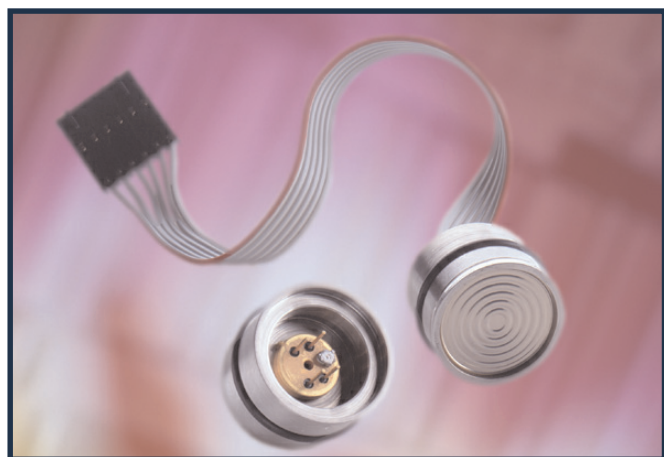


Model 154N Low Pressure

ICSENSORS
316 SS Pressure Sensor
Millivolt Output
Gage, Sealed Gage and Absolute
Temperature Compensated
Medical Instruments
Process Control
Fresh & Waste Water Measurement
Partial Vacuum Gas Measurement
Pressure Transmitters
Tank Level Systems (RV & Industrial)


Description

The Model 154N is a media compatible, compensated, piezoresistive silicon pressure sensor packaged in a 316 stainless steel housing. The sensing package utilizes silicone oil to transfer pressure from the 316 stainless steel diaphragm to the sensing element.

The Model 154N is designed for very low pressure applications. 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 sensitivity variations by setting the gain of an external differential amplifier to within $\pm 1\%$ interchangeability.

Sensors are also available with threaded pressure fittings. Please contact the factory for more information.

Features

- ◆ O-ring Mount
- ◆ -20°C To $+85^{\circ}\text{C}$ Operating Temperature Range
- ◆ 0.2% Pressure Non-linearity
- ◆ 1.0% Interchangeable Span (Provided By Gain Set Resistor)
- ◆ Solid State Reliability
- ◆ Low Power

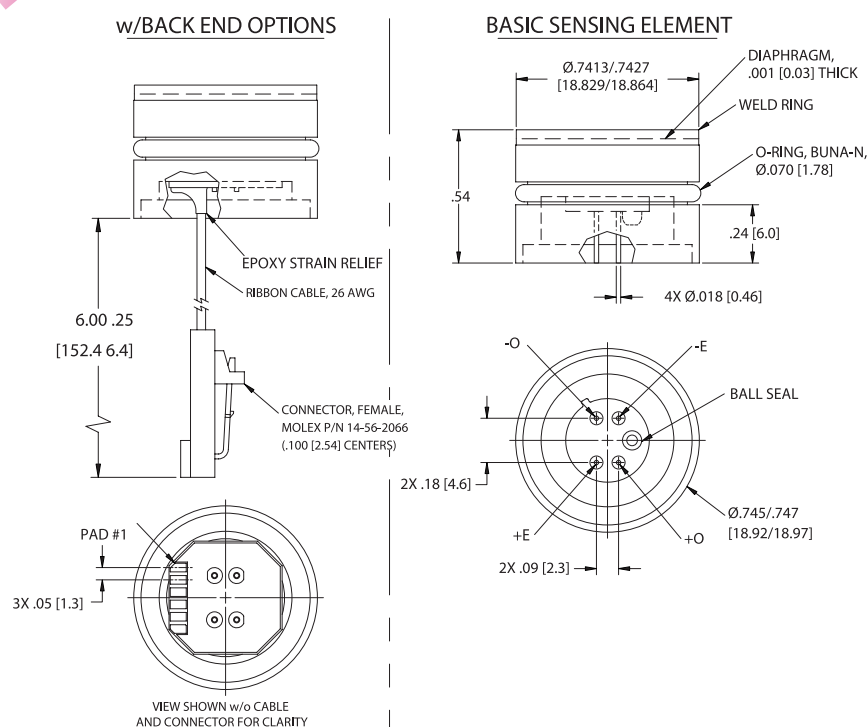
Standard Ranges

Range	psia	psig
0 to 1	•	•
0 to 5	•	•

Connections

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

Dimensions



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Model 154N Low Pressure

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316 SS Pressure Sensor

ICSENSORS

Performance Specifications

All parameters measured at 1.5mA drive and at 25°C after 10 second warm up, unless otherwise specified. Unless specifically indicated, only those parameters indicated as tested are verified on each part. Parameters are specified for the compensated version only.

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	50	100	125	mV	1, 2
Zero Offset	-1	0	1	mV	2,11
Pressure Non-linearity	-0.2	0	0.2	% Span	3
Pressure Hysteresis		0.02		% Span	
Input Resistance	2,000	3,500	4,500	Ω	
Output Resistance	4000		30K	Ω	
Temperature Error - Span	-1.0		1.0	% Span	4
Temperature Error - Zero	-1.0		1.0	% Span	4
Thermal Hysteresis - Span		0.05		% Span	4
Thermal Hysteresis - Zero		0.05		% Span	4
Long Term Stability - Offset		.25%		±% Span/yr.	
Long Term Stability - Span		0.1		±% Span/yr.	
Supply Current	0.5	1.5	2.0	mA	5
Output Load Resistance	5			M Ω	6
Insulation Resistance (50 VDC)	50			M Ω	7
Pressure Overload			3X	Rated	
Compensated Operating Temperature	0°C to +70°C for 5psi, 0°C to 50°C for 1psi				8
Operating Temperature Range	-20°C to +85°C				8
Storage Temperature Range	-50°C to +125°C				8
Media - Pressure Port	Liquids and Gases compatible with 316L Stainless Steel				
Media - Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicone Rubber and 316L Stainless Steel				
Weight	24 g				9

Notes:

- For amplified output circuits, 3.012V $\pm$ 1% interchangeability with gain set resistor. See Application Note TN-003.
- Measured at vacuum for absolute (A), ambient for gage (G).
- Best fit straight line.
- Over the compensated temperature range, with respect to +25°C.
- Guarantees output/input ratiometricity.
- Load resistance to reduce measurement errors due to output loading.
- Between case and sensing element.
- Maximum temperature range for product with standard cable and connector is -20°C to +105°C.
- Weight depends upon configuration (cable, connector).
- Standard gauge units are not recommended for vacuum applications. For vacuum applications, contact factory.
- ± 2 mV for 1 psi versions

Ordering Information

154N - 050

G

C

T

Vent IT= Tube. Blank is standard = No Tube)

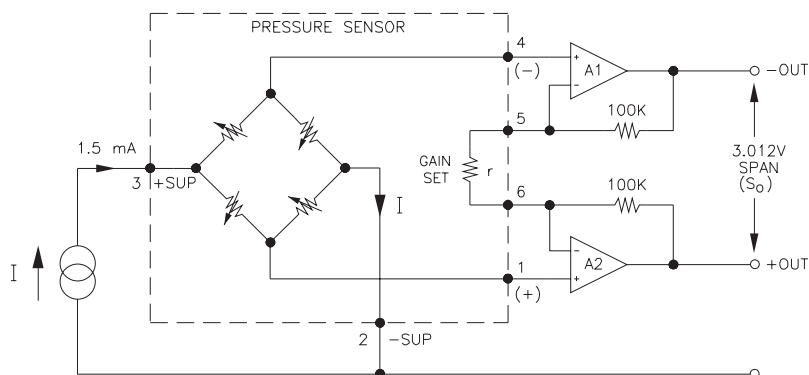
Electrical (C - Ribbon Cable with Connector. P - Solder Pads R - Ribbon Cable L- Loads. Uncompensated)

Type (A=Absolute, G=Gage) (Note 10)

Pressure Range 001=1psi, 005=5psi

Model

Application Schematic



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