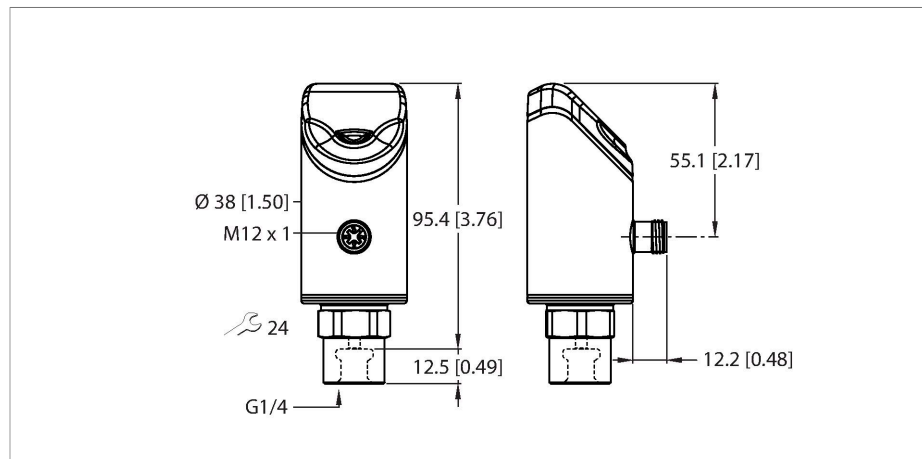


# PS510-10V-01-2UPN8-H1141

Pressure sensor – Relative Pressure: -1...10 Bar



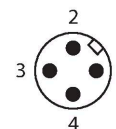
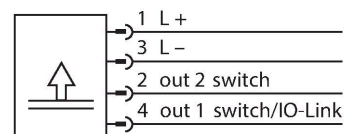
## Technical data

Type	PS510-10V-01-2UPN8-H1141
ID no.	100004760
Medium temperature	-30...+80 °C
Application area	Liquids and gases
<b>Pressure range</b>	
Pressure type	Relative pressure
Druckbereich	-1...10 bar
	-14.5...145.04 psi
	-0.1...1 MPa
Admissible overpressure	≤ 70 bar
Burst pressure	≥ 140 bar
Response time	≤ 3 ms
<b>Electrical data</b>	
Operating voltage	18...33 VDC
Short-circuit/reverse polarity protection	yes, cyclic / yes (voltage supply)
Capacitive load	100 nF
Insulation class	III
<b>Outputs</b>	
Output 1	Switching output or IO-Link mode
Output 2	switching output
<b>Switching output</b>	
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
- 18...33 VDC
- NO/NC contact, PNP/NPN output, IO-Link
- Process connection G1/4" female 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 signal is available either as a switching or an analog output with an accuracy of 0.25% of full

## Technical data

scale. The rotatable sensor body and a variety of process connections guarantee flexible process integration.

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.
<b>IO-Link</b>	
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
<b>Programming</b>	
Programming options	Switching/reversing points; PNP/NPN; opener/closer; hysteresis/window mode; damping; pressure unit; printhead memory
<b>Mechanical data</b>	
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	G 1/4" female 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
<b>Environmental conditions</b>	
Ambient temperature	-40...+80 °C
Storage temperature	-40...+100 °C
Shock resistance	50 g (11 ms) , EN 60068-2-27

## 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 $\Omega$ EN 61326-2-3
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### 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 functions

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)

### Temperature behaviour

Temperature coefficient span $T_{ks}$	$\pm 0.1$ % of full scale/10 K
Temperature coefficient zero point $T_{k0}$	$\pm 0.1$ % of full scale/10 K
MTTF	110 years acc. to SN 29500 (Ed. 99) 40 °C