

- ▶ **Medical Instrumentation**
- ▶ **Calibration**
- ▶ **Process Control**
- ▶ **Factory Automation**
- ▶ **Air Flow Management**
- ▶ **Leak Detection**



- ▶ TO-8 Package
- ▶ -20°C to +85°C Compensated Temperature Range
- ▶ $\pm 0.1\%$ Non-linearity
- ▶ $\pm 0.5\%$ Temperature Performance
- ▶ 1.0% Interchangeable Span (provided by gain set resistor)
- ▶ Solid State Reliability
- ▶ Low Power

Range	psid
0 to 15	●
0 to 30	●
0 to 50	●
0 to 100	●
0 to 250	●

The Models 36 and 37 are high performance, temperature compensated, piezoresistive silicon pressure sensors packaged in a differential TO-8 configuration. They provide excellent performance and long-term stability.

Differential pressure ranges from 0-15 PSI to 0-250 PSI are available. Integral temperature compensation is provided over a range of -20°C to +85°C using laser-trimmed resistors. An additional laser-trimmed resistor is included in the Model 37 to normalize pressure sensitivity variations by programming the gain of an external differential amplifier. This provides sensitivity interchangeability of $\pm 1\%$.

Please refer to the low pressure section for information on products with operating pressures less than 0-2 PSI. For an uncompensated sensor (Model 35) please contact the factory for additional information.

Technical drawing of a probe assembly, showing side and top views with dimensions and material specifications.

Side View Dimensions:

- Top cap: $\phi .45 [11.4]$ CAP GRADE A NICKEL
- Tube section: $3/16 [4.6]$ O.D. TUBE, 52 NICKEL ALLOY
- Header: HEADER, GOLD PLATED KOVAR
- Pin section: $1/8 [3.2]$ O.D. TUBE, GOLD PLATED 52 NICKEL ALLOY POSITIVE PORT
- Base pins: 8 PINS, $\phi .018 [0.5]$ GOLD PLATED KOVAR

Top View Dimensions:

- Overall width: $.50 [12.7]$
- Overall height: $.30 [7.6]$
- Pin spacing (horizontal): $2X .15 [3.8]$
- Pin spacing (vertical): $2X .15 [3.8]$
- Pin diameter: $\phi .03 \times .03 [0.8 \times 0.8]$ TAB AT 45°
- Substrate material: CERAMIC SUBSTRATE

DIMENSIONS ARE IN INCHES [mm]

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

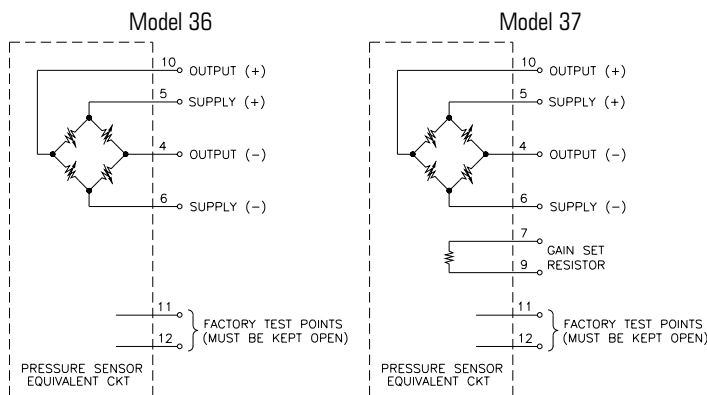
Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span, (without gain set resistor)	75	100	150	mV	1
Zero Pressure Output			2	±mV	3
Pressure Non-linearity		0.05	0.1	±% Span	2
Pressure Hysteresis		0.01	0.1	±% Span	
Input Resistance	2500	3500	4500	Ω	
Temperature Error – Span		0.3	0.5	±% Span	3, 4
Temperature Error – Zero		0.1	0.5	±% Span	3, 4
Temperature Coefficient - Resistance		0.145		%/°C	4
Thermal Hysteresis – Zero		0.05		±% Span	4
Short Term Stability of Offset		0.05		±% Span	11
Short Term Stability of Span		0.05		±% Span	11
Long Term Stability of Offset		0.1		±% Span	12
Long Term Stability of span		0.1		±% Span	12
Supply Current	0.5	1.5	2.0	mA	5
Response Time (10% to 90%)		1.0		msec	6
Output Noise		1.0		μV p-p	7
Output Load Resistance	5			MΩ	8
Insulation Resistance (50 VDC)	50			MΩ	13
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

- Output span of unamplified sensor.
- Best Fit Straight Line.
- For Models 36, 37, compensation resistors are an integral part of the sensor package; no additional external resistors are required. Pins 11 and 12 must be kept open. Model 37 is interchangeable only when used with a gain stage as shown in the Gain Set Circuit.
- Temperature range: -20°C to +85°C in reference to 25°C.
- Guarantees input/output ratiometricity.
- For a zero-to-full scale pressure step change.
- 10 Hz to 1 kHz.
- Prevents increase of TC-Span due to output loading.
- 3X or 500 psi maximum, whichever is less. 20 psi for 2 psi and 5 psi versions.
- Wetted materials are glass, ceramic, silicon, RTV, nickel, and aluminum.
- Normalized offset bridge voltage: 7 days.
- 1 year.
- Between case and sensing element.

CONNECTIONS

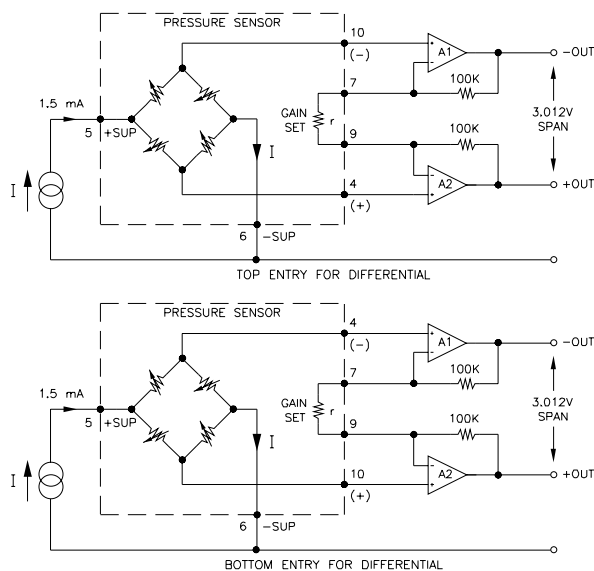


ORDERING INFORMATION

37 - 015 G

- Type (G = Gage, A = Absolute)
- Pressure Range
- Model (37 or 36) (with or without gain set)

APPLICATION SCHEMATIC



April 2000

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