Thermocouple TC12

Benefits:
- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths
- High degree of insert compatibility and design as per DIN 43772
- Fast response time with reduced/tapered tip form
- Types of protection for use in hazardous locations: Intrinsic safety (Ex i.a.), non-sparking (Ex nA)
- Head transmitter with easy selection: Analog output 4 to 20 mA, HART®, PROFIBUS® PA or FOUNDATION Fieldbus™

Specs at a glance
- **Accuracy** class 1 acc. to IEC 60584
- **Response time** depending on configuration t50 = 6 s t90 = 13 s
- **Max. process pressure (static)** at 20 °C: 40 bar (580 psi)
- **Operating temperature range** Type K: max. 1.100 °C (max. 2.012 °F) Type J: max. 800 °C (max. 1.472 °F)
- **Max. immersion length on request** up to 10.000,00 mm (393,70")

Field of application: The high modular and robust thermometer finds its use in several applications in almost all industries. 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. A variety of process connections, dimensions and materials offer flexible application possibilities.

Features and specifications

<table>
<thead>
<tr>
<th>Thermometer</th>
<th>Measuring principle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thermocouple</td>
</tr>
</tbody>
</table>

More information and current pricing: [www.endress.com/TC12](http://www.endress.com/TC12)
Thermocouple TC12

Characteristic / Application
metric style
modular temperature assembly
universal range of application
suitable for hazardous areas
process connection as compression fitting
without neck
incl. thermowell / protection tube (metal)

Thermowell / protection tube
welded protection tube

Insert / probe
mineral insulated (MI), flexible

Outer diameter protection tube / Insert
9,0 mm (0,35")
11,0 mm (0,43")
12,0 mm (0,47")

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

Material protection tube/ thermowell
1.4404 (316L)
1.4571 (316Ti)
Alloy 600 (2.4816)
Alloy C276 (2.4819)

Optional coating
Not defined

Process connection
compression fitting:
G1/2"
G1"
R1/2"
R3/4"
Thermometer

Tip shape
- straight
- reduced
- tapered

Surface roughness Ra
0,8 μm (31,5 μin.)

Operating temperature range
Type K:
- max. 1.100 °C
  (max. 2.012 °F)
Type J:
- max. 800 °C
  (max. 1.472 °F)

Max. process pressure (static)
at 20 °C: 40 bar (580 psi)

Accuracy
class 1 acc. to IEC 60584

Response time
depending on configuration
- t50 = 6 s
- t90 = 13 s

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

Ex - approvals
- ATEX II
- ATEX IECEx
- NEPSI
- IECEx
- EAC Ex
Thermometer

Certification
Gost Metrology
SIL (transmitter only)

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