

# KAVLICO PRESSURE SENSORS PRODUCT OVERVIEW

## KAVLICO MISSION STATEMENT

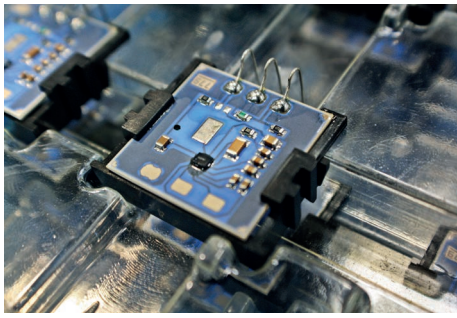
At Kavlico Pressure Sensors, designing and developing pressure sensors for mission critical applications is our focus and specialty.

Our strength lies in our ability to apply our state-of-the-art pressure sensing and signal treatment technologies such as:

- Thin Film,
- Ceramic Capacitive,
- Piezo-resistive and
- Silicon Capacitive

to meet any application specific requirement and provide perfect package expertise to adapt to customer specifications.

We are using an extensive network of development and support functions to design, develop, validate, and manufacture pressure sensors to fit the highest quality requirements in the harschest environments.



# PRESSURE MEASUREMENT METHODS

## REFERENCE

**Gage (G) Pressure**



**Sealed Gage (SG) Pressure**



**Differential (DP) Pressure**



**Absolute (A) Pressure**



## APPLICATION EXAMPLE



## MARKETS

With extensive experience and a long term commitment to innovation, Kavlico Pressure Sensors is the trusted source to design, develop, and manufacture robust and reliable sensors for mission critical applications in the most demanding global markets.

For over half a century, Kavlico Pressure Sensors has been successfully addressing the pressure, fluid level, and specialty sensors needs of customers in the following markets:



Transportation



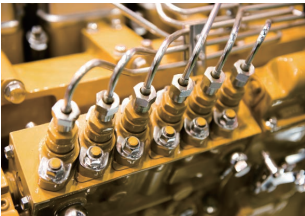
Building Equipment



Food and Beverages



Commercial OEMs



Industrial OEMs



Energy & Infrastructure



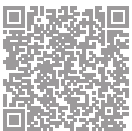
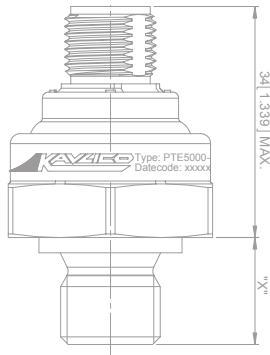
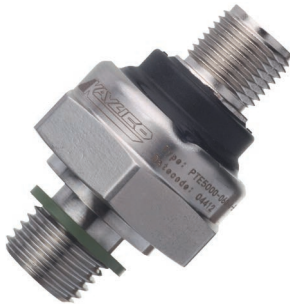
Medical



Aerospace & Defense

## PTE5000

### Hermetically Sealed Modular Pressure Sensor



### Main Features

Pressure Ranges	0 - 6 up to 0 - 600 Bar
Pressure Connections	G1/4" male, 1/4"-18NPT, 7/16"-20UNF-2A or 2B with Schrader Deflator
Electrical Connection	M12-4 Pole, DIN175301-803A , DIN175301-803-C Packard Metri-Pack 150
Housing Material	304 Stainless Steel (1.4301)
Output Signal	4 - 20 mA, 0 - 10 VDC, 0.5 - 4.5 VDC ratiometric

For further options, please see Main Options

### Attributes

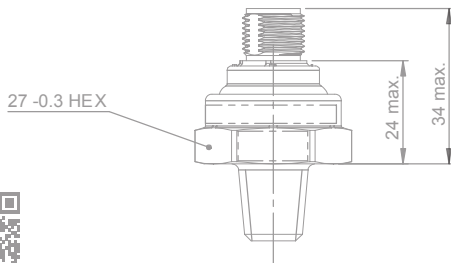
- Hermetically Sealed
- Rugged & Durable
- Compact & Light-weight
- Resistant to Chemical Attack
- Superior Long-Term Stability & Repeatability
- Outstanding Shock & Vibration Performance

### Typical Applications

- Compressors
- Hydraulic Systems
- Agricultural Equipment
- Construction Equipment
- Heat Pumps
- Chemical Industry

## PTA5000

### Hermetically Sealed Modular Pressure Sensor



### Main Features

Pressure Ranges	0 - 6 up to 0 - 600 Bar
Pressure Connections	1/4 - 18 NPT
Electrical Connection	M12-4 Pole, Packard Metri-Pack 150
Housing Material	304 Stainless Steel (1.4301)
Output Signal	4 - 20 mA, 0 - 10 VDC, 0.5 - 4.5 VDC ratiometric

For further options, please see Main Options

### Attributes

- Hermetically Sealed
- Rugged & Durable
- Compact & Light-weight
- Resistant to Chemical Attack
- Superior Long-Term Stability & Repeatability
- Outstanding Shock & Vibration Performance

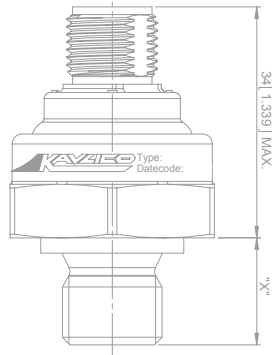
### Typical Applications

- Compressors
- Hydraulic Systems
- Agricultural Equipment
- Construction Equipment
- Heat Pumps
- Chemical Industry

## P1E Pressure Sensor for Oxygen Services



ISO 15001 Certified



### Main Features

Pressure Ranges	0 - 10 up to 0 - 400 Bar (Gage)
Pressure Connections	G1/4"A DIN 3852-A
Electrical Connection	M12-4 Pole, DIN175301-803A , GDS 307 Industrial Standard
Housing Material	304 Stainless Steel (1.4301)
Output Signal	4 - 20 mA

For further options, please see Main Options

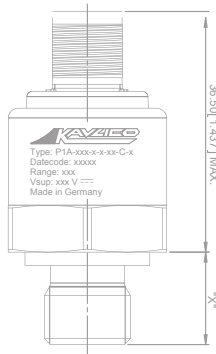
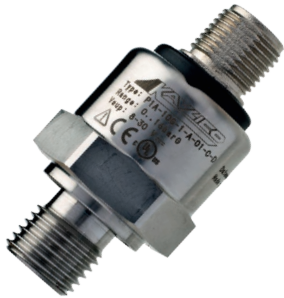
### Attributes

- Hermetically Sealed
- Wetted Parts Free of Oil & Grease
- Compact & Light-weight
- Resistant to Chemical Attack
- Superior Long-Term Stability & Repeatability
- Outstanding Shock & Vibration performance

### Typical Applications

- Medical Gas Storage
- Oxygen Delivery Systems
- Nitrogen and Oxygen Plants
- Medical Air Plant Sector
- Medical Gas Control

## P1A Pressure Sensor



### Main Features

Pressure Ranges	0 - 0.25 up to 0 - 16 and -1 - 0 up to -1 - 1 bar (gage) 0 - 1.6 up to 0 - 16 bar (absolute)
Pressure Connections	G1/4A DIN 3852-E or -A, 7/16"-20 UNF-2A or -2B with Schrader Deflator
Electrical Connection	M12-4 Pole, DIN175301-803A Packard Metri-Pack 150
Housing Material	304 Stainless Steel (1.4301)
Output Signal	4 - 20 mA, 0 - 10 VDC, 0.5 - 4.5 VDC ratiometric

For further options, please see Main Options

### Attributes

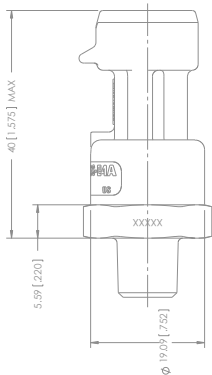
- Small Compact Size
- Highly Modular Product Configurations
- Kavlico Ceramic Capacitive Technology
- Outstanding Long Term Stability and Performance
- Media Resistant CCAP Technology

### Typical Applications

- Vacuum Machinery and Plant
- Medical and Laboratory Sterilizers
- HVAC Systems
- Pneumatic Systems
- Waste Pumps and Water Management
- Industrial OEM Applications



## P500 Pressure Sensor



### Main Features

Pressure Ranges	0 - 1 up to 0 - 70 Bar, 0 - 15 up to 0 - 1000 PSI
Pressure Connections	1/4-18 NPT (external), 1/8-27 NPT (external)
Electrical Connection	Packard Metri-Pack 15
Housing Material	Brass and 304 Stainless Steel (1.4301)
Output Signal	0.5 to 4.5 VDC

For further options, please see Main Options

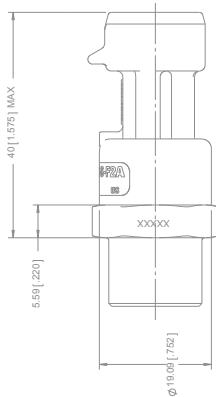
### Attributes

- Small Size (3/4" Hex)
- External Hex for Easy Installation
- Temperature Compensated
- Superior Long-Term Stability
- Low Power Consumption
- 36 VDC Over Voltage and Reverse Polarity Protection

### Typical Applications

- Compressors
- Process Controls
- Instruments & Test Equipment
- Sterilizers
- Air Pressure
- Oil & Fuel Pressure
- Coolant Pressure
- Agricultural Equipment
- CNG & Natural Gas Engines

## P528 Pressure Sensor for Refrigeration



### Main Features

Pressure Ranges	0 - 6 up to 0 - 70 bar and 0 - 100 up to 0 - 100 PSI
Pressure Connections	1/4"SAE Female Flare w/ Schrader Deflator 7/16"-20UNF-2A external thread 1/4"-18 NPT and 1/8"-27 NPT (external threads)
Electrical Connection	Packard Metri Pack 150
Housing Material	Brass or S304 Stainless Steel (1.4301)
Output Signal	0.5 - 4.5 VDC

For further options, please see Main Options

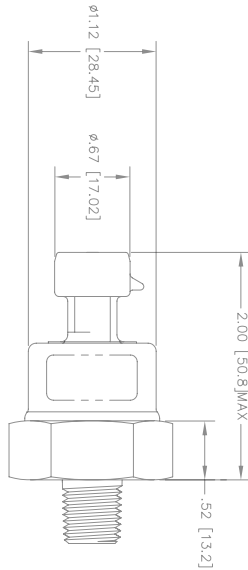
### Attributes

- SAE female Pressure Connections with Built-in Schrader Deflator
- Low Power Consumption
- Outstanding Shock & Vibration Performance
- 36 VDC Over Voltage and Reverse Polarity Protection

### Typical Applications

- High and Low Side Pressure Measurements in Refrigeration Systems
- Product Refrigeration
- Refrigerant Recovery
- Transport Refrigeration
- Environmental Test Equipment

## P265 Pressure Transducer



### Main Features

Pressure Ranges	0 - 15 up to 0 - 1000 PSI
Pressure Connections	1/8-27 NPT, 1/4-18 NPT
Electrical Connection	Packard Metri-Pack 150
Housing Material	Stainless steel
Output Signal	0.5 - 4.5 VDC

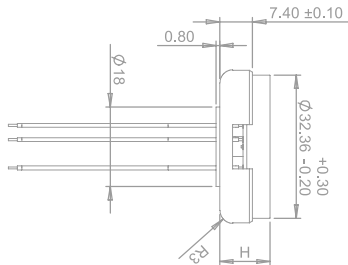
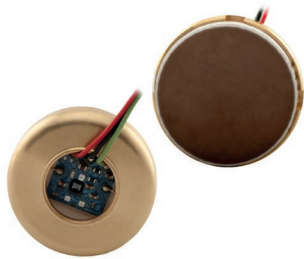
For further options, please see Main Options

### Attributes

- Dry Media
- Superior Long Term Stability
- Superior EMI/RFI Rejection
- Temperature Compensated
- Ten Million Cycle Life Expectancy
- Outstanding Shock & Vibration Performance

### Typical Applications

- Steam Sterilizers
- Gasoline & Diesel Engines
- Natural Gas & CNG Engines
- Agricultural Chemical Equipment
- Hydraulic Systems
- Level Measurement
- Test Equipment
- Injection Molding
- Coolant Pressure
- Industrial Compressors

**PS312****Ceramic Capacitive Low Pressure Sensing Module****Main Features**

Pressure Ranges	0 to 0.07 bar up to 0 to 20 bar (gage) 0 to 1 up to 0 to 20 bar (absolute)
Electrical Connection	3 isolated color coded wires
Housing Material	Brass Spacer
Output Signal	1 - 4 VDC, 0.5 - 4.5 VDC (at 100% pressure)

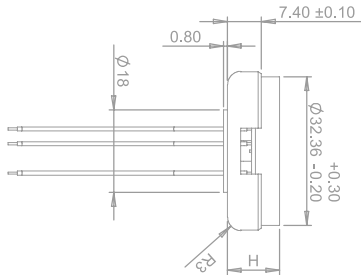
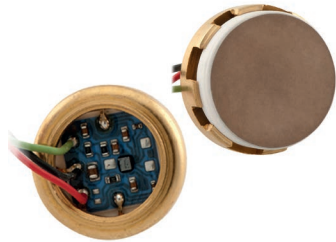
For further options, please see Main Options

**Attributes**

- Media Resistant
- Superior Long-Term Stability & Repeatability
- High Overpressure Capability
- Shock & Vibration Resistant

**Typical Applications**

- Industrial Pumps & Compressors
- Refrigeration
- Heating, Ventilation and Air-conditioning (HVAC)
- Process Controls
- Fuel Cells
- Water Management
- Hydraulics Systems

**PS162****Ceramic Capacitive High Pressure Sensing Module****Main Features**

Pressure Ranges	0 to 0.04 bar up to 0 to 60 bar (gage) 0 to 1 up to 0 to 60 bar (absolute)
Electrical Connection	3 isolated color coded wires
Housing Material	Brass Spacer
Output Signal	1 - 4 VDC, 0.5 - 4.5 VDC (at 0 - 100% pressure)

For further options, please see Main Options

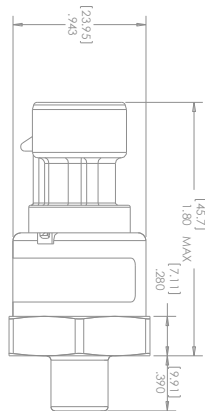
**Attributes**

- Media Resistant
- Superior Long-Term Stability & Repeatability
- High Overpressure Capability
- Shock & Vibration Resistant

**Typical Applications**

- Industrial Pumps & Compressors
- Refrigeration
- Heating, Ventilation and Air-conditioning (HVAC)
- Process Controls
- Fuel Cells
- Water Management
- Hydraulics Systems

## PE2000 OEM Pressure Sensor



### Main Features

Pressure Ranges	0 - 0.25 up to 0 - 25 bar 0 - 5 up to 0 - 300 PSI
Pressure Connections	1/8"-27 NPT, 1/4"-18 NPT
Electrical Connection	Packard Metri-Pack 150, DIN Bayonet 72585-A1-3.1-SN
Housing Material	Stainless Steel
Output Signal	0.5 - 4.5 VDC ratiometric

For further options, please see Main Options

### Attributes

- Wet & Dry Media
- Superior Long Term Stability
- Superior EMI Protection
- Temperature Compensated
- Minimum Life Expectancy:  
10 Million Cycles
- Outstanding Shock & Vibration  
Performance

### Typical Applications

- Compressors
- Instruments & Test  
Equipment
- Hydraulic Systems
- Air, Oil, Fuel and Coolant
- Pressure
- Agricultural Equipment
- CNG & Natural Gas Engines

## P321 Wet Wet Differential Pressure Sensor



### Main Features

Pressure Ranges	0 to 350 mbar
Housing Material	Polyetherimide
Bracket Material	Carbon Steel
Gasket Material	Fluorosilicone
Output Signal	0.5 VDC @ 0.0 mbarD to 4.5 VDC @ 350 mbarD

For further options, please see Main Options

### Attributes

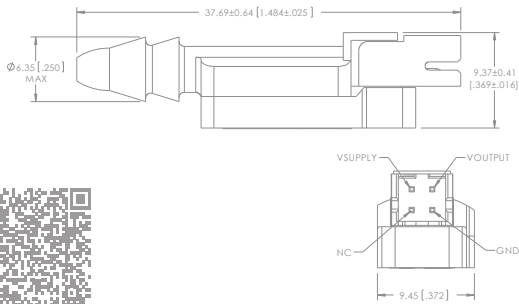
- Temperature Compensated
- Low Power Consumption
- Rugged Design
- High Temperature Performance
- Compatible with Harsh Environments & Exhaust Media

### Typical Applications

- Exhaust Gas Recirculation (EGR)
- Diesel Particulate Filter (DPF)
- Chillers
- Differential Pressure for Natural
- Gas Power Generation
- Oil Differential Sensing on Compressors



## P6000 Remote Mount Miniature Pressure Sensor



### Main Features

Pressure Ranges	0 - 2.5 and 0 - 5 PSIG 0 - 15 to 0 - 100 PSIA or PSIG 0 - 200 and 0 - 500 mbarG 0-1 to 0-7 barG or barA
Pressure Connections	Barb for 3/16 ID tubing
Electrical Connection	Pin Header Pin Header with Mating Connector 12" Lead Wires
Housing Material	PET (30% glass lled)
Output Signal	0.5 - 4.5 VDC

For further options, please see Main Options

### Attributes

- Rugged, Miniature Package
- Amplified, Temperature Compensated Linear Output
- Remote Mounting Option
- Custom Packaging and Pressure Ranges

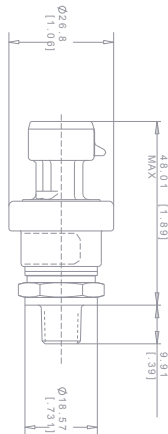
### Typical Applications

- Oxygen Concentrators
- Respirators
- Sleep Apnea
- Instrumentation
- Pneumatic Controls
- Robotics



## P4000

### Hermetically Sealed Pressure Sensor



### Main Features

Pressure Ranges	0-100 up to 0-5000 PSI
Pressure Connections	1/8-27 NPT, 1/4-18 NPT
Electrical Connection	Packard Metri-Pack 150
Housing Material	304 Stainless Steel
Output Signal	0.5 - 4.5 VDC

For further options, please see Main Options

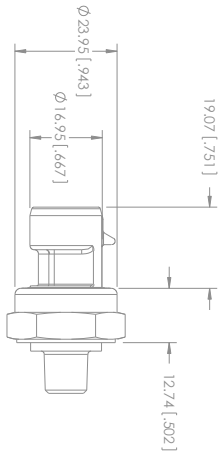
### Attributes

- Welded Stainless Steel Construction
- Stainless Steel Isolation Diaphragm
- Absolute or Sealed Gage Reference
- Low Power Consumption
- High Vibration Tolerance
- Outstanding EMI/RFI Protection

### Typical Applications

- On & Off Highway Vehicle Hydraulic Systems
- Pressurized Tools
- Instruments
- Pneumatic Controls
- Refrigerant Control & Recovery

## P4055 Pressure Transducer



### Main Features

Pressure Ranges	0-3 to 0-300 PSI
Pressure Connections	1/4"-18NPT, G1/4", M10x1, M12x1.5
Electrical Connection	Packard Metri-Pack 150
Housing Material	Brass
Output Signal	0.5 - 4.5 VDC

For further options, please see Main Options

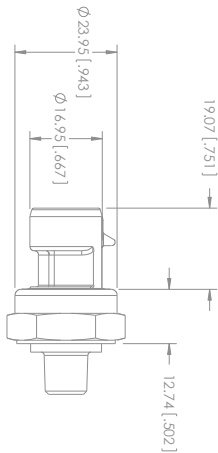
### Attributes

- Small Size
- Back-side PRT Configuration
- High Vibration Tolerance
- Superior EMI/RFI Performance
- Temperature Compensated

### Typical Applications

- Pumps & Compressors
- Process Controls
- Filter Restriction
- Oil and Fuel Pressures
- Water & Level Management
- Test & Monitoring Equipment

## P4056 Pressure Transducer



### Main Features

Pressure Ranges	0-200 mBar up to 0-20 Bar
Pressure Connections	1/4"-18NPT, G1/4", M10x1, M12x1.5
Electrical Connection	Packard Metri-Pack 150
Housing Material	Brass
Output Signal	0.5 - 4.5 VDC

For further options, please see Main Options

### Attributes

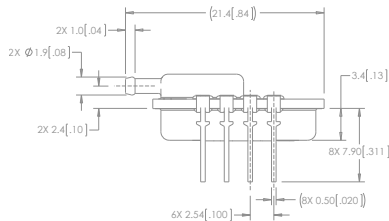
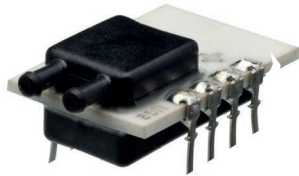
- Small Size
- High Vibration Tolerance
- Superior EMI/RFI Performance
- Temperature Compensated

### Typical Applications

- Pumps & Compressors
- Process Controls
- Filter Restriction
- Oil and Fuel Pressures
- Water Management
- Test & Monitoring Equipment

# P1J

## Digital Low Range Differential Pressure Sensor



### Main Features

Pressure Ranges	1, 2, 5, 10, $\pm 1$ , $\pm 2$ , and $\pm 5$ in of H2O
Pressure Connections	1/8" diameter tube fitting with barb for 3/16" ID tubing
Electrical Connection	PCB solderable pin
Housing Material	PPS and Ceramic
Output Signal	SPI, and I2C

For further options, please see Main Options

### Attributes

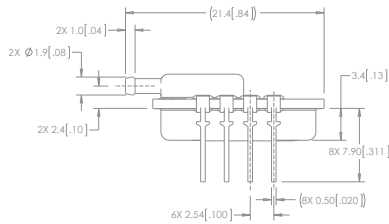
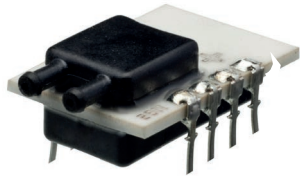
- Rugged Package
- EMI/RFI & ESD Protected
- Frequency Output Option  
(Consult Factory)
- Superior Output Signal Stability
- Connects to Standard PCB
- Socket Receptacles

### Typical Applications

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

# P1K

## Analog Low Range Differential Pressure Sensor



### Main Features

Pressure Ranges	1, 2, 5, 10, $\pm 1$ , $\pm 2$ , and $\pm 5$ in of H <sub>2</sub> O
Pressure Connections	1/8" diameter tube fitting with barb for 3/16" ID tubing
Electrical Connection	PCB solderable pin
Housing Material	PPS and Ceramic
Output Signal	0.25 - 4.0 VDC

For further options, please see Main Options

### Attributes

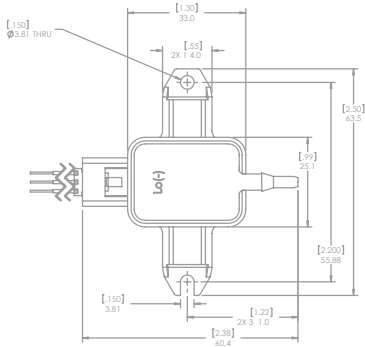
- Rugged Package
- EMI/RFI & ESD Protected
- Frequency Output Option  
(Consult Factory)
- Superior Output Signal Stability
- Connects to Standard PCB
- Socket Receptacles

### Typical Applications

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

## P992

### Low Range Differential Pressure Sensor



### Main Features

Pressure Ranges	1, 2, 5, 10, $\pm 1$ , $\pm 2$ , and $\pm 5$ in of H <sub>2</sub> O
Pressure Connections	1/8" diameter tube fitting with barb for 3/16" ID tubing
Electrical Connection	PCB Mount
Housing Material	PET (30% glass filled)
Output Signal	0.25 - 4.0 VDC

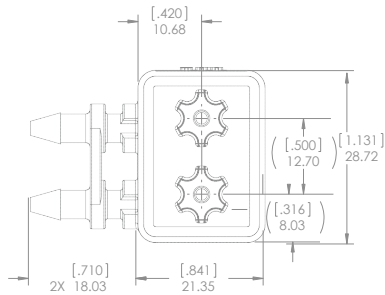
For further options, please see Main Options

### Attributes

- Rugged Package
- Mounting Configurations
- No Position Sensitivity
- EMI/RFI & ESD Protected
- Frequency Output Option  
(Consult Factory)
- Superior Output Signal Stability

### Typical Applications

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

**P993****Low Range Differential Pressure PCB Mount Sensor****Main Features**

Pressure Ranges	1, 2, 5, 10, $\pm 1$ , $\pm 2$ , and $\pm 5$ inches of H <sub>2</sub> O
Pressure Connections	1/8" diameter tube fitting with barb for 3/16" ID tubing
Electrical Connection	PCB Mount
Housing Material	PET (30% glass filled)
Output Signal	0.25 - 4.0 VDC

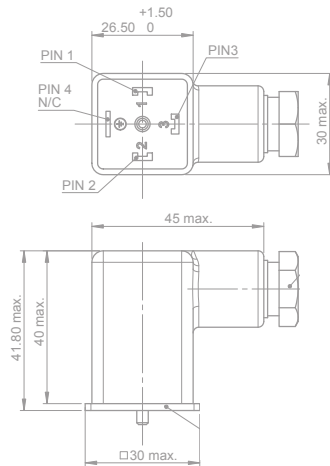
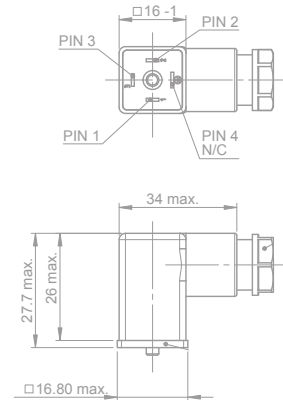
For further options, please see Main Options

**Attributes**

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

**Typical Applications**

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

**ACCESSORIES****Mating Connector  
18mm with NBR Gasket****Mating Connector  
9.4mm with NBR Gasket**



## NOTES



- Manufacturing Facility
- Commercial Office

### North America

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