

# Product specification

Product name: infrared acoustic wave imager

Version number: V1.0.0

Thank you for purchasing this product, please read this manual before use, after reading, please carefully store for future reference. We hope this product will meet your expectations.

# catalogue

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## 1. Important notes

This manual is a general manual for a series of products, which means that the specific model of the product you receive may be different from the manual picture, please refer to the physical receipt.

This user manual is organized for the convenience of users to use and understand the company's products, we will do our best to ensure the accuracy of the content of this manual, but still cannot guarantee the completeness of the content of this manual, because our products have been continuously updated and upgraded, the company reserves the right to modify at any time without prior notice.

## 2. Storage and transportation

storage	The storage environment of the products after packaging is $-40^{\circ}\text{C}\sim 70^{\circ}\text{C}$ , the relative humidity does not exceed 95%, no condensation and no corrosive gas, well-ventilated and clean indoor;
transport	Transport circulation should be rain, water, upside down, there should be no violent vibration and impact, handling process should be careful to gently, strictly prohibited throwing.

## 3. Precautions

### 3.1. Danger

1) Please charge the battery according to the method described in this manual, and please follow the charging procedure and precautions. Wrong charging can cause the battery to become hot, damaged or even cause human injury;

2) Do not attempt to open or disassemble the battery at any time, once the battery leaks resulting in liquid into the eye, the eye should be immediately washed with water, and medical care.

### 3.2. Warn

1) When using the equipment, please try to keep it stable and avoid violent shaking;

2) Do not use or store the instrument in an environment beyond the permitted operating temperature or storage temperature of the equipment;

3) Do not direct the equipment at high intensity thermal radiation sources, such as the sun, lasers, spot welders, etc., to avoid damage to the equipment;

4) Do not plug the holes on the equipment;

5) Do not knock, throw or vibrate instruments and accessories to avoid damage;

6) Do not disassemble the machine by yourself, which may cause damage to the equipment and loss of warranty rights;

7) Do not use dissolved or similar liquids to wipe equipment and cables, which may cause damage to the equipment;

8) Please do not use the equipment in an environment exceeding the operating temperature of the equipment, which may cause damage to the equipment;

9) Please follow the following measures when wiping the equipment:

Non-optical surface: If necessary, use a clean, soft cloth to wipe the non-optical surface of the thermal camera;

Optical surface: When using the thermal camera, please avoid staining the optical surface of the lens, especially touching the lens with your hands, because sweat stains on your hands will leave marks on the lens glass and may erode the optical coating layer on the glass surface. When the surface of the optical lens is contaminated, use professional lens paper to wipe carefully;

10) Do not place the battery in a high temperature environment or near high temperature objects;

11) Do not short-circuit the positive and negative terminals of the battery;

12) Do not place the battery in a humid environment or water.

### 3.3. Look out

1) Do not expose the equipment to dust or damp environment. When used in an environment with water, water should be avoided on the instrument.

2) The instrument should be placed in a special safety box when not in use;

3) When the equipment is not used, please place the instrument and all accessories in the special packaging box;

4) Avoid using random SD cards for other purposes;

## 4. Product introduction

Infrared acoustic wave imager is a kind of detection tool. Modular design, according to the selection of different modules, can achieve a multi-purpose machine, set infrared, acoustic, ultraviolet analysis in one, both with infrared temperature analysis function, but also with local discharge detection, gas leak detection and other functions.

### 4.1. Product Component Description

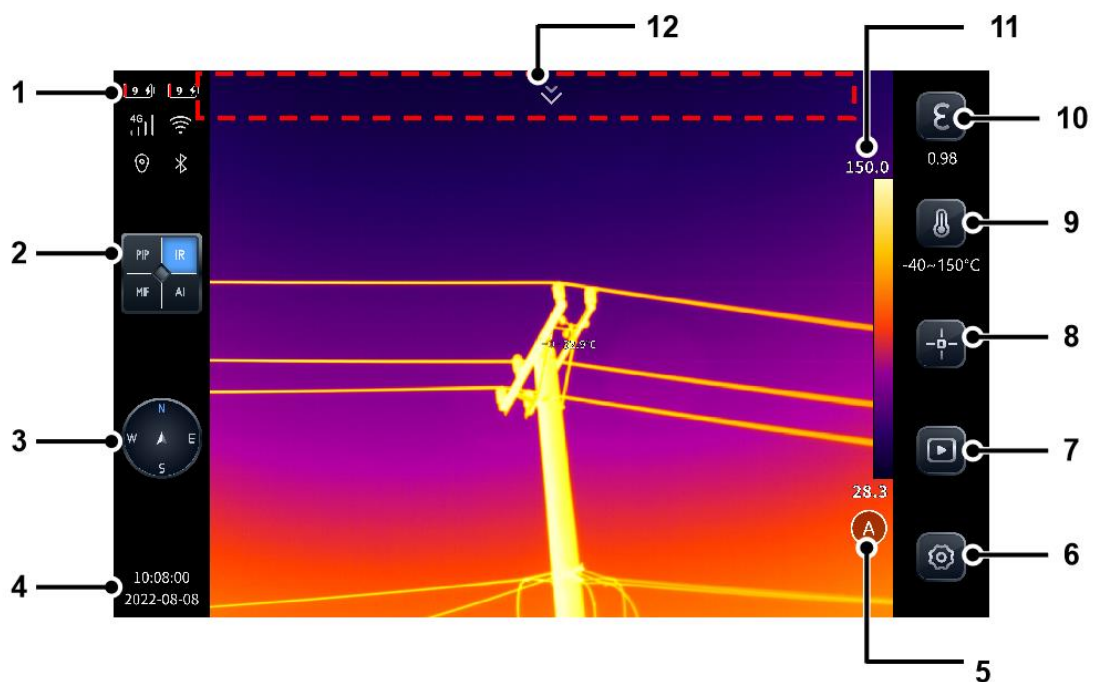




- |                |                             |                       |
|----------------|-----------------------------|-----------------------|
| 1 Laser key    | 4 Auxiliary key             | 7 Battery compartment |
| 2 Photo button | 5 SD card slot, Type-C port | 8 Power button        |
| 3 Lens lock    | 6 Secure the support        |                       |

## 5. Main screen

### 5.1. Infrared observation



(1) Status bar, showing the status of battery power, WiFi, 4/5G network, positioning on, etc.

(2) Image modes, respectively: infrared IR, image fusion MIF, picture-in-picture

PIP, acoustic.

(3) Compass, indicating direction.

(4) Time and date: Displays the current system time and date.

(5) LEVELSPAN mode, including automatic mode A, manual mode M, semi-automatic mode S.

(6) Setting, enter the setting panel, and perform related system Settings.

(7) Gallery, enter the gallery, browse shooting resources.

(8) Temperature parameter setting, click to add/modify/delete the analysis object, set the isotherm, analyze the temperature difference; Manually set temperature measurement parameters such as relative humidity, distance, and atmospheric transmittance.

(9) Temperature measuring range, manually select the temperature measuring gear, can also be set to automatic cutting.

(10) Emissivity, according to the measured target material, manually set the emissivity value to obtain more accurate temperature.

(11) Ribbon Settings, switch different color schemes such as white hot, iron red, North Pole, hot iron, etc., and can customize and reverse the ribbon.

(12) Drop-down menu to enter the drop-down screen for shortcut Settings.

## 6. Troubleshooting guide

Fault phenomenon	reason	measure
Unable to boot	Low battery	Recharge the battery before using it
	Poor battery contact	Remove the battery, put it back in the battery compartment and install it in place
	The plug of the external power supply is not properly inserted	Remove the power plug, reinsert it and push it into place
The battery power indicator differs greatly from the actual usage	Battery dead	Replace a fully charged battery
	Battery life is up	Replace the battery
Infrared images are not clear	There is no focus	Manual focus or autofocus makes the image sharp
	The lens is fogged or contaminated	Use professional equipment to clean the lens
The visible image is not clear	The environment is too dark	Take proper lighting measures

	Visible light front end has water mist or is polluted	Clean the visible light front end with professional equipment
Inaccurate temperature measurement	Not focused on the target	Manual focus or autofocus makes the image sharp before reading the temperature
	Parameters related to temperature measurement are incorrectly set	Change the parameter Settings, or restore the default parameter values
	Non-uniformity correction was not performed for a long time	Set the custom key to compensation in the menu, press the custom physical key, hear the shutter sound, and perform a non-uniformity correction
	Power on immediately measure the temperature	In order to ensure the accuracy of temperature measurement, we recommend that you turn on the thermal camera and wait 5 to 10 minutes before starting temperature measurement
	No calibration for a long time	For accurate temperature measurements, we recommend that you send the camera back for calibration once a year
File cannot be stored	The remaining storage space is insufficient	Delete pictures and video files from your gallery
	SD card is damaged.	Remove the SD card and insert it into the computer. Format the SD card or replace it with a new one

# 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.

## FCC RF exposure Statement

The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate(SAR). The SAR limit set by the FCC is 1.6 W/kg. The highest SAR level measured for this device is less than SAR limit, so this device meets the FCC Requirement.