

Product Information TFP-17, TFP-18

FOOD

# Temperature Sensor

### General Description

Temperature measurement with temperature sensors Pt100 operates on the basis of the change in resistance of platinum as a function of temperature fluctuations.

The electrical connection is made by a 2, 3 or 4-wire system, depending on the input of the display unit. As an optional alternative these temperature sensors can be connected to a 4-20mA current input by means of an integral two-wire transmitter **TTB.H** (two-wire current loop).

The temperature sensor **TFP-17** is suitable for measurements of gaseous media like air.

The temperature sensor **TFP-18** can be mounted in each 6mm clamp screw. According to the clamp screws **EMK-25/76 resp. KEV-25/76** you will get an hygienic measurement point without gaps.

### Features

- terminal box of PA6 plastic material
- highly resistance to chemical agents
- suitable in food and drug industry
- sensing resistor installed in protecting tube (1.4571)
- fast response

### Options

- two-wire input transmitter **TTB.H**
- faster responding sensor tip  $\varnothing 3$  oder  $\varnothing 4 \times 20\text{mm}$
- other insertion lengths
- other sensing resistors or thermocouples (e.g. Pt1000)
- other accuracy classes (e.g. 1/10DIN B)
- Negele certificate of accuracy acc. to national standards of DKD



TFP-17/050



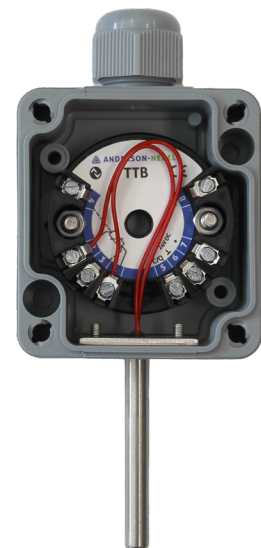
TFP-18/101

### Specification

Connector	cable entry	PG11
	terminal	4-pin (1xPt100), 2x4-pin (2xPt100)
Type of protection		IP65
Material	connecting head	Polyamid PA6 30% fibre glass reinforced
	protection tube	SS 1.4571 or 1.4435, $\varnothing 6\text{mm}$
Insertion length	<b>TFP-17</b>	50mm
	<b>TFP-18</b>	100, 150 and 250mm (...1000mm)
Fitting	<b>TFP-17</b>	wall mounting
	<b>TFP-18</b> without gaps	e.g. <b>KEV-25/76</b> clamp screw $\varnothing 25\text{mm}$
Sensing resistor	1x or 2x	Pt100 class A acc. to DIN IEC 751
	tolerances class A	0°C: $\pm 0,15\text{K}$ , 100°C: $\pm 0,35\text{K}$
Head temperature / Sensing tip		-50...+90°C/-50...+250°C/-30°C w.transmitter
Operating pressure		max. 10bar

### Option two-wire input transformer TTB.H (TFP-17/051, TFP-18/..1)

Range	standard	-10...40°C, 0...100°C, 0...150°C
Output	2-wire current loop	4-20mA is equivalent to range
Supply	2-wire current loop	15...36V DC



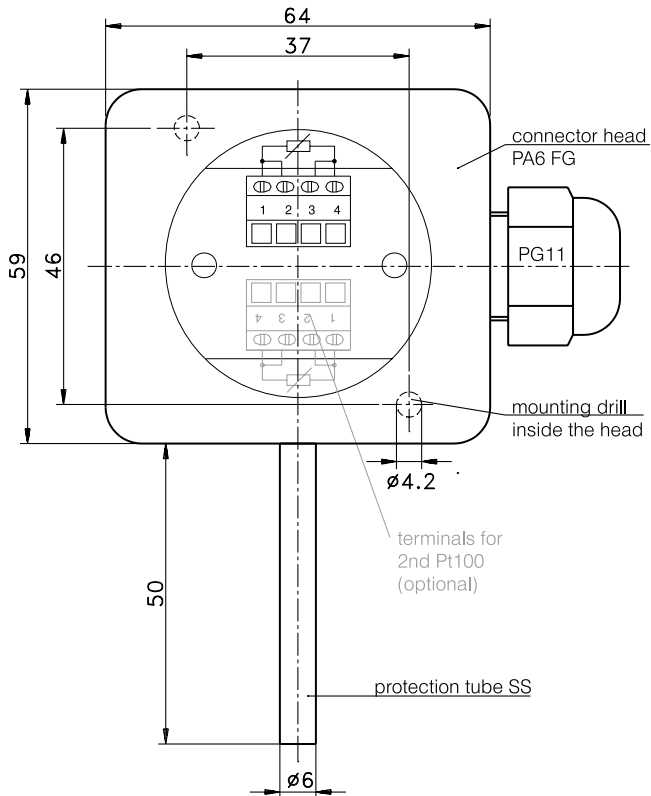
Temperature Sensor **TFP-17/051** with integrated programmable input transmitter **TTB.H**

## Order Designation

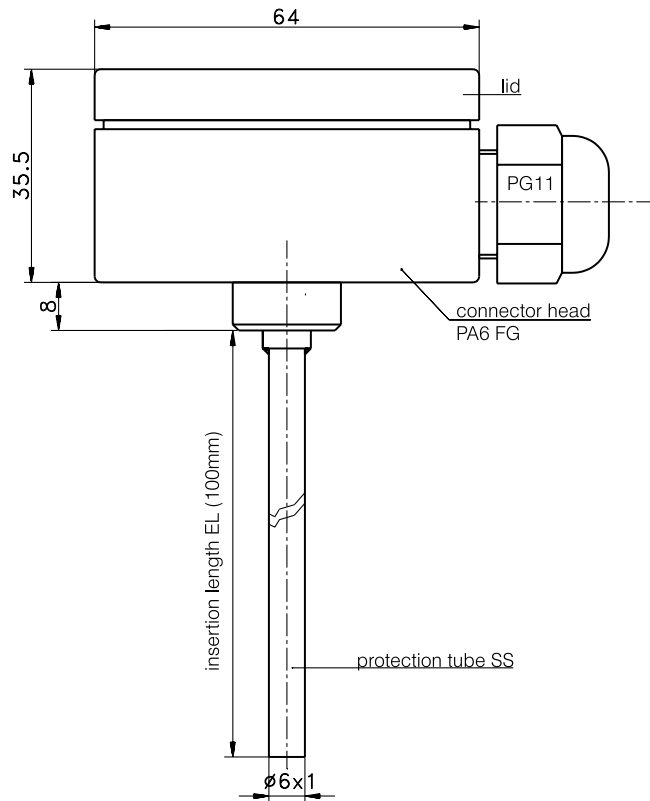
Model	Sensor TFP-17	Sensor TFP-18		
insertion length [mm]	50mm	100mm	150mm	250mm
1xPt100 without TTB.H	TFP-17/050	TFP-18/100	TFP-18/150	TFP-18/250
1xPt100 with TTB.H	TFP-17/051	TFP-18/101	TFP-18/151	TFP-18/251
2xPt100 without TTB.H	TFP-17/052	TFP-18/102	TFP-18/152	TFP-18/252

- Please declare the measurement range for the temperature sensors with integrated two-wire input transmitter **TTB.H**.  
Standard ranges: -10...+40°C / 0...+100°C / 0...+150°C or special range.

## Dimensioned Drawing TFP-17/050



## Dimensioned Drawing TFP-18/...

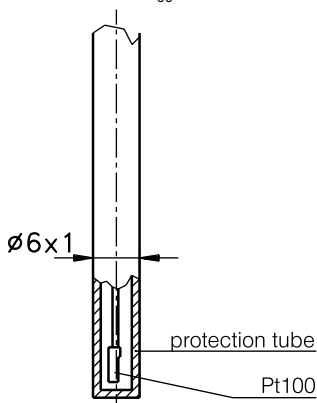


## Sensor tips and responding times

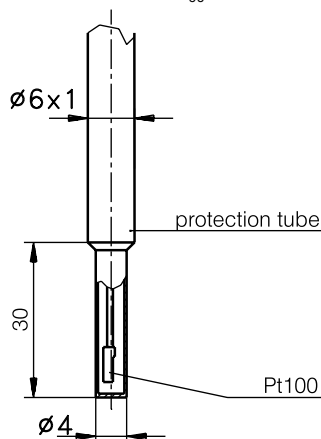
All temperature sensors are available with tapering tips to ensure faster responding times. The times specified below relate to a Pt100-sensor dipped in boiling water.

Sensor tip  $\varnothing 6\text{mm}$ 

50%-time:  $t_{50} \leq 3,0\text{s}$   
90%-time:  $t_{90} \leq 8,0\text{s}$

Sensor tip  $\varnothing 4\text{mm}$ 

50%-time:  $t_{50} \leq 2,4\text{s}$   
90%-time:  $t_{90} \leq 6,5\text{s}$

Sensor tip  $\varnothing 3\text{mm}$ 

50%-time:  $t_{50} \leq 0,5\text{s}$   
90%-time:  $t_{90} \leq 1,5\text{s}$

