

# iTHERM TrustSens TM371

## Self-calibrating temperature sensor

100% compliance, 0% effort Hygienic compact RTD thermometer



More information and current pricing:

[www.ch.endress.com/TM371](http://www.ch.endress.com/TM371)

### Benefits:

- Risk and cost reduction thanks to self-calibration and **Heartbeat Technology**
- No production downtime due to an automated and fully traceable inline self-calibration
- Automated documentation, memory for 350 calibration points. Printable calibration certificate - audit proof.
- Automated 4 to 20 mA loop check for saving time and increasing safety in your process. **See how iTHERM TrustSens can perform a fully automated loop check in five easy steps. The video shows the device set up and benefits for your process.**
- Elimination of non-conformities or undetected failures
- International certifications and approvals:
  - EHEDG, ASME BPE, FDA, 3-A, 1935/2004, 2023/2006, 10/2011, CE CRN, CSA General Purpose
- Highest accuracy of measuring point through sensor-transmitter matching

### Specs at a glance

- **Response time**  $t_{50} = 2,5\text{ s}$   $t_{90} = 9,5\text{ s}$
- **Max. process pressure (static)** at 20 °C: 40 bar (580 psi)
- **Operating temperature range** PT 100: -40 °C ...160 °C (-40 °F ... 320 °F)
- **Max. immersion length on request** up to 900,00 mm (35,4")

**Field of application:** The award-winning smart temperature probe with integrated HART® transmitter and Heartbeat Technology features the world's first RTD sensor unit capable of fully automated in-situ self-calibration. It effectively eliminates the risk of undetected non-

conformities, reduces production downtime and increases product safety and process efficiency in applications of the food & beverage and life sciences industries. The device is fully compliant to FDA 21 CFR Part 11 regulations and GMP rules.

## Features and specifications

### Thermometer

#### Measuring principle

Resistance Temperature Detector

#### Characteristic / Application

self-calibrating  
metric style  
compact temperature probe  
hygienic design  
hygienic process connection

#### Thermowell / protection tube

without  
incl. thermowell  
incl. T-/ellbow thermowell

#### Insert / probe

pipe version, isolated wires, not flexible

#### Outer diameter protection tube / Insert

6,0 mm (0,24")  
9,0 mm (0,35")  
12,7 mm (0,5")

#### Max. immersion length on request

up to 900,00 mm (35,4")

#### Material protection tube/ thermowell

1.4435 Delta-Ferrit < 1%  
316L

## Thermometer

### Process connection

compression fitting  
weld in adapter  
clamp connections acc. to ISO2852  
screwed pipe joint acc. to DIN 11851  
aseptic screwed pipe joint acc. to DIN 11864-1  
metallic sealing system  
thread acc. to ISO 228 for liquid adaptor  
APV Inline  
Varivent  
Ingold  
SMS 1147  
Neumo Biocontrol  
T- and corner pieces

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### Tip shape

straight  
reduced

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### Surface roughness Ra

0,76 µm (29,92 µin)  
0,38 µm (14,96 µin)  
0,38 µm (14,96 µin) electropolished

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### Operating temperature range

PT 100:  
-40 °C ...160 °C  
(-40 °F ...320 °F)

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### Max. process pressure (static)

at 20 °C: 40 bar (580 psi)

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### Response time

t50 = 2,5 s  
t90 = 9,5s

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Thermometer

**Integration head transmitter**  
no (4...20mA Signal, HART)

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