Mobile Phone Thermal Imager

Real-time thermometry · Night vision · Photo / video

USER MANUAL

Model **MT-96A · MT-256A**



■ **Fixed focus · Type-C plug-and-play · Android / iOS**

Google play iOS Android

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This manual describes the safety precautions, connection method, specifications and troubleshooting of the device. Keep it for future reference.

1 Safety and precautions

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

- Do not point the device directly at the sun or other high-intensity radiation sources.
- Do not touch the detector window or lens with your hands or with any other object.
- Do not touch the device or the USB port with wet hands.
- Do not clean the device with thinner.
- Keep the device away from static electricity.
- Do not disassemble the device. If a fault occurs, contact the manufacturer for repair by qualified personnel.

> The device is powered directly by the phone. Keep the battery level above 20% and avoid high temperature, humidity and strong magnetic fields.

2 Product introduction

2.1 Overview

The MT-96A (hereinafter the "thermal imager") is a compact plug-in thermal imager for smartphones. Through the phone app it provides real-time temperature measurement, night vision, photo and video capture in one step. Its straightforward app interface and clear thermal imaging extend what you can see — an all-round assistant for daily work, home use and outdoor trips.

2.2 Main functions

Thermal viewing and measurement	Displays the live thermal image and measures target temperature, with emissivity and temperature parameter settings.
Photo and video	Saves thermal images and video in one step for on-site records and reporting.
Night vision	Keeps the image clear in low light, for night inspection and outdoor observation.

3 Specifications

Model	**MT-96A**	**MT-256A**
Infrared		
Detector type	Vanadium oxide (VOx) microbolometer	
Infrared resolution	96 × 96	256 × 192
TISR	192 × 192	512 × 384
Pixel spacing	12 μm	
Focal length	1.35 mm	3.5 mm
Focusing mode	Fixed focal	
Field angle	56.8° (H) × 56.8° (V)	50° (H) × 37.2° (V)
IFOV	8.89 mrad	3.43 mrad
Working band	8 ~ 14 μm	
NETD	≤ 60 mK (@25 ℃, F#1.0)	≤ 40 mK (@25 ℃, F#1.0)
Image frame rate	25 Hz	

Language	Simplified Chinese / Traditional Chinese / English / Русский язык / 日本語 / Deutsch / Français / Italiano / 한국어 / Język polski
Temperature measurement	
Temperature range	Normal −20 ~ 150 °C; Auto −20 ~ 550 °C; High 100 ~ 550 °C
Temperature accuracy	±2 ℃ and 2% of reading, whichever is greater
Measuring distance	0.3 ~ 1.5 m 0.3 ~ 3 m
Measurement mode	Industrial temperature measurement
Operating / storage environment	
Operating temperature	−10 ~ 50 ℃
Storage temperature	−20 ~ 60 ℃
Other parameters	
Interface	Type-C USB
Power consumption	≤ 0.2 W ≤ 0.38 W
Supported systems	Android 8.0+ / iOS 12+
Dimensions	52 × 32 × 14 mm
Weight	28 g
Optional accessory	Macro lens (optional)

Power consumption refers to the device itself, supplied directly by the phone through the Type-C port. No built-in battery is required.

4 Connection guidance

4.1 Preparation before connection

- Download and install the “IR heat map” app from Google Play, the App Store or an Android app store.
- This product supports mobile devices running Android 8.0+ and iOS 12+.
- Enable the OTG function in advance (Android): Settings → More Connections → OTG switch (the path may vary by phone model).
- Environmental requirements: keep the phone battery level above 20%; avoid high temperature, humidity and strong magnetic fields.

4.2 Connection steps

1. After installing the app, authorise its access permission on first launch: select "Allow while using the app" (the wording of the pop-up may vary by phone).
2. Insert the thermal imager vertically into the phone port. Do not tilt or wobble it by force, as this may damage the port.
3. When the phone and app first detect the device, a pop-up asks to authorise access — tap "Confirm".
4. Once authorised, the app connects to the device automatically and shows "Connected" on its home page. If the device is not listed, unplug and re-insert it.

4.3 Troubleshooting

Symptom	Action
The app prompts "Please insert your device into the USB port of your phone".	Confirm that OTG is enabled and clean the phone port (Android).

Stuttering or black screen.	Close other apps that use the camera; restart the app and re-insert the device.

4.4 Safety warnings

The following operations are strictly prohibited:

- Bending the plug or the port by force.
- Using the device in high temperature (> 60 ℃) or flammable environments.
- Exposing the plug to water or conductive dust.

5 Common material emissivity

Emissivity differs between materials. Before measuring, select the emissivity matching the target material in the app.

Material	Emissivity
Wet soil	0.95
Glass	0.94
Red brick	0.95
Skin	0.98
Water surface	0.95
White paper	0.93
Black cloth	0.98
Wood	0.87

6 Warranty

The warranty period of this product is one year from the date of first purchase, determined by the invoice date. Without a valid invoice, the period is calculated from the factory dispatch date; if the invoice date is later than the actual delivery date, it starts from the delivery date.

The following are not covered by the warranty:

- Failure beyond the specified warranty period.
- Inability to present a valid warranty certificate and the original purchase invoice or receipt; a serial number label that has been altered, replaced or torn; a product without a serial number; or a model on the certificate that does not match the product.
- Failure or damage caused by misuse, accident, modification, inappropriate physical or operating conditions, natural disasters, power surges, or improper maintenance or storage.
- Failure or damage caused by third-party software, services or actions.
- Normal discolouration, ageing, dents and scratches of the housing during use.
- Consumable parts, except where the failure results from a defect in materials or workmanship.
- Use not in accordance with the accompanying manual, or use for purposes or environments other than those intended, where the company verifies a breach of the manual.

The company is not responsible for additional commitments made to you by the seller or any third party; please seek fulfilment from that third party.

The manufacturer reserves the right to change specifications without prior notice.

Notes

For calibration dates, test results and service history. Version V1.0