



XthermII Series

Thermal Imaging Camera for Smartphone

User Manual

V1.00

InfiRay Technology Co., Ltd.

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This manual is used as a guide. The photos, graphics, diagrams and illustrations provided in the manual are only used to explain, which may be different from the specific product. Please refer to the real object. We try our best to make sure the contents in this manual are accurate. We do not provide any representations or warranties in this manual.

If you need the latest version of this manual, please contact us. InfiRay recommends that you use this manual under the guidance of professionals.

1 Overview

Xtherm II series thermal imaging camera for smartphone is a high-performance thermal image camera which can plug in smartphone. The camera is designed for consumer market of applications of household pipe leakage, floor heating equipment, door and window insulation, electrical equipment heating detection, hot spot detection and vehicle maintenance.

The camera fits for the smartphone, tablet or PC with USB Type-C connector. Via the professional APP or PC software, the thermal image and temperature display function will be done.

2 Features

- Small dimension, easy portable;
- Connect to smartphone/tablet directly via USB Type-C connector;
- Low consumption;
- High image quality;
- Accuracy temperature measurement;
- Easy operation;
- SDK supporting, easy integration.

3 Specification

Tabel1 XthermII Series specification

Product	T2L
Resolution	256×192
Pixel pitch	12μm
Focus	Manual
Frequency	25Hz
NETD	≤60mK@25°C,F#1.0
MRTD	≤500mK@25°C,F#1.0
Working temperature	-10°C ~ +50°C
Measuring range	-20°C~+120°C
Accuracy	±3°C, or ±3% of range
Correction	Manual/auto
Consumption	<350mW
Weight	<18g
Dimension	26*26*26.6mm
OS supporting	Android 6.0 and above*
Image enhancement	DDE
Image correction	Manual
Palette	White hot/Black hot/ other palettes
SDK	Support
Temperature measuring tools	Max/min/center spot, and spots, lines, areas tools

Video	Image, video saving
Software update	Updating online supporting

* Support major smartphone system, some systems are untested.

4 Interface

- Product supports standard USB Type-C connector;
- Power input: 5V DC, not support over-voltage or undervoltage protection.

5 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.

- The product shall not aim to the sun or other high-intensity radiation sources directly;
- The detector window and lens shall not be touched or hit with hands or other objects;
- The equipment and USB port shall not be touched with wet hands;
- Please do not bend or damage cables;
- Scrubbing your equipment with diluents is prohibited;
- Wrong cable should not be connected in case that brings damages to the equipment;
- Please pay attention to prevent static electricity;
- Please do not disassemble the equipment. If there is any fault, please contact us, and professional personnel will carry out maintenance.

Appendix1 Product image

Fig1 Product image



Appendix3 Controlling protocol

Controlling protocol is the Zoom (Absolute) of UVC protocol. Controlling command is 2 bytes in total, the low-byte is parameter, the high-byte is register address.

For example: shutter working commend 0x8000.

Detailed commands:

Table2 Controlling commands

NO.	Register address	Parameter	Description
1	0x80	0x00	Shutter NUC
2		0x01	Background NUC
3		0x02	Detector original value output
4		0x05	Image data output
5		0x20	Normal temperature range
6		0x21	High temperature range
7		0x27	16 byte parallel image data output
8		0x28	8 byte parallel image data output
9		0x29	16 byte parallel image data and temperature data output
10		0x30	8 byte parallel image data and

			temperature data output
11		0xFE	Save setting parameters
12	0x88	0-7	Palette

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