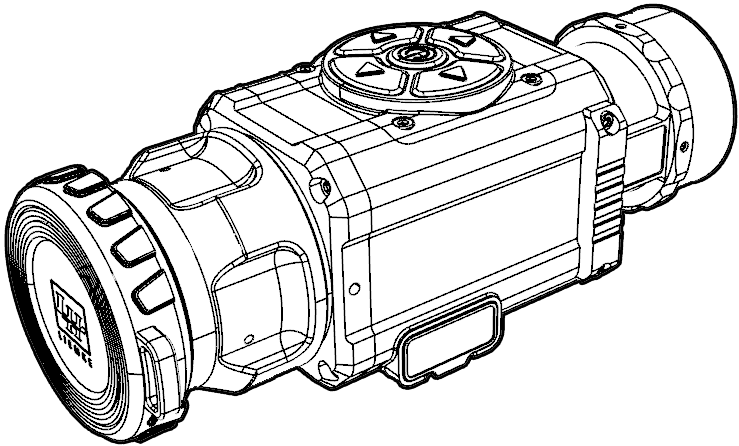


**Merlin 35**

**THERMAL IMAGING CLIP ON**



I N S T R U C T I O N S

## ATTENTION!



The proper usage of the device is important for safe exploitation!  
Therefore read carefully the present manual!



If the device was left in storage for a longer period of time, before exploitation check its functionality.



Disassembling of the device is prohibited, except in authorized repair centers.



The external optical surfaces should be clean at all times. Touching the optical surfaces with bare hands is not recommended.



Sand and sea water can damage the optical coatings!



Do not point the device directly at the sun!



Image performance is dependent on scenery and atmosphere conditions. Contrast in the same image may vary as a function of the time of day due to the effect of the sun. For example, at sunset objects will have absorbed different levels of heat resulting in greater temperature differences and better contrast.



When left in storage for a longer period of time, batteries have to be removed and stored in polyethylene bags to prevent contact with metal. (It is recommended to recharge the batteries every two to three months)

## ATTENTION!



When carrying or transporting the device, put the protective lens cap!



Condensation can cause fogging of the optical surfaces! Condensation occurs when the temperature or humidity changes as follows:

- *When moving the device from cold to warm place or vice versa;*
- *In places with high humidity.*

When equalizing the temperature of the device with the environmental, the condensation disappears. Use the towel to remove moisture.

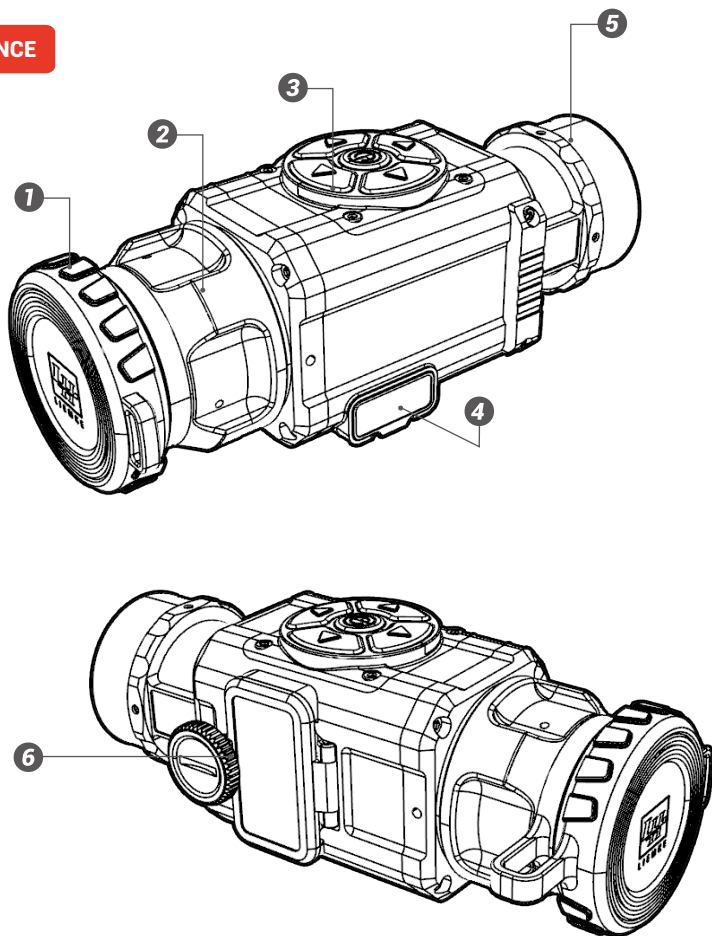


Clean the lens surfaces with the Lens Cloth or with the napkin!

## LEGAL NOTICE

Before attaching to weapons, check the regional legal regulations in the area of application. The attachment to a weapon is always the sole responsibility of the user.

## APPEARANCE



## Attention!

Export of **Merlin 35**  
May have export limitations depending on  
the laws in your region.



**NOTE**

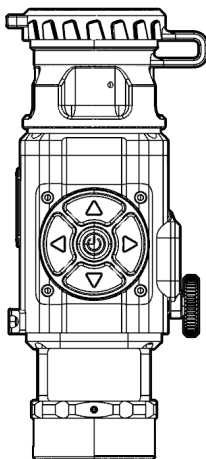
All images used in this instruction manual are for illustrative purpose only. Actual product may vary due to product enhancement.

- 1** Lens Cover
- 2** Detachable focus ring
- 3** Button
- 4** Video out / USB
- 5** Attachment place
- 6** Battery compartment cap

## CONTROLS

### ⚠ ATTENTION!

The main operations are performed through the "Button" (5 position button).



### ⚠ ATTENTION!

Turn off the device after usage, otherwise you can permanently damage the batteries!



POWER



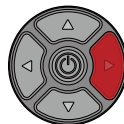
UP



DOWN



LEFT



RIGHT

## CONTROLS

Short Press

Long Press

Palette

Main Menu

Stand-by

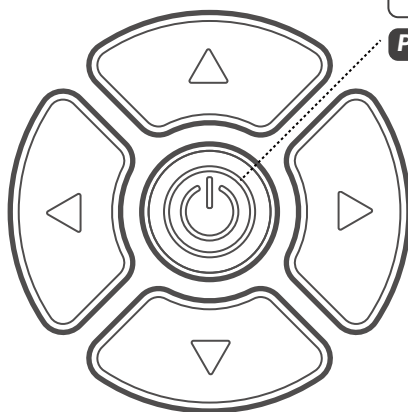
Power on/off

Brightness

Rangfinder

Picture

Video



Nuc

Wifi on/off

## STATUS BAR



The status bar is located in the lower part of the display and shows information on the actual operating status of the sight, including:

- Color palette

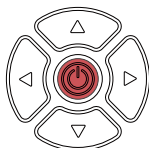
*C1~C6*

- Current digital zoom magnification.
- Battery charge with current level in percent.





The Quick menu allows change of basic settings. Enter the Quick menu with a short press of any button in Up/Down/Left/Right.

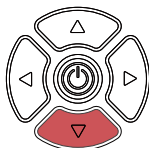


### Power On / Off



Long Press Power button to power on /off the device.

### Stand By

Short Press Power button to make device StandBy, short press Power button again to be back to normal display.

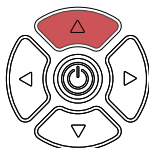


### WIFI

Wireless connection option(Wi-Fi) is linked with external appliance (PC,laptop,smartphone). Wi-Fi function is originally set to be Off. Long press Down buttons to turn on/off Wi-Fi . Wi-Fi operation is shown in the status bar,  means Wi-Fi is Off,  means Wi-Fi is On.

*When Wi-Fi is On, you can connect your external appliances to Merlin35, and to view videos and photos that been taken through APP.Contact your local distributor for APP download instruction.*

**NUC** Short press down button to do Non-Uniformity Calibration.

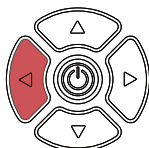


### Main Menu

Long Press Up Button to enter main menu.

### Palet

Basic image mode is " White Hot ". Short press Up botton to select palette from C1~C6.

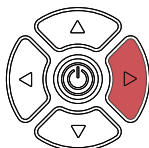


### Rangefinder

Long Press Left Button to enter Rangefinder.

### Brightness

Short Press Left button to change image Brightness from 0~9.



### Video

Long Press Right button to Start / Stop Video Recording.

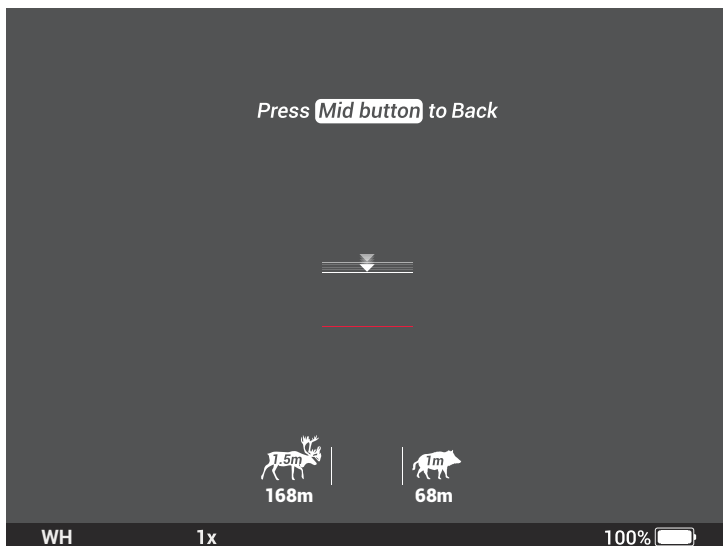
### Picture

Short Press Right button to Take a Picture.



## Rangefinder

Merlin 35 are equipped with a stadiametric rangefinder which allows the user to estimate approximate distance to an object of known size.



You will see on the display: measurement bars, icons of three reference objects and respective distances for the three objects.

There are two pre-set reference objects:

<b>Wild boar-height</b>	<b>1 m</b>
<b>Deer-height</b>	<b>1.5m</b>

The lower fixed bar under the object automatically appear on display, press the Up/Down buttons to move the upper horizontal bar until the object fits entirely between the two lines. The distance to the object is automatically recalculated as you move the upper line. Press middle button to exit rangefinder mode ,range information will not disappear from display automatically.

## MAIN MENU

**NOTE** Enter the main menu with a long press of the Up button.  
Press the Left/Right buttons to select between the main menu options.



**EXIT**



Press the Up/Down button to Exit Main Menu. Main Menu will not disappear automatically.



**OLED  
Brightness**



Press the Up / Down buttons to change OLED brightness from -2 , -1 , 0 , 1 , 2 .



**Contrast**



Press the Up / Down buttons to change Display contrast from 0 , 1 , 2 .



**Sharpness**



Select one of the sharpness aside with a short press of Up / Down.



**Manual(silent)  
Calibration**



Close the Lens cover before calibration , press the Up / Down buttons to start.



## Alignment



All Merlin 35 are adjusted on the laboratory test equipment with accuracy from 0.1 mrad to 0.3 mrad. The final accuracy depends on customer rifle scope, parallax of used rifle scope and shooting distance. Merlin 35 is preset on 350m .

Customer who would like to use device on the shorter distance could recognise deviation and eliminate it by software correction.

The manufacturing process of the NightSeers ensures the shooting precision tolerance within 3 to 7 cm at 100 m. To achieve better result accuracy, use Alignment Correction in main menu. (last icon)

All NightSeers are preset in position X:0, Y:0.

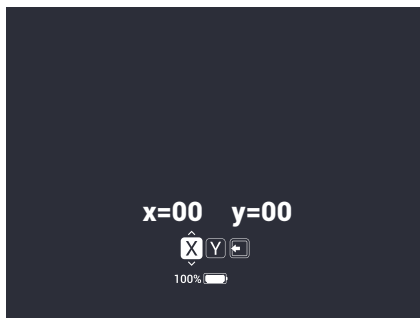
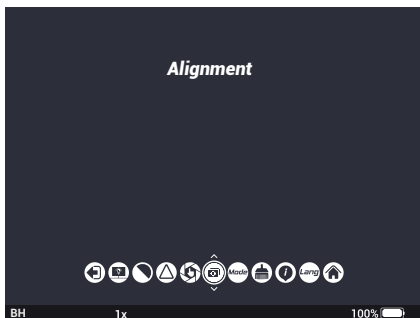
When the point of impact with Merlin35 is on the Right side of previous point of impact (previous aiming position), change value X (X- => pressing button Down), decrease X value, and vice versa.

When the point of impact with Merlin35 is on the Up side of previous point of impact (previous aiming position), change value Y (Y- => pressing button Down), decrease Y value, and vice versa.

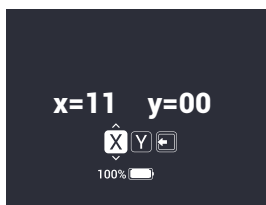
While using the Alignment Correction is shown value of axis X and Y, one step for camera Merlin35 means 1,66 MOA = 4.8cm on 100m

Manual for electronic accuracy correction.

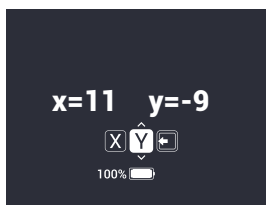
- 1) Aiming your daytime scope to the middle of target and shoot. This is test process of control good daytime scope accuracy.
- 2) Put Merlin 35 on the rifle scope using adapter. Aim to the thermal target and shoot again.
- 3) Measure horizontal distance (x) and vertical distance (y) between shoot and aiming position from step 2).
- 4) Long press up button to enter main menu, you will see Alignment Correction as the last icon of the menu. Short press up button to enter this sub-menu.



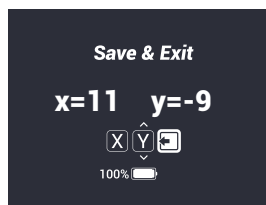
5) By pressing Left or Right button to move between X, Y and EXIT. By pressing Up button to change positive value (X+, Y+), by pressing Down button to change negative value (X-, Y-).



5)-1



5)-2



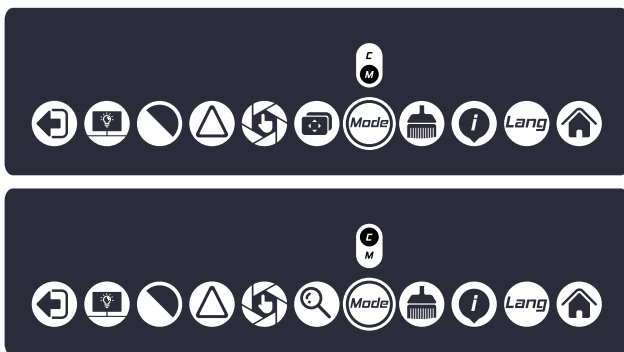
6)

6) The setting is saved by pressing EXIT button Up or Down

7) Control if the value is save correctly.



## Mode



Press Up/Down to change your thermal imager to clip on mode. All menu is displayed in the central area of the image. The reason is the reduced field of view of the daysight by higher magnifications. Reaching a low battery state the device gives a warning in the top left corner of the central area. (M=Monocular C = Clip on.)

*[ NOTE It is recommended to use up to 3x magnification of the primary optical unit in order to keep the menu and all submenus visible in clip-on mode. ]*



## Defective Pixel Repair



Press Up/Down buttons then close lens cover to repair defective pixel. Defective pixels are found by software algorithm.



## Info



This option allows the user to view the following information about the imager.



## Restore

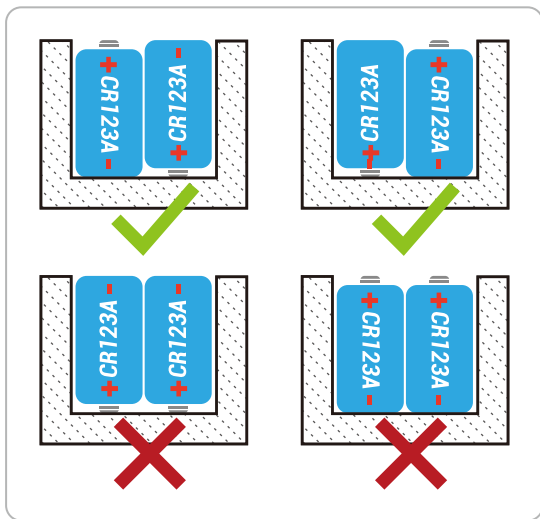


Press Up/Down buttons to Restore Default Setting, there will be no further indication. The following settings will be restored to their original values before changes made by user :

- Zoom
- Image Brightness
- Contrast
- Sharpness
- OLED Brightness

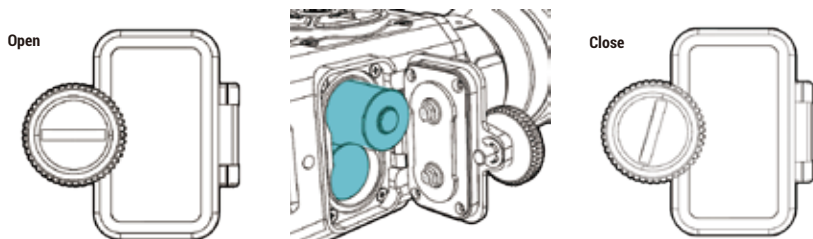
## BATTERY INSTALLATION

Turn the battery compartment knob counterclockwise until stop and remove it. Install two CR123A batteries in opposite polarity direction.



Turn the battery compartment knob clockwise until stop – the latches from both sides of the cover will pull out (see the drawing).

Replace the battery cover and press it until its clicking position - make sure the cover is closed on both sides.



Battery charge level is displayed on the status bar

100%

50%

30%

10%

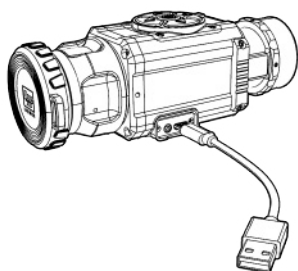
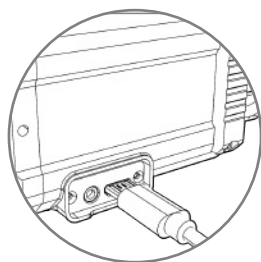
0%

## CABLE CONNECTION

### 1. Power supply / Firm ware update



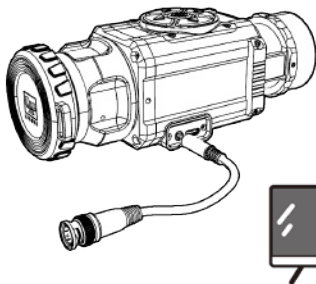
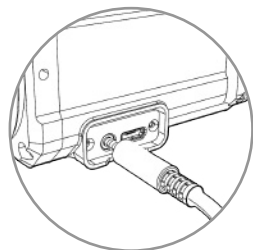
Serves for power supply and Firmware update



### 2. Video Cable



Video cable serves for external displaying





Technical Data Sheet of Merlin35 Clip On	
	335C
Detector	
Type	Uncooled
Resolution	384x288, Vox
Frame Rate	50Hz
Pitch	17μm
Spectral range	8-14μm
NETD	less then 50mk
Optical Characteristics	
Objective lens	35mm
Magnification	1
FOV	10.6°×8.0°
Close-up range	5m
Dioptre Adjustment	-5D-4D
Functions	
Zoom	2x/4x/PIP
Palette	10 optional(can be customized)
Start up time	less then 5 seconds
Start up image	Can be customized
Menu and infomation	GUI(Can be customized)
Image Enhancement	DDE
Contrast and Brightness	AGC
Online update	Both code and GUI resources
reticle type	5 optional(Can be customized)
ballistic and zeroing	5 types can be created by user
Range finder	By Software
Display	
Type	OLED
Resolution	1024×768
Power Supply	
Battery	2×CR123
External Power Supply	5V micro USB
Battery life	5h
Physical Characteristics	
weight without battery	450g
size,(mm)	170×61×65
Environmental Compatibility	
Water proof	IP67
Operating Temperature	-25℃-50℃
Storage Temperature	-40℃-70℃
shock tolerance	1200g/ms
Operating Temperature	-25℃-50℃
Storage Temperature	-40℃-70℃
shock tolerance	1200g/ms
Wi-fi	
Frequency	2.4GHz
Standard	802,11 b/g/n
Line-of-sight reception range, m	15

For Wi-Fi use, download APP with the name "Cam802", it can be found in Apple and Android APP store:

1. Enable Wi-Fi in your MERLIN Settings
2. Connect your smart device with the Wi-Fi of the MERLIN-35 (Wi-Fi password is 12345678)
3. Start your "Cam802" APP and push connect button
4. Livestreaming should be visible now
5. By pressing photo or video button data will be saved on your smart device

**Remark:**

For Android users:

Make sure that the APP has according rights to save data files in your folders