Plug-in Signal Conditioners M-UNIT

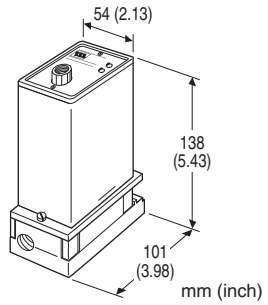
I/P TRANSDUCER

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
V: 48 V DC

[3] OPTIONS (multiple selections)

Output
blank: 0.2 – 1.0 kgf/cm^2
/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/cm^2
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 Nl/minute (2.1 SCFM)
Maximum air exhaust: 60 Nl/minute (2.1 SCFM)

INSTALLATION

Supply pressure: 140 kPa (1.4 kgf/cm^2, 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 Nl/minute (0.21 SCFM)
Power input
• **AC**: Operational voltage range: rating ±10 %,

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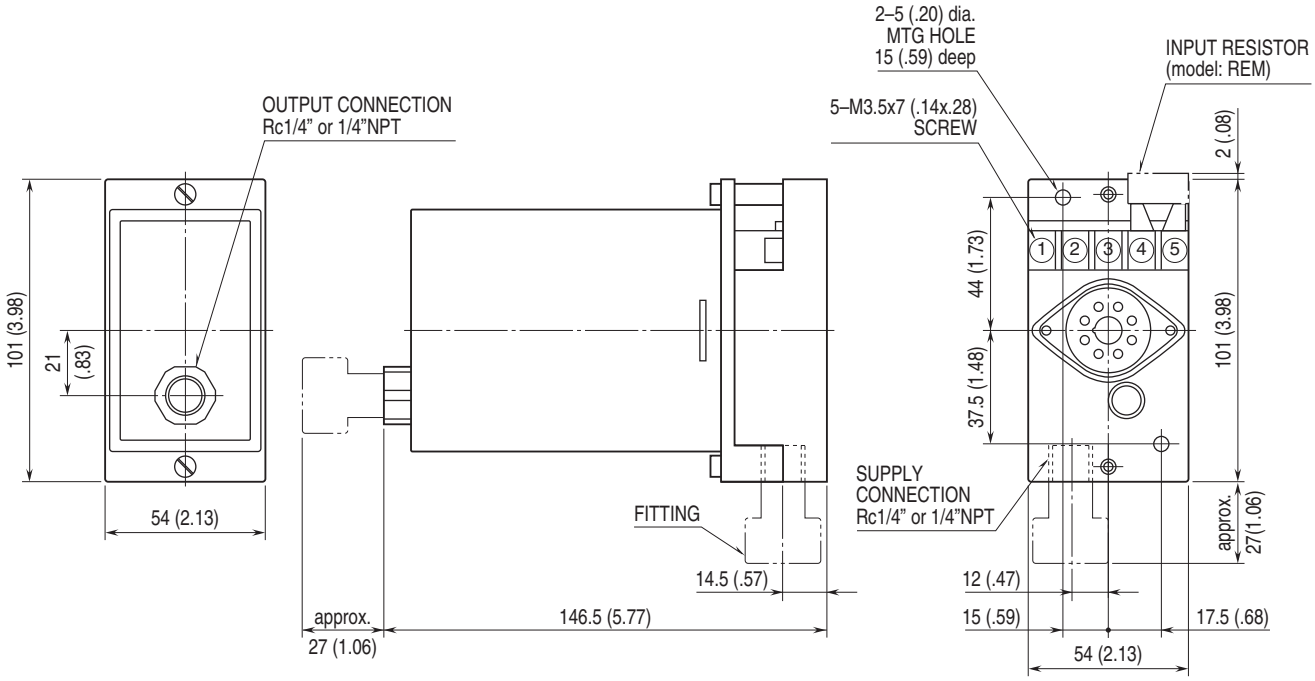
50/60 ±2 Hz, approx. 2 VA
•**DC**: Operational voltage range: rating ±10 %
(ripple 10 % p-p max.) approx. 1 W (30 mA at 24 V)
Operating temperature: -5 to +60°C (23 to 140°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface
Weight: 750 g (1.65 lb)

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 MΩ 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.

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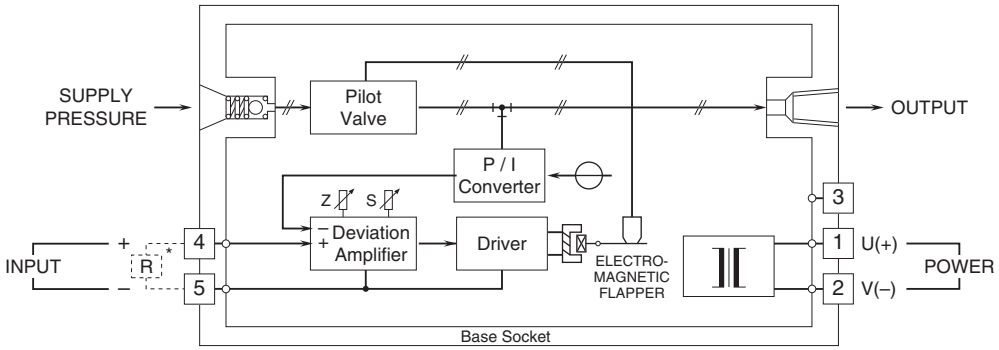
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor attached for current input.

⚠ Specifications are subject to change without notice.

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