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Data Sheet

P528

Pressure Sensor



Main Features

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

Attributes

- 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

Typical Applications

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

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.

Technical Specifications

Pressure Ranges

| | | | | | | | | | | | | |
|-----|--------|---------|---------|--------|--------|---------|---------|---------|---------|---------|---------|----------|
| Bar | 0 - 1 | 0 - 1.6 | 0 - 2.5 | 0 - 4 | 0 - 6 | 0 - 10 | 0 - 16 | 0 - 25 | 0 - 40 | 0 - 50 | 0 - 70 | |
| PSI | 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

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

Performance

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

Electrical

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

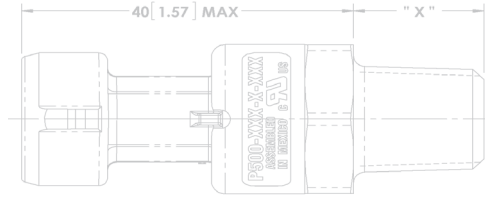
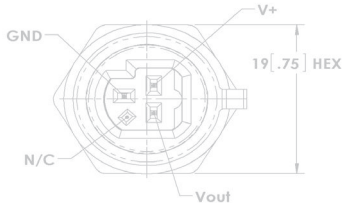
Approvals & Certificates

| | |
|---------------|---|
| CE Compliance | EN 61326-1, 2006 IEC 61000-4-2, 2001 IEC 61000-4-3, 2006 IEC 61000-4-8, 2001 |
| UL | File # SA10552 |
| ROHS | 2002/95/EC RoHS Directivec |

Dimensions

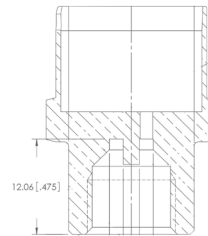
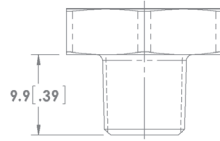
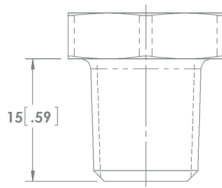
Pressure Sensor with Electrical Connection

Dimensions in mm [Inch]

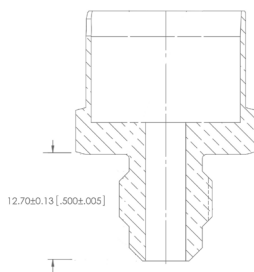


Pressure Connections and Recommended Installation Torque

Dimensions in mm [Inch]



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



| Name | 7/16 - 20 UNF 2A |
|--------|------------------|
| Thread | External |
| Torque | 16 Nm |

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

How to Order

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)

P528 - 16B - A - C 1 A

Pressure Ranges

| | | | |
|------------|-------------------|------------|--------------------|
| 6B | 0 – 6 Bar | 100 | 0 – 100 PSI |
| 10B | 0 – 10 Bar | 150 | 0 – 150 PSI |
| 16B | 0 – 16 Bar | 300 | 0 – 200 PSI |
| 25B | 0 – 25 Bar | 400 | 0 – 300 PSI |
| 40B | 0 – 40 Bar | 600 | 0 – 500 PSI |
| 50B | 0 – 50 Bar | 750 | 0 – 750 PSI |
| 70B | 0 – 70 Bar | 1000 | 0 – 1000 PSI |

Reference

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

Built-in Electrical Connection

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

Example:

P528 -16B - A - C1A

Description:

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

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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