

Mini Series product User Manual

Thermal Imaging Device



MN2 - 19/25LRF

CONTENTS

1 . product overview	01
2 . product components	02
3 . package contents	03
4 . operation Instructions	03
5 . Button Functions	05
6 . Menu Functions	06
7 . Device connectivity	08
8 . Technical specifications	09
9 . Maintenance and care	12



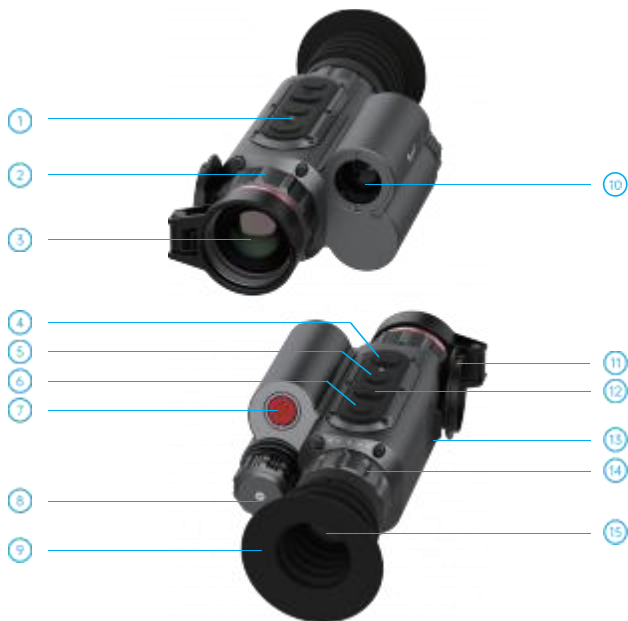
1 . product overview

1 . The MN2-19/25LRF 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 selects 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 14x eyepiece.

2 .product components



1 . Device Indicator	2. ob jective Lens Focus Ring	3. ob jective 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 . Rangeinder Module	11 . Lens cap	12. Menu Button
13 . Data compartment cove	14 . Eyepiece Focus Ring	15. Eyepiece Lens	

3 . package contents

- ▶ MN2-19/25LRF 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

- ()Do not point the thermal imaging Device directly at high-intensity radiation sources such as the sun , CO2 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.



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 access the menu.
- (2) use navigation buttons to move through options. press and hold to return to the previous menu level.
- (3) short press to lock/unlock rangefinder values when LRF is on.



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	White Hot, Low Light, Black Hot, Red Hot, Fusion. Default: White Hot.      white Hot Low Light Black Hot Red Hot Fusion
	video output	Enable/Disable CVBS video output.
	wiFi	Turn on the WiFi function in the device menu, then enable WiFi on your smartphone and open the dedicated app. Locate the device's WiFi MAC address (e.g., "--*--*") and connect by entering the password "12345678". Once the device and smartphone are connected via WiFi, you can observe real-time images captured by the device.
	picture-in-picture	On/Off.
	Reticle Type	options: OFF, 10 types available.
	Reticle color	options: Black, white, Gray, Red, Green.
	Reticle profiles	save user-defined ballistic zeroing parameters.
	Reticle zeroing Adjustment	Short press the menu button to freeze the image. Briefly press the REC button to move to the X and Y axis values, and use the up and down buttons to adjust the reticle position until it aligns with the impact point. Short press the REC button to move to other options. Once the settings are complete, navigate to the save option and briefly press the menu button to save and exit. Press and hold the menu button to exit without saving. The set distance will be saved as the zeroing point name in the zeroing storage menu.
	Gyroscope	On/Off.
	Rangefinder unit	Meters/Yards.
	Rangefinder settings	on/off, set timeout (5, 10, 20 minutes).
	screen Brightness	Adjust brightness (10 levels).
	Brightness	press the menu button to access the contrast menu, which offers 10 options. selecting any option will adjust the imaging brightness accordingly.

	contrast	Adjust contrast (10 levels) .
	Image Detail Enhancement	press the menu button to access the image detail enhancement option. The higher the value, the more details are enhanced .
	Date/Time	select the "Date/Time" menu, briefly press the menu button to enter sub-options, use the menu button to navigate, and the up/down buttons to adjust values. press and hold the menu button to save and exit after adjustments.
	Language settings	press the menu button to access the language settings menu . use the up/down buttons to select the desired language, then briefly press the menu button to confirm.
	Audio Recording	select "Audio Recording" and press the menu button to open the sub-menu. select "on" or "off" to enable or disable audio recording during video capture.
	Format	Enter the format sub-menu , briefly press the menu button to select "confirm" or "cancel" . please proceed with caution! Data cannot be recovered after deletion!
	Auto power off	options: 3 minutes, 5 minutes, off (default) . After powering on, you can choose 3 or 5 minutes for auto power-off.
	Default settings	select "Default settings" and press the menu button to open the sub-menu. select "confirm" or "cancel" to restore default settings . please proceed with caution as this will reset all settings to factory defaults.
	pixel Fix	Turn on the device and confirm bad pixel correction in the function settings. If correction is needed, cover the lens cap and follow the prompts to repair bad pixels. save after correction. use the navigation buttons to move the cursor, the power button to switch options, and briefly press the menu button to save.
	Image calibration	Enter the image calibration menu . If calibration is required, select "confirm", cover the lens cap, and briefly press the menu button to calibrate background image uniformity . calibration is automatically saved upon completion.
	Auto Ballistics	options: on, off, settings. selecting "on" enables auto ballistics, while "off" disables it. "settings" allows adjustment of ballistic parameters .
	version	select "version"

7 . App connection

Download the dedicated app on Android/ios.



Download APP by scanning the QR Code according to the mobile phone system.



Download the APP



Enable wiFi on both the device and the phone.



connect to the device's wiFi network
(default password. 1234567 8



Enter APP

8. Technical specifications



83.2mm

56.3mm



185.3mm

MN2-19/25LRF

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 ofview	9.2° ×7.7° / 7.3° ×5.3°
Detection Range	900m/1300m (Target size: 1.7m X 0.5m)

Display:	
color Modes	white Hot, Low Light, Black Hot, Red Hot, Fusion
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	8 hours
shock Resistance	10000 J
waterproof Rating	IP67
operatingTemperature	-20C ~ + 50C
size	185.3x83.2x56.3mm
weight	461g
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 .

10 .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, and (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.



FALCON

Thermal imaging & Night vision

www.falconoptic.com