



## | P528

Pressure Sensor

### Description

The P528 incorporates Kavlico's 4th generation ceramic capacitive sense element with the latest state of the art proprietary ASIC. Available in brass or stainless steel housings, this multi-purpose sensor is rugged by design. Highly reliable, the P528 is ideal for measuring a broad range of process media including hydrocarbon based fluids, air, and gases. The P528 package has a built-in Metri-Pack 150 series sealed electrical connector and is available with popular pressure connection thread options. The sensor is offered with seal materials suitable for diverse applications. Standard pressure ranges are available in PSI or Bar.



### Features

- Small Size (3/4" Hex)
- External Hex for Easy Installation
- Linear Amplified Output
- Temperature Compensated
- Superior Long-Term Stability
- Low Power Consumption
- Minimum Life Expectancy: Ten Million Cycles

### Applications

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



### MAIN FEATURES

|                              |   |
|------------------------------|---|
| <b>Pressure Ranges</b>       | 0 - 6 up to 0 - 70 Bar and 0 - 100 up to 0 - 1000 PSI   |
| <b>Electrical Connection</b> | Packard Electric Metri-Pack 150 Series  |
| <b>Pressure Connection</b>   | 1/4" SAE Female Flare w/ Schrader Deflator<br>7/16"-20 UNF-2A external threads<br>1/4"-18 NPT<br>1/8"-27 NPT (external threads) |
| <b>Housing Material</b>      | Brass (up to 300 psi) and stainless steel (above 300 psi)   |
| <b>Output Voltage</b>        | 0.5 to 4.5 Vdc  |



## Pressure Ranges

|                      |        |         |         |        |        |         |         |         |         |         |         |          |
|----------------------|--------|---------|---------|--------|--------|---------|---------|---------|---------|---------|---------|----------|
| <b>Bar A, S or G</b> | 0 - 1  | 0 - 1.6 | 0 - 2.5 | 0 - 4  | 0 - 6  | 0 - 10  | 0 - 16  | 0 - 25  | 0 - 40  | 0 - 50  | 0 - 70  |          |
| <b>PSI A, S or G</b> | 0 - 15 | 0 - 20  | 0 - 30  | 0 - 50 | 0 - 75 | 0 - 100 | 0 - 150 | 0 - 200 | 0 - 300 | 0 - 500 | 0 - 750 | 0 - 1000 |

For custom pressure ranges consult Kavlico Pressure Sensors.

## Physical

|                                |   |
|--------------------------------|---|
| <b>Durability/Service Life</b> | 10 million full pressure cycles (minimum)   |
| <b>Proof Pressure</b>          | 3X FS Pressure (upto 14 Bar / 200 PSI)<br>2X FS Pressure (above 14 Bar / 200 PSI) |
| <b>Burst Pressure</b>          | 1500 PSI (upto 24 Bar / 300 PSI)<br>2500 PSI (above 24 Bar / 300 PSI)             |
| <b>Humidity</b>                | 93 +/- 3% RH  |
| <b>Vibration</b>               | 10 g's peak to peak sine (10 - 2000 Hz)   |
| <b>Shock</b>                   | 75 g's, 1/2 Sine Wave   |
| <b>Drop Test</b>               | 1 meter drop on concrete as per SAE J1455   |
| <b>Weight</b>                  | < 50 gm   |
| <b>Ingress Protection</b>      | IP67  |

## Performance

|                              |  |
|------------------------------|--|
| <b>Linearity Error</b>       | ≤ +/- 0.5% of span   |
| <b>Total Error Band</b>      | +/-1.5% of span (0 ≤ T ≤ 85 C°)<br>+/-2.0% of span (T < 0 C°, T < 85 C°) |
| <b>Stability Coefficient</b> | +/-0.3 % of Full span over 1 year  |
| <b>Operating Temperature</b> | -40 C° to 125 C° (Seal material dependent. See Ordering Options)         |
| <b>Storage Temperature</b>   | -40 C° to 125 C° (Seal material dependent. See Ordering Options)         |

## Electrical

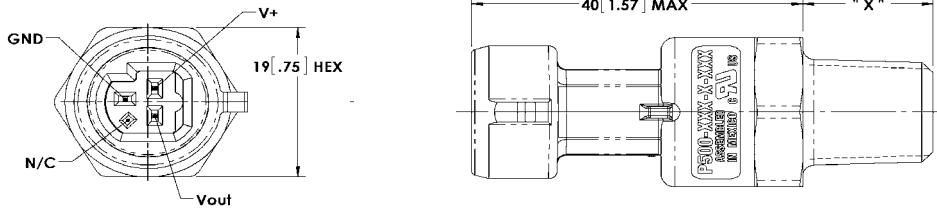
|                                |   |
|--------------------------------|---|
| <b>Supply Voltage</b>          | 5.0 Vdc +/- 0.5   |
| <b>Output Voltage</b>          | 0.5 to 4.5 Vdc  |
| <b>Supply Current</b>          | ≤ 5 mA  |
| <b>Output Impedance</b>        | ≤ 100 Ω   |
| <b>Output load</b>             | ≥ 10 KΩ   |
| <b>Output response time</b>    | ≤ 2 ms to 63 % of final output voltage with step change in input pressure |
| <b>Overvoltage protection</b>  | 36 Vdc  |
| <b>Reverse Voltage</b>         | -36 Vdc   |
| <b>Short Circuit protected</b> | Output to supply, Output to Ground: Indefinite                            |
| <b>Isolation Voltage</b>       | R ≥ 100 MΩ, 500 Vdc / 1 min   |
| <b>Warmup time</b>             | 3 mSec Max.   |
| <b>EMC</b>                     | Meets ISO 7637-3, ISO 11452-4, ISO 11452-2, CISPR 25, MIL-STD 461 E       |
| <b>ESD</b>                     | IEC 1000-4.2 (8kV contact, 15kV air), ISO 10605 (8kV contact, 25kV air)   |



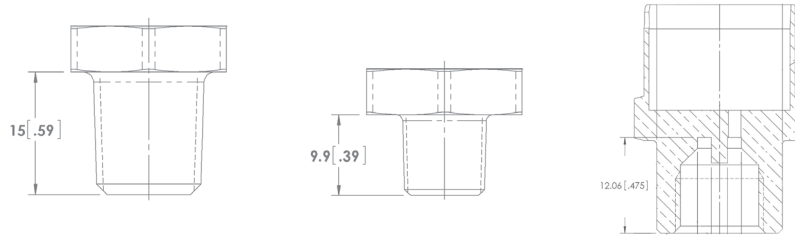
# DIMENSIONS

Dimensions in mm [Inch]

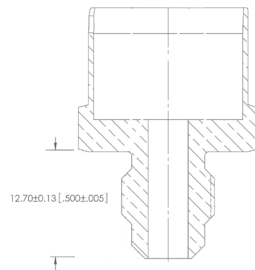
## Pressure Sensor with Electrical Connection



## Pressure Connections and Recommended Installation Torque



|               |              |              |                   |
|---------------|--------------|--------------|-------------------|
| <b>Name</b>   | 1/4 - 18 NPT | 1/8 - 27 NPT | Schrader deflator |
| <b>Thread</b> | External     | External     | Internal          |
| <b>Torque</b> | 25 Nm        | 14 Nm        | 15 Nm             |



|               |                  |
|---------------|------------------|
| <b>Name</b>   | 7/16 – 20 UNF 2A |
| <b>Thread</b> | External         |
| <b>Torque</b> | 16 Nm            |

Note: Recommended torque may vary according to material and specific application.



P528 Sensor, 0 - 16 Bar Absolute, Fluorosilicone Seal Material, 1/4 - 18 NPT Pressure Connection,

**P528** - **16B** - **A** - **C** **1** **A**

**Family**

P528

**Pressure Ranges**

- 6B: 0 – 6 Bar      100: 0 – 100 PSI      1000: 0 – 1000 PSI
- 10B: 0 – 10 Bar      150: 0 – 150 PSI
- 16B: 0 – 16 Bar      300: 0 – 300 PSI
- 25B: 0 – 25 Bar      400: 0 – 400 PSI
- 40B: 0 – 40 Bar      500: 0 – 500 PSI
- 50B: 0 – 50 Bar      600: 0 – 600 PSI
- 70B: 0 – 70 Bar      750: 0 – 750 PSI

**Reference**

- A: Absolute
- G: Gage
- S: Sealed Gage (Referenced to 14.7 PSIA)

**Seal Material**

- C: Neoprene (-30° to 120°C)
- F: Ethylene Propylene (-40° to 120°C)
- H: HNBR (-20° to 125°C)

**Pressure Connection (Port)**

- 1: 1/4 - 18 NPT (External Threads)
- 2: 1/4 SAE Female flare w/schrader deflator
- 3: 7/16 - 20 UNF 2A (External threads)
- 4: 1/8 - 27 NPT (External threads)

**Built-in Electrical Connection**

- A: With Mating Connector, w/12", 18 AWG Leads
- C: Without Mating Connector