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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+1 (888) 290-6060
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SENSOR PERFORMANCE	
Pressure accuracy[1]	**Standard accuracy:** ± 0.25% of full scale **High-accuracy option:** ± 0.125% of full scale
Pressure 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 inH_2O (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]	⅛″ 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	± 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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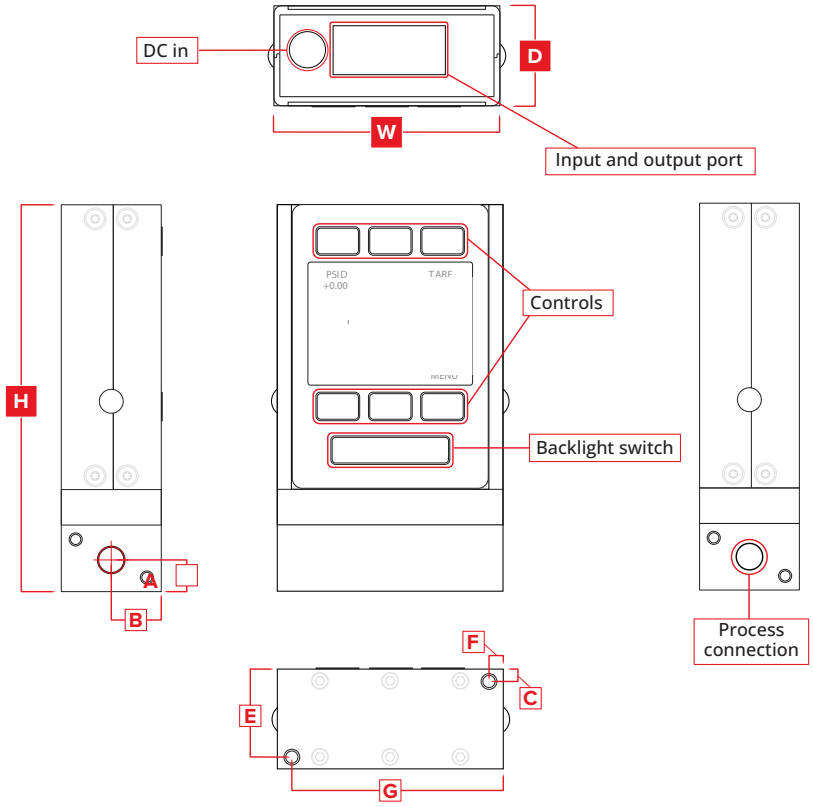
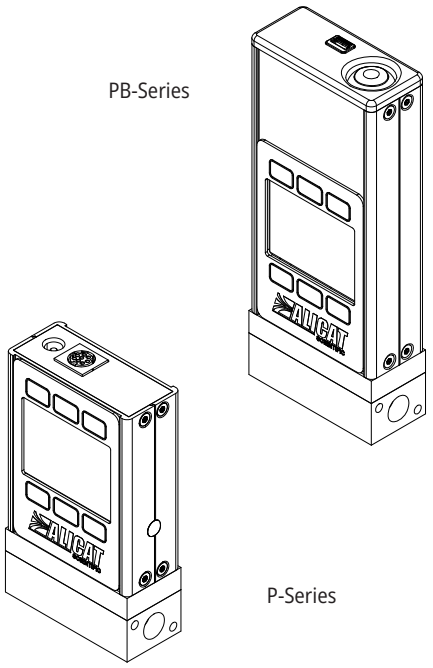
STANDARD AVAILABLE RANGES[6]											
Model	2 inH_2O	1 PSI	5 PSI	15 PSI	30 PSI	100 PSI	500 PSI	1000 PSI	1500 PSI	2000 PSI	3000 PSI
P-Series PSIA				✓	✓	✓	✓	✓	✓	✓	✓
P-Series PSIG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P-Series PSID	✓	✓	✓	✓	✓	✓	✓				
PS-Series PSIA[5]				✓	✓	✓	✓	✓	✓	✓	✓
PS-Series PSIG[5]			✓	✓	✓	✓	✓	✓	✓	✓	✓
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 in [12.7 mm] to height, and 0.15 lb. [71 g] to weight.