

316 SS Pressure Sensor 0-100 mV Output Gage, Sealed Gage and Absolute Temperature Compensated Low Pressure

- ▶ Medical Instruments
- ▶ Process Control
- ▶ Oceanography
- ▶ Refrigeration/Compressors
- ▶ Pressure Transmitters
- ▶ Level Systems



FEATURES

- ▶ O-ring Mount
- ▶ $\pm 0.25\%$ Pressure Non-linearity
- ▶ $\pm 1.0\%$ Temperature Performance
- ▶ 1.0% Interchangeable Span
(Provided By Gain Set Resistor)
- ▶ Solid State Reliability
- ▶ Low Power

STANDARD RANGES

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

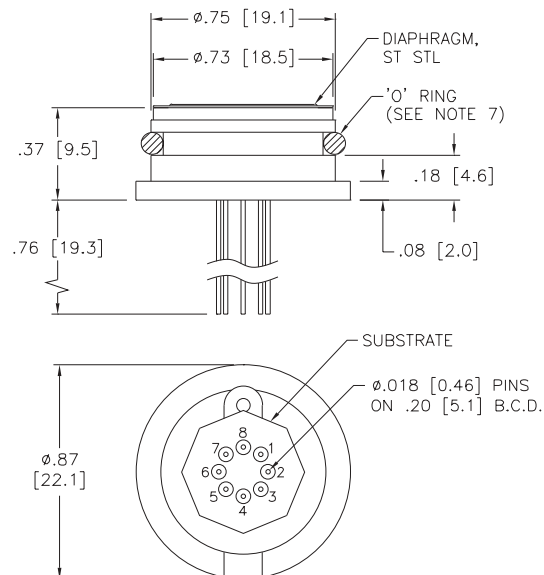
DESCRIPTION

The Model 84 is a media compatible, compensated, piezoresistive silicon pressure sensor packaged in a 316 stainless steel housing. The sensing package utilizes silicone oil to transfer pressure from the 316 stainless steel diaphragm to the sensing element.

The Model 84 is designed for low pressure applications with integral temperature compensation provided from 0°C to $+50^{\circ}\text{C}$ and is intended to be secured in place with an O-ring. A ceramic substrate is included with the package that contains thick film resistors that are laser trimmed after temperature testing to provide temperature compensation and zero offset adjustment. An additional laser trimmed resistor on the substrate can be used to adjust sensitivity variations by setting the gain of an external differential amplifier to within $\pm 1\%$ interchangeability. An uncompensated version is also available.

Alternatives include O-ring models 154 or 86, $\frac{1}{4}$ NPT Model 96, and flush mount Models 82 and 85. High pressure sensors are also available.

DIMENSIONS



DIMENSIONS ARE IN INCHES [mm]

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

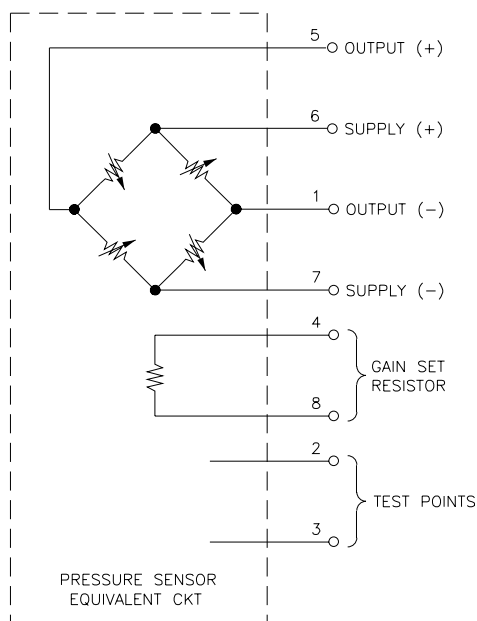
Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	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	2500		6000	Ω	
Temperature Error - Span			1.0	±% Span	1, 2, 3
Temperature Error - Zero			1.0	±% Span	1, 2, 3
Supply Current	0.5	1.5	2.0	mA	
Output Load Resistance	5			MΩ	
Insulation Resistance (50 VDC)	50			MΩ	8
Pressure Overload			3X	Rated	6
Operating Temperature	-10°C to +80°C				
Storage Temperature	-40°C to +125°C				
Media	Compatible with 316 Stainless Steel				
Weight	20 grams				

Notes

1. Temperature Range: 0-50°C in reference to 25°C.
2. For amplified output circuits, see Application Note TN003.
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 ±1% of the amplifier output span only when used with a gain stage as shown in Application Schematic.
4. Measured at vacuum for absolute (A), ambient pressure for gage (G) and one standard atmosphere for sealed gage (S).
5. Includes repeatability, pressure non-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. Between case and sensing element.

CONNECTIONS



ORDERING INFORMATION

84 - 030 - A

— Type (S = Sealed Gage, A = Absolute, G = Gage)
 — Pressure Range
 — Model

APPLICATION SCHEMATIC

