

Argus Series

USER MANUAL

Thermal Optics



AR6 - 50L

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1 . Product Overview

1.1. The AR6-50L is a thermal optics designed for both day and night use. It uses a visible light system for long-range observation and ranging during the day and switches to a thermal imaging system for clear viewing and distance measurement in low light or harsh environments.

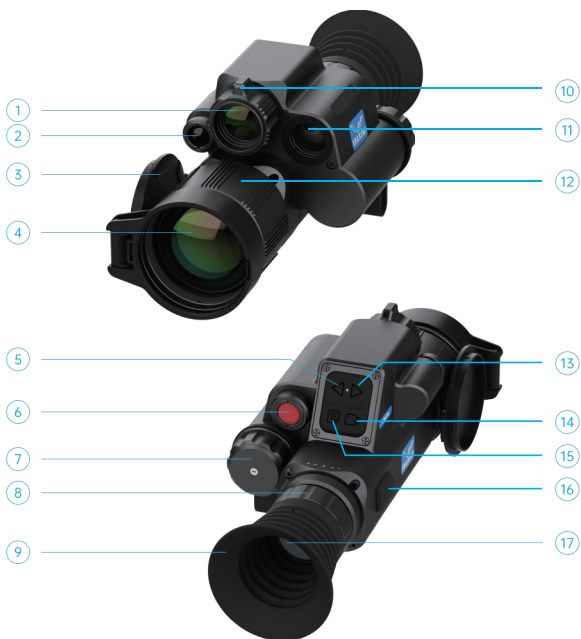
1.2. You can switch between the visible light and thermal imaging modules. Images captured by each module are processed and displayed on the OLED screen, allowing you to view them clearly through the eyepiece. You can also connect the device to a mobile app to view live images, monitor surroundings, and adjust settings directly from your phone.

1.3. with advanced image processing technology, the AR6-50L delivers high-resolution images, supports full-color daytime viewing, black-and-white visible Light, and thermal imaging—giving you reliable observation capabilities around the clock.

1.4. The visible Light system features a high-resolution 5MP Sensor, providing crisp color images in good lighting. At night or in low-light environments, it uses near-infrared illumination to deliver black-and-white images. The eyepiece can be adjusted to focus on targets from 5 meters to infinity.

1.5. The thermal imaging system combines a high-resolution sensor with a large-aperture thermal lens, delivering high-quality thermal images. You can adjust the eyepiece to focus on objects from 5 meters to infinity for sharp, clear viewing.

2. Product Components



1 . visible Light Lens	2 . Infrared Illuminator	3. Lens cover
4. Thermal Imaging Lens	5. Left Navigation Button	6. power Button
7. Battery compartment cover	8. Eyepiece Diopter Adjustment Ring	9. Eshshade
10. visible Light Lens Focus Ring	11. Laser Rangefinder Module	12. Thermal Lens Focus Ring
13. Right Navigation Button	14. video Record Button	15. Menu Button
16. Data compartment	17. Eyepiece	

3 . Package Contents

- ▶ AR6 -50L thermal optics
- b 18650 Rechargeable Battery
- b Handbag
- b Type-C Data cable
- b User Manual
- b 5V 2A Power Adapter
- b Dual-screw Mount (includes screws , hex nuts , and wrench)

4. operating Instructions

4.1 . warnings

- (1) Do not point the thermal optics directly at the sun , Co2 lasers , welding machines , or other high-intensity radiation sources.
- (2)The interval between two power cycles should be at least 20 seconds.
- (3) During use, handle the device with care. Avoid dropping , striking , or subjecting it to vibrations , as this may damage optical and electronic components or deform structural parts.
- (4) Do not disassemble the thermal optics. In case of malfunction , contact the manufacturer immediately. unauthorized disassembly will void the warranty.
- (5) when not in use or during transportation , remove the battery and store the thermal optics in a protective carrying case.
- (6) Replace the battery promptly when the battery level is low to prevent deep discharge , which may damage the battery.
- (7) using the device outside the specified operating conditions may cause damage to the thermal optics.

4.2. How to use

- (1) unpack the device, install the battery, and press and hold the power button for 3 seconds to turn it on.
- (2) Look through the eyepiece at the display screen. Adjust the eyepiece focus ring until the symbols and numbers appear clear.
- (3) Briefly press the menu button to switch to the thermal imaging mode. Aim the thermal lens at the target and adjust the eyepiece until the image is sharp.
- (4) Briefly press the menu button again to switch to the visible Light mode. Aim the lens at the target and adjust the visible Light eyepiece until the image is sharp.
- (5) press and hold the Up Navigation Button for 3 seconds to enter visible Light mode (IR-CUT Switches and the Infrared Illuminator turns on). In low light environment, remove the infrared illumination lens and adjust the eyepiece for a clear view.

4.3. Notes

- (1) only clean the optical components (thermal eyepiece, visible Light eyepiece, infrared illuminator optical lens, and laser rangefinder lens) when dirt affects image quality. use a lens cloth with a small amount of alcohol to gently wipe the surface, avoiding damage to the coating.
- (2) Never look directly at the infrared illuminator light or laser for an extended time to avoid eye injury.
- (3) After use, or if not observing for an extended period, turn off the device promptly to extend its service life.

5. Button Functions



power Button

- (1) press and hold the power button for 3 seconds to turn on the device. To turn it off, press and hold the power button again for 3 seconds.
- (2) when the device is on, press and hold the power button. Release it when the sleep icon appears to enter sleep mode. press the power button briefly to wake it up.
- (3) when the device is on and not in sleep mode, briefly press the power button to activate the thermal shutter and calibrate the image.
- (4) when the device is on and rangefinding is active, short press the power button to lock the distance.

Menu Button

- (1) press and hold the menu button to enter or quit the menu.
- (2) short press the menu button to cycle through modes: default is dual-mode — thermal view, visible light pip, visible light view, and thermal pip.

photo & video Button

- (1) press and hold to start video recording , and press and hold again to stop recording.
- (2) Briefly press to take a photo.

Day/Night switch (Left Navigation Button)

- (1) short press to cycle through 5 thermal color palettes.
- (2) Long press to switch the visible light module between IR mode, normal mode, and night vision mode.

D Rangefinder Button (Right Navigation Button)

- (1) Long press to turn rangefinder on/off.
- (2) short press to cycle through magnification levels.

6. Menu Functions

Icons	Main Menu	Function Descriptions
	WIFI	(1) Turn on WiFi in the device menu, then open WiFi and the app on your phone. Find the device name "APPshow-AR-xxx" and connect using the password "12345678". (2) Once connected, you can view the live image on your phone.
	Picture-in-Picture (PiP)	In the menu interface, use the left/right navigation button to enter the PiP setting. Use the same buttons to turn it on or off. Short press the menu button to confirm and return to the main menu.
	PIP Mode	(1) In the main menu, use the Left/Right navigation buttons to access the sub-menu. Select either Single-Spectrum or Dual-Spectrum mode using the navigation buttons. Press the Menu button to confirm and return to the main menu. (2) In Single-Spectrum mode, the PiP window displays a 2× magnified image. In Dual-Spectrum mode, the PiP window displays a 1× magnified image.   Single spectrum Dual-Spectrum
	Reticle Type	In the menu, use the Left/Right navigation buttons to enter the sub-menu and select a reticle type. There are 10 reticle styles available. Short press the menu button to confirm and return to the main menu.  1  2  3  4  5  6  7  8  9  10
	Reticle Color	In the menu, use the Left/Right navigation buttons to enter the sub-menu and choose from 5 reticle colors. Short press the menu button to confirm and return to the main menu.

	Reticle profiles (zeroing profiles)	used to save user-defined zeroing settings. short press the menu button to enter, then use the Left/Right navigation buttons to select a saved zeroing profile.
	Reticle Adjustment (Reticle zeroing)	select "Reticle Adjustment" and short press the menu button to enter. use Left/Right navigation buttons to freeze the image. press the video Record button to switch between X and y values. Adjust the reticle position with Left/Right navigation buttons to align with the impact point. press the video Record button to move to other options. After finishing, move to "Next" and short press the menu button to save and exit. Long press the menu button to exit without saving. The distance will be saved as the zeroing profile name.
	BC	(1) Short press the menu button to enter the submenu. Use Left/Right navigation buttons to turn the function ON or OFF. (2) After selecting, short press the menu button to enter the auto ballistics settings. Press the Video Record button to switch options, and use Left/Right navigation buttons to adjust settings. When done, press the Video Record button to move to "Yes," then short press the menu button to save. (3) Note: The Scope height (aiming baseline height) setting is different for thermal and night vision modes. Please confirm the current mode before setting.
	Gyroscope	Short press the menu button to enter the submenu, use Left/Right navigation buttons to turn ON or OFF, then short press menu to confirm.
	OLED Brightness	Adjust the screen brightness from 1 (dim) to 10 (bright). The default setting is 5. Select your preferred level based on personal preference and ambient lighting conditions.
	Ev compensation (Exposure compensation)	(1) short press the menu button to enter the submenu. Exposure compensation has levels 1 to 10. use Left/Right navigation buttons to select the level and press the menu button to confirm. (2) Note: This function works in visible light mode only. please confirm the current mode before setting.
	Default IR Luminance	(1) short press the menu button to enter the submenu. IR Luminance has levels 1 to 5. use Left/Right navigation buttons to select and press menu button to confirm. The default level at startup is 3. (2) Note: This function works in night vision (black and white) mode only. please confirm the current mode before setting.

	Image Brightness	(1) short press the menu button to enter the submenu. Brightness has 10 levels (1-10). use Left/Right navigation buttons to select a level, then press the menu button to confirm. Default brightness at startup is level 5. (2) Note: This function is for thermal mode only. please check the current mode before setting.
	Image contrast	(1) short press the menu button to enter the contrast settings. There are 10 levels (1-10). use Left/Right navigation buttons to select a level, then press the menu button to confirm. Default contrast at startup is level 5. (2) Note: This function is for thermal mode only. please check the current mode before setting.
	Image Detail Boost	(1) short press the menu button to enter the submenu. There are 5 levels (1-5). use Left/Right navigation buttons to select a level, then press the menu button to confirm. Default level at startup is 3. (2) Note: This function is for thermal mode only. please check the current mode before setting.
	Image Ajust (Infrared Image calibration)	(1) short press the menu button to enter the submenu. To calibrate, select confirm, cover the lens, then short press the menu button to start calibration. It will auto-save and exit when done. (2) Note: This function is for thermal mode only. please check the current mode before setting.
	Advanced settings	b pixel cure select " pixel cure" in the menu and short press the menu button to enter. use the video Record button to switch between "Auto Repair" and "Manual Repair". Make sure to cover the lens before starting. (1) For "Auto Repair", short press the menu button to complete the repair. (2) For "Manual Repair", use the Left/Right navigation buttons to move the cursor, use the power button to switch options, and short press the menu button to save. b Format (Format storage card) select "Format" in the menu and short press the menu button to enter. use Left/Right navigation buttons to choose, then short press the menu button again to confirm. Be careful — data cannot be recovered after formatting.

	Advanced settings	b Default (Restore Factory settings) To restore factory settings: In the advanced menu, use the Left/Right navigation buttons to find "Default". short press the menu button to enter, then use the Left/Right navigation buttons to choose. short press the menu button again to confirm. The device will return to default settings — please use with caution. ▶ version select "version" and short press the menu button to view the software version. ▶ Distance unit select "Distance unit" and short press the menu button to enter. choose between meters and yards. b Auto power-off select "Auto power-off" and short press the menu button to open the submenu. choose from 5 min, 10 min, 20 min, or off. Default is off. You can set auto power-off after startup. b Language (Multilingual support) short press the menu button to enter the "Language" submenu. use Left/Right navigation buttons to select a language. short press the menu button to save and return. Long press to exit without saving. Default language is English. b Date/Time select "Date/Time" and short press the menu button to enter. press the video Record button to move between options, and use Left/Right navigation buttons to adjust values. Long press the menu button to save and exit.
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7. Device connection

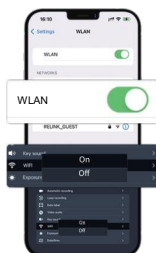
Download the dedicated app to connect the device to your mobile device via WiFi.



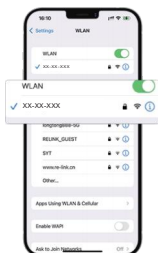
Android/ios: scan to download



Download and install the app



Turn on the device and enable wifi. I



select wifi "xx." and connect
(Default wifi passw. rd: 12345678)



open the APP

8 . Specifications



101 .3mm

91 .65mm



251 .4mm

AR6 - 50L

Function Type	Thermal Infrared	Visible & Near Infrared
sensor Type	uncooled vanadium oxide	RGB Sensor
wavelength Range	8um ~ 14 um	400 ~ 1000nm
Resolution	640x512, 12μm	1920x1080, 2.9μm
NETD	≤18mk	/
Frame Rate	50Hz	50Hz
Infrared wavelength	/	850
objective Lens Focal Length	50mm/F1.0	50mm/F2.0
Field of view	8.8°x7°	4.3°x3.2°
Detection Distance (1.7m Target)	≥2500m	≥2500m
Magnification	2.92X	2.9X
Focus Method	Manual Focus	Manual Focus
Focus Range	5m~+∞	5m~+∞
Exit pupil Diameter	≥7mm	≥7mm
Eye Relief	≥50mm	≥50mm
Diopter Range	-5~+5SD	-5 ~+5SD
Rangefinder Range	1000m	1000m
Rangefinder wavelength band	905nm	905nm

Rangefinder Accuracy	$\leq \pm 1\text{m}$	$\leq \pm 1\text{m}$
Accuracy	$\geq 98\%$	$\geq 98\%$
Repetition Rate	$\geq 3\text{Hz}$	$\geq 3\text{Hz}$
Display	1024X768, AMOLED	1024X768, AMOLED
Display Adjustment	Brightness Adjustment	Brightness Adjustment
Digital zoom	1X/2X/4X/8X	3X/6X/9X/18X
Image Adjustment	Brightness & contrast Adjustment	/
Image Enhancement	5 Levels	/
Image correction	Auto/Manual	/
Display Mode	white Hot, High contrast, Black Hot, Low Light, Fusion	color/Black&white
operating Mode	single Infrared/single Night vision/Fusion	single Infrared/single Night vision/Fusion
Reticle Type	OFF, 10 Reticle styles Available	OFF, 10 Reticle styles Available
Reticle color	white/Gray/ Black/ Red/Green	white/Gray/ Black/ Red/Green
Auto Ballistics	Automatic	Automatic
Ballistic calibration	10 storage Groups	10 storage Groups
Mechanical Interface	picatinny Rail Interface	picatinny Rail Interface
Electrical Interface	charging, storage, and software updates via Type-c port	charging, storage, and software updates via Type-C Port
WIFI	2.4GHz, 802.11b/g, 15m Real-Time Image Transmission	2.4GHz, 802.11b/g, 15m Real-Time Image Transmission
storage card	Built-in 32GB storage	Built-in 32GB Storage
video/Image Resolution	1024x768	1024x768
video/Image Format	.mp4/.jpg	.mp4/.jpg
Battery	1 x 26650 Lithium Battery G 5000mAh (supports 1865	1 x 26650 Lithium Battery G 5000mAh (supports 1865
Battery Life	$\geq 5\text{h}$ (At Room Temperature)	$\geq 5\text{h}$ (At Room Temperature)
External power supply	DC5V (USB)	DC5V (USB)
Dimensions	251.4x101.3x91.65mm	251.4x101.3x91.65mm
weight	930g	930g
operating Temperature	-20C~+50C	-20C~+50C
storage Temperature	-30C~+60C	-30C~+60C

Recoil Resistance	1000G, 6ms	1000G, 6ms
protection Rating	IP67	IP67

9. Maintenance and care

- (1) The objective lens, laser rangefinder lens, and illumination lens are critical optical components. Avoid oil stains and chemicals during use to prevent lens damage. After use, please replace the lens cover and return the IR infrared light to its original position.
- (2) when the thermal telescope is not in use during transportation, please remove the batteries and place the thermal telescope in its packaging case.
- (3) when the thermal telescope is not in use or stored for a long period, it should be kept in a cool and dry environment whenever possible.
- (4) Do not clean the housing of the thermal telescope with chemical solvents or thinners. Instead, use a clean, soft, and dry cloth for wiping.
- (5) when not in use for an extended period, the device should be powered on and calibrated once every six months.

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.
- (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.



Thermal Imaging&Nightvision

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