

Quickstart Guide

TN Series Thermal Imaging 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.

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-IMPORTANT-

Thank you for purchasing this product. Please read this Guide first and keep it properly for future reference. We hope this product will meet your expectations.

This Guide is a general guide for a series of products, which means that the product you receive may differ from the description in the Guide. The actual product you receive shall prevail.

This Guide is prepared to introduce our products to the users. We will try our best to ensure the accuracy of the Guide, but the completeness of the Guide still cannot be guaranteed, because our products have been continuously upgraded. We reserve the right to modify at any time without prior notice.

-FCCWARNING-

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.



-RF exposure warning-

The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment.

The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.



-IMPORTANT-



DANGER

- 1) Please follow the method described in this Guide for charging the cell, and follow the charging procedures and precautions. Improper charging may cause overheating, damage and even personal injury.
- 2) Do not attempt to open or disassemble the cell at any time. If any liquid touches the eyes in case of cell leakage, please rinse with clean water immediately and seek medical care.



WARNING

- 1) Please keep the device as stable as possible to avoid violent shaking.
- 2) Do not use or store the device in an environment with the temperature higher than the permitted level.
- 3) Do not direct the device directly to high-intensity heat radiation source, such as the sun, laser, spot welding machine, etc..
- 4) Do not block the holes on the device.
- 5) Do not knock, throw or vibrate the device and accessories to avoid damage.



- 6) Do not disassemble the unit by yourself, which may cause damage to the device and loss of warranty rights.
- 7) Do not use soluble or similar liquid on the device and cables, which may cause damage to the device.
- 8) Please do not use the device in an environment with the temperature higher than the permitted level, which may cause damage to the device.
- 9) Please observe the following rules when wiping this device:
 - Non-optical surface: if necessary, use a clean and soft cloth to wipe the non-optical surface of the thermal imaging camera.
 - Optical surface: avoid soiling the optical surface of the lens when using the thermal imaging camera, and especially avoid touching the lens with your hand, because the optical coating on the glass surface may be corroded due to sweat on the hands. When the optical lens surface is contaminated, use a professional lens cloth to carefully clean it.
- 10) Do not put the cell in a high temperature environment or near high-temperature objects.



- 11) Do not short-circuit the positive and negative terminals of the cell;
- 12) Do not place the cell in a humid environment or the water.



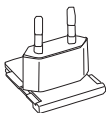
NOTES

- 1) Do not expose the device to dust or moisture. When used in an environment with water, avoid splashing water on the device. The lens shall be covered when the device is not in use;
- 2) When this device is not used, please place the device and all accessories in the special packing box.

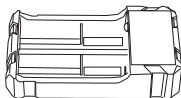


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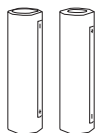
-LIST OF PARTS-



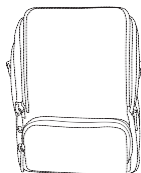
PLUG



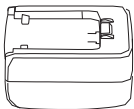
18650 CHARGER



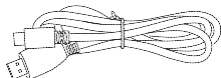
18650 BATTERY
X2 (INCLUDING
BATTERY BOX)



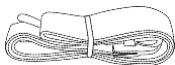
BAG (INCLUDING
SHOULDER STRAP)



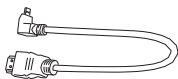
POWER ADAPTER



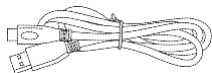
MICRO HDMI CABLE



SHOULDER STRAP



MICRO USB CABLE



TYPE-C CABLE

Options :

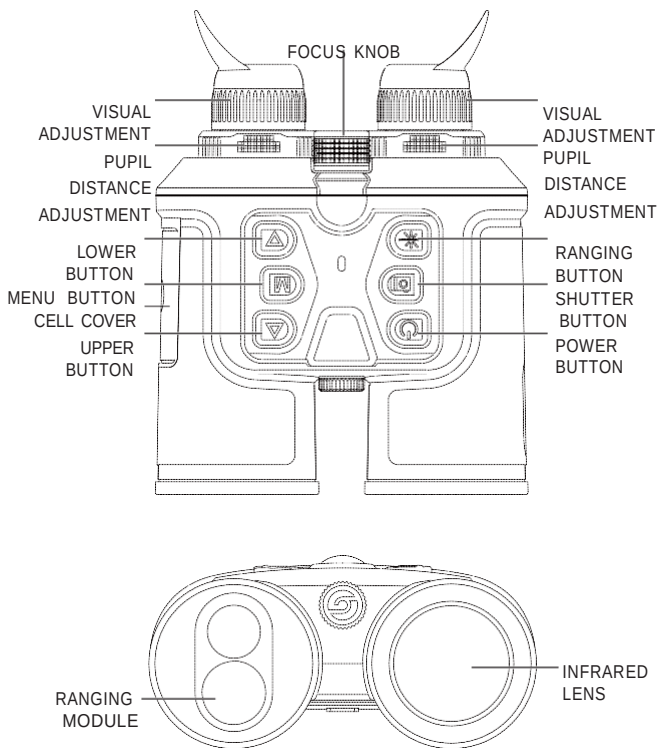


REMOTE CONTROL



-PRODUCT COMPONENTS-

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



1. FOCUS RING

After the thermal imaging camera is turned on, it shall be aimed at the target. When the distance between the observation target changes, the image may be blurred. Therefore, it is necessary to turn the lens focus ring to refocus until the target image is clear.

2. LENS COVER

Please cover the lens to protect the lens when the product is not in use!

3. USB TYPE-C PORT

The external port can be connected with the external power supply to supply power to the product.

The output of the external power supply is 5V2A.

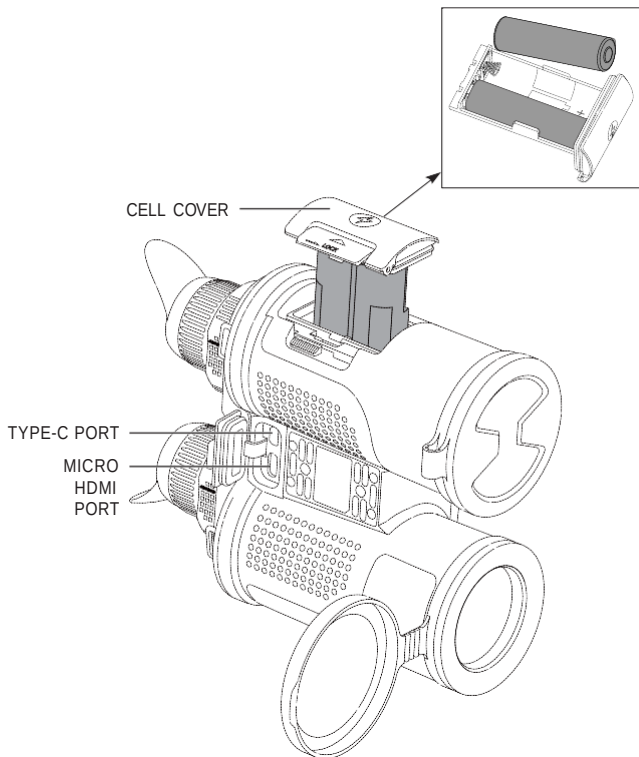
4. MICRO HDMI

Through the video cable of the external port, the external power supply and the external screen can be connected at the same time, and the image of the thermal imaging camera can be output to the external monitor for display.

5. CELL COVER

Open the cell cover as shown and insert the cell.

⚠ NOTE: please insert the cell in the direction shown in the figure, and do not push the cell forcibly.



**-QUICKSTART INSTRUCTIONS-**

Button	Current device status	Press	Long Press
Power button	Power on	Compensation	Display off/off
	Power off	/	Power on
	Display off	Display on	Display on
Shutter button	Menu bar not shown	Take photos	Video recording
	Menu bar display	/	/
Ranging button	Menu bar not shown	/	Turn on the distance function
	Menu bar display	/	Turn on the distance function
Menu button	Menu bar not shown	Open shortcut menu	Open Main Menu
	Menu bar display	Enter the lower menu, or confirm the options	Exit menu without saving settings
Upper button	Menu bar not shown	Switch scene mode	Zoom in
	Menu bar display	Menu options move up	/
Lower button	Menu bar not shown	Switch to color palettes	Zoom out
	Menu bar display	Menu option moves down	/



[BUTTON DESCRIPTION]

BUTTON DESCRIPTION

1. POWER BUTTON

POWER ON:

Long press and hold the power button until the startup picture appears in the eyepiece, then the device can be turned on successfully.

POWER OFF:

- a. Manual power-off: long press and hold the power button, the power-off progress bar will be displayed, and the power-off succeeds after the progress bar is finished.
- b. Automatic power-off: in the set automatic power-off time, without any button operation, the automatic power-off.

DISPLAY OFF:

Press and hold the power button, the progress bar of power-off will be displayed. Before the progress bar is finished, the power-off will be canceled and the Display off mode will be entered.

DISPLAY ON:

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

COMPENSATION:

When it is turned on and the menu is out of the state,



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short-press the power on/off button to complete the corresponding compensation action (except automatic compensation).

2. PHOTOGRAPHING CONSTRUCTION

TAKE PHOTOS

When it is turned on and in the state where the menu is not recalled, short-press, take a photo and freeze the frame for 300ms to restore the real-time image.

VIDEO RECORDING

When it is turned on and in the state where the menu is not called, long press and hold the photographing button to start recording, and then long press and hold the recording again to finish recording.

During the video recording, short-press to take photos and freeze for 300ms to restore the real-time picture.

3. RANGING BUTTON

Press and hold the distance measuring button to enter single distance measuring mode, press again to enter continuous distance measuring mode, and press again to exit distance measuring.

4. UPPER BUTTON

SWITCH SCENE MODE

Short-press to switch to Natural/Highlight/Enhance.



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ZOOM IN

Press and hold the upper button to enlarge the real-time picture.

5. LOWER BUTTON

SWITCHING COLOR PALETTES

Short-press the button, to switch between white hot, black hot, adjustable red hot, green hot, blue hot, iron red.

ZOOM OUT

Long press button, can be changed from zoom in to zoom out the real-time picture.

6. MENU BUTTON

SHORTCUT MENU

When it is powered on and the menu is not recalled, short-press the Menu button, and the shortcut menu option will appear.

MAIN MENU

When it is powered on and the menu is not recalled, press and hold the menu button to display the main menu option.

CONFIRM AND BACK/EXIT

When it is powered on and in the menu recall state, short-press the Menu button to confirm the current selection and return to the previous menu; Press and hold the



menu button to return to or exit the menu without saving the current settings.

[FUNCTION DESCRIPTION]

1. SHORTCUT MENU

- PIP: There are top left, top middle, and top right positions to choose from.
- Screen BRI: Screen BRI level can be adjusted, 1-10 levels can be adjusted.
- Hot track: a white cross cursor is displayed when it is turned on to trace the highest temperature point in the full image.
- Super energy-saving: After being turned on, ARM switches to low power consumption mode, OLED brightness is fixed to 20% without adjustment, WIFI, Bluetooth, ranging, GPS, compass and accelerometer cannot be turned on, if it is currently turned on, the above functions are deactivated.

2. MAIN MENU

- Image quality enhancement: image quality can be adjusted by turning on.
- Scene Mode: Three scene modes, Natural/Enhanced/Highlight, can be set.
- Color palette: can be adjusted between white hot, black hot, adjustable red hot, green hot, blue hot



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and iron red.

- Brightness: detector brightness can be adjusted with 1-10 levels.

⚠ NOTE: The adjusted brightness value will be saved in the current scene mode.

- Contrast: Adjustable for 1-10 levels.

⚠ NOTE: The adjusted contrast value will be saved in the current scene mode.

- Compensation mode: automatic compensation/scene compensation/shutter compensation can be set.
- WiFi:

The WIFI can be used to transmit real-time video to the mobile phone after the mobile phone client is connected to the device, and the device can be operated through the APP to access the photos/videos of the device, photos/videos can be played, shared, deleted, etc.

⚠ NOTE: Search and download 'TargetIR' APP in the mobile phone APP store, open the APP, find the WiFi name 'Binocular-TI-xxxx' in the settings of mobile phone WiFi, and enter the password '12345678 ', remote operation after successful connection.

- GPS: After GPS is turned on, the GPS information of



the location of the device can be obtained.

- Compass: After opening and zeroing, current orientation information can be displayed.
- Accelerometer: When turned on, it can indicate the correction of the grip angle of the current device, and when the device has an angle deviation, it will give a homing prompt.
- Auto Stand-by: the Auto Stand-by time can be set to 5/10/15 min. If there is no operation within the set time, the sleep state will be entered.
- Automatic power-off: The automatic power-off time can be set to 15/30/60 minutes. If there is no button operation at the set time, the power-off will be entered, and the power-off will be completed.
- Working indicator lamp: The switch that controls the working indicator lamp.
- Time format: selectable between 12H/24H.
- Date format: Optional from YYYY-MM-DD/MM-DD-YYYY/DD-MM-YYYY.
- Time setting: enter the time adjustment port, you can adjust the device time and date.
- Watermark Settings: can be selected in Time Only/Date Only/Date Only and Time/Off when turned on.
- Language setting: Available in Chinese/English/



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Russian/German/French.

- Memory card formatting: you can select formatting memory card, select 'yes', memory card formatting, select 'no', cancel the operation.
- Restore default: You can choose whether to restore the default values. Select 'Yes' to restore all parameters to factory settings; Select 'No' to cancel the operation.
- Remote control: When it is turned on, it will search for a Bluetooth remote control. After the connection is successful, it can use the Bluetooth remote control to control all functions of the button on the device (except the power-off function).



NOTE: It shall be used together with optional accessories.

- Laser indication: the display of red/yellow/green laser indication icon can be toggled.
- Indication calibration: The coordinates of the three laser Indicator icons can be set separately.
- About: Check the current device in the APP,ARM,MCU,FPGA version number and MAC address.
- Power display: When the thermal imaging camera is turned on and the cell power level changes, the



power indicator will be displayed on the lower left corner of the screen, and the part with power indicator on will display the remaining power of the cell.

- After the power-on screen to enter the real-time picture, the screen will display the icon corresponding to the above power level.



NOTE: When the power is low, please replace the cell in time!

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



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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.



- 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.