



DP86

Constant Current with Fitting

SPECIFICATIONS

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

The DP86 constant current with fitting 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 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 constant current 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, uncompensated, 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 ±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 Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

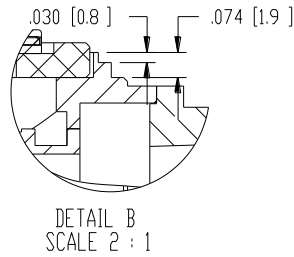
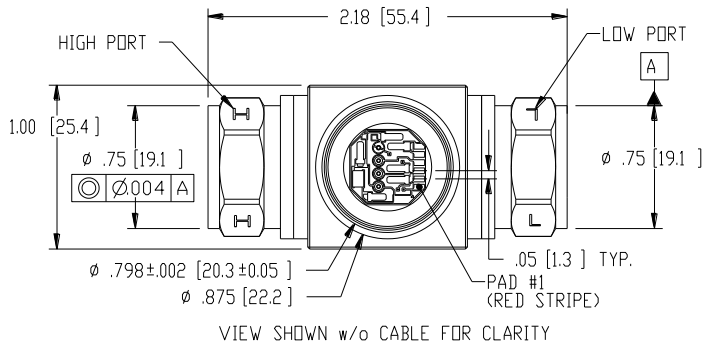
PARAMETERS	≤005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Span	50	100	150	75	100	150	mV	1
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	2
Pressure Non Linearity	1psi: -0.30 to 0.30 5psi: -0.20 to 0.20			-0.10		0.10	%Span	3
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability		±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

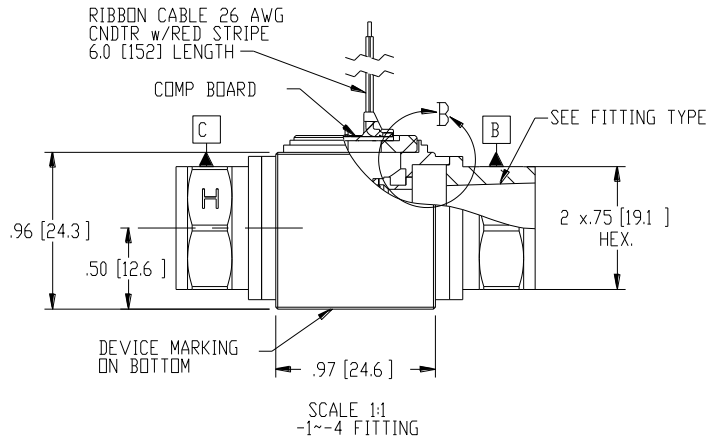
- For amplified output circuits, 3.012V ±1% interchangeability with gain set resistor. See application schematic.
- Measured at ambient.
- Best fit straight line
- Over the compensated temperature range with respect to 25°C.
- Guarantees output/input ratiometricity.
- Load resistance to reduce measurement 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.

DIMENSIONS

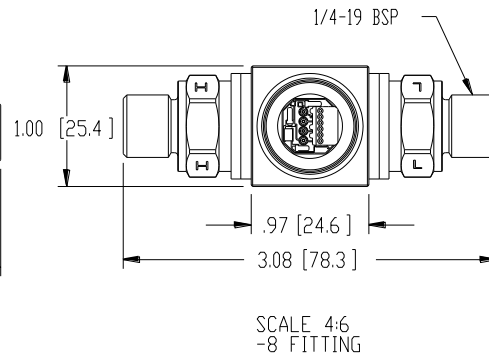
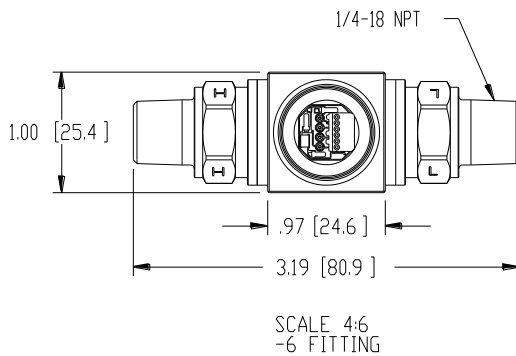
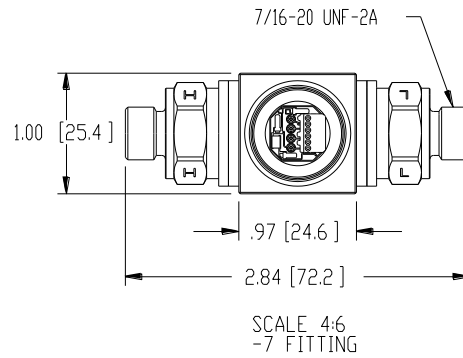
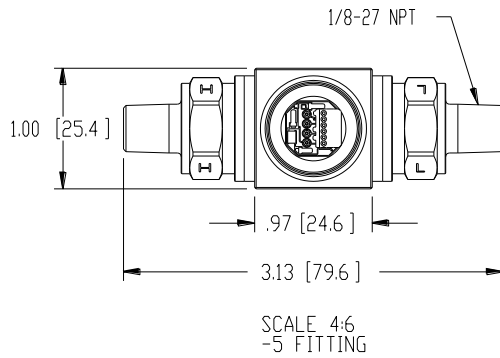
Dimensions are in inches [mm]



PAD NO	FUNCTION
1	+OUT
2	-EX
3	+EX
4	-OUT
5	GAIN
6	



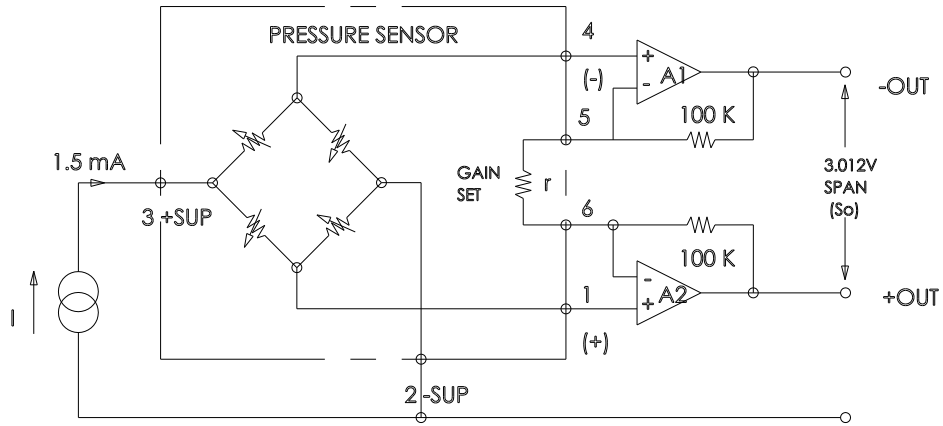
FITTING TYPE	
1	1/8-27 NPT, FEMALE, 3/4 HEX
2	1/4-18 NPT, FEMALE, 3/4 HEX
3	7/16-20 UNF, FEMALE, 3/4 HEX
4	1/4-19 BSP, FEMALE, 3/4 HEX
5	1/8-27 NPT, MALE, 3/4 HEX
6	1/4-18 NPT, MALE, 3/4 HEX
7	7/16-20 UNF, MALE, 3/4 HEX
8	1/4-19 BSP, MALE, 3/4 HEX



DP86

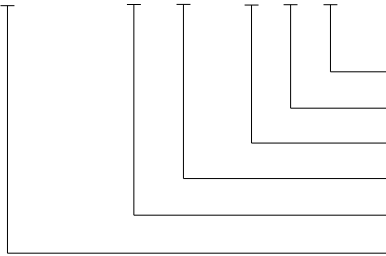
Constant Current with Fitting

APPLICATION SCHEMATIC



ORDERING INFORMATION

DP86 - 015P - 1 C R



Electrical (C = Ribbon Cable with Connector, R = Ribbon Cable)

Type (C = Constant Current, Compensated)

Fitting (See Fitting Table)

Unit (P = psi, B = Bar)

Pressure Range

Model



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本 社：〒124-0023 東京都葛飾区東新小岩3丁目9番6号 TEL: (03) 3695-5431 / FAX: (03) 3695-5698
大阪支店：〒530-0054 大阪市北区南森町2-2-9(南森町八千代ビル7F) TEL: (06) 6361-4831 / FAX: (06) 6361-9360
e-mail: sales-tokyo@krone.co.jp URL: <https://www.krone.co.jp>

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