

T-65-13

**OEM Pressure Sensor
Gage and Absolute
PC Board Mountable
Serialized**

Features

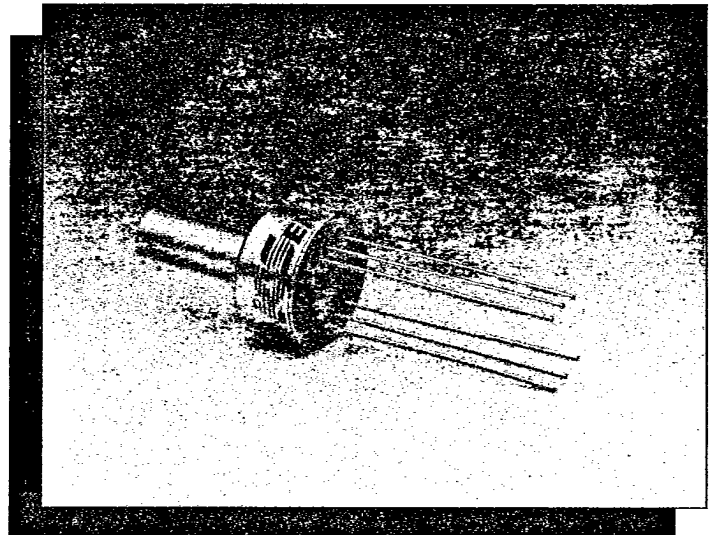
- Solid State Reliability
- 100 mV Output Span
- Ratiometric
- Infinite Resolution
- Low Noise
- ±0.1% Accuracy
- Low Power
- Humidity Resistant
- Low Cost
- Performance Graded

Typical Applications

- Medical
- Computer Peripherals
- Robotics
- Vacuum Measurement
- Avionics
- Automotive
- Industrial Controls
- Barometric Sensing
- Leak Detection
- Environmental Control

Standard Ranges

0 to 5 psig	0 to 5 psia
0 to 10 psig	0 to 10 psia
0 to 15 psig	0 to 15 psia
0 to 30 psig	0 to 30 psia
0 to 50 psig	0 to 50 psia
0 to 100 psig	0 to 100 psia
0 to 250 psig	0 to 250 psia



Description

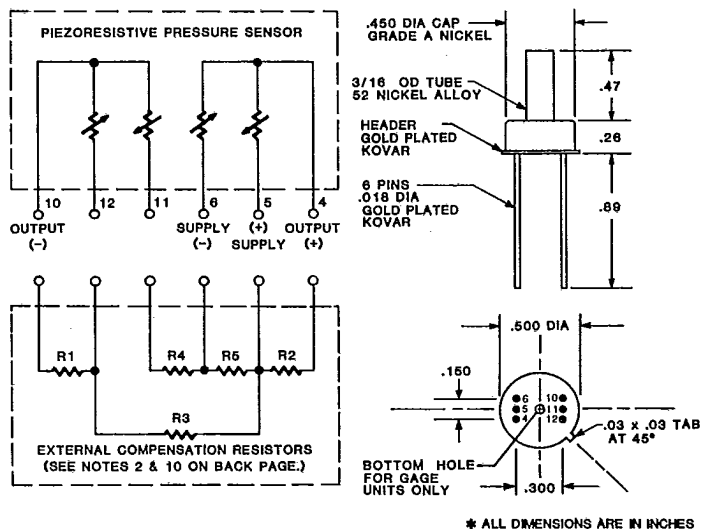
The Model 10 is a general purpose, solid state, piezoresistive pressure sensor that is packaged in a TO-8 configuration and is intended for use with non-corrosive gaseous media where excellent long-term stability is required. Each sensor is individually serialized.

Temperature compensation and calibration over 0-50°C is accomplished with the addition of only 3 external resistors, the values of which are included with each sensor.

Three performance grades are available in both gage and absolute pressure from 0-5 psi to 0-250 psi.

For limited temperature range and auto-zero applications where external resistor compensation data is not required, a fourth grade, the Model 11, is also available and is similar to the Model 10C at 25°C.

Connections/Dimensions



Model 10

4677375 I C SENSORS INC

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Performance Specifications

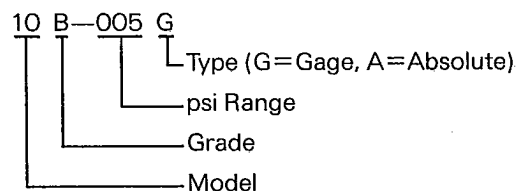
Supply Current = 1.5 mA & Ambient Temperature = 25°C (Unless otherwise specified)

T-65-13

PARAMETER	GRADE									UNITS	NOTES
	A			B			C				
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
Full-Scale Output Span	75	100	150	75	100	150	50			mV	2
Zero Pressure Output			5			5			5	±mV	2, 10
Linearity		0.05	0.10			0.25			0.50	±% Span	3
Pressure Hysteresis		0.01	0.05			0.10			0.15	±% Span	
Input & Output Resistance	4000	5000	6000		5000	6000		5000		Ω	
Temperature Coefficient-Span		0.3	0.5			1.0			2.0	±% Span	1, 2, 10
Temperature Coefficient-Zero		0.1	0.5			1.0			2.0	±% Span	1, 2
Temperature Coefficient-Resistance		.22			.22			.22		%/°C	1, 2
Thermal Hysteresis-Span		0.1			0.2			0.3		±% Span	1
Thermal Hysteresis-Zero		0.1			0.2			0.3		±% Span	1
Supply Current		1.5	2.0		1.5	2.0		1.5	2.0	mA	4
Response Time (10% to 90%)		1.0			1.0			1.0		mS	5
Output Noise		1.0			2.0			5.0		μV p-p	6
Output Load Resistance	2			2			2			MΩ	7
Insulation Resistance (50VDC)	50			50			50			MΩ	
Long Term Stability		0.2			0.5			1.0		±% Span/year	
Pressure Overload			3X			3X			3X	Rated	8
Operating Temperature	-40°C to +125°C										
Storage Temperature	-55°C to +150°C										
Acceleration	50g Max										
Shock	1000g Peak for 0.5 mS										
Vibration	20g Peak at 10 to 2000 Hz										
Media	Non-corrosive Gases										9
Weight	3 grams										

Notes

- Temperature range: 0-50°C in reference to 25°C.
- With external resistors (R₁ or R₂), (R₃ or R₄) and R₅ included in circuit on Front Page. If R₁ is required then R₂ is left open (R₂ = ∞) and vice versa. If R₃ is required then R₄ is a short (R₄ = 0) and vice versa. See Application Note TN-002.
- Best fit straight line.
- Guarantees output/input ratiometricity.
- For a zero-to-full scale pressure step change.
- 10Hz to 1kHz.
- Prevents increase of TC-Span due to output loading.
- 3X or 500 psi maximum, whichever is less.
- Wetted materials are nickel and silicone gel. See Model 20 Series for corrosive and conductive media applications.
- External Compensation Resistors
 - Model 10: A computer printout is supplied with each sensor detailing the values of the 3 required external resistors along with open and short information for the other two locations.
 - Model 11: Basic sensor. Specifications at 25°C are equivalent to Model 10C. No temperature testing is performed. Customer determines necessary external resistor values.
 - Models 12 & 13 (See Data Sheets): Compensation resistors are an integral part of the sensor package. No additional external resistors are required. Also, Model 13 is interchangeable; see Application Note TN-003.
- See Model 40 if a top pressure port is not required.

Ordering Information**Represented By**

I.C. 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. I.C. 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.



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