

Xtherm thermal camera for smartphone

User manual

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Application

Applicable to the thermal camera for smartphone manufactured from Hefei Hefei InfiRay System Technology Co., Ltd. Camera run with the Android App in smartphone.

The manual introduces the operation of Xtherm thermal camera for smartphone and the app.



Preliminary :

1. An Android smartphone with Android 6.0 or above.
2. An Android smartphone has been installed app and supports the OTG (On-The-Go) function.
3. Android smartphone with Type C USB socket.
4. Xtherm thermal camera.

1、 Product introduction

1.1 Application scenarios

Before running the Xtherm thermal camera, please download and install app in the Android system. The app will show the thermal image and temperature measurement.

1.2 Main functions

- (1) Turn on thermal camera, display thermal image;
- (2) Measure temperature;
- (3) Record thermal image, video, create report;
- (4) Operate camera, and set parameters.

2、 Installation

2.1 Install App

In the Huawei, Xiaomi, Google, Baidu, Tencent and 360 smartphone App Market, search "Xtherm" , download the apk file and install.

3.Operation

3.1 Camera mounting

Mount the Xtherm thermal camera in the smartphone via USB socket.

The smartphone will recognize the camera, and pop-up a prompt window as figure 1.1. Click OK on the window, the app will turn on the xtherm thermal camera, and show the thermal image.

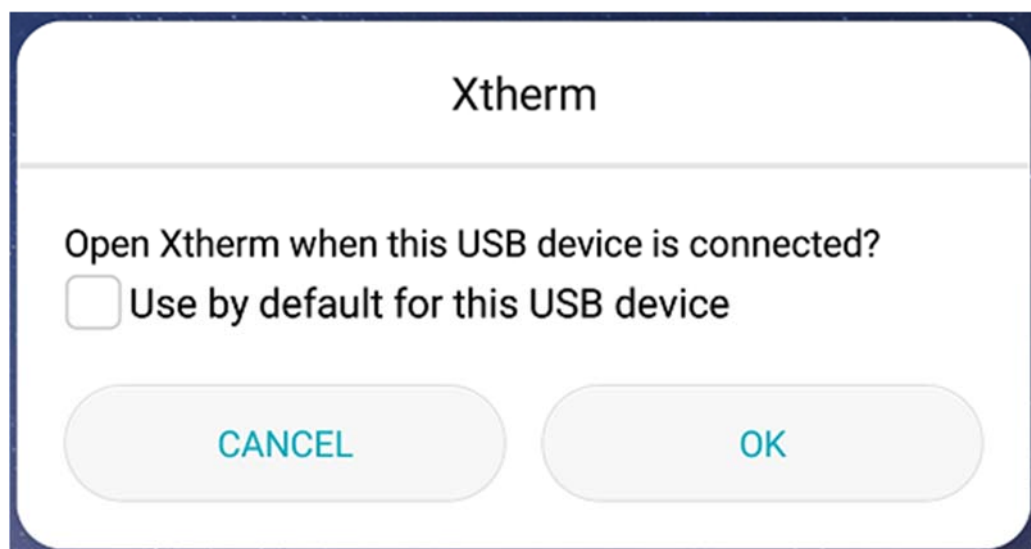


Figure1.1 Pop-up prompt window

3.2 App functions

There are 6 common functions in the main window, including Gallery, Take a Photo, record video, temperature measuring, shutter calibrate, settings, as figure 2.1.



Figure 2.1 Common functions (重新截图英文)

3.2.1 Gallery/take a photo/record video

1. Gallery: click the icon to check the images and video recorded in smartphone.
2. Take a photo: save the image show on the screen. The save path is Internal storage /DCIM/Xtherm.
3. Record video: click the icon to start recording, click again to stop recording. The save path is Internal storage /DCIM/Xtherm.

3.2.2 Temperature Measurement

Click the temperature measurement icon, the measurement options menu windows will pop-up, as figure 2.2.1.

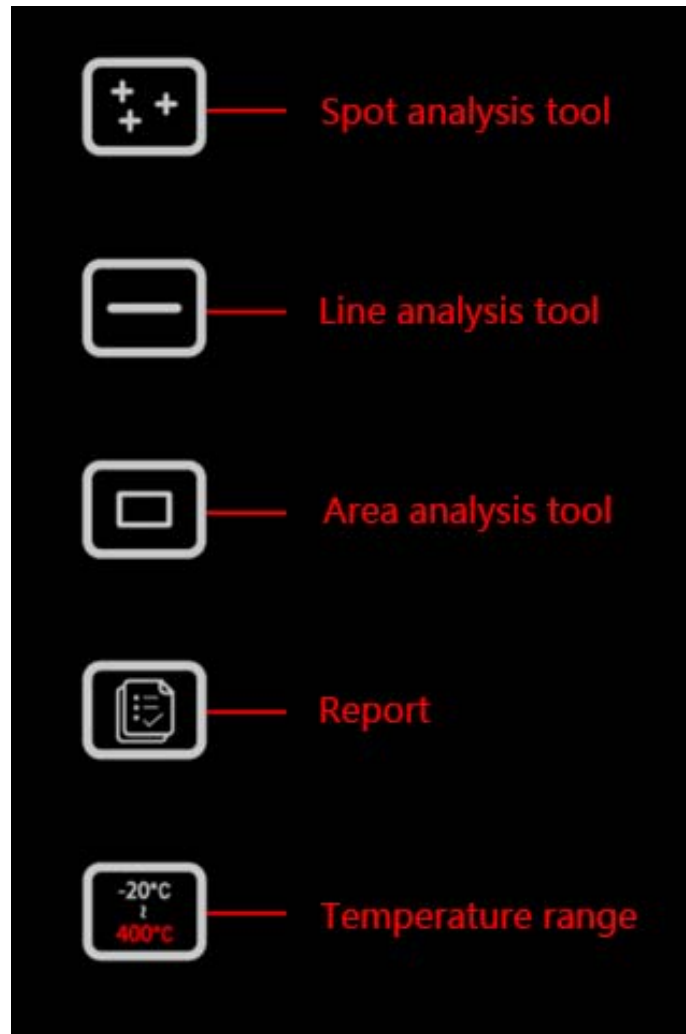


Figure2.2.1 Measurement options menu

- 1 . Spot analysis tool: click the icon to enter the spot analysis mode. The spot and value of central spot, highest temperature spot, lowest temperature spot will be show on the screen. And then click on screen, the more spots (≤ 5 spots) and the temperature value will show on the screen.
- 2 . Line analysis tool: click the icon to enter the line analysis mode. And then drag and drop a line on the screen via a finger, a horizontal line and the highest/lowest temperature value will be showed on the screen

as figure2.2.2.



Figure2.2.2 Line analysis tool

3 . Area analysis tool: click the icon to enter the area analysis mode. And then drag and drop a diagonal line on the screen via a finger, a rectangle and the highest/lowest temperature value will be showed on the screen as figure2.2.3.

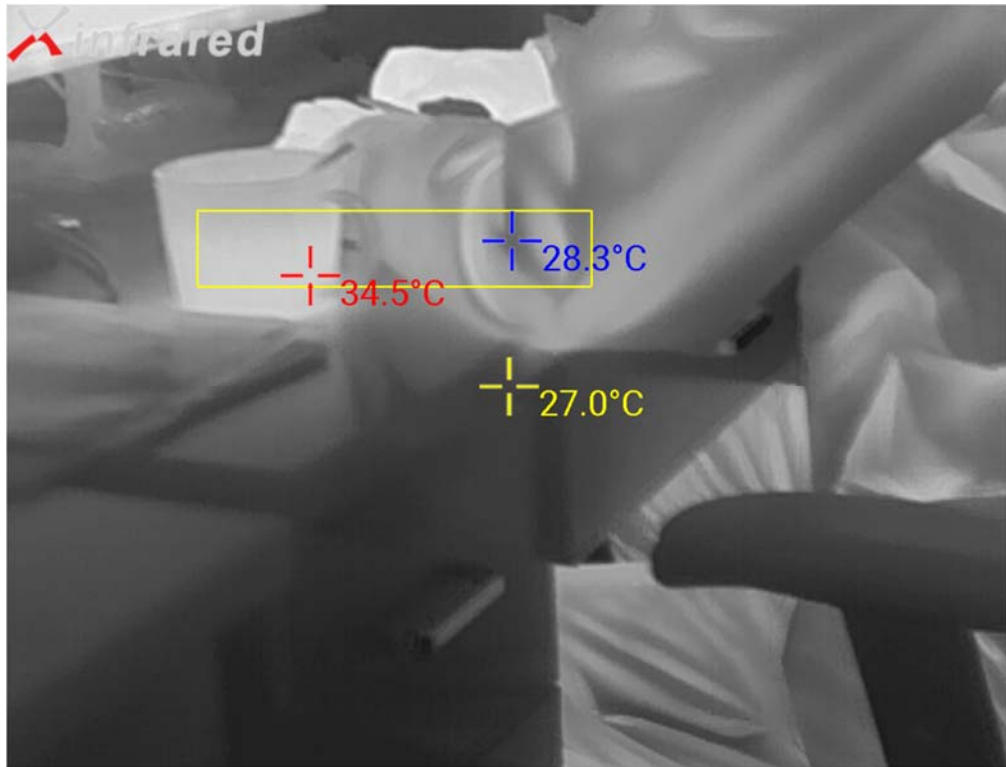


Figure2.2.3 Area analysis tool

- 4 . Report: Click the icon to create a report of data analysis in the Internal storage /DCIM/Xtherm.
- 5 . Temperature range: the camera supports two temperature ranges of -20°C-120°C and -20°C-400°C. Click the icon to switch temperature ranges.

3.2.3 Shutter

Click the icon to calibrate the NUC (non uniformity correction) with shutter.

3.2.4 Settings

Click the settings icon, as figure2.1, to pop-out the menu, including Palette mode, Thermography settings, etc.

1. Palette: switch 6 palettes by one click, as figure2.2.4.

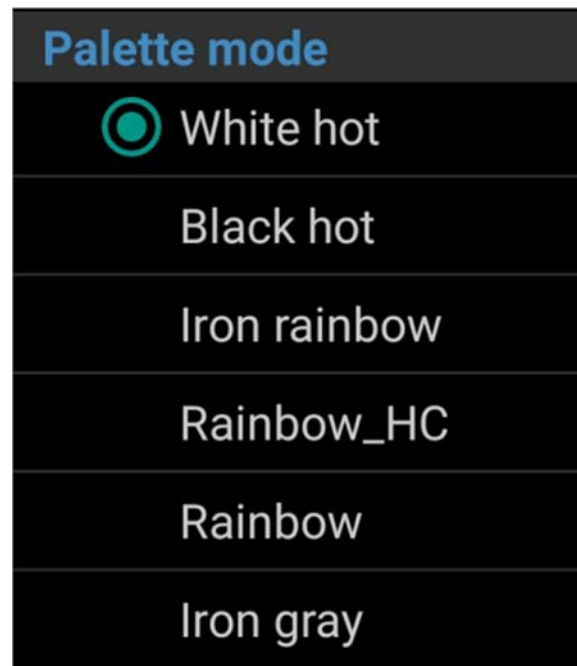


Figure2.2.4 Palette

In different palette, the color is different, as figure2.2.5.



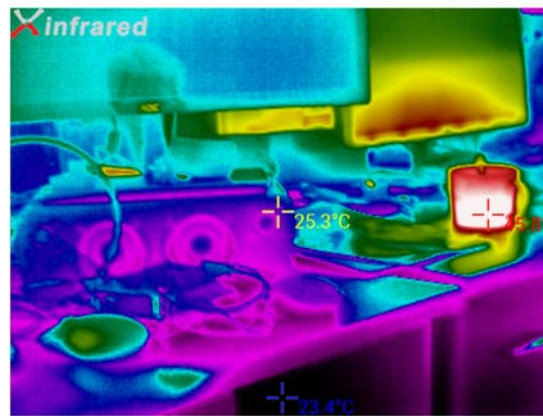
(a) White hot



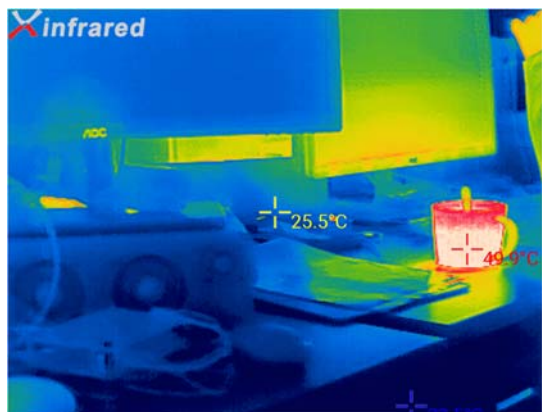
(b) Black hot



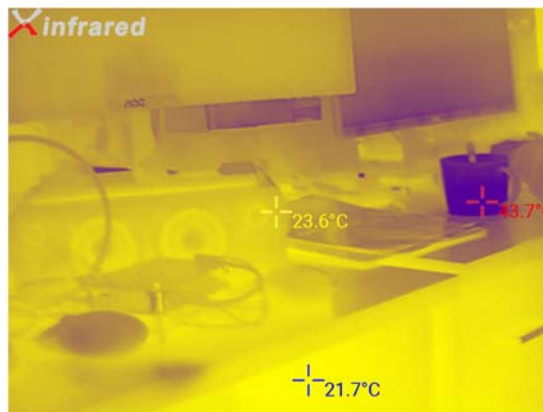
(c) Iron rainbow



(d) Rainbow



(e) Rainbow_HC



(f) Iron gray

Figure2.2.5 different color of palette

2. Thermography settings, as figure2.2.6.

- 1) Temperature units Degree Celsius(°C) and Degree Fahrenheit(°F).
- 2) Correction: correct the measuring temperature value.
- 3) Reflect temperature: the temperature reflected to the target from surroundings;
- 4) Amb temp: the temperature of ambient air.
- 5) Humidity: the atmospheric humidity of the target;
- 6) Emissivity: the emissivity of target;
- 7) Distance: the distance between camera and target;

- 8) Save: if do NOT click save button, the parameters will be kept the last settings after reboot camera.

Thermography settings

Temperature units

☒ Celsius(°C)

☐ Fahrenheit(°F)

Correction

0.0°C

Reflection

0.98°C

Amb temp

25.0°C

Humidity

0.85

Emissivity

1.0

Distance

1

SAVE

Figure2.2.6 2. Temperature measurement parameters settings

3. Other settings: As figure2.2.7, click “简体中文” and “English” to switch Chinese/English menu. As figure2.2.8, click System Camera to get the visual image of smartphone camera on the screen.



Figure2.2.7 Other settings

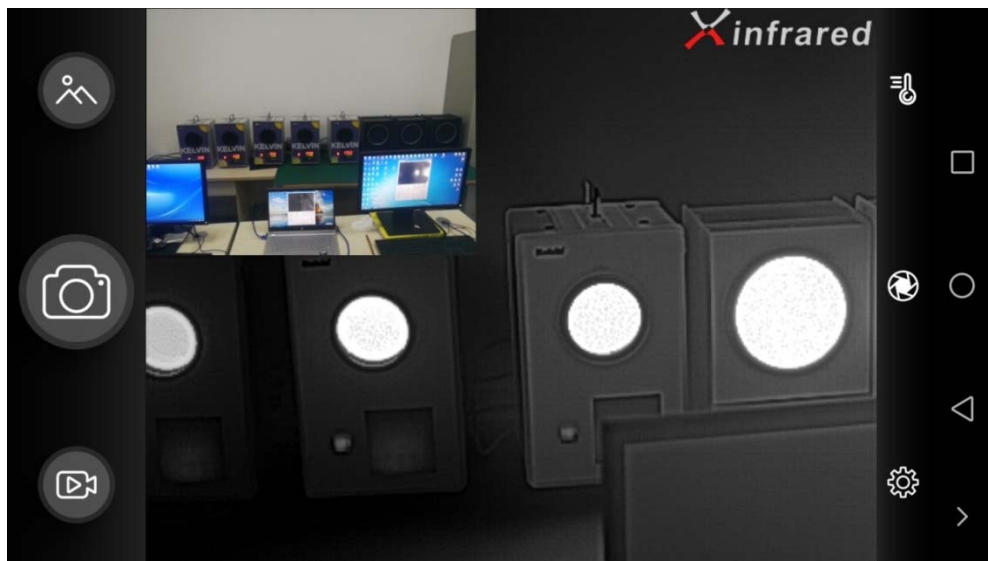


Figure2.2.8 visual image of smartphone camera

Announcements

To protect you and others from injury or to protect your equipment from damage, please read all of the following information before using your equipment.

1. The product should not be made towards the sun directly and other high-intensity radiation sources;
2. Do not touch or hit the detector window with hands or other objects;

3. Do not touch the equipment and USB connector with wet hands;
4. Please do not bend or damage cables;
5. Do not scrub your equipment with diluents;
6. Wrong cable should not be connected in case that brings damages to the equipment;
7. Please pay attention to prevent static electricity;
8. Please do not disassemble the equipment. If there is any fault, please contact our company, and professional personnel will carry out maintenance.

4、 Supports and Services

4.1 Technical Supports

1. Refitting and designing schemes according to users' application requirements ;
2. Providing professional and systematic technical training for users and operators;

4.2 After-sales Services

T3 Xtherm thermal camera for smartphone is developed by our company. It has good after-sales service guarantee such as equipment maintenance. If you have any requirements, please contact us.

- Tel: +86-535-3410600 (Working day only)
- 7*24hour Fax, E-mail services

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