Model 1230 UltraStable

PC Board Mountable Pressure Sensor
0-100 mV Output
Absolute, Differential, and Gage
Wide Temperature Range

- Medical Instrumentation
- Calibration
- Process Control
- Factory Automation
- Air Flow Management
- Leak Detection

FEATURES

- -20°C to +85°C Compensated Temperature Range
- ±0.1% Non-linearity
- ±0.5% Temperature Performance
- 1.0% Interchangeable Span (provided by gain set resistor)
- Solid State Reliability
- Low Power

STANDARD RANGES

Range	psig	psid	psia
0 to 15	●	●	●
0 to 30	●	●	●
0 to 50	●	●	●
0 to 100	●	●	●

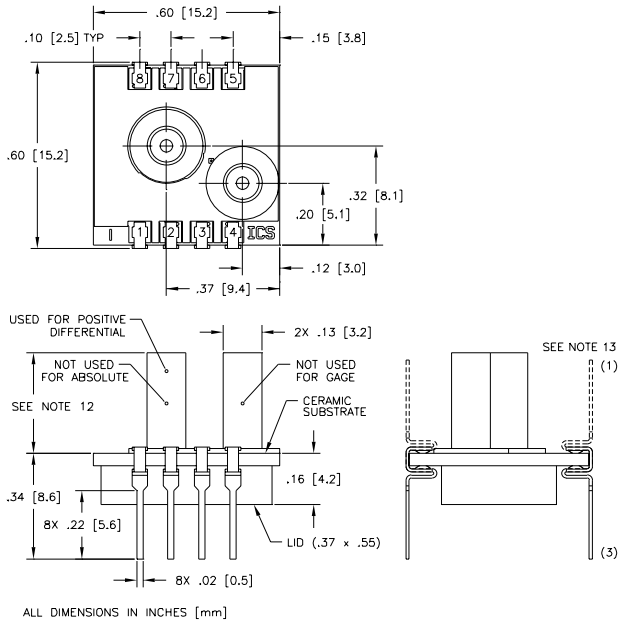
DESCRIPTION

The Model 1230 is a high performance temperature compensated, piezoresistive silicon pressure sensor packaged in a dual-in-line configuration. It is intended for cost sensitive applications where excellent performance and long-term stability are required.

Integral temperature compensation is provided over a range of -20°C to +85°C using laser-trimmed thick film resistors. An additional laser-trimmed resistor is included to normalize pressure sensitivity variations, for interchangeability of ±1%, by programming the gain of an external differential amplifier.

Differential and gage pressure ranges from 0-15 PSI to 0-100 PSI are available. Absolute pressure ranges of 0-15 PSIA to 0-30 PSIA are available. Multiple lead and tube configurations are available for different applications. Please refer to the low pressure section for information on products with operating pressures less than 0-2 PSI. For a compensated sensor using a current set resistor as opposed to a gain set resistor, please refer to the Model 1240.

DIMENSIONS



PERFORMANCE SPECIFICATIONS

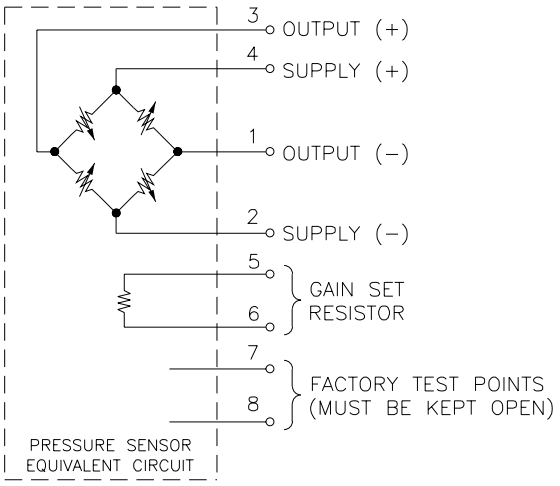
Supply Current: 1.5mA
Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	75	100	150	mV	1
Zero Pressure Output			2	±mV	3
Pressure Non-linearity		0.05	0.1	±% Span	2
Pressure Hysteresis		0.01	0.1	±% Span	
Input Resistance	2500	3500	4500	Ω	
Temperature Error – Span		0.3	0.5	±% Span	3, 4
Temperature Error – Zero		0.1	0.5	±% Span	3, 4
Temperature Coefficient - Resistance		0.145		%/°C	4
Thermal Hysteresis – Zero		0.05		±% Span	4
Short Term Stability of Offset		0.05		±% Span	14
Short Term Stability of Span		0.05		±% Span	14
Long Term Stability of Offset		0.1		±% Span	15
Long Term Stability of span		0.1		±% Span	15
Supply Current	0.5	1.5	2.0	mA	5
Response Time (10% to 90%)		1.0		msec	6
Output Noise		1.0		μV p-p	7
Output Load Resistance	5			MΩ	8
Insulation Resistance (50 VDC)	50			MΩ	
Pressure Overload			3X	Rated	9
Operating Temperature	–40°C to +125°C				
Storage Temperature	–50°C to +150°C				
Media	Non-corrosive Gases Compatible with Wetted Materials				10
Weight	3 Grams				

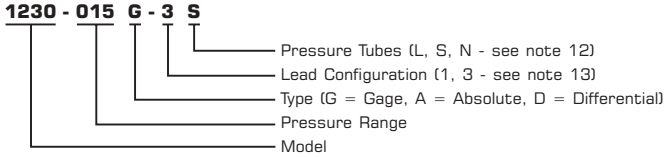
Notes

1. Output span of unamplified sensor.
2. Best Fit Straight Line.
3. For Model 1230, compensation resistors are an integral part of the sensor package; no additional external resistors are required. Pins 7 and 8 must be kept open.
4. Temperature range: -20°C to +85°C in reference to 25°C.
5. Guarantees input/output ratiometricity.
6. For a zero-to-full scale pressure step change.
7. 10 Hz to 1kHz.
8. Prevents increase of TC–Span due to output loading.
9. 3X or 200 psi maximum, whichever is less. 20 psi for 2 psi and 5 psi versions.
10. Wetted materials are glass, ceramic, silicon, RTV, nickel, gold, and aluminum.
11. Soldering of lead pins: 250°C for 5 seconds, maximum.
12. Tube length: L=470 ± 5 mil, S=300 ± 3 mil, N=no tube.
13. Lead pins can either be in the same or the opposite direction as the pressure tube. See Connections/Dimensions drawing for lead configurations.
14. Normalized offset bridge voltage: 7 days.
15. 1 year.

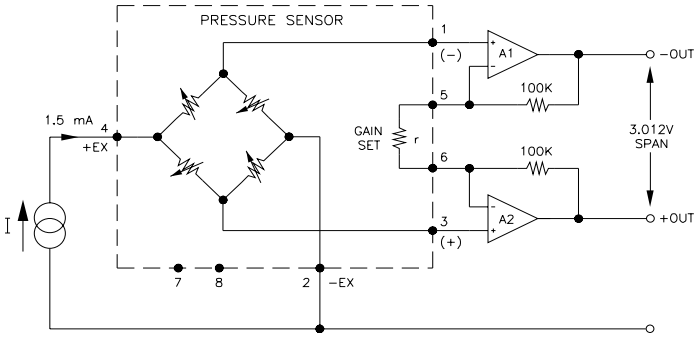
CONNECTIONS



ORDERING INFORMATION



APPLICATION SCHEMATIC



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Feel free to contact customer service with any questions at
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