail

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

## PERFORMANCE in percentage of span

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

**Temp. coefficient:**  $\pm 0.015$  %/°C ( $\pm 0.008$  %/°F)

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

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

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

**Dielectric strength:** 2000 V AC @1 minute (input to output to power to ground)

## STANDARDS & APPROVALS

**CE conformity:**

EMC Directive (2004/108/EC)

EN 61000-6-4 (EMI)

EN 61000-6-2 (EMS)

**Approval:**

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

Groups A, B, C, and D hazardous locations

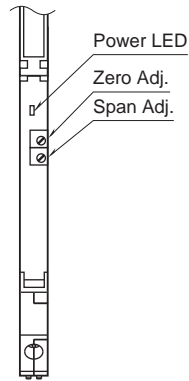
(ANSI/ISA-12.12.01, CAN/CSA-C22.2 No.213)

UL/C-UL general safety requirements

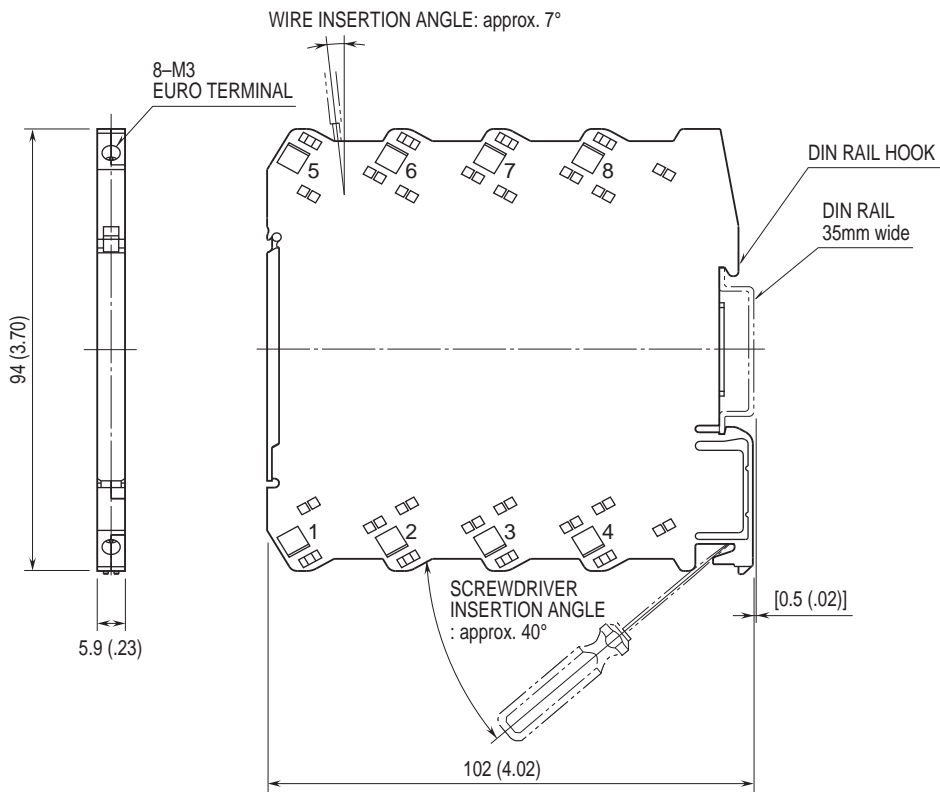
(UL 61010-1, CAN/CSA-C22.2 No.61010-1)

## EXTERNAL VIEW

(With the cover open)

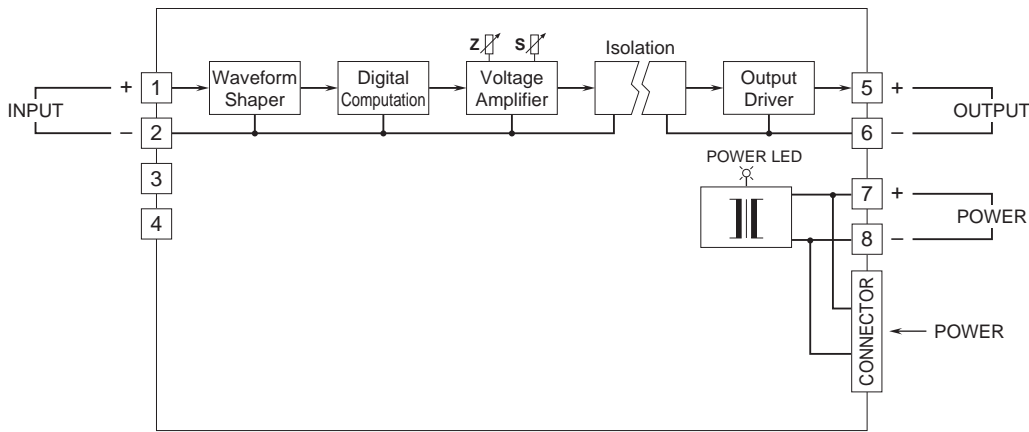


## DIMENSIONS unit: mm (inch)



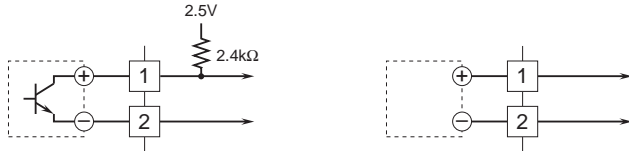
• When mounting, no extra space is needed between units.

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



**Input Connection Examples**

- Open Collector or Mechanical Contact
- Voltage Pulse



Specifications are subject to change without notice.