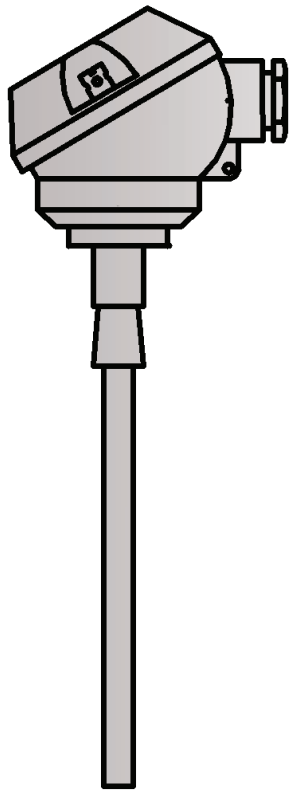
limatherm SENSOR

Temperature Sensors for Heating Systems and Heat Engineering

TOP-145

AP 108

Temperature sensor suitable for measurement of liquids, semi-liquid masses or loose materials. Temperature measurement can be carried out in a temporary or permanent way. This sensor has sheath with threaded connector.



Specification

Temperature range / sensing element

-50÷150ºC **Pt100** class B

Sheath

– material: steel 1.4541
– length L[mm]: 85mm
– diameter [mm]: 8
– thread G½; M20x1,5; G¾

Connection head

– MAA, IP54, -40÷100ºC

Other parameters acc. to requirements

Options

Temperature transmitter application

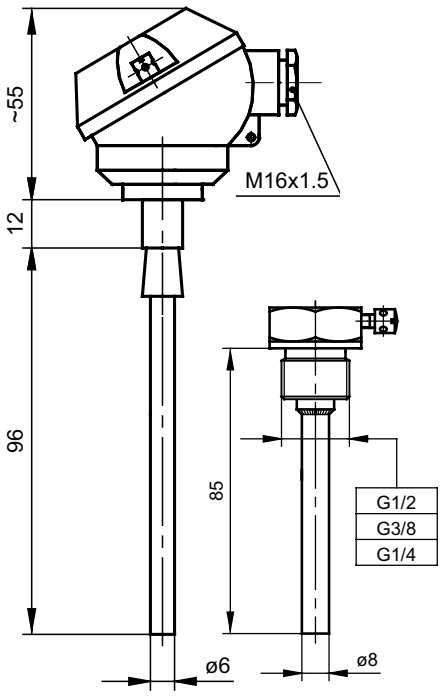
Temperature transmitter with standard 4÷20mA output signal can be mounted in a connection head (in place of a terminal block).

Non-standard design

Sensing element 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.

TOP-145



Response time to temperature change

Thermowell diameter [mm]	Response time [s]
ø8	$t_{0,5}$= 20
	$t_{0,9}$= 85

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 = ±(0,10 + 0,0017 |t|)
A	-30÷300	T = ±(0,15 + 0,002 |t|)
B	-50÷500	T = ±(0,3 + 0,005 |t|)

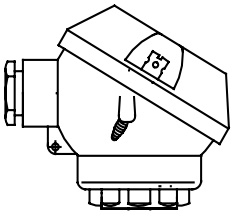
|t|- absolute value of temperature

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

Connection head types

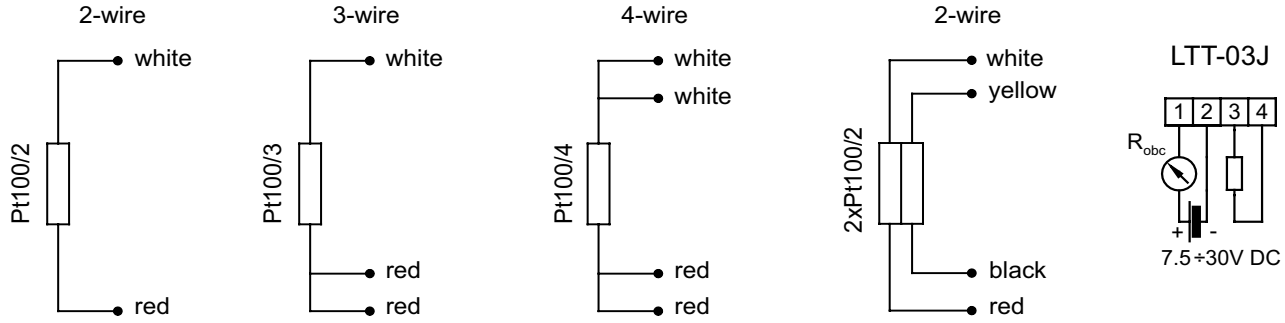
Connection head type MA in standard.



MA

Connection schemes

Pt100 (thermometric resistor) — **Transmitter**



TOP-145

Product code

		Sensor version	
		no designation	with terminal block
		2	double
1		**AP**	with transmitter
		Accuracy	
2		**A or B**	for resistor Pt
		Measurement circuit for resistor	
		2	2 - wire
		3	3 - wire (only 1xPt)
3		**4**	4 - wire (only 1xPt)
		Thread dimension	
		G½	G½
		G¼	G¼
		G⅜	G⅜
4			other parameters acc. to requirements

1		2	3	4
	TOP-145 –		–	–

Ordering example: **TOP-145–A–3–G½** RTD sensor with Pt100, class A, 3-wire connection, outer thermowell with thread G½