



86

Constant Voltage

SPECIFICATIONS

- ◆ 316L SS Pressure Sensor
- ◆ Small Profile
- ◆ 0 - 100mV Output
- ◆ Absolute and Gage
- ◆ Temperature Compensated

The 86 constant voltage is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 86 constant voltage is designed for O-ring mounting and OEM applications where compatibility with corrosive media is required.

The sensing package utilizes silicon oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element. A ceramic substrate is attached to the package that contains laser-trimmed resistors for temperature compensation and offset correction.

Please refer to the 86 uncompensated and compensated datasheets for more information on different features of the 86.

FEATURES

- ✦ O-Ring Mount
- ✦ -40°C to +125°C Operating Temperature
- ✦ Up to $\pm 0.1\%$ Pressure Non Linearity
- ✦ Solid State Reliability

APPLICATIONS

- ✦ Medical Instruments
- ✦ Process Control
- ✦ Fresh & Waste Water Measurements
- ✦ Partial Vacuum Gas Measurement
- ✦ Pressure Transmitters
- ✦ Tank Level Systems (RV & Industrial)

STANDARD RANGES

Range	psig	psia
0 to 5	✦	✦
0 to 15	✦	✦
0 to 30	✦	✦
0 to 50	✦	✦
0 to 100	✦	✦
0 to 300	✦	✦
0 to 500	✦	✦

PERFORMANCE SPECIFICATIONS

Supply Voltage: 10Vdc

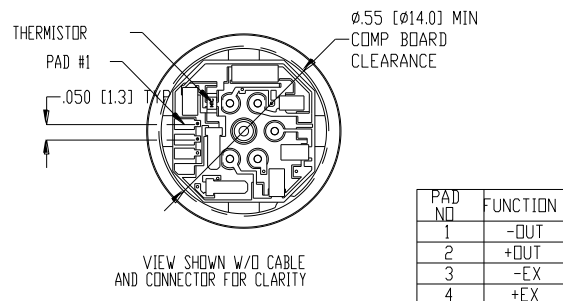
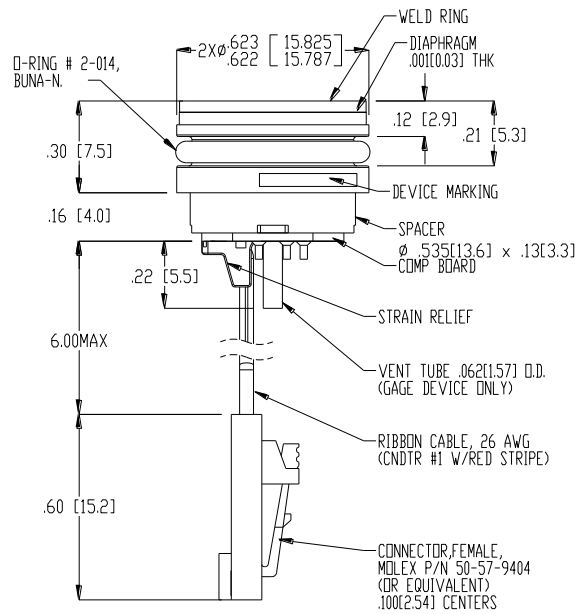
Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	005PSI			≥15PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Span	98	100	102	99	100	101	mV	
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	1
Pressure Non Linearity	-0.2		0.2	-0.1		0.1	%Span	2
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability		±0.02			±0.02		%Span	
Input Resistance	5.5K	9.0K	12.5K	5.5K	9.0K	12.5K	Ω	
Output Resistance	4.0K		7.0K	4.0K		6.0K	Ω	
Temperature Error – Span	-1.0		1.0	-1.0		1.0	%Span	3
Temperature Error – Offset	-1.5		1.5	-1.0		1.0	%Span	3
Thermal Hysteresis – Span	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	3
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	3
Long Term Stability – Span		±0.10			±0.10		%Span/Year	
Long Term Stability – Offset		±0.25			±0.10		%Span/Year	
Supply Voltage		10	14		10	14	V _{DC}	4
Output Load Resistance	5M			5M			Ω	5
Insulation Resistance (50V _{DC})	50M			50M			Ω	6
Output Noise (10Hz to 1KHz)		1.0			1.0		μV p-p	
Response Time (10% to 90%)		0.1			0.1		ms	
Pressure Overload			3X			3X	Rated	
Pressure Burst			4X			4X	Rated	7
Compensated Temperature	0		50	-20		+85	°C	
Operating Temperature	-20		+70	-40		+125	°C	8
Storage Temperature	-40		+125	-40		+125	°C	8
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel							
Media – Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicone Rubber, and 316/316L Stainless Steel							

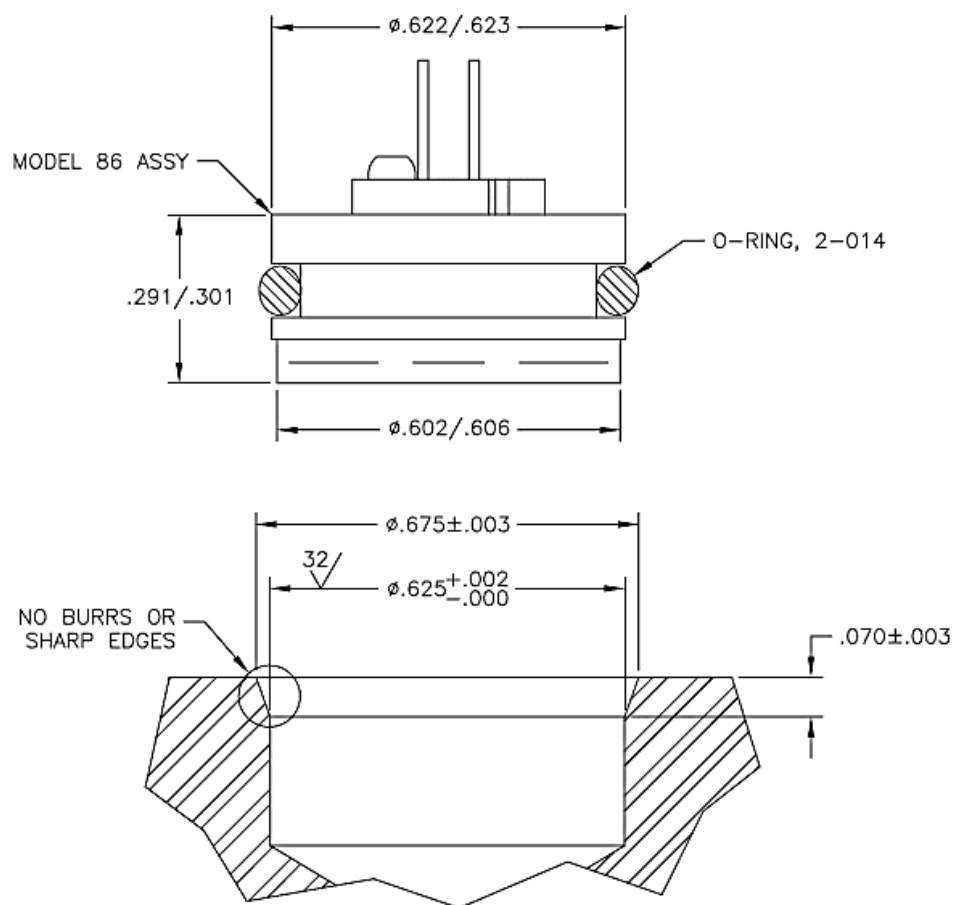
Notes

1. Measured at vacuum for absolute (A) and at ambient for gage (G).
2. Best fit straight line.
3. Over the compensated temperature range with respect to 25°C.
4. Guarantees output/input ratiometricity.
5. Load resistance to reduce measurement errors due to output loading.
6. Between case and sensing element.
7. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
8. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.
9. Standard gage units are not recommended for vacuum applications, for vacuum applications below ½ atmosphere, consult factory.
10. Device markings: Each part shall be identified with model number, pressure range, type ("A" for absolute or "G" for gage), lot number, serial number and date code.
11. Shipping/packaging requirements: The stainless steel diaphragm is protected by a plastic cap, each unit will be packaged individually in a plastic vial with anti-static foam.

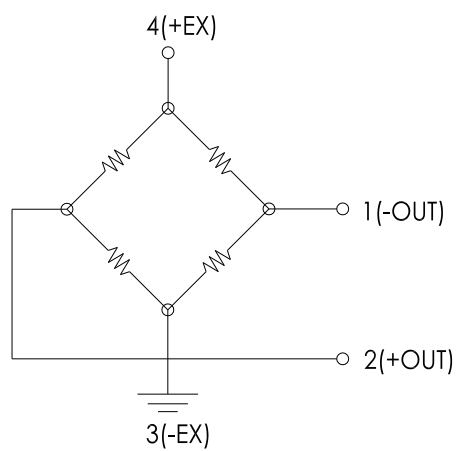
DIMENSIONS



DIMENSIONS ARE IN INCHES [mm]



APPLICATION SCHEMATIC



ORDERING INFORMATION

86CV		—	030	G	—	C	T
Model Name							
Pressure range [psi]							
005	050	500					
015	100						
030	300						
Pressure Type							
A = Absolute		G = Gage					
Electrical Connections							
P = Solder Pads		R = Ribbon Cable					
C = Cable with Connector							
Vent Type*							
T = Tube							

*If NO TUBE, leave blank