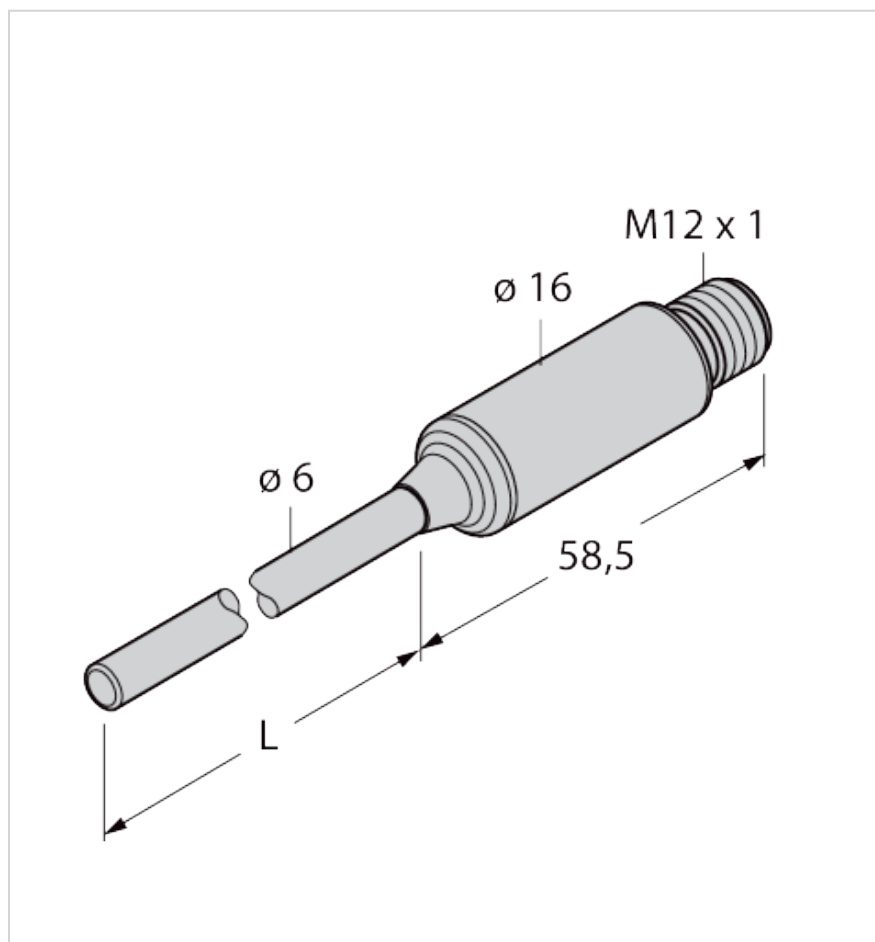


TTMS-206A-CF-LIUPN-H1140-L075

Temperature detection

With current output and PNP/NPN transistor switching output



Type designation	TTMS-206A-CF-LIUPN-H1140-L075
Ident-No.	100022284

Technical data

General data	
Detection type	medium contact
Measuring principle	Media-contacting
Application area	
Immersion depth (L)	75 mm
Measuring element	Pt100, DIN EN 60751, class A
Pressure resistance	100 bar

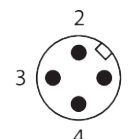
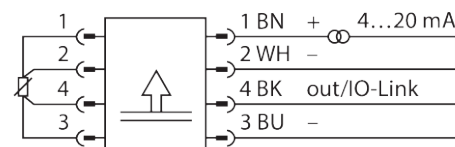
Features

- 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
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	
Accuracy	$\pm 0.15 \text{ K} + 0.002 \cdot t $ (-30...300 °C)

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.

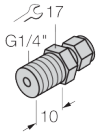
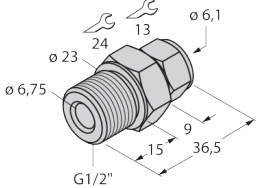
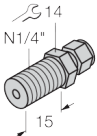
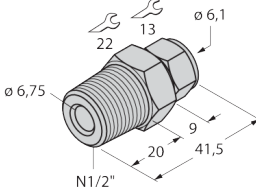
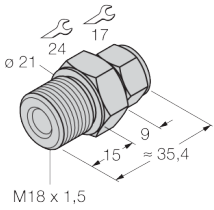
Technical data

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	
Approvals	CE
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.
Temperature	15...+25 °C
Comments	

Technical data

Note	Max. temperature of electronics: 80 °C/ 176 °F
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Mounting accessories

CF-M-6-G1/4-A4	9910483 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 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 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 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 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