

Plug-in Signal Conditioners M-UNIT

V: 48 V DC

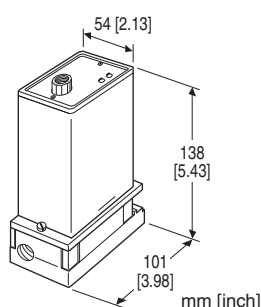
I/P TRANSDUCER

Functions & Features

- Converting a DC input into a proportional standard pneumatic signal
- Semiconductor pressure sensor in the feedback circuit
- High resolution
- No mounting position effect
- High-density mounting

Typical Applications

- Converting a 4 – 20 mA from a PID controller into a pneumatic signal



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

ORDERING INFORMATION

- Code number: VP-[1]-[2][3]
- Specify a code from below for each of [1] through [3].
(e.g. VP-6-B/A2S/P7)

[1] INPUT

Current

A: 4 – 20 mA DC (Input resistance 250 Ω)

Voltage

6: 1 – 5 V DC (Input resistance 1 MΩ min.)

[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 (multiple selections)

Output

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

Input & 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
- **Valve section:** Die cast aluminium
- **Screw terminals:** Nickel-plated steel;

Isolation: Input to power

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

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

■ DC Current:

Shunt resistor attached to the input terminals (0.5 W)

OUTPUT SPECIFICATIONS

■ Output:

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

The output goes below 0 % if the input loop is open.

Maximum air delivery: 60 NI/minute (2.1 SCFM)

Maximum air exhaust: 60 NI/minute (2.1 SCFM)

INSTALLATION

Supply pressure: 140 kPa (1.4 kgf/cm², 1.4 bar, 20 psig)

±10 %. Use dry air containing no carbon black or other foreign particles. To ensure reliability use an air filter (0.01 microns).

Air consumption: 6 NI/minute (0.21 SCFM)

Power input

- **AC:** Operational voltage range: rating ±10 %,

50/60 ± 2 Hz, approx. 2 VA

•DC: Operational voltage range: rating ± 10 %
(ripple 10 % p-p max.) approx. 1 W (30 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: 750 g (1.65 lb)

PERFORMANCE in percentage of span

Accuracy: ± 0.3 % including linearity and repeatability

Linearity: ± 0.2 %

Repeatability: 0.1 %

Temp. coefficient: ± 0.05 %/°C (± 0.03 %/°F)

Response time: ≤ 3 sec. (0 - 90 %)

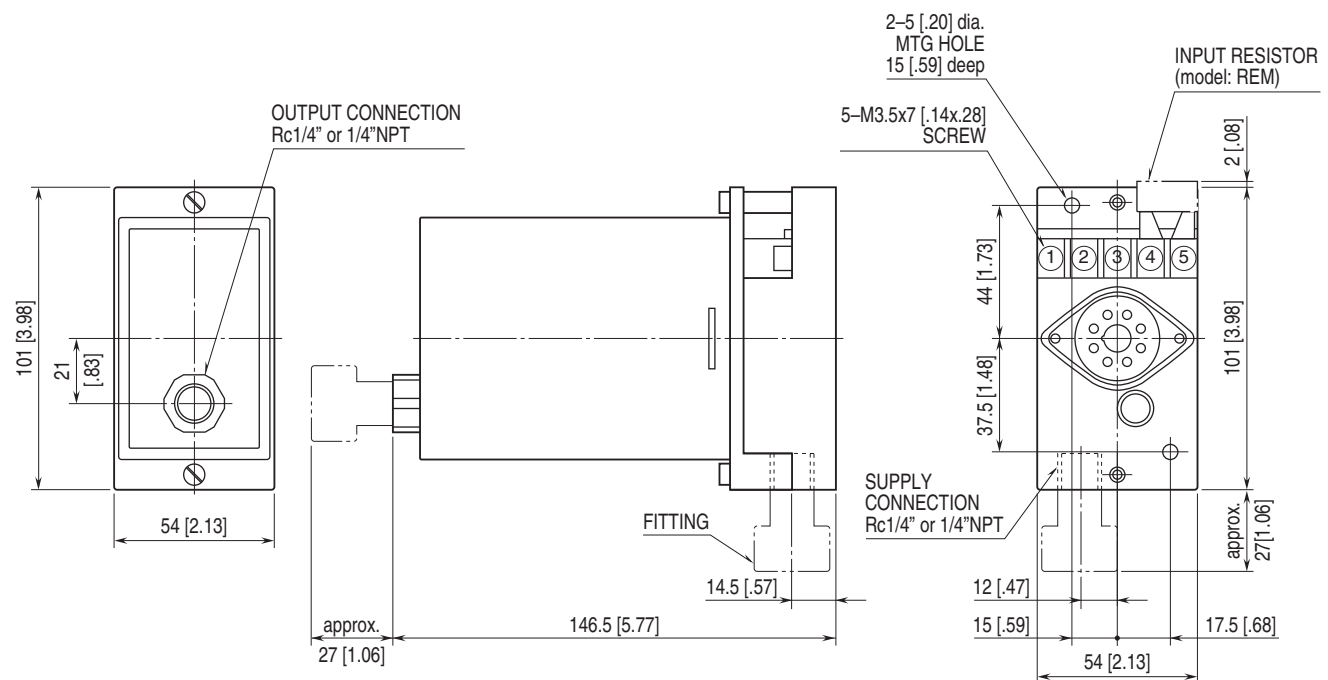
Mounting position effect: ± 0.1 % (all dimensions)

Line voltage effect: ± 0.1 % over voltage range

Insulation resistance: ≥ 100 M Ω with 500 V DC

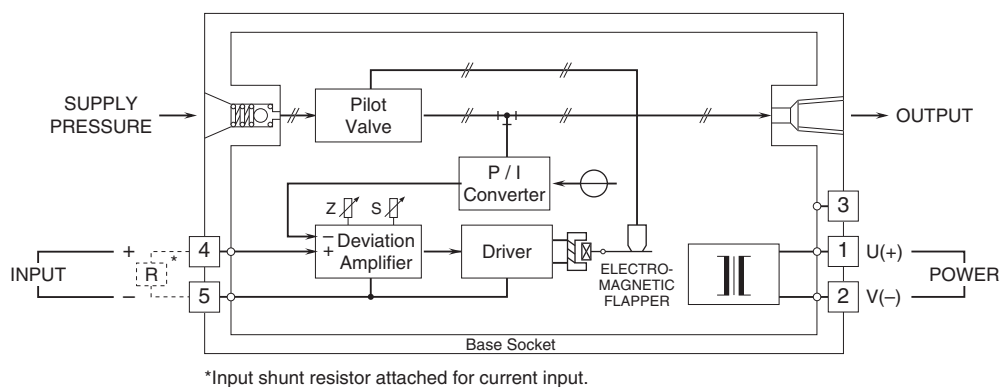
Dielectric strength: 2000 V AC @ 1 minute (input to power to housing)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.