

## DP86 Uncompensated with Fitting



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

### DESCRIPTION

The DP86 uncompensated with fitting differential pressure sensor is a double-sided, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The DP86 uncompensated with fitting can be designed with up to 8 different threaded process fittings. The sensing package utilizes silicone oil to transfer pressure from the two 316L stainless steel diaphragms to a single sensing element.

The DP86 uncompensated with fitting 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, non-silicone oil, constant current and constant voltage (fittings and cable design) for more information on different features of the DP86.

### FEATURES

- Threaded Process Fittings
- Up to -40°C to +125°C Operating Range
- Up to  $\pm 0.1\%$  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 1	•
0 to 5	•
0 to 15	•
0 to 30	•
0 to 50	•
0 to 100	•
0 to 300	•
0 to 500	•

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## PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	001PSI			005PSI			≥15PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
Sensitivity	9.0		15.0	12.5	19.5	26.5	13.2	20	26.5	mV/V@FS	
Zero Pressure Output	-4.0		8.0	-6.0		8.0	-6.0		8.0	mV/V	1
Pressure Non Linearity	-0.30		0.30	-0.20		0.20	-0.10		0.10	%Span	2
Pressure Hysteresis	-0.10		0.10	-0.10		0.10	-0.05		0.05	%Span	
Input/Output Resistance	4400		6200	3800	4400	5800	3800	4400	5800	Ω	
Temp. Coefficient – Span	-2700		-2200	-1450	-1250	-1000	-1450	-1250	-1000	ppm/°C	3
Temp. Coefficient – Offset		1			1			1		uV/V/°C	3
Temp. Coefficient – Resistance	2200	2550	2900	1300	1510	1750	1300	1510	1750	ppm/°C	3
Thermal Hysteresis – Span	-0.25		0.25	-0.25		0.25	-0.25		0.25	%Span	3
Thermal Hysteresis – Offset	-0.25		0.25	-0.25		0.25	-0.25		0.25	%Span	3
Line (Common Mode) Pressure			1000			1000			1000	psi	
Line Pressure Effect on Zero			4.0			0.8			0.5	%Span/1Kpsi	
Pressure Overload			10X			3X			3X	Rated	4
Pressure Burst			12X			4X			4X	Rated	4, 5
Operating Temperature	-40		+85	-40		+125	-40		+125	°C	
Storage Temperature	-40		+85	-40		+125	-40		+125	°C	
Vibration (10~2000Hz)			20			20			20	g	
Insulation Resistance (50Vdc)	50			50			50			MΩ	6
Output Load Resistance	5			5			5			MΩ	7
Supply Voltage		5.0	12.0		5.0	9.5		5	9.5	V	
Supply Current			2.0			1.5			1.5	mA	
Voltage Breakdown			500			500			500	Vrms	
Endurance (FS @ 25°C)						1,000,000				Cycles	
Media Compatibility – Pressure Port						All fluids and gases compatible with 316 Stainless Steel					

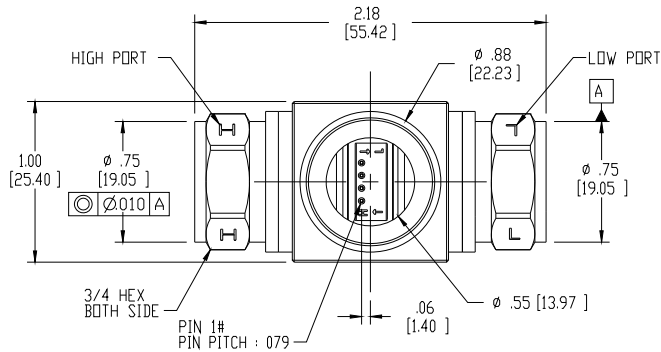
### Notes

1. Measured at ambient.
2. Best fit straight line
3. Over the temperature range -20°C to +85°C (0°C to 50°C for 1psi, 0°C to 70°C for 5psi) with respect to 25°C.
4. For "H" (high-end) port, rated or 1000psi whichever is less; for "L" (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. Between case and sensing element.
7. Load resistance to reduce measurement errors due to output loading.

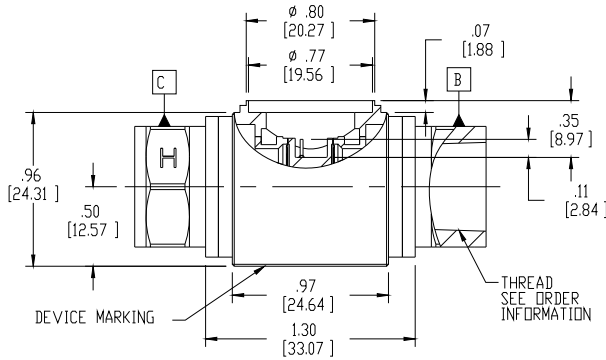
# DP86 Uncompensated with Fitting

## DIMENSIONS

Dimensions are in inches [mm]

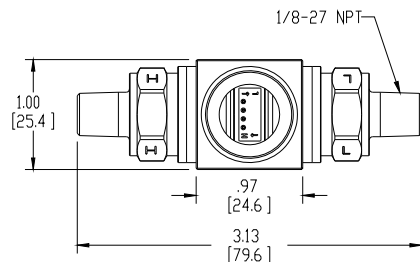


FITTING TYPE	
1	1/8-27 NPT, FEMALE, 3/4 HEX
2	1/4-18 NPT, FEMALE, 3/4 HEX
3	7/16-20 UNF, FEMALE, 3/4 HEX
4	1/4-19 BSP, FEMALE, 3/4 HEX
5	1/8-27 NPT, MALE, 3/4 HEX
6	1/4-18 NPT, MALE, 3/4 HEX
7	7/16-20 UNF, MALE, 3/4 HEX
8	1/4-19 BSP, MALE, 3/4 HEX

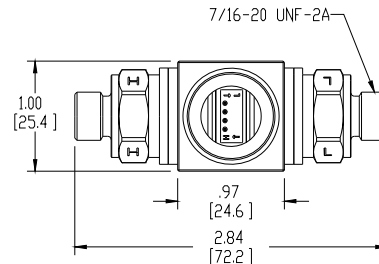


SCALE 1:1  
-1~4 FITTING

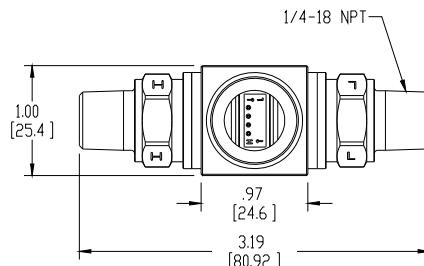
PIN #	FUNCTION
1	+OUT
2	+EX
3	-OUT
4	-EX



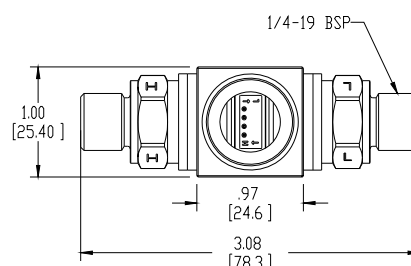
SCALE 4:5  
-5 FITTING



SCALE 4:5  
-7 FITTING



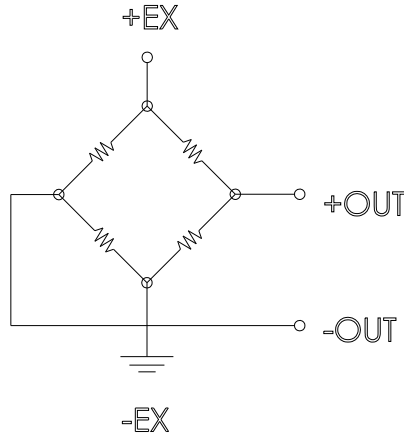
SCALE 4:5  
-6 FITTING



SCALE 4:5  
-8 FITTING

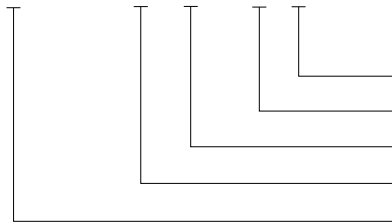
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## CONNECTIONS



## ORDERING INFORMATION

DP86 - 015P - 1 U



Electrical (U = Leads, Uncompensated)  
Fitting (See Fitting Table)  
Unit (P = psi)  
Pressure Range  
Model

### NORTH AMERICA

Measurement Specialties  
45738 Northport Loop West  
Fremont, CA 94538  
Tel: 1-800-767-1888  
Fax: 1-510-498-1578  
Sales: [pfg.cs.amer@meas-spec.com](mailto:pfg.cs.amer@meas-spec.com)

### EUROPE

Measurement Specialties  
(Europe), Ltd.  
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](mailto:pfg.cs.emea@meas-spec.com)

### ASIA

Measurement Specialties  
(China), Ltd.  
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](mailto:pfg.cs.asia@meas-spec.com)

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