

**Pressure transmitter (rotatable)
with current output and PNP/NPN transistor switching output
output 2 reprogrammable as switching output
PS250R-501-LI2UPN8X-H1141**



- Housing rotatable after mounting the process connection
- Reading of adjusted values without tools
- Secure programming through recessed pushbutton and keylock
- Permanent indication of pressure (bar, psi, kPa, MPa, misc)
- Peak pressure memory
- Pressure range 0 ... 250 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.

| | |
|-------------------------------------------|---------------------------------------|
| Type code | PS250R-501-LI2UPN8X-H1141 |
| Ident no. | 6832228 |
| Relative pressure | 0...250bar rel. |
| Operating range | 0...3626psi |
| Operating range | 0...25MPa |
| Admissible overpressure | ≤ 625 bar |
| Burst pressure | ≥ 1200 bar |
| Power supply | |
| Operating voltage | 18...30VDC |
| No-load current I ₀ | ≤ 50 mA |
| Voltage drop at I ₀ | ≤ 2 V |
| Protective measure | SELV; PELV according to EN 50178 |
| Short-circuit/reverse polarity protection | yes/ yes |
| Protection type and class | IP67/ III |
| Outputs | |
| Output 1 | Switching output or IO-Link mode |
| Output 2 | Analog or switching output |
| Switching output | |
| Output function | NO/NC , PNP/NPN |
| Accuracy switching output | ± 0.5 % v. E. 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. |
| Analogue output | |
| Current output | 4...20mA |
| Operating range | 4...20/ 0...20 mA (3-wire) |
| Load | ≤ 0.5 kΩ |
| Accuracy LHR analog output | ± 0.5 % of final value BSL |
| Response time | < 3 ms |
| IO-Link | |
| Communication | specified acc. to version 1.0 |
| Parameterization | 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 |
| Genauigkeit | ± 0.5 % of final value BSL |

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Temperature behaviour

| | |
|---------------------------------------------|-----------------------------------|
| Medium temperature | -40...85 °C |
| Temperature coefficient zero point T_{00} | ± 0.15 % of full scale / 10 K |
| Temperature coefficient span T_{0s} | ± 0.15 % of full scale / 10 K |

Ambient conditions

| | |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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) , according to IEC 61508 |
| EMC | EN 61000-4-2 ESD:4 kV CD / 8 kV AD EN 61000-4-3 HF gestraht:15 V/m EN 61000-4-4 Burst:2 kV EN 61000-4-5 Surge: 500 V, 12 Ohm EN 61000-4-6 HF conducted:10 V |

Housing

| | |
|------------------------------------------------|---------------------------------------|
| Housing material | stainless-steel/plastic, V2A (1.4305) |
| material pressure connection | stainless steel A2 1.4305 (AISI 303) |
| material pressure element | ceramics Al_2O_3 |
| Sealing material | FPM |
| Process connection | G 1/4" female thread |
| Wrench size pressure connection / coupling nut | 21/ 30 |
| Connection | male, M12 x 1 |

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 | LED yellow |
| Programming options | start/end value analog output; switch/release points; PNP/NPN; NO/NC contact; hysteresis/window mode; damping; pressure unit; peak pressure memory |
| Unit display | 5 x LEDs green (bar, psi, kPa, MPa, misc) |

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Accessories

| Type code | Ident no. | Description | Dimension drawing |
|-----------|-----------|----------------|-------------------------------------------------------------------------------------|
| PTS-Cover | 6907410 | Protective cap |  |

Wiring accessories

| Type code | Ident no. | Description | Dimension drawing |
|---------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RKC4.4T-2/TEL | 6625013 | Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com |  |
| WKC4.4T-2/TEL | 6625025 | Connection cable, female M12, angled, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com |  |
| RKC4.4T-2/TXL | 6625503 | Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PUR, black; cULus approval; other cable lengths and qualities available, see www.turck.com |  |
| WKC4.4T-2/TXL | 6625515 | Connection cable, female M12, angled, 4-pin, cable length: 2 m, sheath material: PUR, black; cULus approval; other cable lengths and qualities available, see www.turck.com |  |