

# iTHERM TMS31 MultiSens Bundle

## Flexible metal rope multipoint for silos and storage tank applications



More information and current pricing:

[www.au.endress.com/TMS31](http://www.au.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 t50 = 1 s t90 = 2 s RTD t50 = 3 s t90 = 6 s
- **Max. process pressure (static)** at 20 °C: 40 bar (580 psi)
- **Operating temperature range** Type K: -270 °C ...800 °C (-454 °F ...1.472 °F) Type J: -210 °C ...520 °C (-346 °F ...968 °F) Pt100 WW; 3mm; 316L; -200...600oC Pt100 StrongSens; 6mm; 316L; -50...500oC Pt100 TF; 3mm; 316L; -50...400oC
- **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")

---

## Thermometer

**Material protection tube/ thermowell**

1.4401 (316)

1.4435 (316L)

**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 shape**

straight

**Thermometer****Operating temperature range**

Type K:

-270 °C ...800 °C

(-454 °F ...1.472 °F)

Type J:

-210 °C ...520 °C

(-346 °F ...968 °F)

Pt100 WW; 3mm; 316L; -200...600oC

Pt100 StrongSens; 6mm; 316L; -50...500oC

Pt100 TF; 3mm; 316L; -50...400oC

---

**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

---

Thermometer

**Response time**

TC

t50 = 1 s

t90 = 2 s

RTD

t50 = 3 s

t90 = 6 s

---

**Integration head transmitter**

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

---

**Ex - approvals**

ATEX

IECEX

UL

FM

CSA

---

**Certification**

SIL (transmitter only)

---

More information [www.au.endress.com/TMS31](http://www.au.endress.com/TMS31)