

The temperature transducers with current or voltage output are designed remote temperature measuring of liquids, steam, air, and of other media in the control and regulation systems for standardised signals 4 to 20 mA or 0 to 10 V processing. The transducer head is made of aluminum, all metallic parts are made of class DIN 1.4301 stainless steel. The resistance transducer is encapsulated in a stem tube; the leading-in elements of the transducer is comprised of wires, the other ends of which are connected to the converter temperature - voltage or temperature-current, which is positioned in the transducer head. The converter is not provided with a galvanic separation. The signal thereof has a linear dependence on temperature. The operation conditions are met by conventional, chemically non-aggressive environment, in which neither attendance nor maintenance is required by the transducers.

Summary

Transducers	Current transducers	Voltage transducers
Outdoor air	A11I T1/T2	A11U T1/T2
Duct probe	A12I T1/T2	A12U T1/T2
Well insertion probe	A13I T1/T2	A13U T1/T2
Quick-response types	A16I T1/T2	A16U T1/T2

T11/T2:: measuring range, for example 0/150 means the range of 0 to 150 °C

Standard lengths L1 and L2

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

Measuring range: - 30 to 60°C
 0 to 35°C
 0 to 50°C
 0 to 100°C
 0 to 150°C
 0 to 250°C

Technical description, execution

A11I T1/T2, A11U T1/T2

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

A12I-L1 T1/T2, P12U-L1 T1/T2

- transducer execution for mounting into air conditioning ducts. With the exception of the console, the execution is identical with P11x; L1 denotes the stem length specified in millimetres, for example P12I-120 is a conventional transducer with stem length of 120 mm.

A13I-L2 T1/T2, A13U-L2 T1/T2

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

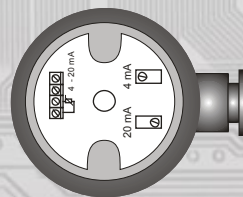
A16I-L3 T1/T2, A16U-L3 T1/T2

- quick-response type of transducers: stem length L3 = 100 or 160 mm.

Basic technical parameters

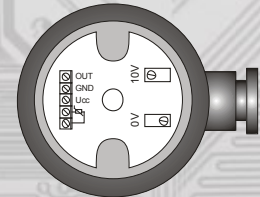
Transmitters	Current transducers	Voltage transducers
Power supply	11 to 35 V DC	18 to 30 V DC
Output signal	$I_z = 4$ to 20 mA	$U_v = 0$ to 10 V
Measurement error	< 0,6 %	< 0,6 %
Load resistance	$R_z < (U_{cc}-11) \times 50 (\Omega)$	$R_z > 50 \text{ k}\Omega$
Sensing element break	$I_z > 24 \text{ mA}$	$U_v > 12 \text{ V}$
Sensing element short	$I_z < 3 \text{ mA}$	$U_v \approx 0 \text{ V}$
Ambient temperature	-30 to 80°C	-30 to 80°C
Relative humidity	< 80 %	< 80 %
Degree of protection	IP 54	IP 54
Response velocity $\tau_{0.95}$ for A16x	< 8 s	< 8 s
Recommended diameter of connecting cable	0,35 to 2mm ²	0,35 to 2mm ²

Wiring diagram for A1xI



1, 2 sensor
 4 - 20 mA current loop
 arbitrary polarity

Wiring diagram for A1xU



Ucc positive pole of the supply source
 GND negative pole of the supply source
 1, 2 sensor
 OUT 0 to 10 V output

Method of ordering

State the quantity of pieces and the transducer type in the order.

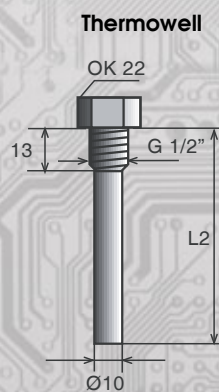
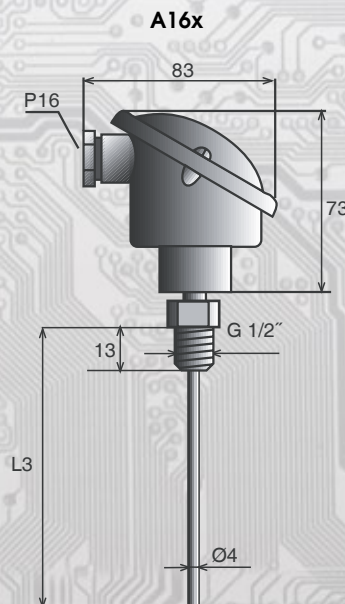
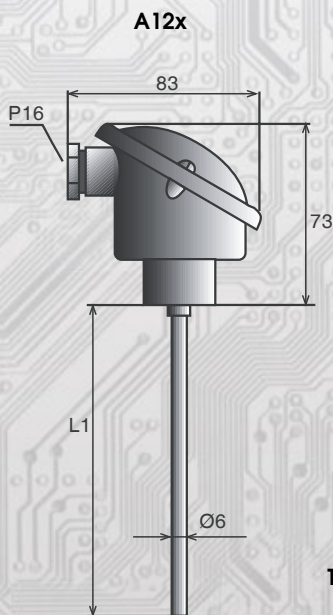
An example of an order: **5 pieces transducer A13I-100 0/150**

Transducer type _____
 Thermowell length _____
 Temperature range _____

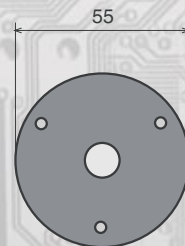
Mounting the transducers

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 mm² and of outer diameter 5 to 7 mm to the terminal board through the bushing. Once the cover is replaced onto the head and the small screws screwed in, the mounting is terminated and the transducer is ready for operation.

Dimensions and accessories

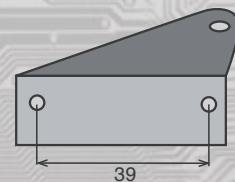


Central holder B - for A12x



3 holes of 4,5 mm diameter

Side holder C - for A11x



2 holes of 4,5 mm diameter

Remark:

- 1) Subject of an order, also non-standard lengths and transducer temperature ranges, or other types of the well threads, for example M20 x1,5 may be delivered.
- 2) For the range of 0 to 250 °C, transducer with an increased stem length by 60 mm are delivered.