

T7 - Standard

TOOLTOP T7 Thermal Imaging Camera User Manual

Model: T7 - Standard | Brand: Generic

INTRODUCTION

The TOOLTOP T7 is a compact and portable thermal imaging camera designed for use with Android smartphones via a USB-C connection. It features a high-resolution infrared sensor (256x192 pixels) combined with a visible light camera (640x480 pixels) to provide detailed thermal and visual imagery. This device is ideal for various applications requiring accurate temperature measurement and thermal analysis.

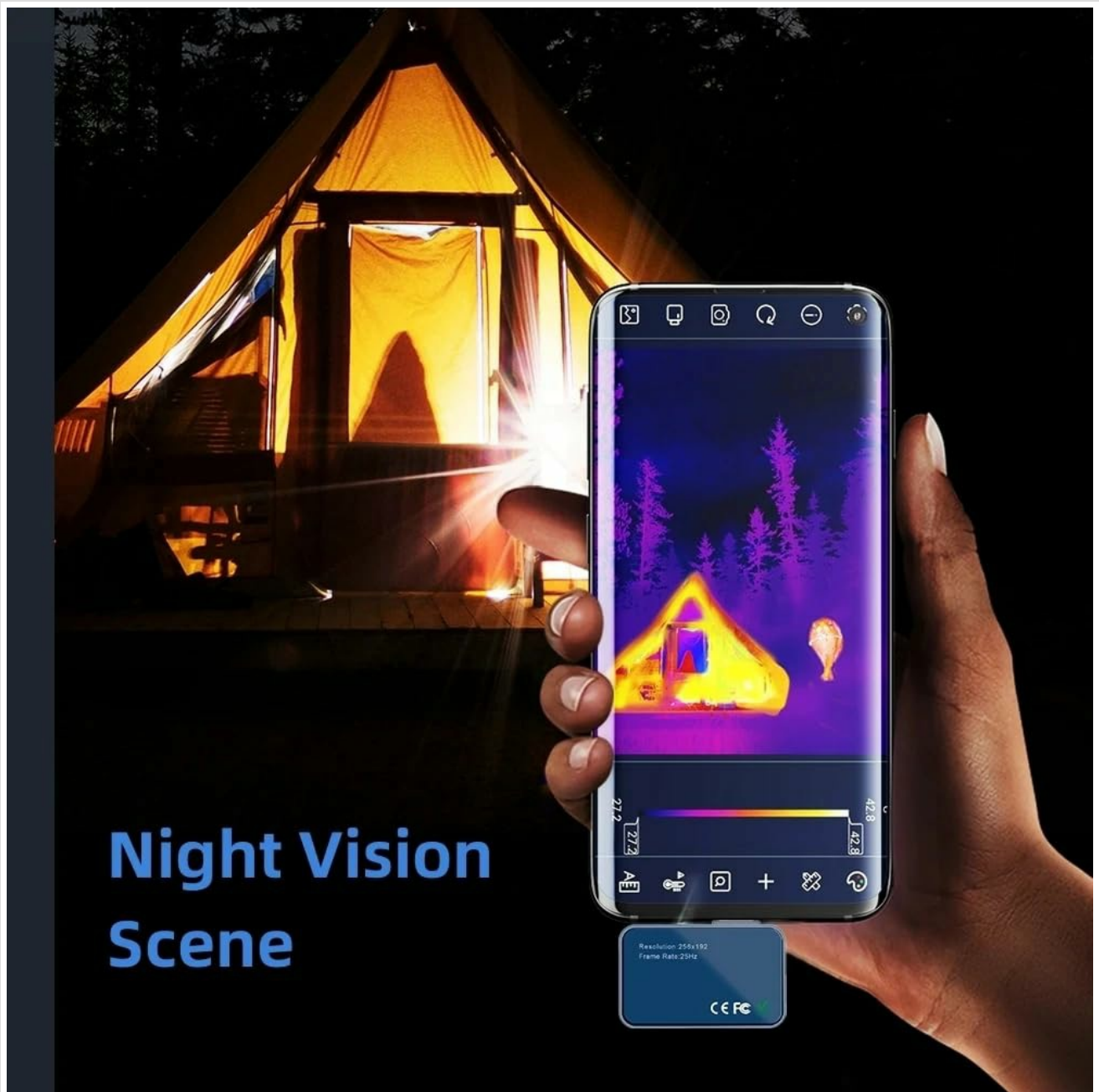


The image shows the small, rectangular TOOLTOP T7 thermal imaging camera, approximately 40mm x 25mm x 14mm in size, being held between a thumb and forefinger, highlighting its portability and miniature design.

WHAT'S IN THE BOX

Verify that all components are present in the package:

- TOOLTOP T7 Mobile Phone Thermal Imager
- Instruction Manual
- Cleaning Cloth
- Storage Bag
- Product Box



Night Vision Scene

This image displays the standard configuration of the product, including the main thermal imager unit, a printed instruction manual, a cleaning cloth, a protective storage bag, and the product packaging box.

SPECIFICATIONS

Feature	Detail
Infrared Resolution	256 x 192 pixels
Visible Light Resolution	640 x 480 pixels
Spectral Range	8~14 μm
Frame Rate	25 Hz

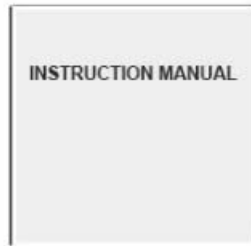
Feature	Detail
NETD (Noise Equivalent Temperature Difference)	<50mk @ 25°C
Field of View (FOV)	56° x 42°
Lens	3.2mm
Measuring Range	-15°C to 600°C (-5°F to 1112°F)
Accuracy	±2°C or ±2%
Temperature Measurement Modes	Highest, Lowest, Central Point, Area Measurement
Color Palettes	Iron, White Hot, Black Hot, Rainbow, Red Hot, Cold Blue
Operating Temperature	-10°C to 75°C (14°F to 167°F)
Storage Temperature	45°C to 85°C (113°F to 185°F)
Waterproof Rating	IP54
Product Dimensions	40mm x 25mm x 14mm
Product Weight	23g

STANDARD CONFIGURATION

Complete accessories, one step in place



Mobile Phone
Thermal Imager



Instruction manual



Cleaning cloth



Bag



Box

This image illustrates the compact dimensions of the thermal imager, showing its length as 36mm, width as 15mm, and height as 26.5mm, emphasizing its miniature form factor.

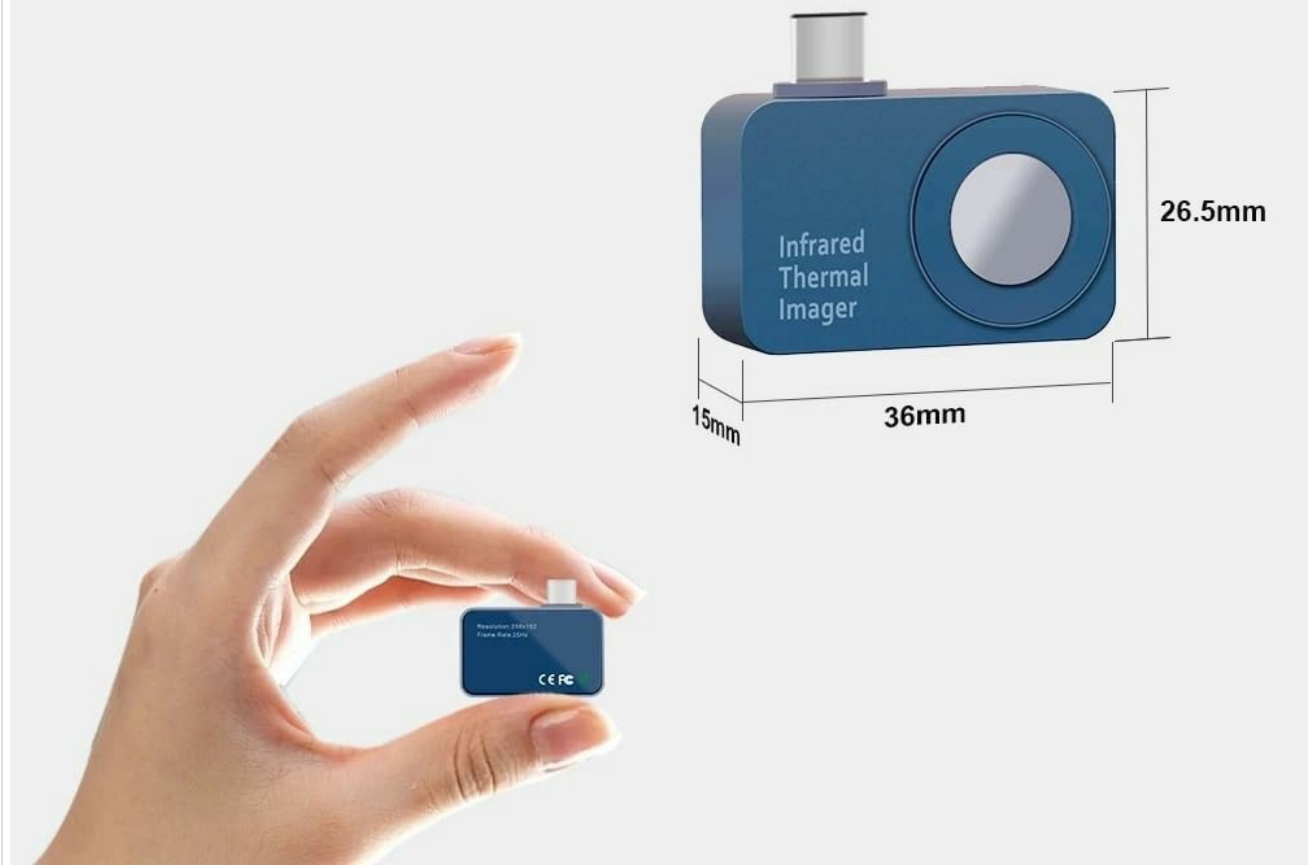
SETUP

Connecting the Device

1. Ensure your Android smartphone has a USB-C port.
2. Download and install the official TOOLTOP thermal imaging application from your device's app store or the provided QR code in the manual.
3. Insert the USB-C connector of the TOOLTOP T7 camera firmly into your smartphone's USB-C port.
4. Upon connection, the application should automatically launch or prompt you to open it. Grant any necessary permissions for the app to access the camera and storage.

Miniature

Small, portable, accurate temperature measurement



The image shows the compact thermal imager plugged into the bottom USB-C port of a smartphone, with the phone's screen displaying a thermal image, indicating a successful connection and operation.

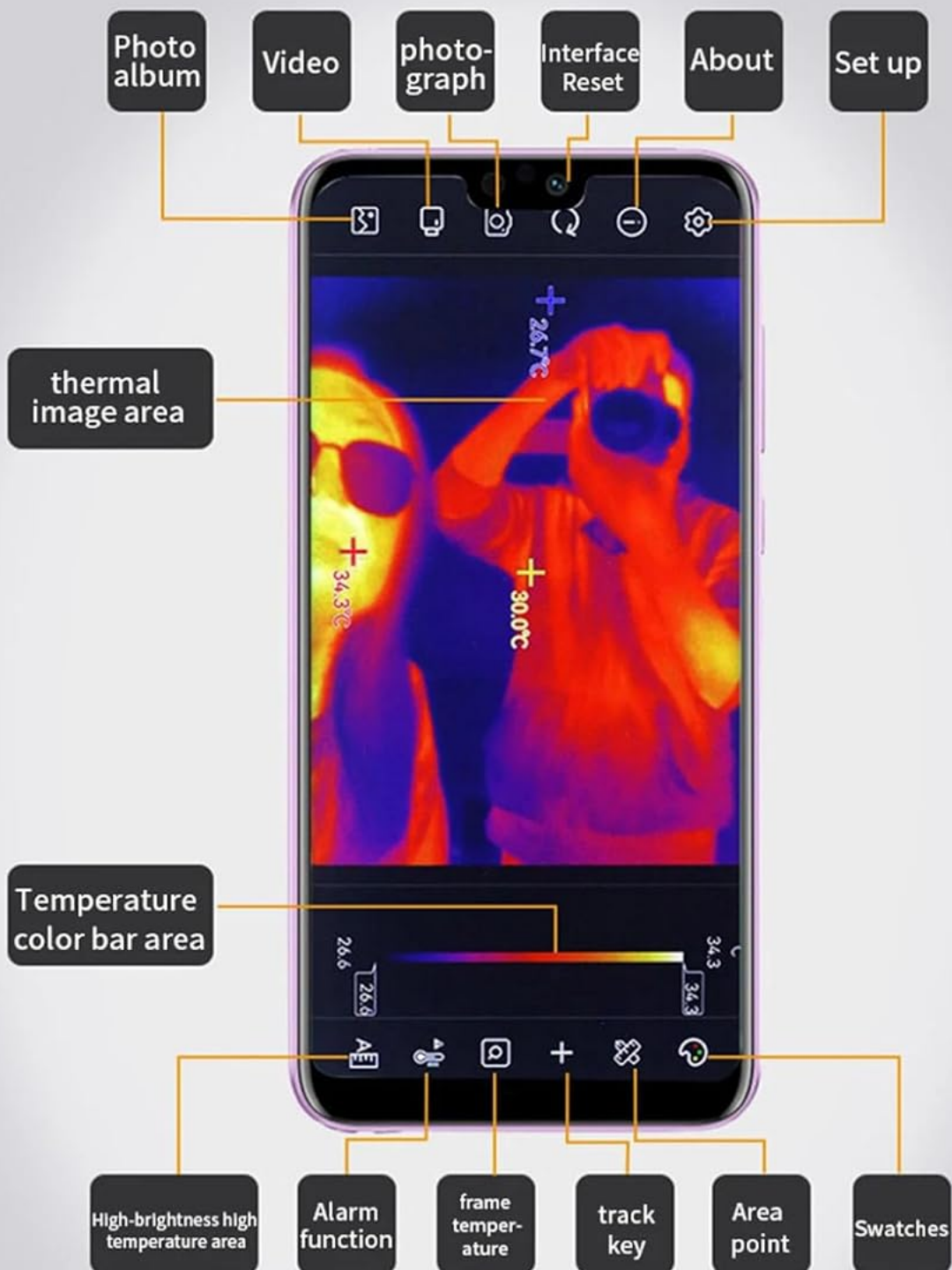
OPERATING INSTRUCTIONS

App Interface Overview

The mobile application provides a comprehensive interface for controlling the thermal imager and analyzing data. Familiarize yourself with the main elements:

APP interface parsing

Automatic tracking function at a glance



This diagram labels various components of the thermal imaging app interface, including photo album, video recording, photograph

capture, interface reset, about section, setup, thermal image area, temperature color bar area, high-brightness high temperature area, alarm function, frame temperature, track key, and area point functions.

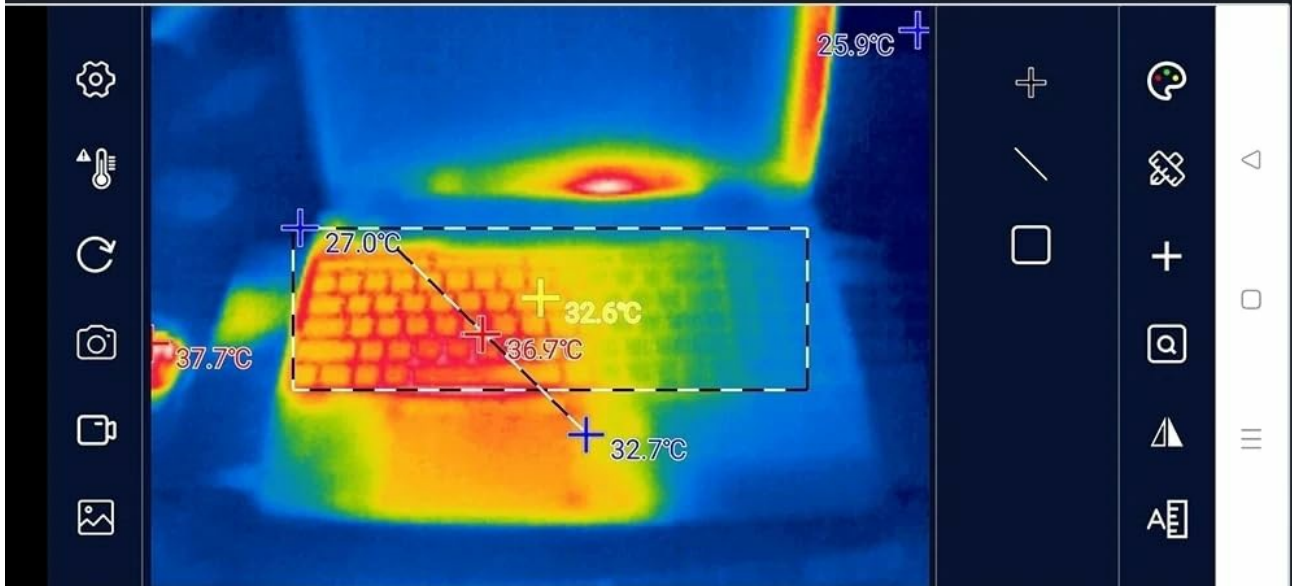
- **Photo Album:** Access saved thermal images and videos.
- **Video:** Start and stop video recording.
- **Photograph:** Capture still thermal images.
- **Interface Reset:** Reset the display settings.
- **About:** View app version and device information.
- **Set Up:** Access various settings and configurations.
- **Thermal Image Area:** Displays the live thermal feed.
- **Temperature Color Bar Area:** Indicates the temperature range represented by the color palette.
- **Alarm Function:** Set temperature thresholds for alerts.
- **Track Key:** Enable or disable tracking of specific temperature points.
- **Area Point:** Select and analyze specific points or areas for temperature measurement.

Temperature Measurement Modes

The app supports various methods for precise temperature measurement:

Area Temperature Measurement

Points, lines and boxes can be added for accurate temperature measurement in different areas



+ Temperature measurement points can be selected manually

— Line segment temperature measurement

□ Manually select the temperature measurement area

The image shows the thermal imager app displaying a thermal view of a laptop keyboard. Overlaid are indicators for manually selected temperature measurement points, a line segment for temperature measurement, and a manually selected rectangular area for temperature analysis, demonstrating the app's measurement capabilities.

- **Point Measurement:** Tap on the screen to get the temperature of a specific point.
- **Line Measurement:** Draw a line to measure temperature along a defined path.
- **Area Measurement:** Define a rectangular or custom area to display the highest, lowest, and average temperatures within that region.
- **Automatic Tracking:** The device can automatically track the highest and lowest temperature points within the field of view.

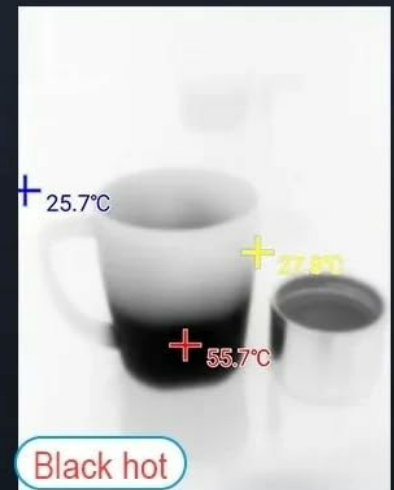
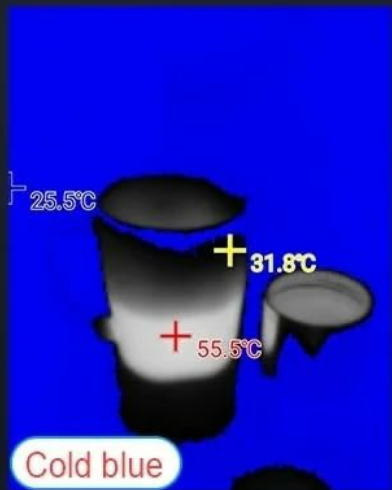
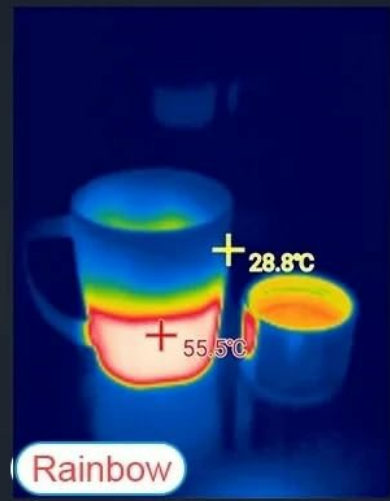
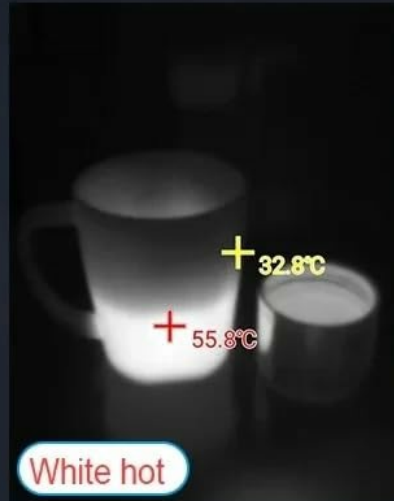
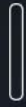
Color Palettes

The TOOLTOP T7 offers six distinct color palettes to visualize temperature differences, allowing you to choose the best representation for your specific application:

SIX COLOR PALLETE

Meet various testing needs

Lron,white hot,black hot,rainbow,red hot,cold blue



This image displays six different thermal images of mugs, each rendered with a different color palette: Iron, White Hot, Rainbow, Cold Blue, Black Hot, and Red Hot. Each palette visually represents temperature variations differently, aiding in diverse analysis needs.

- **Iron:** A common palette, good for general purpose.
- **White Hot:** Higher temperatures appear white, lower temperatures appear black.
- **Black Hot:** Higher temperatures appear black, lower temperatures appear white.
- **Rainbow:** Uses a spectrum of colors to represent temperature changes.
- **Red Hot:** Highlights hotter areas with shades of red.
- **Cold Blue:** Highlights colder areas with shades of blue.

Imaging Modes

The camera supports multiple imaging modes for enhanced versatility:

- **Infrared Mode:** Displays only the thermal image.
- **Visible Light Mode:** Displays only the image from the visible light camera.
- **Fusion Mode:** Combines the thermal and visible light images to provide a more detailed and contextual view,

helping to identify the source of thermal anomalies.

Special Features

The TOOLTOP T7 includes features like night vision scene capability, allowing for thermal observation in low-light or no-light conditions.

MAINTENANCE

Cleaning the Device

To ensure optimal performance and longevity of your TOOLTOP T7 thermal imager, follow these cleaning guidelines:

- Always power off and disconnect the device from your smartphone before cleaning.
- Use the provided cleaning cloth or a soft, lint-free cloth to gently wipe the lens and the device body.
- For stubborn smudges, slightly dampen the cloth with a small amount of lens cleaning solution or isopropyl alcohol. Avoid excessive moisture.
- Do not use abrasive cleaners, solvents, or harsh chemicals, as these can damage the lens coating or the device's casing.
- Ensure the device is completely dry before reconnecting it to your smartphone.

Store the device in its protective bag when not in use to prevent dust and scratches.

TROUBLESHOOTING

If you encounter issues with your TOOLTOP T7 thermal imaging camera, refer to the following common problems and solutions:

- **Device Not Detected:**
 - Check if the USB-C connector is fully inserted into your smartphone.
 - Ensure your smartphone supports USB OTG (On-The-Go) functionality.
 - Verify that the TOOLTOP app has all necessary permissions granted in your phone's settings.
 - Try restarting your smartphone and reconnecting the device.
 - Test the device on another compatible Android smartphone if possible.
- **App Crashing or Freezing:**
 - Close and restart the application.
 - Clear the app's cache and data from your phone's settings (this may reset app preferences).
 - Ensure your app is updated to the latest version.
 - Check if your smartphone's operating system is up to date.
- **Inaccurate Temperature Readings:**
 - Ensure the lens is clean and free from dust or smudges.

- Verify that the emissivity setting in the app is correctly configured for the material you are measuring (if applicable).
- Ensure the target is within the specified measuring range (-15°C to 600°C).
- Avoid measuring through glass or highly reflective surfaces.
- **Poor Image Quality:**
 - Clean the lens of both the infrared and visible light cameras.
 - Adjust the focus within the app if available.
 - Ensure adequate lighting for visible light mode or fusion mode.
- **Excessive Data Usage (App):**
 - Monitor app data usage in your phone's settings.
 - Ensure you are connected to Wi-Fi when downloading updates or large files.
 - Review app permissions and disable any unnecessary background data usage if possible.
 - If persistent, contact customer support for clarification on app data practices.

WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the contact details provided in the product packaging or on the manufacturer's official website. Keep your purchase receipt as proof of purchase.

Manufacturer: Heegkqu