13U... - Series

Stainless Steel Isolated Pressure Sensor Cells

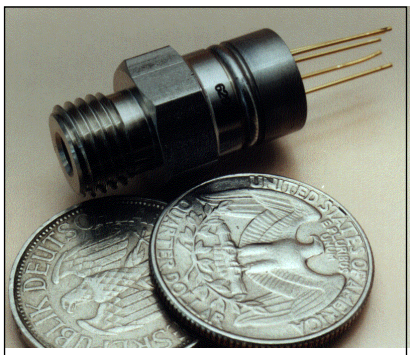
FEATURES

- **0 ... 1000 to 0 ... 5000 psia**
- **Low Cost**
- **Isolated**
- **Rugged - Stainless Steel**
- **Small Size**
- **Absolute Pressure**
- **Reliable Semiconductor Technology**

GENERAL DESCRIPTION

These stainless steel devices were developed for pressure applications that involve measurement of a hostile media in harsh environments. These sensors will accommodate any media that will not adversely attack 316 stainless steel. This series uses SenSym´s proven piezoresistive semiconductor sensor chip in an oil isolated housing. This design has proven to be highly reliable,stable and accurate.

The13U series sensors feature either a weld ring collar or threaded mail port for pressure connection.

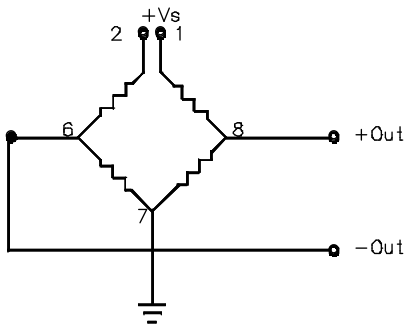


Scale: 1cm
1 inch

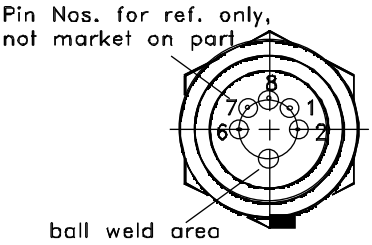
APPLICATIONS

- **OEM industrial process control**

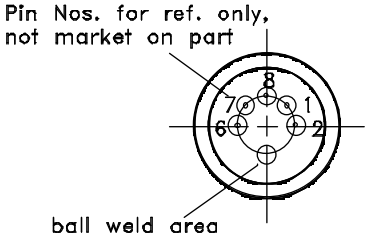
EQUIVALENT CIRCUIT



ELECTRICAL CONNECTIONS



13U... Cell



13U... with Port

PRESSURE SENSOR CHARACTERISTICS (all devices)

Environmental Specifications

Temperature Ranges:	
Operating	-10°C to +85°C
Storage	-20°C to +125°C
Shock:	75G for 6 mscc
Insulation Resistance:	100 MΩ at 50 vdc
Vibration:	17g RMS

Maximum Ratings

Supply Voltage V_S	+7.5 V_{DC}

SENSORTECHNICS
Aubinger Weg 27, 82178 Puchheim, Germany
Phone 0049 - (0) 89 80 08 30, Fax 0049 - (0) 89 8 00 83 33
http://www.sensortechnics.com

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SenSym

PRESSURE RANGE SPECIFICATIONS

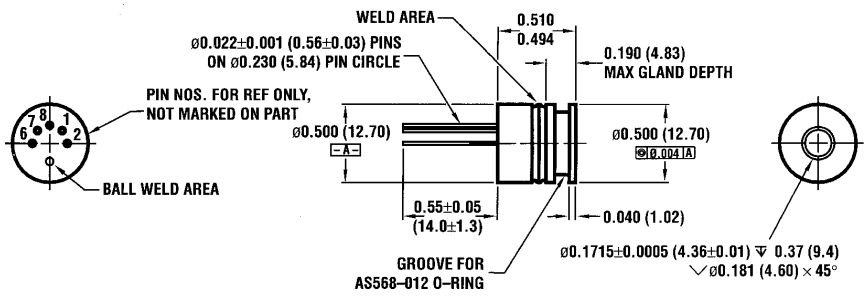
Sensym Part Number	Pressure Range	Burst Pressure
13U1000A(C,M)	0-1000 PSIA	10,000 PSIA
13U2500A(C,M)	0-2500 PSIA	10,000 PSIA
13U5000A(C,M)	0-5000 PSIA	10,000 PSIA

PERFORMANCE CHARACTERISTICS[1]

Characteristic	Min.	Typ.	Max.	Unit
Zero Pressure Offset T_A = 72°F	-20	0	+20	mV
Full-scale Span[2]	100	150	200	mV
Combined Linearity and Hysteresis[3]	---	0.2	1.0	%FS
Temperature Coefficient of Span	-2600	-2300	-2000	ppm/°C
Temperature Coefficient of Resistance[4]	+690	+750	+810	ppm/°C
Temperature Effect on Offset[4]	---	+4	---	µV/V/°C
Long Term Stability of Offset and Sensitivity[5]	---	0.1	---	%FS
Response Time (10% to 90%)[6]	---	0.1	---	ms
Input Impedance T_A = 25°C	---	4.0	---	kΩ
Output Impedance	---	4.0	---	kΩ
Repeatability[4]	---	0.1	---	%FS

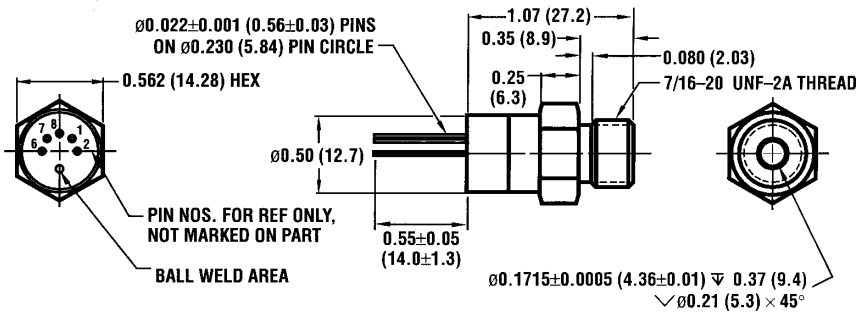
PHYSICAL DIMENSIONS

Cell package



Mass: 11 g

Ported Male package



Mass: 23 g

Dimensions in inches (mm)

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SPECIFICATION NOTES:

1. Reference conditions (unless otherwise noted): Supply Voltage, $V_S = 5\ V_{DC}$; $T_A = 25°C$;
2. Span is the algebraic difference between the output voltage at full scale pressure and the output at zero pressure. Span is ratiometric to the supply voltage
3. Linearity is based on besst fit straight line. Hysteresis is the maxium output difference at any point within the operating pressure range for increasing and decreasing pressure.
4. Typical error of the offset voltage over the 0 to 50°C reading. Note, the typical temperature coefficients of span and resistance are based on best fit line between 0 to 50°C.
5. Long term stability over a one year period.
6. Response time for 0 psi to full scale span pressure step change

ORDERING INFORMATION

Pressure range	cell	male port
0 to 1,000 psi	13U1000AC	13U1000AM
0 to 2,500 psi	13U2500AC	13U2500AM
0 to 5,000 psi	13U5000AC	13U5000AM

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