RESISTANCE THERMOMETER
Measuring insert: Interchangeable

Type: RT-B

5452-E170424V3.3

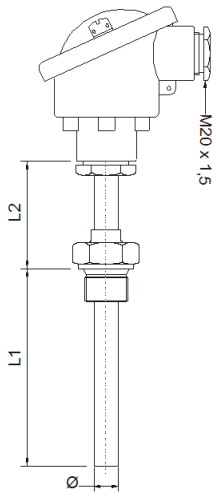
Application:

- 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, 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
Nickle platted 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.:

Kjaerulf Pedersen a/s, Taastrupgaardsvej 8-10, DK-2630 Taastrup, Tel.: +45 39760203, sales@kp-as.com, www.kp-as.com

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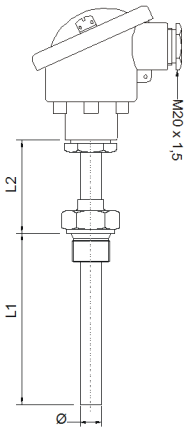
RESISTANCE THERMOMETER **Measuring insert: Interchangeable**	**Type: RT-B**	**5452- E170424V3.3**

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

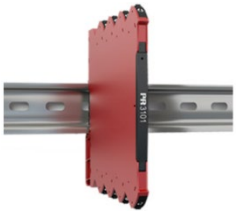


Transmitter Type:			
4 mA =	C°	20 mA =	C°

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	°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

---- **Marine Certificate**
Certificate of DNV
Certificate of BV
Certificate of Rina
Certificate of Class NK
Certificate of LR
Certificate of ABS

Other on request

Date:

Part No.:

Kjaerulf Pedersen a/s, Taastrupgaardsvej 8-10, DK-2630 Taastrup, Tel.: +45 39760203, sales@kp-as.com, www.kp-as.com

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THERMOCOUPLE THERMOMETER **Measuring insert: Interchangeable**	**Type: TC-B**	**5352-E220525V3.3**

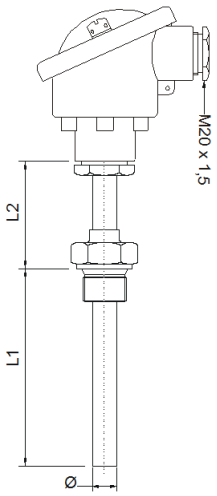
Application:

- For measuring temperatures in closed pipelines and containers with gaseous or liquid media, e.g. air, steam, gas, water or oil.
- Field of application: up to 1250°C (depending on thermocouple)
- Usually applied in: tile works, refuse disposal plants, processing plants, power plants, district heating, energy distribution

Properties:

- Thermocouple thermometer type K, J, E, N, T in acc. with IEC 60584-1
- Constructed in accordance with DIN 50446
- Measuring insert: Interchangeable
- Outer protective tube: 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
- 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]: ----------
Ø8 / Ø9 / Ø11 / Ø15
Other on request

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

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

Process attachment: ----------
¼" BSP welded coupling
½" BSP welded coupling
¾" BSP welded coupling
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 w/screw, 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

Cable gland (pre-mounted in Head): ----------
None (standard – cable entry M20x1.5)
Plastic
Nickle platted 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):
PP (Plastic-Plastic)
SS (Silicone-Silicone) max. 180°C
SBS (Silicone-Inner Braided-Silicone)
TBT (Teflon-Inner Braided-Teflon)
None

---Cable length [m]:

---Sensor Type:
Type K (NiCr-Ni) max. +1150°C
Type J (Fe-CuNi) max. +700°C
Type N (NiCrSi-Ni) max. +1250°C
Type E (NiCr-CuNi) max. +800°C
Type T (Cu-CuNi) max. +300°C
Other on request

---Number of thermocouples:
1xTC
2xTC
Other on request

---Media temperature max:
+600°C
+800°C
+1250°C

---Tolerance in acc. with IEC 60584-2:
Class 1 for K,J,N,E (i.e. ±1,5°C or ±(0,0040xT)
Class 2 for K,J,N,E (i.e. ±2,5°C or ±(0,0075xT)
Class 1 for T (i.e. ±0,5°C or ±(0,0040xT)
Class 2 for T (i.e. ±1,5°C or ±(0,0075xT)

Link for further information: TC Tolerance

Date:

Part No.:

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THERMOCOUPLE THERMOMETER **Measuring insert: Interchangeable**	**Type: TC-B**	**5352-E220525V3.3**

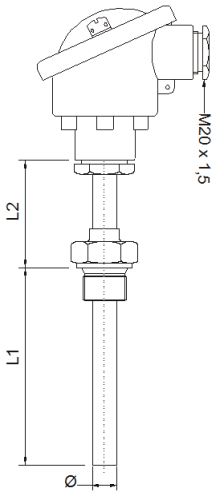
Calibration:
Temperature calibration are used to verify and certify the sensor to have the correct accuracy. We can do either: “In house” or “Accredited” calibration. Accredited is certified by 3.e part. Normally we do a calibration in 3 points.

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/+1800°C
Output: 2-wire, 4-20 mA
Min. span: 25°C
Ambient temperature min/max: -40/+85°C

5334A Uninsulated for TC
5334B EEX Uninsulated for TC
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

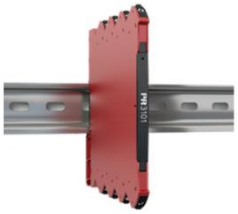


Transmitter Type:			
4 mA =	C°	20 mA =	C°

Link to further information:

Transmitter Overview

Programmable rail mounted transmitter



CALIBRATION

None ----**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

☐ ----**Marine Certificate**
Certificate of DNV
Certificate of BV
Certificate of Rina
Certificate of ClassNK
Certificate of LR
Certificate of ABS

Other on request

Date:

Part No.:

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