

Handheld Thermography Camera

User Manual

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The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the HIKMICRO website (www.hikmicrotech.com/).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

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FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE

This product and, if applicable, the supplied accessories are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Radio Equipment Directive 2014/53/EU, the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

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Safety Instruction

The symbols that may be found in this document are defined as follows.

Symbol	Description
⚠**Danger**	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
⚠**Caution**	Indicates a potentially hazardous situation which, if not avoided, could result in equipment

Symbol	Description
	damage, data loss, performance degradation, or unexpected results.
Note	Provides additional information to emphasize or supplement important points of the main text.

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

Laws and Regulations

- Use of the product must be in strict compliance with the local electrical safety regulations.

Transportation

- Keep the device in original or similar packaging while transporting it.
- Keep all wrappers after unpacking them for future use. In case of any failure occurred, you need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage on the device and the company shall not take any responsibilities.
- Do not drop the product or subject it to physical shock. Keep the device away from magnetic interference.

Power Supply

- Please purchase the charger by yourself. Input voltage should meet the Limited Power Source (3.7 VDC, 0.4 A) according to the IEC61010-1 standard. Please refer to technical specifications for detailed information.
- Make sure the plug is properly connected to the power socket.
- DO NOT connect multiple devices to one power adapter, to avoid over-heating or fire hazards caused by overload.

Battery

- The built-in battery cannot be dismantled. Please contact the manufacture for repair if necessary.
- For long-term storage of the battery, make sure it is fully charged every half year to ensure the battery quality. Otherwise, damage may occur.

Maintenance

- If the product does not work properly, please contact your dealer or the nearest service center. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- Wipe the device gently with a clean cloth and a small quantity of ethanol, if necessary.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the device may be impaired.

Using Environment

- Make sure the running environment meets the requirement of the device. The operating temperature shall be -10°C to 50°C (14°F to 122°F), and the operating humidity shall be 95% or less.
- DO NOT expose the device to high electromagnetic radiation or dusty environments.
- DO NOT aim the lens at the sun or any other bright light.

Emergency

If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.

Manufacture Address :

Room 313, Unit B, Building 2, 399 Danfeng Road, Xixing Subdistrict,Binjiang District, Hangzhou, Zhejiang 310052, China

Hangzhou Microimage Software Co., Ltd

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1 Introduction

1.1 Product Introduction

The handheld thermography camera is a camera with thermal and optical images. The built-in high-sensitivity IR detector and high-performance sensor detects the temperature change and measure the real-time temperature.
It helps the users to find the risky part and lower their property loss. The device supports live viewing, and capturing, etc. It is mainly applied to various industries, such as building, HVAC, and auto industry, etc.

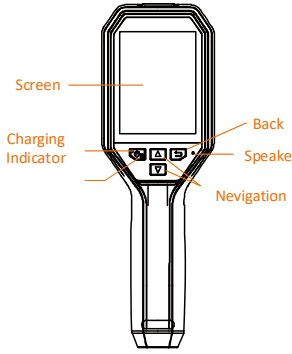
1.2 Main Function

Thermography
Device detects the real-time temperature, and display it on the screen.

Mobile App Connection
You can connect the device with HIKMICRO Viewer via Wi-Fi or hot spot. Then you can view live view, capture, and recording, etc. on your phone.

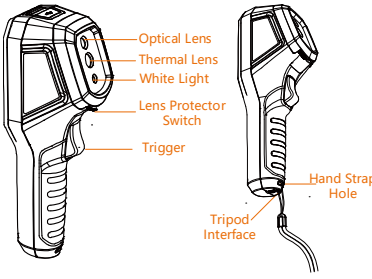
Alarm
Device outputs audible and visual alarm when the target's temperature is higher than the threshold value.

2 Appearance



Button	Function
	Hold: Power On/Off Press: Display menu or confirm operation
	Exit the menu or return to previous menu.

	Navigation Button Press ▽, △ to select parameters. Press  to confirm.



Component	Function
Charging Indicator	When the device is charging, the LED indicator is solid red. When the device is fully charged, the LED indicator is solid green.
Type-C Interface	Charge the battery or export snapshots.
Trigger	In live view interface, pull the trigger to capture snapshots. In menu mode, pull the trigger to switch to live view.

Note

- The appearance varies according to different models.
- Certain models support the optical lens and white light. Please refer to the actual device or datasheet.

3 Preparation

3.1 Charge Device

Steps:

1. Open the top cover of the camera.
2. Connect the device interface and the power adaptor with Type-C cable.



Note

For the first charge, charge the device for 10 hours when the device is turned on.

3.2 Power On/Off

Power On

Remove the lens cover, and hold for over three seconds to turn on the device. You can observe the target when the interface of the device is stable.

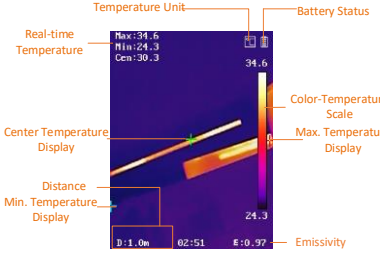
Power Off

When the device is turned on, hold for three seconds to power off the device.

Set Auto Power-off Duration

In the live view interface, press and go to **Auto Off** to set the automatic shutdown time for device as required.

3.3 Interface Description



4 Temperature Measurement

The temperature measurement function provides the real-time temperature of the scene and display it on the left of your screen. The function is turned on by default.

4.1 Set Thermography Parameters

You can set thermography parameters to improve the accuracy of temperature measurement.

Steps:

1 In the live view interface, press to show the menu.

2 Press / to select desired setting bar.

3 Press button to go to the setting interface.

- Emissivity: Set the emissivity of your target as the effectiveness in emitting energy as thermal radiation.
- Distance: Set the distance between the target and the device.
- Unit: Set the temperature unit.
- Meas. Range: Select the temperature measurement range. The device can detect the temperature and switch thermography range automatically in **Auto Switch** mode.

4 Press to save and exit.

4.2 Set Temperature Range

Set a temperature section and the palette only works for targets within the temperature section. You can adjust the temperature range.

Steps:

1 In the live view interface, press to show the menu.

2 Press /, and select **Temp Range**.

3 Select the setting mode.

- In **Auto** mode, the device adjusts temperature range parameters automatically.
- In **Manual** mode, select **Parameter**. Press to select the max. temperature or min. temperature, and press / to adjust the value.

4 Press to save and exit.

4.3 Set Thermography Rule

Steps:

1 In the live view interface, press to show the menu.

2 Press /, and select **Rule**.

3 Go to **Display**, and select the hot spot, cold spot, center spot, or custom spot that you want to show on live view.

4 **Optional**: You can customize the custom spot if needed.
   1) Go to **Custom Spot**. Select the certain custom spot, and press .
   2) Press / / / to adjust the position of the spot.
   3) Press the trigger to finish setting.
5 The device shows the real-time temperature on the upper left side of live view interface.

4.4 Enhance High-temperature Target

In target enhancement function, when the target's temperature is higher than the set value, the target's color will change to red
Steps:
1 In the live view interface, press to show the menu.
2 Press / , and select **Palettes**.
3 Switch the palette mode to **Above Alarm**.
4 Set the temperature. When the temperature of target is higher than the set value, the target will be red in live view.
5 Press to save and exit.

4.5 Set Temperature Alarm

Set the alarm rules and the device will alarm when the temperature triggers the rule.
Steps:
1 In the live view interface, press to show the menu.
2 Press / , and select **Alarm**.
3 Press to enable the function, and you can select flashing alarm or audible alarm as required.

   Note
   The white light will turn off automatically after enabling flashing alarm.
4 Select the alarm rule and set the alarm and pre-alarm temperature. When the target's temperature is higher or lower than the threshold value, the device will output alarm.
5 Press to save and exit.

5 Capture Snapshots

Steps:
1. In the live view interface, press to show the menu.

2. Press ▲/▼, and select **Picture Type.**
   - **Offline Picture**: Select this type when analyzing the picture with the app.
   - **Thermal Graphic**: Select this type for custom software development.
3. In the live view interface, pull the trigger to capture snapshot. The live view freezes and device displays the snapshot with temperature information.
4. Press ⏻ button to save the picture, press ⮌ button to cancel it.

Note

You can not capture when the device is connected with PC.

5.1 View Snapshots

Steps:

1. In the live view interface, press ⏻ to show the menu.
2. Press ▲/▼, and select **Picture**.
3. Press ▲/▼ to select the picture, and press ⏻ to view it.
4. **Optional**: Press ⏻ to delete picture in picture view interface. Press ▲/▼ to switch the picture.
5. Press ⮌ to exit.

5.2 Export Snapshots

Purpose:

Connect the device to your PC with Type-C cable, you can export the captured snapshots.

Steps:

1. Open the interface cover.
2. Connect the camera to your PC with Type-C cable and open the detected disk.
3. Select and copy the snapshots to PC and view the files.
4. Disconnect the device from your PC.

Note

- For the first time connection, the driver will be installed automatically.
- DO NOT disconnect the Type-C connection from PC or pull out the Micro SD card during drive installation or it may cause the device damage.

6 HIKMICRO Viewer Connection

The device supports both Wi-Fi connection and WLAN hot spot. Connect the device to

HIKMICRO Viewer app, and you can control the device via mobile app.

6.1 Connect via Wi-Fi

Before You Start

Download and install app on your phone.

Steps:

1 In the live view interface, press to show the menu.
2 Press /, and select **Wi-Fi**.
3 Press to enable the function.
4 Press / to select Wi-Fi, and enter the password.
5 Press to save and exit.
6 Launch the app, and add the device to online devices.

Result

You can view the live view, or capture snapshots via the app.

Note
Certain models support the Wi-Fi. Please refer to the actual device or datasheet.

6.2 Connect via Hot Spot

Before You Start

Download and install app on your phone.

Steps:

1 In the live view interface, press to show the menu.
2 Press /, and select **Hotspot**.
3 Press to enable the function.
4 Set the password.
5 Press to save and exit.
6 Connect your phone to the Hotspot of the device.
7 Launch the app, and add the device to online devices.

Result

You can view the live view, or capture snapshots via the app.

7 Set LED Light

In the live view interface, press , and go to **White Light** to enable or disable the LED light.

Note
Certain models support the White Light. Please refer to the actual device or datasheet.

8 Cast Screen

Before You Start

- Connect the device and PC with supplied Type-C cable
- Install a client that supports UVC protocol on your PC.

Steps:

1 In the live view interface, press to show the menu.

2 Press /, and enable **Cast Screen**.

3 Open the client and you can view the live view and operation of the device on the client.

9 Maintenance

9.1 View Device Information

In the live view interface, press and select **About** to view the device information.

9.2 Set Date and Time

In the live view interface, press and select **Time & Date** to set the information.

9.3 Format Memory Card

Steps:

1. In the live view interface, press to show the menu.
2. Press / button to select **Format Memory**.
3. Press and select **OK** to start formatting memory card.

Note

Format memory card before first use of it.

9.4 Upgrade

Steps:

1. Connect the device to your PC with Type-C cable and open the detected disk.
2. Copy the upgrade file and replace it to the root directory of the device.
3. Disconnect the device from your PC.

4. Reboot the device and then it will upgrade automatically. The upgrading process will be displayed in the main interface.

Note

After the upgrading, the device automatically reboot. You can view the current version in **Menu > About**.

9.5 Restore Device

In the live view interface, press and select **Restore** to initialize the device and restore default settings.

10 Appendix

10.1 Common Material Emissivity Reference

Material	Emissivity
Human Skin	0.98
PCB	0.91
Cement Concrete	0.95
Ceramics	0.92
Rubber	0.95
Paint	0.93
Wood	0.85
Asphalt	0.96
Brick	0.95
Sand	0.90
Soil	0.92
Cotton	0.98
Cardboard	0.90
White Paper	0.90
Water	0.96

10.2 Frequently Asked Questions (FAQ)

Q: The charge indicator flashes red.
A: Examine the items below.
1. Examine whether the device is charged with the standard power adapter.
2. Make sure the environment temperature is above 0°C (32°F).

Q:Capturing fails.
A: Examine the items below:

1. Whether the device is connected to your PC and the capture function is unavailable.
2. Whether the storage space is full.
3. Whether the device is low-battery.

Q:The PC cannot identify the camera.
A: Examine whether the device is connected to your PC with standard Type-C cable.

Q:The camera can not be operated or no responding.
A: Hold  to reboot the camera.

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