



154NVU

Vacuum Gage, Uncompensated

SPECIFICATIONS

- 316L SS Pressure Sensor
- 19mm Diameter
- Vacuum Gage

FEATURES

- O-Ring Mount
- -40°C to +125°C Operating Temperature
- Up to $\pm 0.2\%$ 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)

Model 154NVU is an uncompensated, micro-machined, piezoresistive silicon pressure sensor designed for vacuum gage applications, packaged in a 316L Stainless Steel housing.

This product features O-ring mounting 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.

For additional Model 154N products designed for vacuum gage applications, datasheets for Compensated and Constant Voltage configurations are available.

STANDARD RANGES

Range	psi
0 to 15	•
0 to 30	•
0 to 50	•
0 to 100	•
0 to 300	•
0 to 500	•

PERFORMANCE SPECIFICATIONS

Unless otherwise specified: Supply Current: 1.5mA, Ambient Temperature: 25°C

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	-0.2		0.2	%Span	2
Pressure Hysteresis	-0.05		0.05	%Span	
Repeatability		±0.02		%Span	
Bridge Resistance	3.8		5.8	kΩ	3
Thermal Hysteresis – Span	-0.25	±0.05	0.25	%Span	4
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	%Span	4
Temperature Coefficient – Resistance	1.30	1.51	1.75	kPPM/°C	4
Temperature Coefficient – Span	-1.65	-1.25	-1.0	kPPM/°C	4
Temperature Coefficient – Offset	-30		30	μV/V/°C	4
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 Noise (10Hz to 1kHz)		1.0		μV p-p	
Response Time (10% to 90%)		0.1		ms	
Insulation Resistance (50V _{DC})	50			MΩ	5
Pressure Overload			3X	Rated	6
Pressure Burst			4X	Rated	7
Operating Temperature	-40		+125	°C	
Storage Temperature	-50		+125	°C	
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel				

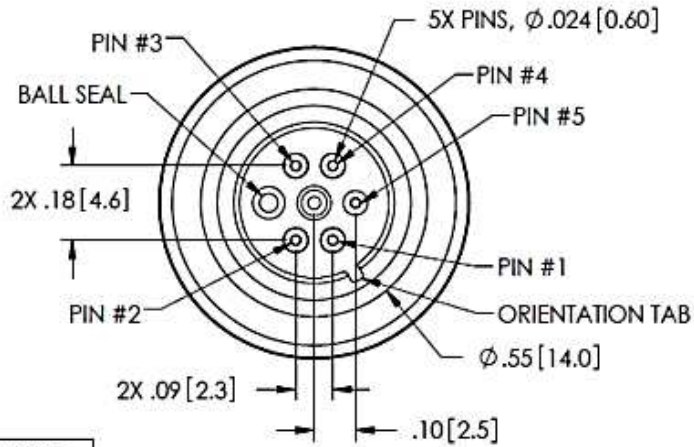
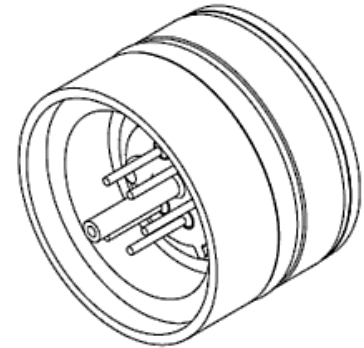
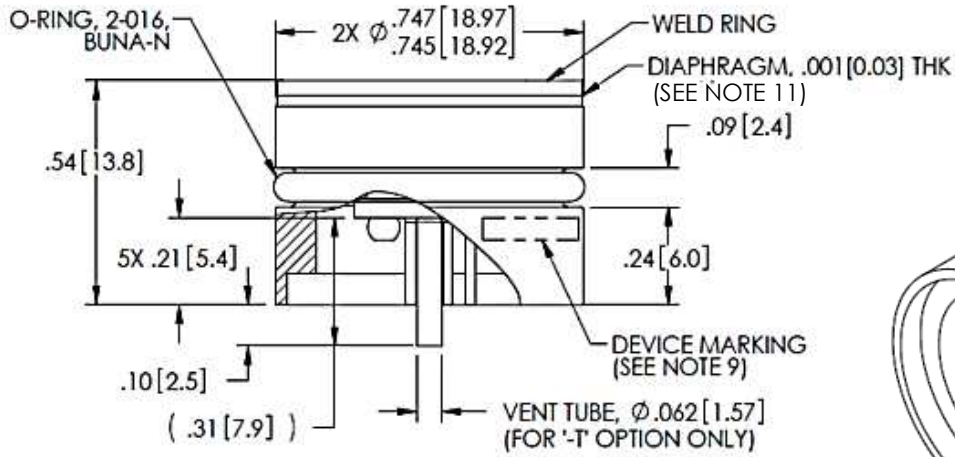
Notes

1. Measured at Ambient Pressure.
2. Best fit straight line.
3. Bridge resistance is measured with both –E pins shorted together.
4. TC values are first order coefficients to a quadratic fit over a temperature range of -20 to +85°C.
5. Between case and sensing element.
6. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
7. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
8. Testing:
 - 8.1 Units are not tested over temperature or pressure
 - 8.2 A final electrical test (@ 1.5mA) is performed to verify parts are electrically alive.
 - 8.3 All units are subjected to 100% drift test.
9. Marking:

Each part is identified with Model Number, Pressure Range, Type, Lot Number, Serial Number and Date Code
10. Shipping/Packaging:

The diaphragm is protected by static dissipative cap. Each is packaged individually in a plastic vial with anti-static foam.
11. 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

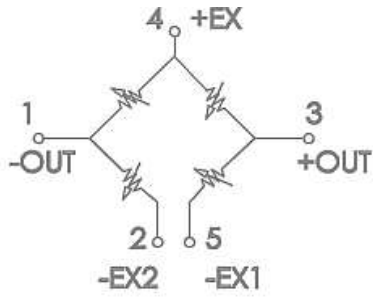


SENSOR PINOUT	
PIN NO	FUNCTION
1	-OUT
2	-EX2
3	+OUT
4	+EX
5	-EX1

154N

Vacuum Gage, Uncompensated

CONNECTIONS



ORDERING INFORMATION

154N - 030 V - U I

Pressure Range [psi]
015
030
050
100
300
500

Pressure Type
V Vacuum Gage

Vent	
T	Tube
[Blank]	No Tube

Electrical	
U	Open Bridge, Uncomp