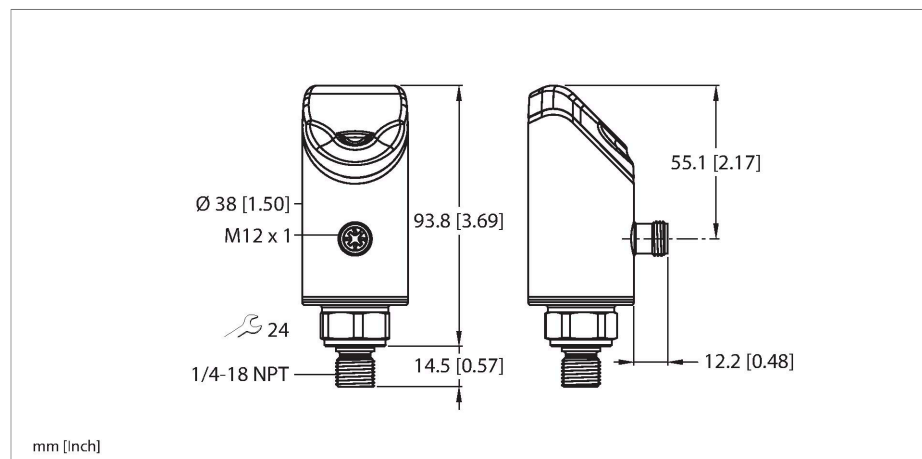


PS510-40V-03-2UPN8-H1141/X

Pressure Sensor – Relative Pressure: -1...40 Bar



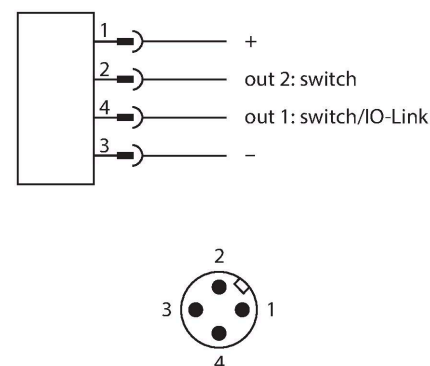
Technical data

Type	PS510-40V-03-2UPN8-H1141/X
ID	100008096
Medium temperature	-30...+80 °C
Application area	Liquids and gases
Pressure range	
Pressure type	Relative pressure
Pressure range	-1...40 bar
	-14.5...580.15 psi
	-0.1...4 MPa
Admissible overpressure	≤ 140 bar
Burst pressure	≥ 280 bar
Response time	≤ 3 ms
Electrical data	
Operating voltage	18...33 VDC
Short-circuit/reverse polarity protection	yes, cyclic / yes (voltage supply)
Capacitive load	100 nF
Insulation class	III
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	Switching output
Switching output	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN
Accuracy	± 0.25 % FS BSL

Features

- 4-digit, 2-colored, 12-segment display, rotatable by 180°
- Housing is rotatable after plugging the process connection
- Metal measuring cell
- Pressure peak orifice
- Pressure range -1...40 bar relative
- 18...33 VDC
- NO/NC contact, PNP/NPN output, IO-Link
- Process connection 1/4" NPT male thread
- Connector device, M12 × 1

Wiring diagram



Functional principle

The pressure sensors from the P510 product series operate with fully welded metal measuring cells. As a result of the pressure acting on the metal substrate, a signal that is proportional to the pressure is generated

Technical data

Rated operational current	0.25 A
Switching frequency	≤ 300 Hz
Switching point distance	≥ 0.5 %
Switch point:	(Min. + 0.005 × range)...100 % of full scale
Release point(s)	min. up to (SP - 0.005 × range)
Switching cycles	≥ 100 mil.

IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Transmission physics	corresponds to 3-wire physics (PHY2)
Frame type	2.2
Transmission rate	COM 2/38.4 kbps
Process data width	16 bit
Measured value information	14 bit
Switchpoint information	2 bit
Programming	FDT/DTM
Accuracy	± 0.25 % FS BSL
Included in the SIDI GSDML	Yes

Programming	
Programming options	Switching/reversing points; PNP/NPN; opener/closer; hysteresis/window mode; damping; pressure unit; printhead memory

Mechanical data	
Housing material	Stainless-steel/Plastic, 1.4404 (AISI 316L)/Grilamid TR90 UV
Materials (contact with media)	Stainless steel 1.4404 (AISI 316L)/1.4542 (AISI 630)
Process connection	1/4" NPT-18 male thread
Wrench size pressure connection / coupling nut	24
Max. tightening torque of housing nut	35 Nm
Electrical connection	Connector, M12 × 1
Protection class	IP66 IP67 IP69K

Environmental conditions	
Ambient temperature	-40...+80 °C
Storage temperature	-40...+80 °C
Shock resistance	50 g (11 ms) EN 60068-2-27

and processed electronically. The processed signal is available either as a switching or an analog output with an accuracy of 0.25% of full scale. The rotatable sensor body and a variety of process connections guarantee flexible process integration.

Technical data

EMV	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 61000-4-6 HF cable bound: 10 V EN 61000-6-2 0.5 kV, 42 Ω EN 61326-2-3
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Tests/approvals

Approvals	CE Metrological certification (RUS) cULus
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UL registration number	E183243
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Reference conditions acc. to IEC 61298-1

Temperature	15...+25 °C
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Atmospheric pressure	860...1030 hPa abs.
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Humidity	45...75 % rel.
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Auxiliary power	24 VDC
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Displays/Operating elements

Display	4-digit 12-segment display, rotatable by 180°, red or green
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Switching state	2 × LEDs, Yellow
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Unit display	5 x LEDs green (bar, psi, kPa, MPa, misc)
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Temperature behaviour

Temperature coefficient range TK_s	± 0.1 % of full scale/10 K
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Temperature coefficient zero point TK_0	± 0.1 % of full scale/10 K
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MTTF	110 years acc. to SN 29500 (Ed. 99) 40 °C
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