



DP86

Constant Voltage with Cable

SPECIFICATIONS

- ◆ **316L SS**
- ◆ **Wet/Wet Differential**
- ◆ **Low Pressure**
- ◆ **0 – 100mV Output**

The DP86 constant voltage with cable differential pressure sensor is a double-sided, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The DP86 constant voltage with cable is designed for o-ring mounting. The sensing package utilizes silicone oil to transfer pressure from the two 316L stainless steel diaphragms to a single sensing element.

The DP86 constant voltage with cable is designed for high performance, low pressure applications where differential pressure measurement is required. The stainless steel package makes it suitable for use in liquids and corrosive environments.

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

FEATURES

O-Ring Mount
Up to -40°C to +125°C 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	Range	bard
0 to 1	*	0 to .07	*
0 to 5	*	0 to .35	*
0 to 15	*	0 to 001	*
0 to 30	*	0 to 002	*
0 to 50	*	0 to 3.5	*
0 to 100	*	0 to 007	*
0 to 300	*	0 to 020	*
0 to 500	*	0 to 035	*

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 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 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		
Accuracy RMS of NL, HY, RP	±0.6			±1.0			%Span		
Input Resistance	5500	9000	12500	5500	9000	12500	Ω		
Output Resistance	4000		30000	4000		25000	Ω		
Temperature Error – Span	-1.5		1.5	-1.0		1.0	%Span	3	
Temperature Error – Offset	-2.5		2.5	-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		
Line (Common Mode) Pressure	1000			1000			psi		
Line Pressure Effect on Zero	1psi: 4.0 Max 5psi: 0.8 Max			0.5			%Span/1Kpsi		
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 5psi: 3X Max			3X			Rated	7	
Pressure Burst	1psi: 12X Max 5psi: 4X Max			4X			Rated	7	
Compensated Temperature	1psi: 0°C to 50°C 5psi: 0°C to 70°C			-20			+85	°C	
Operating Temperature	1psi: -40°C to +85°C 5psi: -40°C to +125°C			-40			+125	°C	8
Storage Temperature	-40		+125	-40		+125	°C	8	
Voltage Breakdown	500V rms @ 50Hz, Leakage Current < 1mA								
Shock	50g, 1msec half sine shock per MIL-STD-202G, Method 213B, Condition A								
Vibration	±20g MIL-STD 810C, Procedure 514.2, Figure 514.2-2, Curve L								
Media – Pressure Port	Liquids and gases compatible with 316/316L Stainless Steel								

Notes

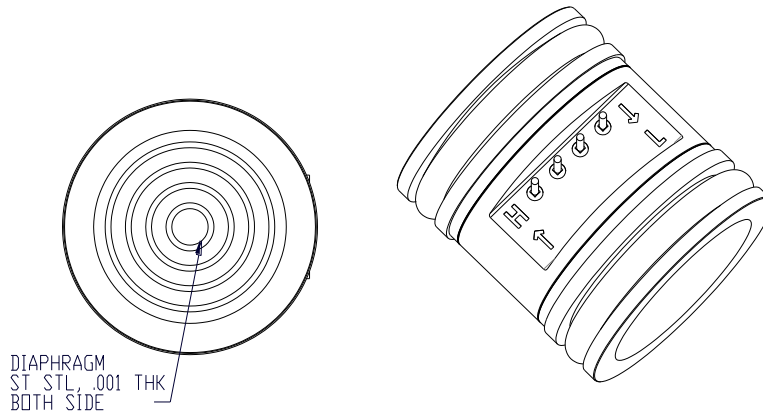
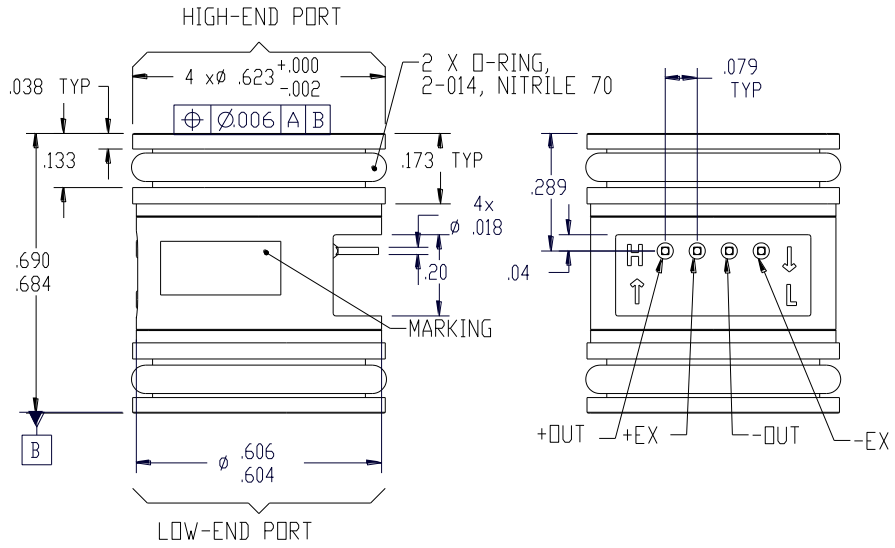
1. Measured at ambient.
2. Best fit straight line
3. Over the compensated temperature range with respect to 25°C.
4. Guarantees output/input ratiometricity.
5. Load resistance to reduce measurement errors due to output loading.
6. Between case and sensing element.
7. For “H” (high-end) port, rated or 1000psi whichever is less. For “L” (low-end) port rated or 150psi whichever is less. 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.

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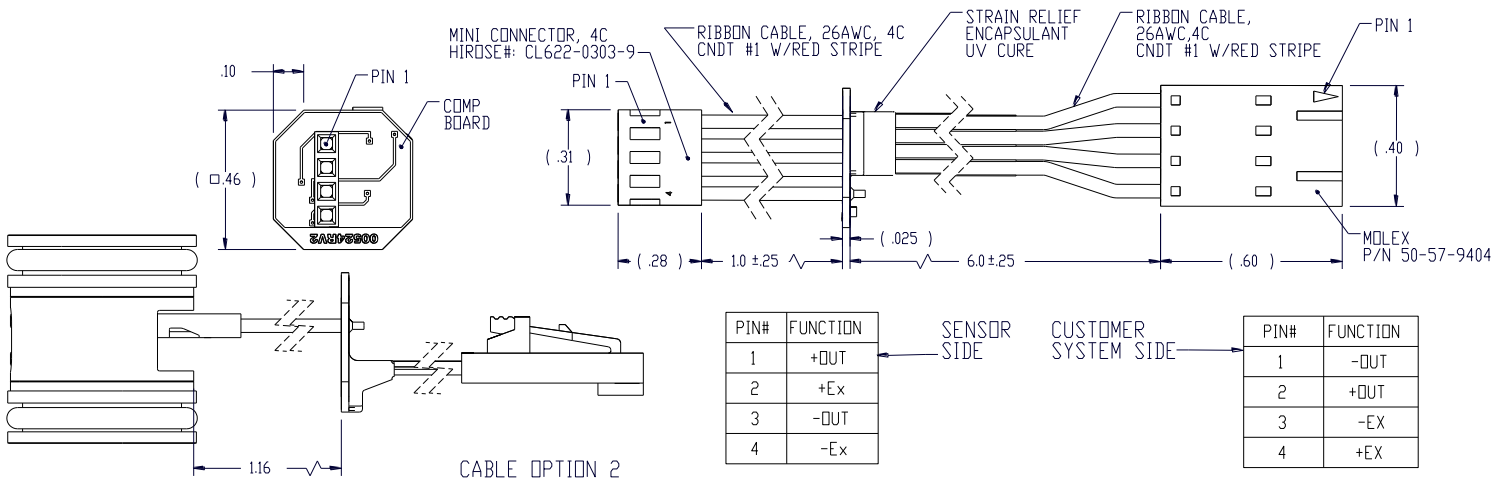
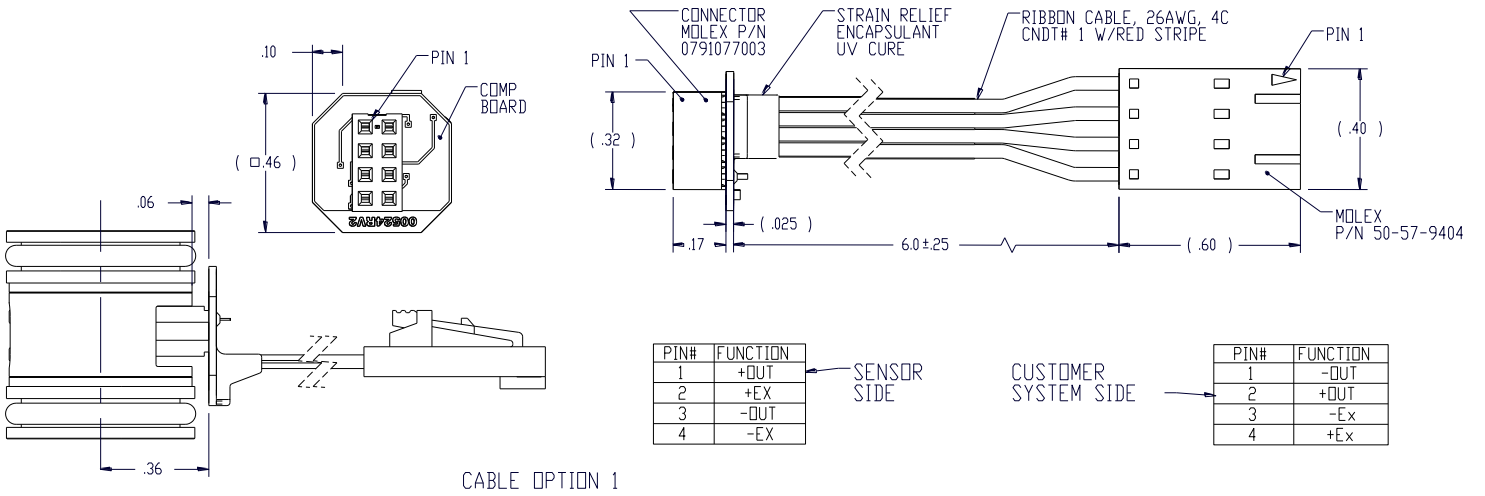
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DIMENSIONS

Dimensions are in inches [mm]



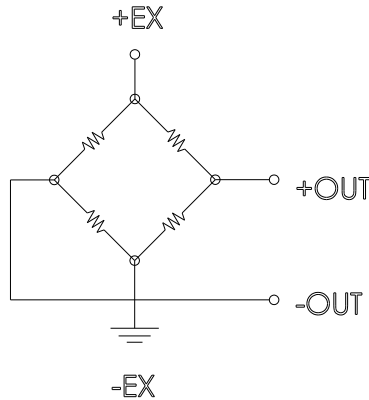
Dimensions are in inches [mm]



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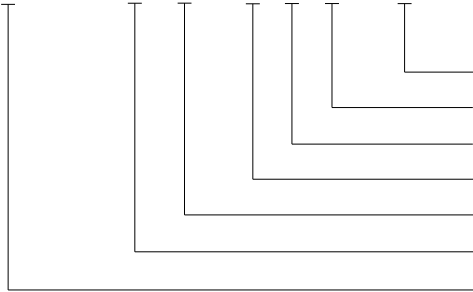
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CONNECTIONS



ORDERING INFORMATION

DP86 - 015P - 0 V R - 1



Cable (1 = No Cable on Pin Side, 2 = 1" Cable on Pin Side)
Electrical (C = Ribbon Cable with Connector, R = Ribbon Cable)
Type (V = Constant Voltage, Compensated)
Fitting (Weldable, No Fitting)
Unit (P = psi, B = Bar)
Pressure Range
Model



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