RTD Thermometer TR63

Benefits:

- Types of protection for use in hazardous locations: Intrinsic safety (Ex i.a.), flameproof (Ex d), non-sparking (Ex nA)
- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths
- Optionally fast response time with tapered tip form
- Variable selection of process connections: thread, compression fitting or flange
- Extension neck, nipple union version, to protect the head transmitter from overheating
- Marine approval

Specs at a glance

- **Accuracy** class A acc. to IEC 60751 class AA acc. to IEC 60751
- **Response time** depending on configuration t50 = 4 s t90 = 8 s
- **Max. process pressure (static)** at 20 °C: 100 bar (1.450 psi)
- **Operating temperature range**
  - PT100 TF StrongSens: -50 °C ...500 °C (-58 °F ...932 °F)
  - PT100 WW: -200 °C ...600 °C (-328 °F ...1.112 °F)
  - PT100 TF: -50 °C ...400 °C (-58 °F ...752 °F)
- **Max. immersion length on request** up to 10,000,00 mm (393,70")

Field of application: The robust thermometer is designed for use in demanding and safety relevant applications e.g. in the Chemical, Oil & Gas and Energy industry. Harsh environments, corrosive substances and highest pressures can be handled by the use of robust protection tubes and special materials. An optional head transmitter with all common communication protocols makes the device ready to use with enhanced measurement accuracy and reliability compared to directly wired sensors. Flexible configuration possible.

Features and specifications
**Thermometer**

**Measuring principle**
Resistance Temperature Detector

**Characteristic / Application**
US style
modular temperature assembly
for heavy duty applications
suitable for hazardous areas
flanged process connection
with neck
incl. thermowell / protection tube (metal)

**Thermowell / protection tube**
welded protection tube

**Insert / probe**
mineral insulated (MI), flexible

**Outer diameter protection tube / Insert**
- 1/4" SCH80
- 1/2" SCH80
- 1/2" SCH40
- 3/4" SCH80
- 3/4" SCH40

**Max. immersion length on request**
up to 10.000,00 mm (393,70”)

**Material protection tube/ thermowell**
- 1.4404 (316)
- 1.4749 (~446)

**Optional coating**
Not defined
<table>
<thead>
<tr>
<th>Thermometer</th>
<th>Process connection</th>
<th>Tip shape</th>
<th>Surface roughness Ra</th>
<th>Operating temperature range</th>
<th>Max. process pressure (static)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>male thread:</td>
<td>straight</td>
<td>Not defined</td>
<td>PT100 TF StrongSens:</td>
<td>at 20 °C: 100 bar (1.450 psi)</td>
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<td></td>
<td>NPT 1/2&quot;</td>
<td>reduced</td>
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<td>-50 °C ...500 °C</td>
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<td>NPT 3/4&quot;</td>
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<td>(-58 °F ...932 °F)</td>
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<td>NPT 1&quot;</td>
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<td>PT100 WW:</td>
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<td></td>
<td>flange:</td>
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<td>-200 °C ...600 °C</td>
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<td></td>
<td>ASME 1&quot; 150 RF (B16.5)</td>
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<td>ASME 1&quot; 300 RF (B16.5)</td>
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<td>ASME 2&quot; 300 RF (B16.5)</td>
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<td>ASME 2&quot; 600 RF (B16.5)</td>
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**Thermometer**

**Accuracy**
class A acc. to IEC 60751
class AA acc. to IEC 60751

**Response time**
depending on configuration
\( t_{50} = 4 \, \text{s} \)
\( t_{90} = 8 \, \text{s} \)

**Integration head transmitter**
yes (4 ... 20 mA; HART; PROFIBUS PA; FOUNDATION FIELDBUS)

**Ex - approvals**
ATEX II1/2D Ex ia IIIC,II1G Ex ia IIC T6
ATEX II 2 GD Ex d IIC
ATEX II 3 G Ex nA IIC T6, II3D
ATEX II 1/2 GD Ex d IIC
IECEx Ex d Ga/Gb IIC T6/T5/T4,Ex tD A20
IECEx Ex ia IIC T6 Ga/Gb
IECEx Ex d IIC T6/T5/T4
IECEx Ex d IIC T6/T5/T4, Ex tD A21
EAC Ex ia IIC T6 Ga + DIP
EAC Ex d IIC T6 Gb + DIP
NEPSI Ex ia IIC T6, Ex iaD 20 T85-T450
NEPSI Ex d IIC T6
NEPSI Ex nA IIC T6

**Explosion proof**
Certification
Gost Metrology
SIL (transmitter only)
Marine approval

More information [www.us.endress.com/TR63](http://www.us.endress.com/TR63)