
Plug-in Thermal Imaging Camera

User Manual V2.0

About this manual

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When properly installed and configured, the product can sense motion detection and fire events, but it cannot prevent accidents or resulting personal injury or property damage.

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Preface

Symbols

 Warning	 Caution	 Note
Alerts users to potential hazards of death or serious injury	Alerts users to potential hazards of injury or property damage	Explanatory text, which represents supplements and explanations to the text.

safety information

The purpose of this content is to ensure that users use this product correctly to avoid danger or property damage. Before using this product, please read this instruction manual carefully and keep it in a safe place for future reference.

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1. Overview

2. Introduction

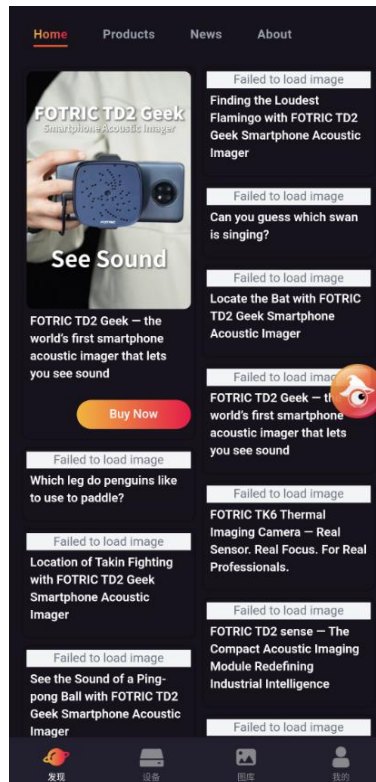
FOTRIC Genie AppIt is an ultra-small professional mobile phone thermal imager suitable for Android smart devices.applicationand audiovisual applications, which can realize real-time preview of temperature measurement equipmentand used forView visible light footage and acoustic images in real time, shooting and video recording, and viewing images.

3. Operating environment

Android 12 and above mainstream mobile phones, etc.

4. Interface introduction

FOTRIC Genie AppThe main functions are divided into discovery, device connection, library management and system settings.



5. Quick start process

Environment preparation: Download FOTRIC Genie APP from Google Play APP store and allow the App to obtains corresponding permissions.

Step 1:After the OTG data exchange function is turned on in the mobile phone settings, connect your phone via USB Type-C cable to the plug-in thermal imaging equipment;

Step 2: Click 'Devices' on the main interface after connecting the device, enter the real-time screen;

Step 3: Display the real-time image of the thermal image, and users can add temperature measurement tools, switch and invert the palette, and adjust parameters;

Step 4: Perform single frame capture or MP4 video recording;

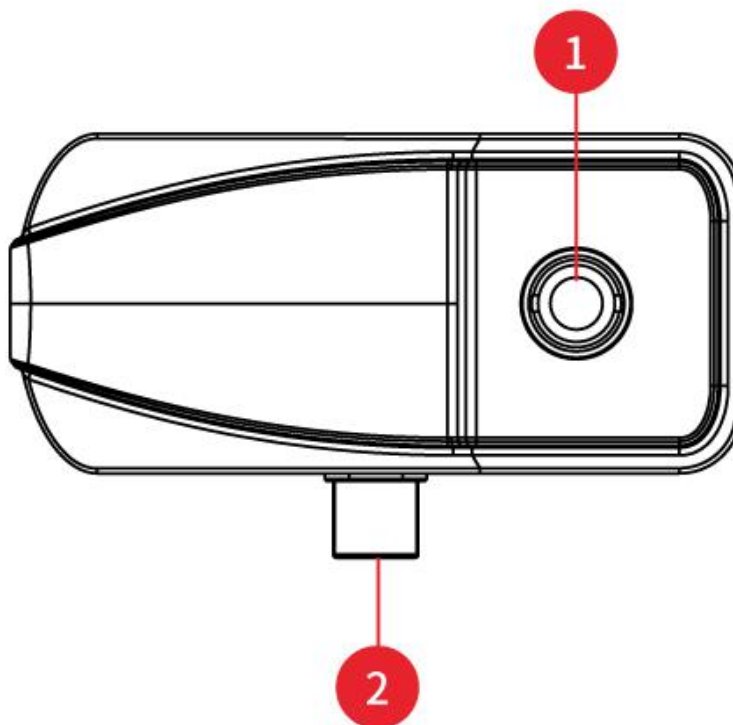
Step 5: View the saved images or videos in the gallery.

6. About and help

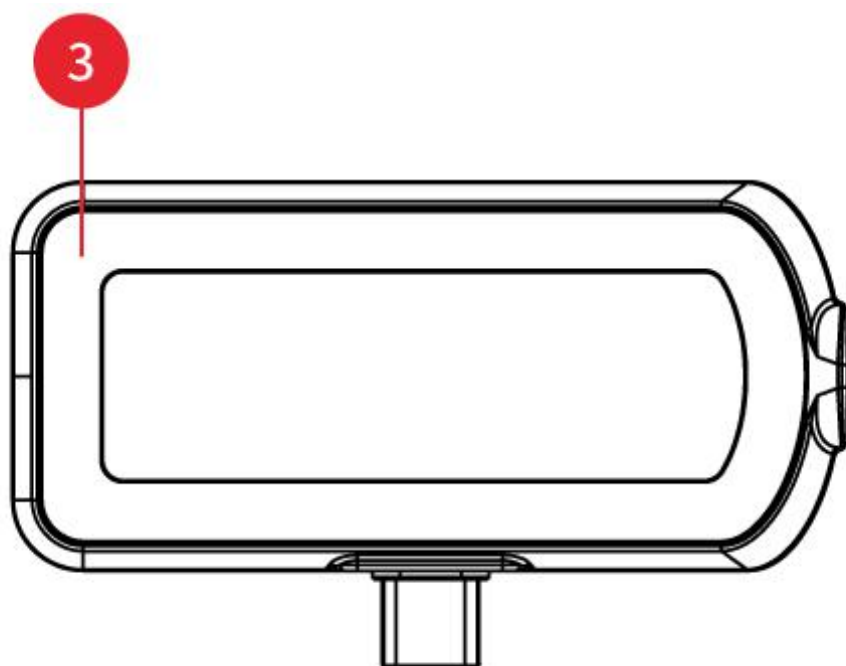
User manual for the FOTRIC Genie App.

2. Hardware Introduction

1. Front view



2. Rear view



3. Side view



4. Appearance



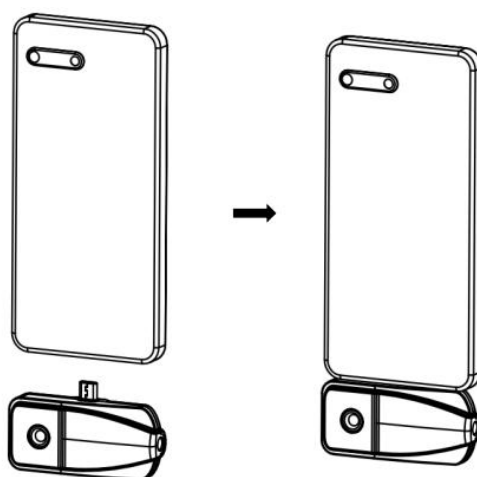
Note

The device appearance may vary model by model. Please refer to the actual product.

Parts and components

	Name	Function
1	Infrared lens	Infrared lens
2	USB Type-C interface	For power supply and data transmission
3	Magnetized ring	For magnetic connection
4	Tripod mounting hole	1/4-UNC-20 standard tripod mounting hole

5. Installation



Operation steps:

Connect the thermal imaging camera directly to the mobile phone with the USB type C port for power and data transfer.

3. Device Management

1. Connection method

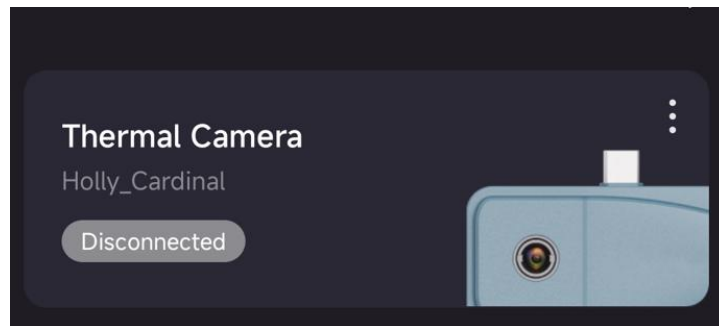
USB connection.

2. USB connection

When plugged in, the device APP automatically scan for connectable devices and establish a connection.

3. Firmware upgrade

Supports upgrading device firmware. On the 'Devices' page, users can change the device name, view device information, perform firmware update, view help documents, and delete the device.



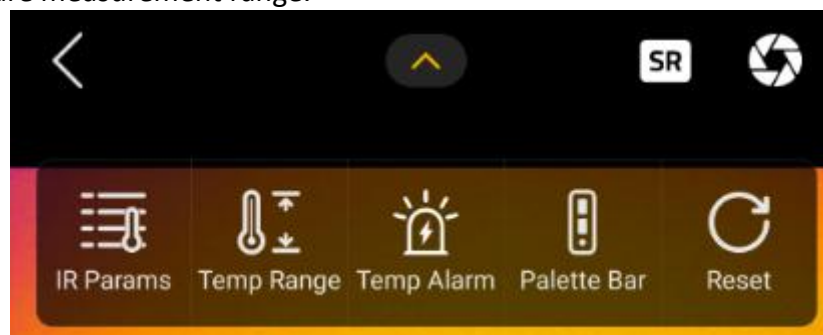
4. Thermal Imaging Measurement Analysis

In the real-time preview interface of the device, click  Buttons can display various function buttons, and users can make various settings according to specific needs..



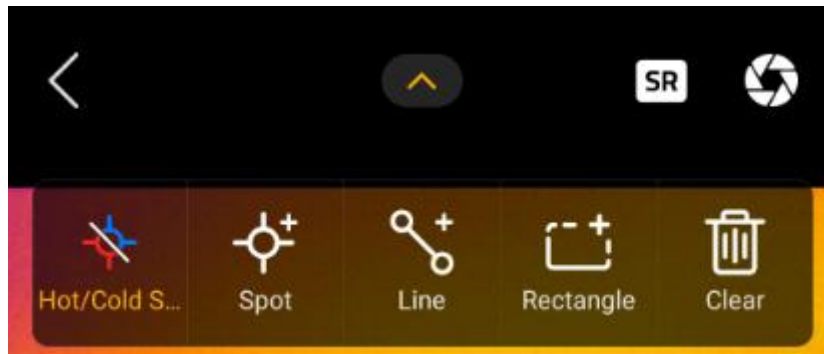
1. Temperature measurement range

Supports manual range switching. Click parameter adjustment, and then click temperature measurement range.



2. Temperature measurement tools

Click on the temperature measurement tool. Users then can add temperature measurement points, lines and rectangles or clear all temperature measurement tools.



3. Global temperature measurement correction

Supports correction of emissivity, ambient temperature, and target distance temperature measurement parameters. Click parameter adjustment, click temperature measurement parameters again, and then modify the values of emissivity, ambient temperature, and target distance.

4. Temperature alarm

Supports high temperature alarm for the global highest temperature and low temperature alarm for the global lowest temperature. Click parameter adjustment, click temperature alarm again, enable high and low temperature alarms, and then change the alarm temperature threshold to implement temperature alarm.

5. On-device analysis

Thermal images can be analyzed directly on device.

6. Analysis software

Users can use the AnalyzIR professional thermal image analysis software to analyze the pictures taken.

7. Super Resolution

Click  to activate/deactivate.

8. NUC

Click  to activate.

5. Thermal Image Display

1. Image mode

Support infrared image, infrared image + visible light.

2. Color palette

Supports 10 color palettes: iron red, gray white, rainbow, spring rain, medicine,

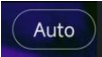
gray red, blazing, gray mid-tone, green mid-tone, and prism. Click on the  button on real-time preview interface and then click the Palette option to change the various color palettes as needed.



3. Invert palette

Support palette inversion. Click  on the real-time preview interface to invert palette.

4. Composite palette

Supports displaying composite infrared images of the target area by manually adjusting the temperature span, while other areas are displayed as black and white infrared images. That is, click  on the real-time preview screen, and then adjust the temperature span value on the ribbon.

5. Temperature span mode

Support automatic adjustment of temperature span.

6. Color alarm

Supports above, below, and between temperatures color alarms. Click on the real-time preview interface  button, then click the palette option, then click Color Alarm to set different color alarm modes as needed.

7. Image overlay information

Click on the real-time preview interface  button, then click ROI, and then click the hot/cold point on to display or not display the image overlay information.

8. Hot/cold temperature tracking

Special markers automatically track the highest and lowest temperature points in the temperature measurement area.

9. Digital zoom

1~4x continuous zoom.

10. Adaptive flip

In the real-time preview screen, when the mobile phone orientation lock is turned off, the vertical screen can be flipped adaptively.

11. Screen flip

Under the real-time preview screen, users are allowed to continuously perform 90° screen rotation. Click  on the real-time preview interface to flip.

6. Capture Function

1. Single frame capture

In the real-time interface, users click  button to take a picture and save it in the phone.

2. MP4 video recording

Supports MP4 video recording in various image modes, that is, in the real-time interface, users can click the video button according to actual needs, and then click  button to perform recording operation, and click  when the recording is finished. Users can also capture single frames while recording MP4.

3. Image format

The image format is jpg.

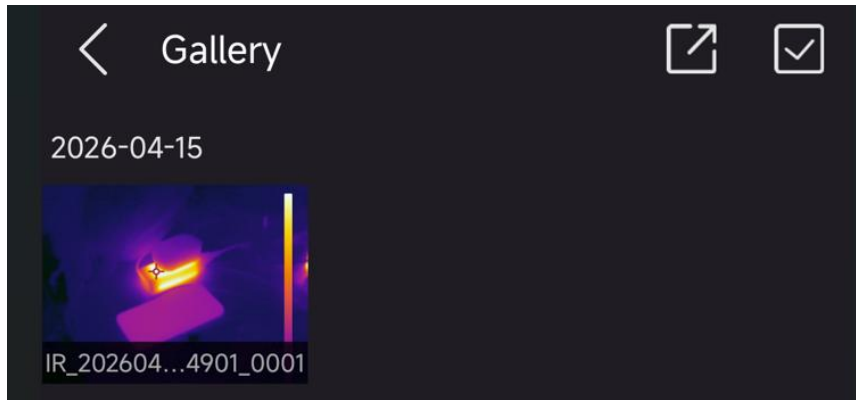
4. Video format

The video format is mp4.

7. Gallery

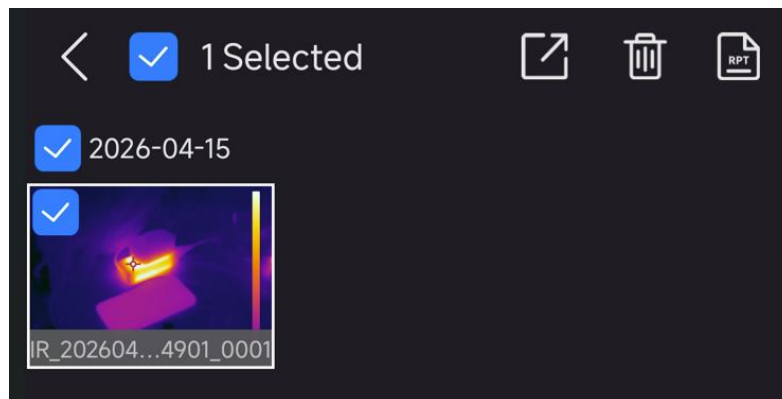
1. Gallery

The images and videos taken by the software are saved on the mobile phone and can be viewed through the software gallery or mobile phone gallery.



2. On-device report

Supports generating Word or PDF reports from pictures in the gallery. Click  button to enter multi-select mode, click to select the picture  button to choose to generate a Word or PDF report.

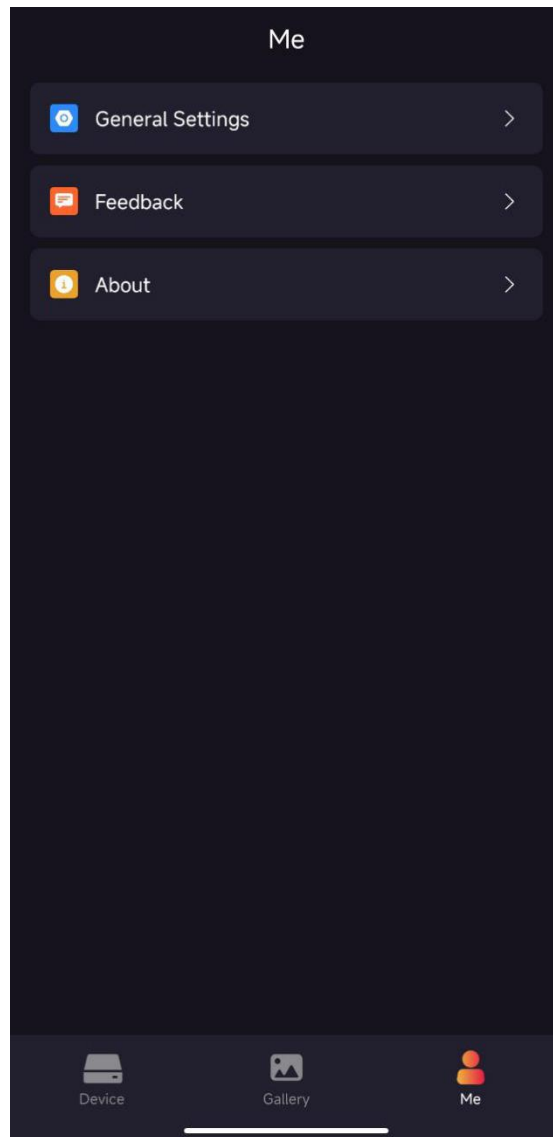


3. Share function

Supports sharing of pictures, videos and reports in the gallery through the system sharing function. Users can click on the gallery  button to share.

8. System Settings

Click the 'Me' button on the main interface to enter the settings interface:



1. General settings: the user can set the temperature unit, test distance unit, whether to display sound pressure level, etc.
2. Feedback: the user can view product overview, quick start, hardware introduction, device management, measurement analysis, image display, shooting function, library management, system settings and other functions.
3. About: the user can check the software version number, etc.

Emissivity table

(for reference only)

Material	Surface condition	Temperature (°C)	Specific emissivity (ϵ)
Aluminum	Not oxidized	100	0.20
	Oxidation	100	0.55
Brass	Polished to brown	20	0.40
	Matte	38	0.22
	Oxidation	100	0.61
Copper	Severe oxidation	20	0.78
Iron	Oxidation	100	0.74
	Rust	25	0.65
Cast iron	Oxidized	200	0.64
	Not oxidized	100	0.21
Wrought iron	Rough	25	0.94
	Polished	38	0.28
Nickel	Oxidized	200	0.37
Stainless steel	Oxidation	60	0.85
Steel	800°C oxidation	200	0.79
Ordinary bricks	Surface	20	0.93
Concrete	Surface	20	0.92
Glass	Polished slab	20	0.94
Paint	White	100	0.92
	True color black	100	0.97
Carbon	Black smoke	25	0.95
	Candle smoke	20	0.95
	Graphite rough surface	20	0.98
Paint	Average of 16 colors	100	0.94
Paper	White	20	0.93
Sandy soil	Surface	20	0.90
Wood	Polished	20	0.90
Water	Distilled water	20	0.96
Skin	Human	32	0.98
Ceramics	Thin	21	0.90
	Thick	21	0.93