PHOENIX SENSORS

- -40-125°C (150°C Option) Operating Temperature
- .355" diameter (9mm) - Compact Size
- +-.25% Linearity FS
- 500-10,000 psi pressure ranges
- Absolute or Sealed Gage
- Media – Liquid, Air, & Gas

DESCRIPTION

The PPS03 is a miniature pressure sensor manufactured for variety of high pressure applications. This silicon pressure transducer has been designed for medical, industrial, and commercial applications. The stainless steel design and high temperature component selection allows the sensor to be used in high temperature (150C available upon request) applications.

The PPS03 series utilizes MEMS piezo-resistive sensors inside of a media isolated SS housing which has superior long term stability and accuracy.

The design is simple, cost effective, and proves reliable for OEM customers. Please contact us for Custom design availability.

APPLICATIONS

- Medical Devices
- Industrial Automation
- Agricultural Equipment
- Chemical Process
- Natural Gas

Maximum Environmental Ratings

Operating Temperature ……………..... -40°C to 125°C
Storage Temperature Range …………..-55°C to 150°C

Proof pressure…..……... 3x full scale pressure (10kpsi Max)
Burst pressure ………..... 5x full scale pressure (12kpsi Max)

PPS03 Operational Characteristics

V₊ = 5V, V₋ = 0V, Temperature = 25°C

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS
Excitation Voltage	V_{EX}	4.75	5.0	10	V
Excitation Current	I_{EX}		1.5	2.0	mA
Input Impedance		3	5	8	kΩ
Output Impedance		3.5	5	6	kΩ
Hysteresis			.05	.08	%FS
Zero Pressure Offset (note 1)	V_{OS}	-10		10	mV
Linearity (note 2)		-0.25		0.25	%FS
Repeatability			+-.15		%FS
Full Scale Output		60			mV
TCR (Temperature Coefficient)			2300-3300		PPM/C
Temperature Error (Span/Offset @ 35C)			.15	.3	%FS
Overpressure (note 5)				10	KPSI
Compensated Temperature Range		-10		80	C
Operating Temperature		-40		125	C

Notes: 1) Measured at zero pressure. 2) Defined as best straight line 3) Media Temperature 30C 4) Air Temperature 30C 5) 3 times pressure or 10,000 PSI whichever is lower.

Application Information

Package

The body design is made of stainless steel (SS316L), which allows for easy manufacturability and long term stability. Automotive grade vibration proof design for engine mount. Viton O-ring used.

Stability

The silicon MEMS media isolated pressure sensor is mounted to a ceramic base and sealed into the SS housing. Proprietary factory calibration and analysis provide the customer with the most stable product possible with this technology.

Pressure port

1/4" -18NPT and 1/8"-18NPT threads are an option found in the PPT5X and PPT8X series. Custom port fittings for OEM customers.

Media

The pressure port is tolerant to most media including but not limited to oil, air, gas, some corrosive media, and salt water.
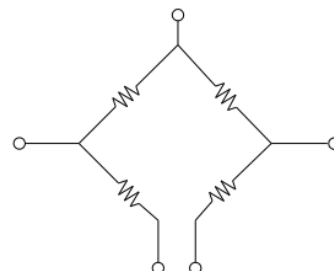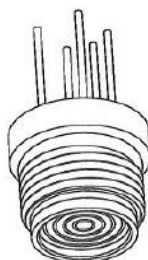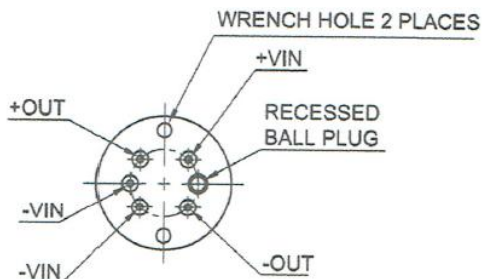
Wetted parts

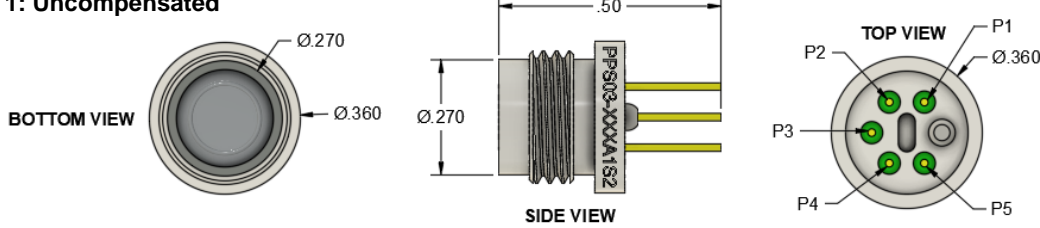The wetted surfaces are composed of (316SS) stainless steel, or Hastelloy.

Pressure ranges

Standard pressure ranges are 1000, 2500, 5000, 7500, and 10000 psi in absolute. Custom pressure ranges are available for OEM customers.
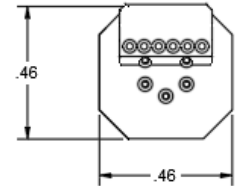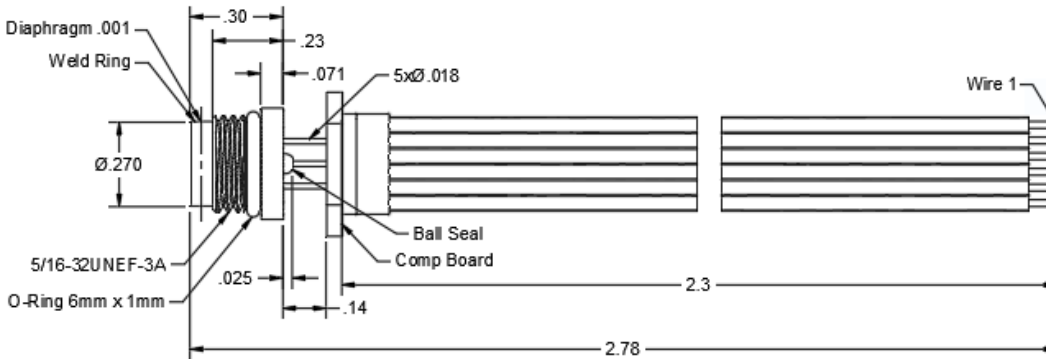
Electrical Connections

1: Uncompensated

BOTTOM VIEW
Ø.270
Ø.360

.50
Ø.270
PPS03-XXXA1S2
SIDE VIEW

TOP VIEW
P1
P2
Ø.360
P3
P4
P5

Electrical Connections	
P#	Function
1	+VIN
2	+OUT
3	-VIN
4	-VIN
5	-OUT

2: Compensated

Diaphragm .001
Weld Ring
.30
.23
.071
5xØ.018
Ø.270
5/16-32UNEF-3A
O-Ring 6mm x 1mm
.025
.14
Ball Seal
Comp Board
2.3
2.78
Wire 1

.46
.46

Cable Pinout	
Wire #	Action
1	+OUT
2	-EX
3	+EX
4	-OUT
5, 6	GAIN

PPS03 - 500 A 1 1

Model

0=5/16-32UNEF-3A, 1= ¼" Male NPT, 2= 1/8" Male NPT, 3= 7/16" UNF

1= Uncompensated, 2= Compensation 3= Custom

Type (A=Absolute, G=Sealed Gauge)
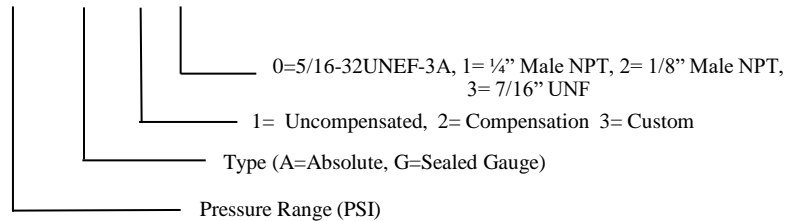
Pressure Range (PSI)

Standard Part Numbers

Model	Pressure Range PSI	Type	Max Over Pressure
PPS03-500G1	500	Gauge	1500
PPS03-1kG1	1000	Gauge	3000
PPS03-3kG1	3000	Gauge	9000

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