KIMO INSTRUMENTS

Technical Data Sheet

Pressure / Temperature / Humidity / Air Velocity / Airflow / Sound level

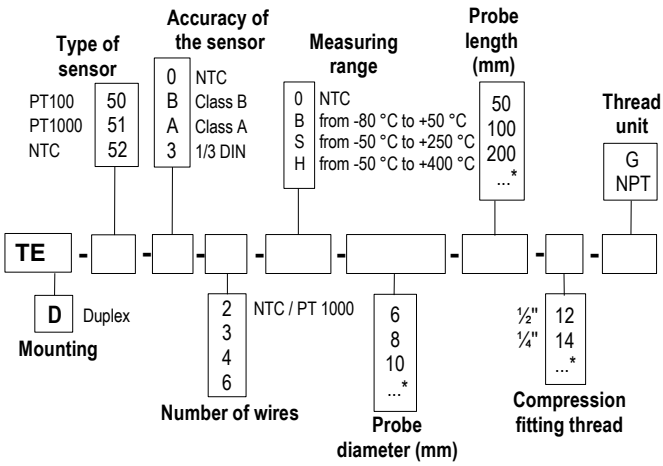
RTD sensor with waterproof connection head

TE 50 / TED 50

- Temperature sensor with stainless steel sheath, with or without compression fitting.
- Measuring range **from -80 °C to +400 °C** (PT100 and PT1000).
  from -20 °C to +120 °C (NTC).
- Mounting of wires: **single pair** (2, 3 or 4 wires).
  multipair (4 or 6 wires).
- For other resistor types PT25, PT50, PT500, PT200 or NI, please contact us.

PART NUMBERS

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

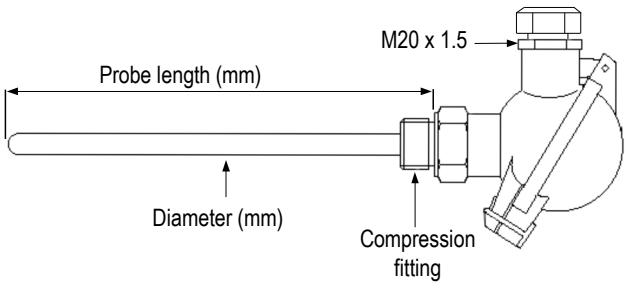


* Other dimensions on request

Example: TE-50-B-3-S-6-100-12G.
Model: Temperature sensor PT 100 class B, with 3 wires in a sheath of 6 mm diameter and 100 mm length, and with a ½"G thread plug.

Measuring range from -50 °C to 250 °C.

DIMENSIONS



TECHNICAL FEATURES

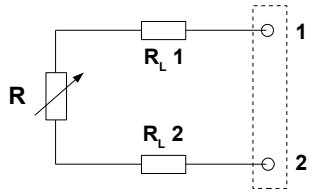
Measuring range	From -80 °C to +400 °C (PT100 and PT1000) From -20 °C to +120 °C (NTC)
Accuracy*	**PT100 or PT1000:** see "Tolerances" table **NTC:** see "Tolerances" table
Type of sensor	**PT100 or PT1000**: Class B, Class A, 1/3 DIN as per DIN IEC751 **NTC:** resistance at 25 °C, R_{25} = 10 KΩ Nominal Beta B25/85 value = 3.695 K ±1%
Storage temperature	From -20 °C to +80 °C
Sheath	316 L stainless steel, 3/4 to 4/4 hard, no welding
Compression fitting	316 L stainless steel
Thread	With or without, 1/4, 1/2, Gaz 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 IP68 protection
Adjustable mountings	Compression fitting welded further along the sheath, flange, clamp, repleacable probe insert, restricted end, ambient end. See datasheet.

Mounting of wires
Single pair 2, 3 or 4 wires
For T>250 °C do not use 4 wires in a sheath of 6 mm Ø.
Multipair 4 or 6 wires
For T>250 °C use sheath from 8 mm Ø.

*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.

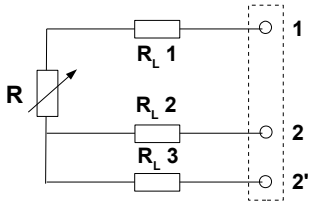
USEFUL INFORMATION ON THERMOMETRY WITH PLATINUM RESISTOR PT100, PT1000 OR NTC

• 2-wire connection



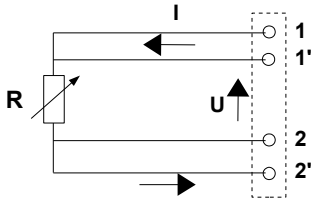
This is the simplest way, but line resistors (RL1 and RL2) are connected to the sensor in a series circuit. The addition of RL1 + RL2, leads to an off-set between measured temperature and real temperature. This connection must be avoided.

• 3-wire connection



This connection involves identical line resistors (RL1-RL2-RL3), RL2 + RL3 allow you to measure the line resistance that will be substracted 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.

TOLERANCES OF PT100 AND PT1000 PROBES

Norm as per IEC 751 (1993).

Temp °C	Tolerances					
	Class B		Class A		1/3 DIN	
	± °C	± Ohms	± °C	± Ohms	± °C	± Ohms
-100	0.8	0.32	0.35	0.14	0.27	0.11
-50	0.55	0.22	0.25	0.1	0.19	0.08
0	0.3	0.12	0.15	0.06	0.1	0.04
100	0.8	0.3	0.35	0.13	0.27	0.1
200	1.3	0.48	0.55	0.2	0.44	0.16
300	1.8	0.64	0.75	0.27	0.6	0.21
400	2.3	0.79	0.95	0.33	0.77	0.26

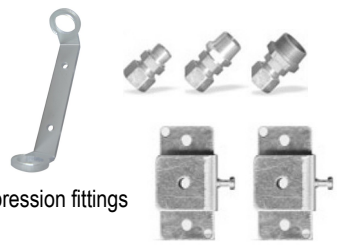
Resistance values for PT1000 (Ω) must be multiplied by 10 for the same corresponding temperature value (°C). I.e: at 0 °C for Class B PT1000 ± 0.3 °C → ± 1.2 Ω

TOLERANCES OF NTC PROBES

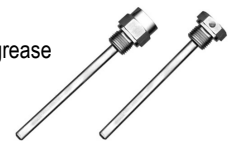
Measuring range °C	Tolerances °C
From -20 °C to 0 °C	± 0.5 °C
From 0 °C to +70 °C	± 0.2 °C
From +70 °C to +100 °C	± 0.5 °C

ACCESSORIES (SEE DATASHEET)

- Transmitter output 4/20 mA or 0/10 V
- Wall fixing support
- Stainless steel mounting brackets
- ¼ " or ½" Gas screw nut
- Stainless steel compression fitting
- PTFE or stainless steel ferrule for compression fittings



- Sleeve to weld for food industry
- Stainless steel union fitting
- ½" Gas or NPT thread cuff
- Thermo-conducting silicone grease
- Calibration certificate
- Thermowell



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