

Model 33 Low Pressure



PC Board Mountable Pressure Sensor

0-1 PSI

0-100 mV Output

Low Cost

Temperature Compensated

- ▶ Medical Instrumentation
- ▶ HVAC
- ▶ Factory Automation
- ▶ Process Control
- ▶ Avionics
- ▶ Air Flow Management



FEATURES

- ▶ Solid State Reliability
- ▶ 100mV Output Span
- ▶ Interchangeable
- ▶ Temperature Compensated
- ▶ Low Power

STANDARD RANGES

Range	psi
0 to 1	●

DESCRIPTION

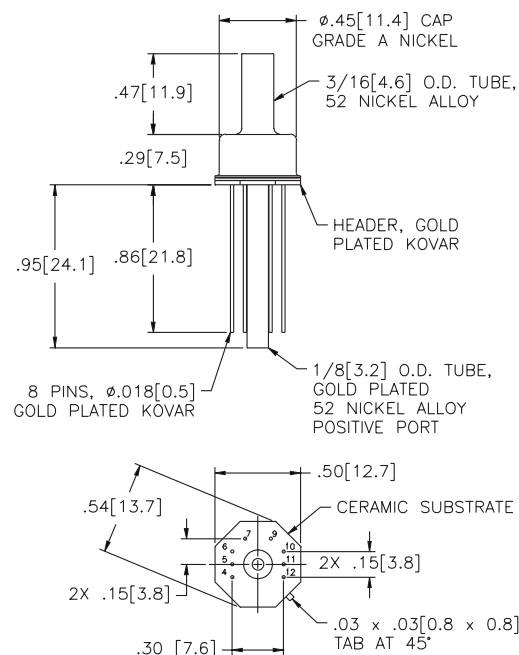
The Model 33 is a temperature compensated, piezoresistive silicon pressure sensor packaged in TO-8 configurations. It provides excellent performance and long-term stability.

Integral temperature compensation is provided over a range of 0-50°C using a laser-trimmed ceramic compensation board. An additional laser-trimmed resistor is included which can be used to adjust the gain of an external differential amplifier and provide sensitivity interchangeability of $\pm 1\%$.

The sensing element used in low pressure Model 33 has a double bossed design that produces a high sensor output of 100 mV (typical) at 1 PSI.

The Model 33 is also available in ranges up to 0-250 PSI. For sensors in a dual-in-line package please refer to the Models 1210 and 1220. For additional information regarding uncompensated sensors, please contact the factory.

DIMENSIONS



DIMENSIONS ARE IN INCHES [mm]

PERFORMANCE SPECIFICATIONS

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

PARAMETERS	PRESSURE RANGE 0 - 1 psi			UNITS	NOTES
	MIN	TYP	MAX		
Full Scale Output Span	65	100	150	mV	1
Zero Pressure Output			2	±mV	2
Pressure Non-linearity		0.2	0.3	±% Span	3
Pressure Hysteresis		0.01	0.05	±% Span	
Input & Output Resistance	2500	4400	6000	Ω	
Temperature Error – Span		0.5	1.0	±% Span	4
Temperature Error – Zero		0.5	1.0	±% Span	4
Thermal Hysteresis – Zero		0.1		±% Span	4
Supply Current		1.5	2.0	mA	
Response Time (10% to 90%)		1.0		mS	5
Output Noise		1.0		μV p-p	6
Output Load Resistance	2			MΩ	
Insulation Resistance (50 VDC)	50			MΩ	7
Long Term Stability		0.2		±% Span/yr	
Pressure Overload			10	psi	
Operating Temperature	-40°C to +125°C				
Storage Temperature	-50°C to +150°C				
Media	Non-corrosive Gases Compatible with Wetted Materials				8
Weight	3 Grams				

Notes

1. Output span of unamplified sensor.

2. For most models, compensation resistors are in an integral part of the sensor package; no additional external resistors are required. Test pins must be kept open.

3. Best Fit Straight Line.

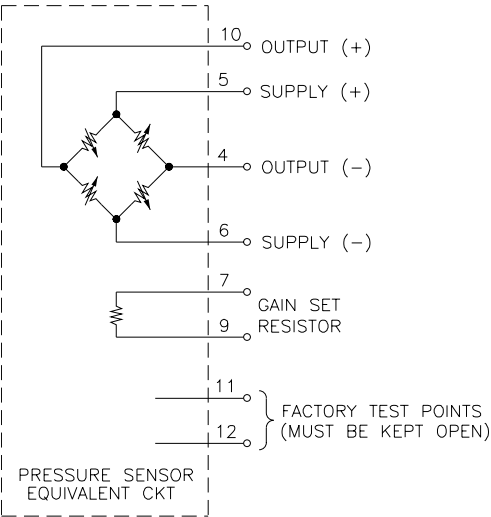
4. Temperature range: 0-50°C in reference to 25°C.
5. For a zero-to-full scale pressure step change.

6. 10 Hz to 1 kHz.

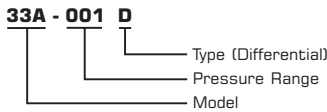
7. Between case and sensing element.

8. Wetted materials are glass, ceramic, silicon, RTV, nickel, gold, and aluminum.

CONNECTIONS



ORDERING INFORMATION



APPLICATION SCHEMATIC

