iTHERM TMS01 MultiSens Flex Multipoint

Modular direct contact TC and RTD multipoint thermometer for oil, gas and petrochemical applications

Benefits:
- Easy-to-use device with modular and flexible design, ready to be installed either for direct contact measurements or by means of sensor-dedicated protecting tubes. The device can also be installed in thermowells already in place
- 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

Specs at a glance
- **Accuracy** class 2 acc. to IEC 60584 ASTM E230 and ANSI MC 96.1
- **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: 100 bar (1450 psi)
- **Operating temperature range** Type K: max. 1.150 °C (max. 2.102 °F) Type J: max. 920 °C (max. 1.688 °F) Type N: max. 1.150 °C (max. 2.102 °F) Type T: max. 370 °C (max. 698 °F)
- **Max. immersion length on request** up to 30.000,00 mm (1181")

More information and current pricing: [www.endress.com/TMS01](http://www.endress.com/TMS01)
**Field of application:** By complying with the highest safety standards, iTHERM TMS01 can be customized for various applications. Bendable into a 3D layout, it provides a complete temperature profile just by using one nozzle. The device is configurable with or without thermowells for optimal response times, mechanical strength or sensors replaceability. It is available either with TC or RTD technology or with our iTHERM StrongSens.

**Features and specifications**

<table>
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<tr>
<th>Thermometer</th>
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<tr>
<td><strong>Measuring principle</strong></td>
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<td>Resistance Temperature Detector</td>
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<thead>
<tr>
<th>Characteristic / Application</th>
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<tbody>
<tr>
<td>metric style</td>
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<tr>
<td>easy-to-use</td>
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<tr>
<td>suitable for hazardous areas</td>
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<tr>
<td>flanged process connection</td>
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<tr>
<td>light chemical processes</td>
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<tr>
<td>3D sensors distributions</td>
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<tr>
<td>modular design</td>
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<td>replaceable sensors during shutdown</td>
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<thead>
<tr>
<th>Thermowell / protection tube</th>
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<tbody>
<tr>
<td>without (for direct contact sensors type)</td>
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<tr>
<td>with (for replaceable sensors)</td>
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<tr>
<td>with (for increased mechanical protection)</td>
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<tr>
<td>Multi-thermowells, each one dedicated to a sensor</td>
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<tr>
<th>Insert / probe</th>
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<tbody>
<tr>
<td>mineral insulated (MI), flexible</td>
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<tr>
<td>mineral insulated (MI), flexible, with its own thermowell</td>
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<tr>
<th>Outer diameter protection tube / Insert</th>
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<tr>
<td>6,0 mm (0,24”)</td>
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<tr>
<td>8,0 mm (0,31”)</td>
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<tr>
<td>10,29 mm (1/8”)</td>
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</table>
Thermometer

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

Tip shape
straight
Thermometer

Operating temperature range
Type K:
max. 1,150 °C
(max. 2,102 °F)
Type J:
max. 920 °C
(max. 1,688 °F)
Type N:
max. 1,150 °C
(max. 2,102 °F)
Type T:
max. 370 °C
(max. 698 °F)

Max. process pressure (static)
at 20 °C: 100 bar (1450 psi)

Accuracy
class 2 acc. to IEC 60584
ASTM E230 and ANSI MC 96.1

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.endress.com/TMS01