



*RTD sensor with standard head and with resistive element for very low temperature application*

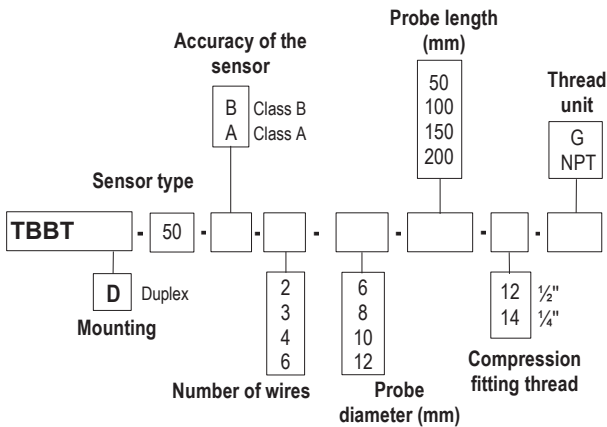
**TBBT 50 / TBBTD 50**

- Temperature sensor with or without compression fitting and stainless steel contact tip.
- Measuring range (According to reference) **from -200 to +80°C**
- Mounting of wires : **single pair** (2,3 or 4 wires).  
**multipair** (4 or 6 wires).



**Part numbers**

To order, just add the codes to complete the part number.

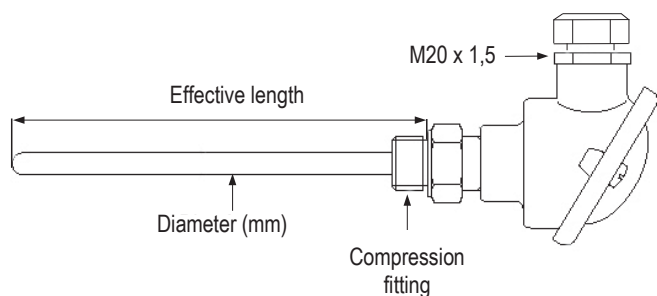


\* Other dimension on request

**Example : TBBT-50-B-3-8-100-12G.**

**Model :** PT 100 temperature sensor class B, 3 wires with 8 mm diameter and length with thread of 100 mm.  
With compression fitting 12 1/2 G.  
Measuring range from -200°C to +80°C.

**Dimensions probe**



**Technical features**

- Working temperatures**.....from -200°C to +80°C  
(according to reference)
- Accuracy**.....PT100 : see "Tolerances" table
- Sensor type**.....PT100 : Class B, Class A  
as per DIN IEC751
- Mounting of wires**.....single pair 2, 3 or 4 wires  
multipair 4 or 6 wires
- Storage temperature**.....from -20°C to +80°C
- Contact tip**.....316 L stainless steel, no welding, from 3/4 to 4/4 hard
- Compression fitting**.....316 L stainless steel
- Thread**.....with or without, 1/4, 1/2, Gas or NPT plug  
(other thread on request)
- Electrical connection**.....with or without terminal block  
Transmitter 4/20mA 0/10V as option
- Connection head**.....Aluminium alloy  
cable gland : M20 x 1,5  
IP65 protection

**Tolerances\* of PT100 probes**

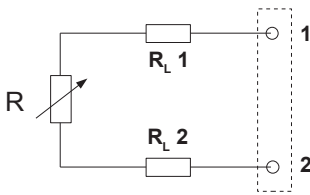
Norms as per IEC 751 (1993), BS 1904 (1984) and DIN 43760 (1980).

Temp °C	Tolerances			
	Class B		Class A	
	± °C	± Ohms	± °C	± Ohms
-100	0.8	0.32	0.35	0.14
-50	0.55	0.22	0.25	0.1
0	0.3	0.12	0.15	0.06
100	0.8	0.3	0.35	0.13
200	1.3	0.48	0.55	0.2
300	1.8	0.64	0.75	0.27
400	2.3	0.79	0.95	0.33

\*all accuracies indicated in this technical data sheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

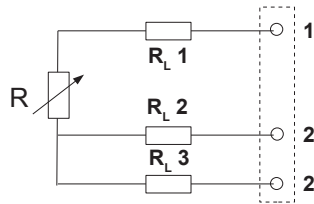
## Useful information on thermometry with platinum resistor PT100.

### • 2-wire connection



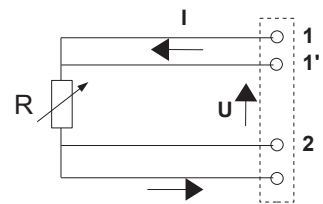
This is the simplest way, but line resistors (RL1 and RL2) are connected to the sensor in a series circuit. The addition of RL1 + RL2, leads to an off-set between measured temperature and real temperature. This connection must be avoided.

### • 3-wire connection



This connection involves identical line resistors (RL1-RL2-RL3), RL2 + RL3 allow you to measure the line resistance that will be subtracted from the measured resistance between 1 and 22' terminals. This is the most common connection.

### • 4-wire connection



Regulated current is going through 11' and 22' terminals and the measurement is made at the sensor terminals, so none of the line resistors are taken into account. This is the most accurate connection.

## Accessories (See data sheet)

- Transmitter output 4/20 mA or 0/10V
- Wall fixing support
- Stainless steel mounting brackets
- 1/4" or 1/2" Gas screw nut
- Stainless steel compression fitting
- Teflon or stainless steel ferrule for compression fittings



- Sleeve to weld for food industry
- Stainless steel union fitting
- 1/2" Gas or NPT thread cuff
- Thermo-conducting silicone grease
- Calibration certificate
- Thermowell



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