

82

Constant Voltage

SPECIFICATIONS

- **316L SS Pressure Sensor**
- **19mm Diameter Package**
- **0 - 100mV Output**
- **Absolute and Gage**
- **Temperature Compensated**

The 82 constant voltage is a 19 mm small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 82 constant voltage can be configured for o-ring mounting or threaded process fittings and is designed for OEM applications where compatibility with corrosive media is required.

The sensing package utilizes silicone 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 82 uncompensated and compensated datasheets for more information on different features of the 82.

FEATURES

- O-Ring Mount/Threaded Process Fittings
- -40ºC to +125ºC Operating Temperature
- Up to ±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 1		•
0 to 5	•	•
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 300	•	•
0 to 500	•	•

PERFORMANCE SPECIFICATIONS

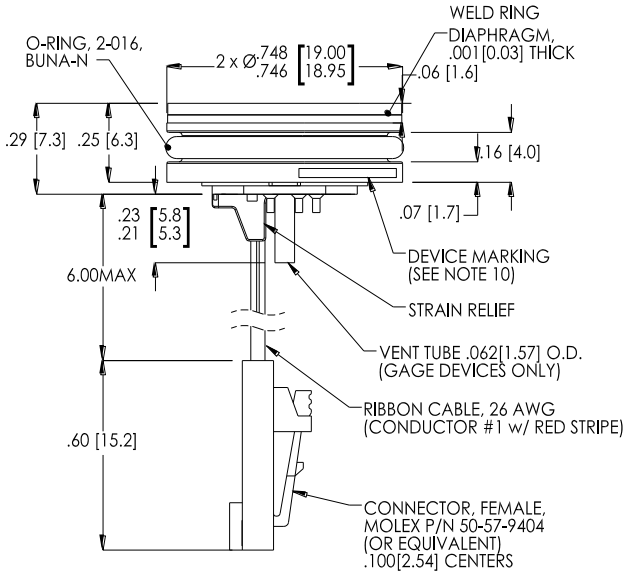
Supply Voltage: 10Vdc
Ambient Temperature: 25°C (unless otherwise specified)

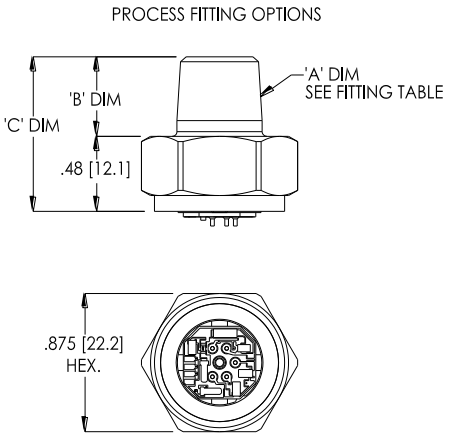
PARAMETERS	001PSI			005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
Span	77	80	83	98	100	102	99	100	101	mV	1
Zero Pressure Output	-2	0	2	-2	0	2	-1	0	1	mV	
Pressure Non Linearity	-0.3		0.3	-0.2		+0.2	-0.1		0.1	%Span	2
Pressure Hysteresis	-0.10	±0.02	0.10	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability		±0.02			±0.02			±0.02		%Span	
Input Resistance	5.5	9.0	12.5	5.5	9.0	12.5	5.5	9.0	12.5	KΩ	
Output Resistance	4.0		7.0	4.0		7.0	4.0		6.0	KΩ	
Thermal Hysteresis – Span	-0.25	±0.05	0.25	-0.25	±0.05	0.25	-0.25	±0.05	+0.25	%Span	3
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	-0.25	±0.05	0.25	-0.25	±0.05	+0.25	%Span	3
Temperature Error – Span	-1.0		1.0	-1.0		1.0	-1.0		1.0	%Span	3
Temperature Error – Offset	-1.0		1.0	-1.0		1.0	-1.0		1.0	%Span	3
Long Term Stability – Span		±0.10			±0.10			±0.10		%Span	4
Long Term Stability – Offset		±0.25			±0.25			±0.10		%Span	4
Supply Voltage		10	14		10	14		10	14	V	
Output Load Resistance	5			5			5			MΩ	
Insulation Resistance (50Vdc)	50			50			50			MΩ	5
Output Noise (10Hz to 1KHz)		1			1			1		uV p-p	
Response Time (10% to 90%)		0.1			0.1			0.1		ms	
Pressure Overload			10x			3x			3x	Rated	6
Pressure Burst			12x			4x			4x	Rated	
Operating Temperature	-20		+70	-20		+70	-40		+125	ºC	
Compensated Temperature	0		+50	0		+70	-20		+85	°C	
Storage Temperature	-40		+125	-40		+125	-40		+125	ºC	7
Media – Pressure Port	Liquids and Gases compatible with 316L Stainless Steel and Buna-N										8
Media – Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicone RTV and 316L Stainless Steel										

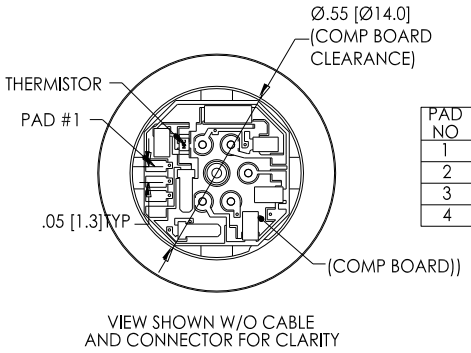
Notes

1. Ratiometric to supply voltage.
2. Best fit straight line.
3. Maximum temperature error within the compensated temperature range with respect to 25°C.
4. Long term stability over a one year period with constant current and temperature.
5. Minimum resistance between case and pins.
6. 10 psi maximum for 1 psi devices.
7. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.
8. Gage units not recommended for high vacuum applications. For high vacuum applications consult factory.

DIMENSIONS







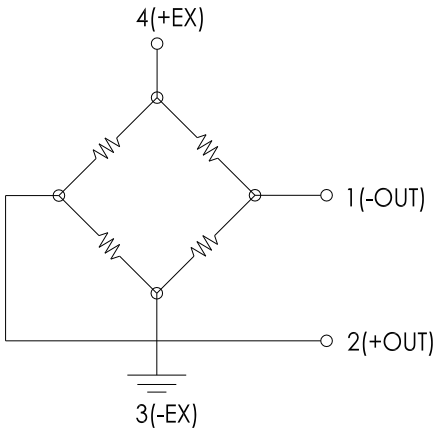
VIEW SHOWN W/O CABLE AND CONNECTOR FOR CLARITY

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

FITTING TABLE				
FITTING TYPE	MEMS P/N	'A' DIM	'B' DIM	'C' DIM
1	IC-7152	1/4-18 NPT	.50[12.7]	.98[24.9]
2	IC-D00510	1/8-27 NPT	.47[11.9]	.95[24.1]
3	IC-D00511	7/16-20 UNF	.33[8.4]	.80[20.3]
9	IC-D00512	1/4-19 BSP	.45[11.4]	.93[23.3]
NOTE: FITTING TYPE '1' ASSEMBLT SHOWN ALL DIMS ARE FOR REFERENCE.				

DIMENSIONS ARE IN INCHES [mm]

APPLICATION SCHEMATIC



ORDERING INFORMATION

82CV	-	050	G	-	1	C	T
Model	**-**	**Pressure Range**	**Pressure Type**	**-**	**Fitting Type**	**Electrical**	**Vent**
82CV	-	**001*** **005** **015** **030** **050** **100** **300** **500**	**G** = Gage **A** = Absolute	-	**Blank** = O-Ring Mount **1** = ¼-18NPT **2** = 1/8-27 NPT **3** = 7/16-20UNF **9** = ¼-19BSP	**R** = Ribbon Cable **C** = Cable w/ Connector	**Blank** = No Tube **T** = Tube

*1psi only available in gage type

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