



## 154N

### Constant Voltage

#### SPECIFICATIONS

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

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

## 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

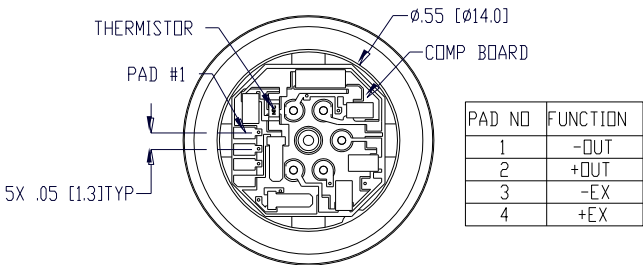
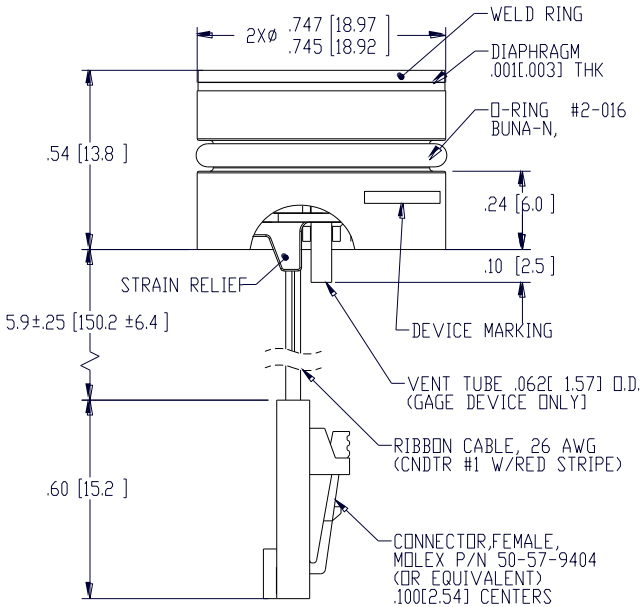
Ambient Temperature: 25°C (unless otherwise specified)

| PARAMETERS                    | ≤005PSI                                                                                   |                                            |      | ≥015PSI |       |      | UNITS      | NOTES |
|-------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------|------|---------|-------|------|------------|-------|
|                               | MIN                                                                                       | TYP                                        | MAX  | MIN     | TYP   | MAX  |            |       |
| Span                          |                                                                                           | 1psi: 77, 80, 83<br>5psi: 98, 100, 102     |      | 99      | 100   | 101  | mV         |       |
| Zero Pressure Output          | -2.0                                                                                      | 0                                          | 2.0  | -1.0    | 0     | 1.0  | mV         | 1     |
| Pressure Non Linearity        |                                                                                           | 1psi: -0.30 to 0.30<br>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    | -1.0                                                                                      |                                            | 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        | 5                                                                                         |                                            |      | 5       |       |      | MΩ         | 5     |
| Insulation Resistance (50Vdc) | 50                                                                                        |                                            |      | 50      |       |      | MΩ         | 6     |
| Output Noise (10Hz to 1KHz)   |                                                                                           | 1.0                                        |      |         | 1.0   |      | uV p-p     |       |
| Response Time (10% to 90%)    |                                                                                           | 0.1                                        |      |         | 0.1   |      | ms         |       |
| Pressure Overload             |                                                                                           | 1psi: 10X max<br>5psi: 3X max              |      |         |       | 3X   | Rated      |       |
| Pressure Burst                |                                                                                           | 1psi: 12X max<br>5psi: 4X max              |      |         |       | 4X   | Rated      | 7     |
| Compensated Temperature       |                                                                                           | 1psi: 0 to 50<br>5psi: 0 to 70             |      | -20     |       | +85  | °C         |       |
| Operating Temperature         | -20                                                                                       |                                            | +70  | -40     |       | +125 | °C         | 8     |
| Storage Temperature           | -40                                                                                       |                                            | +125 | -40     |       | +125 | °C         | 8     |
| Media – Pressure Port         | Liquids and Gases compatible with 316/316L Stainless Steel                                |                                            |      |         |       |      |            |       |
| Media – Reference Port        | Compatible with Silicon, Pyrex, Gold, Fluorosilicone Rubber, and 316/316L Stainless Steel |                                            |      |         |       |      |            |       |

**Notes**

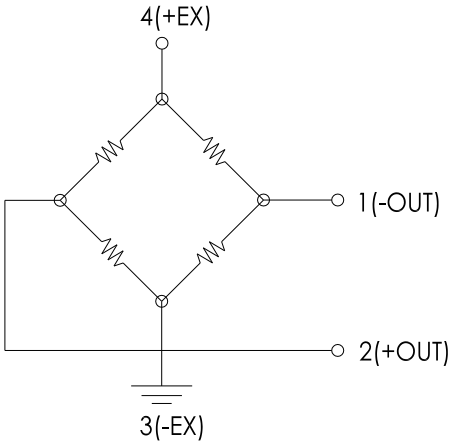
1. Measured at vacuum for absolute (A), ambient for gage (G).
2. Best fit straight line.
3. Over the compensated temperature range with respect to 25°C.
4. Guarantees output/input ratiometricity.
5. Load resistance to reduce measurement errors due to output loading.
6. Between case and sensing element.
7. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
8. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.

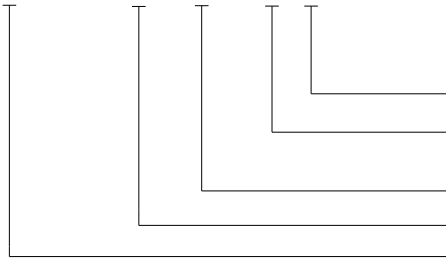
DIMENSIONS



VIEW SHOWN W/O CABLE  
AND CONNECTOR FOR CLARITY  
DIMENSIONS ARE IN INCHES [mm]

CONNECTIONS



**ORDERING INFORMATION****154CV - 050 G - C T**

Vent (T = Tube, Blank = No Tube)

Electrical (C = Ribbon Cable with Connector, R = Ribbon Cable)

Type (A = Absolute, G = Gage)

Pressure Range

Model

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