

Pressure sensor

With Analog Output and PNP/NPN Transistor Switching Output

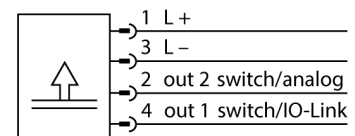
output 2 reprogrammable as switching output

PS003V-301-LI2UPN8X- H1141



- 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 -1...2.5 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 designation	PS003V-301-LI2UPN8X- H1141
Ident-No.	6833303
Pressure range	
Relative pressure	-1...2.5 bar rel. -14.5...36.26 psi -0.1...0.25 MPa
Admissible overpressure	≤ 12 bar
Burst pressure	≥ 12 bar
Response time	< 3 ms
Power supply	
Operating voltage	18...30 VDC
Current consumption	≤ 50 mA
Voltage drop at I _L	≤ 2 V
Protective measure	SELV; PELV according to EN 50178
Short-circuit/reverse polarity protection	yes / yes
Protection type and class	IP67/IP69K / 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.
Analog output	
Current output	4...20 mA
Voltage output	0...10V
Operating range	4...20/0...20 mA, 0...10 V/0...5 V (3-wire)
Load	≤ 0.5 kΩ
Accuracy LHR analog output	± 0.5 % FS BSL
IO-Link	
IO-Link Specification	Specified acc. to version 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
Genauigkeit	± 0.5 % of final value BSL

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Temperature behaviour

Medium temperature	-40...+85 °C
Temperature coefficient zero point Tk0	± 0.15 % of full scale/10 K
Temperature coefficient span T _{is}	± 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 radiated: 15 V/m EN 61000-4-4 Burst: 2 kV EN 61000-4-5 Surge: 1000 V, 42 Ohm EN 61000-4-6 HF cable bound: 10 V

Housing

Housing material	Stainless-steel/Plastic, V2A (1.4305)
Pressure connection material	Stainless steel A2 1.4305 (AISI 303)
Pressure transducer material	Ceramics Al ₂ O ₃
Sealing material	FPM spez.
Process connection	G¼" female thread
Wrench size pressure connection / coupling nut	SW 21
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	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)

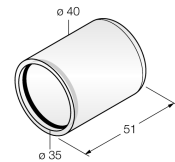
MTTF

242 years acc. to SN 29500 (Ed. 99) 40 °C

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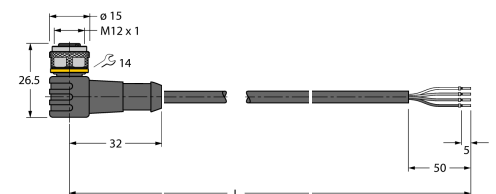
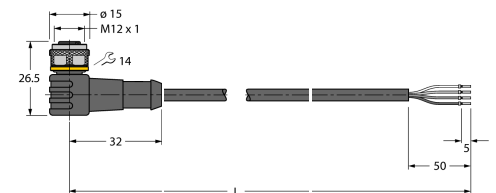
Accessories

Type code	Ident-No.	Description
PTS-COVER	A9350	Closure cap



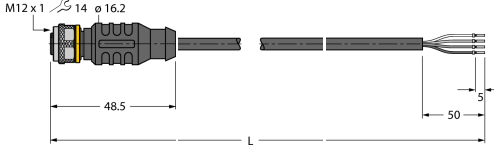
Wiring accessories

Type code	Ident-No.	Description
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
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



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Wiring accessories

Type code	Ident-No.	Description	
RKC4.4T-P7X2-10/TXL	6626184	Connection cable, female M12, angled, 4-pin, cable length: 10m, sheath material: PUR, black; cULus approval; other cable lengths and qualities available, see www.turck.com	

Function accessories

Type code	Ident-No.	Description	
TBEN-S2-4IOL	6814024	Compact multiprotocol I/O module, 4 IO-Link Master 1.1 Class A, 4 universal PNP digital channels 0.5 A	