

CONOTECH

AQUILA PRO

THERMAL IMAGING MONOCULAR



INSTRUCTION MANUAL

RoHS **CE** 

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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.



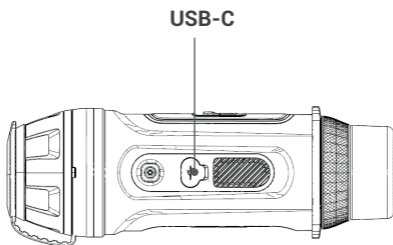
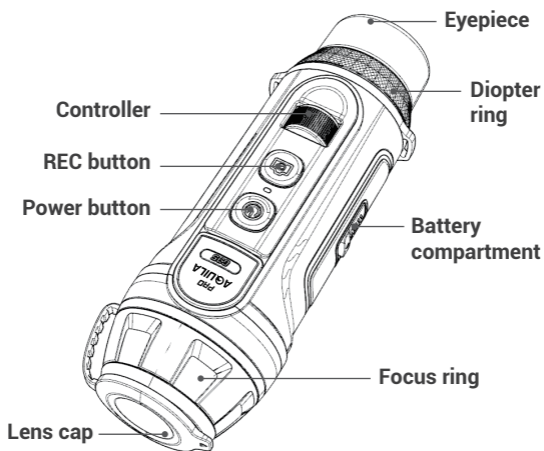
Condensation may fog the optical surfaces. This occurs when the device transitions between environments with differing temperatures or humidity levels. Once the temperature stabilizes, condensation will dissipate. Wipe away moisture with the towel.



Clean lenses with the Lens Cloth or napkin.

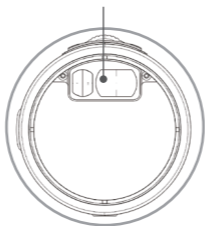
- **Highly sensitive thermal imaging sensor**
- **Laser in IR**
- **Super long operating time**
- **Non-stop operation**
- **Easy charging**
- **Quick charge**
- **Comfortable for spectacle wearers**
- **Built-in audio & video recording**
- **Firmware update via APP**

Appearance



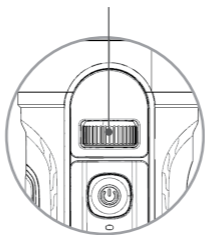
Laser in IR

(only available in Aquila pro LIIR series)



Focus ring

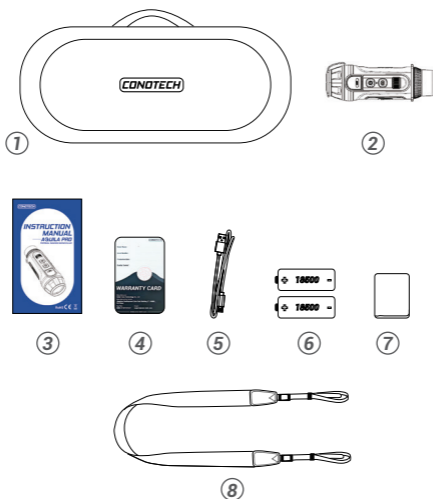
(only available in Aquila pro 650/650LIIR series)



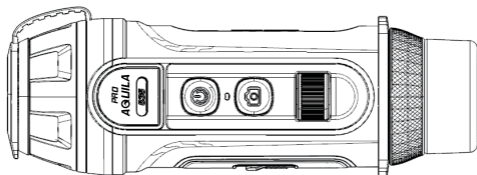
NOTE

All images used in this instruction manual are for illustrative purpose only. Actual product may vary due to product enhancement. (V.2.1)

Package Contents



- ① Black case
- ② Aquila PRO series thermal monocular
- ③ User manual
- ④ Warranty card
- ⑤ USB-C cable
- ⑥ 18500 batteries *2
- ⑦ Lens cloth
- ⑧ Neck strap



Short press:
Standby mode
(Non-LIIR series)

Rangefinder
(only available in Aquila Pro
LIIR series)

Long press:
Power On/off



Short press:
Take photos





Long press:
Record videos



+



Calibration

	Zoom-
	Zoom+
	Short press to active quick menu
	Long press to active main menu

Photography


Short press the  to capture a photo.




All photos are stored in the device's built-in 64GB memory.

Users can download photos via the CONOTECH app or by connecting to a computer.

Video recording

Long press the  to start video recording. The recording time is displayed on the screen in MM:SS format (minutes:seconds).



Long press the  again to stop and save the recording. All videos are stored in the device's built-in 64GB memory.

Users can download videos via the CONOTECH app or by connecting to a computer.





NOTE

The number of files is limited by the device's internal memory capacity.

To ensure sufficient storage, regularly check the available space and transfer videos and photos to external media as needed.

Standby mode


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

For others, short press  to enter standby mode.

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

Laser rangefinder

(only available in Aquila LIIR series)

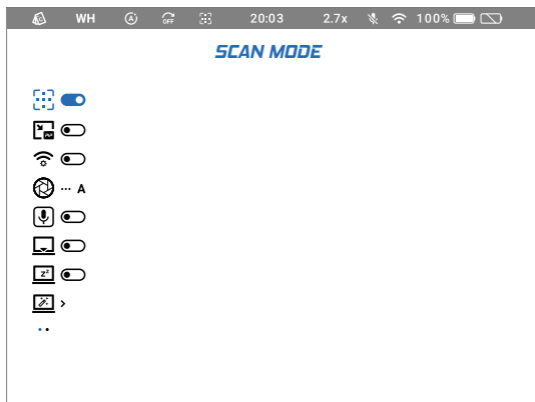
Long press  to enter the laser rangefinder selection, and rotate the wheel to turn on single ranging or continuous ranging. But only one can be turned on at a time.


 Single ranging

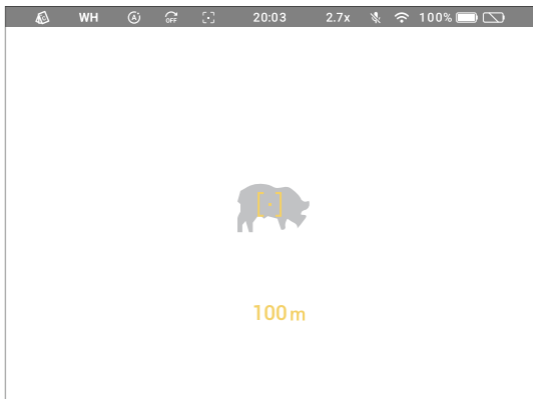
 Continuous ranging


Single ranging: Measure the distance once.

Continuous ranging: Measure the distance continuously.



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.





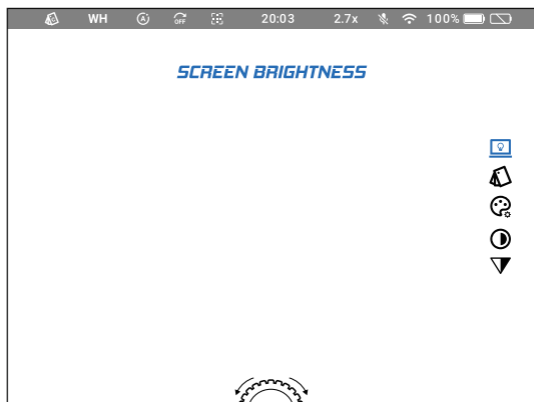


The status bar is on the top of the display and shows information on the actual operating status of the AQUILA.


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

Quick Menu

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 1-10.

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.



BH--Black Hot



WH--White Hot




RH--Red Hot



RB--Rainbow




Contrast

Short press , then rotate to select the contrast from 1-10.

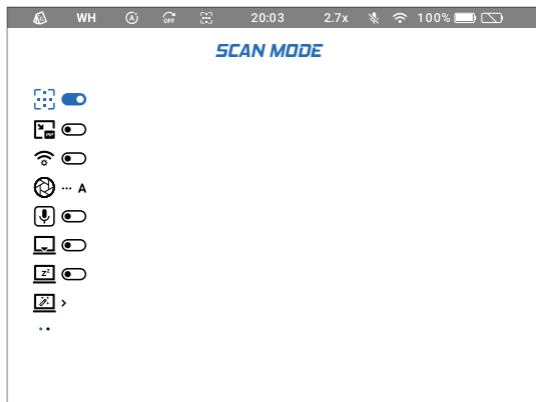
Short press  to save and exit.

Sharpness

Short press , then rotate to select the sharpness from 1-10.

Short press  to save and exit.

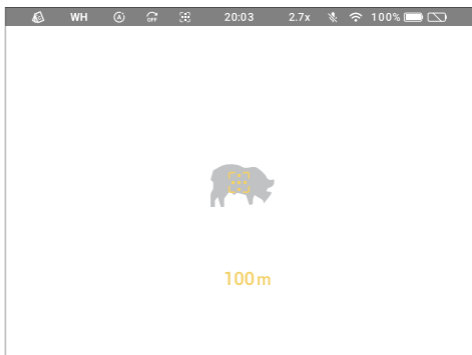
Long press  to enter the main menu.



SCAN MODE

Short press  to turn on/off scan mode.

The distance measurement result is displayed on the image.




PIP

Short press  to turn on/off PIP.



WIFI

Short press  to turn on/off WIFI.

The WIFI password is 12345678.



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.

In Pure Mode, only the battery icon will be displayed on the screen.




Auto Standby

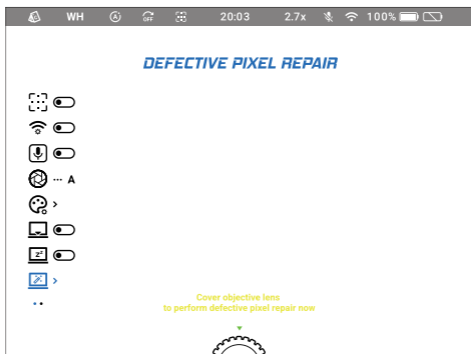
Short press  to turn on/off auto standby.

The device enters auto standby mode after 2 minutes of inactivity .



Defective Pixel 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.



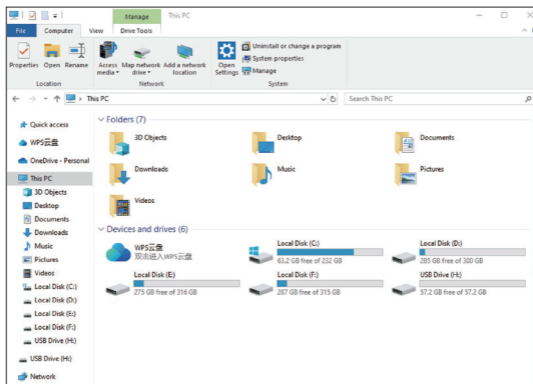
Firmware update via APP

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

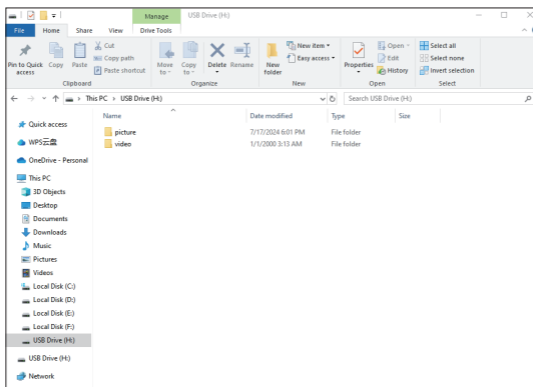


How to replay on PC

Connect the USB-C cable to the PC



Click to the Driver.



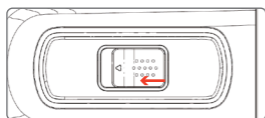
Power Supply

Removable battery

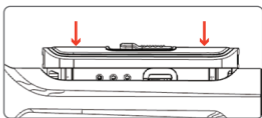
Please install the battery based on the positive and negative signs.

Replace the battery and close the compartment knob.

Open

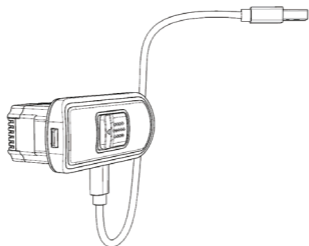


Close



Battery compartment

Aquila PRO 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 PRO is powered by a built-in rechargeable battery and a removable 18500 battery. When both type of battery are fully charged, Aquila PRO 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.

Precautions for Battery

- After extended periods of storage, the battery should be partially charged rather than fully charged or fully discharged.
- Do not initiate charging immediately after transferring the battery from a cold to a warm environment. Allow it to acclimate for 30 to 40 minutes.
- Avoid charging the battery without supervision.
- Charge only within the recommended temperature range of 0°C to +45°C to prevent degradation of battery lifespan.
- Charging should not exceed 24 hours under any circumstance.
- Keep the battery away from high temperatures and open flames.
- Do not submerge the battery in water or expose it to moisture.
- Ensure that any external devices connected to the battery do not exceed the allowable current draw.
- While the battery includes short-circuit protection, care must be taken to avoid situations that may cause a short circuit.
- Disassembling or modifying the battery without qualified guidance is strictly prohibited.

Storage and Transportation

- 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°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.

Specification

Aquila Pro Specification			
Model	AQL PRO 635	AQL PRO 650	AQL PRO 650LIIR
Main Characteristics			
Detector	Uncooled Vox		
Resolution	640×512		
Frame rate	50Hz		
Pixel	12μm		
Spectral range	8-14μm		
NETD	<15mK		
Optical characteristics			
Objective lens	35mm	50mm	50mm
Magnification	1.9×	2.7×	2.7×
FOV (H×V), m@100m	22×17.5	15.35 ×12.3	15.35 ×12.3
Functions			
Zoom	1.9×-10×	2.7×-14×	2.7×-14×
Palettes	4		
Firmware update via APP	YES		
Display			
Type	OLED		
Resolution	1024×768		
External video	WIFI		
Built-in memory	64GB		

Aquila Pro Specification			
Model	AQL PRO 635	AQL PRO 650	AQL PRO 650LIIR
Power supply			
Battery	Dual Battery		
External power supply	5V USB-C		
Operating time (at 1000)	12h		
Physical characteristics			
Weight	540g	540g	560g
Dimension,mm	φ61×179	φ61×179	φ61×193
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	/		1
Measuring range	/		5-1200m
Measurement accuracy	/		± 1m



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