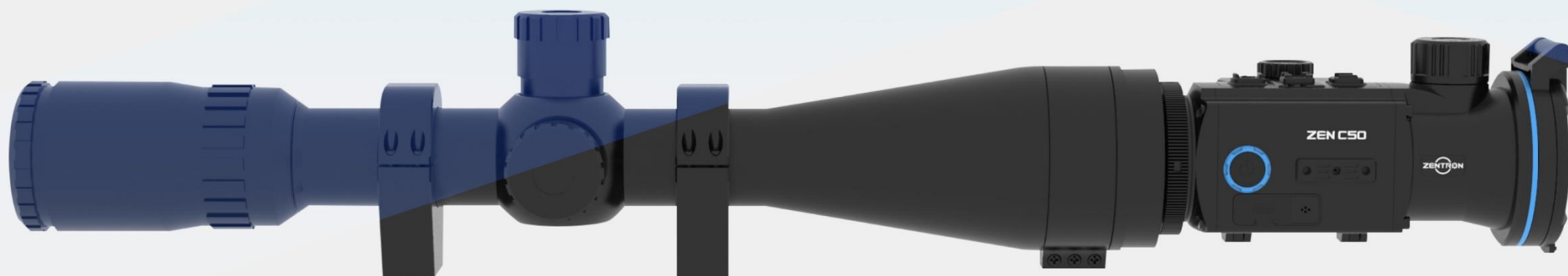




Thermal imaging device

C50 & C35 (Thermal Clip-on)

User Manual



Content

- WARNINGS.....2
- 1.DESRIPTION.....3
- 2.MAIN FEATURES3
- 3.SPECIFICATIONS4
- 4.PACKING LIST5
- 5.COMPONENTS6
- 6.BUTTONS.....7
- 7.HOME SCREEN8
- 8.INSTALLATION9
- 9.OPERATION GUIDE.....10
 - 9.1 Switch Palettes.....10
 - 9.2 Lens Focus Adjustment.....11
 - 9.3 UI Zoom.....11
 - 9.4 Monocular Mode.....12
- 10.SHORTCUT MENU13
- 11.MAIN MENU15
- 12.HOW TO ZERO?22
- 13.HOW TO USE ZEN LINK APP?.....24
- 14.FIRMWARE UPGRADE.....25

WARNINGS

- Do not use in high temperature environments exceeding 50°.
- When used in extremely cold environments, the battery life of the device will be reduced. This is normal and does not indicate a malfunction of the device.
- When the device is idle for a long time, the battery should be removed.
- Do not use 123A batteries with USB charging interface, as it will damage the device charging compartment.
- After using the device, please close the lens cover of the device to prevent sharp objects from scratching the lens of the device.
- **Disassembling or repairing equipment through unofficial channels will invalidate the repair policy.**

FCC ID: 2BGU2-ZENC50\2BGU2-ZENC35

FCC Caution:

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. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

1.DESRIPTION

Precision is everything for a shooter, especially in complete darkness. The Zentron C series thermal imaging clip-on provides an ultra-precise shooting experience. No extra zeroing is needed if your rifle scope is properly zeroed. The special synthetic magnesium-aluminum housing material makes ZEN products durable and lightweight, weighing at least 30% less than other similar products. The ingress protection rating is IP67.

2.MAIN FEATURES



- **Ultra-precise**

ZEN C35/C50 is an ultra-precise clip-on that stands out with a longer detection and recognition range.

- **Compact & Lightweight**

The ZEN C35/C50 is a lightweight and compact thermal imaging device.

The weight of ZEN products is much lighter than other similar products.

- **LRF Extension**

LRF accessory can be integrated into ZEN C products. This feature allows users to determine the exact distance to their target, aiding in precise aiming and shooting, especially over longer distances.

- **Clip-On & Monocular**

The C35/C50 can function as a thermal imaging monocular when used with the monocular extension accessory. The extension can also be used independently as an optic scope.

- **Software Connection**

After connecting to our ZEN LINK app on your devices, you can download high-resolution photos and videos. The app also supports real-time screen sharing and remote control of all ZEN products.

3.SPECIFICATIONS

ZEN Series	C35	C50	ZEN Series	C35	C50
Detector Type	VOx Uncooled		Display Parameters		
Resolution	384x288	640x512	Display Type	OLED	
Pixel Size	12μm		Display Resolution	800x600	1280x1024
Framerate	50Hz		Electronics		
Spectral range	8~14um		Battery	2x CR123a	
NETD	<25mK		Max. Battery Life	4 hours	3 hours
Optics			USB Interface	TYPE-C	
Objective Lens	35mm f1.0	50mm f1.0	Physical		
Field of View	7.5°(H) x 5.6°(V)	8.7°(H) x 7°(V)	Size	142x65x63mm	147x65x74mm
Close-up range	5m		Weight	410g	376g
Detection Range	1800m	2600m	Connection Thread	M45x0.75	
Functions			Environmental		
E-zoom	Clip-on mode:×1 Monocular mode:×1/x2/x4		Housing Material	Magnesium	
			Protection Level	IP67	
Palettes	White hot/Black hot/Red hot/Color...		Operation Temp	-20°C~50°C	
Start Up Time	less than 5 seconds		Storage Temp	-40°C~50°C	
WiFi	2.4G/5G		Max. Recoil	1000g/0.4ms	
Bluetooth	YES				
Sensors	Built-in Accelerometer and Digital Compass				
Built-in memory	32GB	64GB			

4.PACKING LIST



Packaging box



Packaging bag



ZEN C35/C50



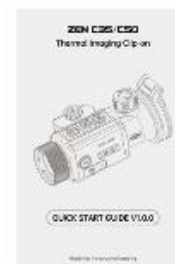
Wrench



USB-C Cable



Dust cloth



Quick guide



User Manual

5.COMPONENTS



1. Eyepiece
2. Power button
3. Palettes button
4. Menu button
5. Capture button
6. Battery
7. Lens focus knob
8. Objective lens
9. Type-C port
10. Mic

6.BUTTONS

No.	Icon	Button	Press	Long press
1		Palettes	Switch Palettes	NUC
2		Menu	Shortcut menu	Main menu
3		Capture	Take a picture	Start/stop recording video
4		Power	Standby mode/Wake up device	Power on/off
5		Palettes+Menu	-	Switch Work modes
6		Capture+Menu	-	Switch UI Zoom

Battery icon and remaining battery level

	Remaining power below 10%		80% remaining battery power
	10%-20% remaining battery power		90% remaining battery power
	20%-30% remaining battery power		100% remaining battery power
	50% remaining battery power		Using a usb cable to power in.

7.HOME SCREEN

1. NUC Shutter

A=Auto Shutter

B=Manual Shutter

C=External

2. Electronic compass status

red indicates calibration required, green indicates normal

3. Electronic compass

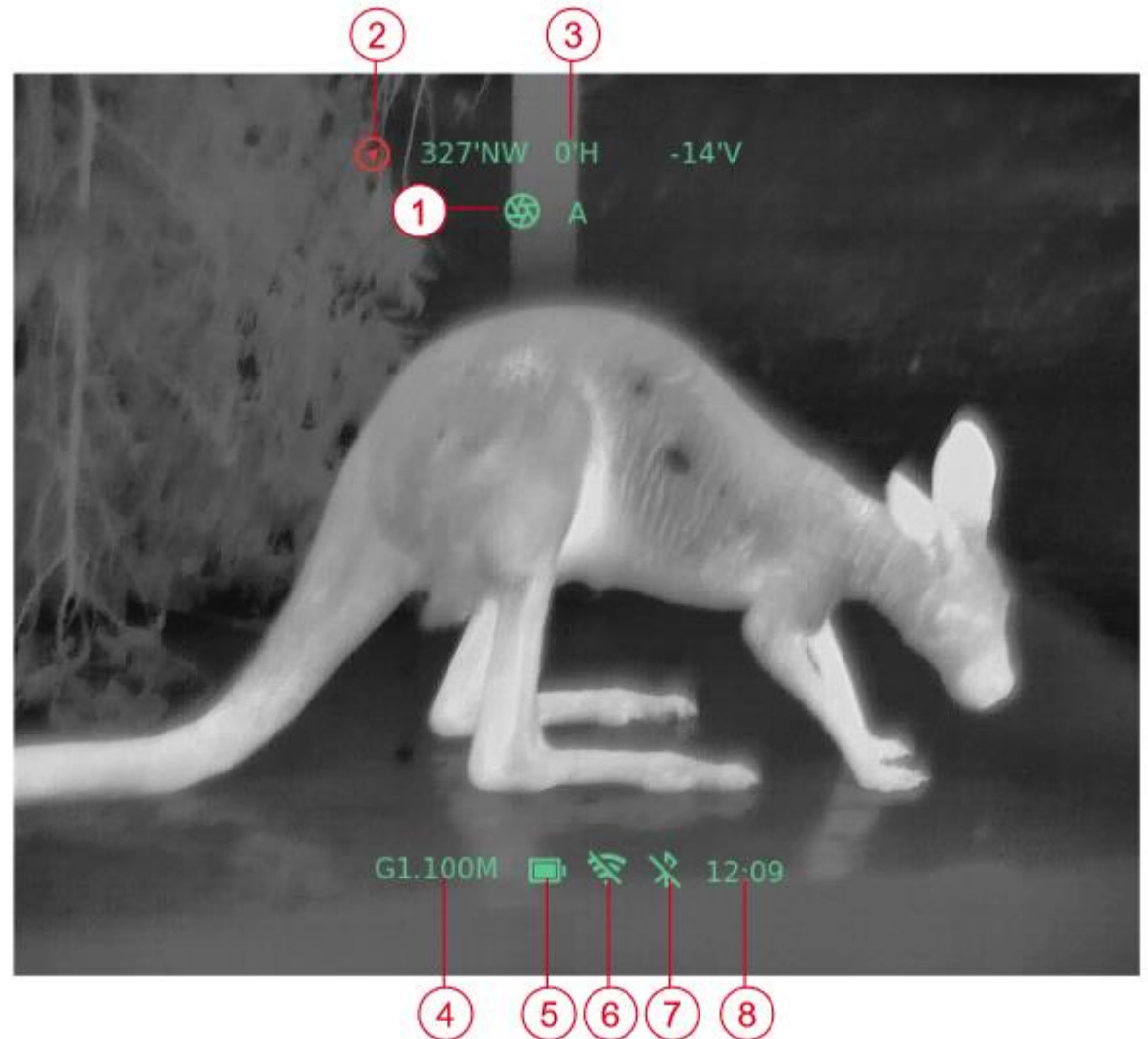
4. Profile

5. Displays remaining power

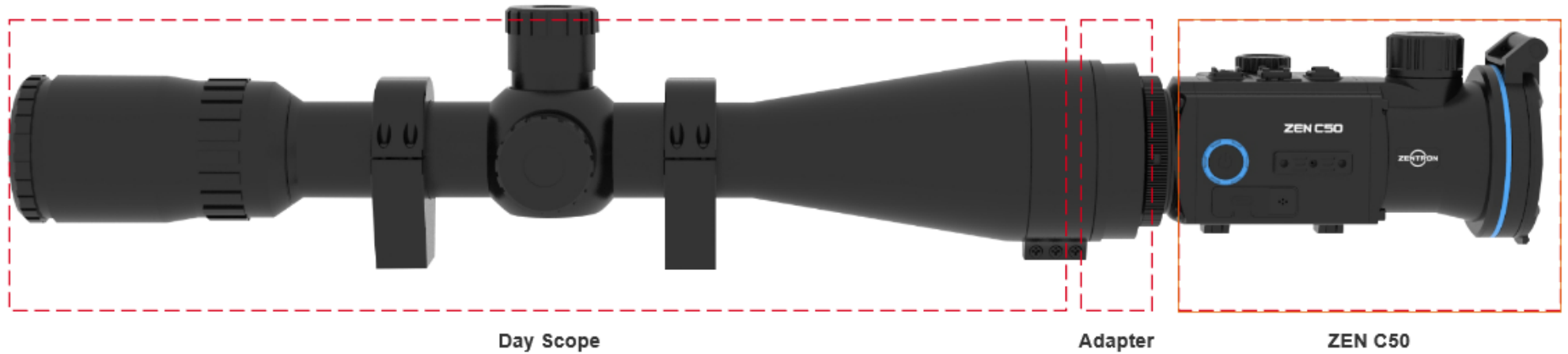
6. WiFi

7. Bluetooth

8. Time



8.INSTALLATION



Installation Precautions

- Please ensure that the day scope is calibrated before installation.
- Choose a suitable adapter featuring an internal thread of M45*0.75.
- Check whether it is installed securely.

9. OPERATION GUIDE

9.1 Switch Palettes

Short press the Palettes button to quickly switch palettes.



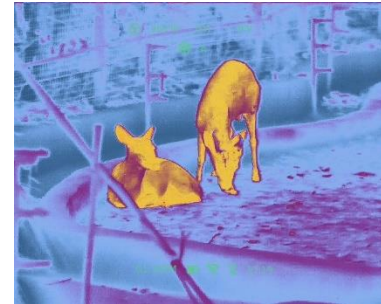
White



Black



Tint



Artic



Cold Green



Redmono



Sepia



Iron Red



Fulgurite



Medical

9.2 Lens Focus Adjustment

When using the device, if you find the image blurry, you can rotate the Lens focus knob until the image becomes clear.



9.3 UI Zoom

When you use electronic zoom to 4 times, you may not be able to see some status icons on the screen. You can long press the Capture and Menu buttons at the same time to activate the UI Zoom function, and the UI interface will become more compact.

9.4 Monocular Mode

Zentron C series products can function as thermal imaging monocular when paired with the monocular extension accessory, transforming Clip-on products into thermal monocular in just two steps, without requiring the removal of adapter rings.



10. SHORTCUT MENU



Zoom

After entering Zoom mode, you can press the up and down buttons to adjust the magnification of the screen (Only available in Monocular Mode).

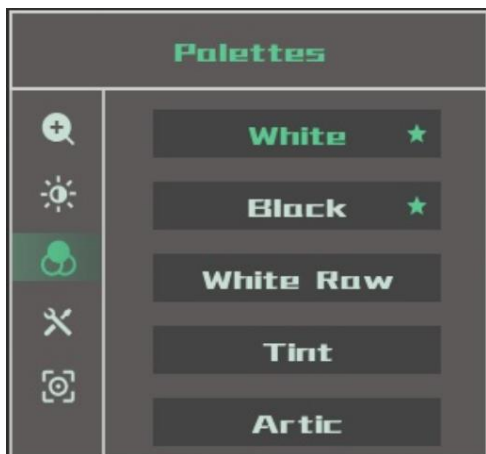
- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the Zoom option, then press the Menu button to select it.
- The Zoom function can only be used in Monocular Mode. After entering, press the up and down buttons to adjust the magnification.
- Long press the menu button to save and return to the menu.



Screen Brightness

To achieve a good screen display, users can adjust the brightness with ten available levels.

- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the Screen Brightness option, then press the Menu button to select it.
- Press the up and down buttons to adjust screen brightness.
- Long press the menu button to save and return to the menu.



Palettes

In order to have a better screen display effect, you can choose different Palettes according to different usage environments. After exiting the menu, press the Palettes button to toggle the Palettes with star markers.

- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the Palettes option, and then press the menu button to select it.
- Press the up and down buttons to switch the Palettes.
- Press the menu button to save the settings.
- Press the Menu button to star or un-star.



Working Mode

C35/C50 can function as a thermal imaging monocular when used with the monocular extension accessory. The extension can also be used independently as an optic scope. You can switch the working mode in the shortcut menu, or you can long press the Palettes button and the menu button at the same time to quickly switch the working mode.

- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the Working Mode option, and then press the menu button to select it.
- Press the up and down buttons to toggle options.
- Long press the menu button to save and return to the menu.



NUC Shutter

When you select Auto Shutter, the device will automatically perform the NUC Shutter operation at regular intervals, and a countdown will appear on the screen before performing the operation.

When you select Manual Shutter, long press the Palettes button to perform NUC Shutter operations.

When you select External, you need to close the lens cover first, and then press and hold the Palettes button to perform the NUC Shutter operation.

- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the NUC Shutter option, and then press the menu button to select it.
- Press the up and down buttons to toggle options.
- Long press the menu button to save and return to the menu.

11.MAIN MENU



WiFi

After turning on the WIFI, users can connect to the device through the mobile app to view the device's real-time screen and download photos and videos. For details on how to connect the app to the device, please refer to the app's user manual.

- Long press the menu button to enter the main menu.
- Press the up and down buttons to move to the Wi-Fi option, and then press the menu button to select it.
- Press menu buttons to toggle options and press the up and down buttons to change parameters.
- Long press the menu button to save and return to the menu.



Bluetooth

When Bluetooth is turned on, the rangefinder module can be connected.

- Long press the menu button to enter the main menu.
- Press the up and down buttons to move to the Bluetooth option, and then press the menu button to select it.
- Press the up and down buttons to turn the switch on or off.
- Long press the menu button to save and return to the menu.



Laser Calibration

Calibration is required after connecting the rangefinder module.

- Long press the menu button to enter the main menu.
- Press the up and down buttons to move to the Laser Calibration option, and then press the menu button to select it.
- Press the menu key to toggle the x-axis and y-axis, and press the up and down keys to move the x-axis and y-axis coordinates.
- Long press the menu button to save and return to the menu.

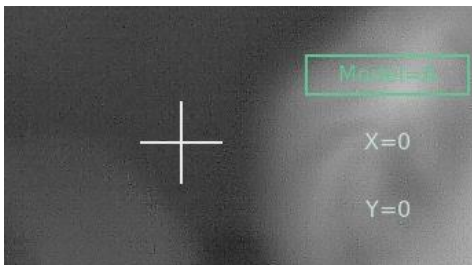
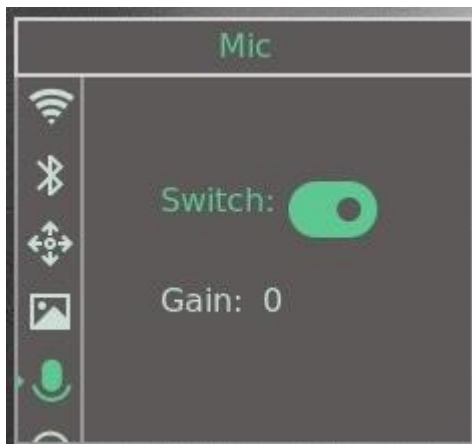




Image Quality

In order to achieve the image display effect to your satisfaction, you can adjust image quality parameters such as Denoise, Contrast, Sharpness, and Brightness. You can also select Reset to restore default settings.

- Long press the menu button to enter the main menu.
- Press the up and down buttons to move to the Image Quality option, and then press the menu button to select it.
- Press menu buttons to toggle options and press the up and down buttons to change parameters.
- Long press the menu button to save and return to the menu.



Mic

When you use the device to record, if you turn on the Mic, you can record the ambient sounds.

- Long press the menu button to enter the main menu.
- Press the up and down buttons to move to the Mic option, and then press the menu button to select it.
- Press the up and down buttons to turn the switch on or off.
- Long press the menu button to save and return to the menu.



Compass Calibration

As shown in the picture on the left, when you see the icon pointed to by the arrow turn red, it indicates that you need to perform a Compass Calibration operation. Otherwise, the position displayed by the electronic compass will be inaccurate.

You need to hold the device in your hand and move it up, down or left and right until the icon turns green.



Recoil Activated Capture

When your device is connected to the Zen Link app, it automatically pushes videos captured before and after shooting to your phone, helping you capture the thrilling moments during the hunt.

- Long press the menu button to enter the main menu.
- Press the up and down buttons to move to the Recoil Activated Capture option, and then press the menu button to select it.
- Press menu buttons to toggle options and press the up and down buttons to change parameters.
- Long press the menu button to save and return to the menu.



Profile

Each Profile can save a Zeroing setting. After selecting the Profile, the profile just selected will be displayed on the status bar of the main screen.

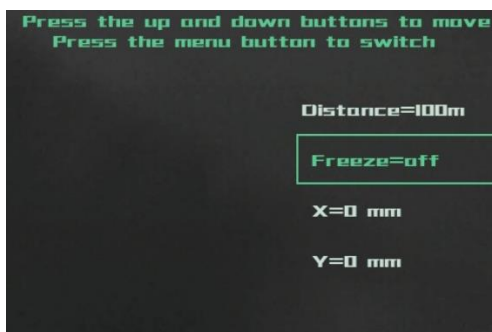
- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the Profile option, and then press the menu button to select it.
- Press the up and down buttons to toggle options.
- Long press the menu button to save and return to the menu.



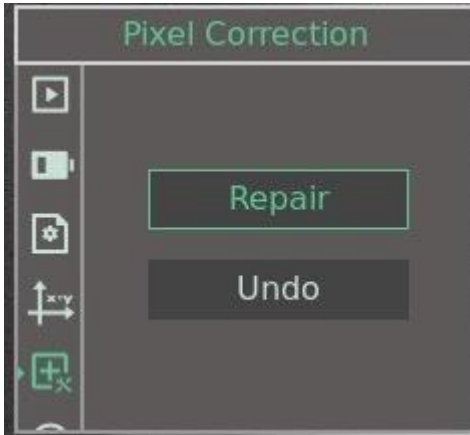
Zero

If the reticle of the day scope is not at the center of the infrared image, you need to perform Zeroing operation.

- Press and hold the menu button to enter the main menu screen. From there, select the Gun Type for Zeroing and switch to the Gun Type profile where you want to save your zeroing data.
- In the main menu screen, select the zeroing function to enter the zeroing screen and the coordinate position of the reticle (X axis, Y axis) is displayed in the center of the screen.
- Set Up a Stable Shooting Position: Find a stable shooting position, such as a shooting bench or sandbags, to rest your rifle on. Consistency is key for accuracy.
- Fire a Shot: Fire a single shot at your chosen target. Aim for the center.
- If the bullet hole and the aiming point (the center point of the reticle) do not match with each other, keep the aiming position still. Do not move your reticle.
- Make sure the center of your reticle is on the aiming point. Then Press 'freeze' to make the screen frozen.
- Press the menu button to toggle between the x and y axes, then use the up and down buttons to align the crosshair with the bullet hole from your shot.
- Press and hold the menu button again to exit the main menu and save the setting.



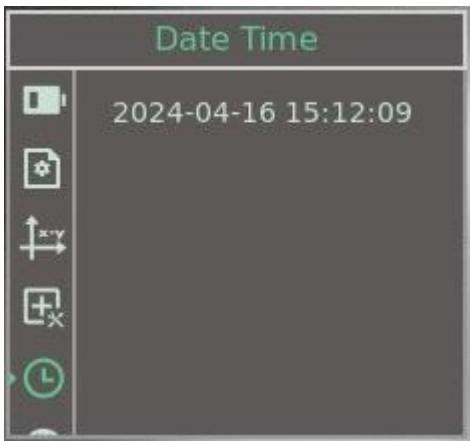
- Shoot Again: Fire another shot at the same target after adjusting.
- Confirm Zero: Once you consistently hit the target at your desired distance, your thermal scope is zeroed. Confirm this by shooting a few more rounds to ensure consistency.



Pixel Correction

You can calibrate bad pixels in the screen.

- Press and hold the menu button to enter the main menu.
- Select the Pixel Correction function to enter the Pixel Correction screen and the coordinate position of the reticle (X axis, Y axis) will be displayed in the center of the screen.
- Find the bad pixels in the screen.
- Press the menu button to toggle the x and y axes and press the up and down buttons to adjust the position of the x and y axes. Press the menu button to calibrate the bad pixels.
- Repeat the above operations to continue selecting bad pixels, and the right side of the screen will display the number of calibrated bad pixels.
- When the calibration is done, press and hold the menu button to exit the pixel correction.



Date & Time

Setting the date and time of the device.

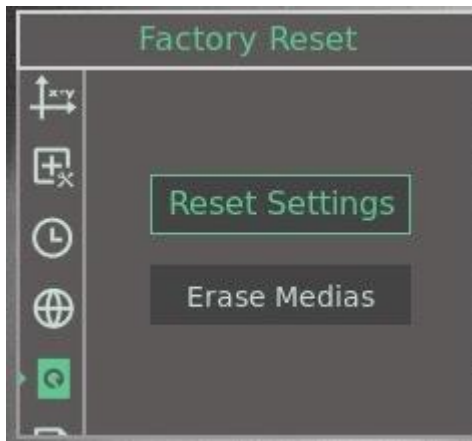
- Press and hold the menu button to enter the main menu;
- Select Date & Time and press the menu button to select Date & Time.
- Press the up and down button to switch the Date or Time;
- Press and hold the menu button again to exit the main menu and save the setting.



Language

The device currently supports two languages: English and German.

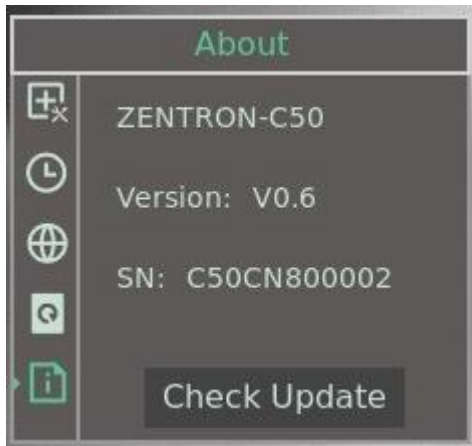
- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the Language option, and then press the menu button to select it.
- Press the up and down buttons to toggle options.
- Long press the menu button to save and return to the menu.



Factory Reset

When you choose to reset settings, all system settings will be restored to default. When you choose to erase medias, all photos and videos stored on the device will be deleted.

- Press the menu button to enter the shortcut menu.
- Press the up and down buttons to move to the Factory Reset option, and then press the menu button to select it.
- Press the up and down buttons to toggle options.
- Long press the menu button to save and return to the menu.



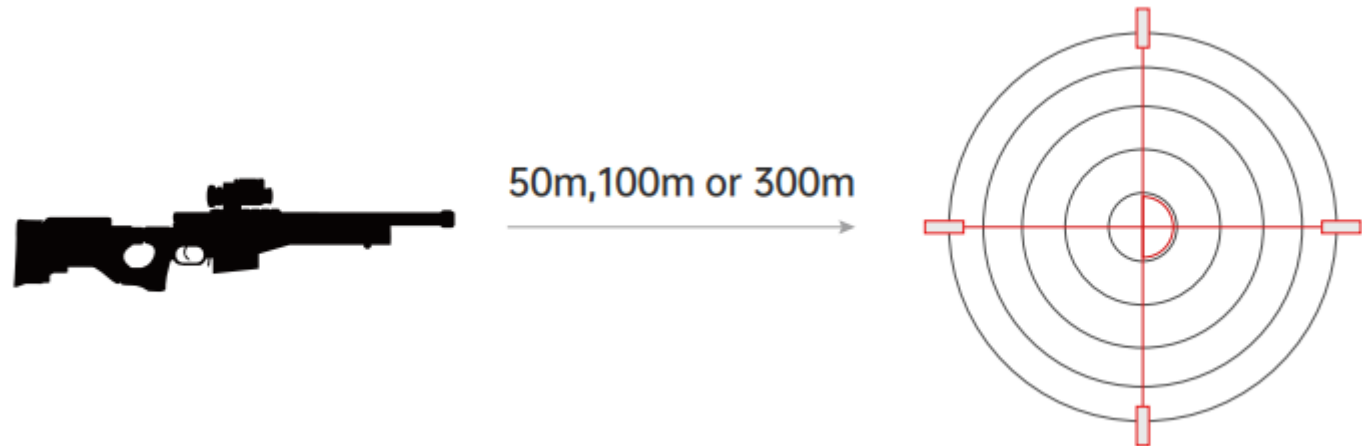
About

Viewing device information and upgrading firmware.

12.HOW TO ZERO?

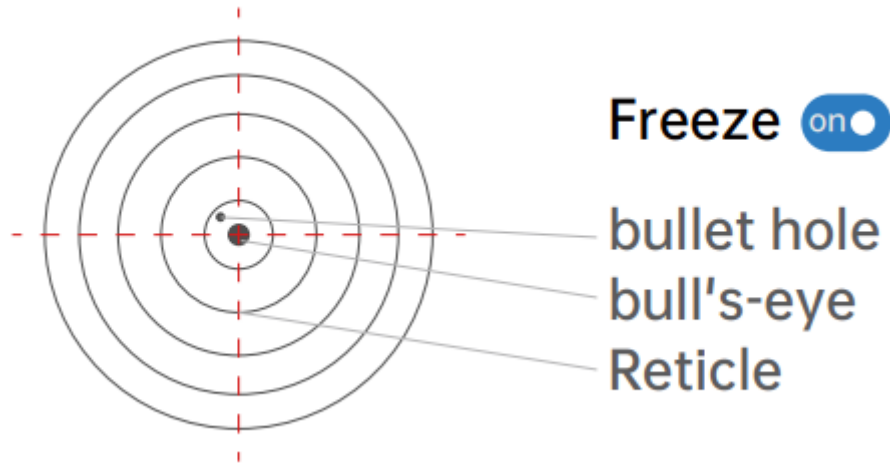
Step 1

Shoot the target at a range of 50m,100m or 300m depending on your shooting preferences and the capabilities of your firearm.



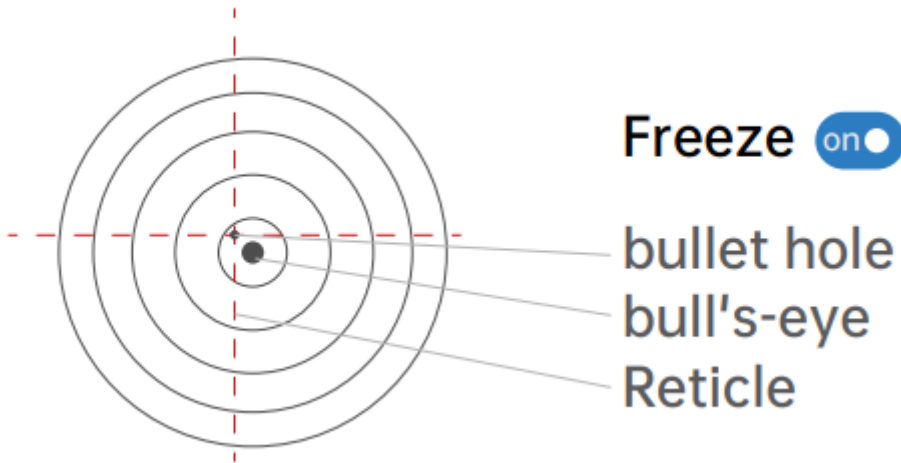
Step 2

As you can see, the point of impact on the target was off by a fair margin. Select the ZEROING function in the menu, center the RETICLE on the bullseye, and turn on the freeze switch!



Step 3

Press the up and down buttons to move the X- and Y-axis coordinates until the RETICLE is aligned with the bullet hole, then Long Press the Menu button to save the setting.



Step 4

Shoot 3 times to check the zeroing accuracy. Please repeat the above steps to minimize inaccuracies.

13.HOW TO USE ZEN LINK APP?

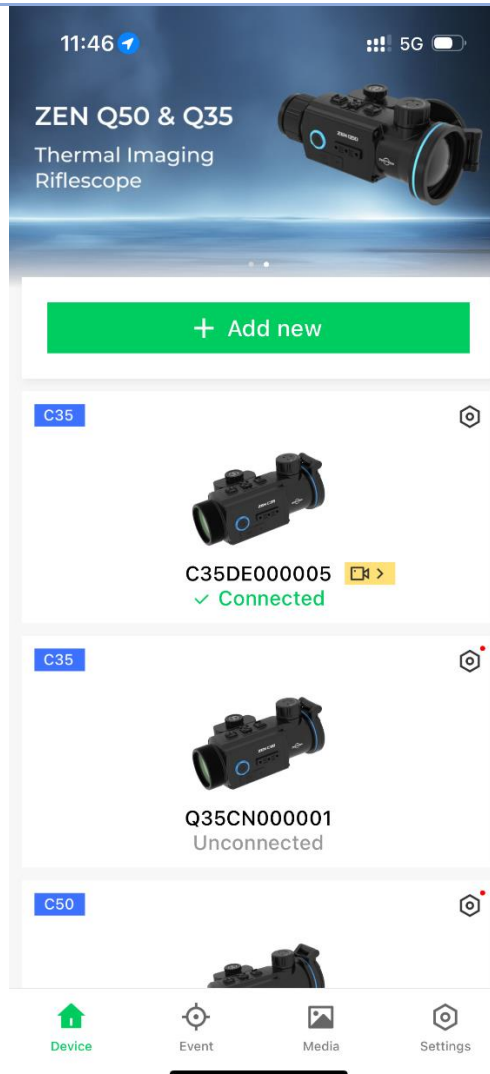


App Store

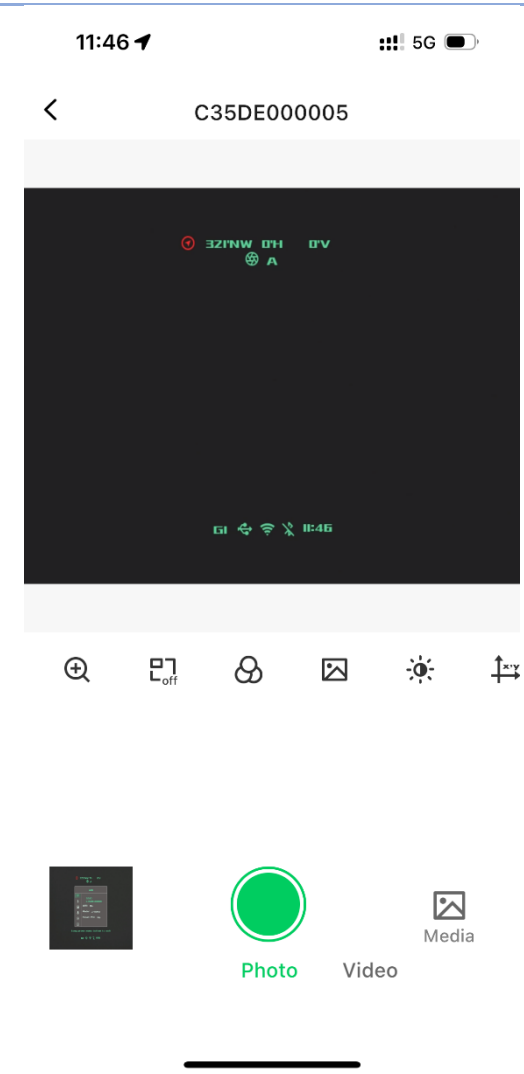


Google Play

Search for ZEN Link in APP Store or Google Play and click download.

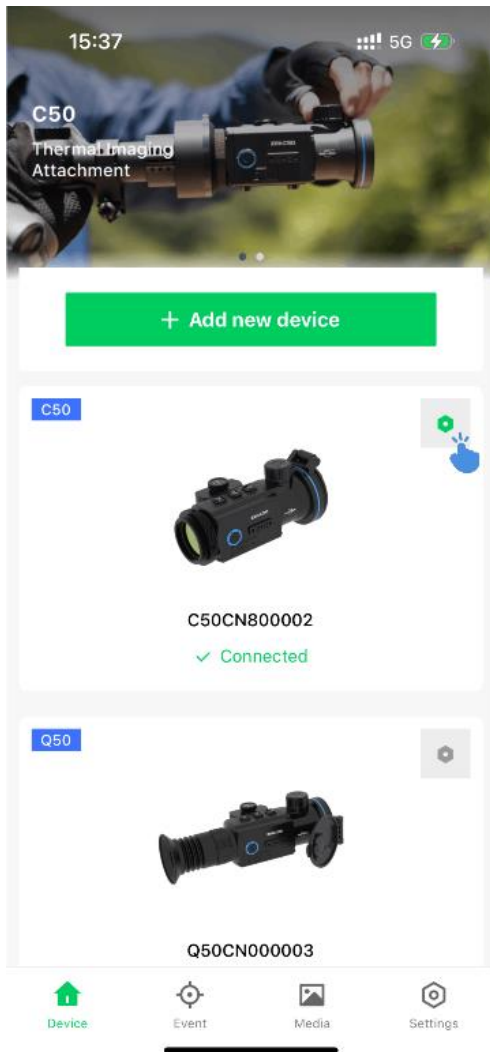


Turn on the device WiFi, remember the SSID of the WiFi, use your mobile phone to find the WLAN named by the SSID, the default password is **12345678**, then connect.

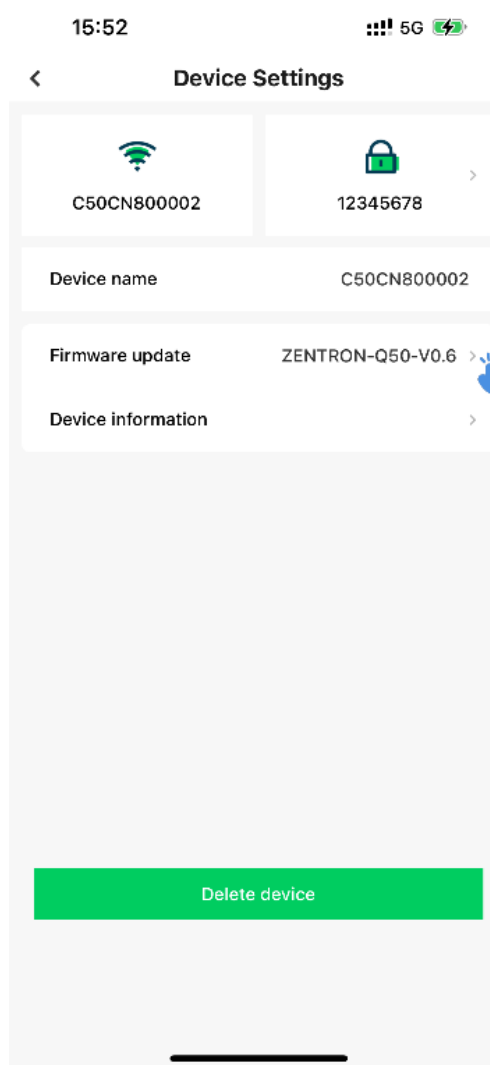


Click on the connected device in the ZEN Link App to view the real-time screen of the device and control the device.

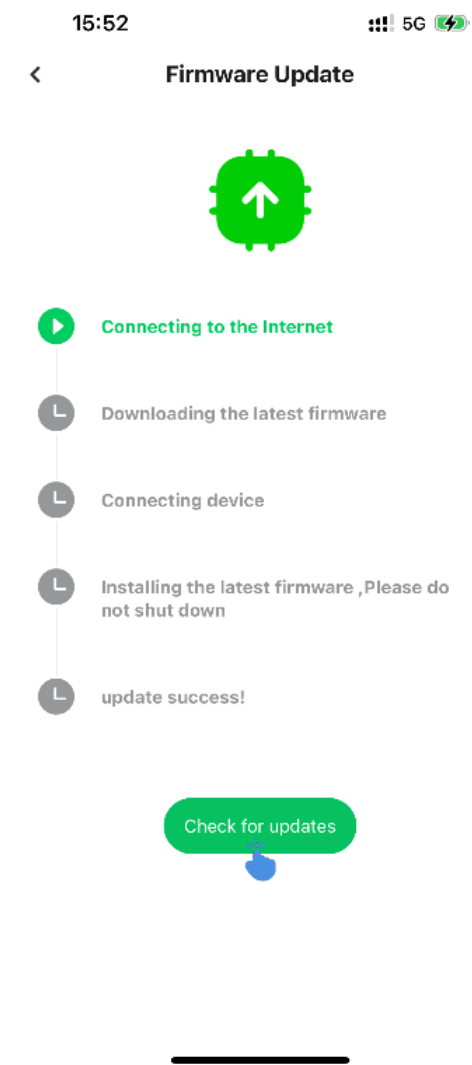
14.FIRMWARE UPGRADE



After the mobile phone is connected to the device, click the settings button of the connected device.



Click "Firmware Update".



Click the "Check for updates" button and the system will automatically update if the latest version of firmware is available.



zentron outdoor



zentron_official



V1.0.0

Web: zentronoutdoor.com

E-mail: info@zentronoutdoor.com