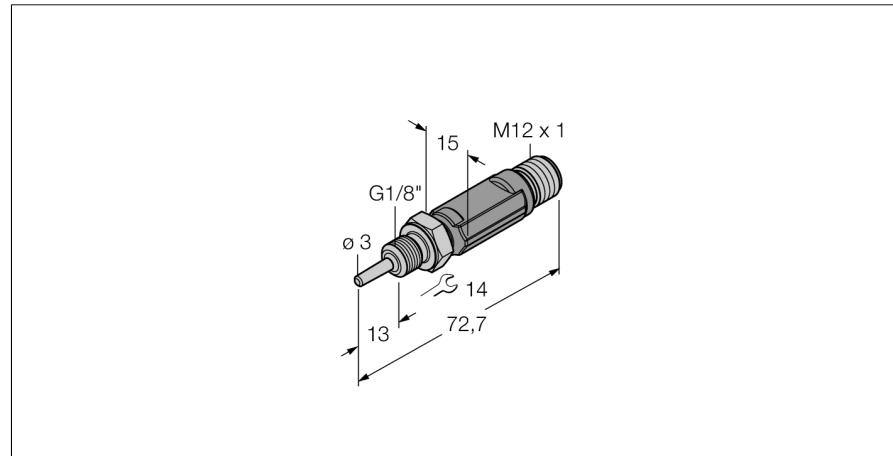
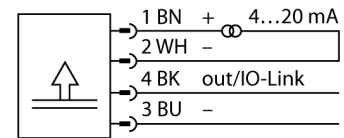


**Temperature measurement
miniature transmitter with integrated probe
TTM-103A-G1/8-LIUPN-H1140-L013**



- Miniature design
- Analog output 4...20 mA
- Process connection G1/8" male thread

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.

The LI6 type provides an analog output signal (2-wire, 4...20mA).

Type code	TTM-103A-G1/8-LIUPN-H1140-L013
Ident no.	9910628
Temperature range	
Temperature operating range	-50...120 °C
Measuring element	-58...248°F
Accuracy	Pt-100 platinum measuring element, DIN EN 60751 Class A
Response time	t0.5 = 1.5 s/ t0.9 = 6.0 s in water at 0.2 m/s
Immersion depth (L)	13 mm
Power supply	
Operating voltage	15...30VDC
No-load current I ₀	≤ 20 mA
Short-circuit/reverse polarity protection	yes/ yes
Protection type and class	IP67/ III
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	analogue output
Switching output	
Switching point accuracy	± 0.2 K
Switching cycles	≥ 100 mil.
Release points	210...640°C
Switching point	-200...650°C
Analogue output	
Operating range	4...20/ 0...20 mA (2-wire)
Load	≤ 0.5 kΩ
Accuracy (Lin. + Hys. + Rep.)	± 0.2 K
Anmerkung	0.1% of full scale applies to temperatures > +200 °C
Repeatability	0.1 K
IO-Link	
Communication	specified acc. to version 1.1
Parameterization	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	2 bit
Frame type	2.2
Genauigkeit	± 0.2 K
Temperature behaviour	
Temperature coefficient zero point T ₀	± 0.1 % of full scale / 10 K
Temperature coefficient span T _{is}	± 0.1 % of full scale / 10 K

**Temperature measurement
miniature transmitter with integrated probe
TTM-103A-G1/8-LIUPN-H1140-L013**

Ambient conditions

Ambient temperature	-40...80 °C
Storage temperature	-40...+80°C
Pressure resistance	100 bar

Housing

Housing material	stainless-steel/plastic, V4A (1.4404)
Sensor material	stainless steel, AISI 316L
Process connection	G 1/8" male thread
Connection	male, M12 x 1
Pressure resistance	100 bar

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
miniature transmitter with integrated probe
TTM-103A-G1/8-LIUPN-H1140-L013**

Wiring accessories

Type code	Ident no.	Description	Dimension drawing
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	
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/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	