

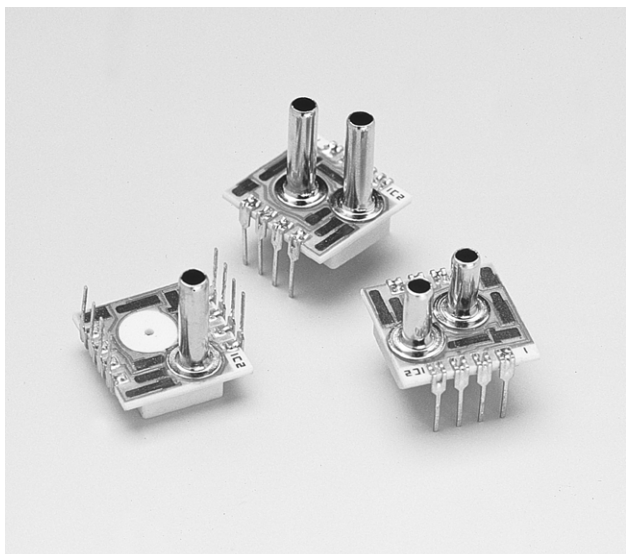
PC Board Mountable Pressure Sensor

0-100 mV Output

Gage, Differential and Absolute

Temperature Compensated

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



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.

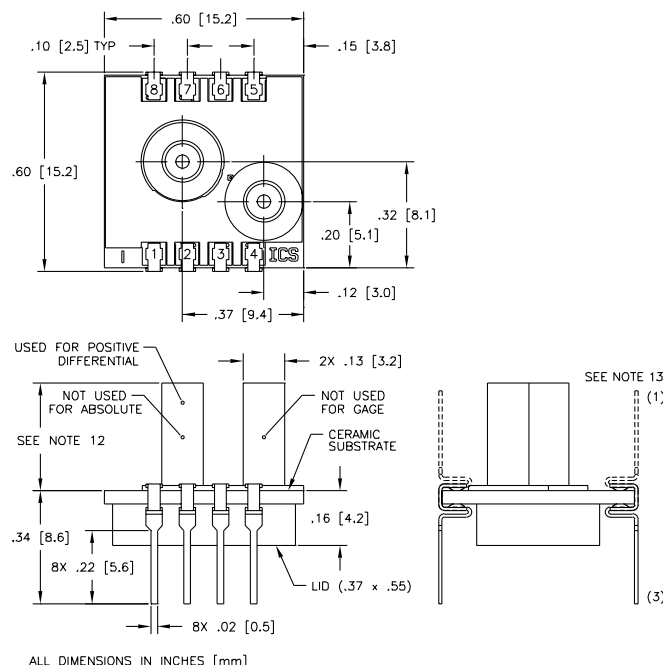
FEATURES

- ▶ 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

STANDARD RANGES

Range	psia	psid	psig
0 to 2		●	●
0 to 5	●	●	●
0 to 15	●	●	●
0 to 30	●	●	●
0 to 50	●	●	●
0 to 100	●	●	●

DIMENSIONS



PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

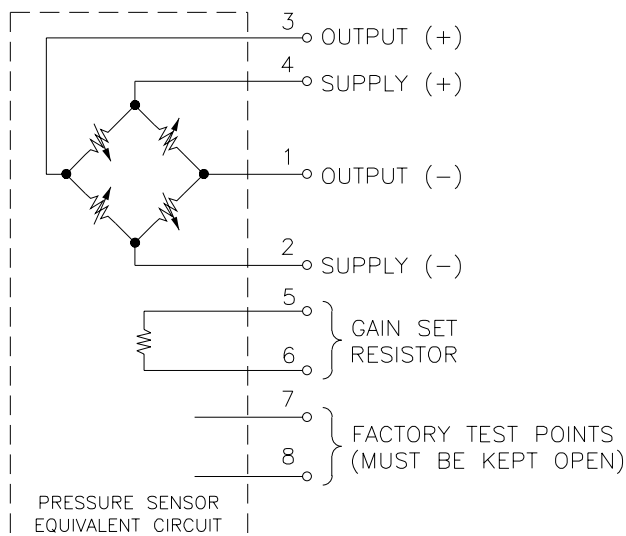
Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	75	100	150	mV	1
Zero Pressure Output			2	±mV	2
Pressure Non-linearity		0.05	0.1	±% Span	3
Pressure Hysteresis		0.01	0.1	±% Span	
Input & Output Resistance	2500	4400	6000	Ω	
Temperature Error - Span		0.3	0.5	±% Span	2, 4
Temperature Error - Zero		0.1	0.5	±% Span	2, 4
Thermal Hysteresis - Zero		0.1		±% Span	
Supply Current		1.5	2.0	mA	5
Response Time		1.0		msec	6
Output Noise		1.0		μV p-p	7
Output Load Resistance	2			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

- For 2 psi, output span is 30-60mV.
- Compensation resistors are an integral part of the sensor package; no additional external resistors are required. Pins 7 and 8 must be kept open.
- Best Fit Straight Line.
- Temperature range: 0-50°C in reference to 25°C.
- Guarantees input/output ratiometricity.
- For a zero-to-full scale pressure step change.
- 10 Hz to 1kHz.
- Prevents increase of TC-Span due to output loading.
- 3X or 200 psi maximum, whichever is less. 20 psi for 2 psi and 5 psi versions.
- Wetted materials are glass, ceramic, silicon, RTV, nickel, and aluminum.
- Soldering of lead pins: 250°C for 5 seconds, maximum.
- Tube length: L=470 ± 5 mil, S=300 ± 3 mil, N=no tube.
- Lead pins can either be in the same or the opposite direction as the pressure tube. See Dimensions drawing for lead configurations.

CONNECTIONS

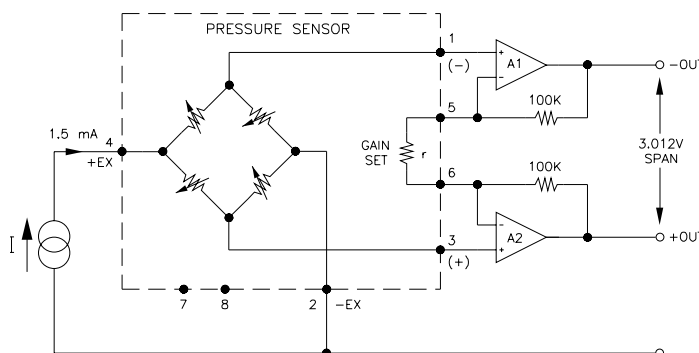


ORDERING INFORMATION

1210 A - 015 G - 3 S

- Pressure Tubes (L, S, N - see note 12)
- Lead Configuration (1, 3 - see note 13)
- Type (G = Gage, A = Absolute, D = Differential)
- Pressure Range
- Grade
- Model

APPLICATION SCHEMATIC



April 2000

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