85 Uncompensated



- **316L SS Pressure Sensor**
- **Small Profile**
- **0 - 100mV Output**
- **Absolute and Gage**

RoHS

DESCRIPTION

The 85 vacuum uncompensated pressure sensor is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 85 vacuum uncompensated pressure sensor is offered in a weldable package or with a variety of threaded fittings such as 1/4 and 1/8NPT, 1/4BSP as well as other custom process fittings.

The 85 uncompensated is designed for 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 85 compensated and constant voltage datasheets for more information on different features of the 85.

FEATURES

- Weldable and Threaded Process Fittings
- -40ºC to +125ºC Operating Temperature
- ±0.1% Pressure Non Linearity
- Solid State Reliability

APPLICATIONS

- Medical Instruments
- Process Control
- Fresh & Waste Water Measurements
- Partial Vacuum Gas Measurement
- Pressure Transmitters
- Tank Level Systems (RV & Industrial)

STANDARD RANGES

Range	psia	psig
0 to 5	•	•
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 300	•	•
0 to 500	•	•

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PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

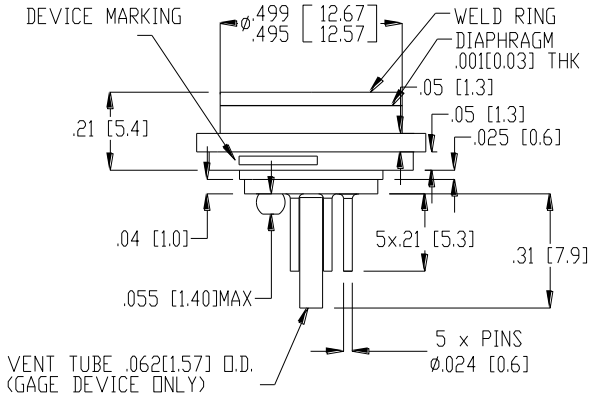
Ambient Temperature: 25°C (unless otherwise specified)

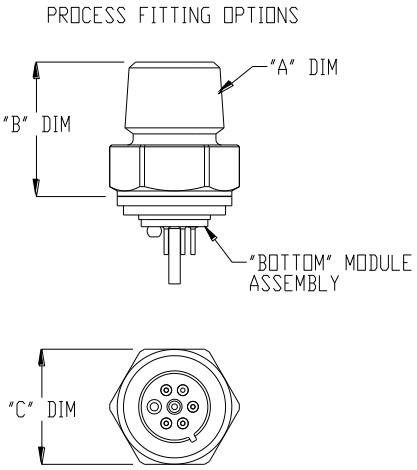
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Sensitivity	12		27	mV/V @Span	
Zero Pressure Output	-6.0		8.0	mV/V	1
Pressure Non Linearity	-0.1		0.1	%Span	2
Pressure Hysteresis	-0.05		0.05	%Span	3
Repeatability		±0.02		%Span	
Bridge Resistance	3.8K		5.8K	Ω	4
Thermal Hysteresis – Span	-0.25	±0.05	0.25	%Span	5
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	%Span	5
Temperature Coefficient – Resistance	1.30K	1.51K	1.75K	PPM/°C	5
Temperature Coefficient – Span	-1.45K	-1.25K	-1.0K	PPM/°C	5, 6
Temperature Coefficient – Offset	-30		30	µV/V/°C	5
Long Term Stability – Span		±0.10		%Span/Year	
Long Term Stability – Offset		±0.10		%Span/Year	
Supply Current	0.5	1.5	2.0	mA	
Supply Voltage		5	9.5	V	
Output Noice (10Hz to 1kHz)		1.0		uV p-p	
Response Time (10% to 90%)			0.1	Ms	
Insulation Resistance (50Vdc)	50M			Ω	7
Pressure Overload			3X	Rated	
Pressure Burst			4X	Rated	8
Operating Temperature	-40		+125	ºC	
Storage Temperature	-55		+125	ºC	
Media – Pressure Port	Liquids and Gases compatible with 316L Stainless Steel				
Media – Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicone RTV and 316/316L Stainless Steel				

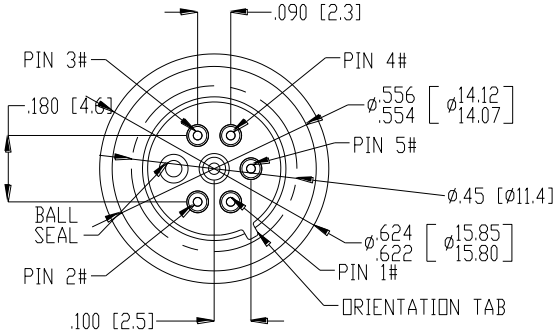
Notes

1. Measured at vacuum for absolute (A) and at ambient for gage (G).
2. Best fit straight line. Non linearity is ±0.2% max for 5psiG devices.
3. Pressure hysteresis is min -0.1 to max 0.1 for 5psi absolute.
4. Bridge resistance is measured with both –E pins shorted together.
5. TC values are first order coefficients to a quadratic fit over a temperature range of -20 to +85°C (0 to +50°C for 5psi).
6. 5psiA is -1.7K ~ -1.0K ppm/°C.
7. Between case and sending element.
8. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.

DIMENSIONS





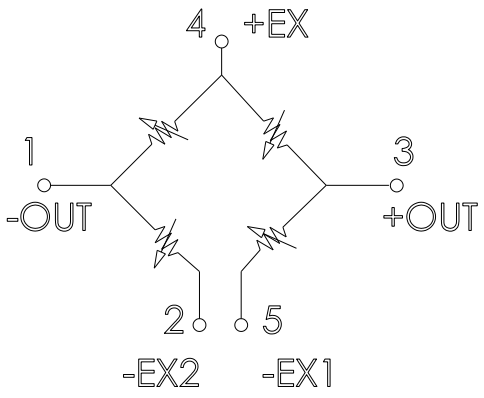


FITTING DIMENSIONS				
FITTING TYPE	MEAS PART NO.	"A" DIM	"B" DIM	"C" DIM
1	IC-7050	1/4-18 NPT	.99[25.1]	7/8[22.2] HEX
2	IC-7049	1/8-27 NPT	.96[24.4]	7/8[22.2] HEX
3	IC-7048	7/16-20 UNF	.81[20.6]	7/8[22.2] HEX
4	IC-6754	1/4-18 NPT	.73[18.5]	5/8[15.9] HEX
5	IC-5010	1/4-19 BSP	.76[19.3]	3/4[19.0] HEX
8	IC-6800	1/8-27 NPT	.60[15.2]	5/8[15.9] HEX
9	IC-7124	1/4-19 BSP	.94[23.9]	7/8[22.2] HEX
NOTE : FTG TYPE '4' ASSEMBLY SHOWN ALL DIMS ARE FOR REFERENCE				

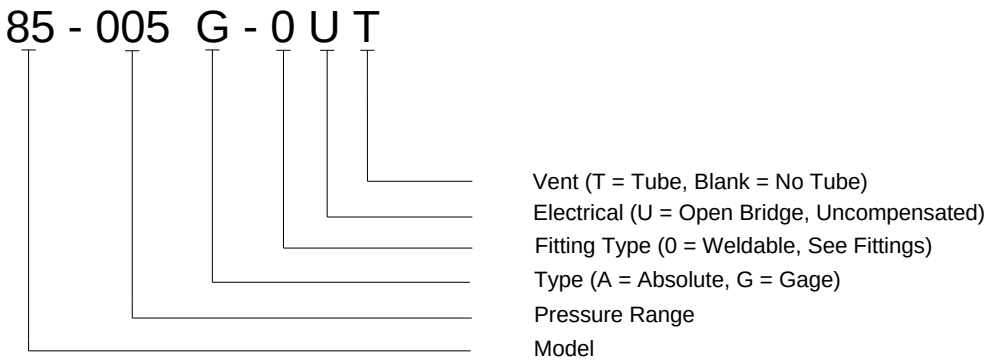
SENSOR PINOUT	
PIN NO.	FUNCTION
1	-OUT
2	-EX2
3	+OUT
4	+EX
5	-EX1

DIMENSIONS ARE IN INCHES [mm]

CONNECTIONS



ORDERING INFORMATION



NORTH AMERICA

Measurement Specialties
45738 Northport Loop West
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Fax: +33 (0) 134 81 03 59
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