

Plug-in Signal Conditioners M-UNIT

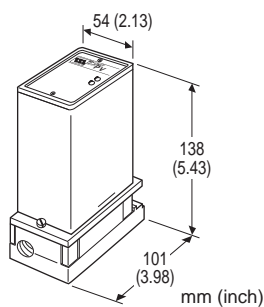
P/I TRANSDUCER

Functions & Features

- Converting a standard pneumatic signal into a proportional DC output
- High-density mounting

Typical Applications

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



MODEL: PV-[1]-[2][3]

ORDERING INFORMATION

- Code number: PV-[1]-[2][3]
- Specify a code from below for each [1] through [3]. (e.g. PV-A-B/A2S/P7)
- Special output range (For codes Z & 0)

[1] 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 100 Ω min.)
- 4: 0 – 10 V DC (Load resistance 1000 Ω min.)
- 5: 0 – 5 V DC (Load resistance 500 Ω min.)
- 6: 1 – 5 V DC (Load resistance 500 Ω min.)
- 4W: -10 – +10 V DC (Load resistance 2000 Ω min.)
- 0: Specify voltage (See OUTPUT 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
- V: 48 V DC

[3] OPTIONS (multiple selections)

Input

- blank: 0.2 – 1.0 kgf/cm²
- /A1S: 19.6 – 98.1 kPa
- /A2S: 20 – 100 kPa
- /A3S: 20.7 – 103.4 kPa
- /A2: 0.2 – 1.0 bar
- /A3: 3 – 15 psig

Pneumatic Connection

- blank: Rc 1/4
- /P7: 1/4" NPT fitting

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection

Output & power input: M3.5 screw terminals; torque 0.8 N·m

Pneumatic: Rc 1/4" or 1/4" NPT female; torque ≤ 12 N·m

Material

Housing: Flame-resistant resin (black)

Base socket: Die cast aluminium

Screw terminals: Nickel-plated steel

Isolation: Output to power

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/cm²
- 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:** -10 - +12 V DC

Minimum span: 5 mV

Offset: Max. 1.5 times span

Load resistance: Output drive 10 mA max.; 5 mA for negative voltage output; at ≥ 0.5 V

INSTALLATION

Power input

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

• **DC:** Operational voltage range: rating $\pm 10\%$, ripple 10 %p-p max., approx. 2 W (90 mA at 24 V)

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

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

Mounting: Surface

Weight: 550 g (1.21 lbs)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.3\%$

Temp. coefficient: $\pm 0.03\%/^{\circ}\text{C}$ ($\pm 0.02\%/^{\circ}\text{F}$)

Response time: 1.5 sec. (0 - 90 %)

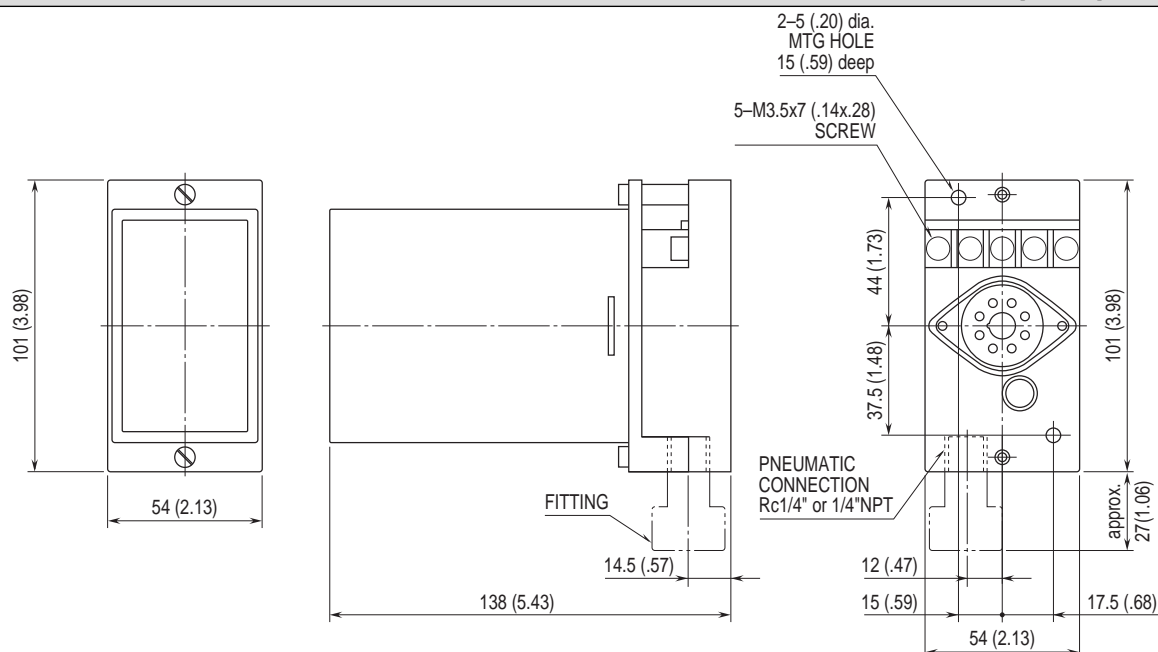
Permissible overrange: 196 kPa (2.0 kgf/cm², 1.96 bar, 28 psig)

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

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 2000 V AC @ 1 minute (output to power to housing)

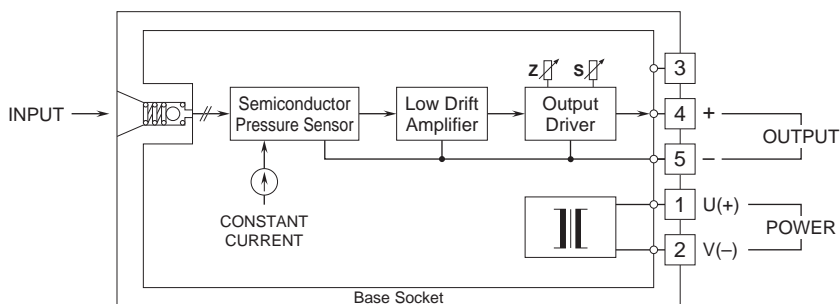
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



- When mounting, no extra space is needed between units.
- Fitting is provided for 1/4"NPT connection.



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.

