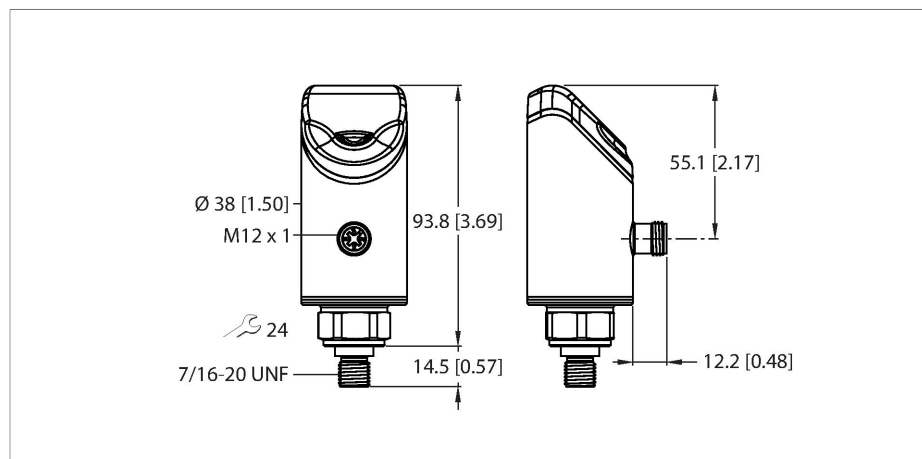


PS510-40V-05-LI2UPN8-H1141

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



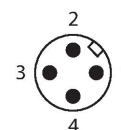
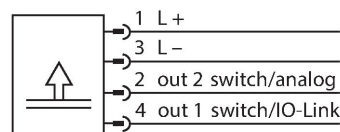
Technical data

Type	PS510-40V-05-LI2UPN8-H1141
ID	100001562
Medium temperature	-30...+80 °C
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
Operating voltage	18...33 VDC
Short-circuit/reverse polarity protection	yes, cyclic / yes (voltage supply)
Insulation class	III
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	Analog or switching output
Switching output	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN
Accuracy	± 0.25 % FS BSL
Rated operational current	0.25 A
Switching frequency	≤ 300 Hz
Switching point distance	≥ 0.5 %

Features

- 4-digit, 2-colored, 12-segment display, rotatable by 180°
- Housing is rotatable after plugging the process connection
- Metal measuring cell
- 18...33 VDC
- NO/NC contact, PNP/NPN output, analog output (current/voltage), IO-Link
- Process connection 7/16" UNF (SAE) male thread
- Plug-in 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 and processed electronically. The processed

Technical data

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.

Switch point:	(min. + 0.005 x range) up to 100 % of full scale
Release point(s)	min. up to (SP - 0.005 x range)
Switching cycles	≥ 100 mil.
Analog output	
Current output	4...20 mA
Voltage output	0...10 V
Accuracy LHR	± 0.25 % FS BSL
IO-Link	
IO-Link specification	V 1.1
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	start/end value analog output; switch/release points; PNP/NPN; NO/NC contact; hysteresis/window function; damping; pressure unit; peak pressure memory
Housing material	Stainless-steel/Plastic, 1.4404 (AISI 316L)/Grilamid TR90 UV
Process connection	7/16"-20 UNF male thread
Wrench size pressure connection / coupling nut	24
Max. tightening torque of housing nut	15 Nm
Electrical connection	Connector, M12 × 1
Protection class	IP66 IP67 IP69K
Ambient temperature	-40...+80 °C
Storage temperature	-40...+100 °C
Shock resistance	50 g (11 ms) , EN 60068-2-27
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

Technical data

EN 61326-2-3

Tests/approvals	
Approvals	UL
UL registration number	E183243
Reference conditions acc. to IEC 61298-1	
Temperature	15...+25 °C
Atmospheric pressure	860...1030 hPa abs.
Humidity	45...75 % rel.
Auxiliary power	24 VDC
Display	4-digit 12-segment display, rotatable by 180°, red or green
Switching state	2 × LEDs, Yellow
Unit display	5 × LEDs green (bar, psi, kPa, MPa, misc)
Temperature behaviour	
Temperature coefficient span T_{ks}	± 0.1 % of full scale/10 K
Temperature coefficient zero point T_{k0}	± 0.1 % of full scale/10 K
MTTF	100 years acc. to SN 29500 (Ed. 99) 40 °C

Technical data

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ID	100001562
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
Operating voltage	18...33 VDC
Voltage drop at I_o	≤ 2 V
Short-circuit/reverse polarity protection	yes, cyclic / yes (voltage supply)
Protection type and class	IP66 IP67 IP69K / III
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	Analog or switching output

Technical data

Switching output	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN
Accuracy	± 0.25 % FS BSL
Rated operational current	0.25 A
Switching frequency	≤ 300 Hz
Switching point distance	≥ 0.5 %
Switch point:	(min. + 0.005 x range) up to 100 % of full scale
Release point(s)	min. up to (SP - 0.005 x range)
Switching cycles	≥ 100 mil.
Analog output	
Current output	4...20 mA
Voltage output	0...10 V
Accuracy LHR	± 0.25 % FS BSL
IO-Link	
IO-Link specification	V 1.1
Programming	FDT/DTM
Transmission physics	corresponds to 3-wire physics (PHY2)
Transmission rate	COM 2/38.4 kbps
Process data width	16 bit
Measured value information	14 bit
Switchpoint information	2 bit
Frame type	2.2
Accuracy	± 0.25 % FS BSL
Included in the SIDI GSDML	Yes
Temperature behaviour	
Medium temperature	-30...+80 °C
Temperature coefficient zero point Tk0	± 0.1 % of full scale/10 K
Temperature coefficient span T _{KS}	± 0.1 % of full scale/10 K
Ambient temperature	-40...+80 °C
Storage temperature	-40...+100 °C
Shock resistance	50 g (11 ms) , EN 60068-2-27
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

Technical data

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Process connection	7/16"-20 UNF male thread
Wrench size pressure connection / coupling nut	24
Electrical connection	Connector, M12 × 1
Max. tightening torque of housing nut	15 Nm
Reference conditions acc. to IEC 61298-1	
Temperature	15...+25 °C
Atmospheric pressure	860...1030 hPa abs.
Humidity	45...75 % rel.
Auxiliary power	24 VDC
Display	4-digit 12-segment display, rotatable by 180°, red or green
Switching state	2 × LEDs, Yellow
Unit display	5 x LEDs green (bar, psi, kPa, MPa, misc)
Programming	
Programming options	start/end value analog output; switch/release points; PNP/NPN; NO/NC contact; hysteresis/window function; damping; pressure unit; peak pressure memory
Tests/approvals	
Approvals	UL
UL registration number	E183243
MTTF	100 years acc. to SN 29500 (Ed. 99) 40 °C