

### Threaded cable thermometer For shipbuilding industry Models TR192 and TC192

WIKA data sheet TE 69.05



#### Applications

- Exhaust gas temperature measurement in diesel engines and turbines
- For on-/offshore applications

#### Special features

- Ingress protection IP 67
- Shock and vibration resistance to EN 60751
- Short response times, tapered thermowell
- Media temperatures:
  - TR192: 0 ... 600 °C
  - TC192: 0 ... 850 °C
- Approval Lloyd's Register

#### Description

The models TR192 and TC192 electrical thermometers are used for the measurement of exhaust gas temperatures on diesel engines and turbines. The standard temperature range is 0 ... 850 °C for thermocouples and 0 ... 600 °C for resistance thermometers.

The thermowells are designed for the loads which occur in medium and large power plants.

The steel-reinforced silicone glass-fibre cable of the model TC192 is suitable for ambient temperatures up to 200 °C. The operating range of the model TR192 is limited by the steel-reinforced PTFE glass-fibre cable and lies at 250 °C.

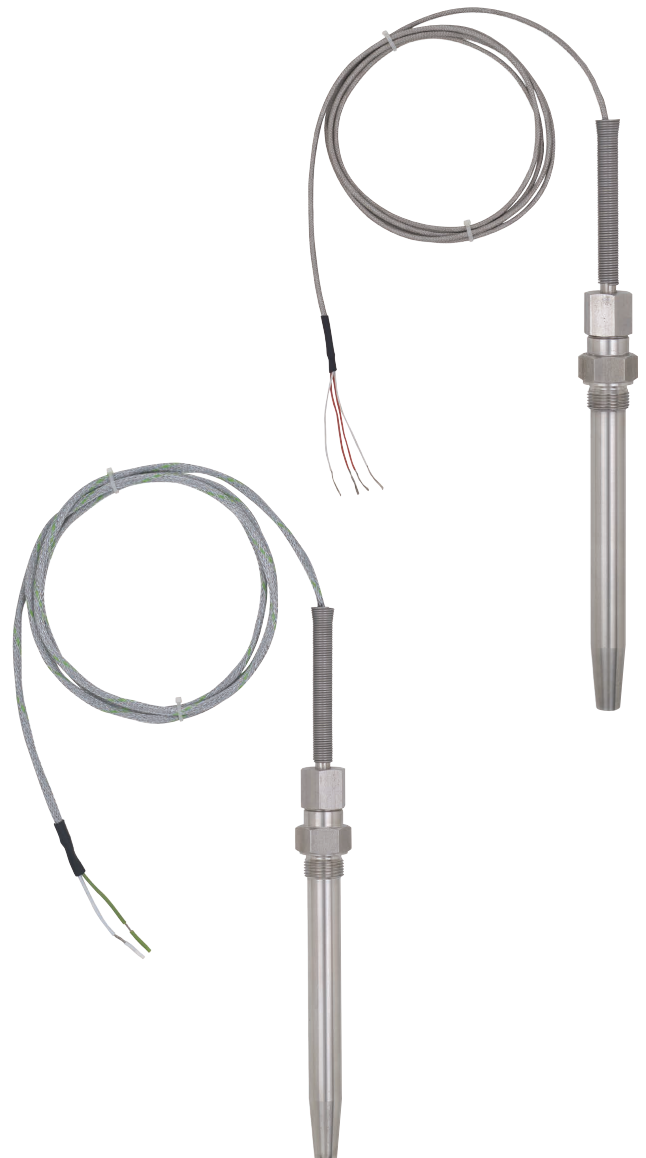


Fig. top: Cable resistance thermometer model TR192

Fig. bottom: Cable thermocouple model TC192

## Resistance thermometer with model TR192

### Sensor tolerance value per DIN EN 60751

- Class B

The combination of a 2-wire connection with class B is not permissible, because the lead resistance of the measuring insert overrides the higher sensor accuracy.

For detailed information on Pt100 sensors, see Technical Information IN 00.17 at [www.wika.com](http://www.wika.com).

## Thermocouple with model TC192

### Sensor types

- K (NiCr-Ni) Application range up to 850 °C
- J (Fe-CuNi) Application range up to 600 °C

Listed models are also available as single thermocouples. The thermocouple will be delivered with an insulated measuring point.

### Tolerance value

For the tolerance value of thermocouples, a cold junction temperature of 0 °C has been taken as the basis.

### Type K

Class	Temperature range	Tolerance value
<b>DIN EN 60584 part 2</b>		
2	-40 ... +333 °C	± 2.5 °C
2	+333 ... +1,200 °C	± 0.0075 •  t  <sup>1)</sup>

1) |t| is the value of the temperature in °C without consideration of the sign.

### Type J

Class	Temperature range	Tolerance value
<b>DIN EN 60584 part 2</b>		
2	-40 ... +333 °C	± 2.5 °C
2	+333 ... +750 °C	± 0.0075 •  t  <sup>1)</sup>

1) |t| is the value of the temperature in °C without consideration of the sign.

### Tolerance value at selected temperatures in °C

Temperature (ITS 90) °C	Tolerance value DIN EN 60584 part 2	
	Type K °C	Type J °C
0	±2.5	±2.5
200	±2.5	±2.5
400	±3.0	±3.0
600	±4.5	±4.5
800	±6.0	undefined

## Process connection

### Connection type

Threaded connection

### Material

Stainless steel 1.4571

### Thread

G ½ B, G ¾ B or M18 x 1.5  
other versions on request

## Thermowell

### Design

from solid body material

### Material

Stainless steel 1.4571

### Diameter

- 15 mm, tapered to 12 mm
- 18 mm, tapered to 12 mm
- 22 mm, tapered to 15 mm

### Insertion length

100, 120, 150, 160, 200, 250 mm  
other versions on request

## Cable

### ■ Model TR192

**Insulation**

PTFE glass fibre

**Armour**

Galvanised steel braid

**Bend protector**

Spring

**Permissible ambient temperature**

-200 ... +250 °C

**Wire material**

Cu (strands)

**Wire cross-section**

0.5 mm<sup>2</sup>

**Number of wires**

4

**Wire ends**

Blank, end splice, cable lugs (option)

**Cable length**

To customer specification

### ■ Model TC192

**Insulation**

Silicone glass fibre

**Armour**

Galvanised steel braid

**Bend protector**

Spring

**Permissible ambient temperature**

-50 ... +200 °C

**Wire material**

Compensating cable depending on type of sensor (wire)

**Wire cross-section**

1.5 mm<sup>2</sup>

**Number of wires**

2

**Wire ends**

Blank, end splice, cable lugs (option)

**Cable length**

To customer specification

## Cable probe with field case (option)

**Material**

Aluminium, epoxy coated

**Cover**

Detachable, 2 mounting screws, EPDM flat gasket

**Cable entries**

PG 16

**Ingress protection**

IP 67

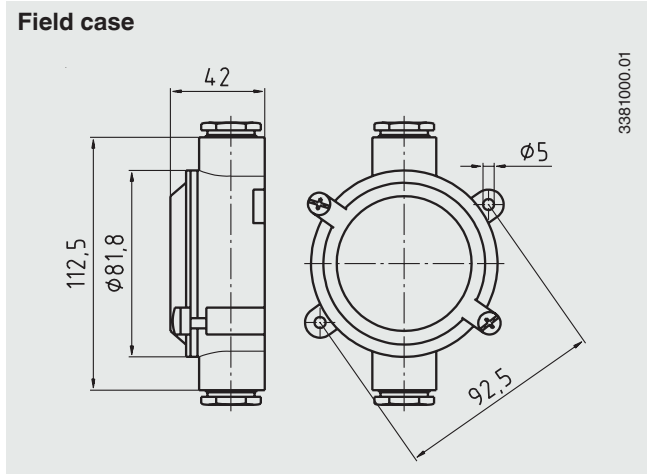
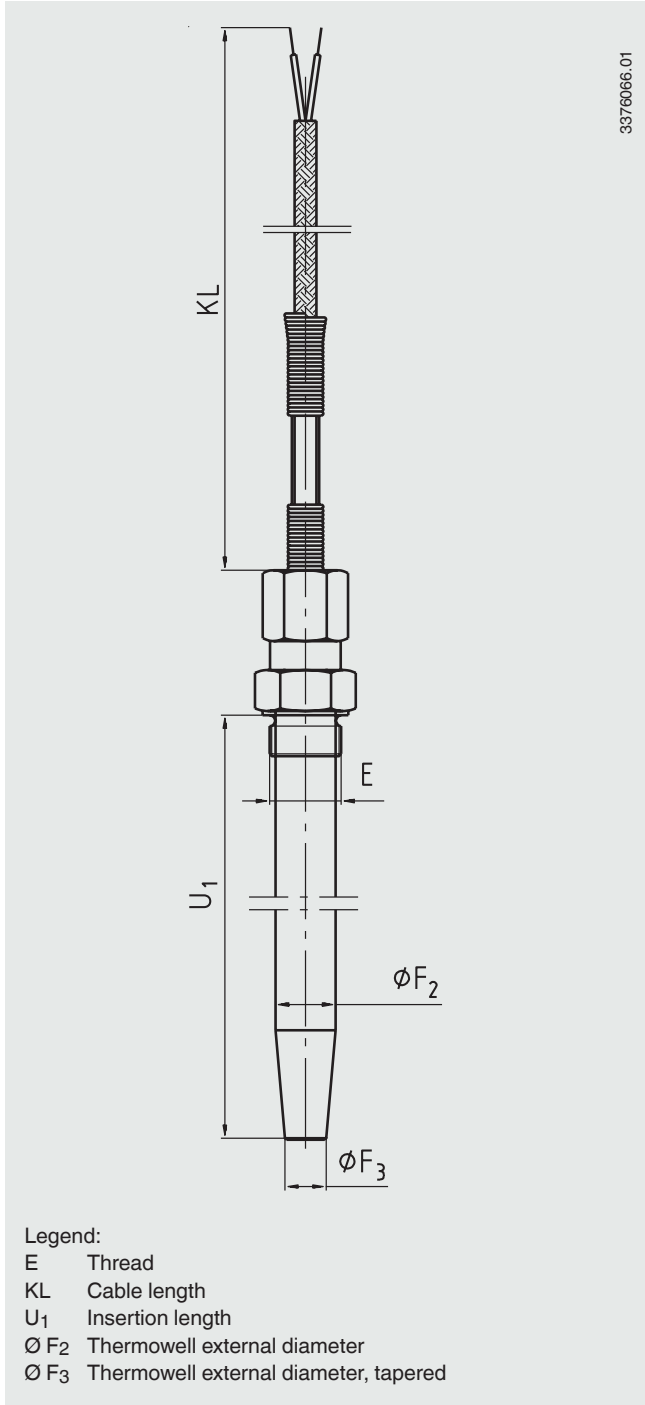
**Terminal block**

Ceramic, max. 1.5 mm<sup>2</sup>, captive screws

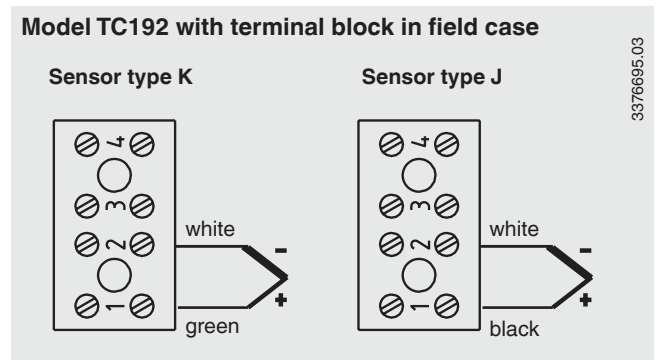
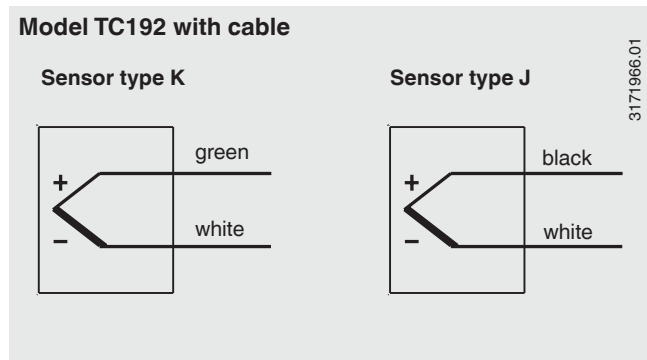
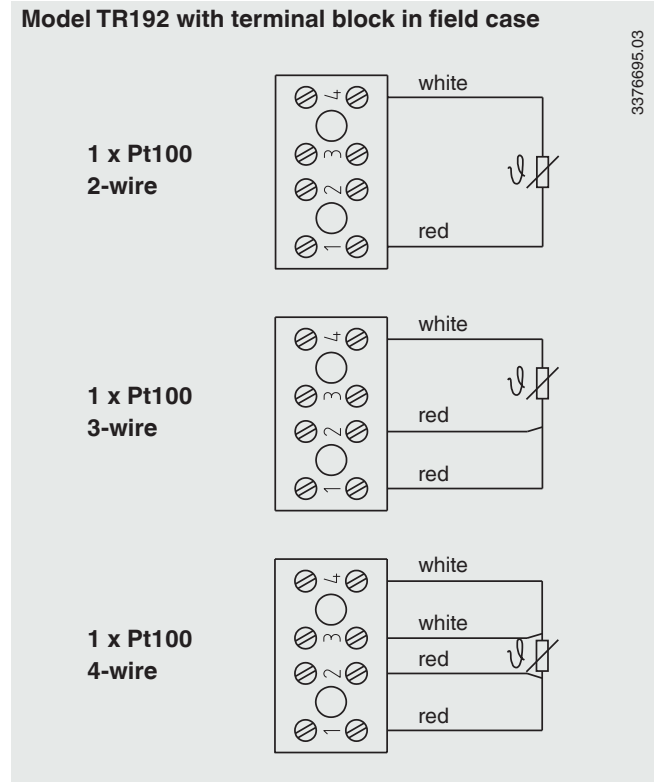
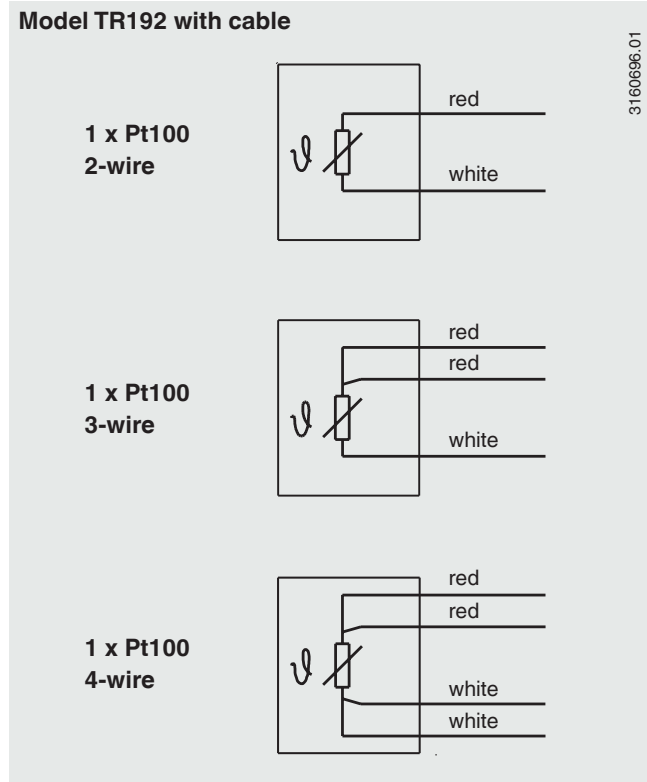
**Ground terminal**

Present

Dimensions in mm



**Electrical connection**



**Ordering information**

Model / Sensor type and number / Sensor circuit type / Process connection / Thermowell outside diameter / Insertion length U<sub>1</sub> / Design / Cable length KL / Connection box / Options

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