

Model 86A



- 316L SS Pressure Sensor
- Small Profile
- 0.5 - 4.5V High Level Output
- Gage
- ASIC Calibrated

DESCRIPTION

The Model 86A is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The Model 86A is designed for o-ring mounting. The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element.

The Model 86A is designed for high performance, low pressure applications. A custom ASIC is used for temperature compensation, offset correction, and provides an amplified output of 0.5 to 4.5V.

For a similar sensor with a plastic threaded fitting, refer to the LM pressure transducer.

FEATURES

- O-Ring Mount
- -20°C to +85°C Operating Temperature Range
- ±1% Pressure Non Linearity
- ±3.0% Total Error Band
- Solid State Reliability

APPLICATIONS

- Level Controls
- Tank Level Measurement
- OEM Equipment
- Corrosive Fluids and Gas Measurement Systems

STANDARD RANGES

Range	psig	Range	Bar
0 to 1	•	0 to .07	•
0 to 2	•		
0 to 5	•	0 to .35	•
0 to 15	•	0 to 1	•
0 to 30	•	0 to 2	•
0 to 50	•	0 to 5	•
0 to 100	•	0 to 7	•
0 to 150	•	0 to 10	•

Model 86A

PERFORMANCE SPECIFICATIONS

Supply Voltage: 5.0Vdc

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output		4.5		V	1
Zero Pressure Output		0.5		V	1
Pressure Non Linearity	-1	±0.25	1	%Span	2
Pressure Hysteresis	-0.1		0.1	%Span	
Repeatability		±0.02		%Span	
Accuracy (combined linearity, hysteresis, & repeatability)		±0.3		%Span	2
Temperature Error – Span	-1.5		1.5	%Span	3
Temperature Error – Zero	-1.5		1.5	%Span	3
Total Error Band (includes calibration errors above & temperature effects over the compensated range)			±3 (>5psi) ±5 (5psi) ±7 (<5psi)	%Span	
Supply Voltage	4.75	5.00	5.25	V	
Supply Current	2.0	2.5	3.0	mA	
Insulation Resistance (50Vdc)	50			MΩ	4
Pressure Overload			3X	Rated	5
Compensated Temperature	0		40	°C	
Operating Temperature	-20		+85	°C	
Weight			11	grams	
Media – Pressure Port	Liquids and Gases compatible with 316L Stainless Steel and Buna-N O-Ring				
Media – Reference Port	Compatible with Silicon, Pyrex, Gold, Epoxy, Fluorosilicone RTV, FR-4, and 316L Stainless Steel				

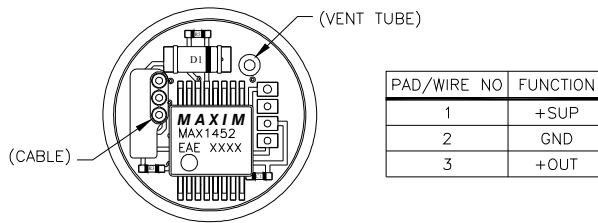
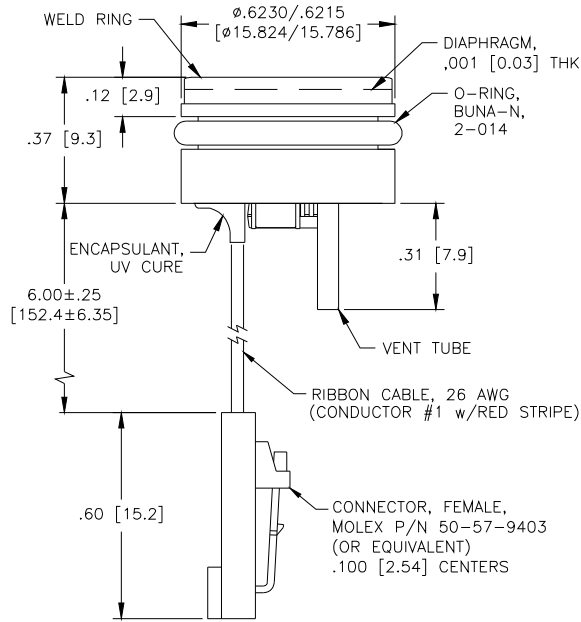
Notes

1. Ratiometric to supply voltage.
2. Best fit straight line.
3. Maximum temperature error between 0 °C and 40 °C with respect to 25 °C. ±2% maximum for devices below 5psi and .07Bar.
4. Between case and cable.
5. 3X maximum not to exceed 150 psi. 20 psi for 5 psi and lower.

Model 86A

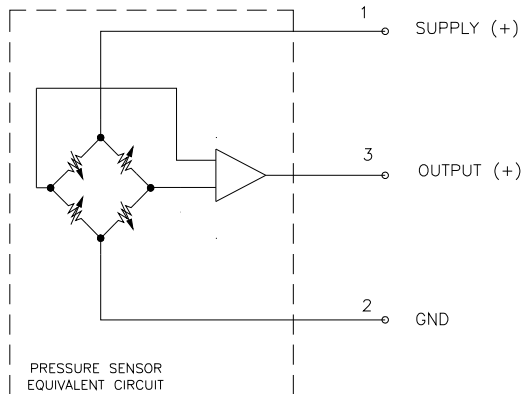
DIMENSIONS

ALL DIMENSIONS IN INCHES [mm]



VIEW SHOWN w/o CABLE AND CONNECTOR FOR CLARITY

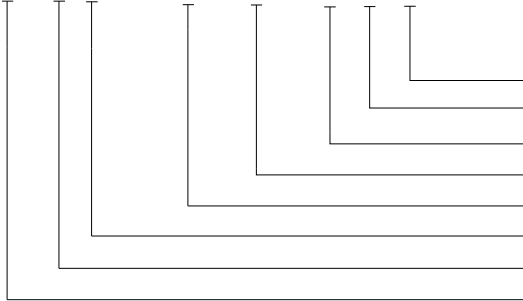
CONNECTIONS



Model 86A

ORDERING INFORMATION

86A 3 R - 00000 0 - 150P G



- Pressure Unit (G = Gage)
- Units (P = psi, B = Bar)
- Pressure Range
- Port Type (0 = Standard Cell)
- Specials
- Connection (R = Ribbon Cable, C = Ribbon Cable with Connector)
- Output (3 = 0.5 to 4.5V)
- Model

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.