

[Manuals.plus](#) /

› [TOPDON](#) /

› TOPDON TC002 Thermal Camera for iOS (iPhone & iPad) User Manual

TOPDON TC002

TOPDON TC002 Thermal Camera for iOS (iPhone & iPad) User Manual

Model: TC002

1. INTRODUCTION

The TOPDON TC002 is a compact thermal imaging camera designed to connect directly to iOS devices (iPhone and iPad) via a Lightning Port. It transforms your device into a powerful thermal imager, capable of detecting temperature differences across a wide range. This manual provides essential information for the safe and effective use of your TC002 thermal camera.



Figure 1: TOPDON TC002 Thermal Camera connected to an iPhone, showing the TopInfrared app logo.

2. PRODUCT FEATURES

- **High Resolution Imaging:** Features 256x192 IR resolution, enhanced to 512x384 with Super Resolution (TISR) technology for clearer thermal images.
- **Wide Temperature Range:** Measures temperatures from -4°F to +1022°F (-20°C to +550°C).
- **High Refresh Rate:** 25Hz refresh rate ensures smooth temperature readings and reduced flickering.
- **Sensitive Detection:** 40mK thermal sensitivity detects subtle temperature variations.
- **iOS Compatibility:** Designed for iOS devices with a Lightning Port (iPhone 7 and above, iPad with Lightning Connector).
- **Low Power Consumption:** Consumes approximately 350mW, allowing for extended use with your iOS device.
- **Compact Design:** Measures 2.8 x 1.7 x 0.55 inches (71x42x14mm) and weighs 1.1 oz (30g).

Unlock Greater Details with TISR

Enjoy **512x384** high-resolution images with TISR enabled



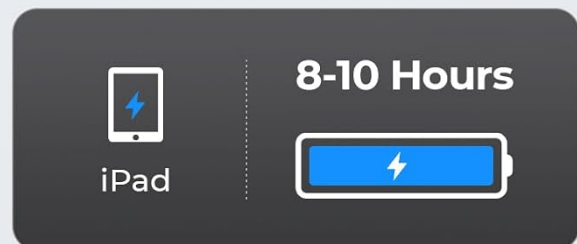
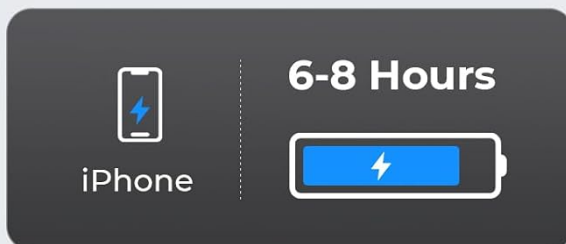
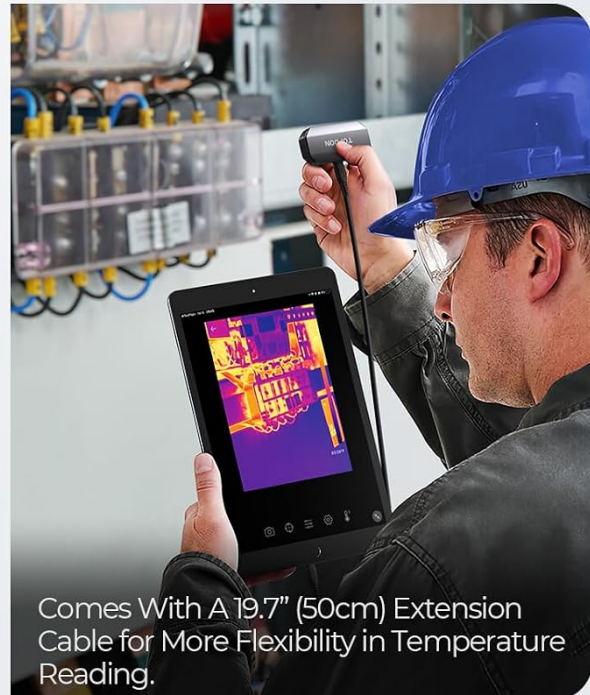
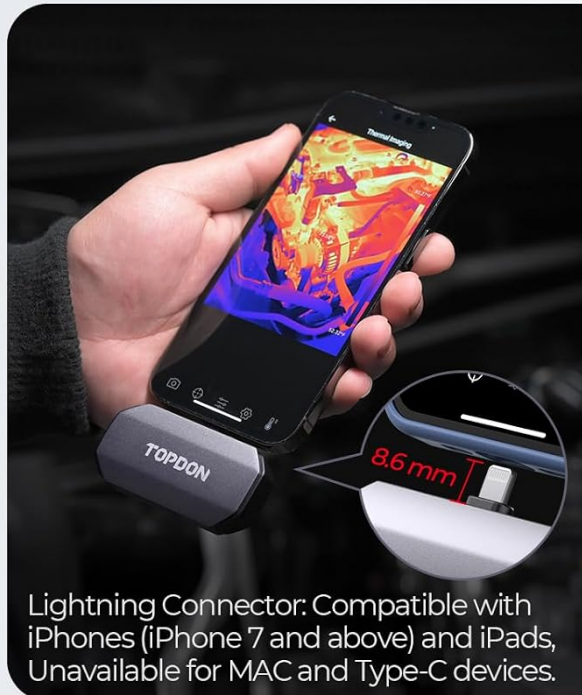
Figure 2: Illustration of TISR technology enhancing thermal image resolution.

3. SETUP AND INSTALLATION

1. **Check Compatibility:** Ensure your iOS device has a Lightning Port and is an iPhone 7 or newer, or a compatible iPad model. This device is not compatible with iOS devices requiring a Type-C port or Mac computers.
2. **Download the App:** Search for "TopInfrared" in the Apple App Store and download the application.
3. **Connect the Camera:**
 - Directly plug the TC002 thermal camera into your iOS device's Lightning Port.
 - Alternatively, use the included 19.7-inch (50cm) adapter cable for more flexible positioning of the camera.
4. **Launch the App:** Once connected, the "TopInfrared" app will automatically detect the device and prompt you to open it. Allow a few seconds for initial calibration.

DESIGNED FOR iPhone AND iPad

No charging required. Your Phone is the Bat*tery.



*350mW Low Consumption, lasts 6-8 hours with fully-charged iPhone and 8-10 hours with a fully-charged iPad.

Figure 3: Connecting the TC002 to an iPhone and iPad, highlighting the Lightning connector and optional extension cable.

4. OPERATING INSTRUCTIONS

The "TopInfrared" app provides a user-friendly interface for controlling the TC002 thermal camera and analyzing thermal data.

4.1 Measurement Modes

The app offers three primary measurement modes:

- **Point:** Displays the temperature at a specific point on the screen.
- **Line:** Shows temperature readings along a user-defined line.
- **Surface:** Identifies the highest and lowest temperatures within a selected area.

4.2 Image Customization and Analysis

- **Color Palettes:** Choose from 11 different color palettes to visualize temperature data according to your preference or application.

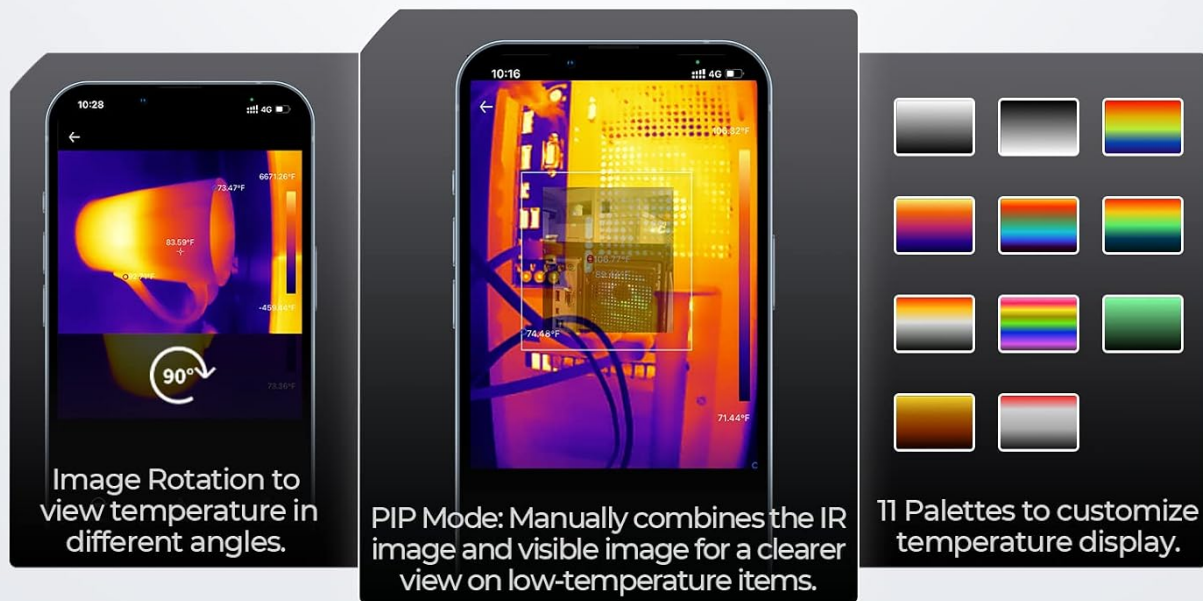
- **Sharpness and Contrast:** Adjust these settings within the app to optimize the clarity and detail of the thermal image.
- **Picture-in-Picture (PIP) Mode:** Combine the thermal image with a visible light image for enhanced context, particularly useful for identifying low-temperature items.
- **Image Rotation:** Rotate the image to view temperatures from different angles.
- **Waveform Graph:** Monitor continuous temperature changes over time using the waveform graph feature.
- **Photo and Video Recording:** Capture thermal images and record videos directly through the app for later review and analysis.
- **Smart Alerts:** Set custom temperature thresholds to receive alerts when temperatures exceed or fall below specified limits.



UNLIMITED ACCURACY:
Perform temperature detection with a maximum of $\pm 3.6^{\circ}\text{F}$ or 2% of max temperature for error.

Figure 4: App interface displaying temperature range and measurement modes.

WORK EASIER WITH THE TC002



Monitor Temperature Change by Waveform Graph.

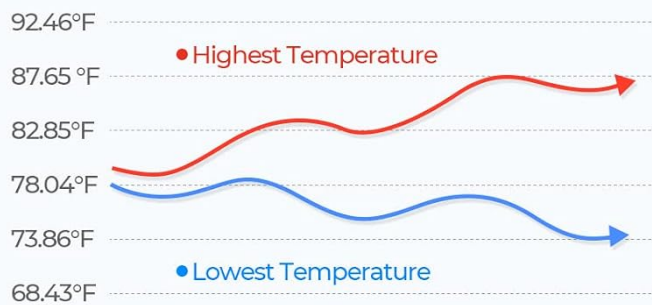


Figure 5: Advanced app features including palettes and waveform analysis.

5. APPLICATIONS

The TOPDON TC002 thermal camera is a versatile tool suitable for various professional and home inspection tasks, including but not limited to:

- Building inspections (air leakage, water leakage, insulation issues)
- HVAC system diagnostics
- Electrical inspections (identifying overheating components)
- Automotive diagnostics (engine checks, cylinder inspection)
- Pest detection (bees, hornets, wasps nests)
- Monitoring crops and livestock
- General temperature monitoring

PERFECT TOOL FOR BUILDING INSPECTORS & ENGINEERS

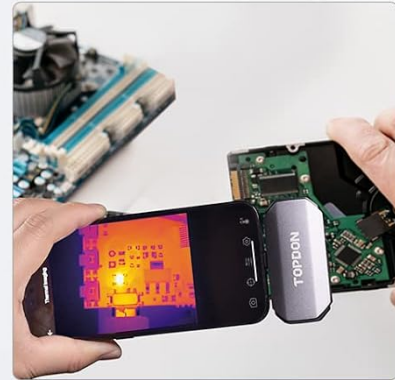
Perfect Tool for Engineers, Auto-mechanics, and Building Inspectors.



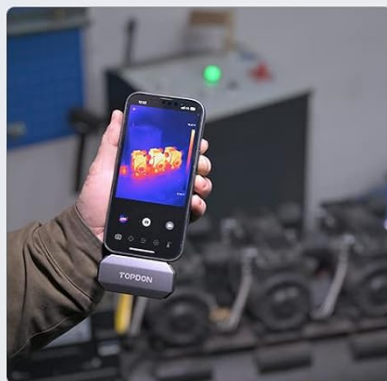
Air Leakage Inspection



Water Leakage Inspection



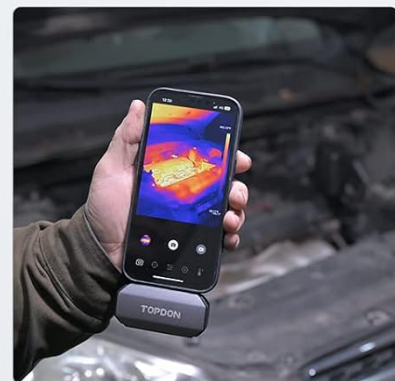
Electrical Inspection



Cylinder Inspection



Insulation Inspection



Vehicle Engine Check

Figure 6: Examples of TC002 applications in building and automotive inspections.

6. MAINTENANCE AND CARE

- **Cleaning:** Use the provided cleaning cloth or a soft, dry cloth to gently wipe the camera lens and body. Avoid abrasive materials or harsh chemicals.
- **Storage:** When not in use, store the TC002 in its carrying bag to protect it from dust, moisture, and physical damage.
- **Environmental Conditions:** Avoid exposing the device to extreme temperatures, high humidity, or direct sunlight for prolonged periods.
- **Shutter Mechanism:** The camera features an internal shutter that may produce a clicking sound during operation. This is a normal function for calibration and maintaining accuracy. Users can manually close the shutter if desired, though this may affect calibration cycles.

7. TROUBLESHOOTING

- **Device Not Detected:**

- Ensure the TC002 is securely plugged into the Lightning Port of your iOS device.
 - Verify that the "TopInfrared" app is installed and open.
 - Check if your iOS device is compatible (iPhone 7 or above, iPad with Lightning Connector).
 - Restart the "TopInfrared" app or your iOS device.
- **Image Quality Issues:**
 - Adjust sharpness and contrast settings within the app.
 - Ensure the camera lens is clean and free of smudges or dust.
 - Verify TISR mode is enabled for enhanced resolution if desired.
 - **Clicking Sound During Operation:** This is a normal function of the thermal camera's internal shutter, used for calibration to maintain measurement accuracy. It is not an indication of a malfunction.
 - **Inaccurate Temperature Readings:**
 - Allow the device a few minutes to stabilize and calibrate after startup.
 - Ensure the camera is used within its specified operating temperature range.
 - Check for any obstructions or dirt on the lens.

8. SPECIFICATIONS

Feature	Specification
Model Number	TC002
IR Resolution	256 x 192 pixels
Super Resolution (TISR)	512 x 384 pixels
Temperature Range	-4°F to +1022°F (-20°C to +550°C)
Thermal Sensitivity (NETD)	<40mK
Refresh Rate	25Hz
Accuracy	±3.6°F (±2°C) or 2% of reading
Effective Distance	16.4 ft (5m)
Power Consumption	350mW
Compatibility	iOS devices with Lightning Port (iPhone 7 and above, iPad with Lightning Connector)
Dimensions	2.8 x 1.7 x 0.55 inches (71 x 42 x 14 mm)
Weight	1.1 oz (30g)

USEFUL THERMAL CAMERA IN YOUR POCKET



Pocket-sized, for easy storage and carrying



Carrying Bag



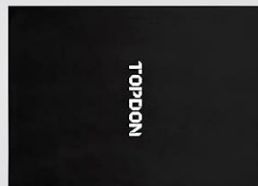
TC002



Cleaning Cloth



19.7in
Adapter Cable



Package Box



Quick User Guide



Package Box

Figure 7: Contents of the TC002 package.

9. WARRANTY INFORMATION

Warranty details for the TOPDON TC002 thermal camera are typically provided with the product packaging or can be found on the official TOPDON website. Please refer to these resources for specific terms and conditions regarding your product's warranty coverage.

10. CUSTOMER SUPPORT

For technical assistance, product inquiries, or support, please contact TOPDON customer service. TOPDON offers 24/7 customer support. You may also find an online chat function within the "TopInfrared" app for direct assistance. Visit the official TOPDON website for the latest support information and contact details: [TOPDON Official Store](#)

Built for Mobility

Compact and lightweight for grab-and-go simplicity.



2.8×1.65×0.55
inches



1.05
ounces

2.8 inch
1.65 inch

Figure 8: TOPDON customer support team.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question