



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



Solutions

## Technical Information

# Omnigrad T TST187

## RTD thermometer with screw-in thread for challenging applications



- Class A accuracy
- Mineral insulated replaceable insert
- With thermowell and extension neck

### Application

TST187 RTD thermometer range covers a wide variety of market needs worldwide. Typical application can be found in the chemical and pharmaceutical industry, food, water and waste water and power plants. Preferred applications are in vessels or in pipes, where requirements are short response time and mechanical strength.

### Function

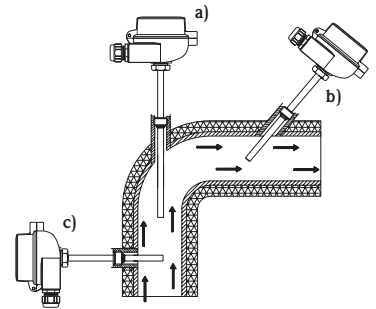
TST187 RTD thermometer assembly includes a replaceable insert in mineral insulated cable which is protected by a thermowell with process connection G $\frac{1}{2}$ " or  $\frac{1}{2}$ " NPT. The terminal head is according to DIN 43729, form B, and is thermally uncoupled by an extension neck. The insert is available either with flying leads for head transmitter mounting or with terminal block.

<b>Measurement range:</b> -50... +400 °C (-58... +752 °F)	<b>Accuracy:</b> Pt100 class A
<b>Immersion length :</b> mm: 120, 160, 250, 400 (Ø 9) Inch: 4.7, 6.3, 9.9, 15.8 (Ø 0.35)	<b>Response time:</b> ≤ 18 s (T <sub>50</sub> ); ≤ 55 s (T <sub>90</sub> )
<b>Operating conditions:</b> 50 bar at +20 °C (725 PSI at +68 °F) 1 bar at +400 °C (14.5 PSI at +752 °F)	

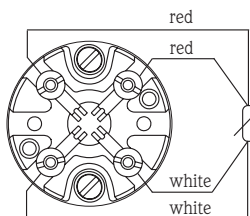
### Application example

Pipe installation:

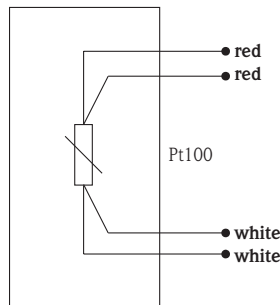
- at elbows, against the flow
- in smaller pipes, leant against the flow
- perpendicular to the flow



### Electrical connection

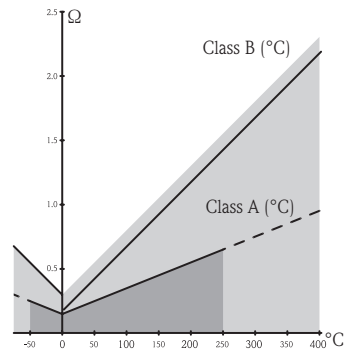


**Terminal block**  
for direct wiring



**Flying leads**  
for installation of a head transmitter

### Tolerance values



# Omnigrad T TST187

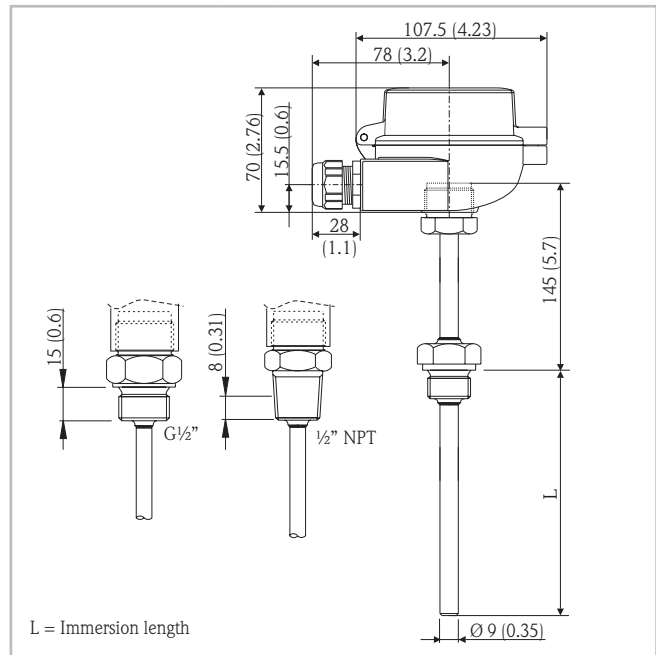
## Technical data

Sensor	
■ Sensing element	Platinum resistance element, 1x Pt100 (100 Ω at 0 °C)
■ Accuracy	Class A acc. to IEC 751: -50... +250 °C Class B acc. to IEC 751: 250... +400 °C
■ Wiring	4-wire connection, MgO isolated
■ Insulation resistance	≥ 100 MΩ, test voltage 250 V at ambient temperature
■ El. connection	Flying leads or terminal block
■ Sheat diameter	6 mm (0.24")
■ Measurement range	-50... +400 °C (-58... +752 °F)
■ Sheat	Mineral insulated cable (MgO)
■ Response time	T <sub>50</sub> /18 s; T <sub>90</sub> /55 s; according to IEC 751
■ Operating conditions	50 bar at +20 °C (725 PSI at +68 °F) 1 bar at +400 °C (14.5 PSI at +752 °F)
■ Ambient temp.	-40... +100 °C (-58...+212 °F)
Thermowell	
■ Shape	DIN 43772 form 2G
■ Diameter	9 mm (0.36")
■ Material	SS 316Ti/1.4571 for connection G $\frac{1}{2}$ " SS 316L/1.4404 for connection $\frac{1}{2}$ " NPT

Process connection	
■ Shape	DIN 43772 form 2G
■ Material	SS 316Ti/1.4571 for connection G $\frac{1}{2}$ " SS 316L/1.4404 for connection $\frac{1}{2}$ " NPT

Terminal head	
■ Type	DIN 43729 form B
■ Protection class	IP66/68
■ Material	Aluminum, polyester powder coated
■ Cable entry	M20x1.5 $\frac{1}{2}$ " NPT

## Dimensions in mm (inch)



## Ordering information

<b>TST187</b>	<b>RTD Thermometer TST187</b> Terminal head: DIN43729, form B, material: 316L/1.4404 Thermowell diameter 9 mm (0.35"), replaceable insert, diameter 6 mm (0.24"), sensing element: 1xPt100 class A, 4 wires. Measuring temperature: -50...+400 °C (-58...+752 °F).
<b>Electrical connection</b>	
1	M20x1.5 Skintop
2	$\frac{1}{2}$ "NPT-F
<b>Process connection</b>	
A	G $\frac{1}{2}$ ", 1.4404/SS 316L
B	$\frac{1}{2}$ " NPT, 1.4404/SS 316L
<b>Terminal type</b>	
2	Flying leads
3	Terminal block
<b>Immersion length L</b>	
A	120 mm
B	160 mm
C	250 mm
D	400 mm
<b>TST187-</b>	← order code

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