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89

Uncompensated

SPECIFICATIONS

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

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
- -40ºC to +125ºC Operating
  1. Temperature Range
- ±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: 1.5 mA

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		µV/V/ºC	3
Thermal Hysteresis – Span		±0.05		%Span	3
Thermal Hysteresis – Offset		±0.05		%Span	3
Long Term Stability – Span		±0.1		%Span/Year	4
Long Term Stability – Offset		±0.1		%Span/Year	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				

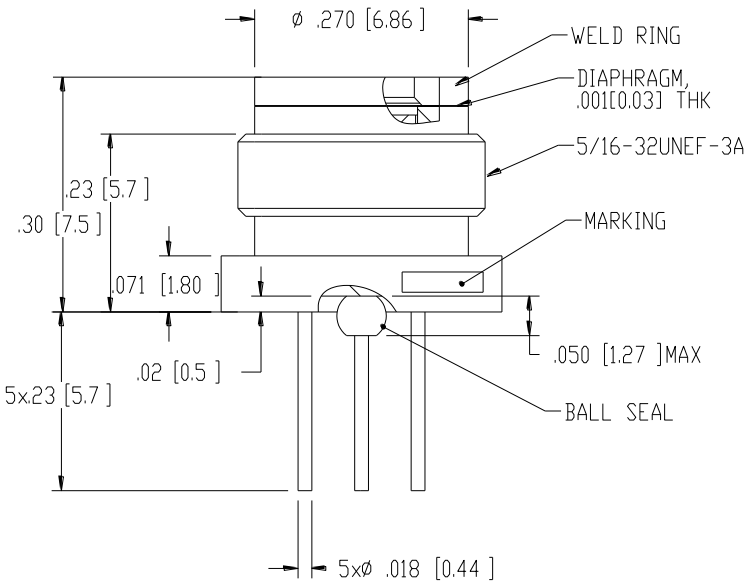
Notes

1. Measured at ambient temperature.
2. Best fit straight line.
3. Measured with both -E pins shorted together.
4. Over the temperature range -20°C to +85°C with respect to 25°C.
5. Minimum resistance between case and pins.
6. 3X or 20,000psi, whichever is less. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
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 devices without fittings, typical receptacle is 316 ST STL, tensile strength 75,000psi min.
9. Direct mechanical contact with diaphragm is prohibited. Diaphragm surface must remain free of defects (scratches, punctures, 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.
10. Testing: All 03k, 05k and 10kpsi parts are tested at 2500psi and calculated to full scale pressure respectively.
11. Marking: Parts are marked with company name, model number, pressure range, lot number, serial number, and date code
12. Shipping: The stainless steel diaphragm is protected by a static dissipative cap. Each unit is packaged individually in a plastic container with anti-static foam.

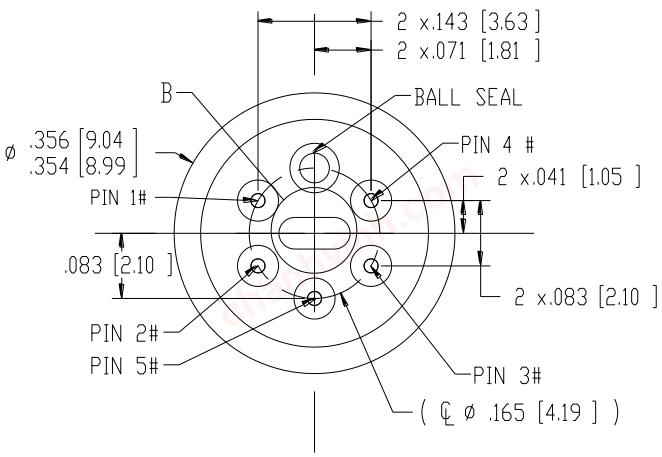
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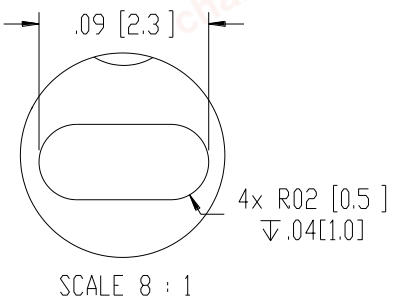
DIMENSIONS

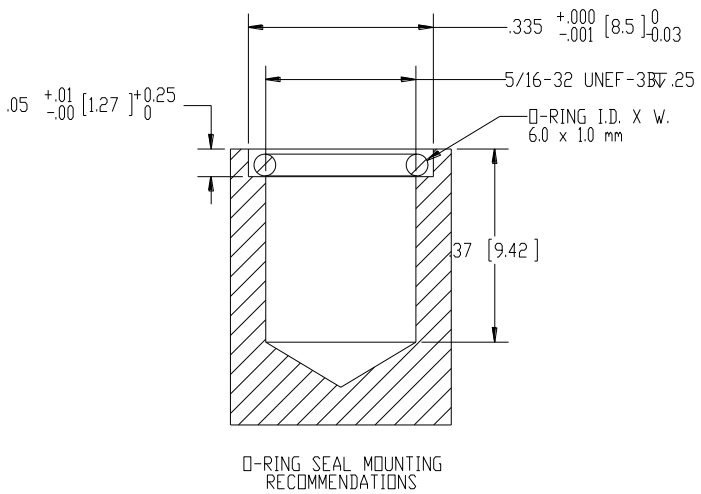
DIMENSIONS ARE IN INCHES [mm]



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



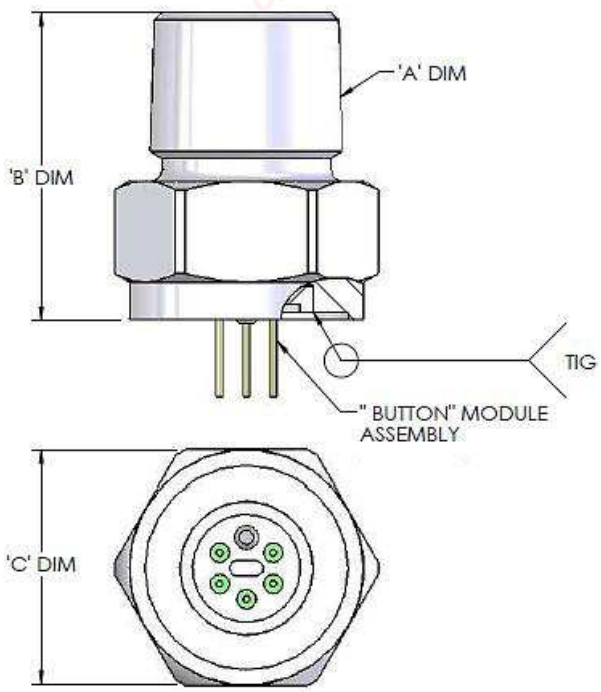




O-RING SEAL MOUNTING
RECOMMENDATIONS

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PROCESS FITTING OPTIONS

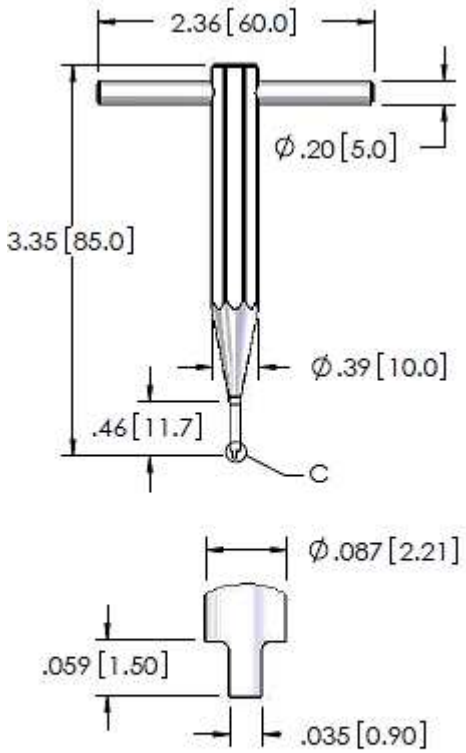


Fitting Dimensions Table

Fitting Type	MEAS P/N	'A' DIM	'B' DIM	'C' DIM
1	IC-D00364	1/4-18 NPT	.93 [23.6]	7/8 [22.2] HEX
2	IC-D00365	1/8-27 NPT	.91 [23.1]	7/8 [22.2] HEX
3	IC-D00366	7/16-20 UNF	.77 [19.6]	7/8 [22.2] HEX
4	IC-D00348	1/4-18 NPT	.82 [20.8]	5/8 [15.9] HEX
5	IC-D00367	1/4-19 BSP	.82 [20.8]	3/4 [19.0] HEX
8	IC-D00349	1/8-27 NPT	.71 [18.0]	5/8 [15.9] HEX
9	IC-D00368	1/4-19 BSP	.89 [22.6]	7/8 [22.2] HEX

Note: Fitting Type "4" Assembly Shown
All Dimensions are for Reference Only

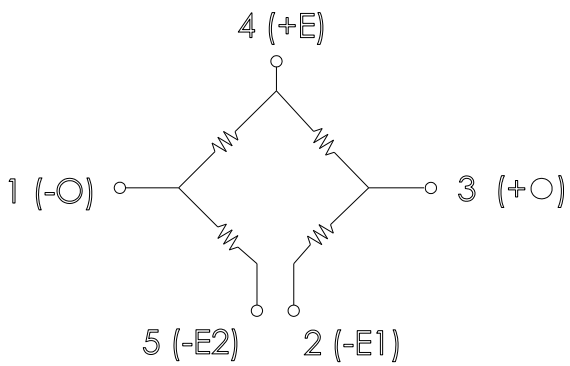
ACCESSORIES



SCALE 4 : 1

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

CONNECTIONS



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ORDERING INFORMATION

89	—	01	K	A	—	0	U

89
Model Name

Pressure range [psi]

01=1000 **05=**5000
03=3000 **10**=10.000

K

Pressure Type

A=Absolute

Fitting Type

0=No Fitting See Fitting Dimensions Table for list of fitting options

Electrical Connections

U=Leads

*Refer to 'Comp' data sheet for devices with comp board, ribbon cable, and cable with connectors

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