



## DP86

### Constant Current With Cable

#### SPECIFICATIONS

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

The DP86 constant current 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 current 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 current 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**

<b>Range</b>	<b>psid</b>	<b>Range</b>	<b>bard</b>
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 Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

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	
Accuracy RMS of NL, HY, RP		±0.6	±1.0		±0.6	±1.0	%Span	
Input Resistance	2000	3500	5800	2000	3500	5800	Ω	
Output Resistance	4000		30000	4000		25000	Ω	
Temperature Error – Span	-1.5		1.5	-1.0		1.0	%Span	4
Temperature Error – Offset	-2.5		2.5	-1.0		1.0	%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	
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 Current	0.5	1.5	2.0	0.5	1.5	2.0	V	5
Output Load Resistance	5			5			MΩ	6
Insulation Resistance (50Vdc)	50			50			MΩ	7
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	8
Pressure Burst		1psi: 12X Max 5psi: 4X Max				4X	Rated	8
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	9
Storage Temperature	-40		+125	-40		+125	°C	9
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

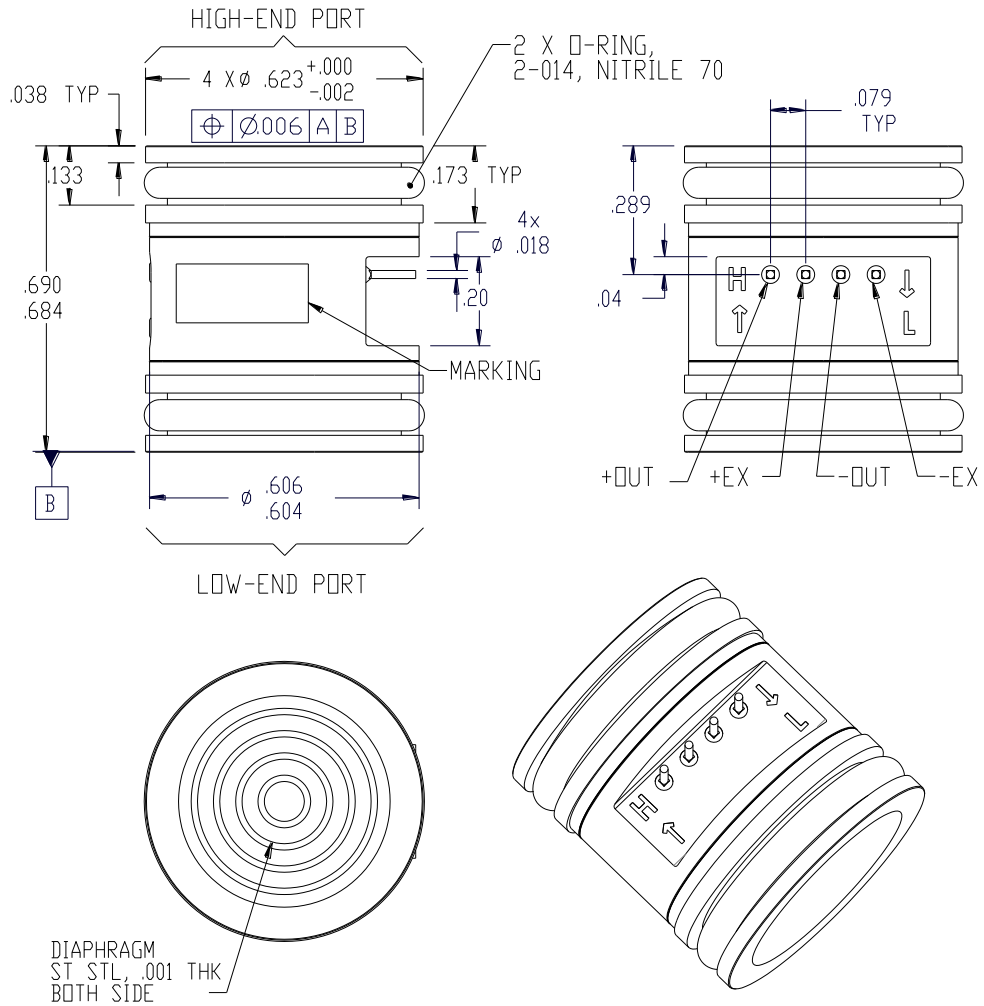
- For amplified output circuits, 3.012V ±1% interchangeability with gain set resistor. See application schematic.
- Measured at ambient.
- Best fit straight line
- Over the compensated temperature range with respect to 25°C.
- Guarantees output/input ratiometricity.
- Load resistance to reduce measurement errors due to output loading.
- Between case and sensing element.
- 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.
- Maximum temperature range for product with standard cable and connector is -20°C to +105°C.

**DP86**

Constant Current With Cable

**DIMENSIONS**

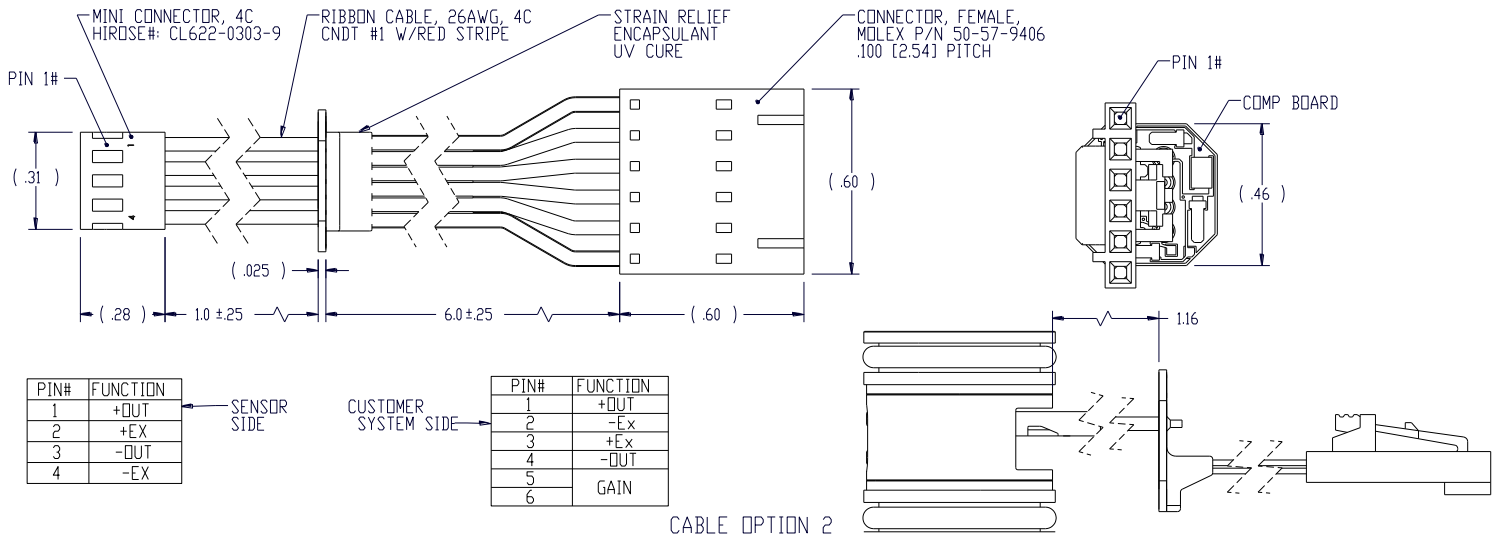
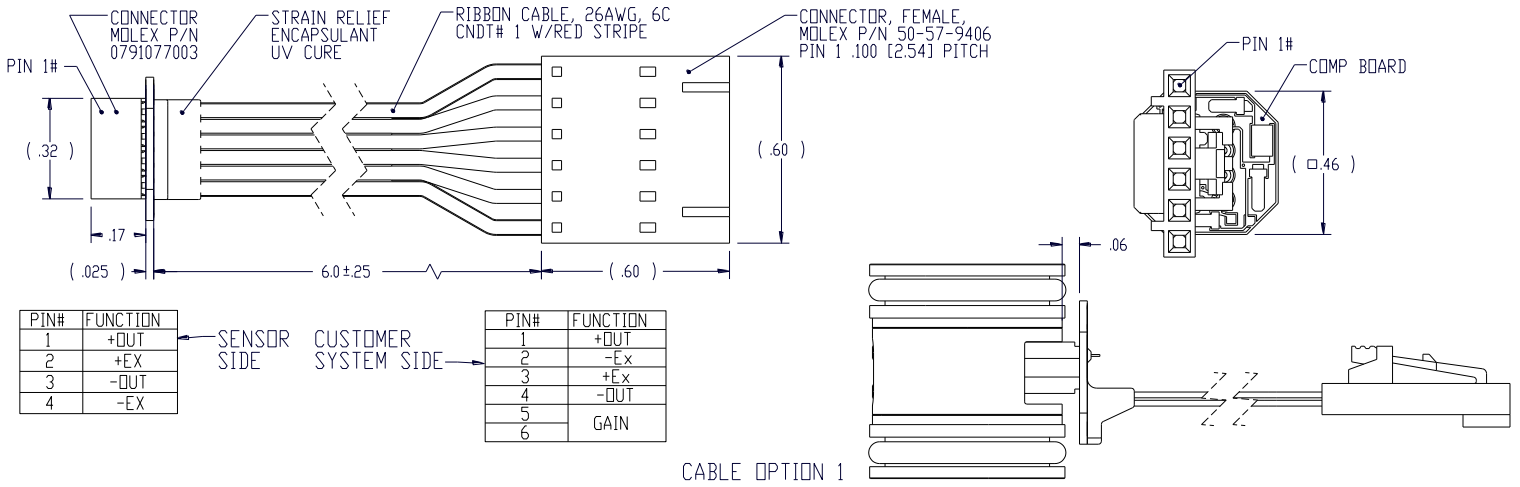
Dimensions are in inches [mm]



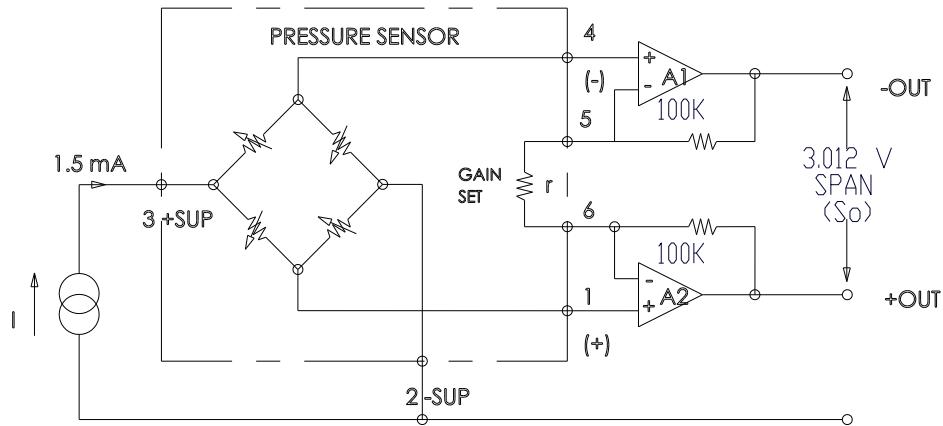
**DP86**

Constant Current With Cable

Dimensions are in inches [mm]

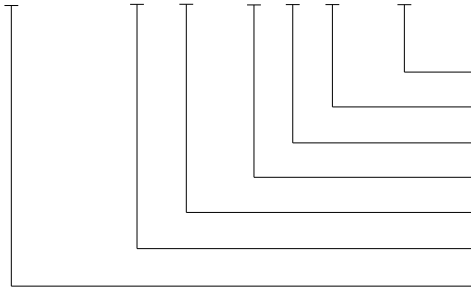


**APPLICATION SCHEMATIC**



**ORDERING INFORMATION**

**DP86 - 015P - 0 C 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 (C = Constant Current, Compensated)
- Fitting (Weldable, No Fitting)
- Unit (P = psi, B = Bar)
- Pressure Range
- Model

**NORTH AMERICA**

Measurement Specialties, Inc.,  
a TE Connectivity Company  
45738 Northport Loop West  
Fremont, CA 94538  
Tel: 1-800-767-1888  
Fax: 1-510-498-1578  
Sales: pfg.cs.amer@meas-spec.com

**EUROPE**

Measurement Specialties (Europe), Ltd.,  
a TE Connectivity Company  
26 Rue des Dames  
78340 Les Clayes-sous-Bois, France  
Tel: +33 (0) 130 79 33 00  
Fax: +33 (0) 134 81 03 59  
Sales: pfg.cs.emea@meas-spec.com

**ASIA**

Measurement Specialties (China), Ltd.,  
a TE Connectivity Company  
No. 26 Langshan Road  
Shenzhen High-Tech Park (North)  
Nanshan District, Shenzhen 518057  
China  
Tel: +86 755 3330 5088  
Fax: +86 755 3330 5099  
Sales: pfg.cs.asia@meas-spec.com

**TE.com/sensorsolutions**

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.