



## 86 Compensated

### SPECIFICATIONS

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

The 86 compensated is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 86 compensated 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. An additional laser trimmed resistor is included which can be used to adjust an external differential amplifier and provide span interchangeability to within  $\pm 1\%$ .

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

## FEATURES

- ◆ O-Ring Mount
- ◆ -40°C to +125°C Operating Temperature Range
- ◆ ±0.2% Pressure Non Linearity
- ◆ 1.0% Interchangeable Span (provided by gain set resistor)
- ◆ 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 Current: 1.5mA

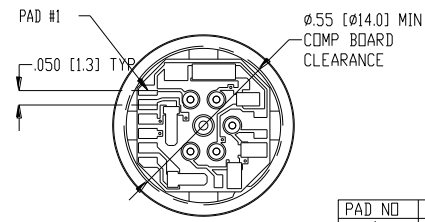
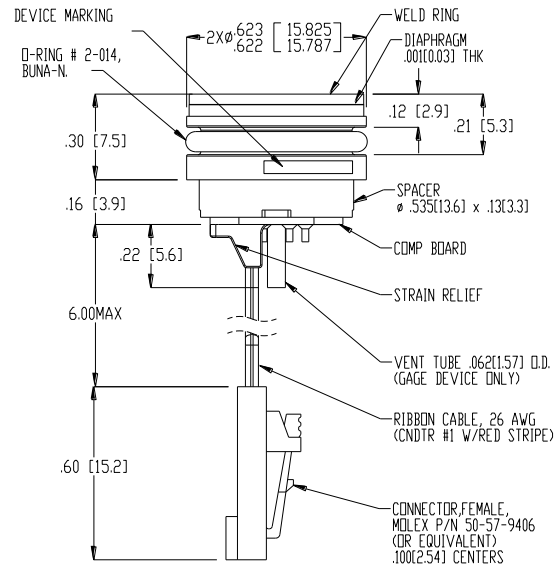
Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Span	50	100	150	75	100	150	mV	1
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	2
Pressure Non Linearity	-0.2		0.2	-0.1		0.1	%Span	3
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability		±0.02			±0.02		%Span	
Input Resistance	2.5K	5.0K	6.5K	2.0K	3.5K	5.8K	Ω	
Output Resistance	4.0K		7.0K	4.0K		6.0K	Ω	
Temperature Error – Span	-1.0		1.0	-0.75		0.75	%Span	4
Temperature Error – Offset	-1.5		1.5	-0.50		0.50	%Span	4, 5
Thermal Hysteresis – Span	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	4
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	4
Long Term Stability – Span		±0.10			±0.10		%Span/Year	
Long Term Stability – Offset		±0.25			±0.10		%Span/Year	
Supply Current	0.5	1.5	2.0	0.5	1.5	2.0	mA	6
Output Load Resistance	5M			5M			Ω	7
Insulation Resistance (50Vdc)	50M			50M			Ω	8
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	9
Compensated Temperature	0		50	-20		+85	°C	
Operating Temperature	-20		+70	-40		+125	°C	10
Storage Temperature	-50		+125	-50		+125	°C	10
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

- For amplified output circuits, 3.012V ±1% interchangeability with gain set resistor. See application schematic.
- Measured at vacuum for absolute (A) and at ambient for gage (G).
- Best fit straight line.
- Over the compensated temperature range with respect to 25°C.
- 15-psi range sensors have a temperature error of °0.75% (max) of zero from -20°C to +85°C.
- Guarantees output/input ratiometricity.
- Load resistance to reduce measurement errors due to output loading.
- Between case and sensing element.
- The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
- Maximum temperature range for product with standard cable and connector is -20°C to +105°C.

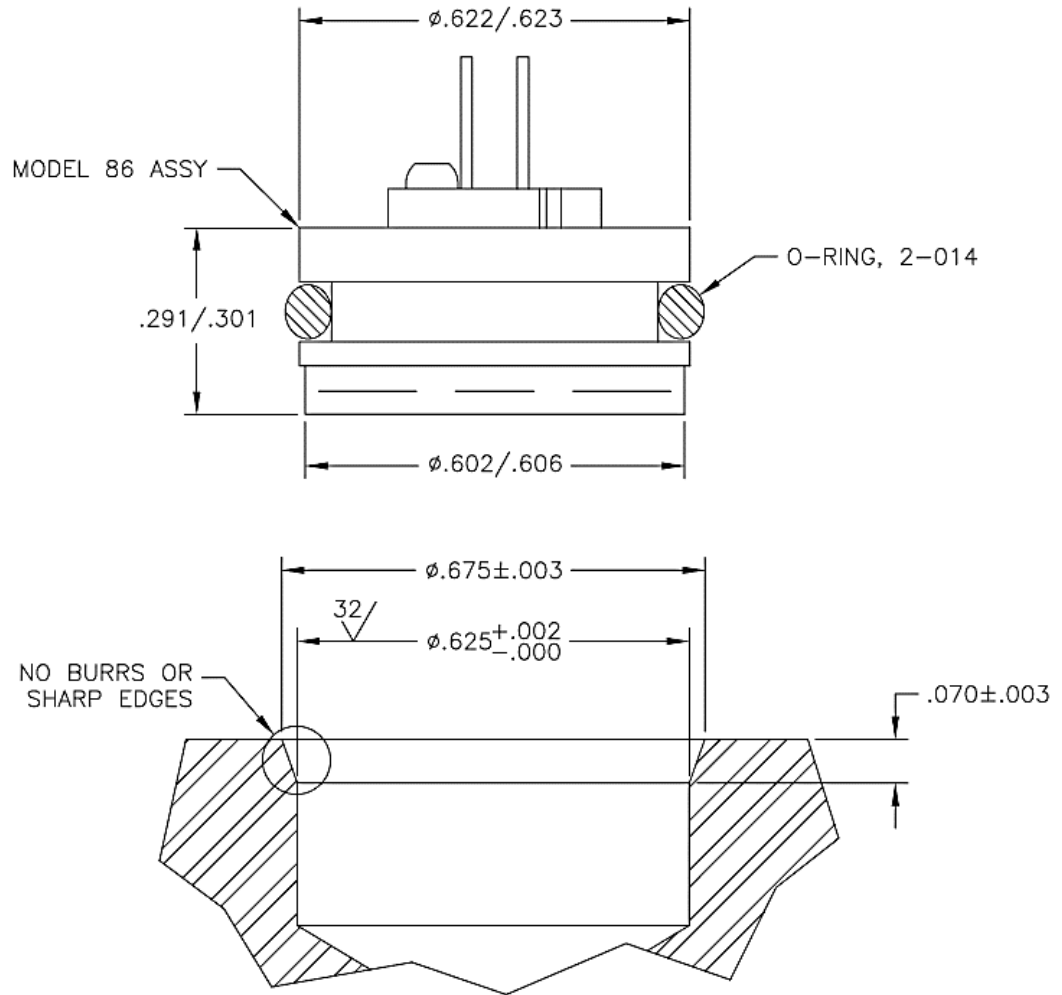
DIMENSIONS



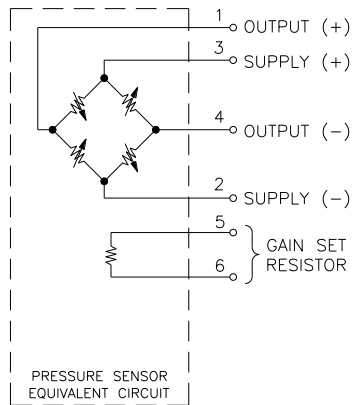
VIEW SHOWN W/O CABLE AND CONNECTOR FOR CLARITY

PAD NO	FUNCTION
1	+OUT
2	-EX
3	+EX
4	-OUT
5	GAIN
6	

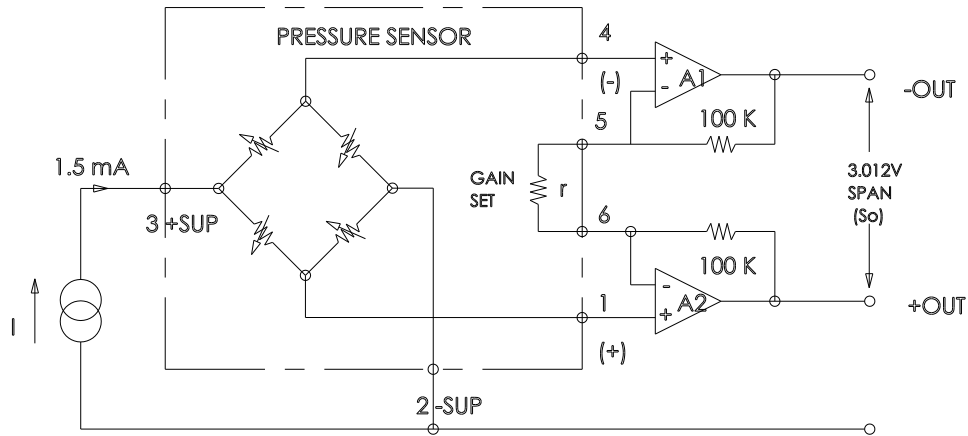
DIMENSIONS ARE IN INCHES [mm]



## CONNECTIONS



## APPLICATION SCHEMATIC



## ORDERING INFORMATION

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

\*If No Tube, leave blank.

### NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity Company  
Tel: 800-522-6752  
Email: [customercare.frm@te.com](mailto:customercare.frm@te.com)

### EUROPE

Measurement Specialties (Europe), Ltd.,  
a TE Connectivity Company  
Tel: 800-440-5100  
Email: [customercare.lcsb@te.com](mailto:customercare.lcsb@te.com)

### ASIA

Measurement Specialties (China), Ltd.,  
a TE Connectivity Company  
Tel: 0400-820-6015  
Email: [customercare.shzn@te.com](mailto:customercare.shzn@te.com)

### [TE.com/sensorsolutions](http://TE.com/sensorsolutions)

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for te connectivity manufacturer:*

Other Similar products are found below :

[570416-000](#) [CLTEQ-M81CE-SSRELAY-4-20V](#) [D38999/24FJ4AN](#) [358838-000](#) [4-1195131-0](#) [650069-000](#) [SMD100-2](#) [CB-1022B-78](#)  
[RM707012](#) [RP410012](#) [MMS42](#) [1-640426-8](#) [2EDL4CM](#) [DTS20W19-11PD-3028-LC](#) [RM202615](#) [NC6-P104-06](#) [MSPS103B](#) [DTS26F21-41AE](#) [DTS26F21-41PE-LC](#) [DTS26F21-11SE-3028-LC](#) [1932144-1](#) [293545-4](#) [LVR125S](#) [MS27466T25F4PB](#) [CKB-38-78010](#)  
[1206SFF150F/63-2](#) [D38999/20JB35HA](#) [D38999/24WJ20PA](#) [1754138-1](#) [TE1500A2R2J](#) [DTS24F25-29PC-3028-LC](#) [D38999/24WG11HA](#)  
[D38999/24WG11HN](#) [MS27467T21F11H](#) [DJT16E21-11HA](#) [1206SFH150F/24-2](#) [DTS24F19-11SC-3028-LC](#) [DTS24F21-41HN-LC](#)  
[DTS24F21-41AN](#) [DTS24F21-41PN-LC](#) [MS27467T21F35J](#) [MS27467T21F11J](#) [MS27467T21F16H-LC](#) [MS27467T21F35H](#)  
[MS27467T21F41H-LC](#) [DJT16E21-11PA-LC](#) [DJT16E21-11HA-LC](#) [DJT16E21-11AA](#) [MS27467T21B11JA](#) [DJT16E21-11JA](#)