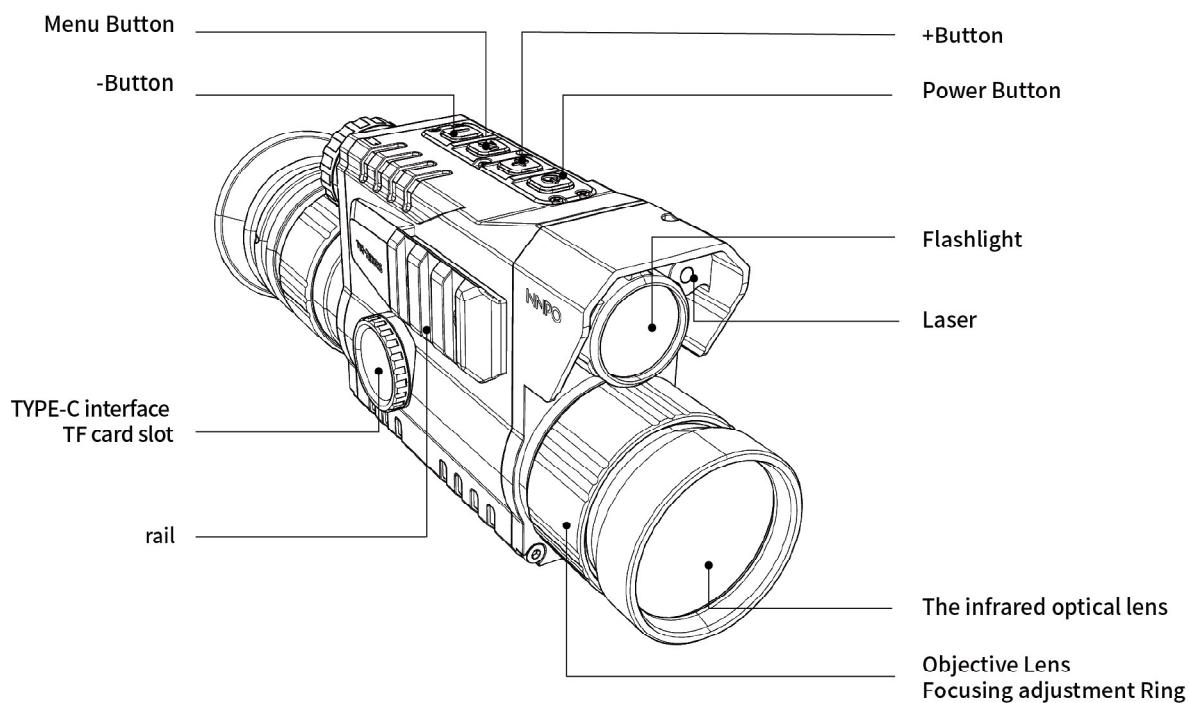
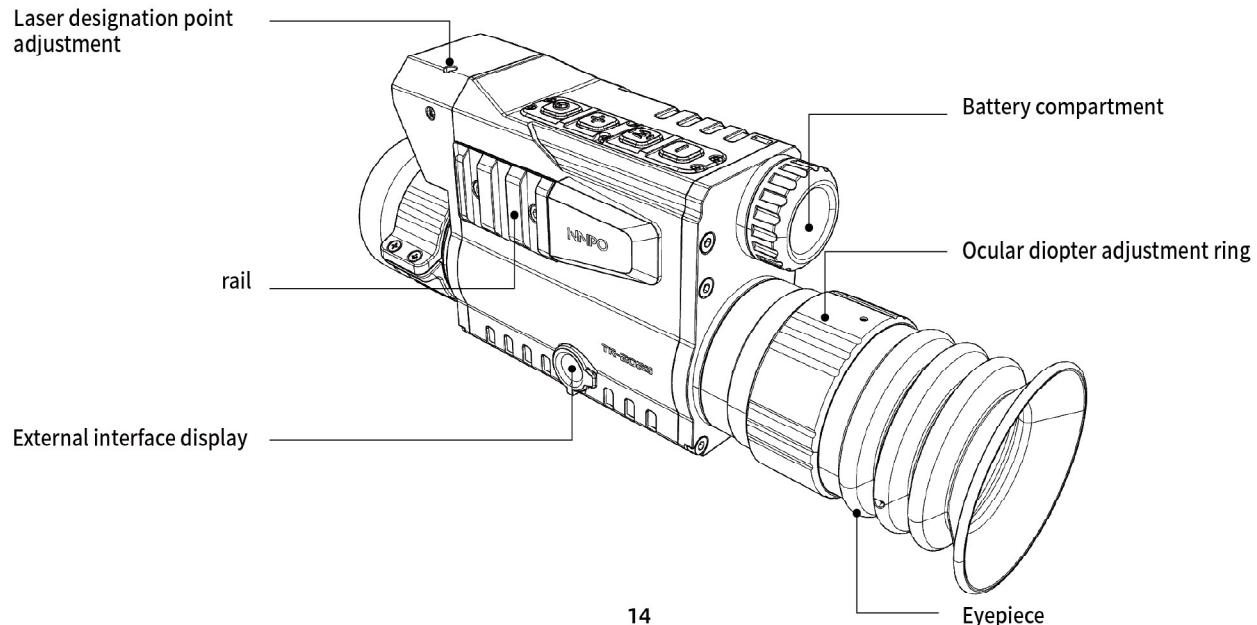
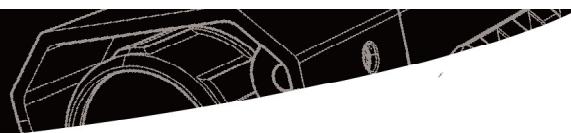


• 5 Use operation

• 5-1 Components of thermal imager





• 5-2 Preparation before use

• 5-2-1 Check

Check whether the lens, body, eyepiece and keys of the thermal imager are obviously damaged, and wipe the infrared lens with a lens cloth to ensure that the lens is clean.

• 5-2-2 Battery installation

This product uses a single 18650 battery. Open the battery compartment cover and load the battery in the direction indicated by the positive and negative poles of the fuselage.

• 5-3 Key function description

• 5-3-1 The thermal imager buttons are shown below.

Key descriptions are as follows:

-  : confirm operation of power ON/OFF, ranging ON/OFF and menu Enter;



-  : zoom, laser indication ON/OFF, polarity (pseudo-color) ON/OFF, menu+operation;
-  : enter or exit shortcut menu/main menu and lighting switch;
-  : photo taking, video recording, Calibration, menu-operation;
- Keys can be divided into three operation modes: short press, long press (3 seconds) and double click (short press twice in a row).

The function operation list is as follows:

Button	Trigger state condition	Short press	Long press for 3 seconds	Double click (short press twice in a row)
Powerkey	Shutdown status	/	start (the machine or engine)	/
	resting state	start	start	/
	At power on-shortcut key	/	switch an electrical device off	Ranging on/off
	At power-on-menu operation	Confirm key	switch an electrical device off	/

Button	Trigger state condition	Short press	Long press for 3 seconds	Double click (short press twice in a row)
+key	shortcut key	amplify	Laser indicator on/off	Switching pseudo color
	Menu operation	Move up menu options	/	/
menu	shortcut key	Enter the shortcut menu	Enter the main menu	Lighting on/off
	Menu operation	Back to superior menu/exit menu	/	/
-key	shortcut key	Take a picture/ stop recording	Start/stop recording	compensate
	Menu operation	Move down menu options	/	/

• 5-4 Power On/Off

When the product is not turned on, press the power button for 3 seconds until the boot screen appears on the eyepiece screen and the thermal imager starts.

After self-checking, infrared images are displayed on the eyepiece screen.

When the product is turned on, press the power button for 3 seconds, and the thermal imaging is turned off.

• 5-5 Key shortcut operation instructions

- Zoom: press the+key briefly; Electronic image magnification ($\times 1$, $\times 2$, $\times 4$ switching in sequence)
- Switch Palette [pseudo-color]: double-click the+key;
- Laser indicator ON/OFF: long press+key;
- Lighting ON/OFF: double-click the menu key;
- Take pictures: when not recording, press the-key briefly;
- Start recording: when not recording, long press-key;
- Stop recording: when recording, press the-key short or long;
- Calibration: double-click the-key; (The equipment will perform Calibration according to the currently set Calibration method;)
- Laser ranging switch: double-click the power button; (the ranging version is valid)
-  Shortcut key operation is only valid when the product does not enter the menu.



•5-6 Commissioning of thermal imager

•5-6-1 Eyepiece vision adjustment

In order to adapt to users with different eyesight, the thermal imager is equipped with visual degree adjustment. When the interface icon or text on the screen is blurred, it means that the eyepiece visual acuity does not match the user visual acuity. Please adjust the eyepiece visual acuity.

- Slowly rotate the vision adjusting ring until the icon text in the picture is clearly visible, then the eyepiece has adapted to the user's eye vision, and the vision adjustment is completed.

•5-6-2 Focusing of infrared lens

The lens of the thermal imager is provided with a lens focusing ring at the front of the lens.

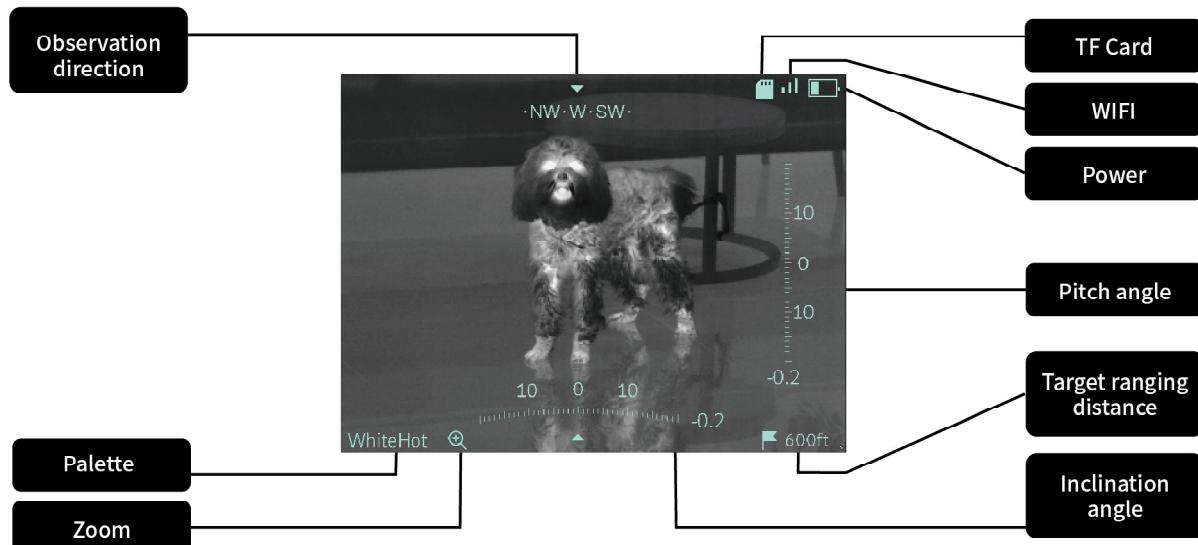
After the thermal imager is turned on, aim the thermal imager at the observation target and rotate the lens focusing ring until the image is clear. When the distance of the observed target changes, the image may be blurred. Turn the lens focusing ring to refocus until the target image is clear.

The focusing ring rotates clockwise for close focus and counterclockwise for long focus.



•5-7 Main image interface of thermal imager

The image interface of thermal imager without menu operation is shown in the following figure.





• 5-8 Operating instructions of thermal imager shortcut menu

• 5-8-1 Enter the shortcut menu

Press the menu button briefly, and the shortcut menu pops up on the left side of the screen.

• 5-8-2 Calibration

Calibration can eliminate snowflakes, jitter, stripes, etc., and make the image clearer.

In the process of using the thermal imager, due to long-time operation, the thermal imager device heats up, which may cause snowflakes, jitter, stripes, etc. in the infrared image, affecting the viewing experience. Users can correct the image and eliminate image anomalies.

- ④ • Automatic Calibration: the product automatically performs shutter compensation;
- Shutter Calibration: manual compensation is required, and internal baffle is used for correction;
- Scene Calibration; Manual compensation is required, and external scenes are used for correction.

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④ The effect of scene Calibration is the best. Before performing scene Calibration, please use the lens cover and other objects to block the lens. The objects that block the lens should be flat and have uniform temperature distribution.

④ During the calibration process, the image will solidify for 0.5 seconds, which is not an abnormality of the thermal imager;

• 5-8-3 picture in picture

- OFF
- upper left
- Upper middle
- upper right

• 5-8-4 laser ranging

Laser ranging on/off; (the ranging version is valid)

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**• 5-8-5 Hot spot tracking**

Hot spot tracking on/off;

When hot spot tracking is turned on, a cursor appears on the screen to identify the hottest spot in the scene.

• 5-8-6 compass

Compass information display on/off;

When compass information is turned on:

- The observation direction display appears at the top of the screen;
- Pitch angle display appears on the right side of the screen.
- The tilt angle display appears at the bottom of the screen.

**• 5-8-7 WIFI**

WIFI on/off;

When the WIFI is turned on, it can be connected to the mobile phone through WIFI, displayed and operated on the mobile APP;

• 5-8-8 Low Power

Low Power function on/off;

When the Low Power function is turned on, the system enters the power-saving working state, the WIFI function cannot be used, and the screen brightness decreases.

• 5-9 Operating instructions of main menu of thermal imager



• 5-9-1 Palette

Image polarity adjustment (pseudo-color band adjustment) can make infrared images display in different colors, which is convenient for users to observe and recognize targets.

The thermal imager is provided with eight palettes for users to choose from, namely white hot, black hot, red hot, green hot, blue hot, amber, iron red, hot iron.

• 5-9-2 bright

Image brightness level can increase or decrease the brightness of the scene image.

The thermal imager is provided with 1-10 image brightness options, and the brightness from 1 to 10 is from darkest to brightest. Users can choose appropriate brightness according to their personal viewing habits and current environment.



• 5-9-3 contrast

Image contrast adjustment can increase or decrease the contrast of the scene image and make the target more prominent.

The thermal imager is provided with 1-10 image contrast options, and the contrast ratios from 1 to 10 are from weakest to strongest. Users can choose appropriate contrast according to their personal viewing habits and current environment.

• 5-9-4 Sharp

Image sharpness adjustment can make the edge of the observed target more obvious and make the target outline clearer.

The thermal imager is equipped with 1-5 grades of image sharpness, and the sharpness from 1 to 5 grades is from the weakest to the strongest. Users can choose appropriate sharpness according to their personal viewing habits and current environment.