

TW68 || Compact Resistance Thermometer

The TW68 compact resistance thermometer is used to directly measure gaseous and liquid media.

It is characterised by its compact design.

Configuration

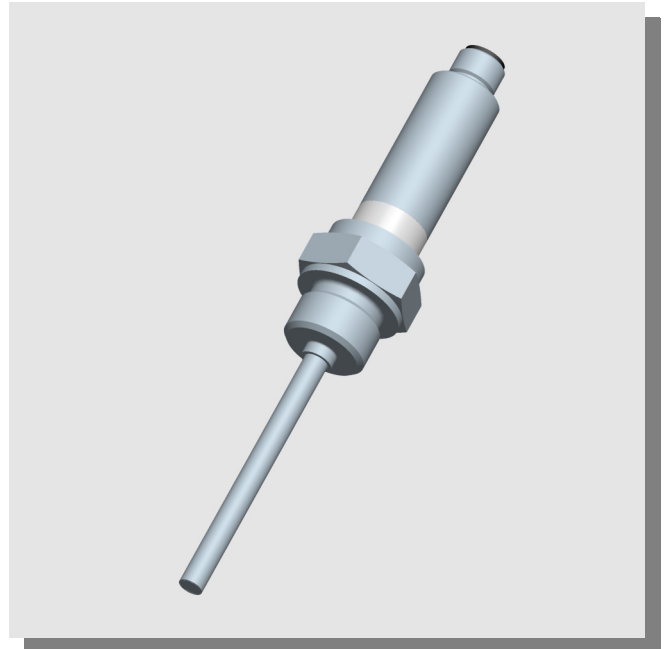
The TZ62 configuration set can be used to alter subsequently the programming of the model with built-in transmitter.

This allows the adjustable measurement range to be set. The device can also be given a measuring point mark.

Configuration Set TZ62

The TZ62 configuration set is used to program the model with built-in transmitter.

The configuration set is available with a USB and an RS232 interface.



Basic Features

- Compact design
- Fast and straightforward installation

Fields of Application

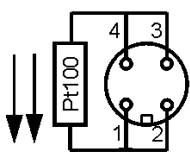
- Food industry
- Heating, air conditioning and ventilation engineering
- Environmental engineering
- Process engineering
- Petrochemical industry

Technical Specifications

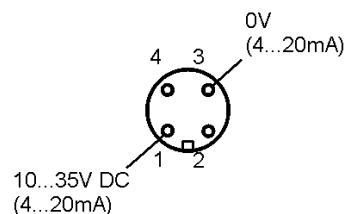
General	
Measuring element	Pt100 DIN EN 60751 Kl.B (Cl.A and B 1/3 possible)
Circuitry	4-Conductor
Material sensor	Stainless steel 1.4404 (1.4571)
Protection class	IP 66/67
Climatic class	Cl. C, EN 60654-1
Permissible ambient temperature	-40...+85 °C
Tmax	200 °C
Model with Transmitter	
Supply voltage	24 V DC (8-35 V DC possible)
Power requirement	< 3.5 mA
Current limiting	< 23 mA
Start delay	2 sec
Transmitter response time	1 sec
Min. measuring range	10 K
Sensor break	<3.6 mA >21.0 mA (configurable)
Voltage variation factor	Negligible
Switching mechanism	2-Conductor
Current output	4-20 mA or 20-4 mA
Load resistance	$(V_{ref} - 10V) / 0.023 A$
Long-term stability	< 0.1 K / Year
Temperature drift	0.1 % / K
Calibration temperature (reference)	23 °C ± 5 K
Configurable range start	< 50% final value
Attenuation	0-8 s
Electromagnetic compatibility (EMC)	As per IEC 61326-1 and NAMUR NE 21
Vibration resistance	4 g/2...150 Hz
Measuring accuracy	0.3 K or 0.08%

Pin Assignment

Model without Transmitter



Model with Transmitter



Model without Transmitter, Pt100, 4-conductor connection

Model with Transmitter, M12-plug, 4-pole

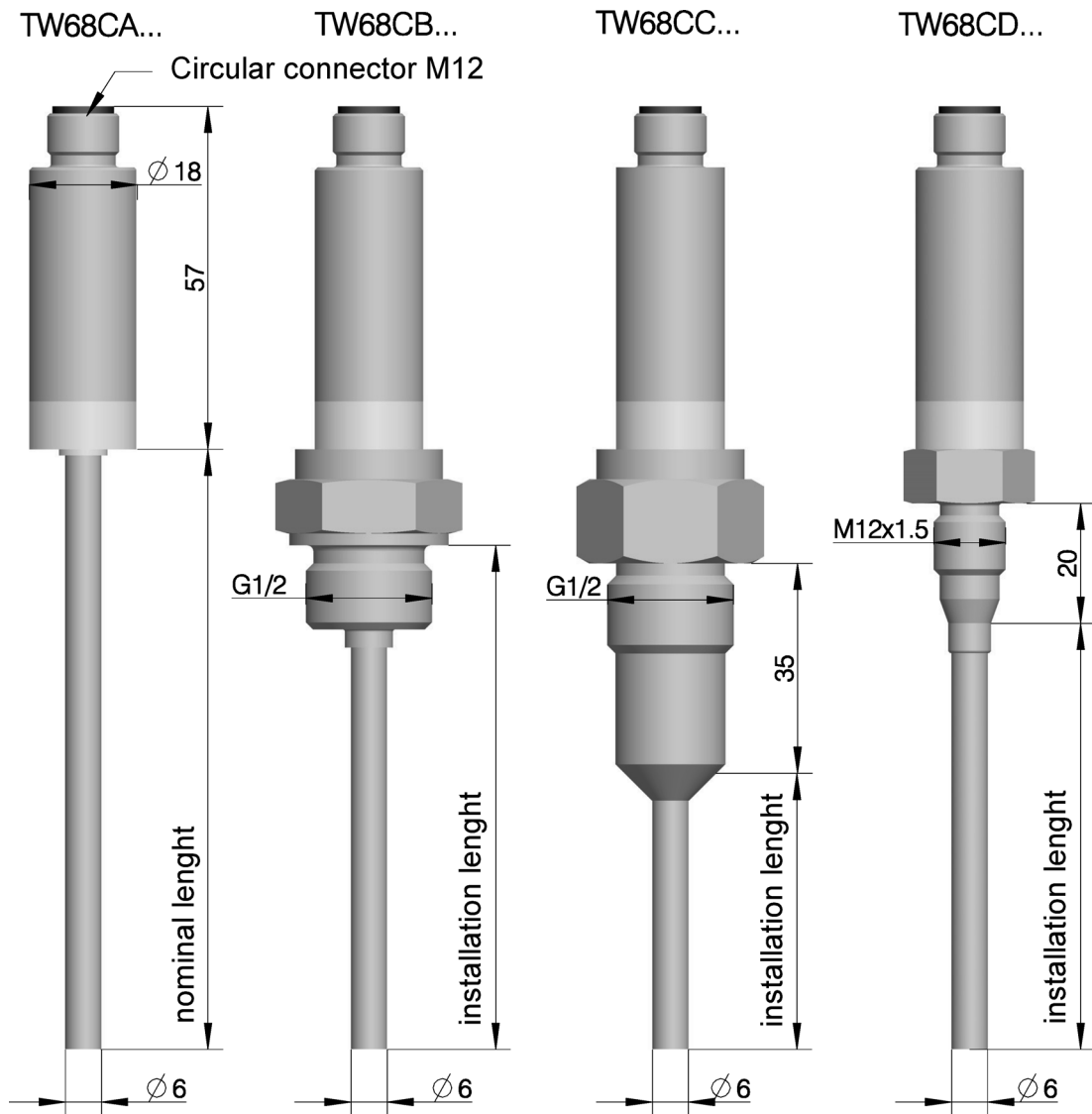
Pin 1: Voltage supply 10 to 35 V DC; Current output 4 to 20 mA (cable connection brown wire)

Pin 2: PC-Configuration cable connection - shortened pin (cable connection white wire)

Pin 3: Voltage supply 0 V DC; Current output 4 to 20 mA (cable connection blue wire)

Pin 4: PC-Configuration cable connection - shortened pin (cable connection black wire)

Dimensions (all dimensions in mm unless otherwise specified)



Order Code

Compact Resistance Thermometer TW68 C 0

Basic Model

Measuring insert with 1 x Pt100, 4-conductor >

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C

Process Connection

Smooth sensor d = 6 mm > A
Screw connection G1/2 / sensor d = 6 mm > B
Screw connection G1/2 / with metallic seal / sensor d = 6 mm > C
Screw connection M12x1.5 with metallic seal / sensor d = 6 mm > D

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Installation / Nominal Lengths

50 mm > 05
100 mm > 10
160 mm > 20
200 mm > 30
Other (on request) > 90

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Output

Output resistance > Y
With 2-wire transmitter; 4-20 mA; 24V DC > L

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Transmitter measuring range (°C)

Without transmitter > 00
-50 ... 0 > 10
-50 ... 50 > 20
0 ... 50 > 30
0 ... 100 > 40
0 ... 150 > 50

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Accessories:

4-pole connection wire with M12-plug (all models)

- Cable length 2 m art. no. 06401993
- Cable length 5 m art. no. 06402994

Configuration set TZ62 (model with 2-wire transmitter)

- With RS232 interface art. no. TZ6200
- With USB interface art. no. TZ6201

Clamp connection (models TW68CA...)

- Stainless steel clamp connection G1/4 art. no. 09002028
- Stainless steel clamp connection G1/2 art. no. 09002173

Welded socket (models TW68CC...)

- Welded socket G1/2 art. no. 06002001
Material: stainless steel 1.4571

Welded socket (models TW68CD...)

- Welded socket M12x1.5 art. no. 06002579
Material: stainless steel 1.4571