

OEM Pressure Sensor Media Compatible PC Board Mountable Serialized

Features

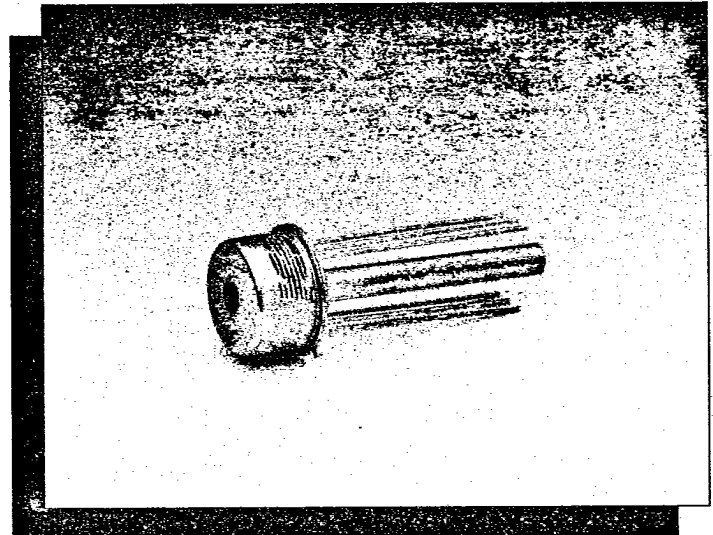
- Solid State Reliability
- 100 mV Output Span
- Ratiometric
- Infinite Resolution
- Low Noise
- $\pm 0.1\%$ Accuracy
- Low Power
- Humidity Resistant
- Low Cost
- Performance Graded

Typical Applications

- Medical
- Liquid Level
- Process Control
- Water Management
- Oceanography
- Environmental Control
- Refrigeration
- Agricultural Sprayers
- Pollution Control
- Automotive

Standard Ranges

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



Description

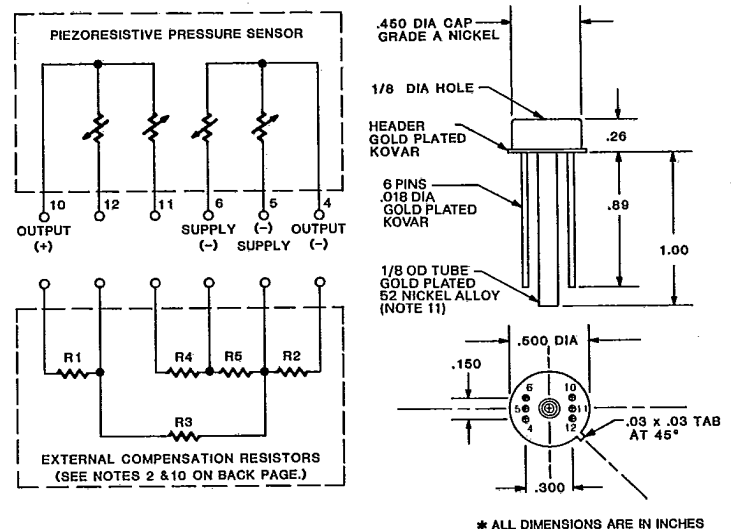
The Model 20 is a media compatible, solid state, piezoresistive pressure sensor that is packaged in a TO-8 configuration and is intended for use with corrosive or conductive fluid or gaseous media where excellent long-term stability is required. Each sensor is individually serialized.

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 gage pressure from 0-5 psi to 0-250 psi for the Model 20 and 0-5 psi to 0-15 psi for the Model 20N.

For limited temperature range and auto-zero applications where external resistor compensation data is not required, a fourth grade, the Model 21, is also available and is similar to the Model 20C at 25°C.

Connections/Dimensions



* ALL DIMENSIONS ARE IN INCHES

Model 20

4677375 I C SENSORS INC

83D 00064 D

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	Corrosive and Conductive Liquids and Gases compatible with wetted materials										9
Weight	3 grams										

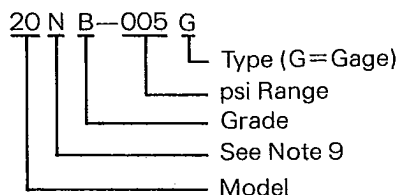
Notes

1. Temperature range: 0-50°C in reference to 25°C.
2. 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.
3. Best fit straight line.
4. Guarantees output/input ratiometricity.
5. For a zero-to-full scale pressure step change.
6. 10Hz to 1kHz.
7. Prevents increase of TC-Span due to output loading.
8. 3X or 500 psi maximum, whichever is less.
9. Wetted materials are gold, RTV (20N only), silicon and glass. Model 20N is available in 5, 10 and 15 psi ranges only.

10. External Compensation Resistors

- a. Model 20: 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.
- b. Model 21: Basic sensor. Specifications at 25°C are equivalent to Model 20C. No temperature testing is performed. Customer determines necessary external resistor values.
- c. Models 22 & 23 (See Data Sheets): Compensation resistors are an integral part of the sensor package. No additional external resistors are required. Also, Model 23 is interchangeable; see Application Note TN-003.

11. Soldering of bottom tube: 250°C for 5 seconds maximum. Heat-sink tube while soldering.

Ordering Information**Represented By**

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MOO20R2-8607 — Printed in USA