

## Applications

- Ambient temperature measurement in rooms and outside
- Warehouses and cold stores
- Offices
- Air-conditioning and ventilation 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
- Non-standard sensor versions available upon customer's request:
  - construction version with two cable glands on the same side
  - construction version with protection tube under sensor housing

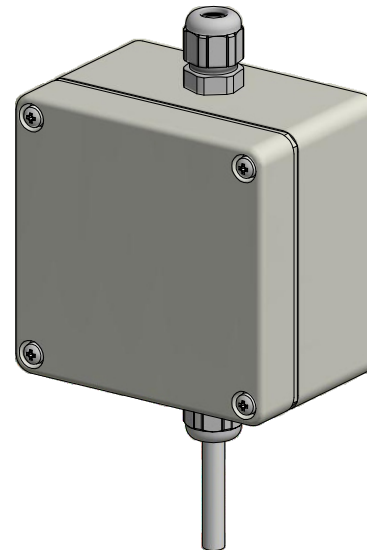
Resistance thermometers TOPZ are designed for ambient temperature measurement.

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

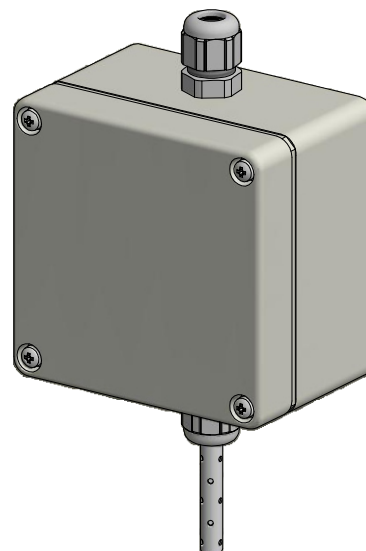
Special protection tube with perforation allows for quick and precise temperature measurement thanks to direct contact of thermometric resistor with ambient.

TOPZ consists of thermometric resistor, protection tube made out of stainless steel and esthetic housing made out of plastic or aluminum.

Protection tube length, accuracy can be selected individually for the respective application.



**TOPZ**  
Standard sensor version



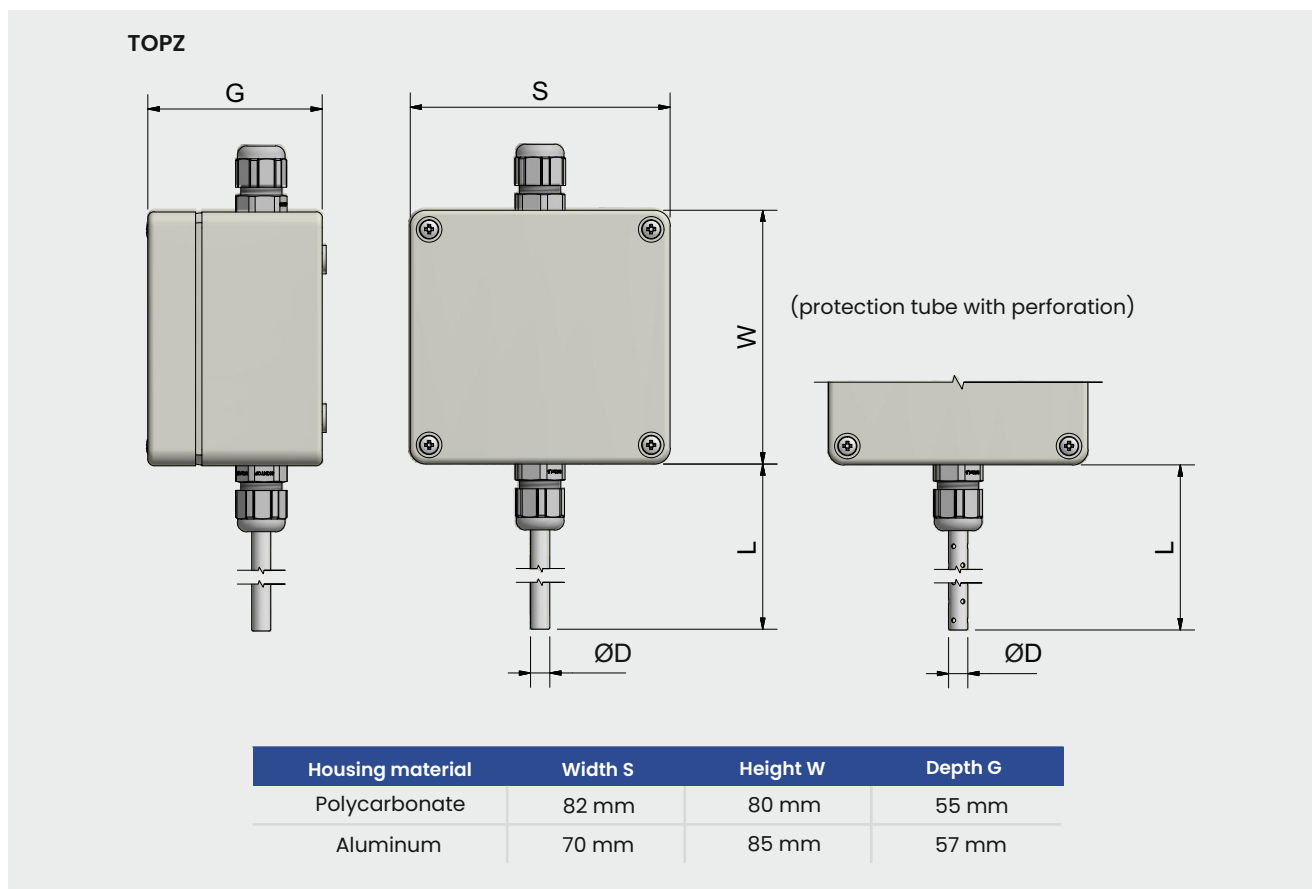
**TOPZ**  
Sensor version with protection tube perforation

## ATEX, IECEx, EAC Ex versions

Intrinsically safe designs are available for applications in hazardous areas. These models are provided with certificate for „intrinsically safe“ type of protection according to Directive 2014/34/UE (ATEX), IECEx scheme and EAC Ex TR-CU 012/2011 (Eurasian Economic Union).

Intrinsically safe (Exi) XI-TOPZ

## Designs



### 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 $\Omega$  (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)

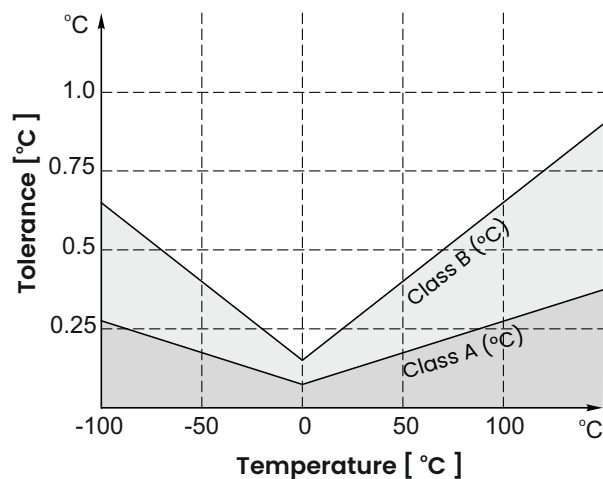
Class B ( $\pm 0.30^\circ\text{C}$  in temp. 0°C)

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

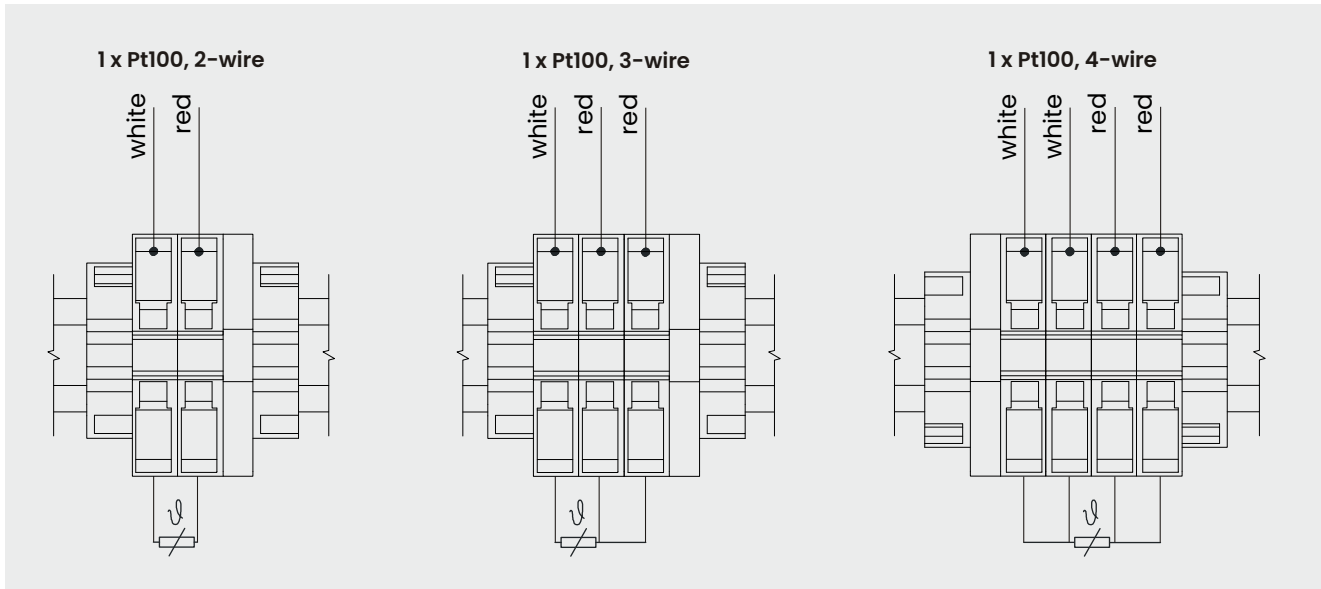
Copper ( $\pm 0.30^\circ\text{C}$  in temp. 0°C)

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	$\pm 0.30 + (0.005 \times  t )$

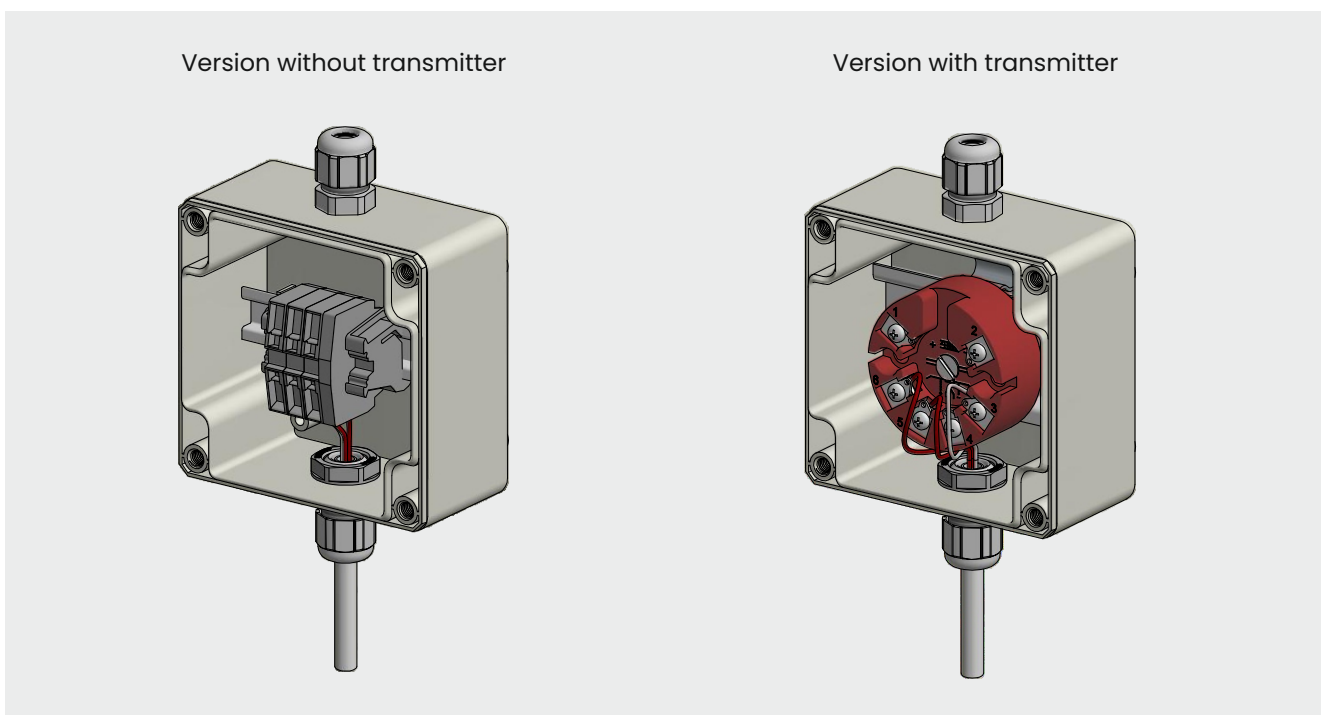


**Connection scheme**



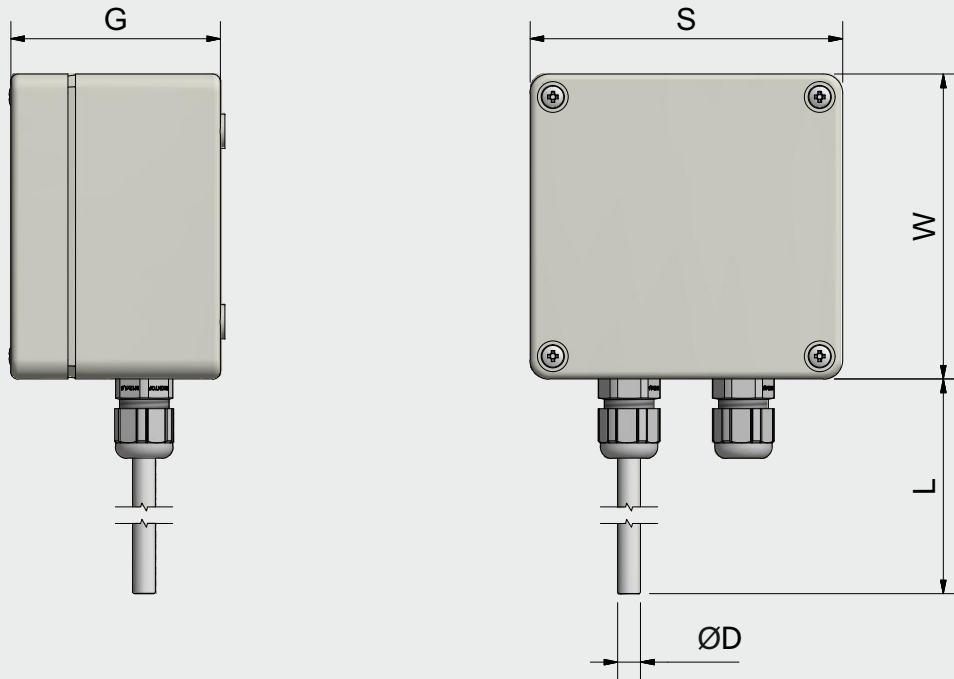
**Available temperature transmitter types**

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

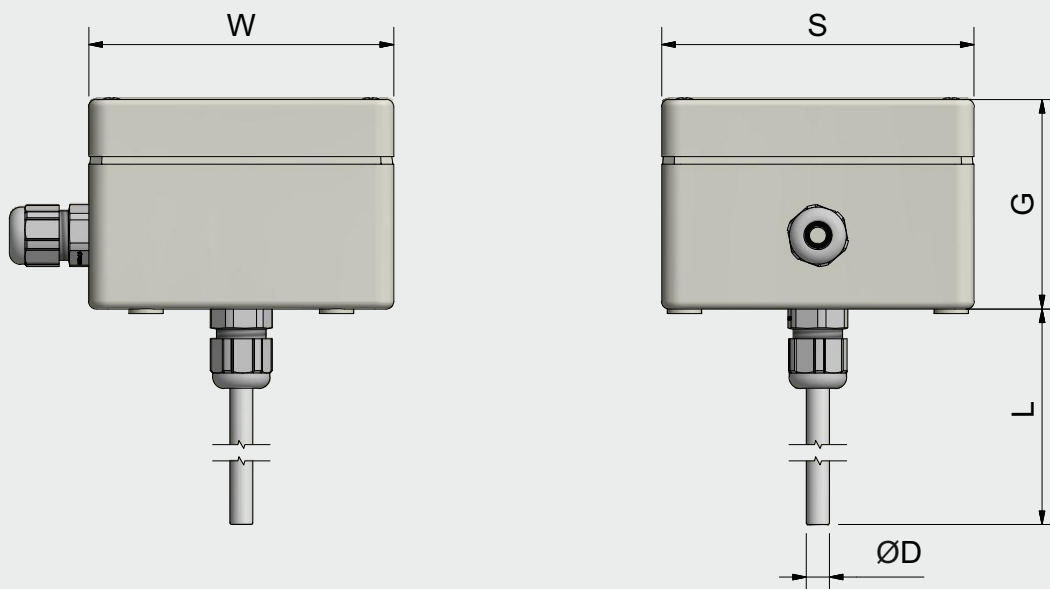


Non-standard sensor versions

Construction version with two cable glands on the same side



Construction version with protection tube under sensor housing



## Ordering code

1                    2                    3                    4                    5                    6                    7                    8                    9                    10  
 TOPZ -  -  -  -  -  -  -  -  -  -

1	<input type="text"/>	<b>Sensor version</b>	
			without temperature transmitter
	AP	with temperature transmitter 4..20 mA	
2	<input type="text"/>	<b>Type of sensing element</b>	
		IxPt100	Single Pt100 IEC 751, $\alpha=0.00385$
		IxNi100	Single Ni100 DIN43760, $\alpha=0.00618$
	xxx	other, please specify	
3	<input type="text"/>	<b>Protection tube length L</b>	
		50	50 mm (standard length)
		100	100 mm
		150	150 mm
	xxx	other, please specify	
4	<input type="text"/>	<b>Protection tube diameter ØD</b>	
		5	Ø5 mm
		6	Ø6 mm (standard diameter)
		8	Ø8 mm
	xxx	other, please specify	
5	<input type="text"/>	<b>Protection tube perforation</b>	
			without perforation (standard version)
	P	with perforation	
6	<input type="text"/>	<b>Tolerance class</b>	
		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	
7	<input type="text"/>	<b>Measuring circuit</b>	
		2	2-wire (available only in B tolerance class)
		3	3-wire
	4	4-wire	
8	<input type="text"/>	<b>Measuring range of temperature transmitter</b>	
		0..50	input signal for 4..20mA: 0..50°C
	xxx	other, please specify	
9	<input type="text"/>	<b>Type of temperature transmitter</b>	
		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	
10	<input type="text"/>	<b>Housing type</b>	
			Polycarbonate housing (80x82x55mm)
		AL	Aluminum housing (85x70x57mm)
	xxx	other, please specify	

## Example

TOPZ-IxPt100-50-6-A-3

RTD sensor IxPt100, protection tube length L=50mm, protection tube diameter Ø6 mm, A tolerance class, 3-wire measuring circuit, polycarbonate housing 80x82x55mm.

APT0PZ-IxPt100-100-8-P-B-2-(0..50)°C-PR5333A-AL

RTD sensor IxPt100 with temperature transmitter, protection tube length L=100mm, protection tube diameter Ø8 mm, 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.