

## ***OEM High Pressure Sensor Sealed Gage and Absolute Stainless Steel Diaphragm 100 mV Output Span***

### **Features**

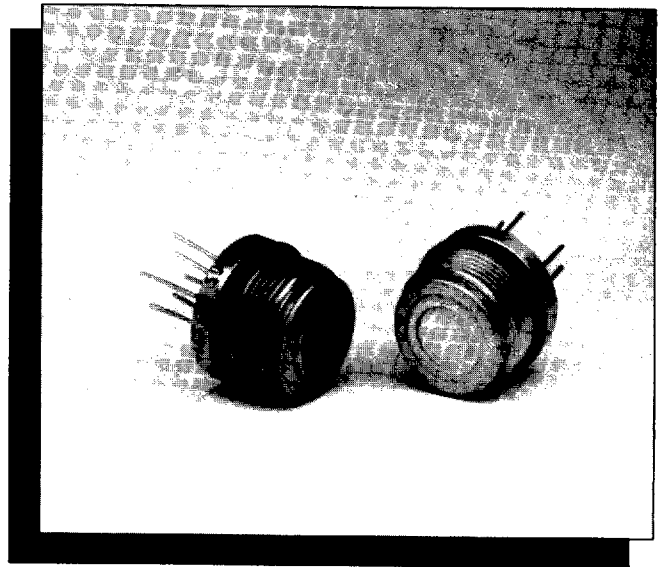
- 316SS All Welded Construction
- Solid State Reliability
- Flush Diaphragm
- Ratiometric
- $\pm 0.5\%$  Accuracy
- Low Noise
- Infinite Resolution
- Low Cost
- Serialized

### **Typical Applications**

- Pressure Transmitters
- Hydraulic Servo Controls
- Smart Valves
- Tank Levels
- Machine Tools
- Refrigeration
- Air Conditioning
- Food Processing

### **Standard Ranges**

0 to 300 psis	0 to 300 psia
0 to 500 psis	0 to 500 psia
0 to 1000 psis	0 to 1000 psia
0 to 3000 psis	0 to 3000 psia
0 to 5000 psis	0 to 5000 psia



### **Description**

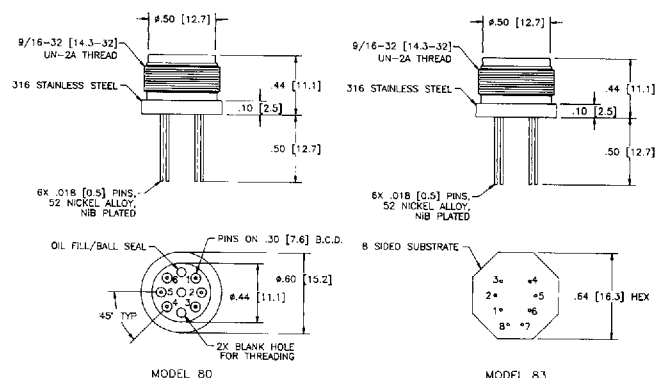
The Models 80 and 83 are media compatible, solid state pressure sensors that are intended for use in high pressure OEM applications where long term stability must be combined with low cost.

The Iso-Pressure 316 stainless steel housing structure utilizes an oil column to couple a diffused, piezoresistive sensor to a convoluted, flush 316 stainless steel diaphragm that can be interfaced with most harsh media.

For the Model 80, temperature compensation and calibration is accomplished with 3 external resistors. The resistor values are included with each sensor. The Model 83 includes an optional ceramic compensation board with these resistors trimmed to the appropriate values.

These pressure sensors are available in both sealed gage and absolute pressure versions from 0-300 psi to 0-5000 psi. Each sensor is individually serialized.

### **Dimensions**



ALL DIMENSIONS ARE IN INCHES (METRIC)

# Models 80 and 83

## Performance Specifications

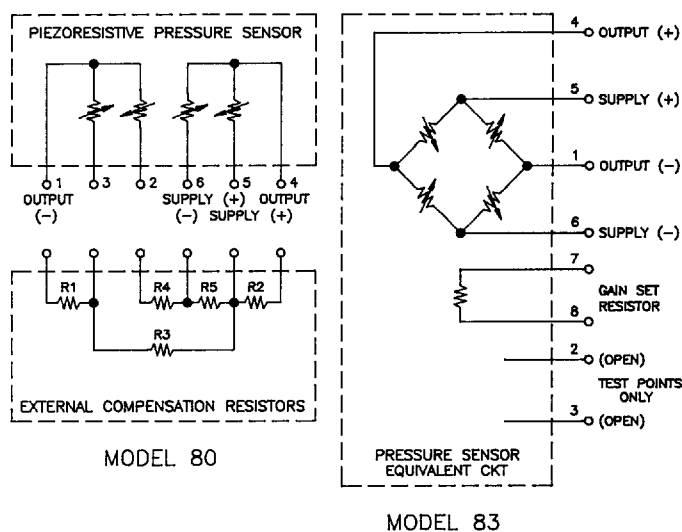
Supply Current = 1.5mA & Ambient Temperature = 25°C (Unless otherwise specified)

PARAMETER	Models 80 and 83			UNITS	NOTES
	MIN	TYP	MAX		
Full-Scale Output Span	50	100	200	mV	
Zero Pressure Output			5	±mV	2,3,4
Static Accuracy			0.5	±%Span	5
Input & Output Resistance	4000	4500	6000	Ω	
Temperature Coefficient - Span			1.0	±% Span	1,2,3
Temperature Coefficient - Zero			1.0	±% Span	1,2,3
Supply Current		1.5	2.0	mA	6
Output Load Resistance	2			MΩ	7
Insulation Resistance (50 VDC)	50			MΩ	
Pressure Overload			3X	Rated	8
Operating Temperature	-20°C to +85°C				
Storage Temperature	-40°C to +125°C				
Media	Compatible with 316 Stainless Steel				
Weight	12 grams				

## Notes

1. Temperature Range: 0-50°C in reference to 25°C.
2. For Model 80, with external resistors ( $R_1$  or  $R_2$ ), ( $R_3$  or  $R_4$ ) and  $R_5$  included in circuit in Figure 1. If  $R_1$  is required then  $R_2$  is left open ( $R_2 = \infty$ ) and vice versa. If  $R_3$  is required then  $R_4$  is a short ( $R_4 = 0$ ) and vice versa. See Application Note TN-002.
3. A computer printout is supplied with each sensor detailing the values of the 3 required external resistors along with open and short information for the other two locations.
4. For Model 83, a thick film ceramic substrate is provided that contains the specific external resistors, trimmed to the correct value for compensation, and fits directly over the 6 electrical pins for customer soldering. Two additional pins can be connected by the user to the ceramic substrate for use of the gain set resistor.
5. Measured at vacuum for absolute (A) and one standard atmosphere for sealed gage (S).
6. Includes repeatability, pressure hysteresis and linearity (best fit straight line).
7. Guarantees output/input ratiometricity.
8. Prevents increase of TC-Span due to output loading.
9. 3X or 7,500 psi maximum, whichever is less.
10. See Models 81, 84, 151 or 154 for low pressure requirements.
11. Case is threaded (9/16-32).

## Connections



## Ordering Information

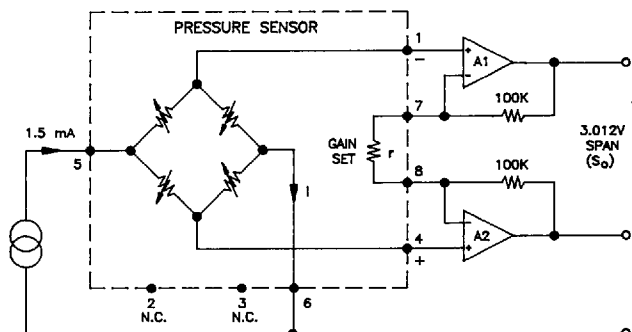
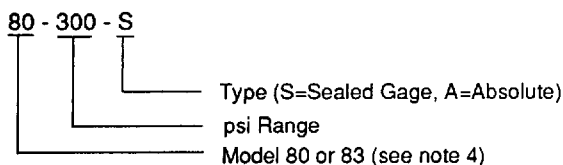
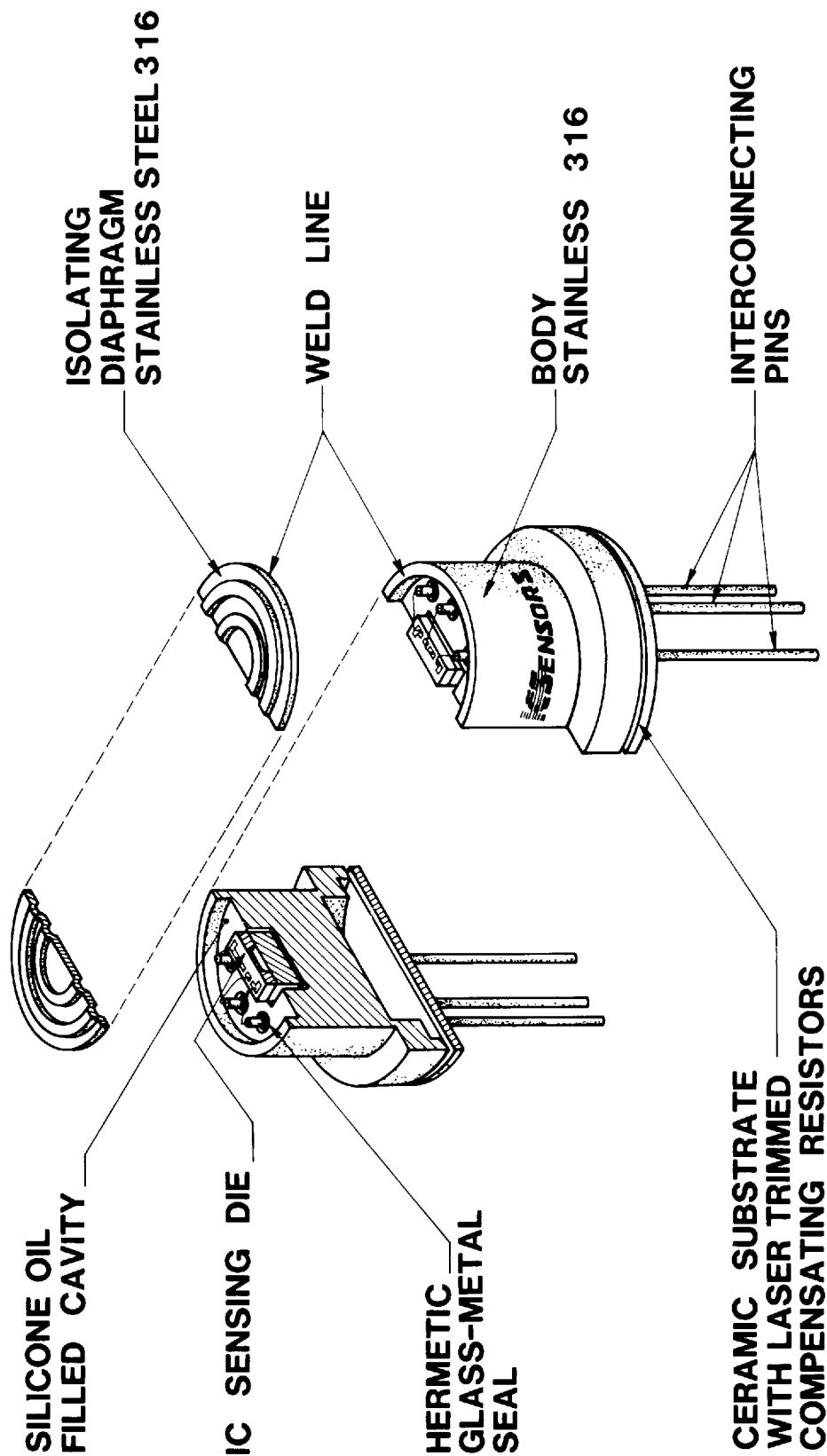


FIGURE 1

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## MODEL 80 PRESSURE SENSOR