

## Mastfuyi FY12

# Mastfuyi FY12 Thermal Imager User Manual

Model: FY12

## 1. INTRODUCTION

---

This manual provides comprehensive instructions for the safe and effective operation of your Mastfuyi FY12 Thermal Imager. Please read this manual thoroughly before using the device and retain it for future reference.



Figure 1: Mastfuyi FY12 Thermal Imager, including the device, USB charging cable, and protective carrying case.

## 2. SETUP

---

### 2.1 Charging the Battery

The FY12 Thermal Imager features a built-in 2500mAh lithium battery. Before initial use, ensure the device is fully charged.

- Connect the provided USB Type-C cable to the charging port on the device.
- Connect the other end of the USB cable to a compatible USB power adapter (not included) or a computer USB port.
- The charging indicator will show the charging status. A full charge typically takes approximately 3 hours.
- A fully charged battery provides over 7 hours of continuous operation.

### 2.2 Memory Card

The device includes a built-in 4GB memory card for storing thermal images.

- The 4GB memory card can store approximately 30,000 image files in BMP format.
- To access stored images, connect the thermal imager to a computer using the USB Type-C cable.  
The device will appear as a removable storage device, allowing you to transfer and analyze pictures.

### 3. OPERATING INSTRUCTIONS

---

#### 3.1 Power On/Off

- To power on the device, press and hold the power button until the screen illuminates.
- To power off, press and hold the power button again until the device shuts down.

#### 3.2 Image Capture and Positioning

The FY12 allows for quick image capture and precise positioning using its integrated laser.

- **Short Press:** A short press of the capture button will take a picture and save it to the internal memory.
- **Long Press:** A long press of the capture button activates the laser infrared for precise positioning of the measurement target.



Figure 2: Using the laser for precise positioning and measurement.

### 3.3 Temperature Measurement and Display

The thermal imager is capable of detecting temperatures at 57,600 points simultaneously, providing instant visual thermography for rapid fault detection.

#### 3.3.1 Color Palettes

The device offers 15 distinct color display modes to visualize temperature differences, enhancing clarity for various applications.

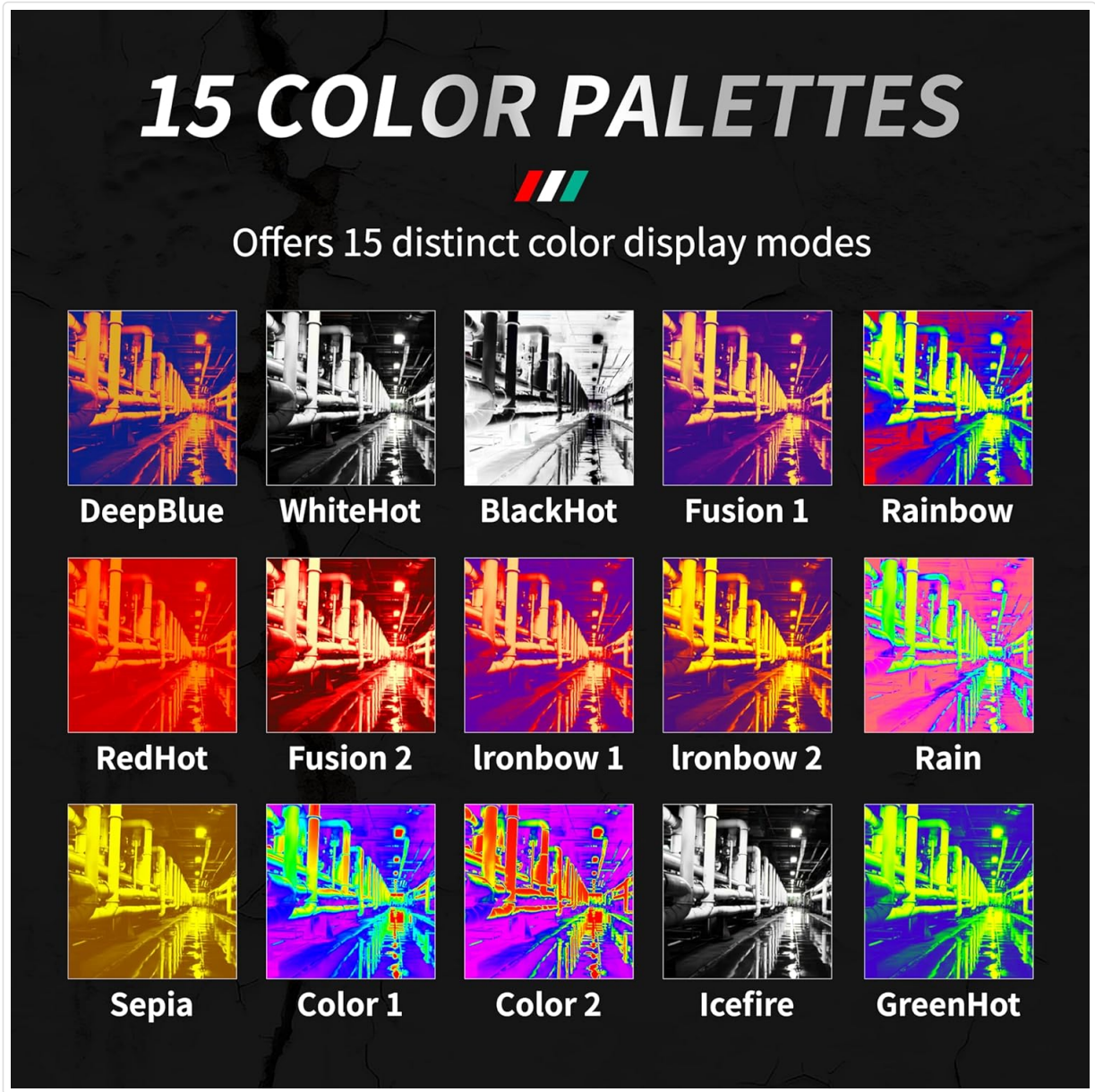


Figure 3: Overview of the 15 available color palettes for thermal imaging.

#### 3.3.2 Automatic Temperature Tracking

The FY12 automatically tracks and displays the highest, lowest, and center point temperatures on the screen in real-time.



# AUTOMATICALLY TRACKING



High temperature, low temperature, center temperature 3 points simultaneously measurement.  
Automatically track the Highest temperature, Lowest temperature, and center point temperature in the same screen, and display temperature values in real-time.

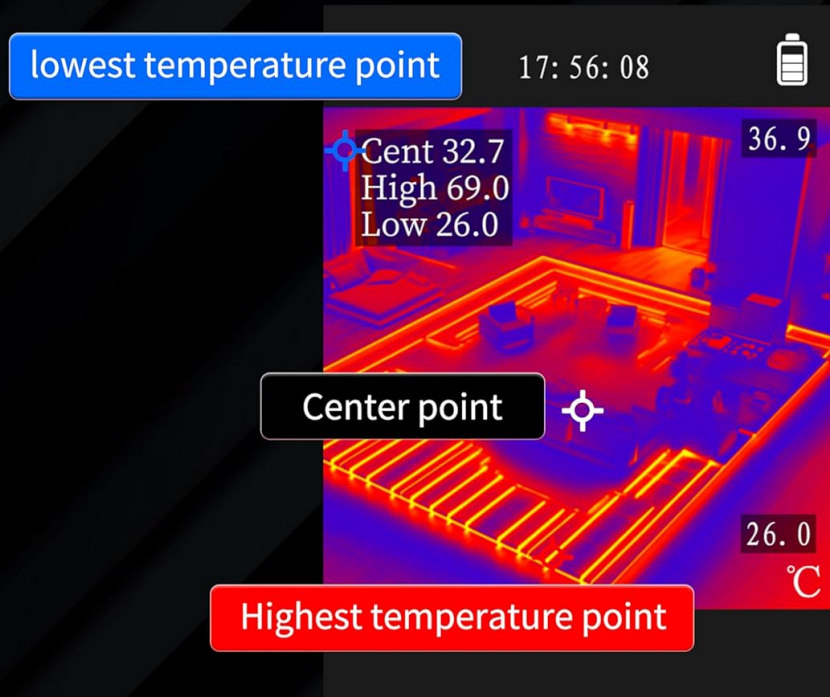


Figure 4: Automatic tracking of high, low, and center temperatures on the display.

### 3.3.3 Temperature Alarm

You can set high and low alarm values in the menu. If the measured temperature exceeds these set values, the corresponding temperature reading on the screen will turn red, indicating a critical condition.

# TEMPERATURE ALARM



Menu can set high/low alarm values



Figure 5: Temperature alarm feature, highlighting critical temperature readings in red.

## 3.4 Adjustable Emissivity and Measuring Distance

For accurate temperature readings, the emissivity and measuring distance can be adjusted.

- **Emissivity:** The emissivity can be adjusted from 0.1 to 1.0 to match the surface properties of the object being measured. Refer to standard emissivity tables for common materials.
- **Measuring Distance:** The optimal measuring range can be adapted between 0.3 meters and 3 meters, depending on the application and desired accuracy.

# ADJUSTABLE EMISSIVITY &



the emissivity can be adjusted according to different measurement needs on objects (ranging from 0.1 to 1)  
measuring range can be adapted based on varying distance requirements (between 0.3 meters to 3 meters).



Figure 6: Illustration of adjustable emissivity and measuring distance settings.

## 4. MAINTENANCE

### 4.1 Cleaning

- Use a soft, dry cloth to clean the exterior of the device.
- For the lens, use a specialized lens cleaning cloth and solution to avoid scratches.
- Do not use abrasive cleaners or solvents.

### 4.2 Storage

- Store the thermal imager in its protective carrying case when not in use.
- Keep the device in a cool, dry place, away from direct sunlight and extreme temperatures.

### 4.3 Durability

The Mastfuyi FY12 features an IP54 rating, making it waterproof and dustproof. Its high-quality double-injection-molded body is designed to withstand falls from up to 1.5 meters in height.

## 5. TROUBLESHOOTING

If you encounter issues with your Mastfuyi FY12 Thermal Imager, please refer to the following common solutions:

- **Device not powering on:** Ensure the battery is fully charged. Connect the device to a power source and attempt to power on again.
- **Unclear image:** Check if the lens is clean. Adjust the focus if available (this model has fixed focus, so ensure proper distance). Verify emissivity settings for the target material.
- **Inaccurate temperature readings:** Confirm the correct emissivity setting for the surface being measured. Ensure the measuring distance is within the recommended range (0.3m to 3m).
- **Cannot save images:** Check if the internal 4GB memory is full. Connect to a computer to transfer or delete old images.
- **Device unresponsive:** Try performing a soft reset by holding the power button for an extended period (e.g., 10-15 seconds) until the device restarts or shuts down.

If problems persist, please contact Mastfuyi customer support for further assistance.

## 6. SPECIFICATIONS

Feature	Specification
Model	FY12
IR Resolution	96 x 96 (9,216 pixels), enhanced to 240 x 240 (57,600 pixels) with SuperIR technology
Frame Rate	25 Hz
Temperature Measuring Range	-20°C to 550°C (-4°F to 1022°F)
Field of View (FOV)	50° x 50°
Display	2.4-inch TFT LCD with LED backlighting
Color Palettes	15 modes
Emissivity	Adjustable (0.1 to 1.0)
Measuring Distance	0.3 meters to 3 meters
Battery	Built-in 2500mAh Lithium, USB Type-C rechargeable
Battery Life	7+ hours continuous use
Storage	Built-in 4GB memory card (approx. 30,000 BMP images)
Ingress Protection (IP) Rating	IP54 (Waterproof and Dustproof)
Drop Resistance	1.5 meters
Dimensions	8.86 x 3.98 x 2.99 inches



Feature	Specification
Weight	1.06 Pounds



Figure 7: The 50°x50° wide-angle lens provides a broad view, ideal for inspecting infrastructure.



Figure 8: The wide temperature measurement range of -20°C to 550°C supports diverse applications.







## 7. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the warranty card included with your product or visit the official Mastfuyi website. You may also contact Mastfuyi customer service directly for assistance with product operation, troubleshooting, or repair services.

**Manufacturer:** Mastfuyi

**Date First Available:** March 17, 2025

Related Documents - FY12

	<p><a href="#">Mastfuyi Infrared Thermal Imager User Manual</a></p> <p>User manual for the Mastfuyi FY12 Infrared Thermal Imager, detailing its features, specifications, operating instructions, and maintenance. Covers performance indicators, appearance, display, settings, and usage considerations.</p>
	<p><a href="#">Mastfuyi FY12 Infrared Thermal Imager User Manual</a></p> <p>User manual for the Mastfuyi FY12 Infrared Thermal Imager, detailing its features, specifications, operating instructions, and maintenance. Includes information on performance indicators, appearance, display, and common emissivity values.</p>
	<p><a href="#">Mastfuyi FY12 Infrared Thermal Imager User Manual - Specifications &amp; Operation</a></p> <p>Comprehensive user manual for the Mastfuyi FY12 Infrared Thermal Imager. Includes detailed specifications, operating instructions, appearance and display descriptions, maintenance guidelines, and common emissivity values for accurate temperature measurement.</p>
	<p><a href="#">MASTFUYI FY12DMM Thermal Imaging Camera User Manual   Infrared Night Vision</a></p> <p>User manual for the MASTFUYI FY12DMM High Definition Thermal Imaging Camera. This portable infrared night vision device features a 240x240 resolution and USB rechargeable battery, suitable for industrial and home applications. Learn about its features, specifications, operation, and maintenance.</p>
	<p><a href="#">Mastfuyi FY580KS Infrared Thermometer User Manual</a></p> <p>User manual for the Mastfuyi FY580KS non-contact infrared thermometer, detailing its features, operation, technical specifications, and maintenance.</p>
	<p><a href="#">FY107B/FY107C Smart Digital Multimeter User Manual</a></p> <p>Comprehensive user manual for the FY107B/FY107C Smart Digital Multimeter, covering features, safety information, operation instructions, technical specifications, and maintenance.</p>