# **P993**

Low Range Differential Pressure PCB Mount Sensor

### 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.



#### Features

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

#### Applications

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



## MAIN FEATURES

Pressure Ranges	2, 5, 10, ±1, ±2, ±5 Inches of H20
Electrical Connection	3 solderable pins, tin plated
Pressure Connection	1/8" diameter tube fitting with barb
Housing Material	PET 30% glass reinforced, flame retardant
Output Signal	0.25 VDC – 4 VDC



#### **Pressure Ranges**

From 0 to	Inch of H2O	2	5	10	±1	±2	±5
<b>Proof Pressure</b>	PSI	1	1	1	1	1	1
Burst pressure	PSI	1.5	1.5	1.5	1.5	1.5	1.5

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## Physical

Operating Life Cycle	min. 10 million full pressure cycles over the full range
Vibration Resistance	1 G from 20 to 1200 Hz
Shock Resistance	10 G's at 6 ms duration
Drop Test	1m onto concrete surface
Weight	< 20 grams (without mating connector)
Operating Temperature	-10°C to + 60°C
Storage Temperature	- 40°C to + 95°C
Media	Air

## Performance

Total Error Band	$\pm 2\%$ of span Max. ( $\pm 3\%$ for 0 - 1" range) (10°C $\leq T \leq 40$ °C)
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### Electrical

Output Signal	0.25 to 4 VDC Ratiometric	
Power Consumption	≤ 20 mW	
Operating Supply Signal	5 VDC ± 5%	
Overvoltage Protection	min. 16 VDC	
Short-circuit Proofness	Yes *1	
<b>Reverse Polarity Protection</b>	Yes *2	
Output Impedance	100 Ω Max	

2. for min. 3 intervals at 5 minutes each 3. for min. 10 seconds on assigned pins











Example: P993-5B P993 Pressure Sensor, ±5" H20.

 P993
 XX

 P993
 XX

 P993
 Pressure Ranges

 IB: ± 1" H20
 Image: H20

 2: 0 - 2.0" H20
 Image: H20

 2B: ± 2" H20
 Image: H20

 5: 0 - 5.0" H20
 Image: H20

 5B: ± 5" H20
 Image: H20

 5B: ± 5" H20
 Image: H20

 2B: ± 0" H20
 Image: H20

 2B: ± 0" H20
 Image: H20

 5B: ± 5" H20
 Image: H20

AGENCY APPROVALS & CERTIFICATIONS

#### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
  - Follow proper mounting instructions including torque values
  - Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- · Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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