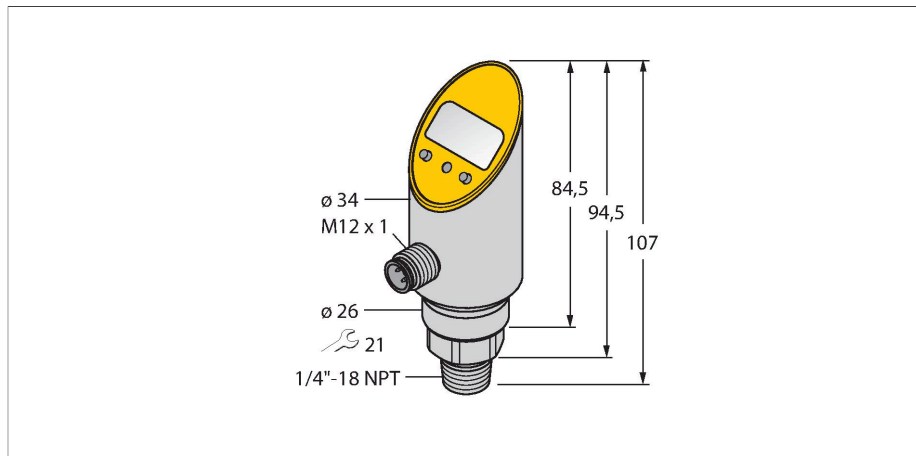


# PS600R-303-LUUPN8X-H1141

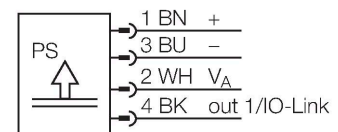
## Pressure sensor – With Voltage Output and PNP/NPN Transistor Switching Output



### Features

- Rigid process connection, non-rotatable body
- 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...600 bar rel.

### Wiring diagram



### Functional principle

The pressure sensors in the PS product series operate with ceramic measuring cells. As a result of the pressure acting on the ceramic 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 signal, depending on the sensor type used. Maximum flexibility thanks to a rigid or rotatable sensor body, a variety of thread types, front-flush or dead-space-free pressure membranes and an accuracy of 0.5 % of full scale guarantee a safe connection to the process.

### Technical data

|   |                                  |
|---|----------------------------------|
| Type                                      | PS600R-303-LUUPN8X-H1141         |
| ID  | 6833437                          |
| Medium temperature                        | -40...+85 °C                     |
| <b>Pressure range</b>                     |                                  |
| Pressure type                             | Relative pressure                |
| Pressure range                            | 0...600 bar                      |
|   | 0...8702.26 psi                  |
|   | 0...60 MPa                       |
| Admissible overpressure                   | ≤ 900 bar                        |
| Burst pressure                            | ≥ 900 bar                        |
| Response time                             | < 3 ms                           |
| <b>Power supply</b>                       |                                  |
| Operating voltage                         | 18...30 VDC                      |
| Current consumption                       | ≤ 50 mA                          |
| Protective measure                        | SELV; PELV according to EN 50178 |
| Short-circuit/reverse polarity protection | yes / yes                        |
| Insulation class                          | III                              |
| <b>Outputs</b>                            |                                  |
| Output 1                                  | Switching output or IO-Link mode |
| Output 2                                  | Analog output                    |
| <b>Switching output</b>                   |                                  |
| Communication protocol                    | IO-Link                          |
| Output function                           | NO/NC, PNP/NPN                   |

## Technical data

|  |   |
|--|---|
| Accuracy                                       | ± 0.5 % FS BSL  |
| Rated operational current                      | 0.2 A   |
| Switching frequency                            | ≤ 180 Hz  |
| Switching point distance                       | ≥ 0.5 %   |
| Switch point:                                  | (Min. + 0.005 × range)...100 % of full scale  |
| Release point(s)                               | min up to (SP - 0.005 x range)  |
| Switching cycles                               | ≥ 100 mil.  |
| <b>Analog output</b>                           |   |
| Voltage output                                 | 0...10 V  |
| Load   | ≥ 2 kΩ  |
| Accuracy LHR                                   | ± 0.5 % FS BSL  |
| <b>IO-Link</b>                                 |   |
| IO-Link specification                          | V 1.0   |
| 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                                       | ± 0.5 % FS BSL  |
| Included in the SIDI GSDML                     | Yes   |
| Programming options                            | start/end value analog output; switch/release point; PNP/NPN; NO/NC contact; hysteresis/window mode; damping; pressure unit; peak pressure memory |
| Housing material                               | Stainless-steel/Plastic, 1.4305 (AISI 303)  |
| Process connection                             | 1/4" NPT-18 male thread   |
| Pressure connection material                   | Stainless steel 1.4305 (AISI 303)   |
| Pressure transducer material                   | Ceramic Al <sub>2</sub> O <sub>3</sub>  |
| Sealing material                               | FPM spez.   |
| Wrench size pressure connection / coupling nut | 21  |
| Max. tightening torque of housing nut          | 35 Nm   |
| Electrical connection                          | Connector, M12 × 1  |
| Protection class                               | IP67<br>IP69K   |
| Ambient temperature                            | -40...+80 °C  |
| Storage temperature                            | -40...+80 °C  |

## Technical data

|   |   |
|---|---|
| Shock resistance                                | 50 g (11 ms) , acc. to IEC 68-2-27  |
| Vibration resistance                            | 20 g (9...2000 Hz), according to IEC 68-2-6   |
| 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>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   |
| Switching state                                 | 2 × LEDs, Yellow  |
| Unit display                                    | 5 x LEDs green (bar, psi, kPa, MPa, misc)   |
| <b>Temperature behaviour</b>                    |   |
| Temperature coefficient span $T_{KS}$           | ± 0.15 % of full scale/10 K   |
| Temperature coefficient zero point $T_{K0}$     | ± 0.15 % of full scale/10 K   |
| MTTF  | 242 years acc. to SN 29500 (Ed. 99) 40 °C   |

## Technical data

|   |                                  |
|---|----------------------------------|
| Type                                      | PS600R-303-LUUPN8X-H1141         |
| ID  | 6833437                          |
| <b>Pressure range</b>                     |                                  |
| Pressure type                             | Relative pressure                |
| Pressure range                            | 0...600 bar                      |
|   | 0...8702.26 psi                  |
|   | 0...60 MPa                       |
| Admissible overpressure                   | ≤ 900 bar                        |
| Burst pressure                            | ≥ 900 bar                        |
| Response time                             | < 3 ms                           |
| <b>Power supply</b>                       |                                  |
| Operating voltage                         | 18...30 VDC                      |
| Current consumption                       | ≤ 50 mA                          |
| Voltage drop at $I_o$                     | ≤ 2 V                            |
| Protective measure                        | SELV; PELV according to EN 50178 |
| Short-circuit/reverse polarity protection | yes / yes                        |

## Technical data

|  |  |
|--|--|
| Protection type and class                          | IP67<br>IP69K / III                          |
| <b>Outputs</b>                                     |  |
| Output 1   | Switching output or IO-Link mode             |
| Output 2   | Analog output                                |
| <b>Switching output</b>                            |  |
| Communication protocol                             | IO-Link                                      |
| Output function                                    | NO/NC, PNP/NPN                               |
| Accuracy   | ± 0.5 % FS BSL                               |
| Rated operational current                          | 0.2 A  |
| Switching frequency                                | ≤ 180 Hz                                     |
| Switching point distance                           | ≥ 0.5 %                                      |
| Switch point:                                      | (Min. + 0.005 × range)...100 % of full scale |
| Release point(s)                                   | min up to (SP - 0.005 x range)               |
| Switching cycles                                   | ≥ 100 mil.                                   |
| <b>Analog output</b>                               |  |
| Voltage output                                     | 0...10 V                                     |
| Load   | ≥ 2 kΩ                                       |
| Accuracy LHR                                       | ± 0.5 % FS BSL                               |
| <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 % FS BSL                               |
| Included in the SIDI GSDML                         | Yes  |
| <b>Temperature behaviour</b>                       |  |
| Medium temperature                                 | -40...+85 °C                                 |
| Temperature coefficient zero point T <sub>k0</sub> | ± 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                                 |

## Technical data

|   |   |
|---|---|
| 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>Mechanical data</b>                          |   |
| Housing material                                | Stainless-steel/Plastic, 1.4305 (AISI 303)  |
| Pressure connection material                    | Stainless steel 1.4305 (AISI 303)   |
| Pressure transducer material                    | Ceramic Al <sub>2</sub> O <sub>3</sub>  |
| Sealing material                                | FPM spez.   |
| Process connection                              | 1/4" NPT-18 male thread   |
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| Electrical connection                           | Connector, M12 × 1  |
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| 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  |
| Unit display                                    | 5 x LEDs green (bar, psi, kPa, MPa, misc)   |
| Programming options                             | start/end value analog output; switch/release point; PNP/NPN; NO/NC contact; hysteresis/window mode; damping; pressure unit; peak pressure memory                             |
| MTTF  | 242 years acc. to SN 29500 (Ed. 99) 40 °C   |