

Resistance temperature transducers are designed for general-purpose application in control and regulation systems for measuring, registering, and signaling temperature. The transducer head is made of aluminum; all other metallic parts are made of class DIN 1.4301 stainless steel. The transducers may be used in a demanding thermal and chemical environment, the maximum temperature of the head surroundings has been specified not to exceed 100 °C.

## Summary

Transducers									
Outdoor air	A11L	A11S	A11J	A11H	A11P	A11PA	A11PB	A11LA	A11SA
Duct probe	A12L	A12S	A12J	A12H	A12P	A12PA	A12PB	A12LA	A12SA
Well insertion probe	A13L	A13S	A13J	A13H	A13P	A13PA	A13PB	A13LA	A13SA
Quick acting	A16L	A16S	A16J	A16H	A16P	A16PA	A16PB	A16LA	A16SA
Sensing element	Ni1000	Ni1000	Ni891	NTC 20k $\Omega$	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

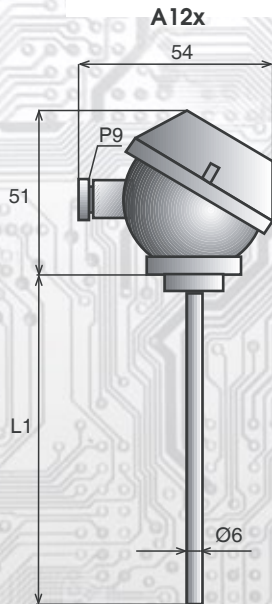
Measuring range A11x	-30 to 100°C	Current load	I <sub>max.</sub>
A13x150, A16x	-30 to 150°C <sup>1)</sup>	A1xL,A1xS,A1xJ,A1xH	0,5 mA
A12P, A13P250	-30 to 250°C <sup>1)</sup>	A1xSA,A1xPA	0,5 mA
Accuracy	class B	A1xPB	1 mA
Head surroundings temperature	-30 to 100°C	A1xP	2 mA
Relative humidity	< 80 %		
Degree of protection	IP 54		
Terminal board type	KML, ceramics	Lead-in cable recommended diameter	0,35 to 2mm <sup>2</sup>
Response velocity $\tau_{63}$ for A16x	< 8 s	Maximum pressure for A16x	2 MPa

- 1) **The transducers for pipelines** are delivered in two temperature executions. The first category includes transducers for measuring temperatures up to 150 °C, the second category is comprised of transducers for a maximum temperature of 250 °C. The maximum temperature value measured is part of the transducers name. The transducers for a maximum temperature of 250 °C are delivered with a stem, which is lengthened by 60 mm. It holds for both transducer categories that the maximum permissible temperature at the vicinity of the head must not exceed 100 °C.

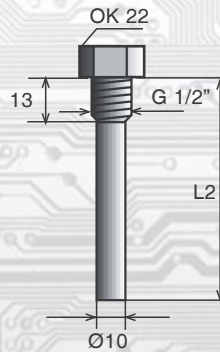
## Technical description, execution

- A11x** - the transducer is designed for measuring of outdoor air. It is provided with a plastic console for fastening on a wall. The actual sensing element is built-in to a stainless steel stem of 25mm length. The terminal board for connecting is placed in the metallic head.
- A12x-L1** - execution fitted with a console for mounting into duct. With the exception of the console, the equipment is the same as A11x. L1 denotes the stem length specified in millimeters, for example A12x-120 is a conventional transducer fitted with an 120 mm shank.
- A13x150-L2, A13x250-L2** - the transducer is designed for measuring pipelines. One accessory part of the transducer is a stainless steel thermowell with a thread G 1/2" of L2 mm in length, which was tested for 4.0 MPa pressure.
- A16x-L3** - transducers with quick-acting response. The stem length L3 = 100 or 160 mm.

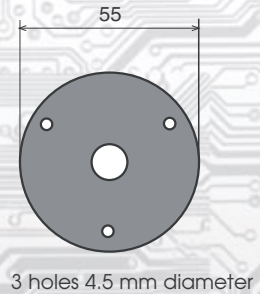
### Dimensions and accessories



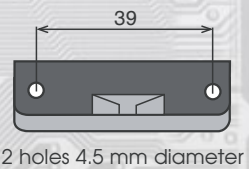
Thermowell



Central holder B - for A12x

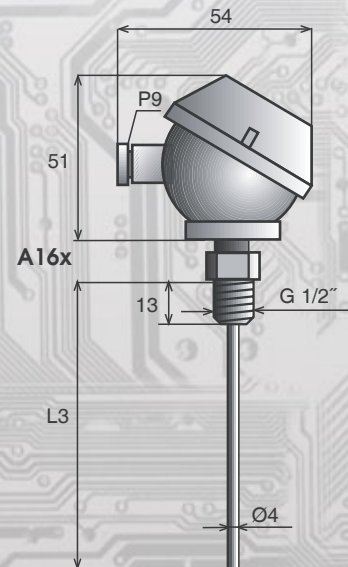


Side holder B - for A11x



Standard lengths L1 and L2

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



### Ordering method

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

**5 pieces transducer A13P150 - 100**

Transducer type \_\_\_\_\_  
 Temperature range \_\_\_\_\_  
 Thermowell length \_\_\_\_\_

### Remark:

- 1) When ordered, also non-standard transducer lengths or other thermowell thread types, such as M20x1.5, may be delivered.
- 2) Subject to customer wishes, detailed temperature characteristics in the form of an equation or a table of values is provided by the manufacturer.

### Mounting the transducers

Unscrew 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<sup>2</sup> and the outer diameter from 5 to 7 mm to the terminal board through the bushing. Once the cover is reinstalled and the small screws are screwed in, the mounting is complete and the transducer is ready for operation.