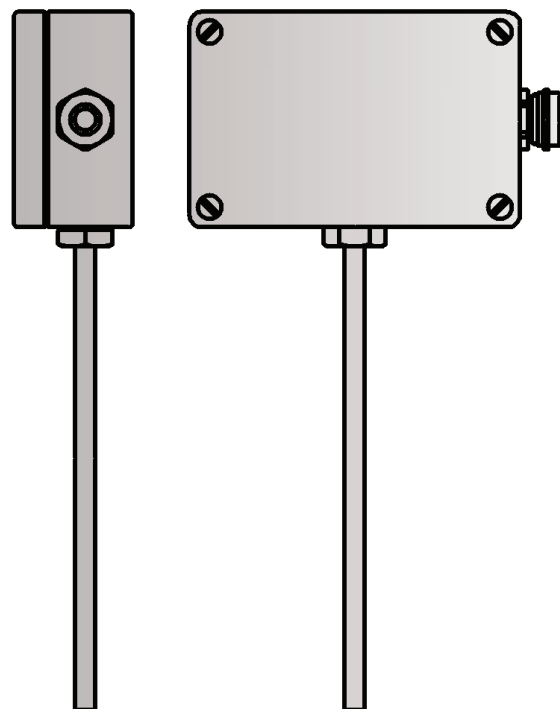




AP 108

Temperature sensor suitable for measurement of liquids, semi-liquid masses or loose materials. Temperature measurement can be carried out in a permanent or temporary way. The results can be read on portable temperature meters suitable for resistance and thermocouple sensors. Temperature sensor has ATEX approval for application in hazardous area: II 2G Ex ia IIC T6; II 2D Ex iaD 21 T85°C



Specification

Temperature range / sensing element

-50÷85°C **Pt100** class B

Sheath

- material: steel 1.4541
- length L [mm]: 50÷500 (standard 50mm)

Housing

- aluminium alloy (max. 0,5%Mg), IP65
- cable gland ATEX II GD IP65 (for cable 1÷5mm)

Other parameters acc. to requirements

Options

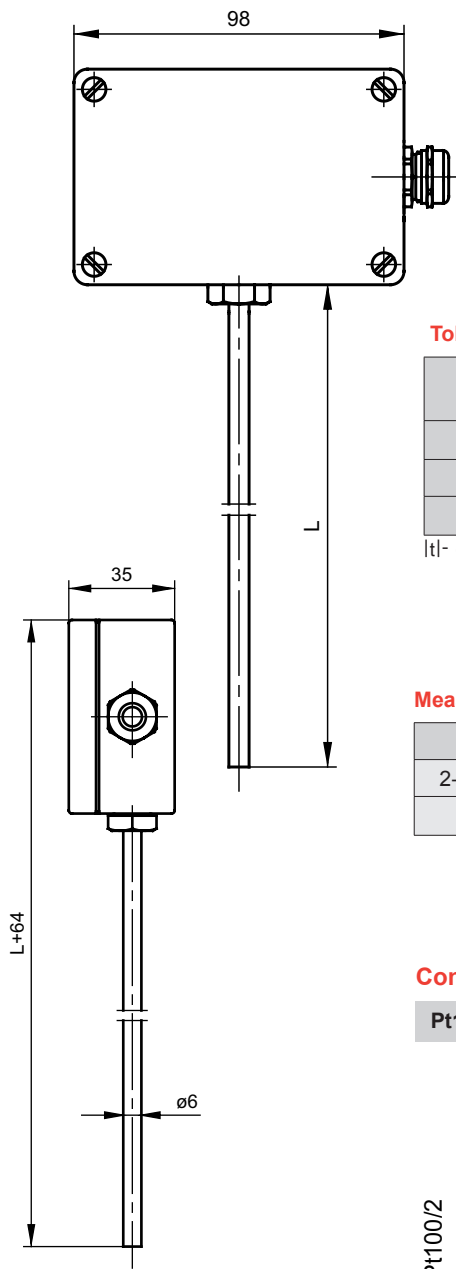
Temperature transmitter application

Temperature transmitter with standard 4÷20mA output signal and with the HART communication protocol can be installed in the control cabinet or in the sensor housing.

Non-standard design

Immersion length, shape and material of the sheath and measuring insert parameters can be customized per client request

Calibrations performed by Limatherm Sensor Sp. z o.o. are confirmed with the Calibration Certificate of the Accredited Laboratory for Temperature Measurements.



Response time to temperature change

Thermowell diameter [mm]	Response time [s]
ø6	$t_{0.5} = 12$
	$t_{0.9} = 55$

test carried out in mixed water 0,4 m/s acc. to PN-EN 60751

Tolerance for classes of sensors with resistors Pt acc. to PN-EN 60751

Sensor classes	Range of application [°C]	Formula for calculating acceptable deviations [°C]
AA	0÷150	$T = \pm(0,10 + 0,0017 t)$
A	-30÷300	$T = \pm(0,15 + 0,002 t)$
B	-50÷500	$T = \pm(0,3 + 0,005 t)$

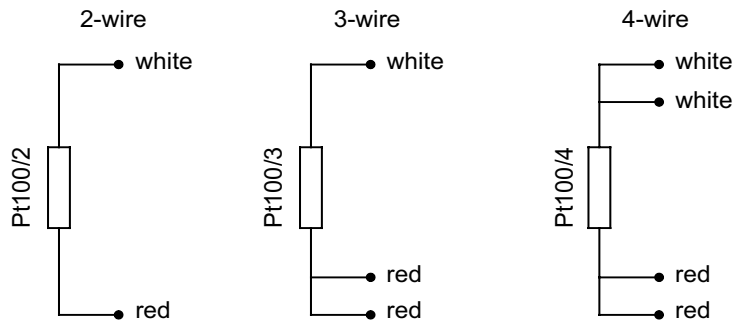
|t| - absolute value of temperature

Measurement circuit

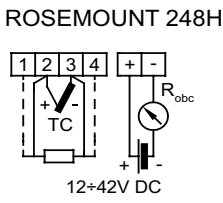
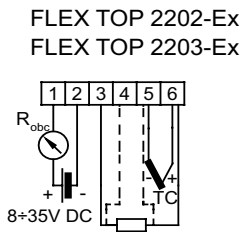
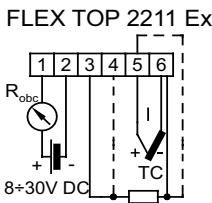
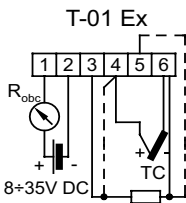
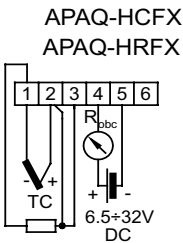
1 x Pt100			2 x Pt100			1 x TC	2 x TC
2-wire	3-wire	4-wire	2-wire	3-wire	4-wire	2-wire	2-wire
✓	✓	✓	x	x	x	x	x

Connection schemes

Pt100 (thermometric resistor)



Transmitters



Product code

		Sensor version	
		no designation	single
		2	double
1		AP	with transmitter (tylko single)
		Sheath length	
		50	50mm
2			other parameters acc. to requirements
		Resistor type	
		Pt100	Pt100
3			other parameters acc. to requirements
		Accuracy	
4		A or B	for resistor Pt
		Measurement circuit	
		2	2 - wire
		3	3 - wire
5		4	4 - wire
		Transmitter type (optionally)	
		HRFX	HRFX transmitter mounted in housing
6			other parameters acc. to requirements
		Temperature range of transmitter	
		(0÷100°C)	transmitter configured for temperature range 0÷100°C
7			other parameters acc. to requirements

1

2

3

4

5

6

7

TOPZ-842Exi

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Ordering example:

TOPZ-842Exi-50-Pt1000-A-3 RTD sensor with Pt1000, class A,
3-wire connection, sheath L=50mm