

## Super-mini Signal Conditioners Mini-M Series

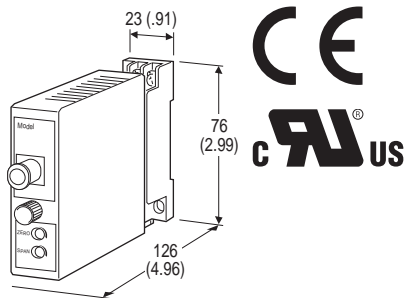
### P/I TRANSDUCER

#### Functions & Features

- Converts a standard pneumatic signal into a proportional DC output
- CE marking
- UL approval

#### Typical Applications

- Converting a pneumatic system into a 4 - 20 mA for indicating and controlling in DCS system



### MODEL: M2PV-C[1][2]-[3][4]

#### ORDERING INFORMATION

- Code number: M2PV-C[1][2]-[3][4]
- Specify a code from below for each [1] through [4]. (e.g. M2PV-C2SA-M2/CE/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

#### PNEUMATIC CONNECTION

C: 6 mm dia. (.24")

#### [1] INPUT

- 1S: 19.6 - 98.1 kPa
- 2S: 20 - 100 kPa
- 3S: 20.7 - 103.4 kPa
- 1: 0.2 - 1.0 kgf/cm<sup>2</sup>
- 2: 0.2 - 1.0 bar
- 3: 3 - 15 psig

#### [2] OUTPUT

##### Current

- A: 4 - 20 mA DC (Load resistance 750 Ω max.)
- B: 2 - 10 mA DC (Load resistance 1500 Ω max.)
- C: 1 - 5 mA DC (Load resistance 3000 Ω max.)
- D: 0 - 20 mA DC (Load resistance 750 Ω max.)

- E: 0 - 16 mA DC (Load resistance 900 Ω max.)
- F: 0 - 10 mA DC (Load resistance 1500 Ω max.)
- G: 0 - 1 mA DC (Load resistance 15 kΩ max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

##### Voltage

- 1: 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2: 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3: 0 - 1 V DC (Load resistance 1000 Ω min.)
- 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.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

#### [3] POWER INPUT

##### AC Power

M: 85 - 264 V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)

(Select '/N' for 'Standards & Approvals' code.)

M2: 100 - 240 V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)

(90 - 264 V for UL)

##### DC Power

R: 24 V DC

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

R2: 11 - 27 V DC

(Operational voltage range 11 - 27 V, ripple 10 %p-p max.)

(Select '/N' for 'Standards & Approvals' code.)

P: 110 V DC

(Operational voltage range 85 - 150 V, ripple 10 %p-p max.)

(110 V ±10 % for UL)

#### [4] OPTIONS (multiple selections)

##### STANDARDS & APPROVALS (must be specified)

/N: Without CE or UL

/CE: CE marking

/UL: UL approval (CE marking)

##### OTHER OPTIONS

blank: none

/Q: Option other than the above (specify the specification)

(UL not available)

#### 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**  
**Output & power input:** M3 screw terminals (torque 0.8 N·m)  
**Pneumatic:** 6 mm dia (.24") tube  
**Housing material:** Flame-resistant resin (black)  
**Isolation:** Output to power  
**Overrange output:** Approx. -10 to +120 % at 1 - 5 V  
**Zero adjustment:** -5 to +5 % (front)  
**Span adjustment:** 95 to 105 % (front)

## INPUT SPECIFICATIONS

### ■ INPUT

19.6 - 98.1 kPa, 0.2 - 1.0 kgf/cm<sup>2</sup>  
 20 - 100 kPa, 0.2 - 1.0 bar  
 20.7 - 103.4 kPa, 3 - 15 psig

## OUTPUT SPECIFICATIONS

- **DC Current:** 0 - 20 mA DC

**Minimum span:** 1 mA  
**Offset:** Max. 1.5 times span  
**Load resistance:** Output drive 15 V max.

- **DC Voltage:** 0 - 12 V DC

**Minimum span:** 5 mV  
**Offset:** Max. 1.5 times span  
**Load resistance:** Output drive 1 mA max.; at  $\geq 1$  V

## INSTALLATION

**Power Consumption**  
 • **AC Power input:**  
 Approx. 3 VA at 100 V  
 Approx. 4 VA at 200 V  
 Approx. 5 VA at 264 V  
 • **DC Power input:** Approx. 3 W  
**Operating temperature:** -5 to +55°C (23 to 131°F)  
**Operating humidity:** 30 to 90 %RH (non-condensing)  
**Mounting:** Surface or DIN rail  
**Weight:** 150 g (0.33 lbs)

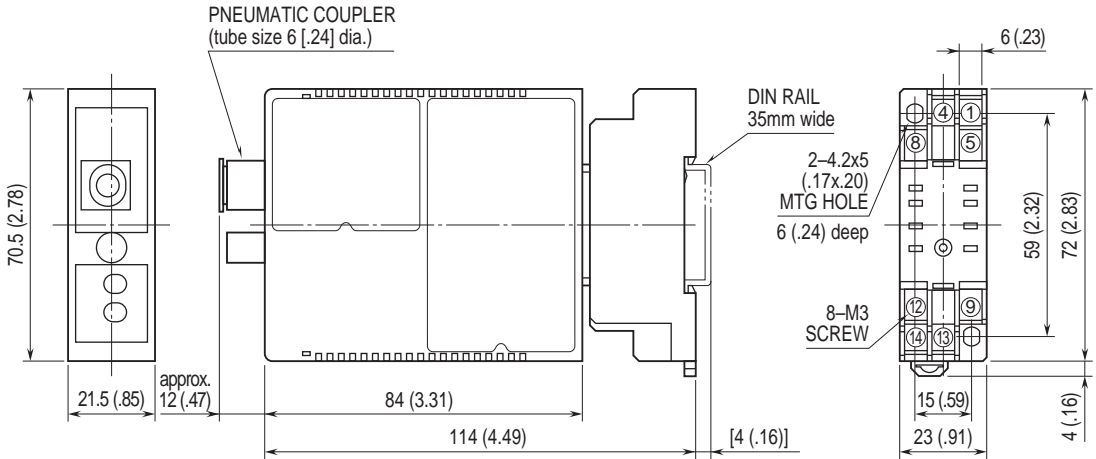
## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.3$  %  
**Temp. coefficient:**  $\pm 0.03$  %/°C ( $\pm 0.02$  %/°F)  
**Response time:**  $\leq 0.5$  sec. (0 - 90 %)  
**Permissible overrange:** 196 kPa (2.0 kgf/cm<sup>2</sup>, 1.96 bar, 28 psig)  
**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 (output to power to ground)

## STANDARDS & APPROVALS

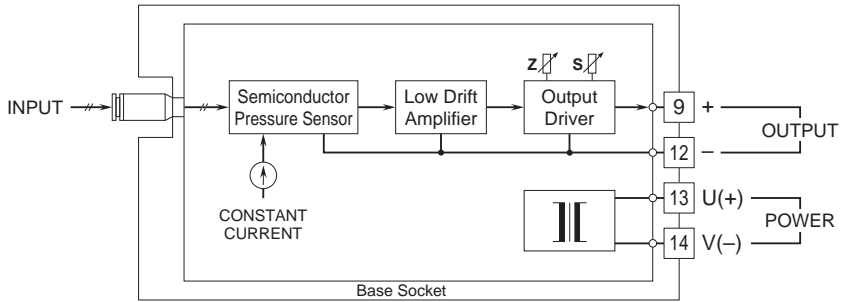
**CE conformity:**  
 EMC Directive (2004/108/EC)  
 EN 61000-6-4 (EMI)  
 EN 61000-6-2 (EMS)  
 Low Voltage Directive (2006/95/EC)  
 EN 61010-1  
 Installation Category II  
 Pollution Degree 2  
 Max. operating voltage 300 V  
 Output to power: Reinforced insulation  
**Approval:**  
 UL/C-UL nonincendive Class I, Division 2,  
 Groups A, B, C, and D hazardous locations  
 (UL 1604, CAN/CSA-C22.2 No.213)  
 UL/C-UL general safety requirements  
 (UL 61010B-1, CAN/CSA-C22.2 No.1010-1)


**DIMENSIONS unit: mm (inch)**



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

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



 Specifications are subject to change without notice.