te.com

86

Constant Voltage

SPECIFICATIONS

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

Features

- O-Ring Mount
- -40ºC to +125ºC Operating Temperature Range
- Up to ±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)

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.

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Specifications

Unless otherwise specified, Supply Voltage: 10 V_{DC}; Ambient Temperature: 25°C

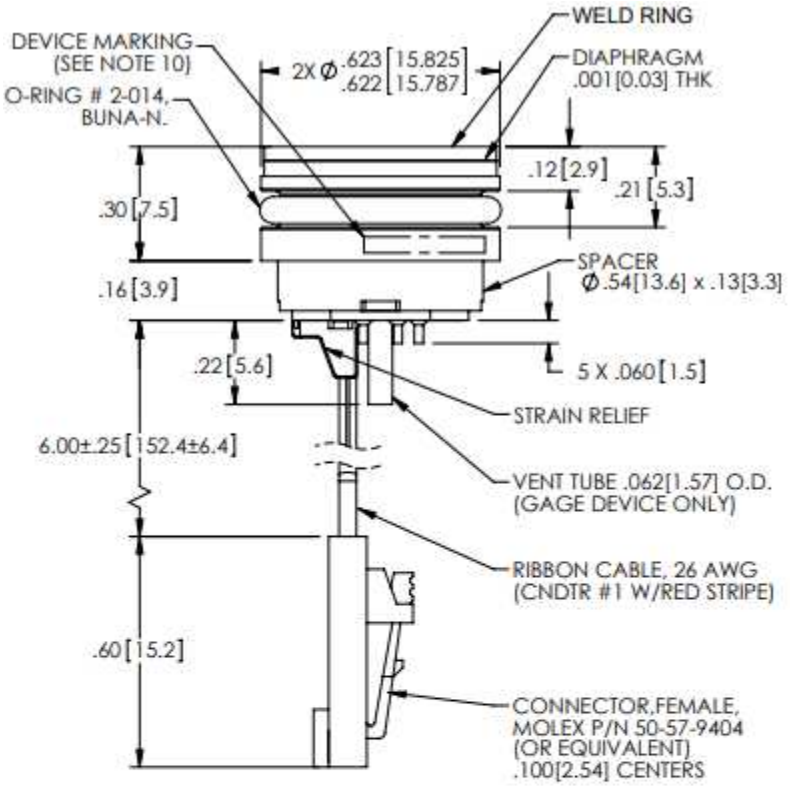
PARAMETERS	005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Span	98	100	102	99	100	101	mV	1
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	1
Pressure Non Linearity	-0.2	-	0.2	-0.1	-	0.1	%Span	2
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability	-	±0.02	-	-	±0.02	-	%Span	
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	ºC	8
Storage Temperature	-40	-	125	-40	-	125	ºC	8
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel							

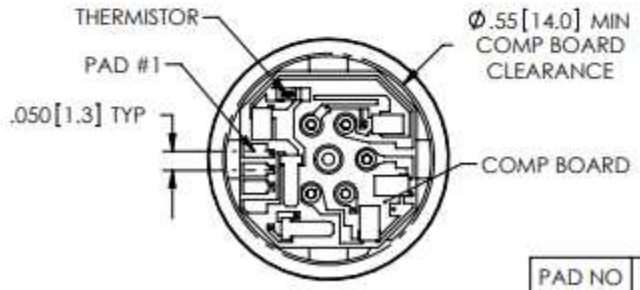
Notes

1. Measured at vacuum for absolute (A), 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 sending 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 to +105°C.
9. Standard Gage units are not recommended for vacuum applications, For vacuum applications below 1/2 atmosphere, consult factory.
10. Device Marking:
    Each part shall be identified with Model Number, Pressure Range, Type, Lot Number, Serial Number and Date Code
11. Shipping/Packaging
    The Stainless Steel Diaphragm is protected by a plastic cap (No Fitting Options). Each unit will be packaged individually in a plastic vial with anti-static foam.
12. Direct mechanical Contact with diaphragm is prohibited. Diaphragm surface must remain free of defects (scratches, punctures, dents, fingerprints, etc) for device to operate properly. Caution is advised when handling parts with exposed diaphragms. Use protective cap whenever devices are not in use.

DIMENSIONS

Dimensions are in inches【㎜】

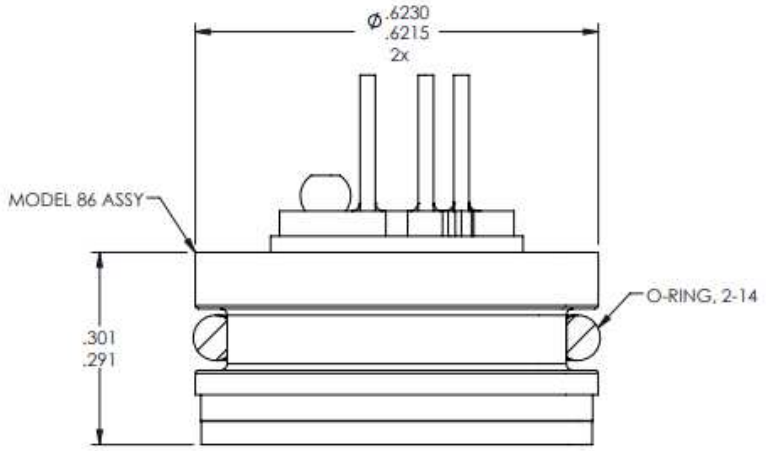


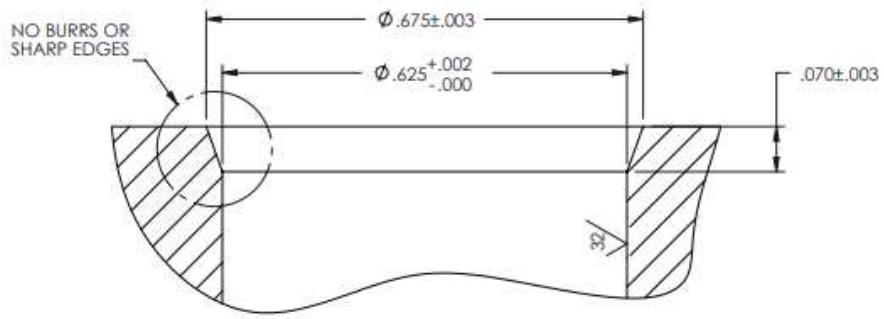


VIEW SHOWN W/O CABLE
AND CONNECTOR FOR CLARITY

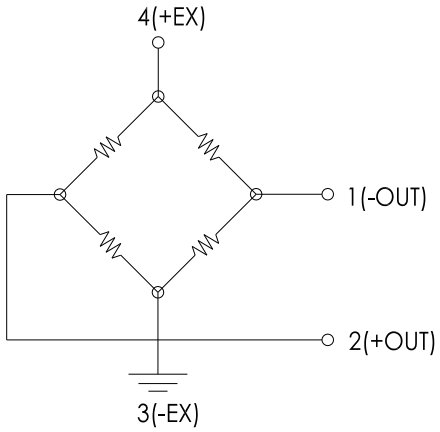
PAD NO	FUNCTION
1	-OUT
2	+OUT
3	-EX
4	+EX

RECOMMENDED MOUNTING DIMENSIONS





APPLICATION SCHEMATIC



ORDERING INFORMATION

Part Number

86CV – 030 G – C T

Pressure Range [psi]
005
015
030
050
100
300
500

Vent	
T	Tube
[Blank]	No Tube

Electrical	
R	Ribbon cable
C	Cable W Connector

Pressure Type	
G	Gage
A	Absolute

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