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› Hti-Xintai HT-03 Thermal Imaging Camera User Manual

Hti-Xintai HT-03

Hti-Xintai HT-03 Thermal Imaging Camera User Manual

Model: HT-03

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective operation of your Hti-Xintai HT-03 Thermal Imaging Camera. Please read this manual thoroughly before using the device and retain it for future reference. The HT-03 is a pocket-sized infrared camera designed for various applications, including home inspections, identifying heat leaks, insulation issues, and electrical or plumbing problems. It features real-time thermal imaging and precise temperature measurement capabilities.



Image 1.1: Hti-Xintai HT-03 Thermal Imaging Camera. A yellow and black handheld device with a screen displaying a thermal image of a hand.



Image 1.2: Overview of the HT-03's key features, including 120x90 infrared thermal resolution, 2-3 hour working hours, and 2000mAh battery capacity.

2. PACKAGE CONTENTS

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

- Thermal Camera (HT-03) x1
- Power Adapter x1
- USB Cable x1
- Protective Bag x1
- Hti Color Box x1
- User Manual x1



Image 2.1: Contents of the HT-03 package, including the thermal camera, USB cable, power adapter, and protective bag, alongside a specifications table.

3. PRODUCT FEATURES AND COMPONENTS

Familiarize yourself with the various parts of your HT-03 thermal imaging camera:



Image 3.1: Diagram showing the labeled components of the HT-03 camera, including the Micro USB port, infrared lens, digital camera lens, LED light, Power ON/OFF Key, Trigger button, Navigation Keys (Up, Down, Left, Right), Selection/Enter key, and Camera screen.

- **USB Port:** The device features a USB port (visually depicted as Micro USB in the diagram) for charging and data transfer.
- **Infrared Lens:** Captures thermal radiation.
- **Digital Camera Lens:** Captures visible light images.
- **LED Light:** Can be used as a flashlight or for photo illumination.
- **Power ON/OFF Key:** Turns the device on or off.
- **Trigger Button:** A short press captures a thermal image. Press and hold for 2 seconds to activate/deactivate the LED light. Press and hold for 4 seconds to start/stop video recording.
- **Navigation Keys (Up, Down, Left, Right):** Used to navigate menus and settings.
- **Selection/Enter Key:** Confirms selections.
- **Camera Screen:** 2.8" Full angle TFT display for viewing thermal and visible images.

4. SETUP

4.1. Charging the Device

The HT-03 thermal camera is equipped with a rechargeable Lithium Polymer battery. To charge the device:

1. Connect the provided USB cable to the USB port on the camera.
2. Connect the other end of the USB cable to the power adapter.
3. Plug the power adapter into a standard electrical outlet.
4. Alternatively, you can charge the camera by connecting the USB cable to a computer or a power bank.

The battery indicator on the screen will show the charging status. Ensure the device is fully charged before first use for optimal performance.



Image 4.1: The HT-03 thermal camera connected to a USB power adapter for charging.

PC charging via USB connection, and export video, photos.



Image 4.2: The HT-03 thermal camera connected to a laptop via USB for charging and data transfer.

5. OPERATING INSTRUCTIONS

5.1. Power On/Off

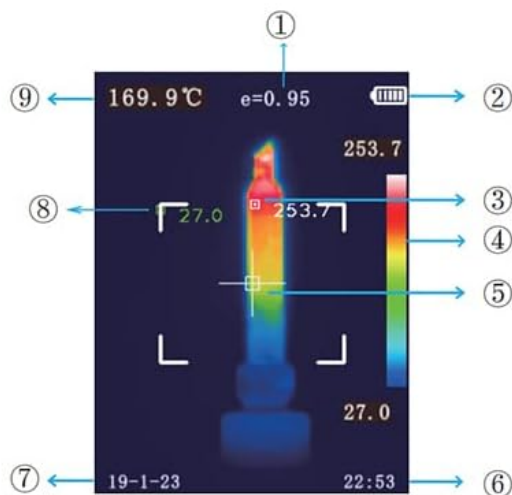
To power on the device, press and hold the Power ON/OFF Key until the screen illuminates. To power off, press and hold the same key until the device shuts down.

5.2. Screen Elements Explanation

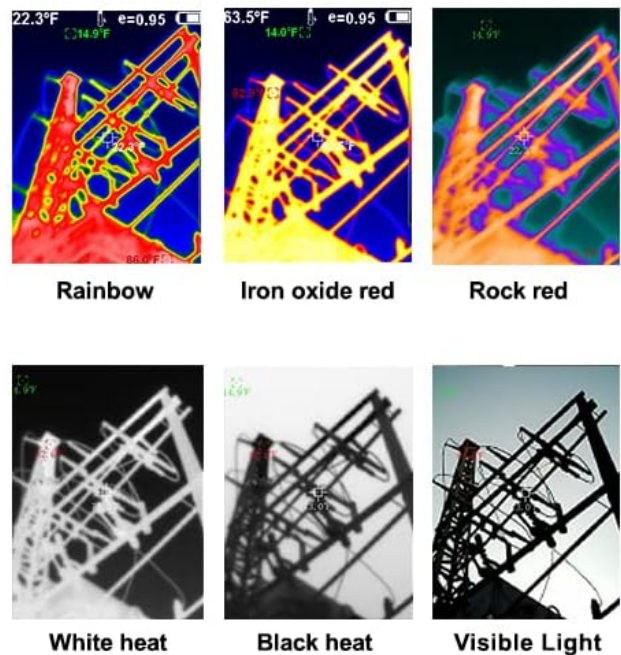
The 2.8" TFT display provides various information during operation. Refer to the diagram below for an explanation of the screen elements:

1、 Screen elements Explanation

2、 Color Palette Description



- ① Emissivity
- ② Battery level
- ③ The highest temperature cursor
- ④ Color code
- ⑤ Central point temperature cursor
- ⑥ Time
- ⑦ Date
- ⑧ The lowest temperature cursor
- ⑨ Central temperature



- The radiation coefficient may be adjusted to increase the measurement accuracy of objects with half reflection surface.
- The highest temperature and lowest temperature cursor may guide the users to the areas with highest and lowest temperature of the thermal images.
- Provide selectable color palettes.

Image 5.1: Diagram illustrating the various indicators on the HT-03 screen, including Emissivity, Battery level, Highest temperature cursor, Lowest temperature cursor, Color code, Central point temperature cursor, Date, Time, and Central temperature.

1. **Emissivity:** The radiation coefficient, adjustable from 0.02 to 1.0. Adjusting this can increase measurement accuracy for objects with half-reflection surfaces.
2. **Battery level:** Indicates the remaining battery charge.
3. **Highest temperature cursor:** Marks the hottest point in the thermal image.
4. **Lowest temperature cursor:** Marks the coldest point in the thermal image.
5. **Color code:** Represents the temperature scale.
6. **Central point temperature cursor:** Displays the temperature at the center of the screen.
7. **Date:** Current date.
8. **Time:** Current time.
9. **Central temperature:** The temperature reading at the central point.

5.3. Color Palettes

The HT-03 offers five selectable color palettes to visualize thermal images. Different palettes can highlight temperature differences more effectively depending on the application.



Image 5.2: Examples of the five available color palettes: White Hot, Black Hot, Iron, Rainbow, and Cold color. These palettes help in visualizing temperature variations.

The available thermal palettes are:

- **White Hot:** Displays hotter areas as white and colder areas as black.
- **Black Hot:** Displays hotter areas as black and colder areas as white.
- **Iron:** A common palette that uses a spectrum of colors, often red and yellow for hot, blue for cold.
- **Rainbow:** Uses a full spectrum of colors to represent temperature gradients.
- **Cold color:** Emphasizes colder temperatures with specific color ranges.

The device also supports a visible light mode, allowing for standard optical images alongside thermal ones. Use the navigation keys to cycle through and select your preferred color palette from the menu.

5.4. Temperature Measurement

The HT-03 provides temperature measurements within a range of -4°F to 752°F (-20°C to 400°C) with an accuracy of $\pm 2\%$ or $\pm 2^\circ\text{C}$.

- **Emissivity Adjustment:** The emissivity can be adjusted from 0.02 to 1.0. Correctly setting the emissivity for the material being measured is crucial for accurate temperature readings.
- **Hot/Cold Spot Tracking:** The device features automatic hot and cold spot tracking, displaying the highest (MAX) and lowest (MIN) temperatures within the field of view.
- **Center Point Tracking:** Monitors and displays the temperature at the center of the screen in real-time.



Image 5.3: The HT-03 displaying hot and cold spot tracking, showing maximum and minimum temperatures in the thermal image.

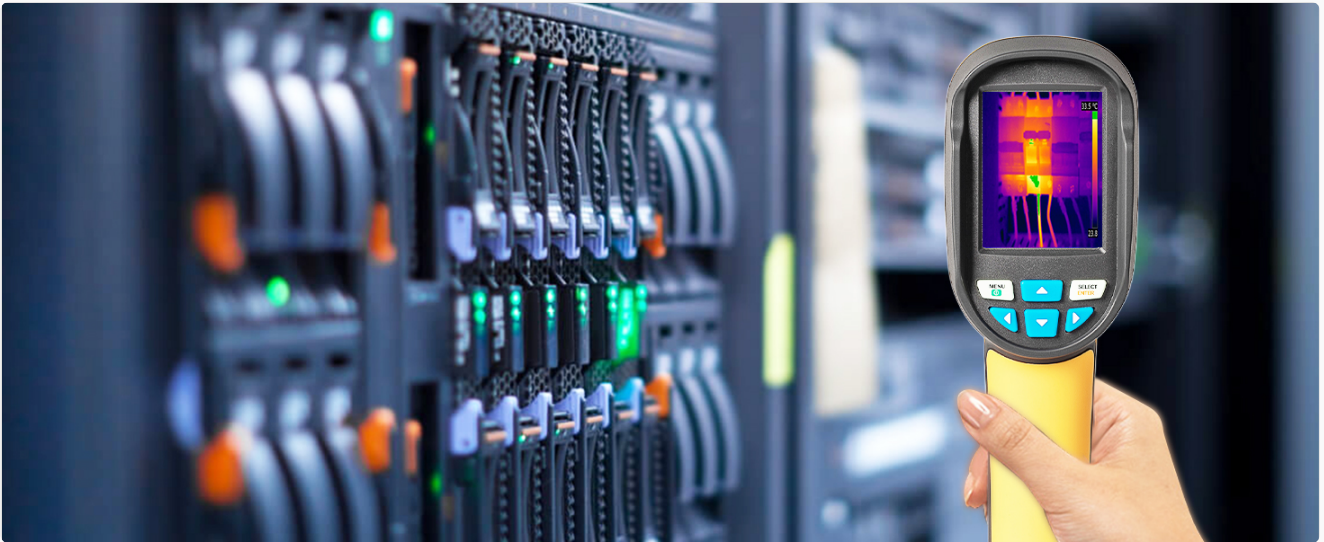


Image 5.4: Illustration of adjustable emissivity feature, showing how to set the emissivity for more accurate temperature readings based on material type.

5.5. Image and Video Capture

The HT-03 allows you to capture both thermal images and videos.

- **Taking Photos:** A short press of the Trigger button captures a thermal image.
- **Recording Videos:** Press and hold the Trigger button for approximately 4 seconds to start recording a video. Press again to stop.
- **LED Light:** Press and hold the Trigger button for 2 seconds to turn the built-in LED spotlight on or off. This can be used as a flashlight or for illuminating visible light photos.

5.6. Data Transfer and Analysis Software

The HT-03 stores captured images and videos internally. You can transfer these files to a computer for viewing and further analysis.

1. Connect the camera to your computer using the provided USB cable.
2. The camera will appear as a removable storage device. You can access the stored JPG image files and video recordings.
3. The device supports analysis software for more in-depth examination of thermal data. Refer to the manufacturer's website or included software for installation and usage instructions.

New function: analysis software and video recording function

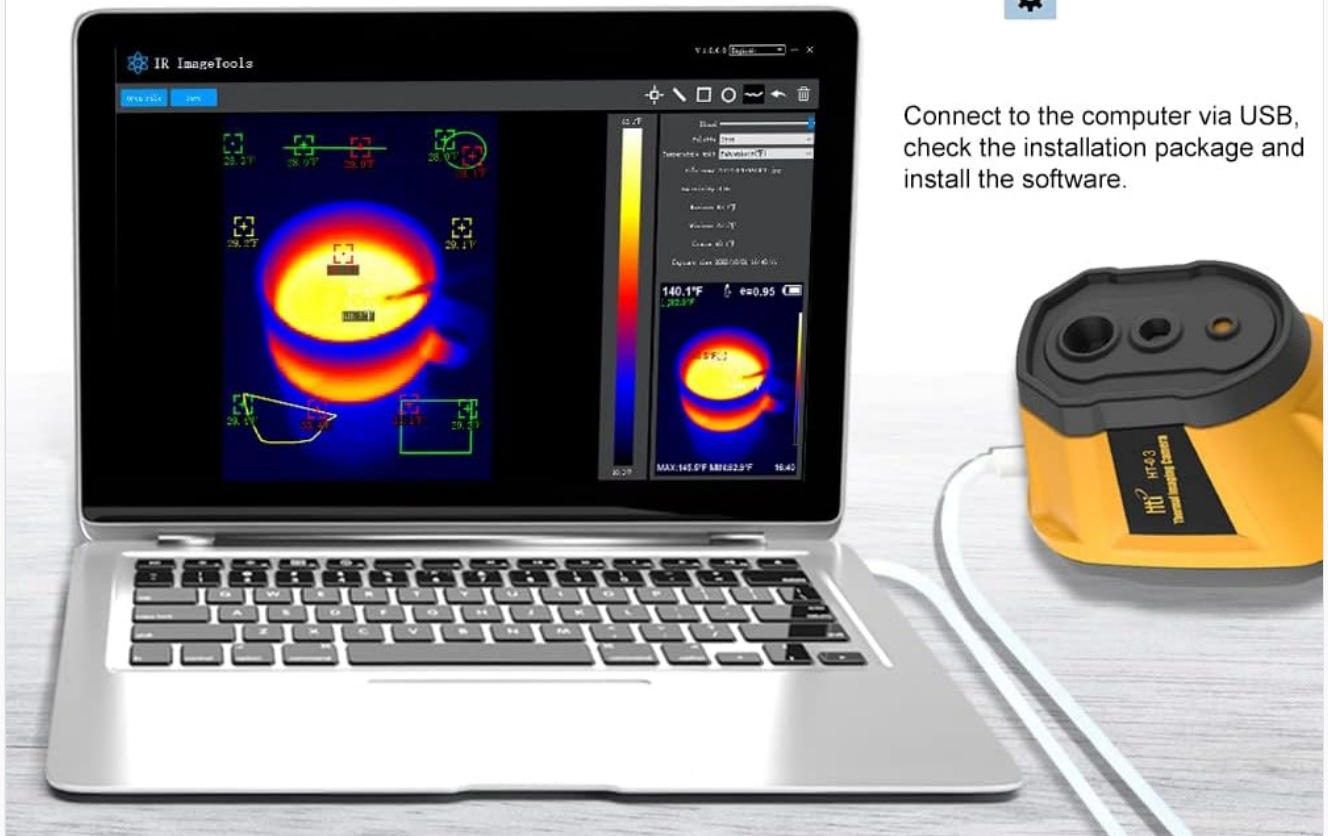


Video



Analyzing Software

You can export videos and photos on your computer



Connect to the computer via USB, check the installation package and install the software.

Image 5.5: The HT-03 connected to a laptop, showing the interface for analysis software and video/photo export.



Image 5.6: Visual representation highlighting the analysis software, video recording, and HD image capabilities of the HT-03.

5.7. Applications

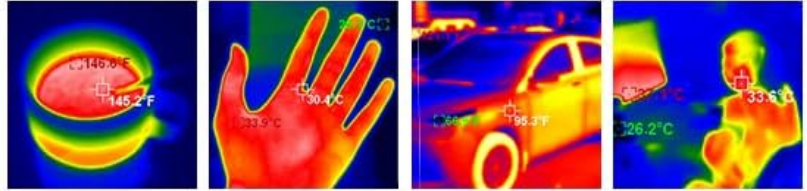
The HT-03 thermal camera is a versatile tool for identifying invisible problems across various fields:

Faster to Find Invisible Problems

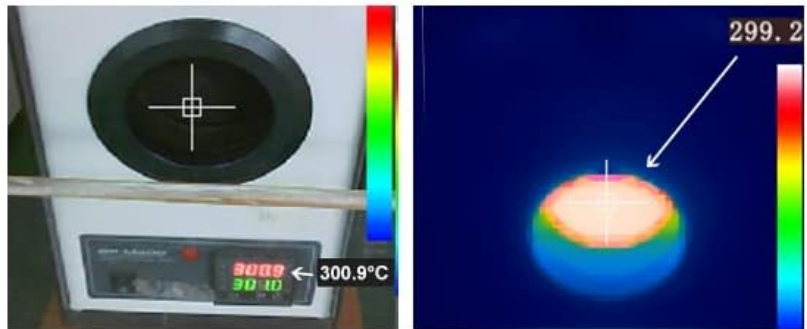
Facility Maintenance



▼ Image display



▼ Accurate temperature measurement



▼ Visible light and thermal imaging

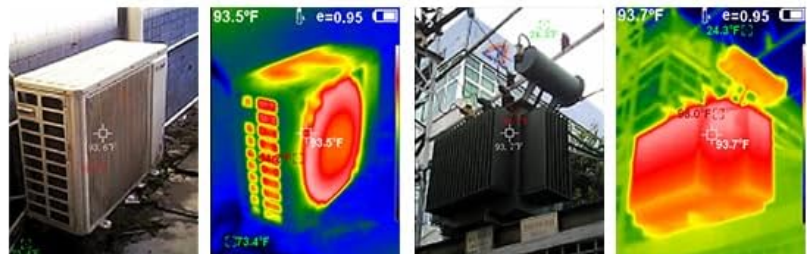


Image 5.7: Examples of the HT-03 in use for facility maintenance, showing image display, accurate temperature measurement, and combined visible light and thermal imaging for various scenarios like HVAC systems and electrical components.

- **Home Inspections:** Detect heat leaks, insulation deficiencies, and drafts.
- **Electrical Systems:** Identify overheating components, loose connections, and circuit overloads.
- **Plumbing:** Locate leaks, blockages, and assess water heater performance.
- **HVAC Systems:** Evaluate airflow, ductwork integrity, and system efficiency.
- **Automotive:** Diagnose engine overheating, brake issues, and electrical faults.

6. 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:** Store the camera in its protective bag in a cool, dry place when not in use. Avoid extreme temperatures and high humidity.
- **Battery Care:** To prolong battery life, avoid fully discharging the battery frequently. If storing for an extended

period, charge the battery to approximately 50% and recharge every few months.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Battery is depleted.	Charge the device using the provided USB cable and power adapter.
Thermal image appears unclear or inaccurate.	Incorrect emissivity setting; lens is dirty; object is outside measurement range.	Adjust emissivity for the target material. Clean the infrared lens. Ensure the target temperature is within -4°F to 752°F (-20°C to 400°C).
Cannot transfer files to computer.	USB cable is faulty; incorrect connection; computer driver issue.	Try a different USB cable. Ensure the cable is securely connected to both the camera and the computer. Restart the computer.
Screen freezes or device is unresponsive.	Temporary software glitch.	Press and hold the Power ON/OFF Key to force a restart. If the issue persists, contact customer support.

8. SPECIFICATIONS

Feature	Specification
Model	HT-03
Infrared Resolution	120x90
Visible Image Resolution	300,000 pixels
Temperature Measurement Range	-4°F to 752°F (-20°C to 400°C)
Temperature Accuracy	±2% or ±2°C
Emissivity	Adjustable 0.02-1.0
Display Screen	2.8" Full angle TFT display
Color Palettes	White Hot, Black Hot, Iron, Rainbow, Cold color
Storage	1.5GB (internal, for images/videos)
Battery Type	1 Lithium Polymer battery (included)
Working Hours	2-3 hours
Power Interface	Micro USB
Automatic Shutdown	5 minutes (adjustable)
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)

Feature	Specification
Relative Humidity	10% to 85% (non-condensing)
Product Weight	375g (approx. 0.83 lbs)
Product Size	88mm x 72mm x 203mm

9. WARRANTY AND SUPPORT

The Hti-Xintai HT-03 Thermal Imaging Camera comes with a **24-month warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.

For technical support, warranty claims, or any questions regarding your product, please contact Hti-Xintai customer service. Contact information can typically be found on the product packaging or the official Hti-Xintai website.

Please have your model number (HT-03) and purchase details ready when contacting support.



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For more information, visit [Hti-Xintai Store](#).