

Kitchen Appliances Applications

THINKING SENSOR

Kitchen Appliances Applications



Feature

- ◆ High-temperature resistance and fast response
- ◆ THINKING Pt sensor is the first UL 60730-1 certified product in industry.
- ◆ Various electrical characteristics are available for your choice.
- ◆ Screw-on type, metal case type, and plastic case type sensors are available, and the sensors are customizable.

Function

- ◆ Sensor can be installed next to heater or directly contacts heating plate for temperature detection.
- ◆ Sensors can be installed in various spots of home appliance, including bottom, top, broadside, etc to detect temperature at the same time for more complicate cooking methods.
- ◆ Sensor detects temperature of food ingredients in food stirrer to adjust stirring speed.

Application

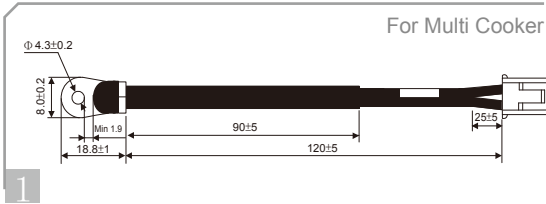
Electric pressure cooker, precision cooker, food stirrer, food processor, waffle iron, bread machine, slow cooker, air fryer, food warmer, etc.



Screw-On Type

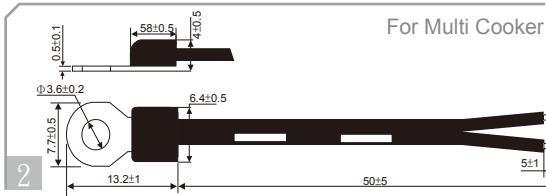
Feature: Screw-on design is for easy installation and installed on metallic surface for temperature detection.

Application: The sensor does not contact liquid and steam directly, and it is recommended for dry environment.



Component | Sensing top (terminal+NTC chip+epoxy)+tube+lead wire +terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -30~+125°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=10KΩ±3% **B Value** | B25/50=3950K±1%
Thermal Time Constant | Around 20 seconds (heating board)
Hi-Pot Test | AC 1200V 10mA (Max)



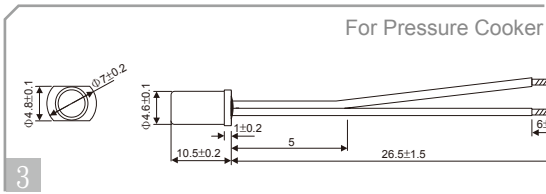
Component | Sensing top (terminal+plastic cap+NTC chip)+lead wire

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -20~+105°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R100°C=3.3KΩ±2.5% **B Value** | B25/50=4050K±5%
Thermal Time Constant | Around 20 seconds (heating board)
Hi-Pot Test | AC 1500V 10mA (Max)

Metal Case Type

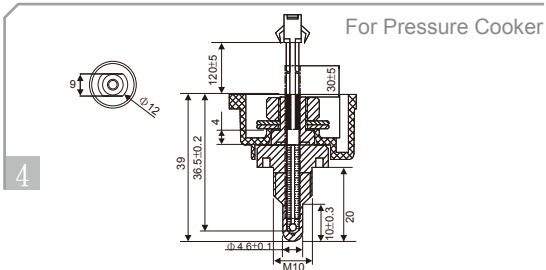
Feature: The sensor is with fast temperature transmission and high stability. For meeting customer's needs, the sensor can combine temperature detection with ON/OFF function to increase product safety.

Application: Electric pressure cooker, precision cooker, food stirrer, waffle iron, air fryer, etc.



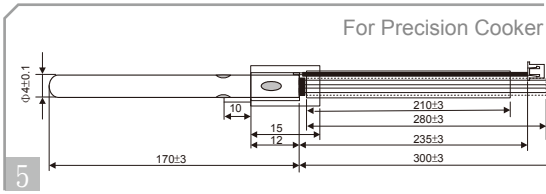
Component | Sensing top (NTC chip+aluminum cap)+lead wire

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -30~+105°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=10KΩ±5% **B Value** | B25/85=3435K±1%
Thermal Time Constant | Around 30 seconds (in air)
Hi-Pot Test | AC 1500V 10mA (Max)



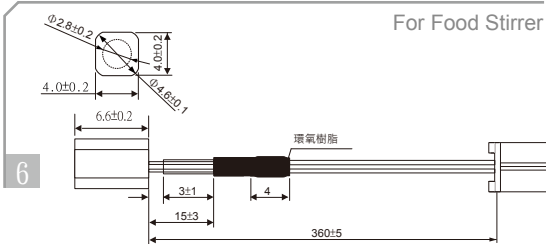
Component | Sensing top (NTC chip+aluminum cap)+lead wire +terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -30~+150°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R114°C=3.4513KΩ±1.5% **B Value** | B25/50=4085K±1%
Thermal Time Constant | Around 4 seconds (in water)
Hi-Pot Test | AC 1500V 10mA (Max)



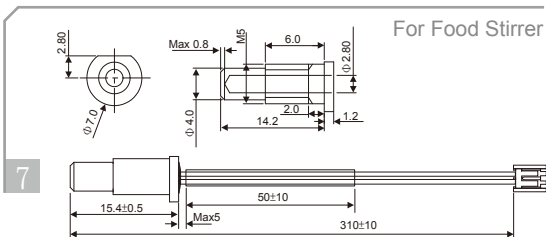
Component | Sensing top (NTC chip+stainless steel cap)+tube +lead wire+terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -40~+105°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=100KΩ±1% **B Value** | B25/100=4060K±1%
Thermal Time Constant | Around 3 seconds (in water)
Hi-Pot Test | AC 1500V 10mA (Max)



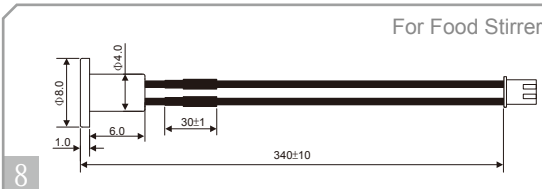
Component | Sensing top (NTC chip+aluminum cap)+tube+epoxy +lead wire+terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -40~+180°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R100°C=7KΩ±2.9% **B Value** | B25/100=4100K±2%
Thermal Time Constant | Around 2-5 seconds (in water)
Hi-Pot Test | AC 1500V 10mA (Max)



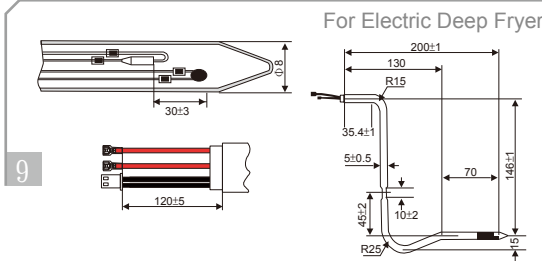
Component | Sensing top (NTC chip+aluminum cap)+tube+lead wire +terminal+ housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -40~+200°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R100°C=7KΩ±2.9% **B Value** | B25/100=4100K±2%
Thermal Time Constant | Around 12 seconds (in water)
Hi-Pot Test | AC 1500V 10mA (Max)



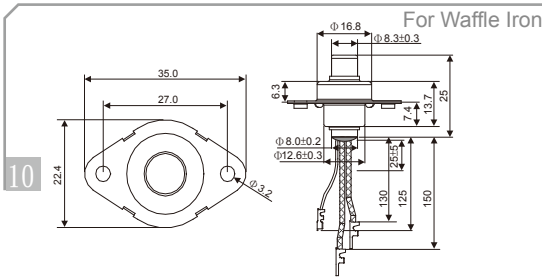
Component | Sensing top (NTC chip+aluminum cap)+lead wire+tube +terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -20~+250°C (only sensing top)
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=200KΩ ± 1% **B Value** | B25/50=3899K±1%
Thermal Time Constant | Around 3 seconds (in water)
Hi-Pot Test | AC 2500V 2mA (Max)



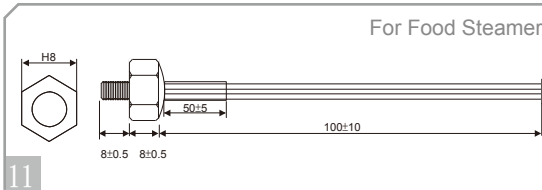
Component | Stainless steel tube (NTC chip+setfuse+terminal+tube +lead wire)+tube+terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -20~+200°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R130°C=2.7799-3.1341KΩ **B Value** | B25/85=4000K
R190°C=0.7020-0.8035KΩ
Thermal Time Constant | Around 35 seconds (in water)
Hi-Pot Test | AC 1500V 10mA(Max)



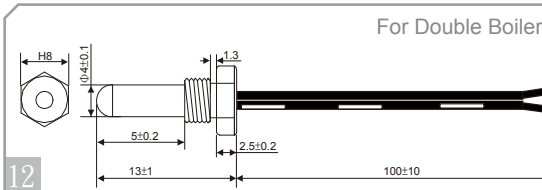
Component | Sensing top (NTC chip+stainless steel cap)+tube +lead wire+terminal

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -20~+250°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R200°C=1KΩ±5% **B Value** | B100/200=4600K±1%
Thermal Time Constant | Around 5 seconds (in water)
Hi-Pot Test | AC 1500V 10mA(Max)



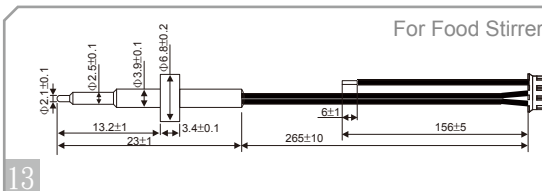
Component | Sensing top (NTC chip+brass screw cap)+tube+lead wire +terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -20~+250°C (sensing top)
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=100KΩ±1% **B Value** | B25/50=3950 k±1%
Thermal Time Constant | Around 8 seconds (in water)
Hi-Pot Test | AC 1500V 10mA(Max)



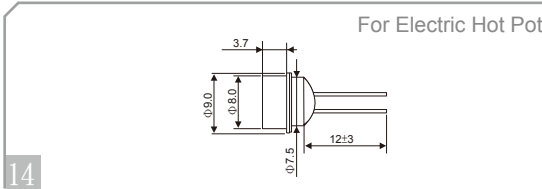
Component | Sensing top (NTC chip+303 stainless steel screw cap) +lead wire

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | 0~+105°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R50°C=3.485KΩ ±1% **B Value** | B25/50=3417K±1%
Thermal Time Constant | Around 10 seconds (in water)
Hi-Pot Test | AC 1500V 10mA(Max)



Component | Sensing top (NTC chip+316 stainless steel cap +brass ring)+lead wire+tube+terminal+housing

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -40~+80°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=100KΩ ±1% **B Value** | B25/50=3950K±1%
Thermal Time Constant | Around 10 seconds (in water)
Hi-Pot Test | AC 1500V 10mA(Max)

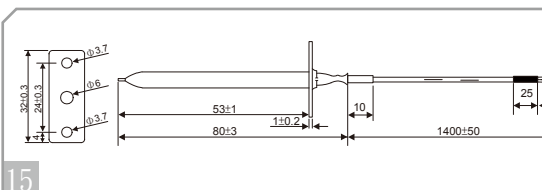


Component | Sensing top (NTC chip+alloy cap)+pin

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -20~+180°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R100°C=3.3KΩ±2.5% **B Value** | B25/100=4006K±2%
Thermal Time Constant | Around 5 seconds (heating board)
Hi-Pot Test | AC 1800V 10mA(Max)

Platinum Sensor (Pt sensor)

Feature: Pt sensor is similar to PTC thermistor, but is more accurate and stable. THINKING Pt sensor is the first UL 60730-1 certified product in industry.
Application: The sensor is mostly used in commercial food cooking or warming applications.



Component | Sensing top (Pt chip+304 stainless steel cap)+tube+lead wire

Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -40~+500°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R0°C=1000±4Ω
Thermal Time Constant | Around 20 seconds (in water)
Hi-Pot Test | AC 1500V 10mA(Max)



1. Temperature sensor is customizable in accordance with customer's needs, and THINKING provides consulting services for sensor design.

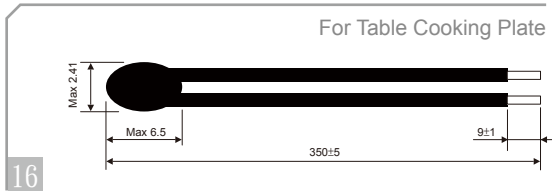
2. All specifications are subject to change.

3. Please contact your sales representative if you have any questions.

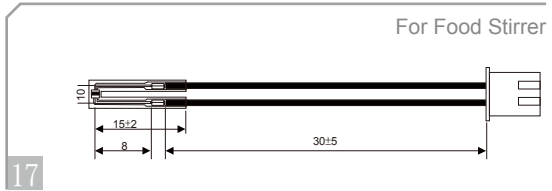
Other Structures

Feature: For sensing top, structures of epoxy coating type and tubing type are simple and can be installed easily. In addition, plastic case type offers better water resistance, and its standard products and customizable products can be mass produced.

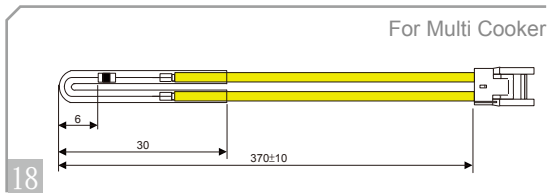
Application: Epoxy coating type and tubing type sensing tops do not contact liquid and steam directly, and are recommended for dryer application environment. Plastic case type sensing top is recommended for food warmer



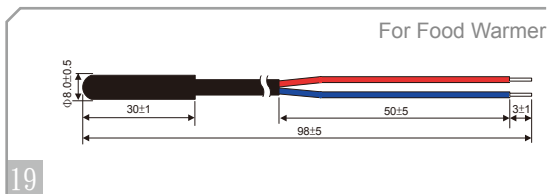
Component | Sensing top (NTC chip+epoxy)+lead wire
Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -40~+150°C
Insulation Test | DC 100V 50MΩ (Min)
R Value | R25°C=10KΩ±1% **B Value** | B25/100=3988K±1%
Thermal Time Constant | Around 3 seconds (in water)
Hi-Pot Test | AC 1000V 10mA (Max)



Component | Sensing top (NTC chip+terminal+tube)+lead wire +terminal+housing
Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -40~+300°C (only thermistor)
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=100KΩ±5% **B Value** | B25/85=3974K±5%
Thermal Time Constant | Around 15 seconds (in air)

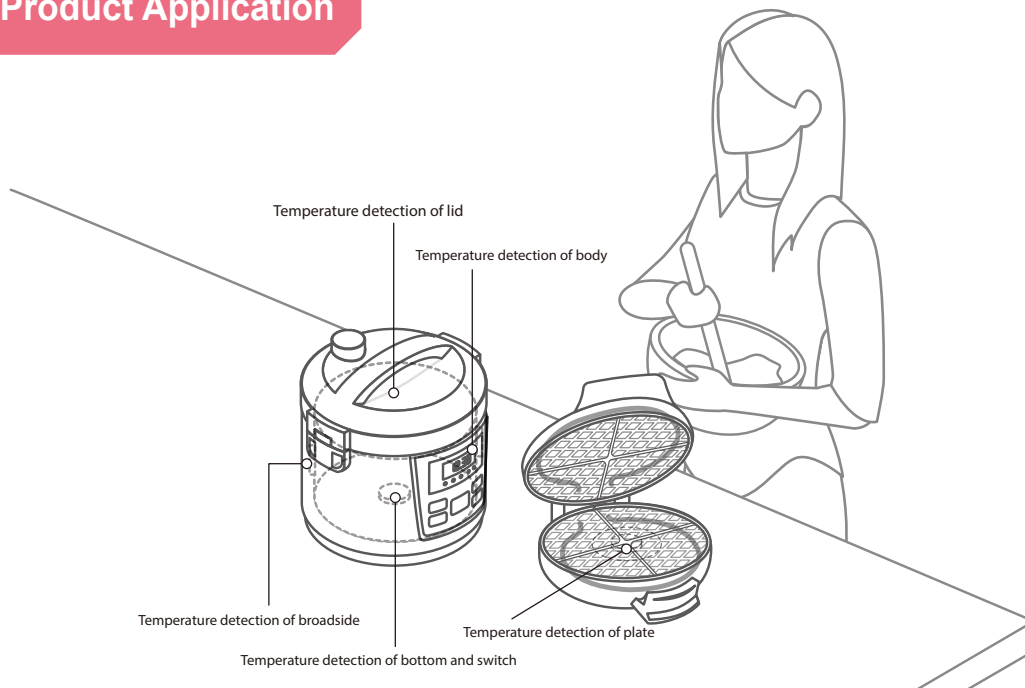


Component | Sensing top (NTC chip+terminal+tube)+lead wire +terminal+ housing
Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -20~+180°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R100°C=3.3KΩ±2.5% **B Value** | B0/100=3970K±2%
Thermal Time Constant | Around 60 seconds (in air)



Component | Sensing top (NTC chip+plastic cap)+lead wire+tube
Moisture Resistance | 40°C 95% RH X 1000 hours
Operation Temperature | -55~+105°C
Insulation Test | DC 500V 100MΩ (Min)
R Value | R25°C=5KΩ ±1% **B Value** | B25/85=3984K±1%
Thermal Time Constant | Around 25 seconds (in water)
Hi-Pot Test | AC 3750V 10mA (Max)

Product Application



www.thinking.com.tw

HEADQUARTER 12F, No.93, Dashun 1st Rd., Zuoying Dist., Kaohsiung, Taiwan 81357 / Tel: 886-7-5577660

TAIPEI, TAIWAN 3F, No.25, Lane 70, Wugong 2nd Rd., Xinzhuang Dist., New Taipei City, Taiwan 24888 / Tel: 886-2-22990652

JIANGSU, CHINA No.6, Longmen Rd., Wujin High & New-Tech Industrial Development Zone, Changzhou, Jiangsu, China 213161 / Tel: 86-519-86578999

GUANGDONG, CHINA No.45, East Rd., Sha-Tao Dist., Chang-An Town, Dongguan City, Guangdong, China 523863 / Tel: 86-769-85542016

BEIJING, CHINA Room 2707, Building 1, No. 88, Jian Guo Road, Chaoyang Dist., Beijing City, China 100025 / Tel: 86-010-85898940

QINGDAO, CHINA No.696, Hefei Rd., Shibei Dist., Qingdao City, China 266035 / Tel: 86-138-08993369/86-186-69738999

HUBEI, CHINA California Sunshine Community, Guanggu Rd. Donghu New Technical Development Zone, Wuhan City, Hubei, China / Tel: 86-189-95621889