



DP86

Uncompensated with Fitting

SPECIFICATIONS

- 316L SS
- Wet/Wet Differential Low Pressure

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	•

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

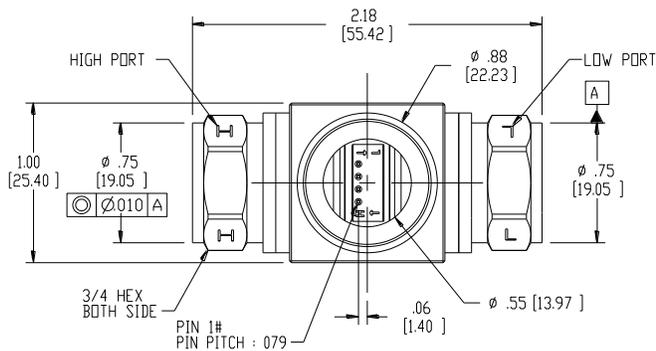
Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	001PSI			005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
Sensitivity	9.0		20.0	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	-3300	-2800	-2300	-1650	-1250	-1000	-1450	-1250	-1000	ppm/°C	3
Temp. Coefficient – Offset		1			1			1		uV/V/°C	3
Temp. Coefficient – Resistance	2600	3200	3500	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 316L Stainless Steel										

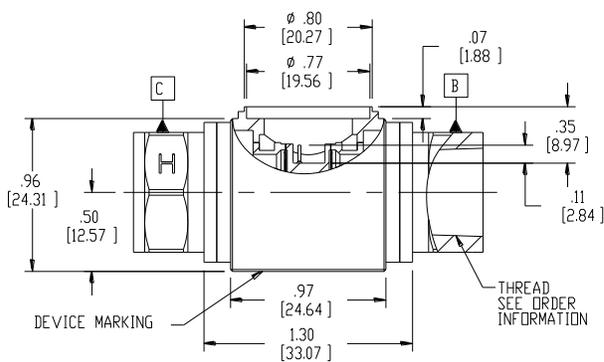
Notes

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. The maximum pressure that can be applied without changing the transducer’s performance or accuracy.
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.
8. Direct mechanical contact with diaphragms is prohibited. Diaphragm surfaces must remain free of defects (scratches, punctures, fingerprints, etc.) for device to operate properly. Caution is advised when handling parts with exposed diaphragms. Use protective bag whenever devices are not in use.

DIMENSIONS

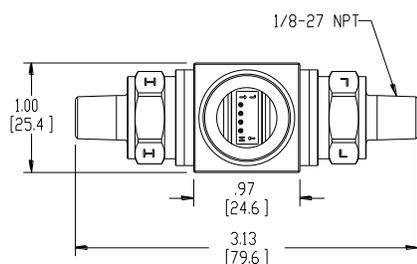


FITTING TYPE	
1	1/8-27 NPT, FEMALE, 3/4 HEX
2	1/4-18 NPT, FEMALE, 3/4 HEX
3	7/16-20 UNF, FEMALE, 3/4 HEX
4	1/4-19 BSP, FEMALE, 3/4 HEX
5	1/8-27 NPT, MALE, 3/4 HEX
6	1/4-18 NPT, MALE, 3/4 HEX
7	7/16-20 UNF, MALE, 3/4 HEX
8	1/4-19 BSP, MALE, 3/4 HEX

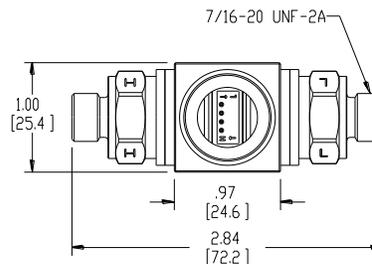


SCALE 1:1
-1~-4 FITTING

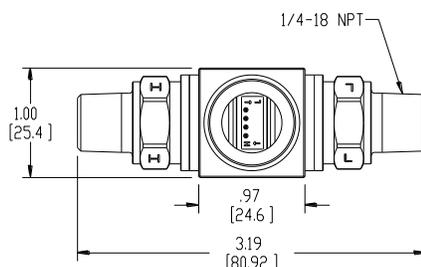
PIN #	FUNCTION
1	+OUT
2	+EX
3	-OUT
4	-EX



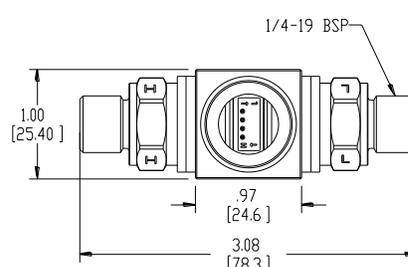
SCALE 4:5
-5 FITTING



SCALE 4:5
-7 FITTING

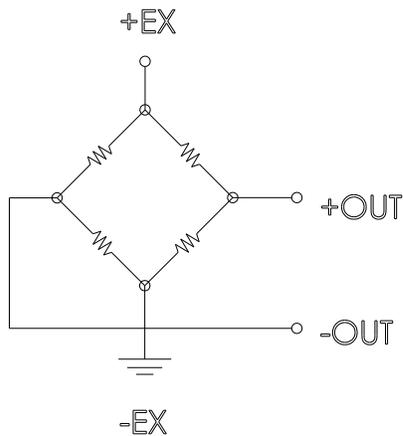


SCALE 4:5
-6 FITTING



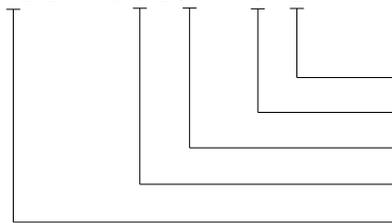
SCALE 4:5
-8 FITTING

CONNECTIONS



ORDERING INFORMATION

DP86 - 015P - 1 U



Electrical (U = Leads, Uncompensated)

Fitting (See Fitting Table)

Unit (P = psi)

Pressure Range

Model