

Model 1210 Low Pressure



PC Board Mountable Pressure Sensor

0-100 mV Output

Gage, Differential and Absolute

Temperature Compensated

DESCRIPTION

The Model 1210 is a 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 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 $\pm 1\%$. Gage, absolute, and differential pressure ranges from 0-2 PSI to 0-100 PSI are available. Multiple lead and tube Configurations are also available for customizing the package for specific 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 1220.



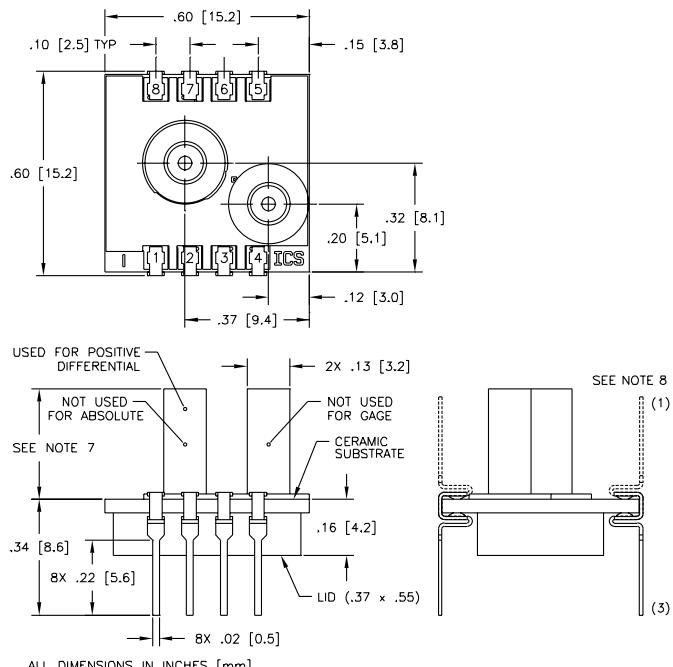
FEATURES

- ◆ Dual-in-line 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

APPLICATIONS

- ◆ Process Control
- ◆ Medical Instrumentation
- ◆ HVAC
- ◆ Barometric Pressure
- ◆ Air Flow Management
- ◆ Avionics

dimensions



Standard Ranges

Range	psid	psig
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0 to 1

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MODEL 1210 Low Pressure

performance specifications

Supply Current: 1.5 mA

Ambient Temperature: 25°C (Unless otherwise specified)

PRESSURE RANGE 0 -1 psi

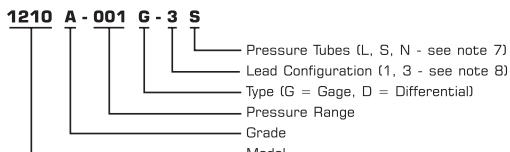
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	65	100	150	mV	1
Zero Pressure Output			2	±mV	2
Pressure Non-linearity		0.2	0.3	±%Span	3
Pressure Hysteresis		0.01	0.05	±%Span	
Input & Output Resistance	2500	4400	6000	Ω	
Temperature Error - Span		0.5	1.0	±%Span	4
Temperature Error - Zero		0.5	1.0	±%Span	4
Thermal Hysteresis - Zero		0.1		±%Span	4
Supply Current		1.5	2.0	mA	
Response Time (10% to 90%)		1.0		ms	5
Output Noise		1.0		µV p-p	6
Output Load Resistance	2			MΩ	
Insulation Resistance (50 VDC)	50			MΩ	
Long Term Stability		0.2		±%Span/yr	
Pressure Overload			10	psi	
Operating Temperature	-40°C to +125°C				
Storage Temperature	-50°C to +150°C				
Media	Non-Corrosive Dry Gases Compatible with Wetted Materials				9
Weight	3 Grams				

Notes

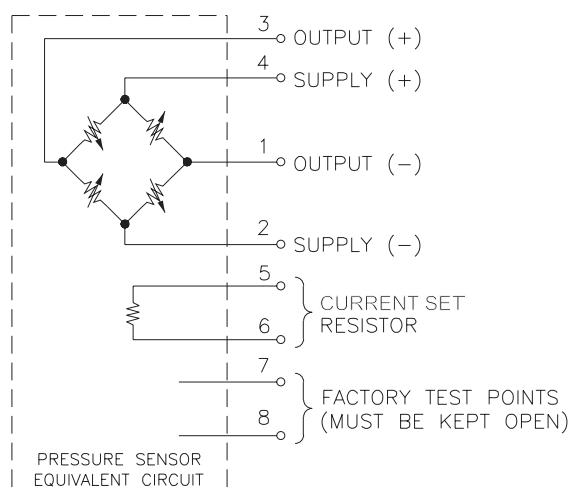
1. Output span of unamplified sensor.
2. For most models, compensation resistors are an integral part of the sensor package; no additional external resistors are required. Check specific product data sheets for details.
3. Best Fit Straight Line.

4. Temperature range: 0-50°C in reference to 25°C.
5. For a zero-to-full scale pressure step change.
6. 10 Hz to 1kHz.
7. Tube length: L=470 ± 5 mil, S=300 ± 3 mil, N=no tube.
8. Lead pins can either be in the same or the opposite direction as the pressure tube. See Dimensions drawing for lead configurations.
9. Wetted materials are glass, ceramic, silicon, RTV, nickel, gold, and aluminum.

Ordering Information



Connections



Application Schematic

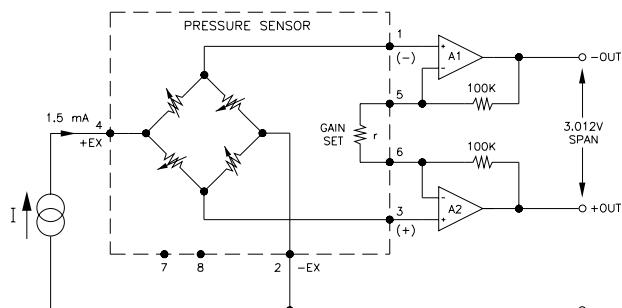


FIGURE 1: GAIN SET CIRCUIT