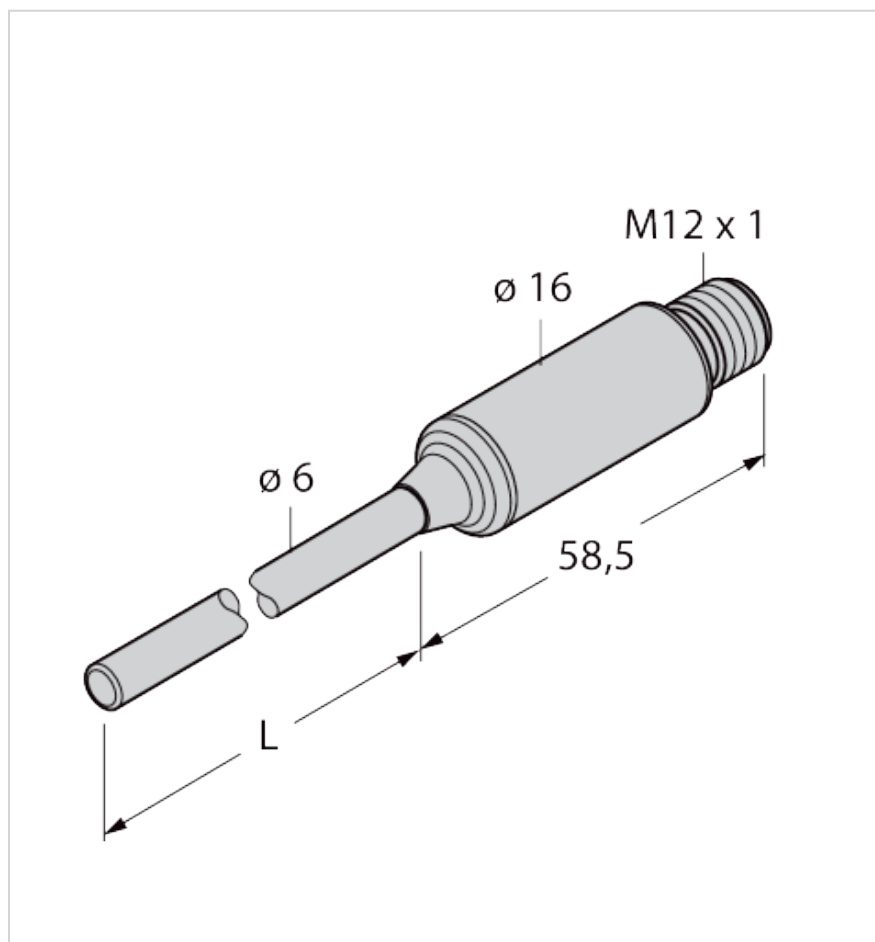


TTMS-206A-CF-LIUPN-H1140-L300

Temperature detection

With current output and PNP/NPN transistor switching output



Type designation	TTMS-206A-CF-LIUPN-H1140-L300
Ident-No.	100046031

Technical data

General data	
Detection type	medium contact
Measuring principle	Media-contacting
Application area	
Immersion depth (L)	300 mm
Measuring element	Pt100, DIN EN 60751, class A
Pressure resistance	100 bar

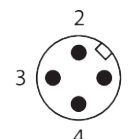
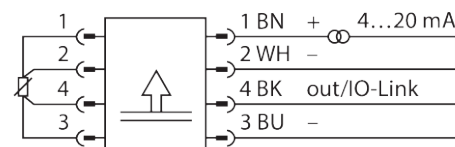
Features

- Miniature design (stainless steel)
- Parametrizable via IO-Link
- Analog output 4...20 mA (2-wire)
- Switching output
- Compression fitting process connection
- Bendable probe (min. bending radius: 3 × outer diameter; excluding 30-mm probe tip)

Technical data

Detection area/measuring range	
Measuring range	-50...350 °C
Measuring range	-58...662 °F
Temperature	
Temperature measuring range	-50...350 °C
Power supply	
Operating voltage U_B	18...32 VDC
	(UL: Class 2)
Power supply	
Voltage drop at I_e	≤ 2 V
Electrical data	
Output function	NO/NC programmable, PNP/NPN
Short-circuit protection	yes
Wire break/reverse polarity protection	yes
Current consumption	≤ 20 mA
Insulation class	III
Response time	$t_{05} = 1.5$ s / $t_{09} = 6.0$ s in water @ 0.2 m/s
Interfaces	
Communication protocol	IO-Link
Outputs	
Accuracy (Lin. + Hys. + Rep.)	$\pm 0,3$ K
Current output	4...20 mA
Release position	-210...+640
Switching point	-200...+650 °C
Load	$\leq [(V_{\text{supply}} - 10 \text{ V})/21 \text{ mA}] \text{ k}\Omega$
Note	Connection to PIN 1+3+4. Please use a 3-wire cable for operation on a Turck TBEN IO-Link master.
Note	Connection to PIN 1+2
Output 1	Switching output or IO-Link mode
Output 2	Analog output
Rated operational current	0,15 A
Remark	0.1 % of full scale applies to values > +300 °C
Switching cycles	≥ 100 Mio.
Switching point accuracy	$\pm 0,3$ K
Accuracy/deviation	

Wiring Diagram



Functional principle

All devices of the miniature transmitter series TTMS are made of stainless steel 1.4404 (AISI 316L). They are available with integrated probe or with M12 probe connection.

Due to the integrated electronics, the limited temperature range must be observed, especially in the area of the M12 connector. Furthermore, the devices feature a current output (2-wire, 4...20 mA), a switching output and communication via IO-Link.

Technical data

Accuracy	$\pm 0.15 \text{ K} + 0.002 \cdot t $ (-30....300 °C)
Repeatability	0,1 K
Temperature coefficient range TK_s	$\pm 0,1 \text{ \% v.E./10 K}$
Temperature coefficient zero point TK_0	$\pm 0,1 \text{ \% v.E./10 K}$
IO-Link	
IO-Link specification	V 1.1
Transmission physics	corresponds to 3-wire physics (PHY2)
Transmission rate	COM 2 / 38.4 kbps
Process data width	16 bit
Measured value information	15 bit
Switching point information	1 bit
Frame type	2.2
Programming	FDT / DTM
Genauigkeit	$\pm 0,2 \text{ K}$
Included in the SIDI GSDML	Yes
Mechanical data	
Design	Without display (integrated probe)
Construction type designation	TTMS
Housing material	Stainless steel, 1.4404 (AISI 316L)
Electrical connection	Connector, M12 x 1
Outer diameter	6 mm
Process connection	For compression fittings, thermowell or direct mounting
Sensor material	Stainless steel, 1.4404 (AISI 316L)
Mounting conditions	Immersion sensor
Ambient conditions	
Ambient temperature	-40...+80 °C
Storage temperature	-40...+80 °C
Protection class	IP67
Tests/approvals	
UL registration number	E345414
Approvals	cULus
MTTF	541 Years acc. to SN 29500 (Ed. 99) 40 °C
Reference conditions	
Auxiliary power	24 VDC
Atmospheric pressure	860...1060 hPa abs.
Humidity	45...75 % rel.

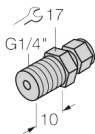
Technical data

Temperature	15...+25 °C
Comments	
Note	Max. temperature of electronics: 80 °C/ 176 °F

Mounting accessories

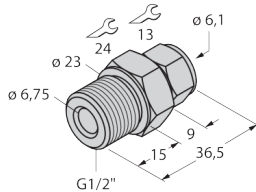
CF-M-6-G1/4-A4	9910483
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Compression fitting for direct mounting of temperature probes; probe diameter 6 mm; process connection G1/4" male thread



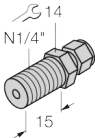
CF-M-6-G1/2-A4	9910530
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Compression fitting for direct mounting of temperature probes; probe diameter 6 mm; process connection G1/2" male thread



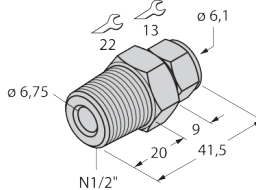
CF-M-6-N1/4-A4	9910484
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Compression fitting for direct mounting of temperature probes; probe diameter 6 mm; process connection 1/4" NPT male thread



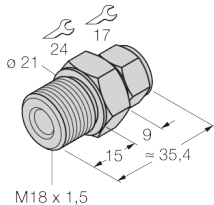
CF-M-6-N1/2-A4	9910529
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Compression fitting for direct mounting of temperature probes; probe diameter 6 mm; process connection 1/2" NPT male thread



CF-M-6-M18-A4	9910525
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Compression fitting for direct mounting of temperature probes; probe diameter 6 mm; process connection M18 x 1.5 male thread

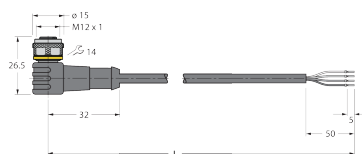


Connection accessories

WKC4.4T-2/TEL

6625025

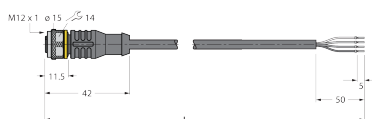
Connection cable, M12 female connector, angled, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval



RKC4.4T-2/TEL

6625013

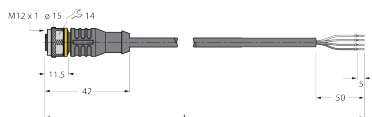
Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval



RKC4.4T-2/TXL

6625503

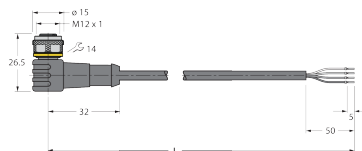
Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval



WKC4.4T-2/TXL

6625515

Connection cable, M12 female connector, angled, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval



RKC4.4T-P7X2-10/TXL

6626184

Connection cable, M12 female connector, straight, 4-pin, LED, cable length: 10 m, jacket material: PUR, black; cULus approval

