

ThermoPro

Dual Laser Infrared Thermometer Instruction Manual



450-V20230619 EN

Introduction

Congratulations on your purchase of the Digital Dual Laser Infrared Thermometer. It is an easy-to-use device that lets you conveniently and accurately measure surface temperatures of objects from a distance without the need of any direct contact.

Components

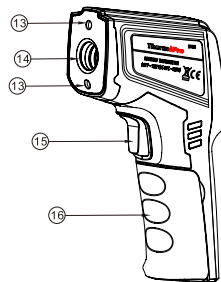
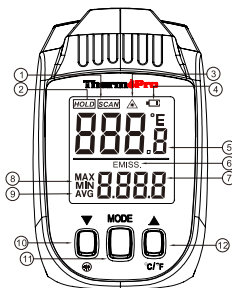
- 1×Infrared Thermometer
- 2×AAA Batteries
- 1×User Manual

Features & Specifications

- Laser guided targeting for better aiming precision.
- Safely measure hazardous or inaccessible objects.
- Battery: 2 x AAA batteries, 3.0V.
- Measurement Range: -58°F~1022°F(-50°C~550°C)Accuracy: ±1.5%.
- Resolution: 0.1°F or 0.1°C.
- Wavelength: 5um-14um.
- Distance-Spot Ratio: 16:1.
- Response Time: 500ms.

- Emissivity: 0.10~1.00 (Default 0.95).
- Backlight: Works all the time when the device is on.
- Auto-off: Auto-off after 90 seconds of inactivity.
- Low Battery Indicator: Only display when the voltage of battery is quite low.

Functions



- ① **SCAN**: When pressing the measurement trigger, SCAN will appear on the display.

- ② **HOLD**: When the measurement trigger is released, HOLD will appear on the display.
- ③  **Laser Pointer Indication**: When pressing the measurement trigger, dual laser beams will appear to help guide you unless the laser is turned off.
- ④  **Low Battery Indication**: Only display when the voltage of battery is quite low.
- ⑤ **Upper Display**: Displays the latest temperature measurement.
- ⑥ **EMISS**: Press and hold the MODE button for 3 seconds, EMISS will appear, and you can adjust the emissivity.
- ⑦ **Lower Display**: Displays MAX/MIN/AVG temperature; When adjusting the emissivity, the current emissivity will be displayed.
- ⑧ **MAX/MIN**: Maximum and minimum temperature for the latest measurement.
- ⑨ **AVG**: Average temperature for the latest measurement.
- ⑩   Press once to turn on/off laser pointer while in the temperature measurement mode. When adjusting the emissivity, press to lower the emissivity. To quickly decrease the emissivity, press and hold the button.
- ⑪ **MODE**: Press to adjust **MAX/MIN/AVG** temperature for the latest measurement displayed on the screen. Press and hold for 3

seconds to adjust the emissivity.

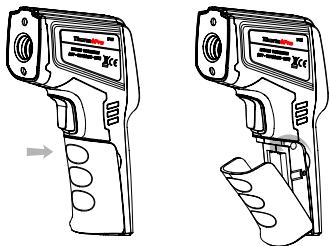
- ⑫  **▲/°C/°F** Press and hold for 3 seconds to switch between °C and °F. When adjusting the emissivity, press to increase the emissivity.
- ⑬ **Laser Holes**.
- ⑭ **IR Sensor**.
- ⑮ **Measurement Trigger**: Hold and release to take temperature readings.
- ⑯ **Battery Compartment**.

How to Use

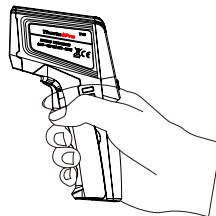
Surface Temperature Measurement

NOTE: The device cannot measure the temperature of objects behind glass. Inaccuracy may also occur when objects are exposed to steam, dust or any other contaminants in the air.

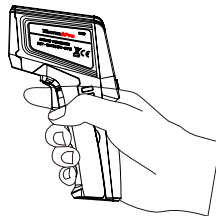
1. Insert the two AAA batteries into the BATTERY COMPARTMENT with the correct polarity, then press the MEASUREMENT TRIGGER to activate the thermometer.



2. Point the thermometer towards the surface that you want to measure.
3. Press and hold the MEASUREMENT TRIGGER and the dual laser pointers will activate for aiming guidance. (Laser will only appear if enabled. Laser is turned on by default.)
4. Keep holding the MEASUREMENT TRIGGER as you move the device if you want to continually take a measurement of the surface.
5. Once the laser is pointed to the desired point of measurement, release the MEASUREMENT TRIGGER and the UPPER DISPLAY will show the last measured temperature.
6. Press the MEASUREMENT TRIGGER once again to make another measurement.



HOLD for continuous
temperature reading



RELEASE to lock
temperature reading

Emissivity

The emissivity of a material is its efficiency in emitting thermal energy. Non-reflective surfaces have a higher emissivity (closer to 1) than reflective surfaces (closer to 0). Inaccurate results may occur when measuring reflective surfaces such as glass, polished wood, and granite.

To take accurate temperature measurement of reflective surfaces with low emissivity, place a strip of masking tape over the surface and allow it to adjust to the temperature of the surface for approximately 30 minutes. Then, measure the surface by scanning the taped section, which will eliminate the inaccuracies.

The default emissivity of this device is 0.95, which is suitable for surface temperature measurement of most organic materials and painted objects. If you would like to improve the measurement accuracy of different objects, you can refer to the emissivity table below.

Objects	Emissivity	Objects	Emissivity
Aluminum	0.30	Iron	0.70
Asbestos	0.95	Lead	0.50
Asphalt	0.95	Limestone	0.98
Basalt	0.70	Oil	0.94
Brass	0.50	Paint	0.93
Brick	0.90	Paper	0.95
Carbon	0.85	Plastic	0.95
Ceramics	0.95	Rubber	0.95
Concrete	0.95	Sand	0.90
Copper	0.95	Stone	0.70
Sludge	0.94	Snow	0.90

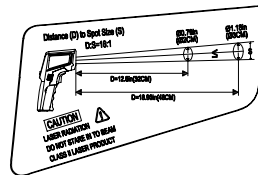
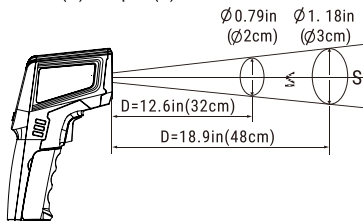
Objects	Emissivity	Objects	Emissivity
Frozen food	0.90	Steel	0.80
Hot food	0.93	Fabric	0.94
Glass	0.85	Water	0.93
Ice	0.98	Wood	0.94

Distance-Spot Ratio

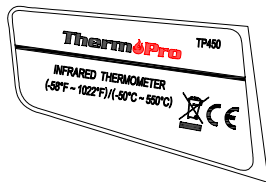
The thermometer measures surface temperature based on the distance to spot diameter ratio (D:S). As the distance between the thermometer and the surface increases, the total surface area measured will also increase. With a distance to spot ratio of 16:1, the surface area measured has a diameter of roughly 1/16 of the distance.

For the most accurate results, make sure the target has a surface area of twice the corresponding spot diameter. Insufficient surface area will result in inaccuracies. The recommended distance to hold the thermometer from the surface of measurement is 14.17 inches (36cm) away from the surface. This creates a spot measurement area of 0.89 inch (2.26cm) in diameter.

Distance(D) to Spot (S) size D:S=16:1



Safe Use & Care



The device certification information is printed directly on the device, which is located on the left side of the thermometer.

The device warning and aperture safety information are also printed directly on the device, which is located on the right side of the thermometer.

- DO NOT point the laser at any people or animals.
- DO NOT point laser at an aircraft.
- Avoid direct/indirect eye contact with the laser-beam. Laser may cause eye damage.
- DO NOT view the beam with optical instruments.
- If using near bystanders, make them aware of the dangers of looking directly into the laser beam.
- DO NOT allow children to operate the device.
- Use two 1.5V AAA batteries when replacing the batteries within the device with correct polarity.
- ALWAYS remove the batteries when cleaning the device.
- DO NOT use leaking batteries or dispose of old batteries in fire.

- Remove the batteries if storing the device for a prolonged period of time.
- DO NOT disassemble the device or tamper with internal components. Doing so will void any warranty.
- DO NOT touch the lens or wipe it by using anything other than a soft cloth or cotton swab.
- Keep the thermometer away from electromagnetic fields produced by objects such as arc welders and induction heaters.
- DO NOT expose the thermometer to direct sources of heat for extended periods of time.
- The thermometer measures surface temperature, not internal temperature.
- DO NOT use it as a reliable source to measure body temperatures.

Disposal



Meaning of the “Dustbin” Symbol

- Protect our environment: do not dispose of electrical equipment in the domestic waste.
- Please return any electrical equipment that you will no longer use to the collection points provided for their disposal.

- This helps avoid the potential effects of incorrect disposal on the environment and human health.
- The batteries must be removed from the appliance.
- Take spent batteries to the appropriate collection point or to a dealer.
- Your town or local authority can provide information about public collection points.

This symbol can be found on batteries/rechargeable batteries which contain hazardous:



- Pb = contains lead
- Cd = contains cadmium
- Hg = contains mercury
- Li = contains lithium

Limited One-Year Warranty

ThermoPro warrants this product to be free of defects in parts, materials and workmanship for a period of one year, from date of purchase.

Should any repairs or servicing under this warranty be required,

contact Customer Service by phone or email for instructions on how to pack and ship the product to ThermoPro.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Customer Service

Call or Text: 1-877-515-7797(USA & Canada only)

44-80-164-1683(UK)

Email: service@buythermopro.com

Hours: Weekdays 8:00AM - 8:00PM EST(USA & Canada only)

Weekdays 1:00PM - 12:00PM CET(UK)