

TC10

Modular TC thermometer

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



More information and current pricing:

www.ch.endress.com/TC10

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
- Extension neck to protect the head transmitter from overheating
- Fast response time with reduced/tapered tip form
- Types of protection for use in hazardous locations: Intrinsic safety (Ex ia), 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 $t_{50} = 6$ s $t_{90} = 13$ s
- **Max. process pressure (static)** at 20 °C: 75 bar (1088 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 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

Thermometer

Measuring principle

Thermocouple

Characteristic / Application

metric style
modular temperature assembly
universal range of application
suitable for hazardous areas
threaded 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

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

Thermometer

Process connection

male thread:

G1/2"

G3/4"

G1"

NPT1/2"

NPT3/4"

M20x1.5

R1/2"

R3/4"

Tip shape

straight

reduced

tapered

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: 75 bar (1088 psi)

Accuracy

class 1 acc. to IEC 60584

Response time

depending on configuration

t50 = 6 s

t90 = 13 s

Thermometer

Integration head transmitter

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

Ex - approvals

ATEX II
ATEX IECEX
NEPSI
IECEX
EAC Ex

Certification

Gost Metrology
SIL (transmitter only)

More information www.ch.endress.com/TC10