

Rapid-Measuring Infrared Thermometer (-20°C - 550°C)

Operating Instructions

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I. Product Introduction

It is a professional hand-held non-contact infrared thermometer, which is characteristic of easy operation, precise design, high accuracy and wide measurement range. It possesses various kinds of functions such as laser collimation, LCD display with backlight, over-temperature alarm, adjustable emissivity and automatic shutdown. When the device is in use, the objects temperature could be detected rapidly and accurately by simply aiming the detection window at the objects.

II. Basic Operation Principle

Any object with the temperature over 0°C will emit a certain proportion of infrared radiation energy on the basis of its own temperature. The radiation energy and its wavelength distribution have very close relation to its surface temperature. On the basis of this principle, the objects temperature could be accurately detected by measuring infrared radiation energy of the objects.

III. Product Features

- Exclusive use of HEIMANN infrared temperature probe with high accuracy and stable performance.
- Sound alarm function when temperature is slightly high (Threshold value is adjustable)
- Backlight LCD digital display
- Two temperature modes to select: Fahrenheit and Celsius
- Max value, min value, relative value, average value and lock storage function
- Emissivity 0.1-1.00 adjustable
- Inbuilt laser aiming device
- Automatic shutdown (power conservation)
- Small volume, proper structure and easy to operate.

IV. [Main Technical Specifications](#)

A. Normal working condition

1. Environment temperature: 0°C-50°C
2. Relative humidity: 10%-85%
3. Power: DC3V (2 AAA batteries)

B. Basic Size :92mm*50mm*168mm (Length*Width*Height)

C. Weight (Net weight): 125g (excluding the batteries)

D. LCD Display Resolution (Accuracy): 0.1°C/°F

E. Measurement Range: -20°C-550°C (-4°F -1022.0°F)

F. Power Consumption: ≤50mw

G. Measurement Discrepancy: ±2.0°C or ±2% (Max value)

H. Measurement Time: ≤0.5 second

I. Measurement Distance: D: S= 12:1 (measurement distance : object target)

J. Automatic Shutdown Time: 6 0 seconds

K. Safety Design Standard: In accordance with European CE safety criteria

Note: use under the electromagnetic field of frequency 3V/m between 350MHZ to 550MHZ, the max discrepancy value is 8°C(14.4°F)

V. Operation Method

● Safety Notes

1. Please use with care when laser beam is turned on.
2. Don't aim laser beam at the eyes of people and animals.
3. Don't aim laser beam at the surface of objects which reflects to the eyes of people.
4. Don't aim laser beam at any explosive gas.


● Measuring steps and method

1. To measure a more accurate temperature value, this thermometer should be used after 10 minutes when the batteries are installed. When the device is used in a new environment, it should also be used after 10 minutes.
2. Aim the measuring probe at the measured object and press the measuring key on the handle. The device automatically turns on with a beep sound. Meanwhile, it will display the measuring result.

Note:

Please select the emissivity of the measured object and adjust the measuring distance according to the size of the measured objects.

VI. Symbol Description of Keystroke and LCD Display

Symbol	Description of Symbol Function
Up	Function keys: ①.press "EMITM" to choose emissivity, meanwhile it also show "I", press "up" to adjust up; ②.press "EMITM", "I" will be gone, press measurement key not to loose, and press "up", it can open an close backlight.
°C/°F down LASER	Function keys: ①.press "EMITM" to choose emissivity with the symbol of " ", press "°C/°F down LASER", it can adjust downward. ②.press "EMITM", " " will be disappeared; press measurement key not to loose, press "°C/°F down LASER" again, it can open and close infrared laser light. ③.press "°C/°F down LASER" to exchange temperature and celsius.
Mode	Function keys: press this button circlly to choose MAX, AVG, MIN, DIF, HOLD, LAL, HAL and emissivity rate.
EMITM	Press measurement button not to loose, and press "EMITM", it can open and close night light.
°C	Temperature Unit: Celsius
°F	Temperature Unit: Fahrenheit
	Battery Power Indication
HR	When "HR" shows on the display, it means the environment temperature is too high.

VII. Points for Attention

1. The sensor lens is the most delicate part of the thermometer, so special care should be given to it.
2. They way to clean the sensor lens: gently wipe the lens by using a soft cloth or cotton swab with water or medical alcohol.
3. Don't put batteries in fire. Please place the used batteries at appointed recycling places. The use of unqualified batteries is likely to cause fire or explosion.
4. When the device is not used for a long time, please take out the batteries.
5. Don't put the device in water or expose it to excessive heat.

6. Don't crush or throw the device in case it gets damaged.
7. The measuring discrepancy happens if the device is not within effective distance or not aimed at the center position of the measured object. It is recommended to measure once again or more.

VIII. Quality Commitment & After Sale Service

The warranty period is a year from the date of the original purchase.

Note:

1. The warranty is not extended to products that are physically damaged or that are not under normal operating conditions as a result of misuse on the user's part.
2. Please keep your warranty card and purchase receipt for warranty use.

IX. Accessories List

Instruction Manual: 1 copy

AAA batteries: 1 pair

X. Attached Table: Contrast Table of Common Objects Emissivity

Material	Specification	Emissivity	Material	Specification	Emissivity
Aluminum	Oxidation	0.20-0.40	Human Skin		0.98
	Polishing	0.02-0.04	Graphite	Oxidation	0.20-0.60
Copper	Oxidation	0.40-0.80	Plastic	Diaphaneity >0.5mm	0.95
	Polishing	0.02-0.05			
Gold		0.01-0.10	Rubber		0.95
Iron	Oxidation	0.60-0.90	Plastic		0.85-0.95
Steel	Oxidation	0.70-0.90	Concrete		0.95
Asbestos		0.95	Cement		0.96
Gypsum		0.80-0.90	Soil		0.90-0.98
Asphaltum		0.95	Plaster		0.89-0.91
Ceramics		0.95	Brick		0.93-0.96
Timber		0.90-0.95	Marble		0.94
Charcoal	Powder	0.96	Textile		0.9
Lacquer		0.80-0.95	Paper	various colors	0.94
Lacquer	Lackluster	0.97			
Carbon rubber		0.90	Sand		0.90
Lather		0.75-0.80	Clay		0.92-0.96
Water		0.93	Gravel		0.95
Snow		0.83-0.90	Glass	Dishware	0.85-0.92
Ice		0.96-0.98	Textile		0.95

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