



## 85

### Vacuum Constant Voltage

#### SPECIFICATIONS

- **316L SS Pressure Sensor**
- **Small Profile**
- **0 - 100mV Output**
- **Vacuum Gage**
- **Temperature Compensated**

The 85 vacuum constant voltage is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 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 custom process fittings.

The 85 vacuum constant voltage 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. A ceramic substrate is attached to the package that contains laser-trimmed resistors for temperature compensation and offset correction.

Please refer to the 85 uncompensated and compensated datasheets for more information on different features of the 85.

## FEATURES

- Weldable and Threaded Process Fittings
- -40°C to +125°C Operating Temperature
- Up to  $\pm 0.1\%$  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	psiv
0 to 15	•
0 to 30	•
0 to 50	•
0 to 100	•
0 to 300	•
0 to 500	•

## PERFORMANCE SPECIFICATIONS

Supply Voltage: 10Vdc

Ambient Temperature: 25°C (unless otherwise specified)

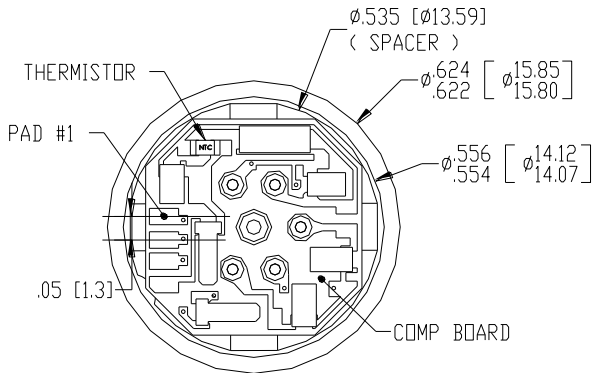
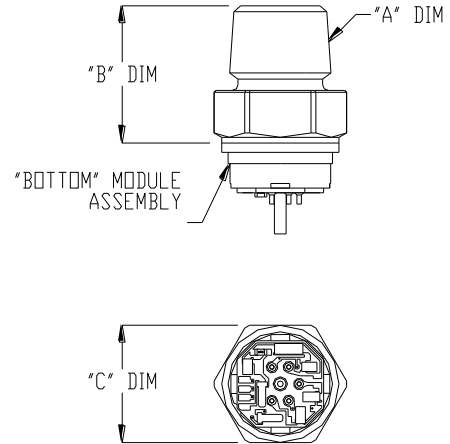
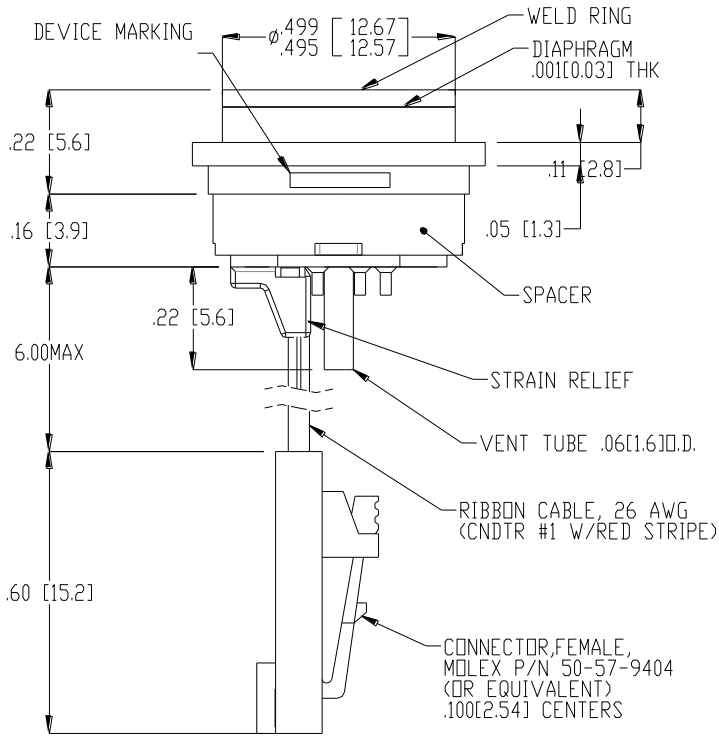
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	99	100	101	mV	1
Zero Pressure Output	-1.0	0	1.0	mV	2
Pressure Non Linearity	-0.20		0.20	%Span	3
Pressure Hysteresis	-0.05	±0.02	0.05	%Span	
Repeatability		±0.02		%Span	
Input Resistance	5.5	9	12.5	kΩ	
Output Resistance	4.0		6.0	kΩ	
Temperature Error – Span	-1.0		1.0	%Span	4
Temperature Error – Offset	-1.0		1.0	%Span	4,5
Thermal Hysteresis – Span	-0.25	±0.05	0.25	%Span	4
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	%Span	4
Long Term Stability – Span		±0.10		%Span/year	
Long Term Stability – Offset		±0.10		%Span/year	
Supply Voltage		10	14	mA	6
Output Load Resistance	5			MΩ	
Insulation Resistance (50Vdc)	50			MΩ	7
Output Noise (10Hz to 1KHz)		1.0		uV p-p	
Response Time (10% to 90%)			0.1	ms	
Pressure Overload			3X	Rated	8
Pressure Burst			4X	Rated	9
Compensated Temperature	-20		+85	°C	
Operating Temperature	-40		+125	°C	10
Storage Temperature	-50		+125	°C	10
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel				

### Notes

1. Measured at ambient for vacuum gage (V).
2. Best fit straight line. For pressure range 15~100psi, PNL is ±0.1% Span.
3. Over the compensated temperature range with respect to 25°C.
4. 15psi range sensors have a temperature error – offset of ±1.5% (max).
5. Guarantees output/input ratiometricity.
6. Load resistance to reduce measurement errors due to output loading.
7. Between case and sensing element.
8. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
9. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
10. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.

### DIMENSIONS

DIMENSIONS ARE IN INCHES [mm]

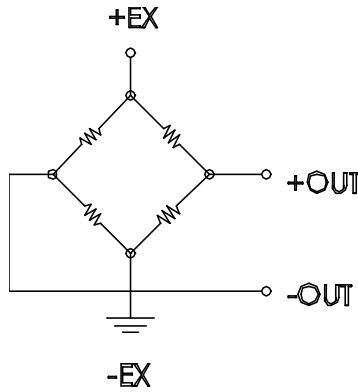


VIEW SHOWN W/O CABLE AND CONNECTOR FOR CLARITY

PAD NO	FUNCTION
1	-OUT
2	+OUT
3	-EX
4	+EX

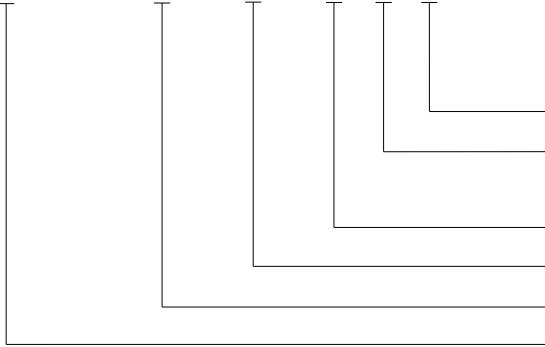
FITTING DIMENSIONS				
FITTING TYPE	MEAS PART NO.	"A" DIM	"B" DIM	"C" DIM
1	IC-7050	1/4-18 NPT	.99[25.1]	7/8[22.2] HEX
2	IC-7049	1/8-27 NPT	.96[24.4]	7/8[22.2] HEX
3	IC-7048	7/16-20 UNF	.81[20.6]	7/8[22.2] HEX
4	IC-6754	1/4-18 NPT	.73[18.5]	5/8[15.9] HEX
5	IC-5010	1/4-19 BSP	.76[19.3]	3/4[19.0] HEX
8	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				

APPLICATION SCHEMATIC



ORDERING INFORMATION

85CV - 050 V - 0 C T



- Vent (T = Tube, Blank = No Tube)
- Electrical (R = Ribbon Cable,  
C = Cable with Connector)
- Fitting Type (0 = Weldable, See Fittings)
- Type (V = Vacuum Gage)
- Pressure Range
- Model

**NORTH AMERICA**

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