

# Intelligent Thermal Camera

QUICK START GUIDE v1.0

## IMPORTANT

This User Guide is a general guide for a series of products, which means that the specific model product you receive may be different from the pictures in the Guide. The actual product received shall prevail. This User Guide is provided for the convenience of users to use and understand our products. We have made our best efforts to ensure that the content in the Guide is accurate, but we still cannot guarantee it is complete and perfect considering the continued update of our products. We reserve the right to revise the Guide from time to time without notice.

## CONSIDERATIONS

### DANGER

- 1) Charge the battery as instructed in the Guide and follow the charge steps and precautions. Incorrect charging can cause heating or damage of the battery or even cause personal injury;
- 2) Never attempt to open or disassemble the battery; if the battery leaks and the liquid enters eyes, immediately flush the eyes with water and then take necessary medical care.

### WARNING

- 1) When using the device, keep it as stable as possible and avoid violent shaking;
- 2) Do not use or store the device in an environment with a temperature exceeding the permissible operating or storage temperature range;
- 3) Do not directly expose the device to high-intensity thermal radiation sources, such as the sun, lasers and spot welders;
- 4) Do not block the holes on the device;
- 5) Do not strike, throw or shake the device and accessories;
- 6) Do not disassemble the device body; any attempt to disassemble it can damage it and void your warranty;
- 7) Do not spill soluble liquids or similar liquids on the device and cables to avoid damage to the device;
- 8) Do not use the device in an environment with a temperature exceeding the operating temperature of the device to avoid damage to the device;
- 9) Follow these steps when wiping the device:
  - Non-optical surfaces: Use a clean, soft cloth to wipe the non-optical surfaces of the riflescope if necessary;
  - Optical surfaces: Avoid dirtying the optical surfaces of the lens when using the riflescope, especially touching the lens with your hands, because the sweat on your hands will leave

marks on the lens glass and may corrode the optical coating on the glass surface; when the surface of the optical lens is contaminated, carefully wipe it with special lens tissue;

- 10) Do not place the battery in a hot environment or near a hot object;
- 11) Do not short-circuit the positive and negative poles of the battery;
- 12) Do not place the battery in a humid environment or water.

### CAUTION

- 1) Do not expose the device to dust or moisture; when using the device in an environment with water, prevent the water from splashing on the device; put on the lens cover when the device is not in use;
- 2) When the device is not in use, put it and all accessories in a special packing box;
- 3) Do not use the accompanying SD card for other purposes;
- 4) Using the lens for a long time may cause a reduced contrast of the lens and a whitened screen. You can switch the display mode to LCD screen display and then switch it back after a period of time.

## Storage and Transportation

### Storage:

A packaged product shall be stored in a well-ventilated and clean environment with a temperature range of  $-40^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ , a relative humidity not exceeding 95%, and free of condensate and corrosive gas.

### Transportation:

During transportation and circulation, the product shall be protected from rain and water and placed flatwise. It shall be protected from violent vibration and impact. During handling, it shall be handled with care and cannot be tossed.

## FCC WARNING

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

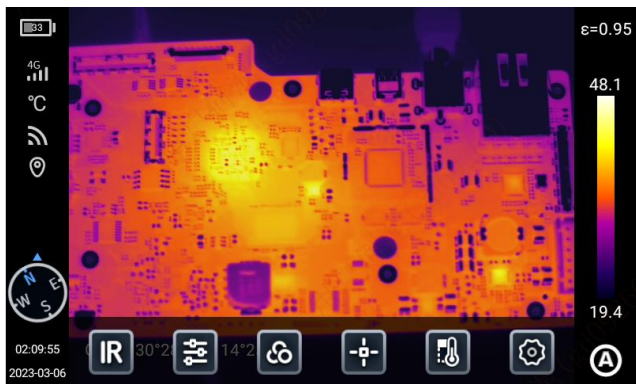
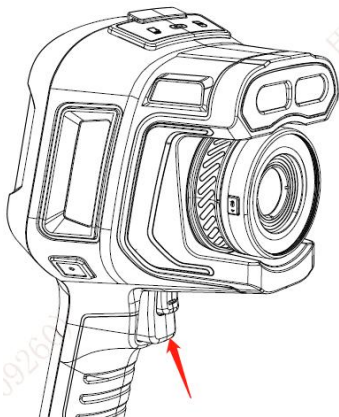
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- The rating information is located at the bottom of the unit.

## **About the Product**

Specially designed for professional users in the infrared thermometry industry, this product is equipped with infrared detectors with high sensitivity and higher resolution for clearer infrared images and a higher temperature measurement accuracy. Supplemented by the Android operating system, a large-screen display and a rotatable lens structure, it is easy to use and powerful. It can also collect visible and infrared images simultaneously and display key observation points by PIP or MIF. In addition, based on open APPs for Android, this product can be extended to a multi-purpose mobile thermal imaging application platform.

## **Introduction to Product Parts**

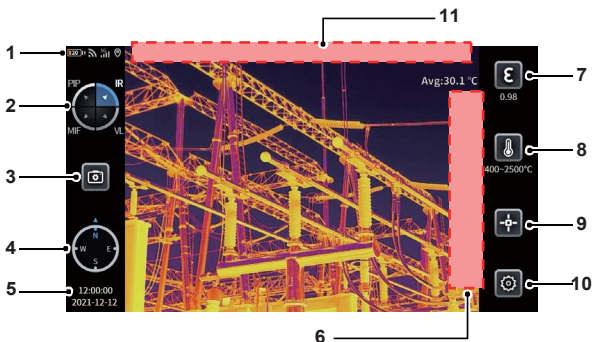


## ▶ Quick Operation Instructions

### I. Operation steps

1. Place the battery in the battery compartment.
2. Press and hold the power button for 2 - 3 s to power on the thermographic camera.
3. Set the language (for first use).
4. Go to the real-time IR image state and aim the camera at the target.
5. Focus to make the target image sharp.
6. Select a shot or video mode, and press the shooting/recording button to save the image or record the video.
7. Perform other operations via the touch screen or buttons.

### II. Interface description





1. Status bar: SOC status of battery, Wi-Fi status, 4G or 5G network, location, etc.;
2. Image modes: IR, VL, MIF, and PIP;
3. Shooting modes: single shot, timed shot, single video, and timed video;
4. Compass information: Select Settings - Image Mark to enable or disable this option;
5. Time and date: Select Settings - General - Date and Time Settings to set the time and date;
6. LEVEL/SPAN mode: Switch among auto, semi-auto and manual modes via physical buttons or screen taps;
7. Emissivity: Set the emissivity value based on the target;
8. Temperature measurement range: Set the temperature measurement range based on the target;
9. Temperature measurement parameters: Set temperature measurement parameters such as relative humidity, distance and atmospheric transmittance;
10. Settings: Make system settings;
11. Pull down the menu to enter the pull-down interface for quick settings.

### **III. Considerations**

1. Avoid direct sunlight on the object to be observed.
2. Do not directly expose the device to high-intensity thermal radiation sources, such as the sun, lasers and spot welders.
3. During the observation, make sure the target is clear; otherwise, you may get wrong measurement results.
4. Proper analysis of IR images requires technical knowledge of the application.

## Guide for Common Faults and Troubleshooting

Phenomenon	Causes	Measures
Unable to power on the device	Insufficient SOC of the battery	Use the battery after recharging
	Bad contact of the battery	Remove the battery, put it back in the battery compartment and install it in place
	The plug of the external power supply is not inserted properly	Unplug the power plug, plug it back in and push it into place
A large deviation between the SOC indication and the actual SOC of the battery	The battery runs out	Replace with a fully charged battery
	The battery life is exhausted	Replace with new battery
Unsharp IR images	No focus	Set MF or AF for sharper images
	The lens is covered with water vapor or contaminated	Clean the lens with special tools
Unsharp VL images	The environment light is too dim	Take appropriate lighting measures
	Water vapor or contamination on the VL front end	Clean the VL front end with special tools
Inaccurate temperature measuring	The lens does not focus on the target	Set MF or AF for sharper images before reading the temperature
	Incorrect setting of temperature measuring parameters	Change parameter settings, or directly reset
	Lack of non-uniformity correction for a long time	Set the custom button as calibration in the menu, press the physical custom button (with the shutter sound heard) to perform non-uniformity correction.
	Temperature measuring immediately upon power on	To ensure the temperature measuring accuracy, we recommend that you turn on the thermographic camera and wait for 5 - 10 minutes before starting the temperature measurement.
	No calibration for a long time	To get accurate temperature measuring results, we recommend that you send the device back for calibration once a year.