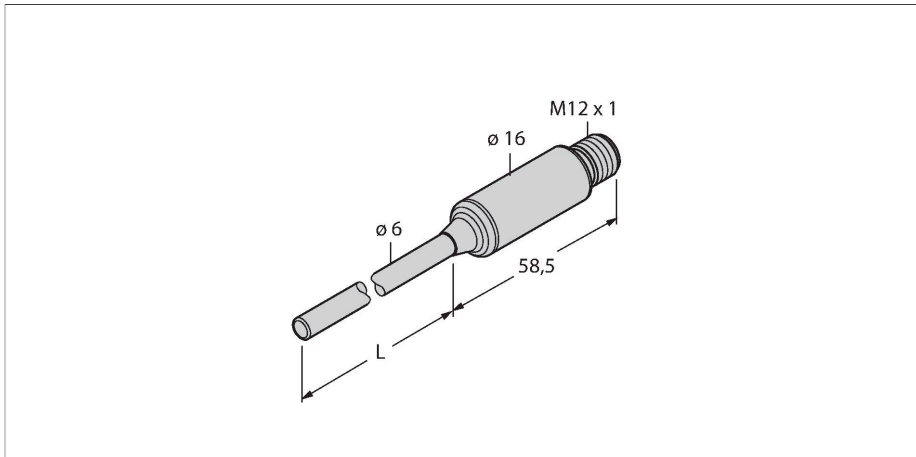


# TTMS-206A-CF-LIUPN-H1140-L050

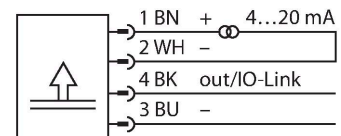
## Temperature Detection – With Current Output and PNP/NPN Transistor Switching Output



### Features

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

### Wiring diagram

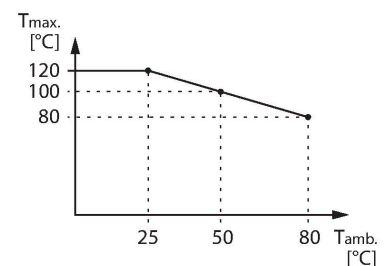


### Technical data

Type	TTMS-206A-CF-LIUPN-H1140-L050
Ident. no.	100006167
<b>Temperature range</b>	
Measuring range	-210...650 °C
Temperature operating range	-346...1202 °F
Measuring element	Pt-1000 probe, DIN EN 60751, class A
Response time	t 0.5 = 6 s / t 0.9 = 15 s in water at 0.2 m/s
Immersion depth (L)	50 mm
<b>Power supply</b>	
Operating voltage	15...30 VDC
Current consumption	≤ 20 mA
Voltage drop at I <sub>o</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>	
Communication protocol	IO-Link
Output function	NO/NC programmable, PNP/NPN
Switching point accuracy	± 0.3 K

### 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

Rated operational current	0.15 A
Switching cycles	≥ 100 mil.
Release position	-210...+640 °C
Switching point	-200...+650 °C
<b>Analog output</b>	
Current output	4...20 mA
Load	≤ [(Vsupply - 10 V)/21 mA] kΩ
Accuracy (Lin. + Hys. + Rep.)	± 0.3 K
Remark	0.1 % of full scale applies to temperatures > +300 °C
Repeatability	0.1 K
<b>IO-Link</b>	
IO-Link specification	Specified acc. to version 1.1
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	15 bit
Switchpoint information	1 bit
Frame type	2.2
Genauigkeit	± 0.2 K
Included in the SIDI GSDML	Yes
<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
<b>Ambient conditions</b>	
Ambient temperature	-40...+80 °C
Storage temperature	-40...+80 °C
<b>Housing</b>	
Housing material	Stainless steel, 1.4404 (AISI 316L)
Sensor material	Stainless steel, 1.4404 (AISI 316L)
Process connection	For compression fittings, thermowell or direct mounting
Process Pressure	100 bar
Electrical connection	Connector, M12 × 1
<b>Reference conditions acc. to IEC 61298-1</b>	
Temperature	15...+25 °C
Atmospheric pressure	860...1060 hPa abs.

## Technical data

Humidity	45...75 % rel.
Auxiliary power	24 VDC
MTTF	541 years acc. to SN 29500 (Ed. 99) 40 °C