



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



measuring  
•  
monitoring  
•  
analysing



- Measuring ranges:  
-80 to +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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**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

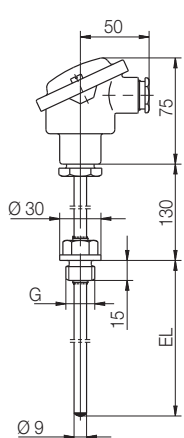
Sensor: Pt100, category B  
(category A optional)

### Transmitter

Output: 4 - 20 mA  
Min./Max. measuring range: - 50 / + 600 °C  
Minimum measuring span: 50 K  
Supply voltage: 6.5 - 32 V<sub>DC</sub>

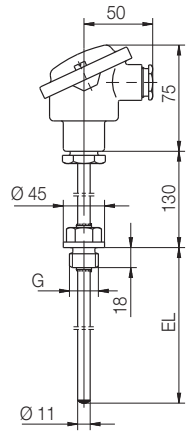
### Screw-in resistance thermometers form B with our without stand-off

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
	TWD-L9410	100	9 x 7 mm	..2..=G 1/2	..1..= 1 x Pt100, categ. B (-30..+550 °C) ..2..= 2 x Pt100, categ. B (-30..+550 °C)	..2..= 2-wire ..3..= 3-wire ..4..= 4-wire	..B= form B ..T = form B with head mounted transmitter (Please specify meas. range when ordering)
	TWD-L9416	160	st. st. 1.4571 max. 600 °C				
	TWD-L9425	250	without stand-off				
	TWD-L9440	400	with stand-off				
	TWD-B9410	100	9 x 7 mm	..2..=G 1/2	..3..= 1 x Pt100, categ. B (-80..+600 °C) ..4..= 2 x Pt100, categ. B (-80..+600 °C)	from an installation length of 160 mm we recommend a 3 or 4 wire	
	TWD-B9416	160	st. st. 1.4571 max. 600 °C				
	TWD-B9425	250	with stand-off				
	TWD-B9440	400	with stand-off				

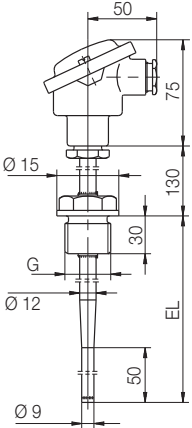
**Screw-in resistance thermometer form C with stand-off**

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 head mounted transmitter (Please specify measuring range when ordering)
	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)			

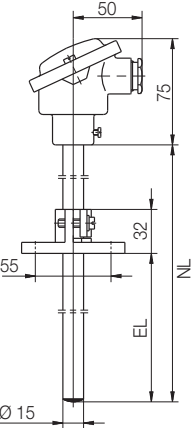
**Screw-in resistance thermometer form G with stand-off**

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

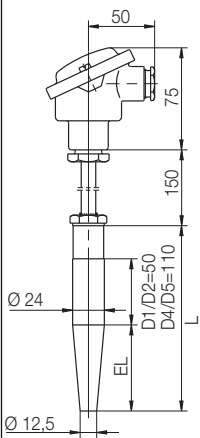
	Model number	Immersion length (mm)	Protective tube	Connection	Sensor type/category	Wiring	Connection head	
	TWD-G9416	160	9 x 7 mm stainless steel 1.4571 max. 400 °C	..4..=G 1	..1..= 1x Pt100, categ. B (-30..+400 °C)	..2..=2-wire ..3..=3-wire ..4..=4-wire	from an installation length of 160 mm we recommend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

**Immersion resistance thermometer form A**

Protective tube according to DIN 43 763 with adjustable screwing

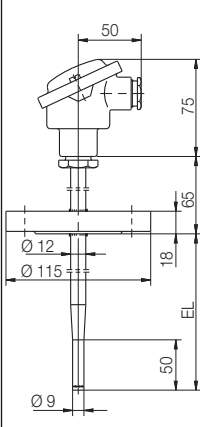
	Model number	Nominal length (mm)	Protective tube	Connection	Sensor type/category	Wiring	Connection head
	TWD-AF450	500	15 x 11 mm stainless steel 1.4571 max. 600 °C	..B..= adjustable G 3/4 st. st. ..C..= aluminium sliding flange DIN 43743	..1..= 1x Pt100, categ. B (-30..+550 °C)	..3..=3-wire ..4..=4-wire	..B= form B ..T = form B with transducer for top mounting (Please specify meas. range when ordering)
	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						

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

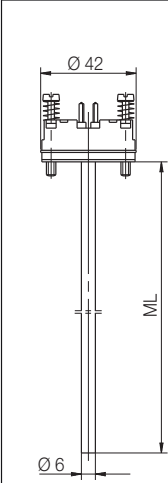
	Model number	Lengths EL/L1 (mm)	Protective tube	Connection	Sensor type/category	Wiring	Connection head
	TWD-D1406	65/140 (D1)	Stainless steel 1.4571 -60...+ 550 °C	..0..=welded	..1..= 1 x Pt100, categ. B (-30...+550 °C)	..3..=3-wire ..4..=4-wire	..B= form B ..T = form B with trans- ducer for top mounting (Please specify meas. range when ordering)
TWD-D2412	125/200 (D2)						
TWD-D4406	65/200 (D4)	Stainless steel 1.7335 -60...+ 540 °C	..0..=welded	..3..= 1 x Pt100, categ. B (-30...+550 °C)	..2..= 2 x Pt100, categ. B (-80...+600 °C)	..4..= 2 x Pt100, categ. B (-80...+600 °C)	
TWD-D5412	125/260 (D5)						
TWD-D1906	65/140 (D1)	Stainless steel 1.7335 -60...+ 540 °C	..0..=welded	..3..= 1 x Pt100, categ. B (-30...+550 °C)	..2..= 2 x Pt100, categ. B (-80...+600 °C)	..4..= 2 x Pt100, categ. B (-80...+600 °C)	
TWD-D2912	125/200 (D2)						
TWD-D4906	65/200 (D4)	Stainless steel 1.7335 -60...+ 540 °C	..0..=welded	..3..= 1 x Pt100, categ. B (-30...+550 °C)	..2..= 2 x Pt100, categ. B (-80...+600 °C)	..4..= 2 x Pt100, categ. B (-80...+600 °C)	
TWD-D5912	125/260 (D5)						

**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..= 1 x Pt100, categ. B (-30...+400 °C)	..2..= 2 x Pt100, categ. B (-30...+400 °C)	..3..=3-wire ..4..=4-wire
TWD-F9428	285						
TWD-F9434	345						

**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..= 1 x Pt100, categ. B	..2..=2-wire ..3..=3-wire ..4..=4-wire	..K= ceramic base for head form B
TWD-M82071	A	710	735	8				
TWD-M8201T	A	1000	1025	8				
TWD-M820T4	A	1400	1425	8	..2..= 2 x Pt100, categ. B	..A..= 1 x Pt100, categ. B	..T= form B with trans- ducer for top mounting (Please specify meas. range when ordering)	
TWD-M8202T	A	2000	2025	8				
TWD-M62010	B,C	100	255	6				
TWD-M62016	B,C	160	315	6	..B..=2x Pt100, categ. B			
TWD-M62025	B,C	250	405	6				
TWD-M62040	B,C	400	555	6				
TWD-M620D1	D1	65	315	6				
TWD-M620D2	D2	125	375	6				
TWD-M620D4	D4	65	375	6				
TWD-M620D5	D5	125	435	6				