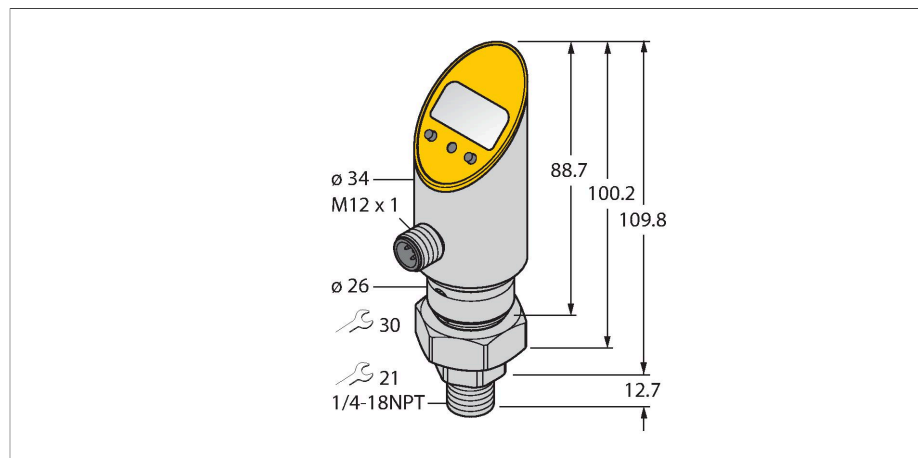


# PS100R-503-2UPN8X-H1141

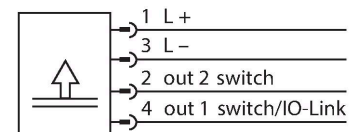
## Pressure Transmitter (Rotatable) – 2 PNP/NPN Transistor Switching Outputs



### Features

- Housing is rotatable after plugging the process connection
- Reading of adjusted values without tool
- Recessed pushbutton and keylock for secure programming
- Permanent indication of pressure (bar, psi, kPa, MPa, misc)
- Peak pressure memory
- Pressure range 0...100 bar rel.

### Wiring diagram



### Functional principle

The pressure sensors of the PS series operate with piezo-resistive ceramic measuring cells. The ceramic diaphragm is unbalanced in proportion to the pressure applied. Depending on the sensor type, the voltage produced is made available either as switching or analog output signal. Non-rotatable and rotatable sensors, numerous thread types, front-flush or dead-zone free diaphragms and an accuracy of 0.5% of full scale guarantee highest flexibility and safe process interfacing.

### Technical data

|                                           |                                  |
|-------------------------------------------|----------------------------------|
| Type                                      | PS100R-503-2UPN8X-H1141          |
| Ident. no.                                | 6832666                          |
| <b>Pressure range</b>                     |                                  |
| Relative pressure                         | 0...100 bar rel.                 |
|                                           | 0...1450 psi                     |
|                                           | 0...10 MPa                       |
| Admissible overpressure                   | ≤ 420 bar                        |
| Burst pressure                            | ≥ 420 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 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                   |

## Technical data

|                                                |                                                                                                                                                                               |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accuracy                                       | ± 0.5 % of final value BSL                                                                                                                                                    |
| Rated operational current                      | 0.2 A                                                                                                                                                                         |
| Switching frequency                            | ≤ 180 Hz                                                                                                                                                                      |
| Switching point distance                       | ≥ 0.5 %                                                                                                                                                                       |
| Switch point:                                  | (min + 0.005 x range) up to 100% f.s.                                                                                                                                         |
| Release point(s)                               | min up to (SP - 0.005 x range)                                                                                                                                                |
| Switching cycles                               | ≥ 100 mil.                                                                                                                                                                    |
| <b>IO-Link</b>                                 |                                                                                                                                                                               |
| IO-Link specification                          | V 1.0                                                                                                                                                                         |
| 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                                       | ± 0.5 % of full scale BSL                                                                                                                                                     |
| Included in the SIDI GSDML                     | Yes                                                                                                                                                                           |
| <b>Temperature behaviour</b>                   |                                                                                                                                                                               |
| Medium temperature                             | -40...+85 °C                                                                                                                                                                  |
| Temperature coefficient zero point Tk0         | ± 0.15 % of full scale/10 K                                                                                                                                                   |
| Temperature coefficient span T <sub>KS</sub>   | ± 0.15 % 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 68-2-6                                                                                                                                   |
| Shock resistance                               | 50 g (11 ms) , acc. to IEC 68-2-27                                                                                                                                            |
| 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: 1000 V, 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                             | NPT ¼"-18 male thread                                                                                                                                                         |
| Wrench size pressure connection / coupling nut | 21/ 30                                                                                                                                                                        |

## Technical data

|                                          |                                                                                                           |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Electrical connection                    | Connector, M12 × 1                                                                                        |
| Max. tightening torque housing nut       | 35 Nm                                                                                                     |
| Reference conditions acc. to IEC 61298-1 |                                                                                                           |
| 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                                               |
| Switching state                          | 2 × LEDs, Yellow                                                                                          |
| Programming options                      | switch/release point, PNP/NPN; NO/NC; hysteresis/window mode, muting; pressure unit, peak pressure memory |
| Unit display                             | 5 x LEDs green (bar, psi, kPa, MPa, misc)                                                                 |
| MTTF                                     | 439 years acc. to SN 29500 (Ed. 99) 40 °C                                                                 |