

iTHERM MultiSens Bundle TMS31

Multipoint thermometer

Direct contact TC/RTD temperature profiling solution with flexible metal rope for silos and storage tank applications



More information and current pricing:

www.endress.com/TMS31

Benefits:

- Easy installation and process integration thanks to a high degree of customization
- Flexible rope that adapts to different silos or tank operating conditions (filling, emptying, storage, ...)
- Intrinsically safe device for use in Ex areas
- Highly robust design for a long product lifetime and continuous monitoring in all conditions

Specs at a glance

- **Accuracy** class 1 acc. to IEC 60584 class 2 acc. to IEC 60584 class Special ASTM E230 and ANSI MC 96.1 IEC60751 Class A IEC60751 Class AA
- **Response time** TC $t_{50} = 1\text{ s}$ $t_{90} = 2\text{ s}$ RTD $t_{50} = 3\text{ s}$ $t_{90} = 6\text{ s}$
- **Max. process pressure (static)** at 20 °C: 40 bar (580 psi)
- **Operating temperature range** Type K: max. 800 °C (max. 1.472 °F) Type J: max. 520 °C (max. 968 °F) Pt100 WW: -200...600 °C (-328...1.112 °F) Pt100 iTHERM StrongSens: -50...500 °C (-58...932 °F) Pt100 TF: -50...400 °C (-58...752 °F)
- **Max. immersion length on request** up to 60.000,00 mm (2.360")

Field of application: The iTHERM TMS31 is a versatile, modular multipoint temperature assembly designed for temperature average detection and profiling in grain, organic bulk material storage silos and in oil, fuel storage tanks. The device's mechanical robustness and accurate temperature sensors offer the necessary characteristics for safe, reliable and economic product storage operations. In its standard configuration it

is available with up to 20 thermocouple (TC) or RTD sensors fitted to a primary metal rope.

Features and specifications

Thermometer

Measuring principle

Resistance Temperature Detector

Characteristic / Application

metric style

imperial style

easy-to-use

suitable for hazardous areas

process connection: flanged

Storage applications

linear sensor distribution

modular design

Thermowell / protection tube

without (not intended to use with thermowell)

Insert / probe

mineral insulated (MI), flexible

Outer diameter protection tube / Insert

25 mm

37 mm

Max. immersion length on request

up to 60.000,00 mm (2.360")

Material protection tube/ thermowell

1.4401 (316)

1.4435 (316L)

Thermometer**Process connection**

flange:

1 1/2" ASME/ANSI B16.5 150

...300

2" ASME/ANSI B16.5 150

...300

3" ASME/ANSI B16.5 150

..300

4"ASME/ANSI B16.5 150

..300

DN40 EN/DIN 1092.1 PN16

...PN40

DN50 EN/DIN 1092.1 PN16

...PN40

DN80 EN/DIN 1092.1 PN16

...PN40

DN100 EN/DIN 1092.1 PN16

...PN40

Tip shapestraight

Thermometer**Operating temperature range**

Type K:

max. 800 °C

(max. 1.472 °F)

Type J:

max. 520 °C

(max. 968 °F)

Pt100 WW:

-200...600 °C

(-328...1.112 °F)

Pt100 iTHERM StrongSens:

-50...500 °C

(-58...932 °F)

Pt100 TF:

-50...400 °C

(-58...752 °F)

Max. process pressure (static)

at 20 °C: 40 bar (580 psi)

Accuracy

class 1 acc. to IEC 60584

class 2 acc. to IEC 60584

class Special ASTM E230 and ANSI MC 96.1

IEC60751 Class A

IEC60751 Class AA

Response time

TC

t50 = 1 s

t90 = 2 s

RTD

t50 = 3 s

t90 = 6 s

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

Thermometer

Ex - approvals

ATEX

IECEX

UL

FM

CSA

NEPSI

Certification

SIL (transmitter only)

More information www.endress.com/TMS31