

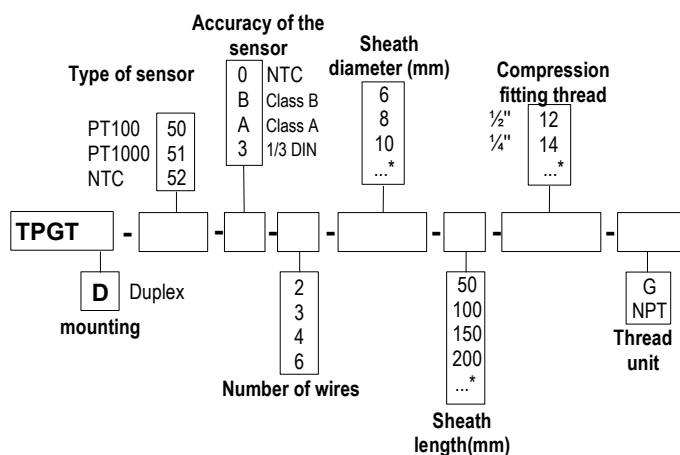
Temperature probe at resistive element for aggressive environment

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



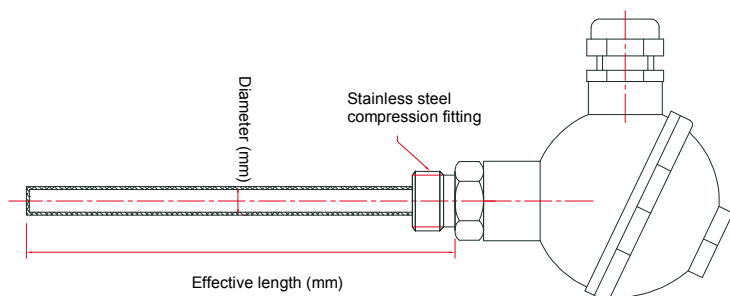
* Other dimension on request

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

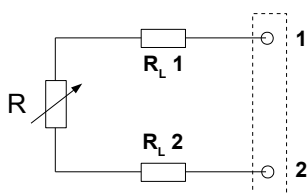
DIMENSIONS



TECHNICAL FEATURES

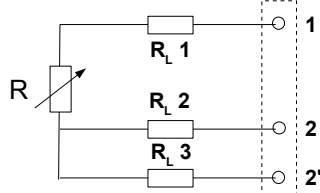
Operating temperature	From -50 °C to +250 °C (PT100 and PT1000) (other on request) From -20 °C to +120 °C (NTC)
Accuracy	PT100 or PT1000: see "Tolerances" table NTC: see "Tolerances" table
Type of sensor	PT100 or PT1000: Class B, Class A, 1/3 DIN as per DIN IEC751 NTC: resistance at 25 °C, $R_{25} = 10 \text{ K}\Omega$ Nominal Beta B25/85 value = 3.695K $\pm 1\%$
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 4/20 mA 0/10 V 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

• 2-wire connection



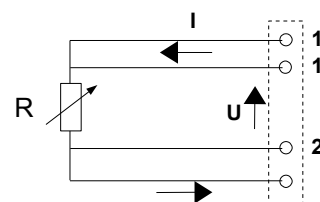
This is the simplest way, but line resistors (RL1 and RL2) are connected to the sensor in a series circuit. The addition of RL1 + RL2, leads to an off-set between measured temperature and real temperature. This connection must be avoided.

• 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

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

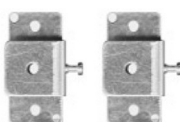
TOLERANCES* OF NTC PROBES

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

*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 DATASHEET)

- Transmitter output 4/20 mA or 0/10 V
- Wall fixing support
- Stainless steel mounting bracket
- 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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