

THERMOCOUPLE THERMOMETER

Measuring insert: Fixed

Type:
TC-BC/BCC

Sheet No.
3-10 V2

5154-E010721V3.1

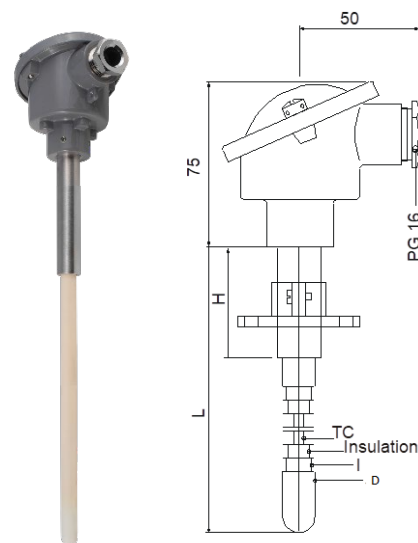


Application:

- Measurement of high temperatures in large ovens and channels for flue gases and air
- Field of application: Up to 1700°C (depending on thermocouple)
- Usually applied in: Tile works, refuse disposal plants and processing plants

Properties:

- Thermocouple thermometer type T, J, E, K, N, S, R or B in accordance with IEC 60584-1
- Constructed in accordance with DIN EN 50446
- Measuring insert: Fixed
- Process attachment: Adjustable flange or coupling
- Gas-proof ceramic internal tube protects thermocouple against pollution
- Outer protective sheath: Heat-proof steel or stainless acid-proof steel
- Modular construction and standard length minimizes the number of spare parts
- Can be delivered with head mounted transmitter.



MECHANICAL SPECIFICATIONS

Protective tube O: -----

Ceramics KER610 according to DIN EN 50446
Ceramics KER799 according to DIN EN 50446

Internal tube I: -----

Ceramics KER610 according to DIN EN 50446
Ceramics KER799 according to DIN EN 50446
None

Sensor diameter [mm]: -----

Ø10 mm

Nominal length L [mm]: -----

500 mm
710 mm
1000 mm
1400 mm
Other on request

Retained tube length H [mm]: -----

Ø15x80 mm
Other on request

Process attachment: -----

½" BSP
¾" BSP
Ø15 flange according to DIN EN 50446
Ø22 flange according to DIN EN 50446

Protection head: -----

B: (Aluminum, enameled, low cap, IP62)
BSBH: (Aluminum, enameled, high cap, IP62)
Other on request

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

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 Type:

Type T (Cu-CuNi) max. +300°C
Type J (Fe-CuNi) max. +700°C
Type E (NiCr-CuNi) max. +800°C
Type K (NiCr-Ni) max. +1150°C
Type N (NiCrSi-Ni) max. +1250°C
Type S (Pt10Rh-Pt) max +1600°C
Type R (Pt13Rh-Pt) max +1600°C
Type B (Pt30Rh-Pt6Rh) max +1700°C
Others on request

---Number of thermocouples:

1xTC
2xTC
Other on request

--- Tolerance in acc. with IEC 60584-1:

Class 1 for T (i.e. $\pm 0,5^{\circ}\text{C}$ or $\pm(0,0040 \times T)$)
Class 1 for J, E, K, N (i.e. $\pm 1,5^{\circ}\text{C}$ or $\pm(0,0040 \times T)$)
Class 1 for S, R ($\pm 1,0^{\circ}\text{C}$ $\pm 1,0^{\circ}\text{C} + (T(\text{actual}) - 1100^{\circ}\text{C})^{\circ}\text{C}$)
Class 2 for T (i.e. $\pm 1,5^{\circ}\text{C}$ or $\pm(0,0075 \times T)$)
Class 2 for J, E, K, N (i.e. $\pm 2,5^{\circ}\text{C}$ or $\pm(0,0075 \times T)$)
Class 2 for S (i.e. $\pm 1,25^{\circ}\text{C}$ or $\pm(0,0025 \times T)$)
Class 2 for R, B (i.e. $\pm 1,5^{\circ}\text{C}$ or $\pm(0,0025 \times T)$)

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

THERMOCOUPLE THERMOMETER
Measuring insert: Interchangeable

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TC-BC/BCC

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3-6 V2
5154-E010721V3.1



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.

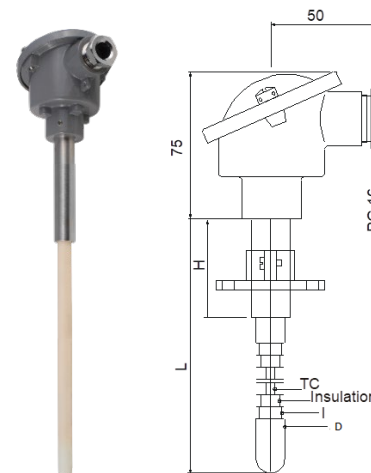
Enhanced performance services:

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

5334A Uninsulated for RTD

5334B 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 standard

5337D Hart 5 & 7 Protocol CSA, FM, ATEX, IECEx



Transmitter Type:			
4 mA =	C°	20 mA =	C°

Programmable rail mounted transmitter

Link for further information to [Rail mounted transmitter](#)

Link for further information: [Transmitter Overview](#)

CALIBRATION

-----Calibration:

In house (Span)

Accredited – in laboratory

1.	Point	°C
2.	Point	°C
3.	Point	°C

Enhanced performance services

-----Cryo treatment.

For temperature sensor under -50°C

-----Ageing:

For long term stability.

-----Documentation

Certificate: 3.1 Material

Certificate of origin

Certificate of conformity