Sontay®
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PL-528
Static Pressure Sensors

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Features & Benefits

- Suitable for water, steam (with PL-HS) or air
- Compact rugged construction
- Very high measurement accuracy
- Excellent thermal characteristic

Technical Overview

The PL-528 range of static pressure transmitters is suitable for use with liquids and non-aggressive gases compatible with the FPM (Viton seal).

The pressure transmitter is based on proven ceramic technology for exceptional performance speed and reliability.

Product Codes

4-20mA Output:		
PL-528-1	Liquid pressure transmitter	0 to 1 bar
PL-528-1.6	" "	0 to 1.6 bar
PL-528-2.5	" "	0 to 2.5 bar
PL-528-4	" "	0 to 4 bar
PL-528-6	" "	**0** to 6 bar
PL-528-10	" "	0 to 10 bar
PL-528-16	" "	0 to 16 bar
PL-528-25	" "	0 to 25 bar
PL-528-40	" "	0 to 40 bar
0-10Vdc Output:		
PL-528-1-V	Liquid pressure transmitter	0 to 1 bar
PL-528-1.6-V	" "	0 to 1.6 bar
PL-528-2.5-V	" "	0 to 2.5 bar
PL-528-4-V	" "	0 to 4 bar
PL-528-6-V	" "	**0** to 6 bar
PL-528-10-V	" "	0 to 10 bar
PL-528-16-V	" "	0 to 16 bar
PL-528-25-V	" "	0 to 25 bar
PL-528-40-V	" "	0 to 40 bar

Accessories

PL-HS	Pressure transmitter heat sink
PL-528-CAL	Calibration certificate

Specification

Output:	
PL-528-x	4-20mA (2-wire loop powered)
PL-528-x-V	0-10Vdc
Supply voltage:	
4-20mA	7 to 33Vdc
0-10Vdc	12 to 33Vdc or 24Vac ±15%
Load:	
4-20mA	$\leq \frac{\text{Supply voltage} - 7V}{0.02A}$ (Ohm)
0-10Vdc	>10Kohm
Current consumption:	
4-20mA	<23mA
0-10vdc	<7mA
Electrical connections	DIN EN175301-803-A
Accuracy @ 25°C, 45% RH 24Vdc supply:	
Characteristic line	±0.3 % fs
Resolution	0.1% fs
Thermal characteristic	±0.2 % fs/10K max.
Response time	<2ms, 1ms typical
Load cycle	<100Hz
Overload/rupture:	
0 to 4bar version	3 x measuring range fs
6 to 40 bar versions	2.5 x measuring range fs
Materials in contact with the medium	Stainless steel 1.4305/AISI 303 FPM (Viton) & Ceramic A12O3 (96%)
Temperature:	
Media	-15 to 125°C
Ambient	-30 to 85°C
Dimensions	104 x 65mm
Pressure connection	½" BSP male manometer combi
Protection	IP65
Conformity	EN 61326-2-3, CE Marked, EMC
Country of origin	Switzerland

CE

The products referred to in this data sheet meet the requirements of

WEEE Directive:
At the end of the products useful life please dispose as per the local regulations.
Do not dispose of with normal household waste.
Do not burn.

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Installation

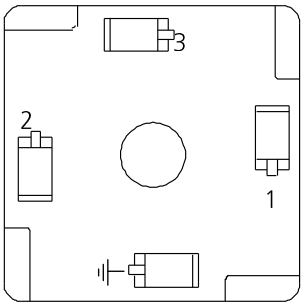
1. Fix the transmitter to the pipe using a ½" BSP female connection, and an gate valve
2. You should avoid mounting the transmitter where it will be subjected to mechanical vibration.
3. The sensor can be mounted in any orientation if the temperature is between -15 to 125°C.
4. Remove the DIN connector and expose the electrical terminals feed cable through the cable gland and connected as required. Re-fit connector to transmitter.
5. When opening the gate valve it is important to do this slowly to avoid pressure spikes that can damage the transmitter,

PL-528-x (4-20mA):

- Terminal 1 7 - 33Vdc
- Terminal 2 4-20mA signal

PL-528-x-V (0-10Vdc):

- Terminal 1 12 - 33Vdc or 24Vac ±15%
- Terminal 2 0-10Vdc signal
- Terminal 3 0V (Ground)



Tech Tip

Effects of water hammer and pulsation.
By knowing and eliminating problems beforehand, you can avoid situations that will create water hammer or pulsation during a specific process, avoiding failed equipment and costly downtime.

Surge or water hammer, as it is commonly known is the result of a sudden change in liquid velocity. Water hammer usually occurs when a transfer system is quickly started, stopped or is forced to make a rapid change in direction. Any of these events can lead to catastrophic system component failure. Without question, the primary cause of water hammer in process applications is the quick closing valve, whether manual or automatic. A valve closing in 1.½ sec. or less depending upon valve size and system conditions causes an abrupt stoppage of flow. The pressure spike (acoustic wave) created at rapid valve closure can be high as five (5) times the system working pressure.

Pulsation generally occurs when a liquid's motive force is generated by reciprocating or peristaltic positive displacement pumps. It is most commonly caused by the acceleration and deceleration of the pumped fluid. This uncontrolled energy appears as pressure spikes. Vibration is the visible example of pulsation and is the culprit that usually leads the way to component failure.

Unlike centrifugal pumps (which produce normally non-damaging high-frequency but low-amplitude pulses), the amplitude is the problem because it's the pressure spike. The peak, instantaneous pressure required to accelerate the liquid in the pipe line can be greater than ten (10) times the steady state flow pressure produced by a centrifugal pump.

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