RTD Thermometer
omnigrad TST410

Medium duty - Mignon head
Ø 3 mm M.I. probe
requiring compression fitting

Description
TST410 RTD thermometer assembly includes a single Pt100 probe in mineral insulated cable, 3 or 4 wire connections, with 3 mm stem diameter, a mignon terminal head and an optional compression fitting.

Application
Typical applications for TST410 sensor are pressure-less systems such as air ducts, flues and pipelines. Special care should be given to the maximum allowed temperature surrounding the terminal head, which must be lower than 80°C.
Technical data

Probe
Sensing element: Platinum resistance, 1 Pt100 Ω at 0°C, standard version
Tolerances: class A or class B to IEC 751
Wiring: 3 or 4 wire connections
Insulation resistance: ≥ 100 MΩ, test voltage 250 V at ambient temperature
Electrical connections: terminal block
Stem: mineral insulated cable (MgO)
Sheath: AISI 316L/W.1.4404
Standard diameter: 3 mm
Operating temperature: -50 ... +400 °C
Response time values: according to IEC 751, in moving water at 0.4 m/s
T₅₀ = 3 s; Tₑ₉₀ = 6 s
Process connection: optional TA50 threaded compression fitting

TA20L terminal head
Dimension: Mignon type
Protection grade: IP 67
Max. temperature: 80°C
Material: light alloy dye casting with rubber gasket under the cover
Cable connection: PG9
Thermowell entry: M10 x 1 mm
Body colour: blue according to RAL5012 - epoxy coated
Cap colour: grey according to RAL7015 - epoxy coated
Weight: 75 g

Mounting accessories
TA50 Threaded
Compression Fitting: d = 3 mm ; D = G 1/4"
Sealing ring Teflon: Tₑ₉₀ 200°C; Pₑ₉₀ 10 bar (at 20°C)
Sealing ring in W.1.4404: Tₑ₉₀ 400°C; Pₑ₉₀ 40 bar (at 20°C)

Installation - Bending radius
The allowed bending radius R for mineral insulated cables is ≥ 15 mm for 3 mm diameters (DIN 43721). The not bendable length is ~30 mm.
**Order key**

For a correct temperature measurement the thermometer immersion length must be 20 times the probe diameter in order to eliminate thermal drift due to process connection heat dissipation. Shorter immersion length can be supplied but the thermometer requires an external (process connection and connection head) thermal insulation.

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<td>Ø 3mm M.I. probe - Requiring separate compression fitting</td>
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**Insertion length L (50-5000mm)**

- A 50 mm insertion length L
- B 100 mm insertion length L
- C 200 mm insertion length L
- D 300 mm insertion length L
- E 400 mm insertion length L
- F 500 mm insertion length L
- X mm insertion length to spec.
- Y mm special insertion length

**Price for 100 mm length L**

- 2 3mm=D inset
- 9 To specification

**Installation**

- AA Compression fitting not included
- FB Compr. fitting TA50 with SS316 sleeve
- FP Compr. fitting TA50 with PTFE sleeve
- YY To specification

**Class and type of inset**

- 1B3 1 Pt100 class B, 3 wire
- 1B4 1 Pt100 class B, 4 wire
- 1A3 1 Pt100 class A, 3 wire
- 1A4 1 Pt100 class A, 4 wire
- 9Y9 RTD class and type to specification

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**TST410-**

**Complete Order Code**
Supplementary Documentation

- Technical Information TA20 terminal heads (TI 072T/02/en)
- Technical Information TA fittings (TI 091T/02/en)