



Screw-In and Welded Resistance Thermometers according to DIN with Removable Measuring Element



measuring
•
monitoring
•
analysing



- Measuring ranges:
- 80 ... + 600 °C
- Pt 100 sensor category B
(category A optional)
- Optional head mounted
transmitter; output: 4 - 20 mA
- Protective tubes according to DIN 43763
form A, B, C, D, G, F



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KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ +49(0)6192 299-0
Fax +49(0)6192 23398
E-Mail: info.de@kobold.com
Internet: www.kobold.com

Model:
TWD...

Description

The screw-in resistance thermometers comprise a rugged installation fitting made of stainless steel with thread or flange connection, a connection head made of aluminium casting and a removable measuring element. The measuring insert can also be replaced without emptying the process.

The weldable sleeve is supplied as standard for welded resistance thermometers.

A Pt 100 temperature sensor according to IEC 751, category B in two-wire circuitry is fitted in the measuring insert as standard.

These sensors are available as single or double resistance thermometers.

The resistance thermometer is available with a transmitter as an option.

Special versions

In addition to standard immersion lengths according to DIN, customer specified resistance thermometers can also be delivered.

For example:

- Terminal housings BUZ or BBK
- other immersion lengths
- other materials
- other connection threads
- other tolerance class

Transmitter

Resistance thermometers with transmitter are used to transmit measuring signals noise-free over long distances. The two-wire transmitter is encapsulated in epoxy resin and is situated in the connection head; its output is a temperature linear output signal of 4 - 20 mA.

Applications

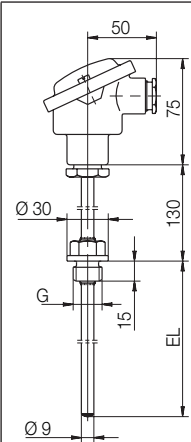
Screw-in resistance thermometers are particularly suited for measuring temperature in liquid and gaseous media. Areas of application are to be found in air conditioning and refrigeration technology, in heating installation, furnace, machine and apparatus construction as well as in industry in general.

Technical Details

| | |
|----------------------------|--|
| Protection: | head form B IP 54 ambient temperature head: max. 85 °C |
| Sensor: | Pt100, category B (category A optional) |
| Transmitter | |
| Output: | 4 - 20 mA |
| Min./Max. measuring range: | -50/+600 °C |
| Minimum measuring span: | 50 K |
| Supply voltage: | 6.5 - 32 V _{DC} |

Screw-in resistance thermometers form B with or without stand-off

Protective tube G 1/2 AG according to DIN 43 763 (with stand-off)

|  | Model number | Immersion length (mm) | Protective tube | Connection | Sensor type/category | Wiring | Connection head |
|---|--------------|-----------------------|--|-------------|---|---|---|
| L | TWD-L9410 | 100 | 9x7 mm st. st. 1.4571 max. 600 °C without stand-off | ..2..=G 1/2 | ..1..= 1x Pt100, categ. B (-30...+550 °C) | ..2..= 2-wire ..3..= 3-wire ..4..= 4-wire from an installation length of 160 mm we recommend a 3 or 4 wire | ..B= form B ..T = form B with transducer for top mounting TUM-KW* |
| | TWD-L9416 | 160 | | | | | |
| | TWD-L9425 | 250 | | | | | |
| | TWD-L9440 | 400 | | | | | |
| B | TWD-B9410 | 100 | 9x7 mm st. st. 1.4571 max. 600 °C with stand-off | ..2..=G 1/2 | ..3..= 1x Pt100, categ. B (-80...+600 °C) | ..3..= 1x Pt100, categ. B (-80...+600 °C) | ..P = form B with transducer for top mounting TUM-KP* |
| | TWD-B9416 | 160 | | | | | |
| | TWD-B9425 | 250 | | | | | |
| | TWD-B9440 | 400 | | | | | |

*Please specify meas. range when ordering

Screw-in resistance thermometer form C with stand-off

Protective tube G 1 AG according to DIN 43 763

| | Model number | Immersion length (mm) | Protective tube | Connection | Sensor type/category | Wiring | Connection head |
|--|--------------|-----------------------|--|------------|---|--|--|
| | TWD-CB410 | 100 | 11 x 7 mm stainless steel 1.4571 max. 600 °C | ..4..= G 1 | ..1..= 1x Pt100, categ. B (-30...+550 °C) | ..2..= 2-wire ..3..= 3-wire ..4..= 4-wire from an installation length of 160 mm we recommend a 3 or 4 wire | ..B= form B ..T = form B with transducer for top mounting TUM-KW ..P = form B with transducer for top mounting TUM-KP* |
| | TWD-CB416 | 160 | | | ..2..= 2x Pt100, categ. B (-30...+550 °C) | | |
| | TWD-CB425 | 250 | | | ..3..= 1x Pt100, categ. B (-80...+600 °C) | | |
| | TWD-CB440 | 400 | | | ..4..= 2x Pt100, categ. B (-80...+600 °C) | | |

*Please specify meas. range when ordering

Screw-in resistance thermometer form G with stand-off

Tapered protective tube G 1 AG according to DIN 43 763 for faster response time

| | Model number | Immersion length (mm) | Protective tube | Connection | Sensor type/category | Wiring | Connection head |
|--|--------------|-----------------------|---|------------|---|--|---|
| | TWD-G9416 | 160 | 9 x 7 mm stainless steel 1.4571 max. 400 °C | ..4..= G 1 | ..1..= 1x Pt100, categ. B (-30...+400 °C) | ..2..= 2-wire ..3..= 3-wire ..4..= 4-wire from an installation length of 160 mm we recommend a 3 or 4 wire | ..B= Form B ..T = Form B with transducer for top mounting TUM-KW* ..P = form B with transducer for top mounting TUM-KP* |
| | TWD-G9425 | 250 | | | ..2..= 2x Pt100, categ. B (-30...+400 °C) | | |
| | TWD-G9428 | 280 | | | ..2..= 2x Pt100, categ. B (-30...+400 °C) | | |

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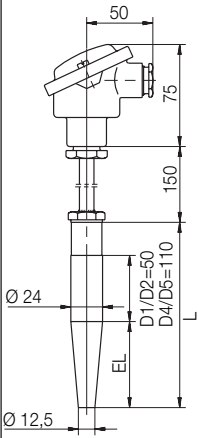
Immersion resistance thermometer form A

Protective tube according to DIN 43 763 with adjustable screwing

| | Model number | Nominal length (mm) | Protective tube | Connection | Sensor type/category | Wiring | Connection head |
|--|--------------|---------------------|---|--|---|--------------------------------|---|
| | TWD-AF450 | 500 | 15 x 11 mm stainless steel 1.4571 max. 600 °C | ..B..= adjustable G 3/4 st. st. ..C..= aluminium sliding flange DIN 43743 | ..1..= 1x Pt100, categ. B (-30...+550 °C) | ..3..= 3-wire ..4..= 4-wire | ..B= form B ..T = form B with transducer for top mounting TUM-KW* ..P = form B with transducer for top mounting TUM-KP* |
| | TWD-AF471 | 710 | | | ..2..= 2x Pt100, categ. B (-30...+550 °C) | | |
| | TWD-AF41T | 1000 | | | ..3..= 1x Pt100, categ. B (-80...+600 °C) | | |
| | TWD-AF4T4 | 1400 | | | ..4..= 2x Pt100, categ. B (-80...+600 °C) | | |
| | TWD-AF42T | 2000 | | | ..4..= 2x Pt100, categ. B (-80...+600 °C) | | |

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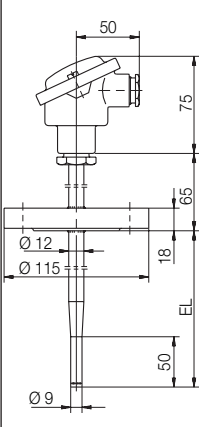
Welded resistance thermometer form D
with protective tube according to DIN 43 763

|  | Model number | Lengths EL/L1 (mm) | Protective tube | Connection | Sensor type/category | Wiring | Connection head |
|---|--------------|---|---|---|---|---|--|
| | TWD-D1406 | 65/140 (D1) | Stainless steel 1.4571 -60...+550 °C | ..0..=welded | ..1..= 1x Pt100, categ. B (-30...+550 °C) | ..3..=3-wire | ..B= form B ..T = form B with transducer for top mounting TUM-KW* |
| TWD-D2412 | 125/200 (D2) | | | | | | |
| TWD-D4406 | 65/200 (D4) | | | | | | |
| TWD-D5412 | 125/260 (D5) | Stainless steel 1.7335 -60...+540 °C | ..0..=welded | ..3..= 1x Pt100, categ. B (-80...+600 °C) | ..4..=4-wire | ..P = form B with transducer for top mounting TUM-KP* | |
| TWD-D1906 | 65/140 (D1) | | | | | | |
| TWD-D2912 | 125/200 (D2) | | | | | | |
| TWD-D4906 | 65/200 (D4) | | | | | | |
| TWD-D5912 | 125/260 (D5) | | | | | | |

*Please specify meas. range when ordering

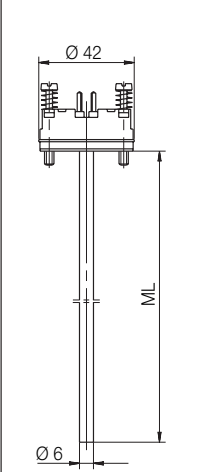
Insertion resistance thermometer form F

with flange DN 25 PN 40, tapered protective tube according to DIN 43 763 for faster response time

|  | Model number | Immersion length (mm) | Protective tube | Connection | Sensor type/category | Wiring | Connection head |
|---|--------------|-----------------------|---|-------------|---|--------------|---|
| | TWD-F9422 | 225 | 9 x 7 mm Stainless steel 1.4571 max. 400 °C | ..4..=DN 25 | ..1..= 1x Pt100, categ. B (-30...+400 °C) | ..3..=3-wire | ..B= Form B ..T = Form B with transducer for top mounting TUM-KW* ..P = form B with transducer for top mounting TUM-KP* |
| TWD-F9428 | 285 | | | | | | |
| TWD-F9434 | 345 | | | | | | |

*Please specify meas. range when ordering

Spare measuring insert for resistance thermometers according to DIN 43 762

|  | Model number | For Form | Immers. length (mm) | Length of sensing (mm) | Diameter (mm) | Sensor type/category | Wiring | Electr. Connection |
|---|--------------|----------|---------------------|------------------------|---------------------------|---------------------------|--------------|---|
| | TWD-M82050 | A | 500 | 525 | 8 | ..1..= 1x Pt100, categ. B | ..2..=2-wire | ..K= ceramic base for head form B ..T = form B with transducer for top mounting TUM-KW* ..P = form B with transducer for top mounting TUM-KP* |
| TWD-M82071 | A | 710 | 735 | 8 | | | | |
| TWD-M8201T | A | 1000 | 1025 | 8 | | | | |
| TWD-M820T4 | A | 1400 | 1425 | 8 | | | | |
| TWD-M8202T | A | 2000 | 2025 | 8 | ..2..=2x Pt100, categ. B | ..3..=3-wire | | |
| TWD-M62010 | B,C | 100 | 255 | 6 | | | | |
| TWD-M62016 | B,C | 160 | 315 | 6 | ..A..= 1x Pt100, categ. B | ..4..=4-wire | | |
| TWD-M62025 | B,C | 250 | 405 | 6 | | | | |
| TWD-M62040 | B,C | 400 | 555 | 6 | ..B..=2x Pt100, categ. B | | | |
| TWD-M620D1 | D1 | 65 | 315 | 6 | | | | |
| TWD-M620D2 | D2 | 125 | 375 | 6 | | | | |
| TWD-M620D4 | D4 | 65 | 375 | 6 | | | | |
| TWD-M620D5 | D5 | 125 | 435 | 6 | | | | |

*Please specify meas. range when ordering