

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



#### **FEATURES**

- Weldable
- ▶ ±0.5% Pressure Non-linearity
- $\blacktriangleright$  ±1.0% Temperature Performance
- Compensated or Uncompensated Versions
- ► 1.0% Interchangeable Span (provided by gain set resistor)
- ▶ Solid State Reliability
- Low Power

#### STANDARD RANGES

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

- Hydraulics
- Medical Instruments
- Process Control
- Robotics
- Refrigeration/Compressors
- Pressure Transmitters

#### DESCRIPTION

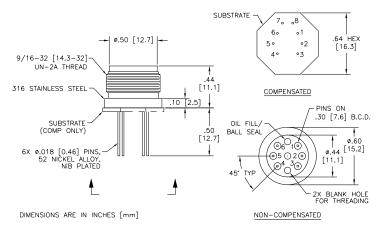
The Model 83 is a media compatible, piezoresistive silicon pressure sensor packaged in a 316 stainless steel housing. The sensing package utilizes silicone oil to transfer pressure from the 316 stainless steel diaphragm to the sensing element.

The Model 83 is designed for high pressure applications and is intended to be welded in place. A ceramic compensation board is included which can be added to the sensor after installation. The compensation board corrects for temperature errors, offset and provides a gain set resistor which can be used to adjust an external differential amplifier and provide span interchangeability to within  $\pm 1\%$ .

For a low pressure, flush sensor, please refer to the Model 154. For a 316 stainless steel sensor with a ½ NPT fitting please refer to the Model 87 or 97. An uncompensated version of the Model 83 is also available. Please contact the factory for more information.

Higher performance sensors are also available. Please refer to the Models 85, 86 and 87 for flush mount applications and the Models 96 and 97 for sensors with threaded fittings.

### **DIMENSIONS**



# PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

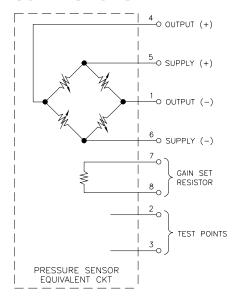
Ambient Temperature: 25°C (Unless otherwise specified)

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

#### Notes

- The Model 83 has a thick film ceramic substrate 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.
- Measured at vacuum for absolute (A) and one atmosphere for sealed gage (S).
- Includes repeatability, pressure hysteresis, and pressure non-linearity (best fit straight line).
- 4. Temperature range:  $0-50^{\circ}\text{C}$  in reference to  $25^{\circ}\text{C}$ .
- 5. Guarantees output/input ratiometricity.
- 6. Between case and sensing element.
- 7. 3X or 7,500 psi maximum, whichever is less.

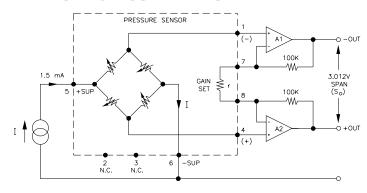
# **CONNECTIONS**



# ORDERING INFORMATION



#### APPLICATION SCHEMATIC



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