

Cable thermometer with compression fitting For shipbuilding industry Models TR191 and TC191

WIKA data sheet TE 69.01



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:
 - Model TR191: 0 ... 600 °C
 - Model TC191: 0 ... 850 °C
- Approval Lloyd's Register (model TC191)



Cable thermometers models TR191, TC191
Fig. top: angled design
Fig. bottom: straight design

Description

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

The process connection is made using a sliding compression fitting. In this way, the insertion length is variable and can easily be matched to the respective mounting geometry.

These electrical thermometers are available in straight and 90° angled designs.

Resistance thermometer with model TR191 Process connection

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.

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

Thermocouple with model TC191

Sensor type

- 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
DIN EN 60584 part 2		
2	-40 ... +333 °C	±2.5 °C
2	+333 ... +1,200 °C	±0.0075 • t ¹⁾

Type J

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

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

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 TR191

Insulation

PTFE glass fibre

Armour

Galvanised steel braid

Bend protector

Spring

Permissible ambient temperature

-200 ... +250 °C

Wire material

Copper (wire)

Wire cross-section

0.5 mm²

Number of wires

4

Wire ends

Blank, end splice, cable lugs (option)

Cable length

To customer specification

■ Model TC191

Insulation

Silicone glass fibre

Armour

Galvanised steel braid

Bend protector

Spring

Permissible ambient temperature

-50 ... +200 °C

Wire material

Compensating cable depending on sensor type (wire)

Wire cross-section

1.5 mm²

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 glands

PG 16

Ingress protection

IP 67

Terminal block

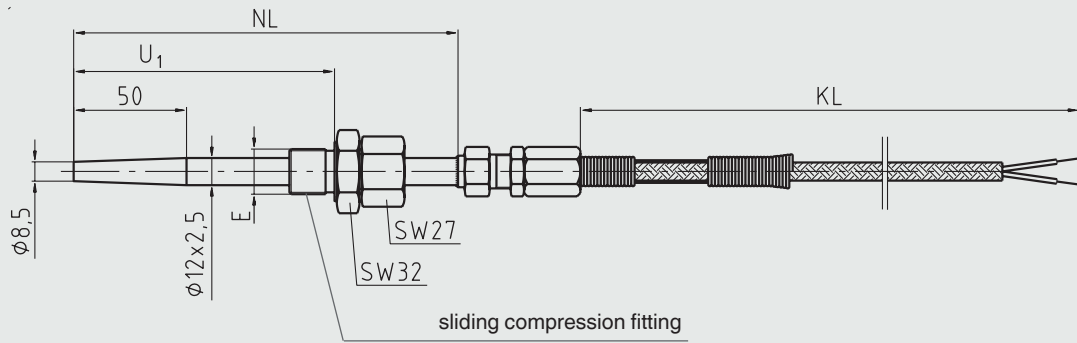
Ceramic, max. 1.5 mm², captive screws

Ground terminal

Present

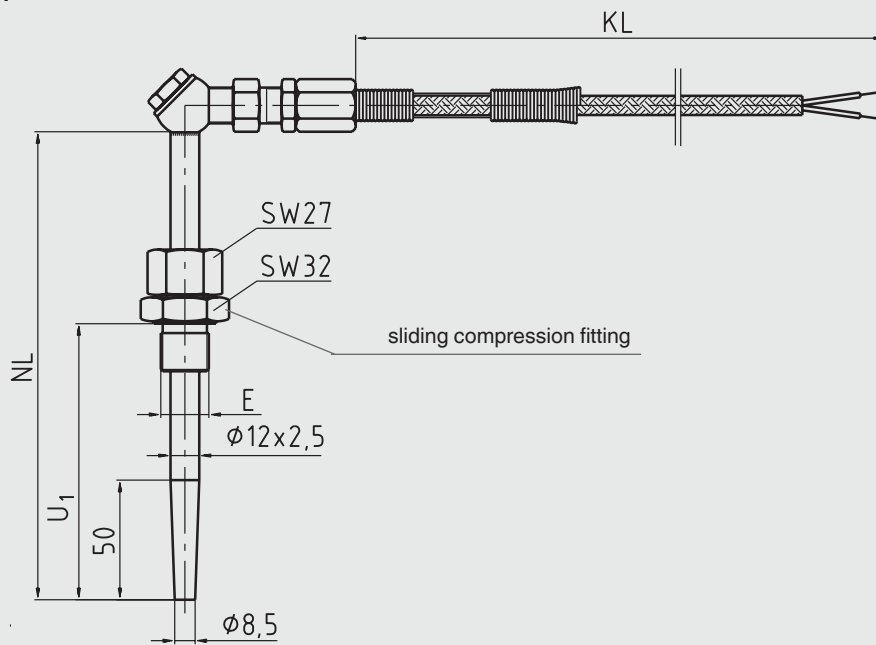
Dimensions in mm

Straight design



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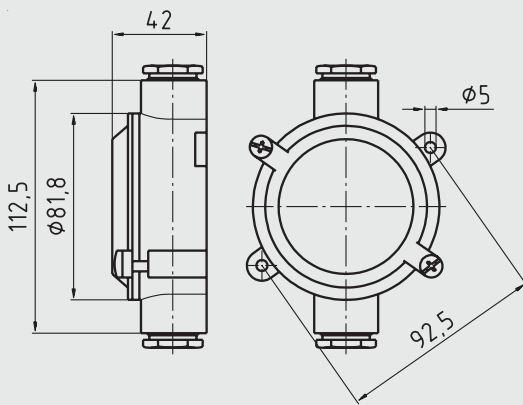
Angled design



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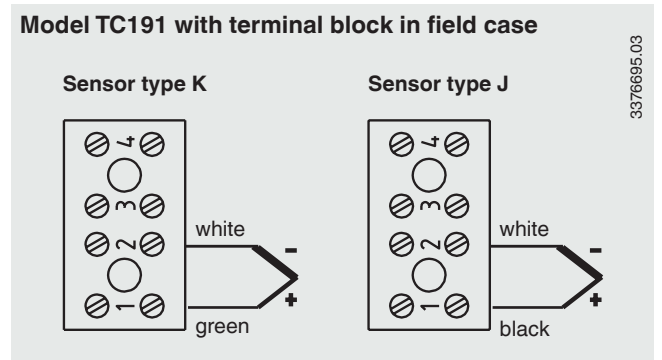
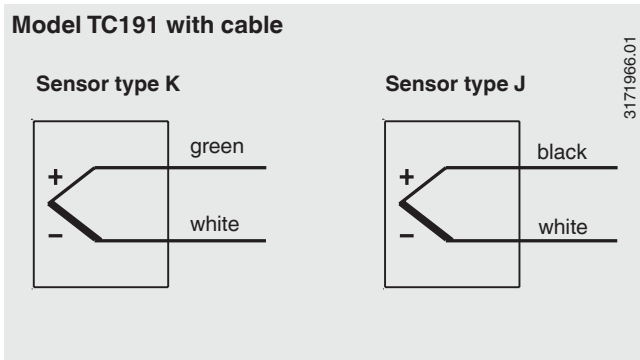
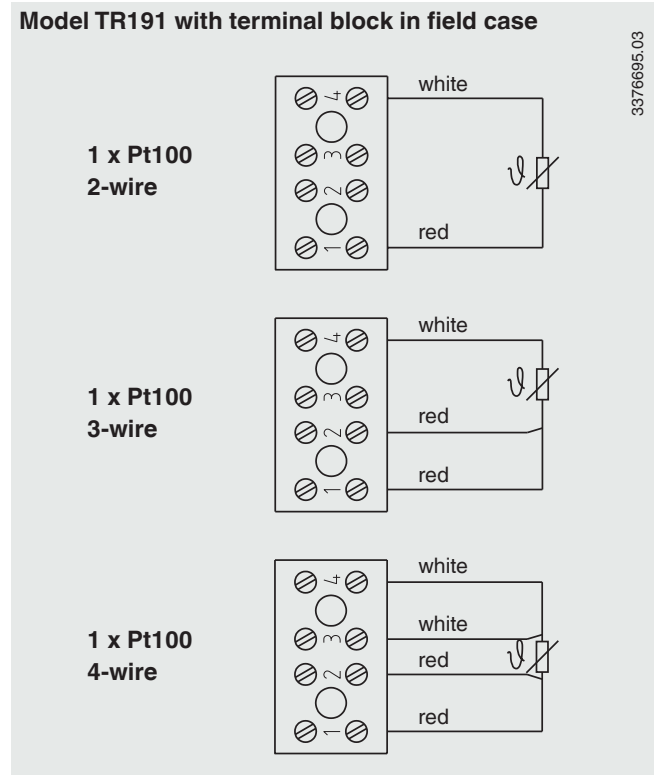
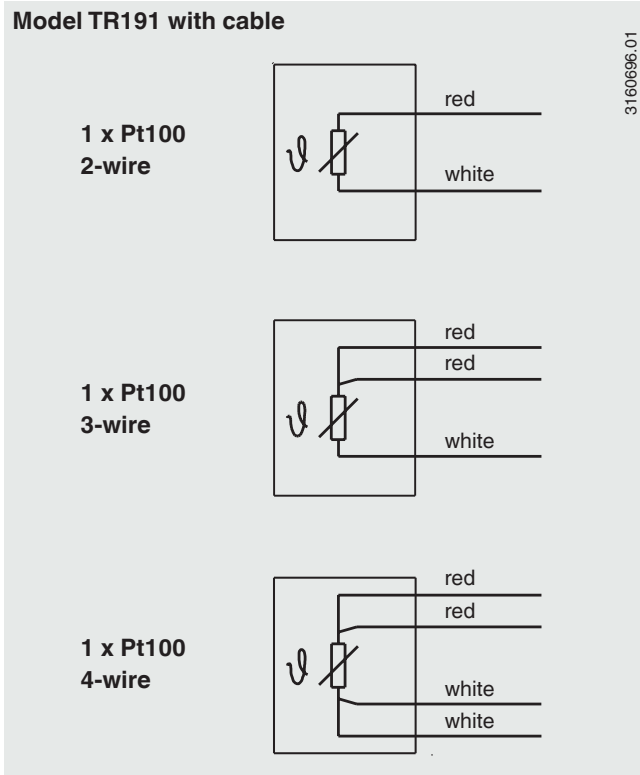
- Legend:
 E Thread
 KL Cable length
 NL Nominal length
 U₁ Insertion length

Field case



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Electrical connection



Ordering information

Model / Sensor type and number / Sensor circuit type / Tolerance value / Process connection / Thermowell outer diameter / Nominal length NL / Design / Cable length KL / Connection box / Options

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