

OEM Pressure Sensor Differential Gage and Absolute Interchangeable Low Cost

Features

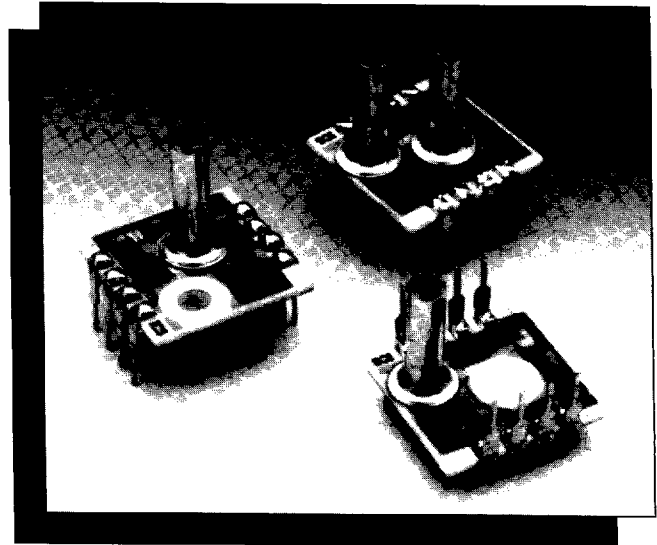
- Solid State Reliability
- $\pm 0.1\%$ Linearity
- 100 mV Output Span
- PC Board Mountable
- Interchangeable
- Temperature Compensated
- DIP Package
- Performance Graded
- Low Power

Typical Applications

- Medical Instruments
- Automotive
- Process Control
- Factory Automation
- Air Flow Measurement
- Avionics
- Leak Detection
- Spirometers

Standard Ranges

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



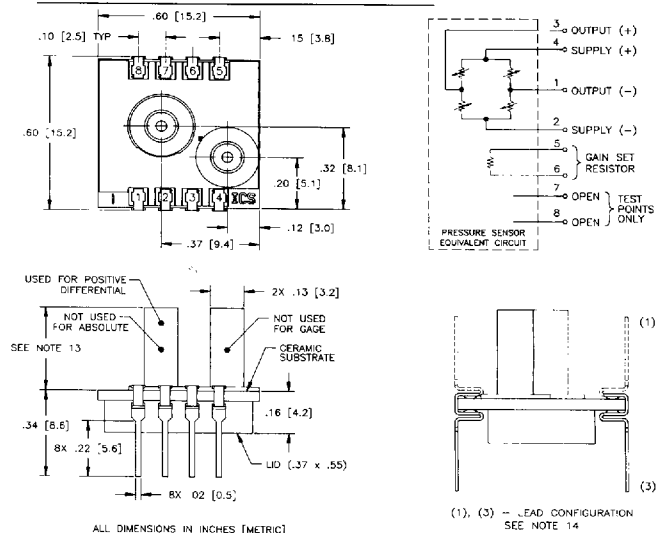
Description

The Model 1210 is a general purpose, solid-state, piezoresistive pressure sensor packaged in a dual-in-line configuration and is intended for use where excellent long-term stability, high volume, and low cost are required.

Integral temperature compensation is provided along with calibration over 0 to 50°C with laser trimmed resistors. An additional resistor is included to normalize pressure sensitivity variations by programming the gain of a differential amplifier, thus providing $\pm 1\%$ interchangeability along with high level output.

Two performance grades are available in gage, absolute and differential pressure from 0-2 psi to 0-100 psi. The gage version has a wide range of both liquid and gas media compatibility. Various lead and pressure tube configurations are available for customizing the package for specific applications.

Connections/Dimensions



Model 1210

Performance Specifications

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

PARAMETER	GRADE						UNITS	NOTES	
	A			B					
	MIN	TYP	MAX	MIN	TYP	MAX			
Full Scale Output Span	75	100	150	50	100	200	mV	1,2,3	
Zero Pressure Output			2			2	±mV	3	
Linearity		0.05	0.1			0.25	±% Span	4	
Pressure Hysteresis		0.01	0.1			0.1	±% Span		
Input & Output Resistance	2500	4400	6000	2500	4400	6000	Ω		
Temperature Coefficient - Span		0.3	0.5			1.0	±% Span	3,5	
Temperature Coefficient - Zero		0.1	0.5			1.0	±% Span	3,5	
Temperature Coefficient - Resistance		0.22			0.22		%/°C	5	
Thermal Hysteresis - Zero		0.1			0.2		±% Span	5	
Supply Current		1.5	2.0		1.5	2.0	mA	6	
Response Time (10% to 90%)		1.0			1.0		mS	7	
Output Noise		1.0			2.0		µV p-p	8	
Output Load Resistance	2			2			MΩ	9	
Insulation Resistance (50 VDC)	50			50			MΩ		
Pressure Overload			3X			3X	Rated	10	
Operating Temperature	-40°C to +125°C								
Storage Temperature	-55°C to +150°C								
Media	Liquids and Gases Compatible With Wetted Materials								11
Weight	3 Grams								

Notes

- For 2 psi, output span is 30-60 mV for Grade A, 30-100 mV for Grade B.
- Output span of unamplified sensor.
- Compensation resistors are in an integral part of the sensor package; no additional external resistors are required. Pins 7 and 8 must be kept open. Model 1210 is interchangeable only when used with a gain stage as shown in Figure 1; see Application Note TN-003.
- 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.
- 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 drawing on Front Page for lead configuration.

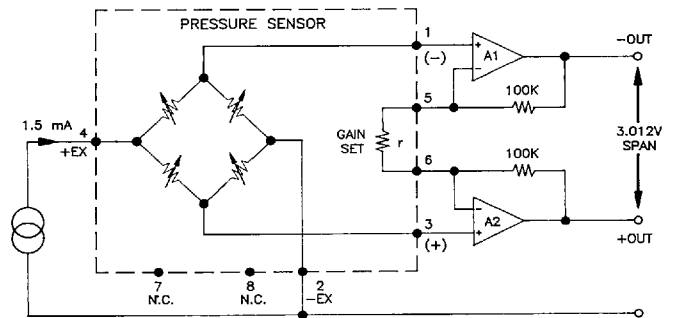


FIGURE 1: GAIN SET CIRCUIT

Ordering Information

1210 B-005 G-3 S
 Pressure Tubes (L,S,N - see note 13)
 Lead Configuration (1,3 - see note 14)
 Type (G=Gage, A=Absolute, D=Differential)
 psi Range
 Grade
 Model

IC Sensors products are warranted against defects in material and workmanship for 12 months from date of shipment. Products not subjected to misuse will be repaired or replaced. THE FOREGOING IS IN LIEU OF ALL OTHER EXPRESSED OR IMPLIED WARRANTIES. IC Sensors reserves the right to make changes to any product herein and assumes no liability arising out of the application or use of any product or circuit described or referenced herein.



1701 McCarthy Blvd. Milpitas, California 95035-7416 Fax (408) 432-7322 Phone (408) 432-1800

M1210R3-9504 Printed in USA

4677375 0000312 T73

2