

PC Board Mountable Pressure Sensor
0-100 mV Output
Differential Pressure
Temperature Compensated

- ▶ Medical Instrumentation
- ▶ HVAC
- ▶ Process Control
- ▶ Vacuum Measurement
- ▶ Air Flow Management



DESCRIPTION

The Models 32 and 33 are temperature compensated, piezoresistive silicon pressure sensors packaged in TO-8 configurations. They provide 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 in the Model 33 to normalize pressure sensitivity variations by programming the gain of an external differential amplifier. This provides sensitivity interchangeability of $\pm 1\%$.

Please refer to the low pressure section for information on products with operating pressures less than 0-2 PSI. An uncompensated sensor (Model 30) is also available. For sensors in a dual-in-line package please refer to the Models 1210 and 1220. Please contact the factory for additional information.

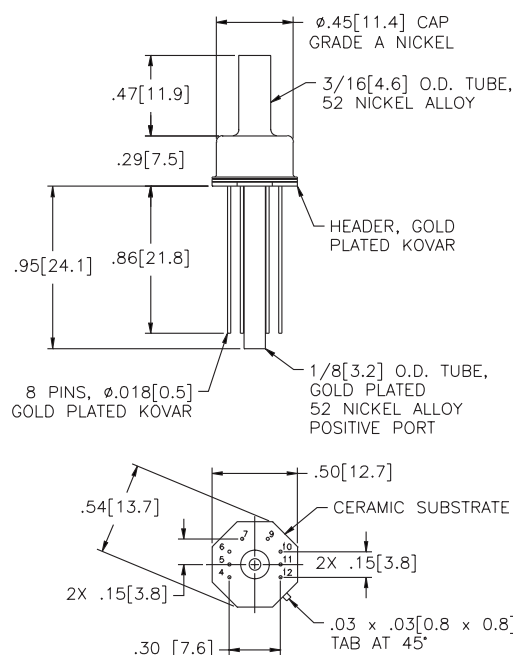
FEATURES

- ▶ TO-8 Package
- ▶ $\pm 0.1\%$ Non-linearity
- ▶ $\pm 0.5\%$ Temperature Performance
- ▶ 1.0% Interchangeable Span (provided by gain set resistor)
- ▶ Solid State Reliability
- ▶ Low Power

STANDARD RANGES

Range	psid
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]

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA
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	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		1.0		μV p-p	5
Output Load Resistance	2			MΩ	
Insulation Resistance (50 VDC)	50			MΩ	6
Pressure Overload			3X	Rated	7
Operating Temperature	-40°C to +125°C				
Storage Temperature	-50°C to +150°C				
Acceleration	50g Max				
Shock	1000g Peak for 0.5 mS				
Vibration	20g Peak at 10 to 2000 Hz				
Media	Non-Corrosive Gases				8
Weight	3 Grams				

- Notes
1. Best Fit Straight Line.

2. Temperature range 0-50°C in reference to 25°C.

3. Guarantees input/output ratiometricity.

4. For a zero-to-full scale pressure step change.

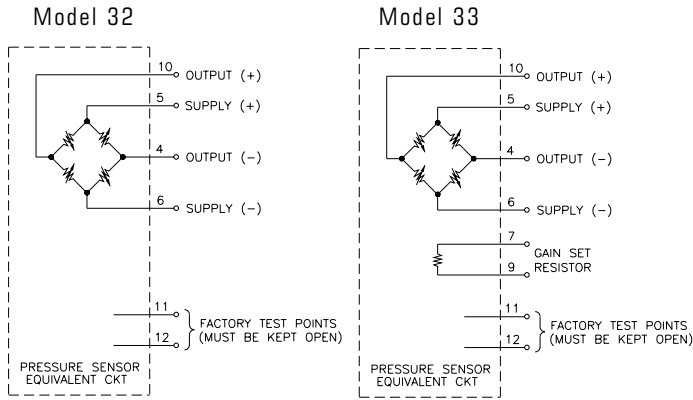
5. 10 Hz to 1kHz.

6. Between case and sensing element.

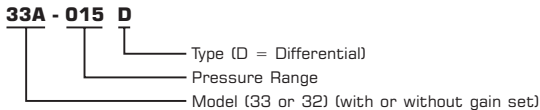
7. 3X not to exceed 500 psi on ranges:0-10 psi to 0-250 psi, 20 psi for 2 psi and 5 psi versions.

8. 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.

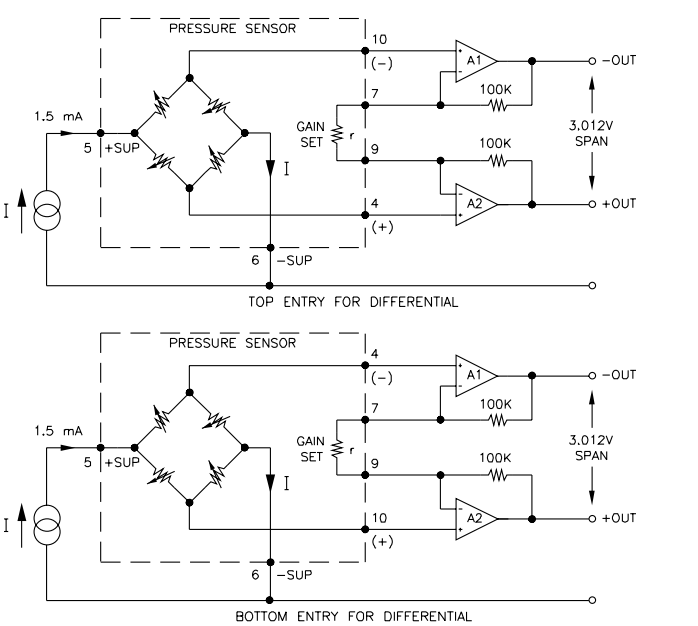
CONNECTIONS



ORDERING INFORMATION



APPLICATION SCHEMATIC



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传真：0755-83376182 (0) 13902971329 MSN: SUNS8888@hotmail.com

邮编：518033 E-mail:szss20@163.com QQ: 195847376

深圳赛格展销部：深圳华强北路赛格电子市场 2583 号 电话：0755-83665529 25059422

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北京分公司：北京海淀区知春路 132 号中发电子大厦 3097 号

TEL: 010-81159046 82615020 13501189838 FAX: 010-62543996

上海分公司：上海市北京东路 668 号上海赛格电子市场 2B35 号

TEL: 021-28311762 56703037 13701955389 FAX: 021-56703037

西安分公司：西安高新开发区 20 所(中国电子科技集团导航技术研究所)

西安劳动南路 88 号电子商城二楼 D23 号

TEL: 029-81022619 13072977981 FAX:029-88789382