

The temperature sensors have an output of the modulated signal - duty-cycle modulated square wave output voltage. Main preference – high level immunity of output signal and possibility to direct route to control system. The sensor head is made of a plastics material, all metallic parts are of class DIN 1.4301 stainless steel. The resistance sensor is encapsulated in a stem.

### Technical data

Supply voltage	12 to 30 VDC
Range of output frequency	1 to 4 kHz
Accuracy	<1,5%
Load resistance	Rz = 10 kΩ
Output resistance Rv	cca 200 Ω
Temperature range	130 °C
Ambient temperature	-30 to 80 °C
Relative humidity	<80%
Material and dimensions	Polycarbonate 74x66x39mm
Protection type	IP 65 *
Terminal board	COB (wires max. 1,5 mm <sup>2</sup> )
Cable gland	PG9 / 8 mm

\* For type P10 ... the protection is IP 30

Sensors with the component SMT160-30-duty-cycle modulated square wave output voltage with linear response to temperatures in the -45 °C to +130 °C range:

D.C. =  $0,320 + 0,0047 \cdot t$  where t = temperature in °C

D.C. = duty cycle, rate of level H (log.1) to the length of output signal cycle

### Technical description, execution

**P10T** sensors for temperature measuring in interior applications.

**P11T** sensors are designed for temperature measuring of outdoor air. They are provided with a plastics console for attaching to a wall; the actual sensing element is positioned in a stainless steel stem of 25mm length; the terminal board for connecting is positioned in a plastics head.

**P12T-L1** sensor execution for mounting into air conditioning ducts. With the exception of the console, the execution is identical with P11x; L1 denotes the shank length specified in millimeters, for example P12T-120 is a conventional sensor with stem length of 120 mm.

**P13T-L2** the sensors are designed for measuring operations in pipelines. As an accessory a part of the sensor is a stainless steel well fitted with a thread G 1/2: of length L2 mm, which was tested for pressure of 4,0 MPa.

**P14T** strap-mount sensors

**P16T-L3** quick-response type of sensors: stem length L3 = 100 or 160 mm.

### Summary

Interior	<b>P10T</b>
Outdoor Air	<b>P11T</b>
Duct probe	<b>P12T-L1</b>
Well insertion probe	<b>P13T-L2</b>
Strap-mount	<b>P14T</b>
Quick-action	<b>P16T-L3</b>
Cable type	<b>P18T</b>

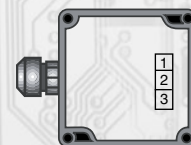
### Max. operation temperature

P10, P11	80 °C
P14, P16	120 °C
P12, P13	130 °C

### Standard length L1 and L2

L1 (mm)	L2 (mm)	L3 (mm)
120	100	100
180	160	160
240	220	
300	280	
360	340	

### Wiring diagram for P1xT



1: output

2: negative pole of the supply source

3: positive pole of the supply source

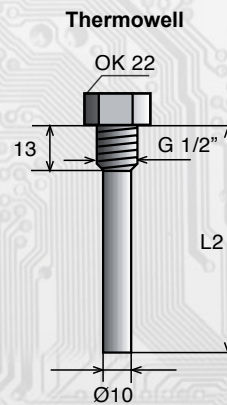
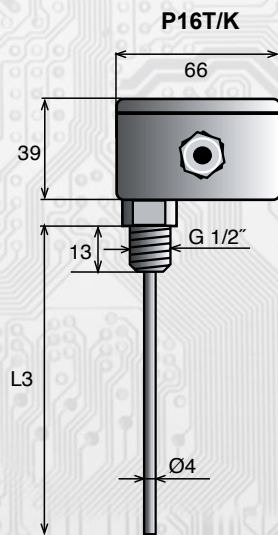
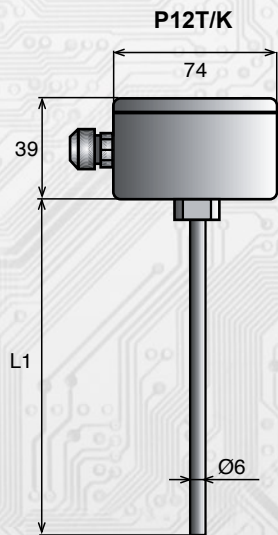
### Ordering method

State the quantity of pieces and the transducer type in your order. An example of the order:

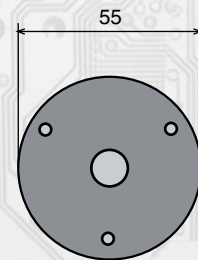
5 pieces transducer P13T 150-100



### Dimensions and accessories



Central holder A - for P12T

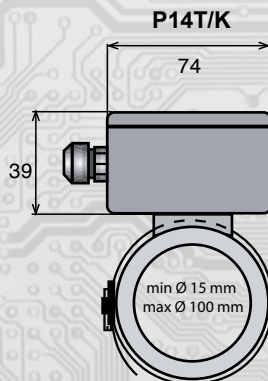
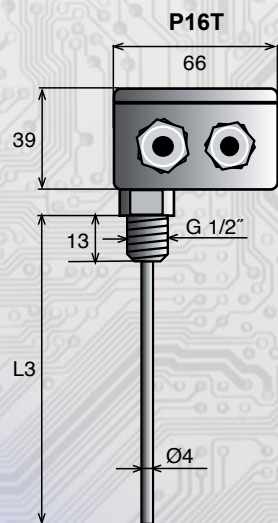


3 holes of 4,5 mm diameter

Side holder A - for P11T



2 holes of 4,5 mm diameter



Maximum temperature of the surface measured  $t_p < 120^\circ\text{C}$

Wall Mount- P10T

