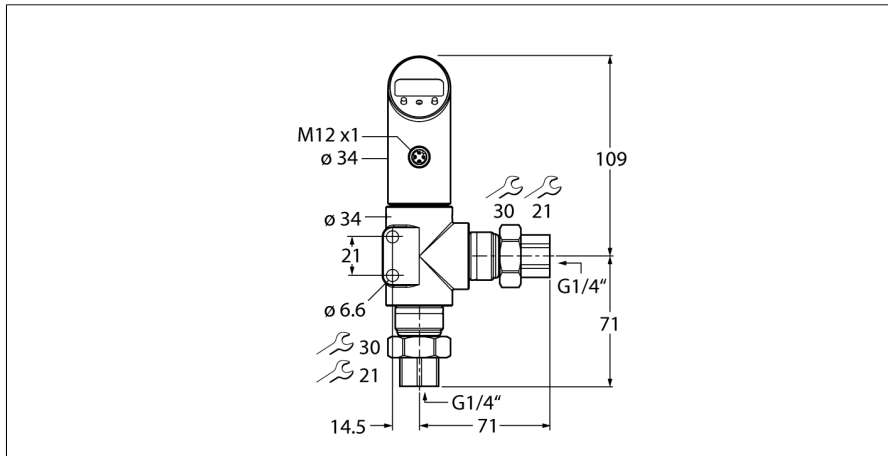


Differential Pressure Sensor

With current output and PNP/NPN transistor switching output

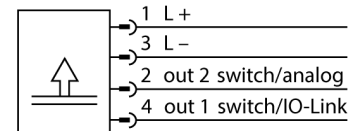
Output 2 programmable as switching output

PS003D-501L-LI2UPN8X-H1141



- Pressure monitoring in harsh industrial environments
- Housing is rotatable after plugging the process connection
- Reading of adjusted values without tool
- High-side switch
- Recessed pushbutton, keylock and password for secure programming
- Permanent indication of pressure (bar, psi, kPa, MPa, misc)
- Peak pressure memory
- Pressure range 0...2.5 bar rel.

Wiring Diagram



Functional principle

The PSD differential pressure sensors have two pressure connections with ceramic measuring cells to detect different pressures, from which the difference is formed. As a result of the pressure acting on the measuring cells, a signal that is proportional to the pressure is generated and electronically processed internally. Depending on the sensor variant, either switching or analog signals are available. All PSD variants have IO-Link.

The PSD sensors operate in various positive pressure ranges up to a differential of 250 bar. The connection with higher pressure can be configured via the menu (High-Site-Switch).

Type designation	PS003D-501L-LI2UPN8X-H1141
Ident-No.	6834120
Pressure range	
Relative pressure	0...2.5 bar rel. 0...36.26 psi 0...0.25 MPa
Admissible overpressure	≤ 12 bar
Burst pressure	≥ 12 bar
Response time	< 3 ms
Power supply	
Operating voltage	18...30 VDC
Current consumption	≤ 50 mA
Voltage drop at I_L	≤ 2.5 V
Protective measure	SELV; PELV according to EN 50178
Short-circuit/reverse polarity protection	yes / yes
Protection type and class	IP67 / IP69K / III
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	analog or switching output
Switching output	
Output function	NO/NC, PNP/NPN
Accuracy switching output	± 1 % v. E. BSL
Rated operational current	0.2 A
Switching frequency	≤ 180 Hz
Switching point distance	≥ 0.5 %
Switch point:	(min. + 0.005 × range) up to 100% of full scale
Release point(s)	min. up to (SP - 0.005 × range)
Switching cycles	≥ 100 mil.
Analog output	
Current output	4...20 mA
Operating range	4...20/0...20 mA (3-wire)
Load	≤ 0.5 kΩ
Accuracy LHR analog output	± 1 % FS BSL
Temperature behaviour	
Medium temperature	-40...+85 °C
Temperature coefficient zero point T_{k0}	± 0.3 % of full scale/10 K
Temperature coefficient span T_{ks}	± 0.3 % of full scale/10 K

Differential Pressure Sensor

With current output and PNP/NPN transistor switching output

Output 2 programmable as switching output

PS003D-501L-LI2UPN8X-H1141

Ambient conditions

Ambient temperature	-40...+80 °C
Storage temperature	-40...+80 °C
Vibration resistance	20 g (9...2000 Hz), according to IEC 60068-2-6
Shock resistance	50 g (11 ms) , acc. to IEC 60068-2-27
EMC	EN 61000-4-2 ESD: 4 kV CD/8 kV AD EN 61000-4-3 HF Radiated: 15 V/m EN 61000-4-4 Burst: 2 kV EN 61000-4-5 Surge: 1 kV, 42 Ohm EN 61000-4-6 HF Cable-bound: 10 V

Housing

Housing material	Stainless-steel/Plastic, V2A (1.4305)
Pressure connection material	Stainless steel A2 1.4305 (AISI 303)
Pressure transducer material	Ceramics Al ₂ O ₃
Sealing material	FPM spez.
Process connection	G $\frac{1}{4}$ " female thread
Wrench size pressure connection / coupling nut	21/ 30
Electrical connection	Connector, M12 × 1
Max. tightening torque housing nut	35 Nm

Reference conditions acc. to IEC 61298-1

Temperature	15...+25 °C
Atmospheric pressure	860...1060 hPa abs.
Humidity	45...75 % rel.
Auxiliary power	24 VDC

Display

	4-digit 7-segment display, rotatable by 180°, disengageable
Switching state	2 × LEDs, Yellow
Programming options	start/end value analog output; switch/release points; PNP/NPN; NO/NC contact; hysteresis/window function; damping; pressure unit; peak pressure memory
Unit display	5 x LEDs green (bar, psi, kPa, MPa, misc)