

RESISTANCE THERMOMETER

Measuring insert: Fixed

Type:
RT-BP2-T

5451-E070524V3.3

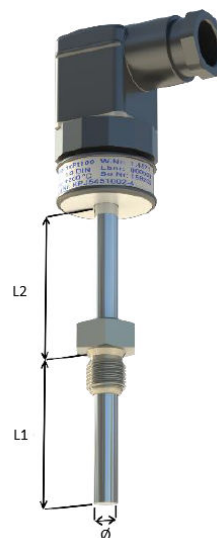


Application:

- For measuring temperatures of liquid and gaseous media
- Integrated transmitter with output signal: 4-20 mA @10-30V supply.
- For operations that require the sensor to connect/disconnect electrically fast and easy, and where a secure fixing of the cable is needed.
- Usually applied in: Processing plants, the shipping industry, the refrigeration industry, the engineering industry, the energy industry

Properties:

- Sensor: Pt100 in acc. with IEC 60751
- Mechanical and thermal stress in accordance with DIN 43772
- Electrical connection: Valve plug PG9 or PG11 (IP 65)
- Process attachment: Thread
- Outer protective sheath and nipple: Stainless acid-proof steel
- Stands media temperatures of up to max 200°C
- Ambient temperature min/max: -40/+80°C
- Withstands vibrations.
- Quick reaction time



MECHANICAL SPECIFICATIONS:

Protective sheath: -----
EN 1.4571 (AISI 316Ti)
Special

Sensor diameter Ø [mm]:-----
Ø8
Ø6
Special

Immersion length L1 [mm]: -----
50 / 80 / 100 / 150 / 200 / 250
Special

Extension length L2 [mm]: -----
None (standard)
50mm (requirement above 150°C)
Special

Process attachment: -----
1/4" BSP welding coupling
1/2" BSP welding coupling
Special

ELECTRICAL SPECIFICATIONS

Temperature:
T1: -50°C - +50°C
T2: 0°C - +100°C
T3: 0°C - +150°C (Extension length 50mm)
T4: 0°C - +200°C (Extension length 50mm)
Others on request

Tolerance in acc. with IEC 60751:
Type A DIN (i.e.±(0,15+0,002xTactual)°C)
Type B 1/1 DIN (i.e.±(0,3+0,005xTactual)°C)
Type B 1/3 DIN (i.e.±(0,1+0,0017xTactual)°C)
Type B 1/6 DIN (i.e.±(0,05+0,00083xTactual)°C)
Type B 1/10 DIN (i.e.±(0,03+0,0005xTactual)°C)

Electrical connection:
Valve plug PG9
Valve plug PG11

Cable (pre-mounted in Valve plug):
SS (Silicone-Silicone) max. 180°C
SBS (Silicone-Inner Braided-Silicone)
TBT (Teflon-Inner Braided-Teflon)
None

Cable length [m]:

Link for further information: [Pt100 Tolerance](#)

Date:

Part No.:

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Calibration:

Temperature calibration are used to verify and certify the sensor to have the correct accuracy. We can do either: "In house" or "Accredited" calibration. Accredited is certified by 3.e part. Normally we do a calibration in 3 points.

Enhanced performance services:

Cold applications (below -50°C) will influence the material and the measurement. CRYO treatment is needed to ensure a correct and working sensor down to -196°C.

A sensor will always drift over time, especially when there are high temperature fluctuations.

With "Ageing treatment" we stabilize the sensor to ensure a minimum drift over time. The benefits are long term stability, more correct measurement and easier planning of calibration periods.

Documentation:

Please order the correct documentation when ordering the sensor.



Installation:

The sensor is a 4-20mA sensor.

Burden resistor can be calculated using this formula:

$$R_{burden} = \frac{V_{supply} - 10V}{20 \text{ mA}}$$

Supply:

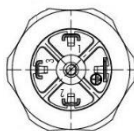
10-30 VDC.

Output:

4-20mA, current limited to max 30mA.

Electrical connections:

- 1 + supply.
 - 2 – supply
 - 3 not connected.
 - 4 Earth. Cable shield can be connected here.
- This connector is electrically connected to the metal housing of the sensor.



We recommend using a shielded twisted pair cable. Connect the cable shield to connector 4.

ENVIRONMENTAL:

Temperature on electronics: -40°C to 85°C.
Media temperature: -50°C to 200°C.

Max 100°C. without cooling neck.

Transportation temperature: -50°C to 85°C.
Storage temperature: -40°C to 85°C.

EMC:

Emission: Domestic, EN 61000-6-3
Immunity: Industrial, EN 61000-6-2

Vibration:

Random 5,34g 50Hz – 1kHz. EN 60068-2-64
Shock 30g EN 60068-2-27

CALIBRATION

None

---Calibration:

In house (Span -33°C - +700°C)

Accredited – in laboratory (-196°C - +1200°C)

1.	Point	°C
2.	Point	°C
3.	Point	°C

More point on request

Enhanced performance services



---Cryo treatment.

For temperature sensor under -50°C



---Ageing:

For long term stability.
Secure minimum drift of sensor accuracy



---Documentation

Certificate: 3.1 Material
Certificate of origin
Certificate of conformity

Other on request

Date:

Part No.: