

# Multipoint thermocouple T-Bar design Model TC94

WIKA data sheet TE 70.13

## Applications

- Chemical and petrochemical industry
- Measurement of temperature layerings or hotspots in reactors
- Licensor-specific design

## Special features

- Versions to customer specification
- Secondary containment option
- Exchangeable measuring inserts
- Anchored support



Multipoint thermocouple in T-Bar design, model TC94

## Description

Multipoint thermocouples are often used for measuring temperature profiles in reactors or fuel depots or for the detection of the so-called “hotspots”.

The so-called multipoint thermocouple T-Bar design is common for certain vessel designs. In this design, several exchangeable thermocouples are linearly arranged in a T-Bar/pipe design.

The thermocouples are replaceable within the protection tube/flanged primary pressure containment. This design can be provided with a secondary containment option and various neck extensions to suit customer requirements. Connection terminals or temperature transmitters are placed in the connection housing which is either a component of the multipoint thermocouple or can be mounted separately, e.g. on a wall or pipeline.

## Specifications

### Materials

- Stainless steel 316, 316L, 347 or 321
- Special alloys or carbon steels as protection tube material

### Process connections

Flanges of all major national and international standards

### Sensors

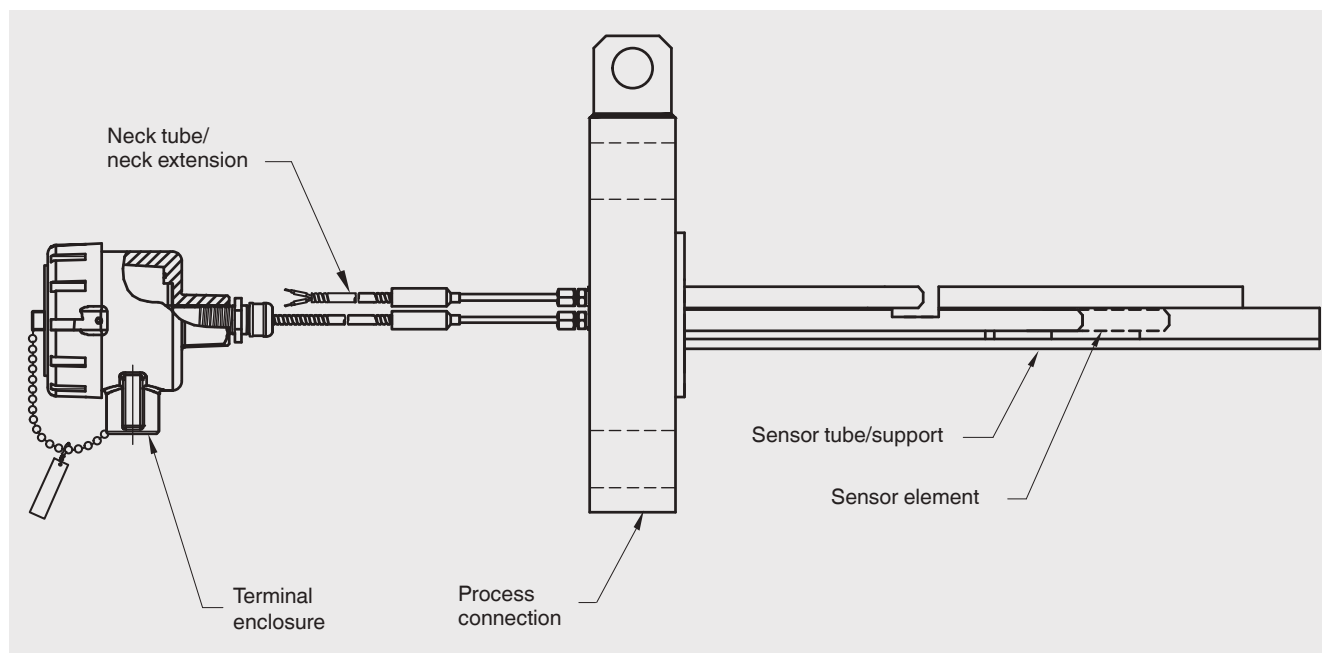
- Thermocouples as sheathed cable installation
- Single, double element
- Measuring point ungrounded or grounded
- For details, see data sheet TE 65.40 of the cable thermocouple model TC40

### Shipping

In wooden box or according to individual customer specifications

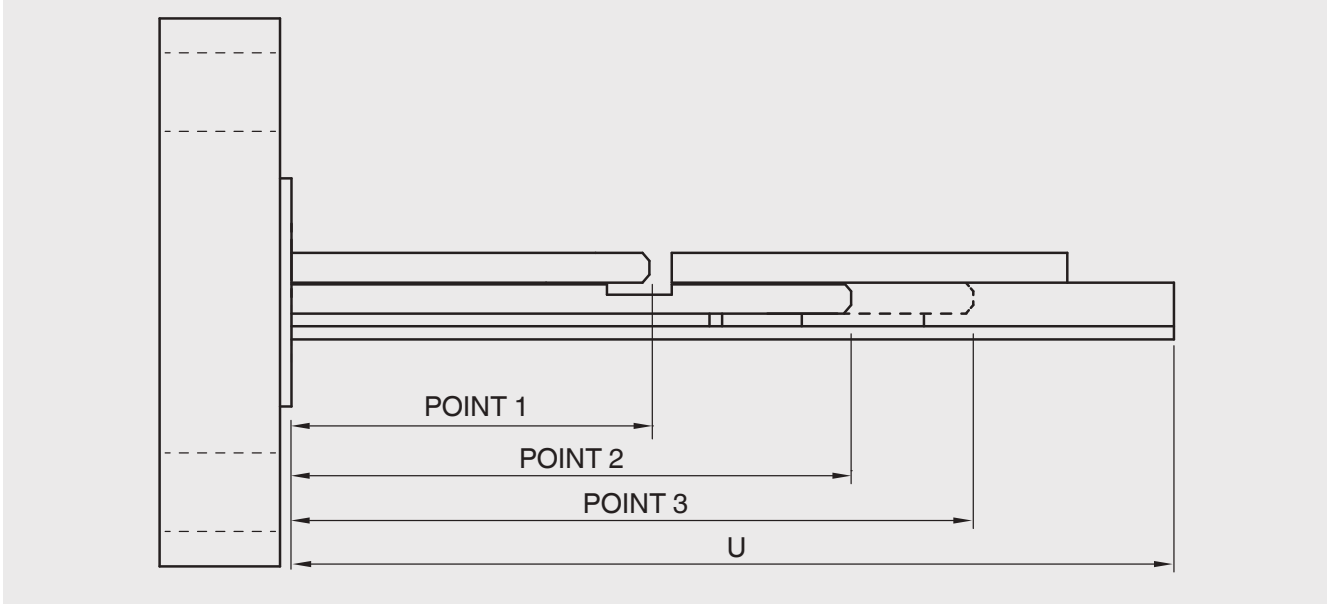
## Base elements of a T-Bar multipoint thermocouple

A multipoint thermocouple can be basically divided into 5 individual assemblies which are described separately below:



# Dimensions

## Point length and insertion length



### Sensor tube dimension

1/4 NPS

### Insertion length U

Freely selectable

### Material

- Stainless steel 316
- Stainless steel 316L
- Stainless steel 347
- Stainless steel 321

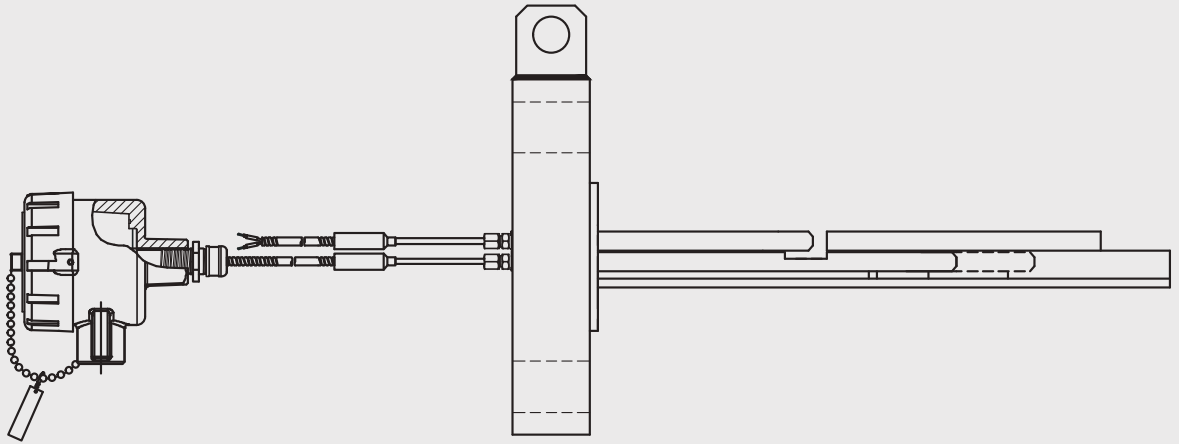
### Flange designs

Flanges in accordance with applicable standards, such as ANSI/ASME B16.5, EN 1092-1, DIN 2527 or to customer specification

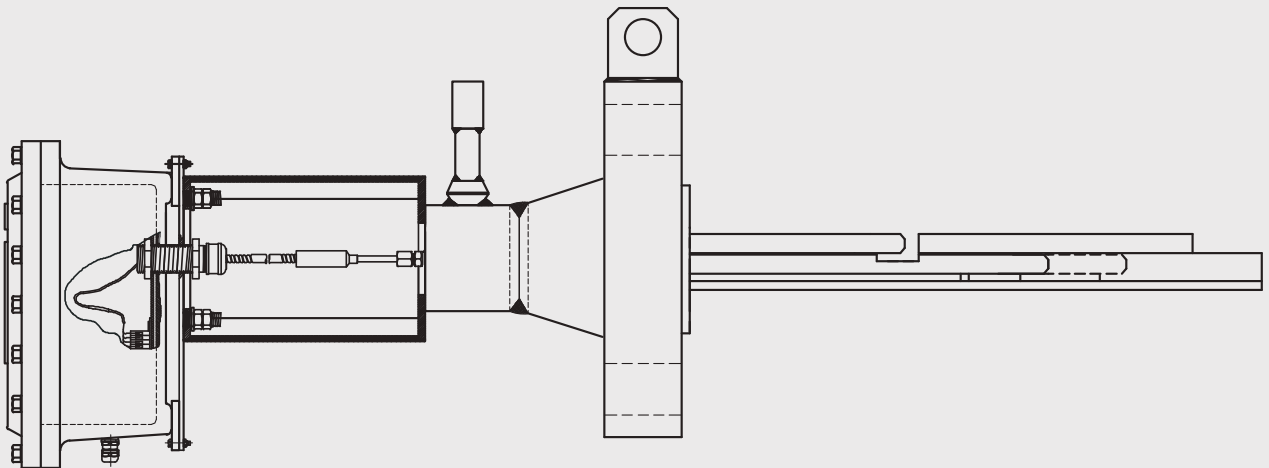
Standards	Flange design
ASME B16.5	Nominal width: 2 ... 4" Pressure rating: class 150 ... 2,500
EN 1092-1/DIN 2527	Nominal width: DN 50 ... DN 200 Pressure rating: PN 16 ... PN 100

■ Neck tube/neck extension

Remote conduit connection to standard connection head

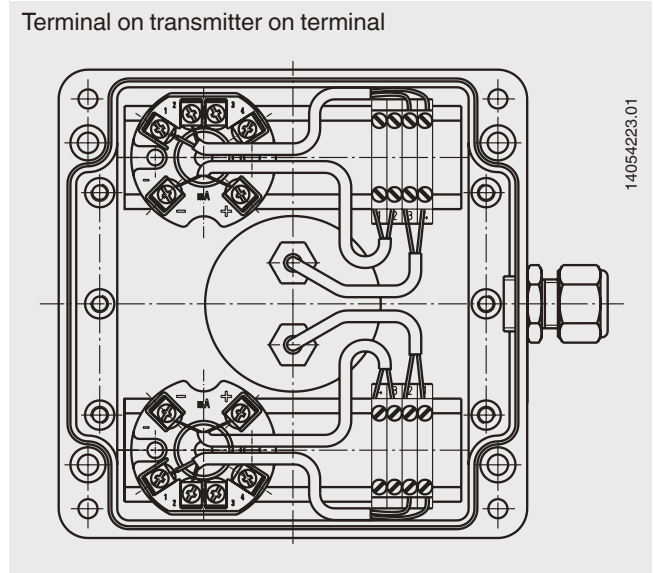
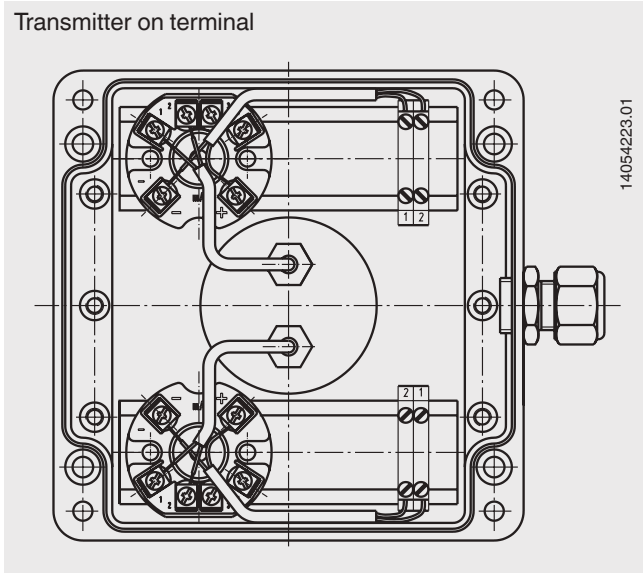
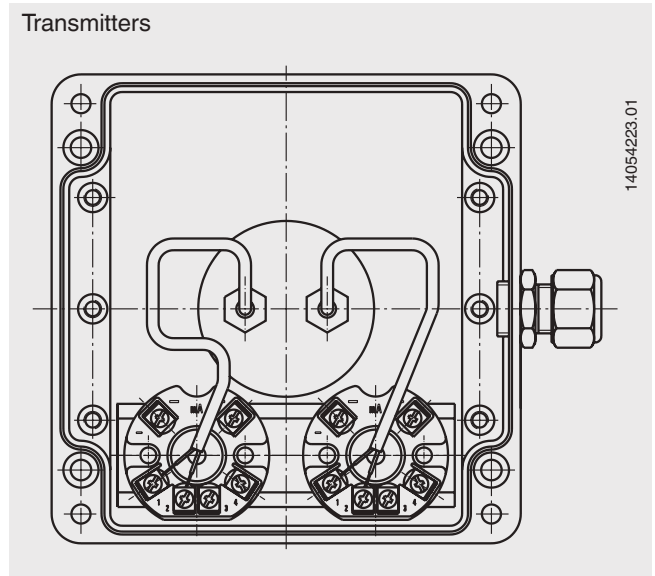
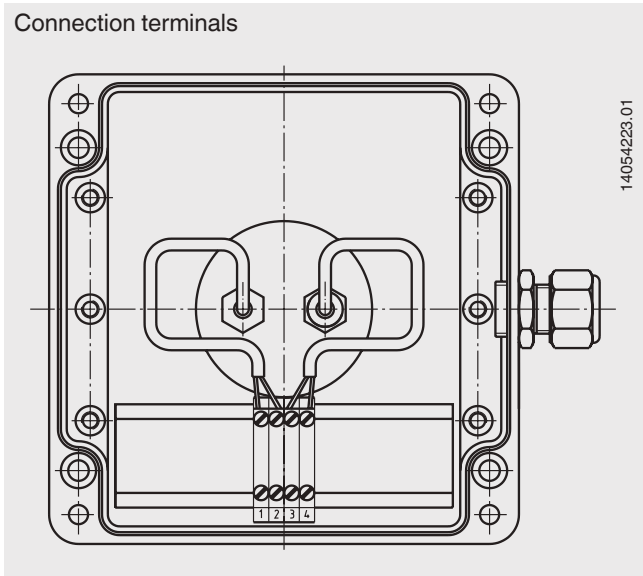


Secondary seal with offset attachment and shroud/support



■ **Terminal enclosure**

Cable compression fittings in accordance with customer specification



The actual wiring can deviate from the illustration in the data sheet.

Each multipoint thermocouple model TC94 is designed and manufactured according to individual customer specifications. In multipoint thermocouples with explosion protection, the terminal enclosure dimensions can deviate considerably from the data sheet specifications, depending on design.

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