

## TOPDON TC001 Plus

# TOPDON TC001 Plus Thermal Camera for Android

Instruction Manual

## 1. INTRODUCTION

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The TOPDON TC001 Plus is a compact and versatile thermal camera designed for Android smartphones and tablets. It features an exceptional 512 x 384 Super IR resolution and a 100W visible light lens, utilizing image fusion technology to provide detailed thermal and visual information. This device is engineered for thorough detection of hidden issues and enhanced visual precision across various applications.

# Unlock Greater Details with TISR

Enjoy 512x384 high-resolution images with TISR enabled

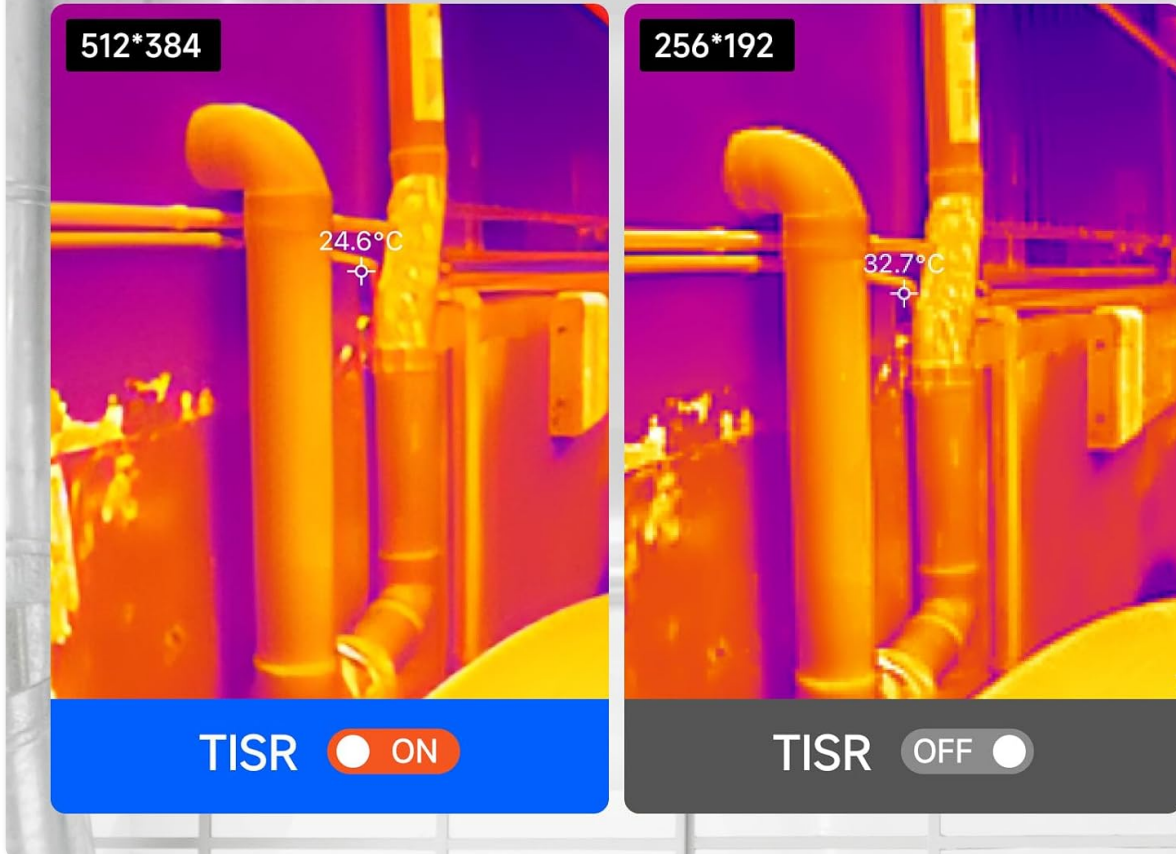


Image: The TOPDON TC001 Plus Thermal Camera connected to an Android smartphone, displaying a thermal image.

## 2. WHAT'S IN THE BOX

Verify that all items are present in the package:

- 1x TC001 Plus Thermal Camera
- 1x Carrying Bag
- 1x Adapter Cable
- 1x User Guide

## How to Check Temperature Accuracy

- Fill a cup with a mix of ice and water. Stir the mixture and let it sit for a few minutes.
- Set the device's emissivity to 0.96.
- Adjust the distance based on your working range.

Note: For the best results, measure the temperature of the water surface.



Image: An illustration showing the TOPDON TC001 Plus thermal camera, carrying bag, adapter cable, and user guide.

## 3. SETUP GUIDE

### 3.1. System Requirements

The TOPDON TC001 Plus is compatible with Android smartphones and tablets. It is not compatible with iOS devices. For PC analysis, download the "TCView" software for Windows computers.

### 3.2. App Installation

Download and install the "TopInfrared" application from the Google Play Store on your Android device. Ensure your device meets the minimum system requirements for the app.

### 3.3. Connecting the Device

Connect the TC001 Plus thermal camera to your Android smartphone or tablet via its USB-C connector. An extended adapter cable is included for flexible positioning and to accommodate devices with cases.

# Dual Lens, Superior Clarity

TOPDON TC001 Plus Thermal Camera For Android  
Enjoy crisp, clear visuals with dual-lens fusion technology.

## Dual Lens



## Android only



Image: A detailed view of the TC001 Plus showing its dual lenses and the USB-C connection to an Android phone running the TopInfrared app.

### 3.4. Calibration

To ensure accurate readings, periodic calibration of the thermal camera is recommended. Follow the steps in the TopInfrared app to perform calibration.

Video: A demonstration on how to calibrate the TOPDON thermal camera using the smartphone application.

## 4. OPERATION

## 4.1. Basic Thermal Imaging

The TC001 Plus provides a 512 x 384 Super IR resolution for detailed thermal images. It also includes a 100W visible light lens. The device uses image fusion technology to combine infrared and visible light information, enhancing overall visual precision. Note that TISR (Thermal Image Super Resolution) functionality may vary depending on the Android phone model.

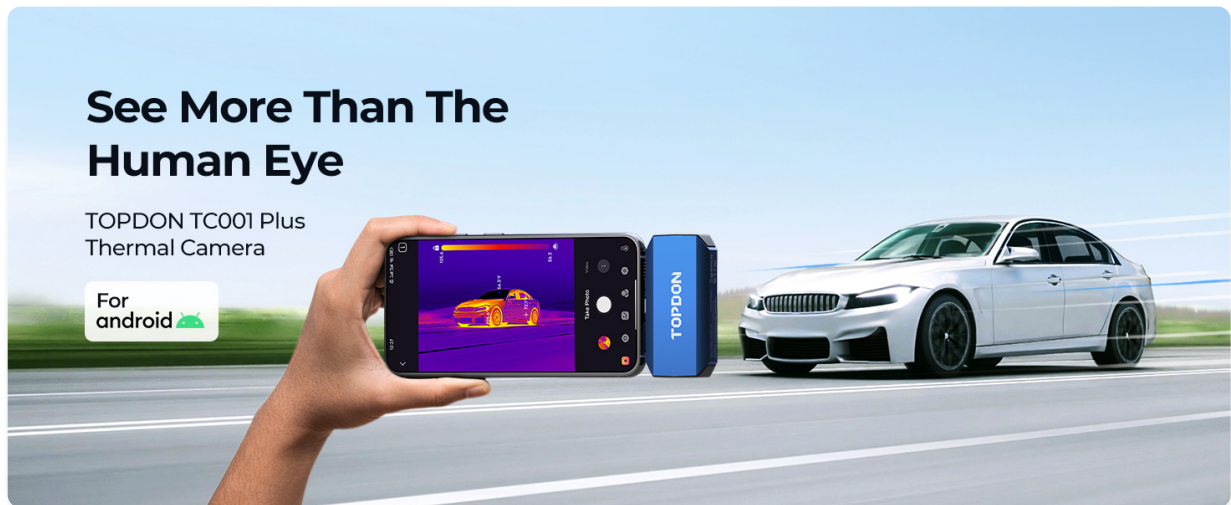
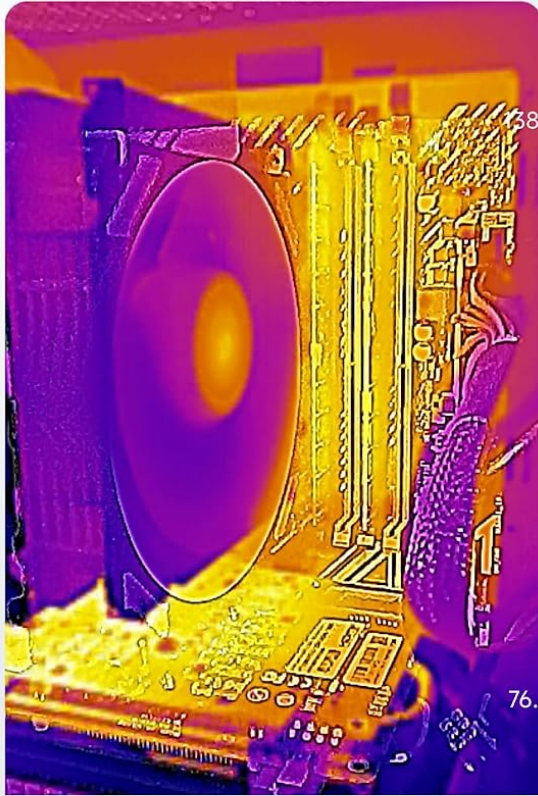


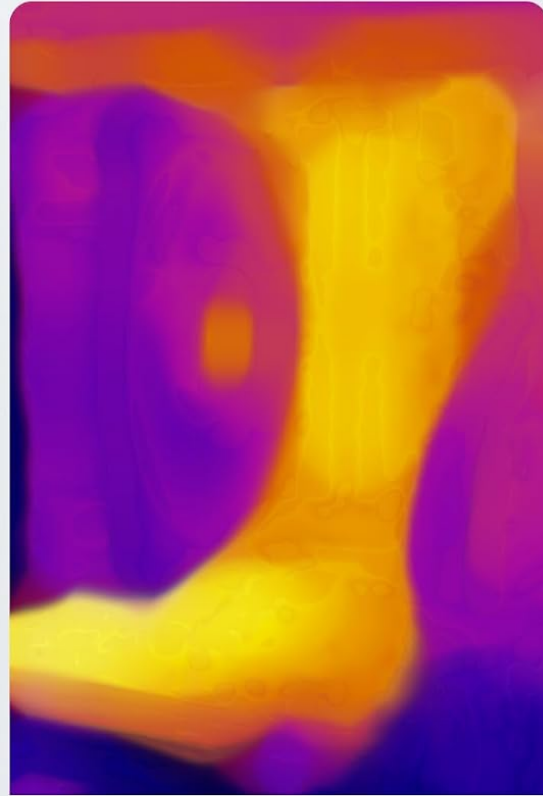
Image: A side-by-side comparison demonstrating the improved detail when TISR (Thermal Image Super Resolution) is enabled versus disabled.

# Enhanced Infrared Image

100W visible light lens displays targets in original colors, with image fusion technology seamlessly merges infrared and visible information.



TC001 Plus



Others

Image: A comparison showing the enhanced infrared image quality provided by the TC001 Plus, displaying targets in original colors with image fusion technology.

## 4.2. Temperature Measurement

The device offers an extended temperature measurement range of  $-4^{\circ}\text{F}$  to  $1022^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$  to  $550^{\circ}\text{C}$ ) with an accuracy of  $\pm 3.6^{\circ}\text{F}$  ( $\pm 2^{\circ}\text{C}$ ) or 2% of the reading. It supports continuous measurement, generating waveform graphs for monitoring temperature variations.



Image: The TopInfrared app interface displaying high, center, and low temperature points on a thermal image, along with data export options.



Image: An intuitive waveform graph illustrating continuous monitoring of temperature changes, showing highest and lowest temperature points over time.

### 4.3. Imaging Modes and Palettes

The TC001 Plus offers three imaging modes: Thermal Mode, Visible Mode, and Fusion Mode. It also provides ten customizable color palettes to visualize temperature differences effectively, ensuring easy interpretation and readability. You can measure across 9 areas simultaneously using point, line, and surface dimensions.



Image: An electrician using the thermal camera to inspect an electrical panel, showcasing the three imaging modes: Thermal, Visible, and Fusion for accurate and instant detection.



Image: The TopInfrared app showing multiple color palettes and measurement dimensions (point, line, surface) for customized temperature display and analysis.

### 4.4. Reporting and Analysis

The TopInfrared software allows for data reporting and recording for each image, with the ability to export

charts for every pixel point. You can annotate and edit infrared images to identify potential hazards and share detailed reports. For further analysis, connect to Windows computers and download the "TCView" software.



Image: Screenshots illustrating the accessible and effective analysis features of the app, including report generation, image annotation, and sharing options.

Video: A promotional video from TOPDON demonstrating how the thermal camera helps make hidden issues visible.

Video: A TOPDON video highlighting how the thermal camera helps users see the unseen and diagnose problems faster.

## 5. MAINTENANCE

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### 5.1. Cleaning

Use a soft, dry cloth to clean the camera lens and body. Avoid using abrasive cleaners or solvents that could damage the device. Ensure no dust or debris obstructs the lenses.

### 5.2. Storage

Store the TC001 Plus in its provided anti-dust EVA bag when not in use. Keep it in a cool, dry place away from direct sunlight and extreme temperatures. The device is built to withstand drops of up to 1 meter.



Image: The TC001 Plus thermal camera shown in a rugged environment, emphasizing its durability and ability to withstand falls up to 1 meter.

## 6. TROUBLESHOOTING

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### 6.1. Checking Temperature Accuracy

To verify the temperature accuracy of your device:

1. Fill a cup with a mixture of ice and water.
2. Stir the mixture and let it sit for a few minutes.
3. Set the device's emissivity to 0.96.
4. Adjust the distance based on your working range.

For best results, measure the temperature of the water surface.



Image: A visual guide demonstrating the process of checking the thermal camera's temperature accuracy using a cup of ice water.

## 6.2. Common Issues

- **App Compatibility:** Ensure your Android phone supports TISR if you are experiencing issues with super resolution features. Not all Android phones support TISR.
- **Connection Issues:** Verify the USB-C connection is secure. Try using the adapter cable if direct connection is unstable.
- **Software Updates:** Regularly check for updates to the TopInfrared app and TCView software to ensure optimal performance and access to the latest features.

## 7. SPECIFICATIONS

Feature	Specification
Model Name	TC001 Plus
IR Resolution	256 x 192 pixels (512 x 384 with TISR)
Visible Light Lens	100W
Temperature Measurement Range	-4°F to 1022°F (-20°C to 550°C)
Measurement Accuracy	±3.6°F (±2°C) or 2%
Refresh Frequency	25 Hz
Thermal Sensitivity	<40mK
Field of View	56° x 42°
Measuring Distance	0.1 ~ 50m
Connectivity Technology	USB-C
Item Weight	0.19 Kilograms (approx. 1 oz for the imager itself)
Item Dimensions (D x W x H)	0.55"D x 2.8"W x 2.8"H
Operating System Compatibility	Android (not for iOS), Windows (with TCView software)



Image: A visual summary of the TC001 Plus specifications, including system compatibility, IR resolution, visible light lens, temperature range, refresh rate, accuracy, field of view, thermal sensitivity, and measuring distance.

## **8. WARRANTY AND SUPPORT**

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The TOPDON TC001 Plus Thermal Camera comes with a 1-year warranty. Additionally, lifetime technical support is provided to ensure your device remains in optimal condition and to assist with any operational queries. For further assistance, please refer to the official TOPDON website or contact their customer service.