

## TOPDON TC004 Mini

# TOPDON TC004 Mini Handheld Thermal Imaging Camera User Manual

## 1. INTRODUCTION

The TOPDON TC004 Mini is a compact, handheld thermal imaging camera designed for accurate temperature measurement and thermal analysis across various applications. This device utilizes advanced infrared technology to visualize temperature differences, making it an essential tool for professionals and DIY enthusiasts in fields such as home inspection, electrical diagnostics, HVAC troubleshooting, and vehicle maintenance. This manual provides detailed instructions for the safe and effective use of your TC004 Mini.



Figure 1.1: The TOPDON TC004 Mini Handheld Thermal Imaging Camera, showcasing its ergonomic design and display.

# TC004 Mini Thermal Camera



**240\*240**  
TISR Resolution



**-4°F to 842°F**  
Temp Range



**15-Hour**  
Runtime



**25Hz**  
Refresh Rate



Figure 1.2: Overview of the TC004 Mini's key features including 240x240 TISR resolution, -4°F to 842°F temperature range, 15-hour runtime, and 25Hz refresh rate.

## 2. WHAT'S IN THE BOX

Upon opening your TOPDON TC004 Mini package, please verify that all the following items are included:

- TC004 Mini Thermal Imager
- Hanging Strap
- USB-A to USB-C Cable
- User Guide (Quick Start)

# What's in the Box



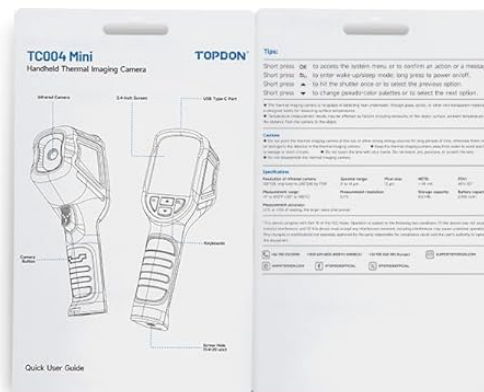
# TC004 Mini Thermal Camera



### Hanging Strap



## USB-A to USB-C Cable



## Quick User Guide

Figure 2.1: The complete contents of the TOPDON TC004 Mini package, including the thermal imager, hanging strap, USB cable, and quick user guide.

### 3. PRODUCT OVERVIEW

The TC004 Mini features a compact, ergonomic design for comfortable handling during extended use. It includes a clear display screen, intuitive navigation buttons, an infrared lens, and a trigger for capturing images.

# High Image Quality



**128×128**  
High IR Resolution



**2.4"**  
Screen



Smooth **25Hz**  
Refresh Rate



Figure 3.1: A user operating the TC004 Mini, highlighting its screen and control buttons for high image quality thermal inspections.

## 4. SETUP

### 4.1 Initial Charging

Before first use, fully charge the TC004 Mini using the provided USB-A to USB-C cable. Connect the USB-C end to the device and the USB-A end to a compatible USB power adapter (not included) or a computer USB port. The charging indicator on the device will show the charging status.

## 4.2 Powering On/Off

- **To Power On:** Press and hold the power button (usually located on the side or top) until the screen illuminates.
- **To Power Off:** Press and hold the power button again until the device shuts down, or utilize the auto-shutdown feature (see Section 6.1).

## 5. OPERATING INSTRUCTIONS

### 5.1 Basic Temperature Measurement

Point the thermal camera at the target object. The screen will display a thermal image with temperature readings. The device automatically identifies and displays the highest, lowest, and central temperature points within the field of view.



# Automatic Temp Measurement

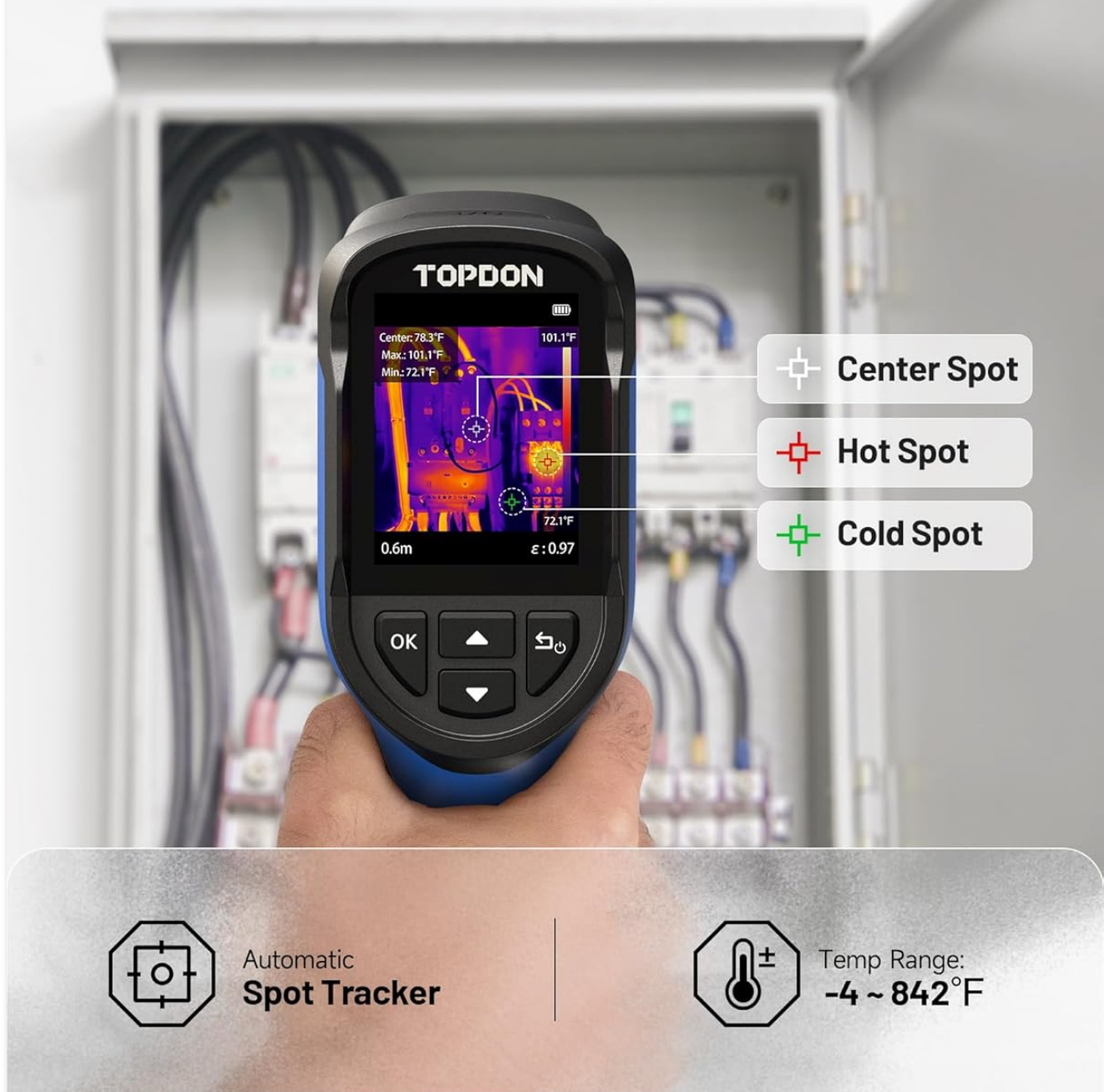


Figure 5.1: The TC004 Mini screen showing automatic temperature measurement, highlighting center, hot, and cold spots within the thermal image.

## 5.2 Color Palettes

The TC004 Mini offers five distinct color palettes to visualize thermal data, allowing users to choose the best representation for their specific inspection needs:

- **White Hot:** Higher temperatures appear brighter (white).
- **Black Hot:** Higher temperatures appear darker (black).
- **Iron:** A common palette, showing a spectrum from dark blue (cold) to yellow/white (hot).

- **Rainbow:** A full spectrum of colors to represent temperature differences.
- **Red Hot:** Highlights hotter areas in shades of red.

To change the color palette, navigate through the menu options using the device's buttons.



Figure 5.2: Visual representation of the five available color palettes: White Hot, Black Hot, Iron, Rainbow, and Red Hot.

### 5.3 High/Low Temperature Alerts

The device can be configured to trigger an alert when temperatures exceed or fall below preset thresholds. This feature is useful for monitoring critical components or identifying anomalies quickly. When an alert is triggered, an on-screen warning appears, and the device can automatically capture a photo.



# High & Low Temp Alerts

Automatically triggers an alert when temperatures exceed set limits.



Figure 5.3: The TC004 Mini showing an on-screen alert for high temperatures, indicating a potential issue.

## 5.4 Photo Capture and Storage

The TC004 Mini supports both manual and automatic photo capture. Press the trigger button to manually save a thermal image. The device has a built-in 512MB eMMC storage, capable of storing up to 8,000 photos. These images can be exported to a computer via a USB connection for further analysis or reporting.

## Capture and Keep It All

Store over **8,000** photos on the eMMC card and quickly export them with a USB connection.



Figure 5.4: The TC004 Mini connected to a laptop, illustrating the process of exporting stored thermal images.

## 6. TISR IMAGE ENHANCEMENT TECHNOLOGY

The TC004 Mini features TISR (Thermal Image Super Resolution) technology, which enhances the native 128x128 infrared resolution to an effective 240x240 resolution. This provides greater detail and clarity in thermal images, allowing for more precise identification of temperature anomalies.

# TISR Image Enhancement Technology

Unlock greater details when  
TISR is enabled.



Figure 6.1: A visual comparison demonstrating the enhanced detail when TISR technology is enabled (240x240) versus disabled (128x128).

# Enhanced Thermal Clarity with TISR

Get detailed thermal visuals of 240 \* 240 enabled by the TISR image enhancement tech.



Figure 6.2: An example of enhanced thermal clarity on an electrical panel when TISR is active, showing finer details.

## 7. APPLICATIONS

The TOPDON TC004 Mini is a versatile tool suitable for a wide range of thermal inspection tasks:

- **HVAC Troubleshooting:** Identifying drafts, insulation gaps, and issues in heating and cooling systems.
- **Home Inspection:** Detecting moisture, water leaks, and energy inefficiencies.
- **Electrical Inspection:** Pinpointing overheating components, loose connections, and circuit overloads.
- **Vehicle Maintenance:** Diagnosing engine hot spots, brake issues, and exhaust leaks.
- **Industrial Inspection:** Monitoring machinery, preventing equipment failure, and ensuring operational safety.



# Wide Applications

Your go-to tool for accurate thermal inspections.



Figure 7.1: Collage illustrating the wide range of applications for the TC004 Mini, including HVAC, home, water leak, electrical, vehicle, and industrial inspections.

## 8. BATTERY AND POWER MANAGEMENT

The TC004 Mini is equipped with a long-lasting battery, providing up to 15 hours of continuous operation on a single charge. To conserve battery life, the device features adjustable auto-shutdown options at 5, 10, and 20-minute intervals.



**15-Hour**  
**Long-Lasting Use**

**5/10/20** Mins  
Auto Power-Off

**Adjustable**  
Screen Brightness



Figure 8.1: Diagram showing the 15-hour battery life and auto power-off settings of the TC004 Mini.

## Extra Long Battery Life

Enjoy 15 hours of uninterrupted operation, minimizing the need for frequent recharges.

Lasting Use:

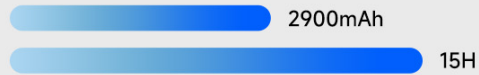


Figure 8.2: Illustration emphasizing the 15-hour extra-long battery life of the TC004 Mini, minimizing the need for frequent recharges.

## 9. MAINTENANCE AND DURABILITY

### 9.1 Cleaning

Regularly clean the device's exterior with a soft, dry cloth. For the lens, use a specialized lens cleaning cloth and solution to avoid scratches. Do not use abrasive cleaners or solvents.

### 9.2 Durability Features

The TC004 Mini is engineered for durability, capable of withstanding drops from up to 2 meters. It also boasts an IP54 waterproof rating, providing protection against dust ingress and splashing water from any direction, ensuring reliable performance in various environments.

# Built to Last



Figure 9.1: Visual representation of the TC004 Mini's robust construction, highlighting its 2-meter drop-proof capability and IP54 protection against dust and water.

## 10. TROUBLESHOOTING

This section addresses common issues you might encounter with your TC004 Mini.

- **Device not turning on:** Ensure the battery is sufficiently charged. Connect the device to a power source and attempt to power on after a few minutes of charging.
- **Inaccurate temperature readings:** Verify that the emissivity setting is appropriate for the material being measured. Ensure the lens is clean and free from obstructions.

- **Screen frozen or unresponsive:** Perform a soft reset by pressing and holding the power button for approximately 10-15 seconds until the device restarts.
- **Cannot transfer photos to computer:** Ensure the USB cable is securely connected to both the device and the computer. Check if the computer recognizes the device as a storage drive. Try a different USB port or cable.
- **Battery drains quickly:** Reduce screen brightness, disable unnecessary features, and ensure auto-shutdown is enabled. Avoid operating in extreme temperatures.

If you encounter issues not listed here or require further assistance, please contact TOPDON customer support.

## 11. SPECIFICATIONS

Key technical specifications for the TOPDON TC004 Mini:

Feature	Specification
Thermal Resolution	128x128 (Enhanced to 240x240 with TISR)
Temperature Range	-4°F to 842°F (-20°C to 450°C)
Refresh Rate	25Hz
Field of View	40° x 30°
Battery Life	Up to 15 hours
Storage	512MB eMMC (stores up to 8,000 photos)
Drop Protection	2 meters
IP Rating	IP54
Item Model Number	TC004 Mini Blue
Batteries Required	1 Lithium Ion (included)
Manufacturer	TOPDON

## 12. WARRANTY AND SUPPORT

TOPDON provides lifetime technical support for the TC004 Mini. For any product-related inquiries, technical assistance, or warranty claims, please contact TOPDON customer service.

### 12.1 Electronic User Manual

For environmental protection, a detailed paper manual is not included in the package. An electronic version of the user manual is available for download. You can access it by:

1. Scanning the QR code located on the back of the product packaging with your mobile phone.
2. Navigating to the TC004 Mini webpage.
3. Clicking the small arrow in the upper right corner (below the shopping bag icon).
4. Selecting "Download" and choosing the manual you wish to save.





Figure 12.1: Step-by-step guide on how to access and download the digital user manual for the TC004 Mini.

## 13. SAFETY INFORMATION

Please read and understand all safety warnings and instructions before using the device. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Do not point the camera directly at strong energy sources (e.g., the sun, lasers) as this may damage the detector.
- Do not immerse the device in water, despite its IP54 rating, to prevent internal damage.
- Use only the specified charging cable and power adapters.
- Keep the device out of reach of children.
- Do not attempt to open or modify the device. Repairs should only be performed by authorized service personnel.
- Operate the device within its specified temperature and humidity ranges.



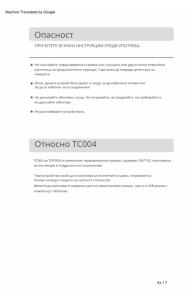


### Related Documents - TC004 Mini



#### [TOPDON Handheld Thermal Imaging Camera User Manual: Features, Specifications, and Operation](#)

This user manual provides comprehensive information on the TOPDON Handheld Thermal Imaging Camera, covering its features, specifications, operation, FAQs, and warranty. Learn about its applications in equipment inspection, maintenance, home heating, water leak detection, and agricultural protection.



 <p>TC004 SE Handheld Thermal Imaging Camera   User Manual</p> <p>TOPDON</p>	<p><a href="#">TOPDON TC004 SE Handheld Thermal Imaging Camera User Manual</a></p> <p>This user manual provides comprehensive instructions for the TOPDON TC004 SE handheld thermal imaging camera, covering its features, operation in standalone and USB modes, specifications, and frequently asked questions. Ideal for equipment inspection and maintenance in areas like home heating, water leak detection, and agricultural protection.</p>
 <p>TC005 Handheld Thermal Imaging Camera   User Manual</p> <p>TOPDON</p>	<p><a href="#">TOPDON TC005 Handheld Thermal Imaging Camera User Manual</a></p> <p>Comprehensive user manual for the TOPDON TC005 handheld thermal imaging camera. Learn about its features, specifications, and applications in equipment inspection, maintenance, home heating, water leak detection, and agriculture. Includes setup, operation, and troubleshooting guides.</p>
 <p>ОПИСАНИЕ ПРОЕКТА ТЕПЛОВИЗОРНОЙ КАМЕРЫ</p> <p>ОТРИЗОК TC004</p> <p>А-17</p>	<p><a href="#">TOPDON TC004 Thermal Imaging Camera User Manual and Specifications</a></p> <p>Comprehensive guide to the TOPDON TC004 portable thermal imaging camera, covering setup, operation, features, and technical specifications for inspection and maintenance.</p>
 <p>TC004 Handheld Thermal Imaging Camera   User Manual</p> <p>TOPDON</p>	<p><a href="#">TOPDON TC004 Handheld Thermal Imaging Camera User Manual</a></p> <p>Comprehensive user manual for the TOPDON TC004 handheld thermal imaging camera, detailing its features, specifications, usage in standalone and USB modes, troubleshooting, and warranty information.</p>
 <p>TC004 Handheld Thermal Imaging Camera   User Manual</p> <p>TOPDON</p>	<p><a href="#">TOPDON TC004 Handheld Thermal Imaging Camera User Manual</a></p> <p>User manual for the TOPDON TC004 handheld thermal imaging camera. Learn about its features, operation in standalone and USB modes, specifications, and FAQs.</p>