

Applications

- Temperature measurement of pipelines
- Heating and air-conditioning installations

Features

- Single RTD
- Connection line 2-, 3-, 4-wire
- Single RTD:
Pt100, Pt500, Pt1000 (IEC751),
Ni100, Ni500, Ni1000 (DIN43760),
Cu50, Cu100 (GOST 6651-2009)
- Esthetic housing
made out of plastic or aluminum
(light grey color)
- IP65 protection degree
- Radiator material: brass

Resistance thermometers TOPZR are designed for temperature measurement of pipelines.

There is possibility of assembling programmable temperature transmitter with 4-20 mA output signal into TOPZ housing.

TOPZR consists of thermometric resistor, radiator made out of brass, hose-clip and esthetic housing made out of plastic or aluminum.

Hose-clip length, accuracy can be selected individually for the respective application.



TOPZR
Standard construction version

Sensors with
connection head

Sensors
with connection cable

Mineral insulated
sensors

Sensors with GDM
connectors

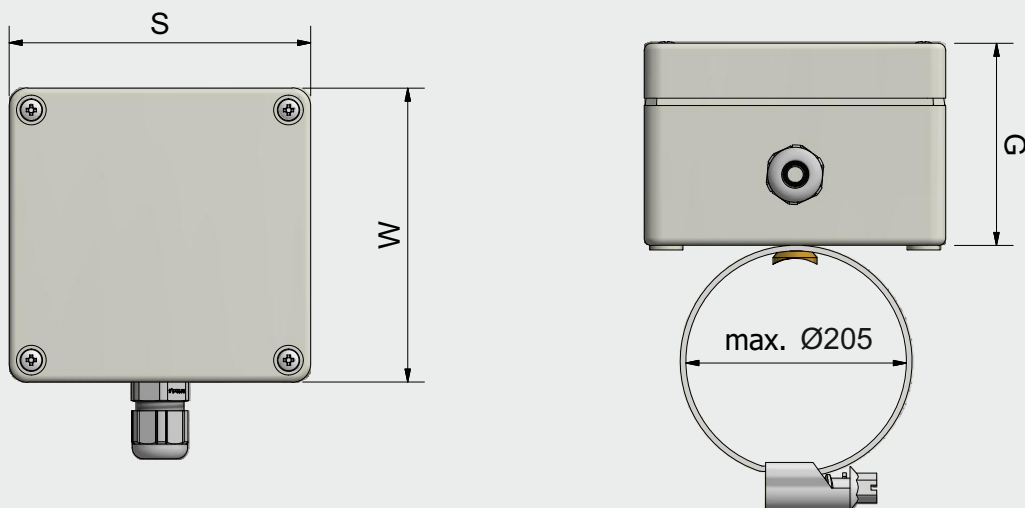
Sensors with
MI2 connectors

Sensors
with field transmitter

Stator RTDs

Ambient
temperature sensors

Designs



Housing material	Width S	Height W	Depth G
Polycarbonate	82 mm	80 mm	55 mm
Aluminum	70 mm	85 mm	57 mm

Measuring range

from -40°C to +85°C

Sensing element

Single or double

Pt100, Pt500, Pt1000 (IEC 751, $\alpha=0.00385$)

Ni100, Ni500, Ni1000 (DIN43760, $\alpha=0.00618$)

Cu50, Cu100 (GOST 6651-94, $\alpha=0.00426$)

Electrical parameters

Measuring current nom. 0,1 mA to 1 mA

Isolation resistance > 10 G Ω (test 500 VDC)

Housing material

Stainless steel 1H18N9T (1.4541 / AISI321)

Tolerance class

Platinum Class A ($\pm 0.15^\circ\text{C}$ in temp. 0°C)

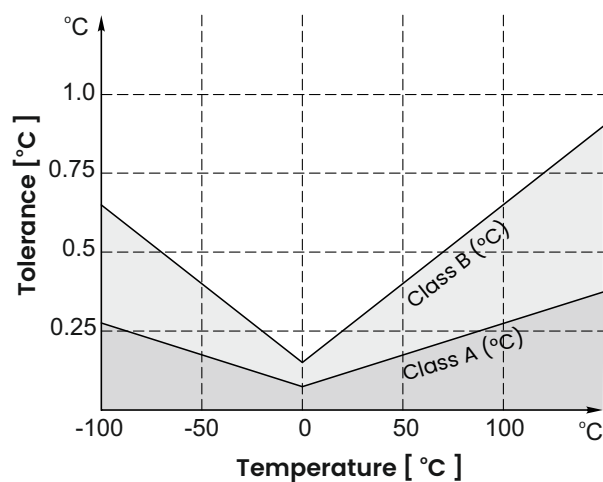
Class B ($\pm 0.30^\circ\text{C}$ in temp. 0°C)

Nickel ($\pm 0.40^\circ\text{C}$ in temp. 0°C)

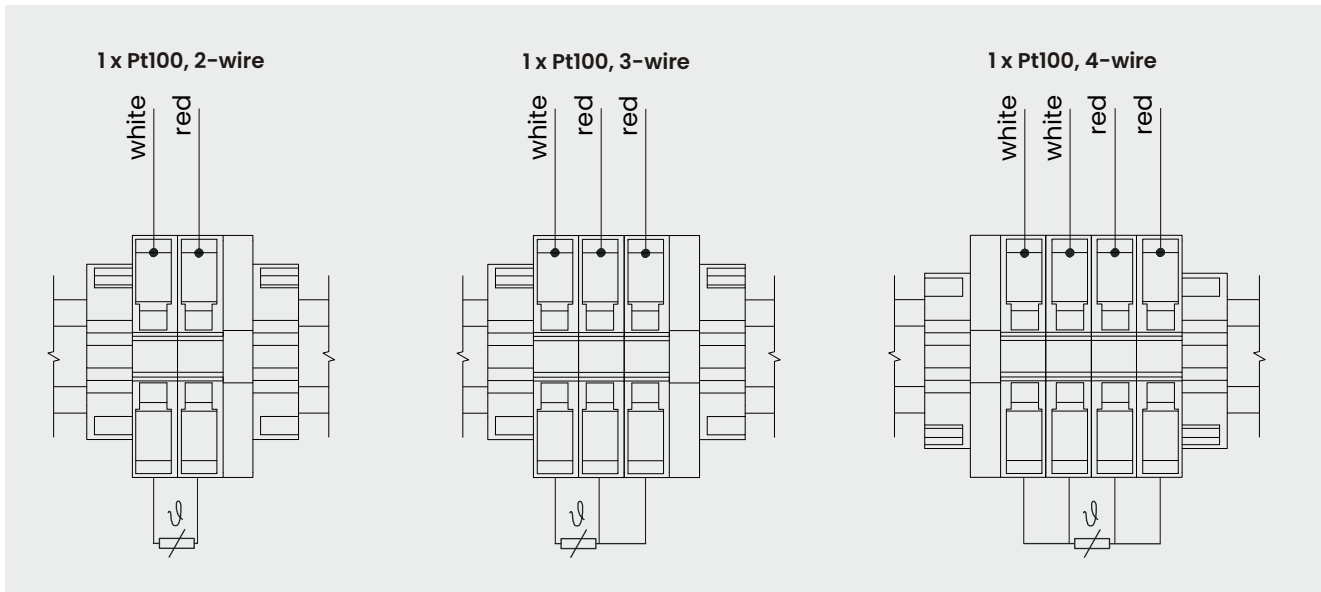
Copper ($\pm 0.30^\circ\text{C}$ in temp. 0°C)

PN-EN 60751 standard defines the formulas for calculating acceptable measure tolerance.

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

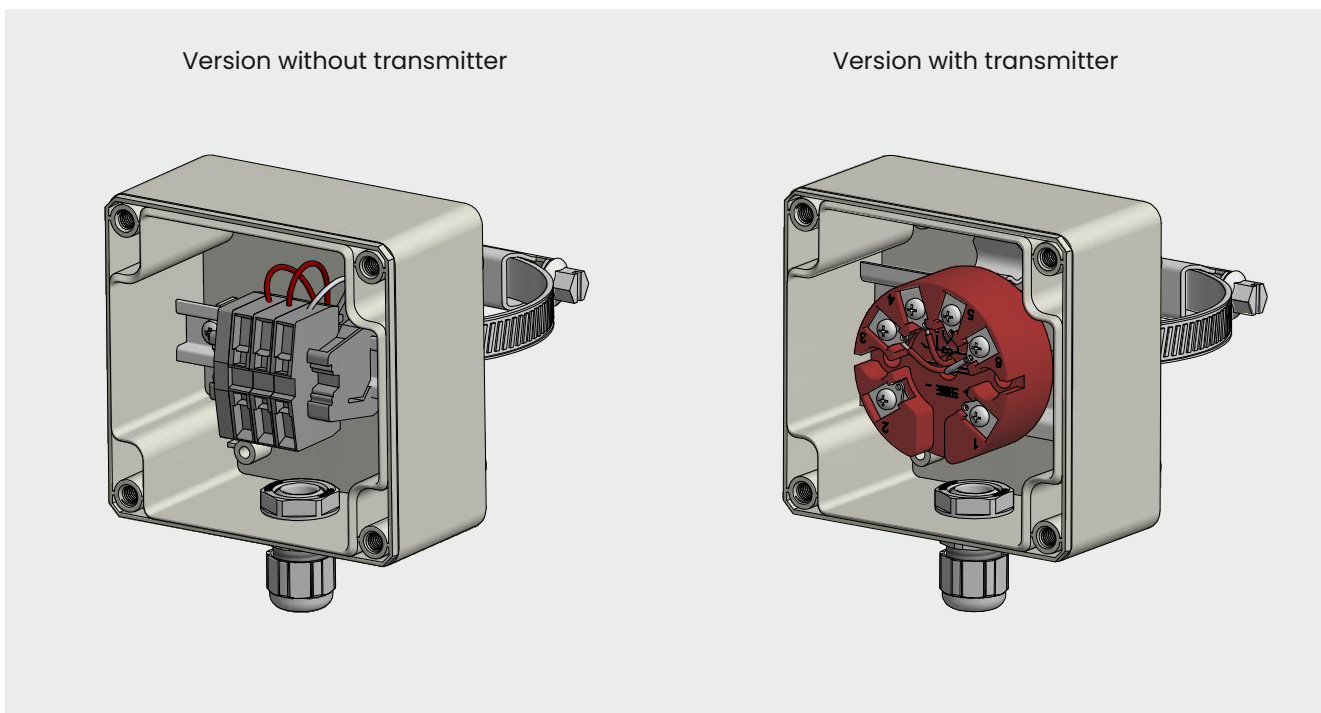


Connection scheme



Available temperature transmitter types

Type	PR5333A	PR5335A	PR5337A	PR5350A
Input	Pt100, Ni100, Ohm, Termocouples, Mv	Pt100, Ni100, Ohm	Pt100, Ni100, Ohm, Termocouples, Mv	Pt100, Ni100, Ohm, Termocouples, Mv
Output	4 - 20 mA	4 - 20 mA	4 - 20 mA	Profibus® PA v3.0 Fieldbus ITK 4.51
Communication protocol	-	HART®	HART® version 7	Profibus® PA v3.0 Fieldbus ITK 4.51
Power	8,0..35 Vdc	8,0..35 Vdc	8,0..35 Vdc	9,0..32 Vdc



Ordering code

1 2 3 4 5 6 7 8
 TOPZR - - - - - - -

1	<input type="text"/>	Sensor version	
			without temperature transmitter
	AP	with temperature transmitter 4..20 mA	
2	<input type="text"/>	Type of sensing element	
		1xPt100	Single Pt100 IEC 751, $\alpha=0.00385$
		1xNi100	Single Ni100 DIN43760, $\alpha=0.00618$
	xxx	other, please specify	
3	<input type="text"/>	Pipeline diameter ØD	
		100	Ø100 mm
		150	Ø150 mm
		200	Ø200 mm
	xxx	other, please specify	
4	<input type="text"/>	Tolerance class	
		A	Class A wg PN-EN 60751 / IEC 751 (available only for platinum sensing elements)
	B	Class B wg PN-EN 60751 / IEC 751 / DIN43760 / GOST 6651-94	
5	<input type="text"/>	Measuring circuit	
		2	2-wire (available only in B tolerance class)
		3	3-wire
	4	4-wire	
6	<input type="text"/>	Measuring range of temperature transmitter	
		0..50	input signal for 4..20mA: 0..50°C
	xxx	other, please specify	
7	<input type="text"/>	Type of temperature transmitter	
		PR5333A	Output signal 4..20 mA
		PR5335A	Output signal 4..20 mA, with HART® communication protocol
		PR5337A	Output signal 4..20 mA, with HART® version 7 communication protocol
		PR5350A	Output signal Profibus® PA / Foundation Fieldbus
	xxx	other, please specify	
8	<input type="text"/>	Housing type	
			Polycarbonate housing (80x82x55mm)
		AL	Aluminum housing (85x70x57mm)
	xxx	other, please specify	

Example

TOPZR-1xPt100-150-A-3

RTD sensor 1xPt100, hose-clip match to Ø150mm, A tolerance class, 3-wire measuring circuit, polycarbonate housing 80x82x55mm.

APTOPZR-1xPt100-100-B-2-(0..50)°C-PR5333A-AL

RTD sensor 1xPt100 with temperature transmitter, hose-clip match to Ø100mm, B tolerance class, 2-wire measuring circuit, measuring range of temperature transmitter 0..50°C, temperature transmitter PR5333A with output signal 4..20mA, aluminum housing 85x70x57mm.