ThermTec

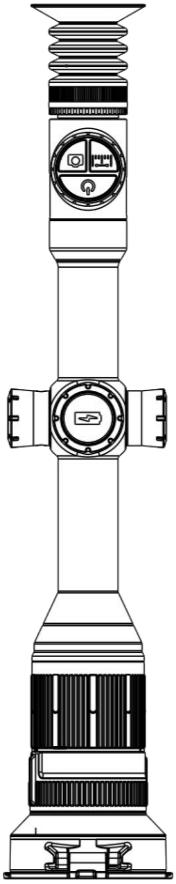
User Manual

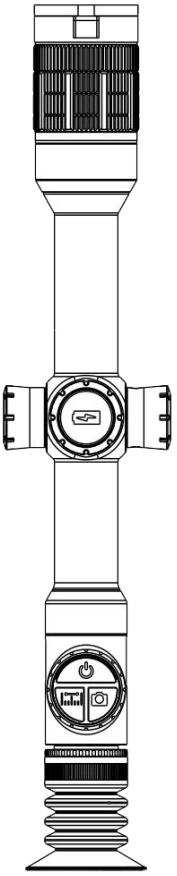
Thermal Imaging Scope

ARES SERIES

IOS

Andriod





RoHS compliant

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About This Manual

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This Manual is applicable to Thermal Imaging scope.

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons.

Regulatory Information

This product and, if applicable, the supplied accessories are marked with “CE” and comply therefore with the applicable harmonized European standards listed under the Radio Equipment Directive 2014/53/EU, the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

1 Device Description

ARES Series thermal imaging scope is equipped with 12μm high-sensitivity detector with the resolution of 384x288, and adopts 35mm lens and dual-field of view with the focal lengths of 20mm/60mm, 1024x768 high-definition OLED display, as well as AI image recognition algorithm, to get clear view under harsh environments, even in poor visibility or total darkness. It helps to see through obstacles hindering the detection of targets, and measure the distances. The function of easy connection to phone enables users to share views in real time.

ARES Series thermal imaging scope is designed for various areas of application including night hunting, observation, rescue operations, hiking and traveling, etc.

2 Features

2.1 Dual FOV

Using the unique dual FOV and 3× optical zoom, the user can quickly shift the dual FOV manually. A wider FOV with a focal length of 20mm is used for target search while a narrower FOV with a focal length of 60mm for target identification.

2.2 Auto Zeroing

It provides "First-Shot Auto-Zeroing" functionality, and stores up to 5 zeroing profiles for different guns while displaying zeroing coordinates, distances and type of guns, making it easy to switch guns without having to re-zero.

2.3 AI Intelligent Ranging

Based on deep learning algorithm, the animal species and object distances can be identified automatically by the scope.

2.4 Automatic Object Detection

After the wireless network is connected, the scope detects the target and sends a notification through the APP automatically to ensure that the user will never miss an object entering his/her field of view.

2.5 Shutterless Design

The shutterless core module is adopted to nullify the shutter calibration, which simplifies the operation and lowers the energy consumption, making the imaging quieter and linear.

2.6 Easy Battery Installation

The battery's anode and cathode can be installed interchangeably, helping users to complete the battery replacement more quickly at night.

3 Packing List

Scope	1
18650 battery cap	1
18500 battery cap	1
30mm tube clip	2
USBcable	1
Eyeshade	1

Scope
(x1)

18650 battery cap
(x1)

18500 battery cap
(x1)

30mm tube clip
(x 2)

USB cable
(x1)

Eyeshade
(x1)

4 Specifications

Model	Ares335	Ares360
Resolution, pixel	384x288	
Spectral	8-14μm	
NETD	≤40mk	
Frame rate	50HZ	
Objective lens	35mm, F1.0	20/60mm, F1.0 (Dual-field of view)
Field of view	7.5°x5.6°	13.1°x9.8°/ 4.4°x 3.3°
Magnification	1-6X	
Color palette	6	
Display		
Type	AMOLED	
Resolution, pixel	1024x768	
Display size	0.39 inch	
Eye relief	50mm	
Exit pupil	6mm	
Diopter	-5~+5	

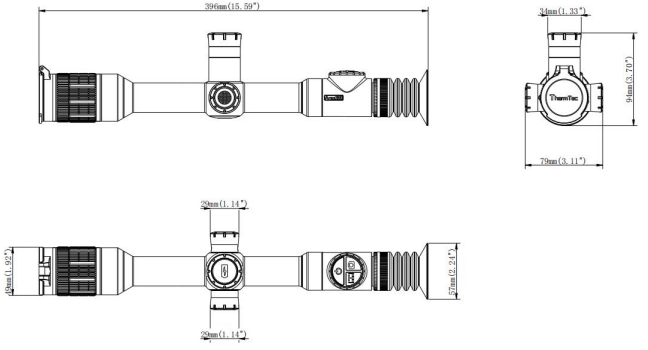
Operational Characteristics	
Max. recoil power on rifled weapon	850 Gs
Mounting brackets on weapon	Standard 30 mm rings
Reticle	7
Reticle color	Black, white, red and blue
Photo/video playback	Support
Shooting record	Support
Memory card	16G
Auto zeroing	Support
Manual zeroing	Support
Zeroing Profiles	5
Battery reverse connection	Support
Picture-in-picture	Support
Wi-Fi	Support
AI ranging	Support
Image calibration	By lens cover
USB interface	Type-C
Battery	
Replaceable battery	18650 battery or 18500 battery
Battery life	6H
Environmental Characteristics	
Operating temperature	-20~ +50℃
Degree of protection, IP code	IP67

5 Appearance

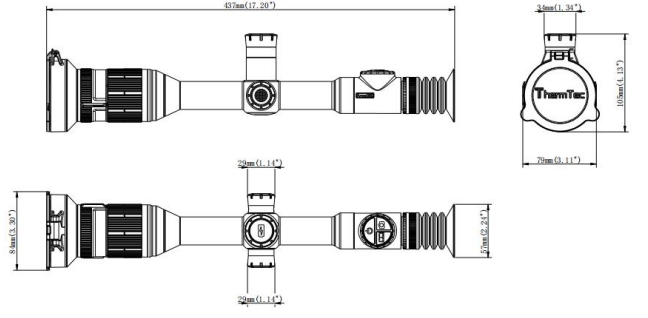
Notes: the size of battery cap marked in the drawings refers to 18650 battery cap, which can be replaced by 18500 battery cap.

5.1 Dimensions

ARES 335



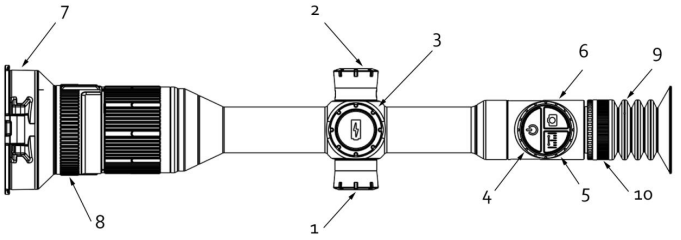
ARES 360



5.2 Buttons and Controls

		Short Press	Long Press
	Power ON/OFF	Enter standby mode and screen locked	ON/OFF
	AI Rangefinder	Shift color plates	AI rangefinder function on/off
	Capture/ Record	Take photos	Take videos

Rotary Knob	**Before the entry of Main Menu**			
	Rotate Knob	Short Press+Rotary Knob	Long Press	Double-Press
	Zooming	Brightness/ contrast adjustment	Entry of main menu	Image correction
	After the entry of Main Menu			
	Rotate Knob	Short Press	Long Press	Double-Press
	Up/down selection	Confirm	Exit	N/A

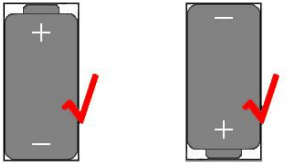


1	Rotary knob
2	USB
3	Battery slot
4	Power button
5	AI Rangefinder button
6	Capture/Record button
7	Lens cover
8	Lens
9	Eyeshade
10	Eyepiece

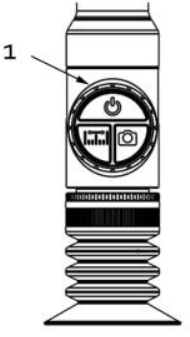
6 Operation Guide

6.1 Battery Installation

The battery's anode and cathode can be installed interchangeably.



6.2 Power-on the Device

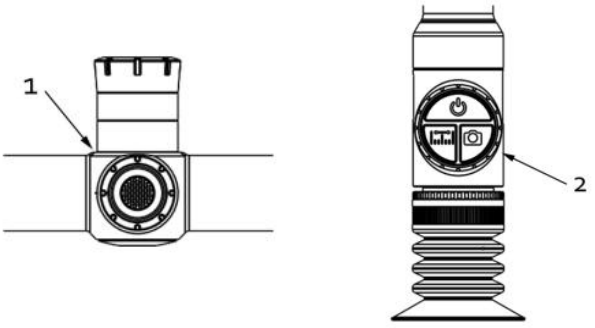


1. Power button

The screen after turning on the device

6.3 Menu Unlocking

Long press the middle of the rotary knob + Capture/Record button for 5 times to unlock the menu.

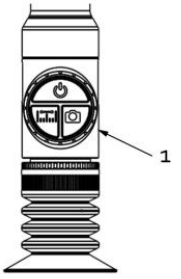


1. Long press the middle of the rotary knob.

2. Press Capture/Record button for 5 times.

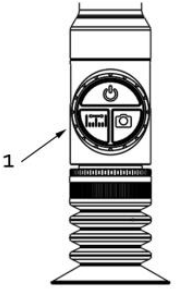
6.4 Shortcut Menu

6.4.1 Taking photos/videos



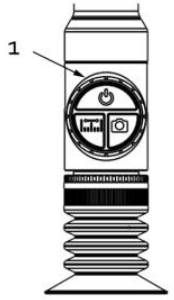
1. Take photos - short press the Capture/Record button; Take videos - long press the Capture/Record button.

6.4.2 AI Ranging



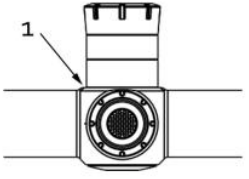
1. AI Ranging - short press the AI Rangefinder button

6.4.3 Standby Mode

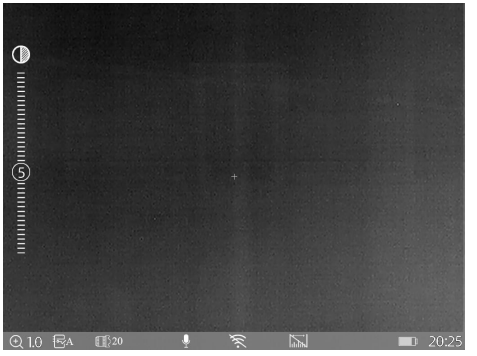


1. Standby mode - short press the Power button

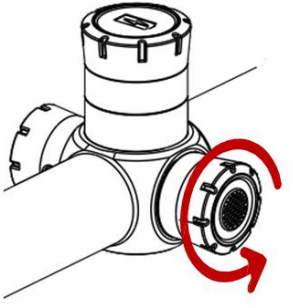
6.4.4 Contrast Adjustment



1. Short press the middle of the rotary knob to enter the Contrast screen.

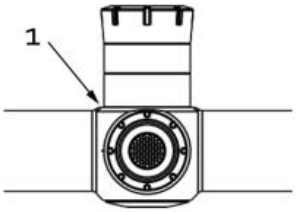


The screen of Contrast Adjustment by clicking the shortcut button

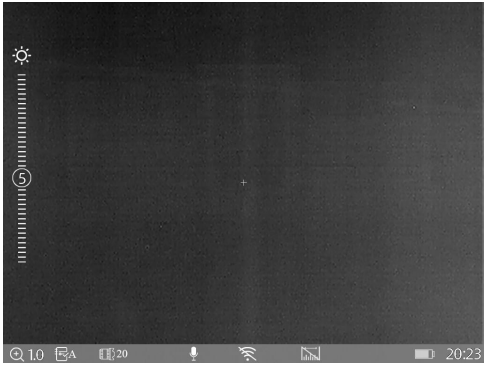


Rotate the knob to increase or decrease the contrast degree.

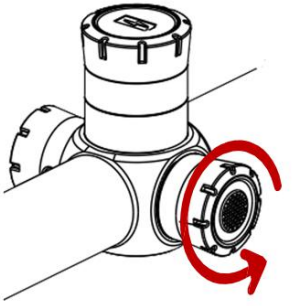
6.4.5 Brightness Adjustment



1. Shortcut button: short press the rotary knob to enter the Brightness screen.



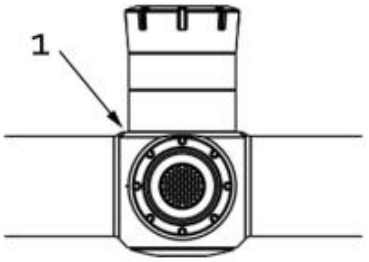
The screen of Brightness Adjustment by clicking the shortcut button



Rotate the knob to increase or decrease the brightness degree.

6.5 Entry of the Main Menu

Long press the middle of the rotary knob to enter the main menu. After the entry of Main Menu, short press the button for the operation of “Confirmation”, and long press the button for the operation of “Exit”. Rotating the knob is the operation of moving the cursor.

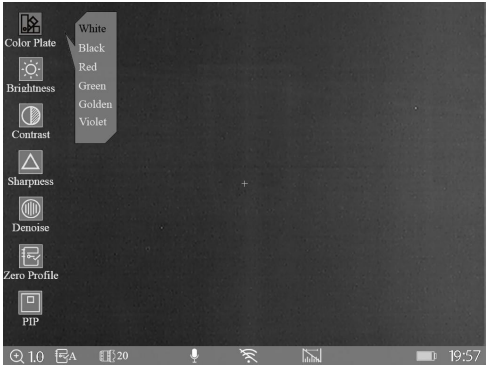


1. After the entry of Main Menu, short press the button for the operation of “Confirmation”, and long press the button for the operation of “Exit”.

Main Menu

6.6 Color Plate

After entering the Main Menu, select the first icon of “Color Plate” and short press the AI Rangefinder button to shift the types of Color Plate.



Color Plate

Color Plates

White

Black

Red

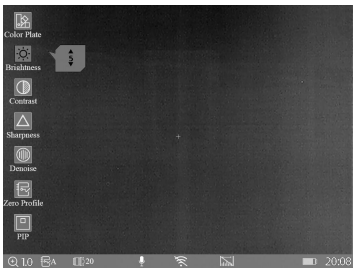
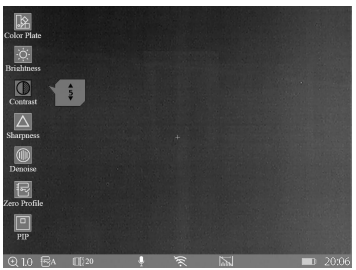
Green

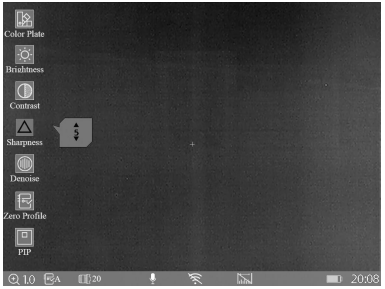
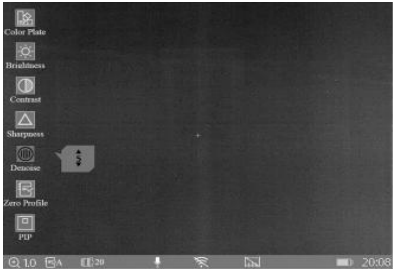
Golden

Violet

6.7 Image Settings

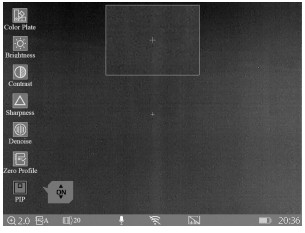
There are four sub-menus for image settings, which are “Brightness”, “Contrast”, “Sharpness” and “Denoise”. Short press the rotary knob to enter these sub-menus, and rotate the knob to adjust the images.

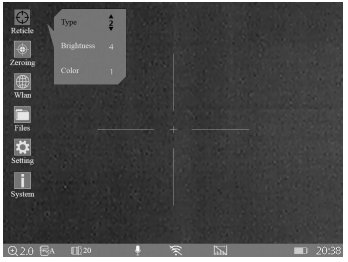
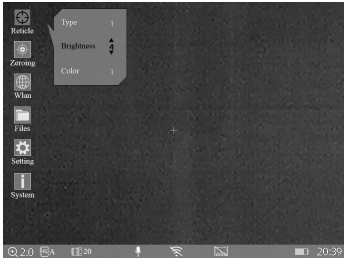
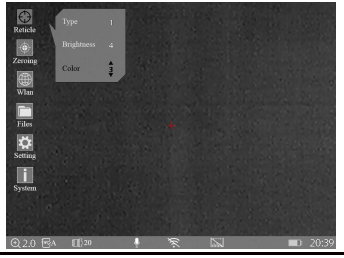
Image Setting Sub-menus		
Brightness	1-10	Adjust the image brightness to make the image brighter. The recommended value is 5. 
Contrast	1-10	Adjust the image contrast to make the object more prominent in the image. The recommended value is 5. 

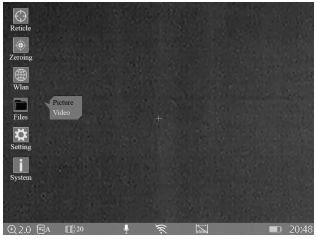
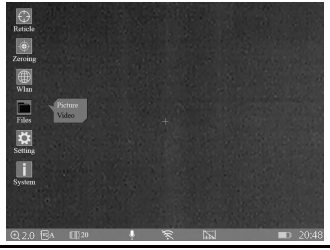
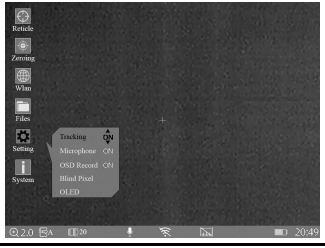
Sharpness	1-10	Adjust the image sharpness to make the edges of the image sharper. The recommended value is 5. 
Denoise	0-10	Adjust the image noise to make the image cleaner. The recommended value is 5. 

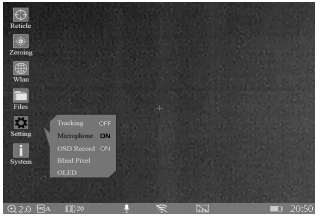
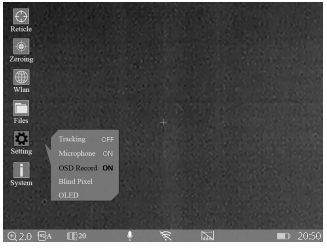
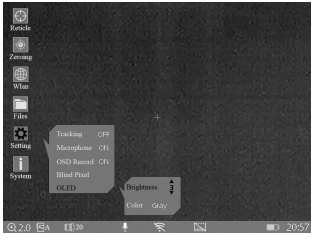
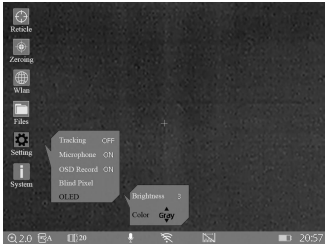
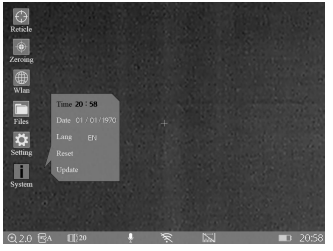
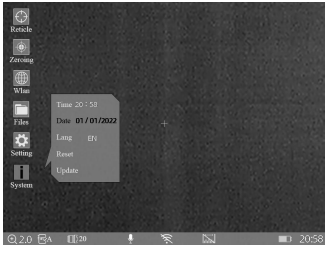
6.8 Settings

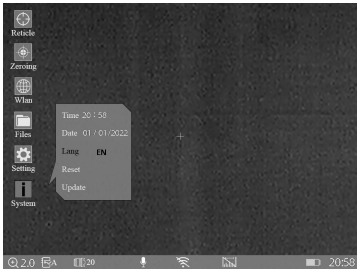
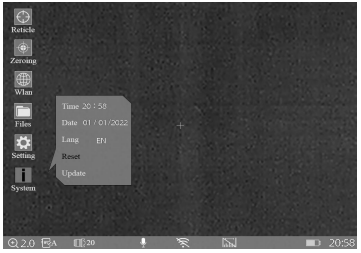
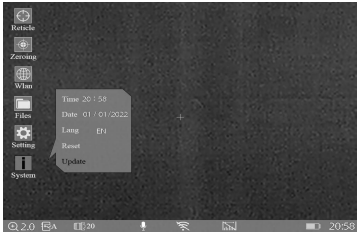
Short press the rotary knob to enter the sub-menus of Settings, and rotate the knob to adjust the parameters accordingly.

Sub-menus of Settings		
Zeroing profiles	A-E	There are five zeroing profiles from "A-E" in the file folder, which contain the distance, type of bullet, and the coordinates of the crosshairs after zeroing. 
Picture-in-Picture		The image is enlarged by 2x as centered by the crosshairs. Picture-in-picture occupies 10% of the entire image. 

Reticles	Type	There are seven types of reticles set for selection. 
	Brightness	There are five types of brightness degree set for selection. 
	Color	There are seven colors set for selection. 

Files	Picture	Open the sub-menu of Picture, and rotary the knob to select the images. 
	Video	Open the sub-menu of Video, and rotary the knob to select the videos. 
Setting	Tracking	Turn on heat tracking function to mark the hottest target on the screen in real time. 

Setting	microphone	Turn on the microphone for audio recording. The device takes photos automatically when cracks of shooting are detected by the microphone. 
	OSD Record	The menu on the screen will be recorded after turning on the OSD function. 
	OLED	The brightness of OLED can be adjusted from 1 to 5. 
	OLED	The color of OLED can be selected from blue, purple and gray. 
System	Time	Adjust the local time manually. 
	Date	Adjust the local date manually. 

System	Language	The language of the current system. 
	Reset	After resetting, the configuration parameters are restored to the factory state. 
	Update	The system of the device can be updated and upgraded. 

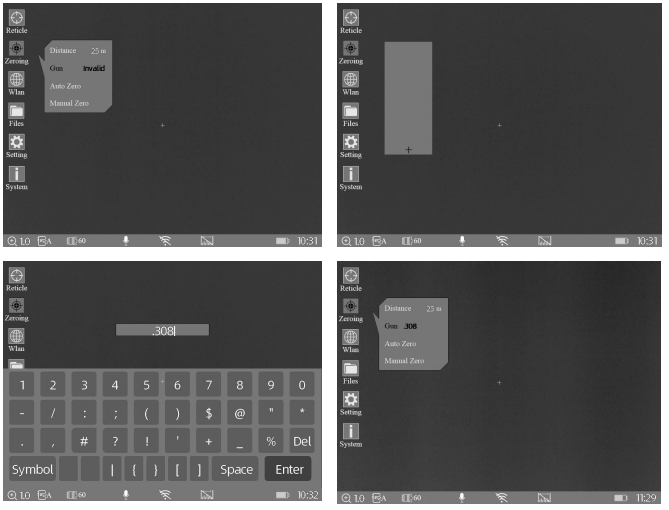
6.9 Zeroing

Enter the Main Menu, rotate the knob and short press the rotary knob to to enter the sub-menu of Zeroing.

Short press the rotary knob one more time. Rotate and short press the knob to select and confirm the zeroing distance (e.g. 25m or 35m).

After that, move the cursor and short press the rotary knob to enter the Gun Type screen. Rotate the knob anticlockwise until "+" appears, and short press the rotary knob to add the Gun Type (customizable; press "Enter" on keyboard to add the Gun Type). Rotate the knob clockwise and short press the rotary knob to select the Gun Type. Long press the rotary knob to return to the previous screen.

Distance Adjustment



Add the Gun Type

6.9.1 Auto Zeroing

Rotate the knob anticlockwise, and move the cursor to Auto Zero. Short press the rotary knob to enter the Auto Zeroing screen, confirm the zeroing distance, and short press “OK” button to enter the next step. Please finish the shooting within 15s.

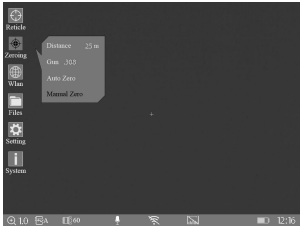
The cracks of shooting will be transmitted to the system through the microphone, and the coordinates of the bullet holes will be automatically calculated. The reticles will be automatically moved from the original position to the bullet hole position.

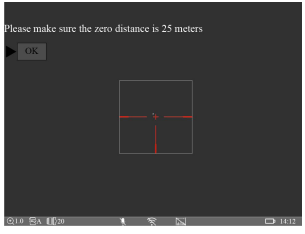
Short press the rotary knob to save the zeroing data to any profile (A, B, C, D, E). Finally, short press the rotary knob to exit.

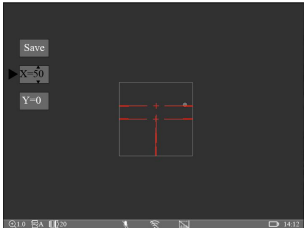
6.9.2 Manual Zeroing

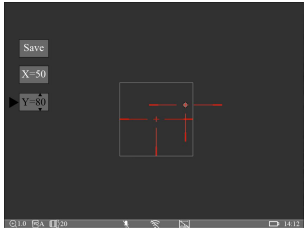
Rotate the knob anticlockwise, and move the cursor to Manual Zero. Short press the rotary knob to enter the Manual Zeroing screen, confirm the zeroing distance, and short press “OK” to enter the next step. After shooting is finished, adjust the coordinates (X, Y) of the reticle by rotating the knob, and move the reticle from the original position to the bullet hole position manually.

Short press the rotary knob to save the zeroing data to any profile (A, B, C, D, E). Finally, short press the rotary knob to exit.





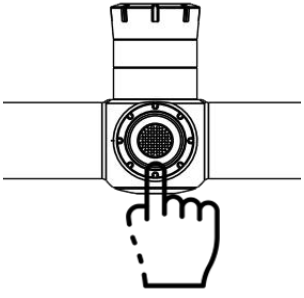




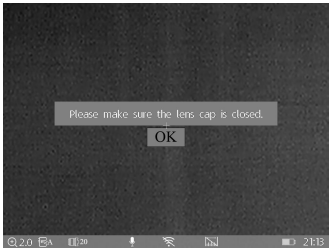
6.10 Image Correction (with Lens Cover Closed)

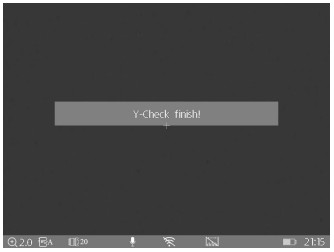
Taking advantage of the non-uniformity correction technology, this device supports consistent view for shooting. In case that the sensor performance or the image quality need to be recovered or optimized, please follow below steps for image correction.

Short press the rotary knob twice. A prompt will appear on the screen, reminding you to close the lens cover during image correction. Click "OK" to start the process after closing the lens cover.

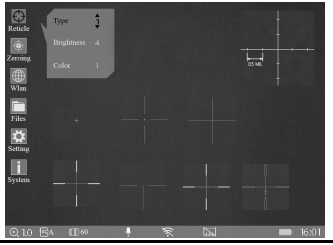
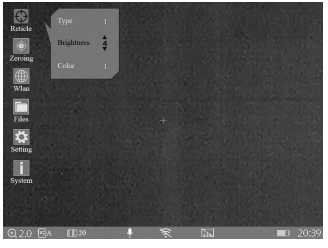
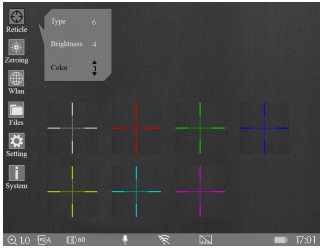


Short press the rotary knob twice to enter the Image Correction screen.



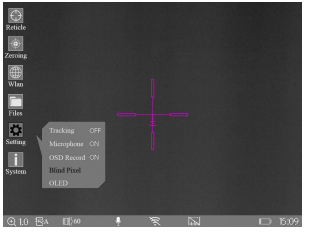


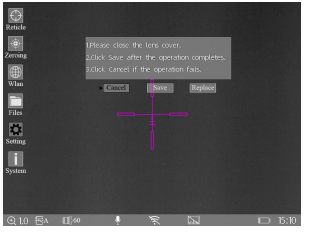
6.11 Reticles

Type	1-7	Rotate the knob to select the type of reticles. 
Brightness	1-5	Rotate the knob to adjust the brightness of reticles. 
Color	1-7	Rotate the knob to select the color of reticles. 

6.12 Blind Pixel

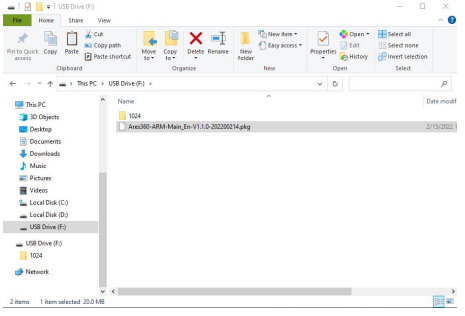
Short press the rotary knob to enter the sub-menu of Blind Pixel. There are three options (cancel, save and replace). Replace: the blind pixel on the screen can be replaced. When finished, long press the middle of the rotary knob to exit.

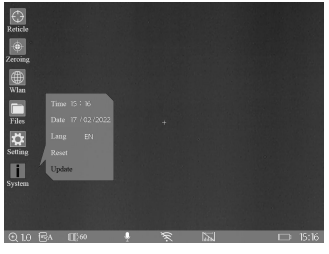


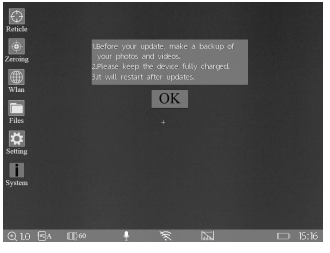


6.13 Updates

Connect the device to the computer, and drag the updating file to the file folder. The device should be connected all the time. Enter Settings menu, select Update, and the system will prompt “Program Updating”. When the update is finished, the device will automatically restart.





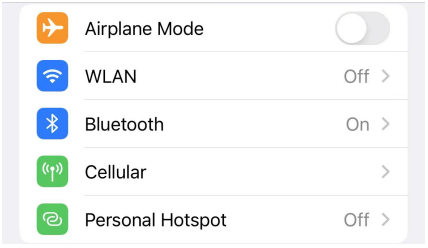


7 APP Download

You can search "Smart Thermal" in Apple or Google Play APP Store to download our APP, or you can download it through the QR code shown on the packing box or user manual.

8 WIFI and Hotspot Settings

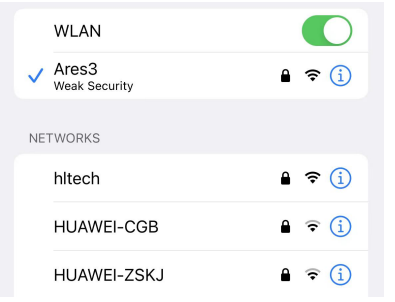
Move the cursor to choose the icon of WLAN. You can select the sub-menus of Wi-Fi and Hotspot to make adjustments. Steps are shown as below: ① Turn on personal hotspot on your phone; ②Enter the sub-menu of Wi-Fi, and the device will search for network Wi-Fi nearby. Choose the Wi-Fi to be connected, and enter the password to connect by rotating the knob. After it shows successful connection, you can open the mobile APP to view the images remotely.



Turn on personal hotspot on your phone.

Successful WIFI Connection

Enter the sub-menu of Hotspot. One hotspot network will be released by the device. Set the hotspot name and password, and confirm by rotating the knob. Search the hotspot for connecting the device by phone, and open the phone APP to view the images remotely.



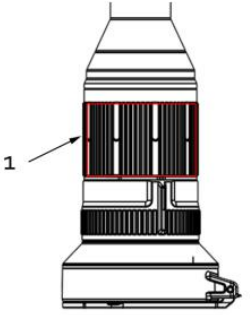
Connect the ARES Hotspot on your phone.

Successful Hotspot Connection

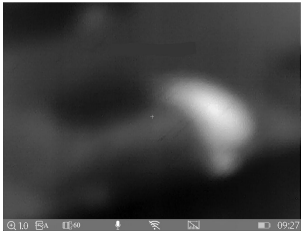
9 Focus Adjustment

9.1 Focusing

Focus on the target, and rotate the lens until it clicks into place.



1. Rotate the lens for focusing.



Focus on the selected target

Focusing finished

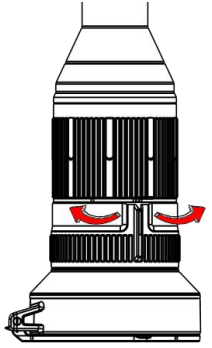
9.2 Digital Adjustment of Focus Distance

On the main screen, rotate the knob to digitally adjust the focus distance. Rotate upward for zooming in, and rotate the knob downward for zooming out.

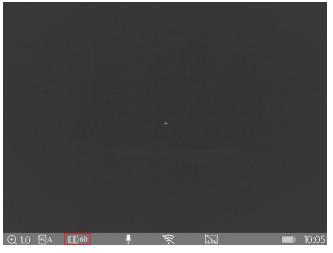
Rotate upward for zooming in, and rotate the knob downward for zooming out.

9.3 FOV Selection and Shifting

The device is set with dual-field of view. Rotate the lens to shift the field of view from 20° to 60° or from 60° to 20° .



Rotate the lens to shift the field of view.



Shift the FOV from 60° to 20°

FOV successfully shifted