

# Temperature transmitter with IO-Link-TTB

## Application / Specified Usage

The two-wire input flex-hybrid transmitter TTB converts the temperature signal of the resistance thermometer into a scaled analog and digital signal (IO-Link and 4...20 mA) proportional to the temperature, whereby the two-wire loop is conducting both the power supply (voltage) and the output signal (current). The module directly can be mounted into the connecting head of the temperature sensor (e.g. TSB series). By mounting the transmitter directly at the point of measurement no additional converter in a cabinet system is necessary, this resulting in the advantages of low installation costs, uncomplicated wiring and high noise immunity.

## Features

- Installation into the sensor head (e.g. TSB)
- Fully potted module
- Connection directly to the PLC
- Temperature linear 4...20 mA signal
- Easy plug and play with IO-Link connectivity
- Flex-hybrid technology
  - H: Transmitter with analog or IO-Link output
  - D: Transmitter with analog or IO-Link output and display option
- Easy exchangable
- Transmitter in Polyamide housing

## Options / Accessories

- Special measurement ranges
- 2-, 3- or 4-wire connection with max. 3000 mm probe length
- Programmable and connected with the help of IO-Link master IOM-1 (sold separately)

## Communication

 **IO-Link**  **4...20 mA**

## Transmitter TTB

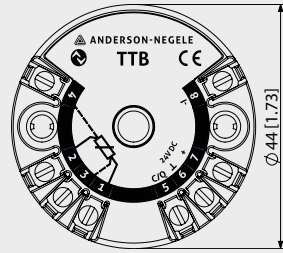


## Transmitter TTB.H, TTB.D

<b>Temperature ranges</b>	ambient (with Display) storage	-40...85 °C (-40...185 °F) 0...70 °C (32...158 °F) -55...90 °C (-67...194 °F)
<b>Measuring ranges</b>		standard °C: -10...40, 0...50 / 100 / 150 / 200 / 250 °C standard °F: 0...100 / 150 / 200 / 250 / 300, 30...230 °F custom ranges programmable
<b>Accuracy</b>	input repeatability	≤ 0.1 K (at ambient ≤ 85 °C (185 °F)) ≤ 0.05 K
<b>Temperature drift</b>	typical maximum	5 mK/K (at 25 °C (77 °F)) 10 mK/K (at 25 °C (77 °F))
<b>Adjustments</b>	damping offset slope	0...120 s ≤ ±10 K ≤ ±25 %
<b>Digital output</b>	digital resolution master cycle time power supply	IO-Link 0.01 K ≥ 51.2 ms 18...30 V DC according to IO-Link
<b>Analog output</b>	signal accuracy temperature drift typical temperature drift max effect of supply voltage variations maximum load resistance power supply	4...20 mA, 2 wire ≤ 0.05 % of upper range limit 0.0005 %/K (at 25 °C (77 °F)) 0.003 %/K (at 25 °C (77 °F)) < 0.001 %/V (at 24 V DC) R ≤ (V DC - 12 V) : 0.024 A (at 25 °C (77 °F)) 12...30 V DC

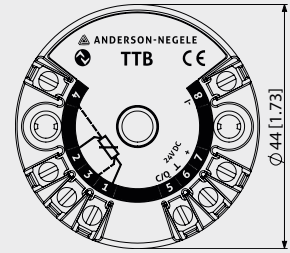
Connection with IO-Link output

- 1: RTD
- 2: RTD
- 3: RTD
- 4: RTD
- 5: IO-Link
- 6: - power supply (4...20 mA)
- 7: + power supply (24 V DC)
- 8: not connected



Connection with 4...20 mA output

- 1: RTD
- 2: RTD
- 3: RTD
- 4: RTD
- 5: not connected
- 6: not connected
- 7: + power supply (24 V DC)
- 8: - power supply (4...20 mA)



Order Code

TTB

Temperature transmitter Big

Transmitter

- H Hybrid: analog and IO-Link
- D Hybrid: analog and IO-Link, display optional

RTD type

- 0 Pt100
- 1 Pt1000

Wiring type

- 2 2-wire
- 3 3-wire
- 4 4-wire

Temperature range

- 00C Unit °C (only with IO-Link transmitter)
- 00F Unit °F (only with IO-Link transmitter)
- 00K Unit K (only with IO-Link transmitter)
- 04C -10...40 °C
- 05C 0...50 °C
- 10C 0...100 °C
- 15C 0...150 °C
- 20C 0...200 °C
- 25C 0...250 °C
- 10F 0...100 °F
- 15F 0...150 °F
- 20F 0...200 °F
- 23F 30...230 °F
- 25F 0...250 °F
- M00 TTB custom configuration

TTB / H / 0 / 2 / 00C

Accessories

IOM-1

Anderson-Negele USB IO-Link Master for IO-Link Sensors incl. power supply, USB cable, M12 connection cable (1.5 m/59.1 inch)

IOM-1, PVC-cable with M12-connection

