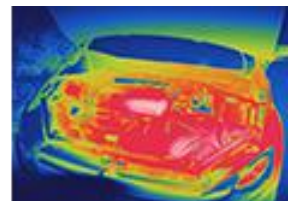
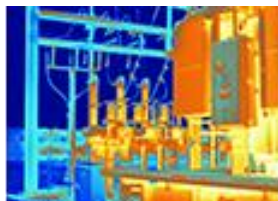




Handheld Thermal Camera

User Manual



Company Statement

Our company is committed to providing customers with high-quality, high-performance infrared thermal imaging products. We have a professional R&D team and advanced production technology to ensure that each product meets strict quality standards. Our goal is to meet the needs of various industries for infrared thermal imaging technology through continuous innovation and improvement, and to bring customers a better and more convenient user experience. At the same time, we will continue to provide comprehensive after-sales service and technical support to ensure that any problems encountered by customers during use can be solved in a timely manner.

Product Declaration

This product is a handheld infrared thermal imager. We ensure that this product has undergone strict quality inspection and calibration before leaving the factory, and all performance parameters are in line with the description of the product specification. The software and applications installed in the product have been carefully designed and developed to ensure the accuracy and stability of its functions.

When using this product, please be sure to carefully read and follow the operating instructions and precautions in the user manual. Since the company cannot control the user's specific operating environment and methods, it is not responsible for any damage or data loss caused by improper use or unauthorized modification.

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1 Product Introduction

DP-38/DP-64 infrared thermal camera is a new generation of professional temperature measurement thermal imaging products of Dianyang Technology Company. It supports 384*288 and 640* 480 high-definition thermal imaging resolutions, and realizes a variety of applications by combining visible light and thermal imaging.

Currently widely used in

- Electric power industry: thermal status inspection of transmission lines and power equipment, and fault defect diagnosis.
- Electrical and Mechanical Industries: Overheating and fault diagnosis of electrical and mechanical equipment.
- Construction industry: detection of moisture, air leakage and insulation defects.
- Petrochemical industry: oil pipeline status inspection, material interface detection, heat leakage and insulation structure, power equipment status inspection, etc.
- Firefighting: forest fire prevention and potential fire source search, special material spontaneous combustion prevention detection, electrical fire safety detection.
- Medicine: Human body surface temperature detection and temperature field distribution analysis.
- Other research and development industries, automation industries, preventive maintenance, etc.



2 Features

Image aspect:

- With a 384×288/640×512 resolution infrared detector and 8-megapixel visible light, the image is clearer.
- Adopting Dianyang's unique TisoView image technology, it realizes super-resolution, DDE enhancement, image saturation adjustment, gain adjustment and other algorithms to make the image clearer
- HDMI and USB interfaces can output handheld instrument images

Structural aspects

- The high-sensitivity capacitive touch screen is superimposed with 0.5m explosion-proof glass, which can protect the display screen from being broken and ensure the sensitivity of touch operation.
- built-in EMMC 32GB + expandable SD card can make data storage infinite. For example, when full-frame temperature data recording is required, the SD card can be expanded for large data storage.
- It can be equipped with multiple removable batteries, and the battery capacity reaches 5000mAh, with a battery life of about 5 hours, which can meet the needs of long-term work.
- The standard configuration laser ranging module can support accurate distance detection within 40 meters.
- The product is divided into basic version and professional version. The professional version thermal imager also supports GPS/Beidou, 4G, electronic compass, pickup, and can be customized with different gas sensors.

Temperature measurement:

- Unique laser point temperature measurement mode, which can support temperature measurement at the laser point
- The maximum temperature measurement is up to 1200°C, and it meets industrial-grade high-precision standards

Software:

- Dedicated analysis software enables full-frame thermal image and full-temperature thermal image video analysis.
- A dedicated Android app can connect the mobile phone and thermal imager and transmit the shooting data of the thermal imager in real time.
- Supports taking photos, recording videos, taking screenshots, and recording screens, with multiple image recording modes.

3 Specifications

D is the standard version, DI is the professional version

Parameter		Specification			
Infrared thermal imaging	Model	DP-38D	DP-38DI	DP-64D	DP-64DI
	Resolution	384*288	384*288	640*512	640*512
	Working band	8~14um			
	Frame rate	25 Hz			
	NETD	< 40mK@25℃			
	Field of view	17.46°X13.14°			
	Lenses	15mm (standard), 19mm, 25mm (optional)		25mm (standard), 19mm, 35mm (optional)	
	Temperature measurement range	-20 ℃~ 1200 ℃			
	Temperature measurement accuracy	±2℃ or ±2% of reading, whichever is greater			
	Temperature measurement	Supports temperature measurement at the highest point, lowest point, center point of the entire screen, as well as point, line, and frame temperature measurement			
	Color Palette	Iron Red, Rainbow, Rainbow High Contrast, White Hot, Black Hot, Arctic, Lava, Red Hot			
Visible light	Resolution	8 megapixels			
	Field of view	D=90°			
Image Display	Screen size	4.3-inch touch screen			
	Image Mode	Infrared, edge fusion, visible light, picture-in-picture, layer fusion			
	Image Optimization	TISO VIEW Image Enhancement Set			
General	Language	English, French, Spanish, Portuguese, German, Russian, Arabic, Japanese, Korean, Chinese (Simplified), Chinese (Traditional)			
	Digital zoom	Infinite zoom			
	Measurement correction	Target distance, atmospheric correction, ambient temperature and humidity, visibility			
	Wi- Fi	Support mobile phones to connect to the Internet of Things via WIFI, and provide APP for real-time image transmission			
	Bluetooth	support			
	Interface	USB Type-C, HDMI			
	Mobile APP	support			
	Laser pointer	support			
	Laser Distance Measurement	40m			
	led	support			
	Buzzer	support			
	GPS	Not supported	support	Not supported	support

	4G	Not supported	support	Not supported	support
	Electronic compass	Not supported	support	Not supported	support
	Gas Sensors	Not supported	Customized according to demand	Not supported	Customized according to demand
	Voice Annotation	Not supported	support	Not supported	support
	Battery	Removable 5000mAh lithium battery			
	Working hours	When fully charged, the battery can be used for approximately 5 hours			
	Image analysis	Not supported	support	Not supported	support
storage	Capacity	Built-in 32G EMMC storage, expandable to 256G via SD card			
Record	Photograph	support			
	Screen Recording	support			
	Video	Supports normal video and full-frame temperature video			
	Radiation flow file (video with temperature data for each frame)	Not supported	support	Not supported	support
	Photo Interval	Not supported	support	Not supported	support
Physical properties	Operating temperature	-10 °C~+60°C			
	Storage temperature	-40°C~+85°C			
	size				
	weight				

Note: The lens is installed according to the requirements before leaving the factory. The lens cannot be replaced during use after leaving the factory.

4 Thermal imager parts introduction





NO.	Part Name	illustrate
①	Menu/ok multiplex buton	<ul style="list-style-type: none"> On the main interface, short press to enter the first level menu; In the first level menu, short press to enter the second level menu; Select the corresponding option on the setting interface and press short press to save the setting;
②	Customizable buttons	<ul style="list-style-type: none"> In the settings interface, you can select the corresponding function to achieve quick operation
③	Power/return button	<ul style="list-style-type: none"> Long press to turn on the device when it is powered off; Long press in the power-on state to shut down; Short press Return on the menu interface;
④	Gallery button	<ul style="list-style-type: none"> Short press to enter the gallery
⑤	Arrow button	<p>Up and down arrow keys</p> <ul style="list-style-type: none"> On the main interface, short press to switch the image mode; In the menu setting interface, short press up and down to move the selection;

		<p>Left and right arrow keys</p> <ul style="list-style-type: none"> ● On the main interface, short press to switch the color palette; ● In the menu setting interface, short press to move left or right to select;
⑥	LED	<ul style="list-style-type: none"> ● Open or close via menu function
⑦	Lenses	<ul style="list-style-type: none"> ● Detector original lens
⑧	Laser Distance Measurement	<ul style="list-style-type: none"> ● Open or close via menu function
⑨	camera	<ul style="list-style-type: none"> ● 8-megapixel visible light camera
⑩	Standard version: LED Professional Edition: Gas Detection	<ul style="list-style-type: none"> ● Standard version: Turn the LED on or off via the menu function ● Professional version: Turn gas detection on or off through the menu function
⑪	Manual focus	<ul style="list-style-type: none"> ● When in use, manual focus can be adjusted by rotating the lens.
⑫	Lanyard port	<ul style="list-style-type: none"> ● Connect the lanyard for easy carrying
⑬	Trigger	<ul style="list-style-type: none"> ● When in the main interface, short press this button to take a photo. After taking the photo, you need to short press the OK button to save the photo, or short press the Back button to cancel the save. ● On the main interface, press and hold this button until the recording time appears in the upper left corner of the screen, indicating that the video has started. Press the button shortly to stop recording .
⑭	Battery compartment	<ul style="list-style-type: none"> ● Battery replaceable
⑮	SIM card	<ul style="list-style-type: none"> ● Please insert the SIM card before use to use the 4G network
⑯	MICRO SD CARD	<ul style="list-style-type: none"> ● Insert a MICRO SD card to add additional storage

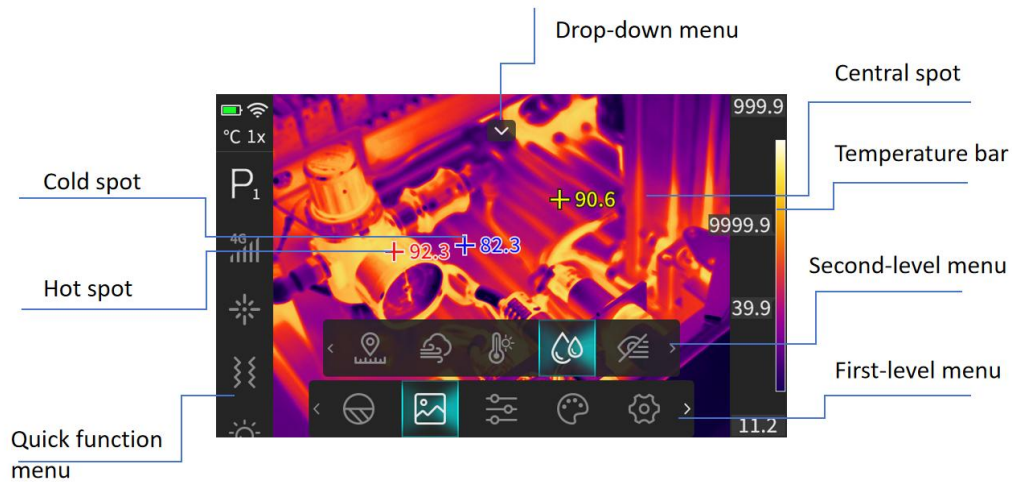
		space.
⑰	Type-C	<ul style="list-style-type: none">● Users can connect to the PC through this interface to perform operations, including image export, deletion, formatting, etc.
⑱	HDMI	<ul style="list-style-type: none">● Can transmit images by connecting HDMI cable
⑲	Lens cap	<ul style="list-style-type: none">● Protect the lens

5 Function Introduction

5.1 Button Description

No.	Button Name	Functional Description
1	Power button	<ul style="list-style-type: none"> ● Long press to turn on the device when it is powered off; ● Long press in the power-on state to shut down;
2	Confirm, menu multiplexing button	<ul style="list-style-type: none"> ● On the main interface, short press to enter the first level menu; ● In the first level menu, short press to enter the second level menu; ● Select the corresponding option on the setting interface and press short press to save the setting;
3	Back button	<ul style="list-style-type: none"> ● Short press Return on the menu interface;
4	Up and down arrow button	<ul style="list-style-type: none"> ● On the main interface, short press to switch the measurement mode; ● In the menu setting interface, short press up and down to move the selection;
5	Left and right arrow button	<ul style="list-style-type: none"> ● On the main interface, short press to switch the color palette; ● In the menu setting interface, short press to move left or right to select;
6	Customizable buttons	<ul style="list-style-type: none"> ● In the settings interface, you can select the corresponding function to achieve quick operation
7	Trigger	<ul style="list-style-type: none"> ● When in the main interface, short press this button to take a photo. After taking the photo, you need to short press the OK button to save the photo, or short press the Back button to cancel the save .

5.2 Main Interface



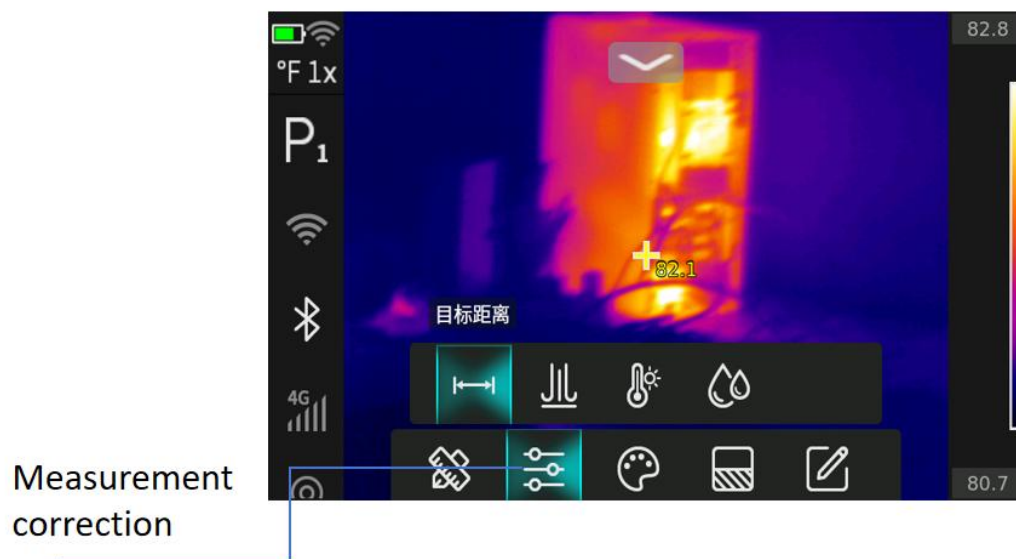
5.2.1 Measurement

Select the measurement function in the first-level menu to turn on or off the image center temperature, maximum temperature, and minimum temperature. You can use the touch screen to draw points, lines, and frames on the image to measure temperature, as well as the distance measurement function.



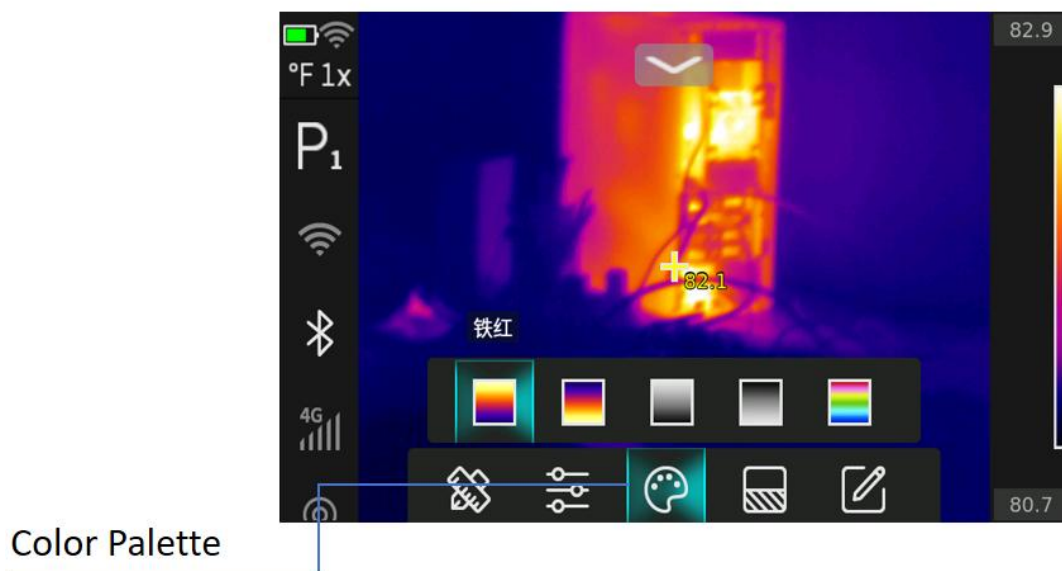
5.2.2 Measurement correction

Select the measurement correction function in the first-level menu to modify parameters such as target distance, atmospheric correction, ambient temperature, relative humidity, visibility, etc. It can also accurately measure in different environments and different measurement distances.



5.2.3 Color Palette

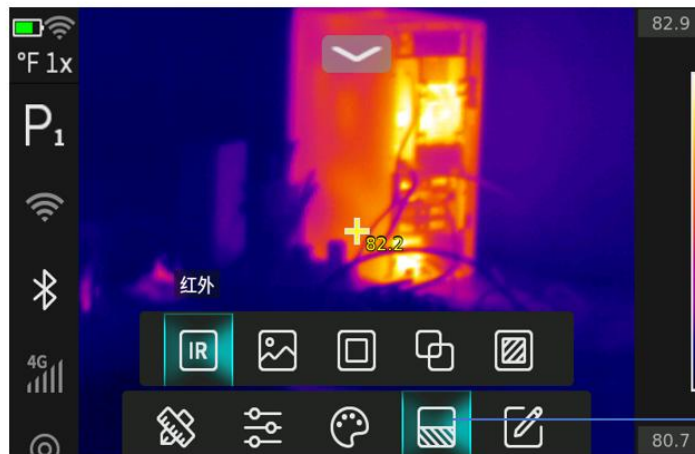
Select the color palette function in the first-level menu. The color palettes include Iron Red, Rainbow, Rainbow High Contrast, White Hot, Black Hot, Arctic, Lava, Red Hot, etc. You can switch the corresponding color palette according to different application scenarios.



5.2.4 Image

Select the image function in the first level menu. The image function includes:

- Infrared
- Visible light
- Edge Blending
- Picture in Picture
- Infrared contrast
- Overlay Fusion Adjustment
- Fusion bias adjustment
- Edge blending strength adjustment

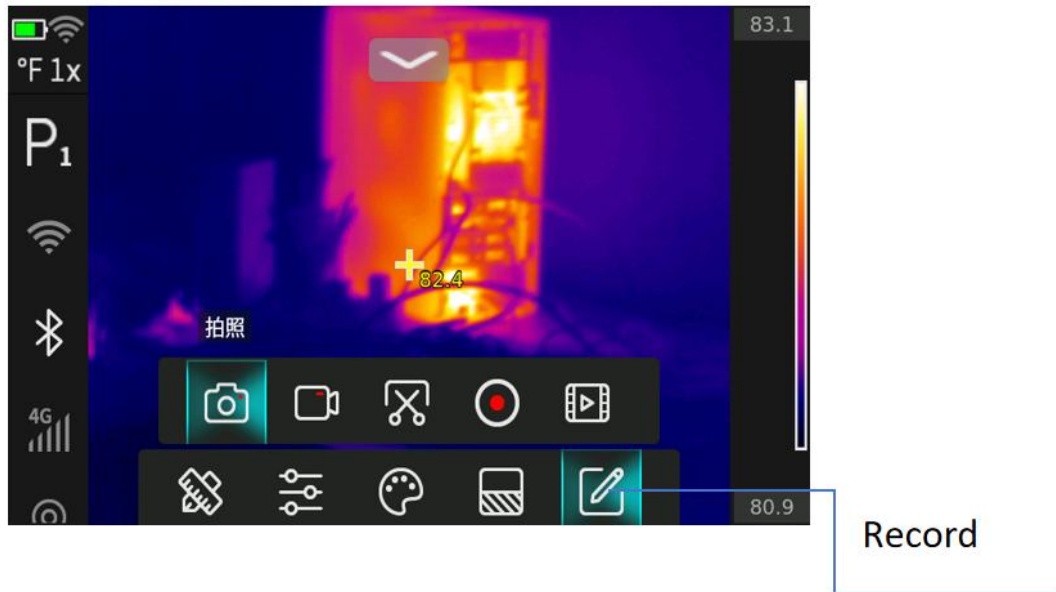


Image

5.2.5 Record

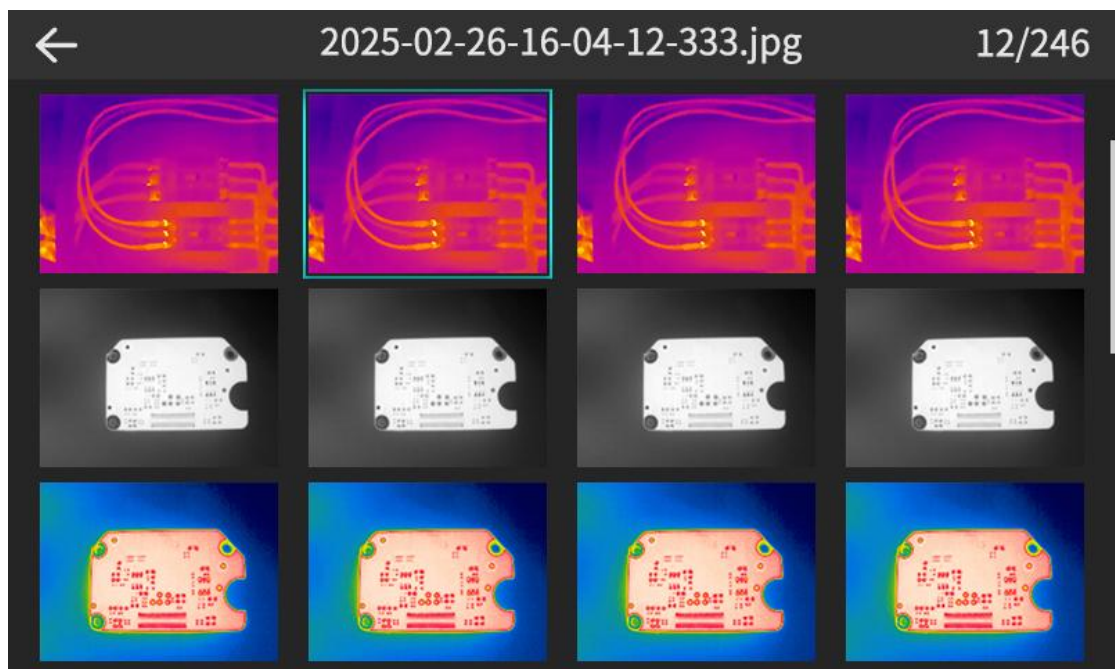
Select the record function in the first level menu. The record function includes:

- Photograph
- Video
- Screenshot
- Screen Recording



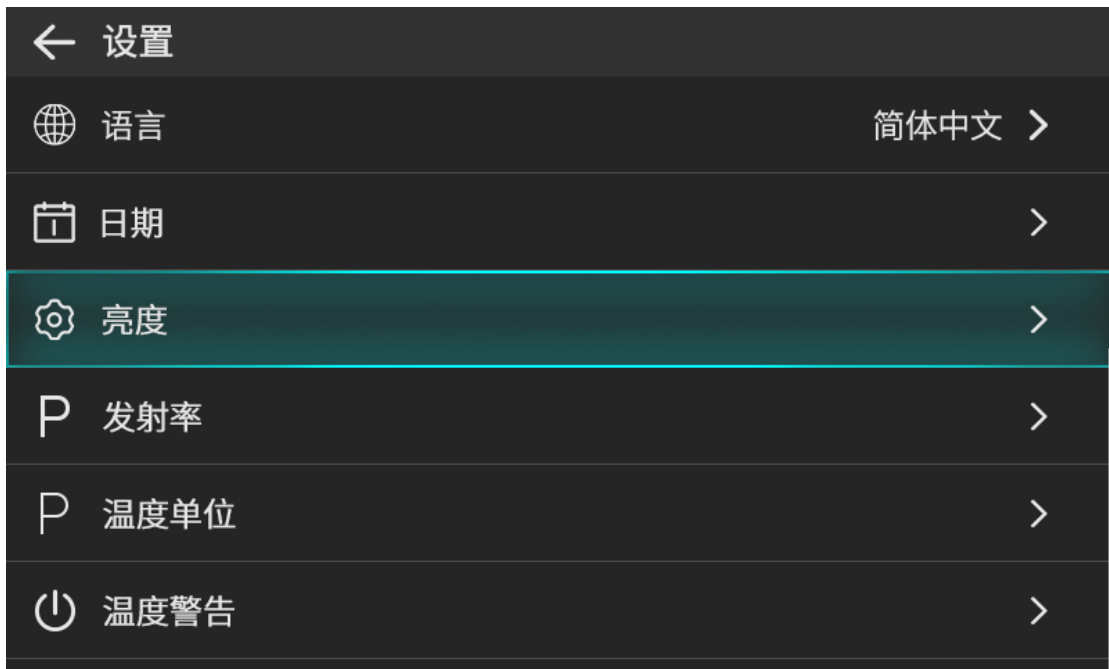
5.3 Photo Album

Select the Album function in the first-level menu to enter the gallery. The interface is as follows:



5.4 Setting

Select the setting function in the first-level menu to enter the setting interface:



No.	Function	illustrate
1	Language	Supports switching between English, French, Spanish, Portuguese, German, Russian, Arabic, Japanese, Korean, Chinese (Simplified), and Chinese (Traditional)
2	Date	Date and time can be set
3	Brightness	Adjust screen brightness
4	Emissivity	0.01 to 0.99 adjustable
5	Temperature Units	automatic switching among °C, °F and K
6	Temperature alarm	High and low temperature alarm thresholds can be set
7	Distance Units	Can be set in meters (m) or feet (ft)
8	Temperature range	Automatic switching/manual switching
9	Customizable buttons	None, enter gallery, calibrate, switch image mode, digital zoom, switch the last two used color palettes, switch temperature range, switch all temperature measurement points, cycle switch color palettes, screenshot, screen recording, laser switch, distance measurement switch, light

		switch, Wi-Fi switch, Bluetooth switch
10	Temperature display	Does the temperature follow the cross or is it displayed in the upper left corner?
11	Automatic shutdown	Automatic shutdown time setting without keystrokes and touch screen operation
12	Storage	Current memory usage and formatting, including how much is used, how much is occupied by the operating system, and the total capacity
13	Reset system parameters	Measurement, color plate, image mode, laser distance measurement, LED, emissivity, temperature alarm, alarm setting, target distance, dotted frame, temperature correction, fusion, Wi-Fi , Bluetooth, high and low temperature mode switching, brightness, automatic shutdown, custom buttons
14	Detection upgrade	Check whether there is a new version of the machine software available for upgrade
15	About	Display device information

5.5 Quick function menu

The quick function menu contains the following functions:

No.	Function	illustrate
1	P1	P1 is a custom button, which can be set in the settings
2	Wi- Fi	You can turn Wi-Fi on or off, change the password, and view Wi-Fi parameter status
3	Bluetooth	You can turn Bluetooth on or off, view the Bluetooth name of the device, connectable devices, pairing, connected device name, cancel pairing, etc.
4	lighting	Turn the light on or off

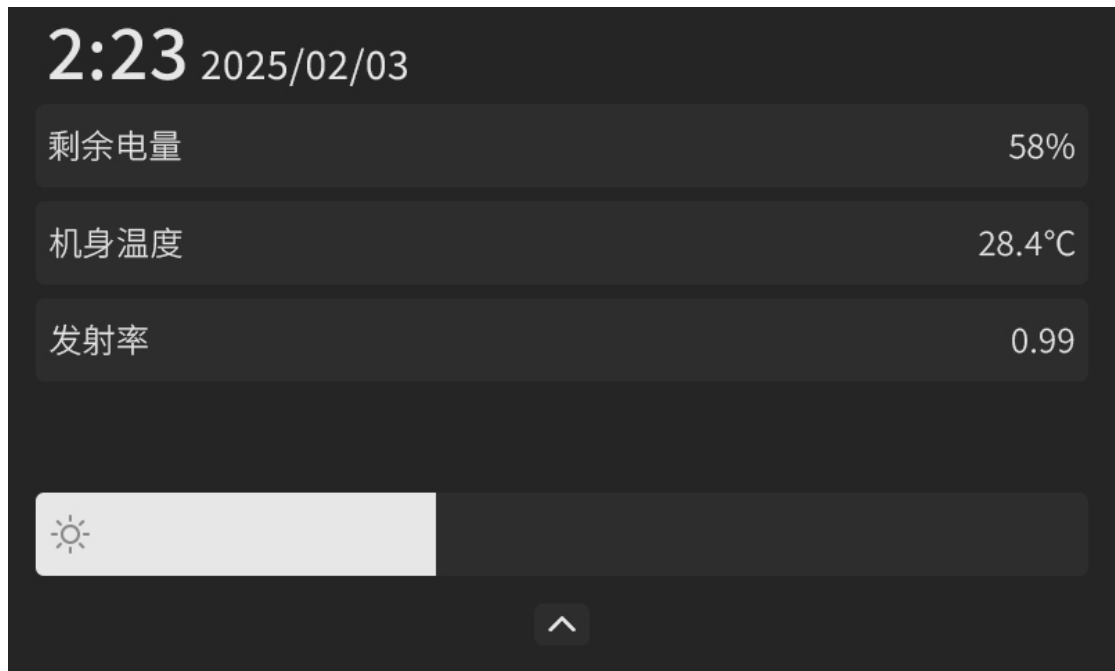
5	Laser pointer	Turn laser pointer on or off
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5.6 Drop-down menu

Click the drop-down menu icon on the main interface to open the drop-down menu, which contains the following contents:

- Date and Time
- Remaining power
- Temperature Units
- Emissivity
- Adjust brightness



6 Product Configuration List

NO.	name	quantity
1	Thermal camera	1
2	Type-C cable	1
3	Lanyard	1
4	manual	1

7 Precautions

- Do not expose this device to dust or moisture.
- Do not allow strong light sources such as sunlight and lasers to directly shine on the lens, otherwise it may cause permanent physical damage.
- Do not disassemble the device by yourself, otherwise it may cause damage to the device.
- Do not place the device in a high temperature environment or near high temperature objects.
- Do not use alcohol, detergent or other organic cleaners to clean the lens. It is recommended to wipe it with a soft object dampened with water.



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