

iTHERM TMS02 MultiSens Flex Multipoint

Modular direct contact TC and RTD multipoint thermometer with secondary process barrier



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.at.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: t50 = 2 s t90 = 5 s RTD: t50 = 0,8s t90 = 2s
- **Max. process pressure (static)** at 20 °C: 200 bar (2900 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 ...752 °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

Thermometer**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

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)

Thermometer

Process connection

flange:

2" ASME/ANSI B16.5 150
...6003" ASME/ANSI B16.5 150
..6004" ASME/ANSI B16.5 150
...6006" ASME/ANSI B16.5 150
...6008" ASME/ANSI B16.5 150
...600DN80 EN/DIN 1092.1 PN10
...PN100DN100 EN/DIN 1092.1 PN10
...PN100DN125 EN/DIN 1092.1 PN10
...PN100DN150 EN/DIN 1092.1 PN10
...PN100DN200 EN/DIN 1092.1 PN10
...PN100

Thermometer**Tip shape**

straight

reinforced

easy-fix

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 ...752 °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

Thermometer

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

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

Ex - approvals
ATEX

IECEX

Thermometer

Certification

SIL (transmitter only)

More information www.at.endress.com/TMS02