IP71-2000M (3-27psig output)
IP71-3000M (3-15psig output)
IP71-4000M (6-30psig output)

IP71

Current to Pressure Transducer

Produces a Pneumatic Output
in Response to a Current Input

- Compact Size
- Intrinsically Safe
- Mount in Any Orientation
- Easy Wiring
- Accuracy±0.10% of Span
- RFI/EMI Protected
- I/O Ports on Front and Back
- Supply Pressures up to 100psig

The IP71 transducer converts an electrical signal (current) to a proportional pneumatic output. Utilizing closed-loop pressure feedback circuitry, it provides precise, stable pressure outputs to final control elements. Immunity to vibration effects or mounting position, high tolerance to impure air, and low air consumption make this unit ideal for demanding applications. The compact housing, accessible ports and easy adjustments make it perfect for constrained spaces. An integral volume booster provides high flow capacity, increasing control speed in critical applications.

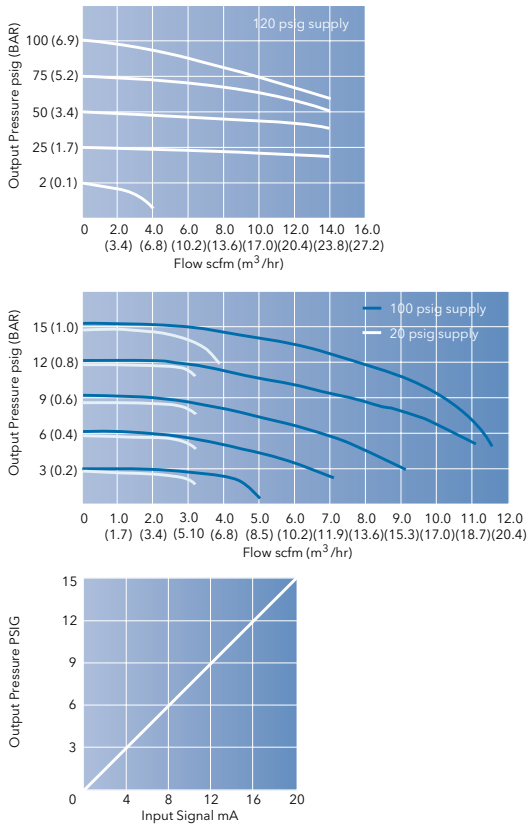

Figure 1. IP71 Performance Characteristics

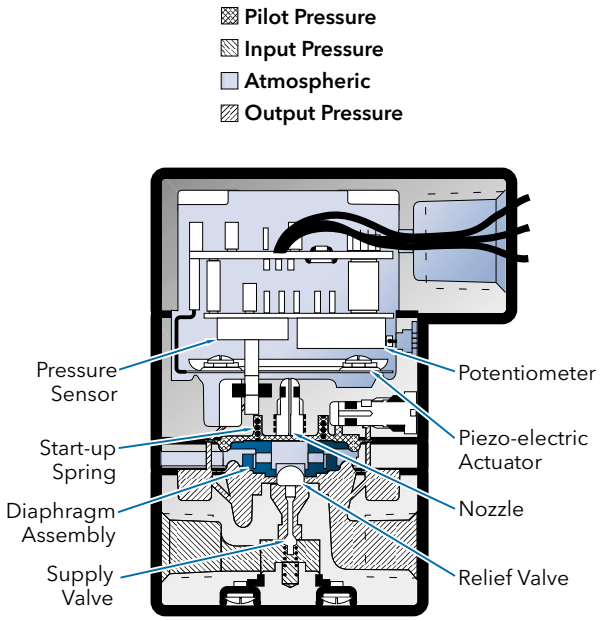

Figure 2. IP71 Operation

The bimorph piezo actuator encapsulated in a protective skin provides defense against humidity and contaminants often found in process operating environments. The IP71 utilizes a nozzle to control a pilot pressure to an integral volume booster. The resultant output pressure is measured by a pressure sensor which in turn provides a feedback signal to the circuitry. The feedback circuit compares this signal to the input signal and self corrects as necessary, thus minimizing the effects of variation in vibration, position, temperature, and supply pressure. The current signal flows to the piezo actuator causing the actuator to move toward a nozzle. This restricts the flow of air through the nozzle and creates back pressure in the nozzle which acts as a pilot pressure to an integral booster relay.

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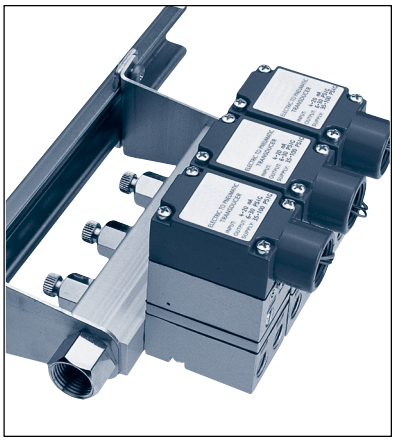
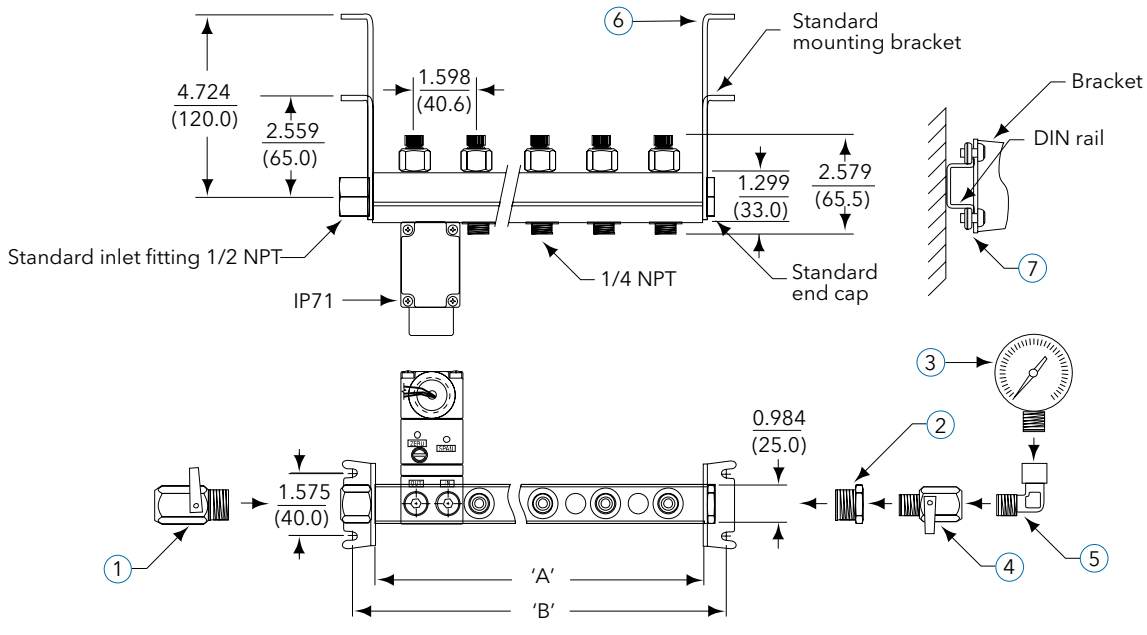


IP71 Multifunction Supply Manifold

a common supply port with individual shut off valves

The IP71 multifunction manifold provides a common air supply line to multiple IP71 units. Manifolds are available to hold 3 or 5 units. Each port features a patented individual shut-off valve that allows safe on-line service or modification with supply pressure on. Individual units can be installed or removed without effecting other units on the manifold. Construction of the manifold is simple and flexible. Connection ports thread easily into IP71 units. No additional hardware such as a check valve or adapter kit is required. The manifold has an optional DIN rail mounting kit. It can also be used as a common output manifold for solenoid valves.

Supply Manifold Dimensions
Dimensions are in inches (millimeters)



Stations	Length 'A' in. (mm)	Length 'B' in. (mm)
3	6.10 (155)	7.13 (181)
5	9.30 (236)	10.31 (262)

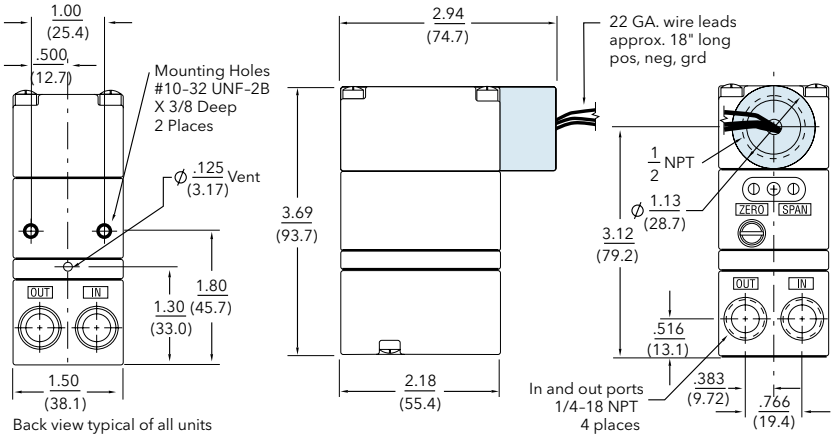
1. 1/2" Supply Shut-off Valve
2. 1/2" to 1/4" NPT Reducer
3. Pressure Gauge (1/4" bottom mount, 0-160psig)
4. 1/4" Shut-off Valve
5. 1/4" Elbow
6. Extended Mounting Bracket Kit (includes both brackets)
7. DIN Rail Mounting Kit

Figure 3. IP71 Multifunction Supply Manifold

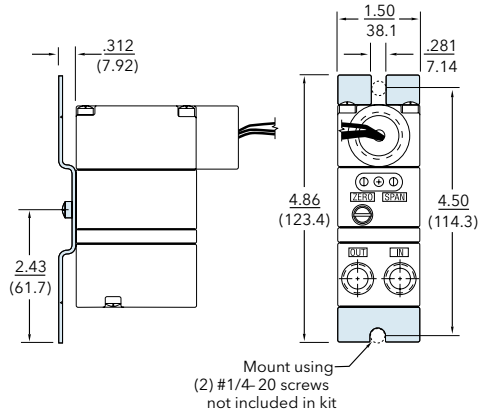
Dimensions

Dimensions are in inches (millimeters)

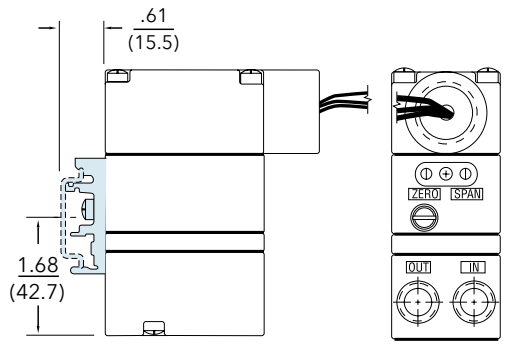
Conduit



Panel Mount



DIN Rail Mount



DIN Rail Kit suitable for EN-50035, EN-50045 and EN-50022 Rails

Pipe Mount

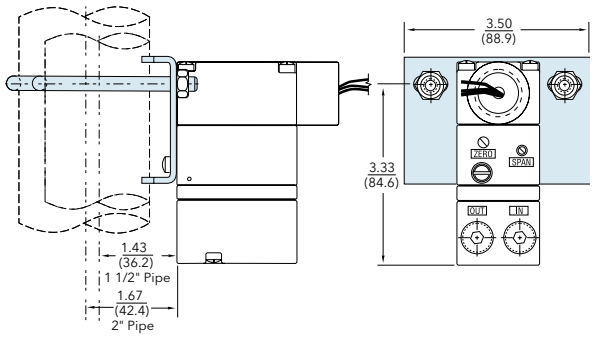


Figure 4. IP71 Mounting Options

Specifications

Functional Specifications

Standard Range High Output Range
Inputs: 4-20 mA
Outputs:
- 3-15 psig (0.20-1.00 BAR)
- 3-27 psig (0.20-1.80 BAR)
- 6-30 psig (0.40-2.00 BAR)

Supply Pressure:
- 20-100 psig (1.40-6.90 BAR)
- 32-100 psig (2.20-6.90 BAR)
- 35-100 psig (2.40-6.90 BAR)

Air Consumption:
- 1.5 scfh (0.04 m 3 /hr)at mid range, typical (Zero-based units have slightly higher air consumption)

Flow Capacity:
- 4.5 scfm (7.6 m^3/hr) at 25psig (1.7 BAR) supply
- 12.0 scfm (20.0 m^3/hr) at 100psig (7.0 BAR) supply

Temperature Limits:
- Operating: -40° to +160°F (-40° to +71°C)
- Storage: -40° to +200°F (-40° to +93°C)

Loop Load:
- 9.5 VDC @20 mA

Performance Sprecifications

Accuracy, Hysteresis, and Repeatability:
- ±0.10%of span guaranteed

Deadband:
- 0.02%of span

Position Effect:
- No measurable effect

Vibration Effect:
- < ±1.0% of span under the following conditions
  - 5-15Hz @0.8 inches constant displacement
  - 15-50Hz @10g's

Supply Pressure Effect:
- No measurable effect

Temperature Effect:
- ±0.045%/°F (0.07%/°C) of span

Reverse Polarity Effect:
- No damage from reversal of normal supply current (4-20 mA) or from misapplication of up to 60 mA

RFI/EMI Effect:
- <0.5%of span change in output pressure per EN61000-4-3:1998, Amendment 1, Performance Criterion A

Physical Specifications

Port Sizes:
- Pneumatic: 1/4" NPT
- Electric: 1/2" NPT

Media:
- Clean, dry, oil-free, air-filtered to 40 microns

Mounting:
- Wall, panel, 1.5"or 2"pipe (optional)

Enclosure:
- NEMA 4X (IP65) (conduit connection only)

Materials:
Housing: Chromate-treated aluminum with epoxy paint.
Elastomers: Buna-N
Trim: Stainless steel; brass; zinc-plated steel
Weight:
- 13.0 oz (0.4 kg)

Hazardous Area Classifications

Factory Mutual (FM) and
Canadian Standards Association (CSA) Approvals
Intrinsically Safe (1/2"NPT Conduit)
Class I, II, III, Division 1,
Groups C, D, E, F, & G
Enclosure Nema 4X (IP65)
Temp. Code T4 Ta = 70°C
Rated 4-20mA, 30VDC Max.
Intrinsically Safe (DIN)
Class I, Division 1, Groups C & D
Temp. Code T4 Ta = 70°C
Rated 4-20mA, 30VDC Max.
Entity Parameters (Conduit)
Ui (Vmax) = 30VDC Ci = 0 uF
Ii (Imax) = 125mA Li = 0 mH
Pi =0.7W Max.

Non-Incendive (Conduit & DIN)
Class I, Division 2,
Groups A, B, C & D
Temp. Code T4 Ta = 70°C
Suitable for (Conduit only)
Class II & III, Division 2,
Groups F & G
Temp. Code T4 Ta = 70°C
Entity Parameters (DIN)
Ui (Vmax) = 30VDC Ci = 0.03 uF
Ii (Imax) = 125mA Li =0 mH
Pi =0.7W Max.

Ordering Information

Specify:
1. Model:
   - IP71-2000M (3-27 psig output)
   - IP71-3000M (3-15 psig output)
   - IP71-4000M (6-30 psig output)
2. Mounting Kit:
   - IPX-P2KIT (2" pipe mounting kit)
   - IP71-DINKIT (DIN mounting kit)

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