

Absolute, Differential, and Gage Wide Temperature Range

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



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

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

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 $\pm 1\%$, 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.

Technical drawing of a ceramic substrate showing top and side views with dimensions and labels.

Top View Dimensions:

- Overall width: .16 [3.8]
- Overall height: .80 [15.2]
- Top edge features: .10 [2.5] TYP, .00 [15.2]
- Bottom edge features: .37 [9.4], .12 [3.0], .20 [5.1], .32 [8.1]
- Internal features: .00 [15.2], .00 [15.2]

Labels and Notes:

- USED FOR POSITIVE DIFFERENTIAL
- NOT USED FOR ABSOLUTE
- SEE NOTE 12
- 2X .13 [3.2]
- NOT USED FOR GAGE
- CERAMIC SUBSTRATE
- .16 [4.2]
- 8X .22 [5.6]
- LED (.57 x .55)
- 8X .02 [0.5]

Side View Dimensions:

- SEE NOTE 13
- (1)
- (5)

ALL DIMENSIONS IN INCHES [mm]

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

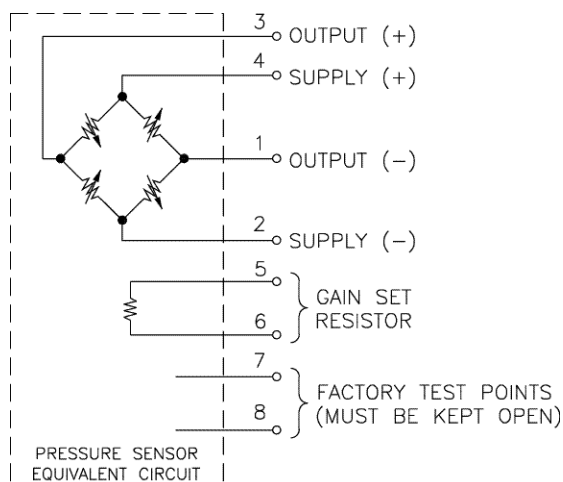
Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span, (without gain set resistor)	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				

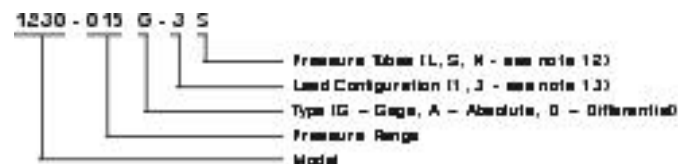
Notes

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, 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.

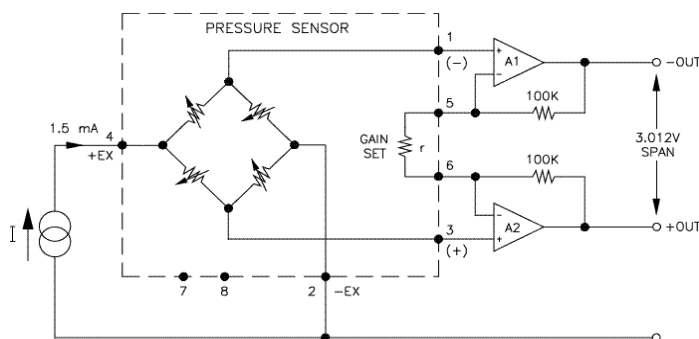
CONNECTIONS



ORDERING INFORMATION



APPLICATION SCHEMATIC



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