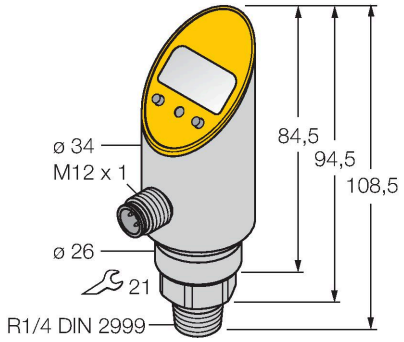
PS600R-310-LI2UPN8X-H1141
Pressure sensor – With Analog Output and PNP/NPN Transistor Switching Output
Output 2 Reprogrammable as Switching Output



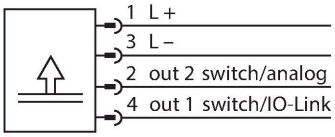
Technical data

Type	PS600R-310-LI2UPN8X-H1141
ID no.	6833515
Medium temperature	-40…+85 °C
Pressure range	
Relative pressure bar	0…600 bar rel.
	0…8702.26 psi
	0…60 MPa
Admissible overpressure	≤ 900 bar
Burst pressure	≥ 900 bar
Response time	< 3 ms
Power supply	
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
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	analog or switching output
Switching output	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN
Accuracy	± 0.5 % FS BSL
Rated operational current	0.2 A

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 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

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…10 V
Load	≤ 0.5 kΩ
Accuracy LHR	± 0.5 % FS BSL
IO-Link	
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 points; 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	R 1/4" male thread DIN 2999
Pressure connection material	Stainless steel 1.4305 (AISI 303)
Pressure transducer material	Ceramics Al_2O_3
Sealing material	FPM spez.
Wrench size pressure connection / coupling nut	21
Max. tightening torque of housing nut	35 Nm
Electrical connection	Connectors, M12 × 1
Type of protection	IP67 IP69K
Ambient temperature	-40…+80 °C
Storage temperature	-40…+80 °C
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 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

Technical data

	EN 61000-4-6 HF cable bound: 10 V
Approvals	UL
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
Unit display	5 x LEDs green (bar, psi, kPa, MPa, misc)
Temperature behaviour	
Temperature coefficient span T_{kS}	± 0.15 % of full scale/10 K
Temperature coefficient zero point Tk0	± 0.15 % of full scale/10 K
MTTF	242 years acc. to SN 29500 (Ed. 99) 40 °C

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	0…60 MPa
Admissible overpressure	≤ 900 bar
Burst pressure	≥ 900 bar
Response time	< 3 ms
Power supply	
Operating voltage	18…30 VDC
Current consumption	≤ 50 mA
Voltage drop at I_e	≤ 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	
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 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…10 V
Load	≤ 0.5 kΩ
Accuracy LHR	± 0.5 % FS BSL
IO-Link	
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
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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) , acc. to IEC 68-2-27
EMV	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
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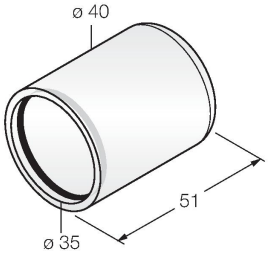
Sealing material	FPM spez.

Technical data

Process connection	R 1/4" male thread DIN 2999
Wrench size pressure connection / coupling nut	21
Electrical connection	Connectors, M12 × 1
Max. tightening torque of 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
Unit display	5 x LEDs green (bar, psi, kPa, MPa, misc)
Programming options	start/end value analog output; switch/release points; PNP/NPN; NO/NC contact; hysteresis/window mode; damping; pressure unit; peak pressure memory
Approvals	UL
MTTF	242 years acc. to SN 29500 (Ed. 99) 40 °C

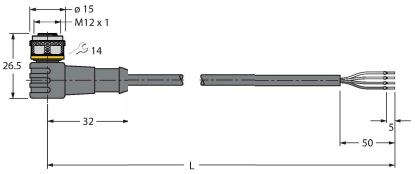
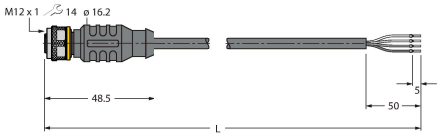
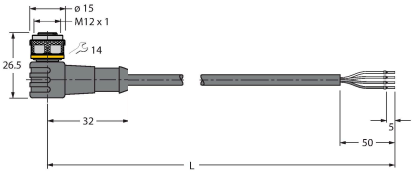
Accessories

PTS-COVER	A9350

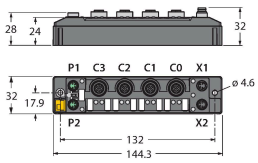


Protective housing

Accessories

Dimension drawing	Type	ID no.	
	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-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
	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/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

Accessories

Dimension drawing	Type	ID no.	
	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