

Technical Data for **P-Series** and **PS-Series** Pressure Meters

0.07–3000 PSI full scale in absolute, gauge, or differential pressure applications



Standard specifications. Consult Alicat for available options.

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www.alicat.com/p

| SENSOR PERFORMANCE | |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Accuracy at Calibration Conditions ¹ | ±0.25% of full scale |
| High Accuracy Option | ±0.125% of full scale |
| Repeatability (2σ) ¹ | ±0.08% of full scale |
| Pressure Measurement Range | 0.5–100% of full scale |
| Temperature Sensitivity | Zero shift: 0.02% of full scale per °C from tare temperature ² Span shift: 0.02% of full scale per °C from calibration temperature |
| Operating Temperature Range | –10–60°C |
| Sensor Response Time | <1 ms |
| Typical Indication Response Time | <10 ms |
| Typical Warm-Up Time | <1 s |

¹ Stated accuracy is after tare under equilibrium conditions; includes repeatability and linearity. Please consult an application engineer when full scale is ranged below 2 inH₂O (0.07 PSI).

² For absolute pressure devices, tare is only available when the optional barometer package installed.

| MECHANICAL | |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fluid Compatibility | P-Series: Compatible with all non-corrosive gases; check wetted materials PS-Series: Compatible with all non-corrosive gases and liquids, and many corrosive gases; check wetted materials |
| Burst Pressure | 0.07–100 PSI models: 3× full scale range 500–3000 PSI models: 1.5× full scale range |
| Maximum Common Mode Pressure for Differential Pressure Models | ≤100 PSID models: 200 PSIG 500 PSID models: 750 PSIG |
| Mounting Attitude Sensitivity | None |
| Mounting Tap Screw Size | 2× 8-32 UNC tapped holes with a depth of 0.350" [8.89 mm] |
| Ingress Protection | IP40 (consult Alicat for weatherproofing options) |
| Humidity Range | 0–95%, non-condensing |
| Wetted Materials | P-Series: 0.07–100 psi: 302, 303, and 304 stainless steel; FKM, alumina ceramic, glass, gold, heat-cured epoxy, heat-cured silicone rubber, polyamide, silicon 500–3000 psi: 302, 303, 304, and 316L stainless steel; FKM PS-Series: 316L stainless steel; FFKM standard, FKM or EPDM as required |
| Process Connection ³ | 1/8" NPT female |

³ Consult Alicat for available process connection options, such as: Compression, face seal, push-to-connect, BSPP, SAE, or Swagelok® (including tube, VCO®, and VCR®-compatible).

| STANDARD AVAILABLE RANGES ⁴ | | | | | | | | | | | |
|----------------------------------------|----------------------|-------|-------|--------|--------|---------|---------|----------|----------|----------|----------|
| Model | 2 inH ₂ O | 1 PSI | 5 PSI | 15 PSI | 30 PSI | 100 PSI | 500 PSI | 1000 PSI | 1500 PSI | 2000 PSI | 3000 PSI |
| P-Series PSIA | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| P-Series PSIG | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| P-Series PSID | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |

⁴ Other ranges are available, including negative gauge ranges. Please see our IVC-Series instruments for deep vacuum applications.

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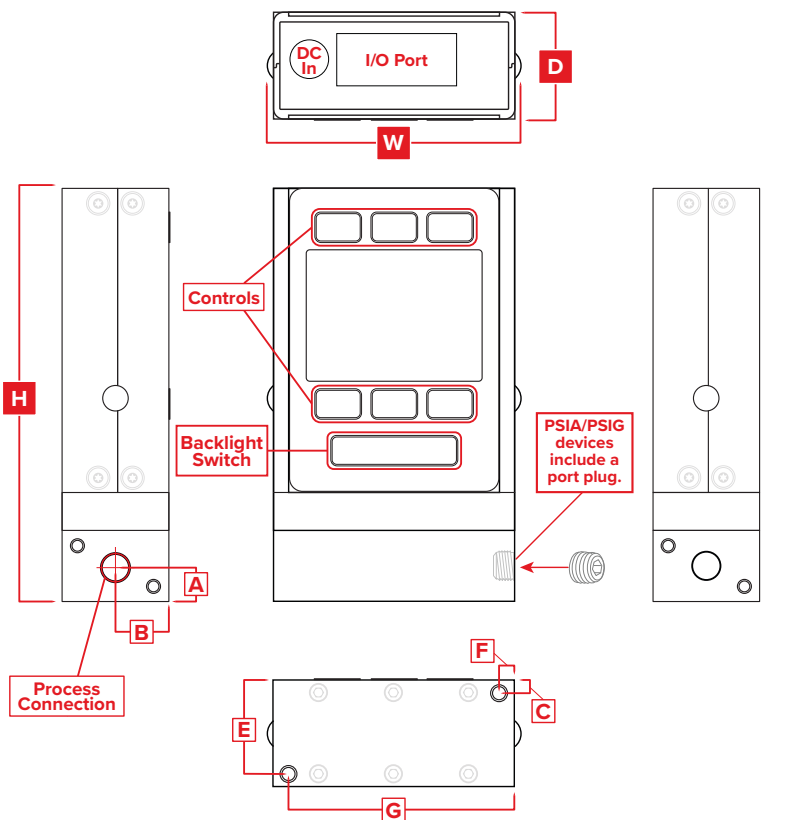
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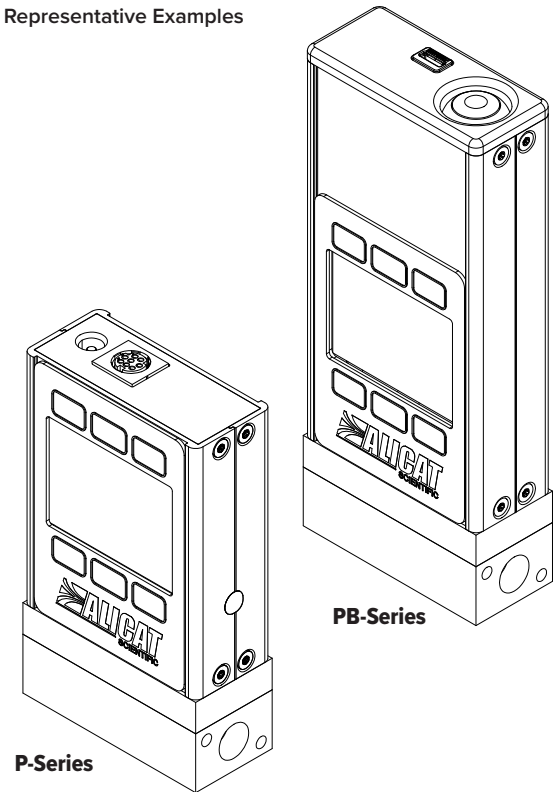
| COMMUNICATIONS | |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display Options | Monochrome LCD or color TFT displays pressure and configuration |
| Display Update Rate | 10 Hz |
| Digital Data Update Rate | 40 Hz at 19200 baud |
| Digital I/O Options | RS-232 serial (default) RS-485 serial, Modbus RTU (over RS-232 or RS-485 serial), Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP, PROFIBUS Portable devices (PB models): Serial over Micro-USB |
| Analog I/O Options ⁵ | 4–20 mA, 0–5 Vdc, 1–5 Vdc, 0–10 Vdc |
| Analog Data Update Rate | 1 kHz |
| Analog Signal Accuracy | ±0.1% of full scale additional uncertainty |
| Electrical Connection Options | 8-pin mini-DIN by default, 8-pin M12, DB-9, DB-15, 6-pin locking (contact Alicat for custom pinouts) Portable devices (PB models): Power over Micro-USB Type B |
| Power Requirements ⁶ | 0–5 Vdc output: 9–28 Vdc, 40 mA 0–10 Vdc output: 12–28 Vdc, 40 mA 4–20 mA output: 12–28 Vdc, 80 mA Portable devices (PB models): 5 Vdc, 1 A recommended via an outlet adapter to USB. |

5 Analog outputs are not available on portable devices (PB-Series and PBS-Series).

6 Consult the individual operating bulletins for specific industrial protocol power requirements and data transmission specifications.



Representative Examples



| DIMENSIONS ^{7,8} | | | | | | | | | WEIGHT |
|---------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Height | Width | Depth | A | B | C | E | F | G | |
| 4.067 in | 2.375 in | 1.050 in | 0.350 in | 0.525 in | 0.125 in | 0.925 in | 0.150 in | 2.225 in | ≈ 1.0 lb |
| 103.30 mm | 60.33 mm | 26.67 mm | 8.89 mm | 13.34 mm | 3.18 mm | 23.50 mm | 3.81 mm | 56.52 mm | ≈ 0.5 kg |

7 Portable devices (PB-Series and PBS-Series) add 1.646 in [41.81 mm] to height, and 0.20 lb. [91 g] to weight.

8 Differential pressure devices add 0.500 in [12.7 mm] to height, and 0.15 lb. [71 g] to weight.