ATG Thermal Scope

User Manual(V1.0)

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1.Product Overview

ATG series products are infrared thermal imaging sights with ranging function, which can be mounted on various firearms. It's used for observing and aiming at targets at night and in adverse weather conditions. Equipped with a high-sensitivity uncooled vanadium oxide detector and a high-precision ranging module, it feature an intelligent ballistic function to effectively improve shooting accuracy. Light weight and easy to install, it can be widely used in reconnaissance, security, search and rescue, outdoor sports and other fields.



Fig 1-1 Thermal Scope

2.Performance Parameters

Table 1 Performance Parameters of ATG Series Infrared Thermal Imaging Sights

Product Model		ATG335-LRF	ATG650-LRF
Optical Parameters	Spectrum	8μm~14μm	
	Resolution	384×288	640×512
	Pixel Size	12μm	
	Frame Rate	50Hz	
	Objective Lens	35mm F1.0	50mm F1.0
	Field of View	7.5°×5.6°	8.7°×7°
	Recognition Distance	2100m	3000m
	Electronic Zoom	1×, 2×, 4×, 8×	
	Ranging Performance	Ranging Range ≥1200m, Accuracy ≤1m	
Focusing Method		Knob Focusing	
Ballistic Calculation		Intelligent Ballistics / Custom Ballistics	
Display Characteristics	Display Resolution	1280×1024	
	Diopter Adjustment	-5SD~+5SD	
	Exit Pupil Distance	≥50mm	
	Exit Pupil Diameter	≥5mm	
	Image Modes	White Hot / Black Hot / Red Hot / Green Hot / Fusion	
Interface	External Power Supply	USB Type-C 5V	
	WIFI	2.4GHz 802.11 b/g	
Battery Life		≥8h, 1 rechargeable 18650 battery	
Physical Interface		Standard Picatinny Rail	

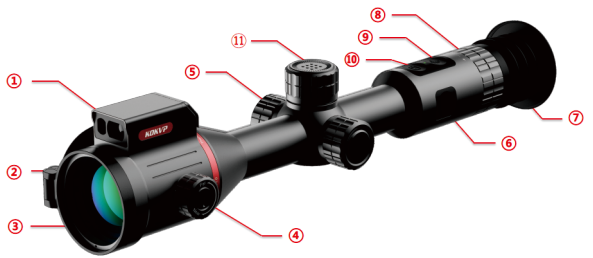
Appearance	Weight	≤950g
	Dimensions	≤390×80×85mm
Environmental Parameters	Shock	1000g, 3ms
	Operating Temperature	-20℃~+50℃
	Storage Temperature	-40℃~+70℃
	Protection Level	IP66

3.System Functions

- Image Correction: Background Correction, Shutter Correction;
- Image Modes: White Hot, Black Hot, Red Hot, Green Hot, Fusion;
- Image Electronic Zoom: 1x/ 2x/ 4x/ 8x;
- Electronic Compass;
- Angle Measurement;
- Laser Ranging;
- Picture-in-Picture Function;
- WIFI Control;
- Type-C interface for Power Supply and Data Transmission;
- Video Output;
- Intelligent Ballistics/ Custom Ballistics.

4.Product components

The main components of the ATG product structure are shown in Figure 4-1



① Ranging Module	⑤ Battery Cover	⑨ Ranging Button
② Objective Lens Cover	⑥ Power Button	⑩ Photo Button
③ Objective Len	⑦ Eyecup	⑪ Knob Button
④ Focus Knob	⑧ Eyepiece (Handwheel)	

Fig 4-1 Main components of the ATG product

5.Operation Functions

The key operation functions are shown in Table 2.

NO.	Dial/Button	Function
1	Power Button	Long Press: Press and hold for more than 3 seconds to turn on; in the on state, press and hold the power button for 3 seconds to count down and turn off.Short Press: Shutter correction in the observation interface; return to the main interface when entering the menu.
2	Ranging Button	Short Press to range; in the main interface, long press to turn on/off the picture-in-picture function.
3	Photo Button	Short Press to take photos, long press to record videos.

NO.	Dial/Button	Function
4	Knob Button	In the aiming interface, short press to enter the menu; when the intelligent ballistics is working, short press to freeze the interface; when entering the menu, short press to confirm the option, long press to return to the upper menu.
5	Knob Turn Left	Switch operation modes in the observation interface; move up when entering the menu.
6	Knob Turn Right	Switch electronic zoom in the observation interface; move down when entering the menu.

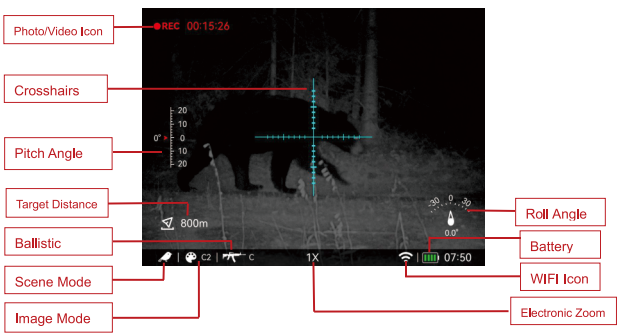


Fig 5-1 Main interface display description

5.1 Quick Operations

▶In the off state, press and hold the power button (6) for 3 seconds to turn on the device.

▶Turn the eyepiece hand wheel (8) to view a clear image of the icon on the display.

▶Rotate the focus knob (4) to see a clear image of the observed object.

▶Turn the knob (11) left to cycle through the operating modes (white hot, green hot, black hot, red hot, pseudo color, etc.).

▶Turn the knob (11) to the right to cycle through the digital magnification (1×, 2×, 4×, 8×).

▶Short press the photo button (10) to take a photo, long press the photo button (10) to start/stop recording video.

▶Short press the ranging button (9) to turn on/off the laser ranging.

▶Press and hold the ranging button (9) to turn on/off the picture-in-picture.

▶Short press the knob button (11) to enter the menu mode and select the appropriate parameters; when ranging is turned on, short press the knob button (11) to freeze the distance and trajectory point parameters.

▶When the device is powered on, short press the power button (6) to perform shutter calibration.

▶When the device is powered on, press and hold the power button (6) for 3 seconds to turn it off.

5.2 Menu

▶Wi-Fi connection

Turn on Wi-Fi in the device menu, then open the app on your phone. Find the MAC address of your phone's Wi-Fi and enter the password "12345678" to connect.

▶Picture-in-Picture (PIP)

Enable/disable the PIP function.

▶Crosshairs Type

Options: OFF, with ten selectable reticle types.

▶Crosshairs Color

Options: Black, White, Gray, Red.

▶Zero Point Storage

Used to save the ballistic zero point parameters set by the user.

▶Reticule Zero Adjustment

Press the rotary knob to freeze the image. Press the photo button to move to the X and Y axis values. Use the up and down buttons to adjust the crosshair position until it aligns with the impact point. Press the photo button to move to other options. Once you've set your settings, move to the Save option. Press the rotary knob to save and exit. Select "Cancel" to not save. The distance you set will be saved in the Zero Storage menu with the distance as the zero point name.

▶Gyroscope

Press the rotary knob to enter the sub-page. Rotate the knob to select On or Off. Short-press the knob to confirm your selection.

▶Ranging unit selection

There are two options for distance measurement unit selection: meters or yards.

▶Screen Brightness

Select "Screen Brightness" with the cursor, and press the rotary knob to display a submenu with 10 levels of brightness. Selecting any of these levels will change the screen brightness accordingly.

▶Image Brightness

Select "Image Brightness" with the cursor, and press the rotary knob to display a submenu with 10 settings. Selecting any setting will change the image brightness accordingly.

▶Contrast

Select "Image Contrast" with the cursor, and press the rotary knob to display a submenu with 10 settings. Selecting any setting will change the image contrast accordingly.

▶Image Scene Mode

Select "Image Enhancement Mode" and press the rotary knob to access the submenu. Five settings are available:City,Driving,Rain/Fog,Forest,Sky.

▶Image background correction

After selecting "Image Background Correction" with the cursor, press the knob button. A prompt "Please close the objective lens cover" will appear. Press the knob button briefly again to start the image background correction.

▶Date/Time

Select the "Date/Time" menu, press the rotary knob to enter the sub-options, press the rotary knob to move through the options, rotate the rotary knob to adjust the value, and press the "Save" button to confirm the adjustment.

▶Language Settings

Tap the "Menu" button to enter the menu language settings. Select the appropriate language and press the "Save" button to confirm.

▶Recording Audio

Select "Record Audio" and press the "File" button to bring up the submenu. Select "On" or "Off" in the submenu and confirm to enable or disable audio recording.

▶Formatting Select

Select the "Format" icon with the cursor, rotate the knob to confirm or cancel, and briefly press the knob to confirm. Please confirm carefully! Data cannot be recovered after deletion.

6.Preventive Maintenance

6.1 Battery Replacement

▶Before replacing the battery, it is recommended to turn off the device first;

▶The battery level icon is displayed on the down right side of the interface and is divided into 4 levels;

▶When the battery icon turns red, it means the battery level is less than 25%. Please replace the battery or connect to an external power source in time;

▶Open the battery cover by turning it counterclockwise, and replace the battery. Pay attention to the positive and negative polarity markings on the battery and install the battery correctly.

6.2 Product Cleaning and Maintenance

▶Do not use cleaning products that may corrode the camera body or scratch optical glass components;

▶The body can be wiped with a soft cloth dipped in a certain amount of alcohol;

▶Optical glass components, such as eyepiece lenses and objective lenses, should be blown away to remove dust first, then lightly wiped with a charcoal pen or a cotton swab dipped in non-methylated alcohol.

7.General Troubleshooting

If there are any abnormalities that cannot be eliminated, please contact our company or the seller as soon as possible. Unauthorized disassembly is strictly prohibited.

Table 3, general troubleshooting

Fault	Causes	Solution
Blurred Image	Objective lens focus does not match	Adjust the objective lens focus until the image is clear
	No image correction for a long time	Perform image correction
Blurred Vision	Diopter does not match	Adjust the eyepiece handwheel until the image is clear
No Video Output	Analog video not turned on	Turn on the analog video output
	Data cable does not support data transmission	Replace the data cable
Failure to Turn On	Incorrect battery installation or insufficient battery power	Check battery installation or battery power
	Insufficient external power supply voltage	Check the external power supply voltage

8.Safety Regulations

▶Please use regular batteries, and do not discard or throw used batteries into fire;

▶Please use a regular charger to avoid damaging the product;

▶Short-circuiting products is prohibited;

▶It is prohibited to expose the product to high temperature environments greater than 60°C;

▶Do not dispose of product in fire.

9.Storage

The instrument should be stored in an environment with a temperature range of -20°C to +55°C. The relative humidity must not exceed 85%. It is important to ensure that the storage conditions are good, with no harmful gases or impurities in the air that could potentially corrode the instrument. Avoid severe vibration and shock during transportation, and use the manufacturer's original packaging to ensure that the equipment is securely fixed in the package.

10.After-sales service

1.The main product comes with a free warranty for twelve months from the date of purchase.

2.Accessories for the product comes with a free warranty for three months from the date of purchase.

3.Products that are repaired within the warranty period will continue to have the remaining warranty coverage after the repair.

4.Customers are responsible for shipping and handling fees when sending the product to our company. We will cover the costs of repairing the product and return shipping to the customer.

5.If the product is out of warranty, we will charge for repair costs.

6.Damage caused by human factors, including improper use, is not covered under the warranty.

7.Unauthorized disassembly of the product voids the warranty.