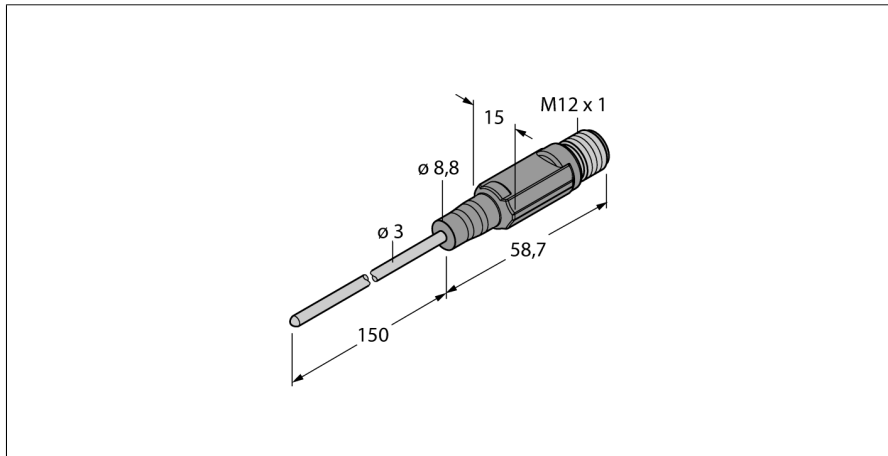
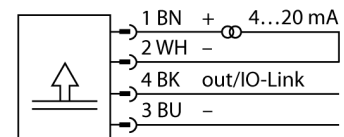


# Temperature measurement with current output and PNP/NPN transistor switching output TTM-203A-CF-LIUPN-H1140-L150



- Miniature design
- Parametrizable via IO-Link
- Analog output 4...20 mA (2-wire)
- Switching output
- Factory setting 0...150°C (other settings on request)

### Wiring Diagram



### General description

The TTM miniature transmitters are available with integrated probe.

Due to the integrated electronics, the limited temperature range must be observed, especially in the area of the M12 connector.

<b>Type designation</b>	TTM-203A-CF-LIUPN-H1140-L150
Ident-No.	9910622
<b>Temperature range</b>	-210...650 °C
Temperature operating range	-346...1202°F
Measuring element	Pt-100 probe, DIN EN 60751, class A
Accuracy	0.15 °C + 0.002 ·  t  (-30 ...350 °C)
Response time	t 0.5 = 1.5 s / t 0.9 = 6.0 s in water at 0.2 m/s
Immersion depth (L)	150 mm
<b>Power supply</b>	
Operating voltage	15...30 VDC
Current consumption	≤ 20 mA
Voltage drop at I <sub>e</sub>	≤ 2 V
Short-circuit/reverse polarity protection	yes/ yes
Protection type and class	IP67/ III
<b>Outputs</b>	
Output 1	Switching output or IO-Link mode
Output 2	analog output
<b>Switching output</b>	
Output function	NC/NO programmable, PNP/NPN
Switching point accuracy	± 0.3 K
Rated operational current	0.15 A
Switching cycles	≥ 100 mil.
Release points	-210...+640°C
Switching point	-200...+650°C
<b>Analog output</b>	
Operating range	4...20/ 0...20 mA (2-wire)
Load	≤ 0.5 kΩ
Accuracy (Lin. + Hys. + Rep.)	± 0.3 K
Anmerkung	0.1% of full scale applies to temperatures > +200 °C
Repeatability	0.1 K
<b>IO-Link</b>	
IO-Link Specification	IO-Link
Programming	Specified acc. to version 1.1
Transmission physics	FDT / DTM
Transmission rate	corresponds to 3-wire physics (PHY2)
Process data width	COM 2 / 38.4 kbps
Measured value information	16 bit
Switchpoint information	15 bit
Frame type	1 bit
Genauigkeit	2.2
	± 0.2 K
<b>Temperature behaviour</b>	
Temperature coefficient zero point Tk0	± 0.1 % of full scale/10 K
Temperature coefficient span T <sub>KS</sub>	± 0.1 % of full scale/10 K

## Temperature measurement with current output and PNP/NPN transistor switching output TTM-203A-CF-LIUPN-H1140-L150

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**Ambient conditions**

Ambient temperature	-40...+80 °C
Storage temperature	-40...+80°C

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**Housing**

Housing material	Stainless-steel/Plastic, V4A (1.4404)
Sensor material	stainless steel, AISI 316L
Process connection	For cutting ring fittings, thermowell or direct mounting
Electrical connection	Connector, M12 × 1
Pressure resistance	100 bar

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**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

**Temperature measurement  
with current output and PNP/NPN transistor switching output  
TTM-203A-CF-LIUPN-H1140-L150**



**Wiring accessories**

Type code	Ident-No.	Description	
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 <a href="http://www.turck.com">www.turck.com</a>	
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 <a href="http://www.turck.com">www.turck.com</a>	
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 <a href="http://www.turck.com">www.turck.com</a>	
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 <a href="http://www.turck.com">www.turck.com</a>	