XM series

Thermal imaging scope

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快速入门指南/Quick Start Guide V1.0

XM series
Infrared
热成像观察镜
Thermal Sights

XM3 /XM4/XM5/ XM6 /XM9

DISCLAIMER

This product is prohibited for illegal use, including illegal hunting,military,chemical, biological or nuclear weapons,illegal privacy photographing,and other violations of laws and regulations.It is prohibited to transport goods prohibited by the United Nations,the European Union or the OSCE.The products are only sold in the place where the company is registered and cannot be exported.

Purchase of this machine is equivalent to accepting the constraints of this statement, equivalent to agreeing to sign the relevant liability statement.In case of any violation,the company shall not be held responsible.

LONGOT TECHNIC

Product Overview

The XM Series products are lightweight and portable, enabling one-handed operation. With a compact design, classic structure, powerful functionality, and exceptional imaging performance, they stand out as an excellent choice.

Packaging List

- XM Series Monocular Thermal Imager
- Power adapter
- Type-C USB Data Cable
- Wrist Strap
- Lens Cleaning Cloth
- Warranty Card

Note: The products in this document may be updated at any time without prior notice.

Model	XM3	XM4	XM5	XM6	XM9
Detector					
Detector Type	Vox	Vox	Vox	Vox	Vox
Resolution, Pixel	384×288	384×288	384×288	640×512	640×512
Pixel Size, μm	12 μm	12 μm	12 μm	12 μm	12 μm
Optical Characteristics					
Objective lens, mm	15mm	19mm	25mm	25mm	35mm
Magnification, x	1.4x	1.8x	2.3x	1.4x	2.0×
Digital zoom, x	1x、2x、4x	1x、2x、4x	1x、2x、4x	1x、2x、4x、8x	1x、2x、4x、8x
Min Focus Distance, M/Y	5m	5m	5m	5m	10m
Exit pupil distance,	13mm	13mm	13mm	13mm	13mm
Exit pupil Diameter, mm	6mm	6mm	6mm	6mm	6mm
Field of View (H × V), degree	17.5°×13.1°	13.8°×10.4°	10.5°×7.9°	17.5°×13.1°	12.5°×9.4°
Diopter, D	-7D~+2D	-7D~+2D	-7D~+2D	-7D~+2D	-7D~+2D
Identify distances, m (Target size: 1.7m×0.5m)	369 m	467 m	615 m	615 m	860 m
Electrical					
Display Type	OLED	OLED	OLED	OLED	OLED
Resolution, pixels	640×480	640*480	640×480	640×480	640×480
WiFi Frequency,GHz	2.4GHz	2.4GHz	2.4GHz	2.4GHz	2.4GHz

Model	XM3	XM4	XM5	XM6	XM9
Video/Photo fomat	avi/jpg	avi/jpg	avi/jpg	avi/jpg	avi/jpg
Built-in memory，GB	32G	32G	32G	32G	32G
Power Supply，V	3~4.2V	3~4.2V	3~4.2V	3~4.2V	3~4.2V
Battery type*QTY/Capacity, mA	18650 Battery x 1/3200mAh	18650 Battery x 1/3200mAh	18650 Battery x 1/3200mAh	18650 Battery x 1/3200mAh	18650 Battery x 1/3200mAh
External power supply，V	5V2A	5V2A	5V2A	5V2A	5V2A
Others					
Operating time (at t=22℃) , hours	≥7hrs	≥7hrs.	≥7hrs	≥6hrs	≥6hrs
Storage temperature, ℃/℉	-30℃~+60℃	-30℃~+60℃	-30℃~+60℃	-30℃~+60℃	-30℃~+60℃
Body material	Plastic+Silicon	Plastic+Silico	Plastic+Silico	Plastic+Silicon	Plastic+Silicon
Degree of protection, IP code (IEC60529)	IP67	IP67	IP67	IP67	IP67
Dimension（L*W*H), mm	172mmX58.5mmX62mm	172mmX58.5mmX62mm	172mmX58.5mmX62mm	172mmX58.5mmX62mm	172mmX58.5mmX62mm
Weight(without battery),g	345g	345g	355g	355g	380g

Button	**Device Status Current operating mode**	**Short Press**	**Long Press**
Power Button	Any Status	Standby/Wake Up	Power On/Off
Menu Button	Main Interface State	Open Shortcut Menu	Open Main Menu
	Shortcut Menu/Main Menu Interface	Cycle Through Current Menu Options	Exit Shortcut Menu/Main Menu
	Blind Pixel Calibration Interface	Select Current Menu Option	Return to Previous Interface
Up Button / Photo Button	Main Interface State	Take a Photo	Start/Stop Recording
	Shortcut Menu/Main Menu Interface	Scroll Up Through Menu Options	Fast Upward Movement
	Blind Pixel Calibration Interface	Move Up/Left	Fast Upward/Leftward Movement
	Main Interface State	Cycle Zoom	Enable/Disable Laser
Down Button / Zoom Button	Shortcut Menu/Main Menu Interface	Scroll Down Through Menu Options	Fast Downward Movement
	Blind Pixel Calibration Interface	Move Down/Right	Fast Downward/Rightward Movement
Up Button+ Down Button	Main Interface State	Stadiametric Ranging	/
Menu Button +Down Button	Main Interface State	Manual Shutter Calibration	/

Features

·12 μm Thermal Imaging Detector

·High Image Quality

·Waterproof Rating: IP67

·PIP

·Long Detection Range

·Stadiametric Ranging Support

·Hotspot Tracking

·Multiple Scene Modes

·Built-in 32GB Memory

·Photo and Video Recording

·Wi-Fi Connectivity with App Support

·User-Friendly Interface

Device Charging

· The XM series is equipped with a built-in lithium battery. The battery is partially charged before leaving the factory. It is recommended to charge the device before first use. Please use a power adapter with an input of AC 110V-240V, output of 5V ⎓ 2A, and connect it to the device' s Type-C port (⑪) using the Type-C USB data cable for charging.

· When the device is charging, the charging indicator light (⑫) will turn red and remain on. Once charging is complete, the charging indicator light (⑫) will turn off. When fully charged, disconnect the Type C port instead of overcharging.

Notice: If the user does not plan to use this product in the short term, ensure the battery is charged to at least three bars to prolong its lifespan.

Components and Button Operations

①Objective Lens Cover

②Objective Focusing Ring

③Power Button

④Up Button / Photo Button

⑤Menu Button / M Button

⑥Down Button / Zoom Button

⑦Eyeshade

⑧Diopter Adjustment Knob

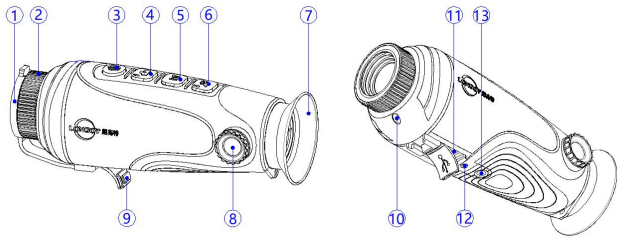
⑨USB Waterproof Cover

⑩Laser Window

⑪Type-C Interface

⑫Charging Indicator Light

⑬1/4 Thread Connection



Operation Instructions

· **Power On:** Long press the power button (③) for 5 seconds to start. Once powered on, open the objective lens cover (①).

· **Diopter Adjustment:** Rotate the diopter adjustment knob (⑧) until the text on the display appears clear. For the same user, there is no need to adjust the diopter when used again.

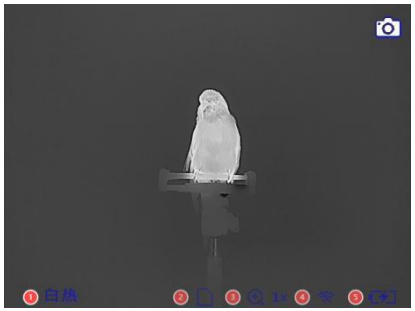
· **Focus Adjustment:** Rotate the objective focusing ring (②) to adjust the focus on the observed object.

· **Shortcut Menu Navigation:** Short press the menu button (⑤) to open the shortcut menu. Use the up button / photo button (④) and the down button / zoom button (⑥) to navigate through the menu. Press the menu button (⑤) repeatedly to cycle through options such as color mode, screen brightness, contrast, scene mode, and Wi-Fi switch. Once settings are complete, press and hold the menu button (⑤) to exit to the main screen.

· **Main Menu Navigation:**Long press the menu button (⑤) to open the main menu. Use the up button /shutter button (④) and the down button /zoom button (⑥) to navigate within the corresponding menu. Short press the menu button (⑤) again to cycle through settings for hotspot tracking, video output, refresh rate, date and time, blind pixel calibration, language, status bar, factory reset, and electronic information. After completing the settings, long press the menu button (⑤) to exit to the main interface.

· **Power Off:** Long press the power button (③) for 2 seconds. When the shutdown countdown appears on the screen, the device will power off.

Status Bar Information



1-Image mode

2-Memory display

3-Current Magnification Level

4-Wi-Fi Status

5-Battery Level

Quick Menu

The shortcut menu allows users to adjust Color Mode, Brightness, Contrast, Scene Mode, Wi-Fi, and Basic Settings.

In the main interface, short press the Menu button to enter the shortcut menu.

Short press the Menu button again to select a specific menu item.Use the photo/zoom button to cycle through the available options for the selected setting.Long press the Menu button to exit the selected menu or the entire shortcut menu.

▶ Color Mode :In the Color Mode menu, short press the Menu button to switch between the following modes: White Hot, Black Hot, Iron Red, Fluorescent, Sepia, Red Hot, and Ghost.

Once the desired mode is selected, long press the Menu button to save the selection and return to the observation interface.

▶Brightness: In the selected menu, short press the Menu button to cycle through levels 1 to 5. Once the brightness level is chosen, long press the Menu button to save the setting and return to the observation interface.

▶Contrast : In the selected menu, short press the Menu button to cycle through levels 1 to 5.Once the contrast level is chosen, long press the Menu button to save the setting and return to the observation interface.

▶Scene Mode : In the selected menu, short press the Menu button to cycle through the following modes:

City, Forest, Rock, and Bird. Once the mode is selected, long press the Menu button to save the setting and return to the observation interface.

▶Wi-Fi: In the selected menu, short press the Menu button to switch the Wi-Fi function On/Off. When Wi-Fi is enabled, a Wi-Fi icon will appear in the bottom status bar.

Enable the Wi-Fi feature on your phone.Select the device’s network from the list of available networks.

Wi-Fi Name: XMx+SN

Wi-Fi Password: 12345678

Standby

Standby mode allows the device to enter a sleep state (turning off the display while the main chip remains in standby mode).

In the main interface, short press the power button to put the device into standby. Short press the power button again to wake the device.

Power Off

After use,long press the power button for 2 seconds to display the shutdown countdown screen.

When the countdown icon counts from 3 to 0, the device will power off. Release the button, and the display will turn off, shutting down the device.

Photo and Recording

The XM-Series Monocular Infrared Thermal Imager is equipped with video recording functionality, allowing observed images to be captured onto the built-in storage card. Image and video files are named based on the current time. Therefore, it is recommended that the time settings in the main menu be configured before using the photo or video recording features (see Main Menu - Time Settings for details).

Photo：In the main interface, short press the photo button to take a picture. A photo icon will appear in the upper-right corner of the screen. The captured photo will be saved in the built-in storage.

The XM-Series Monocular Infrared Thermal Imager also supports video recording, storing observed images onto the built-in storage card. Files are named based on the time, so it is advised to complete the time settings in the main menu before using the photo or video recording features (see Main Menu - Time Settings for details).

Video Recording：In the main interface, long press the photo button to start video recording. A recording time indicator (formatted as MM:SS, e.g., 00:01) will appear in the upper-right corner of the display. During recording, a flashing red dot will appear to the right of the time indicator.To stop recording and save the video, long press the photo button again.

Note:During video recording, user can still operate the menu.The recording time accumulates in minutes until recording is stopped.

The number of files that can be stored is limited by the device's built-in memory capacity.

Regularly check the available storage space and transfer videos and photos to other media to free up space on the memory card.

Laser Indicator

The XM-Series device is equipped with a built-in laser pointer feature.

In the main interface, long press the zoom button to activate the laser pointer.When the laser indicator is active, a white laser cursor will appear on the screen.To turn off the laser indicator ,long press the zoom button again.

Memory Access

When the device is powered on and connected to a computer, it will be recognized by the computer as a USB drive, allowing access to the device's memory for copying images and videos.

1、Connecting the Device: Open the Type-C interface cover, align the Type-C interface, and insert the USB data cable. Connect the device to the computer via the Type-C interface. After selecting the storage card, you can view or export the device's recordings and photos. If an external power source is connected, the device can also be powered directly. When using the cable to connect the device, avoid pulling the cable directly, as this could damage the cable or cause a wiring failure, which may affect normal use.

2、Exporting Photos and Videos:After the device is powered on, connect it to the computer using the USB data cable. Use the up and down buttons to select the storage card. Short press the menu button briefly to confirm and open the folder corresponding to the device's disk. Enter the folder containing photos or videos. Select the recording or photo files you wish to export and copy them to the computer. After the export is complete, disconnect the USB data cable from the computer.

File names are formatted as year+month+day+hour+minute+second. For example, if the photo or video was taken on September 20, 2024, at 12:00:00 PM, the timestamp will be based on the device's system time.

Main menu

In the Main Interface. Long press the menu button to enter the main menu. Short press the menu button again briefly to switch between options. Use the photo and zoom buttons to navigate to the desired option, which will highlight with a white background. Short press the menu button briefly to adjust the parameters of the selected option. Long press the menu button to exit back to the observation interface.

Main Menu Function and Descriptions

Hotspot Tracking

Long press the menu button to enter the main menu. Short press the menu button again briefly to select the on/off option to enable the hotspot tracking . After turning it on/off, long press the menu button to save and exit back to the observation interface.

Once enabled, a cursor will appear on the screen, locking onto the target with the highest thermal source in the observation area and improving tracking efficiency. Even if the target moves or the background changes, the hotspot tracking will continue to lock onto the target, helping the user to better detect and track the target.

Video Output

Long press the menu button to enter the main menu. In the selected menu, short press the menu button again briefly to toggle this feature on/off. Once enabled, you can connect an external display for use. After turning it on/off, long press the menu button to save and exit back to the observation interface.

Refresh Settings

Long press the menu button to enter the main menu. In the selected menu, short press the menu button again briefly to choose the automatic refresh interval. After confirming, long press the menu button to save and exit back to the observation interface.

Note：Even in any refresh setting mode, you can manually refresh by briefly pressing the menu button + zoom button simultaneously.

Date and Time：Long press the menu button to enter the main menu. In the selected menu, short press the menu button briefly to switch between selecting the year, month, day, hour, and minute. Use the photo and zoom buttons to adjust the current option's value. After making adjustments, long press the menu button to save and exit back to the observation interface.

Blind Pixel Calibration：Long press the menu button to enter the main menu. Once in the selected menu, short press the menu button briefly again to choose the blind pixel calibration.

When using this device, defective pixels may appear on the detector, such as bright or dark spots visible on the image. In this case, the blind pixel calibration function can be used to remove these defective pixels from the detector. It can also cancel the correction of these dead pixels.

Press the menu button briefly to enter the blind pixel calibration interface. A small crosshair will appear at the center of the screen:

X represents the X-axis, which is horizontal.

Y represents the Y-axis, which is vertical.

Short press the menu button briefly to confirm the selection.

When selecting the X-axis or Y-axis direction, the icon of the selected item will turn blue. Use the photo or zoom buttons to move the cursor. The photo button moves the cursor left or up, and the zoom button moves the cursor right or down. Short press moves the cursor by one pixel, while a long press makes the cursor move quickly and continuously. Once the cursor is moved to the position indicated by the defective pixel, short press the menu button, select the blind pixel, and then choose "Yes" to perform the correction. User can also zoom in to correct blind pixels. After selecting the zoom menu, the screen will magnify by a factor of two, making it easier to perform more accurate dead pixel correction.

Language

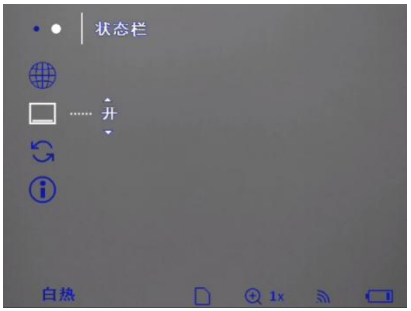
Long press the menu button to enter the main menu. Under the selected menu, short press the menu button again to select the language settings option. There are five languages to choose from: Chinese, English, Russian, German, and Arabic. After selecting the desired language, long press the menu button to save the setting and exit back to the observation interface.

Status Bar

Long press the menu button on the main interface to enter the main menu.

The status bar is auxiliary information overlayed at the bottom of the device's preview screen. When enabled, user can always view information such as the device's color mode, memory, zoom level, Wi-Fi status, and other relevant details. In the selected menu, choose "Status Bar," then short press the menu button to toggle between on/off. After confirming, long press the menu button to save the setting

Turning off the status bar can make the observation interface cleaner, providing a more comfortable viewing experience for the user.



Restore Factory Settings

Long press the menu button to enter the advanced menu. Short press the photo or zoom button to navigate to "Restore Factory Settings," then short press the menu button again. Use the photo or zoom buttons to select "Yes" or "No," and press the menu button to confirm.

After restoring to factory settings, the following settings will be reset to their default values:

Image Mode: White Hot; Screen Brightness: Level 4; Contrast: Level 2; Image Mode: City; Refresh Rate: 3 minutes; Zoom Level: 1x; Video Output: Off; Hotspot Tracking: Off

Device Information

View the current device's model, serial number, and system version information

Basic inspection

It is recommended to carry out a technical inspection before each use. Please check the following:

· The appearance: there should be no cracks in the body or visible damage.

· The condition of the objective lens and eyepiece: there should be no cracks, greasy spots, dirt, or other deposits on the lens.

· The internal rechargeable battery pack should be fully charged.

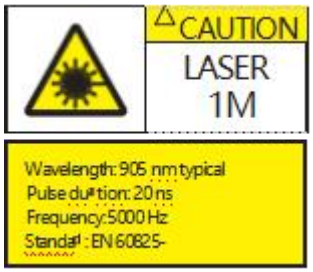
Basic Maintenance

Basic maintenance should be carried out at least twice a year and includes the following steps:

· Wipe the surface of the external metal and plastic components with a clean, dry cotton cloth.

· Clean the electric contacts and battery slots using a non-greasy organic solvent.

· Check the lens and eyepiece. If necessary, remove any dirt or sand from the optics; a non-contact cleaning method is preferred.Cleaning the exterior of the lens should only be done with the included professional wiping tools and solvent.



After service

Thank you for choosing this product. in order to fully enjoy the perfect after-sales service support, please carefully read the instructions of this product warranty card after purchase and keep it properly.

We will provide after-sales service according to the manufacturer's after-sales service policy,including:

1.The warranty period starts from the first purchase date of the product, and the purchase date is subject to the invoice date of the purchased product. if there is no valid invoice, the warranty period will be calculated from the product delivery date. if the invoice date of the product is later than the actual delivery date of the product,the warranty period starts from the actual delivery date of the product.

The warranty period shall be implemented according to the after-sales service policy of the manufacturer.

2. No warranty coverage.

1. Exceeding the specified warranty period;

2.Failure or damage caused by misuse, accident, modification, improper physical or operating, environment, natural disasters, power surges and improper maintenance or storage;

3.Failure or damage caused by third.party products, software, services or behaviors;

4.Normal decolorization, wear and consumption during product use;

5.The product can run normally without interruption or error;

6.Data loss or damage;

7.Consumable parts, such as batteries or protective films, which are consumed with time, unless it is a failure due to material or process defects.

8. The valid warranty certificate and valid original purchase invoice or receipt of the product cannot be produced, the original serial number label of the product is altered, replaced or tom, the product has no serial number.or the product model or number on the warranty certificate is inconsistent with the actual product.

9. if the product is not used according to the attached instructions and operation manual, or the product is not used in the intended function or environment. The manufacturer determines that you violate the operation manual after confirmation;

10.The completeness and appearance of the products are not guaranteed so you should inspect the products on the spot when accepting them and raise objections to any discrepancies.

3. The manufacturer is not responsible for the extra promises made to you by the seller or any other third party, and you should ask these third parties to honor the mm.

1. With this card, you can enjoy the free warranty within the warranty period and the preferential services outside the warranty period.

2 This warranty card is only applicable to the products in this warranty card, and it is valid after being stamped by the sales unit.

3.Product warranty terms of special projects shall be subject to the specific purchase and sale contract.

Troubleshooting

The table below lists all potential issues that may arise when operating the device. Follow the recommended checks and fixes to resolve them. If the issue is not listed or cannot be fixed, the device should be returned to the manufacturer or supplier for servicing.

Issue	Possible Cause	Solution
Thermal imager won't turn on	Battery is wearing out.	Charge the battery
External power supply is not working	USB cable is damaged.	Check the external power source if needed
	External power source has insufficient charge	Perform image calibration according to the manual
Image is unclear, abnormal, or uneven	Device needs calibration	Perform image calibration according to the manual
Image is too dark	Screen brightness is too low	Adjust screen brightness

Poor image quality or detection range is short	Adverse weather conditions (snow, rain, fog, etc.) may affect performance	
Cannot connect to a smartphone or computer	Incorrect Wi-Fi password	Enter the correct password
	Too many Wi-Fi networks in the area causing interference	Move the device to an area with fewer or no Wi-Fi networks for a more stable connection
The Wi-Fi signal disappears or is interrupted	The device is out of wi-Fi range; Or there is an obstruction (such as a concrete wall) between the device and the receiver.	Relocate your device to a place where you can see the wi-Fi signal directly.

When used the device under low temperature conditions, the image quality is worse than that under positive temperature conditions	At temperatures above zero, the object being observed (environment and background) heats up differently due to different thermal conductivity, resulting in a high-temperature contrast, so the image quality will be higher. In low temperature conditions, the object being observed (the background) will usually cool to roughly the same temperature because of the temperature The degree of contrast is greatly reduced, and the image quality (detail) is poor. There is a characteristic of thermal imaging equipment.