



MODEL 33 Medium Pressure

PC Board Mountable Pressure Sensor

0-100 mV Output

Differential Pressure

Temperature Compensated

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.

Differential pressure ranges from 0-2 PSI to 0-250 PSI are available. Integral temperature compensation is provided over a range of 0-50°C using laser-trimmed resistors. An additional laser-trimmed resistor is included to normalize pressure sensitivity variations by programming the gain of an external differential amplifier. This provides sensitivity interchangeability of

±1%. Please refer to the low pressure section for information on products with operating pressures less than 0-2 PSI. For sensors in a dual-in-line package please refer to the Models 1210 and 1220.



FEATURES

- ◆ TO-8 Package
- ◆ +/-1% Non-linearity
- ◆ +/-5% Temperature Performance
- ◆ 1.0% Interchangeable Performance (provided by gain set resistor)
- ◆ Solid State Reliability
- ◆ Low Power

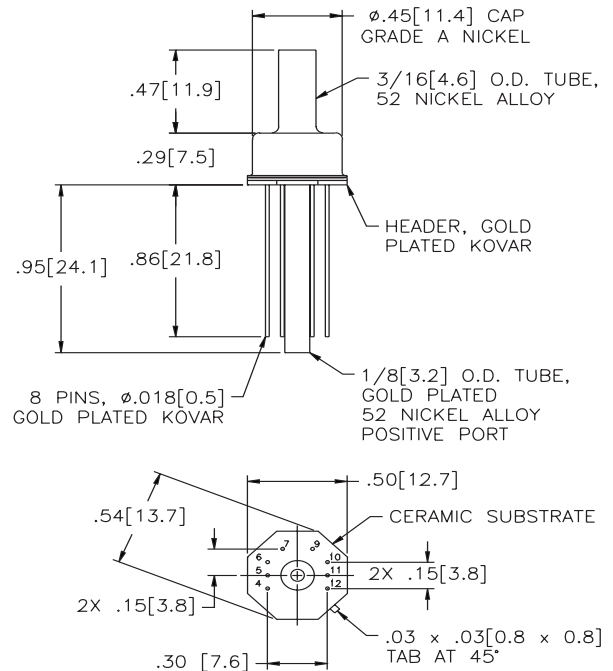
APPLICATIONS

- ◆ Medical Instruments
- ◆ HVAC
- ◆ Process Control
- ◆ Vacuum Measurement
- ◆ Air Flow Management

standard ranges

Range	psig
0 to 2	•
0 to 5	•
0 to 10	•
0 to 15	•
0 to 30	•
0 to 50	•
0 to 100	•
0 to 250	•

dimensions



DIMENSIONS ARE IN INCHES [mm]



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performance specifications

Supply Current: 1.5 mA

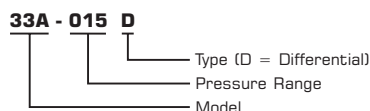
Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	75	100	150	mV	
Full Scale Output Span (2 psi version)	30		60	mV	
Zero Pressure Output			2	±mV	
Pressure Non-linearity		0.05	0.10	±%Span	1
Pressure Hysteresis		0.01	0.05	±%Span	
Input & Output Resistance	2500	4400	6000	Ω	
Temperature Error - Span		0.3	0.5	±%Span	2
Temperature Error - Zero		0.1	0.5	±%Span	1,2
Thermal Hysteresis - Span		0.1		±%Span	2
Thermal Hysteresis - Zero		0.1		±%Span	2
Supply Current		1.5	2.0	mA	3
Response Time		1.0		msec	4
Output Noise	2			μV p-p	5
Output Load Resistance	2			MΩ	6
Insulation Resistance (50 VDC)	50			MΩ	7
Pressure Overload			3X	rated	8
Operating Temperature	-40°C to +125°C				
Storage Temperature	-50°C to +150°C				
Acceleration	50g Max				
Shock	1000g Peak for 0.5mS				
Vibration	20g Peak at 10 to 2000 Hz				
Media	Non-corrosive Gases				9
Weight	3 grams				

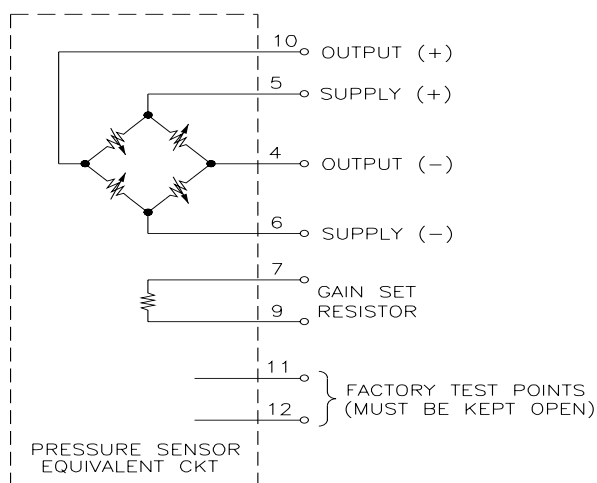
- Best Fit Straight Line. For 2 psi output span is 30-60 mV and TC zero temperature error is ±1.25%.
- Temperature range 0-50°C in reference to 25°C.
- Guarantees input/output ratiometricity for span.
- For a zero-to-full scale pressure step change.
- 10 Hz to 1 kHz.
- Between case and sensing element.

- For top side application, 3X not to exceed 500 psi on ranges: 0-10 psi to 0-250 psi, 20 psi for 2 psi and 5 psi versions.
- For top entry versions, wetted materials are silicon, aluminum, gold, RTV, glass, and nickel. For bottom entry versions, wetted materials are silicon, RTV, gold, and glass.
- For backside application, 3X not to exceed 100 psi on all ranges.

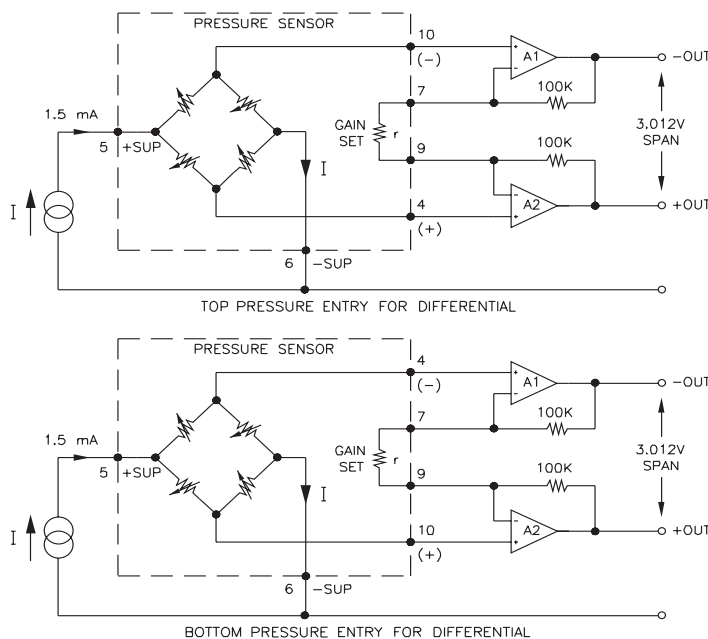
ordering information



connections



application schematic



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CONTATO

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