



RTD sensor with plug-in connection head and at resistive element

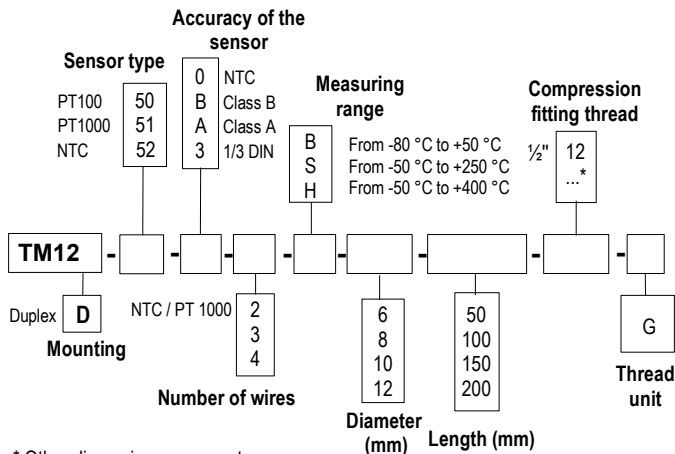
TM 12 50 / TM 12 D 50

- Temperature sensor with or without compression fitting et stainless steel contact tip.
- Measuring range (according to reference) : **from -80 °C to +400 °C** (PT100 and PT1000).
from -20 °C to +120 °C (NTC)
- Mounting of wires: **simple** (2, 3 or 4 wires).
multipair (4, 6 or 8 wires).
- For other resistor types PT25, PT50, PT500, PT200 or NI, please contact us.

PART NUMBERS

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

• TM 12

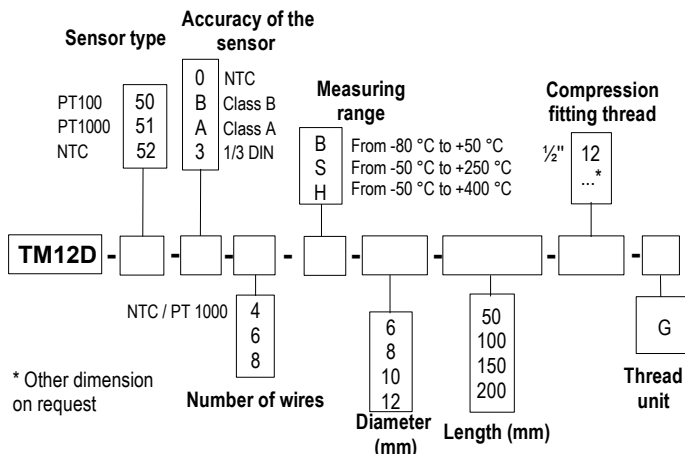


* Other dimension on request

Example: TM12-50-B-3-8-S-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 1/2" G. Measuring range from -50 °C to 250 °C.

• TM 12 D



* Other dimension on request

Example: TM12D-50-B-6-S-8-100-12G.

Model: PT 100 temperature sensor class B, multipair mounting, 6 wires with 8 mm diameter and length with thread of 100 mm. With compression fitting 1/2" G. Measuring range from -50 °C to 250 °C.

TECHNICAL FEATURES

Operating temperatures (according to reference)	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
Sensor type	PT100 or PT1000: Class B, Class A, 1/3 DIN as per DIN IEC 751 NTC: resistance at 25 °C, $R_{25} = 10 \text{ K}\Omega$ Nominal Beta value B25/85 = 3.695 K $\pm 1\%$
Storage temperature	From -20 °C to +80 °C
Contact tip	316 L stainless steel, without welding, from 3/4 to 4/4 hard Other on request
Compression fitting	316 L stainless steel
Thread	With or without, 1/2" G in standard Other on request
Electrical connection	Shielded PVC cord of 2 metres Knurled head screw Protection: IP 67 only for a screwed state Contact: nickered CuZn with gilding of 0.8 μm
Adjustable mountings	flange, offset fitting, perforated, etc...



Mounting of wire

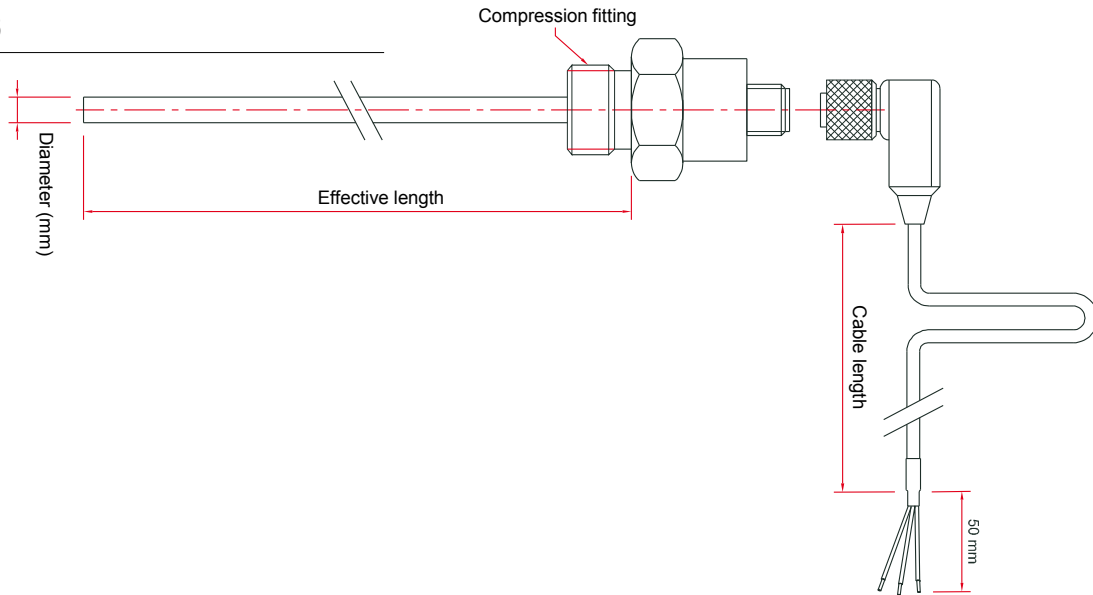
Single pair 2, 3 or 4 wires

For $T > 250 \text{ °C}$ do not use 4 wires in a sheath of 6 mm \varnothing .

Multipair 4, 6 or 8 wires

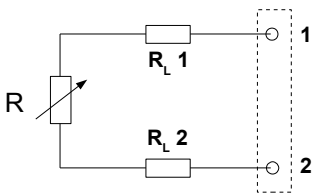
8 wires mounting from 8 mm.

DIMENSIONS



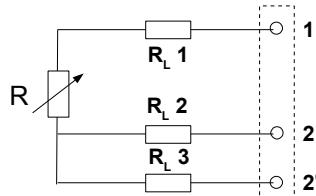
USEFUL INFORMATION ON THERMOMETRY WITH PLATINUM RESISTOR PT100

• 2-wire connection



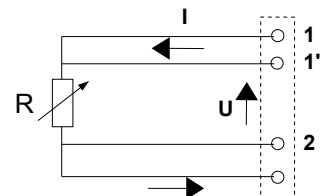
This is the simplest way, but line resistors (RL1 and RL2) are connected to the sensor in a series circuit. The addition of RL1 + RL2, leads to an off-set between measured temperature and real temperature. This connection must be avoided.

• 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 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.

TOLERANCE* OF PT100 AND PT1000 PROBES

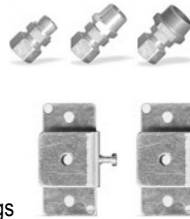
Norm as per IEC 751 (1993).

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

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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