

HIKMICRO E Series Handheld Thermography Camera User Manual

Home » HIKMICRO E Series Handheld Thermography Camera User Manual

Contents

- 1 HIKMICRO E Series Handheld Thermography
- Camera
- 2 Safety Instruction
- 3 Laws and Regulations
- 4 Maintenance
- 5 Technical support
- **6 Introduction**
- 6.1 Box Content
- 7 Appearance
- 8 Preparation
 - 8.1 Power On/Off
- 9 Interface Description
 - 9.1 Capture Snapshots
- 10 View Snapshots
- 11 Temperature Measurement
- 12 Maintenance
- 13 Set Date and Time
- 14 Appendix
 - 14.1 Common Material Emissivity
- 15 Frequently Asked Questions
- **16 FCC Information**
- 17 EU Conformity Statement
- 18 Industry Canada ICES-003
- 19 Documents / Resources
- 19.1 References
- **20 Related Posts**





Safety Instruction

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

- Input voltage should meet the Limited Power Source (5 VDC, 300 mA) 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.
- Use the power adapter provided by a qualified manufacturer. Refer to the product specification for detailed power requirements.

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.
- Make sure the plug is properly connected to the power socket.
- When the device is powered off and the RTC battery is full, the time settings can be kept for 15 days.
- In the first use, power on the device and charge the RTC battery with the lithium battery for more than 8 hours.
- The standard adapter power supply is 5 V.
- The battery is certified by UL2054.

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.
- We recommend you send the device back for calibration once a year, and please contact the local dealer for the information on maintenance points.
- Your camera will periodically perform a self-calibration to optimize image quality and measurement accuracy.
 In this process the image will pause briefly and you'll hear a "click" as a shutter moves in front of the detector.
 The self-calibration will be more frequent during start up or in very cold or hot environments. This is a normal part of operation to ensure optimum performance for your camera.

Calibration Service

 We recommend you send the device back for calibration once a year, and please contact the local dealer for information on maintenance points. For more detailed calibration services, please refer to HIKMICRO's official website.

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.
- When any laser equipment is in use, make sure that the device lens is not exposed to the laser beam, or it may burn out.
- The device is suitable for indoor and outdoor uses, but do not expose it in wet conditions.
- The level of protection is IP 54.
- The pollution degree is 2.

Technical support

The https://www.hikmicrotech.com portal will help you as a HIKMICRO customer to get the most out of your HIKMICRO products. The portal gives you access to our support team, software, and documentation, service contacts, etc.

Emergency

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

Laser Light Supplement Warning

Warning: The laser radiation emitted from the device can cause eye injuries, burning of skin or inflammable substances. Prevent eyes from the direct laser. Before enabling the Light Supplement function, make sure no human or inflammable substances are in front of the laser lens. The wavelength is 650 nm, and the power is less than 1 Mw. The laser meets the IEC608251:2014 standard. Laser maintenance: It is not necessary to maintain the laser regularly. If the laser does not work, the laser assembly needs to be replaced in the factory under warranty. Keep the device powered off when replacing the laser assembly. Caution-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

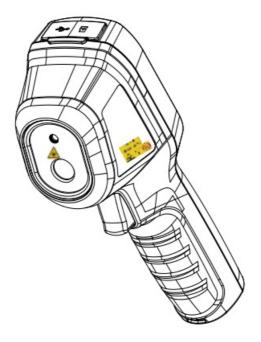
Manufacture address:

Room 313, Unit B, Building 2, 399 Danfeng Road, Xixing Subdistrict, Binjiang District, Hangzhou, Zhejiang 310052, China Hangzhou Microimage Software Co., Ltd.

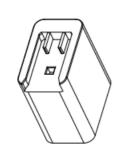
COMPLIANCE NOTICE: The thermal series products might be subject to export controls in various countries or regions, including without limitation, the United States, European Union, United Kingdom, and/or other member countries of the Wassenaar Arrangement. Please consult your professional legal or compliance expert or local government authorities for any necessary export license requirements if you intend to transfer, export, or re-export the thermal series products between different countries.

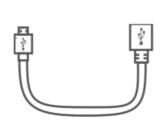
Introduction

Box Content



Handheld Thermography Camera (x 1)







Power Adapter (× 1) USB Cable (× 1)

Wrist Strap (× 1)



Manual (x 1)

• Note: The Handheld Thermography Camera includes one battery and one Micro SD card.

Product Introduction

The handheld thermography camera is a camera with thermal images. It can do thermometry, and snapshot capturing. The built-in high-sensitivity IR detector and the high-performance sensor detect the temperature change and measure the real-time temperature. The temperature measurement range is -20 °C to 550 °C (-4 °F to 1022 °F) with an accuracy of \pm 2 °C (3.6 °F) or \pm 2% when the ambient temperature is 15 °C to 35 °C (59 °F to 95 °F) and the object temperature is above 0 °C (32 °F). It helps the users to find the risky part and reduce their property loss. You can view live view, capture snapshots, and record videos via HIKMICRO Viewer App on your phone. You can also analyze pictures offline, and generate and share a report via the app. Scan the QR codes on the cover to download the App. You can download HIKMICRO Analyzer (www.hikmicrotech.com) to analyze pictures offline professionally, and generate a custom format report on your PC.

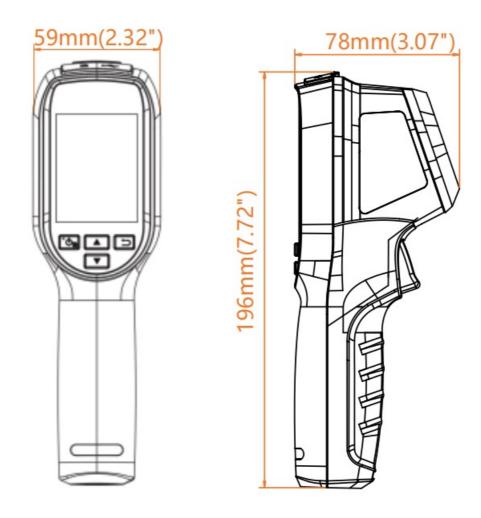


- HIKMICRO Viewer Android
- HIKMICRO Viewer iOS



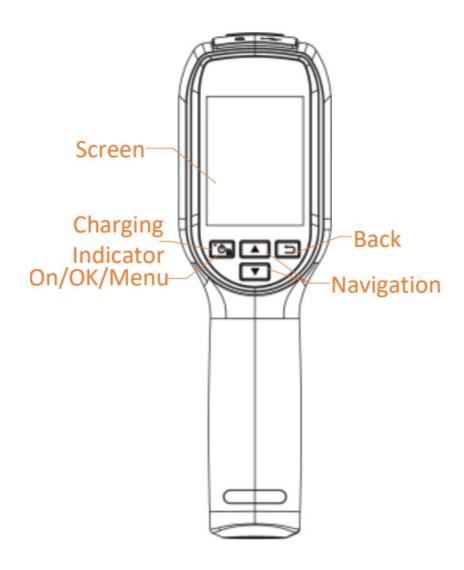
Appearance

Dimensions



The dimension may vary according to different camera models.

Interfaces





- Press: Display menu or confirm the operation
- Exit the menu or return to the previous menu.
- Navigation Button
- to select parameters.
- Press to confirm.



· Note:

The warning sign is under the laser and on the left side of the device.

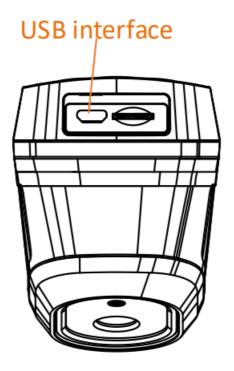
- Charging Indicator When the device is charging, the LED indicator is red. When the device is fully charged, the LED indicator is green.
- USB Interface Charge the battery and export snapshots with the Type-C cable.
 Trigger Pull the trigger to capture snapshots. When the Laser function is switched on, pull the trigger to turn on/off the laser light.

Warning: The laser radiation emitted from the device can cause eye injuries, burning of the skin, or inflammable substances. Prevent eyes from the direct laser. Before enabling the Light Supplement function, make sure human or inflammable substances are in front of the laser lens. The wavelength is 650 nm, and the power is less than 1 Mw. The laser meets the IEC60825-1:2014 standard.

Preparation

Charging the Device Steps:

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



Note:

- For the first charge, charge the device for more than 8 hours when the device is turned on.
- The built-in cell battery that powers the real-time clock (RTC) of the device may drain during longtime transportation or storage. It is recommended to recharge the RTC battery for the well-functioning of the device clock.
- To fully charge the RTC battery, the following requirements should be met:
- a) rechargeable lithium batteries should be installed on the device.
- b) The device should keep working for more than 8 hours before shutting down.

Power On/Off

Power On

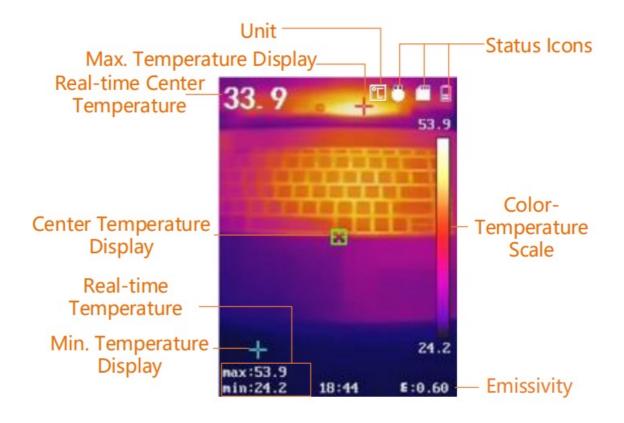
• Remove the lens cover, and hold for over three seconds to turn on the device. You can observe the target when the interface of the device is stable.

Power Off

- When the device is 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 a device as required.

Interface Description

The interface of different models may vary. Take the actual product for reference.



Capture Snapshots

- 1. **Steps:1.** In the live view interface, pull the trigger to capture a snapshot. The live view freezes and the device display the snapshot with temperature information.
- 2. Press to save the picture, and press to cancel it.

View Snapshots

Steps:

- 1. In the live view interface, press to show the menu.
- 2. Press to select Picture
- 3. Press to view it.
- 4. Press / to switch pictures.
- 5. (Optional) Press to delete a picture.
- 6. Press to exit.

Export Snapshots Purpose:

Connect the device to your PC with a USB cable, and then you can export the captured snapshots. **Steps:**

- 1. Open the Interface cover.
- 2. Connect the camera to your PC with a Type C cable and open the detected disk.
- 3. Select and copy the snapshots to the 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 USB connection from the PC or pull out the Micro SD card during drive installation or it may cause the device damage.

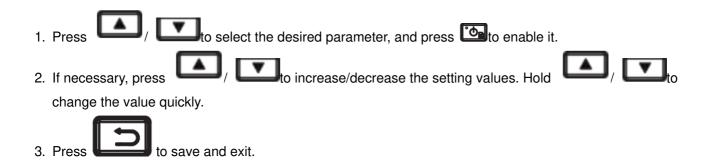
Temperature Measurement

Set Thermography Parameters Purpose:

The thermometry (temperature measurement) function provides the real-time temperature of the scene and displays it on the left of your screen. The thermometry function is turned on by default. The thermometry parameters affect the accuracy of temperature measurement.

Steps:

- 1. In the live view interface, press to show the menu bar.
- 2. Press to select desired setting bar.
- 3. Press to go to the setting interface.
- Emissivity: Set the emissivity of your target as the effectiveness in emitting energy as thermal radiation.
- Note: Refer to the 6.1 Common Material Emissivity Reference for emissivity values.
- **Meas. Range:** Select the temperature measurement range. The device can detect the temperature and switch thermography range automatically in Auto Switch mode.
- **Distance:** Set the distance between the target and the device.
- Note: The recommended thermometry distance is 0.2 m to 2 m with target size 80×80 mm.
- **Rule:** Select Hot Spot, and Cold Spot to show the max. temperature, min. temperature in the live view interface.
- Unit: Set the temperature unit.



Set Palettes

Steps:

- 1. In the live view interface, press to show the menu bar.
- 2. Press to select Palettes
- 3. Press to switch palettes.
- 4. Press to save and exit. Set Laser

Steps:

- 1. In the live view interface, press to show the menu bar.
- 2. Press to select Laser.
- 3. Press to enable the laser light function.
- 4. Press to save and exit.
- 5. In the live view interface, pull the trigger to turn on the laser light, and release the trigger to turn off the laser light.

Maintenance

View Device Information

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

Set Date and Time

n the live view interface, press and select Time & Date to set the information. Format Memory Card

Before you start: Confirm the memory card is properly installed **before use.**

Steps:

- 1. In the live view interface, press to show the menu bar.
- 2. Press to select Format Card.
- 3. Press and select OK to start format Card.

Note: Format memory Card before first use of it.

Upgrade

Steps:

- 1. Connect the handheld thermography camera to your PC with a USB cable and open the detected disk.
- 2. Copy the upgrade file and replace it with 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 upgrade, the device automatically reboots. You can view the current version in Menu > About.

Restore Device

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

Appendix

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

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. Plug and unplug the battery once.
- 3. Make sure the environment temperature is above 0°C (32°F).
- · Q: Capturing or recording fails.
- · A: Examine the items below:
- Whether the device is connected to your PC and the capture function is unavailable.
- Whether the storage space is full.
- 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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- 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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PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED. YOU AGREE TO USE THIS PRODUCT IN COMPLIANCE WITH ALL APPLICABLE LAWS, AND YOU ARE SOLELY RESPONSIBLE FOR ENSURING THAT YOUR USE CONFORMS TO THE APPLICABLE LAW. ESPECIALLY, YOU ARE RESPONSIBLE, FOR USING THIS PRODUCT IN A MANNER THAT DOES NOT INFRINGE ON THE RIGHTS OF THIRD PARTIES, INCLUDING WITHOUT LIMITATION, RIGHTS OF PUBLICITY, INTELLECTUAL PROPERTY RIGHTS, OR DATA PROTECTION AND OTHER PRIVACY RIGHTS. YOU SHALL NOT USE THIS PRODUCT FOR ANY PROHIBITED END-USES, INCLUDING THE DEVELOPMENT OR PRODUCTION OF WEAPONS OF MASS DESTRUCTION, THE DEVELOPMENT OR PRODUCTION OF CHEMICAL OR BIOLOGICAL WEAPONS, ANY ACTIVITIES IN THE CONTEXT RELATED TO ANY NUCLEAR EXPLOSIVE OR UNSAFE NUCLEAR FUEL-CYCLE, OR IN SUPPORT OF HUMAN RIGHTS ABUSES. IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATTER PREVAILS.

Regulatory Information

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 B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

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

This product and – if applicable – the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Directive 2014/30/EU(EMCD), Directive 2001/95/EC(GPSD) and Directive 2011/65/EU(RoHS). This product and – if applicable – the supplied accessories too are marked with "UKCA" and comply therefore with the following directives: Electromagnetic Compatibility Regulations 2016, Electrical Equipment (Safety) Regulations 2016, the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012. Directive 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 According to the Waste Electrical and Electronic Equipment Regulations 2013: Products marked with this symbol cannot be disposed of as unsorted municipal waste in the United Kingdom. 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. Directive 2006/66/EC and its amendment 2013/56/EU (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. According to the Batteries and Accumulators (Placing on the Market) Regulations 2008 and the Waste Batteries and Accumulators Regulations 2009: This product contains a battery that cannot be disposed of as unsorted municipal waste in the United Kingdom. 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.

Industry Canada ICES-003

Compliance

This device meets the CAN ICES-003 (B)/NMB-003(B) standards requirements.

• Facebook: HIKMICRO Thermography Instagram: hikmicro_thermography

• E-mail: info@hikmicrotech.com Website: https://www.hikmicrotech.com/

LinkedIn: HIKMICRO

YouTube: HIKMICRO Thermography

Documents / Resources



<u>HIKMICRO E Series Handheld Thermography Camera</u> [pdf] User Manual E Series Handheld Thermography Camera, E Series, Handheld Thermography Camera, Thermography Camera, Camera

References

- HIKMICRO
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