

Temperature sensor suitable for measurement of flat surfaces in a temporary or permanent way. Sensor with handgrip has lead wire finished with miniature plug adequate for joining with portable temperature meter.

Specification

Temperature range / sensing element

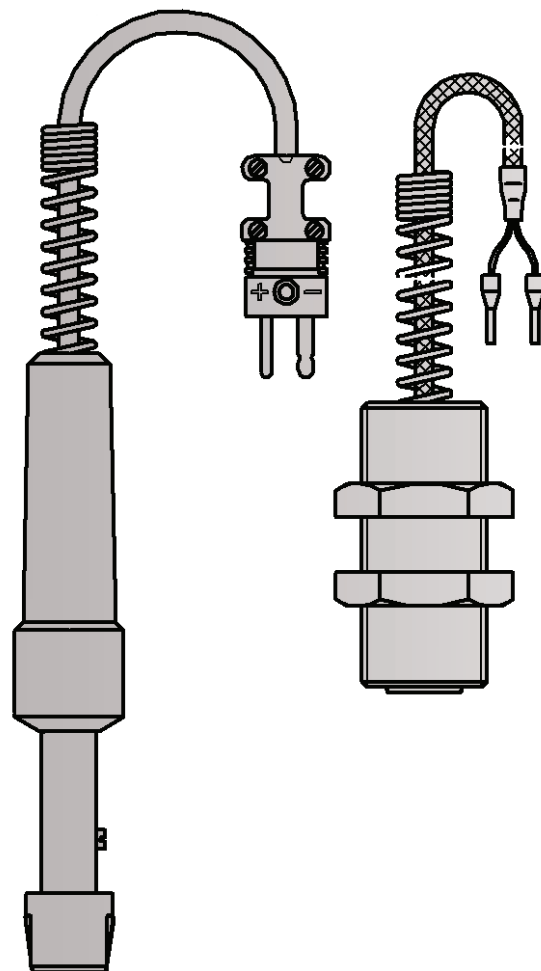
-40÷400°C	K	class 2	PTR – 24
-40÷800°C	K	class 2	PTR – 25

Sheath

- material: steel 1.4541
- diameter [mm]: 15mm for PTR - 24; M22x1 for PTR - 25
- length [mm]: 100÷1000 for PTR - 24; 50 for PTR- 25
- PVC handgrip, max. operating temperature +80°C for PTR - 24

Lead wire

- for PTR - 24: stranded wire 2x0,22mm² with double silicone insulation
- for PTR - 25: stranded wire 2x0,22mm² with double fiberglass insulation, metal overbraid
- length L_p [m]: 1,5m (standard)



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 the control cabinet.

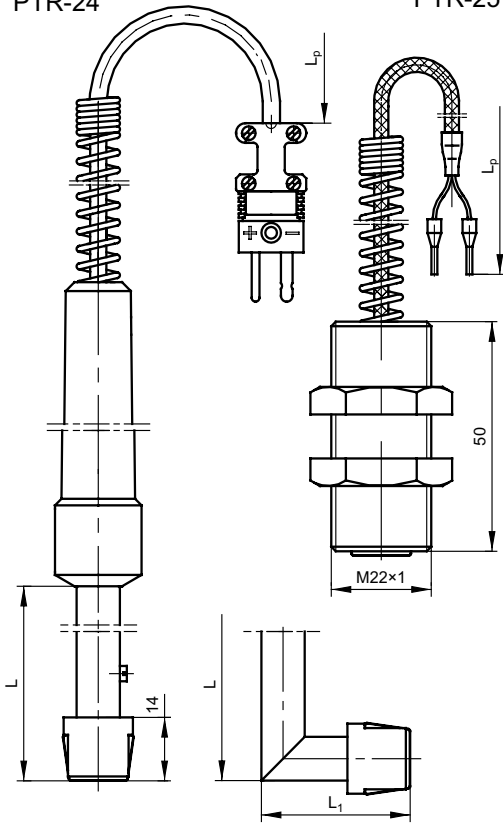
Non-standard design

Immersion length, diameter 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.

PTR-24

PTR-25



Compensation / thermocouple wire insulations

Insulation material	Operating temperature range [°C]	Properties
PCW (PCV)	-10÷105	Applied in mild environmental conditions. Waterproof and flexible.
Yc- polyvinyl chloride	-10÷105	Applied in mild environmental conditions. Waterproof and flexible.
FEP-teflon	-50÷200	Resistant to oils, acids and other aggressive liquids. Good flexibility.
Si-silicone	-50÷180	Waterproof, flexible. Applied in high humidity conditions.
Ws-fiberglass	-60÷400	Good resistance to high temperature Low resistance to liquid penetration.

Notes: Additionally, copper or steel braids/shields are used on wires to prevent electrical noises, Increasing, at the same time, wire insulation resistance to mechanical damages. In case of longer wire lengths grounding may be needed to minimize the noise in measurement circuit

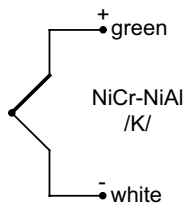
Tolerance for thermocouple classes acc. to PN-EN 60584

Thermocouple type	Class 1		Class 2	
	Range of application [°C]	Tolerance [°C]	Range of application [°C]	Tolerance [°C]
J Fe-CuNi	—	—	—	—
K NiCr-NiAl	—	—	from -40 to +333 from +333 to +1200	±2,5 ±0,0075 t

|t| - absolute value of temperature

Connection schemes

TC (thermocouple)



Cable types and colours acc. to the norm

EU	D	GB	F	USA
Thermocouple K type				

Product code

1	<input type="text"/>	Construction type	
		4	with handgrip
		5	with lead wire
2	<input type="text"/>	Probe length (applies to PTR-24)	
		100	100mm (straight probe)
			other parameters acc. to requirements
		200x50	200x50mm (angular probe)
3	<input type="text"/>	Lead wire length	
		1,5	1,5m
			other parameters acc. to requirements

1

PTR-2

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2

-

3

Ordering example: **PTR-24-300-1,5 m** sensor with thermocouple NiCr-NiAl /K/, class 2, lead wire length $L_p=1,5$ m, with hand grip and mini plug