

Application

- Measuring range: -50 .. +150 °C
- General machinery and equipment design
- Measuring temperature of bearings
- All branches of industry

Technical properties

- Made of sheathed cable, insulated inside with MgO
- Small dimensions (Ø 3.0 mm)
- Short response time for temperature change
- The sensor is bendable
- Metal sheath made of stainless steel AISI316
- Vibration resistant

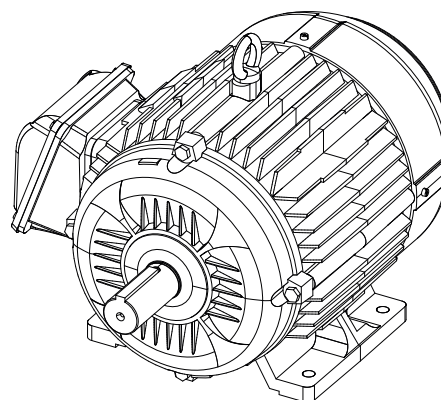
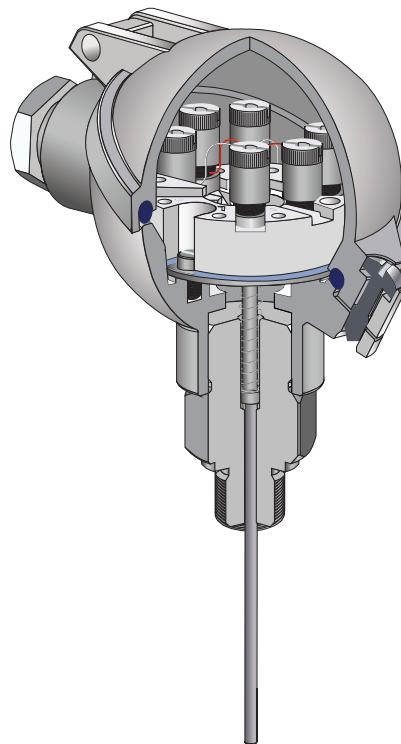
Description

Sheathed resistance sensors are made of mineral insulated cable, in which the internal wires are insulated from each other and from the external sheath with magnesium oxide (MgO) powder. This gives the sensor high vibration resistance and flexibility, as well as temperature resistance and good electrical insulation.

These sensors are intended for direct temperature measurement in hard-to-reach places and wherever there is a need to use flexible sensors with small diameters, high resistance to vibrations and shocks and with a short response time to temperature changes.

The complete sensor is equipped with a special spring, a threaded connector and an aluminum connection head.

All elements are made of non-magnetic stainless steel.



Other versions

This data sheet contains only a small portion of our program of supplying sheathed resistance thermometers for measuring temperature of bearings.

Other versions can be supplied upon customer's request.

Sensors with connection head

Sensors with connection cable

Mineral insulated sensors

Sensors with GDM connectors

Sensors with MI2 connectors

Sensors with field transmitter

Stator RTDs

Ambient temperature sensors

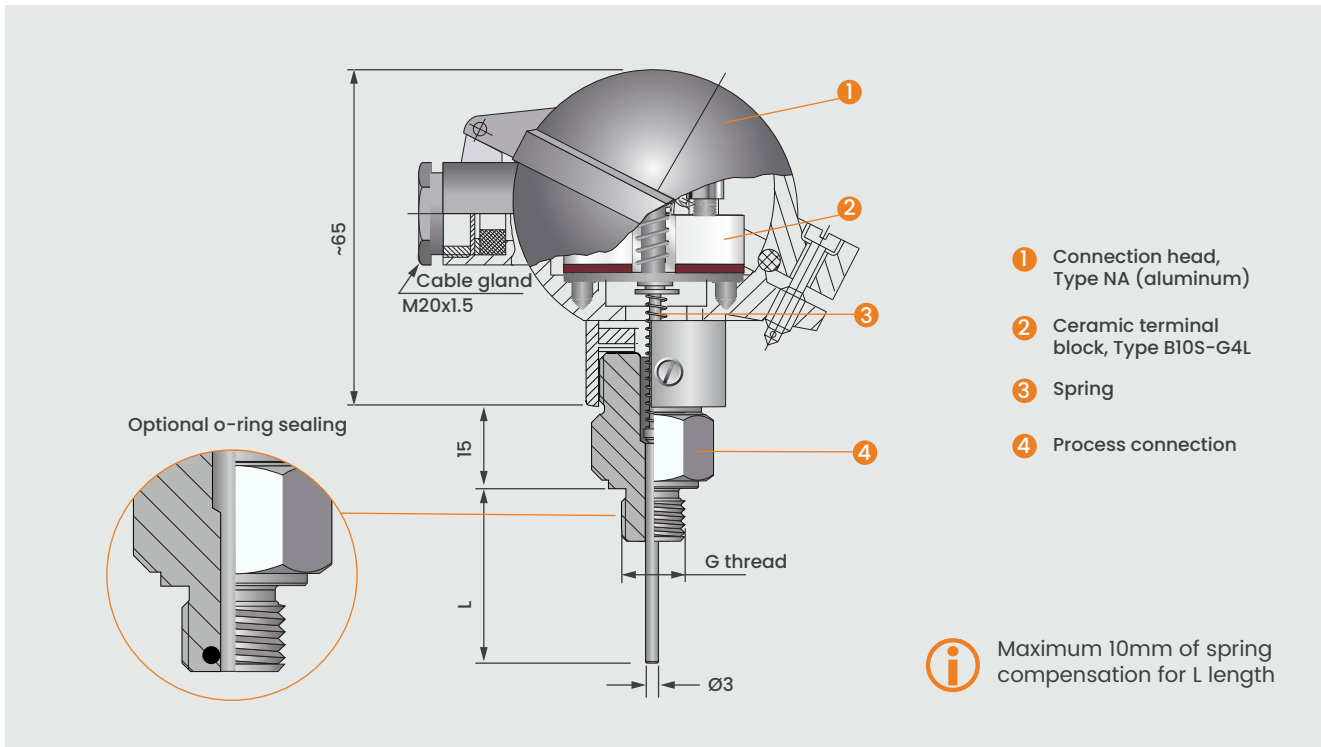
MINERAL INSULATED RESISTANCE THERMOMETER

TYPE TRP-323



Data sheet TRP-323 | Edition 2023

Design



Connection line

Measuring insert [mm]	1 x Pt 100			2 x Pt 100		
	2-wire	3-wire	4-wire	2-wire	3-wire	4-wire
Ø3	✓	✓	✓	✓	✓	x

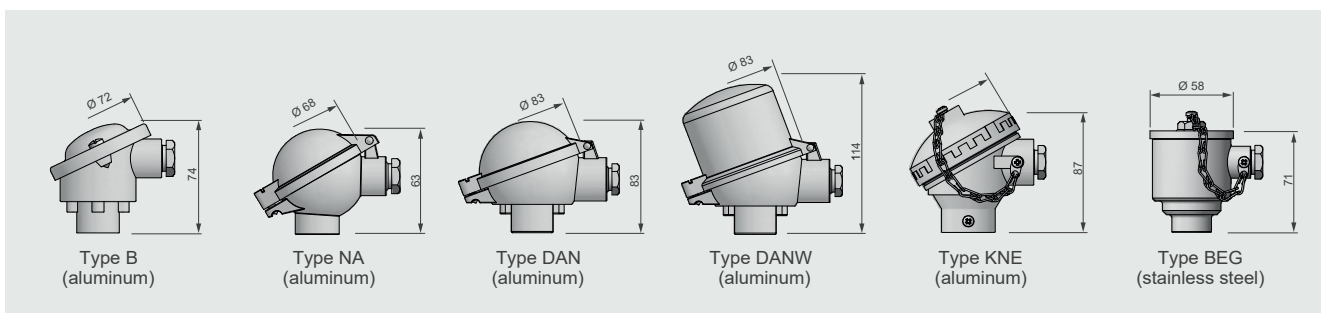
Tolerances

PN-EN 60751 Standard defines the formulas for calculating acceptable measure tolerance. More information in the general resistance thermometer sheet.

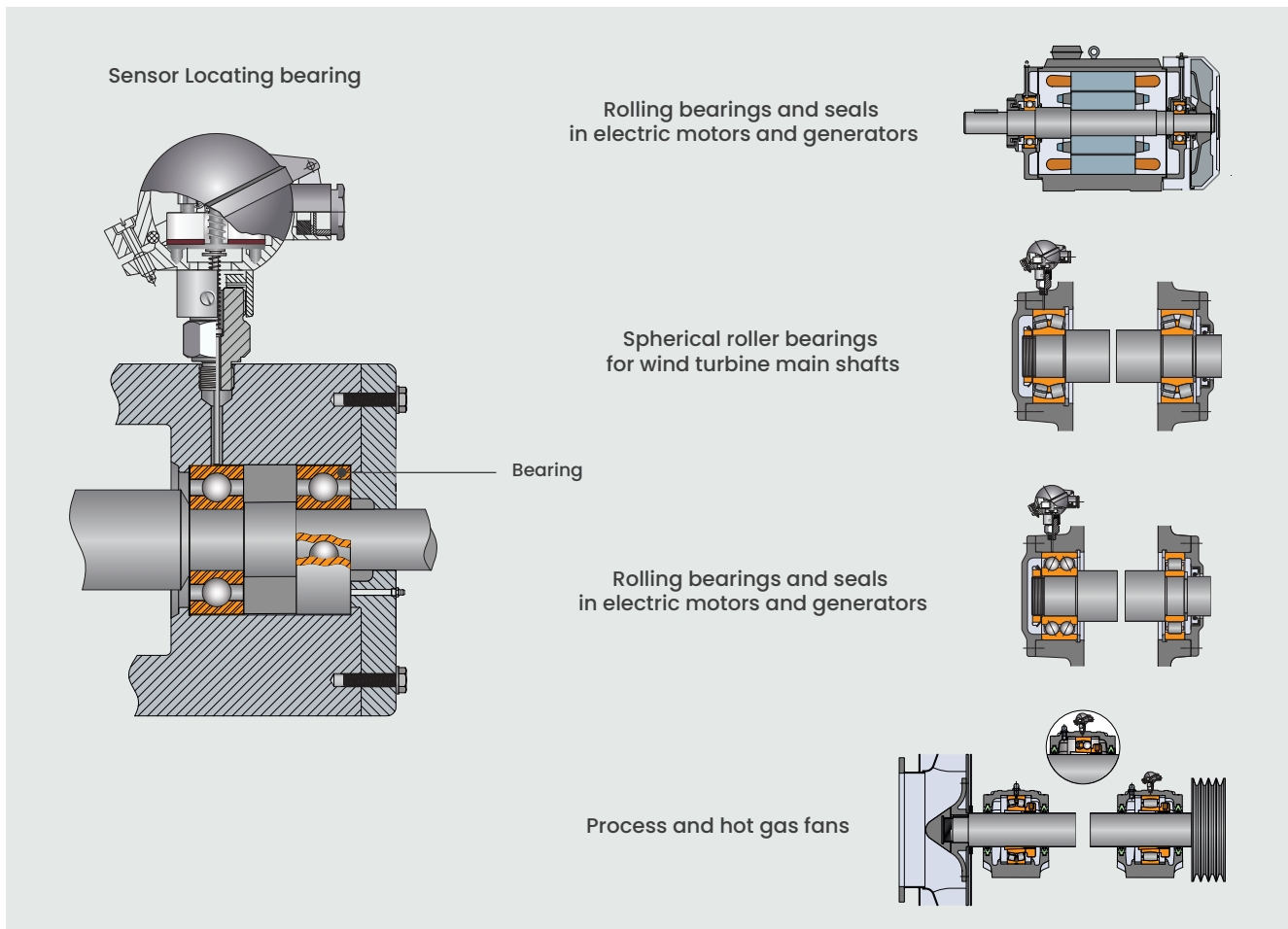
Class of tolerance	Tolerance
A	$\pm 0.15 + (0.002 \times t)$
B	$\pm 0.30 + (0.005 \times t)$

Connection heads

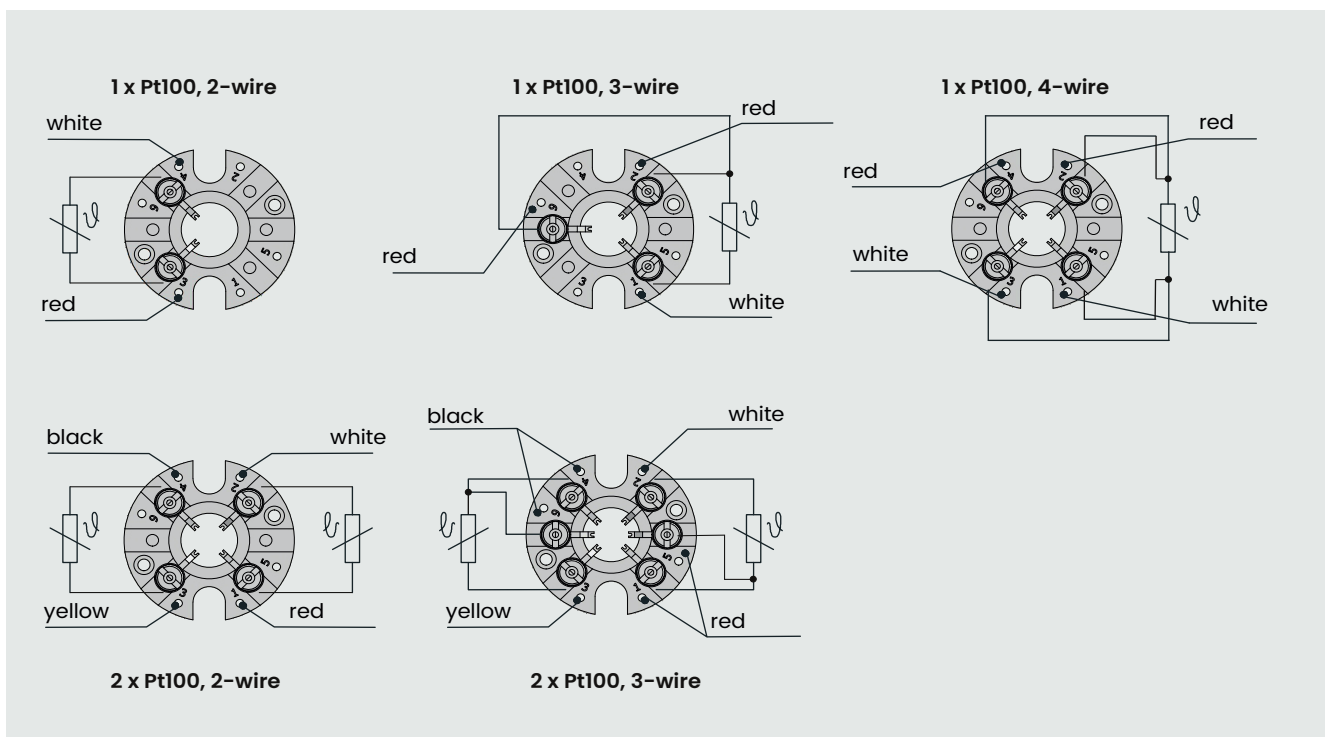
This sensor can be fitted with one of the following connection heads. For more information about the connection heads see section "Accessories".



Example of installation



Electrical connection on ceramic block



MINERAL INSULATED RESISTANCE THERMOMETER

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Ordering code

1 2 3 4 5 6 7 8 9
 - TRP-323 - - - - - - - - -

Order	Parameter	Code	<input checked="" type="checkbox"/>	Description
1	Sensing element		<input type="checkbox"/>	1 x Pt100, single
		AP	<input type="checkbox"/>	1 x Pt100, with installed transmitter 4..20 mA
		APW	<input type="checkbox"/>	1 x Pt100, with installed transmitter 4..20 mA and local LED display*
		2	<input type="checkbox"/>	2 x Pt100, double
2	Heads	NA	<input type="checkbox"/>	Type NA Aluminium Cable gland: M20x1.5
		DAN	<input type="checkbox"/>	Type DAN Aluminium Cable gland: M20x1.5
		DANW	<input type="checkbox"/>	Type DANW Aluminium Cable gland: M20x1.5
		B	<input type="checkbox"/>	Type B Aluminium Cable gland: M20x1.5
		BEG	<input type="checkbox"/>	Type BEG Stal kwasoodporna Cable gland: M20x1.5
		xxx	<input type="checkbox"/>	Other, please specify
3	Length L	55	<input type="checkbox"/>	55 mm
		105	<input type="checkbox"/>	105 mm
		xxx	<input type="checkbox"/>	Other, please specify
4	Process connection G	M10x1	<input type="checkbox"/>	M10x1
		M12x1.5	<input type="checkbox"/>	M12x1.5
		M14x1.5	<input type="checkbox"/>	M14x1.5
		xxx	<input type="checkbox"/>	Other, please specify
5	Tolerance class	A	<input type="checkbox"/>	Class A according to PN-EN 60751
		B	<input type="checkbox"/>	Class B according to PN-EN 60751
		1/3B	<input type="checkbox"/>	Class 1/3B DIN
		xxx	<input type="checkbox"/>	Other, please specify
6	Connection line	2	<input type="checkbox"/>	2-wire
		3	<input type="checkbox"/>	3-wire
		4	<input type="checkbox"/>	4-wire
7	Measuring range of temperature transmitter	0..100	<input type="checkbox"/>	Input signal for 4..20mA: 0..100°C
		xxx	<input type="checkbox"/>	Other, please specify
8	Type of temperature transmitter	PR5333A	<input type="checkbox"/>	Output signal 4..20 mA
		PR5335A	<input type="checkbox"/>	Output signal 4..20 mA, with HART® communication protocol
		PR5350A	<input type="checkbox"/>	Output signal Profibus® PA / Foundation Fieldbus
		xxx	<input type="checkbox"/>	Other, please specify
9	Sealing	-	<input type="checkbox"/>	no extra sealing
		o-ring	<input type="checkbox"/>	o-ring FPM (viton)

Example

TRP-323-1xPt100-55-M14x1.5-A-4

Sensor 1xPt100, sheath diameter Ø3.0 mm, length L=55 mm, process connection M14x1.5, class A according to PN-EN 60584-2, 4-wire.

