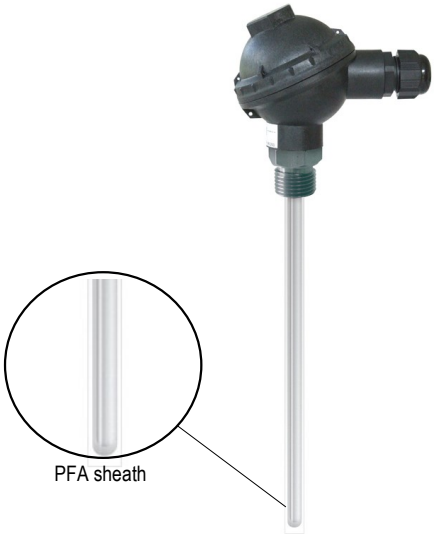
KIMO INSTRUMENTS

Technical Data Sheet

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

CE

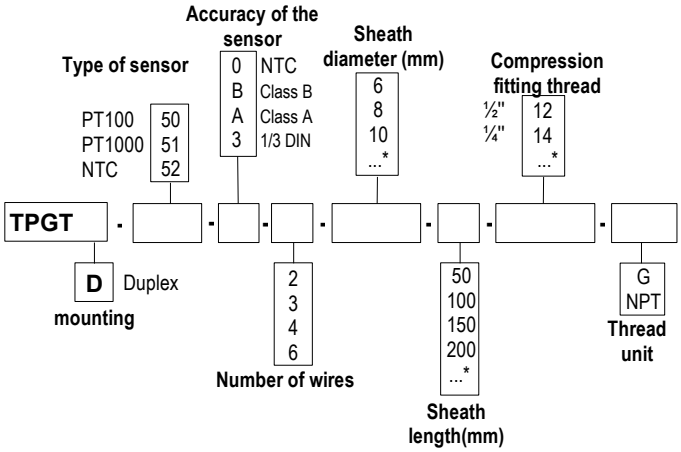


*Temperature probe at resistive element for **aggressive environment***

TPGT 50 – TPGTD 50

- Temperature sensor with or without compression fitting and contact tip covered with a PFA sheath
- Measuring range **from -50°C to +250°C (PT100 and PT1000)**
  from -20 °C to +120 °C (NTC)
- For other resistor type PT25, PT50, PT500, PT200 or NI, please contact us.

Part numbers



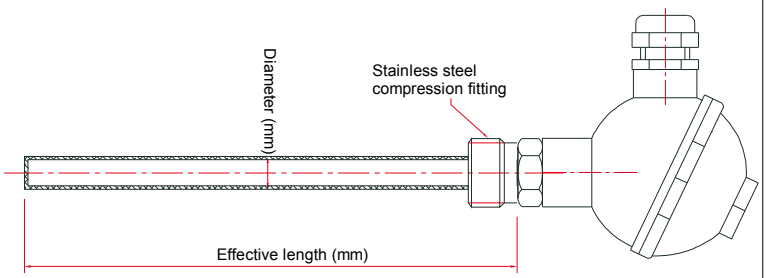
* Other dimension on request

Example : TPGT50-B-3-6-500

Model : PT 100 temperature sensor class B, 3 wires, contact tip diameter 6 mm and length 500 mm with a PFA sheath of 500 mm length.

Measuring range : from -40 to +120 °C

Dimensions



Technical features

Operating temperature.....from -50°C to +250°C (PT100 and PT1000)
(other on request)
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} = 10KΩ
Nominal Beta B25/85 value = 3,695K ±1%

Mounting of wire.....simple pair 2, 3 or 4 wires
multipair : 4 or 6 wires

Storage temperature.....from -20°C to +80°C

Contact tip.....stainless steel 316 L covered with PFA (perfluoralkoxy) sheath
Max. temperature at short term use : 280 °C
Softening at +/- 327 °C

Compression fitting.....stainless steel 316 L

Thread.....1/4, 1/2, male Gas or NPT plug
(other tread on request)

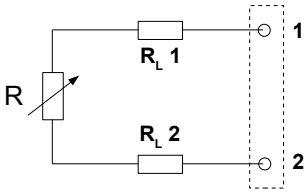
Electrical connection.....with or without terminal block
Transmitter 4/20mA 0/10V as option

Connection head.....noryl resin (phenyl polyoxyd)
Cable gland : M20 x 1,5
temperature : from -40 to +135 °C
IP 65 protection

Adjustable mountings.....angled probe, interchangeable element, Offset head

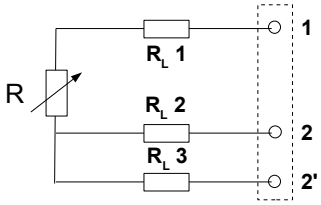
Useful information on thermometry with platinum resistor PT100.

• 2-wire connection



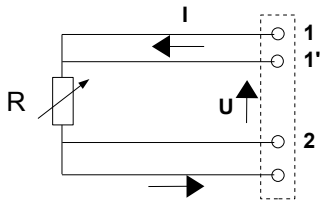
This is the simplest way, but line resistors (RL1 and RL2) are connected to the sensor in a series circuit. The addition of RL1 + RL2, leads to an off-set between measured temperature and real temperature. This connection must be avoided.

• 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.

Tolerances* of PT100 and PT1000 probes

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

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

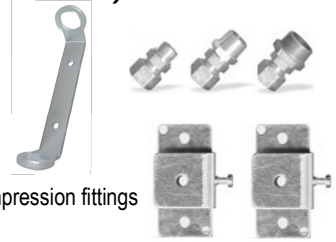
Tolerances* of NTC probes

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

*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.

Accessories (See data sheet)

- Transmitter output 4/20 mA or 0/10V
- Wall fixing support
- Stainless steel mounting bracket
- ¼ " or ½" 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
- ½" Gas or NPT thread cuff
- Thermo-conducting silicone grease
- Calibration certificate
- Thermowell

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