Handheld Thermal Imager

HIKMICRO FP Series

User Manual

Contact Us

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About this Manual

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.

This manual is applicable to the following models: FP21, FP31.

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Hereby, Hangzhou Microimage Software Co., Ltd. declares that this device (refer to the label) is in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address:
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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.

Frequency Bands and Power (for CE)

The frequency bands and transmitting power (radiated and/or conducted) nominal limits applicable to the following radio equipment are as follows:

Wi-Fi 2.4 GHz (2.4 GHz to 2.4835 GHz): 20 dBm

RF Exposure Information

This device has been tested and meets applicable limits for Radio Frequency (RF) exposure.

For the device without a supplied power adapter, use the power adapter provided by a qualified manufacturer. Refer to the product specification for detailed power requirements.

For the device without a supplied battery, use the battery provided by a qualified manufacturer. Refer to the product specification for detailed battery requirements.

INFORMATIONEN FÜR PRIVATE HAUSHALTE

1. Getrennte Erfassung von Altgeräten:

Elektro- und Elektronikgeräte, die zu Abfall geworden sind, werden als Altgeräte bezeichnet. Besitzer von Altgeräten haben diese einer vom unsortierten Siedlungsabfall getrennten Erfassung zuzuführen. Altgeräte gehören insbesondere nicht in den Hausmüll, sondern in spezielle Sammel- und Rückgabesysteme.

2. Batterien und Akkus sowie Lampen:

Besitzer von Altgeräten haben Altbatterien und Altakkumulatoren, die nicht vom Altgerät umschlossen sind, die zerstörungsfrei aus dem Altgerät entnommen werden können, im Regelfall vor der Abgabe an einer Erfassungsstelle vom Altgerät zu trennen. Dies gilt nicht, soweit Altgeräte einer Vorbereitung zur Wiederverwendung unter Beteiligung eines öffentlich-rechtlichen Entsorgungsträgers zugeführt werden.

3. Möglichkeiten der Rückgabe von Altgeräten:

Besitzer von Altgeräten aus privaten Haushalten können diese bei den Sammelstellen der öffentlich-rechtlichen Entsorgungsträger oder bei den von Herstellern oder Vertreibern im Sinne des ElektroG eingerichteten Rücknahmestellen unentgeltlich abgeben. Rücknahmepflichtig sind Geschäfte mit einer Verkaufsfläche von mindestens 400 m² für Elektro- und Elektronikgeräte sowie diejenigen Lebensmittelgeschäfte mit einer Gesamtverkaufsfläche von mindestens 800 m², die mehrmals pro Jahr oder dauerhaft Elektro- und Elektronikgeräte anbieten und auf dem Markt bereitstellen. Dies gilt auch bei Vertrieb unter Verwendung von Fernkommunikationsmitteln, wenn die Lager- und Versandflächen für Elektro- und Elektronikgeräte mindestens 400 m² betragen oder die gesamten Lager- und Versandflächen mindestens 800 m² betragen. Vertreiber haben die Rücknahme grundsätzlich durch geeignete Rückgabemöglichkeiten in zumutbarer Entfernung zum jeweiligen Endnutzer zu gewährleisten. Die Möglichkeit der unentgeltlichen Rückgabe eines Altgerätes besteht bei rücknahmepflichtigen Vertreibern unter anderem dann, wenn ein neues gleichartiges Gerät, das im Wesentlichen die gleichen Funktionen erfüllt, an einen Endnutzer abgegeben wird.

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Altgeräte enthalten häufig sensible personenbezogene Daten. Dies gilt insbesondere für Geräte der Informations- und Telekommunikationstechnik wie Computer und Smartphones. Bitte beachten Sie in Ihrem eigenen Interesse, dass für die Löschung der Daten auf den zu entsorgenden Altgeräten jeder Endnutzer selbst verantwortlich ist.

5. Bedeutung des Symbols „durchgestrichene Mülltonne“:

Das auf Elektro- und Elektronikgeräten regelmäßig abgebildete Symbol einer durchgestrichenen Mülltonne weist darauf hin, dass das jeweilige Gerät am Ende seiner Lebensdauer getrennt vom unsortierten Siedlungsabfall zu erfassen ist.

KC

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Symbol Conventions

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

Symbol	Description
Note	Provides additional information to emphasize or supplement important points of the main text.
Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

Please read all the safety information carefully before using. 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

- If a power adapter is provided in the device package, use the provided adapter only. If no power adapter is provided, ensure the power adapter or other power supply complies with Limited Power Source. Refer to the product label for the power supply output parameters.
- 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

- CAUTION: Risk of explosion if the battery is replaced by an incorrect type. Replace with the same or equivalent type only. Dispose of used batteries in conformance with the instructions provided by the battery manufacturer.
- Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the case of some lithium battery types).
- Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
- Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
- Dispose of used batteries in conformance with the instructions.
- 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 3 months to ensure the battery quality. Otherwise, damage may occur.
- Use the battery provided by a qualified manufacturer. Refer to the product specification for detailed battery requirements.

Laser Light Supplement Warning

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- Warning: The laser radiation emitted from the device can cause eye injuries, burning of skin or inflammable substances. Prevent eyes from direct laser. Before enabling the Light Supplement function, make sure no human or inflammable substances are in front of the laser lens. The wave length is 650 nm, and the power is less than 1 mW. And invisible laser radiation class 1 laser product. The laser meets the IEC60825-1:2014, EN 60825-1:2014+A11:2021, and EN 50689:2021 standard.
- Instantaneous exposure to this class 2 laser product is safe, but gazing at this laser product may cause dizziness, flash blindness and visual afterimage. Move your head away or close your eyes to avoid the laser radiation. Besides, prevent eyes from direct laser and wear a pair of goggles for your safety. The operating wavelength of the eyewear should be longer than laser peak wavelength and its optical density should be higher than 0D5+.

- 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 power off when replacing laser assembly.
- Caution! -Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Maintenance

- DO NOT maintain the imager when it is powered on, or it may cause electric shock! 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.
- Please notice that the current limit of USB 3.0 PowerShare port may vary with the PC brand, which is likely to result in incompatibility issue. Therefore, it's advised to use regular USB 3.0 or USB 2.0 port if the USB device fails to be recognized by PC via USB 3.0 PowerShare port.

Using Environment

- Make sure the running environment meets the requirement of the device.
- The operating temperature shall be -10 °C to 55 °C, and the operating humidity shall be 95% or less.
- Place the device in a dry and well-ventilated environment.
- 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 level of protection is IP 67.

Calibration Service

Please contact the local dealer for the information on maintenance points. For more detailed calibration services, please refer to https://www.hikmicrotech.com/en/support/.

Technical Support

https://www.hikmicrotech.com/en/contact-us.html 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.

Limited Warranty

Scan the QR code for the product warranty policy.

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 Overview

1.1 Introduction

The handheld thermal imager is a handheld temperature measurement product suitable for multiple scenarios. Equipped with a high-resolution detector, it delivers clear imaging and high thermal sensitivity, enabling effective detection of temperature variations and precise temperature measurement of targets.

The handheld thermal imager supports multiple palettes, making it suitable for various on-site environments including fire detection, rescue, and buildings, etc.

1.2 Main Function

Multiple Palette Modes

The imager supports multiple palette modes suitable for different scenes and targets. It helps quickly distinguish targets from rest of the objects. Some palette modes also offer image temperature for reference.

Digital Zoom

The imager supports 3 zoom ratios for users to check on details from a distance.

On-site Image Capture and Record

The imager supports image capture, video recording and storage.

Wi-Fi and Hotspot

The imager provides Wi-Fi and hotspot function for connecting to mobile device for data transmission.

Client Software Connection

Mobile Device: Use HIKMICRO Viewer to view live image, capture snapshots, and record videos on your phone. You can also, analyze pictures offline, generate and share a report via the app.

1.3 Appearance

1.3.1 Component Description

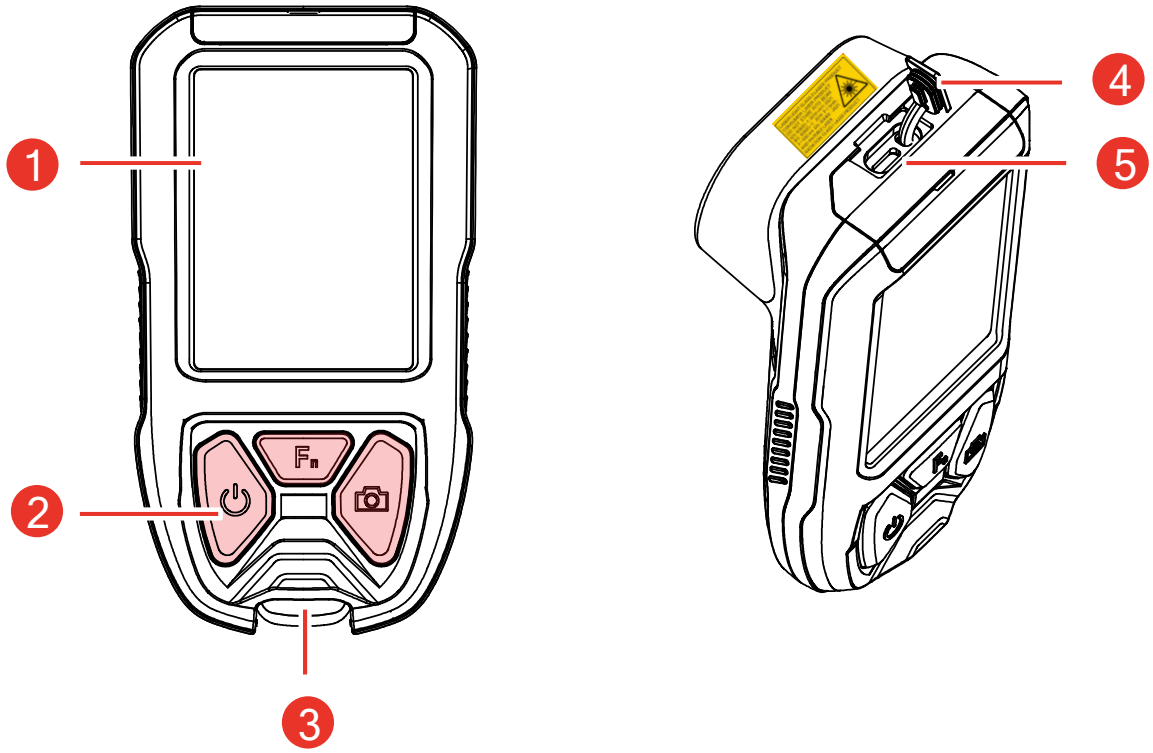


Figure 1-1 Appearance (Front View)

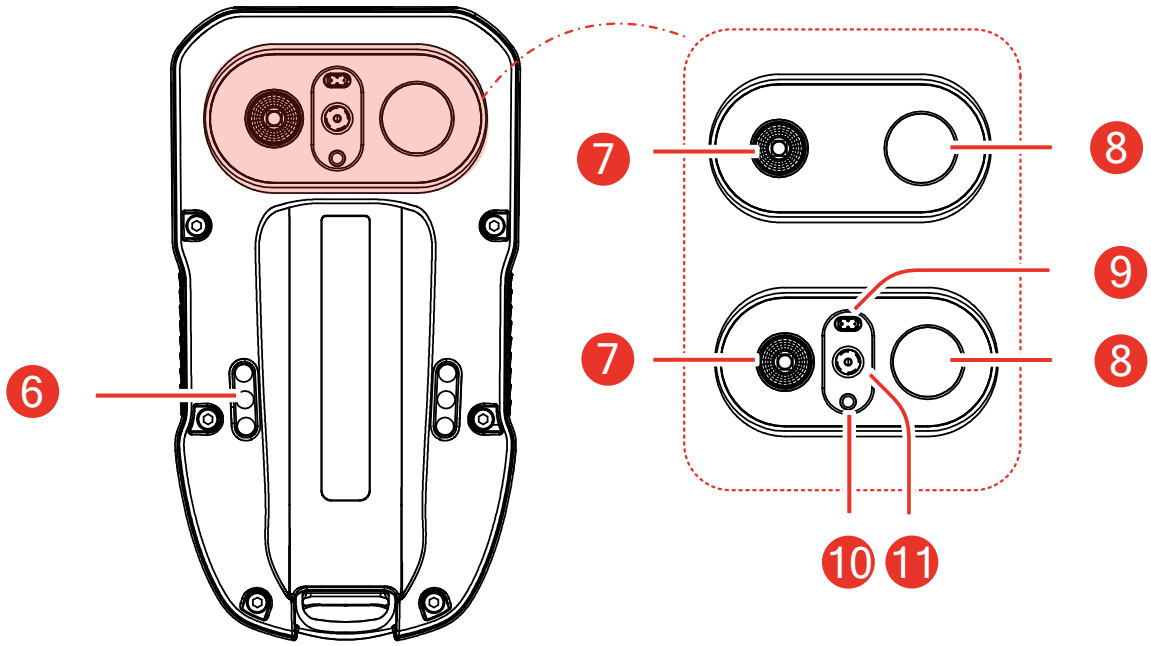


Figure 1-2 Appearance (Rear View)

Table 1-1 Appearance Description

No.	Part Name	Description
1	Screen	View images and menus.
2	Control Buttons	Operate the imager. See ***1.3.2 Button Operation*** for detailed instructions.
3	Lanyard Hole	Mount lanyard for easy carrying. See ***1.4.2 Install Lanyards*** for lanyard mounting guide.
4	Port Cover	Protect USB port.
5	USB Type-C Port	Charging and data transmission.
6	Charging Contacts	Use with optional in-truck charger.
7	Torch	White light torch.
8	Thermal Lens	For thermal imaging.
9	Laser Ranging Unit*	Measure distance to targets.
10	Laser Pointer*	Indicate the target in measuring.
11	Visual Lens*	For visual imaging.

1.3.2 Button Operation

Button functions are different in live view interface or in menu interface.

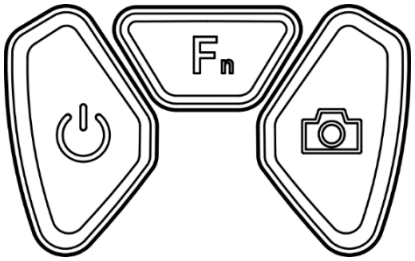


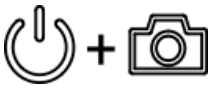
Figure 1-3 Buttons

Live View Interface

Button functions in live view are shown in the following table.

Table 1-2 Buttons Operation

Button	Device Status	Function
	Device OFF	Press  for 1 s to start up the imager.
	Live View	● Press to return to basic mode. ● Hold for over 6 s to power off the imager.
	Device OFF	Press to turn ON/OFF torch.

Button	Device Status	Function
	Live View	● Press to switch among palette modes (default). Function configurable (light supplement and digital zoom). ● Hold to turn on the torch (default). Function configurable (laser and digital zoom).
	Live View	● Press to take one snapshot. ● Hold to start recording a video. Press again to stop recording.
	Live View	In live view, press together to enter the menu.

Menu Interface

After entering the menu interface, you can operate 3 buttons according to the function icons on the lower side of the screen. The icons and functions displayed in the screen are shown in the table below.

Table 1-3 Icons in Menu Interface

Screen Display Icon	Description	Screen Display Icon	Description
	Go back to the live view interface.		Back to previous menu.
	Enter album.		Delete.
	Enter system menu.		Cancel.
	● Press：Next. ● Hold：Fast switch.		Confirm.
	● Press：Next. ● Hold：Fast switch.		Pause the video.
	Hold to play the video.		Stop the video.

1.4 Mount Neck Strap and Lanyards

The imager is equipped with a neck strap and lanyards for convenient carrying and preventing from accidental falling.

1.4.1 Mount Neck Strap

Install neck strap in the way as shown in the figure below.

1. Press and hold one of the neck strap buckles, and hang it on the neck strap hole.
2. Repeat step 1 to install the other end of the strap.

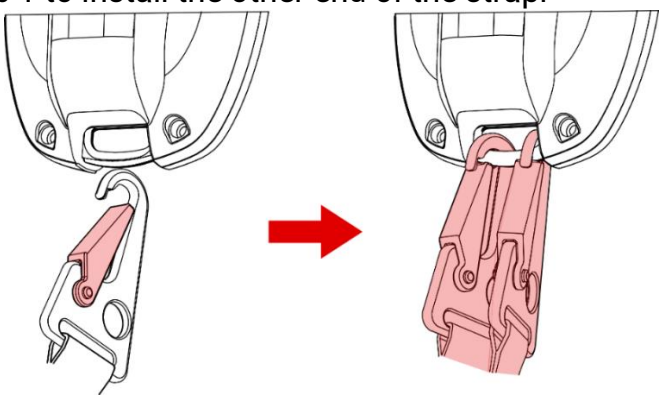


Figure 1-4 Install Neck Strap

1.4.2 Install Lanyards

Press the clip of the lanyard and hang it on the lanyard hole. The other end of the lanyard can be attached to the buckle on a firefighter's uniform.

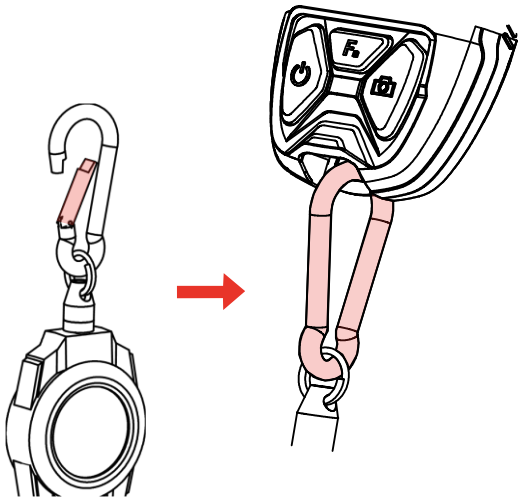


Figure 1-5 Install Lanyards

2 Quick Use Process

You can follow the steps to quickly use the imager.

1. For the first time using, please fully charge the imager. See ***3.1 Charge the Imager*** for charging guide.
2. Press  for 1 s to start the imager.
3. Set Date and Time.
4. Hold and aim the imager to target for temperature measurement or observation.

 When this icon flashes on the upper-middle of the screen, it indicates that the device is overheating (above 100 °C). Continuous overheating may damage the device. Please turn off the device and keep it away from heat sources.

5. Press  to switch palette mode. See ***4.1.1 Switch Palette Mode*** for the introduction of the palette modes.
6. Press  to capture snapshots, or hold  to start recording and press again to stop recording.
7. View the saved files in the local albums. See ***5.1.2 View Files in Albums*** for instructions.
8. Export the files for analysis. See ***6.2 UVC Cast*** Screen Tool

The imager supports casting screen to PC by UVC protocol-based client software or player. Connect the imager to your PC via the included USB cable, and cast the real-time live view of the imager to your PC.

9. Connect the imager to the PC with a USB cable. Press  to select **USB Cast Screen** on the imager.
10. Open the UVC protocol-based software on your PC.
11. The live image of the imager then displays on your PC.

12. Export Files for the exporting instructions.

3 Preparations

Read the instructions carefully to understand the usage and precautions of the thermal imager.

3.1 Charge the Imager

For the first time using or when the battery is insufficient, please turn off the imager and charge it.

You can see the battery status by checking the battery icon in the status bar.

Icon	Description
	Charging.
	Fully charged.
	75% of charge.
	50% of charge.
	25% of charge. If it flashes, please charge your imager, otherwise the imager will automatically shut down soon.
	Battery exception.

Note

- Please charge the imager with the USB cable and charging base provided by the manufacturer.
- The power delivered by the charger must be between min 6.7 Watts required by the radio equipment, and max 10 Watts in order to achieve the maximum charging speed.
- Power input: (1) 5V⎓2A (2) 12V-24V⎓2A.
- Output：(1) 4.2V⎓1.6A (2) 5V⎓0.6A (Total amount <10W)，12V⎓1.4A (Total amount <24W) .

3.1.1 Charge Battery via Charging Base

Use charging base provided by the manufacturer to charge the imager.

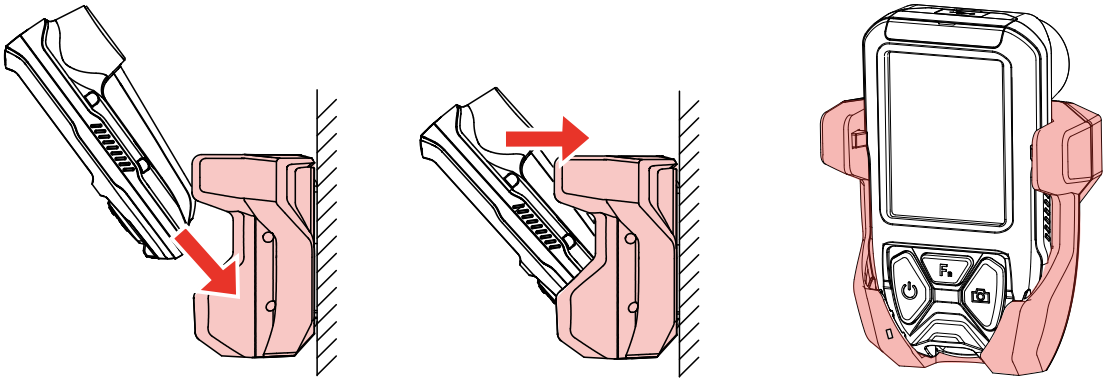


Figure 3-1 Using Charging Base

1. Insert the lower part of the device at a tilted angle into the inner bottom of the charger.
2. Push the device horizontally until a clicking sound is heard, indicating a secure connection between the device and the charger.
3. Use the charging cable to connect the charger and power outlet. Then, you can see the charging status via charging indicator.
4. When the device is fully charged, tilt it at an angle and pull it out.

Note

- Solid Red: Charging normally.
- Solid Green: Fully charged.

3.1.2 Charge Imager via USB Cable

The imager can also be charged via the USB Type-C cable.

1. Open the port cover on top of the imager to show the USB Type-C interface.

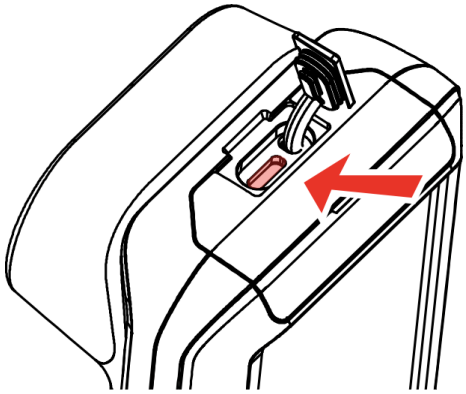


Figure 3-2 Show Type-C Interface

2. Connect the imager to a USB Charger (should be prepared by user) or your PC with the provided USB-A to USB-C cable.
3. Checking the charging status on the screen.

Note

- Solid Red: Charging normally.
- Solid Green: Fully charged.
- Flashing Red and Green: Charging exception.

4. When charging completes, disconnect the cable.
5. Put the port cover in place.

3.2 Power On/Off and Auto Sleep

You can power on/off the imager or put the imager into sleep mode.

Table 3-1 Power on/off and Sleep Mode Instructions

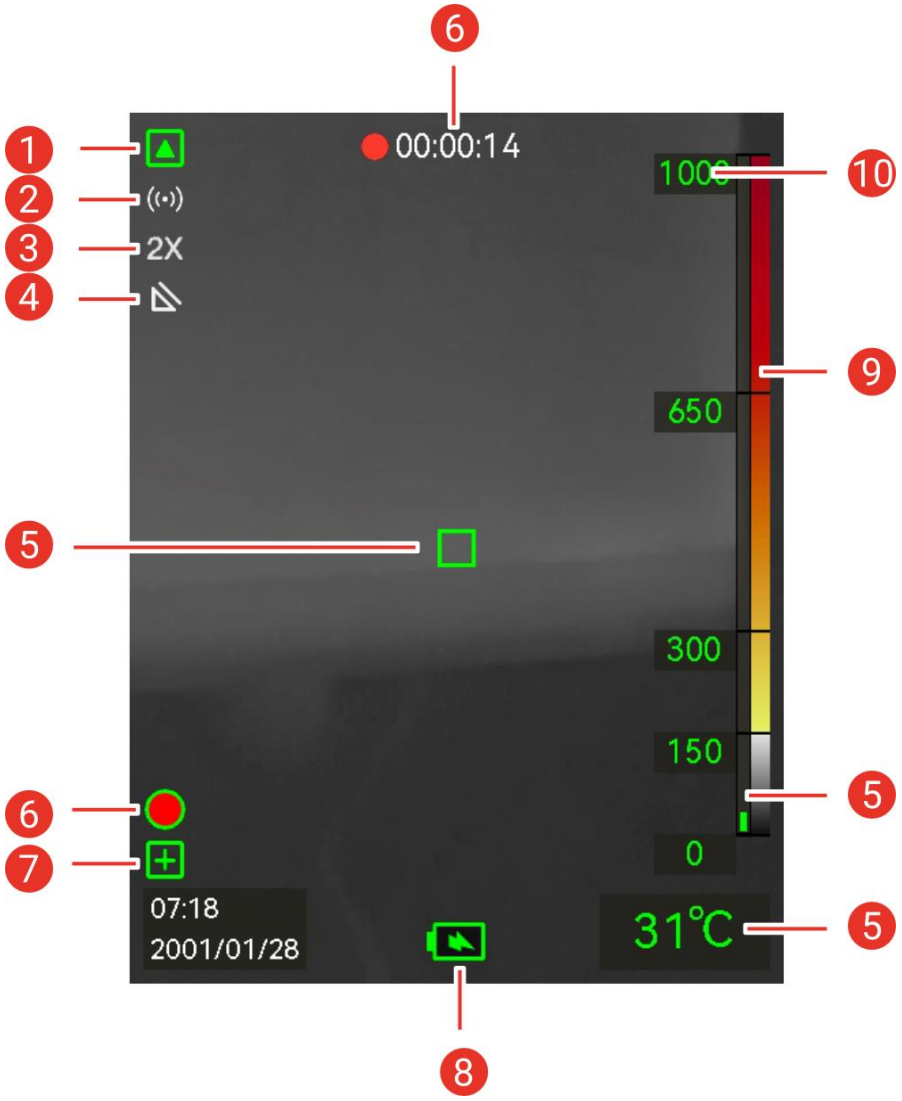
Task	Operation	Result
Power on	Hold  for 1 s to power on the imager.	The imager enters live view interface after starting-up.
Power off	Hold  for over 6 s to shut down.	The imager is turned off to conserve battery power.
Sleep Mode	Set the time of auto sleep, the imager will enter sleep mode automatically to save power.	The imager's screen is off, and the imager is still running.

3.3 Read Screen Information

The imager screen has live view interface and menu interface serving different purposes.

Live View Interface

The live view interface is for user to view thermal image and target temperature. Understanding the icons and figures in advance is helpful for first-time using.



When this icon flashes on the upper-middle of the screen, it indicates that the device is overheating (above 100 °C). Continuous overheating may damage the device. Please turn off the device and keep it away from heat sources.

Figure 3-3 Live View Interface

No.	Description
1	Low sensitivity mode indicator. It indicates that the imager is currently in a low sensitivity mode like basic, smooth, white hot and fire mode. This mode improves thermal imaging display for extreme heat sources, with increased noise visibility in cooler

	regions. High temperature modes: basic, smooth, white hot and fire detection modes. Low temperature modes: rescue, hot area, cold area, and building modes.
2	Hotspot is enabled. The icon of Wi-Fi is . For hotspot and Wi-Fi connection, see ***6.1 Mobile Application HIKMICRO Viewer*** for instructions.
3	Zooming ratio (1.0X, 2.0X, 4.0X). For the zooming operation, see ***4.1.5 Digital Zoom***.
4	Object Details Enhancement (ODE) is enabled. For more information about ODE, refer to ***4.1.4 Object Details Enhancement (ODE).***
5	Live image area. marks the center point of the live scene. marks the highest temperature point and the lowest temperature point in the scene. You can turn on/off of the highest and lowest temperature point display. Refer to ***5.2 Display Real-time Hot and Cold Spots*** for instructions.
6	Show recording status and recording time.
7	TI BASIC PLUS mode indicator. It indicates that the imager is currently not in the basic mode.
8	Battery and charging status. For example, means fully charged.
9	Thermal readout area. There are 3 types of thermal readout style available. Refer to ***4.1.2 Adjust Thermal Readout*** for details of the 3 display style and settings.
10	The scale of the thermography range. Not displayed in all palette modes.

Menu Interface

In live view interface, press + together to enter imager menu to check system information of the imager. Then, press Fn to select and enter local albums, or press to select and enter system setting menu.

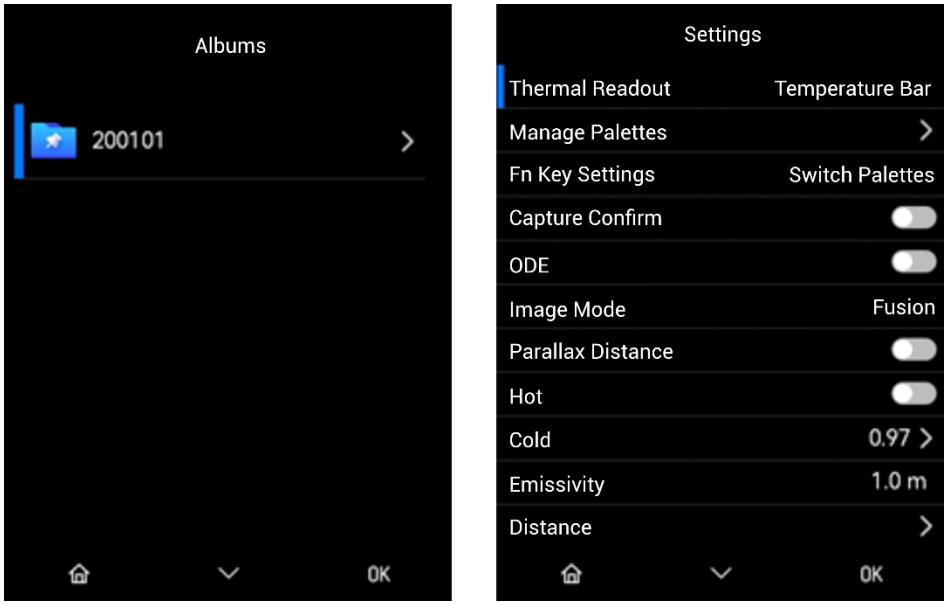


Figure 3-4 Albums and System Settings

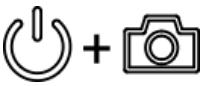
- For viewing snapshots and exporting files, refer to ***5.1.2 View Files in Albums*** and ***6.2 UVC Cast Screen Tool***.
- For local album management, refer to ***5.1.1 Album and Files Management.***
- For system settings, refer to ***7 More Settings***.

4 Basic Operations

4.1.1 Switch Palette Mode

Before you start

Before using the device, users need to set the palette modes first so that you can switch them in the live view interface.

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **Manage Palettes**.
3. Press  to select your preferred palette mode from the multi-selection list.
4. Press  to save and return to the live view interface.

Note

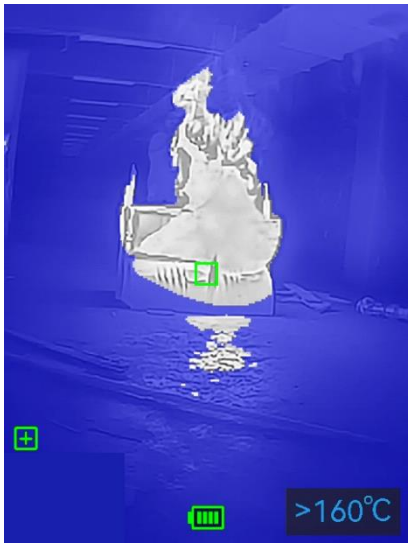
Users can select all palettes or none.

- In live view, press  to switch palette modes. The imager supports multiple modes suitable for different scenes and objects.
- In live view, press  to quickly switch to basic mode.

Table 4-1 Palette Modes Description

Mode	Mode Description	Example Snapshot
Basic mode (default)	Basic mode (default). It is applicable to firefighting, and life searching and rescue. The real-time temperature is marked with the corresponding colors in the color-temperature scale.	
Smooth mode	It is applicable to firefighting, and life searching and rescue. The advantage of this mode is that it can display the moving picture more smoothly when the target frequently changes. However, the image effect of Basic Mode in high temperature may be better than that in Smooth Mode.	
White hot mode	It is applicable to firefighting and life searching and rescue senarios. Black and white image. Temperaure of white areas is higher.	

Fire detection mode	It is applicable to scenes with many open fires and high background temperature. The display effect is similar to the basic mode. Only that the start temperature of red and yellow marking is higher.	
Rescue mode	The mode is suitble for searching and rescuing people in the field, building, or traffic accident scene. The display effect is similar to the basic mode. Only that the start temperature for red and yellow marking is lower.	
Hot area mode	This mode detects high temperature targets of the scene and mark them in red. This mode is applicable to search remaining fire during overhaul after fire is basically out, people in water or field, etc.	

Cold area mode	This mode detects low temperature targets of the scene and mark them in blue. This mode is used to search cold spots in fire scenes, such as gas streams that may provide oxygen or fuel for burning.	
Building mode	Applicable to analysis and detection of building-related exceptions. Thermal images can provide information about structure, machinery, pipe, and electrical system.	

4.1.2 Adjust Thermal Readout

Thermal readout refers to the referential palette color bar, temperature scale and image center temperature that help user to know temperature condition of target scene. There are 3 types of readout available.

1. In live view interface, press + together to enter menu.
2. Go to **Settings** > **Thermal Readout**.
3. Press to switch 3 types of readout.
   - Temperature Bar ①: Show temperature scale (④), center point temperature bar (⑤), and center point temperature value (⑥).
   - Digital Readout Only ②: Show center point temperature value only.

- Temperature Scale ③: Show temperature scale and center point temperature value.

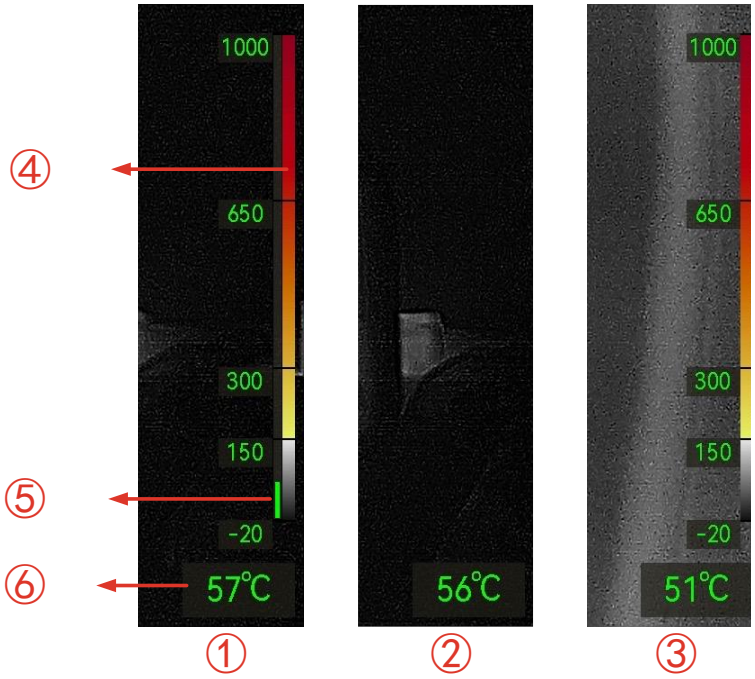


Figure 4-1 Thermal Readout

4. Press to save and return to the live view interface.

Note

Thermal readout of different palette modes are different. Temperature scale is only supported in the Basic, Smooth, Fire Detection, Rescue, and Building mode. Temperature Bar is not supported in the Building mode. The figure above is an example for reference.

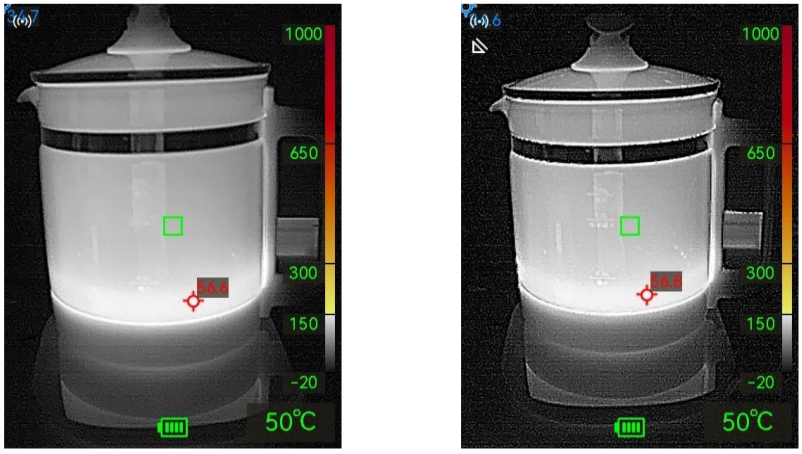
4.1.3 Set SuperIR

The device supports SuperIR on live view (for some models) and on snapshots. Turn on SuperIR to enhance the object outlines for better image display. The actual effect is subject to the actual product.

Go to **Settings** > **SuperIR**, and press to turn it on/off.

4.1.4 Object Details Enhancement (ODE)

Object Details Enhancement (ODE) is used to enhance outline of certain targets. With this function enabled, target outline will be clearer, but noise of the image will be increased accordingly.



ODE OFF ODE ON

Figure 4-2 Image Example of ODE On and Off

1. In live view interface, press + together to enter imager menu.
2. Go to **Settings** > **ODE**.
3. Press to enable the function.
4. Press to save and return to the live view interface.

4.1.5 Digital Zoom

Enable Digital Zoom of the imager to focus on specific areas (such as small components and hot points) in the live view interface for detailed temperature analysis. The imager supports 3 zoom ratios, 1.0X, 2.0X, and 4.0X.

1. In live view interface, press + together to enter imager menu.
2. Go to Settings > Fn Key Settings > Press Button or Hold Button.
3. Press to switch to Digital Zoom.
4. Press to save and return to the live view interface. Press or Hold Fn to the target to switch zoom ratio according to the configuration rules.

- When the zoom ratio is 1.0X, it is not displayed in the live view interface.
- Users can configure the functions of press and hold as per their preference.

5 Optional Operations

5.1 Capture Snapshots and Record Videos

Snapshots and videos are saved in local albums.

Capture

In live view interface, aim the imager to a target, and press  to capture a snapshot.

- Users can choose to enable **Capture Confirm**.
- This function is used for image capture and storage operations. After you enable this function, when you press  briefly in the live view, the device will immediately freeze the current thermal image and keep the image static on the screen. You can press  again to cancel or press  to save.

Recording

In live view interface, hold  to start recording a video. Release the button when you see the video time displayed in the live view interface. Then press  again to stop.

5.1.1 Album and Files Management

Naming Rule of Album Folder and File

The naming of album folders and files depends on the system date and time. Please set the system date and time correctly before taking snapshots or videos, otherwise you may find it difficult to locate a snapshot or video.

- File name of a file is the saving date and time.
- Files are saved in monthly named album folders according to the saving time. The folder name is 6-digit number of the year and month. For example, “202506” means June, 2025.
- A new snapshot or video is automatically saved in the auto-generated album  .

Set File Naming Rule

You can customize the naming rule of files.

1. In live view interface, press + together to enter imager menu.
2. Go to **Settings** > **More Settings** > **File Naming**.
3. Press to select **File Naming** rule. **Time Stamp** and **Numbering** are selectable.

5.1.2 View Files in Albums

1. In live view interface, press + together to enter imager menu.
2. Press Fn to enter albums.
3. Press Fn to select an album folder and press to enter.
4. Press Fn to browse files and press to view the details.
5. Hold Fn to fast switch files.

The button does not currently support rolling back to view files.

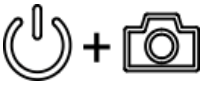
6. Optional: Playback recorded video on imager.
   - Hold Fn to play the video.
   - When playing the video, press Fn to pause or resume.
   - When playing the video, press to stop and return to the album.
7. Optional: Delete a file.

Snapshots and videos saved in local albums can be deleted. Before deleting, make sure that important data is exported for backup. For instructions of exporting, refer to ***6.2* UVC Cast Screen Tool**.

8. Press to go back to upper-level menu.

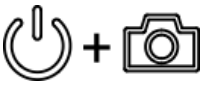
5.2 Display Real-time Hot and Cold Spots

The imager supports displaying the highest (hot) and lowest temperature (cold) spot in the live view. After enabling the function, the hot spot is marked with  and the cold spot is marked with  . Real-time temperatures are displayed next to the marks.

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **Hot** or **Cold**.
3. Press  to enable the spot.
4. Press  to save and return to the live view interface.

5.3 Laser

The imager utilizes a laser pointer (only some models supports) to help users quickly locate temperature measurement points.

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **Fn Key Settings** > **Hold Button** > **Laser**.
3. Press  to save and return to the live view interface.

Laser Ranging

After the laser configuration is completed, go back to the live view interface and hold  . The device will automatically measure the distance between the target and the device.

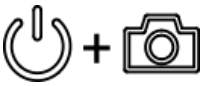
Point the laser at the target to be measured, hold  to activate the laser, release  after the laser is activated on the target.

If the measurement is successful, the distance value will be displayed on the live view interface. If the measurement fails, a message "Laser range finding failed. Please try again!" will pop up in the observation interface.

5.4 Torch

Turn on the torch in the low-light condition (only supported by certain models).

Startup Status

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **Fn Key Settings** > **Press Button** or **Hold Button** > **Light Supplement**.
3. Press  to save and return to the live view interface.
4. Press or Hold  to turn on the torch according to the configuration rules.

Off Status

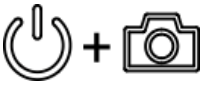
Press  to turn on or off the torch.

In sleep mode, you cannot turn on/off the torch via the Fn key.

5.5 Switch Image Mode

Some models do not support switching image mode. Refer to actual device.

For devices that support both visual and thermal imaging lenses, you can switch the image mode as follows.

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **Image Mode**.
3. Press  to switch the image mode.
   - Thermal: Thermal Imaging Only
   - Fusion: Merge the visual image to the thermal image and show live view of the fused image. The edges of the image are clearer than those in Thermal Mode.

In Fusion Mode, you can set the parallax distance. The steps are as follows:

1. When the image mode is set to Fusion, press Fn to switch to **Parallax Distance**.
2. Press  to select **Parallax Distance**.
3. Press or hold Fn to adjust the value.
4. Press  to save and exit.

4. Press  to save and return to the live view interface.

6 Connect to Mobile Application and PC Software

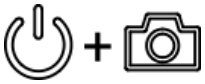
6.1 Mobile Application HIKMICRO Viewer

HIKMICRO Viewer is a mobile application for users to view live image, capture snapshots and adjust imager settings, etc.

Before you Start

1. Download and install the latest HIKMICRO Viewer to your mobile device.
2. Turn on Network access.

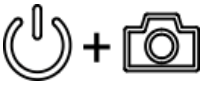
6.1.1 Connect via Wi-Fi

1. Connect the imager to a Wi-Fi network
   1) In live view interface, press  together to enter imager menu.
   2) Go to **Settings** > **More Settings** > **WLAN**.
   3) Press  to select **WLAN**, and to enable the function.
   4) Press  to select Wi-Fi, and enter the password.
   5) Press  to save and exit.
2. Connect the imager to HIKMICRO Viewer.
   1) Using Wi-Fi password.
      - Enter password on phone to join the same Wi-Fi network.
      - Launch the app and follow the startup wizard to search and add the device to the app.
   2) Scanning the Wi-Fi QR code.
      - Select the connected Wi-Fi, and press  on device to show the Wi-Fi QR code.
      - Launch the app to scan to join the same Wi-Fi and add the device.

 **Note**

For more using guide of the app, please check its embedded user manual from **Settings** > **Help**.

6.1.2 Connect via Hotspot

1. Turn on the imager's hotspot.
   1) In live view interface, press  together to enter imager menu.
   2) Go to **Settings** > **More Settings** > **Hotspot**.
   3) Press  to enable the function.
   4) Press  to show the QR code.
2. Connect the camera to HIKMICRO Viewer.
   1) On mobile device, enter HIKMICRO Viewer and tap "+" in the upper right corner.
   2) Select "Scan QR Code" and aim the camera of your mobile device to the QR Code. Then the app starts to add your thermal camera.
   3) You can see camera live image via the APP after adding process finishes.

Note

For more using guide of the app, please check its embedded user manual from **Settings** > **Help**.

6.2 UVC Cast Screen Tool

The imager supports casting screen to PC by UVC protocol-based client software or player. Connect the imager to your PC via the included USB cable, and cast the real-time live view of the imager to your PC.

1. Connect the imager to the PC with a USB cable. Press  to select **USB Cast Screen** on the imager.
2. Open the UVC protocol-based software on your PC.
3. The live image of the imager then displays on your PC.

6.3 Export Files

Export files via HIKMICRO Viewer

1. Launch HIKMICRO Viewer and add the imager. Refer to **6.1 Mobile Application HIKMICRO Viewer**.
2. Select **On-Device Files** on the app to access the on-device albums.

3. Select a file, and tap **Download** to save to your local albums.

Export files to PC

Connect the imager and PC via the provided USB cable to export snapshots and videos, and view them on PC.

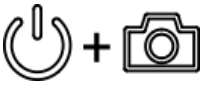
1. Connect the imager to PC with a USB-A to USB-C cable. See the interface in Figure 3-2 for instructions.
2. Press  to select **USB Drive** on the imager. The imager storage appears in the PC as a removable disk.
3. Open the detected disk and enter the album folder.
4. Copy files and paste them to your PC.
5. Disconnect the USB cable and lock the interface cover.

7 More Settings

7.1 Temperature Measurement Settings

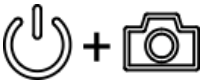
7.1.1 Change Temperature Unit

The imager supports 3 temperature units: degree Celsius (°C), degree Fahrenheit °F (°F), and Kelvin (K). The temperature unit is displayed in the lower right corner of the live view interface.

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **More Settings** > **Unit**.
3. Press  to switch among the three units.
4. Press  to save and return to the live view interface.

7.1.2 Set Temperature measurement parameters

Users should set temperature measurement parameters before measuring temperature.

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings**.
3. Hold  to select the menu for setting parameters.

Emissivity: Set the emissivity of the target.

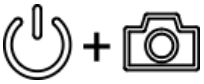
1. Go to Emissivity Settings.
2. Press  to select emissivity template.
3. Optional: Select **Custom** to set the emissivity value, press or hold  to increase the value.
4. Press  to save and return to the live view interface.

Distance: Set the distance between the target and the device.

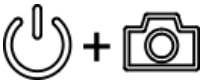
1. Press  to select Distance Settings.
2. Press or hold  to increase the value.
3. Press  to save and return to the live view interface.

7.2 Date, Time and Language Settings

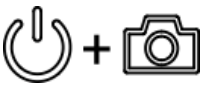
The system date and time affect the name of snapshots and local album folders. When you power on the imager for the first time, follow the instructions to set the date, time and language.

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **More Settings** > **Time and Date**.
3. Press  to show or hide **Time and Date**.

7.2.2 Set Date

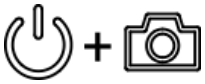
1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **More Settings** > **Date**.
3. Press  to switch from setting year, month and date. The parameter in adjustment is displayed with a blue box.
4. Press  to increase the value.
5. Press  to save and return to the live view interface.

7.2.3 Set Time

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **More Settings** > **Time**.

3. Press  to switch from setting time format, hour and minute. The parameter in adjustment is displayed with a blue box.
4. Press  to increase the value, and **pull trigger to reduce the value**.
5. Press  to save and return to the live view interface.

7.2.4 Set Language

1. In live view interface, press  together to enter imager menu.
2. Go to **Settings** > **More Settings** > **Language**.
3. Press  to switch **Language**, and press  to select a language.
4. Press  to save and return to the live view interface.

7.3 Upgrade Firmware

Before You Start

- Please download the upgrade file from the official website ***http://www.hikmicrotech.com*** or contact the custom service and technical support to get the upgrade file first.
- Make sure that the imager battery is fully charged.

1. Connect the imager to PC with a USB-A to USB-C cable. See the interface in Figure 3-2.
2. Press  to select **USB Drive** on the imager. The imager storage appears in the PC as a removable disk.
3. Copy the upgrade file and paste it to the root directory of the imager.
4. Disconnect the imager from your PC.
5. Reboot the imager and then it will upgrade automatically. The upgrading process will be displayed in the main interface.
6. After upgrading, you can check the version information by pressing  and  together in live view interface.

7.4 Save Operation logs

The imager can collect its operation logs and save in the storage only for troubleshooting.

1. Start or stop saving operation logs.
   1) In live view interface, press + together to enter imager menu.
   2) Go to **Settings** > **More Settings** > **Save Logs**.
   3) Press to turn on/off this function.
2. Export the operation logs to your PC.
   1) Connect the imager to PC with a USB-A to USB-C cable. See the interface in Figure 3-2.
   2) Press Fn to select **USB Drive** on the imager. The imager storage appears in the PC as a removable disk.
   3) Open the detected disk and enter the log folder.
   4) Copy the .log files and paste them to your PC.

7.5 Format Storage

Storage initialization. Use this function with caution.

1. In live view interface, press + together to enter imager menu.
2. Go to **Settings** > **More Settings** > **Format Storage**.
3. Press to start formatting storage or to cancel.

7.6 Restore Imager

Restore the imager to the factory settings. Use this function with caution.

1. In live view interface, press + together to enter imager menu.
2. Go to **Settings** > **More Settings** > **Restore Device**.
3. Press to start restoring and or to cancel.

7.7 Screen Lock

7.7.1 Set and Change Password

Users can use screen lock to protect information security. When enabled, users can configure and modify a 4-digit screen lock password (number only). The password must be entered every time the device starts up or wakes from sleep mode.

Go to **Settings** > **Screen Lock** and turn on the button.

7.7.2 Change Password

Users can choose to change password. Go to **Settings** > **Screen Lock** > **Change Password**.

7.7.3 Reset Password

If the password is forgotten, it can be reset, but this action will erase all stored data and user configurations. Proceed with caution.

Steps

1. In live view interface, hold  to confirm format storage and restore device to factory settings.

 **Note**

Device storage media cannot be accessed via PC when the device is charged via a USB cable in power-off state, or the device is in locked state.

Appendix A Frequently Asked Questions (FAQ)

Scan the following QR code to get imager common FAQ.

HIKMICRO

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HIKMICRO

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UD43839B-A