

## Remote thermometer with adjustable changeover contact

### Case: plastic

Model T4770	ND 60
Model T4772	ND 80
Model T4774	ND 100

### Case steel

Model T4780	ND 60
Model T4782	ND 80
Model T4784	ND 100



## Description

The housings of this product line are equipped with U-bolts, providing easy and secure panel installation in areas that are subjected to vibration.

The switching point of the micro switch, which is installed as a two-way switch, can be varied over the entire temperature range. Devices with a fixed temperature value or one fixed switch and one adjustable switch can be supplied on request. A protective plastic cap for covering and sealing the connections is also available.

Measurements are recorded by the liquid-filled measuring system, which consists of a temperature sensor, a capillary tube and a Bourdon spring. These three components combine to form a closed tube system.

The internal pressure in this system changes depending on the temperature, which causes the pointer axle connected to the spring to rotate and display the temperature value on the scale.

Temperatures of between  $-40^{\circ}\text{C}$  and  $+400^{\circ}\text{C}$  are rapidly and accurately indicated by the closed system.

The capillary tube, which is between 500 mm and 10000 mm in length, allows measurements to be taken at any point using a mechanical remote display.

## Features

- Fast response time
- Measuring point and display in different locations
- wide range of standard models
- Secure installation using U-bolt
- Wide range of contacting and switching functions

## Measuring ranges

$-40 \dots 60^{\circ}\text{C}$  up to  $0 \dots 400^{\circ}\text{C}$

## Options

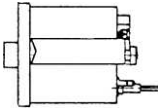
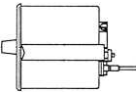
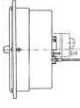
- Measuring range  $^{\circ}\text{F}$ ,  $^{\circ}\text{C}/^{\circ}\text{F}$  (Doppelteilung)
- Contact cover IP54

## Applications

Mechanical engineering  
Refrigeration engineering  
Process technology  
Food industry

**Model: T4770, T4772, T4774,  
T4780, T4782, T4784**

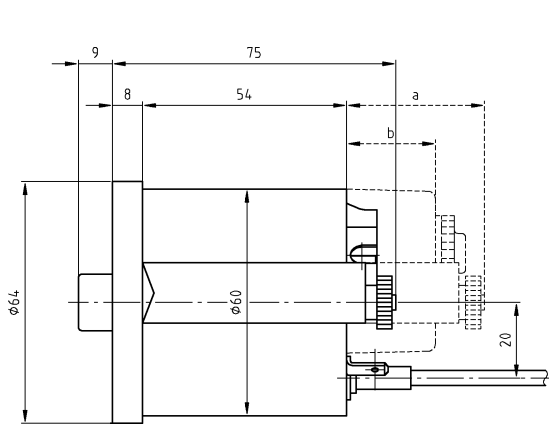
## Technical data

Model	T4770	T4772	T4774	T4780	T4782	T4784
Symbol						
Nominal size	60	80	100	60	80	100
Case	plastic ABS			steel chromated		
Type of mounting	panel mounting with clamp, front bezel mounting at ND100					
Window	plastic transparent					
Dial	background white, scale and imprint black					
Pointer	plastic black					
Scale angle	approx. 270 °					
Measuring ranges and scale division	Measuring range		limit of error		scale division	
	in °C		± °C		in °C	
	-40... +40		2		1	
	-40... +60		2		1	
	-30... +50		2		1	
	-20... +60		2		1	
	-20... +80		2		1	
	0... 60		2		1	
	0... 80		2		1	
	0... 100		2		1	
	0... 120		4		2	
0... 160		4		2		
0... 200		4		2		
0... 250		5		5		
0... 300		10		5		
0... 400		10		5		
Display accuracy	± 2 % of measuring range					
Connection capillary	back, eccentric					
Capillary tube	plastic coated or copper braided acc. to measuring range, capillary Cu.-alloy					
length	max. 10.000 mm					
Stem	Cu.-alloy					
Filled media	< 350°C Xylene, >350°C silicone oil					
Measuring principle	liquid expansion					
Switch difference	< 2% of measuring range					
Protection class (case)	IP 54 (EN 60529/ IEC 529)					
<b>Switch options</b>						
Type of switch (bold = standard)	<b>1 adjustable changeover</b> 1 fixed changeover 2 fixed changeover 2 common adjustable changeover 1 adjustable and 1 fixed changeover					
Switch	<b>1 single pole change over</b> 2 single pin changeovers with separate supply 2 single pin changeover with linked supply					
Contact current	<b>5 A @ 250 V~</b> contact current 10 A @ 250 V~					
Type of connection	<b>clamp connection</b> pin connection; AMP-flat plug 0,8x6,3					
Protection class	<b>without protection cap, protection class IP 00</b> protection cap, protection class IP 51 protection cap, protection class IP 54					

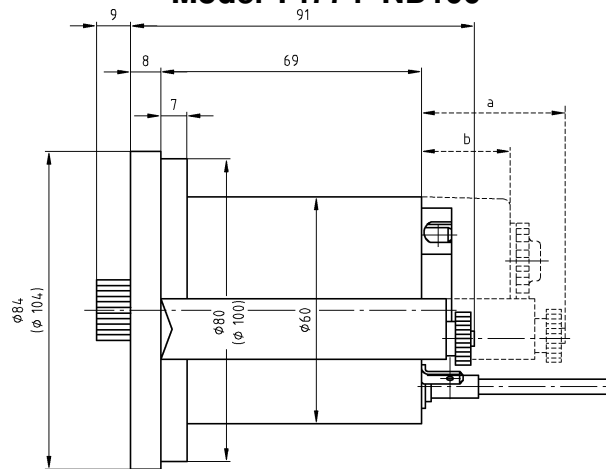
# Dimensions

Case: plastic

Model T4770 ND60

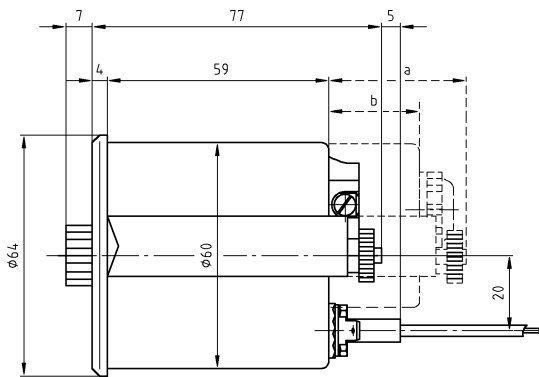


Model T4772 ND80  
Model T4774 ND100

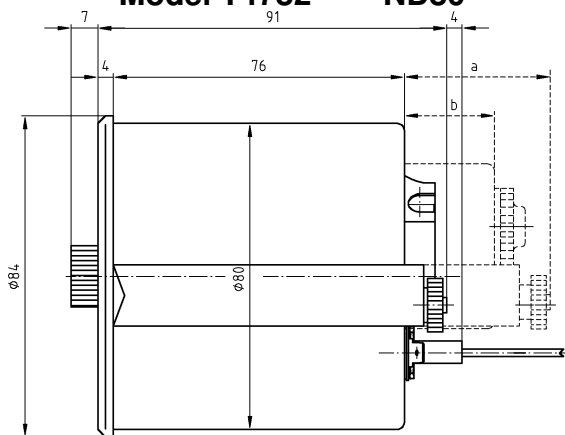


Stahlblechgehäuse

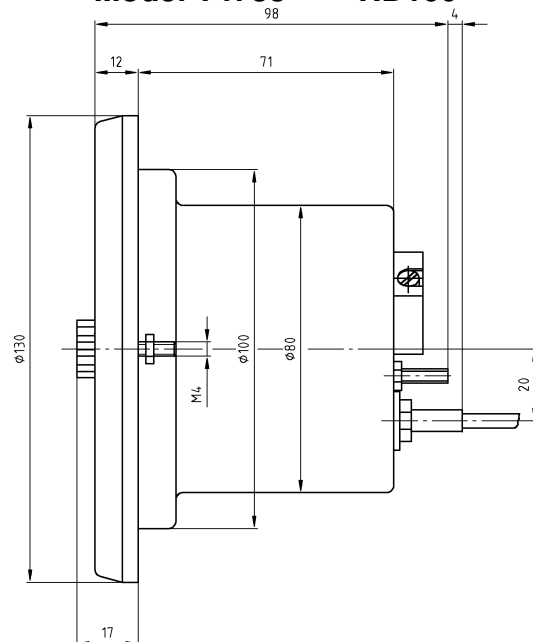
Model T4780 ND60



Model T4782 ND80

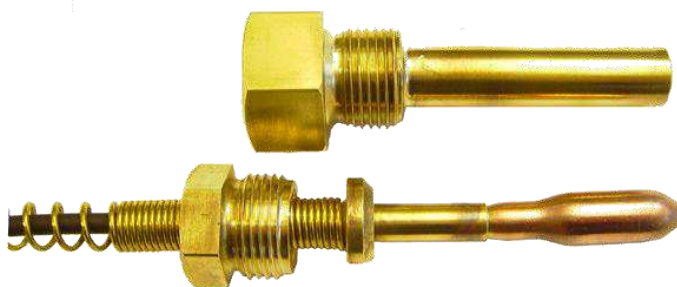


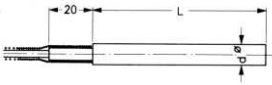
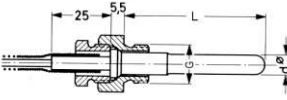
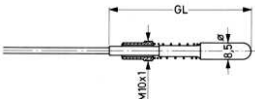
Model T4783 ND100

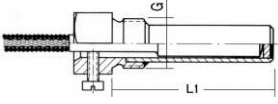
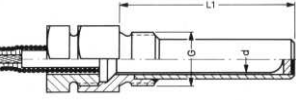
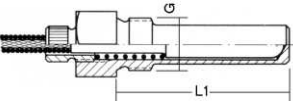


Connection	Protection class		a	b
Clamp connection	IP 51	waterdrops	36	23,5
Clamp connection	IP 54	splashing water	36	23,5
Plug connection	IP 51	water drops	46	33,5
Plug connection	IP 54	splashing water	46	33,5

# Stem and thermowells



Stem	plain; without thread	turnable with sealing cone and screwing	turnable with fixation spring
Material	Cu.-alloy	Cu.- alloy	Cu.- alloy
Stem length L	50 mm 75 mm 100 mm 150 mm 175 mm	50 mm 75 mm 100 mm 150 mm 175 mm	75 mm 100 mm 125 mm 175 mm
Stem diameter $\varnothing d$	6 mm 8 mm 8,5 mm 10 mm	6 mm 8 mm 8,5 mm 10 mm	8,5
Dimensions			
Thread G		M14x1,5 M16x1,5 M18x1,5 G 1/4 G 3/8 G 1/2	

Thermowell	multipart jacket for plain sensor fixation	multipart jacket for sensors with sealing cone	multipart jacket for sensors with fixation spring
Material	Cu.- alloy	Cu.- alloy	Cu.- alloy
Immersion length L1	100 mm 150 mm 200 mm	80 mm 100 mm 150 mm 200 mm	32 mm 45 mm 75 mm 100 mm 125 mm
Dimensions			
Thread G	G 3/8 G 1/2	G 3/8 G 1/2 M14x1,5	G 1/4 G 3/8 G 1/2 G 3/4 M18x1,5

## Ordering information

Model / Measuring range / length of capillary tube / stem / options

Subject to technical changes