

**CONOTECH**

# **INSTRUCTION MANUAL**

**AQUILA**  
THERMAL IMAGING MONOCULAR



RoHS **CE** 

## Attention!



Proper usage of this device is essential for safe operation. Please read this manual carefully before use.



If the device has been in storage for an extended period, check its functionality before use.



Do not disassemble the device. Only an authorized repair center is allowed to do this.



Ensure the external optical surfaces remain clean. Avoid touching them with bare hands.



Sand and sea water can damage the optical coatings.



Never point the device directly at the sun.



Image quality may vary depending on environmental and atmospheric conditions. For instance, at sunset, temperature differences between objects can enhance contrast.



Remove batteries and store them in polyethylene bags to avoid contact with metal if the device will be stored for an extended period.



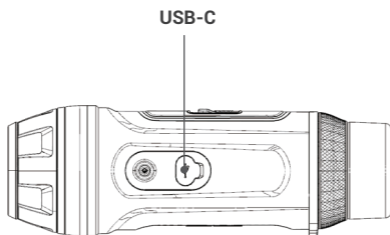
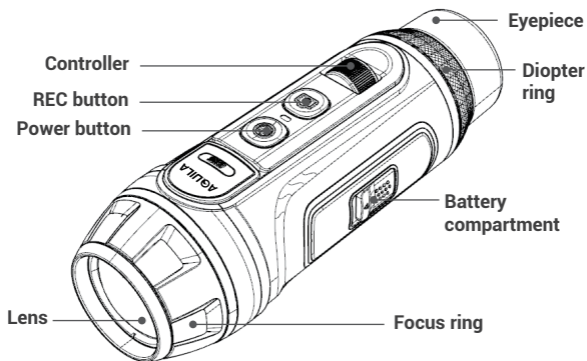
Use the protective lens cap during transportation or storage.



Condensation may fog the optical surfaces. This occurs when the device transitions between environments with differing temperatures or humidity levels. Once the temperature stabilizes, condensation will dissipate. Wipe away moisture with the towel.

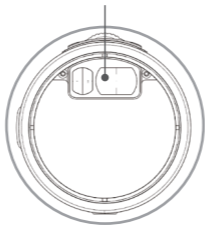


Clean lenses with the Lens Cloth or napkin.



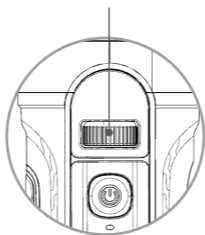
### Laser in IR

(only available in Aquila LIIR series)



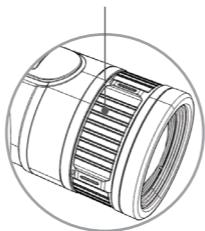
### Focus ring

(only available in Aquila LIIR and Dual series)



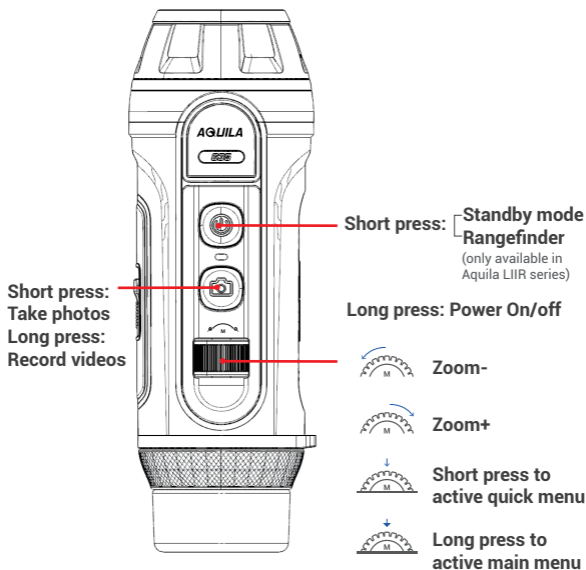
### Dual FOV controller

(only available in Aquila Dual series)



#### **NOTE**

All images used in this instruction manual are for illustrative purpose only. Actual product may vary due to product enhancement. (V.1.2)



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Calibration

## Standby mode

For LIIR series, long press  1.5s, then rotate  right to enter standby mode.

Press any buttons to exit standby mode. If not operated, AQUILA will turn off.

For others, short press  to enter standby mode.

## Take photo/video

Short press  to take photos, long press  to record videos.

## Firmware update via APP

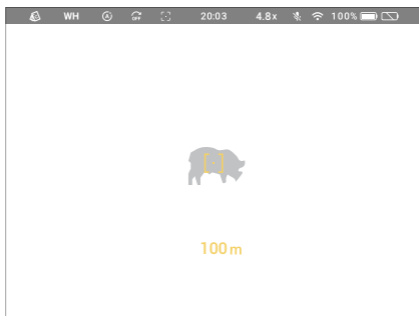
Easily keep your device at the forefront of technology with firmware updates directly through our dedicated app.



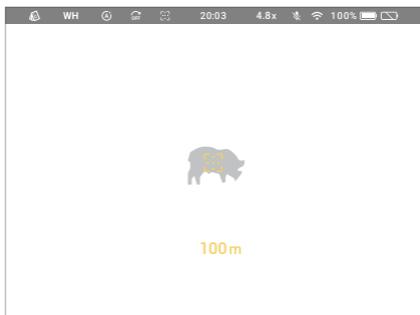
## Laser rangefinder

(only available in Aquila LIIR series)

Short press , then distance will be shown on the screen.

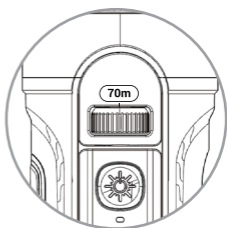


When in scan mode, aim  to the target, and the relevant distance will show up.



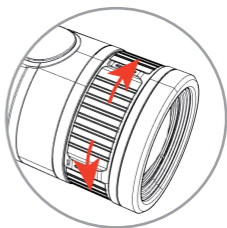
## Focus adjustment (70m) (only available in Aquila LIIR series)

The AQUILA LIIR series feature a precise focusing adjustment with a fin lever. When the focus reaches the 70m (76yd) mark, it aligns with a ridge on the device's housing. This design allows for quick and accurate focusing, even without directly looking at the AQUILA.



## Dual-field of view (only available in Dual series)

Use a wide FOV (19/25mm) for detection and a narrow FOV (38/50mm) for identification. Seamlessly switch between these dual views in 2 steps: set focus once, then twist the Dual-FOV controller to change views without refocusing for continued sharp image quality.

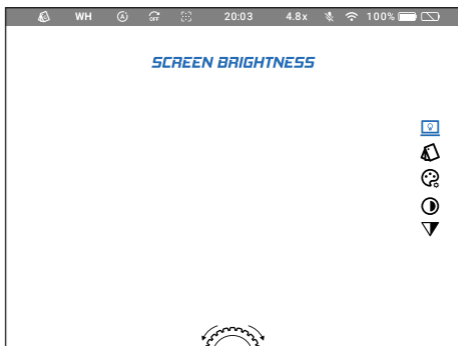






**The status bar is on the top of the display and shows information on the actual operating status of the AQUILA.**

- Tone adjustment
- Palettes
- Calibration mode
- Standby mode
- **Rangefinder** (only available in Aquila LIIR series)  
/ **Focal length** (only available in Dual series )
- Real time
- Magnification
- Microphone
- WIFI
- Built-in battery level
- Built-in battery
- External battery

Short press  to enter the quick menu, long press  to exit the quick menu.



## **Screen Brightness**

Short press , then rotate to select the screen brightness from 1-5.  
Short press  to save and exit.





## **Tone Adjustment**

Short press , then select the cold/warm mode.





## **Color Mode**

Short press , then rotate to select the palettes.  
Short press  to save and exit.





## **Contrast**

Short press , then rotate to select the contrast from 1-5.  
Short press  to save and exit.

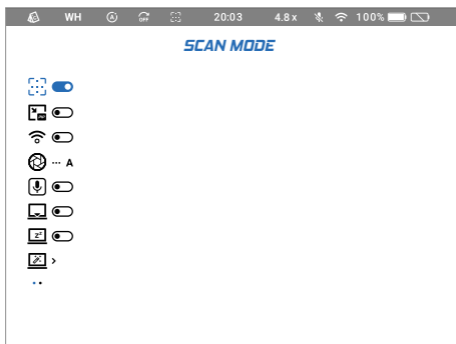


## **Sharpness**

Short press , then rotate to select the sharpness from 1-5.  
Short press  to save and exit.

# Main Menu

Long press  to enter the main menu.



## **SCAN MODE**

Short press  to turn on/off scan mode.



## **PIP**

Short press  to turn on/off PIP.



## **WIFI**

Short press  to turn on/off WIFI.



## **Calibration Mode**

Short press , then rotate to select the A, M, S.

Short press  to save and exit.

**A** Automatic

**M** Manual

**S** Silent




## **Microphone**

Short press  to turn on/off microphone.



## **Pure Mode**

Short press  to turn on/off pure mode.




## **Auto Standby**

Short press  to turn on/off auto standby.

AQUILA enters auto standby mode after 2 minutes of inactivity



## **Defective Repair**

Cover the objective lens and short press  to perform defective pixel repair.



## **Unit**

Short press  to select meter or yard.



## **Language**

Short press  to select the language,  
then short press  to save and exit.



## **Device Info**

It indicates the Model name, S/N, software version and hardware version.



## **Reset**

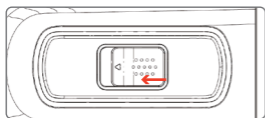
Short press  to select No or Yes.

# Power Supply

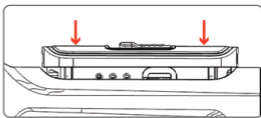
## Removable battery

Please install the battery based on the positive and negative signs.  
Replace the battery and close the compartment knob.

Open

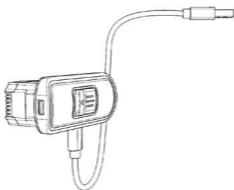


Close



## Battery compartment

AQUILA battery compartment can function separately as a charger for 18500 batteries. Please be advised that the battery compartment must be removed to initiate charging. Upon connection with a USB-C cable, the charging process commences. The red light signifies that the battery is charging, and the green light indicates that the battery is fully charged.



## Built-in battery

AQUILA is powered by a built-in rechargeable battery and a removable 18500 battery. When both type of battery are fully charged, AQUILA is powered by the removable battery. It will switch to built-in battery once the removable battery level is low. Replacing the external battery does not affect the operation of the AQUILA.

## External power supply

External power can be supplied from an external source, such as a power bank.

## Cable connection

Power supply /Charge built-in battery.

- Clean the device thoroughly before storage, ensuring it is free of moisture and dust.
- Make sure that the batteries are removed and that the battery compartment is empty.
- It is possible for the device to be stored for short periods in a suitable soft pack, bag, or cartridge box.
- Store the device in a dry, enclosed, unheated, and ventilated space for long-term storage.
- Avoid exposing the product to aggressive environments, temperatures below  $-50^{\circ}\text{C}$  or above  $+60^{\circ}\text{C}$ , relative humidity over 80%, or prolonged periods of direct sunlight.
- Before transportation, neatly pack the product in its original packaging (transport bag), ensuring all items and accessories are carefully placed in the bag. Then, securely place the bag in the transport suitcase.
- The device can be shipped via various transport methods, up to an altitude of 12.000 m.

## Aquila Specification

Model	AQL325	AQL 335	AQL 3D 19/38	AQL 3D 25/50	AQL 350LIIR
<b>Detector</b>					
Detector type	Uncooled Vox				
Resolution	384×288				
Frame rate	50Hz				
Pixel	12μm				
Spectral range	8-14μm				
NETD	<15mK				
<b>Optical characteristics</b>					
Objective lens	25mm	35mm	19mm/38mm	25mm/50mm	50mm
Magnification	2.4×	3.3×	1.8×-3.7×	2.4×-4.8×	4.8×
FOV (H×V), m@100m	18.4×13.8	13×9.9	12.1×9.1 /24.3×18.2	9.2×6.9 /18.4×13.8	9.2×6.9
<b>Functions</b>					
Smooth zoom	2.4×-10×	3.3×-13.8×	1.8×-7.5× /3.7×-15.4×	2.4×-10× /4.8×-20×	4.8×-20×
Palettes	8				
Firmware update via APP	YES				
<b>Display</b>					
Type	OLED				
Resolution	1024×768				
External video	WIFI				
Built-in memory	64GB				
<b>Power supply</b>					
Battery	Dual Battery				
External power supply	5V				
Operating time (at t=22°C)	10h				
<b>Physical characteristics</b>					
Weight	540g	540g	570g	600g	560g
Dimension	φ61×179mm	φ61×179mm	φ61×205mm	φ61×205mm	φ61×193mm
<b>Environmental compatibility</b>					
Ingress protection rating	IP67				
Operating temperature	-20°C-+50°C				
Storage temperature	-40°C-+70°C				
<b>Laser rangefinder</b>					
Safety class for laser equipment according to IEC 60825-1:2014	/				1
Measuring range	/				5-1200m
Measurement accuracy	/				± 1m

## Aquila Specification

Model	AQL 6D 19/38	AQL 6D 25/50
Detector		
Detector type	Uncooled Vox	
Resolution	640×512	
Frame rate	50Hz	
Pixel	12μm	
Spectral range	8-14μm	
NETD	<15mK	
Optical characteristics		
Objective lens	19mm/38mm	25mm/50mm
Magnification	1.0×-2.0×	1.4×-2.7×
FOV (H×V), m@100m	20.2×16.2 /40.4×32.3	30.7×24.6 /15.35×12.3
Functions		
Smooth zoom	1.0×-5.2× /2.0×-10.4×	1.4×-7.3× /2.7×-14×
Palettes	8	
Firmware update via APP	YES	
Display		
Type	OLED	
Resolution	1024×768	
External video	WIFI	
Built-in memory	64GB	
Power supply		
Battery	Dual Battery	
External power supply	5V	
Operating time (at t=22°C)	10h	
Physical characteristics		
Weight	570g	600g
Dimension	φ61×205mm	φ61×205mm
Environmental compatibility		
Ingress protection rating	IP67	
Operating temperature	-20°C-+50°C	
Storage temperature	-40°C-+70°C	
Laser rangefinder		
Safety class for laser equipment according to IEC 60825-1:2014	/	
Measuring range	/	
Measurement accuracy	/	



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