

1. RESISTANCE THERMOMETER

Measuring insert: Fixed

Type: RT-BUI-R

Sheet No.
1-8 V2

5451-E010721V3.1

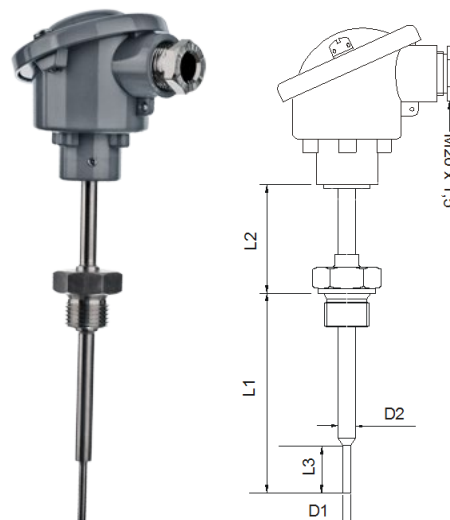


Application:

- For measuring temperatures where a quick reaction time is required
- Typically applied in:
 - processing plants
 - power plants
 - district heating, energy distribution

Properties:

- Pt100 resistance thermometer in accordance with IEC 60751
- Mechanical and thermal stress in accordance with DIN 43772
- Process attachment: Welded or adjustable coupling
- Measuring insert: Fixed, 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
- Approved by: GOST, TCRU on request.



MECHANICAL SPECIFICATIONS

Protective sheath: -----

EN 1.4571 (AISI 316Ti) max. 850°C

Other on request

Sensor diameter D2 [mm]: -----

Ø6 / Ø8 / Ø9 / Ø11 / Ø15

Other on request

Extension length L2 [mm]: -----

None (13 mm) / 50 / 100 / 150

Other on request

Immersion length L1 [mm]: -----

50 / 100 / 150 / 200 / 250 / 300

Other on request

Reduced tip:

Standard: L3 = 18mm / D1 = Ø3mm -----

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)

BRF (stainless steel, screw cap, M20x1,5, IP67)

BRF-EEX (stainless steel, screw cap, M20x1,5, IP67)

B-SRF (sanitary, stainless steel, screw cap, M20x1,5, IP67)

Other on request

Cable gland (pre-mounted): -----

None (standard – cable entry M20x1.5)

Plastic

Nickle 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](#)

RESISTANCE THERMOMETER

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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:

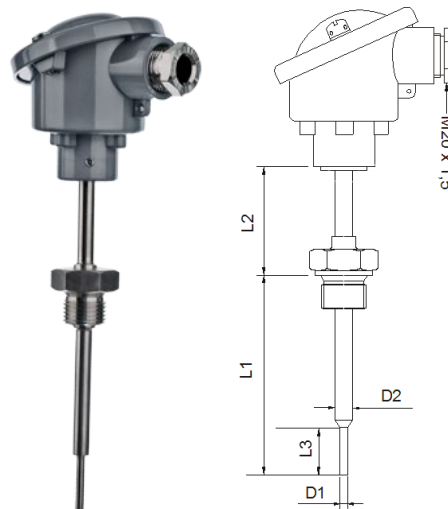
Cold applications (below -50°C) will influence the material and the measurement. CRYO treatment is needed to ensure a correct and working sensor down to -196°C.

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.



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:			
4 mA =	C°	20 mA =	C°

Link to further information:

[Transmitter Overview](#)

[Programmable rail mounted transmitter](#)



CALIBRATION

-----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
Certificate of GOST

-----Marine Certificate

Certificate of DNV.GL
Certificate of BV
Certificate of Rina
Certificate of ClassNK
Certificate of LR
Certificate of ABS

Other on request