

# Quick, Non-Contact, Surface Temperature Measurement

Portable  
Non-Contact  
Thermometer

*THERMO-HUNTER*  
**PT-3 series**  
PT-3LF/PT-3L



30mm x 30mm  
at 1m distance

- Measuring temperature range :  $-20\sim 400^{\circ}\text{C}$
- Auto Back-Light ON/OFF (display)
- 200g lightweight/portable telephone size
- Quick response 1.5 sec.



**LASER BEAM**  
DO NOT DIRECTLY LOOK AT THE LASER BEAM  
DO NOT AIM THE LASER BEAM AT ANYONE'S EYES  
Max. 1.0W, Ø30mm class 2 laser product



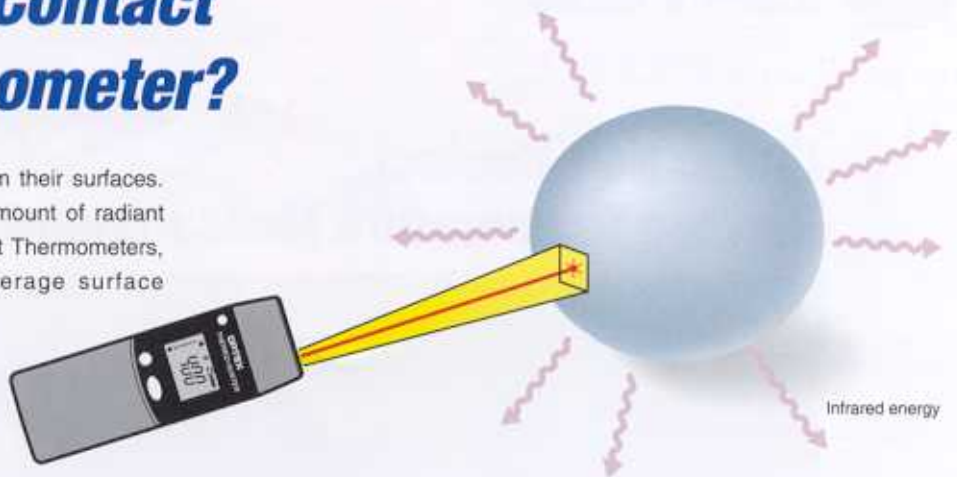
Large, Easy-to-View  
LCD Display with  
Auto Back-Light



(Photo:PT-3LF)

# What is a Non-Contact Infrared Thermometer?

All objects around us emit infrared light from their surfaces. Non-Contact Thermometers indicate this amount of radiant energy as a temperature. With Non-Contact Thermometers, you can immediately measure the average surface temperature of the objects.



Infrared energy amount is indicated on the digital display.

## The Advantages of Non-Contact Thermometers.

### 1. Easy operation

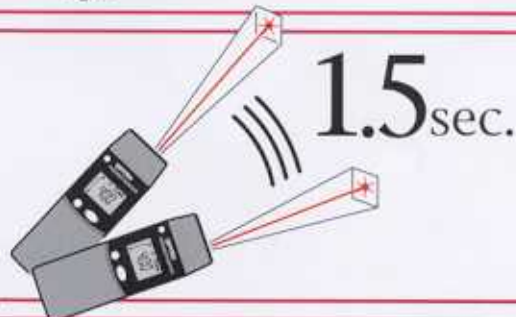


You only need to press buttons.



### 2. Quick response

Its quick 1.5 sec.-response improves your work efficiency.



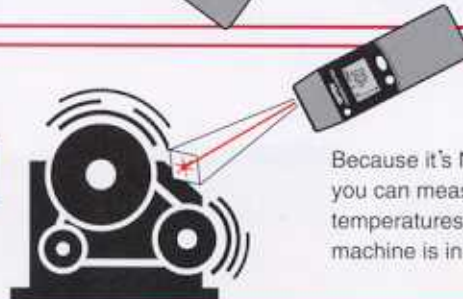
### 3. Safety



With Non-Contact Thermometers, you can safely detect temperatures of dangerous objects which have a high temperature or high voltage.



### 4. Non-Contact



Because it's Non-Contact, you can measure machine temperatures even while the machine is in operation.



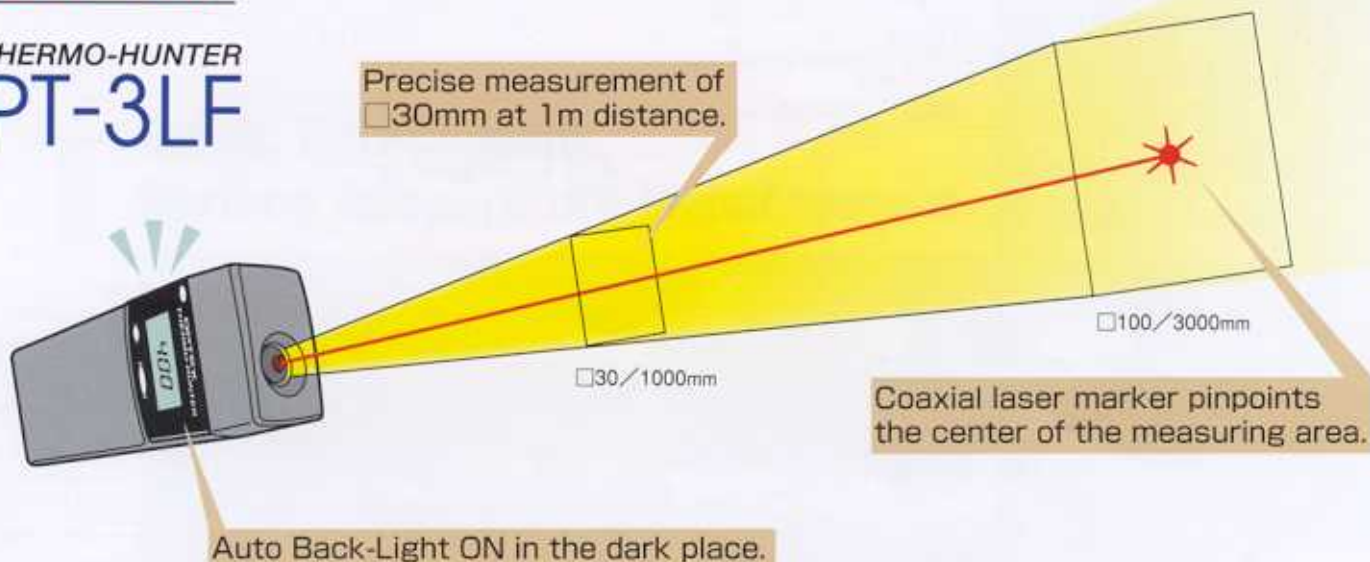
### 5. Clean

Since you do not need to touch objects while measuring them, a Non-Contact Thermometer enables you to detect temperatures of foods/products without damaging them.



## NEW PRODUCT

# THERMO-HUNTER PT-3LF

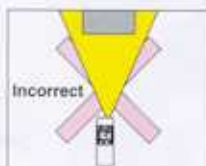


## Questions and Answers

**Q1** Do temperatures change according to the distance they are taken from?

**A1** There are practically no changes in temperatures according to the distance they are taken from. However, please be sure to keep in mind that the measurement area becomes greater as the distance increases.

● Check the distance between the target object and the thermometer.



The size of the target object is smaller than the measuring area.



Adjust the measuring distance so that the measuring area is focused only on the target object.

**Q2** Can Non-Contact Thermometers measure any object?

**A2** They can measure the surface temperatures of almost any object, liquid or solid. However, the cases shown below are not applicable. (Measuring conditions may vary according to particular circumstances. In such cases, please contact us for advice.)

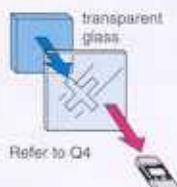
● **Shiny Metals**

The temperatures of surrounding objects are also reflected, causing the thermometer to measure the temperature of both objects.



● **Through Glass**

If you try to measure the temperature of an object through glass, the thermometer will measure the surface temperature of the glass.



Refer to Q4

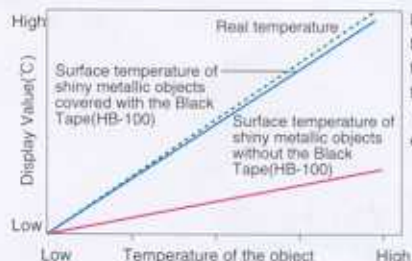
● **Through Steam, Dust, Fire, etc.**

In cases where there is a lot of steam or dust in the air, their temperature will also be measured.



**Q3** How do you measure the surface temperature of shiny metallic objects?

**A3** In cases of shiny metallic surfaces where stabilized measurements cannot be made, you can take stabilized measurements by sticking the Black Tape (HB-100) onto the surface.



Black Tape (HB-100) enables Non-Contact Thermometers to measure the surface temperature of shiny metallic objects since it has an emissivity ratio of 0.95.

**What exactly does emissivity ratio mean?**

Non-Contact Thermometers measure the infrared light emitted by target objects. The ratio at which objects emit infrared light differs according to their material or the conditions of their surface regardless of having the same surface temperatures. The capacity of an object to emit infrared light is referred to as the emissivity ratio of the object. Since objects with an emissivity ratio of approximately 0.95 are very common, each PT series model is designed with such objects as a standard.

**Q4** How do I measure objects through glass?

**A4** In principle, infrared light does not pass through glass. If you try to measure a temperature of an object through glass, the thermometer will measure the temperature of the glass surface instead of the object beyond the glass. However, some models of THERMO-HUNTER can do it. For details please contact OPTEX or any of our distributors.

## STANDARD TYPE

# THERMO-HUNTER PT-3L

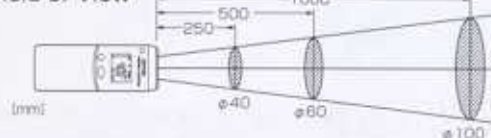
LOW COST

- Measuring temperature range:  $-20 \sim 400^{\circ}\text{C}$
- Field of view:  $\phi 100/1000\text{mm}$
- Quick response 0.8sec.
- Manual Back-Light

※ This model is not equipped with a Laser Guide function.



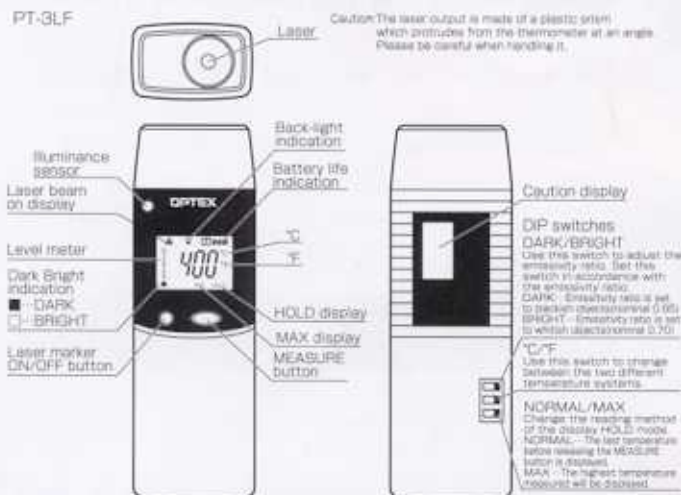
Field of View



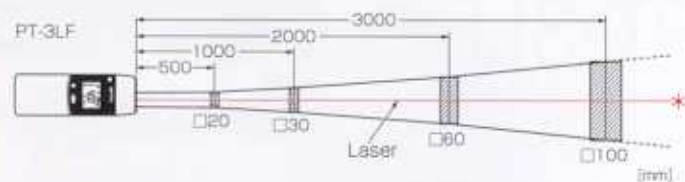
※ The size of the object to be measured must be sufficiently bigger than the measuring diameter shown in the above illustration.

# PT-3 series

## Display and Functions



## Field of View



① The laser marker is aimed at the center of the measuring area. The laser has a 90% optical efficiency rate. The size of the object to be measured must be sufficiently bigger than the measuring diameter shown in the above illustration.

## Safe Usage

<b>WARNING</b>	Please don't look into the laser directly or direct it toward the eyes. The laser may cause eye injury or damage to your health.
<b>CAUTION</b>	This product is not a clinical thermometer and therefore, cannot be used for medical purposes.

## Specifications

Model	PT-3LF	PT-3L
Measuring Range	-20~400°C (display -30~430°C)	
Field of View	φ30/1000mm	φ100/1000mm
Optics	Silicon lens	
Sensing Element/Wavelength	Thermopile / 8~14 μm	
Response Time	1.5s/90%	0.8s/90%
Measuring Accuracy	±1% of reading value (±0.95) or ±2°C ±1 digit whichever is greater	
Repeatability	±1°C of reading value	
Display Resolution	1°C (1°F)	
Sighting Method	Coaxial laser marker (Class 2)	
Emissivity ratio (ε) Adjustment	DARK/BRIGHT (Switchable)	
Temperature Unit	°C/°F (Switchable)	
Measuring Mode	NORMAL/MAX (Switchable)	
Battery Life	Approx. 100 hours with backlight and laser marker OFF and alkaline battery	Approx. 100 hours with backlight OFF and alkaline battery
Ambient Temperature	0~50°C	
Ambient Humidity	35~85%RH (without dew condensation)	
Storage Temperature	-20~60°C	
Dimensions	H X W X D = 162 X 52 X 32 mm	H X W X D = 150 X 52 X 32 mm
Weight	200g (including batteries)	190g (including batteries)

Standard accessories : "AA" (SUM-3) Alkaline Battery X2pcs. Optional accessories : Protective pouch, black tape  
 \*Design and specifications are subject to change for product improvement without prior notice

### [Option] Black Tape for Non-Contact Thermometers

## HB-100



**[Basic Usage and Principles]**  
 The Black Tape (HB-100) can be applied to any object, letting you easily and correctly measure the temperature of any object. When measuring objects with manual emissivity settings, use the black tape and adjust the emissivity ratio of the model to 0.95. The Black Tape (HB-100) can endure temperatures up to 150°C.

●Dimensions : 60x2000mm

### [Option]



### Protective Pouch for PT-3L/3LF

## PH-1



**DP CONTROLS SDN. BHD.**

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