The double resistance temperature sensors are designed for general-purpose application in control and regulation systems for the measuring, registration, and signaling of temperature. Two temperature sensing elements are located in the shank. The transducer head is made of a plastics material, all metallic parts are made of class DIN 1.4301 stainless steel. The operation conditions are met by conventional, chemically non-aggressive environment, where neither attendance nor maintenance is required by the transducers.

Summary

Sensors									
Wall Mount (interior)	2P10L	2P10S	2P10J	2P10H	2P10P	2P10PA	2P10PB	2P10LA	2P10SA
Outdoor air	2P11L	2P11S	2P11J	2P11H	2P11P	2P11PA	2P11PB	2P11LA	2P11SA
Duct Probe	2P12L	2P12S	2P12J	2P12H	2P12P	2P12PA	2P12PB	2P12LA	2P12SA
Well insertion probe	2P13L	2P13S	2P13J	2P13H	2P13P	2P13PA	2P13PB	2P13LA	2P13SA
Quick - acting	2P16L	2P16S	2P16J	2P16H	2P16P	2P16PA	2P16PB	2P16LA	2P16SA
Sensing element	Ni1000	Ni1000	Ni891	NTC 20 kΩ	Pt100	Pt1000	Pt500	Ni10000	Ni10000
Temperature coefficient (ppm/°C)	Tk= 5000	Tk = 6180	Tk = 6371		Tk = 3850	Tk = 3850	Tk = 3850	Tk = 5000	Tk = 6180

Basic technical parameters

Measuring range 2P10x,2P11x	-30 to 80°C	Current load	$I_{max.}$
2P13x150,2P16x	-30 to 150°C [1]	2P1xL,2P1xS,2P1xJ,2P1xH,2P1xN	0,5 mA
2P12x,2P13x250 (200)	-30 to 250°C (200°C) [1]	2P1xSA,2P1xPA	0,5 mA
Accuracy	Class B	2P1xPB	1 mA
Head surroundings temperature	-30 to 80°C	2P1xP	2 mA
Relative humidity	< 80 %	Terminal board type	ARK500 /alt. WAGO/
Degree of protection	IP 65 [2]	Leading-in wires recommended diameter	0,35 to 2mm²
Response velocity τ_{63} for 2P16x	< 8 s	Maximum pressure for P16x	2 MPa

1) Well insertion probeare delivered in two temperature executions. The first category is comprised of sensors for measuring temperatures up to 150 °C,while the second category comprises the sensors for maximum temperature up to 250 °C.The maximum temperature measured is a part of the sensor name. The sensors for the temperature range up to 250 °C are delivered with a stem, which is lengthened by 60 mm. For both categories it holds , that the maximum permissible temperature adjacent the sensor head is 80 °C.

2) Wall Mount (interior) sensor are provided with the degree of protection IP 30.

Technical description, execution

2P10x - sensor for temperature measuring in interior applications.

2P11x - sensor is designed for temperature measuring of outdoor air. It is fitted with a plastics console for fastening on a wall. The actual sensing element is built-in in a stainless steel stem of 25 mm length. The terminal board for the connecting is placed in a plastics head.

2P12x-L1 - sensor execution with a console for mounting into duct. With the exception of the console, the execution is identical with 2P11x; L1 specifies the stem length given in milimeters, such as 2P12x-120 is a conventional sensor with stem length of 120 mm.

2P13x150-L2, 2P13x250-L2 - sensor is designed for measuring applications in pipelines. As an accessory, a part of the sensor is a stainless steel well, provided with a thread G1/2" of length L2 mm, which was tested for the pressure of 4,0 MPa.

2P16x-L3 - quick-response sensor; stem length L3 = 100 or 160 mm.
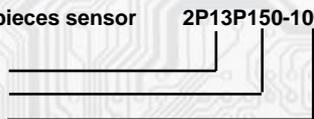
Standard lengths L1 and L2

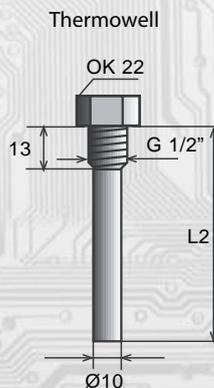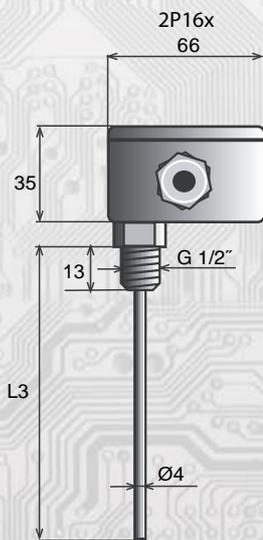| L1 (mm)	L2 (mm)
120	100
180	160
240	220
300	280
360	340
420	400

Sensors for outdoor air, into the ducts, and into pipelines

Screw out the small screws and remove the head cover. Then, connect the lead-in cable of the recommended cross section from 0,35 to 2 mm^2 and of the outer diameter 4 to 8 mm to the terminal board through the bushing. Once the small screws are screwed in and the cover is placed back into its position, the mounting is terminated and the sensors is ready for operating.

Wall Mount sensors (for interior application)

Hinge the perforated cover open and pass the lead-in cable through the hole a the base, connecting the individual leading-in wires to the terminal board thereafter. Fasten the base onto the wall using two wood screws, which should be inserted into holes in opposite corners of the base. Snap the cover with a click into the base, where upon the sensors is ready for operation.

Method of ordering
State the quantity of pieces and the sensor type in your order.
An order example: **5 pieces sensor 2P13P150-100**
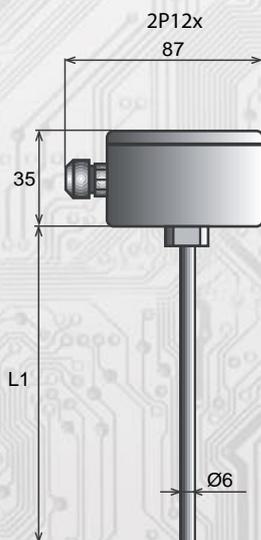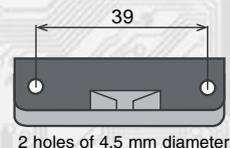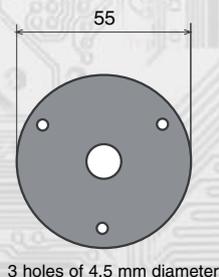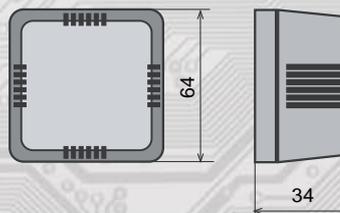
Sensor type
Temperature range
Well length

Dimensions and accessories

Side holder A – for 2P11x
39
2 holes of 4,5 mm diameter

Central holder A – for 2P12x
55
3 holes of 4,5 mm diameter

2P12x — 87 — 35 — L1 — Ø6

2P16x — 66 — 35 — 13 — G 1/2″ — L3 — Ø4

Thermowell — OK 22 — 13 — G 1/2″ — L2 — Ø10

Wall Mount - 2P10x — 64 — 34

Remark:
1) Subject of an order, also non/standard sensor lengths or other well thread types may be delivered, such as M20x1,5.
2) Subject to customer wish, detailed temperature characteristics in the form of an equation or a table of values are supplied by the manufacturer.