

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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SENSOR PERFORMANCE	
Pressure accuracy ¹	Standard accuracy: $\pm 0.25\%$ of full scale High-accuracy option: $\pm 0.125\%$ of full scale
Pressure repeatability (2σ) ¹	$\pm 0.08\%$ 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	
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
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
Sensor 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
Relative humidity range	0 – 95%, non-condensing
Ingress protection	IP40 (consult Alicat for weatherproofing options)
Mounting holes	2× 8-32 UNC threaded ∇ 0.350" [8.89 mm]
Default process connection ³	$\frac{1}{8}$ " 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®).

POWER AND COMMUNICATION	
Digital output options	RS-232 Serial and Modbus RTU (default) RS-485 Serial and Modbus RTU, Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP®, Profibus, PROFINET®, IO-Link
Digital data update rate	40 Hz at 19200 baud
Analog output options ⁴	4 – 20 mA, 0 – 5 Vdc, 1 – 5 Vdc, 0 – 10 Vdc
Analog data update rate	1 kHz
Analog signal accuracy	$\pm 0.1\%$ of full scale additional uncertainty
Interactive display	Monochrome LCD or color TFT display with integrated touchpad; displays current pressure.
Display update rate	10 Hz
Electrical connection options	8-pin mini-DIN (default), 8-pin M12, 9-pin DB-9, 15-pin DB-15, 6-pin locking (contact Alicat for custom pinouts)
Power requirements ⁵	0 – 5 Vdc output: 9-24 Vdc, 40 mA 0 – 10 Vdc output: 12-24 Vdc, 40 mA 4 – 20 mA output: 12-24 Vdc, 80 mA

⁴ Analog outputs are not available on portable devices (PB-Series and PBS-Series).

⁵ Consult the individual operating bulletins for specific industrial protocol power requirements and data transmission specifications.

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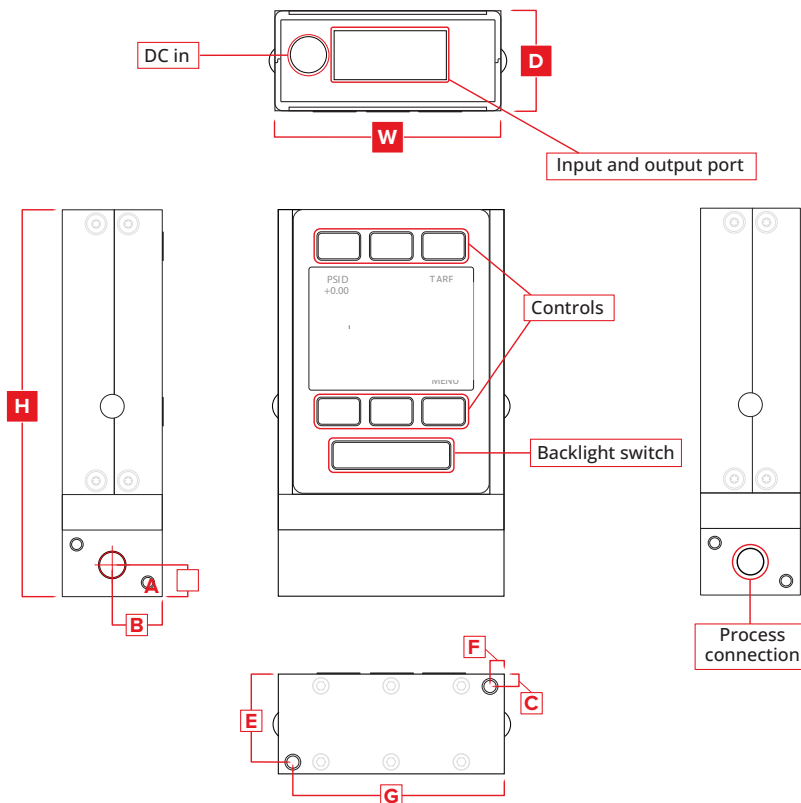


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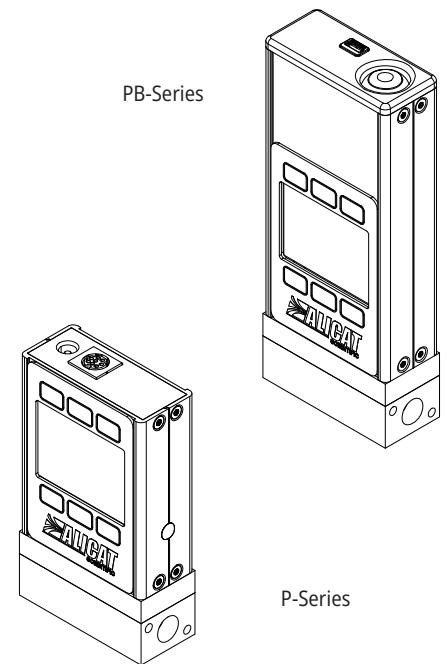
STANDARD AVAILABLE RANGES ⁶											
Model	2 inH ₂ O	1 PSI	5 PSI	15 PSI	30 PSI	100 PSI	500 PSI	1000 PSI	1500 PSI	2000 PSI	3000 PSI
P-Series PSIA				✓	✓	✓	✓	✓	✓	✓	✓
P-Series PSIG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P-Series PSID	✓	✓	✓	✓	✓	✓	✓				
PS-Series PSIA ⁵				✓	✓	✓	✓	✓	✓	✓	✓
PS-Series PSIG ⁵			✓	✓	✓	✓	✓	✓	✓	✓	✓
PS-Series PSID ⁵			✓	✓	✓	✓	✓				

⁶ Other ranges are available, including negative gauge ranges. Please see our IVC-Series instruments for deep vacuum applications.

PORTABLE DEVICES (PB-SERIES)	
Power requirements	5 Vdc, 1 A recommended via an outlet adapter to USB.
Battery life	Monochrome screen: 18 hours, user-configurable, contrast dependent Color TFT screen: 8 hours, user-configurable, contrast dependent
Electrical connection and communication	Digital output: Serial over Micro-USB Power over Micro-USB Type B Bluetooth® Low Energy (requires the Alicat Connect app and a compatible Android or iOS mobile device)
Charging temperature	0 – 45°C
Dimensions	Portable devices (PB-Series and PBS-Series) add 1.646" [41.81 mm] to height, and 0.20 lb. [91 g] to weight.
Analog outputs	Not available on portable devices.



Representative Examples



DIMENSIONS ^{7,8}									WEIGHT
Width	Depth	Height	A	B	C	E	F	G	
2.38"	1.05"	4.07"	0.35"	0.53"	0.13"	0.93"	0.15"	2.23"	≈ 1.0 lb
60.3 mm	26.7 mm	103.3 mm	8.9 mm	13.3 mm	3.2 mm	23.5 mm	3.8 mm	56.5 mm	≈ 0.5 kg

⁷ Differential pressure devices add 0.500" [12.7 mm] to height, and 0.15 lb. [71 g] to weight.

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