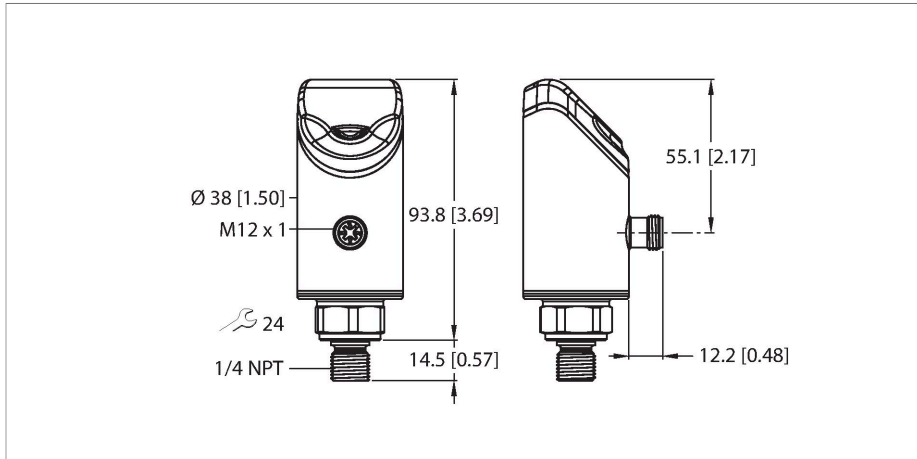


PS510-16V-03-2UPN8-H1141/X

Pressure sensor – Relative Pressure: -1...16 Bar



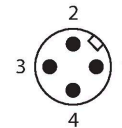
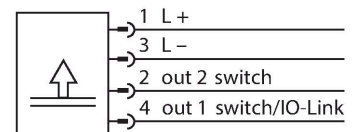
Technical data

| | |
|---|------------------------------------|
| Type | PS510-16V-03-2UPN8-H1141/X |
| Ident. no. | 100008094 |
| Medium temperature | -30...+80 °C |
| Application area | Liquids and gases |
| Pressure range | |
| Relative pressure bar | -1...16 bar rel. |
| | -14.5...232.06 psi |
| | -0.1...1.6 MPa |
| Admissible overpressure | ≤ 70 bar |
| Burst pressure | ≥ 140 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 % of final value BSL |
| Rated operational current | 0.25 A |

Features

- 4-digit, two-colored, 14-segment display, rotatable by 180°
- Housing is rotatable after plugging the process connection
- Metal measuring cell
- Peak pressure aperture
- 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 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

| | |
|--|---|
| 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 × 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 % of full scale 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 male thread |
| Wrench size pressure connection / coupling nut | 24 |
| Max. tightening torque of housing nut | 35 Nm |
| Electrical connection | Connector, M12 × 1 |
| Protection class | IP6K6K / 6K7 / 6K9K |
| Environmental conditions | |
| 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 |

Technical data

EN 61000-6-2 0.5 kV, 42 Ω
EN 61326-2-3

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