HotFind-S User Manual

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About this IR Camera User Guide

Symbols Used

	This mark denotes issues that may affect the IR camera's operation.
	This mark denotes additional topics that complement the basic operation procedures.

■ **What do the icons listed in the Camera User Guide mean?**
Information displayed on the LCD Display (p.15)

Thumb Index

Introduction of camera components.

Preparing the IR Camera

Describes basic functions, learning how to turn on/off the IR camera and work with the control panel and LCD monitor.

Basic function

Describes working with the camera, from each analysis settings to using the camera's various analysis tools.

Shooting

Explains how to review recorded images, erase images and playback voice memos.

Playback and erase

Explains how to transfer images or video to a computer.

You must read this section before connecting your camera to a computer.

Connection and download

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Read This First

Please Read

Test Shots

Before you try to shoot important subjects, we highly recommend that you shoot several trial images to confirm that the IR camera is operating and being operated correctly.

Please note that SATIR, its subsidiaries and affiliates, and its distributors are not liable for any consequential damages arising from any malfunction of an IR camera or accessory that results in the failure of an image to be recorded or to be recorded in a format that is machine readable.

Warning Against Copyright Infringement

Safety Precautions

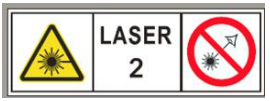
Before using the camera, please ensure that you read and understand the safety precautions described below. Always ensure that the IR camera is operated correctly.

The safety precautions noted on the following pages are intended to instruct you in the safe and correct operation of the IR camera and its accessories to prevent injuries or damage to yourself, other persons and equipment.

Warnings

Avoid damaging eyesight

Warning: Do not trigger the laser pointer in human or animal eyes. Exposure to the laser produced by the laser pointer may damage eyesight.



This product is LASER 2 class.

LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT.

Do not disassemble

Do not attempt to disassemble or alter any part of the equipment that is not expressly described this guide.

Stop operating immediately if it emits smoke or noxious fumes

Failure to do so may result in fire or electrical shock. Immediately turn the IR camera's power off, Unplug the power cord from the power outlet. Confirm that smoke and fume emissions have ceased.

Stop operating immediately if it is dropped or the casing is damaged

Failure to do so may result in fire or electrical shock. Immediately turn the IR camera's power off, Unplug the power cord from the power outlet.

Do not use substances containing alcohol, benzene, thinners or other flammable substances to clean or maintain the IR camera

The use of these substances may lead to fire.

Remove the power cord on a regular periodic basis and wipe away the dust and dirt that collects on the plug, the exterior of the power outlet and the surrounding area

In dust, humid or greasy environments, the dust that collects around the plug over long periods of time may become saturated with humidity and short-circuit, leading to fire.

Do not handle the power cord if your hands are wet
Handling it with wet hands may lead to electrical shock. When unplugging the cord, ensure that you hold the solid portion of the plug. Pulling on the flexible portion of the cord may damage or expose the wire and insulation, creating the potential for fires and electrical shocks.

Do not cut, alter or place heavy items on the power adapter cord
Any of these actions may cause an electrical short circuit, which may lead to fire or electrical shock.

Use only the recommended power accessories
Use of power sources not expressly recommended for this IR camera may lead to overheating, distortion of the IR camera, fire, electrical shock or other hazards.

Use only recommended accessories

Disconnect the compact power adapter from both the IR camera and power outlet after recharging and when the IR camera is not in use to avoid fires and other hazards
Continuous use over a long period of time may cause the unit to overheat and distort, resulting in fire.

Exercise due caution when screwing on the separately sold tele-lens, close-up lens
If the lens is loosened and fallen off, the glass shards may cause an injury.

If your camera is used for prolong periods, the IR camera body may become warm
Please take care when operating the IR camera for an extended period as your hands may experience a burning sensation.

Prevent Malfunction

Avoid damaging the detector of the IR camera

Warning: Do not aim the IR camera directly into the sun or at other intense heat source which could damage the detector of the IR camera.

Avoid Condensation Related Problems

Moving the IR camera rapidly between hot and cold temperatures may cause condensation (water droplets) on its external and internal surfaces.

You can avoid this by placing the IR camera in the plastic safety case provided and letting it adjust to temperature changes slowly before removing it from the case.

If Condensation Forms Inside the IR Camera

Stop using the camera immediately if you detect condensation. Further use may damage the IR camera. Remove the memory card, (if applicable) and unplug power source, from the IR camera and wait until moisture evaporates completely before resuming use.

Right Reserved

SATIR reserves the right to change the functions and configurations of our products without prior notice.

Component Guide

Front View

Figure

Explanation

1	Laser Range Finder (LRF)
2	Visual Camera
3	Illuminator
4	IR lens
5	Focus ring
6	User-Defined trigger
7	LCD Display
8	Micro USB
9	TF Card Slot
10	Battery

Component Guide

Back /Bottom View

Figure

Explanation

1	Power Indicator
2	Cancel
3	Auto adjust
4	Enter
5	Power Button
6	Freeze/Activate
7	Omni selector
8	Video output

Charge the Device

Device has built in battery, when Low battery status symbols display on User Interface, Please see different battery status symbols below, as well as steps to charge the device.

Battery Status Symbols

The following icons indicate the battery status on the LCD display.

	Sufficient battery charge
	Low battery
	Recharge the device

How to charge device

Method 1:

Put the battery into the battery charger. Attach the power cord to the battery charger and plug into a power outlet.

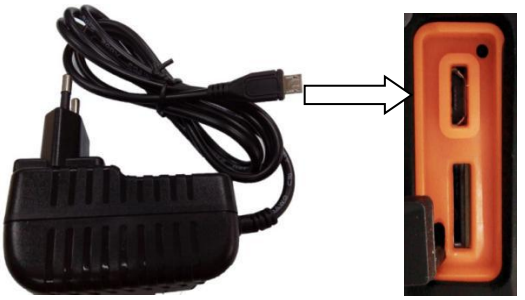
- The charge indicator light will turn red when the battery pack is charging. When

the battery is full, the charge indicator will turn blue.

- After charging, unplug the battery charger and remove the battery pack.

Method 2:

Install battery pack into the camera, you can charge the battery directly, by connecting the charger through the USB port



NOTE

1	This is a lithium ion battery pack so there is no need to discharge it completely before recharging. It can be recharged at any time. However, since the maximum number of charge cycle is approximately 300 (battery life), you are recommended to only charge the battery pack after having discharge it completely to prolong battery life.
2	Charging times will vary according to the surrounding temperature and battery pack charge state.

Prepare the IR Camera

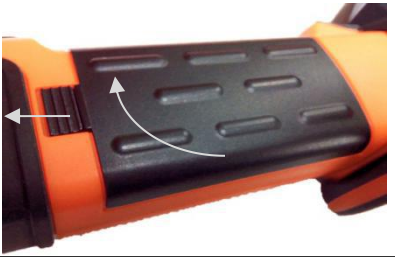
Install the Battery Pack

General Charge the battery full before using it for the first time.

Procedure

1	**Insert the battery pack**: Fit the battery into the slot, and then push down the battery until it's fixed.

2	**Pull out the battery pack**: Push the battery pack locker as the figure and then lift up the battery.



NOTE Remove the battery after the camera is shutting down.

Prepare the IR Camera

Connect Cable and Install the TF Card

Figure

Explanation

1	USB port
2	TF card
3	Video output

NOTE

The TF card must be formatted in FAT32 to let the IR camera recognize the TF card.

Turn the Power On / Off

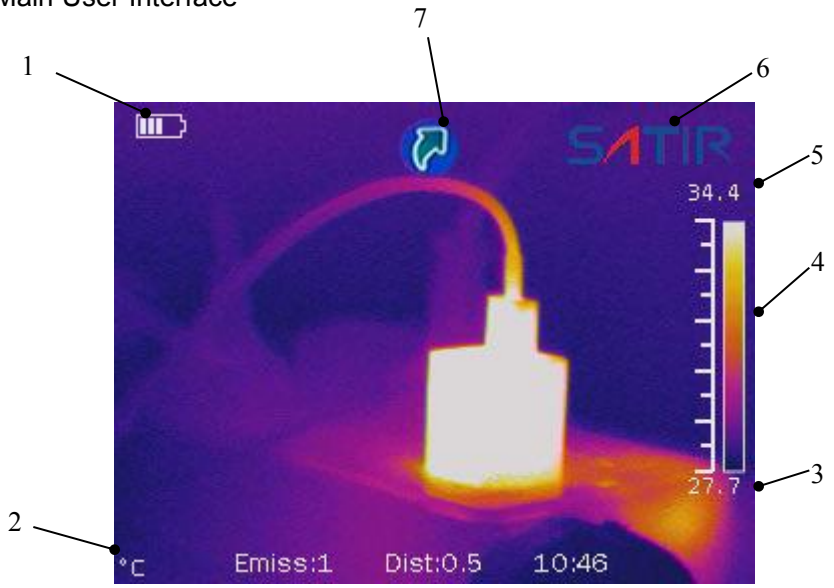
1	Press and hold the power Button for 3 seconds.
2	After approximately 10 seconds, a startup image will appear on the screen.
3	Turn off the camera. Hold the power button for 3 seconds. • Select "OK" on the shutdown prompt window. Once the Control Panel is no longer illuminated the device is powered off.

Prepare the IR Camera

Understand the Information on the Display

The display has a field of vision of 100% of the actual shooting image. Please see the details for Main User Interface below:

Main User Interface



Explanation：

1	Battery Status Icon
2	Temperature unit；Emissivity；Distance；Time
3	Span(Touch/Select to Modify)
4	Color scale
5	Level(Touch/Select to Modify)
6	SATIR trademark(Touch/Select to open the main menu)
7	Quick launcher (Touch/Select to open the shortcut menu)

About the system settings

Language	Select the language of the menus and messages
Update	Update operating system
Date & Time	Set the system date and time display ,set time zone and screensavers
Control	Select the video output mode / Activate LED Torch / Activate Laser Range Finder / Set USB Mode / Set the multifunction key
Unit Setting	Set the format of the displayed temperature or distance unit of the camera: °C or °F, Meter or Foot
Power Manager	Set screen saver time / Set power off time

Set the date and time

You need to set the Data / Time when the IR camera is turned on for the first time.

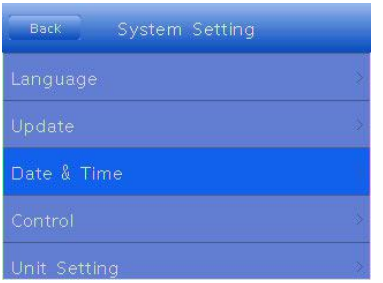
1 **Press the [C] key or Touch/Select the SATIR icon.**

2 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Settings] menu and press *OK* key to enter.**

Alternatively, touch/select the [Settings] Icon to open the menu.

3 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [System] menu and press *OK* key to enter. Highlight and select [Data & Time] setting.**

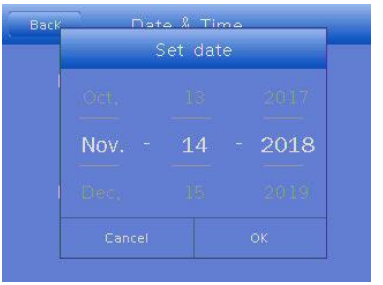
Alternatively, touch/select the [System] Icon to open the menu and touch/select [Date & Time] setting.



4

Use touchscreen, select [Set Date] option:

- **Slide up and down the date item to modify the date;**
- **After modifying select [OK] to save, changes or select [Cancel] to abandon changes.**



5

Use touchscreen, select [Set Time] option:

- **Slide up and down the time item to modify the time;**
- **After modifying select [OK] to save, change or select [Cancel] to abandon changes.**

6

Use touchscreen, select [Set Timezone] option:

- **Slide up and down the time zone item to modify the time zone;**
- **After modifying select [OK] to save, change or select [Cancel] to abandon changes.**

Prepare the IR Camera

Local Settings

In this menu item, you can set style of the built-in menu system.

Language setting

1 **Press the [C] key or touch/select the SATIR icon.**

2 **Press the *UP* or *DOWN* arrow on the omni on the selector to highlight the [Settings] menu and press *OK* key to enter.**

Alternatively, touch/select the [Setting] Icon to open the menu.

3 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [System] menu and press the [OK] Key, then select [Language].**

Alternatively, touch/select the [System] Icon to open the menu and touch/select [Language] setting.

Local setup:

4

- **Using the touchscreen, slide up and down to select a language;**
- **After modifying select [OK] to save, changes or select [Cancel] to abandon changes.**

Prepare the IR Camera

Local Settings

Unit setting

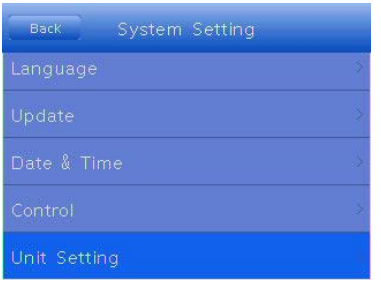
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *DOWN* or *UP* arrow on the omni selector to highlight [System] then press the [OK] Key to enter. Then select [Unit Setting].

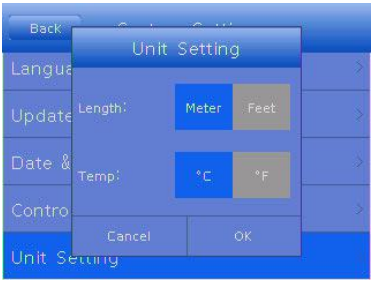
Alternatively, touch/select the [System] Icon to open the menu and touch/select [Unit Setting] option.



4

Touch to select the unit and select [OK] to finish the setting.

•Length： Meter, Feet
•Temperature:℃,℉



Prepare the IR Camera

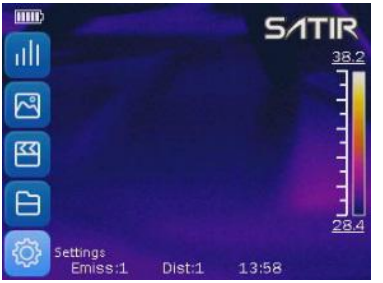
Local Settings

TV-OUT mode

1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

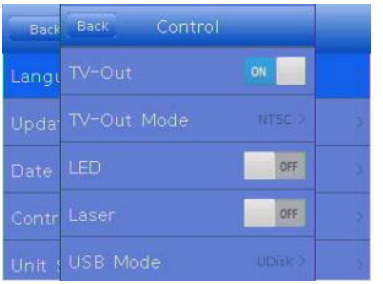
Alternatively, touch/select the [Setting] Icon to open the menu.



3 Press the *DOWN* or *UP* arrow on the omni selector to highlight [System] and press the [OK] Key to enter. Then select [Control].

Alternatively, touch/select the [System] Icon to open the menu and touch/select [Control] setting.

4 Touch/Select the [TV-OUT Mode]. You can select NTSC or PAL mode, whichever is appropriate for the external monitor.



5 **Use the arrow buttons, or the touchscreen to select NTSC or PAL mode.**

About Control

TV-OUT	Click to open or close TV-OUT
TV-OUT Mode	Slide to select the NTSC or PAL mode
LED	Click to open when using CCD in darkness
Laser	Click to open the laser to aim at the object
USB Mode	Slide to select the UDisk or Trans. Mode
Muti-Func. Key	Slide to set the Muti-Function key

Prepare the IR Camera

Local Settings

Quick Launcher

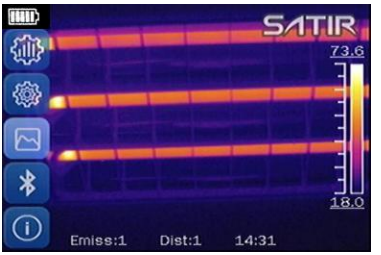
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Image] and press the [OK] Key to enter.

Alternatively, touch/select the [Image] Icon to open the menu.



4 Touch/Select the [ON/OFF] button to the right of [Quick Launcher] to toggle the Quick Launcher feature.

5 On the main User Interface, touch/select the Quick Launcher icon. The shortcut menu will appear on right area of the User Interface.

Use the LCD Display

General

If you wish to use the LCD display for shooting, playing back thermal images and adjusting menu settings, follow the instructions below.

Figure

Procedure

1	**Open the LCD Display in the direction of the arrow.**
2	**Aim the IR camera at a subject.**

NOTE

1. For a better temperature measurement, please align the subject to the center of the image that is shown on the LCD Display.
2. The LCD Display will turn off when it is closed.

Basic Functions

Select Menus and Settings

General

The camera comes with two to enter menus and operate the camera: Omni selector and touch screen.

Procedure

Here is two way to enter menus:

Omni selector:

1	**Press the [C] key. The main menu will pop up.**
2	**Use the directional keys on the Omni selector to highlight the desired sub-menu icon and press [Enter] to enter navigate the menus.**

Touch screen:

1	**Touch the [SATIR] logo on the Main User Interface. The main menu will pop up.**
2	**You can use the touchscreen to navigate the menu by touching the desired sub-menu icon to enter that menu.**

Main menu

	Spot analysis
	Area analysis
	Line analysis
	Isotherm analysis
	Image
	Media
	Settings

Main menu

	Analysis(Spot / Area / Line tool and ISO)
	Images(Image mode / Palette / Adjust)
	Media(Snapshot / Edit / Voice record / Video record / Replay)
	File(Review files and thermal images)
	Settings(Analysis setting / System setting / Image setting / Bluetooth / System info)

Basic Functions

Reset the Settings to Default

You can reset the menu and button operation settings to default.

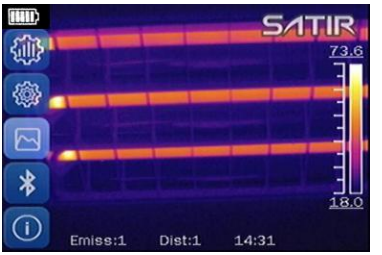
1 **Press the [C] key or touch/select the SATIR icon.**

2 **Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the OK key to enter.**

Alternatively, touch/select the [Setting] Icon to open the menu.

3 **Press the *DOWN* or *UP* arrow on the omni selector to highlight [System Info] and press the [OK] Key to enter.**

Alternatively, touch/select the [System Info] Icon to open the menu.



4 **Touch/select [Default Settings].**
The machine will reboots after reset.

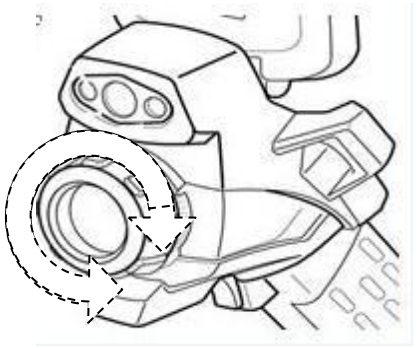
After factory defaults, all the user data will delete. You'd better backup user data before factory default.

Shoot

IR Camera Adjustment

Focus

Figure



Procedure

1	**Aim the IR camera at the object.**
2	**Turn the focus ring to focus on the target until the image is clear.**

DIGITAL ZOOM

To use the Digital Zoom feature, ensure the camera is not in Focus Mode, and hold down the LEFT button and press Up or DOWN to zoom in and out respectively. "Zoom: xxx%" will appear in the middle of the left side the User Interface.

Shoot

IR Camera Adjustment

Display Mode

Thermal, Visual and DuoVision image display

This IR camera records visual images with its built-in digital camera. You can capture a visual image as a reference to the thermal image.

1 **Press [C] button, or touch/select the SATIR logo.**

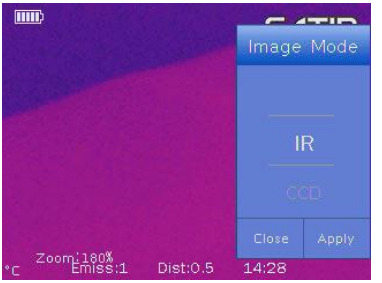
2 **Press the *DOWN* or *UP* arrow on the omni to selector to highlight [Image] and press [OK] to enter the menu.**

Alternatively, touch/select the [Image] menu icon to enter the menu.

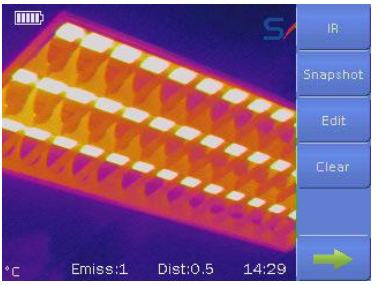
3 **If necessary, use the arrow buttons to highlight the [Mode] menu icon and press [OK] to enter the menu.**

Alternatively, touch/select the [Mode] menu icon to enter the menu.

4 Use the arrow buttons or the touchscreen, navigate to desired image mode: IR, CCD, Merge, Merge Plus or Image Only.



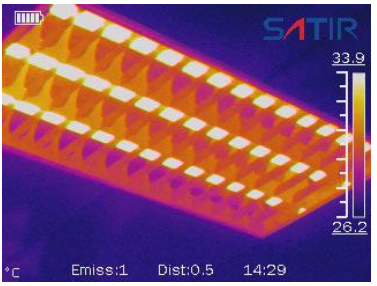
5 Alternatively, use the Quick Launcher menu and touch/select the top button, by default his is [IR], to switch between the different modes. To close the Quick Launcher menu press [C] or touch a different area of the User Interface.



Shoot

IR Camera Adjustment

In DuoVision and DuoVisionPlus modes, you can merge the IR image and the visible image to create a more detailed image were text/signs is legible.



IR

In this mode, the IR information is displayed in the user defined pseudo color for easy analysis. Analysis tools can be used in this mode.

CCD

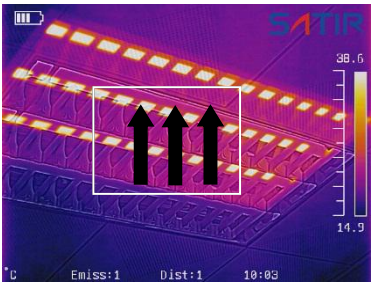
In this mode, you can see the image with full color. Analysis tools cannot be used while in this imaging mode.

Merge & Merge Plus

In these image modes, the background image is the visible image and IR image is centered onto the background merging the IR and visible images together.
Merge Plus also outlines geometric shapes providing greater definition to the image.
Analysis tools can be used in this mode to analyze targets.

In either merge mode, the user can select the [Pos] function, this allows the user to align the IR and Visible images so they correspond correctly. To do this select [Pos] and using the touch screen move the image until both are aligned on the target.

Move the fusion square



About the IR/Visible settings

Percentage	Sets the ratio of IR images and Visual images. The value is from 1% to 100%. This is only available in Merge mode. Not Merge Plus.

Shoot

IR Camera Adjustment

Image adjustment

You can adjust the Level (brightness) and Span (contrast) of the image captured by IR camera, manually or automatically.

Auto adjustment

1 **Press [C] button, or touch/select the SATIR logo.**

2 **Use arrow buttons to highlight [Image] and press [OK] to enter the menu.**

Alternatively, touch/select the [Image] menu icon to enter the menu.

3 **Use the omni-selector highlight the [Adjust] icon and press [OK] to enter the menu.**

Alternatively, touch/select the [Adjust] menu icon to enter the menu.

4 Use the arrow buttons or touch screen, set the Adjust Mode to [Auto], [Manual] or [Fixed] and hit [Apply].

5 The IR camera will automatically adjust the brightness and/or contrast and calibrate when you press the [A] key.

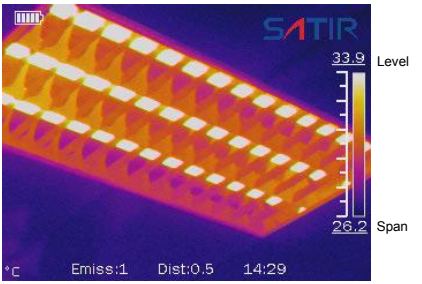
Shoot

IR Camera Adjustment

Manual Adjustment

1 **Set device adjust mode to Manual. How to set please refer to P35-36**

2 **The user can touch/select the values above or below the color bar to manually adjust the Level or Span values. Please see the figure to the right.**



3 **To adjust maximum temperature:**

a. Tap the number above the color scale
b. Use the arrow buttons or touch screen, select the value of the Max Temp and touch/select [close] to finish the change.

4 **To adjust minimum temperature:**

a. Tap the number below the color scale
b. Use the arrow buttons or touch screen, select the value of the Min Temp and touch/select [close] to save it.

Shoot

IR Camera Adjustment

Palette

1 Press the [C] key or touch/select the SATIR icon.

2 Use arrow buttons to highlight [Image] and press [OK] to enter the menu.

Alternatively, touch/select the [Image] menu icon to enter the menu.

3 Use the omni-selector to highlight the [Palette], and press [OK] to enter the menu.

Alternatively, touch/select the [Palette] icon to enter the menu.

4 **Use the arrow buttons or touch screen to select the palette mode and then tap [Close] to save the setting.**

There are 6 color palettes available: Iron, Iron inverted, Rainbow, Feather, Grey and Grey inverted.

Shoot

IR Camera Adjustment

Auto Shutter

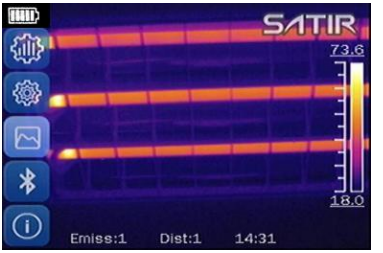
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Image] and press the [OK] Key to enter the menu. Use the omni selector to highlight the [Shutter Interval] option and press [OK] to enter.

Alternatively, touch/select the [Image] Icon to open the menu, and touch/select the [Shutter Interval] option.



4 **Use the omni selector or touch screen to set the shutter interval to the desired value and press [OK] or touch/select [Close] to save the setting.**

Shoot

IR Camera Adjustment

You can set the multifunction key with different functions such as shutter , freeze and snapshot through the system.

Multifunction key

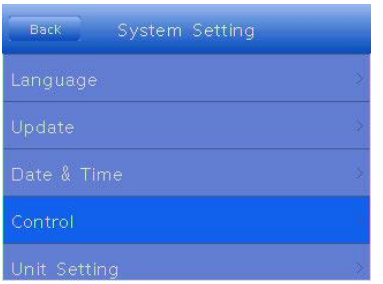
1 **Press the [C] key or touch/select the SATIR icon.**

2 **Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.**

Alternatively, touch/select the [Setting] Icon to open the menu.

3 **Press the *DOWN* or *UP* arrow on the omni selector to highlight [System] and press the [OK] Key to enter. Then select [Control].**

Alternatively, touch/select the [System] Icon to open the menu and touch/select [Control] setting.



4 **Select [Multi-function Key] option, select desired function using the keypad or touchscreen, then tap [Done] to save the setting.**

About the function of multifunction key

Shutter	The machine will shutter one time by pressing the multifunction key.
Freeze	You can activate / freeze a thermal image by pressing the multifunction key.
Snapshot	Save the image by pressing the multifunction key.
Laser	Open laser by pressing the multifunction key.
LED	You can turn on/off LED by pressing the multifunction key.

Shoot

IR Camera Adjustment

Turn the LED and Laser on/off

Warning: Do not trigger the laser in human or animal eyes. Exposure to the light produced by the laser may damage eyesight.

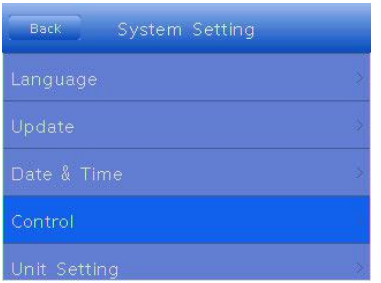
1 **Press the [C] key or touch/select the SATIR icon.**

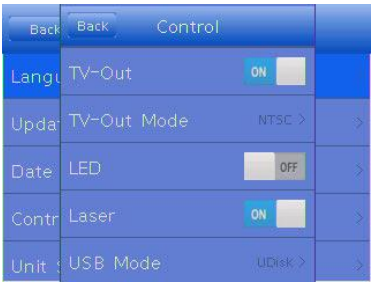
2 **Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.**

Alternatively, touch/select the [Setting] Icon to open the menu.

3 **Press the *DOWN* or *UP* arrow on the omni selector to highlight [System] and press the [OK] Key to enter. Then select [Control].**

Alternatively, touch/select the [System] Icon to open the menu and touch/select [Control] setting.



4	**Use the omni-selector or touch screen, the user can toggle on/off the LED Torch and the Laser Range Finder. Touch the on/off toggle switch, or highlight the desired function and press [OK] to toggle on/off.**	

Shoot

IR Camera Adjustment

USB Mode

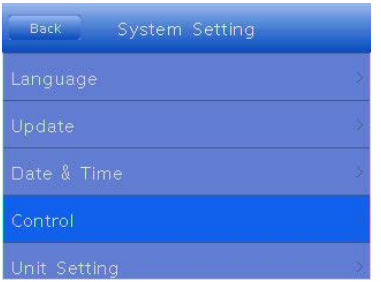
1 Press the [C] key or click the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *DOWN* or *UP* arrow on the omni selector to highlight [System] and press the [OK] Key to enter. Then highlight the [Control] option and press [OK] to enter. Navigate to “USB Mode” and press [OK].

Alternatively, touch/select the [System] Icon to open the menu and touch/select [Control] setting to open the menu and touch/select the [USB Mode] option.



4 **Use keypad or touch screen to select [UDisk] or [Trans.] mode and then c tap [Done] to save the setting.**

Shoot

IR Camera Adjustment

Bluetooth

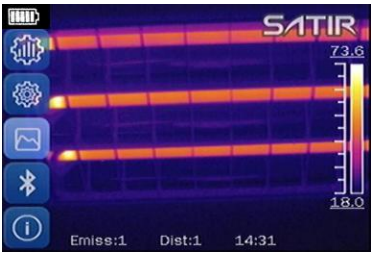
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *DOWN* arrow on the omni selector to highlight [Bluetooth] then press the *OK* key to enter.

Alternatively, touch/select the [Bluetooth] Icon to open the menu.



4 Press the *DOWN* or *UP* arrow on the omni selector to select the [Start Bluetooth] and press the *OK* key to edit the name of the camera's Bluetooth.

Alternatively, touch/select the [Start Bluetooth].

Shoot

IR Camera Adjustment

Measurement range

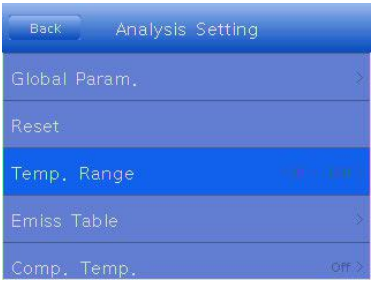
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

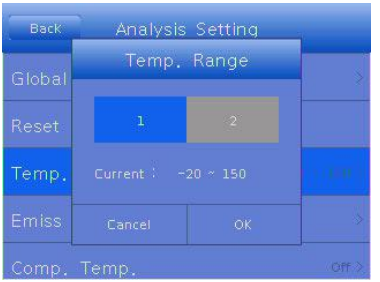
Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *UP* arrow on the omni selector to select the [Analysis] then select the [Temp. Range].

Alternatively, touch/select the [Analysis] tab then [Temp. Range] to open the menu.



4 **Touch/select the number representing the desired range and click [OK] to save the settings. Then press the [C] key to go back to the main interface.**



The camera offers two Temp. Range：−20~150℃,140~600℃.

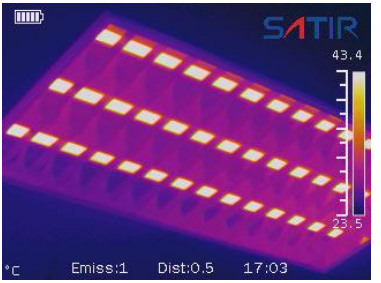
Shoot

IR Camera Adjustment

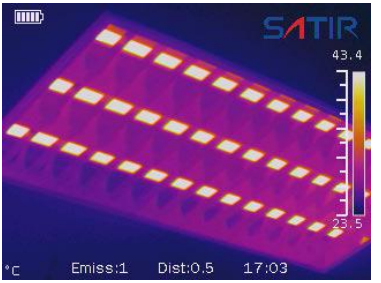
Freeze/Activate an image

You can activate / freeze a thermal image by pressing the **[S]** key on the keypad.

1 **Press the [S] key to freeze the image.**



2 **Press the [S] key again to unfreeze/activate the image.**



Shoot

IR Camera Adjustment

Emissivity table

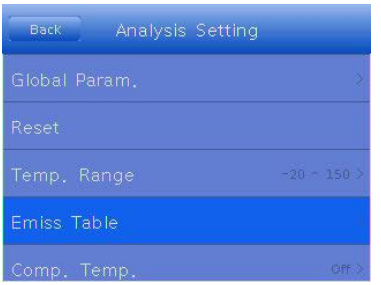
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

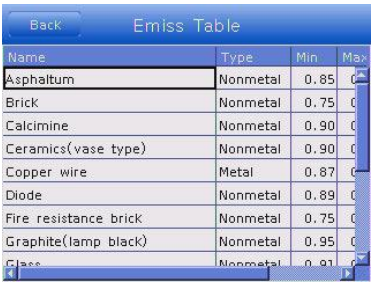
Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press *DOWN* or *UP* arrow on the omni selector to select [Analysis], then select [Emiss Table] press [OK] to enter.

Alternatively, touch/select the [Analysis] tab then [Emiss Table] to open the sample Emissivity table.



4 **Use the omni-selector to navigate the table until the desired target material emissivity is found. Press the [C] key to exit the table. Alternatively, navigate the table by using the touchscreen.**



Shoot

Human Mode

When faced with an epidemic and characterized by body temperature, the human body model can be turned on to quickly screen the body temperature of the crowd.

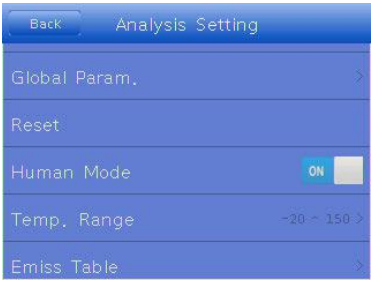
1 **Press the [C] key or touch/select the SATIR icon.**

2 **Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.**

Alternatively, touch/select the [Setting] Icon to open the menu.

3 **Press the *DOWN* or *UP* arrow on the omni selector to select the [Analysis]**

Alternatively, touch/select the [Analysis] tab to open the settings menu.



4 **Touch the human body model.**

- ON means the human body mode is turned on
- OFF means body mode is turned off

Shooting

Fulfill the Analysis Function

Set object/global settings

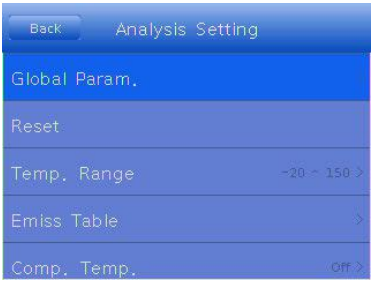
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *DOWN* or *UP* arrow on the omni selector to select the [Analysis] then select the [Global Param.].

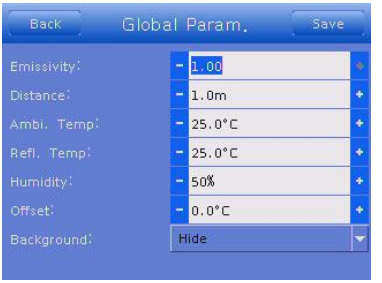
Alternatively, touch/select the [Analysis] tab then [Global Param.] to open the settings menu.



4 Set analysis parameter

- Press the *UP* or *DOWN* arrow on the omni selector to select an item to change.
- Press the *LEFT* or *RIGHT* arrow on the omni selector to set the values.

Alternatively, use the touchscreen to adjust the values.



5 **Tap [Save] to save the settings.**

About the analysis parameters

Object	Selects the object of which you want to set the parameters
Emissivity	Different material has different emissivity. Use different emissivity to measure different material
Distance	Different object has different distance to the IR camera. Use different distance to measure different object
Ambi. Temp	Input ambient temperature
Refl. Temp	Input reference temperature
Humidity	Input ambient humidity
Offset	Offset the measurement temperature
Background	Hide or show the background

Shoot

Fulfill the Analysis Function

Reset the default settings

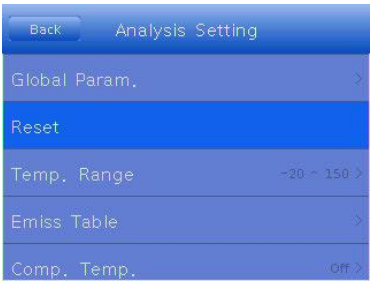
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *DOWN* or *UP* arrow on the omni selector to highlight [Settings], then press the *OK* key to enter.

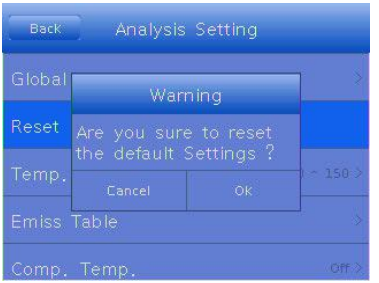
Alternatively, touch/select the [Setting] Icon to open the menu.

3 Press the *DOWN* or *UP* arrow on the omni selector to select [Analysis] and click [Reset].

Alternatively, touch/select the [Analysis] tab then [Reset] to reset the values to default.



4 Tap [OK] to save the setting.



Shoot

Fulfill the Analysis Function

Analysis tools

This topic briefly explains how to set the analysis tools on the thermal image.

Spot analysis

1 **Press the [C] key or touch/select the SATIR icon.**

2 **Press the *UP* or *DOWN* arrow on the omni selector to select the [Analyze] then press [OK] key.**

Alternatively, touch/select the [Analyze] Icon to open the menu.

3 **Press the *UP* or *DOWN* arrow on the omni selector to select the [Spot] then press [OK] key or touch/select icon.**

Set the spot analysis:

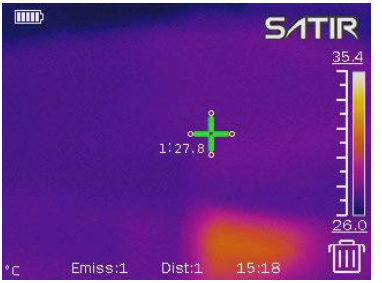
4

- **Press the arrow keys and choose a spot, then press the *ok* key or double tap Spot tool.**
- **Press the *UP* or *DOWN* arrow on the omni selector to select what you want to be changed ,then press the *LEFT* or *RIGHT* arrow on the omni selector to change it.**
  Alternatively, use the touchscreen to adjust the settings.

Move the spot:

5

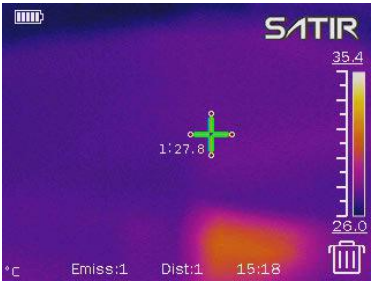
- **Select spot. Spot turn to green.**
- **Press the *UP, DOWN, LEFT, RIGHT* arrow on the omni selector to move the spot or, using touchscreen, drag Spot tool to desired point.**



Remove the spot:

6

- **Select the spot you want to remove, a trashcan appears on the bottom right corner of the UI. Use the touchscreen to drag the Spot tool to the trashcan to remove it.**



Shoot

Fulfill the Analysis Function

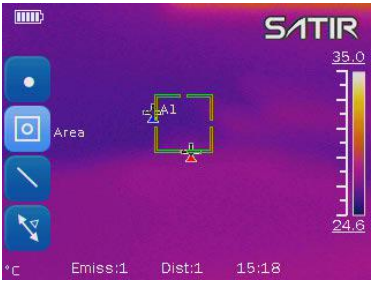
Area analysis

1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to select the [Analyze] then press [OK] key.

Alternatively, touch/select the [Analyze] Icon to open the menu.

3 Press the *UP* or *DOWN* arrow on the omni selector to select the [Area] then press [OK] key or touch/select icon.



4 Set the analysis area:

- Use the touchscreen to drag one of the corners to adjust the size of the Area tool.
- Double tap the center of the Area tool to open the menu bar, then select the desired options to adjust them on the screen.

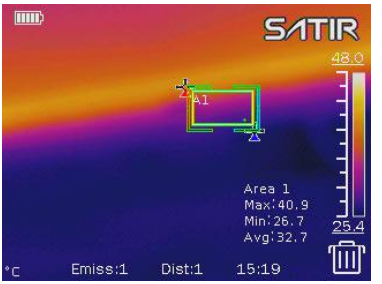
5

Move the area:

- **Select the area you want to move by tapping the area.**
- **There are two methods to move the tool:**

  Method 1：Press the *UP, DOWN, LEFT, RIGHT* arrow on the omni selector to move the area.

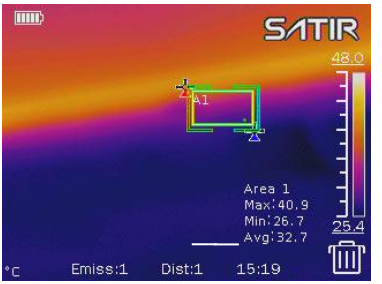
  Method 2：Use the touchscreen to select the area you want to move and drag it to desired point.



6

Remove the area:

- **Use the touchscreen to select of the Area tool you want to remove, a trashcan will appear on the bottom right of the UI. Drag the undesired Area tool to the trashcan to remove it.**



7

Change the shape of the analysis area:

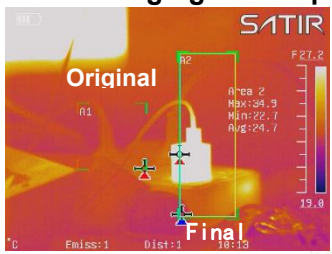
- **Select the area you want to move by using the touchscreen.**
- **By pressing LEFT and UP you can elongated the length of the area on vertical direction;**

  By pressing LEFT and DOWN you can shorten the length of the area on vertical direction;

  By pressing RIGHT and UP you can elongated the length of the area on horizontal direction;

  By pressing RIGHT and DOWN you can shorten the length of the area on horizontal direction.
- **Alternatively, use the touchscreen to select a corner of the Area tool, and drag the corner until the Area tool is the desired size.**

About changing the shape of the analysis area.

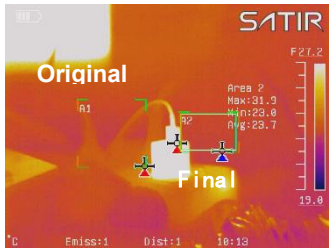


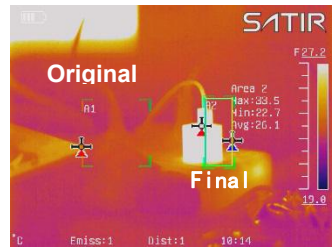
LEFT* and *UP

LEFT* and *DOWN

RIGHT* and *UP

RIGHT* and *DOWN





Shoot

Fulfill the Analysis Function

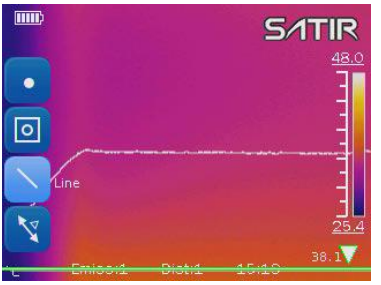
Line analysis

1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to select the [Analyze] then press [OK] key.

Alternatively, touch/select the [Analyze] Icon to open the menu.

3 Press the *UP* or *DOWN* arrow on the omni selector to select the [Line] then press [OK] key or touch/select icon.



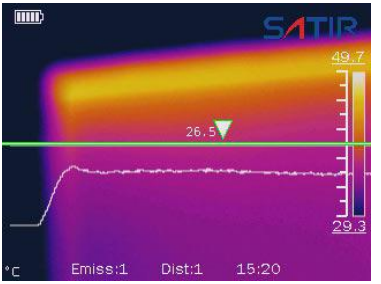
4

Move the line:

- **Select the line you want to move by tapping the line.**
- **There are two methods to move the tool:**

  Method1：Press the *UP&DOWN* arrow keys to move the line; press the *LEFT&RIGHT* arrow keys on the omni selector to move the triangle.

  Method 2: Use the touchscreen to drag the Line tool, up or down to the desired position. Select the Triangle and drag it left or right to the desired position.



5

Remove the line:

- **Use the touchscreen to select the triangle on the Line tool, a trashcan will appear in the bottom right corner of the UI. Drag the Line tool to the trashcan to remove it.**

Shoot

Fulfill the Analysis Function

Isotherm analysis

1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to select the [Analyze] then press [OK] key.

Alternatively, touch/select the [Analyze] Icon to open the menu.

3 Press the *UP* or *DOWN* arrow on the omni selector to select the [ISO] press [OK] key or touch/select icon.

4

Set isotherm range:

- **Start from Step 1 to set or select isotherm analysis.**
- **Method 1：Press *UP* or *DOWN* arrow to select upper limit or lower limit. Press *LEFT* or *RIGHT* arrow to adjust the number.**
  Method 2：Tap +/- beside the number to adjust the values.

About the ISO mode

Under Below	Use the same color to indicate the isothermal zone and below the lower limit of the isothermal zone.
Over Above	Use the same color to indicate the isothermal zone and above the upper range of the isotherm.
Interval	Use the same color to indicate the isothermal section, the rest of the normal display pseudo-color mode.
Dual Below	Use the same color to indicate the isothermal zone and the other color to indicate below the lower limit of the isothermal zone.
Dual Above	Use the same color to indicate the isothermal zone and other color to indicate above the upper range of the isotherm.

Shoot

Fulfill the Analysis Function

Alarm temperature

1 **Press the [C] key or touch/select the SATIR icon.**

2 **Add a analyze spot tool, then press the [OK] key again or double tap spot to call the setting window of the spot.**

3 **Press *UP* or *DOWN* arrow on the omni selector to highlight [Alarm Temp] or [Alarm Mode], press *LEFT or RIGHT* arrow to set the value of alarm temperature or mode.**

Alternatively, use the touchscreen to select [Alarm Temp] or [Alarm Mode] to set the value of alarm temperature or mode.

Shoot

Fulfill the Analysis Function

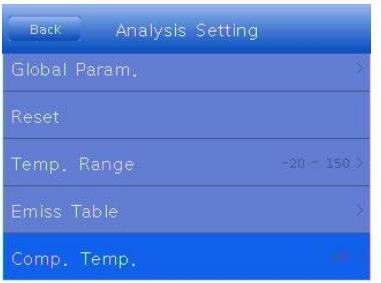
Comparing temperature

1 Press the [C] key or touch/select the SATIR icon.

2 Add an area analysis tools.

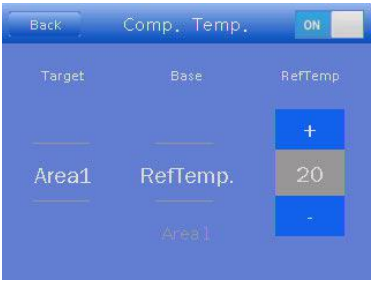
3 Press the [C] key.
Press UP&*DOWN* arrow to highlight [Settings] and press the [*OK*] key to enter.
Press the *UP&DOWN* arrow on the omni selector to highlight the [Analysis] and press the [*OK*] key to enter. Then highlight the [Comp. Temp.] and press the [*OK*] key to enter.

Alternatively, touch/select the [Settings] → [Analysis] tab then [Comp. Temp.] to open the settings menu.



4

Tap the switch upper *right* corner of the interface.
Tap to select the target and base, touch/select [+/-] to set the value of reference temperature.



5

Press the [C] key twice to back to the main interface.
Press the [C] key again to hide the menu.
You can see the values of difference beside ‘Comp:’ on downer right area of the screen.

Shoot

Fulfill the Analysis Function

Remove analysis tools

This topic briefly explains how to remove all analysis tools you place on the screen.

1 **Touch/select the icon on the screen. How to call Quick Launcher, please refer to p23.**

2 **In the pop-up menu bar on the right side touch/select [Clear] key to clear all the analysis tools.**

Shoot

Save the Image

This topic briefly explains how to save your Image.

1 **Press the [C] key or touch/select the SATIR icon.**

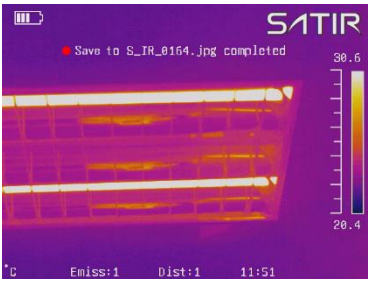
2 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Media] menu, then press the OK key to enter.**

Alternatively, touch/select the [Media] Icon to open the menu.

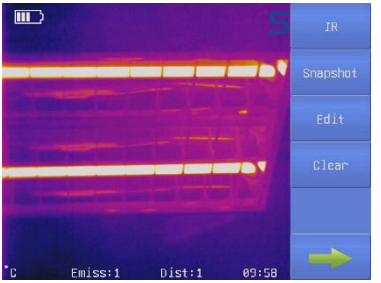
3 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Snapshot] and press the OK key.**

Alternatively, touch/select the [Snapshot] Icon to save the Image.

4 **Successfully saved there will have a sign be displayed on the screen.**



5 Alternatively, you can touch/select the icon on the screen. In the pop-up menu bar on the right side, touch/select [snapshot] key to save the image.



Tips: You'd better freeze your Image before saving it. How to freeze your Image, you can refer to P54.

Shoot

Attach Voice Memos Images

You can introduce an image with voice recording.

Voice record

1 **Install the Bluetooth headset.**

2 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Media] menu, then press the OK key to enter.**

Alternatively, touch/select the [Media] Icon to open the menu.

3 **Press the *UP* or *DOWN* arrow on the omni selector to highlight [Voice], then press the OK key.**

Alternatively, touch/select the [Voice] Icon to save the Image.

4 **In the pop-up menu bar, touch/select the icon. When change into , it means the voice is being recorded. Touch/select the icon again, stop the voice recording. Tap the [save] key to save the voice. Tap the [Play] to play the voice you just recorded. Tap the [close] you can exit the menu.**

The storage capacity of the memory will not decrease when you attach voice comment to an image.

Shoot

Snapshot and Edit the image

Snapshot/Edit

1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Media] menu, then press the OK key to enter.

Alternatively, touch/select the [Media] Icon to open the menu.

3 Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Snapshot] and press the [OK] key then the image will be saved automatically.

Alternatively, touch/select the [Snapshot] Icon to save image automatically.

Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Edit], then press the [OK] key to enter.

4 **Alternatively, touch/select the [Edit] Icon to open the menu.**

In this menu, you can edit the image like adding the text or voice note.

About the Media

	Snapshot：Select and press the ***OK*** key to capture the present image
	Edit：Edit the captured image
	Voice：Record voice for the image
	Video：Record a video
	Replay：Replay the record video

Shoot

Record/Replay the Video

1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP or DOWN* arrow on the omni selector to highlight the [Media] menu, then press the OK key to enter.

Alternatively, touch/select the [Media] Icon to open the menu.

3 Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Video] and press the [OK] key to start recording the video.

Alternatively, touch/select the [Video] Icon to start recording the video.

4 Highlight the [Video Record] and press the *OK* key again to stop recording.

Alternatively, touch/select the [Video] Icon again to stop recording the video.

5 **Press the *UP* or *DOWN* arrow on the omni selector to highlight [Replay] and press the [OK] key to replay the recorded video.**

Alternatively, touch/select the [Reply] Icon again to replay the video.

6 **Press the [C] key to exit after replaying.**

About the Replay toolbar

	Play：Play or pause the playing
	Stop：Stop playing the video
	Last：Playing the last video
	Next：Playing the next video
	Full Screen：Playing the video full screen
	Select File：Select a video
	Back：Back to the [Media] menu

Playback and Erase

Open Images

You can view and analyze the recorded images on the LCD monitor.

Open Images

1 **Press the [C] key or touch/select the SATIR icon.**

2 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Media] menu, then press the *OK* key to enter.**

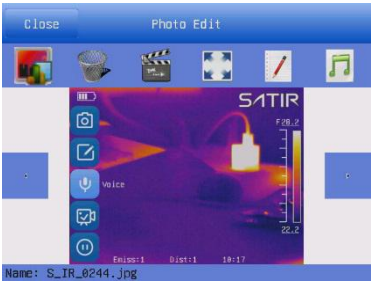
Alternatively, touch/select the [Media] Icon to open the menu.

3 **Press the *UP* or *DOWN* arrow on the omni selector to highlight the [Edit], then press the *OK* key to enter.**

Alternatively, touch/select the [Edit] Icon to open the menu.

4 **Press *LEFT* or *RIGHT* arrow on the omni selector to select an image. Press *UP* or *Down* arrow on the omni selector to select a tool. Then press *OK* key to use the tool to edit the image.**

Alternatively, use the touchscreen to edit the image.



You can analyze and attach voice memo to a recorded image when you open it.

Photo edit sub menu description

	Analysis（Analysis tools can be used to analyze the heat images）
	Delete（Delete the currently selected picture）
	Slideshow（All current picture slideshow）
	Full screen(Full screen display picture)
	Text Note（Add text notes for the current picture）
	Record（Add voice notes to the current picture）

Playback and Erase

File manager

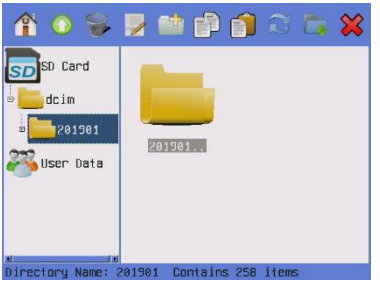
1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to highlight the [File], then press the *OK* key to enter.

Alternatively, touch/select the [File] Icon to open the menu.

3 Press *UP* or *DOWN* arrow on the omni selector to highlight file or tool, press the [C] key to shift file to tool. Press the *OK* key to execute the operation on the chosen file.

Alternatively, use the touchscreen to use tool or open the file.



About the File manager

	Home（Enter the home directory）
	Previous（Back to the parent directory）
	Remove（Remove the file or directory）
	Rename（Rename the file or folder）
	New（Build a directory）
	Copy（Copy the file）
	Paste（Paste the file）
	Refresh(Refresh the file list)
	Save Folder(Setting the saving path)
	Close(Close file manager)

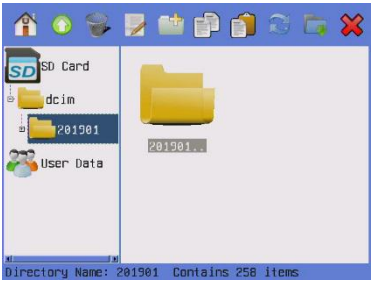
Selecting the file path

1 Press the [C] key or touch/select the SATIR icon.

2 Press the *UP* or *DOWN* arrow on the omni selector to highlight the [File], then press the *OK* key to enter.

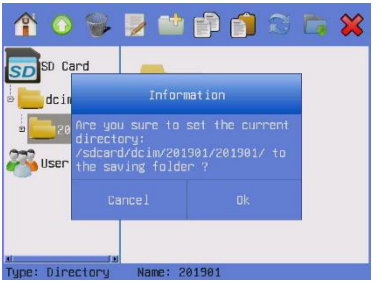
Alternatively, touch/select the [File] Icon to open the menu.

3 Press the *UP* or *DOWN* arrow on the omni selector to highlight the folder you want and press *OK*. Then press the *LEFT* or *RIGHT* arrow to select icon.



4 Press the *OK* key and all files will be saved in the file path.

Alternatively, use touchscreen to select the file path.



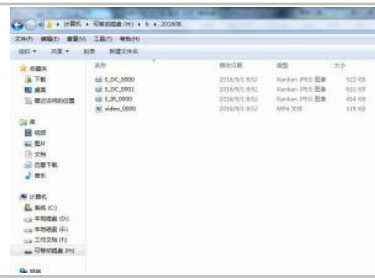
Connection and Download

Download the images

1 Open the USB / Video cover on the button of device.

2 Use USB cable connect device to computer then modify device USB Mode to UDisk.

3 Copy images and videos to your computer.

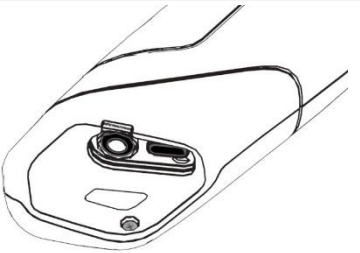


Connection and Download

Connect to a video-compatible monitor

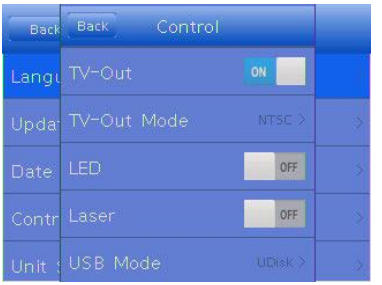
A video-compatible monitor connected via the video cable (supplied) can be used to view and analyze images you shoot.

1 **Attach video cable to the video out terminal on bottom of camera.**



2 **Plug the other end of the video cable to the video in jack on the monitor.**

3 **You can select TV-Out mode, refer to P21.**
After connecting via video cable, turn on [TV-out] or you can press *Up or Down* arrow Key at the same time to open or shut off the video output.



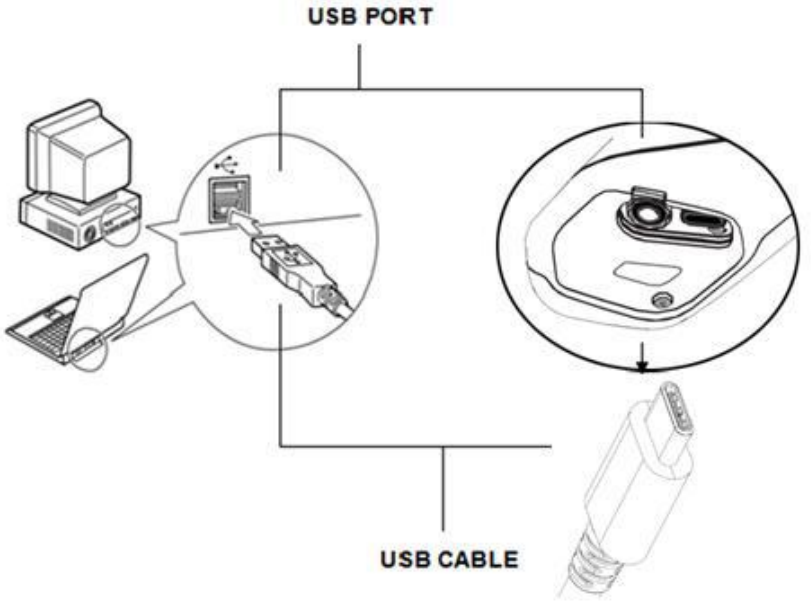
Connection and Download

Connect to a computer

Connection

Connect the USB cable to the computer's USB port and the multi-functional dock's terminal.

- **You do not need to turn off the computer or camera when making this connection.**
- **Please refer to your computer manual for information regarding the location of the USB port**



Connection and Download

Real-time transfer

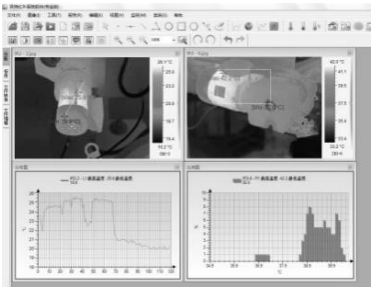
You can analyze and save the thermal video in computer directly via the USB by the optional real-time software.

1 **Power on the camera.**

2 **Connect the camera and computer via USB cable.**

3 **The operating system will recognize the camera automatically.**

4 **Run the analysis software. Meanwhile, please set the camera as below: [System setup]-[camera setup]-[USB type]-[USB real-time].You can analyze the real-time video, and save it in your computer's disk.**



Connection and Download

Real-time transfer

Troubles shooting

When you have any problems in the process of connecting the IR camera to a computer to use optional real-time software, check this first.

First, Check the Following

1. Does your computer comply with these requirements?
   Ensure the system has a built-in USB port.
   The USB interface is not supported for systems not complying with the above conditions.
2. Is the camera correctly connected to the computer?
3. Is the built-in battery charged sufficiently?

•If the Problem Is Not Mentioned Above

If the USB Driver is not correctly installed, it is possible that Windows is not recognizing the USB Driver. Please contact your motherboard's manufacturer for the latest driver.

The USB2.0 real-time transmission function may not properly work under some model of motherboard's chipset. In this case, connect the IR camera to another computer which is based on the chipset of Intel configuration or Nvidia configuration and try again.

Connection and Download

Use the Bluetooth headset

Follow the steps to install the Bluetooth headset for the first time.

1	Set the camera as below：**[Setting]**—**[System]—[Bluetooth]**.
2	Long press the Bluetooth headset power button for about 10 seconds to power indicator flash the red and blue lights to **seek connecting state** for the Bluetooth headset. It lasts 120 seconds.
3	Tap **Search-Search** to search the Bluetooth headset, then tap **Bind** and input the PIN (**0000** or **1234**) to bind the Bluetooth headset. The power indicator begins to blink blue, if the headset is connecting to the camera. Tap **Connected Dev** to check the headset.
4	Once bound successfully, set the Bluetooth headset to **seeking connection state**, then go to **Paired Dev** to tap **Bind** and input the PIN to bind the headset.
5	Try again step 1 to 4 if fail to bind. If you want to release the Bluetooth headset after the binding is successful, Tap the **Connected Dev** to tap **delete** to release the headset.
6	Wear the headset, you can record the voice memos or play back the memos now.

*Bluetooth headset is not the standard accessory. The picture is for reference and the sample is subject to the real product which you will receive.

Troubles Shooting

Problem	Cause	Solution
Camera will not operate	Power is not turned on.	• Turn on the camera. See *Turning the Power On / Off* (p.12).
	Insufficient battery voltage.	• Fully charge the battery.
Camera will not record	Internal memory is full.	• If required, download the images to a computer and erase them to make some space.
Battery pack consumed quickly	Battery pack capacity reduced because of disuse for one year or more after being fully charged.	• Replace the battery pack with a new one.
	Battery life exceeded.	• Replace the battery pack with a new one.

Appendix

How to setup for optional Lens

General

There are optional lenses for HotFind-S available, from telephoto lens to wide-angle lens.
When an optional lens is installed, please enter **[Setting]-[Analysis]-[Lens]** to setup the correct mode for lens**.**

Procedure

1	**Press [C] button, or touch/select the SATIR logo.**
2	**Press the *LEFT* and *RIGHT* arrow on the Omni selector to highlight the [Settings] menu and press [Enter] key to enter.** **Alternatively, touch/select the [Settings] Icon to open the menu.**
3	**Press the *DOWN* or *UP* arrow on the Omni selector to highlight [Analysis] and press the [Enter] Key to enter the menu. Use the Omni selector to highlight the [Lens] option and press [Enter] to enter.** **Alternatively, touch/select the [Analysis] Icon to open the menu, and touch/select the [Lens] option.**
4	**Use touchscreen to select the lens you have installed, then tap OK to save the setting.**

Appendix

Camera Care and Maintenance

Use the following procedures to clean the camera body, lens, LCD monitor and other parts.

Camera Body	**Wipe the body clean with soft cloth or eyeglass lens wiper.**
Lens	**First use a lens blower to remove dust and dirt, then remove any remaining dirt by wiping the lens lightly with soft cloth.** • **Never use synthetic cleaners on the camera body or lens.**
LCD Display	**Use a lens blower brush to remove dust and dirt. If necessary, gently wipe the LCD Display with soft cloth or an eyeglass lens wiper to remove stubborn dirt.** • **Never rub or press forcefully on the LCD Display. These actions may damage it or lead to other problems.**

Never use thinners, benzene, synthetic cleaners or water to clean the camera. These substances may distort or damage the equipment.

Appendix

Emissivity table

Material	Temperature（°C）	Emissivity approximation
Metal		
Aluminum		
Polished aluminum	100	0.09
Commercial aluminum foil	100	0.09
Electrolytic chromeplate alumina	25～600	0.55
Mild alumina	25 ~ 600	0.10 ~ 0.20
Strong alumina	25 ~ 600	0.30 ~ 0.40
Brass		
Brass mirror (highly polished)	28	0.03
Brass oxide	200 ~ 600	0.61 ~ 0.59
Chrome		
Polished chrome	40 ~ 1090	0.08 ~ 0.36
Copper		
Copper mirror	100	0.05
Strong copper oxide	25	0.078
Cuprous oxide	800 ~ 1100	0.66 ~ 0.54
Liquid copper	1080 ~ 1280	0.16 ~ 0.13
Gold		
Gold mirror	230 ~ 630	0.02

Appendix

Emissivity table (continue)

Material	Temperature（°C）	Emissivity approximation
Iron		
Polished cast iron	200	0.21
Processed cast iron	20	0.44
Polished tempered Iron	40 ~ 250	0.28
Polished steel ingot	770 ~ 1040	0.52 ~ 0.56
Raw welded steel	945 ~ 1100	0.52 ~ 0.61
Surface ferric oxide	20	0.69
Completely rusty surface	22	0.66
Rolled iron plate	100	0.74
Oxidized steel	198 ~ 600	0.64 ~ 0.78
Cast iron (Oxidizing at 600°C)	198 ~ 600	0.79
Steel (Oxidizing at 600°C)	125 ~ 520	0.78 ~ 0.82
Electrolytic ferric oxide	500 ~1200	0.85 ~ 0.89
Iron plate	925 ~ 1120	0.87 ~ 0.95
Cast iron, heavy ferric oxide	25	0.80
Tempered iron, ferric oxide	40 ~ 250	0.95
Melting surface	22	0.94
Melting cast iron	1300 ~ 1400	0.29
Melting mild steel	1600 ~ 1800	0.28
Liquid steel	1500 ~ 1650	0.42 ~ 0.53
Pure liquid iron	1515 ~ 1680	0.42 ~ 0.45

Appendix

Emissivity table (continue)

Material	Temperature（°C）	Emissivity approximation
Lead		
Pure lead (Non-oxidization)	125～225	0.06～0.08
Mildly oxidized	25 ~300	0.20 ~ 0.45
Magnesium		
Magnesia	275 ~ 825	0.55 ~ 0.20
Magnesia	900 ~ 1670	0.20
Hg	0 ~ 100	0.90 ~ 0.12
Nickel		
Electroplate polishing	25	0.05
Electroplate	20	0.01
non-polishing		
Nickel wire	185 ~ 1010	0.09 ~ 0.19
Nickel plate	198 ~ 600	0.37 ~ 0.48
Nickel oxide	650 ~ 1255	0.59 ~ 0.86
Nickel alloy		
Nickel-chrome (heat-resistance) alloy wire (shining)	50～1000	0.65～0.79
Nickel-chrome alloy	50 ~ 1040	0.64 ~ 0.76
Nickel-chrome (heat resistance)	50～500	0.95～0.98
Nickel-silver alloy	100	0.14
Silver		
Polished silver	100	0.05

Appendix

Emissivity table (continue)

Material	Temperature（°C）	Emissivity approximation
Stainless steel		
18-8	25	0.16
304(8Cr,18Ni)	215 ~ 490	0.44 ~ 0.36
310(25Cr,20Ni)	215 ~ 520	0.99 ~ 0.97
Tin		
Commercial tin plate	100	0.07
Strong oxidization	0 ~ 200	0.60
Zinc		
Oxidizing at 400°C	400	0.01
galvanized shining iron plate	28	0.23
Ash zinc oxide	25	0.28
Non-metal materials		
Brick	1100	0.75
Fire brick	1100	0.75
Graphite(lamp black)	96 ~ 225	0.95
Porcelain enamel (white)	18	0.90
Asphaltum	0 ~ 200	0.85
Glass (surface)	23	0.94
Heat-resistance glass	200 ~ 540	0.85 ~ 0.95
Calcimine	20	0.90
Oak	20	0.90

Appendix

Emissivity table (continue)

Material	Temperature（°C）	Emissivity approximation
Carbon piece		0.85
Isolation piece		0.91～0.94
Sheet metal		0.88 ~ 0.90
Glass pipe		0.90
Loop type		0.87
Porcelain enamel products		0.90
Porcelain enamel designs		0.83～0.95
Solid materials		0.80 ~ 0.93
Ceramics (vase type)		0.90
Film		0.90 ~ 0.93
Mica		0.94 ~ 0.95
Flume mica		0.90 ~ 0.93
Glass		0.91 ~ 0.92
Semiconductor		0.80 ~ 0.90
Transistor (plastics sealed)		0.30～0.40
Transistor (metal) Diode		0.89～0.90
Transmitting loop		
Pulse transmission		0.91 ~ 0.92
Level chalkiness layer		0.88 ~ 0.93
Top loop		0.91 ~ 0.92

Appendix

Emissivity table (continue)

Material	Temperature（°C）	Emissivity approximation
Electric materials		
Epoxy glass plate		0.86
Epoxy hydroxybenzene plate		0.80
Gilded sheet copper		0.30
Solder-coated copper		0.35
Tin-coated lead wire		0.28
Brass wires		0.87 ~ 0.88
Block talcum terminal		0.87

Specification

All data is based on SATIR's testing standard. Subject to change without notice.

Type	HotFind-S
Image performance	
FOV/Min. focus distance	29° x22°/0.15m
Spatial resolution	1.1mrad
Thermal sensitivity	≤0.05°C@30°C
Detector type	UFPA
Resolution	384 x 288
Spectral range	7.5-14um
Focus	Manual
Image presentation	
Image mode	IR/CCD/Duo-vision/Duo-vision PLUS
LCD Display	3.5" Capacitive touch screen
Visible pixels	High definition CCD , 5 million pixels
Video output	NTSC (60Hz) or PAL (50Hz) composite video
Temperature measurement	
Measurement range	-20℃ ~ +650℃ , (up to 1500℃,optional)
Accuracy	±2° or ±2% of readings
Measurement mode	8 movable spots, auto hot/cold spot, 2 lines, 5 area boxes, isotherm
Correction	Emissivity, ambient temperature, distance, relative humidity
Alarm	Yes

Image storage	
Type	16GB TF card
Image format	IR Image：.JPG(thermal/Visual) CCD Image：.JPG
Video format	.MPEG
Annotation	Voice, note annotation
Power system	
Battery type	Built-in rechargeable lithium-ion battery MODEL B608A-LF(18650 1S3P), 3.7V, 2500mAh
Charge interface	Type-C
Battery operating time	5 hours
Power manage	Auto shut off / Sleep mode
Environment specification	
Operating temperature range	-20°C to +50°C
Storage temperature range	-40°C to +70°C
Humidity	10% to 95%, non-condensing
Encapsulation	IP54
Shock	25G
Vibration	2G
Drop resistance	2 meter
Physical characteristic	
Size	232mm×115mm×168mm
Weight	Less than 900g
Tripod mounting	1/4"_20

Additional features	
Illuminator	Yes
Laser pointer	Yes
Video record	Yes
Ports	USB port , Analog video output
Bluetooth	Yes
Available optional lenses	7°, 12°, 48°

Please download quick user guide, user manual and SatIrReport Software from SATIR website if you need.
Download Link: www.satir.com

Manufacturer information

Manufacturer：SATIR Europe(Ireland) Co.,Ltd.
Factory address：Marleys Business Park, Marleys Lane, Drogheda, Co.Louth, A92 PX6P, Ireland
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E-mail：enquiry@satir.com
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Technical enquiry Tel：00353 (0) 41 9844371
Sales enquiry Tel：00353 (0) 41 9846786