



AP 108

Sensor suitable for temperature measurement in district heating substations. Applicable also for temperature measurement of liquid and gaseous media in high pressure conditions. This sensor consists of resistor placed in the thin-walled acid-resistant sheath connected to flexible lead wire.

Specification

Temperature range / sensing element

-200÷250°C **Pt100** class B
-50÷250°C **Ni100**

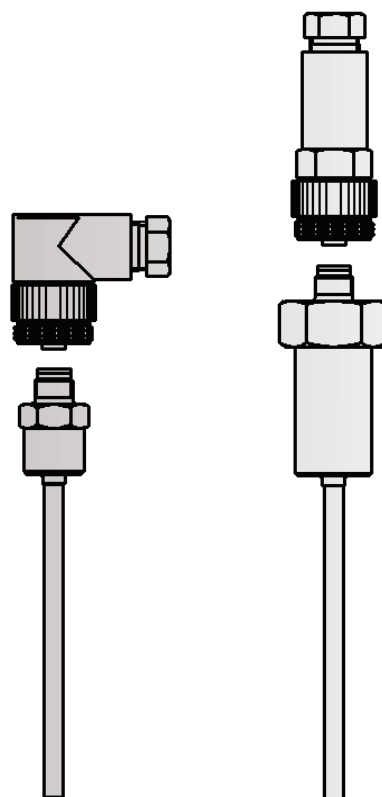
Sheath

- material: steel 1.4541
- length L[mm]: 50÷1000
- straight sheath [mm]: 6 (standard)

Connection type

- screwed plug M12 - 4 pin
- operating temperature -30÷85°C

Other parameters acc. to requirements



Options

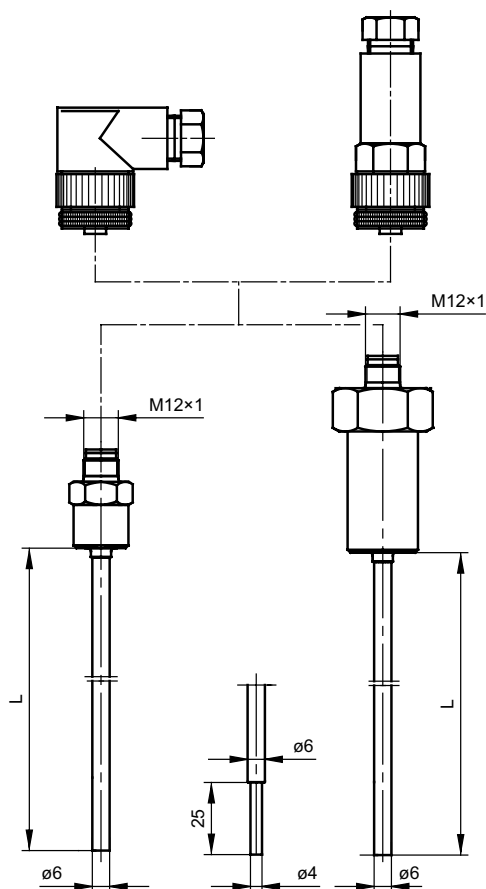
Temperature transmitter application

Temperature transmitter with standard 4÷20mA, 0÷10V output signals and with the HART or PROFIBUS communication protocols can be installed in sensor sheath or in the control cabinet.

Non-standard design

Immersion length, shape and material of the sheath and other 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.



Cable gland diameter

Cable gland type	Cable diameter [mm]
PG7	ø4-6
PG9	ø6-8

Transmitter range

Temperature range [°C]
0÷100
1÷150

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

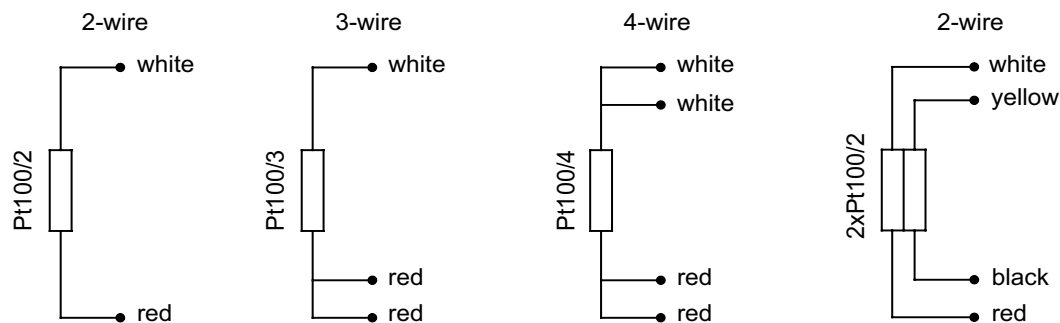
Tolerance for classes of sensors with resistors Pt acc. to PN-EN 60751

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

Connection schemes

Pt100 (thermometric resistor)



Product code

		Sensor version	
		no designation	single
1	<input style="width: 40px; height: 15px;" type="text"/>	AP	with transmitter
		2	double bez
		Sensing element	
2	<input style="width: 40px; height: 15px;" type="text"/>	OP	resistor Pt
		ON	resistor Ni
		Sheath length	
3	<input style="width: 40px; height: 15px;" type="text"/>	100	100mm
			other parameters acc. to requirements
		Tip diameter	
4	<input style="width: 40px; height: 15px;" type="text"/>	6	6mm
		6/4	6/4mm
		Resistor type	
5	<input style="width: 40px; height: 15px;" type="text"/>	Pt100	Pt100
			other parameters acc. to requirements
		Accuracy	
6	<input style="width: 40px; height: 15px;" type="text"/>	A or B	dla resistor Pt
		Measurement circuit	
		2	2 - wire
7	<input style="width: 40px; height: 15px;" type="text"/>	3	3 - wire (only single)
		4	4 - wire (only single)
		Additionally	
8	<input style="width: 40px; height: 15px;" type="text"/>	R; PG7	straight socket with cable gland
		K; PG9	angular socket
		Temperature range of transmitter	
9	<input style="width: 40px; height: 15px;" type="text"/>	(0÷100°C)	transmitter configured for temperature range 0÷100°C
			other parameters acc. to requirements

1
2
3
4
5
6
7
8
9

T

I

M12
-

-

-

-

-

-

-

Ordering example:

TOPI-M12-200-4-Pt100-A-3-RPG7 sensor with Pt100, class A, 3-wire connection, tip diameter 4 mm, length L=200 mm, with additional straight socket PG7 for cable with insulation diameter 4÷6 mm