



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
- ◆ -40°C to +125°C 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 | ◆ |

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5 mA

Ambient Temperature: 25°C (unless otherwise specified)

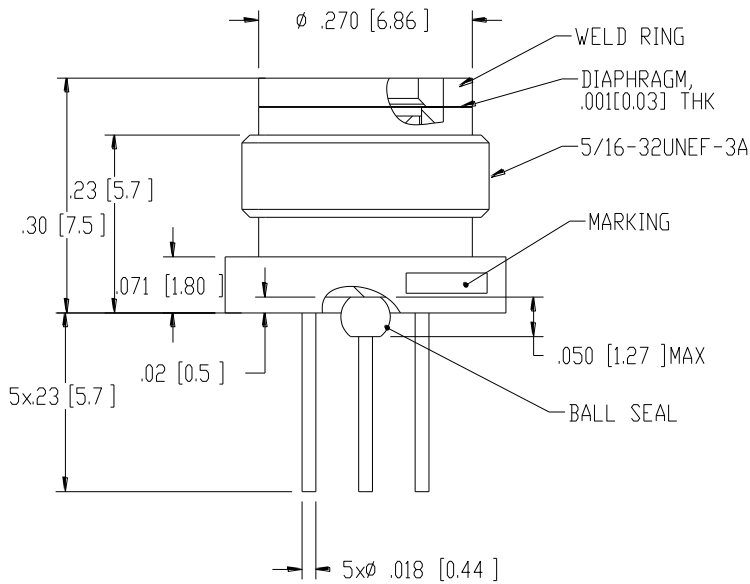
| PARAMETERS | MIN | TYP | MAX | UNITS | NOTES |
|---------------------------------------|--|-------|-------|------------|-------|
| Sensitivity | 15 | 22 | 28 | mV/V@FS | |
| Zero Pressure Output | -4 | | 4 | mV/V | |
| Pressure Non Linearity | -0.25 | | 0.25 | %Span | 1 |
| Pressure Hysteresis | | ±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/°C | 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 | °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

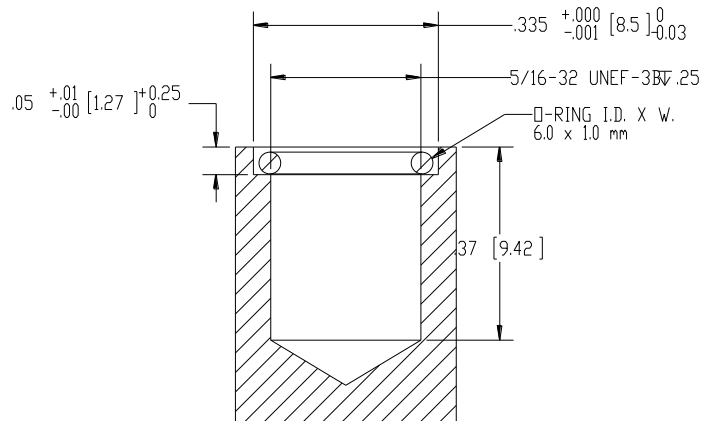
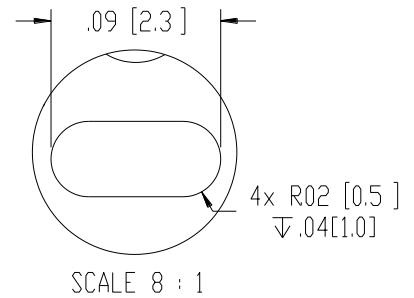
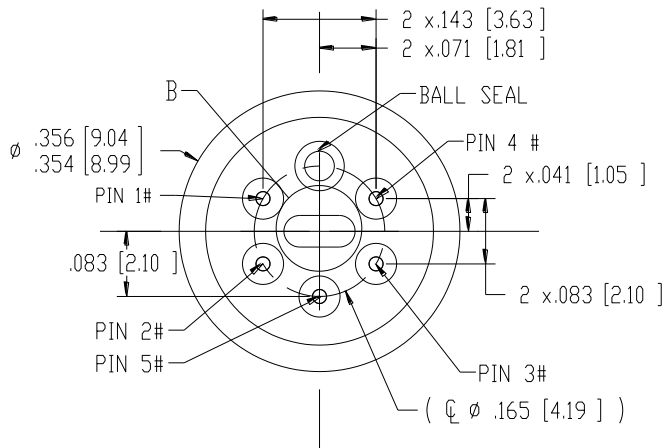
1. Measured at ambient temperature.
2. Best fit straight line.
3. Measured with both -E pins shorted together.
4. Over the temperature range -20°C to +85°C with respect to 25°C.
5. Minimum resistance between case and pins.
6. 3X or 20,000psi, whichever is less. The maximum pressure that can be applied 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.

DIMENSIONS

DIMENSIONS ARE IN INCHES [mm]

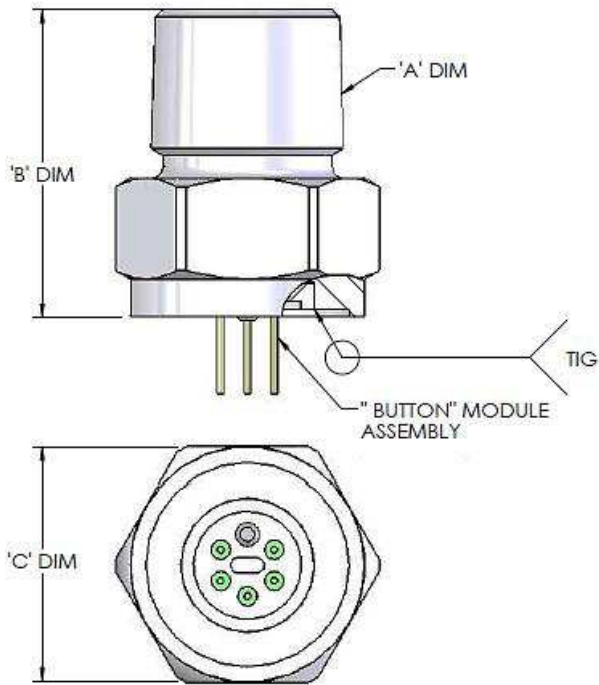


| PIN NO | FUNCTION |
|--------|-------------|
| 1 | - \square |
| 2 | -E1 |
| 3 | + \square |
| 4 | +E |
| 5 | -E2 |



O-RING SEAL MOUNTING RECOMMENDATIONS

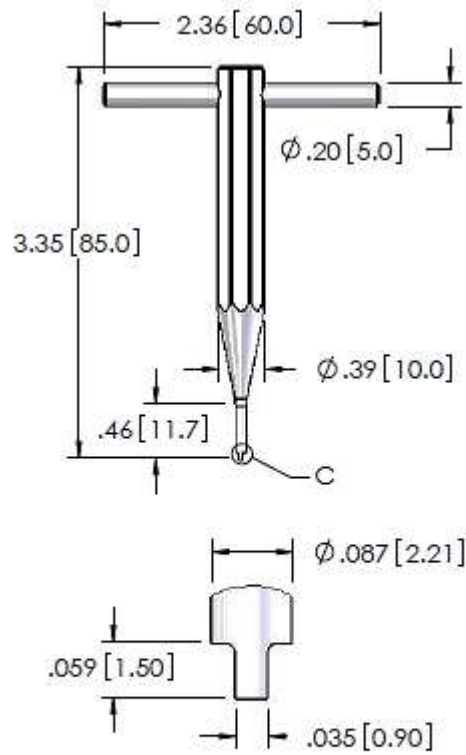
PROCESS FITTING OPTIONS



| 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**

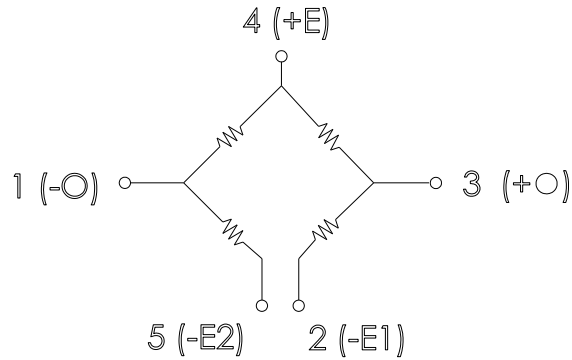
ACCESSORIES



SCALE 4 : 1

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

CONNECTIONS



ORDERING INFORMATION

| | | | | | |
|-------------------------------|------------------|--|----------|----------|----------|
| 89 | 01 | K | A | 0 | U |
| 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

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
Tel: 800-522-6752
Email: customercare.frmt@te.com

EUROPE

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

ASIA

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

TE.com/sensorsolutions

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