**Portable non-contact thermometer Waterproof, shock-resistant type (high-resolution)**

**Measurement range**
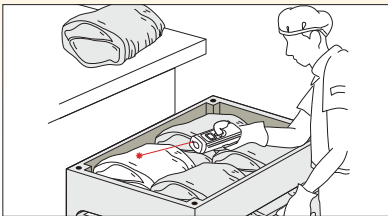
**–30 to 200°C (–22 to 392°F)**

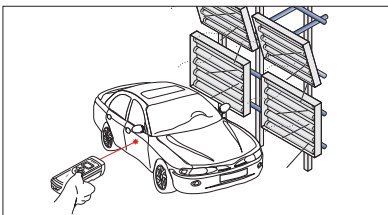*THERMO-HUNTER* ®

# PT-7LD

**Temperature control of delivered ingredients for food**

**Temperature control for painted surfaces of cars**

CE

LASER RADIATION
DO NOT STARE INTO BEAM
MAXIMUM OUTPUT : 1mW
WAVE LENGTH : 655 nm
CLASS 2 LASER PRODUCT

PSc

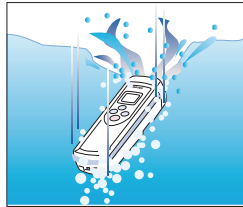| Waterproof/ dustproof IP67 | Shock-resistant structure | Continuous measurement | **Data memory** | Upper/lower limit alarm | Built-in laser marker | **Backlight** | Antibacterial resin body |

## Features

### ±1°C (1.8°F) high-accuracy measurement at room temperature
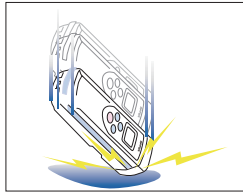Between 0.1 and 100.0°C (32.2 and 212°F), the product is capable of an accuracy of ±1.0°C (1.8°F).
This is extremely beneficial in situations where accuracy is required.

### Washable waterproof/dustproof body
This product is designed to solve the problem of equipment breaking down after water or dust gets inside. The PT-7LD offers IP67 protection for a waterproof and dustproof design. The product can be used with wet hands and washed without problem.

### Excellent shock-resistant structure
The product construction is designed to withstand drops from a height of 1 m. This provides protection from accidental drops. For users, this gives the added benefit of peace of mind.

### 99-entry data memory function
This product is equipped with a memory function capable of recording up to 99 data entries. This eliminates the need for a PC or a data logger. This function is ideal for HACCP, which is considered an important factor for controlling and recording food temperatures.

### Antibacterial resin body with no need for disinfecting
The PT-7LD is a non-contact thermometer, so temperatures can be checked without having to touch the target, which is especially helpful in the food industry where cleaning instruments to prevent secondary infection can be troublesome.
In addition, the product is made with the world's first antimicrobial resin, making it ideal for sanitary equipment management. This is an HACCP-recommended product.

**HACCP** Recommended Product

**What is HACCP?**
Hazard Analysis and Critical Control Points (HACCP) is a safety management method adopted in Japan that uses constant management and recording of records to analyze the causes of harm caused by microorganism throughout the manufacturing process for foods with a focus on specific items determined to be of importance. In each analysis process, one of the most important aspects of management is the measurement and recording of temperatures.

### Continuous measurement function
Measurement can be initiated even without pressing the button. Linking this function with the alarm function allows for even greater improvements.

### Silicone filter resistant to radiant heat
Ever run into a situation where bringing the thermometer close to a measurement target causes the lens to become distorted due to radiant heat, thus preventing accurate measurement of temperatures? This product adopts a heat-resistant silicone filter to prevent such problems.

### Upper/lower limit alarm function with audio and visual notifications
Exceeding the set temperature causes the buzzer to sound and one of two LED colors to be shown (red for upper limit, and green for lower limit). This allows users to immediately detect temperature errors even without looking at the display screen, greatly improving work efficiency.
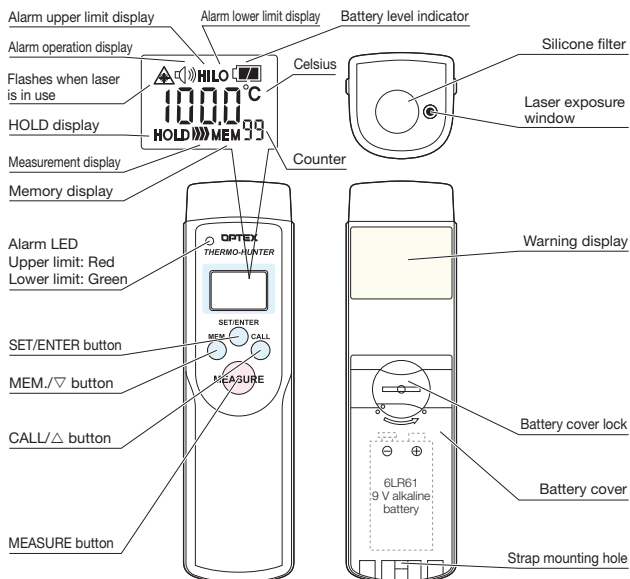
# Specifications

| Model | PT-7LD |
|---|---|
| Measurement range | −30.0 to 200.0°C (−22 to 392°F) (Display: −40 to 220.0°C (−40 to 428°F)) |
| Field of view | ø66.7 mm/1000 mm (Refer to field of view) |
| Optics | Mirror type/Silicone filter |
| Sensing element/ spectral response | Thermopile/8 to 14 µm |
| Response time | 0.7 sec./90% response |
| Accuracy[1] (ε≈0.95) | Up to 0.0°C (32°F): ±3.0°C (5.4°F), 0.1 to 100.0°C (32.2 to 212°F): ±1.0°C (1.8°F), 100.1 to 200.0°C (212.2 to 392°F): ±2.0°C (3.6°F) |
| Repeatability | ±1.0°C (1.8°F) |
| Display resolution | 0.1°C (0.1°F) |
| Emissivity (ε) adjustment | 0.95/0.85, switchable (display switching) |
| Sighting function | Coaxial laser marker Class 2 (IEC / JIS / FDA[2]) |
| Functions | Continuous measurement function (ON/OFF switchable) Upper/lower temperature limit alarm function (ON/OFF switchable LED and buzzer) Data memory function (99 entries) Backlight Automatic power off function |
| Power supply | 9 V alkaline battery ×1 |
| Battery life | Approx. 12 hours (when using alkaline batteries at max. load) |
| Ambient temperature | 0 to 50°C (32 to 122°F) |
| Ambient humidity | 35 to 85% RH (no condensation) |
| Storage temperature | −10 to 60°C (14 to 140°F) |
| Degree of protection | IP67 |
| Material | ABS (anti-bacterial specification) |
| Dimensions | H × W × D = 160 mm × 44 mm × 42 mm |
| Applicable regulations — EMC | EMC Directive (2014 / 30 / EU) |
| Applicable regulations — Environment | RoHS Directive (2011 / 65 / EU), China RoHS (MIIT Order No.32) |
| Applicable regulations — Safety | FDA Regulations (21 CFR 1040.10 and 1040.11) (except for deviations pursuant to Laser Notice No.50) |
| Applicable standards | EN 60825-1 |
| Weight | Approx. 200 g (including batteries) |
| Standard included accessories | Quick manual |

*1 The measurement accuracy in the specification is limited to the calibration conditions of our factory.
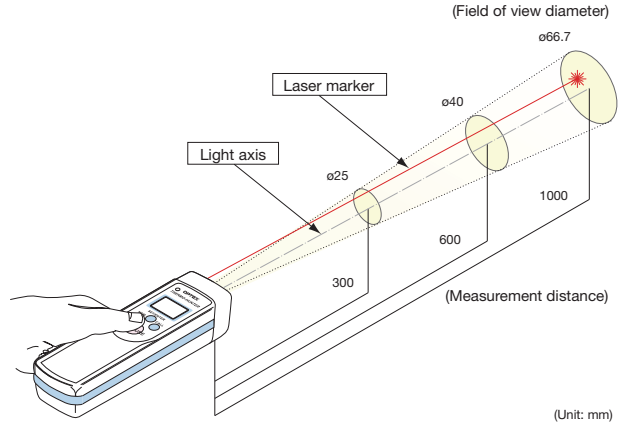*2 This product is classified as Class 2 by IEC 60825-1: 2007 according to Laser Notice No.50, FDA Guidance Document.
• Note that specifications are subject to change without prior notice for product improvement purposes.

# Names of components



Alarm upper limit display
Alarm lower limit display
Battery level indicator
Alarm operation display
Celsius
Flashes when laser is in use
HOLD display
Measurement display
Memory display
Counter
Silicone filter
Laser exposure window

Alarm LED
Upper limit: Red
Lower limit: Green

SET/ENTER button
MEM./▽ button
CALL/△ button
MEASURE button

Warning display
Battery cover lock
6LR61 9 V alkaline battery
Battery cover
Strap mounting hole

# Field of view



(Field of view diameter)
ø66.7
Laser marker
ø40
Light axis
ø25
1000
600
300
(Measurement distance)
(Unit: mm)

• How to read the diagram
At 300 mm from a measurement target, the product measures the average temperature of a 25 mm diameter surface area (surface area within the circle).
• The laser marker is located 13 mm to the left of the light axis.
• The measurement fields of view stated above are measurement diameters with an optical response of 90%. The size of the measurement target must be sufficiently larger than the figures shown in the above diagram.

# Options/Accessories

**Black tape for glossy objects**

## HB-250



When attached to the surface of an object with unknown emissivity or a glossy object, this tape provides an emissivity of 0.95, enabling accurate non-contact temperature measurement. Emissivity on the PT-7LD can be switched between two levels. Set the emissivity to 0.95 (HOT) for use. The tape is built with material resistant to heat up to 250°C (482°F).

Total area: 60 mm × 2000 mm

## Correct use

■ **Situations where measurement may be difficult**
• When measuring a mirror-like surface such as shiny metal.
  • (Measure after attaching optional accessory HB-250 or after creating a matte finish using paint or the like.)
• When measuring through glass.

■ **Correct use**
• Be sure to read the instruction manual thoroughly before using the product.
• This instrument is not a thermometer for taking body temperatures. It is not intended for use in medical practices.
• Although this product is waterproof, it cannot be used for underwater measurements. Moreover, any droplets adhering to the filter or around the filter can cause measurement errors. Be sure to wipe well before use.
• Sudden changes in ambient temperature can cause measurement errors. Please ensure the product is not subject to sudden temperature changes during use.
• Avoid using the product near objects that generate strong electromagnetic waves.

■ **Precautions for laser use**
This product emits a Class 1 or Class 2 visible laser beam that is compliant with JIS C6802/IEC 60825-1/FDA laser safety standards. Labels for applicable standards are affixed and attached to the sides of the sensor.

Type of laser used in this product

| Type | Red semiconductor laser |
|---|---|
| Wavelength | 655 nm |
| Output | 390 µW/1 mW |

**LASER RADIATION DO NOT STARE INTO BEAM**
MAXIMUM OUTPUT : 1mW
WAVE LENGTH : 655 nm
**CLASS 2 LASER PRODUCT**

● Export to the United States
If this product is to be exported to the United States, it is necessary to follow laser standards as stipulated by the US Food and Drug Administration (FDA). This product has already been submitted to the CDRH (Center for Devices and Radiological Health).