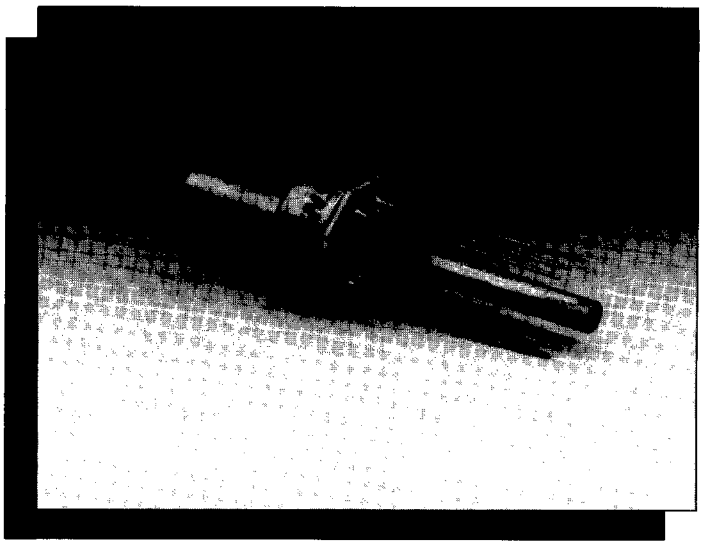
SENSORS

Model 32

OEM Pressure Sensor Differential Temperature Compensated Serialized



Features

- Solid State Reliability
- ±1mV Zero Output
- Infinite Resolution
- 100 mV Output Span
- Ratiometric
- ±0.1% Accuracy
- Low Noise
- Humidity Resistant
- Low Power
- Performance Graded

Typical Applications

- Medical
- Process Control
- Airspeed
- Flow Measurement
- Environmental Control
- Robotics
- Refrigeration
- Industrial Controls
- Water Pressure
- Pollution Control

Standard Ranges

0 to 5 psid
0 to 10 psid
0 to 15 psid
0 to 30 psid
0 to 50 psid
0 to 100 psid
0 to 250 psid

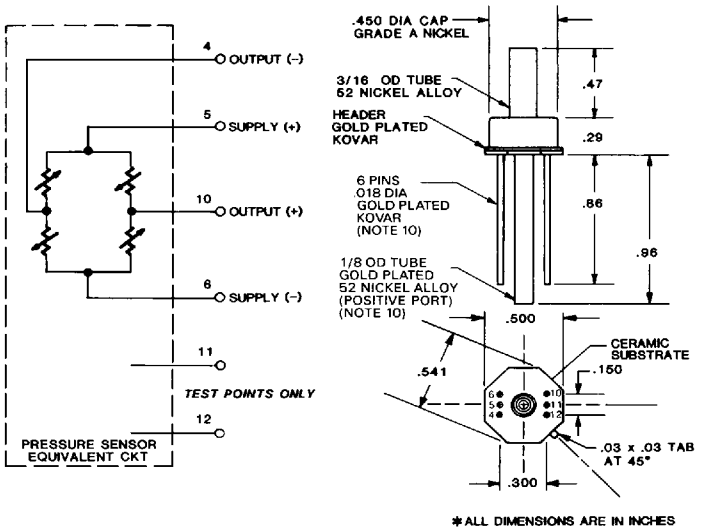
Description

The Model 32 is a bi-directional, solid state, piezoresistive pressure sensor that is packaged in a TO-8 configuration and is intended for use with corrosive or non-corrosive media on the bottom port and non-corrosive media on the top port where excellent long-term stability is also required. Each sensor is individually serialized.

Integral temperature compensation is provided along with zero balancing over 0-50°C with laser trimmed resistors. No external resistors are required.

Three performance grades are available in differential pressure from 0-5 psi to 0-250 psi for the Model 32 and 0-5 psi to 0-15 psi for the Model 32N.

Connections/Dimensions



Model 32

Performance Specifications

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

	GRADE										
	A			B			C				
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	UNITS	NOTES
Full-Scale Output Span	75	100	150	75	100	150	50			mV	
Zero Pressure Output			1			2			5	±mV	2
Linearity		0.05	0.10			0.25			0.50	±% Span	3
Pressure Hysteresis		0.01	0.05			0.10			0.15	±% Span	
Input & Output Resistance	2500	4400	6000		4400	6000		4400		Ω	
Temperature Coefficient-Span		0.3	0.5			1.0			2.0	±% Span	1, 2
Temperature Coefficient-Zero		0.1	0.5			1.0			2.0	±% Span	1, 2
Temperature Coefficient-Resistance		.22			.22			.22		%/°C	1
Thermal Hysteresis-Span		0.1			0.2			0.3		±% Span	1
Thermal Hysteresis-Zero		0.1			0.2			0.3		±% Span	1
Supply Current		1.5	2.0		1.5	2.0		1.5	2.0	mA	4
Response Time (10% to 90%)		1.0			1.0			1.0		mS	5
Output Noise		1.0			2.0			5.0		μV p-p	6
Output Load Resistance	2			2			2			MΩ	7
Insulation Resistance (50VDC)	50			50			50			MΩ	
Long Term Stability		0.2			0.5			1.0		±% Span/year	
Pressure Overload			3X			3X			3X	Rated	8
Operating Temperature	-40°C to +125°C										
Storage Temperature	-55°C to +150°C										
Acceleration	50g Max										
Shock	1000g Peak for 0.5 mS										
Vibration	20g Peak at 10 to 2000 Hz										
Media	Liquids and Gases compatible with wetted materials										9
Weight	3 grams										

Notes

1. Temperature range: 0-50°C in reference to 25°C.
2. Compensation resistors are an integral part of the sensor package; no additional external resistors are required. Pins 11 and 12 must be kept open. For interchangeable part see Model 33 Data Sheet and Application Note TN-003.
3. Best fit straight line.
4. Guarantees output/input ratiometricity.
5. For a zero-to-full scale pressure step change.
6. 10Hz to 1kHz.
7. Prevents increase of TC-Span due to output loading.
8. 3X or 500 psi maximum, whichever is less.
9. Wetted materials are gold, RTV (32N only), silicon and glass on the bottom port (corrosive or non-corrosive media) and nickel and silicone gel on the top port (non-corrosive media). The Model 32N is available in 5, 10 and 15 psi ranges only.
10. Soldering of lead pins and bottom tube: 250°C for 5 seconds maximum. Heat-sink tube while soldering.

Ordering Information

32 N B—005 D

- D — Type (D=Differential)
- 005 — psi Range
- B — Grade
- N — See Note 9
- 32 — Model

Represented By

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