Medusa Series

USER MANUAL

Thermal Imaging Device

M4-225L

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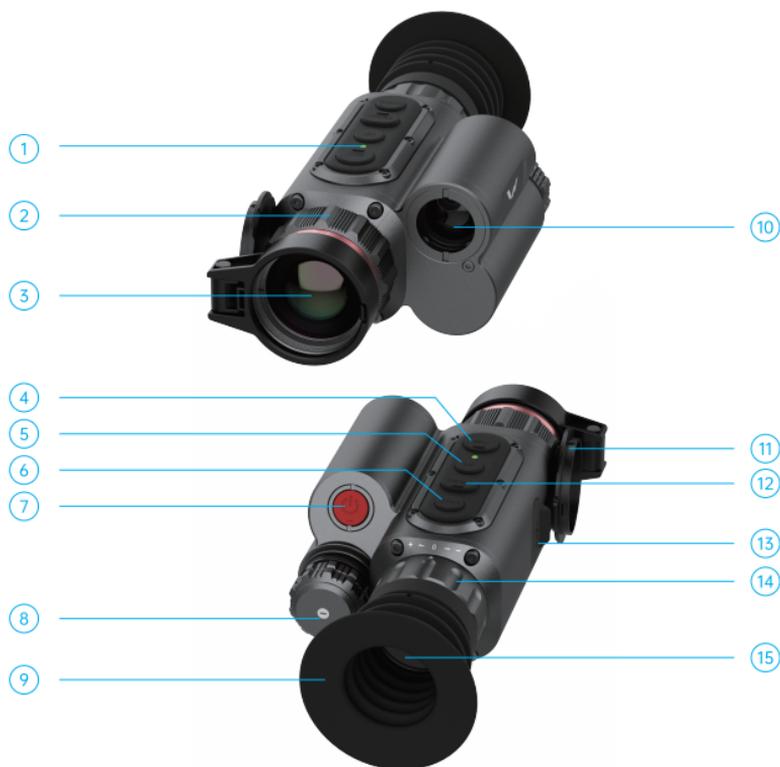# 1. Product Overview

1. The M4-225L is an infrared thermal imaging device designed for observation and ranging in nighttime and adverse weather conditions.

2. The infrared optical system captures the infrared radiation emitted by the target. The spectral filter reflects the distribution of the target's infrared radiation energy onto the photosensitive elements of the infrared detector array on the focal plane. The detector converts the infrared radiation into electrical signals, which are then amplified and processed by the readout circuit.

3. The core component digitizes the detector's output signals and performs initial infrared image correction, bad pixel elimination, brightness and contrast control, Fusion rendering, and overlay of interfaces and crosshairs. The processed signals are sent to the OLED display. The operator observes the infrared thermal imaging of the target through the 12X eyepiece.

2.Product Components

1. Device Indicator	2. Objective Lens Focus Ring	3. Objective Lens	4. Photo/Video Recording Button (REC)
5. Up Navigation Button	6. Down Navigation Button	7. Power Button	8. Battery Compartment Cover
9. Eyepiece Eyecup	10. Rangefinder Module	11. Lens Cap	12. Menu Button
13. Data Compartment Cove	14. Eyepiece Focus Ring	15. Eyepiece Lens	

3. Package Contents

▶ M4-225L Thermal Imaging Device   ▶ 18650 Battery

▶ Carrying Case   ▶ Type-C Data Cable   ▶ User Manual

▶ 5V/2A Adapter   ▶ Mount (with screws, hex nuts, and wrench)

4. Operation Instructions

4.1. Warnings

(1) Do not point the thermal imaging Device directly at high-intensity radiation sources such as the sun, CO^2 lasers, or welding machines.
(2) The interval between power cycles should be at least 20 seconds.
(3) The thermal imaging Device combines precision optical instruments and electrostatic-sensitive electronic components. Avoid dropping, striking, or vibrating the device to prevent structural deformation or misalignment.
(4) Do not disassemble the thermal imaging Device. Contact the manufacturer for any malfunctions to avoid voiding the warranty.
(5) Remove the battery when not in use or during transportation, and store the device in a protective case.
(6) Replace the battery promptly when it is low to avoid damage from over-discharge.
(7) Using the device outside the specified environmental conditions may cause damage.

4.2. Notes

(1) Clean non-optical surfaces with a clean, soft, dry cloth. Avoid chemical solvents or thinners.
(2) The infrared lens is coated with an anti-reflective film. Clean only when visibly dirty, using a dedicated lens cloth. Avoid touching the lens surface, as fingerprints can damage the coating.
(3) Power off the device when not in use to extend its operational life.

5. Button Functions

Power Button:

(1) Press and hold for 3 seconds to power on/off.
(2) Press and hold for 1-3 seconds to enter sleep mode. Short-press to wake from sleep mode.
(3) Short-press to refresh in observation mode (NUC).

Photo/Video Button:

(1) Short-press to take a photo.
(2) Press and hold for more than 1.5 seconds to start/stop recording.

Up Navigation Button:

(1) Short-press to navigate up or switch display modes.
(2) Press and hold to enable/disable picture-in-picture.

Menu Button:

(1) Short- press to bring up the menu, use the navigation key to move the menu options, and short- press the menu key to enter the secondary menu.
(2) Long- press the menu key in the menu mode to return to the primary menu.
(3) When starting the distance measurement, use the menu key to lock or unlock the distance measurement value.

Down Navigation Button:

(1) Short-press to navigate down or switch magnification (1x, 2x, 4x, 8x).
(2) Press and hold to enable/disable rangefinder.

6. Menu Functions

Icon	Main Menu	Description
🔳	Mode Selection	The device offers 5 color palettes: White Hot, Low Light, Black Hot, Red Hot, and Pseudocolor. The default is "White Hot". When in the menu interface, press the UP/DOWN buttons briefly to switch palettes, then press the MENU button briefly to confirm and exit. White Hot Low Light Black Hot Red Hot Pseudocolor
📶	WiFi	1. Enable WiFi in the device's menu, then turn on your phone's WiFi and launch the corresponding app. Find the WiFi network named "V3XXXXXXXX" on your phone, enter the password "12345678" to connect to the device. 2. Once the device and phone are connected via WiFi, you can view the real-time video feed being captured.
🖼	Picture-in-Picture	Press the MENU button to enter the subpage, then, press "UP" or "DOWN" to select on or off and press the MENU button briefly to confirm
┼	Reticle Type	The scope offers 10 different reticle styles, including an option to turn them off. By default, it displays Number 1 reticle.
⊕	Reticle Color	The reticle color options include five choices: "Black, White, Gray, Red, and Green," with the default color set to "Black." To select the reticle color, press the navigation buttons briefly to navigate to the "Reticle Color" option. Press the MENU button to display the color list "Black, White, Gray, Red, Green" on the right. Use the UP/DOWN navigation buttons to cycle through the options, then press the MENU button briefly to confirm your selection and return to the previous menu.
⊶	Reticle Profiles	Used to save the ballistic zero point parameters set by the user. Press the MENU button enter the sub-page, and press "up" or "down" to select the stored user ballistic zero point setting.
⊕	Reticle Zeroing Adjustment	Press the MENU button briefly to freeze the image. Press the photo button briefly 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 briefly to move to other options. Once settings are complete, navigate to the save option and press the MENU button briefly to save and exit. Long press the MENU button to discard changes. The set distance will be saved in the zero storage MENU as the zero point name.

⌀	Gyroscope	Press the MENU button to enter the sub menu. Use the "Up" or "Down" buttons to select either "On" or "Off," and press the MENU button briefly to confirm.
✎	Laser Rangefinder Unit	Briefly press the UP/DOWN navigation buttons to select the "Distance Unit Selection" option. Briefly press the MENU button to display the submenu on the right. Use the UP/DOWN navigation buttons to choose a unit: Meters (m)/Yards (yd).
☀	OLED Brightness	Briefly press the UP and Down navigation buttons to select the "OLED Brightness" option. Then, press the MENU button, and a secondary MENU will appear on the right. Use the UP and Down navigation buttons to choose the brightness level; the OLED Brightness increases with higher values, from dim to bright. Confirm and return to the previous MENU.
☼	Image Brightness	The brightness adjustment feature allows you to increase or decrease the displayed image's brightness. The device offers 10 levels (1 = dimmest, 10 = brightest), with level 5 set as the default upon initial startup. To adjust the brightness, briefly press the UP/DOWN navigation buttons to highlight the "Brightness" option, then press the MENU button to display the submenu on the right. Use the UP/DOWN navigation buttons to select a desired level (1–10), and press the MENU button briefly to confirm your choice and return to the main menu. This process enables users to customize the brightness based on personal preferences and environmental conditions.
◑	Contrast Ratio	The Contrast Ratio adjustment allows you to increase or decrease the displayed image's contrast, enhancing target visibility. The device offers 10 levels (1 = lowest, 10 = highest), with level 5 set as the default upon initial startup. To adjust the contrast, briefly press the UP/DOWN navigation buttons to highlight the "Contrast Ratio" option, then press the MENU button to display the submenu on the right. Use the UP/DOWN navigation buttons to select a desired level (1–10), and press the MENU button briefly to confirm your choice and return to the main menu. This process enables users to customize the contrast based on visual preferences and environmental conditions.
△	Image Detail Boost	Press the MENU button to access the "Image Detail Boost" option. The higher the numerical value, the more details are enhanced.
◉	Auto Ballistic Calculator	Short-press the navigation button to select the "Auto Trajectory" option, press the menu button to confirm, turn on, off, and set. Selecting 'on' indicates the activation of automatic ballistics. Selecting 'off' means turning off automatic ballistics. Select settings to adjust trajectory parameters.

		▶ Date/Time
≡⚙	Advanced Settings	To adjust the Date/Time settings, select 'Date/Time' from the main menu, then briefly press the MENU button to enter sub-options. Use brief presses of the MENU button to navigate between options, and use the UP/DOWN buttons to adjust values. Once adjustments are complete, briefly press the MENU button again to save your changes and return to the main menu. This process allows you to customize date and time settings based on your preferences.
		▶ Language
		The device supports English and other languages, with English as the factory default setting. To adjust the language: briefly press the UP/DOWN navigation buttons to select "Multi-language", then press the MENU button briefly to open the submenu on the right. Use the UP/DOWN navigation buttons to choose a preferred language, and press the MENU button briefly to confirm and return to the main menu. If you wish to discard changes and exit without saving, press and hold the MENU button. This process allows users to customize the interface language based on their preferences.
		▶ Audio Recording
		Select "Record Audio" with the cursor and press the MENU button to bring up a sub menu. Select 'Open' or 'Close' on the sub menu to enable recording with or without voice and audio input.
		▶ Format
		To format the device, enter the formatting submenu by briefly pressing the MENU button, then select "Confirm" or "Cancel" using the same button. Please proceed with caution when selecting "Confirm"! Once confirmed, all data will be permanently deleted and cannot be recovered. Ensure you have backed up important files before proceeding.
		▶ Auto Power Off
		After selecting "Default Settings," press the MENU button to access the sub menu. In the sub menu, choose from "3 minutes," "5 minutes," or "Off." The default setting is "Off." After powering on, you can select automatic Power Off after 3 or 5 minutes.
		▶ Default Settings
		After selecting 'Default Settings' with the cursor, press the MENU button to open the sub menu. On the sub menu, choose 'Confirm' or 'Cancel' to restore default settings. If confirmed, the system will revert to factory default settings—please proceed with caution.

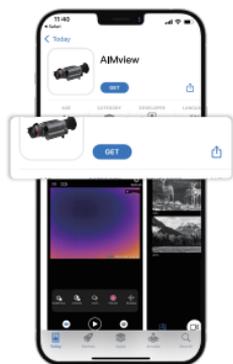|		
⚙	Advanced Settings	▶ Image Adjustment To perform Image Calibration, select "Image Calibration" from the MENU, then follow the on-screen prompts: First, a message will appear instructing you to "Place the lens cap and press MENU" — briefly press the MENU button to confirm. The system will then display "Calibration Started" and automatically complete the calibration process without further input. Once successful, a confirmation message "Calibration Complete!" will appear, and the device will automatically return to the main menu. ▶ Version Press the navigation buttons briefly to select the "Version Information" option, then press the MENU button to confirm. This will display the software version information of the device.

7. Device Connection

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

Android/iOS: Scan to download

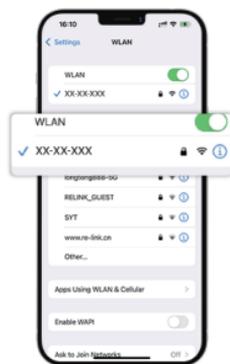Search "AIMview" on Google Play to Download.

Download and install the app

Turn on the device and enable WiFi.

Select WiFi "xx." and connect
(Default WiFi password: 12345678)

8. Technical Specifications

56.3mm

83.2mm

185.3mm

M4-225L

Sensor:	
Type	Uncooled Vanadium Oxide (VOx)
Resolution	256x192
Frame Rate	50 Hz
Pixel Size	12μm
NETD	≤30mk
Optics:	
Objective Lens	19/25mm/F1.0
Base Magnification	2.7X/3.5X
Digital Zoom	1x / 2 x/ 4 x/ 8x
Exit Pupil Distance	50 mm
Diopter Adjustment	+5/-5 D
Focus Distance	2m - ∞
Field of View	9.2°×7°/7°×5.3°
Detection Range (Target Size: 1.7m x 0.5m)	900m/1300m

Display:	
Color Modes	White Hot, Low Light, Black Hot, Red Hot, Pseudocolor
Type/Resolution	0.39-inch / OLED / 1024X768
Power:	
3D Gyroscope	Yes
Power Supply	3-4.2 V
Battery	18650 Li-ion, 3500mAh
External Power	5V (USB)
Runtime	5 hours
Shock Resistance	10000 J
Waterproof Rating	IP67
Operating Temperature	-20℃~+50℃
Size	185.3x83.2x56.3mm
Weight	524g
Recorder:	
Video/Photo Resolution	1024x768
Video/Photo Format	.mp4 / .jpg
Storage Card	Built-in 32GB Memory Card
Wireless Channel:	
Frequency	2.4GHz
Standard	802.11 b/g
WiFi Range	15m
Rangefinder:	
Wavelength	905nm

Maximum Range	1000m
Accuracy	+/-1m

9. Maintenance and Care

(1) Power off the device when not in use to extend its operational life.
(2) Avoid touching the lens surface. Clean only when necessary using a dedicated lens cloth.
(3) Remove the battery during storage or transportation.
(4) Store the device in a cool, dry environment.
(5) Clean the exterior with a soft, dry cloth. Avoid chemical solvents.
(6) The thermal imaging Device lens should only be cleaned when visibly dirty. Avoid touching the lens surface, as the acidic substances left by fingerprints can damage the coating and lens surface. Use only a dedicated lens cloth for cleaning.
(7) Perform a power-on check and calibration every six months if the device is unused for an extended period.

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.

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