

TECHNICAL THERMOMETER STRAIGHT TR, ANGULAR TU

Description

Thermometers can be used for temperature measurement in any position. Thermometer head can be placed in environment with temperature range -30 °C to +110 °C. The maximum permissible deviation is for TR ± 2 % and for TU $\pm 2,5$ % ($L > 60$ mm) or ± 4 % ($L = 45$ mm) from scale range. Measured temperature must not exceed maximum scale range. Thermometers are manufactured with various stem lengths as shown in the table. The whole measuring system must be placed in measured environment to ensure accurate measurement. Recommended installation depth P is 100 mm, or the whole length of shorter stems. In some cases, especially at pressure bigger than 0,3 MPa or in liquid environment, stem must be placed in thermometer well. Maximum pressure when well is used is 0,6 MPa. Thermometers TR with stem length 45 and 60 mm and thermometers with range 0 °C - 350 °C and 0 °C - 450 °C can be used only with thermometer well. Thermometer consists from head and stem made of stainless steel class 17. Scale is protected by glass.

Installation

When installing, the stem must not be exposed to shocks and bends. For installation of TR and TU thermometers can be used thermowells. Thermometers may not be modified for installation ratios.

Storage

Thermometers may be stored in enclosed ventilated spaces in the temperature range of 0–30 °C with relative humidity of max. 70 %. Protect the thermostats from impacts.

Disposal

Take the product to a scrap yard.

Possible minor faults and their removal

The thermostat may be repaired only by the manufacturer.

Warranty

According to the current law unless otherwise agreed.

The manufacturer will refuse the warranty if the device has been damaged:

- during transport and storage by the purchaser or his customers
- during assembly or disassembly in the purchaser's or his customer's appliance.
- during incompetent handling and installation in another appliance than stated in the manual.
- if the thermostat was in a different environment than stated in the manual.

Warranty and post-warranty repairs

All repairs are provided by the manufacturer. Wrap the faulty product and ship to the address below:

APATOR METRA s.r.o.

Havlíčková 919/24
787 01 Šumperk

Tel.: 583 718 263

Fax: 583 718 150

E-mail: prodej@metra-su.cz

www: www.metra-su.cz

Type	Head diameter [mm]	Scale division [°C]	Scale range [°C]	Measuring range [°C]	Stem length ... L [mm]								
					ø d = 8 mm (stainless (AKVS))						ø d = 10 mm (steel cl. 11 or AKVS); x*only AKVS		
					45	60	100	160	250	400	630	1000	1500
TR 60	60	1	-30 ÷ 50	-20 ÷ 40		x	x	x	x				
		1	0 ÷ 120	20 ÷ 100	x	x	x	x	x				
		2	0 ÷ 200	20 ÷ 180	x	x	x	x	x				
		5	0 ÷ 350	50 ÷ 300			x	x	x				
		10	0 ÷ 450	50 ÷ 400			x	x	x				
TR 100	100	1	-30 ÷ 50	-20 ÷ 40		x	x	x	x	x	x	x	x
		1	0 ÷ 120	20 ÷ 100	x	x	x	x	x	x	x	x	x
		2	0 ÷ 160	20 ÷ 140		x	x	x	x	x	x	x	x
		2	0 ÷ 200	20 ÷ 180	x	x	x	x	x	x	x	x	x
		5	0 ÷ 350	50 ÷ 300			x	x	x	x	x	x	x
10	0 ÷ 450	50 ÷ 400			x	x	x	x	x	x*	x*	x*	
TR 120	120	1	-30 ÷ 50	-20 ÷ 40		x	x	x	x	x	x	x	x
		1	0 ÷ 120	20 ÷ 100		x	x	x	x	x	x	x	x
		2	0 ÷ 200	20 ÷ 180		x	x	x	x	x	x	x	x
		5	0 ÷ 350	50 ÷ 300			x	x	x	x	x	x	x
		10	0 ÷ 450	50 ÷ 400			x	x	x	x	x	x*	x*

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					ø d = 8 mm (stainless (AKVS))						ø d = 10 mm (steel cl. 11 or AKVS); x* only AKVS		
					45	60	100	160	250	400	630	1000	1500
TU 60	60	1	-30 ÷ 50	-20 ÷ 40			x	x	x	x			
		1	0 ÷ 120	20 ÷ 100			x	x	x	x			
		2	0 ÷ 200	20 ÷ 180			x	x	x	x			
		5	0 ÷ 350	50 ÷ 300			x	x	x	x			
		10	0 ÷ 450	50 ÷ 400			x	x	x	x			
TU 100	100	1	-30 ÷ 50	-20 ÷ 40			x	x	x	x	x	x	x
		1	0 ÷ 120	20 ÷ 100			x	x	x	x	x	x	x
		2	0 ÷ 160	20 ÷ 140			x	x	x	x	x	x	x
		2	0 ÷ 200	20 ÷ 180			x	x	x	x	x	x	x
		5	0 ÷ 350	50 ÷ 300			x	x	x	x	x	x	x
		10	0 ÷ 450	50 ÷ 400			x	x	x	x	x*	x*	x*
TU 120	120	1	-30 ÷ 50	-20 ÷ 40			x	x	x	x	x	x	x
		1	0 ÷ 120	20 ÷ 100			x	x	x	x	x	x	x
		2	0 ÷ 200	20 ÷ 180			x	x	x	x	x	x	x
		5	0 ÷ 350	50 ÷ 300			x	x	x	x	x	x	x
		10	0 ÷ 450	50 ÷ 400			x	x	x	x	x*	x*	x*