

**HSFTOOLS**

**Pocket Thermal Camera**

**User Manual**





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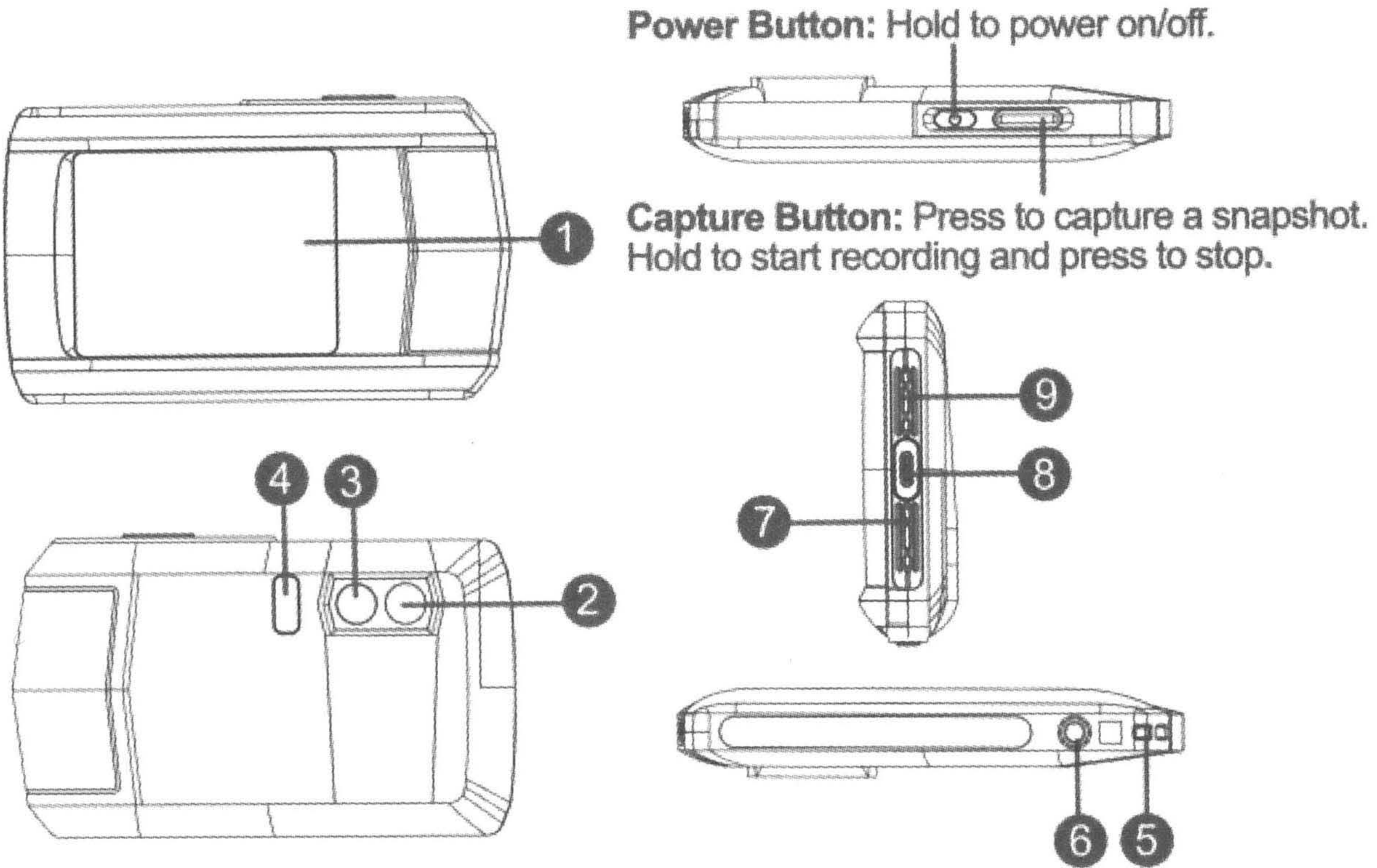


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# CHAPTER 1 GETTING STARTED

## Appearance







<b>No.</b>	<b>Description</b>	<b>Function</b>
1	Touch Control Screen	View image and operate device with touch control.
2	Visual Lens	View the visual image.
3	Thermal Lens	View the thermal image.
4	Flashlight	Fill light on objects and output flashing alarm.
5	Strap Attachment Point	Mount the wrist strap.
6	Tripod Mount	Mount the tripod.
7	Charging Indicator	Indicate the charging status of the device. <ul style="list-style-type: none"> <li>◆ Solid red: charging normally</li> <li>◆ Flashing red: charging exception</li> <li>◆ Solid green: fully charged</li> </ul>
8	Type-C Interface	Charge the device or export files with the supplied type-A to type-C cable.



## Power On/Off

Hold  for over three seconds to turn on the device. It may take some time until the device is ready for using. Hold  for about three seconds to power off the device.

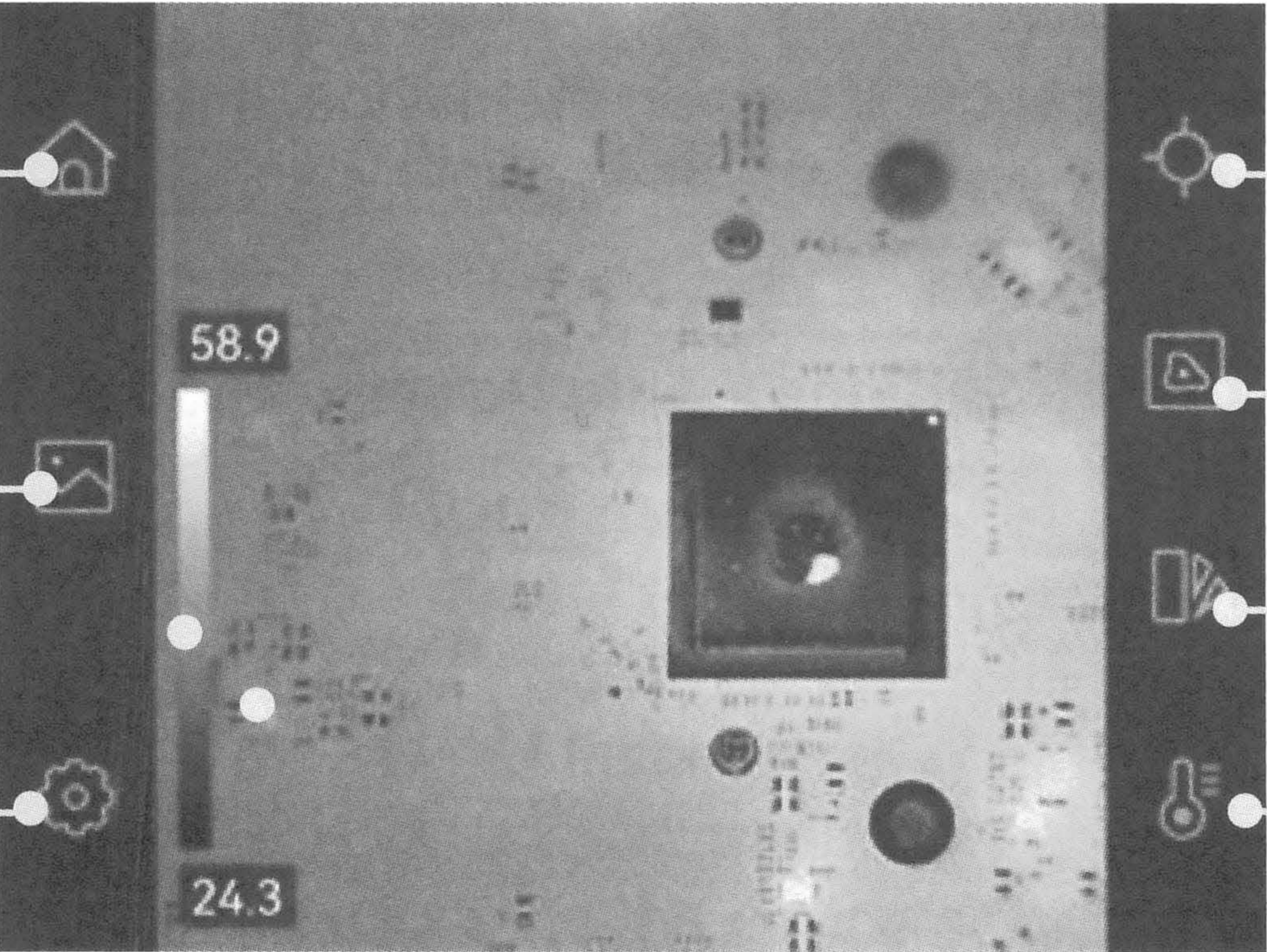
Select , and go to **Device Settings > Auto Power-off** to set the automatic shutdown time.



# Menu Description

◆ *Live View*

Return to live view.



Enter albums.

Enter settings.

Turn on/off measurement tools.

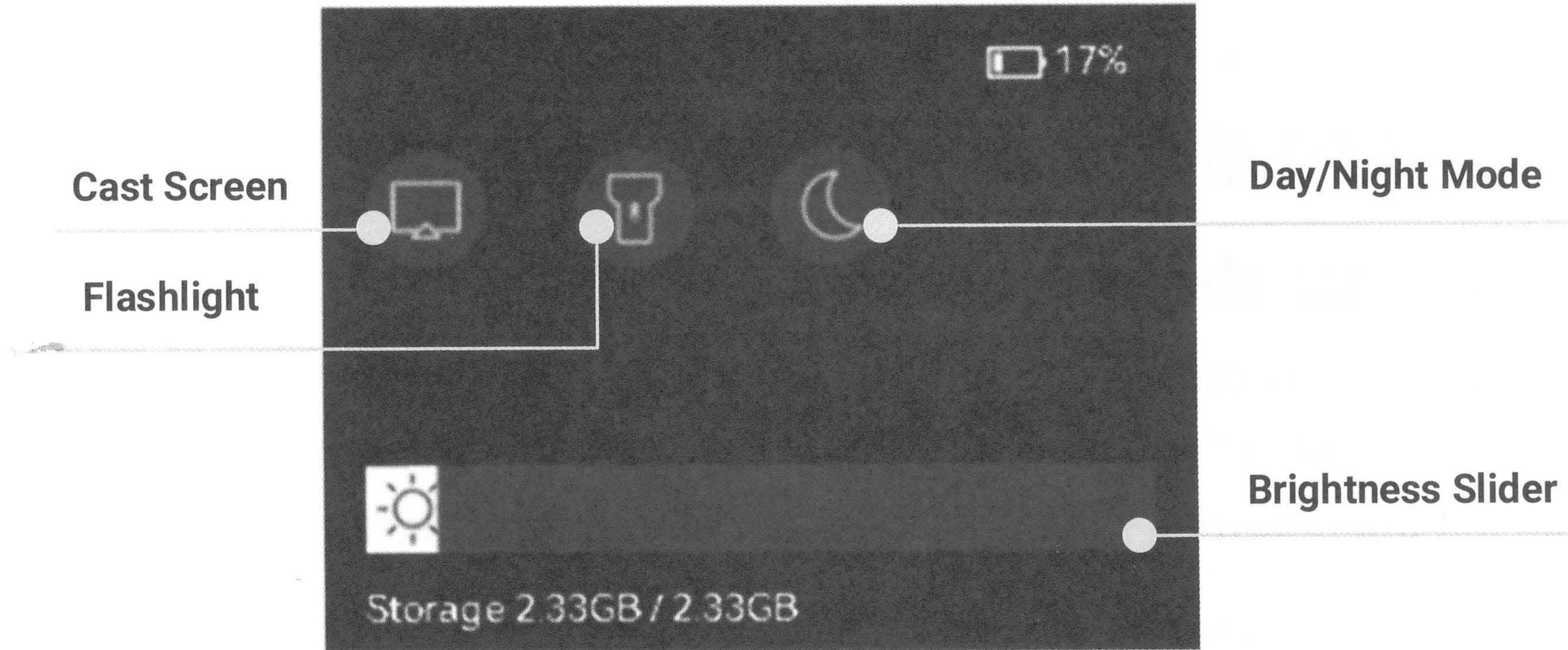
Switch image modes.

Switch color palettes.

Set Level & Span.



## ◆ *Swipe-down Menu*



You can also go to ***Local Settings > Device Settings > Screen Brightness*** to adjust the screen brightness.



## Setting Language

Select , and go to **Device Settings > Language** to set the menu language.

# CHAPTER 2 CAPTURING AND RECORDING

## Capture Snapshots

In live view, press capture button to capture a snapshot. Enable flashlight via swipe-down menu in the dark environment.

You can set the following parameters in **Local Settings > Capture Settings** as needed.

<i>Parameter</i>	<i>Function</i>
Capture Mode	<ul style="list-style-type: none"><li>◆ <b>Capture One Image:</b> Capture one image.</li><li>◆ <b>Continuous Capture:</b> Capture up to 9 images (configurable).</li></ul>



- ◆ **Scheduled Capture:** The device takes a picture after a set time interval (configurable).

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**Save Visual Image**

Enable to save the corresponding visual image.

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**Super Resolution**

Enable Super Resolution before capturing to get higher resolution images.

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**Filename Header**

Custom filename header.

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## Record Videos

In live view, hold capture button to start recording, and press capture button to stop recording. The recording video will be saved automatically.





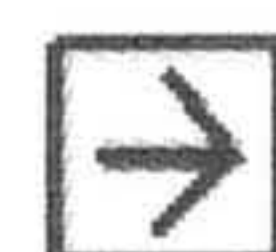




# CHAPTER 3 WORKING WITH FILES

## Managing Files

1. Tap  in live view to enter albums.



2. Tap the file of interest to view it. You can also move, delete, edit the recorded files, and add text notes to the files.

<i>Icon</i>	<i>Operations</i>	<i>Icon</i>	<i>Operations</i>
	Select a file.		Cancel the selection.
	Delete a file or album.		Add a text note while viewing the file.
	Move a file to other albums.		Switch files while viewing.
	Select all files.		Set an album as default saving album.
	Rename an album.		

## Exporting Files to PC

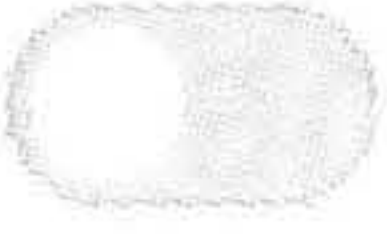
1. Turn off USB Cast Screen in **Local Settings > Connections > USB Cast Screen**.



2. Connect the device to your PC with the supplied type-A to type-C cable and open the detected disk.
3. Copy and paste the videos or snapshots to PC.
4. Disconnect the device from your PC.

## CHAPTER 4 USING CAMERA WITH SOFTWARE

### UVC Alarm: Casting Screen

1. Download and install UVC protocol-based client software or player on your PC.
2. Go to **Local Settings > Connections > USB Cast Screen**, and tap  to enable USB Cast Screen.
3. Connect the device to your PC via the supplied type A to type-C cable.
4. Open the client on your PC, and you can view the real-time screen.



# CHAPTER 5 UPGRADING DEVICE

1. Please contact the customer service or technical support to get the upgrade file.
2. Turn off USB Cast Screen.
3. Connect the device to your PC with supplied type A to type-C cable and open the detected disk.
4. Unzip the file, and copy the upgrade file and paste it to the root directory of the device.
5. Disconnect the device from your PC.
6. Reboot the device and then it will upgrade automatically.



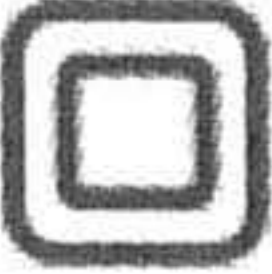



*Note: After upgrading, the device reboots automatically. You can view the current version in **Local Settings > Device Settings > Device Information**.*



# CHAPTER 6 SETTING IMAGE DISPLAY

Tap  in live view to switch image modes, and tap the screen to exit.

<i>Image Mode</i>	<i>Description</i>
 Thermal	Thermal object image only.
 Fusion	Thermal object image with visual outlines. Adjust <b>Parallax Correction</b> in live view to improve image alignment.
 PIP	Thermal object image inside the optical object image. You can adjust the size, distance, and digital zoom of the PIP.
 Blending	The mixture object image of thermal channel and optical channel. Adjust <b>Level</b> to change the optical-thermal ratio.





Visual object image only.

## Setting Color Palettes

Tap  in live view to switch image modes, and tap the screen to exit.

### ***Palettes***

### ***Description***

White Hot

The hot part is light-colored in view.

Black Hot

The hot part is black-colored in view.

Rainbow

The target displays multiple colors. It is suitable for scene without obvious temperature difference.

Ironbow

The target is colored as heated iron.

Rain

The hot part in the image are colored, and the else is blue.



Blue Red

The hot part in the image is colored red, and the else is blue.

Fusion

The hot part is yellow-colored and the cold part is purple-colored in view.

Red Hot

The hot part is red-colored in view.

## Setting Level & Span

Set a temperature range and the palette only works for targets within the temperature range. Tap , and tap to select auto or manual adjustment.



**Auto**

The device adjusts the temperature range for display automatically.



**Manual**

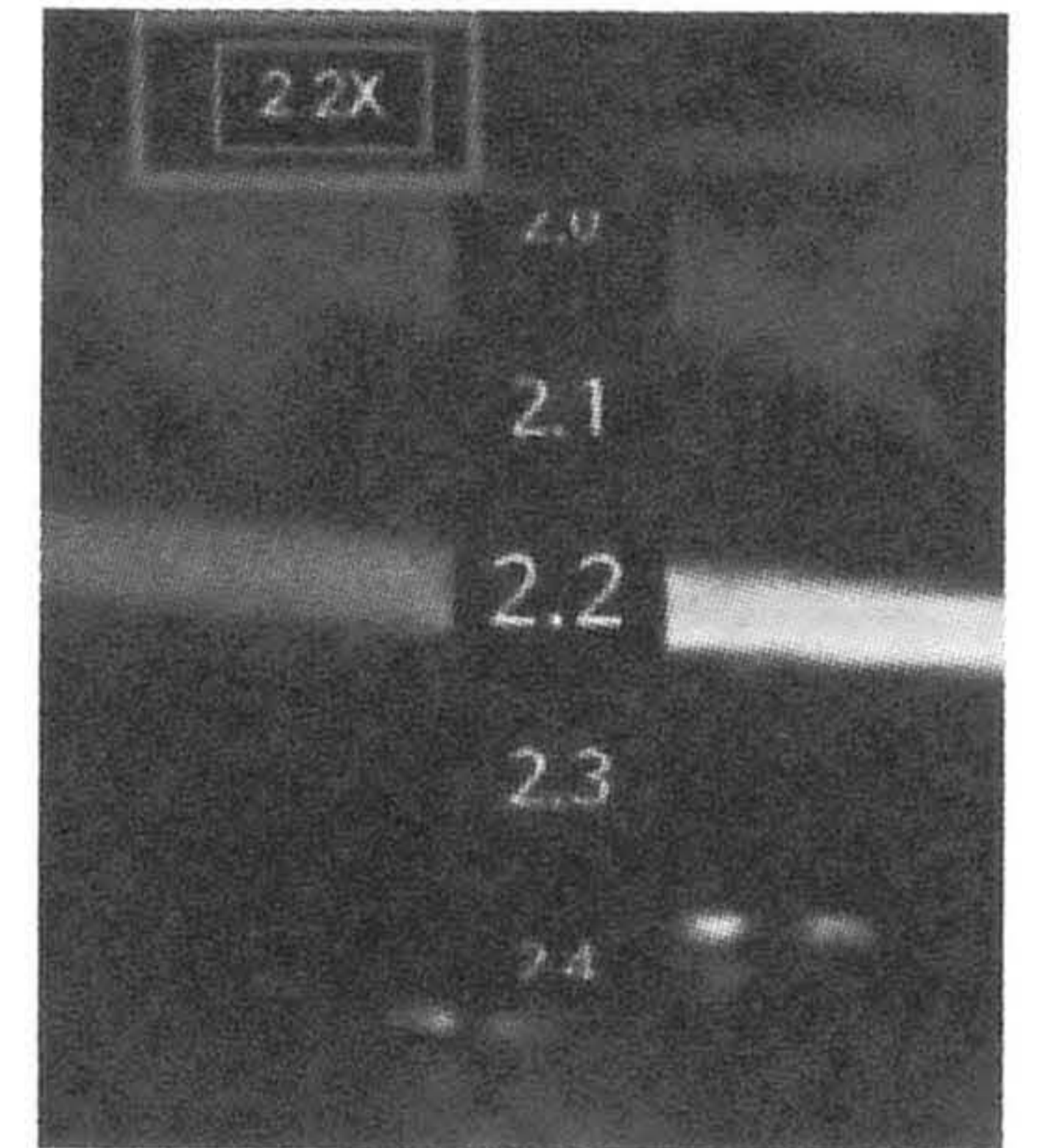
◆ Tap on an interest area of the screen, and the temperature range readjusts to show as many details of the area as possible.




- ◆ Tap on the value on screen to lock or unlock a value. Scroll the adjustment wheel to fine-tune the max. temperature and the min. temperature respectively.
- ◆ Tap **OK** to finish.

## Zooming

1. Tap anywhere in live view to call the digital zoom frame.
2. Tap the digital zoom frame, and scroll to select a value.
3. Tap the screen to save and exit.



## Setting On-Screen Info.





Tap  and go to **Display Settings** to enable the information for on-screen display.

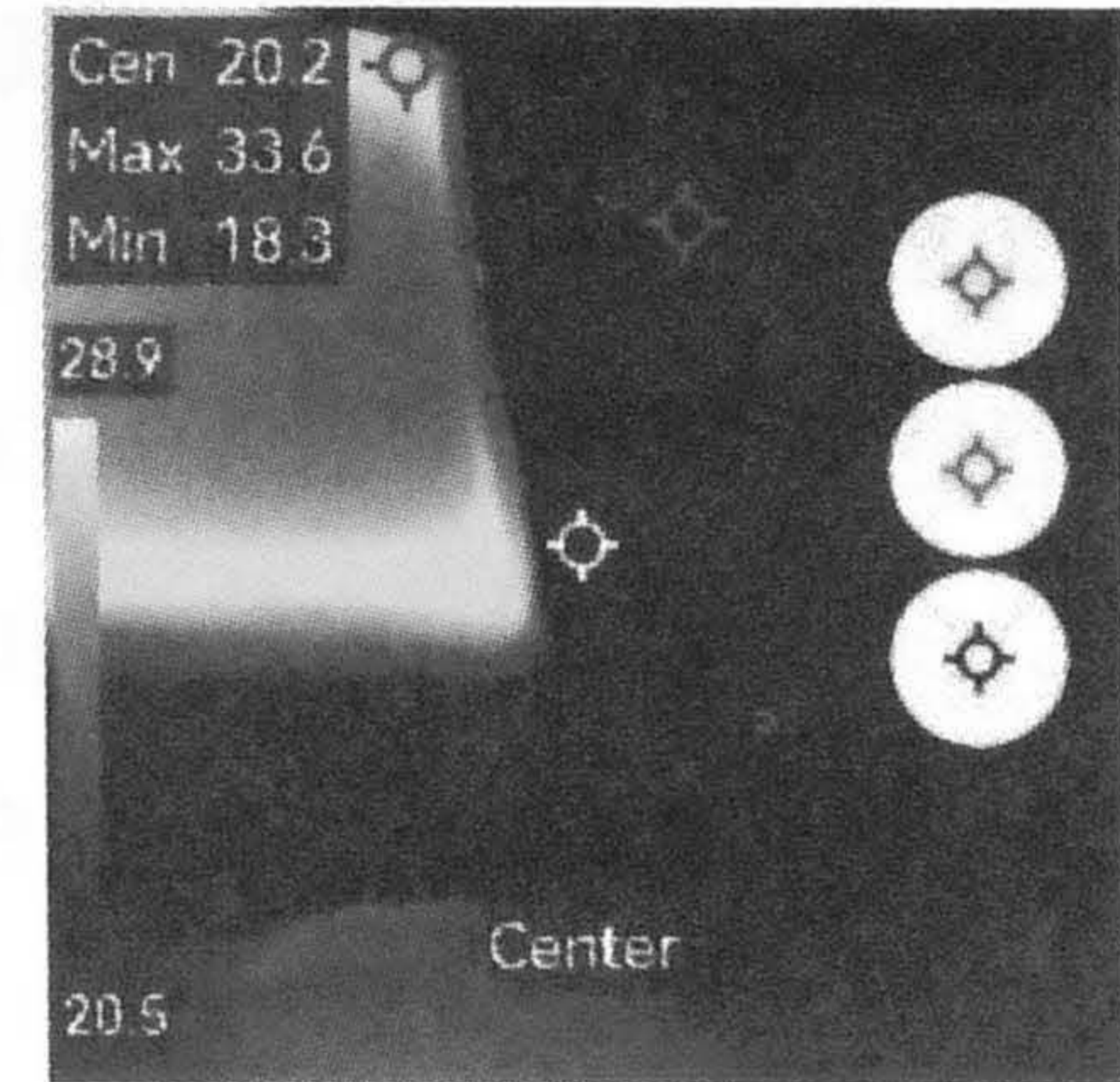


# CHAPTER 7 MEASURING TEMPERATURES

## Setting Measurement Tool

You can set measurement tools to measure the min., max., and center temperatures of the current scene.



1. Tap  in live view, and tap ,  and  respectively to turn on/off the max., min., and center temperature display on the left top of the screen.
2. Tap screen to save and exit.





# Setting Measurement Parameters



You can set measurement parameters to improve measurement accuracy.

1. Tap  and go to **Local Settings > Measurement Settings**.
2. Set the Temperature Range, Emissivity, Reflection Temperature, Distance, Humidity, etc.
  - ◆ **Refl. Temp.:** If any object (not the target) of high temperature is in the scene, and the target emissivity is low, set the reflection temperature as the high temperature to correct the thermography effect.
  - ◆ **Distance:** The distance between the target and the device.
3. Tap  to save and exit.
4. Optional: Go to **Local Settings > Device Settings > Unit** to set the temperature unit and distance unit.



# Setting Temperature Alarm

When the temperature of targets triggers the set alarm rule, the device will perform configured actions.

1. Tap  and go to **Local Settings > Measurement Settings > Alarm Settings**.
2. Enable Temperature Alarm and set the alarm parameters.
  - ◆ **Alarm Threshold:** The device will buzz if the audible warning is enabled, and the flashlight will flash if the flashing alarm is enabled.
  - ◆ **Alarm Linkage:** Flashing Alarm. The flash light flashes when target temperature exceeds the alarm threshold.
3. Tap  to save and exit.



# CHAPTER 8 MAINTAINING CAMERA

## Viewing Device Information

Go to **Local Settings > Device Settings > Device Information** to view the device information.

## Setting Date and Time

Go to **Local Settings > Device Settings > Time and Date** to set the time and date, and press **<** to save and exit.

## Restoring Device

Go to **Local Settings > Device Settings > Device Initialization > Restore Device** to initialize the device and restore default settings.



## Initializing Storage

Go to **Local Settings > Device Settings > Device Initialization > Format Storage** to initialize the storage.



*If there are files, make sure that the files has been backed up before formatting. Once the storage is initialized, data and files cannot be recovered.*

## About Calibration

We recommend you send the device back for calibration once a year, and please contact the local dealer for the information on maintenance points.