

# INSTRUCTION MANUAL

## MINI INFRARED THERMOMETER



Model: ■ 8870  
■ 8871  
■ 8872



Congratulations on your purchase of the Infrared Thermometer. The compact size lets you get into tight places while its convenient laser targeting and high distance to spot ratio (D:S) gives you accurate readings on distant targets.

- ✘ Precise non-contact Measurements
- ✘ Switchable °C/°F Temperature units
- ✘ Automatic Data Hold
- ✘ Laser target pointer

- The meter provides a simple one hand operation, time saving to get temperature measurement. Be sure the measured object fills the "spot" seen by the aperture.
- There will be a delay of approximately one-second between the time you initially press the trigger and the time the display comes on.
- Not recommended to use in any shiny surfaces and measure the object which is smaller than the targeting area.
- To avoid thermal shock and do not store the meter below freezing.
- The meter is pre-set to measure objects with an emissivity of 0.95 ( models 8870/8872).  
3 emissivity points 0.85, 0.90, 0.95 are selectable for model 8871.

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## **1. CAUTION**

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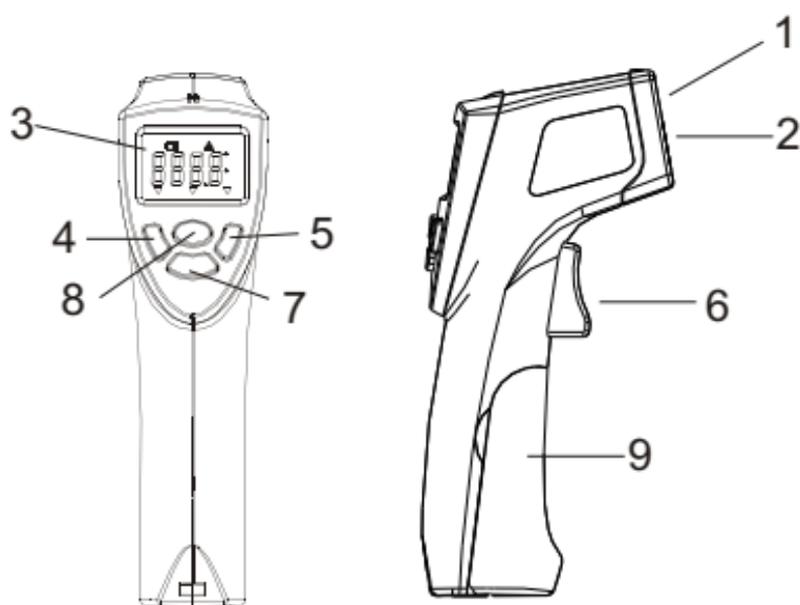
- ! Use extreme caution when the laser beam is turned On.
- ! Do not point the laser toward the eyes or face of a person or animal.
- ! Laser's potential to cause damage is retained for hundreds of feet .
- ! Be careful not to let the beam on a reflective surface strike your eyes. Do not allow the laser light beam impinge on any gas which can explode.

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## **2. FRONT PANEL DESCRIPTION**

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1. Laser pointer beam
2. IR sensor
3. LCD Display
4. C/F select key
5. Backlight select key
6. Trigger (measure)
7. Laser key
8. Mode (8871 only)
9. Battery Compartment





**Operating Temperature:**  
0 C to 50°C (32°F to 122°F).

**Operating Humidity:**  
Max. 80% RH.

**Power Supply :**  
9V battery

**Operating Current:**  
Max. 40mA

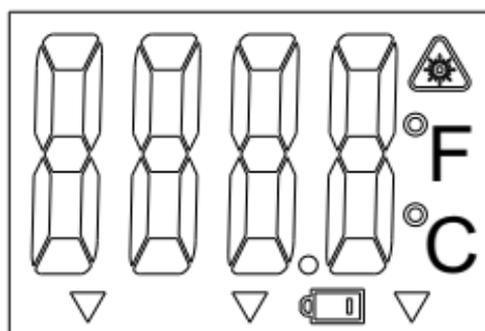
**Weight:** 140g / 4.5 oz.

**Size:** 5.2 x 2.6 x 1.3" (157 x 80 x 40 mm)

**Accuracy notes:**  
Accuracy specified is for operating in ambient temperature

#### **4. INDICATOR**

1. Digital readout
2. Laser icon
3. °C .Celsius
4. °F . Fahrenheit
5. Battery low indicator.
6. ▼ Emissivity point indicator (8871 only)



## **5. NON-CONTACT IR** **MEASUREMENT OPERATION**

### **A. Power ON/OFF**

The meter automatically powers on when the trigger is pulled. Pull the trigger to take a reading. Read the measured temperature on the LCD. The meter powers OFF automatically approximately 6 seconds after the trigger is released.

### **B. Selecting Temperature units (C/F)**

Select temperature units (degrees C or F) by pulling and holding the trigger, then press the C/F key until the desired units is shown on the LCD.

### **C. Data Hold**

This meter automatically holds the last temperature reading on the LCD for 6 seconds after the trigger is released. No extra key presses are necessary to freeze the displayed reading.

### **D. Backlight LCD**

Select backlight by first pulling the trigger and then pressing the BACKLIGHT (  ) key. Repeat the procedure to turn the backlight OFF

### **E. Laser Pointer**

To turn the laser pointer ON, press the LASER key while pulling the trigger. Repeat the procedure to turn the laser OFF.

### ***F. Selecting Emissivity (Model 8871 only)***

By pulling the trigger, pressing MODE key, the default emissivity is shown on the LCD. There are 0.85, 0.90, 0.95 for different applications.

### ***G. Measurement Considerations***

Holding the meter by its handle, point the IR Sensor toward the object whose temperature is to be measured.

The meter automatically compensates for temperature deviations from ambient temperature.

Keep in mind that meter will take up to 30 minutes to adjust to wide ambient temp. changes. When low temperatures are to be measured followed a high temperature measurements, several minutes recovering time is required after the high (and before the low) temperature measurements are made.

This is a result of the cooling process which must take place for the IR sensor

## **6. BATTERY REPLACEMENT**

A flashing display is the indication that the battery voltage has fallen into the critical region (6.5 to 7.5 V).

Reliable readings can be obtained for several hours after the first appearance of the low battery indication.

Open the Battery Compartment and remove the battery, then install a new battery and put back the cover.

## **7. TROUBLESHOOTING**

? ***Meter does not turn on.***

Check voltage and replace low battery.  
Or check time delay which is allowed 1 second for data to appear on-screen.

? ***Data flashing or laser comes on but no data appears .***

Check battery voltage and then replace a new battery.

? ***"OL" appear on-screen.***

The measured temperature is over the limit.

Measuring the surrounding area to double check if the target indeed exceeds the limit.

## **8. MAINTENANCE**

### **Case cleaning :**

Use caution with a damp cloth to clean the exterior housing, ensure no water or soap is allowed inside the meter and on the infrared lens.

### **Lens cleaning :**

**WARNING :** Recommend to clean the lens after a time of period using the meter and make sure the lens is clean enough to ensure the reading accuracy. By using low pressure compressed air to remove any particles on the lens. If the contamination can not be removed with air, use a soft cotton swab. Any swab should be slightly damp, and very light pressure should be applied to the lens.

Do not use solvents to clean the lens.

## **9. WARRANTY**

The meter is warranted to be free from defects in material and workmanship for a period of one year from the date of purchase. This warranty covers normal operation and does not cover battery, misuse, abuse, alteration, tampering, neglect, improper maintenance, or damage resulting from leaking batteries. Proof of purchase is required for warranty repairs. Warranty is void if the meter has been opened.

## **10. RETURN AUTHORIZATION**

Authorization must be obtained from the supplier before returning items for any reason. When requiring a RA (Return Authorization), please include data regarding the defective reason, the meters are to be returned along with good packing to prevent any damage in shipment and insured against possible damage or loss.

## **11. CE CERTIFICATION**

The meter conforms to the following standards:

- \* EN 61326:1997/A1:1998
  - \* EN 55011:1998/A1:2000 (Group 1, Class B)
  - \* IEC 61000-4-2:1995/A1:1998/A2:2000
  - \* IEC 61000-4-3:1995/A1:1998/A2:2000
- , the meter complies with the essential protection requirements of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

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Hygrometer/Psychrometer

Thermometer

Anemometer

Sound Level Meter

Air Flow meter

Infrared Thermometer

K type Thermometer

K.J.T. type Thermometer

K.J.T.R.S.E. type Thermometer

pH Meter

Conductivity Meter

T.D.S. Meter

D.O. Meter

Saccharimeter

Manometer

Tacho Meter

Lux / Light Meter

Moisture Meter

Data logger

Temp./RH transmitter

Wireless Transmitter .....

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**2006/11,modified**