



Models 90 and 93

OEM Pressure Sensor Gage and Absolute Sealed Gage Stainless Steel Diaphragm 1/4-18 NPT Interface

Features

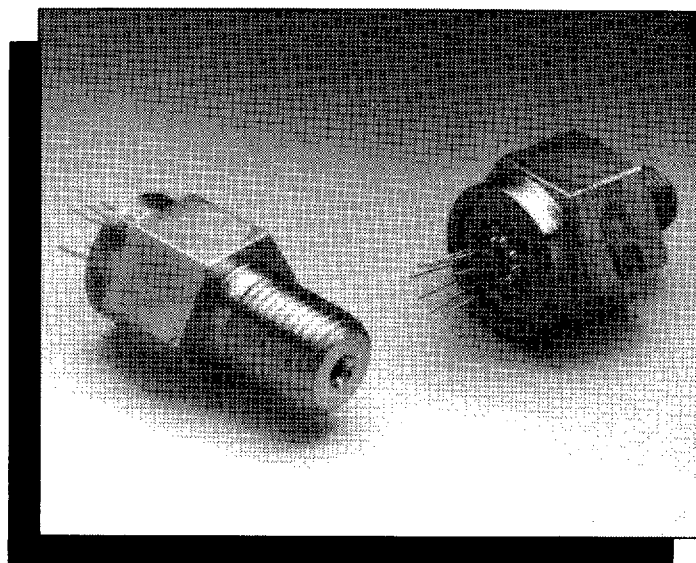
- Interchangeable
- Welded Construction
- Solid State Reliability
- Iso-Pressure Structure
- $\pm 0.25\%$ Accuracy
- Serialized
- Media Compatible
- 100 mV Output Span

Typical Applications

- Hydraulic Servo Controls
- Machine Tools
- Robotics
- Process Control
- Engine Diagnostics
- Industrial Control
- Injection Pump Monitoring
- Refrigeration
- Oceanography

Standard Ranges

0 to 5psig		
0 to 15psig	0 to 15psis	0 to 15psia
0 to 30psig	0 to 30psis	0 to 30psia
0 to 50psig	0 to 50psis	0 to 50psia
0 to 100psig	0 to 100psis	0 to 100psia
	0 to 300psis	0 to 300psia
	0 to 500psis	0 to 500psia
	0 to 1000psis	0 to 1000psia
	0 to 3000psis	0 to 3000psia



Description

The Models 90 and 93 are media compatible, solid state pressure sensors consisting of a 316 stainless steel housing and a welded 1/4-18 NPT pressure fitting that is intended for use in OEM applications where media compatibility is essential.

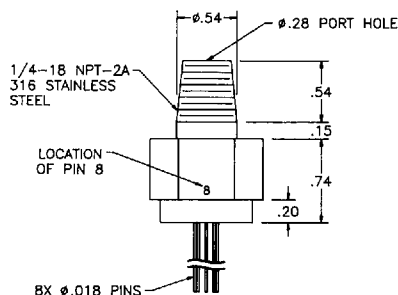
For the Model 90, temperature compensation and calibration over 0-50° C is accomplished with the addition of only three external resistors, the values of which are included with each sensor.

For the Model 93, integral temperature compensation is provided along with calibration over 0-50° C. No external resistors are required. An additional gain set resistor is included to normalize pressure sensitivity variations by programming the gain of an external amplifier, thus providing $\pm 1\%$ interchangeability along with high level output.

One performance grade is available in gage, sealed gage and absolute pressure from 0-5 psi to 0-3000 psi. Each sensor is individually serialized.

Dimensions

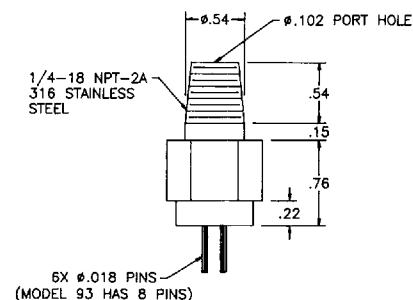
Low Pressure ≤ 300 psi FS



MODEL 90

MODEL 93

High Pressure > 300 psi FS



MODEL 90

MODEL 93

ALL DIMENSIONS ARE IN INCHES

Models 90 and 93

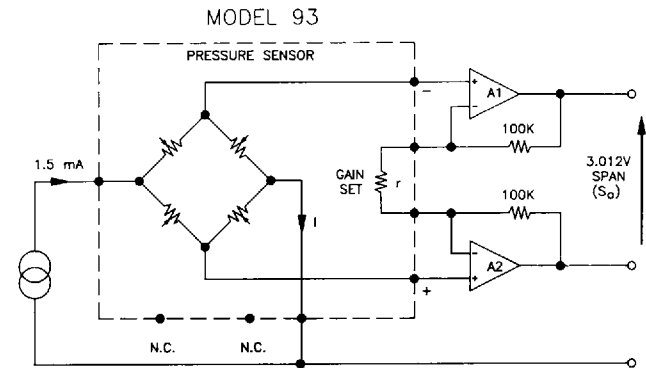
Performance Specifications

Supply Current = 1.5mA & Ambient Temperature = 25°C (Unless otherwise specified)

PARAMETER	0-5 psi to 0-100 psi			0-300 psi to 0-3000 psi			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Full-Scale Output Span	50	100	200	50	100	200	mV	3
Zero Pressure Output		1	2			5	±mV	4
Static Accuracy			0.25			0.5	±% Span	5
Input & Output Resistance	2500	4500	6000	2500	4500	6000	Ω	
Temperature Coefficient — Span			1.0			1.0	±% Span	1, 2, 3
Temperature Coefficient — Zero			1.0			1.0	±% Span	1, 2, 3
Supply Current		1.5	2.0		1.5	2.0	mA	6
Output Load Resistance	2			2			MΩ	7
Insulation Resistance (50VDC)	50			50			MΩ	
Pressure Overload			3X			3X	Rated	8
Operating Temperature	-10		80	-10		80	° C	
Storage Temperature	-40		125	-40		125	° C	
Media	Compatible with 316 Stainless Steel							
Weight	2 oz.							

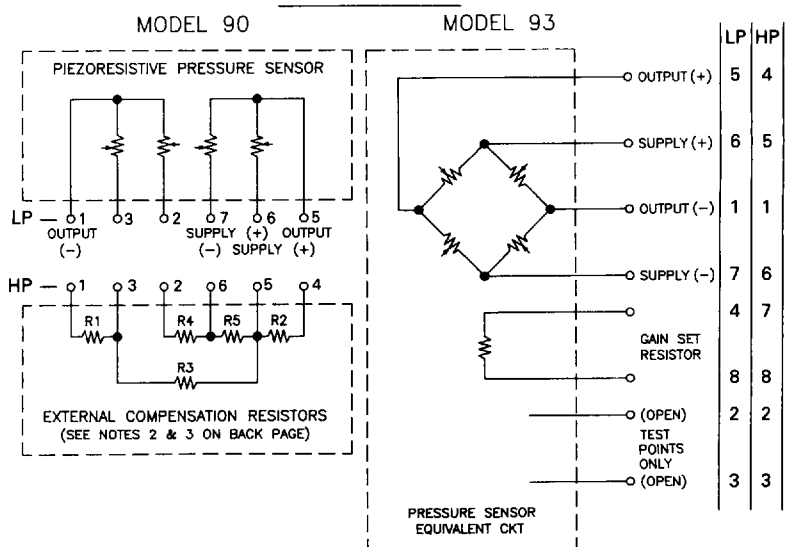
Notes

1. Temperature range: 0-50° C in reference to 25° C.
2. For Model 90, with external resistors (R1 or R2), (R3 or R4) and R5 included in circuit. If R1 is required then R2 is left open (R2 = ∞) and vice versa. If R3 is required then R4 is a short (R4 = 0) and vice versa. See Application Note TN-002. A computer printout is supplied with each sensor detailing the values of the three required external resistors along with open and short information on the other two locations.
3. For the Model 93, compensation resistors are an integral part of the sensor package. No additional resistors are required. Model 93 is interchangeable only when used with a gain stage as shown in Figure 1; see Application Note TN-003.
4. Measured at vacuum for absolute (A) and one standard atmosphere for sealed gage (S).
5. Includes repeatability, pressure hysteresis and linearity (best fit straight line).
6. Guarantees output/input ratiometricity.
7. Prevents increase of TC-Span due to output loading.
8. 20 psi for 5 psi version; 3X or 10,000 psi maximum, whichever is less, for other versions.
9. See Model 114 for transducer with integral amplifier.
10. Model 93 has 8 pins. Model 90 has 6 pins (pins 7 and 8 are deleted on pressure ranges of 300psi or greater and has 8 pins on pressure ranges of 100psi or lower).
11. 7/8" HEX, 1/4-18 NPT is standard for full scale pressure ranges of 100 psi or lower. 3/4" HEX, 1/4-18 NPT is standard for full scale pressure ranges of 300 psi or greater.
12. Alternate pressure fittings including 1/8" NPT are available on a special order basis. Contact factory for additional information.



(Figure 1)

Connections



Ordering Information

93 - 015 - G

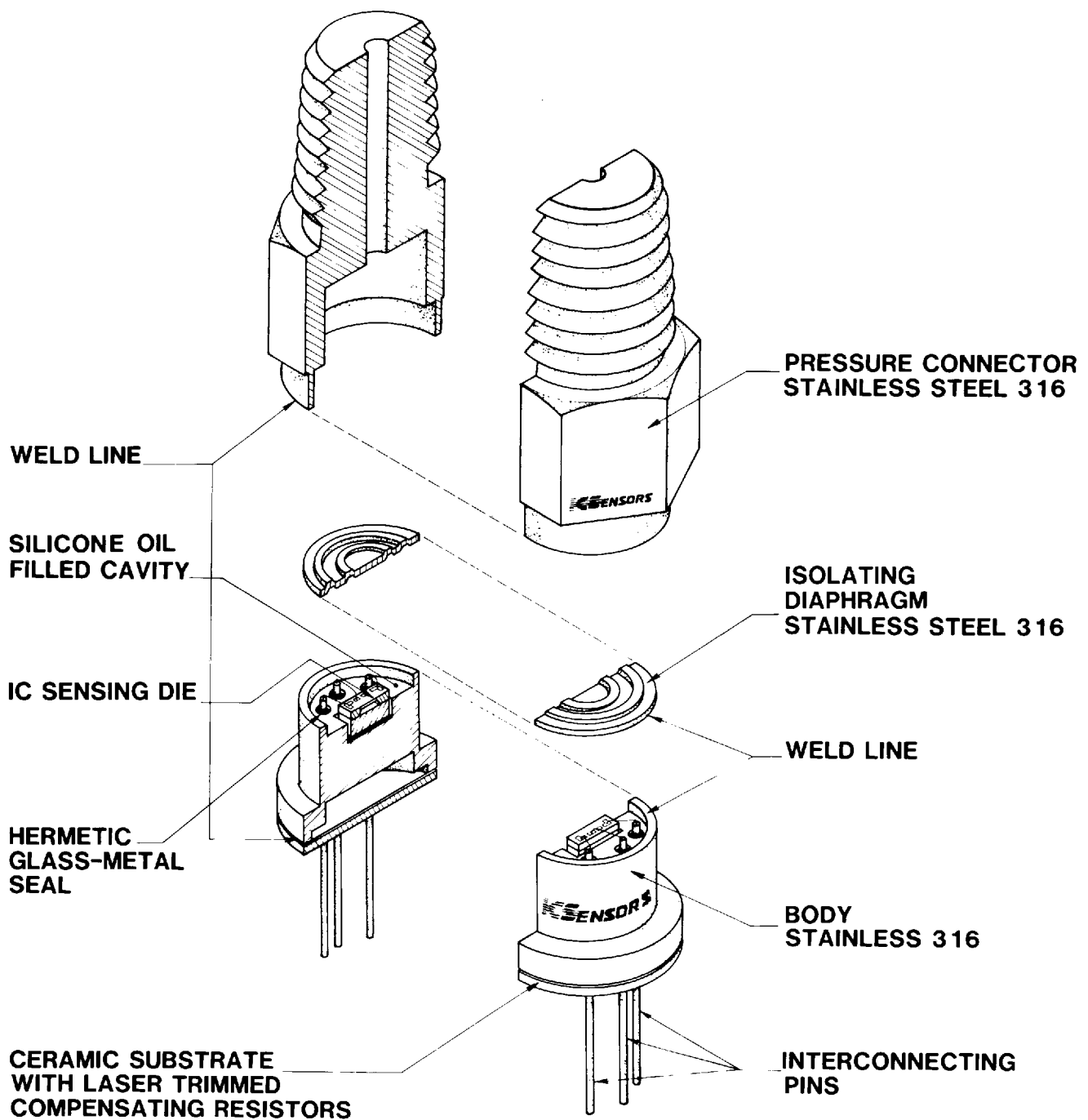
Type (S=Sealed Gage, A=Absolute, G=Gage)
psi Range
Model (90 or 93)

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MODEL 90 PRESSURE SENSOR