

# User's Manual Mini Infrared Thermometer

## 1. Introduction

Congratulations on your purchase of our professional non-contact infrared thermometers.

These units can provide fast, easy and accurate temperature readings. With the non-contact (infrared) technology, they can be used to measure the surface temperature of hard-to-reach objects like electrified equipment or moving objects, without any damage or pollution to them.

## 2. Features

- Fast and easy measurement
- Precise non-contact measurement
- The built-in laser pointer increases the target accuracy
- Max/Min Record
- Backlight LCD display
- Automatic measurement range selection with resolution 0.1°C/°F
- Automatic trigger off
- Auto power off

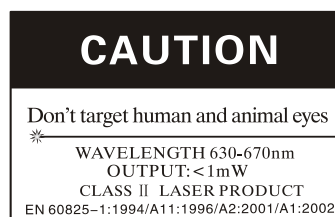
## 3. Application

These units are widely used in Food preparation, Safety and Fire inspection, Plastic molding, Asphalt, Marine, Printing ink and dryer temperature, Diesel and Fleet maintenance.

## 4. Safety

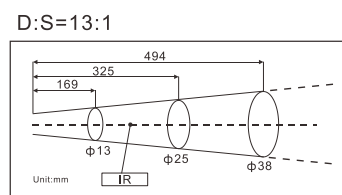
- Use extreme caution when the laser beam is turned on.
- Do not point the beam toward anyone or any animals.
- Do not allow the beam to strike the eye from a reflective surface.
- Do not use the laser near explosive gases.

### Safety Symbol



## 5. Field of View

The meter's field of view is 13:1, for example, if the meter is 13 inches from the target spot, the diameter of the target must be at least 1 inch. Other distance ratios are show below in the field of view diagram.

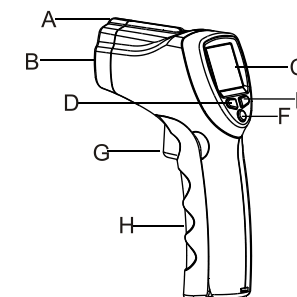


## 6. Specifications

	○	○	○
<b>Range</b>	-50~350°C;-58~662°F	-50~550°C;-58~1022°F	-50~850°C;-58~1562°F
<b>Accuracy</b>	-50°C~0°C: ±4°C	-50°C~0°C: ±4°C	-50°C~0°C: ±4°C
	0°C~350°C: ±2% ±2°C	0°C~550°C: ±2% ±2°C	0°C~850°C: ±2% ±2°C
<b>Emissivity</b>	fixed at 0.95		
<b>Optical Resolution</b>	D:S=13:1		
<b>Resolution</b>	0.1°C(0.1°F)		
<b>Spectral Response</b>	8~14um		
<b>Polarity Display</b>	Auto display, "-" indicates negative, while positive with no sign.		
<b>Diode Laser</b>	Output<1mW, 630~670nm,class 2(II)		
<b>Auto Power Off</b>	Auto shuts off after 20 seconds inactivity		
<b>Operating Temp.</b>	0°C to 50°C / 32°F to 122°F		
<b>Storage Temp.</b>	-20°C to 60°C / -4°F to 140°F		
<b>Relative Humidity</b>	Operating:10~95%RH,Storage:<80%RH		
<b>Power Supply</b>	9V battery		
<b>Dimensions(L*W*H)</b>	155.5*98.8*27.5mm		
<b>Weight</b>	176g		

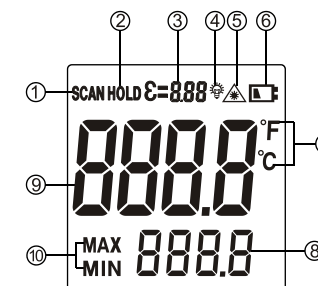
## 7. Meter Description

- A. Laser pointer beam
- B. IR Sensor
- C. LCD Display
- D. °C/°F Switch Button
- E. MAX/MIN Button
- F. Laser Pointer/Backlit Button
- G. Measurement Trigger
- H. Battery Compartment Cover



## 8. LCD Display Description

- ① Measurement Icon
- ② Data Hold Icon
- ③ Emissivity Icon
- ④ Backlit Icon
- ⑤ Laser Icon
- ⑥ Low Battery Indication
- ⑦ Temperature Unit(°C/°F)
- ⑧ Max/Min Record Reading
- ⑨ Current Reading
- ⑩ Max/Min Icon



## 9. Operating Instruction

### A. Operating steps:





- ① Hold the meter by its handle grip and point it toward the surface to be measured.
- ② Pull and hold the Trigger to turn the meter on, the "SCAN" icon will appear and begin testing.
- ③ The surface temperature being tested will be displayed on the LCD screen.
- ④ Release the trigger, the "HOLD" icon will appear, and the reading will be hold for several seconds.
- ⑤ The meter will automatically shut off after 20 seconds.

### Measurement Note:


If the meter used in an ambient temperature with wide temperature change, allow it at least 30 minutes to adjust to it.

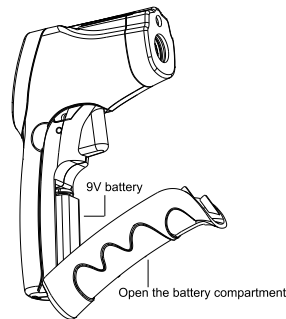
The laser is designed for aiming only; it can be shut off while operating in short distance to save the battery.

### B. Button Function

- ① °C/°F button: In Measurement Mode, press button " " to switch the temperature unit °C or °F.
- ② Laser pointer/Backlight button: In Measurement Mode, press button " " to turn on/off backlight; In "HOLD" Mode, press button " " to turn on/off laser pointer.
- ③ During measuring, press button " " to display MAX/MIN readings.

### C. Battery Replacement

- ① When the low battery icon " " appears, replace the meter's battery.
- ② Open the battery compartment, replace the 9V battery and close the battery compartment cover.



## 10. Notes

### (1) Work Principle

- The infrared thermometer is designed for measuring surface temperature of an object.
- The optical sensor can emit, reflect and transmit energy, which is collected and focused on a detector, then translate it into the temperature reading by electronics and displayed on the LCD screen.
- The laser is used for aiming the target object only.

### (2) Field of View

- The object under test should be larger than the spot size calculated by the field of view diagram.
- The smaller the target object is, the closer the meter should be to it for accurate measuring.

- When accuracy is critical, make sure the target is at least twice as large as the spot size.

### (3) Distance & Spot Size

- As distance (D) from the object increases, the spot size (S) of the area measured by the unit becomes larger.

### (4) Locating a hot spot

- To find a hot spot, first aim the thermometer to the outside of target area, then scan across in an up and down motion until the hot spot is located.

### (5) Notice

- Not recommend for measuring shiny or polished metal surfaces like stainless steel, aluminum, etc.
- Do not make measurement through transparent surface such as glass.
- If the surface of the object under test is covered with frost, oil, grime, etc., clean before taking measurement.

### (6) Maintenance

- Do not use volatile liquids to clean the unit, swipe it with dry soft cloth.
- Do not disassemble the unit, repair it by qualified personnel
- Do not immerse it in water.
- Do not store it in high temperature or humidity.

## 11. Accessories

- ① User's manual
- ② 9V Battery

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