

# iTHERM TMS11 MultiSens Linear Multipoint

## Modular straight TC and RTD multipoint with primary thermowell



More information and current pricing:

[www.apsc.endress.com/TMS11](http://www.apsc.endress.com/TMS11)

### Benefits:

- Features a primary thermowell for superior mechanical strength and an easy replacement of individual inserts, which are available either with TC or RTD technology
- Easy integration with inserts according to standards as per IEC 60584, ASTM E230 and IEC 60751
- Electrical and Pressure Directive compliance for an easy and fast process integration
- High degree of customization thanks to a modular product design for maximum flexibility, easy installation and maintenance
- Compliance to various protection classes for use in hazardous areas
- Possibility to replace individual inserts, even during operation
- Continuous thermowell integrity monitoring thanks to a pressure port for maximum process safety

### Specs at a glance

- **Accuracy** class 1 acc. to IEC 60584 class Special ASTM E230 and ANSI MC 96.1 IEC60751 Class A IEC60751 Class AA
- **Response time** depending on configuration: TC:  $t_{50} = 21$  s  $t_{90} = 52$  s RTD:  $t_{50} = 42$  s  $t_{90} = 108$  s
- **Max. process pressure (static)** at 20 °C: 240 bar (3481 psi)
- **Operating temperature range** Type K: -270 °C ...1.100 °C (-454 °F ...2.012 °F) Type J: -210 °C ...760 °C (-346 °F ...1.382 °F) Type N: -270 °C ...1100 °C (-454 °F ...2.012 °F) Pt100 WW; 3mm; 316L; -200...600oC Pt100 TF; 3mm; 316L; -50...400oC
- **Max. immersion length on request** up to 15.000,00 mm (590")

**Field of application:** The iTHERM TMS11 MultiSens Linear Multipoint thermometer for oil & gas and chemical applications can be customized

for various scenarios in compliance with the highest safety standards. It increases process safety by monitoring the temperature on a high number of measuring points along a line using only a single process connection. Easy process integration reduces installation time and thus maximizes plant availability.

## Features and specifications

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### Thermometer

**Measuring principle**

Resistance Temperature Detector

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**Characteristic / Application**

metric style

imperial style

easy-to-use

suitable for hazardous areas

process connection: flanged

light chemical processes

linear sensor distribution

modular design

replaceable sensors during operation

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**Thermowell / protection tube**

with one primary thermowell (for replaceable sensors and increased mechanical protection)

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**Insert / probe**

mineral insulated (MI) sensors in a primary thermowell

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## Thermometer

**Outer diameter protection tube / Insert**

48,3mm (1 1/2")

60,3mm (2")

76,1mm (2 1/2")

88,9mm (3")

**Max. immersion length on request**

up to 15.000,00 mm (590")

**Material protection tube/ thermowell**

1.4401 (316)

1.4435 (316L)

1.4541 (321)

1.4845 (310L)

1.4301 (304)

1.4307 (304L)

## Thermometer

**Process connection**

flange:

1 1/2 " ASME/ANSI B16.5 150  
...9002" ASME/ANSI B16.5 150  
...9003" ASME/ANSI B16.5 150  
..900DN40 EN/DIN 1092.1 PN10  
...PN150DN50 EN/DIN 1092.1 PN10  
...PN150DN80 EN/DIN 1092.1 PN10  
...PN150

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**Tip shape**straight

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## Thermometer

**Operating temperature range**

Type K:

-270 °C ...1.100 °C

(-454 °F ...2.012 °F)

Type J:

-210 °C ...760 °C

(-346 °F ...1.382 °F)

Type N:

-270 °C ...1100 °C

(-454 °F ...2.012 °F)

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

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

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**Max. process pressure (static)**

at 20 °C: 240 bar (3481 psi)

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**Accuracy**

class 1 acc. to IEC 60584

class Special ASTM E230 and ANSI MC 96.1

IEC60751 Class A

IEC60751 Class AA

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**Thermometer****Response time**

depending on configuration:

TC:

t<sub>50</sub> = 21 st<sub>90</sub> = 52 s

RTD:

t<sub>50</sub> = 42 st<sub>90</sub> = 108 s

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**Integration head transmitter**yes (4 ... 20 mA; HART; PROFIBUS PA; FOUNDATION FIELDBUS)

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**Ex - approvals**

ATEX

IECEX

UL

FM

CSA

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**Certification**SIL (transmitter only)

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