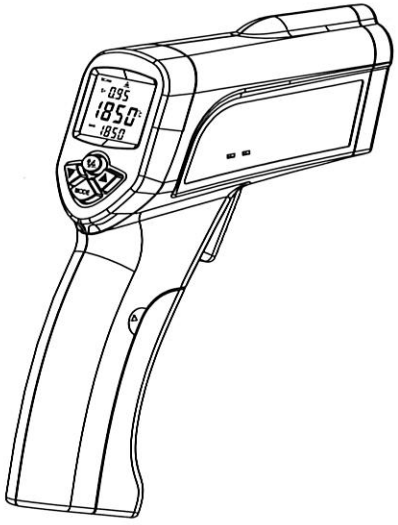
User Manual

High Temperature Infrared Thermometer



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Introduction

Thanks for purchase of our Non-contact infrared thermometer. this model is capable of non-cottact temperature measurements at the touch of a button.the built-in laser pointer in creases target accuracy while the backlight LCD and handy push-buttons combine for convenient,ergonomic operation.

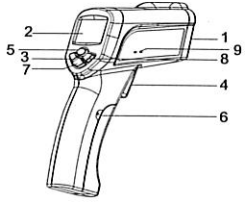
The non-contact infrared thermometer can be used to measure the temperature of objects' surface that is improper to be measured by tranditional thermometer(such as moving object,the surface with electrity current or the objects which are uneasy to be touched).proper use and care of this meter will provide ye -ars of reliable service.

Safety

- Use extreme caution when the laser pointer is on
- Do not point the beam toward anyone's eye or allow the beam to strike the eye from a reflective surface
- Do not use the laser near explosive gases or in other potentially explosive areas

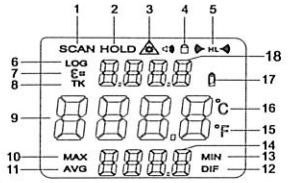
Meter Description

1. IR sensor and Laser Pointers
2. LCD Display
3. Down Button
4. Measurement Trigger
5. Backlight/Laser Button
6. Battery compartment
7. Mode Button
8. Up Button
9. Type K thermocouple input (side)



DISPLAY

1. SCAN, measurement in progress
2. HOLD, last measurement locked in display
3. Laser pointer active
4. Power locked ON
5. High/ Low limit alarm
6. Logged memory
7. Emissivity setting Main temperature display
8. Type K method
9. Temperature display
10. MAX temperautre values
11. Average of the measured values
12. Difference between the Max and Min values
13. MIN temperature values
14. Stored data location display
15. F temperature degree
16. C temperature degree
17. Battery status
18. Stored data,Emissivity and Type-K temperature display.



Operating Instructions

IR Temperature Measurements

1. Hold the meter by its handle and point it toward the surface to be measured.
2. Pull and hold the trigger to turn the meter on and begin testing. "SCAN" and the temperature reading will appear on the large display. The upper and lower sub-displays will indicate values/settings previously used.
3. Release the Trigger and the reading will hold for approximately 7 seconds ("HOLD" will appear on the LCD) after which the meter will automatically shut off. The only exception to this is if the LOCK mode is set to ON.

The MODE button options

With the trigger pulled (SCAN displayed), Press the MODE button to view and scroll through:

MAX : Maximum value measured

MIN: Minimum value measured

DIF: Difference between the Max and Min values

AVG: Average of the measured values

LOG: A memory location is displayed in the small upper display and the value in that location is displayed in the small lower display. Press the ▲ or ▼ buttons to scroll through the locations.

TK: With a Type K thermocouple probe connected to the meter, the probe temperature is displayed in the small lower display.

With the trigger released (HOLD displayed), Press the MODE button to scroll through and access the following. The selected item is indicated by a blinking icon.

Recorded data: (Press the ▲ or ▼ button to scroll through and view)

ε = Emissivity (blinking ε=). Press the ▲ or ▼ button to set the value.

Lock mode. Press the ▲ or ▼ buttons to select ON or OFF.

HL High alarm ON or OFF (blinking H). Press the ▲ or ▼ button to select.

HL High alarm value adjustment (blinking H and). Press the ▲ or ▼ button to set the value.

HL Low alarm ON or OFF (blinking L). Press the ▲ or ▼ button to select.

HL Low alarm value adjustment (blinking L and). Press the ▲ or ▼ button to set the value.

°C or °F Temperature units. Press the ▲ or ▼ button to select.

Laser Pointer and Backlight Button

The laser pointers are designed to cross at a distance of 50" (76cm). The spot size at this distance is a 1" diameter and this is the recommended distance to target for most measurements. To turn the lasers on/off:

1. Press and Hold the Trigger
2. While SCAN is on the display, press and release the backlight/laser button ( ). Either the backlight or laser pointers will change status (On/Off). Repeat this until the desired conditions are set. The laser icon will appear in the LCD when the laser function is enabled.
3. The status of the functions will be stored in memory and will remain as the default "turn-on" condition until changed.

High and Low Alarm Feature

When either programmed alarm (high or low) point is reached the meter will alert the user via an audible beep and a blinking LCD display icon. The alarm limit is set and the feature is enabled/disabled using the MODE button. The setting is stored and memory and will remain as the "turn-on" condition until changed.

Temperature Units

The temperature units can be set to °F or °C. The selection is made using the MODE button.

Lock feature

The LOCK feature disables the Auto Power Off feature for the period of use when selected. The feature is useful for long term temperature monitoring and hands free use. The meter will revert to auto power off if the trigger is pressed during a locked scan. The selection is made using the MODE button.

Over-range Indication

If the temperature measurement exceeds the specified temperature range, the thermometer will display dashes in place of a temperature reading.

Battery Replacement

When the low battery symbol appears on the display, replace the meter's battery (9V). The battery compartment is located behind the panel that surrounds the meter's trigger. Open the compartment, replace the 9V battery and close the battery compartment cover

Data Logger

Storing Data: The thermometer is capable of storing up to 100 data points.

Infrared: To store data from an infrared reading,

1. Pull and Hold the trigger
2. Press the MODE button until LOG appears in the lower left corner of the display; a log location number will be displayed. If no temperature has been recorded in the displayed LOG location, 4 dashes will appear in the lower right corner.
3. Aim the unit at the target area you want to record, and press the laser/backlight button. The recorded temperature will appear in the lower right corner.
4. To select another log location, press the up and down keys.

Recalling Data: To recall stored data after the unit shuts off,

1. Press the MODE button until LOG appears in the lower left corner. A LOG location number will be shown below LOG, and the stored temperature for that location will be display.
2. To move to another LOG location, press the UP and Down keys.

Log Clear Function: To clear the memory,

The "Log clear" function allows you to quickly clear all logged data points. This function can only be used when the unit is in the LOG mode.

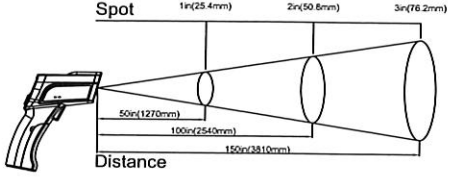
1. While in LOG mode, press the trigger, and then press the "down" arrow button until LOG location "0" is displayed. **Note:** This can only be done when the trigger is pulled. LOG location "0"cannot be accessed, by using the "up" arrow button.
2. When LOG location "0" shows in the display, press and release the laser/backlight button, then press and release the up arrow key. A tone will sound, and the LOG location will automatically change to "1", signifying that all data locations have been cleared.

IR Measurement Notes

1. The object under test should be larger than the spot (target) size calculated by the field of view diagram (printed on the side of the meter and in this guide).
2. Before measuring, be sure to clean surfaces that are covered with frost, oil, grime, etc.
3. If an object's surface is highly reflective, apply masking tape or flat black paint to the surface before measuring. Allow time for the paint or tape to adjust to the temperature of the surface it is covering.
4. Measurements through transparent surfaces such as glass will not be accurate.
5. Steam, dust, smoke, etc. can obscure measurements.
6. The meter automatically compensates for deviations in ambient temperature. However, it can take up to 30 minutes for the meter to adjust to extremely wide changes.
7. To find a hot spot, aim the meter outside the area of interest then scan across (in an up and down or side to side motion) until the hot spot is located.

Field of View

The meter's field of view is 50:1. For example, if the meter is 50 inches from the target (spot), the diameter of the target must be greater than 1 inch. Other distances are shown in the field of view diagram. Measurements should normally be made as close as possible to the 1" spot distance. The meter can measure from longer distances, but the measurement may be affected by external sources of light. In addition, the spot size may be so large that it encompasses surface areas not intended to be measured.



Distance:Spot = 50:1

Specifications

	HT-6896	HT-6897	HT-6898	HT-6899
Range	-58°F ~ 2462°F	-58°F ~ 3002°F	-58°F ~ 3362°F	-58°F ~ 3992°F
	-50°C ~ 1350°C	-50°C ~ 1650°C	-50°C ~ 1850°C	-50°C ~2200°C
Resolution	0.1 °C(0.1°F)<1000°C, 1°C(1°F)>1000°C			
Accuracy	-58°F to -10°F(-50°C to -23°C) ±14°F/7°C (Typical) -10°F to 28°F(-23°C to -2°C) ±8°F/4°C 28°F to 200°F (-2°C to 94°C) ±4.5°F/2.5°C 200°F to 400°F (94°C to 204°C) ±(1.0%rdg + 2°F/1°C) 400°F to 800°F (204°C to 426°C) ±(1.5%rdg + 2°F/1°C) 800°F to 1832°F (426°C to 1000°C) ±(3%rdg +2°F/1°C) 1832 to 3992°F (1000°C to 2200°C) ±(5%rdg +4°F/2°C)(typical only)			
Emissivity	0.10 to 1.00 adjustable			
Field of View	D/S = Approx. 50:1 ratio (D = distance; S = spot *or target*)			
Laser pointer	Dual, Class 2 laser < 1mW power; Wavelength is 630 to 670nm			
IR Spectral response	8 to 14 μm (wavelength)			
Repeatability	± 0.5% of reading or ± 1.8°F (1°C) whichever is greater			
Thermocouple Thermometer (Type K)				
Range	-50 to 1370°C(-58°F to 2498°F)			
Resolution	0.1 °C(0.1°F)<1000°C, 1°C(1°F)>1000°C			
Accuracy	-50 to 1000°C (-58 to 1832°F): ± 1.5% of reading + 3°C (±5°F) 1000 to 1370°C (1832°F to 2498°F): ± 1.5% of reading + 2°C (±3.6°F)			

General Specifications

Display	Backlit LCD display with function indicators
Response time	100ms
Over range indication	"-------"
Operating Temperature	32°F to 122°F (0°C to 50°C)
Operating Humidity	10% to 90%RH operating, <80%RH storage.
Storage Temperature	14 to 140°F (-10 to 60°C)
Power Supply	9V battery
Automatic Power Off	7 seconds, with LOCK to disable
Weight	295g
Dimensions	260*155*54mm