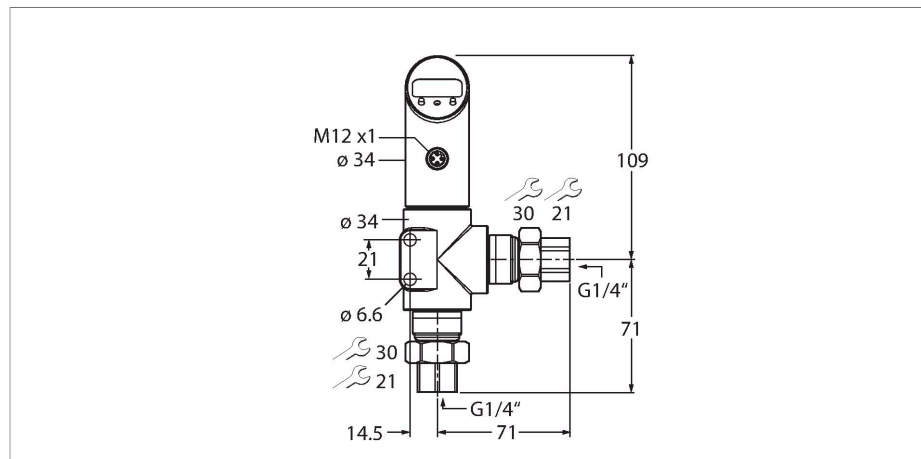


# PS001D-501L-2UPN8X-H1141

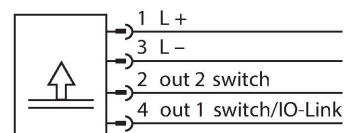
## Differential Pressure Sensor – 2 PNP/NPN Transistor Switching Outputs



### Features

- Pressure monitoring in harsh industrial environments
- Housing is rotatable after plugging the process connection
- Reading of adjusted values without tool
- High-side switch
- Recessed pushbutton, keylock and password for secure programming
- Permanent indication of pressure (bar, psi, kPa, MPa, misc)
- Peak pressure memory
- Pressure range 0...1 bar difference

### Wiring diagram



### Technical data

|   |                                  |
|---|----------------------------------|
| Type                                      | PS001D-501L-2UPN8X-H1141         |
| Ident. no.                                | 6834133                          |
| <b>Pressure range</b>                     |                                  |
| Relative pressure                         | 0...1 bar rel.                   |
|   | 0...14.5 psi                     |
|   | 0...0.1 MPa                      |
| Admissible overpressure                   | ≤ 5.5 bar                        |
| Burst pressure                            | ≥ 5.5 bar                        |
| Response time                             | < 3 ms                           |
| <b>Power supply</b>                       |                                  |
| Operating voltage                         | 18...30 VDC                      |
| Current consumption                       | ≤ 50 mA                          |
| Voltage drop at I <sub>e</sub>            | ≤ 2.5 V                          |
| Protective measure                        | SELV; PELV according to EN 50178 |
| Short-circuit/reverse polarity protection | yes / yes                        |
| Protection type and class                 | IP67 / IP69K / 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                                  | ± 1 % of final value BSL         |

### Functional principle

The PSD differential pressure sensors have two pressure connections with ceramic measuring cells to detect different pressures, from which the difference is formed. As a result of the pressure acting on the measuring cells, a signal that is proportional to the pressure is generated and electronically processed internally. Depending on the sensor variant, either switching or analog signals are available. All PSD variants have IO-Link.

The PSD sensors operate in various positive pressure ranges up to a differential of 250 bar. The connection with higher pressure can be configured via the menu (High-Site-Switch).

## Technical data

|   |  |
|---|--|
| Rated operational current                       | 0.2 A  |
| Switching frequency                             | ≤ 180 Hz   |
| Switching point distance                        | ≥ 0.5 %  |
| Switch point:                                   | (min. + 0.005 × range) up to 100% of full scale  |
| Release point(s)                                | min. up to (SP - 0.005 × range)  |
| Switching cycles                                | ≥ 100 mil.   |
| Included in the SIDI GSDML                      | Yes  |
| <b>Temperature behaviour</b>                    |  |
| Medium temperature                              | -40...+85 °C   |
| Temperature coefficient zero point Tk0          | ± 0.3 % of full scale/10 K   |
| Temperature coefficient span T <sub>ks</sub>    | ± 0.3 % of full scale/10 K   |
| <b>Ambient conditions</b>                       |  |
| Ambient temperature                             | -40...+80 °C   |
| Storage temperature                             | -40...+80 °C   |
| Vibration resistance                            | 20 g (9...2000 Hz), according to IEC 60068-2-6   |
| Shock resistance                                | 50 g (11 ms) , acc. to IEC 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 61000-4-5 Surge: 1 kV, 42 Ohm<br>EN 61000-4-6 HF Cable-bound: 10 V |
| <b>Housing</b>                                  |  |
| Housing material                                | Stainless-steel/Plastic, V2A (1.4305)  |
| Pressure connection material                    | Stainless steel A2 1.4305 (AISI 303)   |
| Pressure transducer material                    | Ceramics Al <sub>2</sub> O <sub>3</sub>  |
| Sealing material                                | FPM spez.  |
| Process connection                              | G¼" female thread  |
| Wrench size pressure connection / coupling nut  | 21/ 30   |
| Electrical connection                           | Connector, M12 × 1   |
| Max. tightening torque housing nut              | 35 Nm  |
| <b>Reference conditions acc. to IEC 61298-1</b> |  |
| Temperature                                     | 15...+25 °C  |
| Atmospheric pressure                            | 860...1060 hPa abs.  |
| Humidity  | 45...75 % rel.   |
| Auxiliary power                                 | 24 VDC   |
| Display   | 4-digit 7-segment display, rotatable by 180°, disengageable  |

## Technical data

|                     |  |
|---------------------|--|
| Switching state     | 2 × LEDs, Yellow   |
| Programming options | Switching/reversing points; PNP/NPN;<br>opener/closer; hysteresis/window mode;<br>damping; pressure unit; printhead memory |
| Unit display        | 5 x LEDs green (bar, psi, kPa, MPa, misc)  |