

## 89 Uncompensated



- 316L SS Pressure Sensor
- High Pressure
- 0 - 100mV Output
- Absolute

### DESCRIPTION

The 89 uncompensated is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 89 uncompensated 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 89 uncompensated 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.

Please refer to the 89 compensated and constant voltage datasheets for more information on different features of the 89.

### FEATURES

- Weldable and Threaded Process Fittings
- -40°C to +125°C Operating Temperature Range
- $\pm 0.25\%$  Pressure Non Linearity
- Solid State Reliability

### APPLICATIONS

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

### STANDARD RANGES

Range	psia
0 to 01k	•
0 to 03k	•
0 to 05k	•
0 to 10k	•

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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	3900	4500	5100	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/°C	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	°C	
Storage Temperature	-50		+125	°C	
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. 3X or 20,000psi, whichever is less.
7. 4X or 30,000psi, whichever is less. 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.

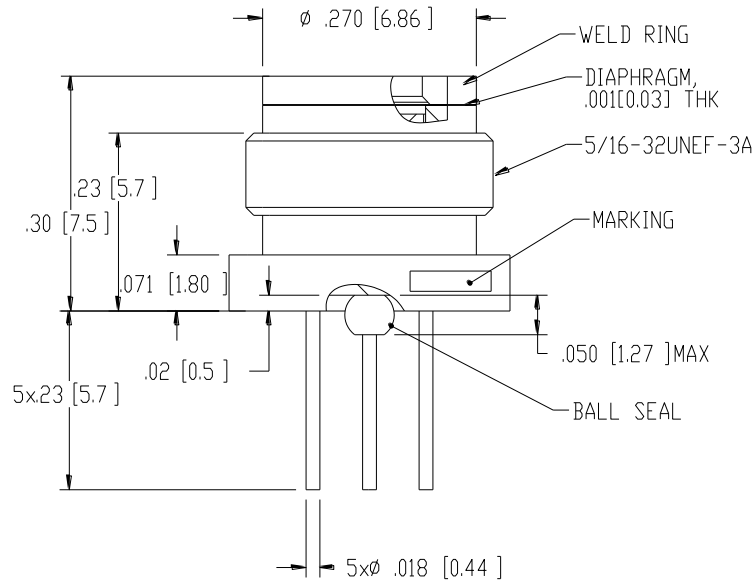
#### Remarks

9. Testing: All 03k, 05k and 10kpsi parts are tested at 2500psi.

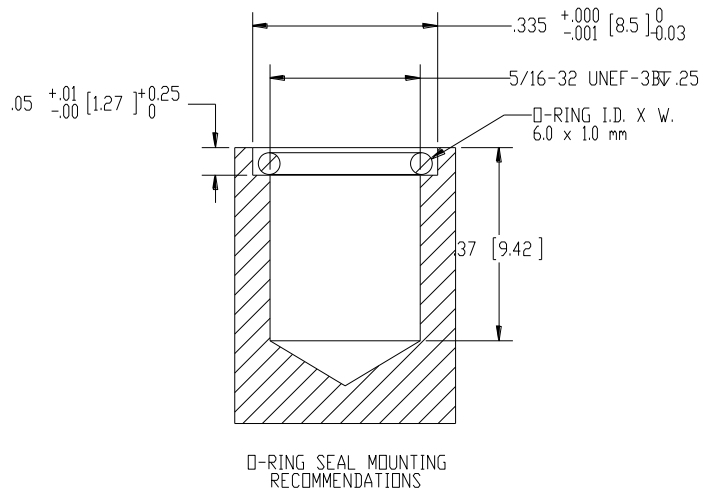
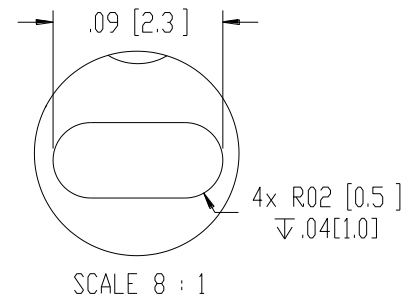
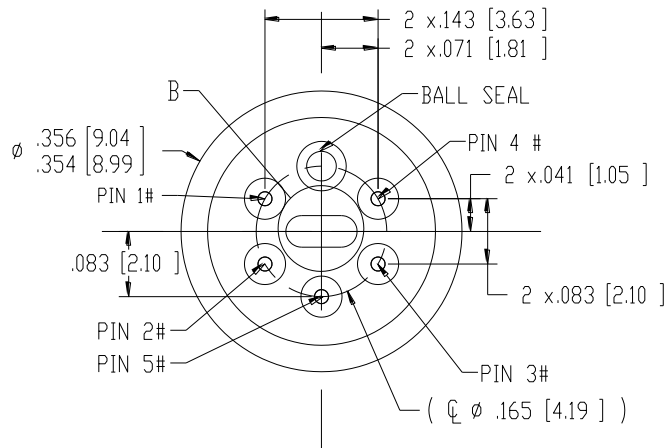
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### DIMENSIONS

DIMENSIONS ARE IN INCHES [mm]



PIN NO	FUNCTION
1	-□
2	-E1
3	+□
4	+E
5	-E2



O-RING SEAL MOUNTING  
RECOMMENDATIONS

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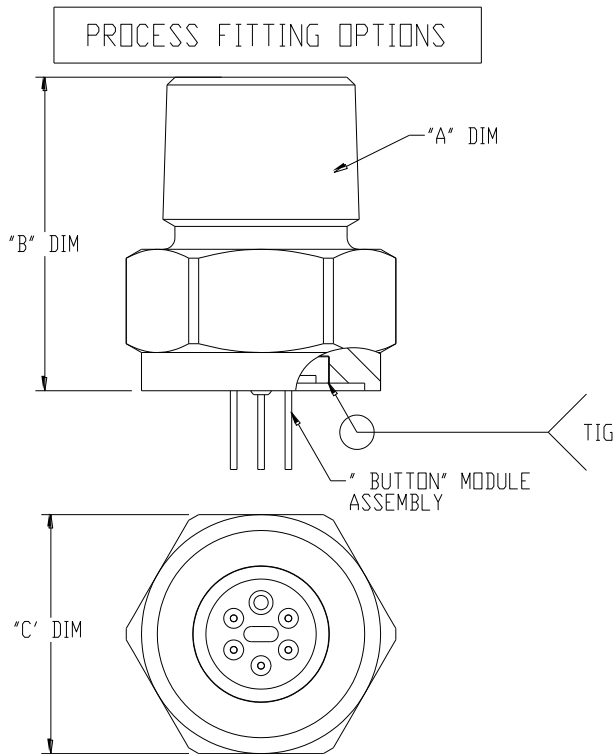
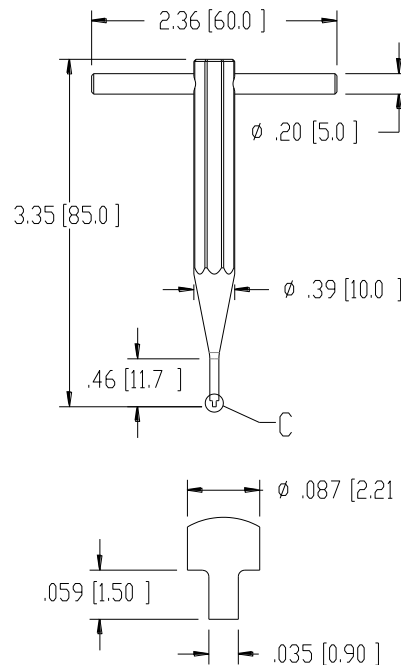


TABLE1: FITTING DIMENSION			
FITTING TYPE	"A" DIM	"B" DIM	"C" DIM
1	1/4-18 NPT	.93[23.6]	7/8 [22.2] HEX
2	1/8-27 NPT	.91[23.1]	7/8 [22.2] HEX
3	7/16-20 UNF	.77[19.6]	7/8 [22.2] HEX
4	1/4-18 NPT	.82[20.8]	5/8 [15.9] HEX
5	1/4-19 BSP	.82[20.8]	3/4 [19.0] HEX
8	1/8-27 NPT	.71[18.0]	5/8 [15.9] HEX
9	1/4-19 BSP	.89[22.6]	7/8 [22.2] HEX
0	NO FITTING		
NOTE : FITTING TYPE "4" ASSEMBLY SHOWN ALL DIMS ARE FOR REFERENCE ONLY			

## ACCESSORIES

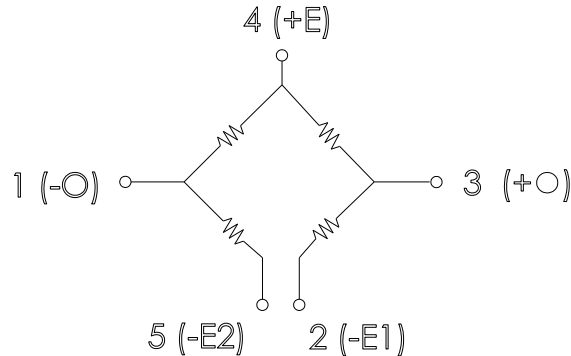


SCALE 4 : 1

WRENCH TOOL (MEAS P/N IC-  
D00546) FOR PRODUCT W/O  
FITTING. TOOL CAN BE ORDERED  
SEPARATELY FROM MEAS.

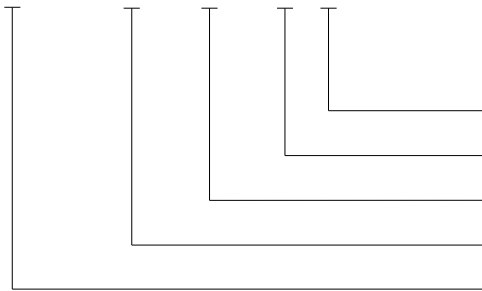
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### CONNECTIONS



### ORDERING INFORMATION

89 - 01K A - 0 U



Electrical (U = Leads)  
Fitting Type  
Type (A = Absolute)  
Pressure Range  
Model

#### NORTH AMERICA

Measurement Specialties  
45738 Northport Loop West  
Fremont, CA 94538  
Tel: 1-800-767-1888  
Fax: 1-510-498-1578  
Sales: [pfg.cs.amer@meas-spec.com](mailto:pfg.cs.amer@meas-spec.com)

#### EUROPE

Measurement Specialties  
(Europe), Ltd.  
26 Rue des Dames  
78340 Les Clayes-sous-Bois, France  
Tel: +33 (0) 130 79 33 00  
Fax: +33 (0) 134 81 03 59  
Sales: [pfg.cs.emea@meas-spec.com](mailto:pfg.cs.emea@meas-spec.com)

#### ASIA

Measurement Specialties  
(China), Ltd.  
No. 26 Langshan Road  
Shenzhen High-Tech Park (North)  
Nanshan District, Shenzhen 518057  
China  
Tel: +86 755 3330 5088  
Fax: +86 755 3330 5099  
Sales: [pfg.cs.asia@meas-spec.com](mailto:pfg.cs.asia@meas-spec.com)

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