

iTHERM MultiSens Linear TMS12

Multipoint thermometer

Straight TC/RTD temperature profiling solution with primary thermowell and diagnostic chamber for oil, gas and petrochemical applications



Benefits:

- Primary thermowell for superior mechanical strength and an easy replacement of individual inserts, which are available either with TC or RTD technology
- Increased safety thanks to a diagnostic chamber able to contain the process in the event of leakages through the primary seals
- Compliance to various safety standards (such as but not limited to ATEX, PED), electrical and Pressure Directive for easy process integration
- High degree of customization thanks to a modular product design for maximum flexibility, easy installation and maintenance
- On board electronic heat protection for long product lifetime
- Superior mechanical strength and sensors replaceability thanks to a primary thermowell

More information and current pricing:

www.endress.com/TMS12

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: $t_{50} = 21 \text{ s}$ $t_{90} = 52 \text{ s}$ RTD: $t_{50} = 42 \text{ s}$ $t_{90} = 108 \text{ s}$
- **Max. process pressure (static)** at 20 °C: 240 bar (3481 psi)
- **Operating temperature range** Type K: max. 1.070 °C (max. 1.958 °F) Type J: max. 520 °C (max. 968 °F) Type N: max. 1.100 °C (max. 2.012 °F) Pt100 WW: -200...600 °C (-328...1.112 °F) Pt100 TF: -50...400 °F (-58...752 °F)
- **Max. immersion length on request** up to 15.000,00 mm (590")

Field of application: The iTHERM TMS12 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 creating detailed linear temperature profiles and features a diagnostic chamber to contain and monitor leakages through the primary seals. Easy process integration reduces installation time and thus maximizes plant availability.

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
light chemical processes
linear sensor distribution
modular design
replaceable sensors during operation
diagnostic chamber

Thermowell / protection tube

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

Insert / probe

mineral insulated (MI) sensors in a primary thermowell

Outer diameter protection tube / Insert

48,3mm (1 1/2")
60,3mm (2")
76,1mm (2 1/2")
88,9mm (3")

Thermometer**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)

Process connection

flange:

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

...900

2" ASME/ANSI B16.5 150

...900

3" ASME/ANSI B16.5 150

..900

DN40 EN/DIN 1092.1 PN10

...PN150

DN50 EN/DIN 1092.1 PN10

...PN150

DN80 EN/DIN 1092.1 PN10

...PN150

Tip shapestraight

Thermometer**Operating temperature range**

Type K:

max. 1.070 °C

(max. 1.958 °F)

Type J:

max. 520 °C

(max. 968 °F)

Type N:

max. 1.100 °C

(max. 2.012 °F)

Pt100 WW:

-200...600 °C

(-328...1.112 °F)

Pt100 TF:

-50...400 °F

(-58...752 °F)

Max. process pressure (static)at 20 °C: 240 bar (3481 psi)

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:

t50 = 21 s

t90 = 52 s

RTD:

t50 = 42 s

t90 = 108 s

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

Thermometer

Ex - approvals

ATEX Ex db, Ex ia, Ex tb, Ex ia/db, Ex ia/tb

IECEX Ex db, Ex ia, Ex tb, Ex ia/db, Ex ia/tb

UL

FM

CSA

NEPSI

Certification

SIL (transmitter only)

More information www.endress.com/TMS12