

RESISTANCE THERMOMETER

Measuring insert: Interchangeable

Type: RT-B

5452-E170424V3.3

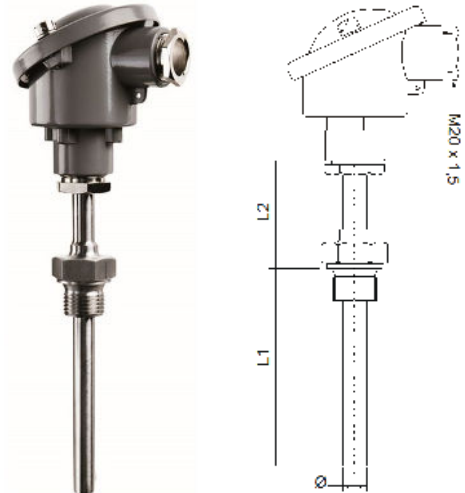


Application:

- Measurement of temperatures in closed pipelines and containers with gaseous or liquid media, e.g. air, steam, gas, water or oil.
- Field of application: up to 600°C, max. 50bar and media velocities of up to 25 m/sec
- Typically applied in:
 - Processing plants
 - Power plants
 - District heating, energy distribution

Properties:

- Pt100 or Pt1000 resistance thermometer in accordance with IEC 60751
- Mechanical and thermal stress in accordance with DIN 43772
- Process attachment: Welded
- Measuring insert: Interchangeable, short reaction time
- Outer protective sheath: Stainless acid-proof steel
- Modular construction and standard length minimizes the number of spare parts
- Can be delivered with head mounted transmitter
- Marine approved by: DNV-GL, LR, NK, RINA, ABS and BV



MECHANICAL SPECIFICATIONS

Protective sheath:
 EN 1.4571 (AISI 316Ti) max. 850°C
 Other on request

Sensor diameter Ø [mm]:
 Ø8 / Ø9 / Ø11 / Ø15
 Other on request

Extension length L2 [mm]:
 None (30 mm) / 50 / 100 / 150
 Other on request

Immersion length L1 [mm]:
 50 / 100 / 150 / 200 / 250 / 300
 Other on request

Process attachment:
 1/4" BSP welded coupling (max. Ø9mm)
1/2" BSP welded coupling
 1/2" NPT welded coupling
 3/4" BSP welded coupling
 1" BSP welded coupling (min. Ø11mm)
 Other on request

Protection head:
B (aluminium (Al), enamelled, low cap, IP62)
 BH (Al, enamelled, high cap, IP62)
 BSB (Al, tilting lid w/screw, low cap, IP65)
 BSBH (Al, tilting lid w/screw, high cap, IP65)
 BSBH-W (Al, tilting lid, high cap, digital display (excl. tr.), IP65)
 CE (Al, enamelled, screw cap, IP68)
 BSP (plastic, black, screw cap, IP54)
 BRF (stainless steel, screw cap, M20x1,5, IP67)
 BRF-EEX (stainless steel, screw cap, M20x1,5, IP67)
 B-SRF (sanitary, stainless steel, screw cap, PG9 thread, IP67)
 Other on request

Cable gland (pre-mounted):
 None (standard – cable entry M20x1.5)
 Plastic
 Nickel plated brass
 Stainless acid-proof steel

Please specify cable diameter:

ELECTRICAL SPECIFICATIONS

Plug (pre-mounted In Head):
 M12 (for M20)
 Harting (specify type)
 Other on request
 None

Cable (pre-mounted in Head):
 SS (Silicone-Silicone) max. 180°C
 SBS (Silicone-Inner Braided-Silicone) max. 180°C
 TBT (Teflon-Inner Braided-Teflon) max. 250°C
 None

Cable length [m]:

Sensor element:
 1xPt100
 2xPt100
 1xPt1000 (only cl. B 1/1 and cl. A)
 2xPt1000 (only cl. B 1/1 and cl. A)

Number of conductors:
 2-wire (recommended only for Pt1000)
 3-wire
 4-wire

Media temperature max:
 +180°C
 +250°C
 +400°C
 +600°C (only cl. B 1/1 Pt100 and Pt1000)

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)

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

Date:

Part No.:

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Calibration:

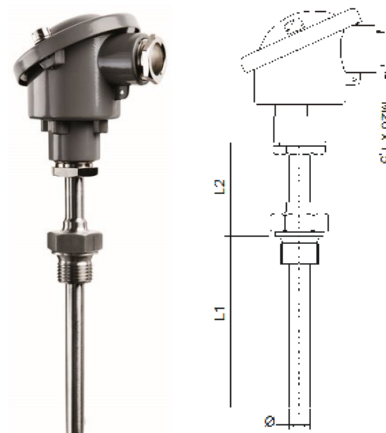
Temperature calibration are used to certify and verify the sensor to have the correct accuracy. We can do either: "In house" or "Accredited" calibration. Accredited is certified by 3.e part. Normally you do a calibration in 3 points.

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:

Remember to order the correct documentation when ordering the sensor.



SIGNAL PROCESSING

Ceramic socket mounted in terminal head.

Prepared for transmitter w/o ceramic socket. w/long leads

Programmable head mounted transmitter

Measuring range min/max: -200/+850°C
Output: 2-wire, 4-20 mA
Min. span: 25°C
Ambient temperature min/max: -40/+85°C

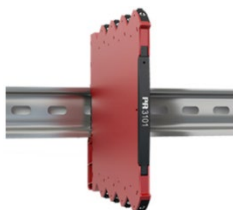
- [5333A Uninsulated for RTD](#)
- [5333D EEX Uninsulated for RTD](#)
- [5332A Uninsulated for RTD](#)
- [5332D EEX Uninsulated for RTD](#)
- [5331A Galvanic Isolated RTD / TC](#)
- [5331D EEX Galvanic Isolated RTD / TC](#)
- [5335A Hart 5 Protocol Standard](#)
- [5335D Hart 5 Protocol CSA, FM, ATEX, IECEx](#)
- [5337A Hart 5 & 7 Protocol](#)
- [5337D Hart 5 & 7 Protocol CSA, FM, ATEX, IECEx](#)



| | | | | | |
|-------------------|----------------------|----------------------|---------|----------------------|----|
| Transmitter Type: | | <input type="text"/> | | | |
| 4 mA = | <input type="text"/> | C° | 20 mA = | <input type="text"/> | C° |

Link to further information:

- [Transmitter Overview](#)
- [Programmable rail mounted transmitter](#)



CALIBRATION

None

Calibration:

In house (Span -33°C - +700°C)
Accredited – in laboratory (-196°C - +1200°C)

| | | |
|----------|----------------------|----|
| 1. Point | <input type="text"/> | °C |
| 2. Point | <input type="text"/> | °C |
| 3. Point | <input type="text"/> | °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

Marine Certificate

Certificate of DNV.GL
Certificate of BV
Certificate of Rina
Certificate of Class NK
Certificate of LR
Certificate of ABS

Other on request

Date:

Part No.: