

TC65

Explosion-proof thermocouple thermometer

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



More information and current pricing:

www.fi.endress.com/TC65

Benefits:

- Types of protection for use in hazardous locations: Intrinsic safety (Ex ia), flameproof (Ex d), non-sparking (Ex nA)
- High degree of insert compatibility and design as per DIN 43772
- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths
- For plug-in/screw-in with sliding compression fitting

Specs at a glance

- **Accuracy** class 1 acc. to IEC 60584
- **Response time** depending on configuration $t_{50} = 3$ s $t_{90} = 7$ s
- **Max. process pressure (static)** at 20 °C: 80 bar (1,160 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 30.000,00 mm (1.181,10")

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. 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. The sensor may be used direct contact without thermowell or where the application requires it, spring load inside of a separate thermowell. Flexible configuration possible.

Features and specifications

Thermometer

Measuring principle

Thermocouple

Characteristic / Application

metric style
modular temperature assembly
for heavy duty applications
suitable for hazardous areas
threaded process connection
without neck

Thermowell / protection tube

without (not intended to use with thermowell)

Insert / probe

mineral insulated (MI), flexible

Outer diameter protection tube / Insert

3,0 mm (0,12")

6,0 mm (0,24")

Max. immersion length on request

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

Material protection tube/ thermowell

1.4404 (316L)

Alloy 600 (2.4816)

Process connection

male thread:

NPT1/2"

NPT3/4"

compression fitting:

NPT1/2"

NPT3/4"

Thermometer

Tip shape

straight
tapered

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: 80 bar (1,160 psi)

Accuracy

class 1 acc. to IEC 60584

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.fi.endress.com/TC65