ACEGMET YJ256-2022

ACEGMET YJ256-2022 Thermal Camera User Manual

Model: YJ256-2022

1. Introduction

This manual provides detailed instructions for the safe and effective use of your ACEGMET YJ256-2022 Thermal Camera. This device is designed for precise thermal imaging, offering a 256x192 IR resolution and a visual camera for comprehensive diagnostic applications. Please read this manual thoroughly before operating the device and retain it for future reference.

2. Safety Information

To ensure safe operation and prevent damage to the device, observe the following precautions:

- Do not expose the camera to extreme temperatures, humidity, or corrosive environments.
- Avoid direct exposure of the lens to strong light sources, such as the sun or lasers, as this may damage the sensor.
- Do not attempt to disassemble or modify the device. Repairs should only be performed by authorized personnel.
- Use only the specified charging accessories to charge the battery.
- Keep the device away from strong electromagnetic fields.
- Ensure the device is clean and dry before use, especially if operating in dusty or wet conditions (IP65 rated for protection against dust and water jets).

3. Product Overview

3.1 Key Features

- **High-Resolution Thermal Imaging:** Features a 256x192 IR resolution with 49,152 pixels and a 25Hz refresh rate for clear thermal images.
- **Integrated Visual Camera:** Captures visual images for an intuitive overlay with thermal data.
- **Wide Temperature Range:** Measures temperatures from -4°F to 1022°F (-20°C to 550°C) with a thermal sensitivity of <0.06°C (<60mK).
- **Multiple Display Modes and Palettes:** Offers four display modes and seven color palettes for versatile thermal

analysis.

- **On-Device Analysis:** Supports multiple spot measurements, region of interest, and HiLo temperature tracking directly on the 2.8-inch display.
- **PC Connectivity:** Allows live streaming of thermal images to a laptop or computer for real-time analysis.
- **Durable Design:** IP65-rated enclosure with 2-meter drop resistance, suitable for demanding environments.
- **Ample Storage:** Includes a 32GB micro SD card capable of storing up to 50,000 thermal images.

3.2 Package Contents

The ACEGMET YJ256-2022 Thermal Camera package includes:

- ACEGMET YJ256-2022 Thermal Camera
- USB Charging Cable
- 32GB Micro SD Card (pre-installed or separate)
- User Manual (this document)

3.3 Device Components

Familiarize yourself with the main components and functions of the thermal camera as illustrated below:

Image Description: This image illustrates the ACEGMET YJ256-2022 Thermal Camera's main features, including its 256x192 IR resolution, 30W visual camera, -20°C to 550°C temperature range, 7 palettes & 4 display modes, real-time image projection through PC software, and 25Hz refresh rate.

4. Setup

4.1 Charging the Battery

The device is powered by a 5000mAh rechargeable lithium battery. Before first use, fully charge the battery.

1. Connect the USB charging cable to the camera's charging port.
2. Connect the other end of the cable to a suitable USB power adapter (not included) or a computer's USB port.
3. The charging indicator will illuminate. A full charge typically takes approximately 4 hours.
4. Once fully charged, disconnect the charging cable.

4.2 Inserting the SD Card

The camera uses a 32GB micro SD card for image storage.

1. Locate the SD card slot on the side of the camera.
2. Gently insert the micro SD card into the slot until it clicks into place. Ensure the card is oriented correctly.
3. To remove the SD card, push it gently inward until it springs out, then pull it out.

4.3 Initial Power On

To power on the device:

1. Press and hold the power button (usually marked with a power symbol) for a few seconds.
2. The display will light up, and the camera will initiate its startup sequence.
3. To power off, press and hold the power button again until the device shuts down.

5. Operating Instructions

5.1 Basic Operation

After powering on, the camera will display a live thermal image. Use the navigation buttons (e.g., arrow keys, 'SET' button) to navigate through menus and select options on the 2.8-inch display.

5.2 Visual and Thermal Overlay

The camera can blend visual and thermal images to provide a more comprehensive view of the inspection area.

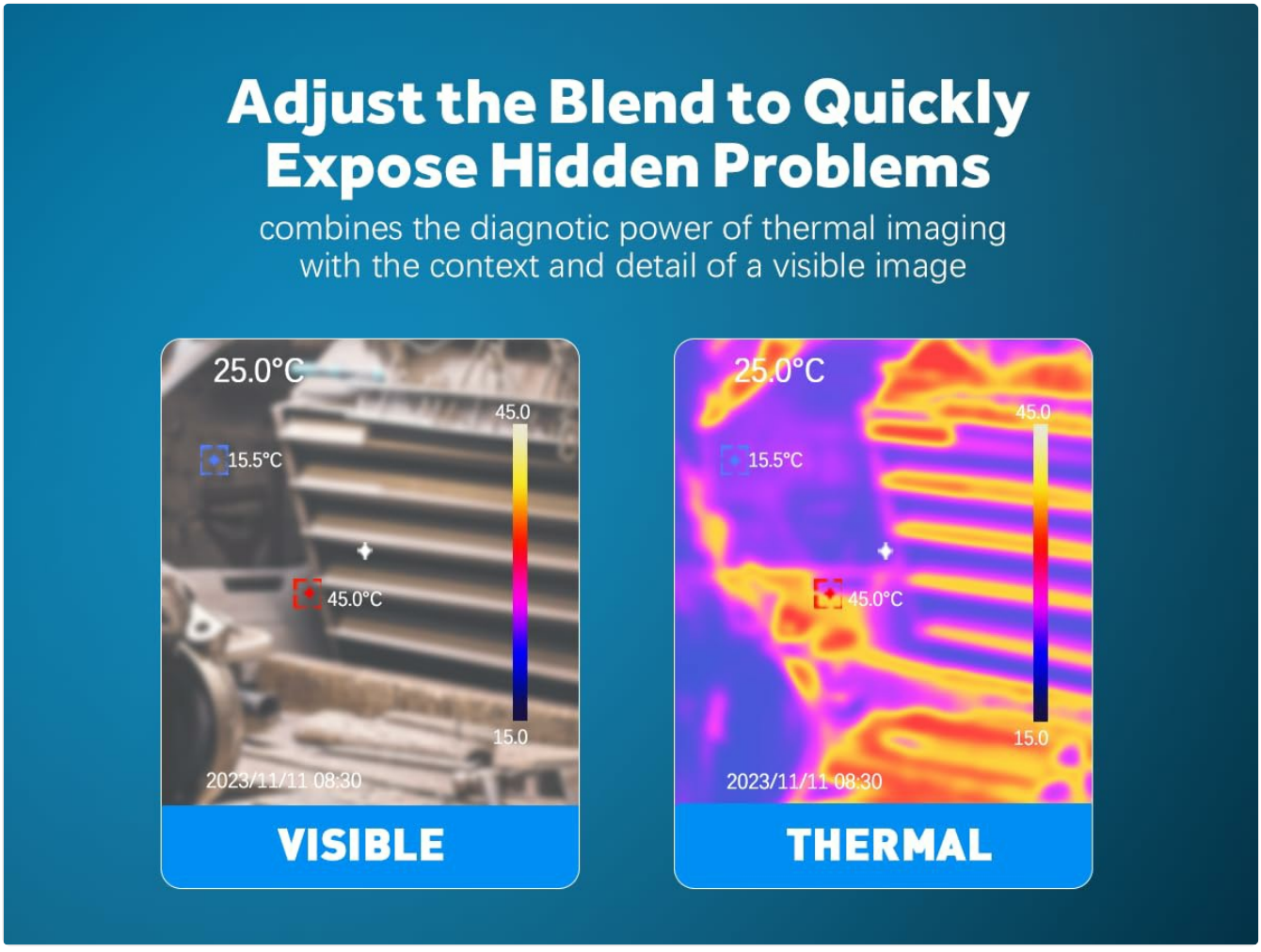

Image Description: This image demonstrates the camera's ability to blend visible and thermal images. It shows a visible light image on the left and a thermal image on the right, highlighting how thermal imaging reveals hidden temperature variations not visible to the naked eye.

Access the display mode settings to switch between full thermal, full visual, or various blend modes. This feature helps in quickly identifying the context of thermal anomalies.

5.3 Color Palettes

The camera offers seven color palettes to visualize temperature differences. Each palette highlights temperature variations differently, making certain anomalies more apparent.

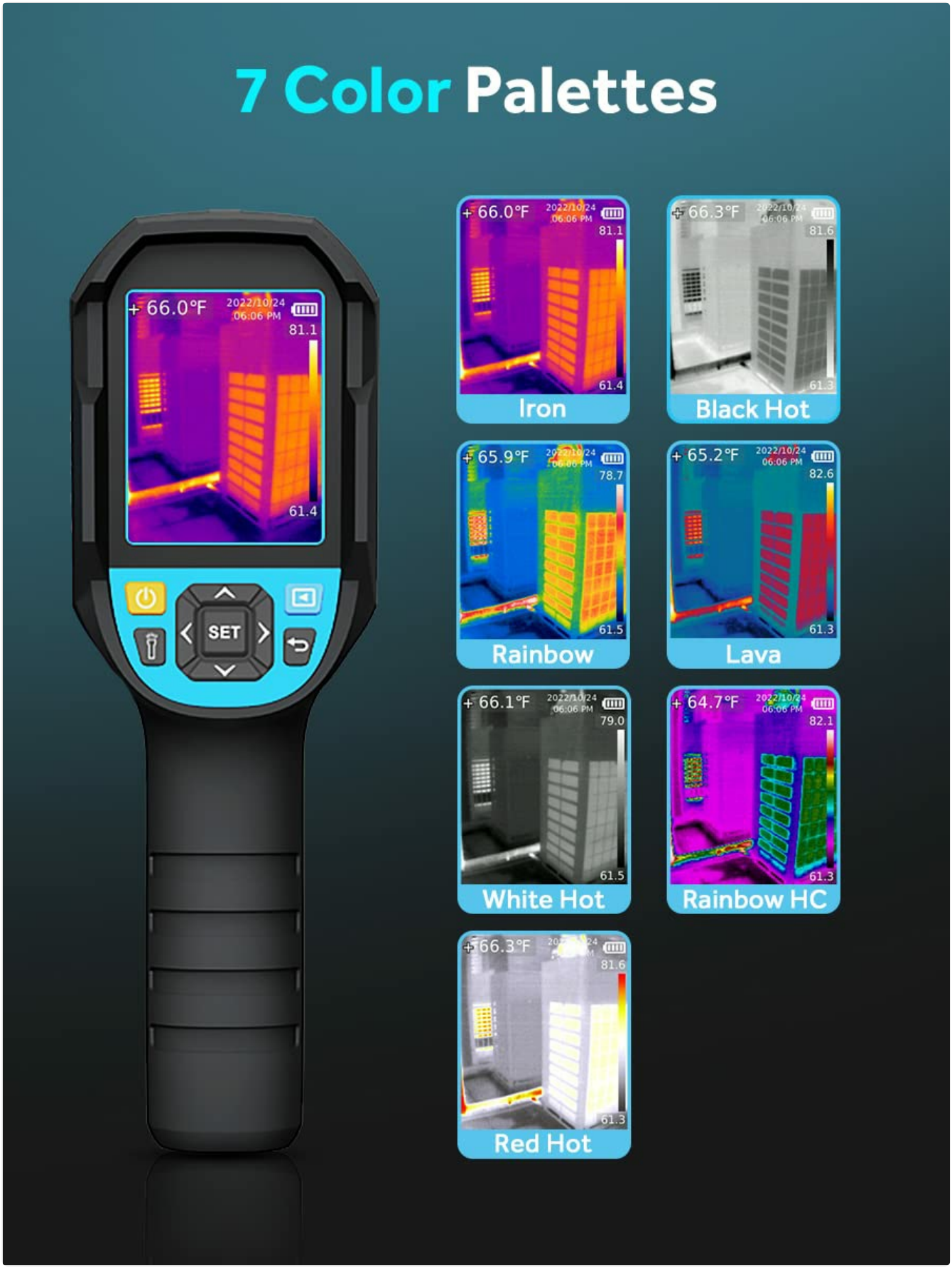

Image Description: This image showcases the seven available color palettes for the thermal camera: Iron, Black Hot, Rainbow, Lava, White Hot, Rainbow HC, and Red Hot. These palettes help visualize temperature differences in various applications.

Navigate to the 'Palette' option in the menu to select the desired color scheme (e.g., Iron, Black Hot, Rainbow, Lava, White Hot, Rainbow HC, Red Hot).

5.4 On-Device Analysis

Perform detailed analysis directly on the camera's screen using various measurement tools.

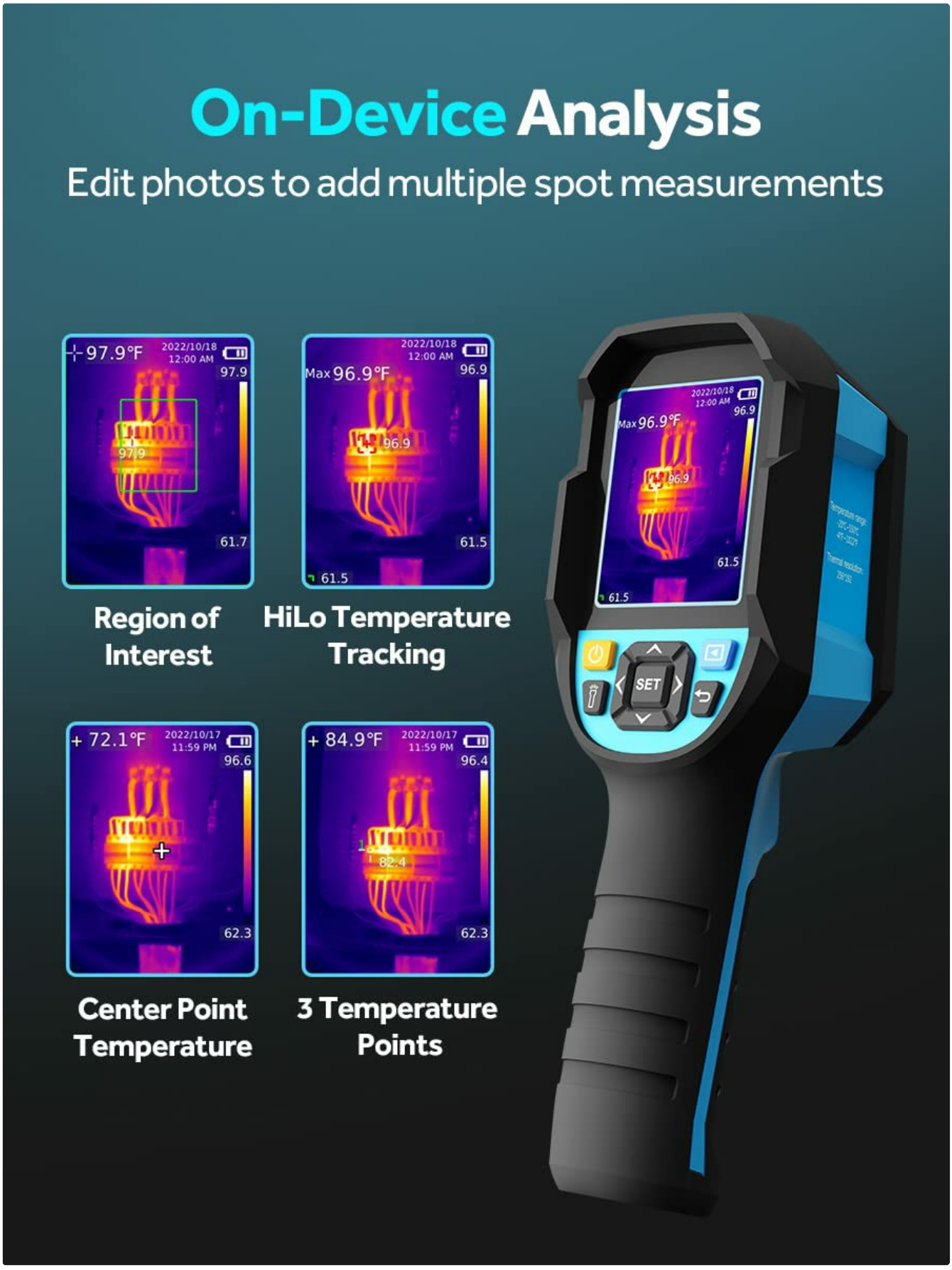

Image Description: This image illustrates the camera's on-device analysis capabilities, including Region of Interest, HiLo Temperature

Tracking, Center Point Temperature, and 3 Temperature Points, allowing for detailed measurement and analysis directly on the device screen.

- **Center Point Temperature:** Displays the temperature at the center of the screen.
- **Multiple Spot Measurements:** Add additional measurement points to monitor specific areas.
- **Region of Interest (ROI):** Define a specific area to analyze its temperature distribution.
- **HiLo Temperature Tracking:** Automatically identifies and displays the highest and lowest temperatures within the current view.

5.5 Connecting to a PC

For advanced analysis and reporting, connect the camera to a computer.

Image Description: This image shows the thermal camera connected to a laptop, demonstrating its capability for real-time image projection and analysis using PC software. The laptop screen displays thermal images and data for further examination.

1. Connect the camera to your computer using the provided USB cable.
2. The camera may appear as a removable storage device, allowing you to transfer stored images.
3. For live streaming and advanced analysis, install the dedicated PC software (if provided by ACEGMET). Follow the software's instructions for installation and use.

5.6 Locating Fault Points

The thermal camera is an effective tool for identifying anomalies such as overheating components, insulation deficiencies, or moisture issues.

Image Description: This image depicts the thermal camera in use, scanning an electrical panel to quickly identify and locate potential fault points or overheating components through thermal signatures.

Scan the target area, observing temperature patterns. Areas with unusually high or low temperatures compared to their surroundings may indicate a fault. Adjust the temperature scale and color palettes as needed to enhance visibility of anomalies.

6. Maintenance

6.1 Cleaning the Device

Regular cleaning helps maintain the camera's performance and longevity.

- Use a soft, dry cloth to clean the camera body.
- For the lens and display, use a lens cleaning cloth and a specialized lens cleaning solution. Do not use abrasive materials or harsh chemicals.
- Ensure no moisture enters the device openings.

6.2 Battery Care

To maximize battery life:

- Avoid fully discharging the battery frequently.
- If storing the device for an extended period, charge the battery to approximately 50-70% before storage.
- Store in a cool, dry place.

6.3 Storage

When not in use, store the camera in its protective casing (if provided) in a dry, dust-free environment, away from direct sunlight and extreme temperatures.

7. Troubleshooting

If you encounter issues with your ACEGMET YJ256-2022 Thermal Camera, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on.	Low battery; faulty battery; power button issue.	Charge the battery fully. If issue persists, contact support.
Image is blurry or unclear.	Lens is dirty; focus is incorrect (if adjustable); environmental factors.	Clean the lens. Ensure proper distance to target.
Cannot save images.	SD card full; SD card not inserted correctly; SD card faulty.	Check SD card storage. Reinsert SD card. Try a different SD card.
PC does not recognize device.	USB cable issue; driver not installed; incorrect connection mode.	Try a different USB cable or port. Install necessary drivers/software. Ensure camera is in PC connection mode.

8. Technical Specifications

Feature	Specification
Infrared Resolution	256 x 192 pixels (49,152 pixels)
Display	2.8 inch ruggedized display
Temperature Range	-20°C to 550°C (-4°F to 1022°F)
Accuracy	±2°C or 2 %

Feature	Specification
Thermal Sensitivity (NETD)	≤60mK (0.06°C)
Frame Rate	<25 Hz
Infrared Spectral Band	8 μm to 14 μm
Battery Type	5000mAh rechargeable lithium battery
Battery Charging Time	Approx. 4 hours to full charge
Memory	32GB micro SD card
Drop Resistance	2 meters (6.5 feet)
Enclosure Rating	IP65
Item Weight	454 g
Product Dimensions (LxWxH)	22.9 x 7.6 x 7.6 cm

9. Warranty and Support

ACEGMET products are manufactured to high-quality standards. For information regarding warranty coverage, please refer to the warranty card included with your product or visit the official ACEGMET website.
For technical support, troubleshooting assistance, or service inquiries, please contact ACEGMET customer service through the contact information provided on the official website or your purchase documentation.