iTHERM TrustSens TM372
Self-calibrating temperature sensor

100% compliance, 0% effort Hygienic compact RTD thermometer, US style

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
- Automatized 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
- Highest accuracy of measuring point through sensor-transmitter matching

Specs at a glance
- **Response time** t50 = 2.5 s t90 = 9.5 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), optional up to 190 °C (374 °F)
- **Max. immersion length on request** up to 28" (711 mm) others on request

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
- imperial style
- compact temperature probe
- hygienic design
- hygienic process connection

**Thermowell / protection tube**
- without
- incl. thermowell
- incl. Tee-/elbow thermowell

**Insert / probe**
- pipe version, isolated wires, not flexible

**Outer diameter protection tube / Insert**
- 1/4" (6.35 mm)
- 3/8" (9.53 mm)
- 1/2" (12.7 mm)

**Max. immersion length on request**
- up to 28" (711 mm)
- others on request

**Material protection tube/ thermowell**
- 316L
Thermometer

**Process connection**
- Weld-in adapter
- Tri-clamp
- Clamp-connections according to ISO2852
- G3/4" Liquiphant
- G1" Liquiphant
- Varivent
- T- and elbow thermowell

**Tip shape**
- straight
- reduced

**Surface roughness Ra**
- 30 μin (0,76 μm)
- 15 μin (0,38 μm)
- 15 μin (0,38 μm) electropolished

**Operating temperature range**
PT 100:
- -40 °C …160 °C (-40 °F …320 °F),
  optional up to 190 °C (374 °F)

**Max. process pressure (static)**
at 20 °C: 40 bar (580 psi)

**Response time**
- t50 = 2,5 s
- t90 = 9,5 s

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

**Ex - approvals**
- CSA C/US IS, I/1+2/A-F