

MODEL 1210 Low Pressure

PC Board Mountable Pressure Sensor

0-1 PSI

0-100 mV Output

Gage and Differential

Low Cost

- Medical Instruments
- Air Flow Measurement
- HVAC
- Process Control
- Factory Automation
- Leak Detection

DESCRIPTION

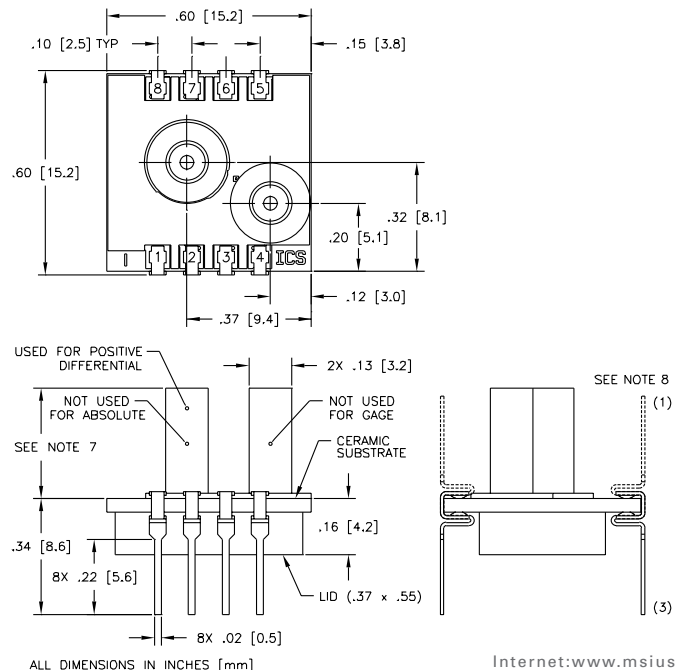
The Model 1210 is a temperature compensated, piezoresistive silicon pressure sensor packaged in a dual-in-line configuration and intended for cost sensitive applications where excellent performance and long-term stability are required.

Integral temperature compensation is provided over a range of 0-50°C using laser-trimmed resistors. An additional laser-trimmed resistor is included to adjust the gain of an external differential amplifier. This provides sensitivity interchangeability of $\pm 1\%$.

The sensing element used in the low pressure Model 1210 includes a double bossed design that produces a sensor output of 100 mV (typical) at 1 PSI.

The 1210 is also available in ranges up to 0-100 PSI. For a compensated sensor using a current set resistor instead of a gain set resistor, please refer to the Model 1220.

DIMENSIONS



FEATURES

- Dual-in-line Package
- $\pm 0.3\%$ Non-linearity
- 1.0% Temperature Performance (typical)
- 1.0% Interchangeable Span (provided by gain set resistor)
- Temperature Compensated
- Solid State Reliability
- Low Power

STANDARD RANGES

Range	psid	psig
0 to 1	•	•

Internet: www.msiusa.com

Tel: 1-757-766-1500

North America Toll Free: 1-800-745-8008

Fax: 1-757-766-4297

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	PRESSURE RANGE 0 -1 psi			UNITS	NOTES
	MIN	TYP	MAX		
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.

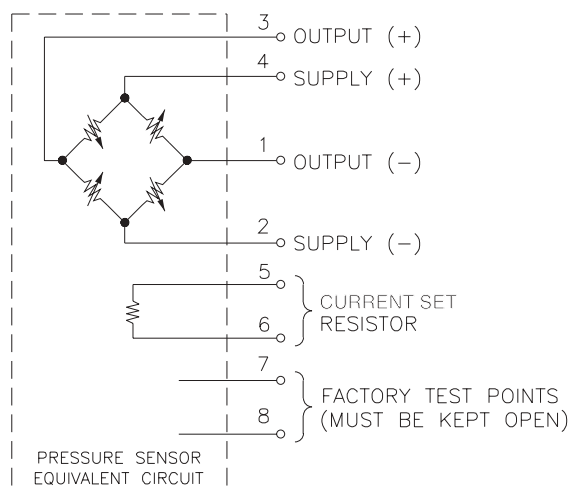
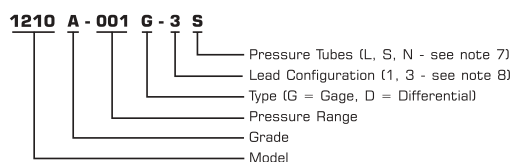
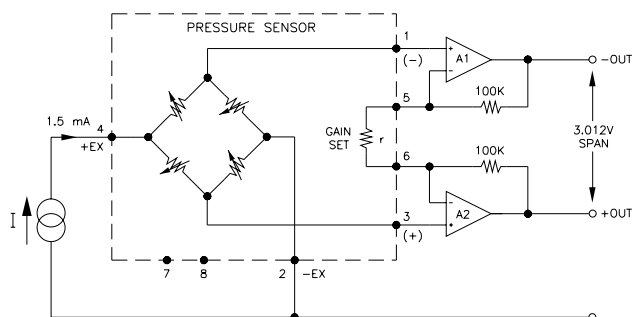
CONNECTIONS**ORDERING INFORMATION****APPLICATION SCHEMATIC**

FIGURE 1: GAIN SET CIRCUIT

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