Cable resistance thermometer
For shipbuilding industry
Model TR195, with bayonet coupling

Applications

- Temperature measurement on bearings, axles and moving parts in aggregate

Special features

- Robust
- Ingress protection IP 67
- PTFE cable with plastic laminated aluminium foil
- Approval Lloyd’s Register

Description

Resistance thermometers for measuring surface temperature on solid bodies or moving parts, such as axles and bearings. The spring-loaded probe tip has been especially designed for such applications. The standard temperature range is -50 ... +200 °C.

The bayonet coupling can be adjusted to any point on the cable relief spring, thus allowing variable insertion lengths. Due to the spring-loading via the cable relief spring the probe tip is always firmly in contact with the area where the temperature has to be measured.

In addition the bayonet coupling allows quick and easy probe change.
Sensor

The sensor is located in the probe tip.

Sensor connection method

- **2-wire** The lead resistance is recorded as an error in the measurement.
- **3-wire** With a cable length of approx. 30 m or longer, measuring errors can occur.
- **4-wire** The internal lead resistance of the connecting wires is negligible.

Sensor tolerance value per DIN EN 60751

- **Class B**
- **Class A (not with 2-wire connection)**

The combination of a 2-wire connection with class A is not permissible, since the lead resistance of the measuring insert negates the higher sensor accuracy.

For detailed specifications for Pt100 sensors, see Technical Information IN 00.17 at www.wika.com.

Probe

**Design**
Rigid tube

**Diameter**
8 mm, others on request

**Length**
47 mm, others on request

**Process connection**
Bayonet coupling with G \( \frac{1}{4} \) adapter, adjustable on cable relief spring

**Material**
- Tube: stainless steel 1.4571
- Cable relief spring: stainless steel
- Adapter: copper alloy, nickel-plated

**Insertion length**
Variable, from 50 ... 355 mm

**Ingress protection**
IP 67

Cable

**Insulation**
PTFE

**Screen**
Plastic laminated aluminium foil

**Cable relief**
Spring

**Permissible ambient temperature**
-200 ... +200 °C

**Wire material**
Cu (strands)

**Wire cross-section**
0.25 mm²

**Number of wires**
According to the number of sensors and the sensor connection method

**Wire ends**
blank

**Cable length**
To customer specification

**Connection box, mounted to cable (option)**

**Material**
Aluminium, epoxy coated

**Cover**
Detachable, 2 mounting screws, EPDM flat seal

**Cable glands**
PG 16

**Ingress protection**
IP 67

**Terminal block**
Ceramic, max. 1.5 mm², screws captive

**Ground terminal**
Present
Dimensions in mm

Model TR195

Connection box

Legend:
KL = Cable length

Insertion length
min. 50mm, max. 355 mm
Electrical connection

### Cable
- **1 x Pt100**
  - 2-wire: red, white
  - 3-wire: red, red, white
  - 4-wire: red, red, white, white

- **2 x Pt100**
  - 2-wire: white, yellow, yellow
  - 3-wire: red, white, black, black, yellow

### Connection box
- **1 x Pt100**
  - 2-wire: red, white
  - 3-wire: red, red
  - 4-wire: red, red, yellow, white

- **2 x Pt100**
  - 2-wire: yellow, white, white
  - 3-wire: black, black, white, red, red

**Ordering information**
Model / Sensor type and number of sensors / Sensor connection method / Tolerance value / Probe diameter, length / Cable length KL / Terminal block / Options

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We reserve the right to make modifications to the specifications and materials.

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WIKA data sheet TE 69.10 ∙ 05/2014

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