

iTHERM MultiSens Flex TMS02

Multipoint thermometer

Direct contact TC/RTD temperature profiling solution with 3D-bendable sensors with diagnostic chamber for oil, gas and petrochemical applications



Benefits:

- Infinite layouts of 3D sensors distribution for any desired process monitoring configuration
- High degree of customization thanks to a modular product design for easy installation, process integration and maintenance
- High degree of insert process compatibility as per standard IEC 60584, ASTM E230 and IEC 60751
- On-board electronic heat protection for highest product durability
- Compliance to different types of protection for use in hazardous locations for easy process integration
- Diagnostic chamber as secondary process barrier for additional safety, capable of pressure monitoring for predictive maintenance through advanced diagnostics

More information and current pricing:

www.endress.com/TMS02

Specs at a glance

- **Accuracy** class 2 acc. to IEC 60584 ASTM E230 and ANSI MC 96.1 IEC/Class A IEC/Class AA
- **Response time** depending on configuration: TC: $t_{50} = 2 \text{ s}$ $t_{90} = 5 \text{ s}$ RTD: $t_{50} = 0,8 \text{ s}$ $t_{90} = 2 \text{ s}$
- **Max. process pressure (static)** at 20 °C: 200 bar (2900 psi)
- **Operating temperature range** Type K: max. 1.150 °C (max. 2.102 °F) Type J: max. 720 °C (max. 1.328 °F) Type N: max. 1.100 °C (max. 2.012 °F) Pt100 WW; 3mm; 316L; -200...600oC Pt100 WW; 6mm; 316L; -200...600oC Pt100 TF; 3mm; 316L; -50...400oC Pt100 TF; 6mm; 316L; -50...400oC Pt100 StrongSens; 6mm; 316L; -50...500oC

- **Max. immersion length on request** up to 30.000,00 mm (1181")

Field of application: The iTHERM TMS02 MultiSens Flex can be customized for various applications: Bendable into a 3D layout, it provides a complete temperature profile using only a single process connection. The device is configurable with or without thermowells for optimal response times, mechanical strength or sensors replaceability. It is available with either TC/RTD technology or with our iTHERM StrongSens and features an advanced diagnostics chamber for additional safety.

Features and specifications

Thermometer

Measuring principle

Resistance Temperature Detector

Characteristic / Application

metric style
easy-to-use
suitable for hazardous areas
flanged process connection
light chemical processes
3D sensors distributions
modular design
replaceable sensors during shutdown
diagnostic chamber

Thermowell / protection tube

without (for direct contact sensors type)
with (for replaceable sensors)
with (for increased mechanical protection)
Multi-thermowells, each one dedicated to a sensor

Insert / probe

mineral insulated (MI), flexible
mineral insulated (MI), flexible, with its own thermowell

Thermometer**Outer diameter protection tube / Insert**

6,0 mm (0,24")

8,0 mm (0,31")

10,29 mm (1/8")

Max. immersion length on request

up to 30.000,00 mm (1181")

Material protection tube/ thermowell

1.4401 (316)

1.4435 (316L)

1.4541 (321)

1.4550 (347)

Alloy 600 (2.4816)

Process connection

flange:

2" ASME/ANSI B16.5 150

...600

3" ASME/ANSI B16.5 150

..600

4" ASME/ANSI B16.5 150

...600

6" ASME/ANSI B16.5 150

...600

8" ASME/ANSI B16.5 150

...600

DN80 EN/DIN 1092.1 PN10

...PN100

DN100 EN/DIN 1092.1 PN10

...PN100

DN125 EN/DIN 1092.1 PN10

...PN100

DN150 EN/DIN 1092.1 PN10

...PN100

DN200 EN/DIN 1092.1 PN10

...PN100

Thermometer

Tip shape

straight
reinforced
easy-fix

Operating temperature range

Type K:

max. 1.150 °C
(max. 2.102 °F)

Type J:

max. 720 °C
(max. 1.328 °F)

Type N:

max. 1.100 °C
(max. 2.012 °F)

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

Pt100 WW; 6mm; 316L; -200...600oC

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

Pt100 TF; 6mm; 316L; -50...400oC

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

Max. process pressure (static)

at 20 °C: 200 bar (2900 psi)

Accuracy

class 2 acc. to IEC 60584

ASTM E230 and ANSI MC 96.1

IEC/Class A

IEC/Class AA

Response time

depending on configuration:

TC:

t50 = 2 s

t90 = 5 s

RTD:

t50 = 0,8s

t90 = 2s

Thermometer

Integration head transmitter

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

Ex - approvals

ATEX

IECEX

UL

FM

CSA

NEPSI

CCC Ex ia

Certification

SIL (transmitter only)

More information www.endress.com/TMS02