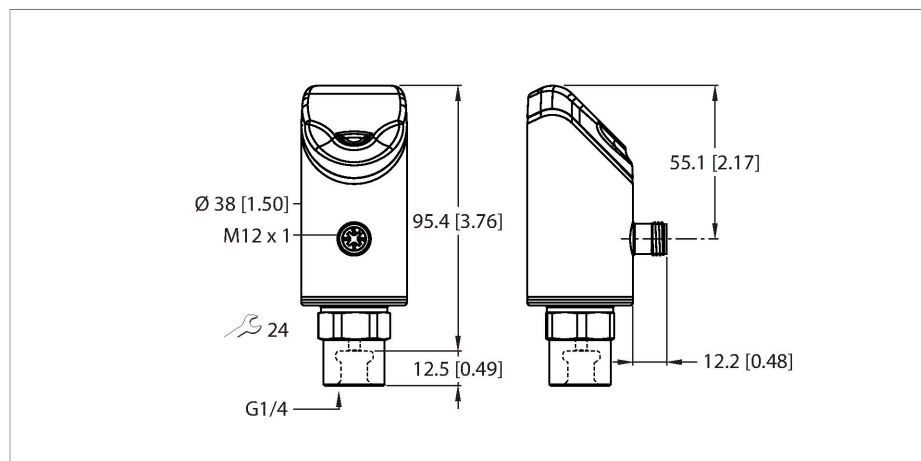


# PS510-100-01-LI2UPN8-H1141

## Pressure sensor – Relative Pressure: 0...100 Bar



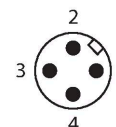
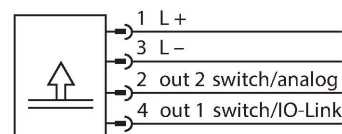
### Technical data

|   |   |
|---|---|
| Type                                      | PS510-100-01-LI2UPN8-H1141                          |
| Ident. no.                                | 100001574   |
| Medium temperature                        | -30...+80 °C  |
| Application area                          | Liquids and gases                                   |
| <b>Pressure range</b>                     |   |
| Relative pressure bar                     | 0...100 bar rel.                                    |
|   | 0...1450.38 psi                                     |
|   | 0...10 MPa  |
| Admissible overpressure                   | ≤ 300 bar   |
| Burst pressure                            | ≥ 400 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                                  | Analog output (current/voltage) or switching output |
| <b>Switching output</b>                   |   |
| Communication protocol                    | IO-Link   |
| Output function                           | NO/NC, PNP/NPN                                      |
| Accuracy                                  | ± 0.25 % of final value BSL                         |

### Features

- 4-digit, two-colored, 14-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 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 scale. The rotatable sensor body and a variety of process connections guarantee flexible process integration.

## Technical data

|  |  |
|--|--|
| 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>Analog output</b>                           |  |
| Current output                                 | 4...20 mA  |
| High level signal current                      | 20.5 mA  |
| Low level signal current                       | 3.8 mA   |
| Load resistance, current output                | ≤ 0.5 kΩ   |
| Voltage output                                 | 0...10 V   |
| Load resistance voltage output                 | ≥ 8 kΩ   |
| Accuracy LHR                                   | ± 0.25 % FS BSL  |
| <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 % of full scale BSL   |
| Included in the SIDI GSDML                     | Yes  |
| <b>Programming</b>                             |  |
| Programming options                            | start/end value analog output; switch/release points; PNP/NPN; NO/NC contact; hysteresis/window function; damping; pressure unit; peak pressure 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   |

## Technical data

|   |  |
|---|--|
| Max. tightening torque of housing nut           | 35 Nm  |
| Electrical connection                           | Connector, M12 × 1   |
| Protection class                                | IP6K6K / 6K7 / 6K9K  |
| <b>Environmental conditions</b>                 |  |
| 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<br>EN 61000-4-3 HF radiated: 15 V/m<br>EN 61000-4-4 Burst: 2 kV<br>EN 61000-4-6 HF cable bound: 10 V<br>EN 61000-6-2 0.5 kV, 42 Ω<br>EN 61326-2-3 |
| <b>Reference conditions acc. to IEC 61298-1</b> |  |
| Temperature                                     | 15...+25 °C  |
| Atmospheric pressure                            | 860...1030 hPa abs.  |
| Humidity  | 45...75 % rel.   |
| Auxiliary power                                 | 24 VDC   |
| <b>Display functions</b>                        |  |
| 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)  |
| <b>Temperature behaviour</b>                    |  |
| 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  |