

# HORIBA

Process & Environmental

Industry-leading accuracy

Non-Contact

Infrared Thermometer Series

## HORIBA

### high-accuracy temperature measurements

Repeatability  $\pm 0.3^{\circ}\text{C}$

Handheld

Non-Contact

Infrared Thermometer

## IT-545



CE marking compliant

INFRARED  
THERMOMETER  
IT-545

Accuracy  $\pm 1^{\circ}\text{C}$

Stationary

Non-Contact

Infrared Thermometer

## IT-480



CE marking compliant

**HORIBA** INFRARED THERMOMETER  
Process & Environmental IT-480

Industry-leading

# HORIBA's exclusive high-accuracy measurement

■ Wavelength optimization for high sensitivity

## Infrared Multi-Layer Film Filter

Years of successful development of infrared multi-layer filters are leveraged to identify the best wavelength regions and filter designs matched to sensor performance to ensure high accuracy temperature measurements.

New model

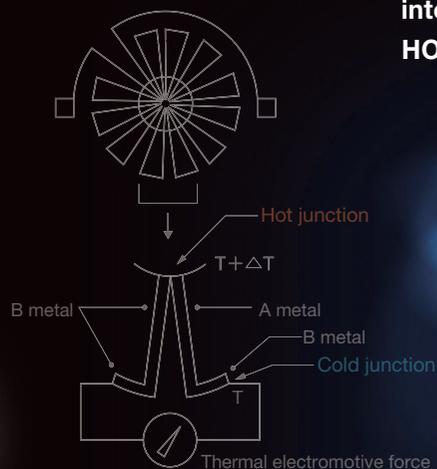


■ Unique structure for high stability

## Thermopile Sensor

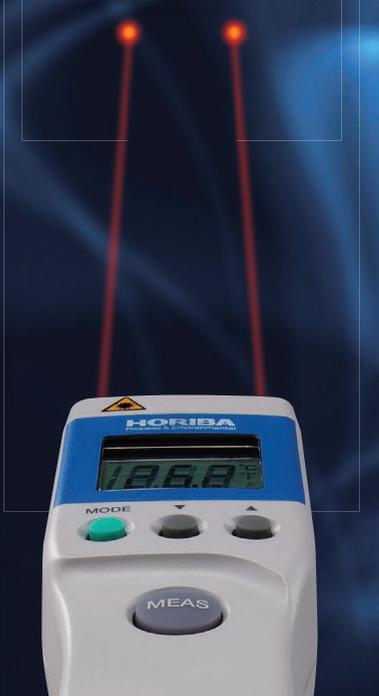
Adoption of a new sensor structure provides enhanced resistance to fluctuations in ambient temperature for very stable measurement with minimal drift.

Patent No. JP 5658059



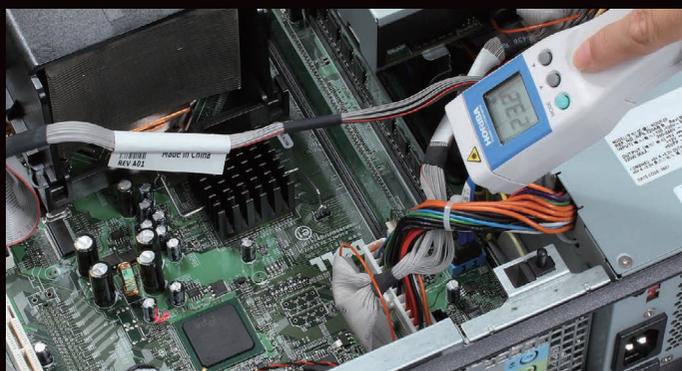
HORIBA incorporates unique technology into non-contact infrared handheld devices. HORIBA's IT product line offers innovation

by years of know-how in infrared technology, with a track record of success.



## Adaptable to a wide range of challenging

■ For measurement of heating temperature of parts on circuit boards



Handheld

Non-Contact

Infrared Thermometer

## IT-545

- ▶ Industry-leading accuracy ( $\pm 1^{\circ}\text{C}$ )
- ▶ Measurement repeatability realized at  $\pm 0.1^{\circ}\text{C}$  (actual value from 0 to  $200^{\circ}\text{C}$ )
- ▶ Reduced temperature drift

Main applications

- Measurement of heating temperature of electronic circuit boards
- Temperature control of foods, etc.



ing accuracy

# ve Infrared-based y temperature : technologies

e, home-grown technologies  
d thermometers and fixed sensors.  
dustry leading accuracy supported  
red sensor development and  
ss across many fields.



■ Unique calibration equipment ensures extreme accuracy

## Stabilized Black Body Furnace

Exclusive in-house black body furnace technology produces superior uniform temperature conditions to deliver industry-leading characterization and calibration.

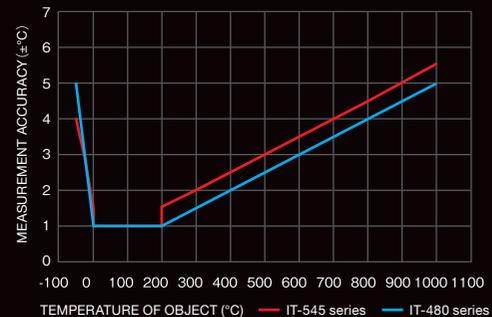


■ Twin beams define measurement area for high precision

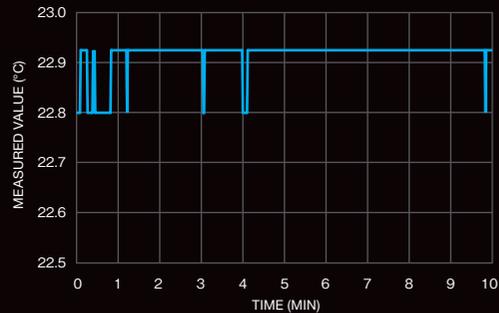
## Laser Guide Marker

Two bright laser spots define the circular measurement area for precise and accurate temperature measurements.

■ IT-545/IT-480 Measurement accuracy



■ IT-480N Measurement stability



## g temperature measurement conditions

■ For detection of temperature changes in durability inspections



## Stationary

Non-Contact  
Infrared Thermometer

## IT-480

- ▶ Industry-leading accuracy ( $\pm 1^\circ\text{C}$ )
- ▶ Measurement repeatability realized at  $\pm 0.3^\circ\text{C}$  (actual value from 0 to  $500^\circ\text{C}$ )
- ▶ Application software provided for free of cost

### Main applications

- Temperature control in production lines such as food, pharmaceutical etc.
- Accurate temperature control in vulcanization process
- Precise temperature control of semiconductor manufacturing equipments



**Specifications [Handheld Models]**

| Lineup                   | Narrow focus type  |  | Spot focus type          |
|--------------------------|--|--|--------------------------|
|                          | IT-545NH   | IT-545N  | IT-545S                  |
| Spectral Response        | 8 to 14 μm   |  |                          |
| Measurement Temp. Range  | -50 to 1000°C  |  | -50 to 500°C             |
| Accuracy*                | ±(5% of absolute value of reading +1.5)°C [-50 to -0°C]<br>±1.0°C [0.0 to 199.9°C]<br>±(0.5% of reading +0.5) °C [200 to 1000°C] | ±(5% of absolute value of reading +1.5)°C [-50 to -0°C]<br>±1.0°C [0.0 to 199.9°C]<br>±(0.5% of reading +0.5)°C [200 to 500°C] |                          |
| Repeatability            | ±1°C [-50 to -0°C]<br>±0.3°C [0.0 to 199.9°C]<br>±1°C [200 to 1000°C]  | ±1°C [-50 to -0°C]<br>±0.3°C [0.0 to 199.9°C]<br>±1°C [200 to 500°C]   |                          |
| Response Time            | Within 0.8 sec (95%)   |  |                          |
| Measurement Diameter     | ø40 mm / 500 mm (Distance to spot size 12.5:1)   |  | ø2.5 mm / Distance 30 mm |
| Ambient Temp. & Humidity | Temperature: 0 to 50°C Humidity: 35 to 85% RH (No condensation)  |  |                          |
| Power                    | AAA batteries × 4  |  |                          |
| Dimensions/Mass          | 40(W) × 170(L) × 36(H) mm / Approx.140g (Batteries included)   |  |                          |

\*Temp. 18 to 28°C, Humidity 35~75% RH, Emissivity (ε)=1.00

**Specifications [Stationary Models]**

| Lineup                  | Micro-spot type   | Spot type               | General purpose type  | Narrow view type   |
|-------------------------|---|-------------------------|---|--|
|                         | IT-480S   | IT-480L                 | IT-480N (with laser pointer)<br>IT-480W (without laser pointer) | IT-480F (with laser pointer)<br>IT-480P (without laser pointer)  |
| Spectral Response       | 8 to 14μm   |                         |   |  |
| Measurement Temp. Range | -50 to 500°C  |                         |   | -50 to 1000°C  |
| Accuracy                | [USB Output]<br>±(-8% of reading+1)°C [-50 to 0°C]<br>±1°C [0 to 200°C]<br>±(0.5% of reading)°C [200 to 500°C]<br>[Current Output]<br>Difference from USB data is ±(0.1% output range) °C |                         |   | [USB Output]<br>±(-8% of reading+1)°C [-50 to 0°C]<br>±1°C [0 to 200°C]<br>±(0.5% of reading)°C [200 to 1000°C]<br>[Current Output]<br>Difference from USB data is ±(0.1% output range) °C |
| Repeatability           | 0.5°C   |                         |   | 1°C [-50 to 0°C]<br>0.5°C [0 to 500°C]<br>1°C [500 to 1000°C]  |
| Response Time           | [Current output] Within 0.14 sec. (95% response, moving average count is 1)   |                         |   |  |
| Measurement Diameter    | ø3 mm / Distance 30 mm  | ø8 mm / Distance 100 mm | ø72 mm / Distance 1000 mm                                       | ø35 mm / Distance 1000 mm  |
| Ambient Temp.& Humidity | Temperature: 0 to 55°C Humidity: 35 to 85% RH (No condensation)   |                         |   |  |
| Power                   | USB bus power /12 V DC to 24 V DC   |                         |   |  |
| Dimensions / Mass       | 32(W) × 58(L) × 40(H)mm / Approx. 95 g (Body only. Excluding cable and metal brackets)  |                         |   | 32(W) × 90.3(L) × 40(H) mm /<br>Approx. 115 g (Body only. Excluding cable and metal brackets)  |



The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System ISO45001. We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.



**Please read the operation manual before using this product to assure safe and proper handling of the product.**

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**Worldwide locations of HORIBA**