

RESISTANCE THERMOMETER

Measuring insert: Fixed

Type: BP1-T

Sheet No.
1-20 V2

5459-E010721V3.1

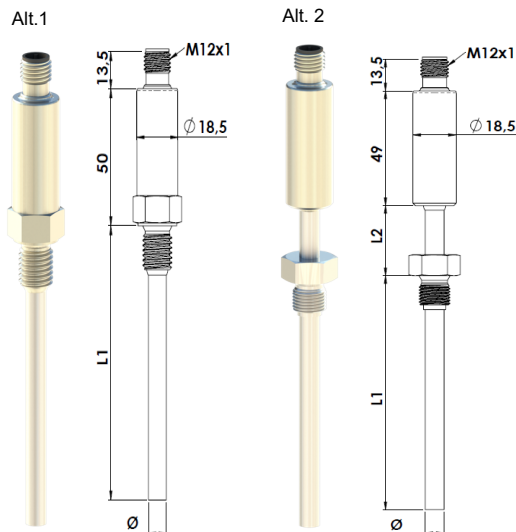


Application:

- For measuring temperatures of liquid and gaseous media
- Integrated programmable transmitter with output signal: 4-20 mA
- For operations that require the sensor to couple quickly and uncouple electrically, 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:

- Integrated programmable transmitter with output signal 4/20mA
- Pt100 and Pt1000 in acc. with IEC 60751, 3-wire
- Mechanical and thermal stress in accordance with DIN 43772
- Measuring insert: Fixed
- Electrical connection: M12 (degree of protection IP65)
- Process attachment: Thread
- Outer protective sheath and nipple: Stainless acid-proof steel
- Stands media temperatures of up to max. 250°C
- Ambient temperature min./max.: -40/+85°C
- Withstands vibrations
- Quick reaction time
- Approved by: GOST, TRCU (on request)



MECHANICAL SPECIFICATIONS:

Protective sheath: -----

EN 1.4571 (AISI 316Ti)
Special

Sensor diameter [mm]: -----

Ø8
Special

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

50 / 80 / 100 / 150 / 200 / 250
Special

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

None (Alt.1)
50mm (Alt.2)
Special (Alt.2)

Process attachment: -----

¼" BSP welded coupling
½" BSP welded coupling
Special

ELECTRICAL SPECIFICATIONS

-----Sensor element:

1xPt100
1xPt1000 (only cl. B 1/1 and cl. A)

-----Temperature range min/max:

-50/+180°C
-50/+250°C

-----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. ±(0,06+0,00083xTactual)°C)
Type B 1/10 DIN (i.e. ±(0,03+0,0005xTactual)°C)
Special

-----M12 connector:

Angled 90°
Straight
None

-----Cable:

(pre-mounted in M12 connector)
Cable type SS (Silicone-Silicone)
Cable type SBS (Silicone-Braided-Silicone)
Cable type TBT (Teflon-Braided-Teflon)
Special

-----Cable length L2 [m]:

2 / 4 / 6 / 10
Special

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

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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:

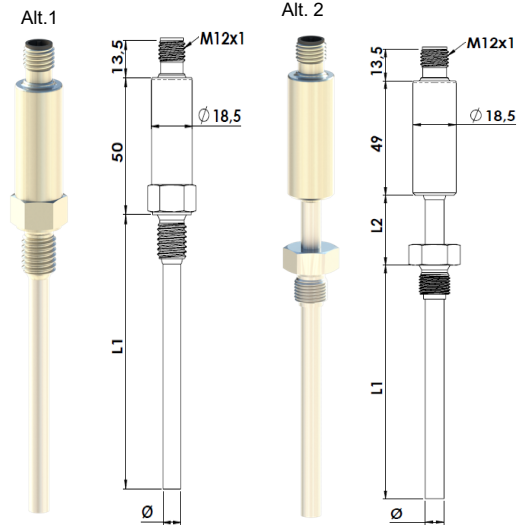
Cold applications (below -50°C) will influence the material and the measurement. CRYO treatment is needed to ensure a correct and working sensor down to -196°C.

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

Common specifications

Supply

Supply voltage: 8.0 ... 35 VDC
Internal power dissipation: 25 mW ... 0.8 W

Response time

Response time (Programmable): 0.33 ... 60 s

Voltage drop: 8.0 VDC

Warm-up time: 5 min

Programming: Loop Link

Signal / Noise ratio: Min. 60 dB

Signal dynamics, input: 19 bit

Signal dynamics, output: 16 bit

Effect of supply voltage change: < 0.005% of span /VDC

Accuracy: Better than 0.1% of sel. Range

EMC immunity influence: < +/-0.5% of span

Range:

4mA: °C

20mA: °C

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

Other on request