



Quickstart Guide

TR Thermographic Cameras

Thank you for choosing our product. Please thoroughly go through user manual before operation and keep it well for future reference. All photos here are for reference only, and specifications are subject to the physical product.

- IMPORTANT -

Thank you for choosing this product. Please read this guide before use and keep it for future reference. We hope you'll be satisfied with this product.

This guide is a general guide for a series of products, which means that the specific model you receive may differ from the picture in the guide. Please refer to the actual product you receive.

This user guide is organized for the convenience of users to use and understand our products. We will do our best to ensure the accuracy of the contents of this guide, however, we still cannot guarantee the completeness of the contents thereof. As our products are subject to continuous upgrading, we reserve the right to modify this guide from time to time without prior notice.

- 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.

- PRECAUTIONS -



DANGER

- 1) Please charge the battery with the method described in this Guide and follow the charging procedure and precautions. Improper battery charging will cause heating, damage and even physical injury.
- 2) Do not try to open or disassemble the battery at any time. Once the battery leaks and the spill enters the human eye, wash the eyes with clean water immediately and take medical care.



WARNING

- 1) When using the equipment, please try to keep it stable and avoid violent shaking.
- 2) Do not use or store the equipment in an environment that exceeds the allowable operating temperature or storage temperature.
- 3) Do not directly aim the equipment at high-intensity thermal radiation sources, such as the sun, lasers, spot welding machines, etc.
- 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 equipment damage and loss of warranty rights.
- 7) Do not use soluble or similar liquids on equipment and cables, which may cause damage to the equipment.
- 8) Please do not use the equipment in an environment that exceeds the operating temperature of the equipment, which may cause damage to the equipment.
- 9) Please observe the following measures when wiping this device:
 - Non-optical surface: Use clean and soft cloth to wipe the non-optical surface of the thermographic camera.
 - Optical surface: When using the thermographic camera, please avoid polluting the optical surface of the lens, especially avoid touching the lens with your hands, because the sweat on your hands will leave traces on the lens glass and may corrode the optical coating on the

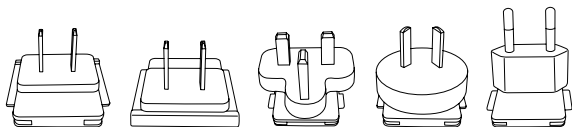
glass surface. When the surface of the optical lens is polluted, use special lens paper to wipe it carefully.

- 10) Do not place the battery in a high temperature or near a high-temperature object.
- 11) Do not short circuit the positive and negative poles of the battery.
- 12) Do not expose the battery to moisture or water.

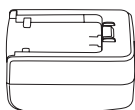
 NOTES:

- 1) Do not expose the equipment to dust or moisture. Avoid water splashing to the equipment when being used in an environment with water. Cover the lens when not using the camera.
- 2) Please put the camera and all accessories in the special packaging box when not using it.

- LIST OF PARTS -



Plug of Chinese, American, British, Australian, European standard



5V2A adapter



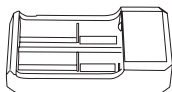
Lens cover



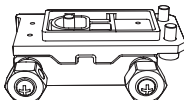
Eye mask



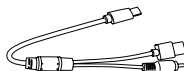
18650 Battery



Charger

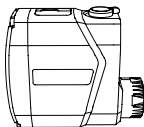


Sight base



Video cable

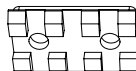
Options:



Laser ranger



18650 Battery



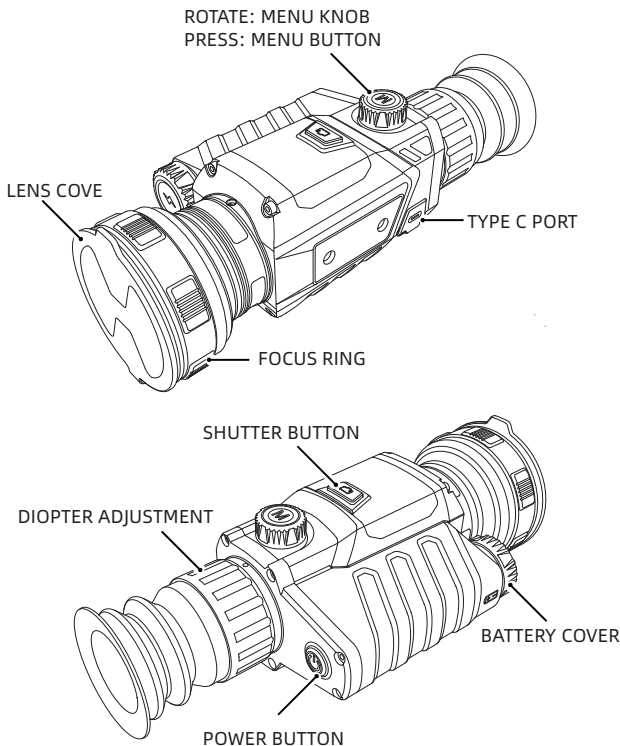
Dovetail guide



Bluetooth remote control

- PRODUCT COMPONENTS -

This Guide is applicable to many models of this series, and only one model is shown in the figure.



- QUICKSTART INSTRUCTIONS -

Buttons	Current device status	Short press	Long press
Power on/off button	Power on (any interface)	Compensation	Display off/ Power off
	Power off	/	Power on
	Display off	Display on	Display on
	Power on (Video recording)	Compensation	Save the video and power off
Menu knob	Power on and the menu is not called out	Zoom in/out	Quick zoom in/out
	Power on and the menu is called out	Menu switch	Quick menu switch
Menu button	Power on and the menu is not called out	Shortcut menu	Main menu
	Power on and the menu is called out	Select and confirm	Return to the previous menu without saving
Shutter button	Power on and the menu is not called out	Photo	Video
	Video recording	Photo	End video recording
	Power on and the menu is called out	/	/

[BUTTON DESCRIPTION]**1. POWER BUTTON****POWER ON:**

Long press the Power button until the boot screen appears in the eyepiece, then the infrared sight is turned on successfully.

POWER OFF:

- a. Manual power-off: Long-press the Power button to display the shutdown progress bar until the progress bar is completed and the shutdown is successful.
- b. Automatic power-off: If there is no button operation within the set automatic shutdown time, it will power off.

2. DISPLAY OFF:

Long-press the Power button to display the shutdown progress bar. Before the progress bar is completed, release the Power button to cancel the shutdown and enter the Display off mode.

3. DISPLAY ON:

In Display on mode, press any button to wake up the screen.

4. MENU KNOB:**ZOOM-IN:**

When it is turned on and the menu is not called out

under rough ranging, rotate the zoom knob clockwise to zoom in the image to the maximum.

ZOOM-OUT:

When it is turned on and the menu is not called out under rough ranging, rotate the zoom knob anticlockwise to zoom out the image to the minimum.

MOVE THE MENU:

When it is turned on and the menu is called up, rotate the menu knob clockwise to move the menu or options down/left; rotate the menu knob anticlockwise to move the menu or options up/right.

5. MENU BUTTON**SHORTCUT MENU:**

When it is turned on and the menu is not called up, short-press the Menu key to pop-up the shortcut menu.

MAIN MENU:

When the menu is not called up, long-press the Menu button to pop-up the main menu.

OK AND BACK/EXIT:

When it is turned on and the menu is called up, short-press the Menu button to confirm the current option and back to the previous menu at the same time. Long-press the Menu button to return or exit the menu without saving the current setting.

6. SHUTTER BUTTON

PHOTO:

When it is turned on and the menu is not called up, short-press the Shutter button to take a photo and freeze it for 300ms to restore the real-time screen.

VIDEO:

When it is turned on and the menu is not called up, long-press the Shutter button to start recording, and long-press it again to finish the recording.

Short-press the Shutter button to take a photo and freeze it for 300ms to restore the real-time screen.

[FUNCTION DESCRIPTION]

1. SHORTCUT MENU

- PIP: 2X amplification within 256px×192px. There are three positions to choose from: upper left, upper middle and upper right.
- Screen brightness: The screen brightness can be adjusted from level 1 to 10.
- Hotspot tracking: A cursor displays and at this time, and the center of the cursor appears at the point with the largest AD value in the screen.
- Super power saving: When the super power saving mode is enabled, the ARM switches to the low power mode; the OLED brightness is fixed at 20%, which

cannot be adjusted, and WIFI cannot be turned on. If the current WIFI has been already turned on, turn off the WIFI. The transmitting record function cannot be turned on, and if it is in the transmitting record mode, please turn off it.

- Rough ranging: The position of the lower horizontal line remains unchanged, and the upper horizontal line can be moved. The minimum distance between the two horizontal lines is 6px, and the upper horizontal line shall not exceed the UI prompt position.
- Zerocalibrationdistance: You can quickly select the zero calibration settings saved for different zero calibration distances (50m/100m/200m/300m/500m).

2. MAIN MENU

- Pseudo color mode: Pseudo color mode can be set in White hot/Black hot/Adjustable red hot/Iron red/Blue hot/Green hot.
- Brightness: The detector brightness can be adjusted from level 1 to 10.
- Contrast: The detector contrast can be adjusted from level 1 to 10.
- Personal settings of zero calibration: 10 sets personal setting parameters can be saved, including the zero calibration distance, zero calibration position, reticle

type, reticle color and reticle brightness.

- Reticle type: There are ten reticle types to be selected.
- Reticle color: The reticle colors can be Black/White/Yellow/Green/Blue/Red.
- Reticle brightness: The reticle brightness can be adjusted from level 1 to 10.
- WiFi: WIFI switch. When the mobile client and the device are connected, real-time videos can be transmitted to the mobile phone, the device can be operated through the APP and the photos/videos of the device can be accessed, and photo/video play, sharing, deletion, etc. can be performed. Each device has independent MAC address.
- Record mode: There are three modes to be selected: Single shot/Shooting while transmitting/Transmitting record.
- Watermark Settings: Options can be made from Off/Date only/Time only/Time and date.
- Auto sleep: Auto sleep time can be set at 5/10/15min. If no operation is made within the set time, the camera will enter the sleep mode.
- Automatic power off: Automatic power off time can be set at 15/30/60min. If no operation is made within the set time, a countdown to power off will

appear and the camera will be powered off when the countdown is over.

- Power indicator: A switch to control indicator at the power supply port.
- Time format: The time format can be 12H/24H.
- Date format: The date format can be YYYY-MM-DD/MM-DD-YYYY/DD-MM-YYYY.
- Time settings: Enter the time adjusting interface and rotate the Menu knob to move among the options. Press the Menu button to enter the next adjustment item and at this time, rotate the Menu knob to adjust the specific time.
- Language settings: Language can be selected in English/Russian/German/French/Chinese/Spanish/Italian/Japanese/Korean.
- Memory card formatting: Memory card formatting can be selected. Select "Yes" to format the memory card and select "No" to cancel the operation.
- Restore default: Users can choose whether to restore the default value. Select 'Yes' to restore all parameters to factory settings; select 'No' to cancel the operation.
- About: You can view the current APP, ARM, MCU, FPGA version and MAC address of the equipment.

- External ranging (cursor): The external ranging cursor switch can be controlled.
- Remote control: When Remote control is on, it will search and connect the Bluetooth remote control. After the connection is successful, you can use the Bluetooth remote control to control all functions of the keys on the sight (except the long press function).
- Ranging calibration: The default image magnification factor is 1X when entering the ranging coordinates adjustment interface. The X-axis/Y-axis can be adjusted by rotating the Menu knob or the Zoom knob.

-UI ICON DESCRIPTION-

Icon	Meaning	Icon	Meaning
	Photo taking successfully		Video recording while shooting
	Video recording successfully		Memory card full
	Photo taking failure		Memory card is to be full
	Video recording failure		Super power saving mode
	WIFI		External power
	Bluetooth		Battery low
	Do not take photos		Low capacity
	Do not record videos		Medium low capacity
	No record mode		Medium capacity
	Do not adjust the screen brightness		Medium high capacity
	Do not turn on WIFI		High capacity
	Do not turn on serial port mode		Serial port mode
	Take photos while shooting		USB flash disk

- TROUBLESHOOTING -

1. **Device fails to start.**

Solution: Replace the cell or connect the adapter for charging.

2. **The device cannot take photos/record.**

Solution: the internal storage space of the device is full, format the memory card.

3. **The device display time does not match the actual time display.**

Solution: Reset the time and date of the device in the menu.

4. **Screen goes out during use.**

Solution: Short-press any button to wake up the hibernation and light up the screen.

5. **The image of the device is blurred during use.**

Solution: turn the lens to focus manually until the display is clear.

- STORAGE AND TRANSPORT -

The following is the correct storage and transportation of the product. To prevent danger, property loss, etc., please read the manual carefully before using the device. Strictly observe it, and keep the instruction properly after reading it.

Storage:

1. The packaged product shall be stored in a well-ventilated, clean, condensate-free and corrosive gas-free room with temperature of $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$ and relative humidity not exceeding 95%.
2. Please take it out and charge it once every 3 months.

Transport:

During transport, it shall be protected against rain, water flooding and falling, without severe vibration and impact. It shall be handled with care and throwing is strictly prohibited.