154N

Compensated

SPECIFICATIONS

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

FEATURES

- O-Ring mount
- -40℃to +125℃Operating Temperature Range
- Up to ±0.1% Pressure Non-Linearity
- 1.0% Interchangeable Span (provided by gain set resistor)
- Solid State Reliability

APPLICATIONS

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

The 154N compensated is a 19 mm small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 154N compensated 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. An additional laser-trimmed resistor is included which can be used to adjust an external differential amplifier and provide span interchangeability to within ±1%.

Please refer to the 154N uncompensated and constant voltage datasheets for more information on different features of the 154N.

SPECIFICATIONS

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

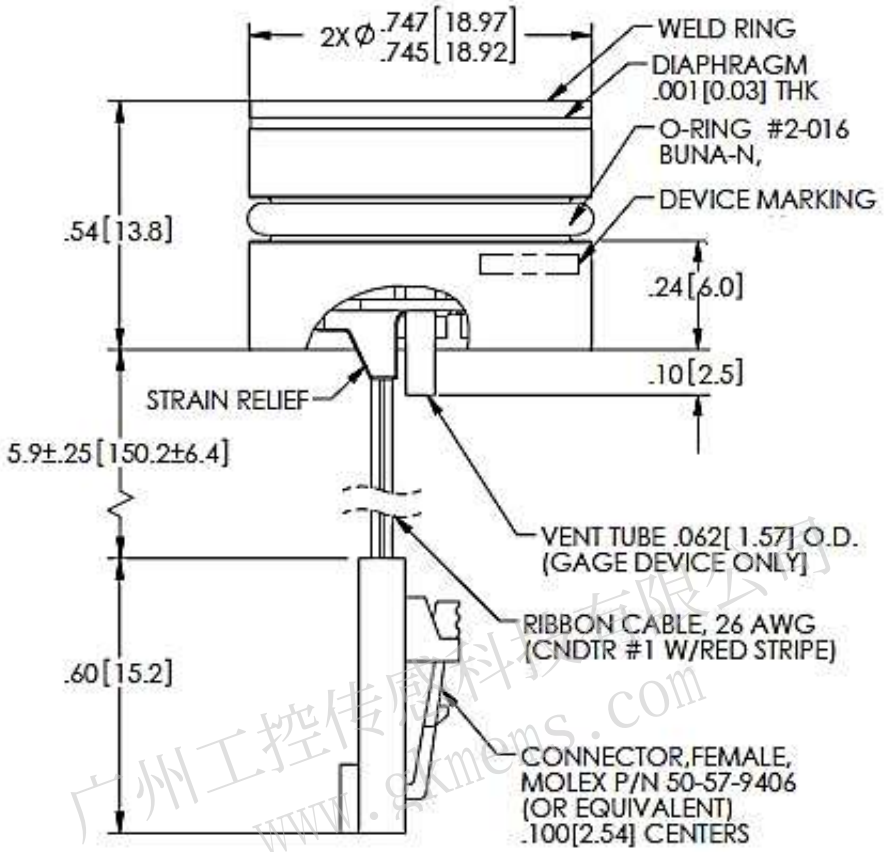
PARAMETERS	≤005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Span	50	100	150	75	100	150	mV	1
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	2
Pressure Non Linearity	1psi: -0.30 to 0.30 5psi: -0.20 to 0.20			-0.10	-	0.10	%Span	3
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability	-	±0.02	-	-	±0.02	-	%Span	
Input Resistance	2.0	3.5	6.5	2.0	3.5	5.8	KΩ	
Output Resistance	4.0	-	7.0	4.0	-	6.0	KΩ	
Temperature Error – Span	-1.0	-	1.0	-0.75	-	0.75	%Span	4
Temperature Error – Offset	-1.0	-	1.0	15psi: -0.75 to 0.75 >15psi: -0.50 to 0.50			%Span	4
Thermal Hysteresis – Span	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	4
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	4
Long Term Stability – Span	-	±0.10	-	-	±0.10	-	%Span/Year	
Long Term Stability – Offset	-	±0.25	-	-	±0.10	-	%Span/Year	
Supply Current	0.5	1.5	2.0	0.5	1.5	2.0	mA	5
Output Load Resistance	5	-	-	5	-	-	MΩ	6
Insulation Resistance ($50V_{DC}$)	50	-	-	50	-	-	MΩ	7
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	
Pressure Burst	1psi: 12X max 5psi: 4X max			-	-	4X	Rated	8
Compensated Temperature	1psi: 0 to 50 5psi: 0 to 70			-20	-	85	°C	
Operating Temperature	-20	-	70	-40	-	125	ºC	9
Storage Temperature	-50	-	125	-50	-	125	ºC	9
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel							

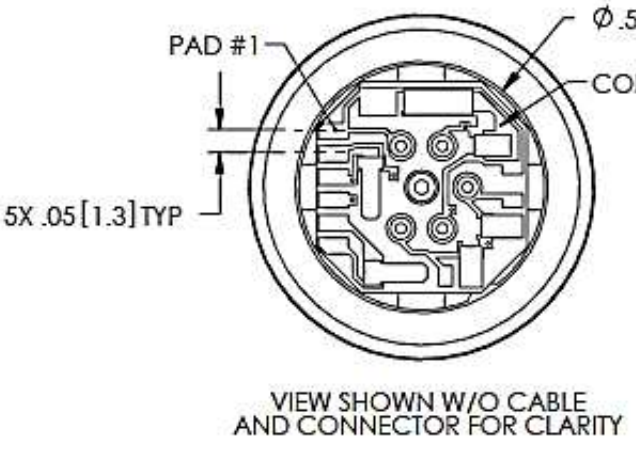
Notes

1. For amplified output circuits, 3.012V ±1% interchangeability with gain set resistor. See application schematic.
2. Measured at vacuum for absolute (A), ambient for gage (G).
3. Best fit straight line.
4. Over the compensated temperature range with respect to 25°C.
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 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

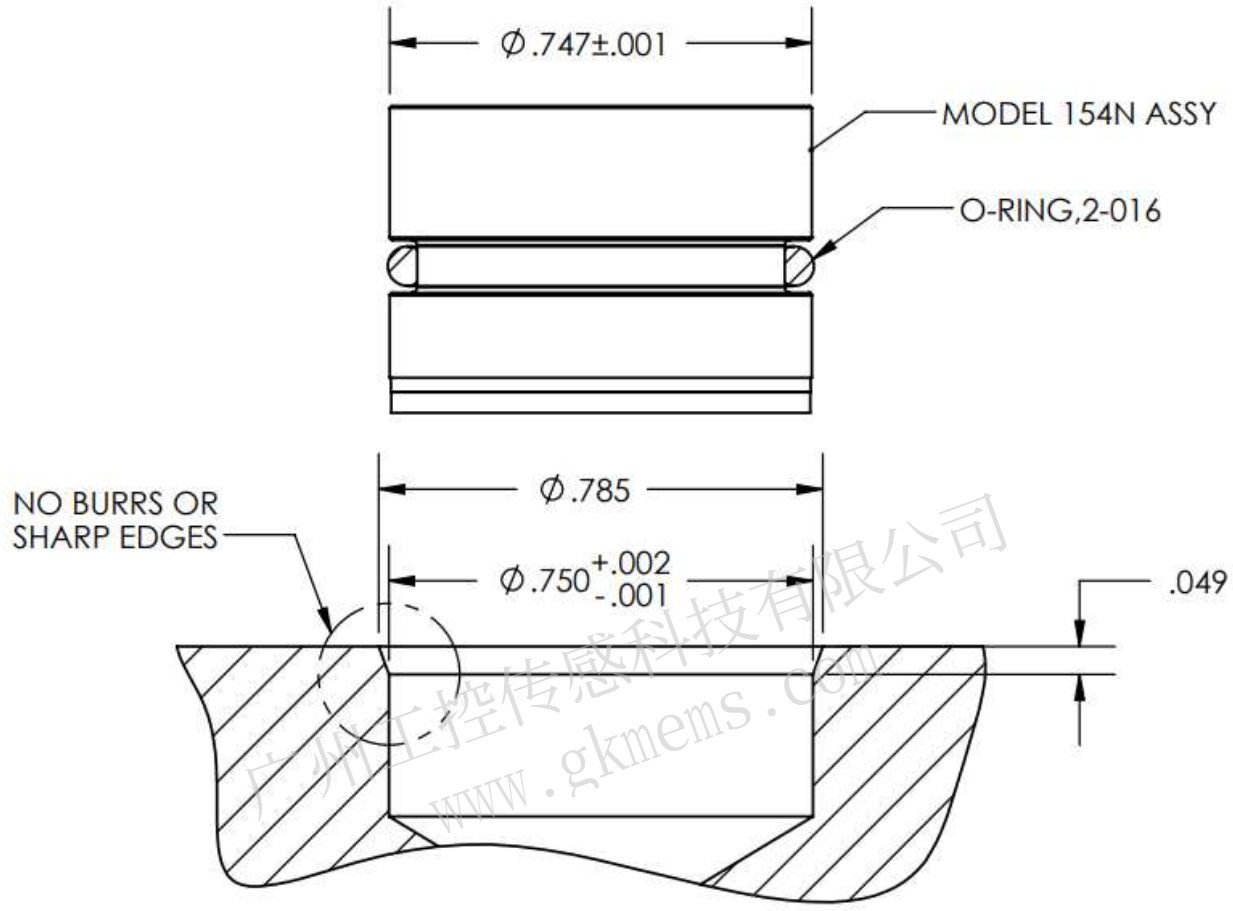
Dimensions are in inches【㎜】



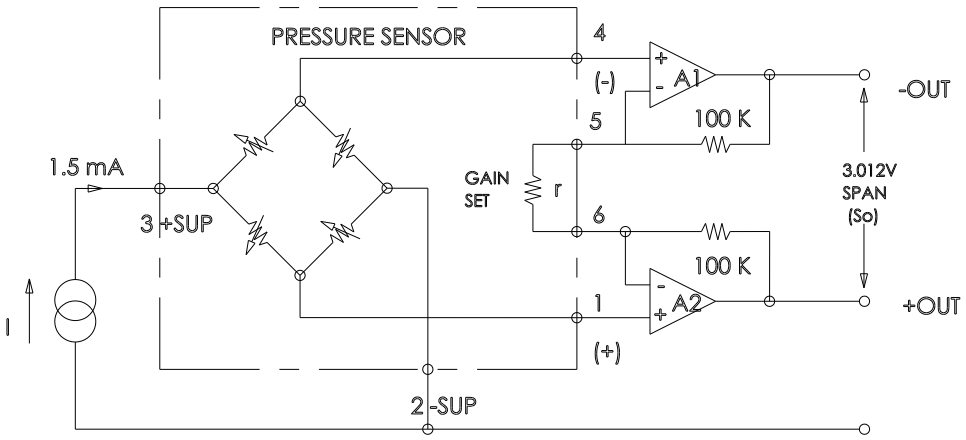


PAD NO	FUNCTION
1	+OUT
2	-EX
3	+EX
4	-OUT
5	GAIN
6	

RECOMMENDED MOUNTING DIMENSIONS



APPLICATION SCHEMATIC



ORDERING INFORMATION

Part Number

154N – 030 G – C T

Pressure Range[psi]
001 (Gage Only)
005
015
030
050
100
300
500

Power Mode/Vent Tube	
T	Standard w/Tube
[Blank]	Standard w/o Tube

Electrical	
P	Solder Pads
R	Ribbon cable
C	Cable W/Connector

Pressure Type	
G	Gage
A	Absolute

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