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> MDWXDOFP TOOLTOP ET12S Thermal Imaging Camera Multimeter User Manual

## MDWXDOFP ET12S

# MDWXDOFP TOOLTOP ET12S Thermal Imaging Camera Multimeter

User Manual

## INTRODUCTION

The MDWXDOFP TOOLTOP ET12S is an advanced 2-in-1 device combining a thermal imaging camera with a digital multimeter. This compact and portable tool is designed for various applications, including circuit board inspection, power supply maintenance, electronic equipment repair, and home appliance overhaul. It features a 2.8-inch resistive touch screen, data transmission capabilities, and PC software analysis for comprehensive diagnostics.

The ET12S model offers a superior thermal imaging resolution of 90x120 pixels, providing more detailed thermal insights compared to basic models. Its multimeter functions include measuring DC voltage, AC voltage, resistance, diode, continuity, and capacitance.



Image: The TOOLTOP ET12S device, showcasing its thermal imaging and multimeter display modes.

## SETUP

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## 1. Charging the Device

The ET12S features a built-in lithium battery. Before initial use, fully charge the device using the provided USB cable and a compatible USB power adapter. The charging indicator will show the charging status.

## 2. Power On/Off

- To power on: Press and hold the power button (usually marked with a power symbol) until the screen illuminates.
- To power off: Press and hold the power button again until the device shuts down.

## 3. Screen Operation

The device uses a resistive touch screen. For optimal responsiveness, it is recommended to use a fingernail or a stylus for screen interactions, rather than the skin of your fingertips.

## 4. Language Settings

The device supports both Chinese and English languages. To change the language, navigate to the settings menu on the device screen and select your preferred language option.

# OPERATING INSTRUCTIONS

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## 1. Switching Between Functions

The ET12S allows for one-click switching between its thermal imaging camera and multimeter functions. Use the dedicated button or on-screen icon to toggle between these two modes.

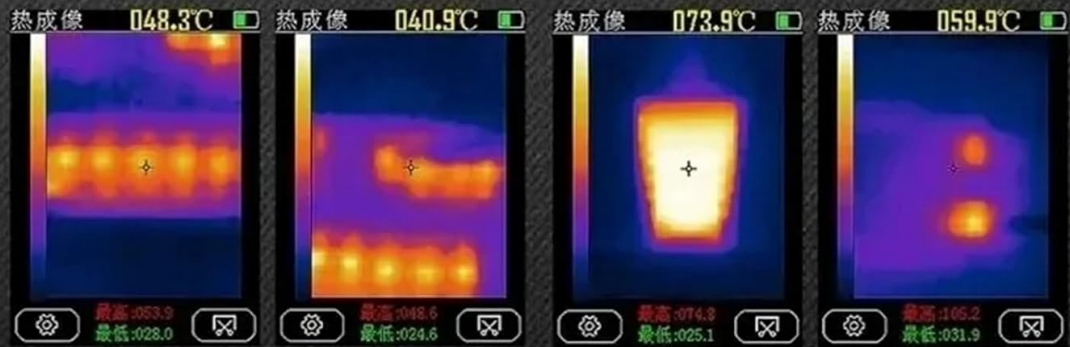
## 2. Thermal Imaging Mode

In thermal imaging mode, the device displays a thermal map with a resolution of 90x120 pixels. This higher resolution provides more detailed temperature distribution and hot/cold spot identification. The device performs a non-uniformity correction by calibrating its thermal imaging detector approximately every 10 seconds. This process involves a mechanical control calibration plate and may cause a brief pause of 1-3 seconds in the display. This is a normal operation to ensure accurate measurements.

# Pixel comparison

Before making a purchase, please carefully consider the difference in imaging effects between the two models. The ET11S is the basic model 32\*24, providing limited imaging effects. If you require a thermal imager shows more imaging details, we recommend ET12S.

## ET11S 24\*32 IR Resolution



## ET12S 90\*120 IR Resolution



Image: A visual comparison demonstrating the superior 90x120 IR resolution of the ET12S model compared to the 24x32 resolution of the ET11S, showing enhanced detail in thermal images.

### 3. Multimeter Mode

The multimeter function allows for various electrical measurements:

- **DC Voltage:** Measure direct current voltage.
- **AC Voltage:** Measure alternating current voltage.
- **Resistance:** Measure electrical resistance in ohms.
- **Diode Test:** Check the functionality of diodes.
- **Continuity:** Test for electrical continuity in circuits.
- **Capacitance:** Measure electrical capacitance.

### 4. Data Transmission and PC Software Analysis

The ET12S supports data transmission via USB. Connect the device to a computer using a USB cable to transfer locally saved thermal imaging pictures and multimeter measurement results. Dedicated PC software (download link provided in the Support section) allows for detailed analysis and display of this data on your computer.

## MAINTENANCE

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### 1. Cleaning

Regularly clean the device casing with a soft, dry cloth. For the screen, use a soft, lint-free cloth specifically designed for electronics screens. Avoid using abrasive cleaners or solvents that could damage the screen or casing.

### 2. Battery Management

To conserve battery life, the device is equipped with automatic screen turn-off and automatic power-off functions. Ensure the device is fully charged before extended use and store it with a partial charge if not used for long periods.

### 3. Storage

Store the ET12S in a cool, dry place, away from direct sunlight, extreme temperatures, and high humidity. Keep it protected from dust and physical impact.

## TROUBLESHOOTING

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### 1. Thermal Image Display Pauses

**Issue:** The thermal image display briefly pauses or freezes for 1-3 seconds periodically.

**Solution:** This is a normal phenomenon. The device performs a mechanical control calibration every 10 seconds to ensure accurate thermal measurements. This brief pause is part of the calibration process and does not indicate a malfunction.

### 2. Unresponsive Touch Screen

**Issue:** The touch screen does not respond consistently to finger touches.

**Solution:** The ET12S uses a resistive touch screen. For best results, use a fingernail or a stylus for screen interactions. Ensure the screen is clean and free of debris.

### 3. PC Software Connection Issues

**Issue:** Unable to connect the device to PC software or transfer data.

**Solution:** Ensure the USB cable is securely connected to both the device and the computer. Verify that the correct PC software drivers are installed. Try using a different USB port or cable. Refer to the PC software's documentation for specific connection instructions.

## SPECIFICATIONS

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Feature	Specification
Model	ET12S
Thermal Imaging Resolution	90x120 pixels
Screen Size	2.8 inches
Screen Type	Resistive Touch Screen

<b>Screen Resolution</b>	320x480
<b>Multimeter Functions</b>	DC Voltage, AC Voltage, Resistance, Diode, Continuity, Capacitance
<b>Battery</b>	Built-in Lithium Battery (USB Charging)
<b>Language Support</b>	Chinese, English
<b>Item Weight</b>	50 Grams (1.76 ounces)
<b>Package Dimensions</b>	1.18 x 0.79 x 0.39 inches

## WARRANTY INFORMATION

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This product is covered by a standard manufacturer's warranty. Please refer to the warranty card included with your purchase or contact the manufacturer directly for specific terms and conditions regarding warranty coverage and duration.

## SUPPORT

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For technical assistance, troubleshooting, or any inquiries regarding your MDWXDOFP TOOLTOP ET12S, please contact the manufacturer's customer support. Contact details can typically be found on the product packaging or the manufacturer's official website.

**PC Software Download Link:** <http://doctuchuang.eirbio.cn/fr01/IR-DMM.rar>