



154N

Constant Voltage

SPECIFICATIONS

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

The 154N constant voltage is a 19 mm small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 154N constant voltage is designed for O-ring mounting and 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 154N uncompensated and compensated datasheets for more information on different features of the 154N.

Features

- O-Ring mount
- -40°C to +125°C Operating Temperature Range
- Up to $\pm 0.1\%$ Pressure Non-Linearity
- Solid State Reliability

Applications

- Medical Instruments
- Process Control
- Fresh & Waste Water Measurements
- Refrigeration/Compressors
- Pressure Transmitters
- Hydraulic Controls

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PERFORMANCE SPECIFICATIONS

Unless otherwise specified, Supply Voltage: 10V_{DC}; Ambient Temperature: 25°C

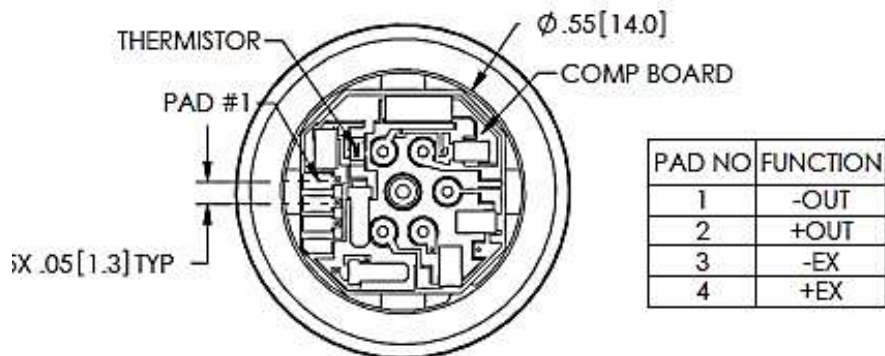
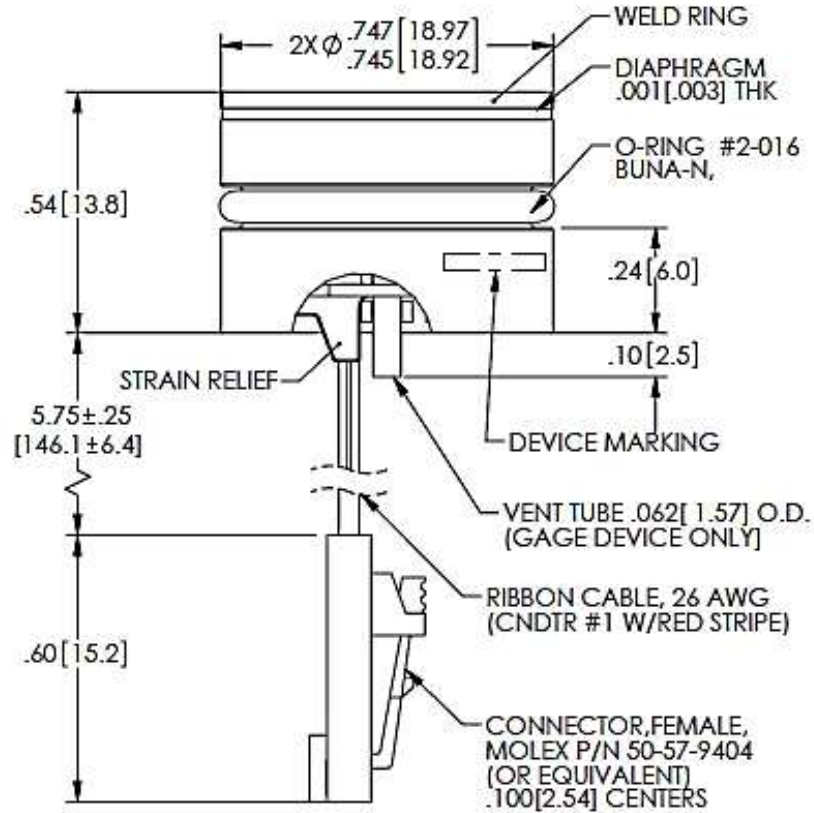
PARAMETERS	≤005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Span		1PSI: 77, 80, 83 5PSI: 97, 100, 102		99	100	101	mV	1
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	1
Pressure Non Linearity		1PSI: -0.30 to 0.30 5PSI: -0.20 to 0.20		-0.10	-	0.10	%Span	2
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability	-	±0.02	-	-	±0.02	-	%Span	
Input Resistance	5.5	9.0	12.5	5.5	9.0	12.5	KΩ	
Output Resistance	4.0	-	7.0	4.0	-	6.0	KΩ	
Temperature Error – Span	-1.0	-	1.0	-1.0	-	1.0	%Span	3
Temperature Error – Offset		1psi: -1.5 to 1.5 5psi: -1.0 to 1.0		-1.0	-	1.0	%Span	3
Thermal Hysteresis – Span	-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	%Span	3
Long Term Stability – Span	-	±0.10	-	-	±0.10	-	%Span/Year	
Long Term Stability – Offset	-	±0.25	-	-	±0.10	-	%Span/Year	
Supply Voltage	-	10	14	-	10	14	V	4
Output Load Resistance	5M	-	-	5M	-	-	Ω	5
Insulation Resistance (50Vdc)	50M	-	-	50M	-	-	Ω	6
Output Noise (10Hz to 1KHz)	-	1.0	-	-	1.0	-	μV p-p	
Response Time (10% to 90%)	-	0.1	-	-	0.1	-	ms	
Pressure Overload		1psi: 10X max 5psi: 3X max		-	-	3X	Rated	7
Pressure Burst		1psi: 12X max 5psi: 4X max		-	-	4X	Rated	7, 8
Compensated Temperature		1psi: 0 to 50 5psi: 0 to 70		-20	-	85	°C	
Operating Temperature	-20	-	70	-40	-	125	°C	9
Storage Temperature	-40	-	125	-40	-	125	°C	9
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel							

Notes

1. Measured at vacuum for absolute (A), ambient for gage (G).
2. Best fit straight line. Pressure non linearity min -0.3% and max +0.3% for 1 PSI.
3. Over the compensated temperature range with respect to 25°C.
4. Guarantees output/input ratiometricity.
5. Load resistance to reduce measurement errors due to output loading.
6. Between case and sensing element.
7. Pressure overload 10-PSI and pressure burst 12 PSI for 1Psi devices.
8. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
9. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.
10. Standard gage units are not recommended for vacuum applications. For vacuum applications below 1/2 atmosphere, consult factory.
11. Device Marking:
Each part shall be identified with Model Number, Pressure Range, Type, Lot Number, Serial Number, and Date Code.
12. Shipping/Packaging Requirements:
The Stainless Steel diaphragm is protected by a plastic cap. Each unit will be packaged individually in a plastic vial with anti-static foam.
13. Direct mechanical Contact with diaphragm is prohibited. Diaphragm surface must remain free of defects (scratches, punctures, dents, 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.

DIMENSIONS

Dimensions are in inches [mm]

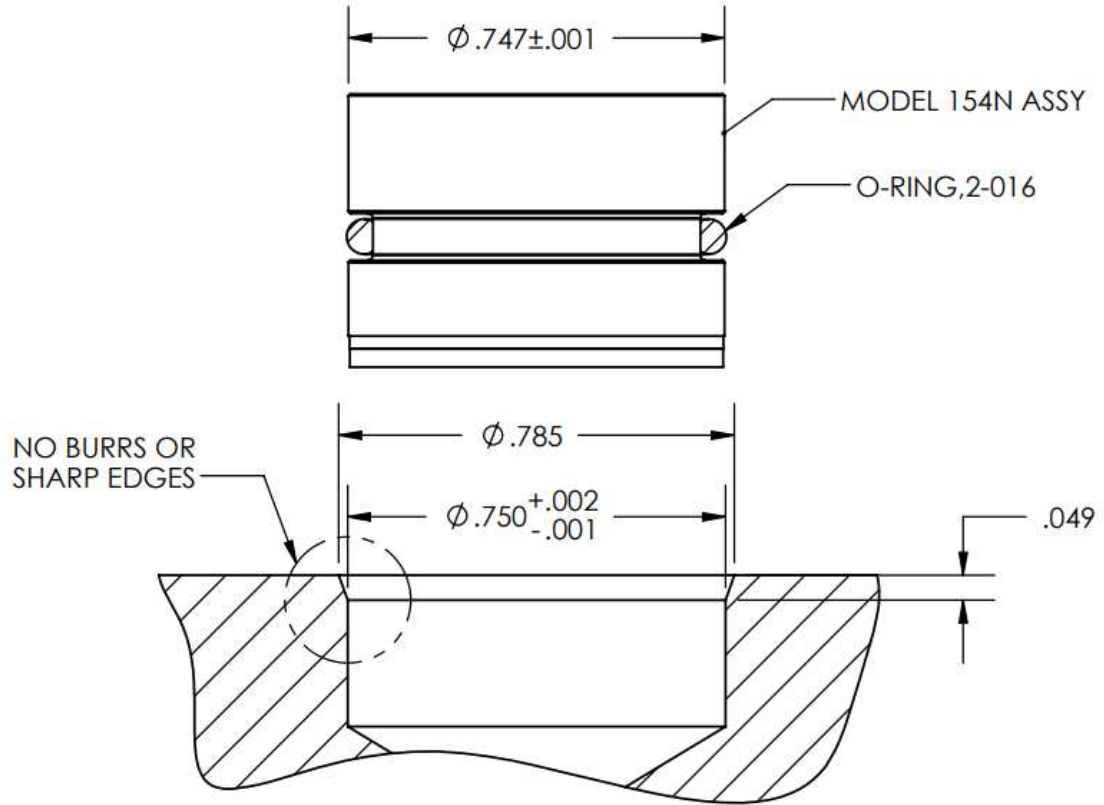


VIEW SHOWN W/O CABLE AND CONNECTOR FOR CLARITY

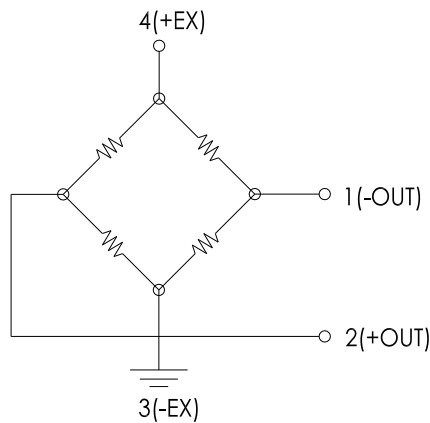
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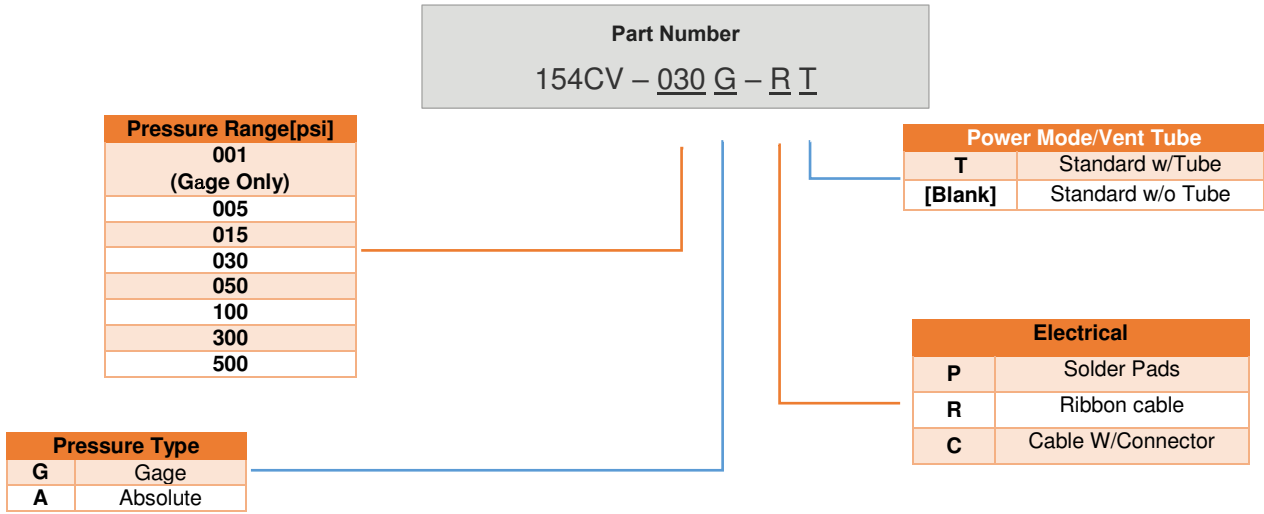
RECOMMENDED MOUNTING DIMENSIONS



APPLICATION SCHEMATIC



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