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› ET14C Thermal Camera 2.8 inch Thermal Imager ISR 240x240 25Hz Home Infrared Imaging Camera Thermography with Stand Electrical Fault Detect User Manual

TOOLTOP TT-ET14C

TOOLTOP ET14C Thermal Camera User Manual

Model: TT-ET14C

INTRODUCTION

The TOOLTOP ET14C Thermal Camera is an advanced infrared imaging device designed for various applications, including home inspections, electrical fault detection, and general thermography. It features an upgraded 240x240 pixel infrared sensor with a 25Hz image capture frequency, providing clear and detailed thermal images. Its compact design, 2.8-inch display, and detachable battery make it a versatile tool for professionals and enthusiasts alike.



INFRARED THERMAL IMAGING

ET14C

2.8-Inch Screen

ISR 240*240 Pixels 25Hz



Figure 1: TOOLTOP ET14C Thermal Camera highlighting its infrared thermal imaging capabilities and display specifications.

SAFETY INFORMATION

Please read and understand all safety warnings and operating instructions before using this product. Failure to follow these instructions may result in injury or damage to the device.

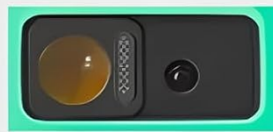
- Do not point the thermal camera directly at strong light sources, such as the sun or high-power lasers, as this may damage the infrared sensor.
- Keep the device dry. Do not expose it to rain, moisture, or immerse it in water.
- Avoid extreme temperatures. Operate the device within the specified operating temperature range (0°C to 50°C).
- Use only the specified battery type (18650 Lithium-ion) and charging methods.
- Do not attempt to disassemble or modify the device. Refer all servicing to qualified personnel.
- Keep out of reach of children.

PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- 1 x TOOLTOP ET14C Thermal Camera
- 1 x USB Type-C Cable
- 1 x English User Manual
- 1 x Storage Bag
- 1 x Macro Lens (Optional, if included with your purchase)

Model : ET14C and Macro Lens



Instrument storage bag



Product manual



Data line

Figure 2: Included items in the TOOLTOP ET14C Thermal Camera package.

PRODUCT OVERVIEW

Familiarize yourself with the components of your ET14C Thermal Camera.



Figure 3: Front and Rear View of the ET14C Thermal Camera.

Key Components:

- **2.8-inch Display:** For viewing thermal images and navigating menus.
- **Infrared Sensor:** Captures thermal data.
- **Control Buttons:** For menu navigation, image capture, and settings adjustment.
- **Type-C USB Port:** For charging and data transfer.
- **Battery Compartment:** Houses the detachable 18650 Lithium-ion battery.
- **Macro Lens Slot (Optional):** For attaching the macro lens.

SETUP

1. Battery Installation and Charging:

1. Open the battery compartment cover on the rear of the device.
2. Insert a fully charged 18650 Lithium-ion battery, ensuring correct polarity.

3. Close the battery compartment cover securely.
4. Connect the supplied USB Type-C cable to the camera's USB port and the other end to a USB power adapter (not included) or a computer. The device can be used for up to 8 hours on a full charge.



Figure 4: Battery installation and Type-C charging port.

OPERATING INSTRUCTIONS

1. Powering On/Off:

Press and hold the power button (usually located on the side or front) for a few seconds to turn the device on or off.

2. Basic Thermal Imaging and Image Capture:

Once powered on, the camera will display a real-time thermal image. Point the camera at the object or area you wish to inspect. The screen will show temperature readings and a thermal representation. To capture an image, press the designated capture button (refer to on-screen prompts or button labels).

3. Color Palettes:

The ET14C supports multiple color palettes to visualize temperature differences. These include Iron Red, Rainbow, Fusion, White Heat, and Red Heat. Navigate through the menu to select your preferred palette for optimal visualization based on your application.

4. Emissivity Adjustment:

Emissivity is a crucial setting for accurate temperature measurement. It represents how well an object emits thermal energy. The ET14C allows adjustment from 0.1 to 0.99 (default is 0.95). Adjust this value based on the material you are measuring for more accurate readings. Consult an emissivity table for common materials if unsure.

5. Macro Lens Usage (Optional):

If your package includes the optional macro lens, it can be used for detailed inspection of small components (down to 1mm*1mm). To use, simply attach the macro lens to the designated slot. During use, you may need to move the macro lens left and right to achieve optimal focus. The optimal working distance for the macro lens is approximately 2.5cm. For distances exceeding this, switch back to normal thermal imaging mode to avoid blurred images.



Figure 5: Using the optional Macro Lens for detailed thermal imaging.

6. PC Software Analysis (USB Mode):

The ET14C supports data transfer and analysis via PC software. Connect the camera to your computer using the USB Type-C cable. The device will enter USB Mode, allowing you to transfer captured thermal images for further analysis and reporting on your computer.

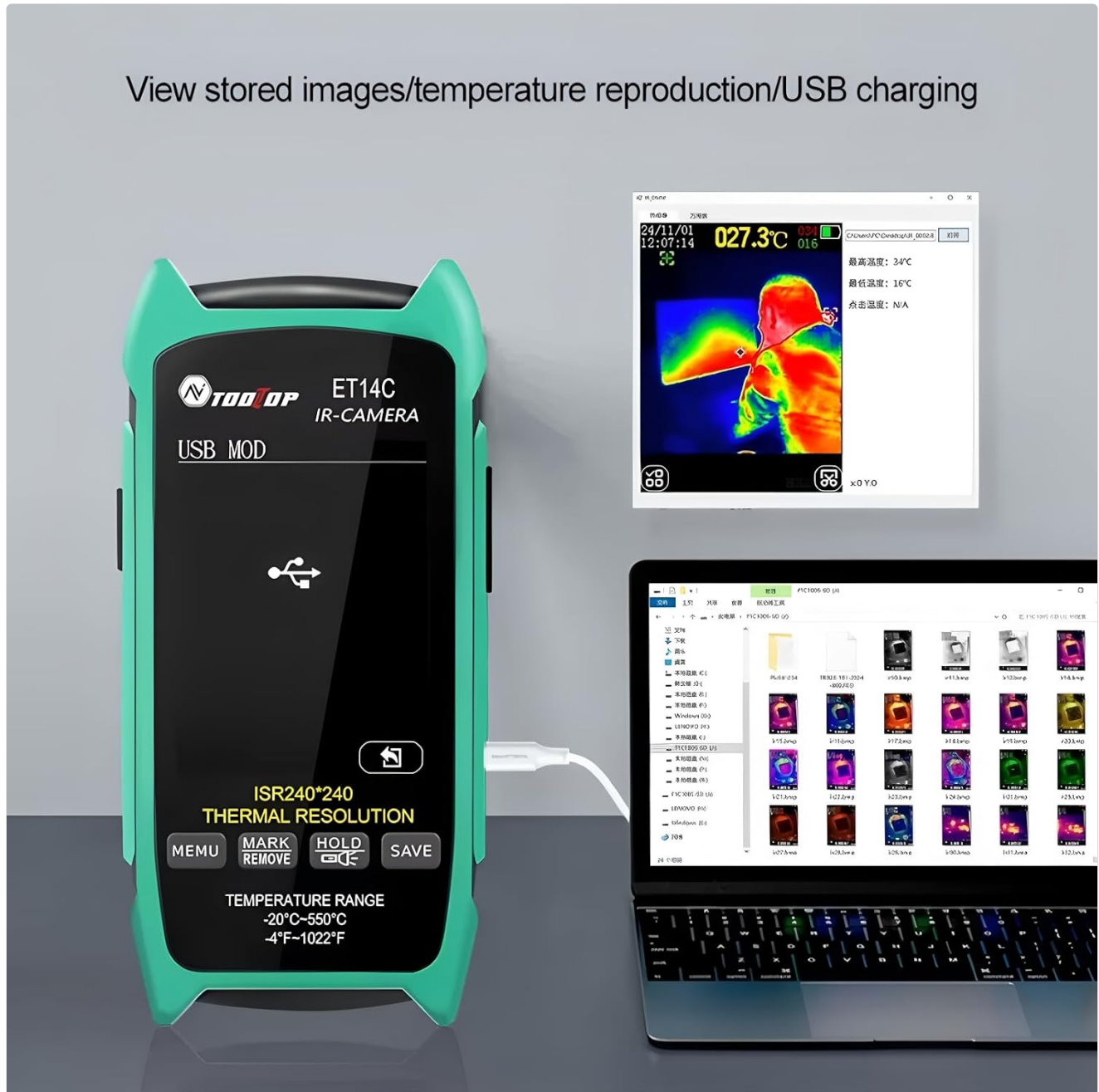


Figure 6: Connecting the ET14C to a PC for data transfer and analysis.

7. Temperature Excess Alert:

The device features a temperature excess alert function. You can set an alarm threshold. If the measured temperature exceeds this threshold, the camera can provide a light alarm and/or an audible alarm, alerting you to potential issues.



Figure 7: Temperature Excess Alert feature in action.

MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the camera body. For the lens, use a lens cleaning cloth and solution specifically designed for optical lenses. Do not use abrasive cleaners or solvents.
- **Storage:** When not in use for extended periods, store the camera in its provided storage bag in a cool, dry place, away from direct sunlight and extreme temperatures. Ensure the battery is partially charged (around 50%) before long-term storage to prolong battery life.
- **Battery Care:** If using a detachable 18650 battery, ensure it is charged regularly, even if not in use, to prevent deep discharge. Replace the battery if its performance significantly degrades.

TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Device does not power on.	Battery is low or not installed correctly.	Ensure battery is charged and correctly inserted. Try charging the device.
Image is blurry or unclear.	Incorrect focus (especially with macro lens) or outside optimal range.	Adjust macro lens position if in use. Ensure object is within the camera's optimal measurement distance.
Inaccurate temperature readings.	Incorrect emissivity setting.	Adjust emissivity setting according to the material being measured.
Cannot connect to PC.	Faulty USB cable or driver issue.	Try a different USB cable or USB port. Ensure the device is in USB mode. Check PC for necessary drivers.

SPECIFICATIONS

Parameter	Value
Thermal Imaging Pixels	ISR 240x240
Image Capture Frequency	25Hz
Temperature Range	-20°C ~ +550°C (-4°F ~ 1022°F)
Accuracy	±2°C or ±2%
Measurement Resolution	0.1°C/0.1°F
Field of View (FOV)	50.0°(H) × 50°(V) / 72.1°(D)
Emissivity	0.1 – 0.99 adjustable (0.95 by default)
Gain Mode	Auto Gain
Color Palettes	Iron Red, Rainbow, Fusion, White Heat, Red Heat
Display Type	2.8-inch, 240 x 320 resolution
USB Interface	Type-C USB
Storage Capacity	7.5MB
Image Storage Format	BMP
Battery Type	Detachable 18650 Lithium-ion battery
Battery Life	Up to 8 hours (continuous use)
Languages	Chinese, English, German
Operating Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)

Parameter	Value
Operating Humidity	<85%RH (non-condensing)
Dimensions (L x W x H)	134 mm x 64 mm x 28 mm
Weight (Host with battery)	180g
Certifications	CE, RoHS

WARRANTY AND SUPPORT

This TOOLTOP ET14C Thermal Camera comes with a manufacturer's warranty. Please refer to the warranty card included in your package or contact TOOLTOP customer support for detailed warranty terms and conditions. For technical support, troubleshooting assistance, or service inquiries, please contact your retailer or the manufacturer directly.

Manufacturer: TOOLTOP

EU Spare Part Availability Duration: 1 Years

For the most up-to-date support information, please visit the official TOOLTOP website or contact their customer service.

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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