Model 89 UltraStable™ (Uncompensated)

- **316L SS Pressure Sensor**
- **High Pressure**
- **0 - 100mV Output**
- **Absolute and Sealed Gage**

DESCRIPTION

The Model 89 UltraStable™ is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The Model 89 UltraStable™ features 5/16-32 UNEF threads and can be welded in place. It can also be packaged in a variety of threaded fittings such as 1/4 and 1/8NPT, 1/4BSP as well as custom process fittings. Contact factory for threaded fitting options.

The Model 89 UltraStable™ is designed for high pressure 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. For devices with comp board, ribbon cable or cable w/ connector, please see compensated datasheet.

FEATURES

- Weldable and Threaded Process Fittings
- -40ºC to +125ºC Operating Temperature Range
- ±0.25% Pressure Non Linearity
- Solid State Reliability

APPLICATIONS

- Hydraulic Controls
- Process Control
- Pressure Calibrators
- Refrigeration/Compressors

STANDARD RANGES

Range	psia	psis
0 to 1000	•	•
0 to 3000	•	•
0 to 5000	•	•

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PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA
Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Sensitivity	15	22	28	mV/V@FS	
Zero Pressure Output	-4		4	mV/V	
Pressure Non Linearity	-0.25		0.25	%Span	1
Pressure Hysteresis		±0.05		%Span	
Repeatability		±0.02		%Span	
Input/Output Resistance	4000	4500	5000	Ω	2
Temperature Coefficient – Resistance	1300	1510	1750	ppm/°C	3
Temperature Coefficient – Sensitivity	-1450	-1250	-1000	ppm/°C	3
Temperature Coefficient – Offset		2		uV/V/ºC	3
Thermal Hysteresis – Span		±0.05		%Span	3
Thermal Hysteresis – Offset		±0.05		%Span	3
Long Term Stability – Span		±0.1		%Span	4
Long Term Stability – Offset		±0.1		%Span	4
Supply Current	0.5	1.5	2.0	mA	
Supply Voltage			9.5	V	
Insulation Resistance (50Vdc)	50			MΩ	5
Pressure Overload			3X	Rated	6
Pressure Burst			4X	Rated	7
Operating Temperature	-40		+125	ºC	
Storage Temperature	-50		+125	ºC	
Torque	154		180	In-lb	8
Weight			9	grams	
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel				

Notes

1. Best fit straight line between 0 and FSP.
2. Measured with both -SUP pins shorted together.
3. Over the temperature range -20°C to +85°C with respect to 25°C.
4. Long term stability over a one year period with constant current and temperature.
5. Minimum resistance between case and pins.
6. 2X maximum for 5000 psi devices.
7. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
8. For Model 89 w/o fittings, recommended receptacle is 316 ST STL, tensile strength 75,000psi min.

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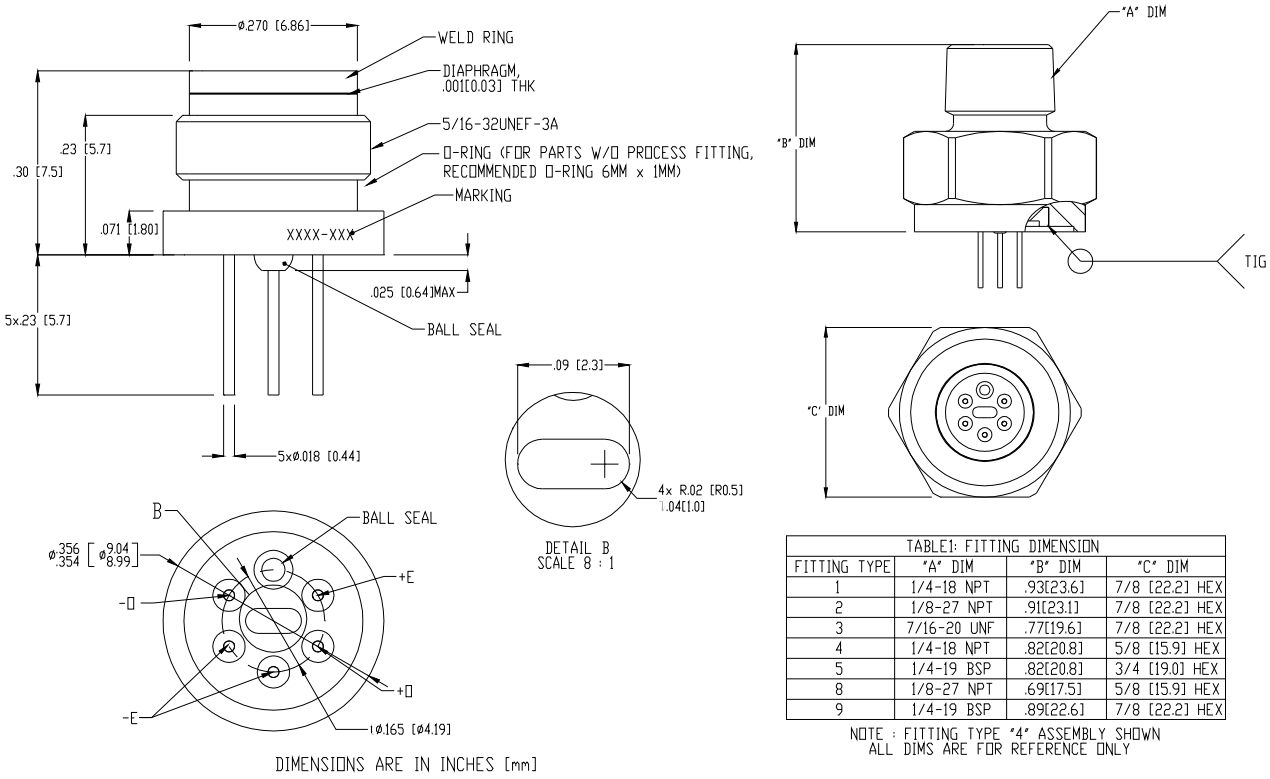
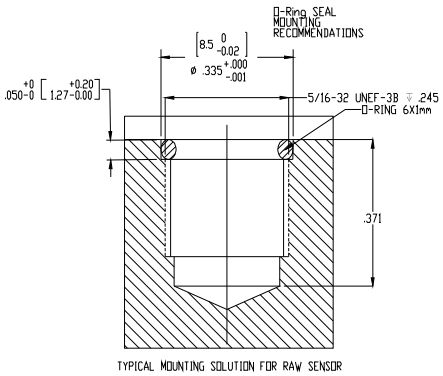
DIMENSIONS



DIMENSIONS ARE IN INCHES [mm]

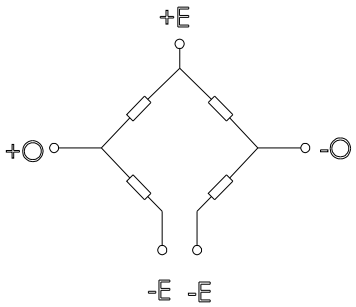
TABLE1: FITTING DIMENSION			
FITTING TYPE	"A" DIM	"B" DIM	"C" DIM
1	1/4-18 NPT	.93[23.6]	7/8 [22.2] HEX
2	1/8-27 NPT	.91[23.1]	7/8 [22.2] HEX
3	7/16-20 UNF	.77[19.6]	7/8 [22.2] HEX
4	1/4-18 NPT	.82[20.8]	5/8 [15.9] HEX
5	1/4-19 BSP	.82[20.8]	3/4 [19.0] HEX
8	1/8-27 NPT	.69[17.5]	5/8 [15.9] HEX
9	1/4-19 BSP	.89[22.6]	7/8 [22.2] HEX

NOTE : FITTING TYPE "4" ASSEMBLY SHOWN
ALL DIMS ARE FOR REFERENCE ONLY



TYPICAL MOUNTING SOLUTION FOR RAW SENSOR

CONNECTIONS



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ORDERING INFORMATION