

# **P993**

## **Low Range Differential Pressure PCB Mount Sensor**



### **Typical Applications**

- Variable Air Volume Systems (VAV)
- Filter Pressure Monitoring
- Duct Air Flow
- Modulated Furnace Controls
- Combustion Air Flow
- Gaseous Leak Detection

### **Standard Full Scale Pressure Ranges**

1, 2, 5, 10,  $\pm 1$ ,  $\pm 2$ , and  $\pm 5$  inches of H<sub>2</sub>O

### **Features**

- Rugged PCB Mount Package
- Amplified Temperature Compensated Linear Output
- No Position Sensitivity
- EMI/RFI & ESD Protected
- Superior Output Signal Stability

### **Description**

The P993 series of pressure sensors incorporates a silicon capacitive sensing element in a compact package.

Using a 5 Vdc input, the sensors provide a 0.25 to 4.0 Vdc output proportional to pressure. Internal temperature compensation provides an accurate, easy to use device.

The innovative design eliminates mounting position effects found on other low pressure differential sensors currently available in the market.

## Technical Specifications

Note: Performance Specifications with 5 Vdc supply at 25°C

### Differential Pressure Ranges

|   |  |
|---|--|
| (inches of H <sub>2</sub> O):                             | 1, 2, 5, 10, ±1, ±2, and ±5  |
| Proof Pressure:   | 1.0 PSI (either port)  |
| Burst Pressure:   | 1.5 PSI (either port)  |
| Supply Voltage:   | 5.0 ± 0.25 Vdc   |
| Supply Current:   | 4mA Max.   |
| Output Voltage (Ratiometric):                             | 0.25 to 4.0 Vdc  |
| Calibration Tolerance<br>(at 5.0 Vdc supply and no load): |  |
| Zero/Null Pressure:                                       | 0.25 Vdc ± 60 mV   |
| Span:   | 3.75 Vdc ± 60 mV   |
| Voltage Ratiometricity:                                   | ±1.5% of span Max.<br>4.75 to 5.25 Vdc supply  |
| Total Error Band<br>(10° to 40°C):                        | ±2% of span Max. (±3% for 0-1" range)  |
| Output Impedance:   | 100 Ω Max.   |
| Service Life:   | 10,000,000 cycles Min.   |
| Shock:  | 10 g's at 6ms duration   |
| Vibration:  | 1 g from 20 Hz to 1200 Hz  |
| Operating Temperature:                                    | 0°C to 60°C  |
| Storage Temperature:                                      | -40°C to +95°C   |
| Humidity:   | 95% RH, non-condensing   |
| Weight:   | 20 grams Max.  |
| Electrical Termination:                                   | 3 solderable pins, tin plated  |
| Preferred Mounting Position:                              | None   |
| Pressure Connection:                                      | 1/8" diameter tube fitting with barb<br>for 3/16 ID tubing   |
| Recommended Interface<br>Impedance:                       | 25 kΩ Min. resistance between<br>transducer output and ground, in parallel<br>with 0.2 uF Max. capacitance |
| Over-Voltage Protection:                                  | 16 Vdc   |
| Reverse Polarity Protection:                              | -6 Vdc   |



Before installation and operation, ensure that the appropriate pressure sensor has been selected in terms of pressure range, design and specific measuring conditions. Non-compliance can result in serious injury and/or damage to the equipment.

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## How to Order

Use this diagram, working top to bottom and left to right to construct your model number. An example is shown below. Custom OEM options are also available.

### P993 Low Range Differential Pressure PCB Mount Sensor

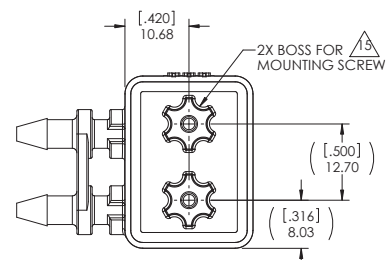
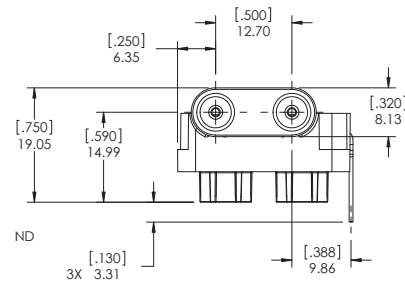
#### Pressure Range

|    |                           |
|----|---------------------------|
| 1  | 0 - 1.0" H <sub>2</sub> O |
| 1B | ±1" H <sub>2</sub> O      |
| 2  | 0 - 2.0" H <sub>2</sub> O |
| 2B | ±2" H <sub>2</sub> O      |
| 5  | 0 - 5.0" H <sub>2</sub> O |
| 5B | ±5" H <sub>2</sub> O      |
| 10 | 0 - 10" H <sub>2</sub> O  |

P993 - 5B

Example: P993 - 5B

Description: P993 Pressure Sensor, ±5" H<sub>2</sub>O



Dimensions in: mm [inches]

**Don't see what you want?**

Call us at +1 (619) 710-2068 to customize this product to meet your application-specific needs!