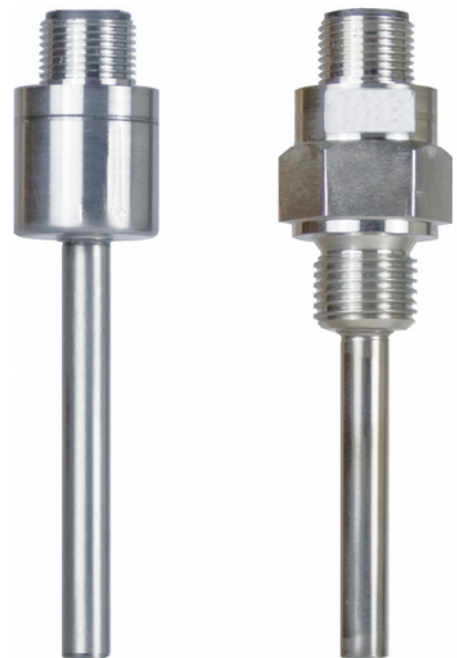


# TFK03

## Compact Resistance Temperature Sensor (Pt100) with Circular Connector M12x1

- very small design because of M12x1 connector
- integrated transmitter optional
- resistance and current output
- wetted parts made of stainless steel 1.4571
- measuring range from -200 °C to 600 °C
- short response time
- easy to service
- max. pressure: 25 bar (40 bar on request)



### Description:

A temperature-dependent electrical resistance is integrated in a stainless steel protective tube. This changes its ohmic resistance depending on the temperature of the medium. In the version with built-in transmitter, this value is converted into a 4...20 mA current signal and provided at the terminals of the circular plug. In the version without transmitter, the pure resistance value can be tapped at the connector. To achieve short response times, there is a version with a rejuvenated immersion shaft.

The circular connector M12x1 offers a very high degree of protection (IP68) and, thanks to its compact design, very flexible installation options.

### Typical applications:

The resistance thermometers are very well suited for use in general machine, apparatus, plant, container and pipeline construction, as well as in the chemical and process engineering and food industries, where they are preferably used for detecting the temperature in liquid and gaseous media. Their compact design makes them particularly suitable for installation in places with limited space.

## Models:

**TFK03.xPx:** output Pt100, 2-,3 or 4-wire  
single or double element

**TFK03.A04:** output 4–20 mA, 2-wire

## Technical Data:

**Sensor:** Pt100 acc. to DIN IEC 751, class A

**Measuring ranges:** -50...200 °C w/o neck tube  
-50...400 °C with neck tube 50 mm  
0...600 °C with neck tube  
-200...+100 °C with neck tube 50 mm

**Electr. connection:** circular connector M12x1

**Protection class:** IP68, IP69K acc. to EN 60529/  
IEC 529

**Thermowell:**  
Diameter: 6 or 8 mm  
Material: stainless steel 1.4571

**Housing:** stainless steel 1.4435

**Process connection:** fix screw connection or  
movable compression fitting  
others (e.g. Clamp) on request

**Max. pressure:** PN 25 (PN 40 on request)

**Transmitter:**

**Power supply:** 10...30 VDC

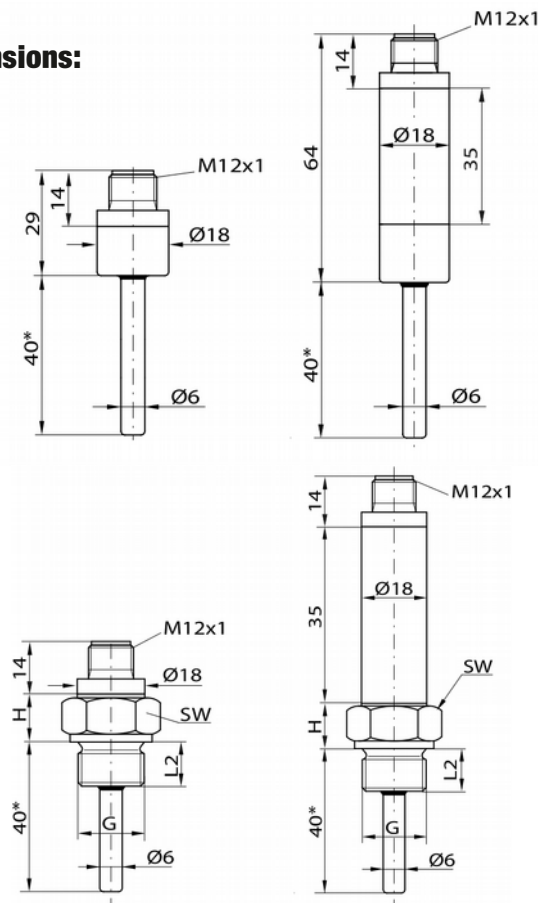
**Output:** 4...20 mA, 2-wire, HART protocol

**Min. turn down ratio:** 20 Kelvin

**Max. turn down ratio:** 800 Kelvin

**Accuracy:** 0,3 % of full scale

## Dimensions:



## Order Code:

**Order number:** TFK03. 1P2. 6. 08F. 0050. 200. 0

**Compact resistance  
temperature sensor, M12x1**

### Sensor:

1P2 = 1 x Pt100, 2-wire  
1P3 = 1 x Pt100, 3-wire  
1P4 = 1 x Pt100, 4-wire  
2P2 = 2 x Pt100, 2-wire  
A04 = 4–20 mA\* (HART protocol)  
\*please specify measuring range  
preferably 0..50 °C, 0..100 °C,  
0..120 °C)

### Diameter of immersion shaft:

6 = 6 mm  
8 = 8 mm

### Process connection:

0 = without screw conn., only immersion shaft  
(compression fitting see accessories)

08F = G 1/4 A fix  
10F = G 3/8 A fix  
15F = G 1/2 A fix  
2NF = 1/2" NPT fix

### other connections on request

### Installation length L:\*\*

0025 = 25 mm (only with fix screw connection)  
0050 = 50 mm (only with fix screw connection)  
0075 = 75 mm (only with fix screw connection)  
0100 = 100 mm \*\*  
0160 = 160 mm \*\*  
0200 = 200 mm \*\*  
0250 = 250 mm \*\*  
0500 = 500 mm \*\*  
xxxx = please specify in plain text

### Temperature range:

200 = -50...150 °C without neck tube  
400 = -50...400 °C with neck tube 50 mm  
600 = 0...600 °C with neck tube  
a) w/o transmitter 50 mm  
b) with transmitter 100 mm, also fix measuring insert  
100 = -200...+100 °C with neck tube 50 mm (special design)

### Options:

0 = without  
VR = rejuvenated immersion shaft (description see "Options")

\*\* with fix screw connection: measured from sealing edge of  
screw connection  
with removable connection: entire shaft length

## Accessories:

**Order number:** SVQ. V.08. 06

**Compression fitting  
(installation length min. 100 mm)**

### Process connection:

V.08 = G 1/4 male  
V.10 = G 3/8 male  
V.15 = G 1/2 male  
V.08N = 1/4" NPT  
V.15N = 1/2" NPT

### Diameter of immersion shaft:

06 = 6 mm  
08 = 8 mm

## SM12 plug M12x1 with PVC-cable (see separated data sheet)

### Options:

Thermowell reduced to 3 mm diameter for faster response  
times. Only for versions with fixed screw connection and ther-  
mowell diameter 6 mm.



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