

| P500 PRESSURE SENSOR

Description

The P500 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 P500 is ideal for measuring a broad range of process media including hydrocarbon based fluids, air, and gases. The P500 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

SPECIFICATIONS

Pressure Ranges	0 - 1 up to 0 - 70 Bar, 0 - 15 up to 0 - 1000 PSI			
Electrical Connection	Packard Electric Metri-Pack 150 Series			
Pressure Connection	1/4-18 NPT (external), 1/8-27 NPT (external) - for more options see how to order			
Housing Material	Brass (up to 300 psi) and stainless steel (above 300 psi)			
Output Voltage	0.5 to 4.5 Vdc			



TECHNICAL SPECIFICATIONS

Pressure Ranges

Bar A, S or G	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 A, S or G	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.

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Physical

Durability/Service Life	10 million full pressure cycles (minimum)			
Proof Pressure	3X FS Pressure (upto 14 Bar / 200 PSI) 2X FS Pressure (above 14 Bar / 200 PSI)			
Burst Pressure	1500 PSI (upto 24 Bar / 350 PSI) 2500 PSI (above 24 Bar / 350 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

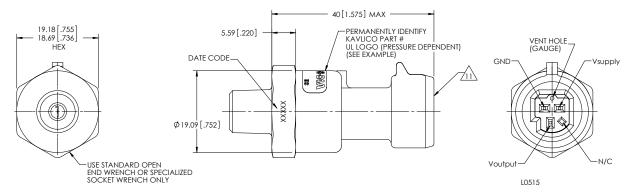
Linearity Error	≤ +/- 0.5% of span			
Total Error Band	-/-1.5% of span (0 \leq T \leq 85 C°) -/-2.0% of span (T $<$ 0 C°,T $<$ 85 C°)			
Stability Coefficient	+/-0.3 % of Full span over 1 year			
Operating Temperature	-40 C° to 125 C° (Seal material dependent. See Ordering Options)			
Storage Temperature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

Electrical

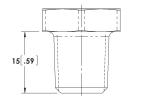
Supply Voltage	5.0 Vdc +/- 0.5			
Output Voltage	0.5 to 4.5 Vdc			
Supply Current	≤ 5 mA			
Output Impedance	≤ 100 Ω			
Output load	≥ 10 KΩ			
Output response time	\leq 2 ms to 63 % of final output voltage with step change in input pressure			
Overvoltage protection	36 Vdc			
Reverse Voltage	-36 Vdc			
Short Circuit protected	Output to supply, Output to Ground: Indefinite			
Isolation Voltage	R ≥ 100 M Ω , 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)			

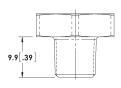


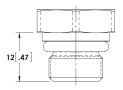
Pressure Sensor with Electrical Connection



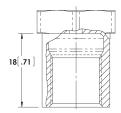
Pressure Connections and Recommended Installation Torque

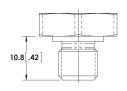


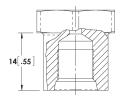




Name	1/4 - 18 NPT	1/8 - 27 NPT	Stud End DIN 3852-B-G1/4
Thread	External	External	External
Torque	25 Nm	20 Nm	20 Nm





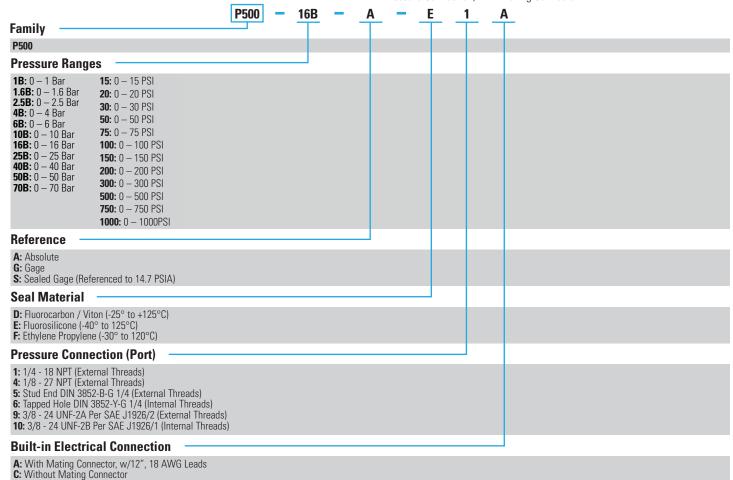


Name	Tapped Hole DIN 3852-Y-G1/4	3/8-24 UNF-2A PER SAE J 1926/2	3/8-24 UNF-2B PER SAE J 1926/1
Thread	Internal	External	Internal
Torque	15 Nm	22 Nm	22 Nm



Example: P500-16B-A-F1A

P500 Sensor, 0 - 16 Bar Absolute, Fluorosilicone Seal Material, 1/4 - 18 NPT Pressure Connection, with Mating Connector





AGENCY APPROVALS & CERTIFICATIONS



EN 61326-1, 2006 IEC 61000-4-2, 2001 IEC 61000-4-3, 2006 IEC 61000-4-8, 2001



2002/95/EC RoHS Directive



File # SA10552

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