## Kiprim MT160

# Kiprim MT160 Thermal Camera

User Manual

Model: MT160 | Brand: Kiprim

## 1. Introduction

The Kiprim MT160 is a compact thermal camera designed to connect directly to Android smartphones, transforming your device into a powerful thermal imaging tool. It features a true 160x120 IR resolution, offering detailed thermal insights for various applications such as leak detection, electrical inspections, and building diagnostics. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your MT160 thermal camera.

## 2. Product Overview

The Kiprim MT160 thermal camera combines advanced hardware with image processing technology to deliver clear and accurate thermal images. Its compact design ensures portability and ease of use.

### Key Features:

- **True High Resolution:** 160 x 120 IR resolution for detailed thermal imaging.
- **High Accuracy:** Measurement temperature range of -15°C to 600°C (5°F to 1112°F) with an accuracy of ±2%.
- **User-Friendly App:** The "M-thermal" app (available on Google Play) offers multiple color palettes, image and video recording, temperature tracking, and high-temperature alarms.
- **Enhanced Clarity:** Features Kiprim's AGC 5.0 image enhancement and 3D noise reduction technologies for vivid and clear images.
- **Advanced Hardware:** Equipped with an HD optical lens and a high-sensitivity detector.

### Package Contents:

Upon unboxing, ensure all items are present:

- 1 x Kiprim MT160 Thermal Imager for Android
- 1 x Multifunctional Adapter Cable (for USB-C compatibility)
- 1 x Carry Bag
- 1 x Cleaning Cloth
- 1 x User Manual

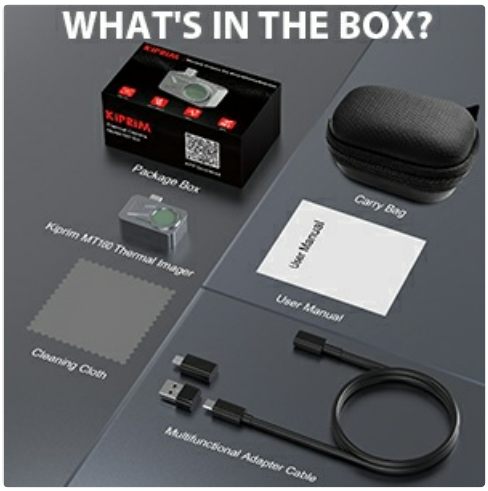


Figure 2.1: Contents of the Kiprim MT160 Thermal Camera package.

## 3. Setup

Follow these steps to set up your Kiprim MT160 Thermal Camera:

1. **Download the App:** Search for "M-thermal" on Google Play Store and install the application on your Android smartphone. Ensure your device meets the minimum system requirements for the app.
2. **Connect the Camera:** Plug the Kiprim MT160 thermal camera directly into your Android smartphone's USB-C port. If your phone uses a different USB port, use the provided multifunctional adapter cable.
3. **Grant Permissions:** Upon first connection, the app may request certain permissions (e.g., camera, storage). Grant these permissions for full functionality.
4. **Initial Calibration:** The camera may perform a brief self-calibration upon startup. Wait for this process to complete before use.

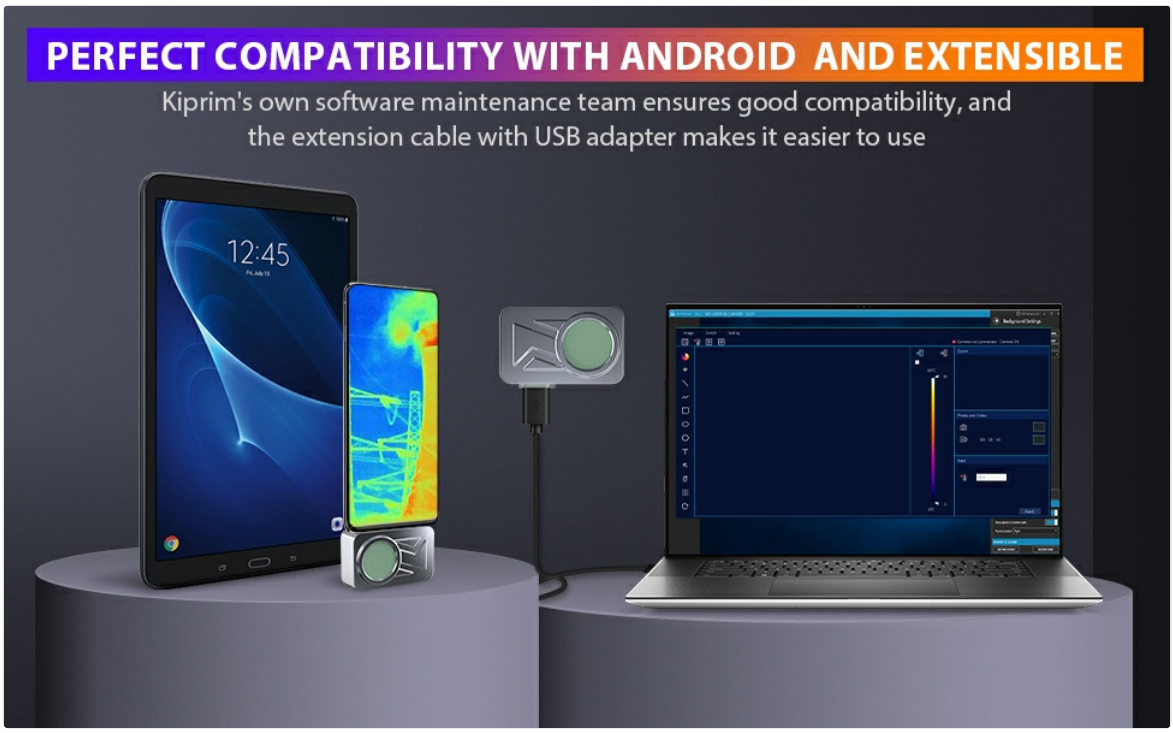


Figure 3.1: The MT160 camera connected to an Android smartphone and a Windows device.

## 4. Operating Instructions

Once connected and the app is running, you can begin using your Kiprim MT160 thermal camera:

### 4.1 App Interface and Features

The "M-thermal" app provides a comprehensive interface for controlling the camera and analyzing thermal data:

- **Multiple Color Palettes:** Select from various color palettes to visualize temperature differences effectively. Options typically include Iron, Rainbow, White Hot, Black Hot, etc.
- **Image and Video Recording:** Capture thermal images and record thermal videos directly to your smartphone's storage.
- **Temperature Tracking:** The app can display real-time temperature readings, including highest, lowest, and central point temperatures.
- **High-Temperature Alarm:** Set custom temperature thresholds to receive alerts when temperatures exceed a specified limit.

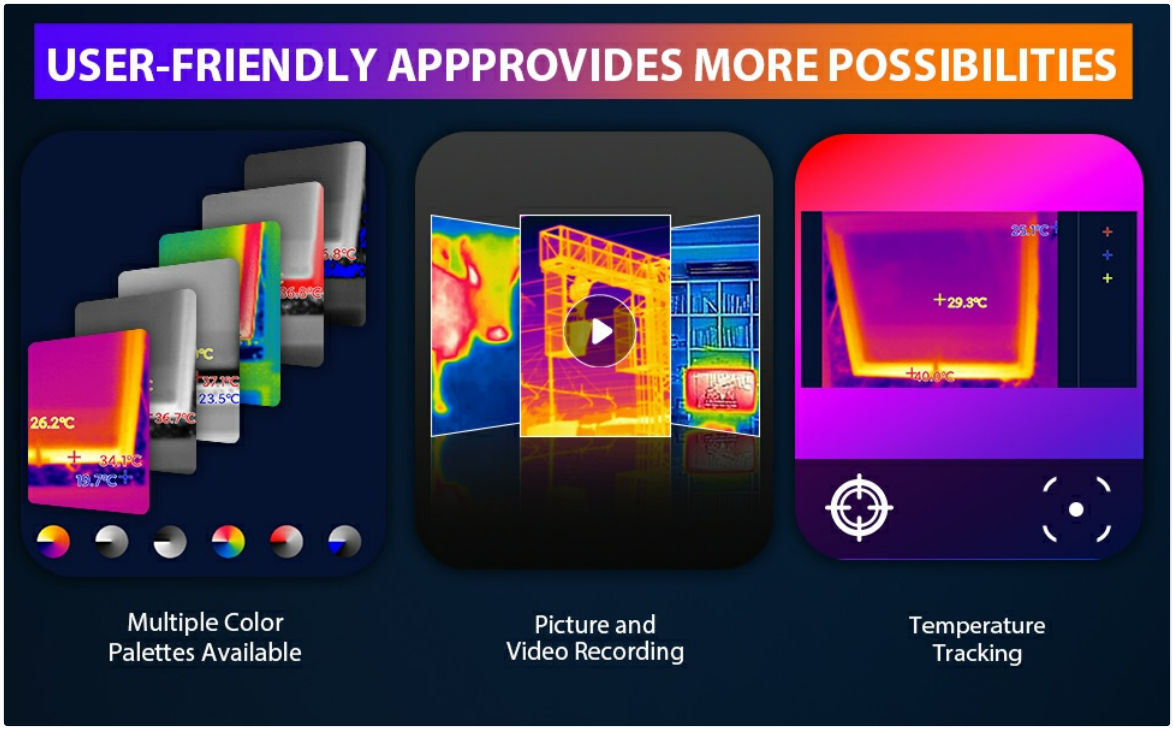


Figure 4.1: User-friendly app interface with multiple possibilities.

## 4.2 Common Applications

The Kiprim MT160 is suitable for a wide range of thermal inspection tasks:

- **Building Inspections:** Identify insulation deficiencies, moisture intrusion, and air leaks.
- **Electrical Inspections:** Detect overheating components in electrical panels, circuits, and connections.

  **Automotive Inspections:** Diagnose engine overheating, brake issues, and HVAC system problems.
- **Animal Detection:** Locate animals in low-light conditions or through foliage.
- **PCB Inspection:** Analyze heat distribution on printed circuit boards for fault detection.

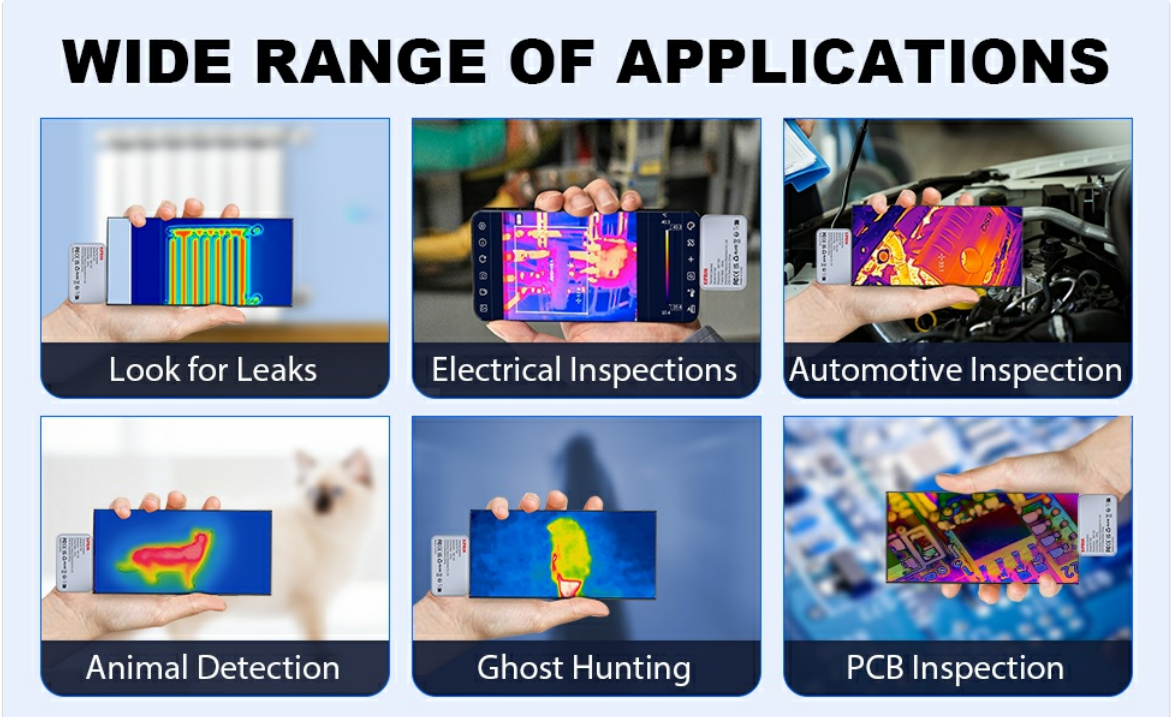


Figure 4.2: Wide range of applications for the MT160 thermal camera.

## 5. Maintenance

Proper maintenance ensures the longevity and optimal performance of your Kiprim MT160 thermal camera:

- **Cleaning the Lens:** Use the provided cleaning cloth or a soft, lint-free cloth to gently wipe the thermal lens. Avoid abrasive materials or harsh chemicals that could scratch the lens.
- **Storage:** When not in use, store the camera in its protective carry bag to prevent dust and physical damage. Keep it in a cool, dry place away from direct sunlight and extreme temperatures.
- **Software Updates:** Regularly check the Google Play Store for updates to the "M-thermal" app to ensure you have the latest features and performance improvements.
- **Avoid Physical Impact:** The thermal camera is a sensitive optical instrument. Avoid dropping it or subjecting it to strong impacts.

## 6. Troubleshooting

If you encounter issues with your Kiprim MT160, refer to the following common solutions:

- **Camera Not Detected:**
    - Ensure the camera is securely plugged into your smartphone's USB-C port or via the adapter.
    - Verify that the "M-thermal" app is installed and updated to the latest version.
    - Check your phone's USB connection settings; some phones require enabling OTG (On-The-Go) or USB debugging for external devices.
    - Restart your smartphone and try reconnecting the camera.
- **Poor Image Quality:**
    - Clean the thermal lens with the provided cleaning cloth.
    - Ensure there are no obstructions between the camera and the target.
    - Adjust the focus within the app if available, or ensure the camera is within its optimal measurement distance.
    - Verify that the app's image enhancement settings (e.g., AGC 5.0, 3D noise reduction) are enabled.
- **App Crashing or Freezing:**
    - Close and restart the "M-thermal" app.
    - Clear the app's cache and data from your phone's settings.
    - Ensure your smartphone has sufficient available storage and RAM.
    - Check for and install any available app updates.

- **Inaccurate Temperature Readings:**
  - Ensure the camera has had sufficient time to stabilize after powering on.
  - Verify that the emissivity settings in the app are correctly configured for the material being measured.
  - Avoid measuring through reflective surfaces like polished metals or glass, as these can affect accuracy.
- **App Availability:** In rare cases, app availability on Google Play may change. Always ensure the "M-thermal" app is accessible and compatible with your device before relying on the product for critical tasks.

## 7. Specifications

| Feature | Specification |
|---|---|
| Model Number | MT160 |
| IR Resolution | 160 x 120 pixels |
| Temperature Measurement Range | -15°C to 600°C (5°F to 1112°F) |
| Accuracy | ±2% |
| Image Enhancement Technology | AGC 5.0, 3D Noise Reduction |
| Connectivity | USB-C (with multifunctional adapter cable for compatibility) |
| Compatible Devices | Android Smartphones, Windows Devices |
| Companion App | M-thermal (available on Google Play) |
| Dimensions | 11.1 x 8.1 x 5.4 cm |
| Weight | 23 g |

## 8. Warranty and Support

Kiprim stands behind its products. The MT160 Thermal Camera comes with a**24-month warranty** from the date of purchase. Additionally, Kiprim offers **lifetime friendly customer service** to assist with any questions or issues you may encounter.
For technical support, warranty claims, or general inquiries, please refer to the contact information provided in your product packaging or visit the official Kiprim website.