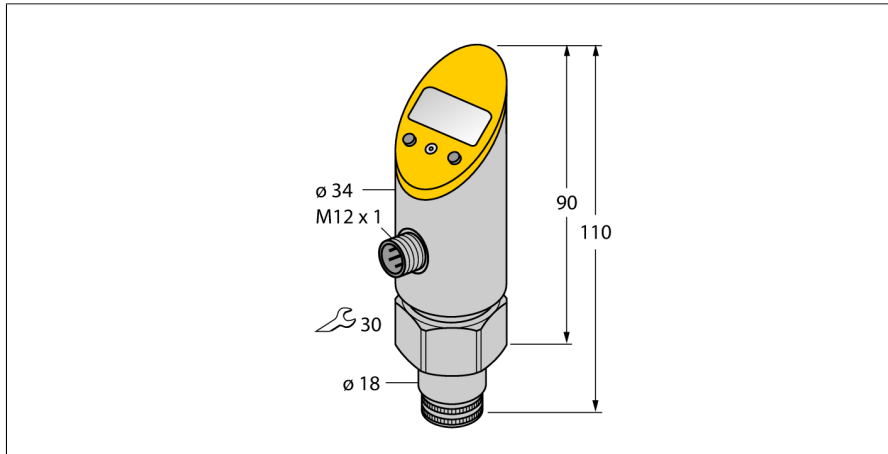
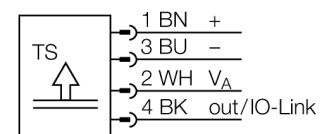


Temperature Detection With Voltage Output and PNP/NPN Transistor Switching Output TS-400-LUUPN8X-H1141



- Reading of adjusted values without tools
- Recessed pushbutton and keylock for secure programming
- Permanent display of temperature unit (°C, °F, K, Ohm)
- Temperature peak memory

Wiring Diagram



General description

The TS series is a compact processing unit with a 4-digit, 7-segment display. Available are versions with non-rotatable (TS400) or rotatable (TS500) body and various output types.

Type	TS-400-LUUPN8X-H1141
ID	6840008
Temperature range	
Measuring range	-50...500 °C
	-58...932 °F
Response time	100 ms
Power supply	
Operating voltage U_s	18...30 VDC
Current consumption	≤ 50 mA
Voltage drop at I_s	≤ 2 V
Protective measure	SELV; PELV according to EN 50178
Short-circuit/reverse polarity protection	yes / yes
Protection class	IP67
Insulation class	III
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	Analog output
Switching output	
Communication protocol	IO-Link
Output function	NO/NC programmable, PNP/NPN
Switching point accuracy	± 0.2 K
Rated operational current	0.2 A
Switching frequency	≤ 180 Hz
Switching point distance	≥ 0.2 K
Switching cycles	≥ 100 mil.
Release position	-50...+499.8°C
Switching point	-49.8...+500°C
Analog output	
Voltage output	0...10 V
Load	≥ 2 kΩ
Accuracy (Lin. + Hys. + Rep.)	± 0.2 K
Remark	0.1% of full scale applies to temperatures > +200 °C
Repeatability	0.1 K

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
Measured value information	14 bit
Switchpoint information	1 bit
Frame type	2.2
Genauigkeit	± 0.2 K
Included in the SIDI GSDML	Yes

Temperature behaviour	
Temperature coefficient zero point TK ₀	± 0.15 % of full scale/10 K
Temperature coefficient range TK _x	± 0.15 % of full scale/10 K

Environmental 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: 1 kV, 42 Ohm EN 61000-4-6 HF conducted:10 V

Mechanical data	
Housing material	Stainless-steel/Plastic, 1.4305 (AISI 303)
Process connection	Cylindrical, Ø 18 mm
Electrical connection	Connector, M12 × 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

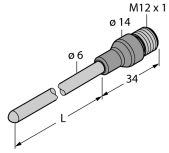
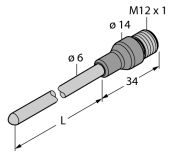
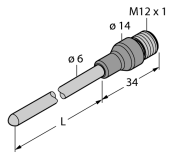
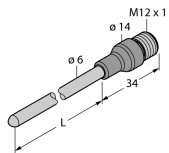
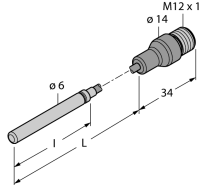
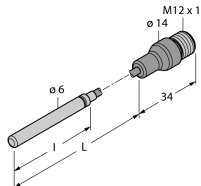
Displays/Operating elements	
Display	4-digit 7-segment display, rotatable by 180°
Switching state	2 × LEDs, Yellow
Unit display	4 x green LED (°C, °F, K, Ohm)

Programming options	switch/release point, hysteresis/window mode, NO/NC; unit
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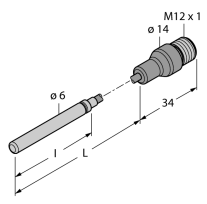
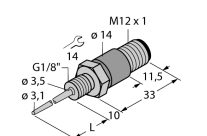
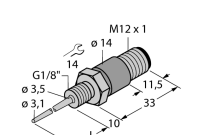
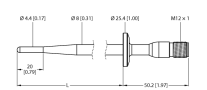
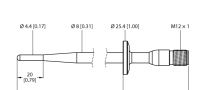
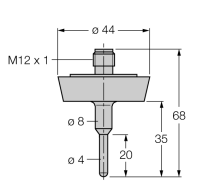
Tests/approvals	
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MTTF	255 years acc. to SN 29500 (Ed. 99) 20 °C
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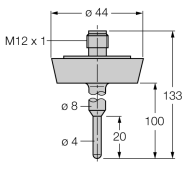
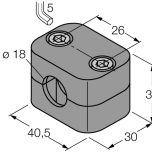
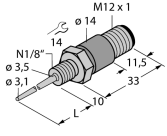
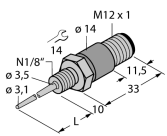
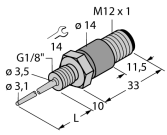
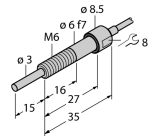
Accessories

Type code	Ident-No.		Dimension drawing
TP-206A-CF-H1141-L200	9910477	temperature detector for liquid and gaseous media	
TP-206A-CF-H1141-L100	9910475	temperature detector for liquid and gaseous media	
TP-206A-CF-H1141-L150	9910476	temperature detector for liquid and gaseous media	
TP-206A-CF-H1141-L300	9910478	temperature detector for liquid and gaseous media	
TP-306A-CF-H1141-L1000	9910479	temperature detector for liquid and gaseous media	
TP-306A-CF-H1141-L2000	9910480	temperature detector for liquid and gaseous media	

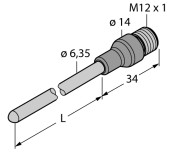
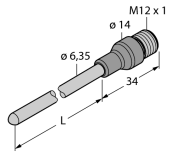
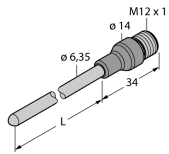
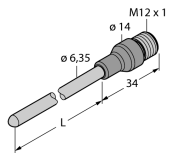
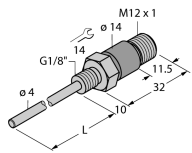
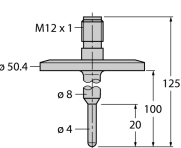
Accessories

Type code	Ident-No.		Dimension drawing
TP-306A-CF-H1141-L5000	9910481	temperature detector for liquid and gaseous media	
TP-103A-G1/8-H1141-L013	9910400	temperature detector for liquid and gaseous media	
TP-103A-G1/8-H1141-L024	9910401	temperature detector for liquid and gaseous media	
TP-504A-TRI3/4-H1141-L035	9910429	temperature detector for liquid and gaseous media	
TP-504A-TRI3/4-H1141-L100	9910430	temperature detector for liquid and gaseous media	
TP-504A-DN25K-H1141-L035	9910431	temperature detector for liquid and gaseous media	

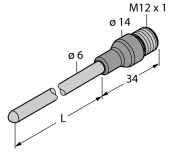
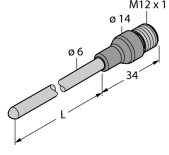
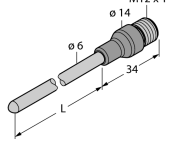
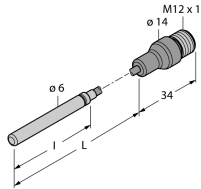
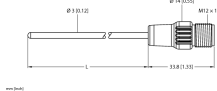
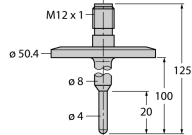
Accessories

Type code	Ident-No.		Dimension drawing
TP-504A-DN25K-H1141-L100	9910432	temperature detector for liquid and gaseous media	
BSS-18	6901320	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene	
TP-103A-N1/8-H1141-L013	9910765	temperature detector for liquid and gaseous media	
TP-103A-N1/8-H1141-L024	9910766	temperature detector for liquid and gaseous media	
TP-103A-G1/8-H1141-L035	9910576	temperature detector for liquid and gaseous media	
TP-303B-M6-L15-6M	9910810	temperature detector for liquid and gaseous media	

Accessories

Type code	Ident-No.		Dimension drawing
TP-206.35A-CF-H1141-L100	9910819	temperature detector for liquid and gaseous media	
TP-206.35A-CF-H1141-L150	9910820	temperature detector for liquid and gaseous media	
TP-206.35A-CF-H1141-L200	9910821	temperature detector for liquid and gaseous media	
TP-206.35A-CF-H1141-L300	9910822	temperature detector for liquid and gaseous media	
TP-104A-G1/8-H1141-L035	9910840	temperature detector for liquid and gaseous media	
TP-504A-TR11.5-H1141-L100	9910860	temperature detector for liquid and gaseous media	

Accessories

Type code	Ident-No.		Dimension drawing
TP-206KK1-CF-H1141-L100	100017085	temperature detector for liquid and gaseous media	
TP-206KK1-CF-H1141-L150	100017084	temperature detector for liquid and gaseous media	
TP-206KK1-CF-H1141-L200	100017083	temperature detector for liquid and gaseous media	
TP-306A-CF-H1141-L5500	100024018	temperature detector for liquid and gaseous media	
TP-203KK1-CF-H1141-L150	100045292	temperature detector for liquid and gaseous media	
TP-504A-TR11.5-H1141-L100/S3645	100048143	temperature detector for liquid and gaseous media	

Accessories

Type code	Ident-No.		Dimension drawing
TP-326A-L200	100051152	temperature detector for liquid and gaseous media	