

RESISTANCE THERMOMETER
Measuring insert: Fixed

Type:
RT-BUI-O

Sheet No.
1-5 V2

5451-E010721V3.1

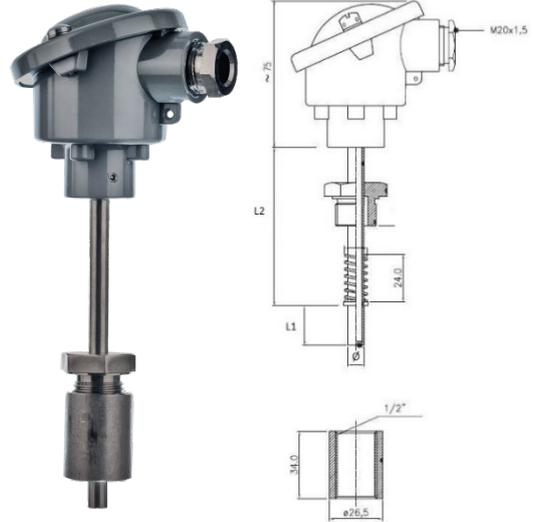


Application:

- 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 acc. 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, 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]:
Ø6 / Ø8
Other on request

Extension length L2 [mm]:
50 / 100 / 150
Other on request

Immersion length L1 [mm]:
20 / 40 / 60
Other on request

Process attachment:
1/2" BSP spring loaded coupling
Other on request

L1 Bottom:
Steel
Silver (for quick reaction).

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, M20x1,5, IP67)
Other on request

Coupling for welding (1/2" BSP):
Yes / No

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](#)

Date:

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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:

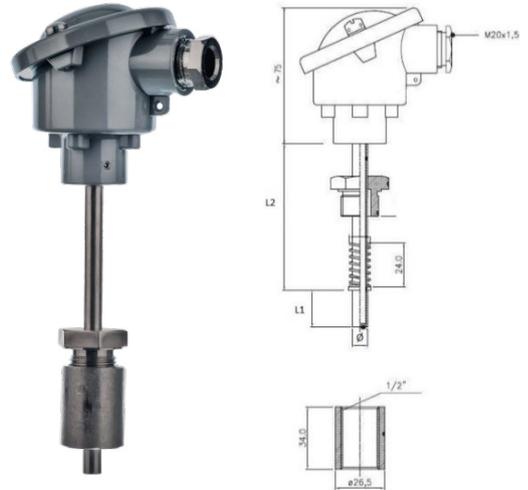
Cold applications (below -50°C) will influence the material and the measurement. CRYO treatment is needed to ensure a correct and working sensor down to -196°C.

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:	<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
Certificate of BV
Certificate of Rina
Certificate of ClassNK
Certificate of LR
Certificate of ABS

Date:

Part No.