

# TC88

## Modular thermometer

Comprehensive and common temperature measurement technology for almost all branches of industry



More information and current pricing:

[www.in.endress.com/TC88](http://www.in.endress.com/TC88)

### Benefits:

- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths
- Variable total length in suitable thermowells thanks to compression fitting on extension neck
- 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  $t_{50} = 1 \text{ s}$   $t_{90} = 2 \text{ s}$
- **Max. process pressure (static)** at 20 °C: 500 bar (7.252 psi)
- **Operating temperature range** Type K: -40 °C ...1.100 °C (-40 °F ...2.012 °F) Type J: -40 °C ...750 °C (-40 °F ...1.382 °F)
- **Max. immersion length on request** up to 30.000,00 mm (1.181,10")

**Field of application:** The high modular and robust thermometer finds its use in several applications in almost all industries, and is perfectly suited for use in the Chemical and Food & Beverages industry. 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.

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## Features and specifications

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### Thermometer

**Measuring principle**

Thermocouple

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**Characteristic / Application**

metric style  
modular temperature assembly  
universal range of application  
suitable for hazardous areas  
suitable for high process pressures  
threaded process connection  
with neck  
to use with thermowell

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**Thermowell / protection tube**

to use with thermowell

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**Insert / probe**

mineral insulated (MI), flexible

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**Outer diameter protection tube / Insert**

Insert Diameter

3,0 mm (0,12")

6,0 mm (0,24")

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**Max. immersion length on request**

up to 30.000,00 mm (1.181,10")

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**Material protection tube/ thermowell**

1.4404 (316L)

1.4571 (316Ti)

Alloy 600

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**Optional coating**

Not defined

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## Thermometer

**Process connection**

male thread:

G1/2"

NPT1/2"

M14x1.5

M18x1.5

**Tip shape**

straight

**Surface roughness Ra**

0,8 µm (31,5 µin.)

**Operating temperature range**

Type K:

-40 °C ...1.100 °C

(-40 °F ...2.012 °F)

Type J:

-40 °C ...750 °C

(-40 °F ...1.382 °F)

**Max. process pressure (static)**

at 20 °C: 500 bar (7.252 psi)

**Accuracy**

class 1 acc. to IEC 60584

**Response time**

depending on configuration

t50 = 1 s

t90 = 2 s

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

Thermometer

**Ex - approvals**

ATEX II

NEPSI

IECEX

NEPSI

EAC Ex

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**Certification**

Gost Metrology

SIL (transmitter only)

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