# DP86

## Non Silicone Oil

### SPECIFICATIONS

- **316L SS**
- **Wet/Wet Differential**
- **Low Pressure**

The DP86 non-silicone oil differential pressure sensor is a double-sided, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The DP86 non-silicone is designed for o-ring mounting.

The DP86 non-silicone oil is designed for high performance, low pressure applications where differential pressure measurement is required at low temperature. The stainless steel package makes it suitable for use in liquids and corrosive environments. The non-silicone oil affords reliable operation down to -55°C and is exceptional for applications where silicone oil is restricted.

Please refer to the DP86, uncompensated, constant current and constant voltage (fittings and cable design) for more information on different features of the DP86.

## FEATURES

- O-Ring Mount
- Up to -55ºC to +100ºC Operating Range
- Up to ±0.1% Pressure Non Linearity
- Solid State Reliability
- Low Pressure

## APPLICATIONS

- Level Controls
- Tank Level Measurement
- OEM Equipment
- Corrosive Fluids and Gas Measurement Systems
- Flow Measurements

## STANDARD RANGES

| Range | psid |
|---|---|
| 0 to 15 | ♠ |
| 0 to 30 | ♠ |
| 0 to 50 | ♠ |
| 0 to 100 | ♠ |
| 0 to 300 | ♠ |
| 0 to 500 | ♠ |

## PERFORMANCE SPECIFICATIONS

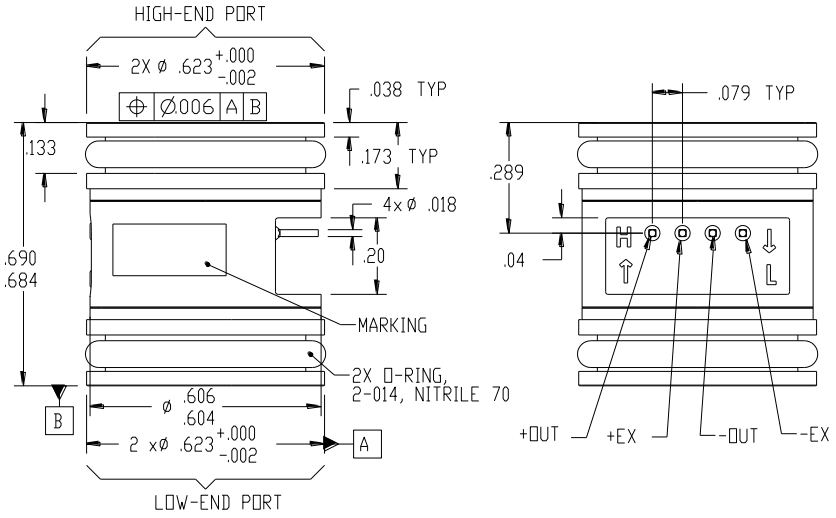
**Supply Current: 1.5mA**
**Ambient Temperature: 25°C (unless otherwise specified)**

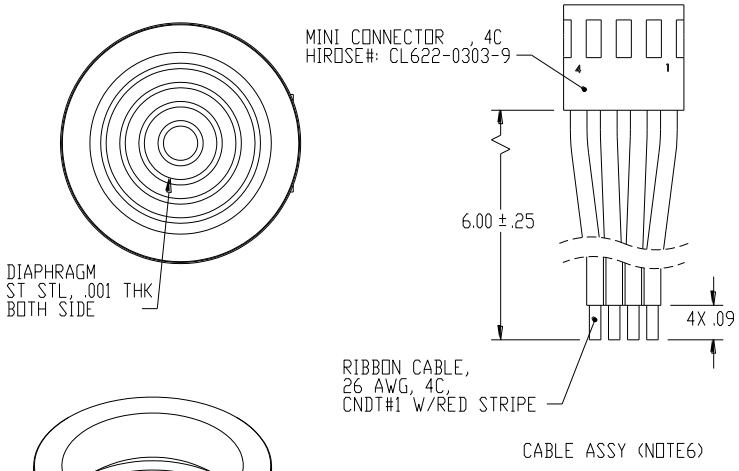
| PARAMETERS | MIN | TYP | MAX | UNITS | NOTES |
|---|---|---|---|---|---|
| Sensitivity | 13.2 | 20 | 26.5 | mV/V@FS | |
| Zero Pressure Output | -6 | | 8 | mV/V | 1 |
| Pressure Non Linearity | -0.10 | | 0.10 | %Span | 2 |
| Pressure Hysteresis | -0.05 | | 0.05 | %Span | |
| Input/Output Resistance | 3800 | 4400 | 5800 | Ω | |
| Temperature Coefficient – Span | -1450 | -1250 | -1000 | ppm/°C | 3 |
| Temperature Coefficient – Offset | | 1 | | uV/V/°C | 3 |
| Temperature Coefficient – Resistance | 1300 | 1510 | 1750 | ppm/°C | 3 |
| Thermal Hysteresis – Span | -0.25 | | 0.25 | %Span | 3 |
| Thermal Hysteresis – Offset | -0.25 | | 0.25 | %Span | 3 |
| Line (Common Mode) Pressure | | | 1000 | psi | |
| Line Pressure Effect on Zero | | | 0.5 | %Span/1Kpsi | |
| Pressure Overload | | | 3X | Rated | 4 |
| Pressure Burst | | | 4X | Rated | 5 |
| Operating Temperature | -55 | | +100 | ºC | 6 |
| Storage Temperature | -55 | | +125 | ºC | 6 |
| Vibration (10~2000Hz) | | | 20 | G | |
| Insulation Resistance (50Vdc) | 50 | | | MΩ | 7 |
| Output Load Resistance | 5 | | | MΩ | 7 |
| Supply Voltage | | 5 | 9.5 | V | |
| Supply Current | | | 1.5 | mA | |
| Voltage Breakdown | | | 500 | Vrms | 9 |
| Endurance (FS@ 25°C) | | 1,000,000 | | Cycles | 9 |
| Media Compatibility – Pressure Port | All fluids and gases compatible with 316 Stainless Steel & Nitrile | | | | |

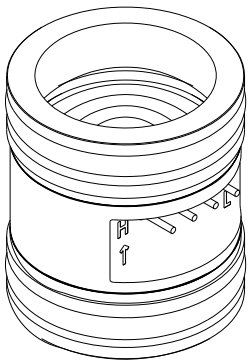
**Notes**

1. Measured at ambient.
2. Best fit straight line
3. Over the temperature range -20°C to +85°C with respect to 25°C.
4. For high-end port, rated or 1000psi whichever is less; for low-end port, rated or 150psi whichever is less.
5. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
6. Max temp for cable and connector is -20°C to +105°C.
7. Between case and sensing element.
8. Load resistance to reduce measurement errors due to output loading.
9. At dry air.

## DIMENSIONS

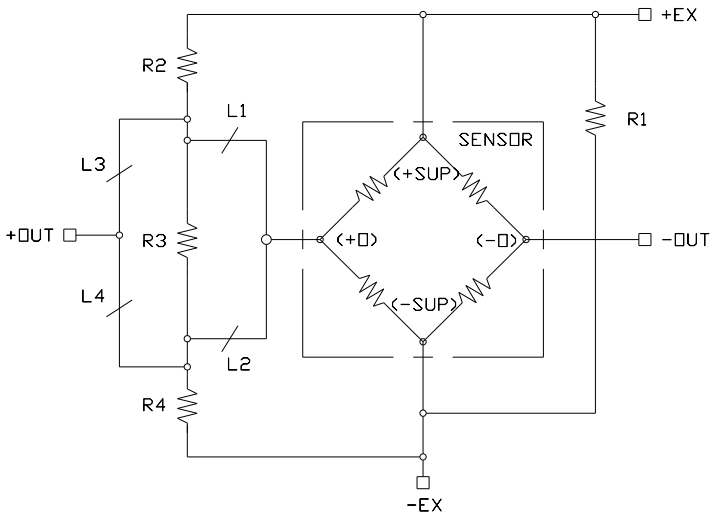

HIGH-END PORT
2X ø .623 +.000 -.002
Ø.006 A B
.038 TYP
.173 TYP
.133
.690
.684
4x ø .018
.20
MARKING
2X O-RING,
2-014, NITRILE 70
ø .606
.604
2 xø .623 +.000 -.002
B
A
LOW-END PORT
.079 TYP
.289
.04
H
L
+OUT
+EX
-OUT
-EX


MINI CONNECTOR , 4C
HIROSE#: CL622-0303-9
4
1
6.00 ± .25
4X .09
RIBBON CABLE,
26 AWG, 4C,
CNDT#1 W/RED STRIPE
CABLE ASSY (NOTE6)
DIAPHRAGM
ST STL, .001 THK
BOTH SIDE


H
L

## COMPENSATION SCHEMATIC

(Sensors can be compensated using the schematic to get improved performance. A calibration data sheet is included with each unit that provides measured values along with resistor values that will achieve the calculated compensated performance.)




## ORDERING INFORMATION

This is a custom product. Please contact factory for ordering information.