

TC63

Explosion-proof TC thermometer with imperial thermowell

Safe monitoring of process temperatures in challenging applications e. g. in the Oil & Gas industry



More information and current pricing:

www.sg.endress.com/TC63

Benefits:

- Types of protection for use in hazardous locations: Intrinsic safety (Ex i.a.), flameproof (Ex d), non-sparking (Ex nA)
- High degree of insert compatibility and design as per DIN 43772
- Extension neck, nipple union version, to protect the head transmitter from overheating
- Variable selection of process connections: thread, compression fitting or flange
- Optionally fast response time with tapered tip form
- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths

Specs at a glance

- **Accuracy** class 1 acc. to IEC 60584
- **Response time** depending on configuration $t_{50} = 3 \text{ s}$ $t_{90} = 7 \text{ s}$
- **Max. process pressure (static)** at 20 °C: 100 bar (1.450 psi)
- **Operating temperature range** Type K: -40 °C ... 1.100 °C (-40 °F ... 2.012 °F) Type J: -200 °C ... 750 °C (-328 °F ... 1.382 °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

Thermocouple

Characteristic / Application

US style
modular temperature assembly
for heavy duty applications
suitable for hazardous areas
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

1.4401 (316)
1.4749 (~446)

Optional coating

Not defined

Thermometer**Process connection**

male thread:

NPT1/2"

NPT3/4"

NPT1"

compression fitting:

flange:

ASME 1" 150 RF (B16.5)

ASME 1" 300 RF (B16.5)

ASME 1" 600 RF (B16.5)

ASME 1,5" 150 RF (B16.5)

ASME 1,5" 300 RF (B16.5)

ASME 1,5" 600 RF (B16.5)

ASME 2" 300 RF (B16.5)

ASME 2" 600 RF (B16.5)

Tip shape

straight

reduced

Surface roughness Ra

1,6 µm (63,0 µin.)

Operating temperature range

Type K:

-40 °C ... 1.100 °C

(-40 °F ...2.012 °F)

Type J:

-200 °C ...750 °C

(-328 °F ...1.382 °F)

Max. process pressure (static)

at 20 °C: 100 bar (1.450 psi)

Accuracy

class 1 acc. to IEC 60584

Thermometer

Response time

depending on configuration

t50 = 3 s

t90 = 7 s

Integration head transmitter

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

Ex - approvals

ATEX II

IECEX

NEPSI

EAC Ex

Explosion proof

Certification

Gost Metrology

SIL (transmitter only)

More information www.sg.endress.com/TC63