Static Pressure Sensors
PL-520***

Description:

The PL-520 pressure sensor uses thick film technology where the pressure cell is fully welded. This then meets high burst protection demands and is suitable for a large number of different media.

Technical Specification:

Output…	
PL-520-x:	4-20mA (2-wire loop powered)
PL-520-x-V:	0-10Vdc
Supply Voltage…	
4-20mA:	7-33Vdc
0-10Vdc:	12-33Vdc or 24Vac ±15%
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:	±0.02 %
Long Term Stability:	±0.25 % fs max.
Response Time:	<2 m/s. 1 m/s. Typ.
Load Cycle:	<100Hz
Overload...	
≤6 bar:	5 x fs
>6 bar:	3 x fs (max. 1500 bar)
Rupture...	
≤6 bar:	10 x fs
>6 bar:	6 x fs (max. 2500 bar)
Materials in contact with the medium:	S/S 1.4404/AISI 316L
Temperature...	
Media:	-40 to +135˚C
Ambient:	-30 to +85˚C
Storage:	-50 to +100°C
Dimensions:	88 x 36mm dia.
Pressure connection:	½" BSP male
Protection:	IP65
Conformity:	EN 61326-2-3, EMC, CE & UKCA Marked
Country of Origin:	Switzerland

Features:

- Suitable for water, steam (with PL-HS) or air
- Compact rugged construction
- Welded without sealing parts
- Very high measurement accuracy
- Excellent thermal characteristic

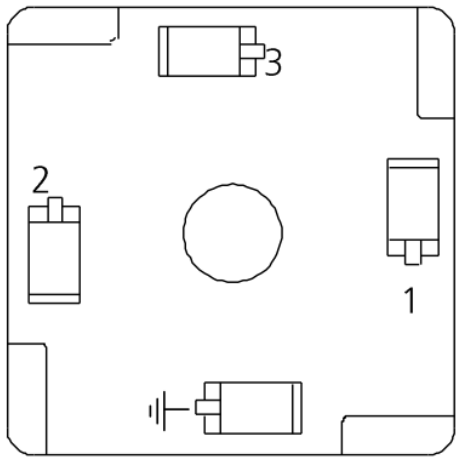
Product Codes:

4-20mA Output:		
PL-520-1	Liquid pressure transmitter	0 to 1 bar
PL-520-1.6	Liquid pressure transmitter	0 to 1.6 bar
PL-520-2.5	Liquid pressure transmitter	0 to 2.5 bar
PL-520-4	Liquid pressure transmitter	0 to 4 bar
PL-520-6	Liquid pressure transmitter	0 to 6 bar
PL-520-10	Liquid pressure transmitter	0 to 10 bar
PL-520-16	Liquid pressure transmitter	0 to 16 bar
PL-520-25	Liquid pressure transmitter	0 to 25 bar
PL-520-40	Liquid pressure transmitter	0 to 40 bar
0-10Vdc Output:		
PL-520-1-V	Liquid pressure transmitter	0 to 1 bar
PL-520-1.6-V	Liquid pressure transmitter	0 to 1.6 bar
PL-520-2.5-V	Liquid pressure transmitter	0 to 2.5 bar
PL-520-4-V	Liquid pressure transmitter	0 to 4 bar
PL-520-6-V	Liquid pressure transmitter	0 to 6 bar
PL-520-10-V	Liquid pressure transmitter	0 to 10 bar
PL-520-16-V	Liquid pressure transmitter	0 to 16 bar
PL-520-25-V	Liquid pressure transmitter	0 to 25 bar
PL-520-40-V	Liquid pressure transmitter	0 to 40 bar
Accessories:		
PL-HS	Pressure transmitter heat sink	

EC Products Limited
EC House, Amberley Way, Hounslow,
Middlesex. TW4 6BH. United Kingdom
Tel:+44 (0)20 8569 4100 Fax: +44 (0)20 8569 4111

Installation:

1. Fix the transmitter to the pipe using a ½" BSP female connection and a 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 –40 to 135˚C.
4. Remove the DIN connector and expose the electrical terminals feed cable through the cable gland and connect as required. Re-fit connector to transmitter and tighten screw.
5. When opening the gate valve it is important to do this slowly to avoid pressure spikes that can damage the transmitter.



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 seconds 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.

PL-520-x (4-20mA)...

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

PL-520-x-V (0-10Vdc)...

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

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