

# TF04

## Temperature probes with installation fitting as per DIN 43770

- resistance thermometers or thermocouples
- with replaceable measuring insert
- protective tube with threaded or weld-on connection, or with sliding flange
- measuring ranges: resistance thermometer  
-328 °F to 1112 °F / -200 °C to +600 °C
- thermocouples -40 °F to 2012 °F / -40 °C  
to +1100 °C
- with optional transmitter output 4(0) - 20 mA,  
0 - 10 V



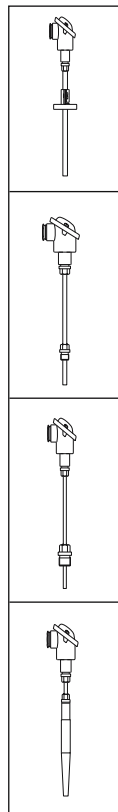
### Description:

The resistance thermometers and thermocouples are manufactured to DIN 43770 and are made of a sturdy, heavy-duty stainless steel protective tube, a replaceable measuring insert and a connecting head. The standard protective tubes are available with a male-threaded fitting, sliding flange or for welding on. Other options are available with fixed flange, sanitary flange or clamp connection. Apart from the Form B connecting head, other designs like Form A, stainless steel field housing etc., are available. The measuring insert is a Pt 100 sensor, Class B (optional Class A) or a model K (NiCr-Ni) thermocouple. Alternatively, other resistance sensors or thermocouples can be supplied. As an option, these temperature probes can be fitted with a transmitter, which can be set at the factory to customer specification for a specific measuring range.

### Typical Applications:

Resistance thermometers and thermocouples as per DIN 43770 are very suitable for use in heavy industrial machinery and systems, installations and plants, tanks and piping systems, in the chemical industry and in food applications and are the devices of choice for measuring temperature in liquids and gases.

## Models:



with sliding flange  
protective tube Form A as per DIN 43763 **TF04.A...**

with 1/2" male-threaded fitting  
protective tube Form B as per DIN 43765 **TF04.B...**

with 1" male-threaded fitting  
protective tube Form C as per DIN 43766 **TF04.C...**

with weld-on connection  
protective tube Form D as per DIN 43767 **TF04.D...**

## Ordering Code:

**Order Number:** TF04. B. P. B0120. 00. 0

Temperature probes with installation fitting

### Model:

A = sliding flange  
B = G 1/2 male thread BN = 1/2" NPT male thread  
C = G 1 male thread CN = 1" NPT male thread  
D = weld-on protective tube

### Measuring element:

P = resistance thermometer 1x Pt 100  
K = thermocouple 1x type K

### Model and installation length:

A0200 - C1870 = see table 1  
D1065 - D6125 = see table 2  
S = special-order versions available on request

### Transmitter: (please specify measuring range) see below

0 = none  
1 = output 4 - 20 mA, 2-wire

### Options:

0 = none  
xx = see "Options" table

## Technical Specifications:

**Connecting head:** Form B as per DIN 43729 made of aluminum metric conduit (0.63" / 16mm), others available on request

**Protection type:** IP 54 as per EN 60529

**Terminal block:** ceramics (without transmitter)

**Protective tube:** stainless steel AISI 316 Ti / 1.4571, others available on request

## Resistance thermometer:

**Meas. element:** 1x Pt 100, 3-wire, Class A as per DIN IEC 751, +/- 1.5 °C, max. 2 mA, others available on request

**Insert tube:** stainless steel 316 Ti / 1.4571

**Temp. range:** -328 °F to 1112 °F / -200 °C to +600 °C

## Thermocouple:

**Meas. element:** 1x thermocouple model K NiCr-Ni as per DIN IEC 584 Class 1, +/- 1.5°C others available on request

**Temp. range:** -40 °F to 2012 °F / -40 °C to +1100 °C

## Transmitter:

**Housing:** plastic

**Electrical conn.:** terminals

**Input signals:** Pt 100, 3-wire NiCr-Ni (K), Fe-CuNi (J), Pt-RhPt (S)

**Storage temp.:** -40 °F to 212 °F / -40°C to +100°C

**Operating temp.:** -4 °F to 185 °F / -20°C to + 85°C

**Supply voltage:** 12 - 30 VDC

**Output:** 4 - 20 mA, 2-wire other transmitters available on request

## Options:

Description:	Code
double measuring element	1
without protective tube, TF04.B(C)... only	2
shortened neck extension (1.18", 2.36" or 3.54" / 30, 60 or 90 mm), TF04.B(C) only	3
terminal connector head Form A	4
terminal connector head field housing, aluminum, IP 68	5
terminal connector head field housing, stainless steel, IP 68	6
terminal connector head with screwed cover Form GT	7
resistance element Pt 500, 3-wire	8
resistance element Pt 1000, 3-wire	9
resistance element 4-wire	10
thermocouple Fe-CuNi, model J	11
thermocouple Pt13Rh-Pt, model R	12
thermocouple Pt-RhPt, model S	13
flange DIN 43734, DN 15 for protective tube Form A	14
fixed flange DN 15 - 50, describe in writing	15
sanitary flange, describe in writing	16
Clamp flange, describe in writing	17
protective tube reduced in diameter to 6 mm at the bottom, 60 mm long	18
protective tube perforated for liquids	19
protective tube perforated for gases	20
connecting head with HAN-7-D plug	21

## Setting range for transmitter:

(factory preset to specified measuring range)

## Resistance thermometer Pt100:

measuring range selection: minimum 32-122 °F / 0-50 °C up to 32-932 °F / 0...500 °C in steps of 122 °F / 50 °C all quoted measuring ranges can be altered by ±10%, e.g. -10 to 90°

additional zero setting -58 to 122 °F / -50 to 50 °C e.g. -50 to 100 °C

## Thermocouple model K:

measuring range: 32-475 °F / 0-246 °C min. to 32-2250 °F / 0-1232 °C max.

zero setting: ±10% of measuring range e.g. -50 to 500 °C

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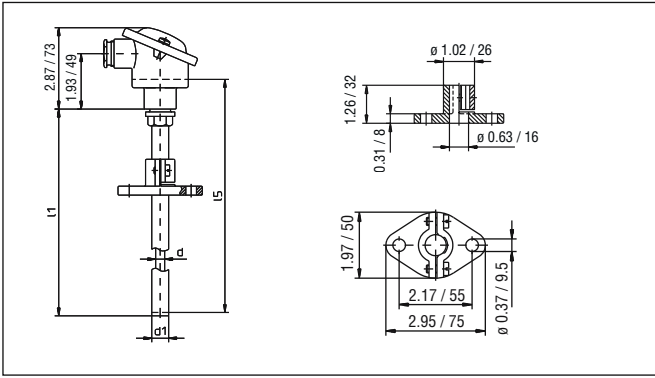
10 Brent Drive · Hudson, MA 01749

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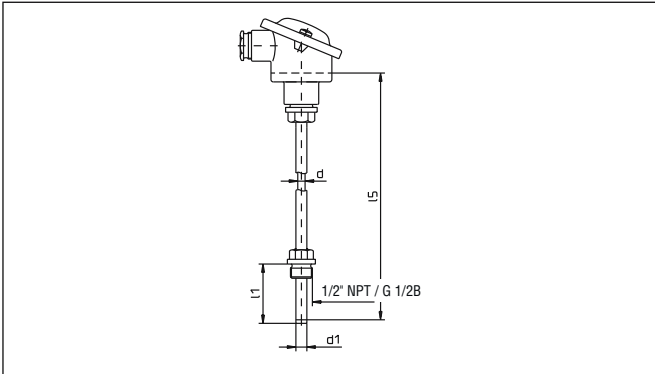
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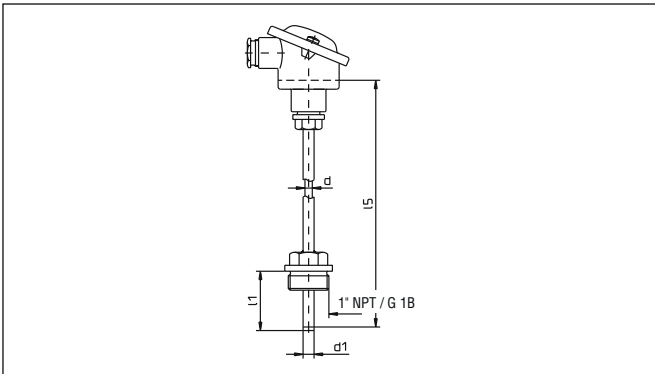
**Dimensions:**



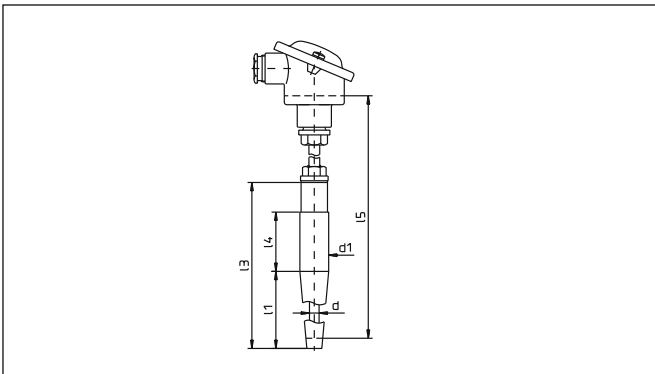
Protective tube Form A as per DIN 43764



Protective tube Form B as per DIN 43764  
(with neck extension, length 4.72" / 120 mm)



Protective tube Form C as per DIN 43766  
(with neck extension, length 4.72" / 120 mm)



Protective tube Form D as per DIN 43767  
(with neck extension, length 4.72" / 120 mm)

**Table 1:**

Form A			Form B and C				Meas. insert
L1	d	d1	L1	L1	d	d1	L5
inch/mm			inch/mm				
-	0.31 / 8	0.59 / 15	B0065	C0065	0.24 / 6	Form B9 Form C 11	8.66 / 220
A0200*			B0070	C0070			8.86 / 225
A0250			B0120	C0120			10.83 / 275
A0290			B0160	C0160			12.40 / 315
A0350			B0220	C0220			14.76 / 375
A0380			B0250	C0250			15.94 / 405
-			B0275	C0275			16.93 / 430
A0410			B0280	C0280			17.13 / 435
A0500			B0370	C0370			20.67 / 525
A0530			B0400	C0400			21.85 / 555
A0630			B0500	C0500			25.79 / 655
A0710			B0580	C0580			28.94 / 735
A0800			B0670	C0670			32.48 / 825
A1000			B0870	C0870			40.35 / 1025
A1250	0.31 / 8	0.59 / 15	B1120	C1120	Form B11 Form C14	50.20 / 1275	
A1400			B1270	C1270		56.10 / 1425	
A1600			B1470	C1470		63.98 / 1625	
A1800			B1670	C1670		71.85 / 1825	
A2000			B1870	C1870		79.24 / 2025	

\* Example: A0200 = design A, L1 = 7.87" / 200 mm

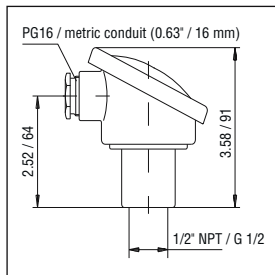
**Table 2:**

Form D					Meas. insert
L1	L3	L4	d	d1	L5
inch / mm					
D1065**	5.51 / 140	1.97 / 50	0.24 / 6	0.94 / 24	12.40 / 315
D2125	7.87 / 200	1.97 / 50			14.76 / 375
D4065	7.87 / 200	4.33 / 110			14.76 / 375
D5125	10.24 / 260	4.33 / 110	0.31 / 8	1.18 / 30	17.13 / 435
D3125	7.87 / 200	1.97 / 50			14.76 / 375
D6125	10.04 / 255	4.13 / 105			16.93 / 430

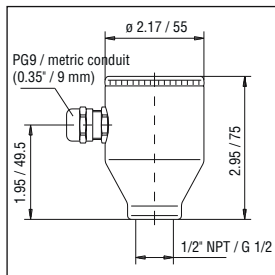
\*\* Example: D1065 = design D, L1 = 2.56" / 65 mm

## Models:

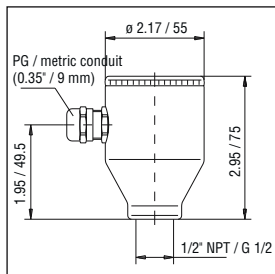
### Connecting heads with screw plug



**Form:** DIN 43729/Form A  
**Material:** aluminium  
**Protection type:** IP 54

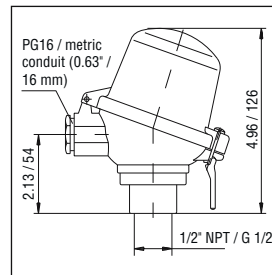


**Form:** field housing  
**Material:** aluminium  
**Protection type:** IP 68

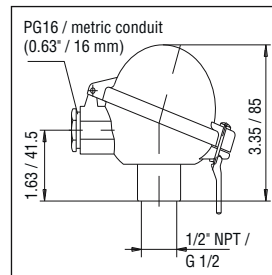


**Form:** field housing  
**Material:** stainless steel  
 AISI 304 / 1.4301  
**Protection type:** IP 68

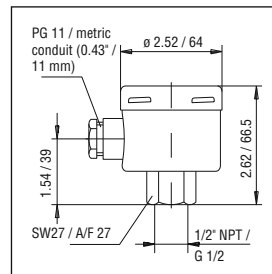
### Connecting heads with quick-release connection



**Form:** Form DANW  
**Material:** aluminium  
**Protection type:** IP 65

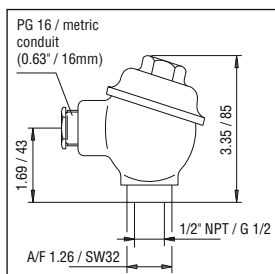


**Form:** DAN  
**Material:** aluminium  
**Protection type:** IP 65

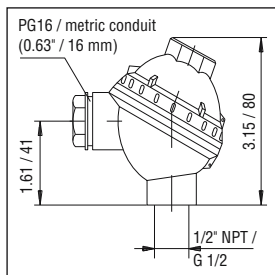


**Form:** Form C  
**Material:** stainless steel AISI  
 304 and 316 Ti /  
 1.4301 and 1.4571  
**Protection type:** IP 65

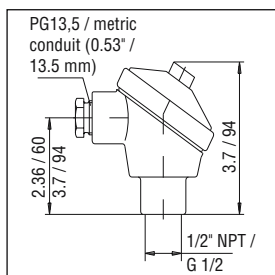
### Connecting heads with screw cap



**Form:** Form GT  
**Material:** cast iron  
**Protection type:** IP 54



**Form:** Form NS  
**Material:** ITAMID / NORYL  
**Protection type:** IP 45



**Form:** Form D  
**Material:** aluminium  
**Protection type:** IP 65