

T-65-13

OEM Pressure Sensor Gage and Absolute Stainless Steel Diaphragm Interchangeable

Features

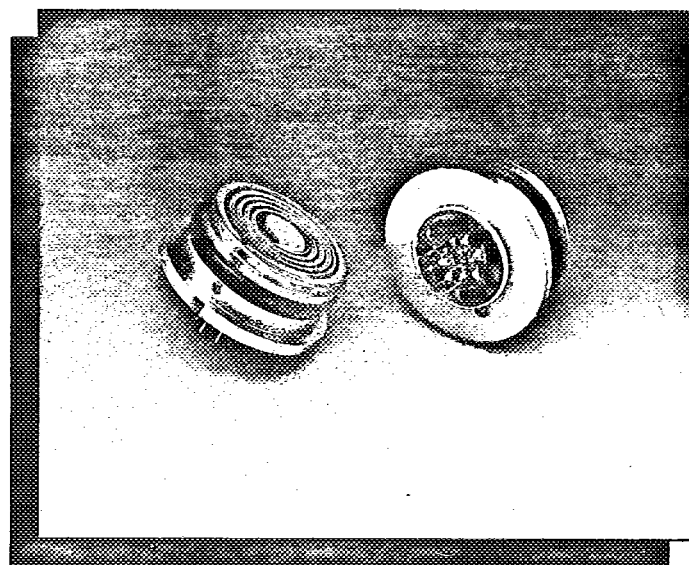
- Iso-Pressure Structure
- Solid State Reliability
- $\pm 0.5\%$ Accuracy
- Temperature Compensated
- $\pm 1\%$ Normalized Output Span
- Flush Diaphragm
- Ratiometric
- Low Noise
- Infinite Resolution
- Low Cost Resolution
- Serialized

Typical Applications

- Medical
- Air Conditioning
- Process Control
- Oceanography
- Liquid Level
- Environmental Control
- Water Management
- Refrigeration
- Food Processing
- Agricultural Sprayers
- Pollution Control

Standard Ranges

0 to 5 psig		
0 to 15 psig	0 to 15 psis	0 to 15 psia
0 to 30 psig	0 to 30 psis	0 to 30 psia
0 to 50 psig	0 to 50 psis	0 to 50 psia
0 to 100 psig	0 to 100 psis	
0 to 300 psig	0 to 300 psis	



Description

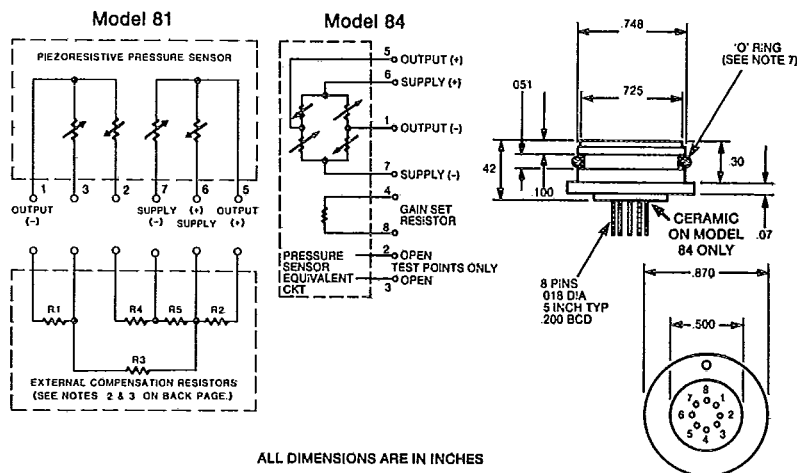
The Models 81 and 84 are solid-state pressure sensors that utilize a 316 stainless steel housing to provide compatibility with most harsh media. Both models are designed to be mounted by using an O-ring to maintain pressure integrity.

For the Model 81, 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 84, integral temperature compensation is provided along with calibration over 0-50°C with laser trimmed resistors. No external resistors are required. An additional 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 0-300 psi. Each sensor is individually serialized.

Connections/Dimensions



Models 81 and 84**Performance Specifications**

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

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
Full-Scale Output Span	50	100	200	mV	
Zero Pressure Output		1	5	±mV	2,3,4
Static Accuracy			0.5	±%Span	5
Input & Output Resistance		5000		Ω	
Temperature Coefficient-Span			1.0	±%Span	1,2,3
Temperature Coefficient-Zero			1.0	±%Span	1,2,3
Supply Current	0.5	1.5	2.0	mA	
Output Load Resistance	6			MΩ	
Insulation Resistance (50 VDC)	50			MΩ	
Pressure Overload			3X	Rated	6
Operating Temperature	-10°C to +80°C				
Storage Temperature	-40°C to +150°C				
Media	Compatible with 316 Stainless Steel				
Weight	20 grams				

Notes

1. Temperature Range: 0-50°C in reference to 25°C.
2. For Model 81, with external resistors (R_1 or R_2), (R_3 or R_4) and R_5 included in circuit on Front Page. 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. A computer printout is supplied with each sensor detailing the values of the three required external resistors along with open and short information for the other two locations.
3. For Model 84, compensation resistors are an integral part of the sensor package. No additional external resistors are required. Model 84 is interchangeable to within $\pm 1\%$ of the amplifier output span only when used with a gain stage as shown in Figure 1; see Application Note TN-003.
4. Measured at vacuum for absolute (A), ambient pressure for gage (G) and one standard atmosphere for sealed gage (S).
5. Includes repeatability, linearity (best fit straight line) and pressure hysteresis.
6. 20 psi for 5 psi version; 3X or 450 psi, whichever is less, for other versions.
7. O-ring dimensions: I.D. 0.614" x 0.070".
8. Model 84 has 8 pins. Model 81 has 6 pins (pins 4 and 8 are deleted.).

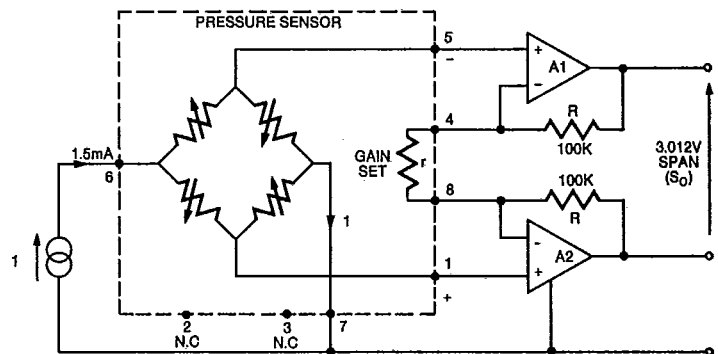


FIGURE 1.

Ordering Information

81 - 030 - A

Type (S=Sealed Gage, A=Absolute, G=Gage)

psi Range

Model (81 or 84)

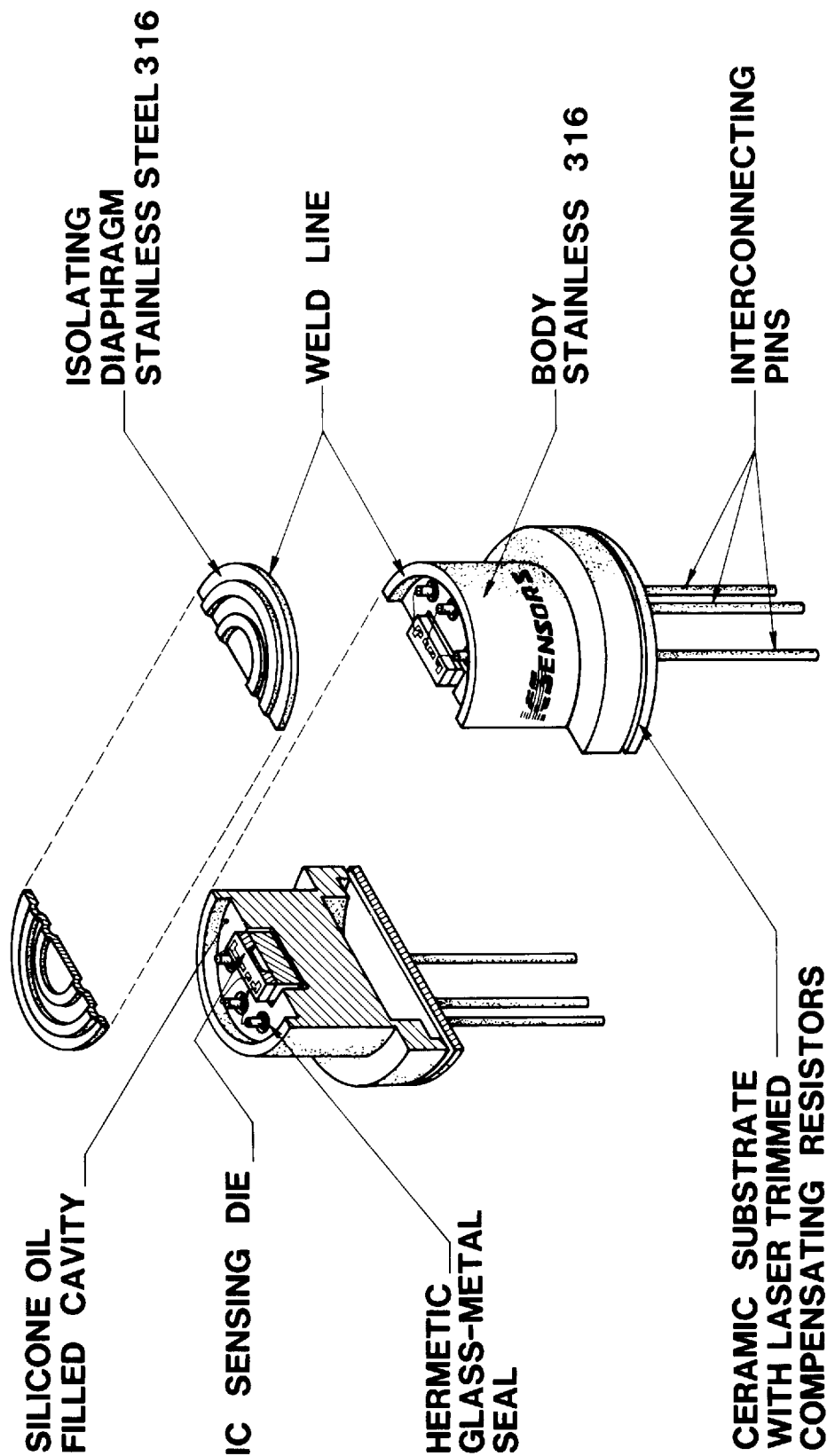
Represented By

IC Sensors products are warranted against defects in material and workmanship for 12 months from date of shipment. Products not subjected to misuse will be repaired or replaced. THE FOREGOING IS IN LIEU OF ALL OTHER EXPRESSED OR IMPLIED WARRANTIES. IC Sensors reserves the right to make changes to any product herein and assumes no liability arising out of the application or use of any product or circuit described or referenced herein.



1701 McCarthy Blvd. Milpitas, California 95035 Fax (408) 434-6687 Telex 350066 Phone (408) 432-1800

M0081R0-8904 Printed in USA



MODEL 80 PRESSURE SENSOR