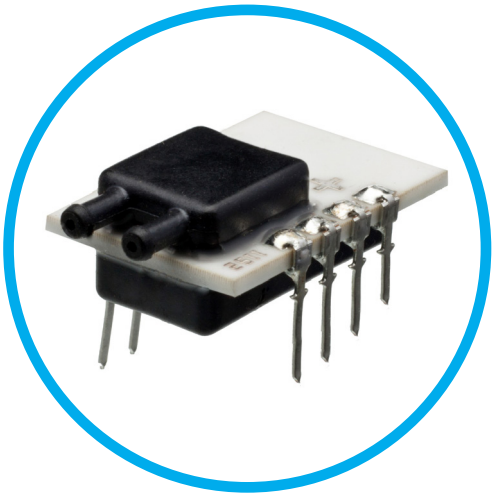
P1K
Pressure Sensor

Description

The P1K series of pressure sensors incorporates a piezo-resistive sensing element in a compact package. Using a 5 VDC supply voltage, the P1K provides a 0.25 VDC to 4.0 VDC output proportional to pressure. Internal temperature compensation provides and accurate, easy to use sensor. The industry standard terminal pins provides ease of use for your printed circuit board designs.



Features

- Compact Package
- Amplified Temperature Compensated Linear Output
- No Position Sensitivity Above 0-2" H2O
- EMI/RFI and ESD Protected
- Superior Output Signal Stability
- Printed Circuit Board through Hole Mounting

Applications

- Variable Air Volume Systems
- Filter Pressure Monitoring
- Duct Air Flow
- Modulated Furnace Controls
- Combustion Airflow
- Gaseous Leak Detection
- **Medical Applications:**
  Oxygen Concentrators, Ventilators, Anesthesia Equipment, CPAP, Wound Therapy.

MAIN FEATURES

Pressure Ranges	2, 5, 10, +/-1, +/-2, +/- 5 inches of water; 2.5, 5, 12.5, 25, +/-2.5, +/- 5, +/- 12.5 mbar
Electrical Connection	PCB thru hole terminal pins, 2.54 mm [.100 inch] pitch
Pressure Connection	Barbed port, 1.9[.08] diameter
Housing Material	PPS, 40% glass filled, black
Terminal Pin Material	Phosphor bronze, tin plated
Supply Voltage	5.00 Vdc ± 0.25 Vdc
Output Signal	Ratiometric analog; 5% to 80% of supply voltage

TECHNICAL SPECIFICATIONS

Pressure Ranges

from 0 to...	2" H2O	5" H2O	10" H2O	+/- 1" H2O	+/- 2" H2O	+/- 5" H2O
from 0 to...	5mbar	12.5mbar	20mbar	+/- 2.5 mbar	+/- 5mbar	+/- 12.5 mbar
Proof Pressure (min)	1.0 PSI/ (70mbar)	1.0 PSI/ (70mbar)	1.0 PSI/ (70mbar)	1.0 PSI/ (70mbar)	1.0 PSI/ (70mbar)	1.0 PSI/ (70mbar)
Burst Pressure Factor	1.8 PSI/ (125mbar)	1.8 PSI/ (125mbar)	1.8 PSI/ (125mbar)	1.8 PSI/ (125mbar)	1.8 PSI/ (125mbar)	1.8 PSI/ (125mbar)

Physical

Expected Operating Life	10 million full pressure life cycles
Shelf Life	10 years minimum
Stability	+/- 0.5% of full scale span for 1 year
Vibration	10 G's peak to peak sinusoidal (20 to 1600Hz)
Shock Resistance	50 G's ½ Sinewave, 11 mSec pulse, 18 pulses (6 per axis)
Weight	3.5g max.
Operating Temperature	-20°C to 85°C
Storage Temperature	-40°C to 125°C
Humidity	Up to 92% RH in a non-condensing environment
Media	Dry air

Performance

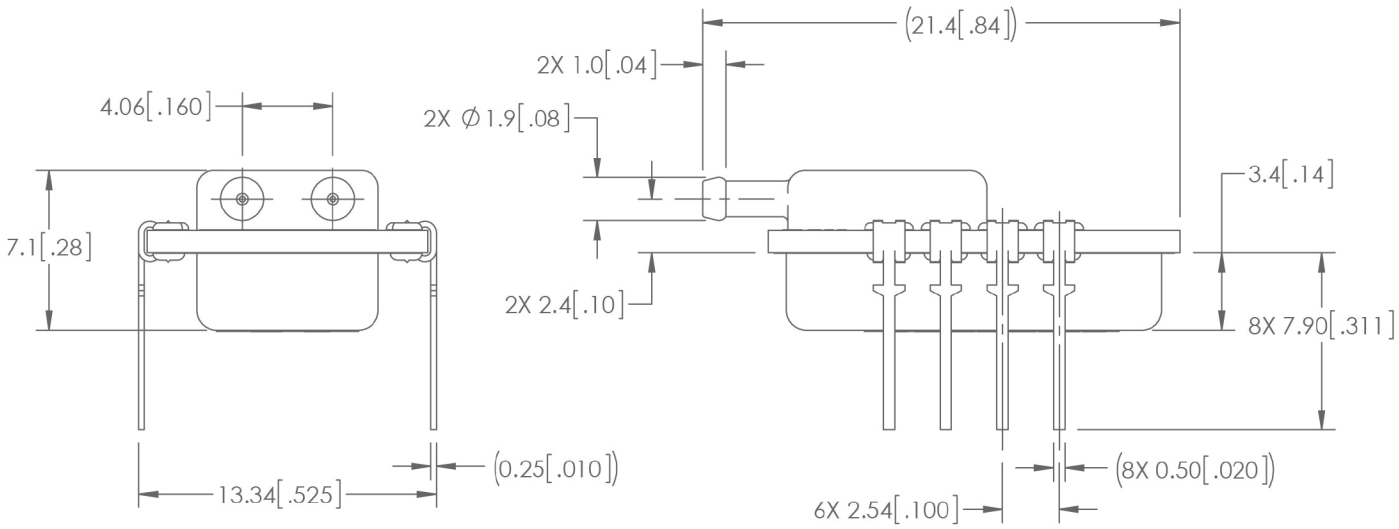
Accuracy	0.25% Max (% of full scale span) (RSS of linearity, hysteresis and repeatability)
Temp. Error (0 to 60°C)	0.05%/ C [% of full scale span]
Temp. Error (-20 to 0°C and 60 to 85°C 0 to 60°C)	5% full scale span

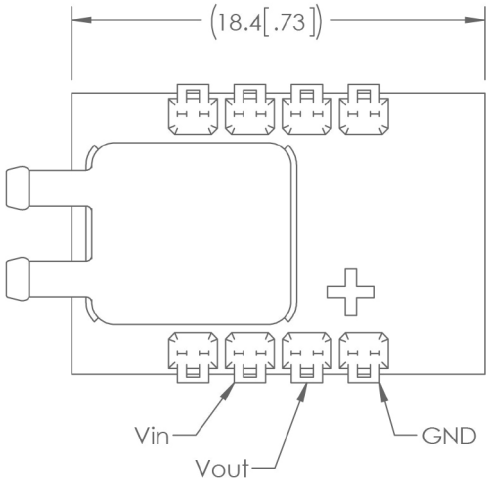
Electrical

Output Impedance	100 Ohms max.
Excitation Current	4mA max
Minimum Load	25k Ohms between output and ground
Response Time	5 mSec max (63% full scale)

DIMENSIONS

Dimensions in mm [Inch]





ORDERING OPTIONS

Example: P1K-1-2X16PA

P1K Pressure sensor 0 -1" H20, .25 to 4.0 VDC output, no internal material seal, barbed tube fitting port with PCB Terminal Pin connection, no external material seal

P1K – 1 – 2 X 16 P A

Family

P1K

Pressure Ranges

1B:	+/- 1" H2O
2:	0-2" H2O
2B:	+/- 2" H2O
5:	0-5" H2O
5B:	+/- 5" H2O
10:	0-10" H2O
2.5MBB:	0-2.5 mbar
5MB:	0-5 mbar
5MBB:	+/- 5 mbar
12.5MB:	0-12.5 mbar
12.5MBB:	+/-12.5 mbar
25MB:	0-25 mbar

Output Type

2: 0.25 – 4.0 VDC

Seal Material

X: None

Pressure Connection

16: Barb or Tube Fitting

Built-in Connector

P: PCB Terminal Pins

Seal Material

A: None

AGENCY APPROVALS & CERTIFICATIONS

RoHS

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Mouser Electronics

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Sensata:

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