TOPDON®



TC002C Duo

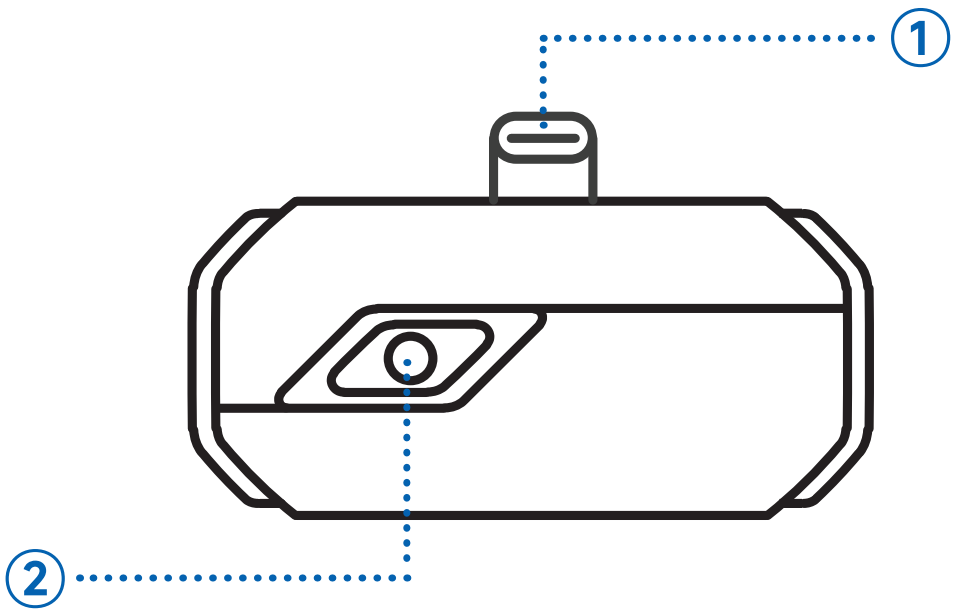
Thermal Camera for Smartphones | User Manual

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1. Product Overview

Thank you for buying TC002C Duo, a portable camera that can turn your smartphone, tablet or Windows laptop into a powerful thermal imager.



① USB-C Connector
② Infrared Lens

2. Caution and Notice

For your safety, the safety of others, and to avoid any damage to the product, CAREFULLY READ AND MAKE SURE YOU FULLY UNDERSTAND ALL THE SAFETY INSTRUCTIONS AND MESSAGES ON THIS MANUAL BEFORE OPERATING.

2.1. Safety Information

- Do not point the infrared camera at the sun or other strong energy sources for long periods of time. This may cause damage to the detector in the camera.
- Keep the unit away from water to avoid leakage or short circuit.
- Do not touch the lens with your hands. Do not knock, pry, puncture, or scratch the lens.
- Do not disassemble the unit.

2.2. Notice to User

- The "clicking" sound is normal and occurs when the infrared camera automatically triggers the shutter. Scattered infrared light creates heat, causing the image to blur. Refreshing the shutter can make the picture clear, but it will produce the "clicking" sound.
- The device is designed to measure surface temperatures but cannot detect heat through transparent materials like glass, acrylic, or water, nor through opaque objects.
- To verify the accuracy of your device's temperature measurement, prepare an ice-water mixture, stir it, and let it settle for a few minutes. Then, enter the interface of **Temperature Correction** via **Learn more**, set the **Emissivity** to 0.96, and input the actual **Distance to Spot**. Use your device to measure the mixture's temperature and check if

the reading falls within the range of 0° C ± 2° C. If yes, it confirms the device's accurate temperature measurement. If not, please contact our after sales team.

- To reduce errors and interference and achieve accurate results, avoid measuring in direct strong light or near reflective surfaces, like glass.

- Extended expose to high-temperature sources may reduce image quality. To address this issue, tap **Image Calibration** under **Learn More** and follow the on-screen instructions.

3. Operating Instructions

TC002C Duo can be used with a mobile device or a Windows computer. This section presents the usage introduction in these two modes.

3.1. Using TC002C Duo with a Mobile Device

1. Download the Topinfrared application from your preferred app store, and then install it on your phone. Alternatively, you can go to www.topdon.com/products/TC002C-Duo, and enter the **Download** page to install the application.

2. Launch the **Topinfrared** application.

3. Connect the TC002C Duo camera to your mobile device directly via the USB-C connector or using the supplied multifunctional adapter cable.

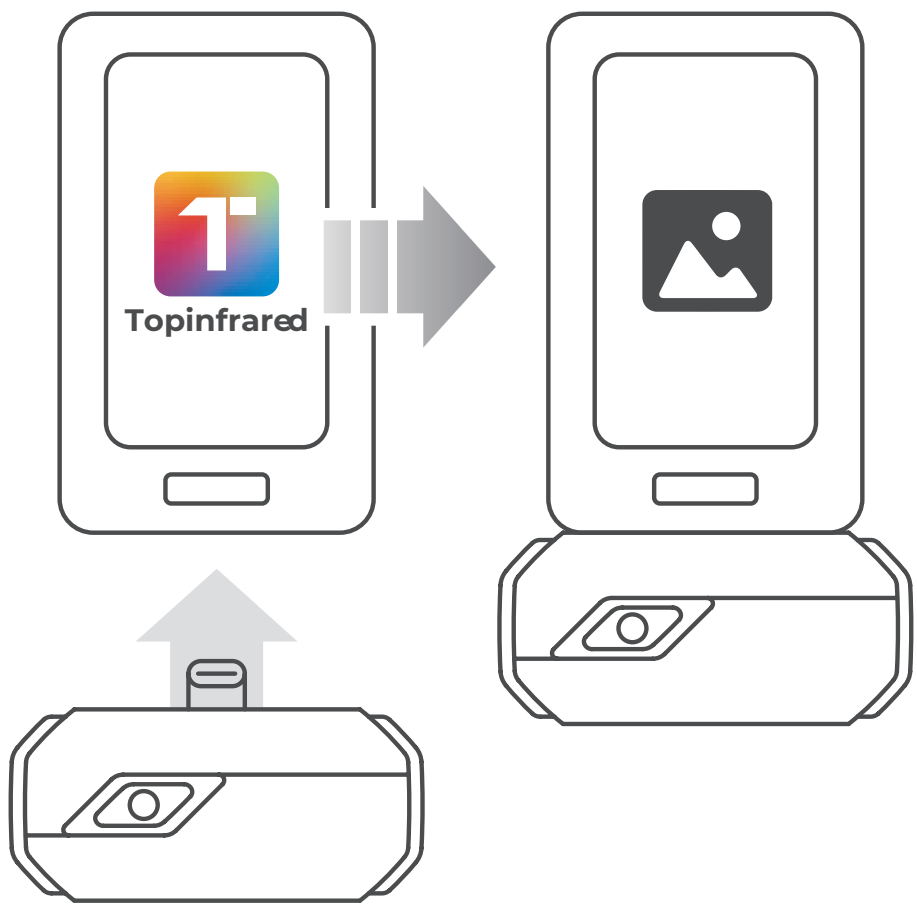


Figure 3.1.1

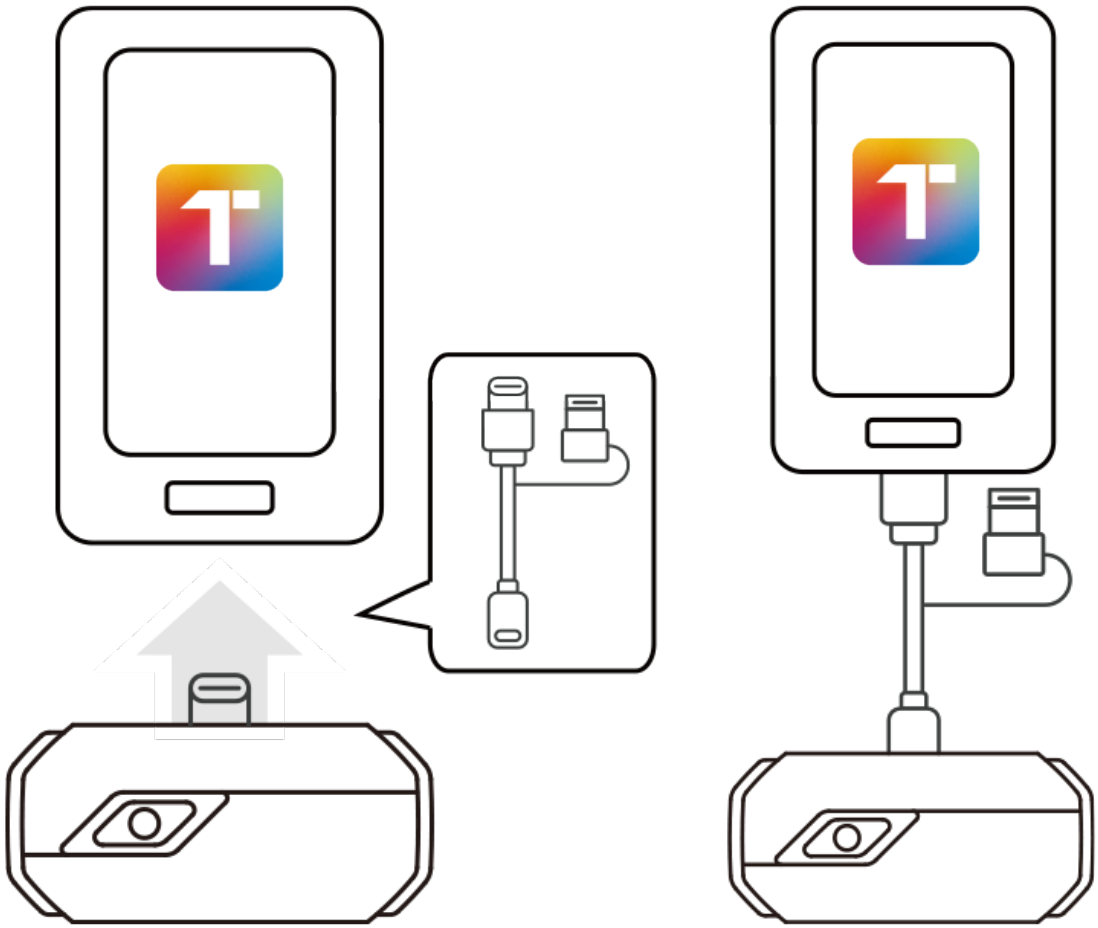


Figure 3.1.2

4. The onboarding of the Topinfrared will guide you and help you setup the permissions for the application. After that, tap **Enable Thermal Imaging**. The application will open in Photo mode and be ready to use.

5. For detailed instructions on operating TC002C Duo with a mobile device, please refer to the user manual of Topinfrared by going to **Me > e-Manual**.

3.2. Using TC002C Duo with a Computer

1. Download the software from the website www.topdon.com/products/TC002C-Duo, and enter the **Download** page to install it or by scanning the QR code below.

2. Connect the TC002C Duo camera to a Windows-based computer using the supplied adapter cable (see figure 3.2.1).

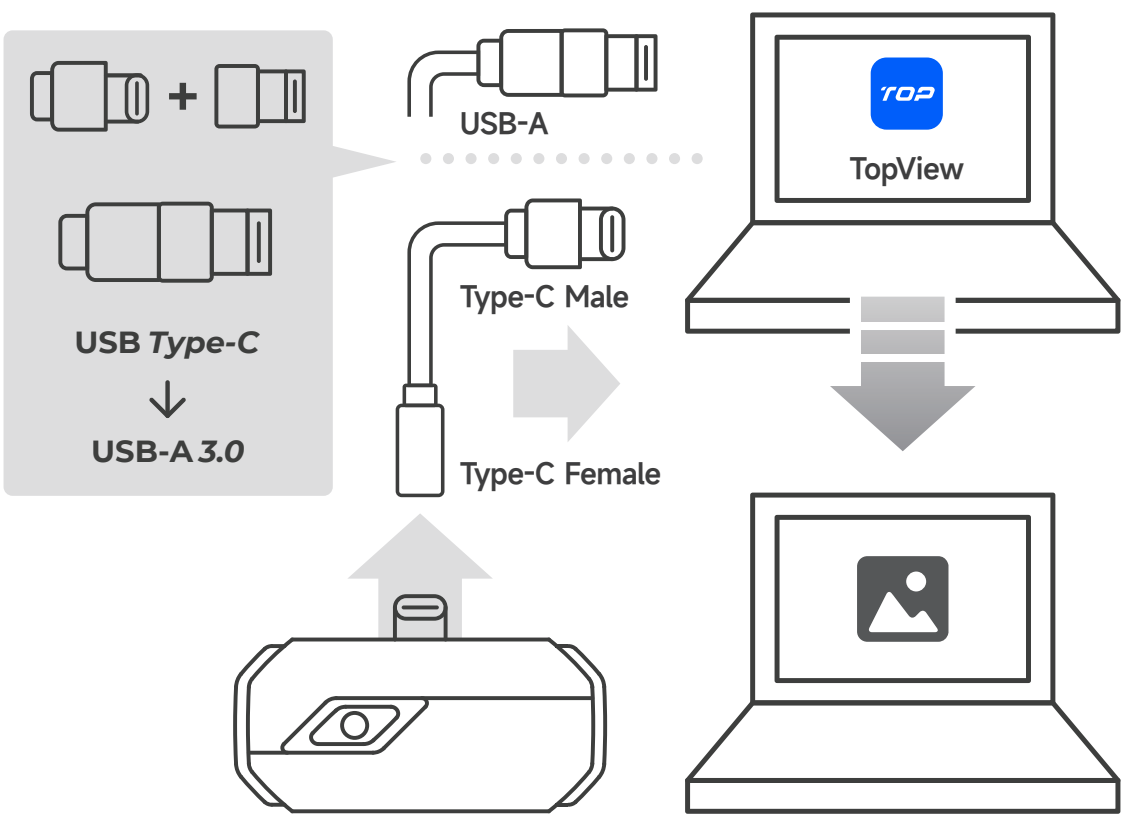


Figure 3.2.1

3. Launch the software, and you can conduct thermal analysis.

4. For detailed instructions on operating TC002C Duo with a Windows-based computer, please refer to the TopView user manual by clicking **File** > **Help** > **User Manual** on the software homepage.

4. Specifications

Camera Resolution	256 × 192 pixels
Thermal Image Super Resolution (TISR)	Supported
Spectral Range	8~14 μm
Pixel Size	12 μm
NETD	< 40 mK
Frame Rate	25 Hz
Object Temperature Range	-20° C~550° C (-4° F~1022° F)
Accuracy	±2° C or ±2% of reading, the larger value shall prevail
Resolution	0.1° C
Compatible Systems	iOS, Android and Windows

5. FAQ

Q: Why is there no response after connecting the TC002C Duo to a phone?

A: Follow the steps offered below to identify the problem:

a) Check if OTG is available in your phone Settings and if it is ON. For most phones, OTG functions are enabled by default and can be used directly. If not, please search "OTG" in Settings and turn it on manually. Please note that the TC002C Duo is not compatible with phones without OTG function.

b) Check if you have downloaded the corresponding application and give necessary authorization.

c) Unplug the TC002C Duo camera and reconnect it. If there is still no response, please contact after-sales personnel.

Q: What external factors will affect the infrared temperature measurement?

A: Temperature measurement results may be affected by factors including emissivity of the object surface, ambient temperature and the distance from the camera to the object.

Q: Why does the temperature reading increase when the device gets closer to the object?

A: Infrared radiation attenuates when passing through the atmosphere. The longer the distance, the greater the attenuation. Thus, the accuracy of temperature measurement at a distance will decrease. To ensure accuracy of measurement, please go to **Learn More** > **Temperature Correction** > **Distance to Spot,** and input the actual distance (max: 5m) to get the corrected temperature.

Q: Why is the measured temperature not precise?

A: The TC002C Duo camera provides a temperature accuracy of ±2%, with a normal temperature range of -20° C~150° C (-4° F~302° F), and a high temperature range of 150° C~550° C (302° F~1022° F). Please select the appropriate range in the application before measuring to ensure more accurate readings.

6. Warranty

TOPDON's One Year Limited Warranty
TOPDON warrants to its original purchaser that the company's products will be free from defects in material and workmanship for 12 months from the date of purchase (Warranty Period).
For the defects reported during the Warranty Period, TOPDON will either repair or replace the defective part or product according to its technical support analysis and confirmation.
TOPDON shall not be liable for any incidental or consequential damages arising from the device's use, misuse, or mounting.
If there is any conflict between the TOPDON warranty policy and local laws, the local laws shall prevail.

This limited warranty is void under the following conditions:
- Misused, disassembled, altered or repaired by unauthorized stores or technicians.
- Careless handling and/or improper operation.

Notice: All information in this manual is based on the latest information available at the time of publication and no warranty can be made for its accuracy or completeness. TOPDON reserves the right to make changes at any time without notice.

7.Compliance Information

FCC Statement

This device complies with Part 15 of the FCC Rules. Its operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

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