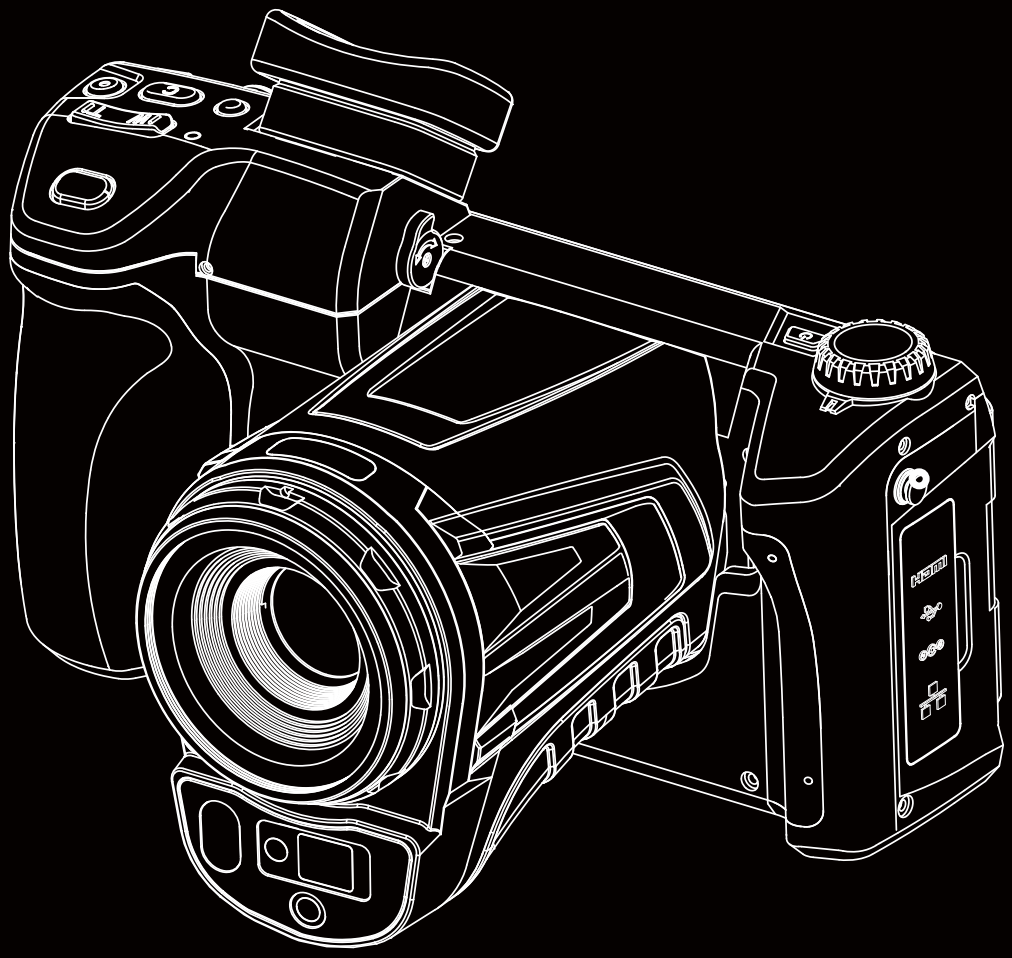
特别声明：说明书版本将会在产品技术改进后更新。

Notice:or any technical improvement, we will specify in the latest user manual.

USER MANUAL

中文\English 用户手册



V1.0/PS series

感谢您购买本产品，请在使用前阅读此说明书，阅读后请小心收藏，以备日后查阅。

图片仅供参考，产品以实物为准。

Thank you for choosing our product. Please thoroughly go through user manual before operation and keep it well for future reference. We hope that the product can meet your expectation.

Disclaimer

The products (hardware and software) presented in this manual may have defects, errors or faults, and the company does not provide any express or default guarantee, including but not limited to the guarantee of merchantability, quality satisfaction, suitability for specific purposes and non-infringement of the rights of third parties. The company will not compensate any special, incidental, incidental or indirect damages caused by the use of this manual or our products, including but not limited to the loss of business profits. Loss caused by loss of data or documents.

To the maximum extent permitted by law, the company's liability for compensation shall not exceed the amount paid for your purchase of this product;

After the products are connected to the Internet, they may face risks including but not limited to network attacks, hacker attacks, virus infections, etc. The company will not be responsible for the abnormal operation of the products and information leakage, but may provide technical support to you in time.

When the product is installed and configured correctly, it can sense motion detection and fire events, but it cannot avoid

accidents or personal injuries or property losses caused thereby. Please strictly follow the applicable laws when using this product. You agree that this product is for civilian use only, and shall not use applications that may infringe the rights of third parties, medical and safety devices or other applications where product failure may lead to life-threatening or personal injury, as well as weapons of mass destruction, chemical and biological weapons, nuclear explosions, unsafe use of nuclear energy, dangerous or humanitarian purposes. Any loss or liability caused therefrom shall be at your own risk.

In case of any conflict between the above contents and applicable laws, the legal provisions shall prevail.

Important Instructions

This manual is a general manual for a series of products, which means that the product of a specific model you received might differ from the picture herein. Please refer to the material object.

This user manual is prepared for the convenience of users to use and know our products. We have tried our best to ensure the accuracy of its contents, but we are still unable to guarantee its completeness since our products have been continuously updated and upgraded. The Company reserves the right to modify the manual at any time without notice.

CAUTIONS

Dangers

1. Please charge the battery with the method described in this manual, and follow the charging steps and cautions. Wrong charging will cause the battery to heat up, damage or even result in personal injury.
2. Do not try to open or disassemble the battery at any time. Once the battery leaks and enters human eyes, the eyes shall be rinsed with clean water immediately and medical care shall be taken.

Warnings

1. Please try to keep the device stable and avoid violent shaking during its use.
2. Please do not use or store the instrument at a temperature higher than the permitted operating temperature or storage temperature of the device.
3. Please do not direct the thermal camera at very high intensity radiation sources such as the sun, carbon dioxide lasers or arc welders etc.
4. Please do not block the holes on the device.

5. Do not knock, throw or shake the instrument and accessories to avoid damage.
6. Please do not disassemble the device by yourself, which may cause its damage and los s of warranty rights.
7. Please do not use soluble or similar liquids for the device and cables, which may cause damage to the device.
8. Please do not use the device at a temperature higher than its operating temperature, which may cause its damage.
9. Please observe the following measures when wiping the device:

- For the non-optical surface, use a clean soft cloth to wipe the non-optical surface of the thermal camera when necessary.
- For the optical surface, please avoid staining the optical surface of the lens when using the thermal camera and especially avoid touching the lens with your hands because sweat stains on your hands will leave a mark on the lens glass and may corrode the optical coating on the glass surface When the surface of the optical lens is contaminated, wipe it carefully with specialized lens paper.

10. Please do not place the battery in a high temperature environment or near high-temperature objects.

11. Please do not make the positive and negative poles of the battery short-circuited.
12. Please do not place the battery in a humid environment or water.

Notes

1. Please do not expose the device to dust or moisture. Avoid splashing water on the instrument during use in an environment with water. Cover the lens when the instrument is not in use.
2. Please put the device and all accessories in the special packing box when it is not in use.
3. Avoid using the accompanied SD card for other purposes.
4. The use of the viewfinder for a long time will cause the reduction of its contrast and the whitening of pictures. In such case, you may switch to LCD display and then back to the viewfinder display after a period of time.
5. Operations in the 5.15-5.25GHz band are restricted to indoor usage only

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement.

The device can be used in portable exposure condition without restriction.

NOTE: 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.
- The rating information is located at the bottom of the unit.

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Product Introduction

This product is specially designed for professional users in the infrared temperature measurement industry, equipped with a high-sensitivity and higher-resolution infrared detector, and can provide clearer infrared images and higher temperature measurement accuracy. Supplemented by the Android operating system, large screen display and rotatable lens structure, it is powerful and convenient to use. It can also collect visible light and infrared images simultaneously and display key observation locations in PIP or MIF mode. Meanwhile, through the open Android platform application, it can be extended to a multi-purpose mobile infrared thermal imaging application platform.

Storage and Transportation

Storage:

The packaged product shall be stored in well-ventilated and clean rooms without condensing and corrosive gas at -40℃ ~ 70℃ and under relative humidity of not more than 95%;.

Transportation:

The product shall be protected from rain and water and from being upside down and shall not be subject to severe vibration and impact during transportation and circulation. It shall be handled with care and toss is prohibited during handling.

Chapter 1

List of Items

Standard accessories include：

Thermal Imager

Lens Cover

Lithium Battery 2

Adapter Plug
(5 pcs)

TYPE-C to USB
Interface Cable

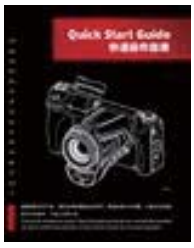
HDMI Cable

Network Cable

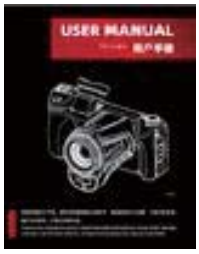
Shoulder Harness

SD Card (64G)

Hard Safety Box



Quick Operation
Guide



User Manual

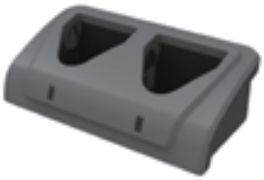
Data download card

Calibration Certificate

Adapter

Optional accessories：

Lithium battery



Desktop charger

Bluetooth headset

USB adapter cable

The tele lens

The wide angle lens

The High temp Filter

The macro lens

Medium telephoto lens

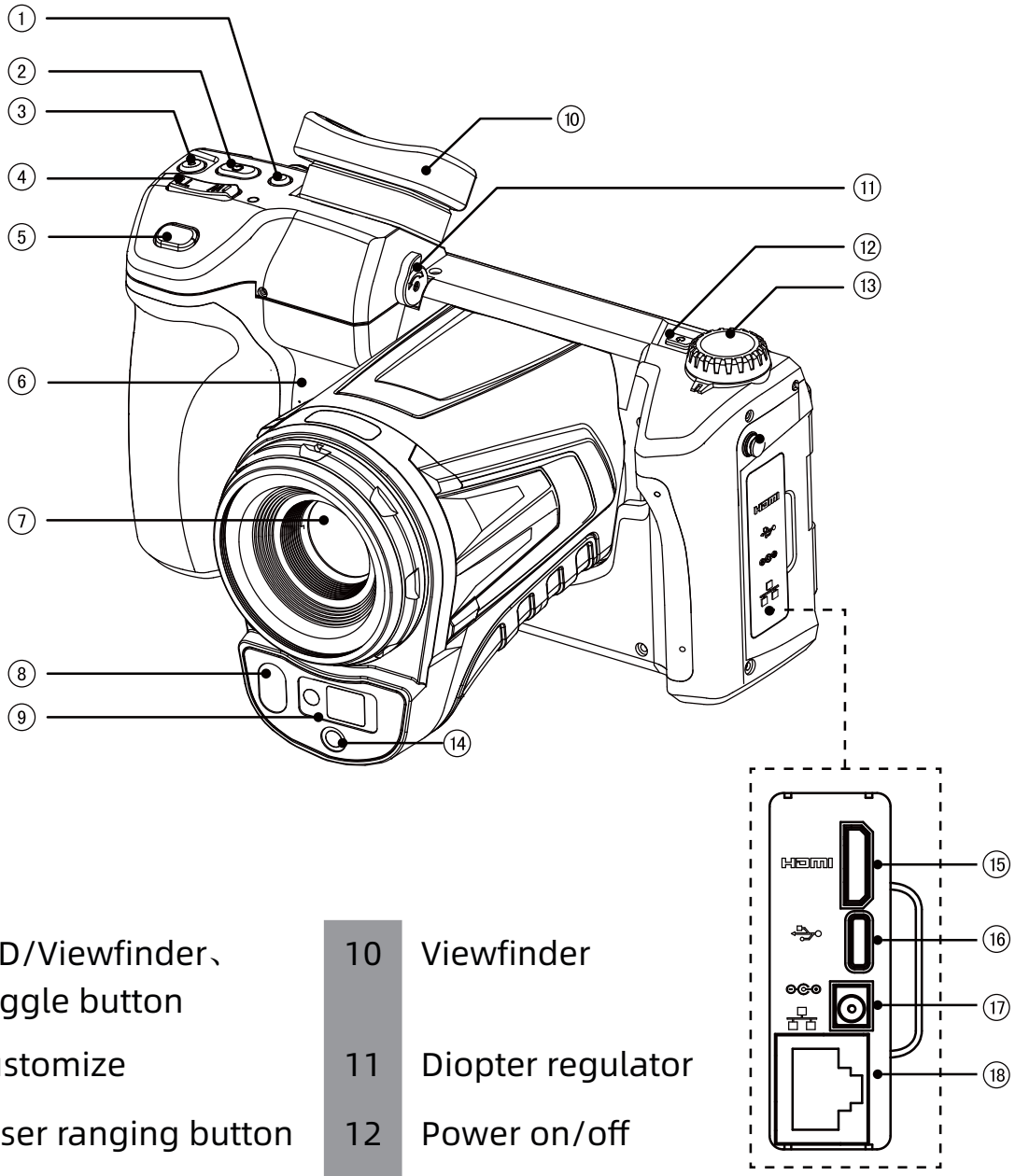
Carrying bag

Lens Bag

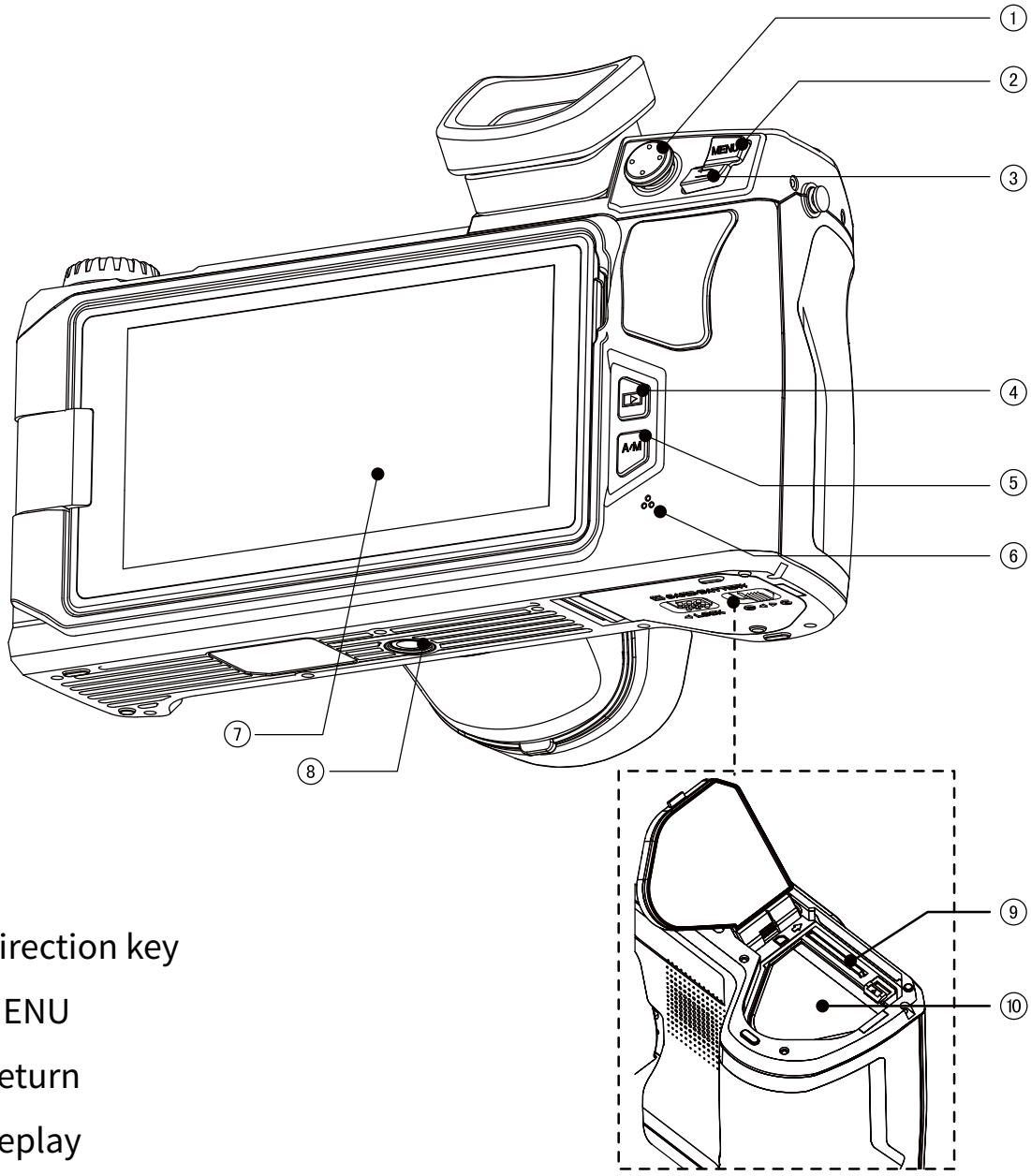
4G module

Chapter 2

List of Product Parts



1	LCD/Viewfinder、Toggle button	10	Viewfinder
2	Customize	11	Diopter regulator
3	Laser ranging button	12	Power on/off
4	Digital zoom	13	Mode dial
5	Photo/video record	14	Visible light
6	Speaker	15	Micro HDMI
7	IR lens	16	Type-C
8	Illuminator	17	AC adapter
9	Laser indicator	18	RJ 45

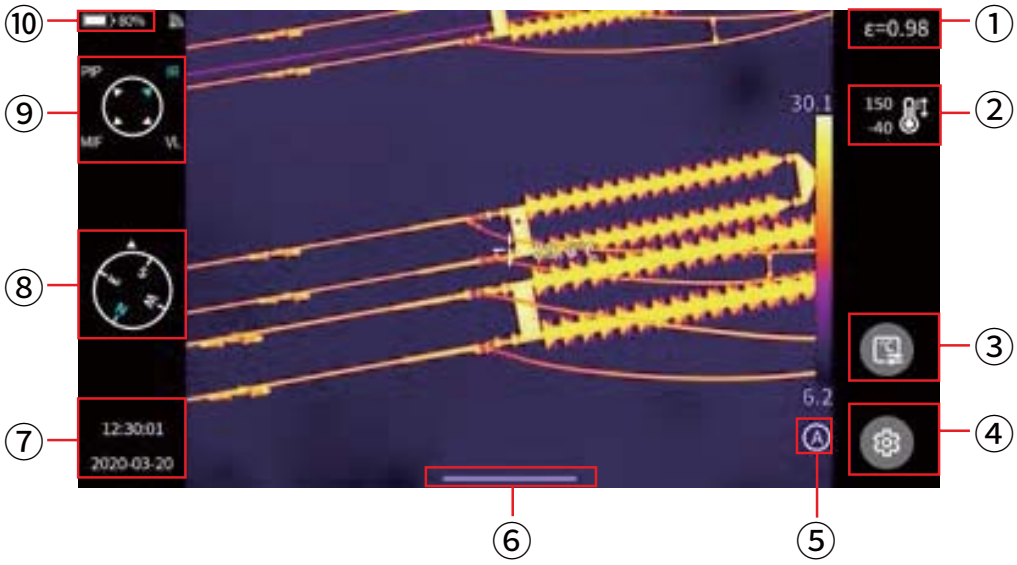


1	Direction key
2	MENU
3	Return
4	Replay
5	Auto/Manual (Brightness, Contrast Change)
6	Microphone
7	LCD Monitor Screen
8	Tripod Connection
9	SD Card Socket
10	Battery Housing

Chapter 3

Operation Interface Overview

Real-time Image Interface

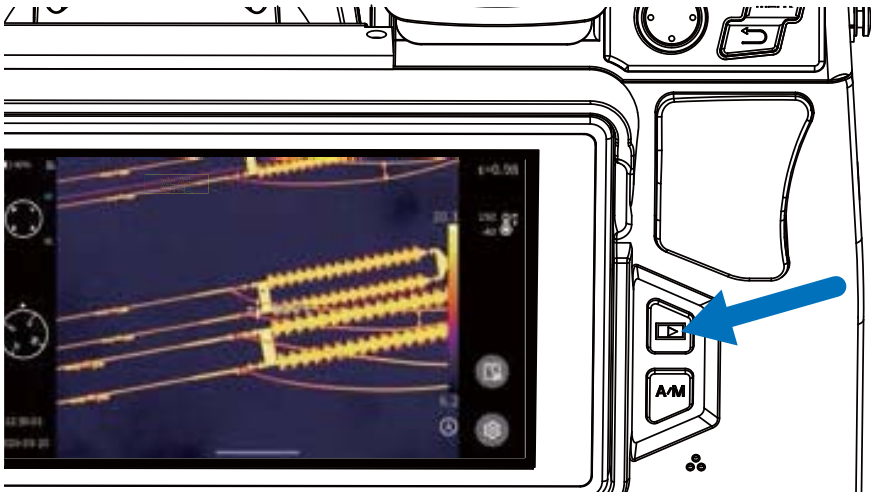


1	Emissivity. Set the emissivity value based on the measured target.
2	Temperature measurement range. Click to enter the interface of temperature measurement range setting.
3	Temperature measurement parameters. Click to enter the interface of temperature measurement parameter setting (relative humidity, distance and atmospheric transmissivity, etc.).
4	Setting. Click to enter the setting interface. You can also enter the setting interface by pressing the physical button [MENU].
5	LEVEL SPAN mode. The default is automatic mode. You can switch among automatic, semi-automatic and manual modes through the physical button or touch screen.
6	Popup-menu icon. Entering the popup shortcut interface, you can set up the shortcut menu.
7	Time and date. Enter setting - general - date and time for setting.

8	Compass information. You can enter setting - image tag to enable/ disable it.
9	Image mode, including infrared, visible light, MIF and PIP.
10	Status bar, displaying battery power and Wi-Fi status, etc.

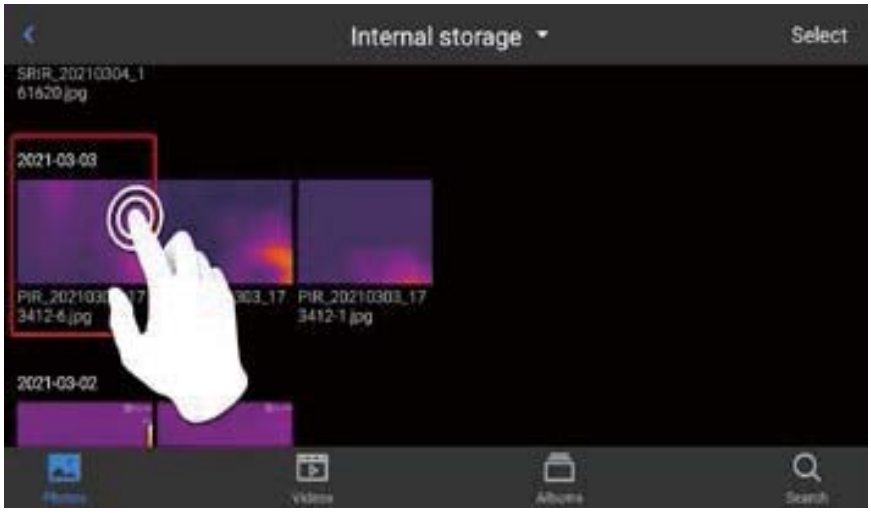
Playback Main Interface

1.Press the [Gallery] button on the device body.



2.You may directly enter the gallery browsing interface.

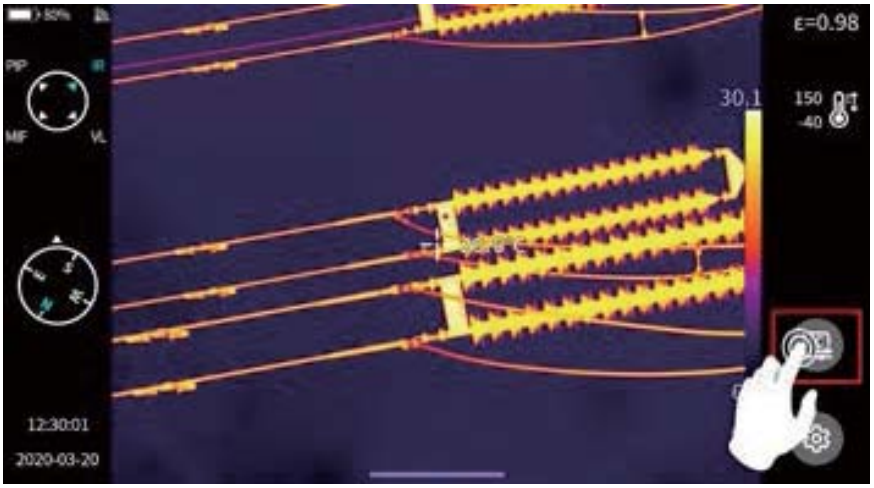
3. Touch and select the image to view and edit.

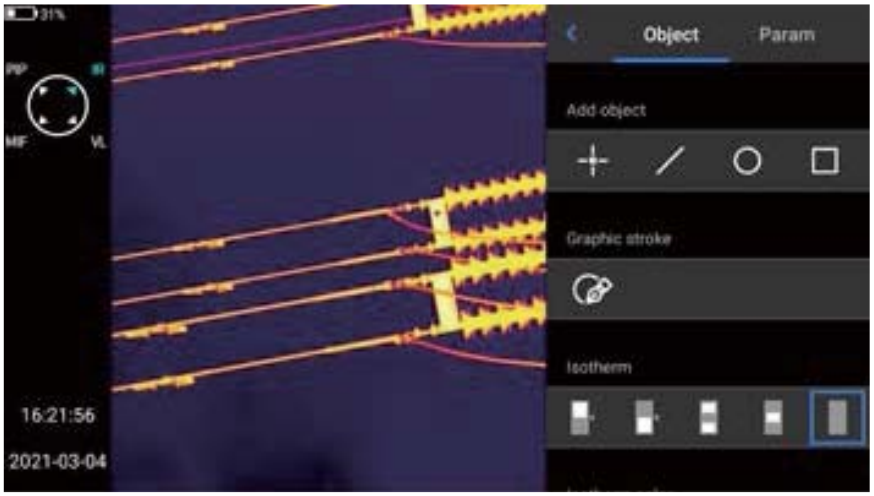


1. In the Image Preview interface, click any image to enter the Image Edit interface. Click any area outside the menu to preview the current infrared image in full screen.
2. Click [♡] to collect the current image.
3. Click [ ] to modify the current image name. There are three ways of naming on this device: text recognition naming, keyboard input naming and voice naming.
4. Click [ⓘ] to view the specific information of the current image.
5. Click [ ] to add annotations to the current image, mainly including visible light annotations, voice annotations, graffiti annotations and text annotations.
6. Click the[Edit]button to analyze the current image, add and modify objects, modify isotherms and modify the temperature difference between two points.
7. Click [PDF] button in the lower right corner to generate a PDF preview file.
8. Click [ ] in the lower right corner to upload the current image to the cloud server; For detailed functions, please see Chapter 7 Global Settings-[Cloud Service].
9. Click [ ] in the lower right corner to move the current image to other storage paths.
10. Click [ ] in the lower right corner to delete the current image.
11. Click on the visible light picture in the lower right corner to preview the visible light picture corresponding to the current infrared image on a large screen.

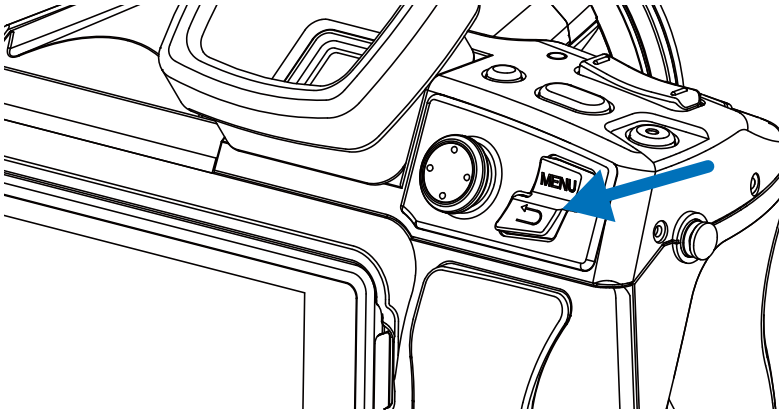
Shortcut Main Menu

The shortcut menu button is [ ] .This interface is used mainly for some shortcut operations in Real-time Images, including: image analysis, temperature measurement analysis, parameter modification, graphic stroke, isotherm, temperature difference and other shortcut operations.





Exit the shortcut menu: Press the[Back]button on the device, or click {<} and other screens to exit the shortcut menu and return to the Real-time interface status.



Quick Pull-up Menu

In the Real-time Image interface, click or slide up the icon at the bottom of the screen to pop up a shortcut menu. You may view the storage capacity of local memory or external SD card on this interface, or perform some quick operations, including brightness, volume, Bluetooth, Wi-Fi, laser, panoramic stitching, and super-resolution settings.

Chapter 4

Observation

EyepieceSwitch

The LCD screen is adopted by default to display the main interface after startup. Press the LCD/Eyepiece Switch button, and then the LCD screen will be closed immediately and the eyepiece will be opened. Press the LCD/Eyepiece Switch button again to restore the LCD screen display and close the eyepiece.

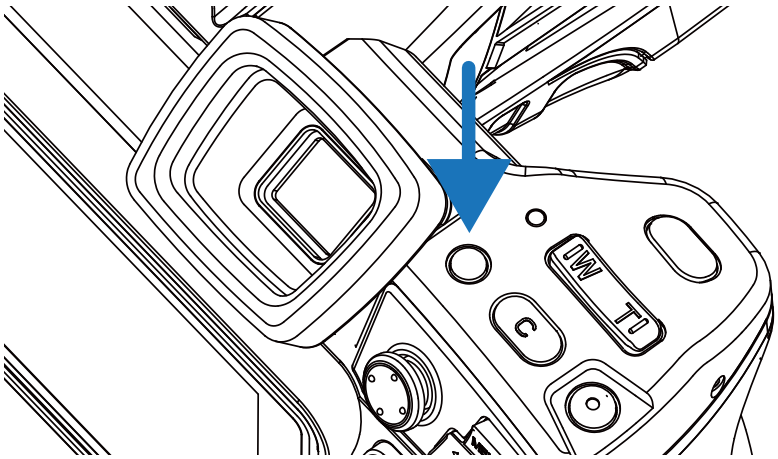
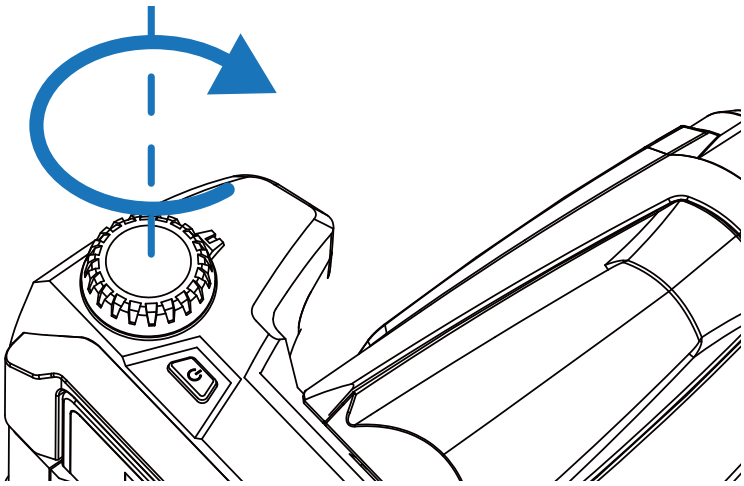


Image Mode Switch

By rotating the mode dial at the upper left of the device, the image can be switched in the following four modes. At the same time, the image mode indication icon will pop up in the upper left corner of the main interface.

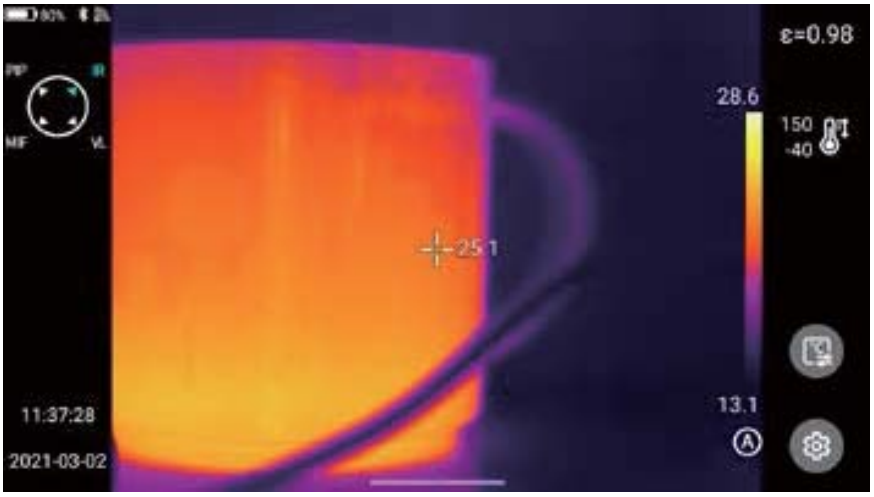


A.Picture-in-picture (PIP)

Navigate to the PIP identifier

B. Infra-Red (IR)

Navigate to the IR identifier

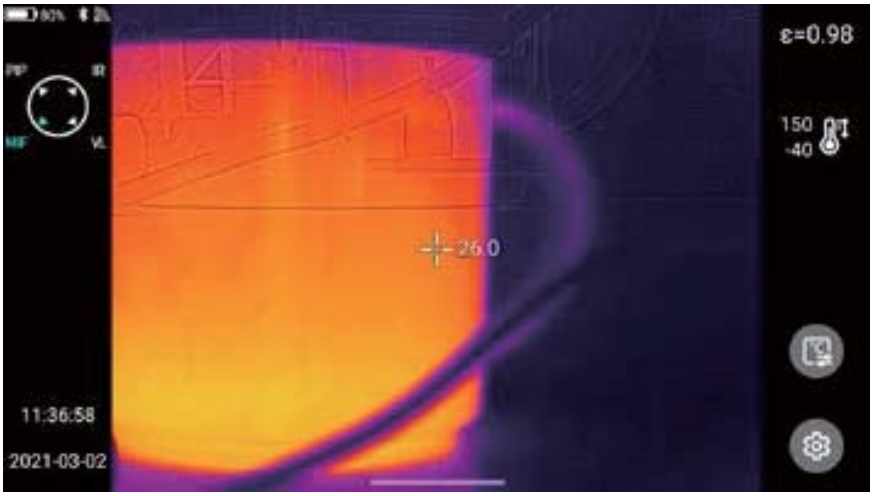


C. Visible light (VL)

Navigate to the VL identifier

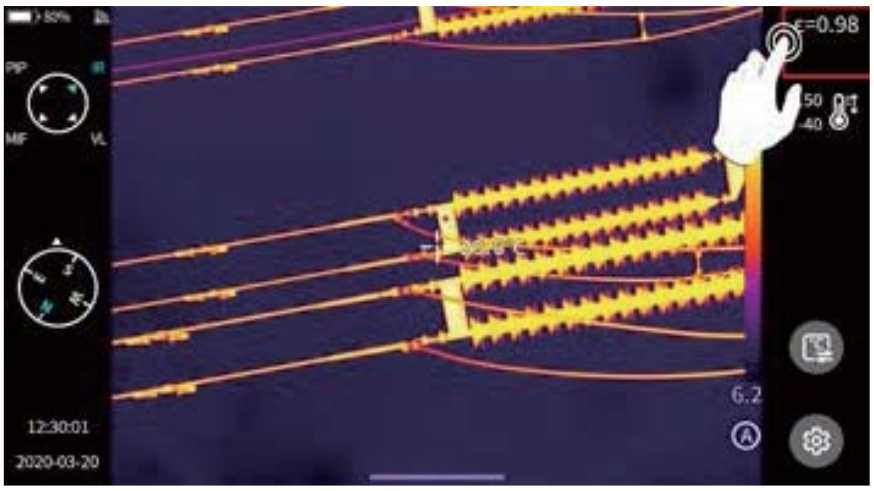
D. MIF

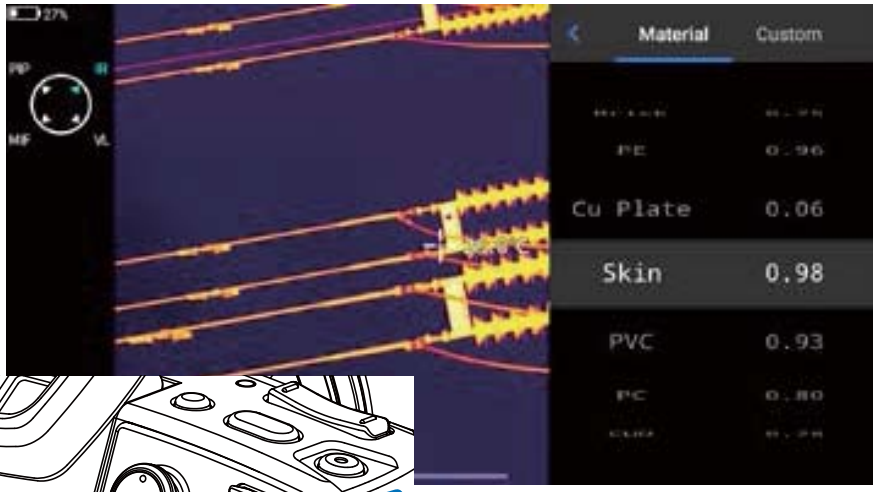
Navigate to the MIF identifier

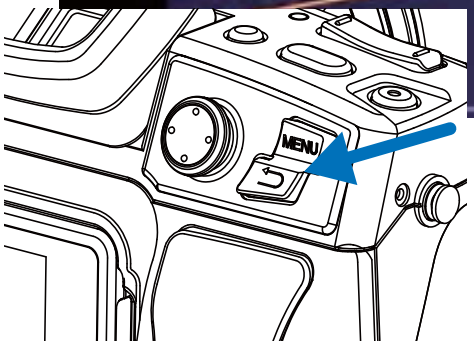


Temperature Measurement

In the Real-time Image state, select the emissivity of the measured object by clicking the “Emissivity” bar. Press[Back]button or click any area on the screen other than the menu to return to the real-time interface, and aim the center cursor at the measured object for temperature measurement.



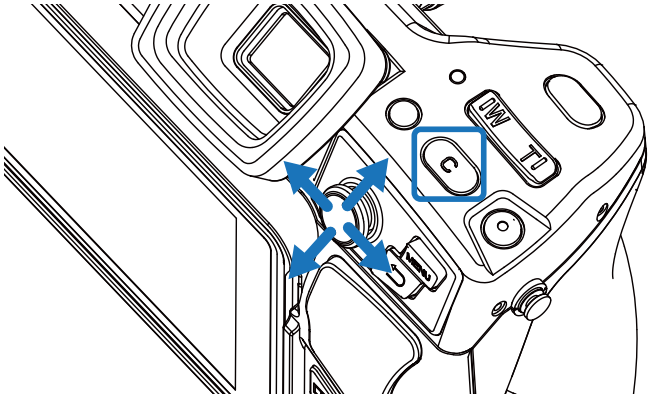




Manual Focus/Auto Focus

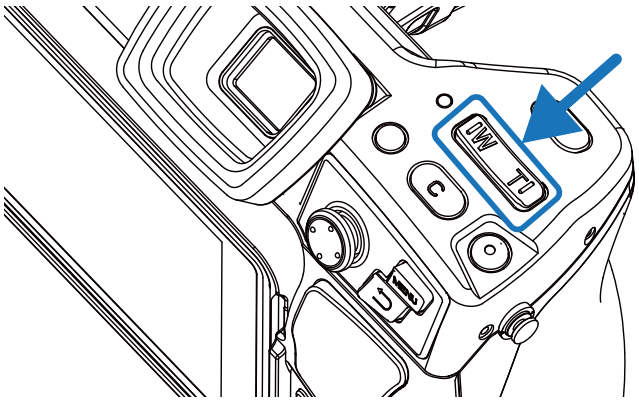
You can use the direction key “Up” or “Down” to adjust the far focus/near focus.

Customize the function the button[C]as auto focus (set-button assist-auto focus, see the button assist section for details), aim at the object to be measured, press the custom button[C], wait a few seconds, and start auto focus until focusing is finished.



Digital Zoom

Press the physical buttons W (zoom in) and T (zoom out) on the device to perform digital zoom operation.



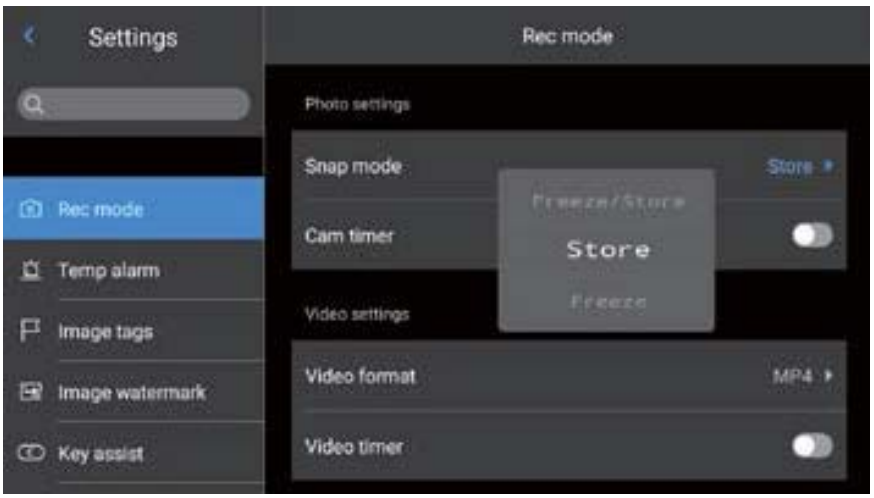
Chapter 5

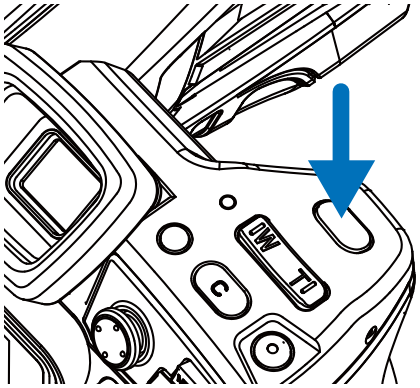
Shooting

Image Shooting

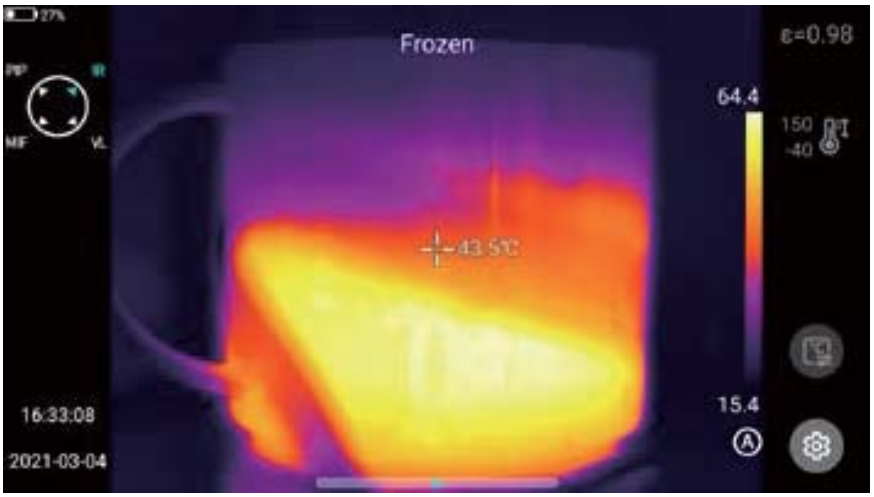
In the Real-time Image state, press the [Shoot] button on the device to freeze the current scene, take images and save.

Enter the Setting-Shoot mode, and directly set the function of Shoot button as image shooting, thus achieving one-button shooting.

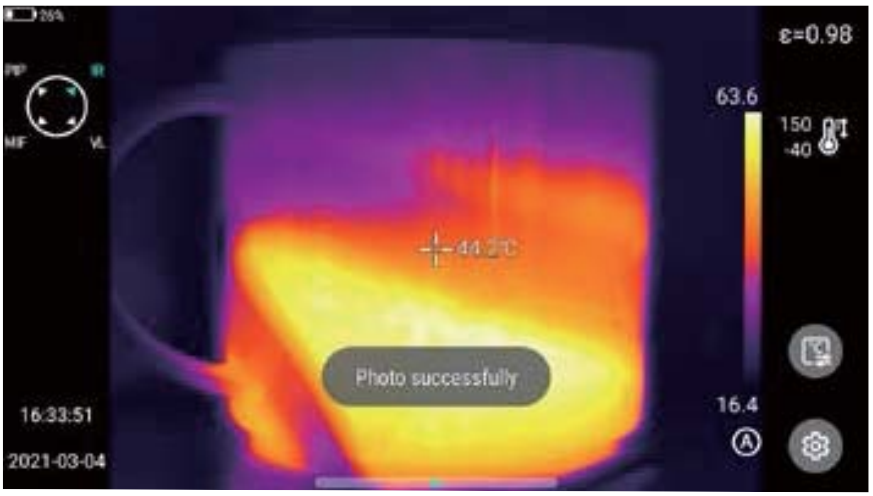




1. Press the [Shoot] button on the device, and the image is frozen, as shown in the figure.

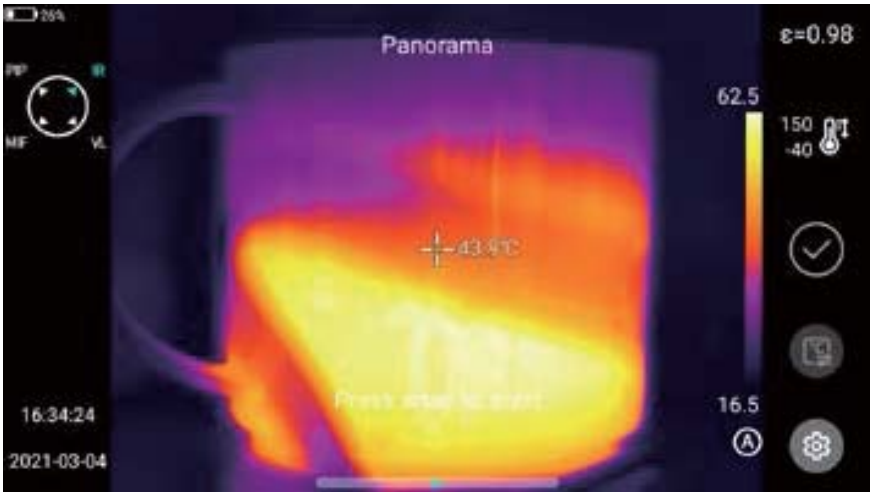


2. In the frozen interface, press the [Shoot] again to automatically save the frozen image.



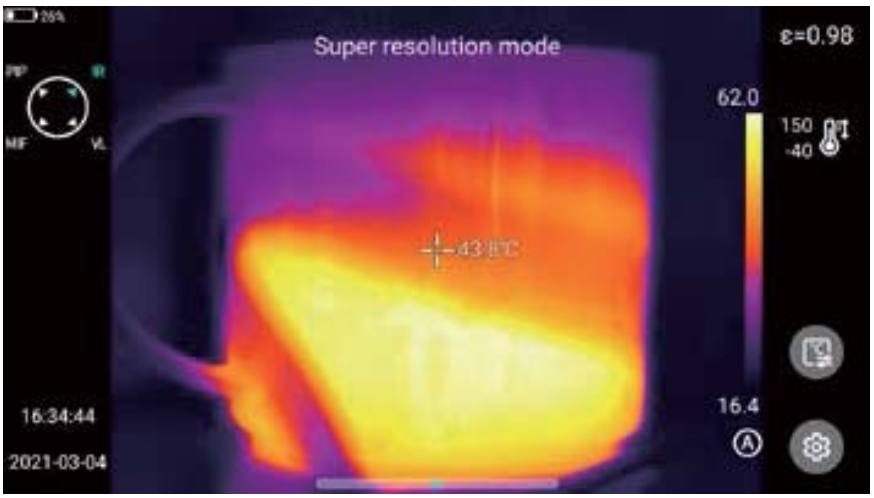
Panoramic Stitching

Users may enable the “panoramic stitching” shooting function according to their own requirements. This function is to stitch two or more images taken by the device into one panoramic image. This function needs to be supported by ThermoTools analysis software- [Image Stitching] .



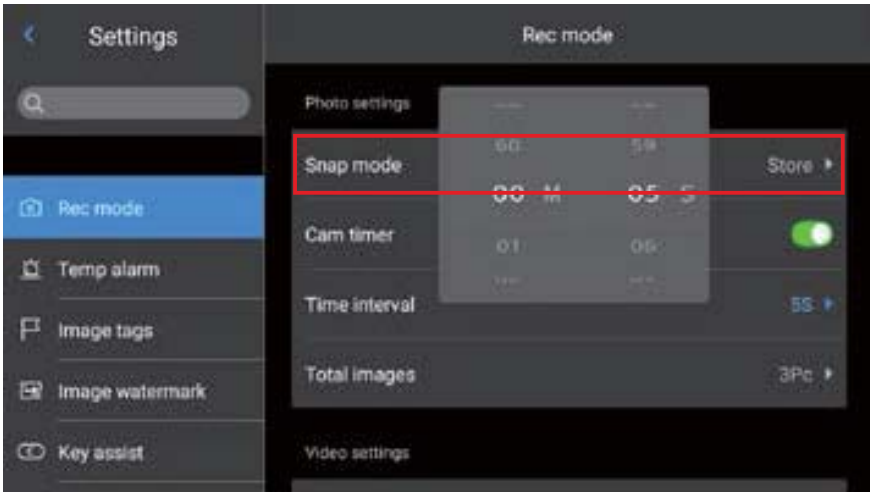
Super-resolution

Users may enable the super-resolution shooting function according to their own requirements. This function is to enlarge the original image four times to get a high-resolution image, which supports re-editing.



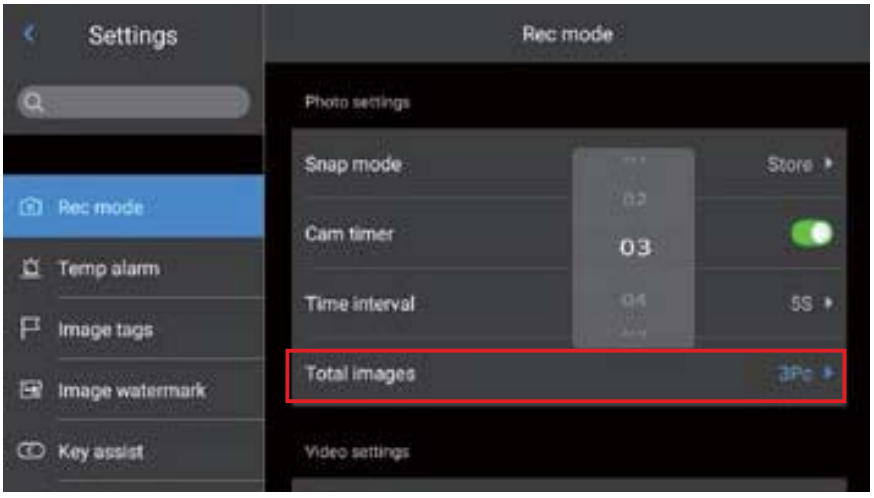
Timed Shooting

In the Real-Time Image state, enter the Settings-Shoot Mode-Image Shoot Mode interface, and enable the timed shooting function.



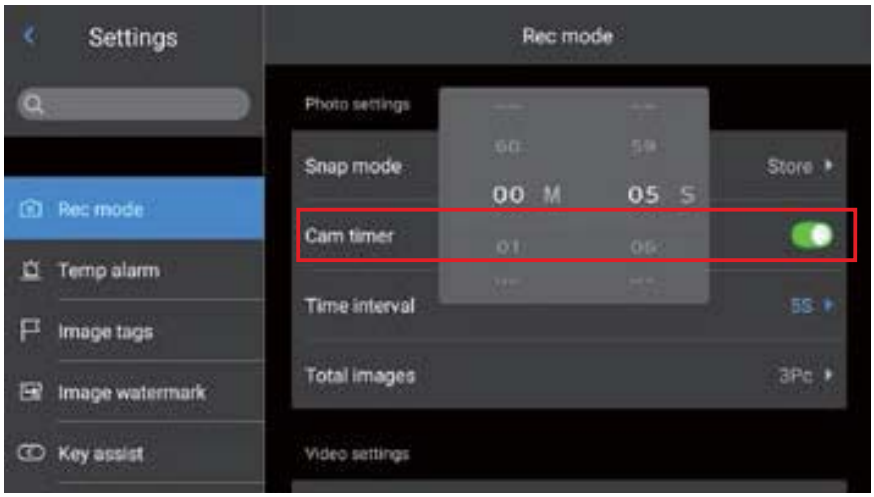
Setting the Number of Automatic Shooting

1. Click the Image Number option and select the number of images.
2. Return to the Real-time Image status, click the [Shoot] button, and activate the timed shooting program according to the set number of timed shooting images.



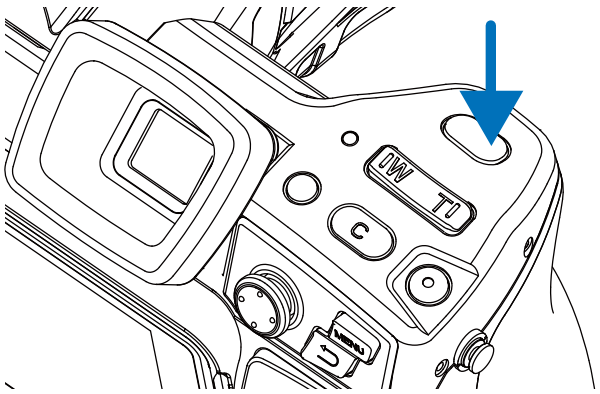
Setting Automatic Shooting Interval

1. Click the Time Interval option to select the appropriate time interval.
2. Return to the Real-time Image status, click the “Shoot” button, and activate the timed photo program according to the set number of timed shooting photos.



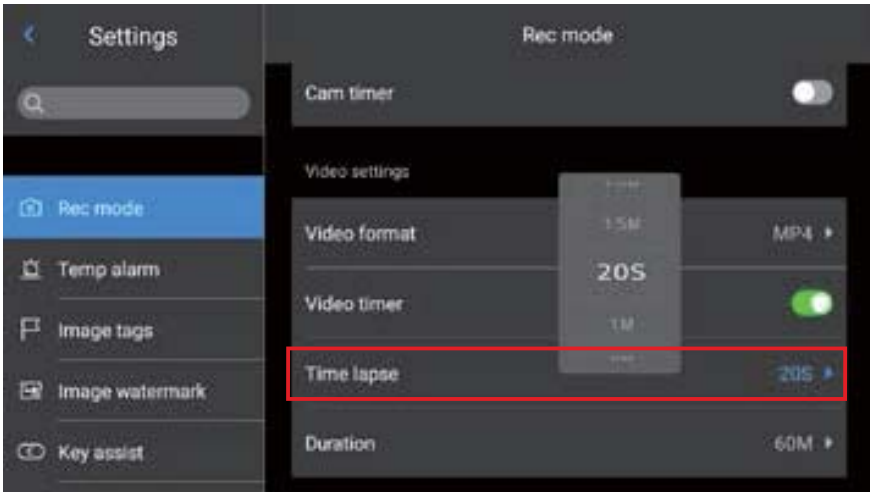
Video Recording

Long press this button for to start the recording function, and short press this button after starting until the recording is finished and saved successfully.

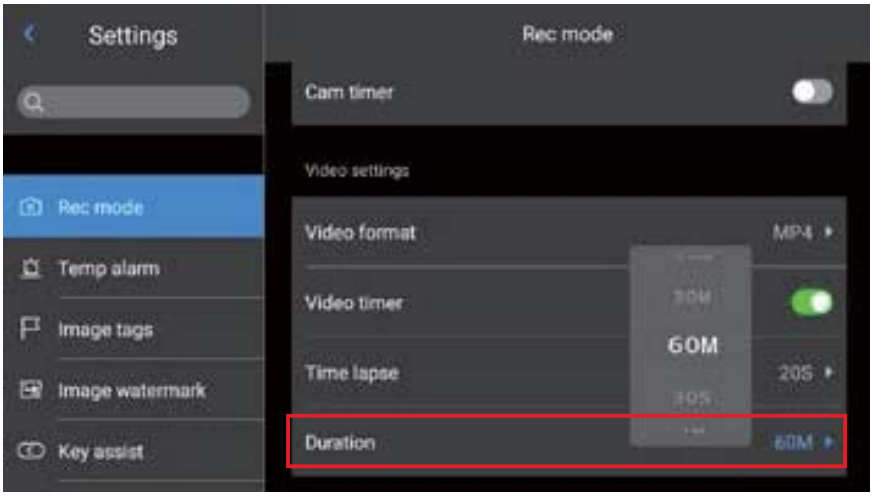


Timed Video Recording

1. Click the Delay Time option and select the delay time, provided with 20S, 1min, 5min, 10min and 15min for selection.



2. Click the duration option, and select the recording duration: 30s, 1min, 5min, 10min, 30min and 60min respectively.



3. Return to the Real-time Image status after setting. Long press and hold the “Shoot” button to start the timed recording program.

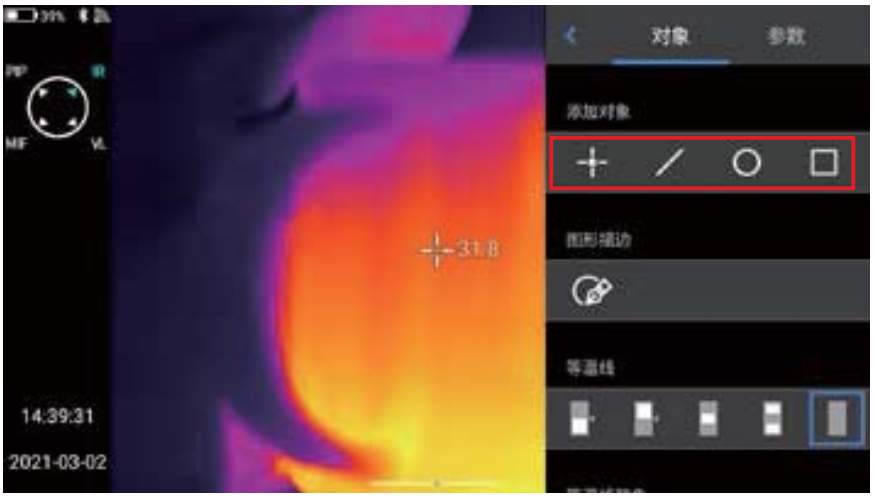
Chapter 6

Analysis Operation

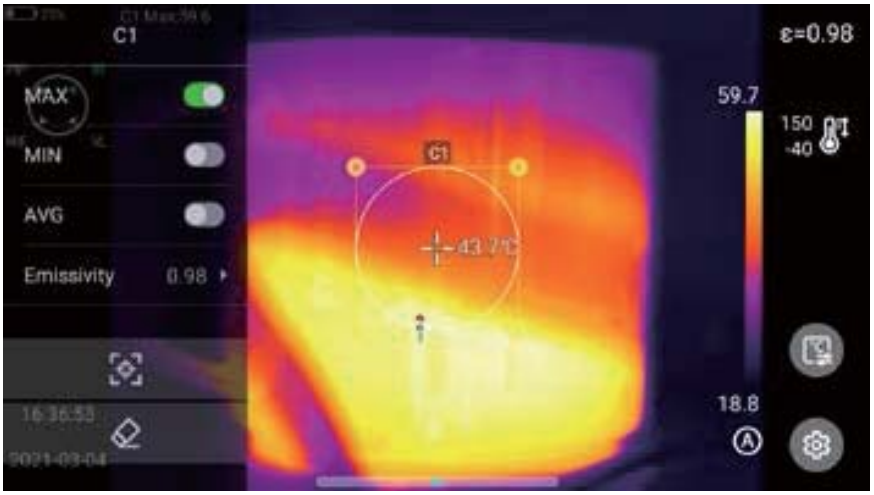
Real-time Analysis

Add/delete Analysis Objects

1. Click the shortcut menu [ ] on the right of the real-time interface to enter the menu interface of adding analysis objects, as shown in the figure.
   Providing temperature measurement for various analysis objects, such as point, line, circle and rectangle. You can also customize the display of the highest temperature, lowest temperature, average temperature value and center display function, as shown in the figure.

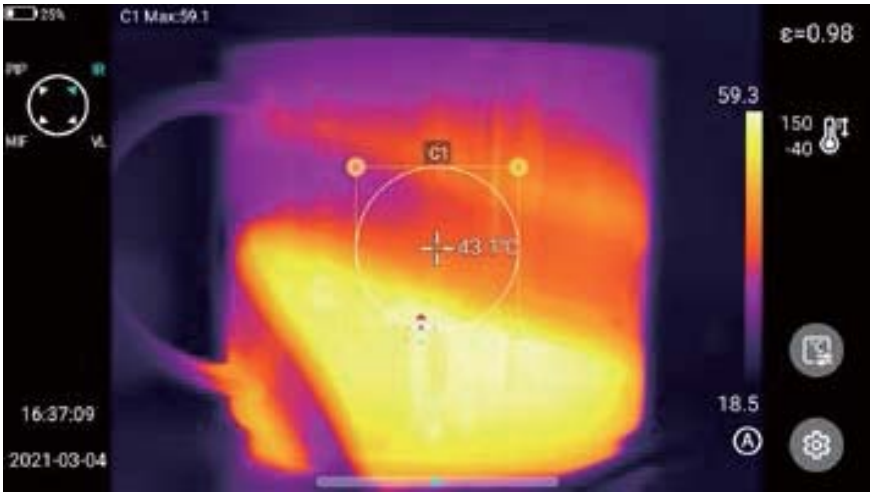


2. Press and hold any analysis object on the touch screen, and the system will automatically pop up the object menu with the following functions:
   Control the display temperature marks: highest temperature, lowest temperature and average temperature.
   Emissivity: control the emissivity in the area.
   Center: controls whether the analysis object is displayed in the center
   Delete button: you may delete the current analysis object by touching the [ ] in the editing interface.



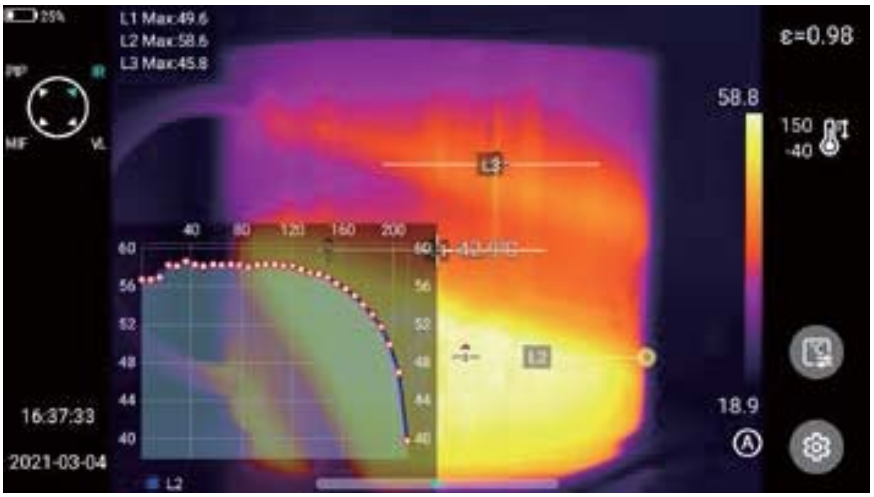
Change the Size of the Analysis Object

1. Select any analysis object, all its nodes are selected and the color is presented in yellow mark [🟡] .
2. Move any node to change the area of the analysis object.



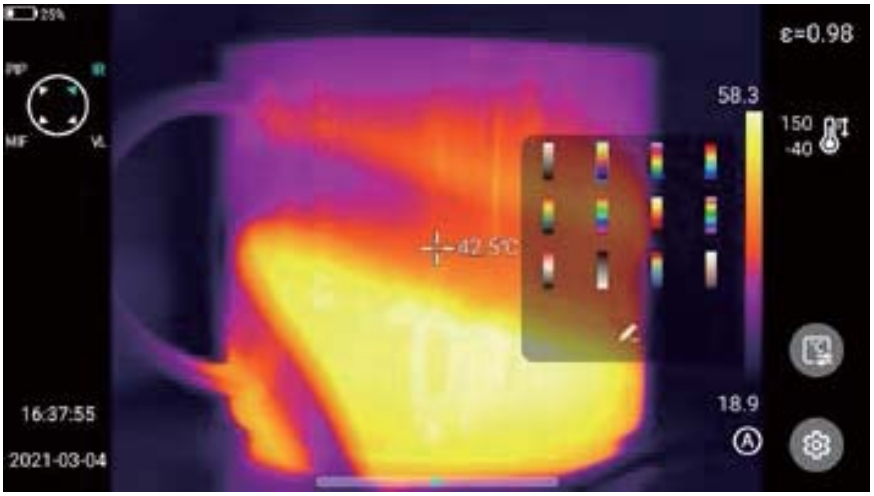
Linear Analysis Object

Up to 3 linear analysis objects can be added and displayed synchronously in real time in the form of a line chart when the analysis objects are selected.



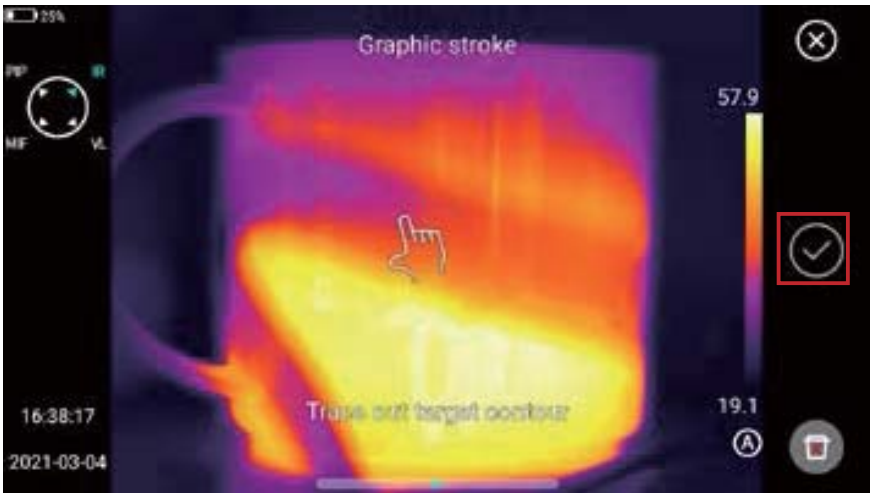
Palette Switch

1. Enter the main interface, click the palette area on the right side of the screen, and the system pops up palette options, including white heat, iron red, north pole, rainbow 2, hot iron, rainbow 1, lava, medical, jujube red, black heat, blue heat, dark brown, and user-defined color band function. (The number of palettes in some models will be reduced).
2. Users may freely switch various color band modes.



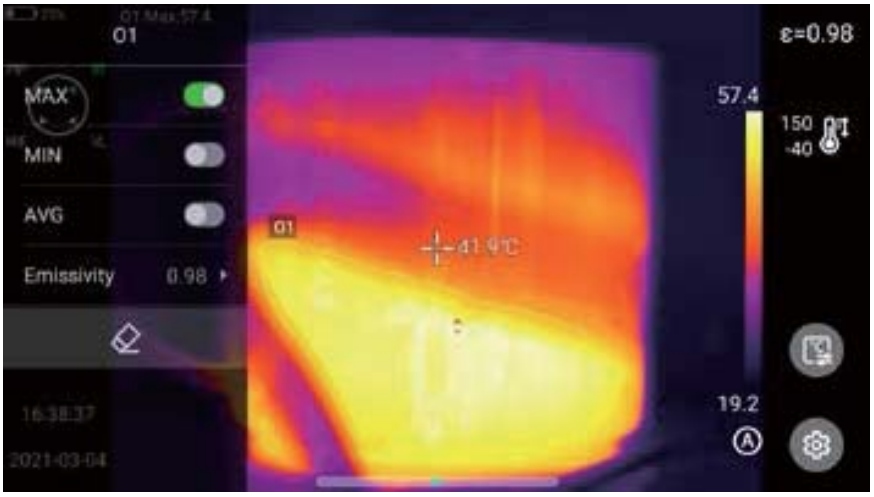
Graphic Stroke

Click the shortcut menu [ ] on the right of the real-time interface to manually draw the outline of the interested target. Click [ ] to generate the target and analyze the currently selected target.



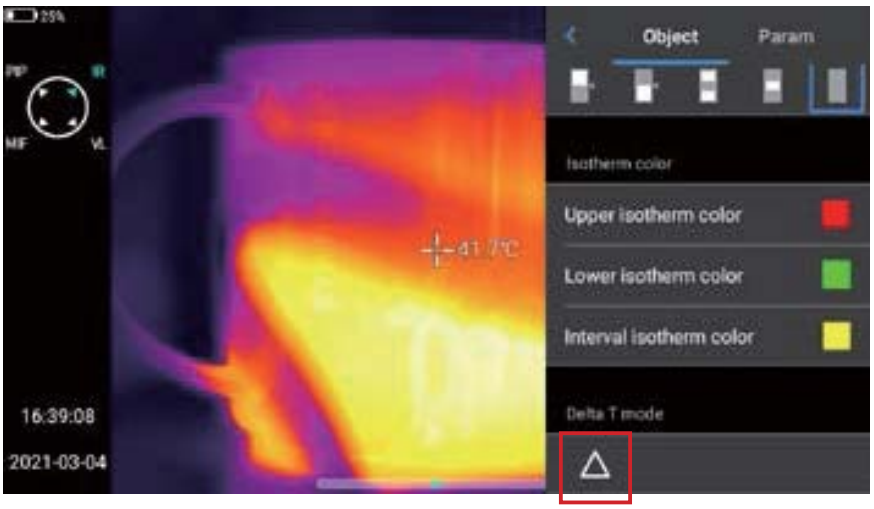
Editing and deleting of graphic strokes

Long press the stroked object through the touch screen, and the system will automatically pop up the object menu. Then you can analyze the added strokes, set emissivity and delete them.



Temperature Difference Analysis

Temperature difference analysis: first, add at least two analysis objects, and click the temperature difference button under the object label to activate the temperature difference mode. Exit the temperature difference analysis: enter the shortcut menu-temperature difference and click the [△]icon again to exit the temperature difference mode.



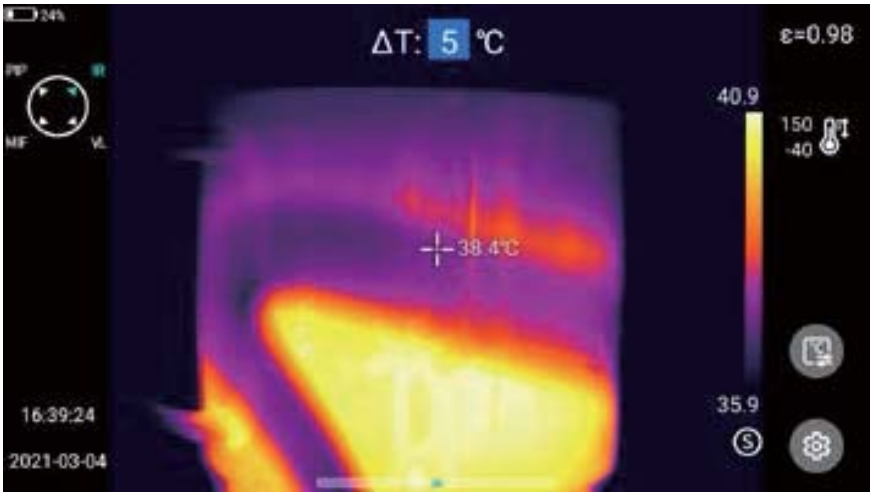
LEVEL/SPAN Switch

1. In the real-time picture state, open the Menu option through the Menu button.
2. Press the lock button [A/M] on the lower right of the device lightly, and the highest temperature and lowest temperature of the color band in the real-time video image will be locked.
3. Click the highest temperature or lowest temperature, and the system will automatically pop up the corresponding numerical menu. As shown in the locked temperature diagram.
4. After selecting the appropriate high or low temperature value, click any screen area to save the temperature value and display the latest results again.

LEVEL adjustment: In the real-time interface of infrared mode, click [A/M] to enter the manual dimming mode, the dimming parameters are unlocked, and the "LEVEL" can be adjusted by the “Up” key or the “Down” key in the five-directional key. The “Up” key is to increase Tmax and Tmin values at the same time, and the “Down” key is to decrease Tmax and Tmin values at the same time. During the adjustment process, the image dimming changes synchronously.

SPAN adjustment: “SPAN” can be adjusted by “Left” key in five-directional key. The TMAX value decreases while Tmin increases. During adjustment, image dimming changes synchronously. SPAN can be adjusted by “Left” key in five-directional key. The TMAX value increases while Tmin value decreases.

In the real-time interface of infrared mode, click “A/M” to enter the semi-automatic dimming mode, and the △T value box will pop up at the top of the interface. Adjust the value between TMAX and TMIN by using the “Up” key or “Down” key in the five-directional key, where △T=1/2 (TMAX-TMIN).



File Browsing

Native files: Press the playback button to enter the main interface of file browsing, select native, and the system will automatically display all files stored in the ROM.

SD card files: Press the playback button to enter the main interface of file browsing, select SD card, and the system will automatically display all files in the external SD card.

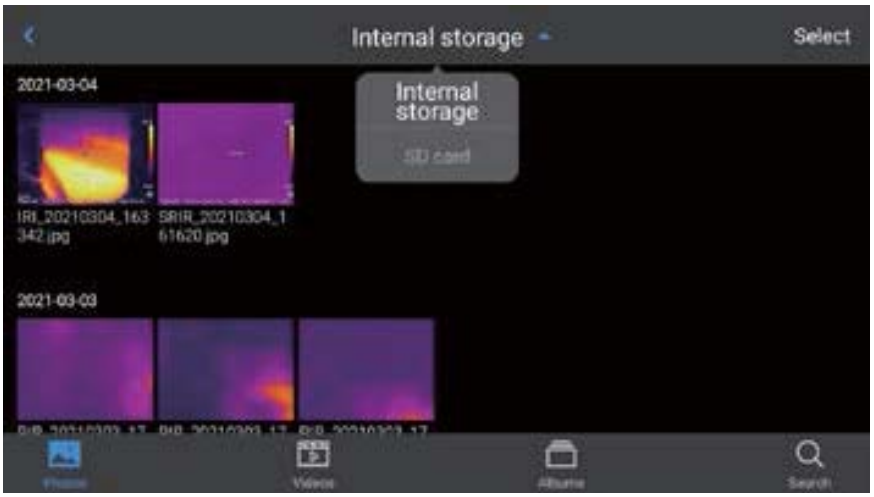


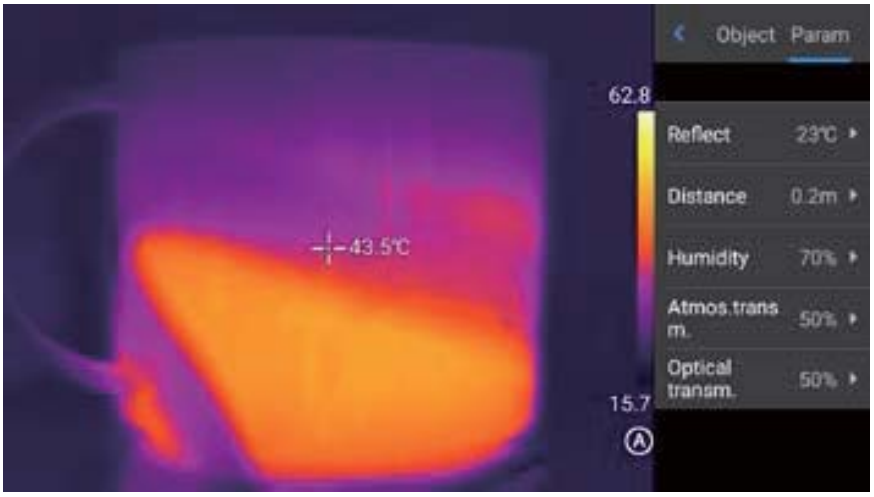
Image Analysis

Image Editing

1. In the Image Preview interface, click any image to enter the Image Edit interface.
2. Click [ ] button, and the system will automatically pop up the annotation menu, where you can perform voice and text annotation on the current image.

3. Click the [Edit] button to add and modify the analysis object the current image, as well as modify isotherm and temperature difference between two points.

4. Click [Parameter] to modify other attributes, and save the settings after exiting. As shown in the figure.

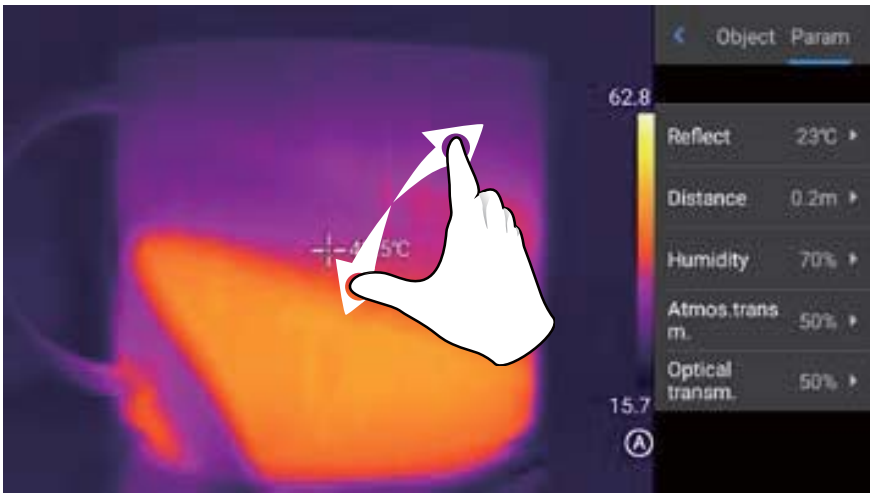


Parameter introduction:

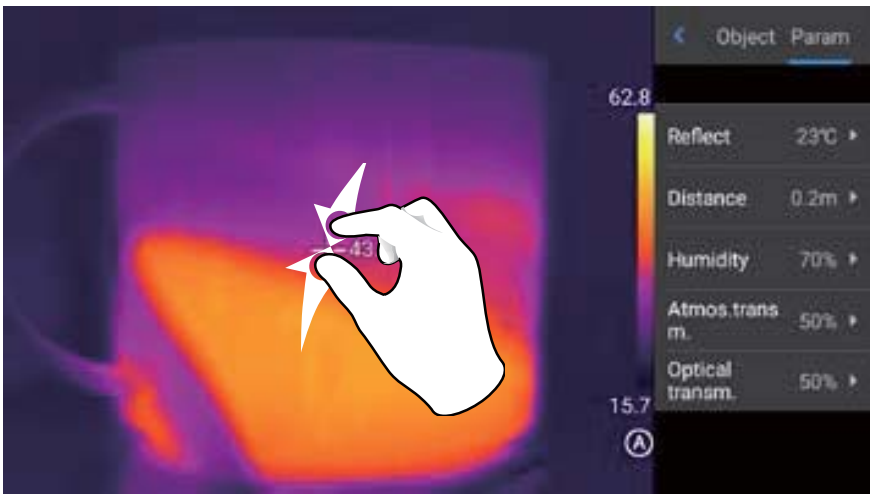
Reflection temperature	The user may modify the parameters according to the actual situation, and the value range is -40-2000;
Target distance	The user may modify the parameters according to the actual situation, and the value range is 0-100;
Relative humidity	The user may modify the parameters according to the actual situation, and the value range is 0-100;
Atmospheric transmittance	According to the input distance, atmospheric temperature and relative humidity, the calibration test temperature value range is between 0-100;
Optical transmittance	According to the built-in temperature sensor, the drift and gain of the temperature around the detector (including the temperature change of the instrument itself) are continuously and automatically checked, and the value range is 0-100;

Image Zoom

In the image editing mode, touch the screen with two fingers, and then splay your fingers on the screen. When you splay your fingers, the image will be zoomed in by up to 10 times.



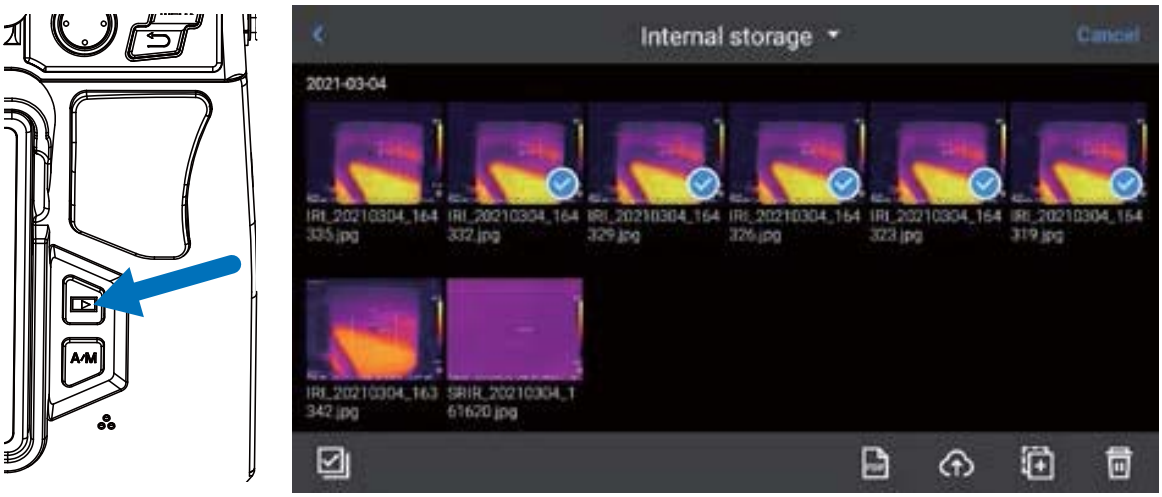
Close your fingers and the image will be zoomed out.



When the infrared image is enlarged, the infrared image can be moved for display by sliding a single finger in any area of the screen.

Create PDF

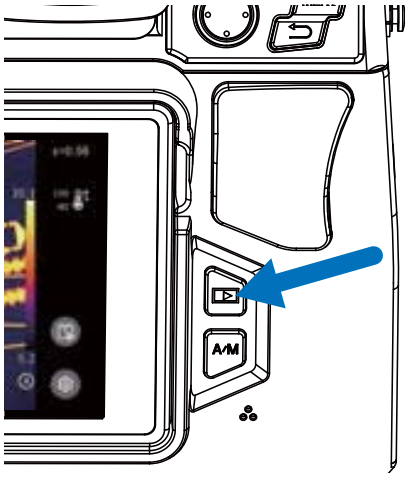
1. Press the playback button to enter the image browsing interface.



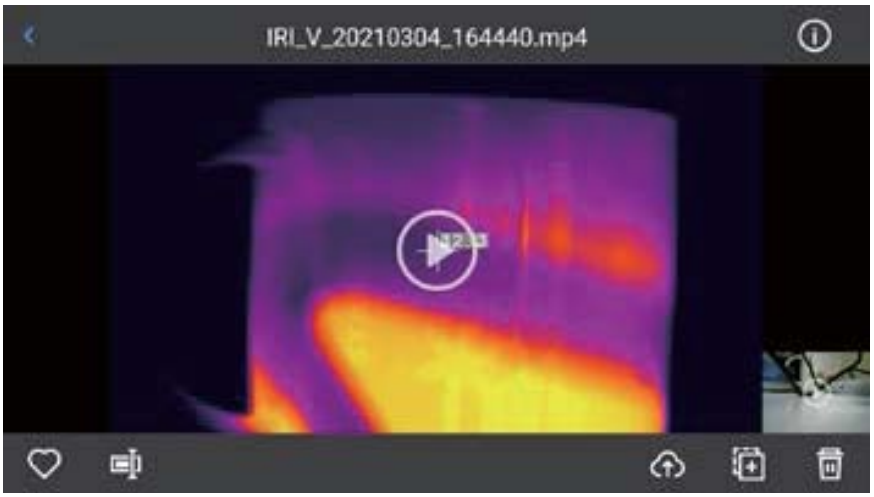
2. Click the [Select] button, and you can select 5 image information at will, as shown in the figure.
3. Click the [PDF] button below to generate a PDF preview file.

Video Playback

1. Press the playback button to enter the gallery browsing interface, and click [Video] to enter the video interface.



2. Click the Play button in the center of the screen to start playing the short film. Click the screen to display the short film playback panel.

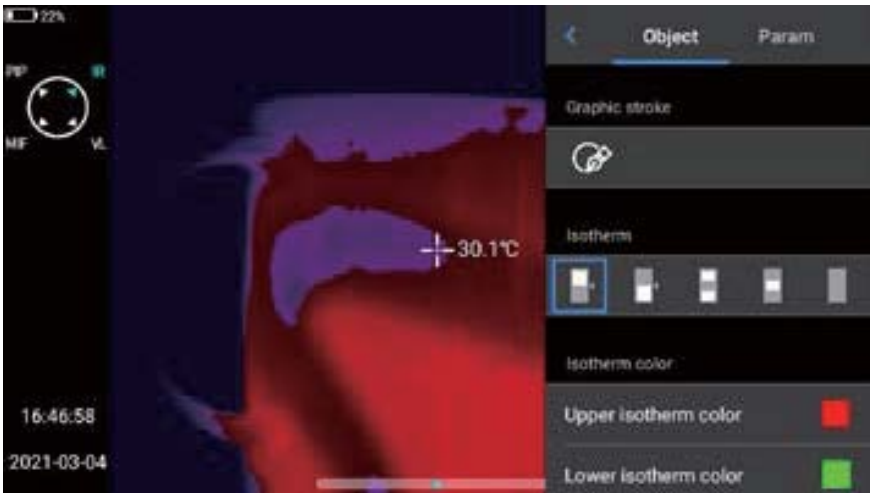


To pause the video during playback, click the pause button at the bottom of the screen.

Isotherms

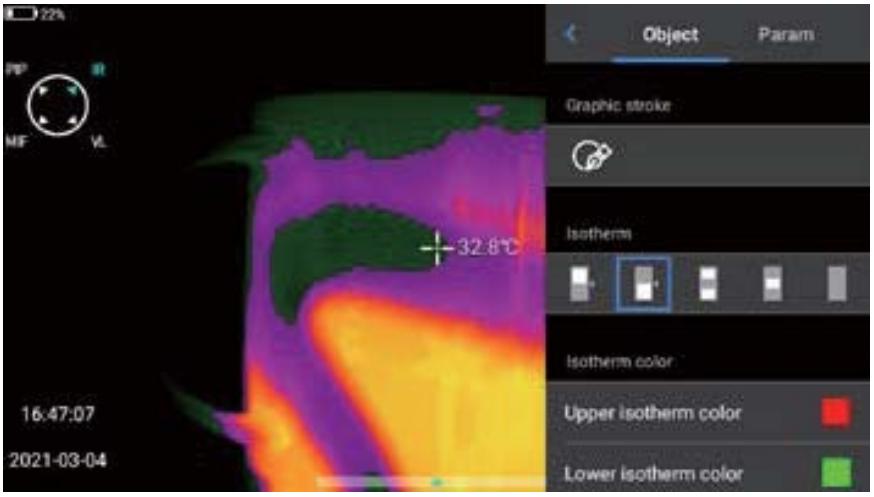
Upward isotherm

1. Click the shortcut menu [ ] and slide the object interface down to the isotherm bar.
2. In the isotherm bar, touch [ ] to enter the upward isotherm real-time video image mode. As shown in the figure.



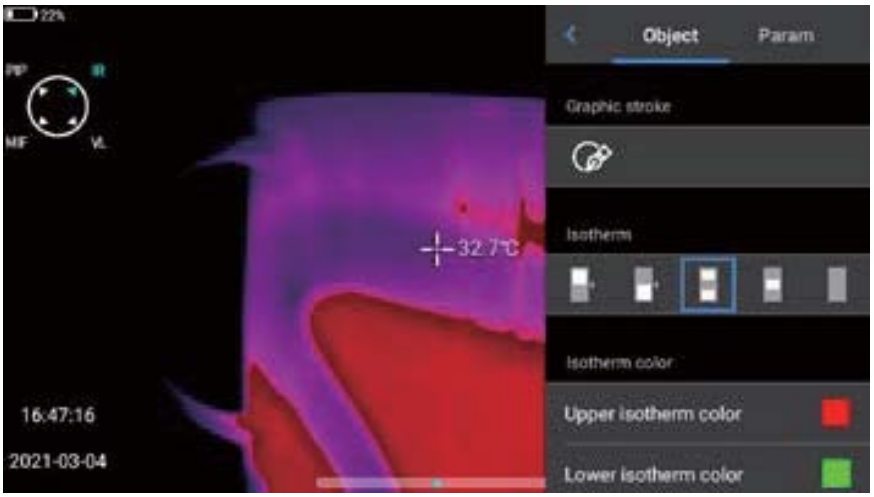
Downward Isotherm

1. Click the shortcut menu [ ] and slide the object interface down to the isotherm bar.
2. In the isotherm bar, touch [ ] to enter the downward isotherm real-time video image mode. As shown in the figure.



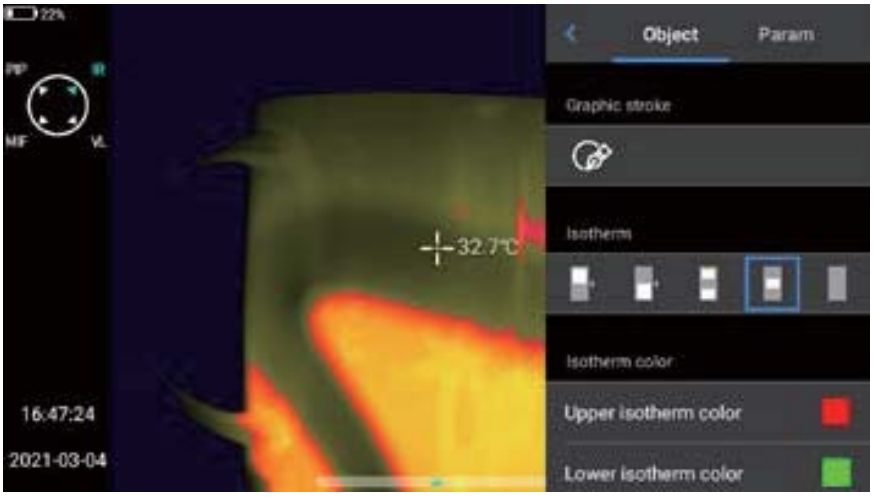
Intra-field Isotherm

1. Click the shortcut menu [ ] and slide the object interface down to the isotherm bar.
2. In the isotherm bar, touch [ ] to enter the intra-field isotherm real-time video image mode. As shown in the figure.



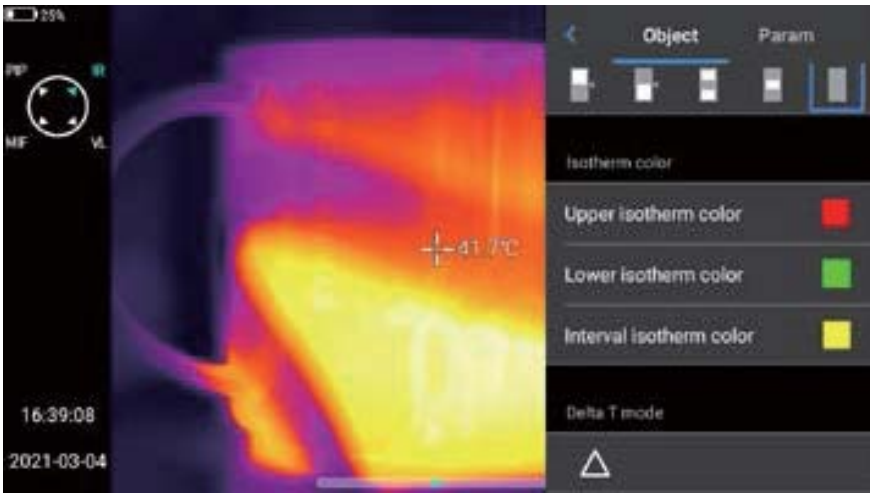
Extra-field Isotherm

1. Click the shortcut menu [ ] and slide the object interface down to the isotherm bar.
2. In the isotherm bar, touch [ ] to enter the extra-field isotherm real-time video image mode. As shown in the figure.



Isotherm Cancellation

1. Click the shortcut menu [ ] and slide the object interface down to the isotherm bar.
2. In the isotherm bar, touch [ ] to turn off the isotherm display, as shown in the figure.



Custom Emissivity

1. Click to enter emissivity, and select [Custom] . At present, various preset values are provided as shown in the figure.
2. Customize the parameters according to your own requirements, and control the range in 0.01-1.00. Slide the corresponding values to modify them. Click the [<] button in the upper left corner to exit and save, as shown in the figure.

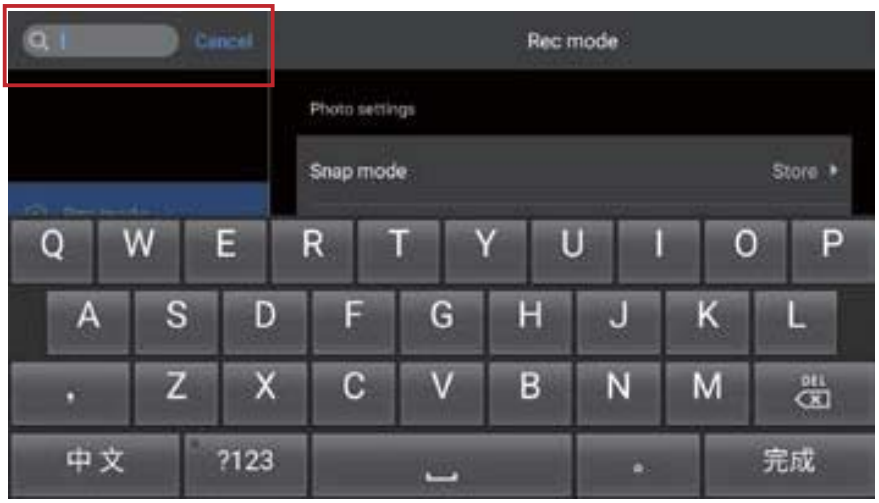
Chapter 7

Global Setting

In the real-time video interface, click the Settings button [ ] to enter the global setting interface, where mainly various parameters of the system can be modified, including shooting mode, temperature alarm, image mark, unit, network connection and so on.

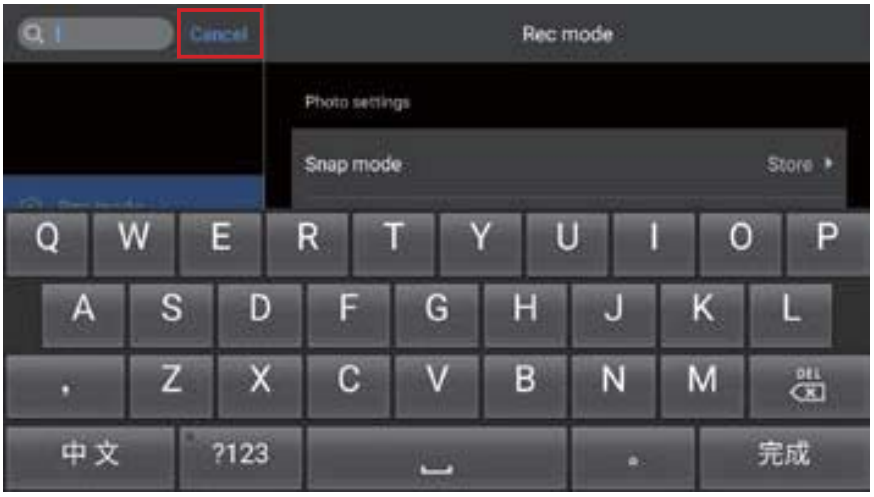
Search

Click the [Search] button in the upper left corner to search the parameters to be set using keywords.



Settings cancellation

After the user has set the required parameter settings, click the [Cancel] button to return to the higher-level setting interface.



Temperature Alarm

1. The alarm temperature thresholds contain high temperature and low temperature.
2. The alarm temperature value is the value of the currently set temperature measurement range.
3. Turn on the high temperature alarm switch, and the user may set the alarm temperature threshold (e.g. 35.6oC) as required.

4. Return to the real-time video interface. If the temperature in the scene is higher than 35.6oC, the equipment will give an audible alarm.
5. Click the alarm icon to immediately turn off the high temperature alarm sound.
6. Turn on the low temperature alarm switch, and the user may set the alarm temperature threshold (e.g. 30.2oC) as required.
7. Return to the real-time video interface. If the temperature in the scene is lower than 30.2oC, the equipment will give an audible alarm.
8. Click the alarm icon to immediately turn off the low-temperature alarm sound.
9. When the high-temperature alarm and low-temperature alarm switches are turned on at the same time, in order to ensure that the system is able to detect the set high-temperature alarm value, the low-temperature alarm value should not be higher than the high-temperature alarm setting.

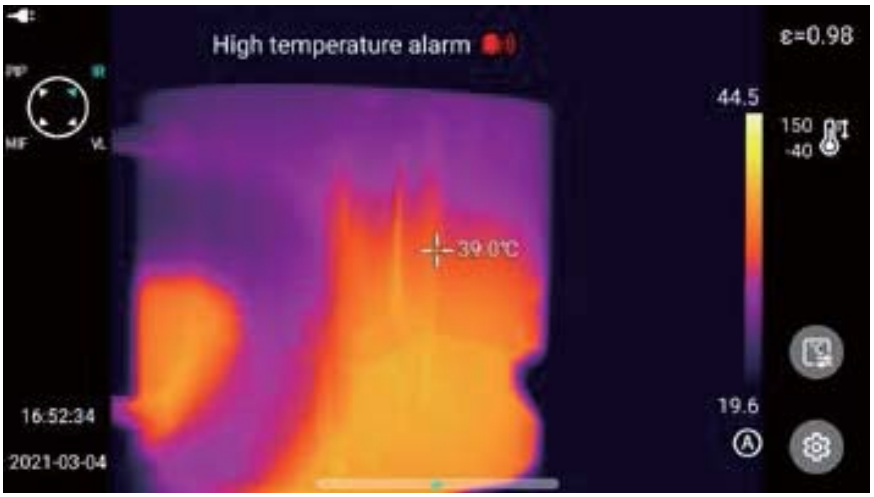
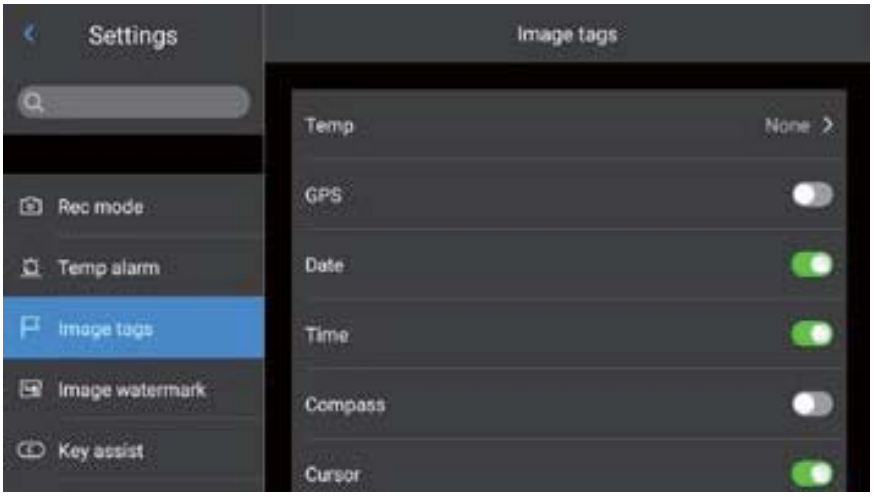


Image Marks

Enter Settings-Image Marks to find the GPS information, compass information, date, time, cursor, logo and color band provided by the system. The user may enable part or all of the displayed information according to requirements.



By default, the tracking modes of high temperature, low temperature and average temperature in the control real-time screen are not displayed.

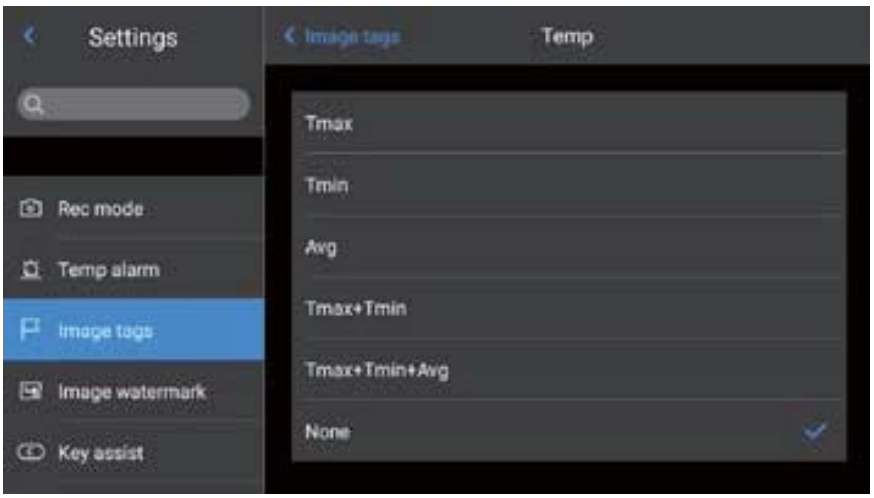
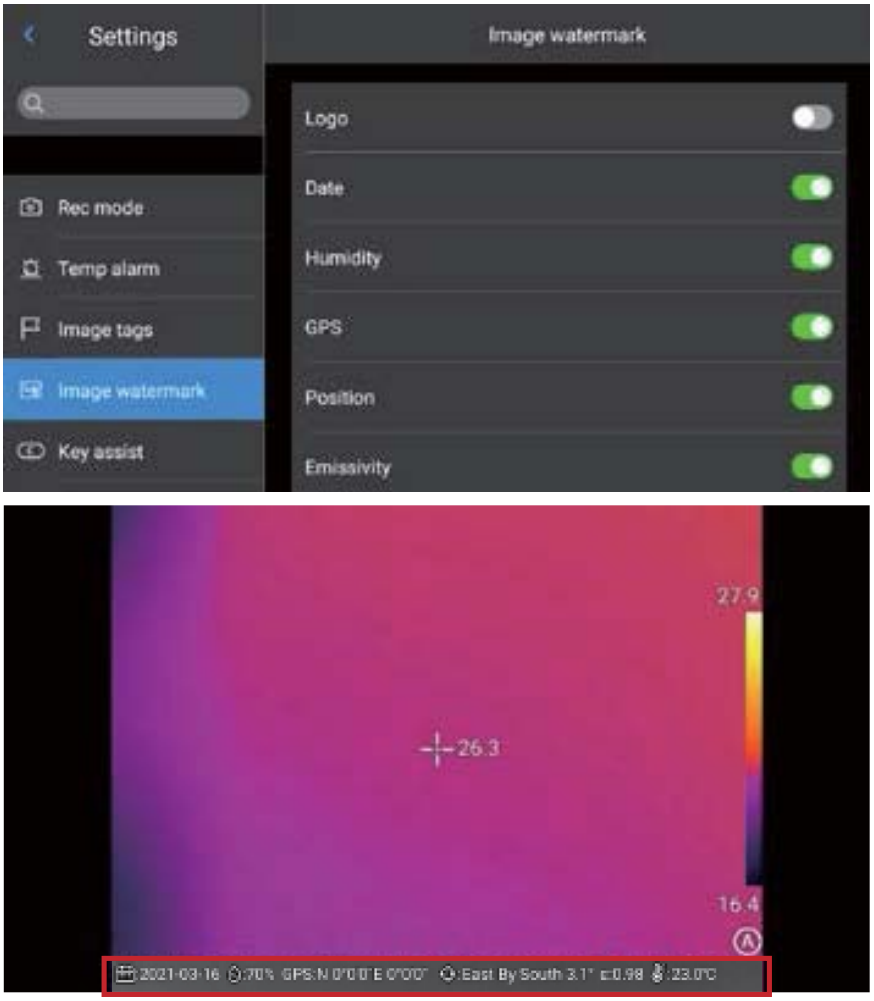


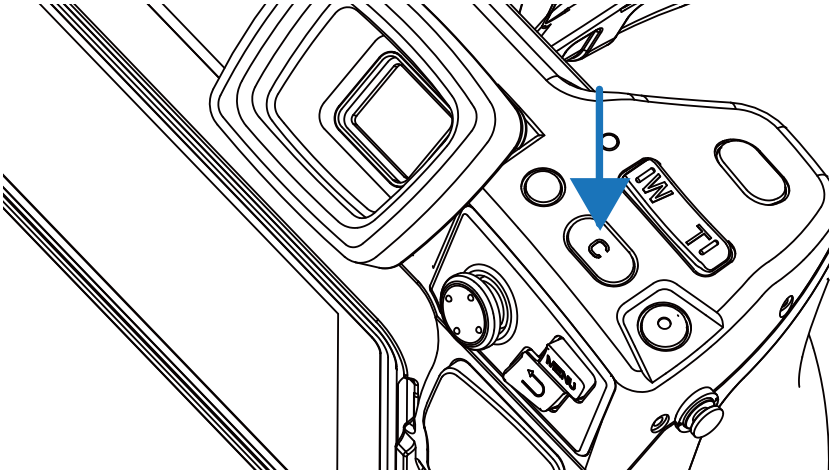
Image Watermark

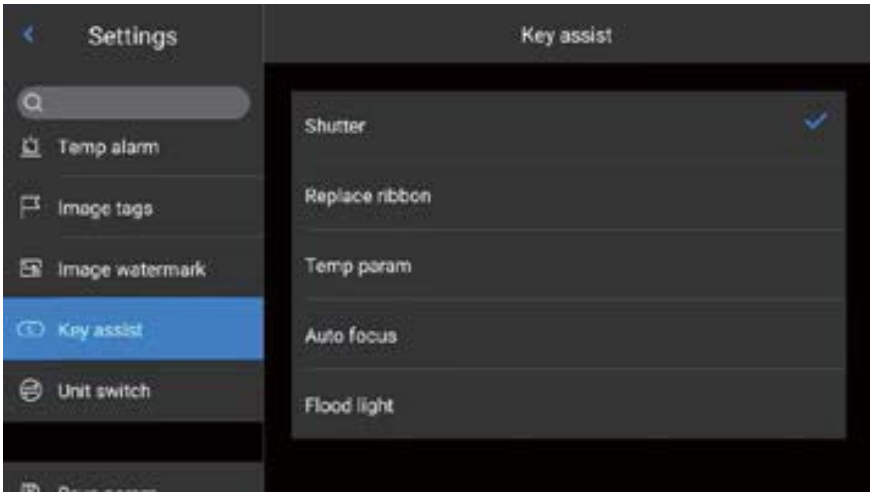
1. Enter Settings-Image watermark settings to enable some watermark options, including logo watermark, date watermark, humidity watermark, GPS, orientation, emissivity, emission temperature and target distance watermark.
2. Go back to the Real-time Image and take an example image.
3. Press the shortcut playback button to enter the image browsing interface, select the image just taken for preview.
4. All the watermark information that has been turned on will be displayed at the bottom of the preview, as shown in the figure.



Key Assist

Set [C] key of the physical button of the device for quick operation, including shutter compensation, replacement of color band, etc.

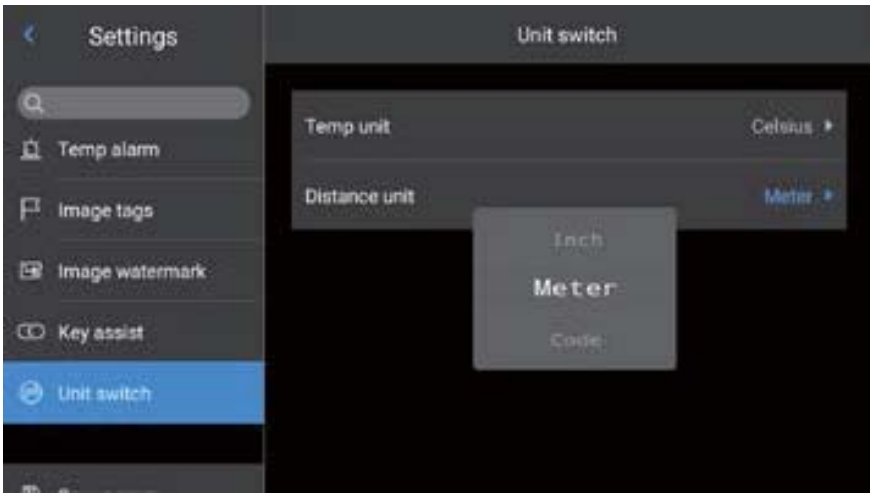




Unit Switch

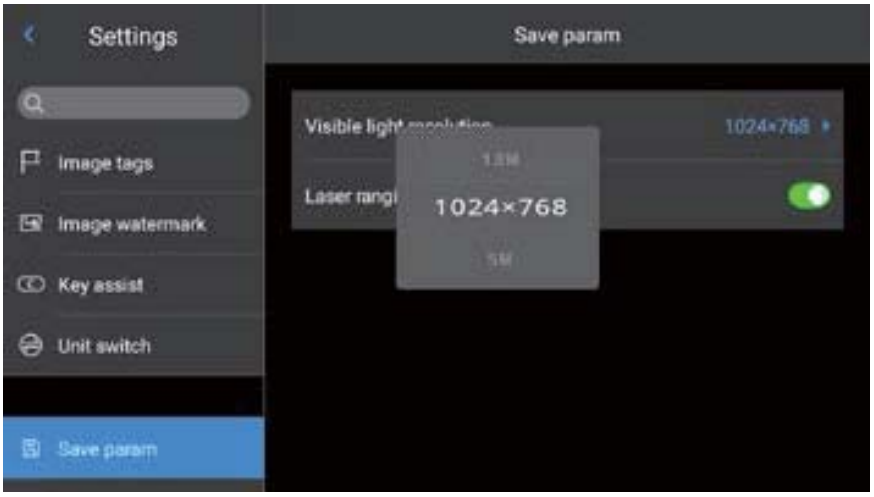
You may switch the units of Celsius, Fahrenheit and Kelvin displayed by the system as required, but the default temperature unit is ℃.

There are three distance units to choose from: meters, yards and inches. The default distance unit is m.



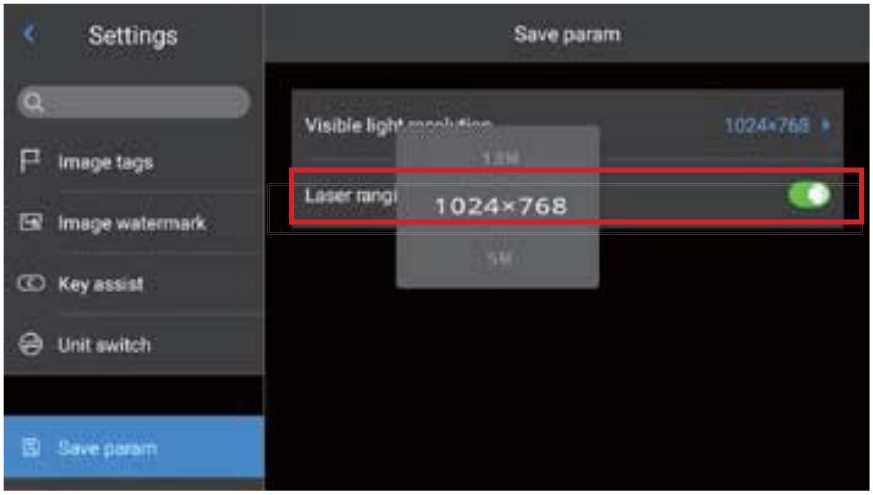
Save Parameters

For the resolution setting of visible light image, there are three options (providing 1024*768, 5M and 8M for some products), which are only applicable to infrared mode and visible light mode. In PIP or Blending Mode, the resolution is 640*480.



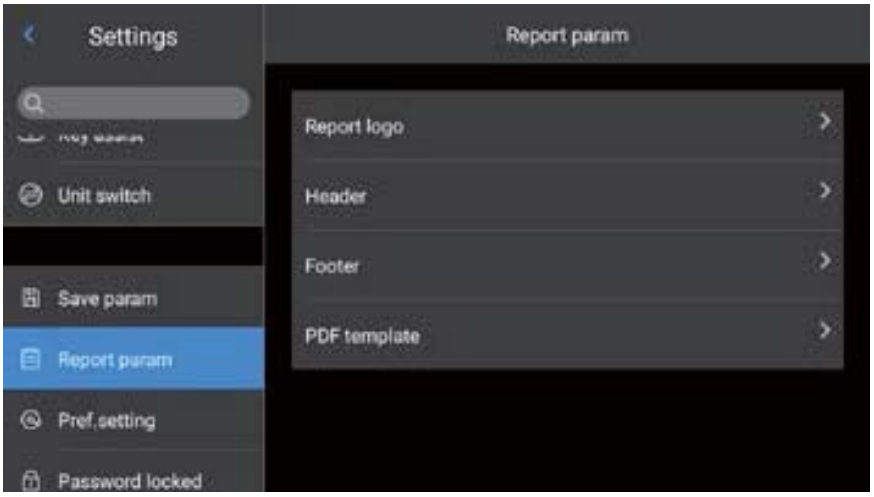
Laser ranging

Enable the laser ranging function and go back to the real-time interface. The distance information will be saved on the picture taken by the Shoot button.



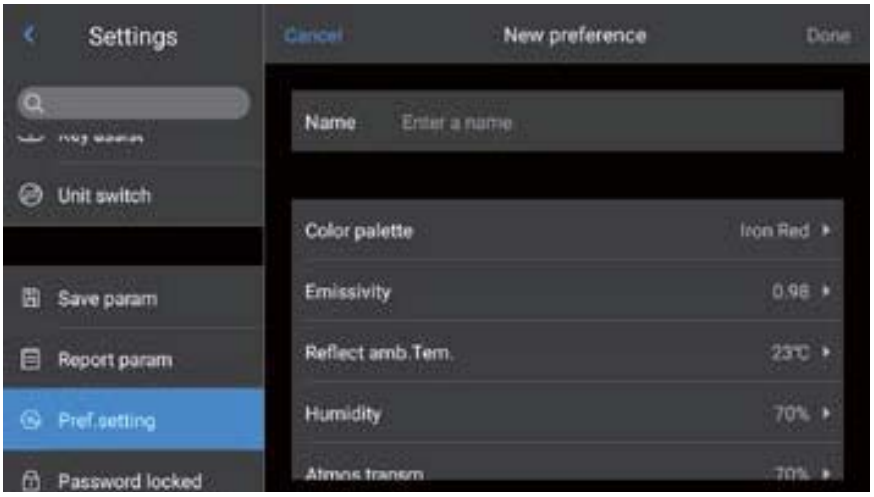
Report Parameters

PDF report parameters including Logo, header, footer and PDF template (three setting templates are provided) can be modified.



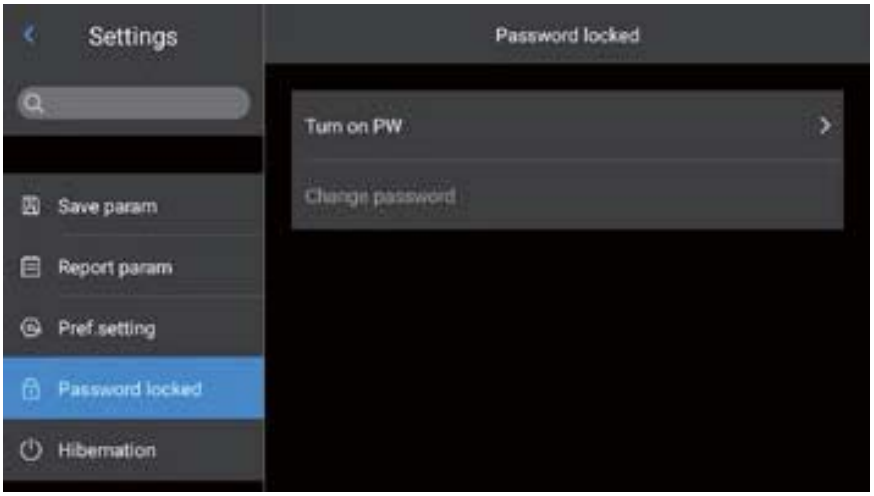
Preference Settings

Users may add global preferences according to their own operating habits, and can also change and delete preferences; The default of the system is: default preference (except that the color band can be adjusted, other parameters should be consistent with the factory values).



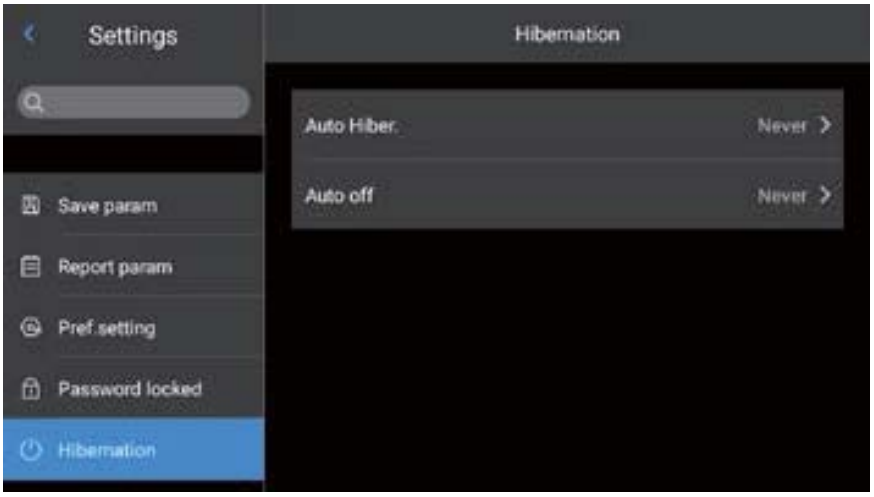
Password Lock

Users may utilize the password protection function in device startup according to their own operating habits.

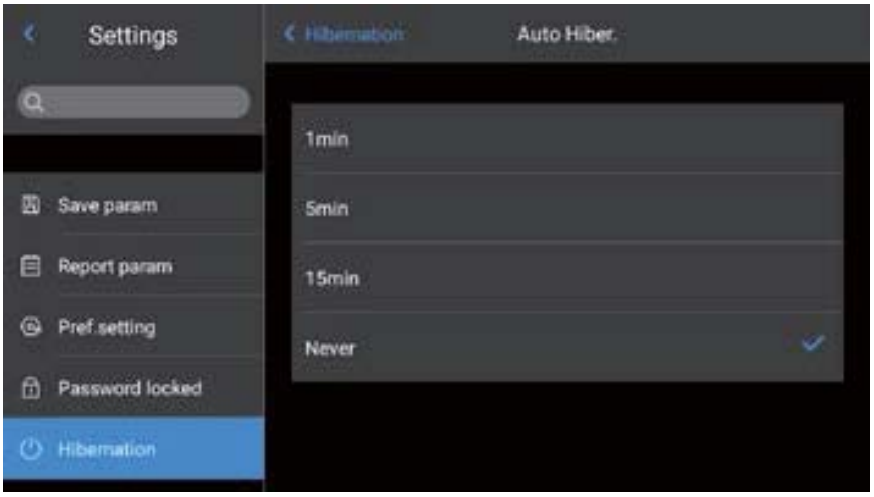


Shutdown and Sleep

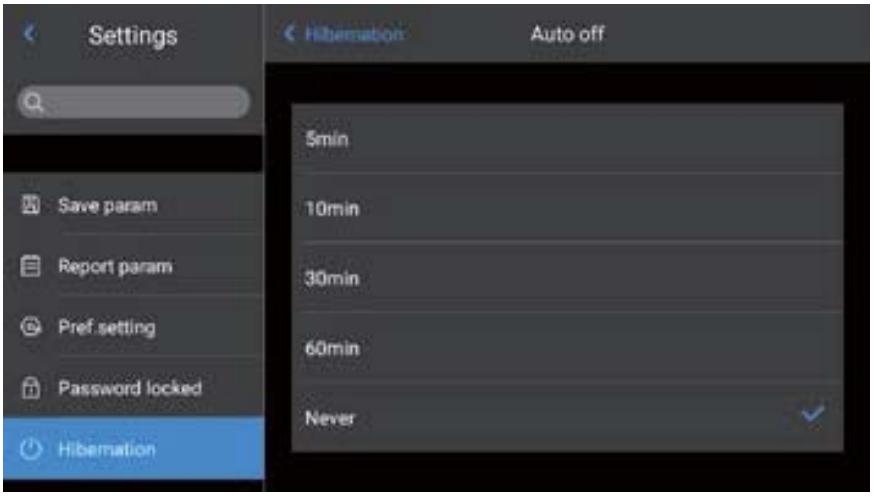
Set timing shutdown and sleep time.



Set the automatic sleep option, with the default setting of Never. 1 minute, 5 minutes, 15 minutes and Never are available options.

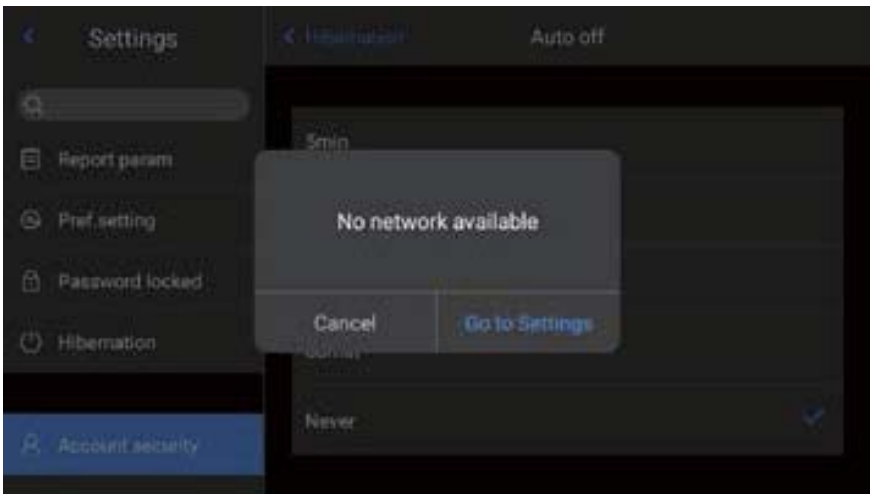


Set the option of automatic shutdown, with the default setting of Never. 5 minute, 10 minutes, 30 minutes,60 minutes and Never are available options.



Cloud Service

Users may register/log in to [Cloud Service] depending on their own needs, upload pictures on this device to the server, or download them through “Thermal tools” software, analyze and share them.



Wi-Fi

1. Select a network. Click on one of the listed networks and enter the password (if necessary).
2. Enter the connection interface after the password is successfully inputted.

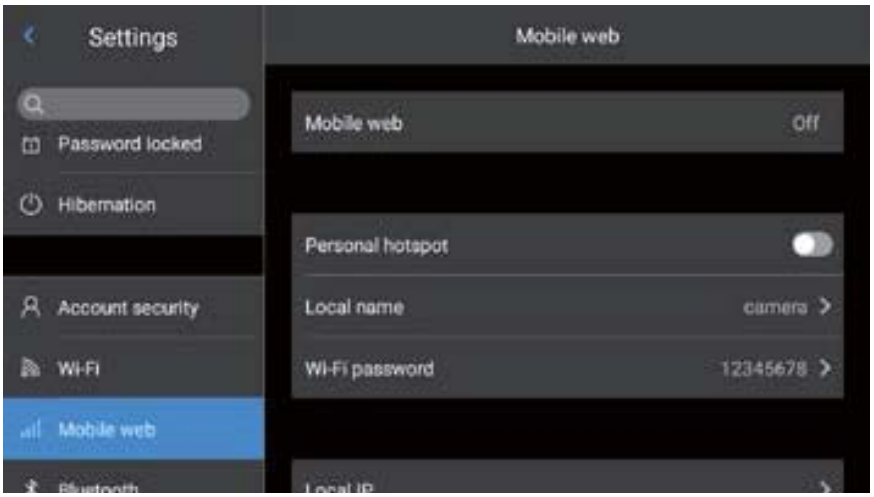
Note:In order to ensure the reliable connection of Wi-Fi signals and stable data transmission, please try to ensure that the connection distance is within 10m and there are no obstacles (such as partitions, etc.)

Network Connections

Mobile network: This device supports external 4G mobile networks (including China Mobile, China Unicom and China Telecom network).

Wi-Fi hotspot:

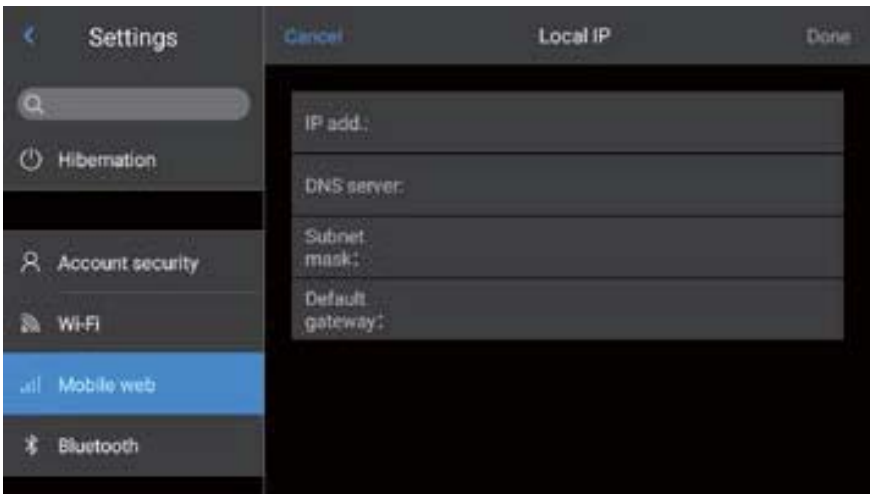
1. In the configuration interface, enter a valid hotspot name Camera and password 12345678, and click OK to save successfully.



2. Then return to the main interface of the real-time screen, and pull up to pop up the shortcut menu. Enable AP function;
3. After the AP is successfully enabled, the user may enter the correct user name and password using the mobile phone APP (Thermograph). Then the device network can be connected successfully and Real-time Images can be displayed.

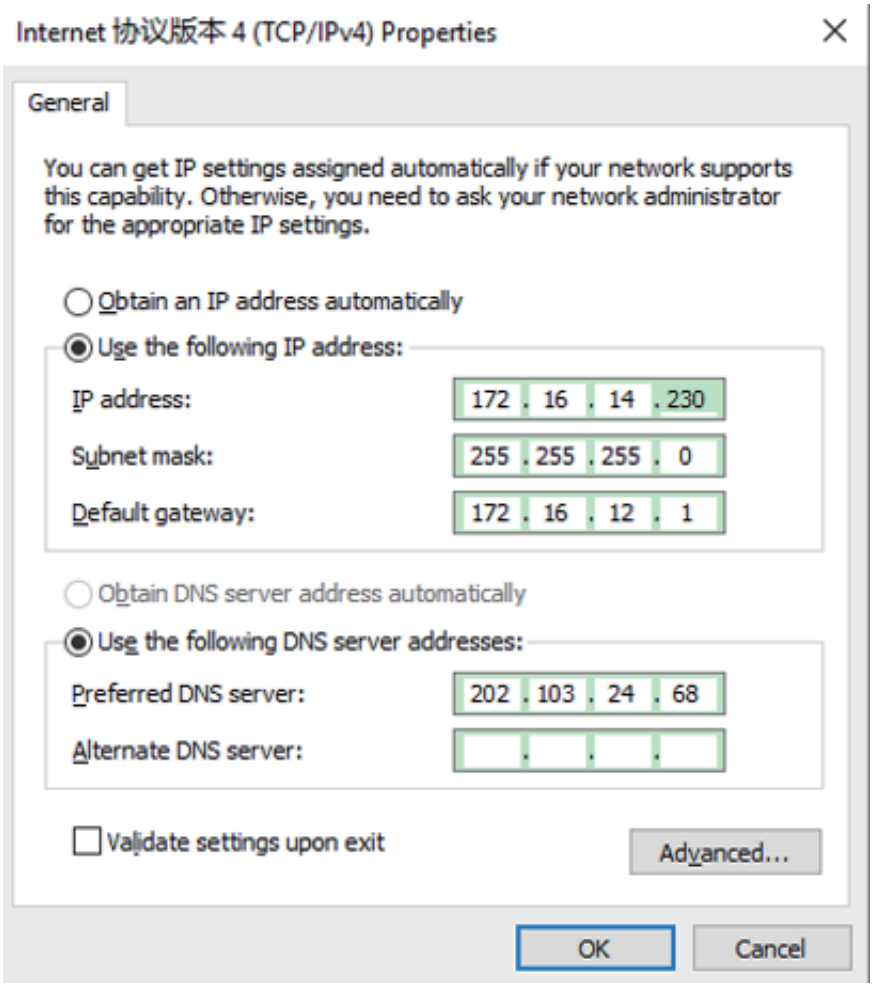
Native IP: users may set the IP address and DNS server address by themselves.

1. IP address: enter a valid IP address (such as 172.16.14.216) and DNS server address 202.103.24.68 (please set the IP address and DNS address by yourself according to the local area network situation of the user).



Note: IP address cannot be set for the 192.168.42.xxx network segment, which will be prompted as “illegal IP address”.

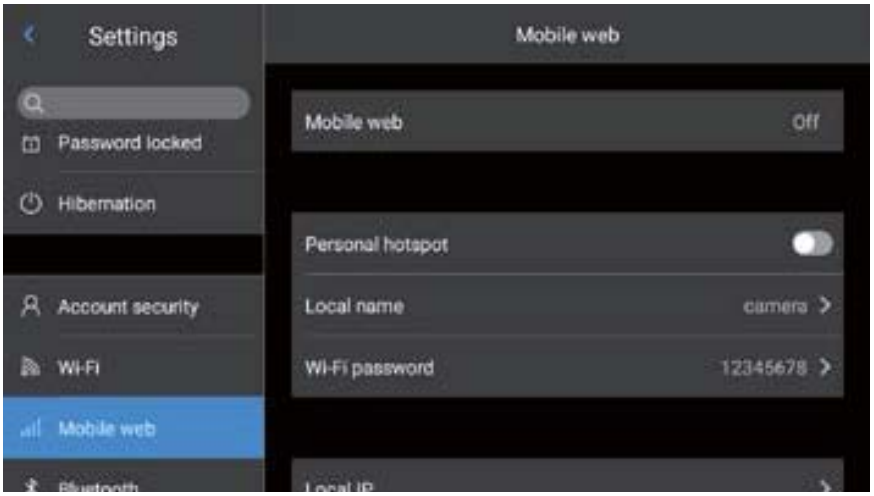
2. Set host IP: set the local connection IP address of desktop computer as 172.16.14.230, and DNS as 202.103.24.68. Then it can be used together with supporting software*.



It needs to be used together with PC-side application software.

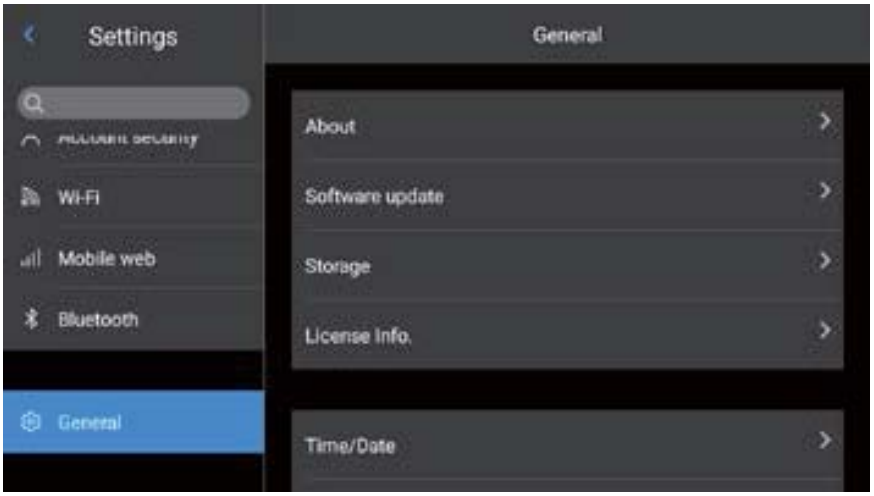
Bluetooth

1. 1. Turn on the Bluetooth headset, press and hold the Call Button for 3 seconds to enter the pairing mode.
   (The blue indicator lights up continuously and stays for 3 minutes.)
2. 2. Enter Settings-Bluetooth, turn on the Bluetooth setting switch, and then the system will automatically search for Bluetooth devices. Select Bluetooth headsets in the device list for pairing.
3. 3. After pairing, the headset will try to reconnect every time it is turned on.

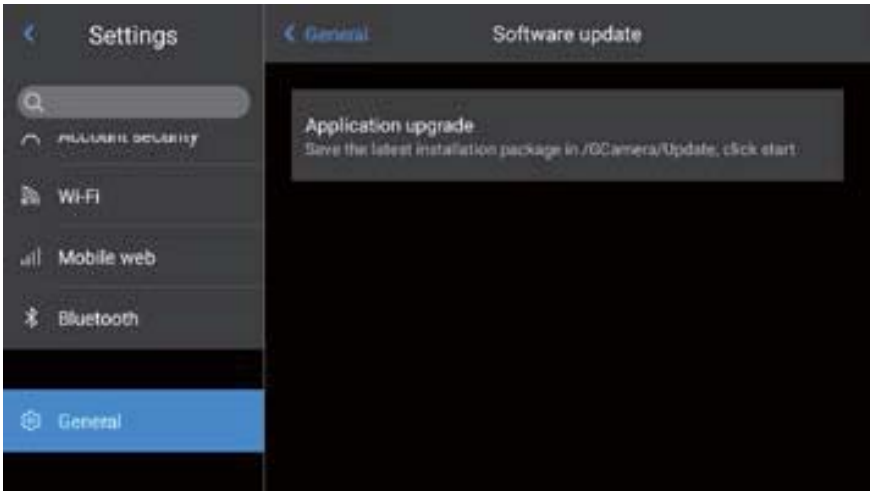


General

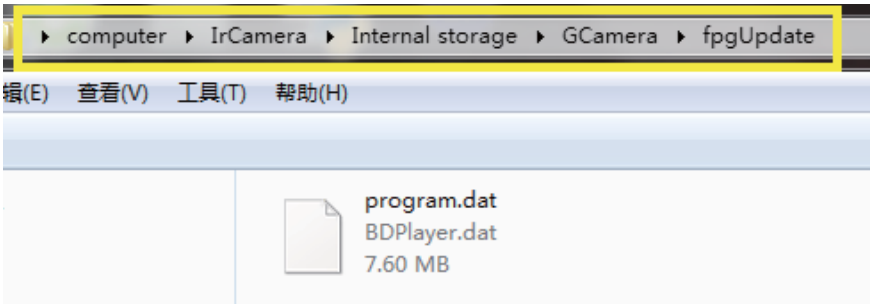
Users may check the version and SN of native software through Settings–General, and may change information such as language, time, date and storage path.



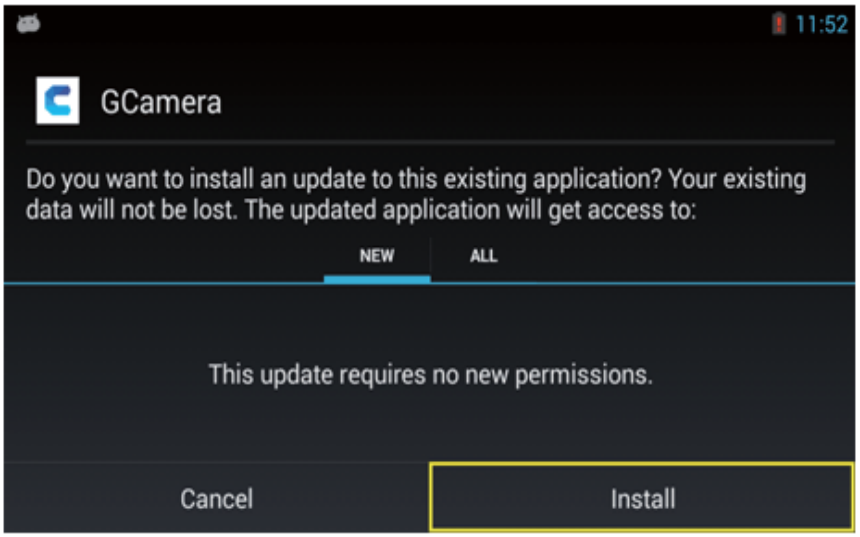
Software Upgrade



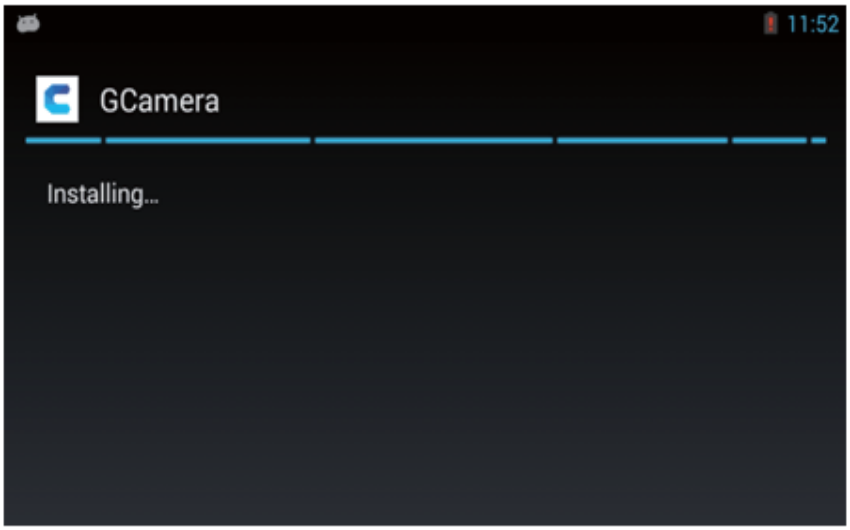
1. Put the latest version of APK upgrade package file in the path: Computer \IrCamera\memory device\GCamera\update.



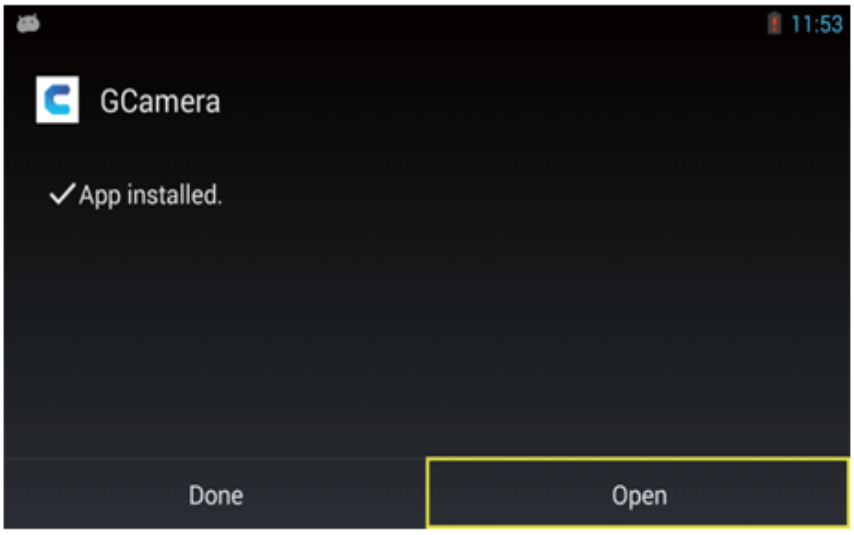
2. Click the “SD card upgrade” button in the Settings-Information interface to enter the upgrade interface, and then click the “Install” button.



3. Go to the installation interface.



4. After the installation is completed, the device will prompt “Application installed”. Click “Start” button to complete the upgrade!
   The new program version can be viewed in “Settings-Information-Software version number”.



NOTE：The whole upgrade process takes about 15 minutes. Please make sure that the battery power meets the demand before upgrading. If the power is cut off in the middle of the upgrade, the upgrade will fail or even the device might be unusable!

Storage

The main display contents are the remaining capacity of the internal storage device and the basic information of the external SD card. Users may also customize the storage options, including internal storage and external SD card storage.

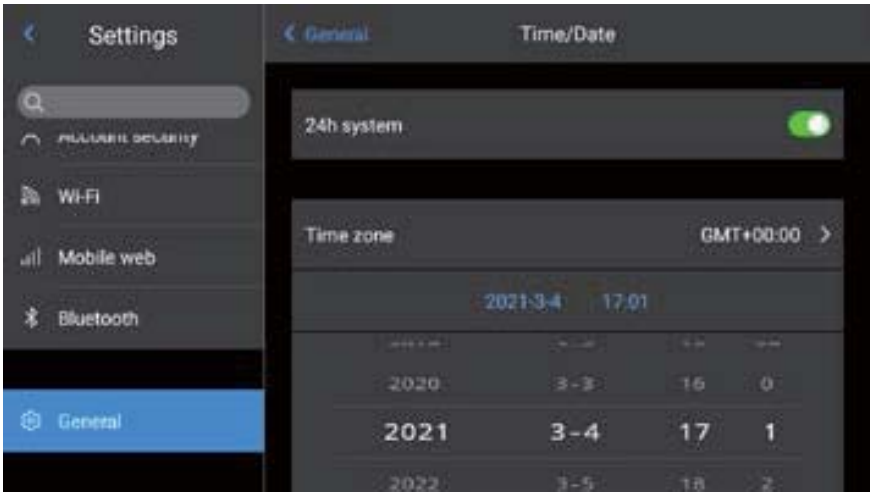
Select storage medium: enter the device storage interface, and the user may select memory storage device or SD card for data storage.

License Information

It mainly displays the software list of the third party used by this device.

Date and Time

Manually set the system date and time.

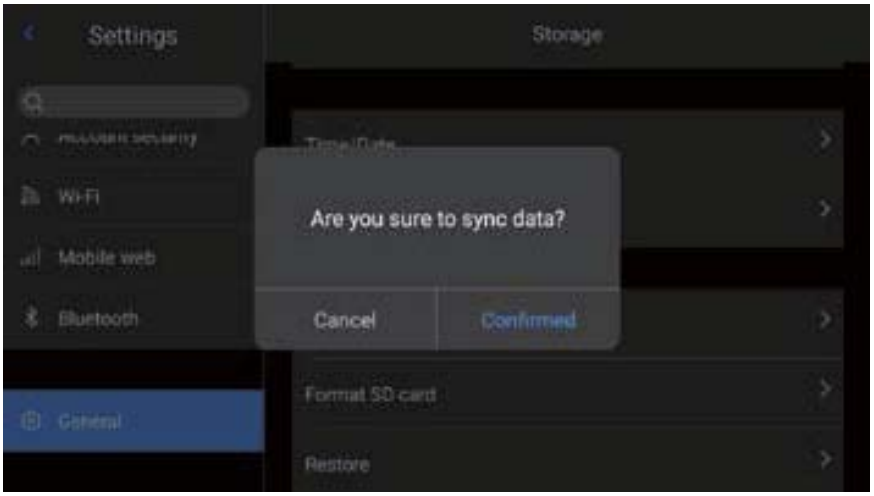


Language

Multiple languages are available for switching.

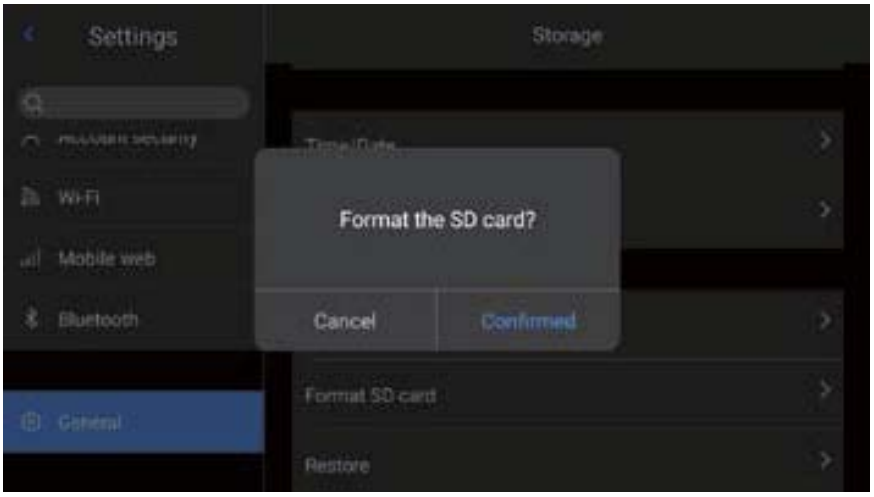
Synchronous Data

Enable SD card to synchronize with local data.



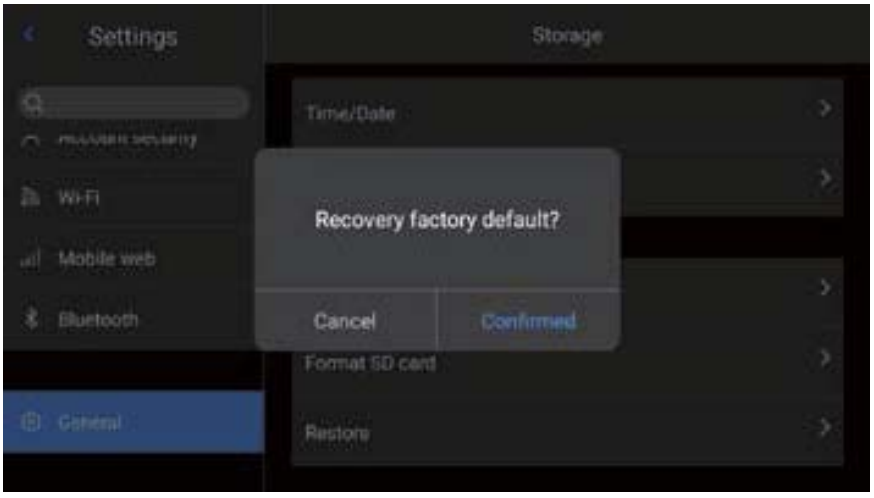
Format SD Card

To start formatting, you have to select a memory card slot, and then select Yes. Please note that formatting will permanently delete all photos and other data on the memory card in the selected slot. Be sure to back up as needed before formatting.



Recovery

1. Enter the Settings menu-General-Recovery, and click the Restore Settings tab.
2. This function will restore the device to the factory state. Please handle it carefully.



Chapter 8

Connection with External Device

Port connection

This product can be connected with external device s by HDMI data cable, USB data cable and network cable.

Micro HDMI port

The Micro HDMI interface is mainly used for connecting the external HD monitor. Please ensure that all monitors to be connected have HDMI ports.

1. Connect the HDMI cable to the camera.
2. Let the < HDMI > logo of the Micro HDMI plug facing the front of the device and insert the plug.
3. Connect the HDMI cable to the HDMI IN port of the HD monitor.
4. Turn on the HD monitor and switch its video input to select the connected port.

USB port

1. View internal storage files.
   After connecting the USB data cable to the desktop computer, open My Computer, check the information of the internal storage disk, click to enter the memory device, and find the folder where the images are stored. The specific path is ...\CAMERA\ internal storage device \DCIM\ GCamera\SourceImage.

2. View the SD card file.
   If you want to save the images in SD card, please navigate to Global Settings-Information-Storage Space, select SD card as the storage medium, and then files can be saved in the memory card after photographing.
   Connect to the computer with the USB data cable, open My Computer, view the information of the internal storage disk, and click to enter the memory device. The path is ...\CAMERA\SD card \DCIM\GCamera\SourceImage.

Note: The file name with the initial letters of IRI is the infrared image, and the file name with the initial letters of VIS is the visible image.

LAN port

1. Network port connection: connect the network cable interface of desktop computer with the network port of this device, and ensure the status is normal.
2. IP setting: Navigate to the Global Menu-Connection Settings-Device IP, and the user can manually set relevant parameters.

Enter the correct IP address and DNS address. See the Device IP Address section for details.

3. Open LAN port: enter the main interface of real-time screen, open menu options, and click [LAN] button to enable LAN connection.
   (This function needs to be used together with PC application software.)

4. Connect with application software: Open the infrared analysis software (Windows version), enter the video analysis interface, select the device model and enter the correct IP address.
5. Display the real-time picture: successfully connect with the device and display the real-time picture correctly.

Note: After opening the PC-side infrared analysis software and infrared video (infrared video on mobile side APP) successfully through the network cable (Wi-Fi), the infrared video will be disconnected after clicking the system setting shortcut button on the touch screen of the device to enter the system setting. If it needs to be used continuously, it needs to be reconnected.

Install memory card and lens

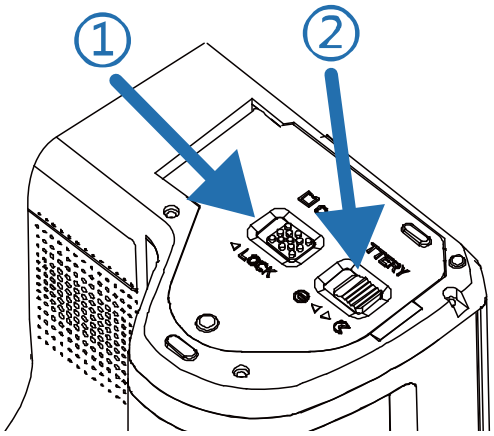
SD card can be used in this device, and the shot images and videos can be recorded on this device or SD card. This device supports SD cards with a maximum capacity of 64GB, with 64GB as standard configuration. SD cards successfully passing the test include:

1. Samsung (64GB CLASS10)
2. SanDisk (64GB CLASS10)
3. Kingston (64GB CLASS10)

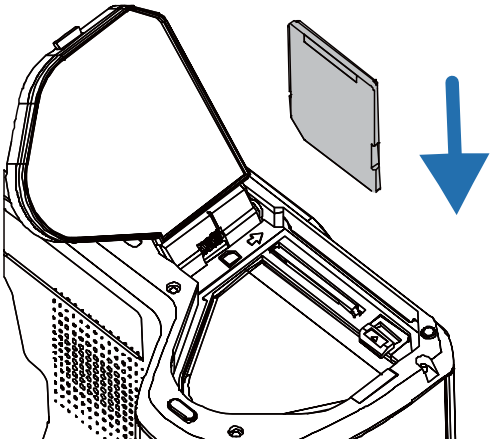
Make sure that the write protection switch of the memory card is set in the upper position to allow writing/deleting.

Install memory card

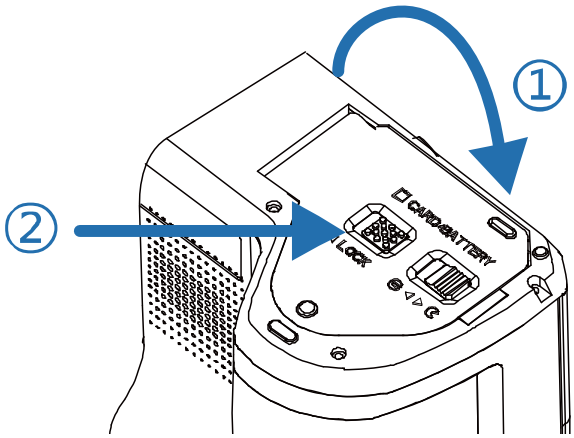
1. Open the slot cover, slide in the direction indicated by the arrow, open the slot cover and insert the memory card.



2. As shown in the figure, make the label side of the memory card face you, and insert the card until it clicks indicating in place.

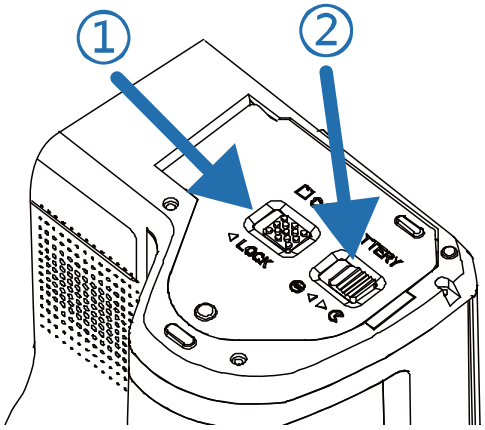


3. Close the slot cover.
   Close the slot cover and slide the slot cover in the direction indicated by the arrow until it locks.

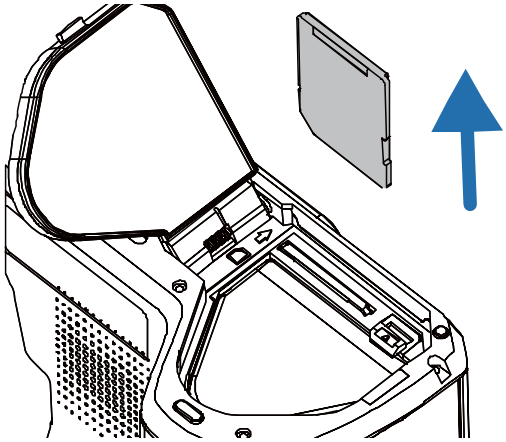


Take out the memory card

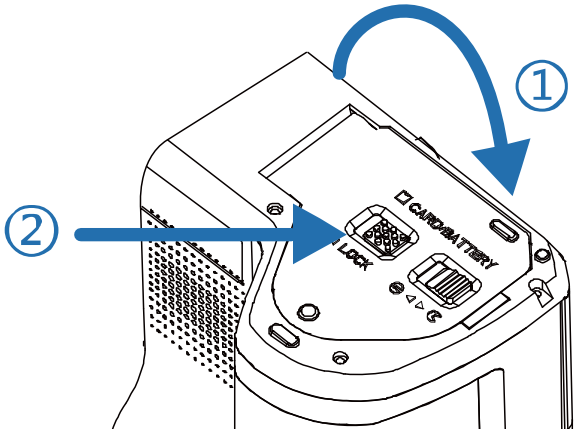
1. Turn off the power of the device first, and then open the slot cover. (Make sure the indicator light is off before opening the slot cover)



2. Taking out the memory card. To take out the memory card, gently push in the memory card and release it.



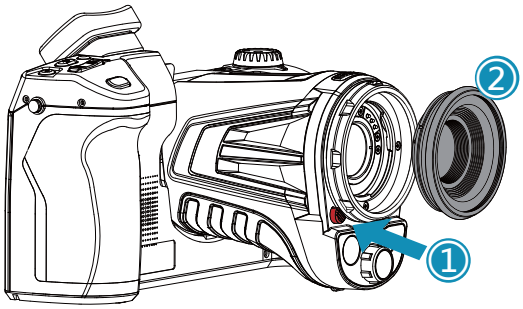
3. Pull out the memory card and close the slot cover.



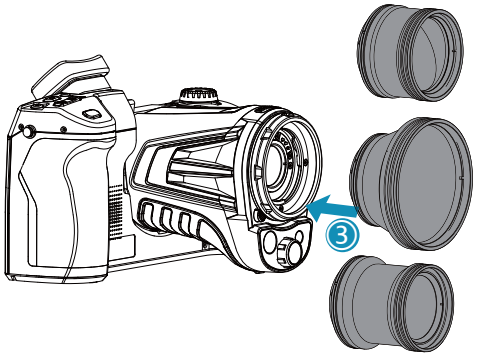
Note: The available shooting quantity depends on the remaining capacity of the card, image recording quality, etc.

Install the optional lens

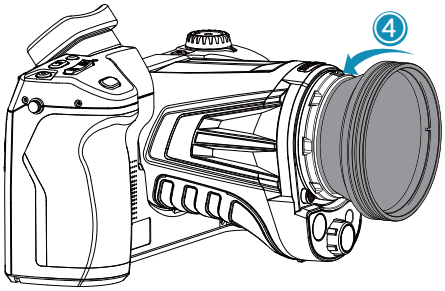
1. Press the Change Lens button, rotate the lens decorative cover clockwise to remove the lens decorative cover.



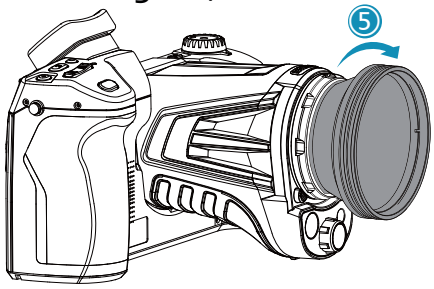
2. Select the lens to be extended, align the U-shaped groove of the lens with the red dot on the device standard lens, and then insert the extended lens.



3. Rotate the extended lens counterclockwise until hearing the “click” sound, indicating that the lens is installed successfully.



4. Removing the extended lens: press the Change Lens button, rotate clockwise as shown in the figure, and remove the extended lens.



Cautions:
1) Handle with care to avoid direct collision and lens damage;
2) When not in use, please place the extended lens in a safety box and keep it properly.

Access the latest version of IOS/Android application

IOS version: please search the keyword Thermography in the Apple Store to get the IPhone/IPad version.

Android version: You can enter the main domestic application markets, such as 360 Mobile Assistant, Wandoujia, AppChina, and search for keywords Thermography to download; Foreign customers may visit the company's official website to download.

For details, please visit the company's official website–Download Zone.

Chapter 9
Emissivity of common objects

Emissivity of common objects

Material	Emissivity
Wood	0.85
Water	0.96
Brick	0.75
Stainless steel	0.14
Adhesive tape	0.96
Aluminum plate	0.09
Copper plate	0.06
Black aluminum	0.95
Human skin	0.98
Asphalt	0.96
PVC	0.93
Black paper	0.86
Polycarbonate	0.8
Concrete	0.97
Copper oxide	0.78
Cast iron	0.81
Rust	0.8
Plaster	0.75
Paint	0.9
Rubber	0.95
Soil	0.93

Chapter 10

Common Faults and Troubleshooting

Summary of common faults

Phenomena	Cause	Measures
Unable to start	Low battery	Recharge the battery before use
	Poor battery contact	Take out the battery and put it back in place in the battery housing
	Plug of the external power supply not in place	Remove the power plug and reinsert it in place
Great deviation between the battery power indication and the actual use	Battery runs out	Replace it with a fully charged battery
	Expiration of battery life	Replace with a new battery
Unclear infrared images	Failure in focusing	Focus manually or automatically to make images clear
	Lens fogged or contaminated	Use professional equipment to clean the lens
Unclear visible light images	Dark environment	Take appropriate lighting measures
	Front end of visible light fogged or contaminated	Use professional equipment to clean the front end of visible light

Phenomena	Cause	Measures
Inaccurate temperature measurement	Failure in focusing on the target	Focus manually or automatically to make the image clear, and then read the temperature
	Wrong parameters related to temperature measurement	Change the parameter setting, or directly restore the default parameter value
	Failure in non-uniformity correction for a long time	Set the Customize button as compensation in the menu, press the physical Customize button and perform a non-uniformity correction when you hear the shutter sound
	Temperature measurement immediately after start	To ensure the accuracy of temperature measurement, you are recommended to wait for 5 to 10 minutes after turning on the thermal imager and before temperature measurement.
	Failure in calibration for a long time	To obtain accurate temperature measurement results, you are recommended to send the thermal imager back for calibration once a year

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产品接入互联网后，可能面临包括但不限于网络攻击、黑客攻击、病毒感染等风险，对于因此造成的产品工作异常，信息泄露等问题，本公司不承担责任，但将及时为您提供技术支持。

产品在正确安装和配置下可感知移动侦测和火灾事件，但不能避免事故的发生或因此导致的人身伤害或财产损失。

使用本产品时，请您严格遵循使用的法律，您同意本产品仅供民用，不得用于侵犯第三方权利、医疗、安全设备或其他发生产品故障可能导致生命危险或人身伤害的应用，及大规模杀伤性武器，生化武器。核爆炸或任何不安全的核能利用或危险性或违背人道主义的用途，因上述用途产生的任何损失或责任，将由您自行承担。

上述内容与适用的法律相冲突，则以法律规定为准。

重要说明

本手册为一个系列产品的通用手册，这意味着您收到的特定型号产品可能与手册图片存在差异，请以收到实物为准。

本用户手册是为方便用户使用和了解本公司产品而整理，我们将尽最大的努力保证本手册内容的准确性，但仍不能保证本手册内容的完备性，因为我们的产品一直在持续的更新和升级，本公司保留随时修改而不另行通知的权利。

注意事项

危 险

1. 请按照本手册中说明的方法为电池充电，并请遵照充电步骤和注意事项。错误的充电会导致电池变热，损坏甚至造成人体受伤。
2. 在任何时候都不要尝试打开或拆解电池，一旦电池发生泄露导致液体进入人眼，应该立刻用清水冲洗眼睛，且进行医学护理。

警告

1. 在使用设备时请尽量保持稳定，避免剧烈晃动。
2. 不要在超出设备许可的工作温度或储存温度环境中使用或存放仪器。
3. 不要将设备直接对准很高强度的热辐射源，例如太阳，激光器，点焊机等。
4. 不要堵塞设备上的孔。
5. 不要敲打，扔掷或震动仪器和配件，以免造成损坏。
6. 请勿自行拆卸本机，这有可能造成设备损坏，并丧失保修权利。
7. 不要将有溶解性或类似的液体用于设备，线缆，这可能会导致设备的损坏。
8. 请不要在超过设备使用工作温度的环境下使用该设备，这可能会造成设备的损坏。

9. 擦拭本设备时请遵照以下措施：

- 非光学表面：在必要时可以使用干净柔软的布擦拭热像仪的非光学表面。
- 光学表面：使用热像仪时请避免弄脏镜头的光学表面，特别要避免用手触碰镜头，因手上的汗迹会在镜头玻璃上留下痕迹且可能会腐蚀玻璃表面的光学镀膜层。当光学镜头表面受到污染时，使用专业镜头纸小心的擦拭。

10. 不要将电池置于高温环境或靠近高温物体。
11. 不要使电池的正负极短路。
12. 不要将电池置于潮湿环境或水中。

警告

1. 不要将设备暴露在灰尘或潮湿的环境中。在有水的环境中使用时，应避免水溅到仪器上。在不使用仪器时应盖上镜头盖。
2. 当不使用本设备时，请将仪器和所有配件放置在专用包装箱内。
3. 避免将随机的SD卡挪作他用。
4. 长时间使用目镜会导致目镜对比度降低，画面变白，可切换为LCD屏显示，一段时间后再切为目镜显示。

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产品简介

本产品专为专业的红外测温行业用户所设计，采用高灵敏度与更高分辨率的红外探测器，可提供更清晰的红外图像和更高的测温精度。辅以安卓操作系统、大屏显示和可旋转的镜头结构，使用便捷、功能强大。还可同步采集可见光与红外图像，并以画中画或MIF的方式显示重点观测位置。同时通过开放的安卓平台应用，更可将其延伸为一个多用途的移动式红外热像应用平台。

贮存、运输

贮存：

经包装后的产品贮存环境为-40℃～70℃、相对湿度不超过95%、无凝结无腐蚀性气体、通风良好、清洁的室内。

运输：

运输流通中应防雨淋、水侵、倒放，不应有剧烈振动和冲击，搬运过程中要小心轻放，严禁抛摔。

第1章

物品清单

标配件：

热像仪

镜头盖

锂电池2块

适配器插头

USB连接线

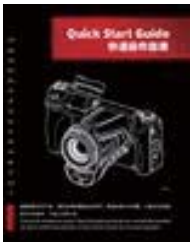
HDMI连接线

网线

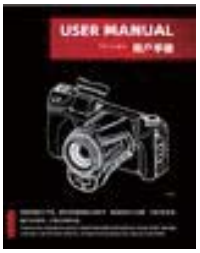
肩带

SD卡（64G）

硬质安全箱



快速操作指南



说明书

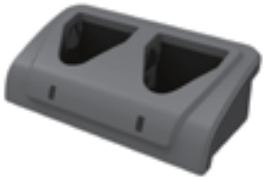
资料下载卡

标定证书

适配器

选配件：

锂电池



座充

蓝牙耳机

USB转接线

长焦镜头

广角镜头

高温镜头

微距镜头

中长焦镜头

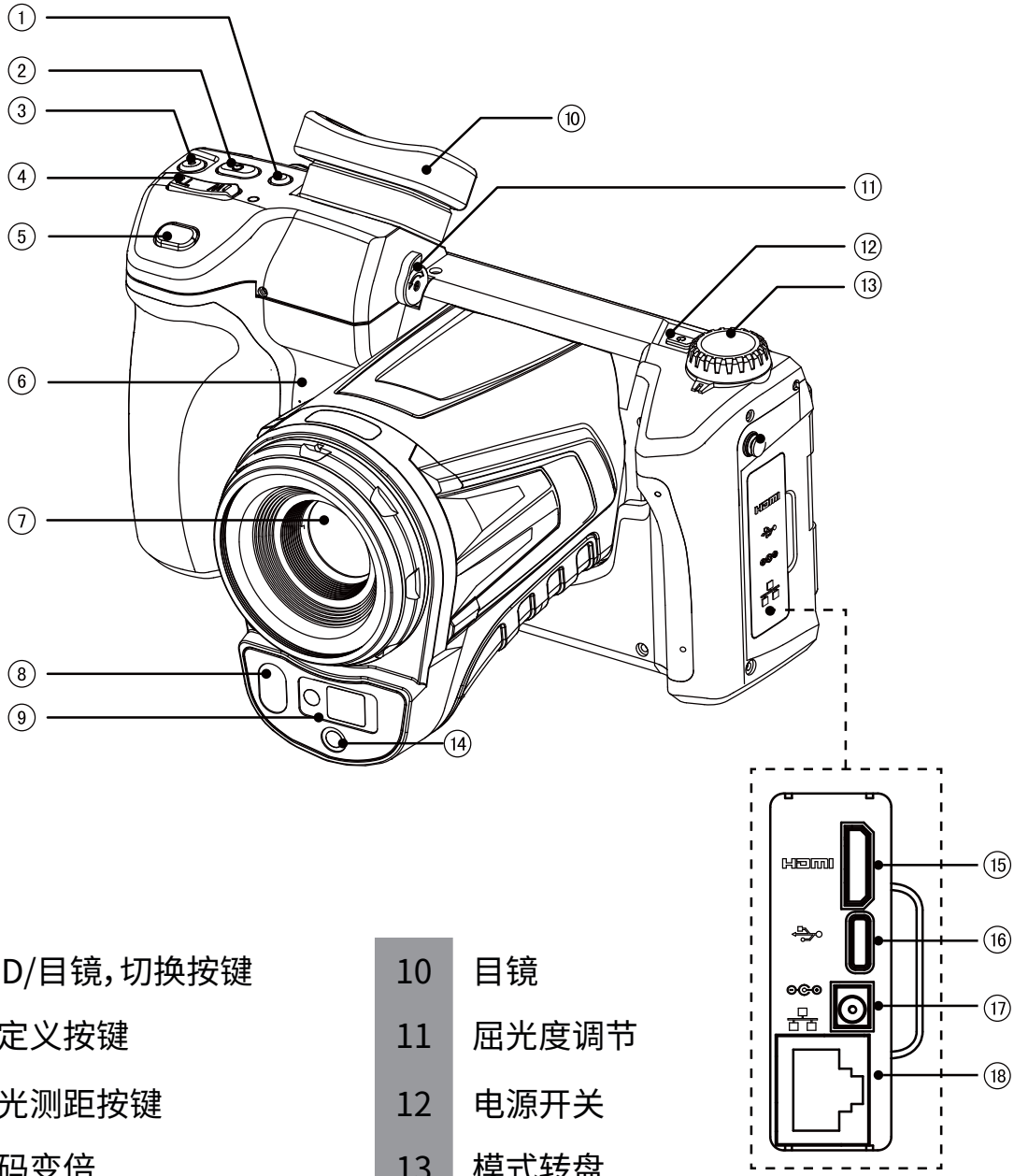
携行包

镜头包

4G模块

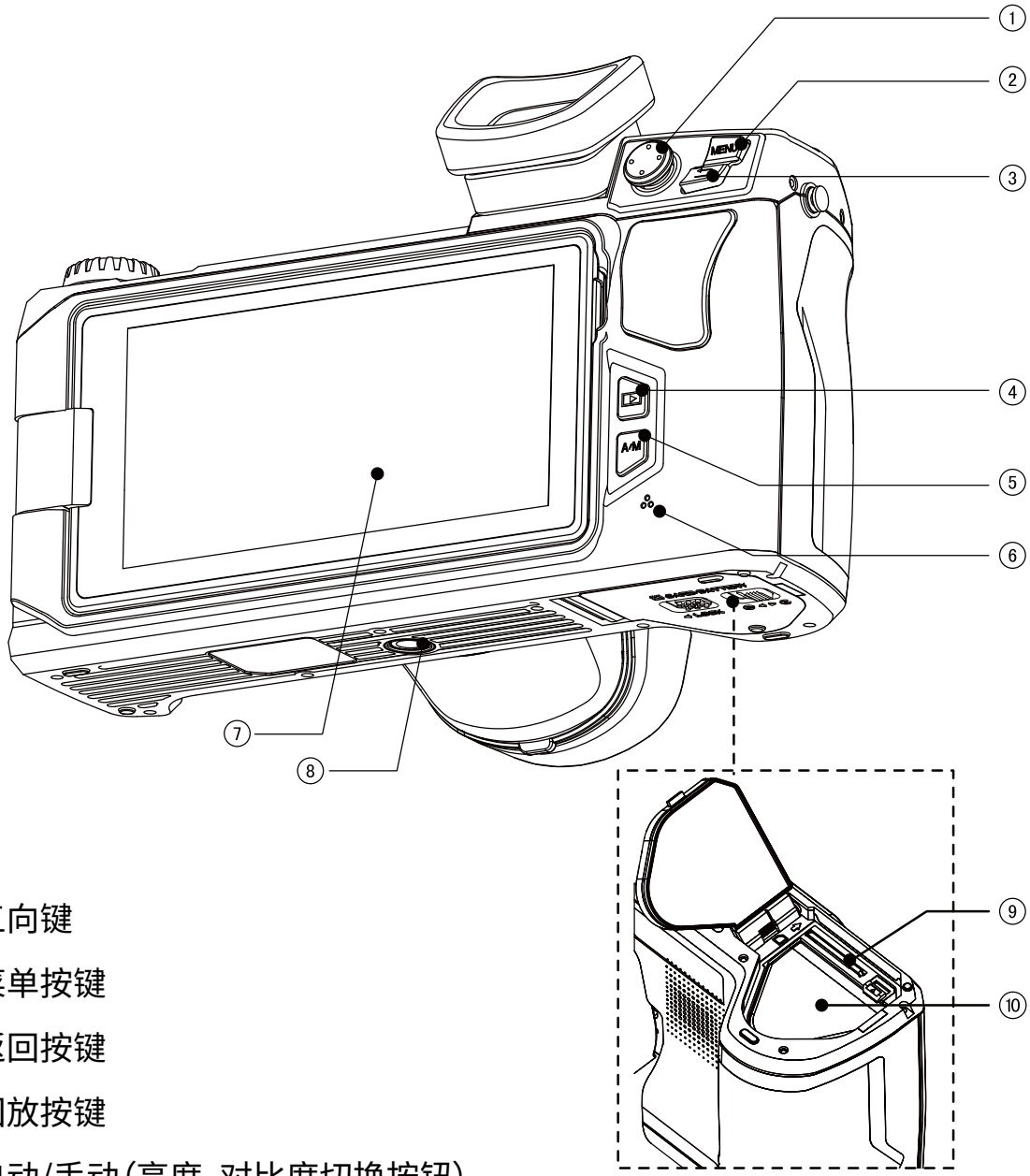
第2章

产品部件一览



1	LCD/目镜,切换按键
2	自定义按键
3	激光测距按键
4	数码变倍
5	拍照、录像按键
6	扬声器
7	红外镜头
8	照明灯
9	激光灯

10	目镜
11	屈光度调节
12	电源开关
13	模式转盘
14	可见光
15	Micro HDMI输出端子
16	Type-C端子
17	电源端子
18	网络(RJ45)端子

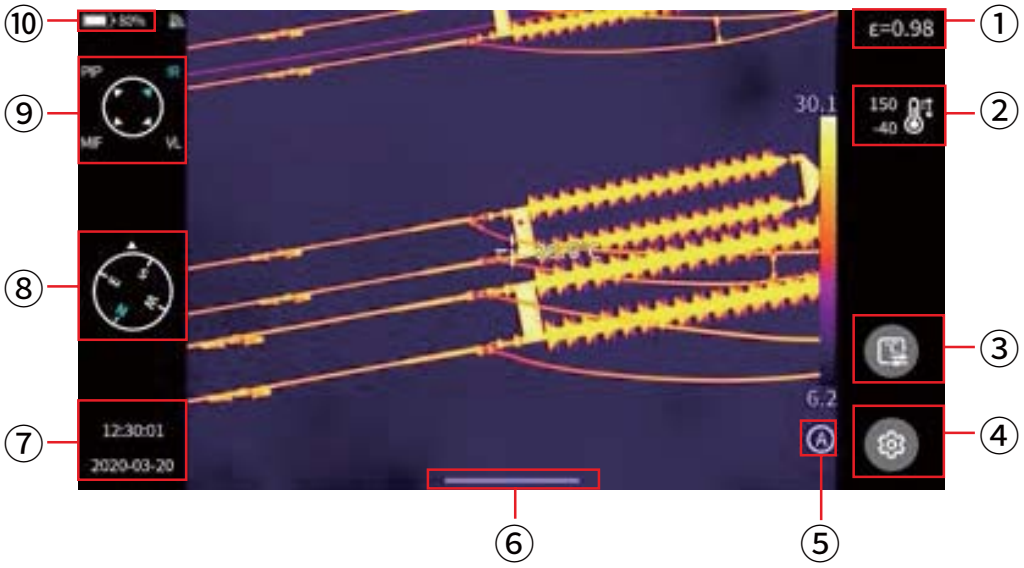


1	五向键
2	菜单按键
3	返回按键
4	回放按键
5	自动/手动(亮度、对比度切换按钮)
6	麦克风
7	液晶监视屏
8	三角架接口
9	SD卡插槽
10	电池仓

第3章

界面区域一览

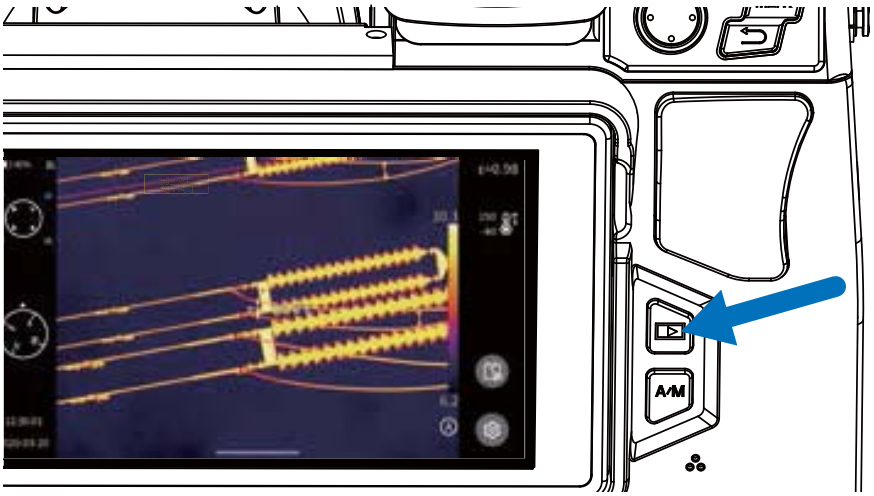
界面区域一览



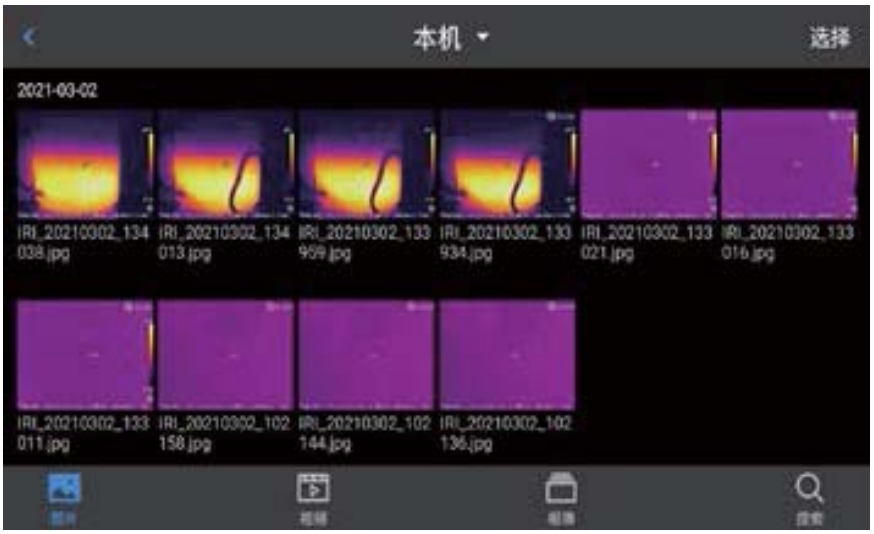
1	发射率值，根据被测目标，设置发射率数值。
2	测温范围，点击进入测温范围设置界面。
3	测温参数，点击进入测温参数设置（相对湿度、距离、大气透过率等设置）。
4	设置，单击进入设置界面，也可通过物理按键“MENU”进入设置界面。
5	LEVEL SPAN模式，默认是自动模式，通过物理按键或者触屏切换自动、半自动、手动模式。
6	上拉菜单图标，进入上拉快捷界面，可以进行快捷设置菜单。
7	时间日期，进入设置-通用-日期时间设置。
8	罗盘信息，可以进入设置-图像标记中开启或者关闭；出厂默认是关闭状态。
9	图像模式图标，分别为：红外、可见光、MIF、PIP。
10	状态栏，显示电池电量、Wi-Fi状态等。

回放主界面

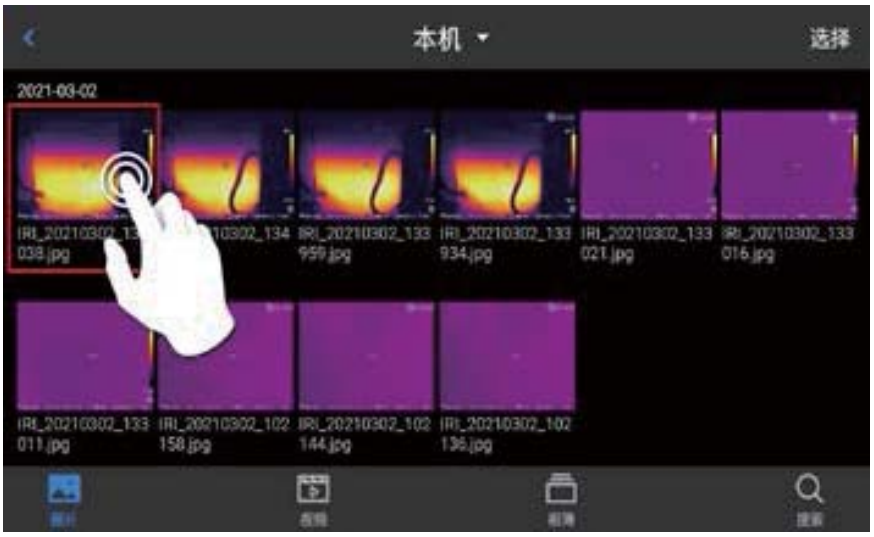
1. 按下机身 “ 图库 “ 按键。



2. 直接进入图片浏览界面。



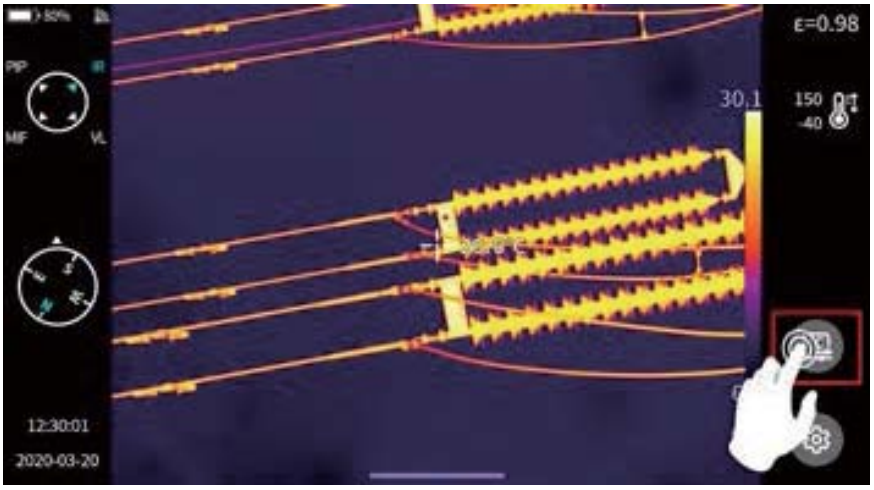
3. 触摸选择图像可查看编辑。

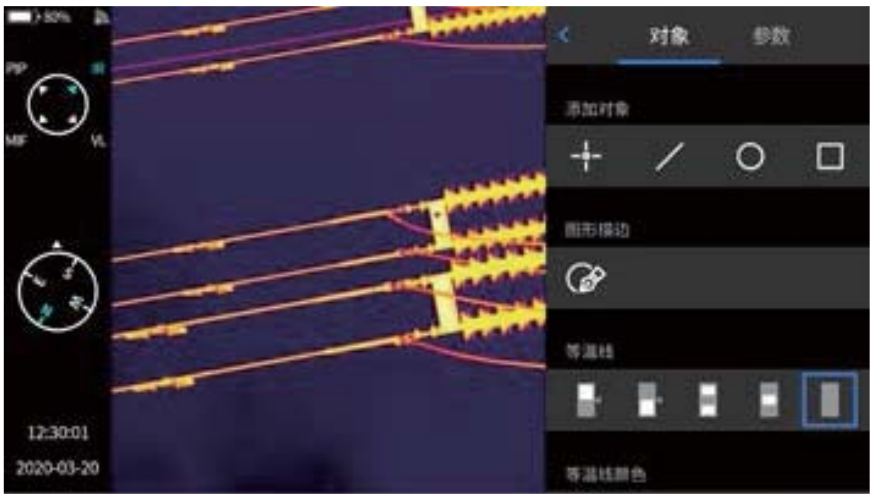


1. 在图片预览界面，单击任意一张图片即可进入编辑图片界面，点击菜单以外的区域可以全屏预览当前红外图片。
2. 点击【♡】按钮，可对当前图片进行收藏。
3. 点击【 】按钮，可对当前图片名称进行修改，本机支持文本识别命名、键盘输入命名、语音命名三种方式。
4. 点击【ⓘ】按钮，即可查看当前图片的具体信息。
5. 点击【 】按钮，即可对当前图片添加注释，主要包括可见光注释、语音注释、涂鸦注释、文本注释。
6. 点击【编辑】按钮，即可对当前图片进行分析对象添加修改、等温线修改以及两点温差修改。
7. 点击右下角的【 PDF 】按钮，即可生成PDF预览文件。
8. 点击右下角的【 】，即可将当前图片上传到云服务器； 此功能具体可查看本手册第七章全局设置-【云服务】功能。
9. 点击右下角的【 】，即可将当前图片移动到其他存储路径中。
10. 点击右下角的【 】，即可删除当前图片。
11. 点击右下角可见光图片，即可大屏预览当前红外图片所对应的可见光图片。

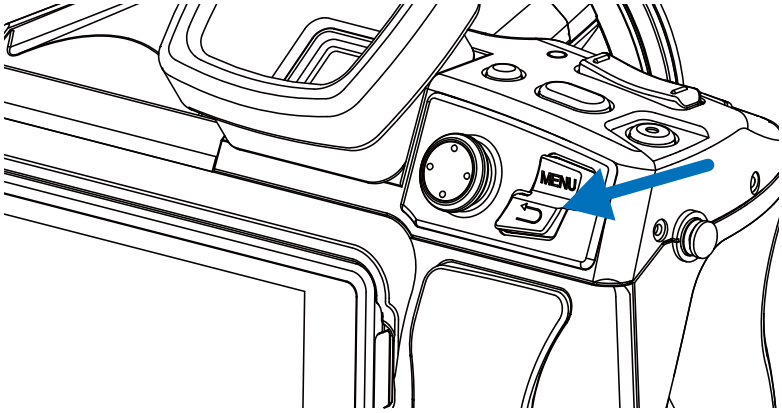
快捷主菜单:

快捷菜单按钮【 】此界面主要是在实时画面中可进行的一些快捷操作，包括:图像分析，测温分析，参数修改、图形描边、等温线、温差等快捷操作。





按下机身【返回】按钮或者点击 {<} 及菜单以外的屏幕，退出快捷菜单并返回实时界面状态。



快捷上拉菜单

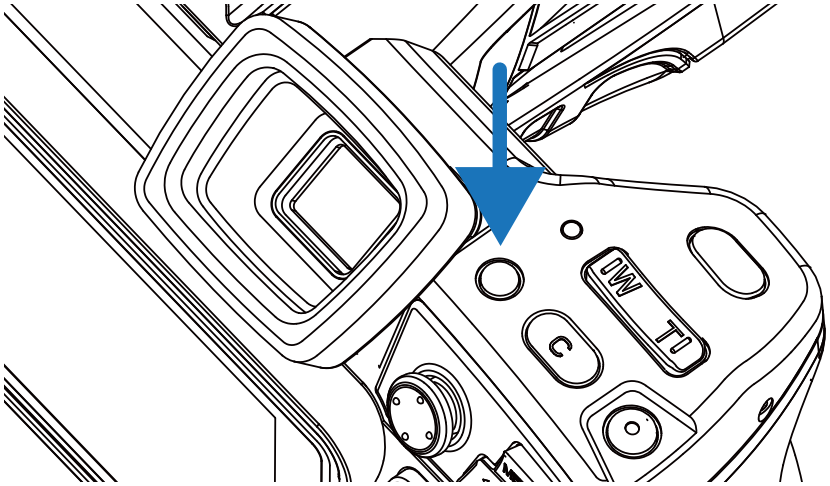
在实时图像界面下，通过点击或者向上滑动屏幕下方图标弹出快捷菜单，此界面可以查看本机内存或外置SD卡的存储容量，还可以进行一些快捷操作。包括：亮度、音量、蓝牙、Wi-Fi、激光、全景拼接、超分辨的设置。

第4章

观测

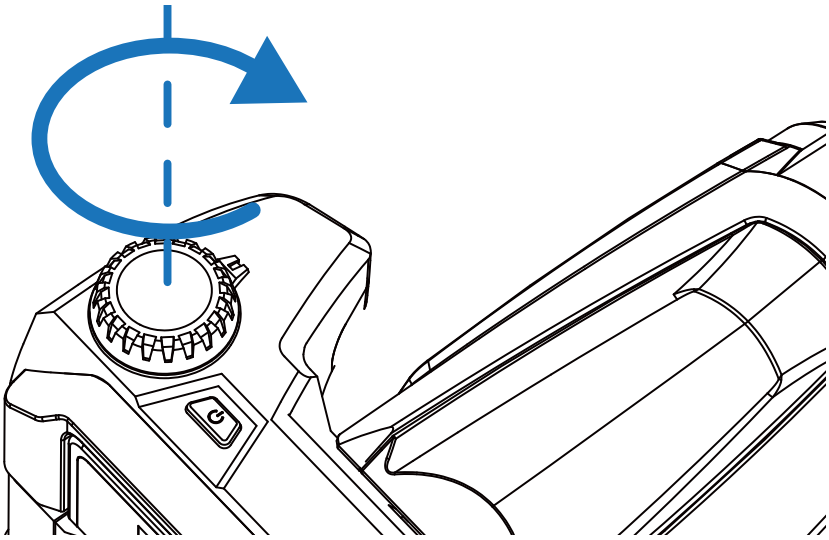
目镜切换

开机默认为LCD屏显示主界面，按下 LCD/目镜切换按钮，LCD 屏立即关闭，目镜随之开启。再次按下LCD/目镜切换按钮，即可恢复LCD屏显示，目镜则关闭。



图像模式切换

通过旋转机身左上方的模式转盘，图像可在如下四种模式下进行切换。同时主界面左上角会弹出图像模式指示图标。

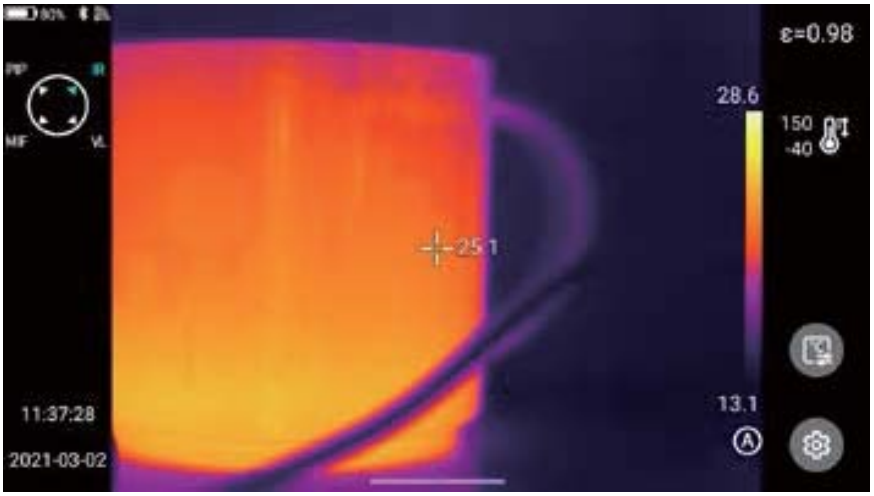


A . 画中画

请转到PIP标识。

B. 红外

请转到IR标识。

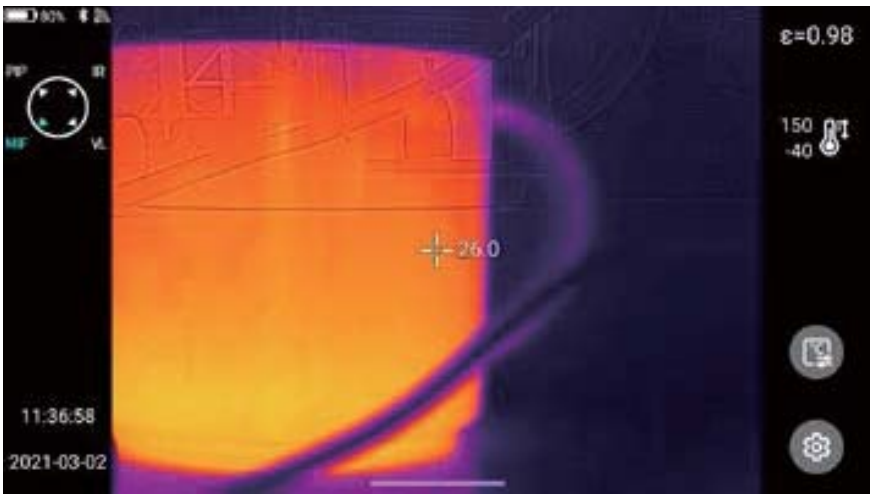


C. 可见光

请转到VL标识。

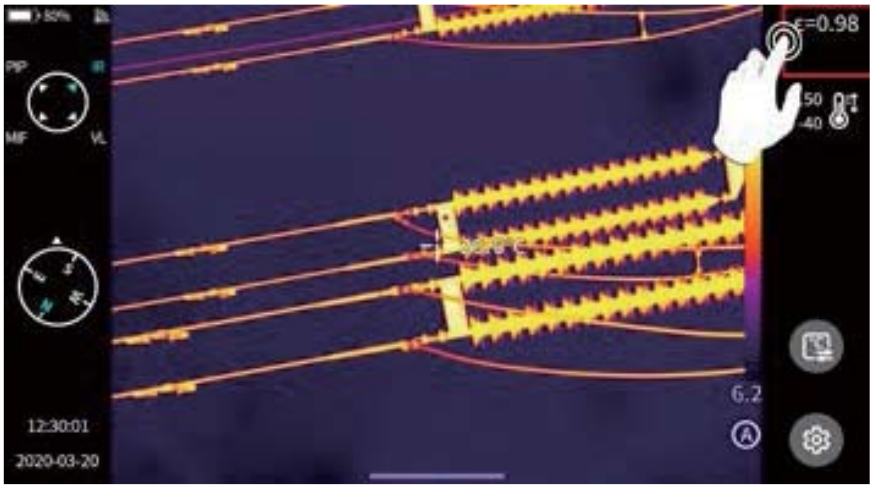
D. MIF

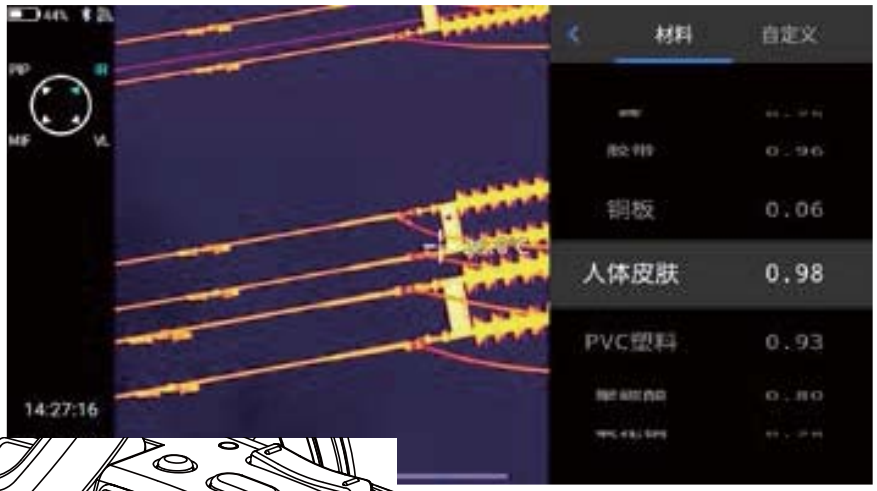
请转到MIF标识。

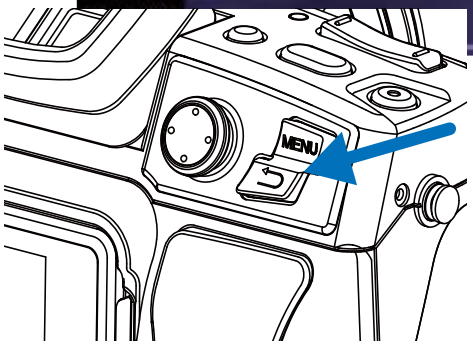


测温

在实时图像状态下，通过点击发射率行，选择被测物体的发射率。按下【返回】按钮或点击菜单以外的屏幕，返回实时界面，将中心点光标对准被测物体，进行测温操作。



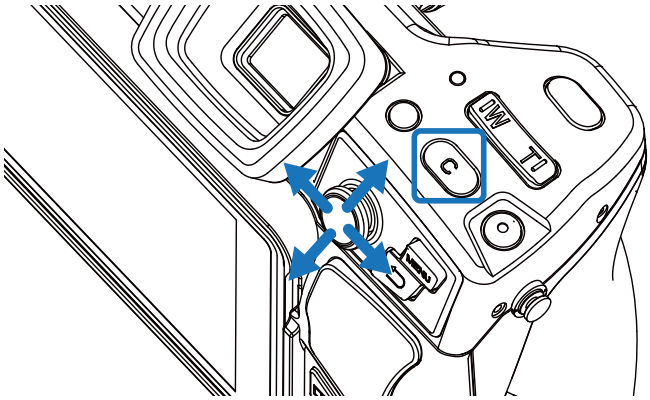




手动对焦/自动对焦

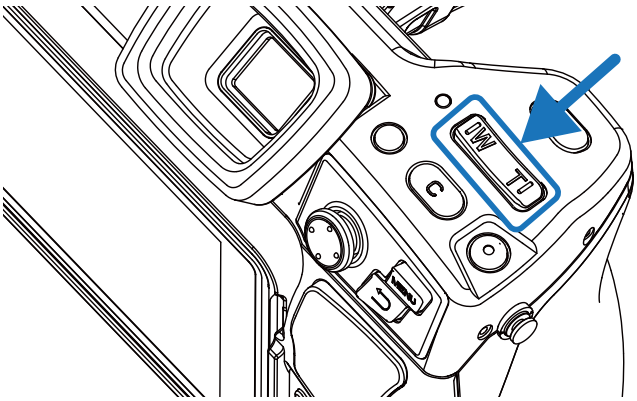
通过方向键向上或向下，可以进行远焦/近焦调节。

设置自定义按键【C】功能为自动对焦（设置-按键辅助-自动对焦，详见 按键辅助章节），对准被测物体，按下自定义按钮【C】，稍等几秒钟后，开始进行自动对焦直至对焦完毕。



电子变倍

按下机身实体按键W（拉近）与T（放远），进行数码变倍操作。



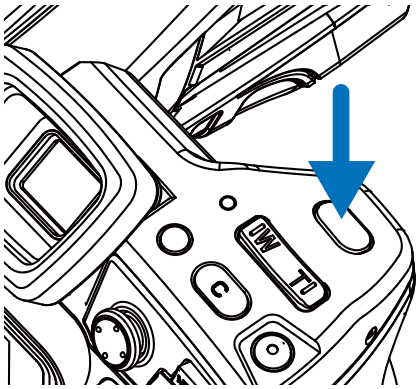
第5章

拍摄

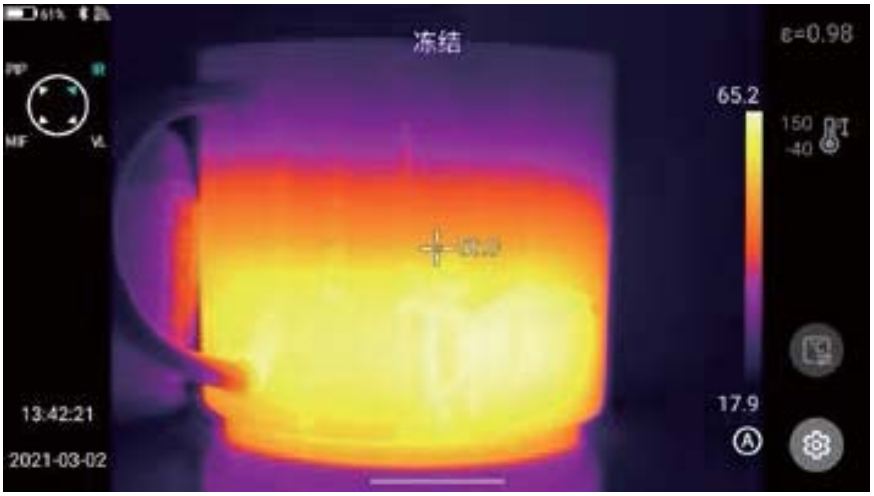
拍摄图片

在实时画面状态下，按下机器上的【拍照】按钮，可以对当前场景进行冻结画面、拍照保存等操作。

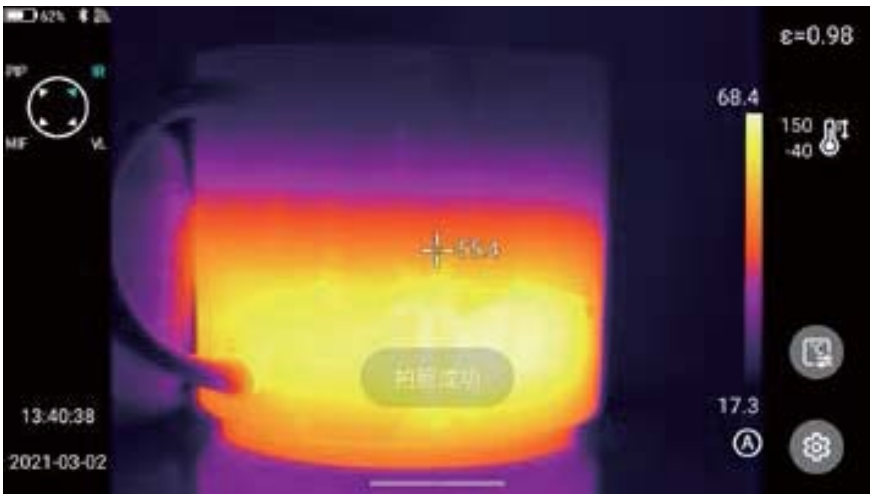
进入设置-拍摄模式，直接设置拍照键功能为拍照，即可实现一键拍照。



1.按下机身的【拍照】按钮一次，画面冻结，如图所示。



2.冻结界面状态下，再次按下【拍照】按钮，自动保存冻结的图像。



全景拼接

用户根据自身需求开启全景拼接拍摄功能，此功能是将设备拍摄的两组或多组照片拼接成一个全景图像。该功能需要ThermoTools分析软件-【图片拼接】支持实现。

超分辨率

用户根据自身需求开启超分辨率拍摄功能，此功能是将原有图像放大四倍得到一幅高分辨率的图像并且支持再编辑。

定时拍照

实时图像状态下，进入设置-拍摄模式-拍照模式界面，打开定时拍照功能。

自动拍照张数

1.点击图像总数选项，选择拍照张数。

2.返回实时图像状态，点击“拍照”按钮，依据设定的定时拍照数量，开启定时拍照程序。

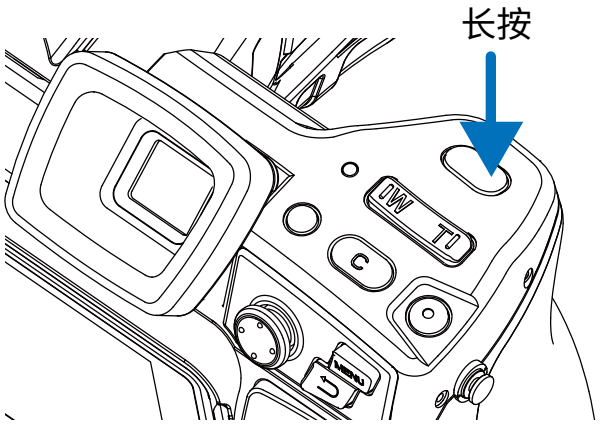
自动拍照间隔设置

1.点击时间间隔选项，选择合适的间隔时间。

2.返回实时图像状态，点击“拍照”按钮，依据设定的定时拍照数量，开启定时拍照程序。

录制视频

长按此按键启动录像功能，启动之后短按此按键，录像结束并成功保存。文件。系统录制时长最多为60秒，如图所示。



定时录像

1.点击延时时间选项，选择延时时间，分别有：20S、1分钟、5分钟、10分钟、15分钟。

2.点击持续时间选项，选择录制持续时间分别有：30秒、1分钟、5分钟、10分钟、30分钟、60分钟。.

3.设置完毕返回实时图像状态，长按“拍照”按键启动定时录像程序。

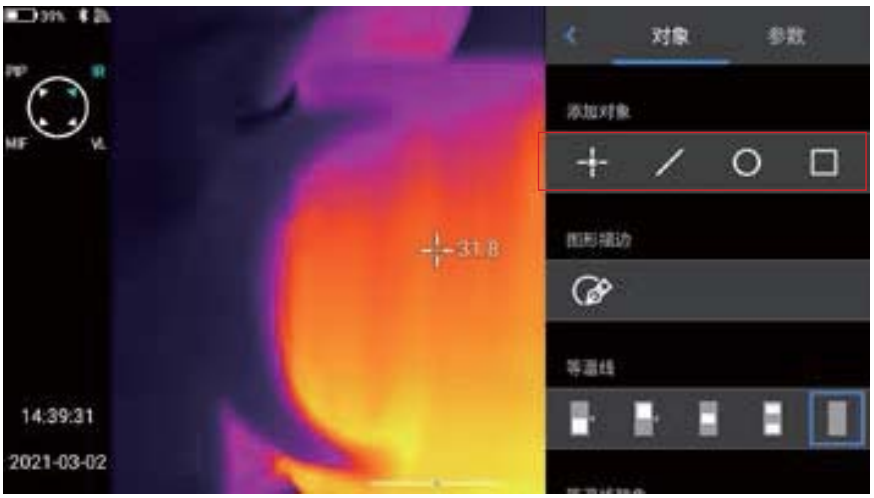
第6章

分析操作

实时分析

添加/删除分析对象

1.实时界面点击右侧快捷菜单 ，进入添加分析对象菜单界面，如图所示提供多种分析对象测温，如点、线、圆形、矩形，同时也能够自定义显示最温、最低温、平均温度值以及居中显示功能。如图所示。



2.通过触摸屏长按任意分析对象，系统自动弹出对象菜单，功能如下：

控制显示温度标记：最高温、最低温、平均温。

发射率：控制区域内的发射率。

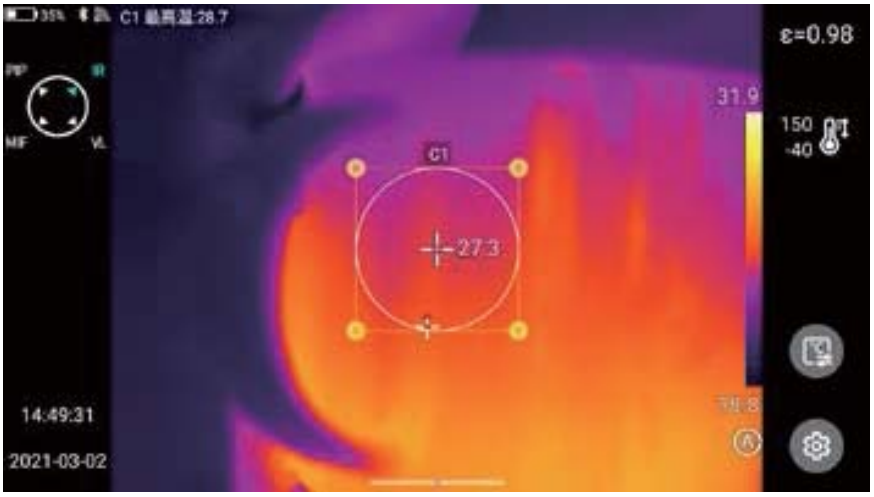
居中：控制是否居中显示分析对象。

删除按钮：触按编辑界面的“ ”按钮，即可删除当前分析对象。

改变分析对象大小

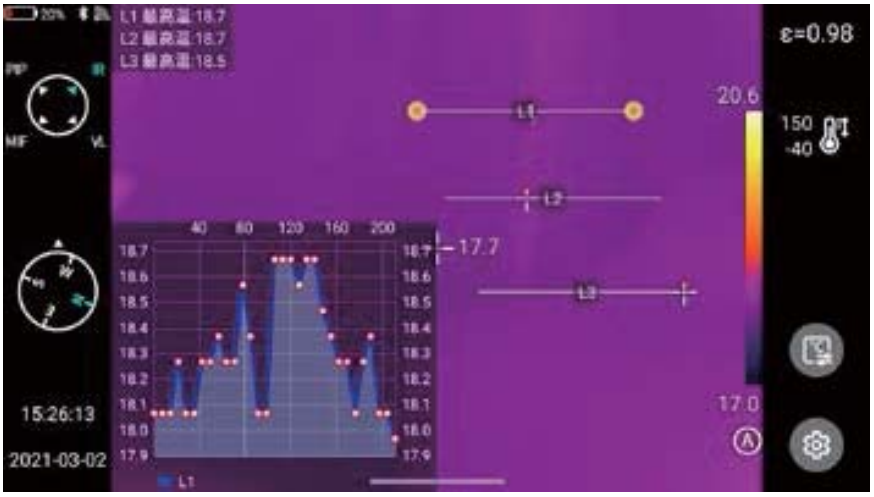
1.选中任意分析对象，其各节点均为选中状态且颜色为黄色标记“”。

2.移动任意一个节点，即可改变分析对象的区域范围。



线性分析对象

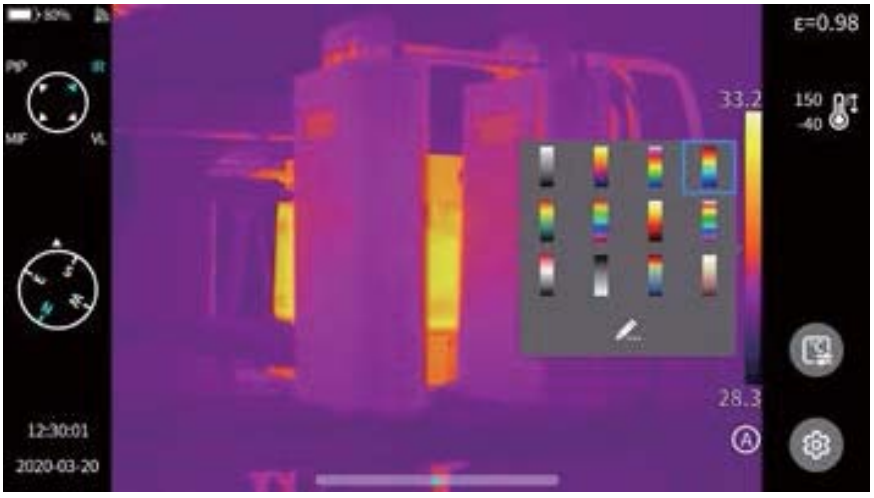
最多可添加3个线性分析对象，在分析对象选中状态下可以折线图的方式同步实时显示。



调色板切换

1.进入主界面，点击屏幕右侧的调色板区域，系统弹出调色板选项，分别为白热、铁红、北极、彩虹2、热铁、彩虹1、熔岩、医疗、描红、黑热、蓝热、深褐、以及自定义色带功能。(部分机型调色板数量会减少)。

2.用户可以自由切换各种色带模式。



图形描边

实时界面点击右侧快捷菜单 ，通过手动绘制所感兴趣目标的轮廓，此时点击“ ”就可以生成目标，并且可以对当前所选中的目标进行分析。

图形描边编辑删除

通过触摸屏长按描边对象，系统自动弹出对象菜单，可对已添加的描边分析、设置发射率及删除等操作。

温差分析

温差分析，首先至少要添加2个分析对象，点击对象标签下的温差按钮△，激活温差模式。退出温差分析：进入快捷菜单-温差再次点击△图标即可退出温差模式。

LEVEL与SPN调节

1.在实时画面状态下，通过Menu按钮，打开菜单选项。

2.轻按设备右下方的【A/M】锁定按键，实时视频画面中的色带最高温与最低温值变成锁定状态。

3.点击最高温或者最低温，系统会自动弹出相应的数值菜单。如锁定温度图所示。

4.选择合适的高温或者低温值后，点击任意画面区域，即可保存温度值和重新显示最新结果。

LEVEL调节，红外模式实时界面，点击【A/M】进入手动调光模式，调光参数解锁，通过五向键中的上键或者下键可以对“LEVEL”进行调节。其中“上键”为同时增加Tmax、Tmin值，“下键”为同时减小Tmax、Tmin值，调节过程中，图像调光同步变化。

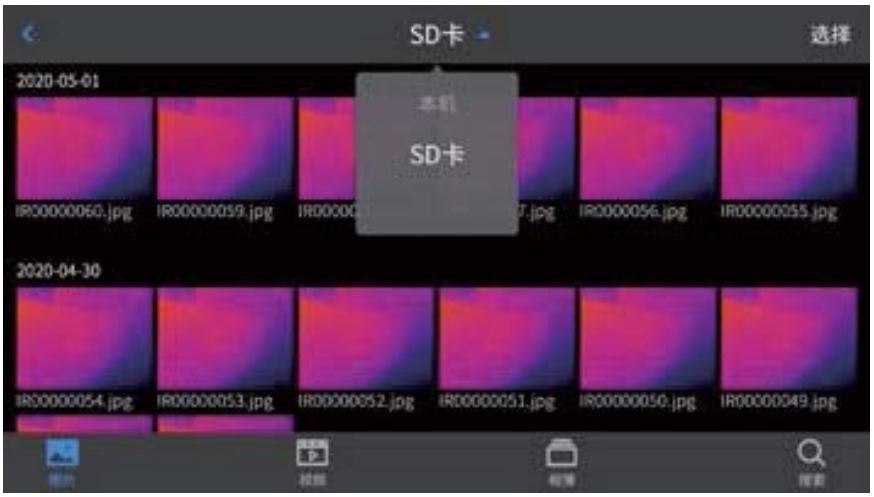
SPAN调节，通过五向键中的“左键”可以对“SPAN”进行调节，调节方式为TMAX值减小同时Tmin增加，调节过程中，图像调光同步变化，通过五向键中的“右键”可以对SPAN进行调节，调节方式为TMAX值增加同时Tmin值减小，调节过程中，图像调光同步变化。

红外模式实时界面，点击“A/M”进入半自动调光模式，界面上方会弹出△T数值框，通过五向键中的“上键”或者“下键”调节TMAX与TMIN之间的数值，其中△T=1/2（TMAX-TMIN）。

文件浏览

本机文件： 按下回放按键，进入文件浏览主界面，选择本机，系统会自动显示机身存储中的全部文件。

SD卡文件: 按下回放按键，进入文件浏览主界面，选择SD卡，系统会自动显示外置SD卡中的全部文件。



图片分析

图片编辑

1.图片预览界面，单击任意一张图片即可进入编辑图片界面。

2.点击【 】按钮，系统自动弹出注释菜单，可以当前图片进行语音、文本注释等操作。

3.点击【编辑】按钮，即可对当前图片进行分析对象添加修改、等温线修改以及两点温差修改。

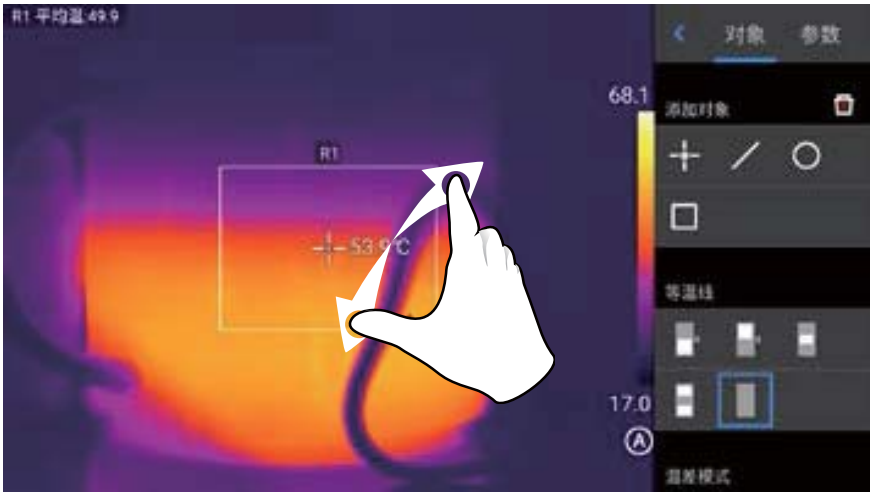
4.点击【参数】按钮，还可以对其他属性进行修改，退出后保存设置。如图所示

参数介绍：

反射温度	用户可以依据实际情况对参数进行修改，范围值在-40-2000之间。
目标距离	用户可以依据实际情况对参数进行修改，范围值在0-100之间。
相对湿度	用户可以依据实际情况对参数进行修改，范围值在0-100之间。
大气透过率	根据输入的距离、大气温度和相对湿度校正测试温度范围值在0-100之间。
光学透过率	根据内置的温度传感器对探测器周围的温度的漂移和增益（包括仪器本身的温度变化）进行连续的自动检验， 范围值在0-100之间。

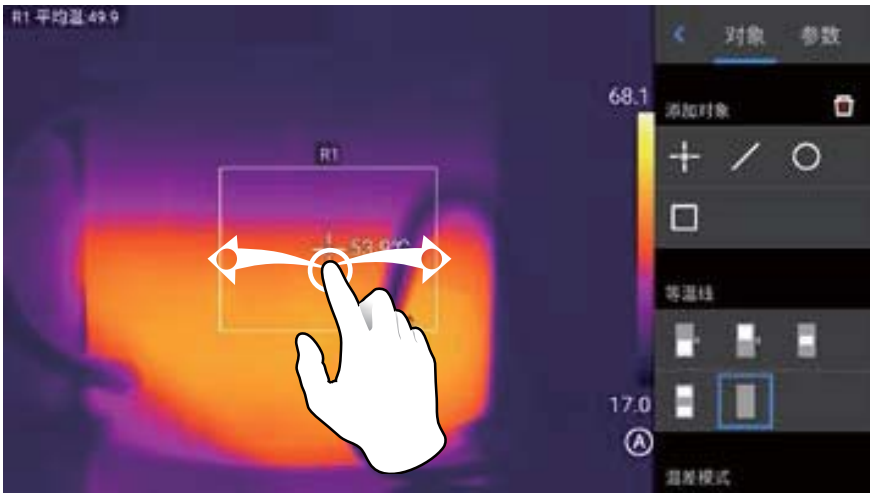
放大和缩小图像

在图片编辑的模式下，用两个手指触摸屏幕，然后在屏幕上将手指张开，张开手指时图像将被放大，最大为10倍。



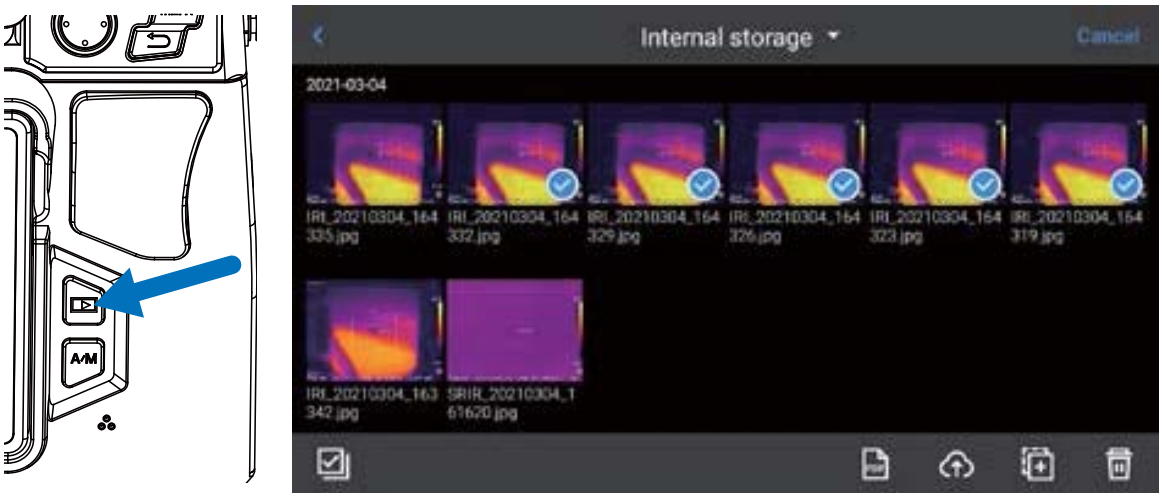
合拢手指，图像将被缩小。

在红外图像放大的状态下，单个手指在屏幕任意区域滑动，即可对红外图像进行移动显示。



创建PDF

1.按下回放按钮，进入图片浏览界面。

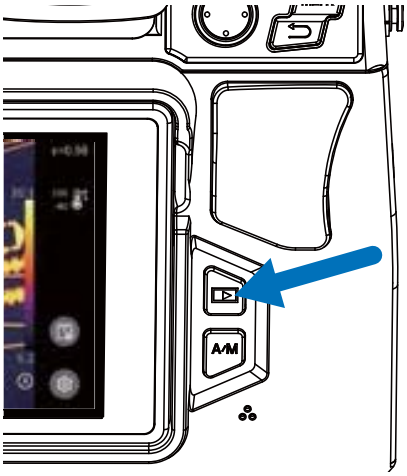


2.通过点击【选择】按钮，可以自由选择5个图像信息，如图所示

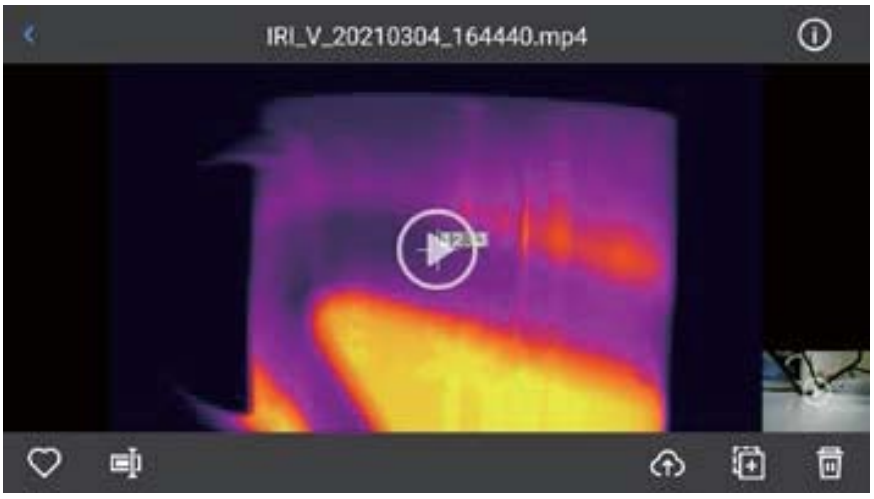
3.点击下方[PDF]按钮，即可生成PDF预览文件。

视频回放

1.按下回放按钮，进入图库浏览界面，点击【视频】进入视频界面。



2.点击屏幕中央的播放按钮，开始短片播放，要显示短片回放面板，点击屏幕即可。



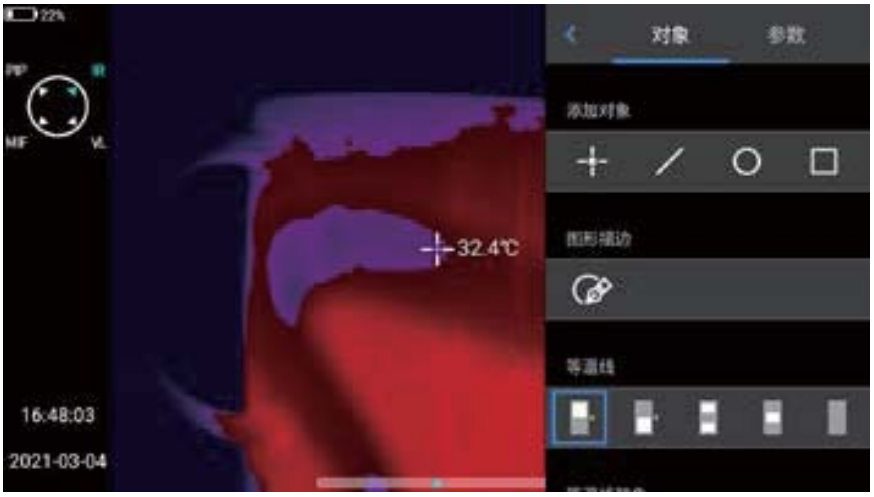
要在播放期间暂停短片，点击屏幕下方暂停按钮。

等温线

向上等温线

1.通过点击快捷菜单【 】,单指向下滑动对象界面至等温线一栏。

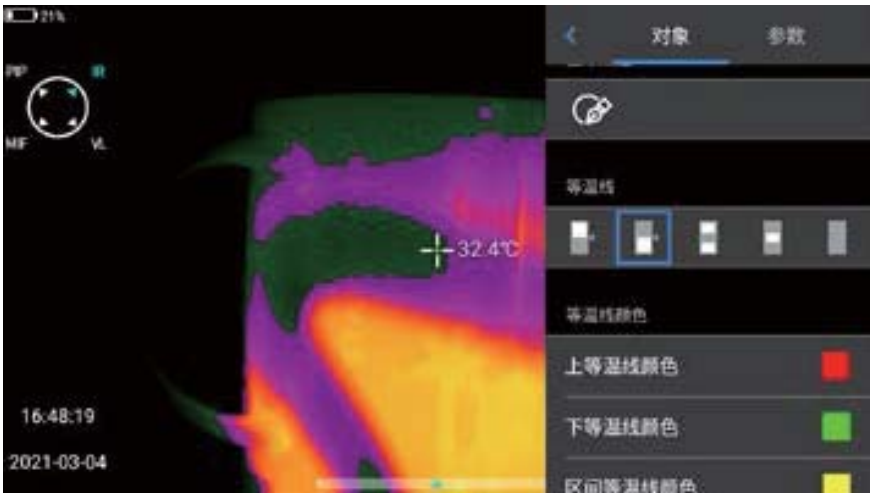
2.在等温线一栏，触击【 】即进入向上等温线实时视频图像模式。如图所示。



向下等温线

1.通过点击快捷菜单【 】,单指向下滑动对象界面至等温线一栏。

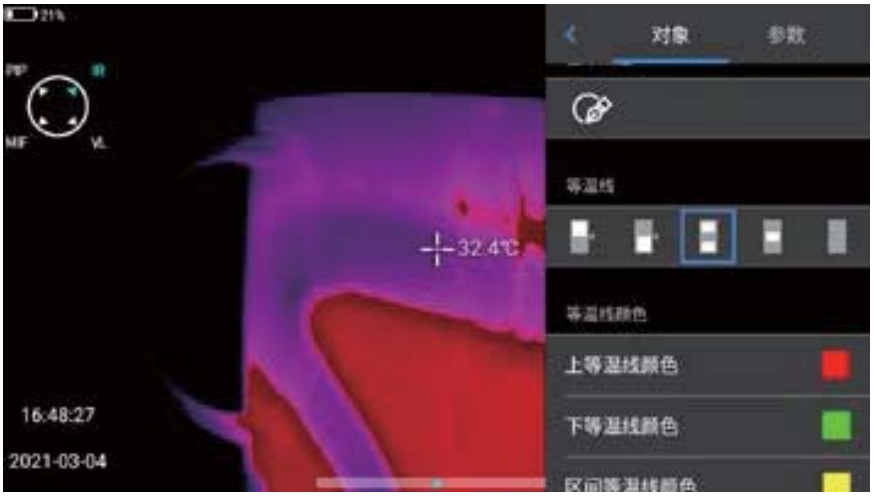
2.在等温线一栏，触击【 】即进入向下等温线实时视频图像模式。如图所示。



区间内等温线

1.通过点击快捷菜单【 】,单指向下滑动对象界面至等温线一栏。

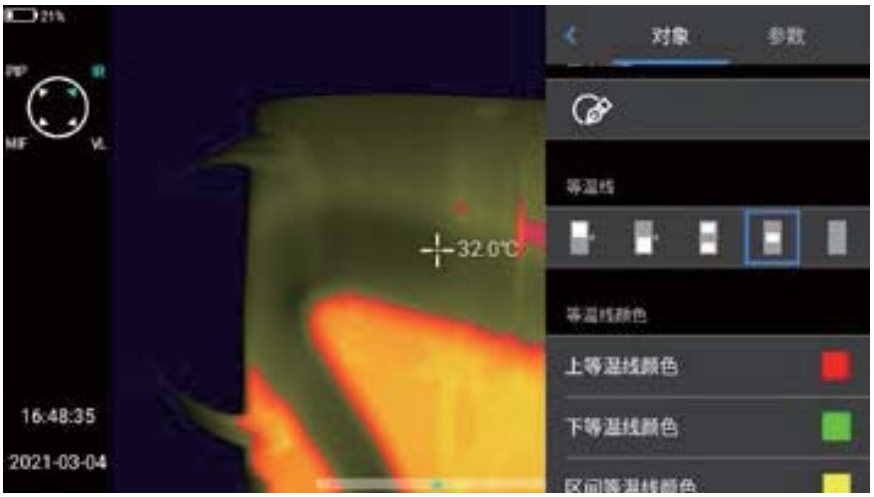
2.在等温线一栏，触击【 】即进入区间内等温线实时视频图像模式。如图所示。



区间外等温线

1.通过点击快捷菜单【 】,单指向下滑动对象界面至等温线一栏。

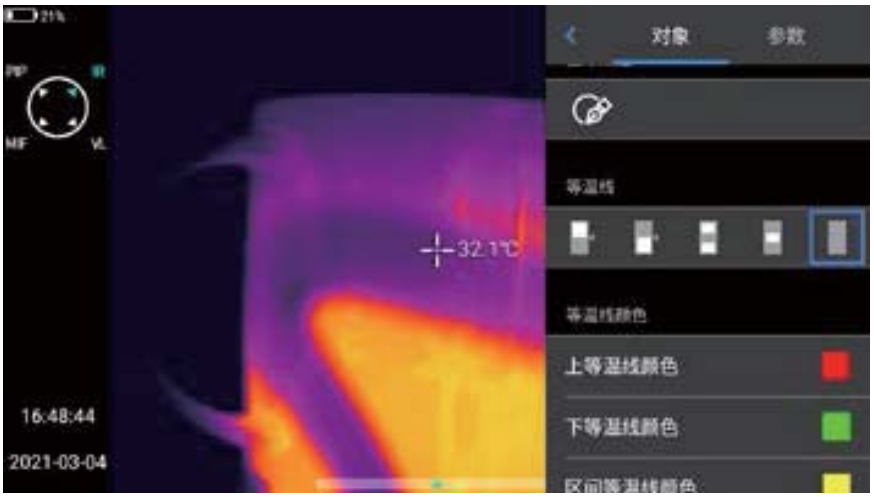
2.在等温线一栏，触击【 】即进入区间外等温线实时视频图像模式。如图所示。



取消等温线

1.通过点击快捷菜单【 】,单指向下滑动对象界面至等温线一栏。

2.在等温线一栏,触击【 】即关闭等温线显示如图所示。



自定义发射率

1.点击进入发射率,选择【自定义】,目前提供多种预设值,如图所示。

2.选择自己的需求对参数与进行自定义修改,范围控制在0.01-1.00,滑动相应数值进行修改,点击左上角的【<】按钮即可退出并保存,如图所示。

第7章

全局设置

在实时视频界面，点击【 】设置按钮，即可进入全局设置界面，设置界面主要对系统各个参数进行修改，包括拍摄模式、温度报警、图像标记、单位、网络连接等等。

搜索

点击左上角【搜索】按钮，可通过关键字搜索需要设置的参数。

设置取消

当用户已设置好需要的参数设置后，点击取消】按钮，就会返回到上一级设置界面。

温度报警

1.报警温度阈值分别有高温和低温。

2.报警温度数值即是当前所设置的测温范围的数值。

3.打开高温报警开关，用户可根据需求设定报警温度阈值如（35.6°C）。

4.返回实时视频界面，若场景中有温度高于35.6°C，设备即发声音报警。

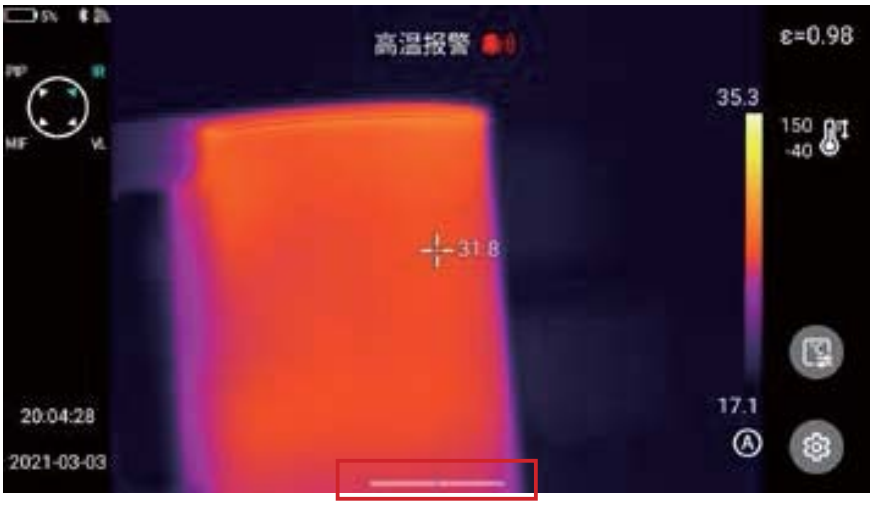
5.点击报警图标会立即关闭高温报警声音。

6.打开低温报警开关，用户可根据需求设定报警温度阈值如（30.2°C）。

7.返回实时视频界面，若场景中有温度低于30.2°C，设备即发声音报警。

8.点击报警图标会立即关闭低温报警声音。

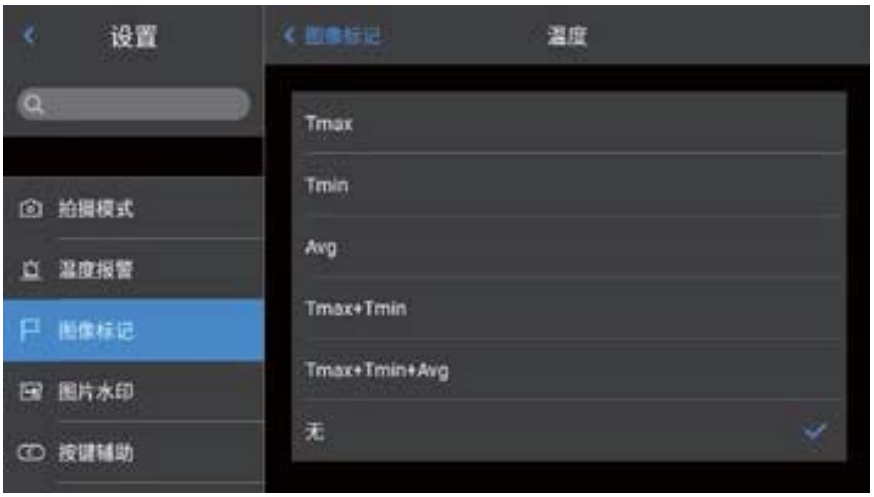
9.如同时打开高温报警以及低温报警开关时，系统如检测到设置的高温报警数值，应当限定低温报警的数值不能高于高温报警设置。



图像标记

进入设置-图像标记，系统提供GPS信息、罗盘信息、日期时间、光标、logo、色带；用户可根据需求开启部分或全部显示信息。

控制实时画面中高温低温、平均温跟踪模式，默认为不显示。



图片水印

1.进入设置-图片水印设置，开启部分水印选项，包括logo水印、日期水印、湿度水印、GPS、方位、发射率、发射温度、目标距离水印。

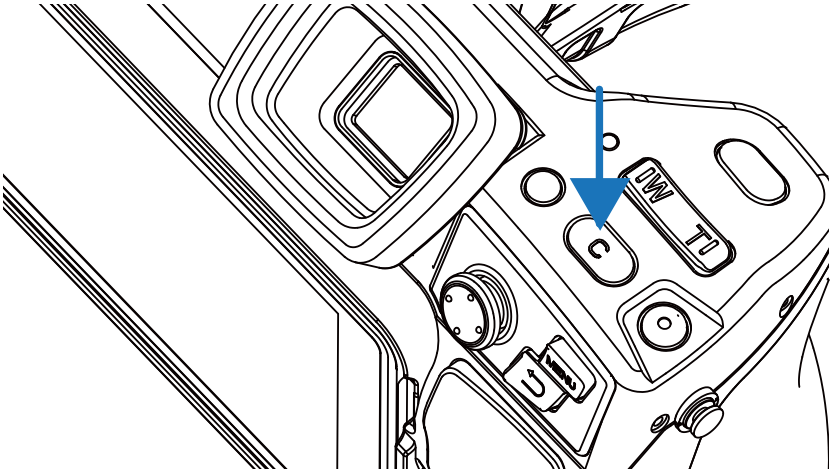
2.返回到实时画面中，任意拍一张示例图片。

3.按下快捷回放按钮，进入图片浏览界面，选取刚刚拍下的照片进行预览。

4.预览图的最下方会显示所有已开启的水印信息。如图所示。

按键辅助

设置机身物理按键【C】键快捷操作，包括快门补偿、更换色带等等。



单位切换

可以自由切换系统显示的摄氏度、华氏度、开尔文单位，默认温度单位为：℃。

提供米、码、英寸三种距离单位可供选择，默认距离单位为：米。

保存参数

设置可见光图像分辨率，提供1024*768、5M、13M三种选择（有些产品提供1024*768、5M、8M），只适用于红外模式和可见光模式，在画中画和融合模式下，其分辨率为640*480。

激光测距

打开激光测距功能，返回到实时界面。通过拍照键获取的图片上即保存距离信息。

报表参数

可以对PDF报表各参数进行修改，包括LOGO、页眉、页脚、PDF模版（提供三种设置模版）。

偏好设定

用户可根据自身操作习惯添加全局偏好设置，也可对偏好设置进行更改和删除操作； 系统默认为：默认偏好（除色带可以调节以外，其他参数保持与恢复出厂值一致）。

密码锁定

用户可根据自身操作习惯增加设备开机密码保护功能。

关机休眠

设置定时关机和休眠时间。

设置自动休眠选项，默认设置为永不，提供1分钟、5分钟、15分钟以及永不的选项选择。

设置自动关机选项，默认设置为永不，提供5分钟、10分钟、30分钟、60分钟以及永不的选项选择。

云服务

用户根据自身需求注册/登录【云服务】，可以将本机图片上传至服务器，通过“Thermol tools”软件进行下载，分析并分享。

Wi-Fi

1.选取网络，轻点列出的一个网络，然后输入密码（如果需要）。

2.密码输入成功，进入连接界面。

注意：为保证Wi-Fi信号可靠连接与数据稳定传输，请尽量保证连接距离在10m范围内，且无障碍物阻隔（如隔墙等）。

网络连接

移动网络：本机支持外接4G移动网络（包含移动、联通、电信）。

Wi-Fi热点：

1.在配置界面中，输入有效的热点名称Camera，密码12345678，点击确定按钮保存成功。

2.然后再返回到实时画面主界面，上拉快捷键弹出快捷菜单。打开AP功能。

3.AP成功开启后，用户可以使用手机端APP（Thermograph）输入正确的用户名和密码，即可成功连接设备网络，并显示实时图像。
本机IP：用户可以自定义设置IP地址，DNS服务器地址。

1.IP地址：输入有效的IP地址，如172.16.14.216，DNS服务器地址202.103.24.68（请依据用户自身所处局域网状况自行设置IP地址与DNS地址）。

注意：对于192.168.42.xxx网段不能设置IP地址，会提示“IP地址非法”信息。

2.设置主机IP：　设置台式电脑的本地连接IP地址为172.16.14.230，DNS为202.103.24.68即可与配套软件协同使用*。

需要与PC端应用软件配合使用。

Internet 协议版本 4 (TCP/IPv4) 属性
常规
如果网络支持此功能，则可以获取自动指派的 IP 设置。否则，你需要从网络系统管理员处获得适当的 IP 设置。
自动获得 IP 地址(O)
使用下面的 IP 地址(S):
IP 地址(I): 172 . 16 . 14 . 230
子网掩码(U): 255 . 255 . 255 . 0
默认网关(D): 172 . 16 . 14 . 1
自动获得 DNS 服务器地址(B)
使用下面的 DNS 服务器地址(E):
首选 DNS 服务器(P): 202 . 103 . 24 . 68
备用 DNS 服务器(A):
退出时验证设置(L)
高级(V)...
确定
取消

蓝牙

1.开启蓝牙耳机，按住通话按钮 3 秒，进入配对模式。
（蓝色指示灯持续亮起，并停留 3 分钟。）
2.进入设置-蓝牙，开启蓝牙设置开关，系统自动搜索蓝牙设备，在设备列表中选择蓝牙耳机进行配对。
3.配对完成后，耳机将在每次开启时尝试重新连接。

通用

用户可以通过设置-通用查看本机软件版本、SN号、并且支持更改语言、时间日期、及存储路径等信息。

软件更新

1.将最新版本的APK升级包文件，放至计算机\IrCamera\内存设备\GCamera\update路径下。