

# SIGHT MARK<sup>®</sup>

## USER MANUAL



**WRAITH 4K**

**4-32x40**

**(SM18040 - SM18040EU)**

## ABOUT SIGHTMARK®

Founded to meet the changing needs of the outdoor industry and its customers, Sightmark® was introduced at SHOT Show 2007 in response to the growing popularity of the modern shooting market. The goal was to provide state-of-the-art optics and accessories to make the modern sporting rifle, shotgun and pistol as accurate as possible. In addition, each product is designed for the core market, enabling shooters to purchase more high quality items to accessorize their firearm for hunting, home defense and competition shooting.

In 2011, the new 33,000 square-foot (3066 m<sup>2</sup>) headquarters was completed in Mansfield, Texas, combining the company's corporate offices and a large warehouse to handle the increase in sensitive material and technology being produced. The new facility provides more space for research and development, production, and distribution of defense-related products.

Best-selling products include red dot sights, riflescopes and chamber laser bore sights. More than one million Sightmark bore sights are in use since first released to the market. Sightmark has earned several patents and awards from industry associations and publications including Field & Stream, Optics Planet, Outdoor Life and Predator Xtreme. Numerous optics and accessories have been field tested and approved by prominent outdoor organizations such as the North American Hunting Club and the National Tactical Officers Association.

Currently, Sightmark represents leading markets growing in more than 55 countries and many quality retailers in every state. Products are sold by top retailers and national specialty chains such as: Academy Sports & Outdoors, Bass Pro Shops, Cabela's, Frankonia and many more.



## WRAITH 4K

Perfect for 24-hour shooting and hunting activities, the Sightmark Wraith 4K 4-32x40 day/night digital riflescope's 4K (3840x2160) CMOS sensor provides full-color imaging for daytime shooting and transitions to digital night vision with a 274-meter/300-yard detection range with the push of a button. The Wraith 4K's high-resolution 1280x720 display delivers crystal-clear imaging while the 4-32x digital magnification gives users the versatility to adjust for close- to mid-range targets. The Wraith 4K is designed for all hunting applications including small game, boar, predator and even deer. The included LED IR illuminator emits an 850nm beam to help maximize positive target identification, while 10 reticle styles with 9 colors, give users full control over customizing the Wraith's field of view. Built to handle tough environments, the Wraith 4K is recoil-rated up to .308 Winchester and features solid aluminum construction with IP55 water-resistant protection and an operating temperature range from - 6 ° to + 50 ° C.

### FEATURES:

- 4K, CMOS sensor
- Variable 4-32x magnification
- Night vision mode
- Daytime color mode
- Built-in video recording with audio in 4K
- 274 meters / 300 yards NV detection range
- 10 reticle options with 9 colors
- Lens cap design with an integrated daytime lens filter
- USB port

### INCLUDED:

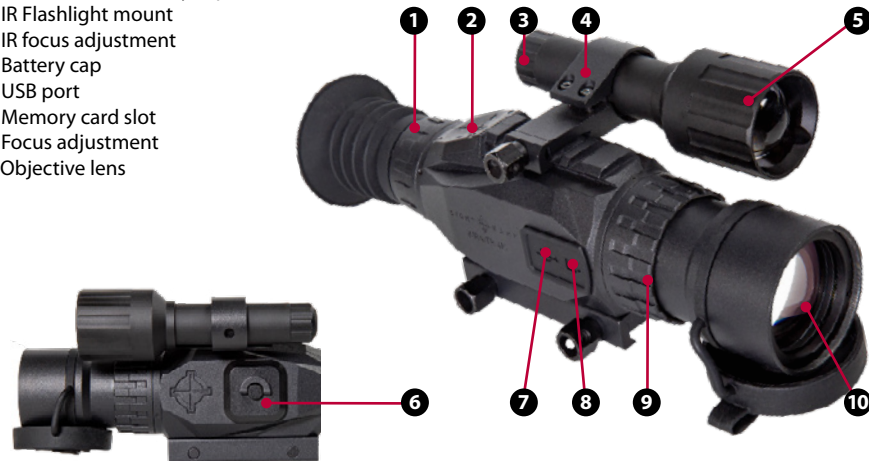
- 850nm IR Illuminator
- Objective lens cover
- Fixed Picatinny mount (SM18040)  
Bolt Action rifle mount (SM18040EU)
- Eye cup
- Quick Start Guide

## TECHNICAL SPECIFICATIONS

WRAITH 4K 4-32x40 - SM18040 / SM18040EU			
Sensor Resolution, pixels	4K (3840x2160)	External Power Supply	5V via microUSB
Display Type	FLCOS	Wind. & Elevation click value	1/4 MOA
Display Resolution, pixels	1280x720	Adjustment range, elevation	92 MOA
Magnification	4x	Adjustment range, windage	215 MOA
Lens Diameter, mm	40	Number of reticle options	10
Digital Zoom	1-8x	Body Material	Aluminum
Field of View, m@100m	7	Accessory rail mount	Picatinny
Eye Relief, in/mm	2.4 / 60	Operating Temp, °F / C°	20 to 122 / - 6 to + 50
IR Emitter	LED	Maximum recoil, caliber	.308
IR Wavelength, nm	850		
NV Detection Range, yd/m	300yd / 274m		
Battery Type	4xAA		
Battery Life, hour	3.5Hrs Video Mode/ 4.5Hrs Preview Mode		
Dimensions, in/mm	10.5 x 1.875 x3 / 266 x 63 x 75		
Weight (with batteries), oz/g	36.3 / 1066		

## DIAGRAM

1. Eyepiece (diopter adjustment)
2. Controls
3. IR button and battery cap
4. IR Flashlight mount
5. IR focus adjustment
6. Battery cap
7. USB port
8. Memory card slot
9. Focus adjustment
10. Objective lens



## INSTALLING THE BATTERY

The Sightmark Wraith 4K uses four AA batteries. It is recommended to use batteries of the same type and same charge for best performance.

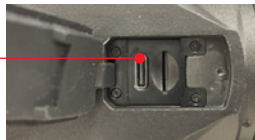
### To install new batteries:

1. Pull out battery access handle.
2. Turn handle counter clockwise until the battery cap can be pulled off completely.
3. Insert batteries in to slots in orientation indicated.
4. Put battery cap back on and turn handle clockwise until fully tightened.



## EXTERNAL POWER SUPPLY

This unit is equipped with a USB C port for external power. The USB C port is located under the rubber cover on the side of the unit.



## MEMORY CARD

This unit is equipped with a Micro memory card slot used for recording. The card slot is located under the rubber cover on the side of the unit.



## MOUNTING

The unit is fitted with a Picatinny mount. (Bolt action rifle mount SM18040EU)

### To attach:

1. Loosen both mount thumbscrews.
2. Place mount on to Picatinny rail aligning the bolts with the Picatinny rail slots. Check eye relief and adjust to the proper position.
3. Tighten thumbscrews to 20-25 inch pounds.



## DIOPTER ADJUSTMENT

### To adjust diopter:

1. Locate the diopter adjustment. (1)
2. Turn the adjustment left or right until the display becomes focused.  
(Use icons or numbers on the display to check screen focus as the actual image through the viewfinder may need to be focused as well.)



## FOCUS ADJUSTMENT

### To adjust focus:

1. Locate the focus adjustment. (9)
2. Turn the adjustment left or right until the image becomes focused.



## VIEWFINDER

1. Profile  
1 2 3 4 5
2. Magnification  
1X 2X 3X 4X 5X 6X 7X 8X
3. Date
4. Time
5. Memory card status  
CARD FULL
6. Day/night mode
7. Battery status
8. Reticle



## CONTROLS

**Digital Zoom** - Use the up and down arrows to adjust the magnification. This unit has a digital magnification range up to 8x.

**Day/Night Mode/ Night custom mode** - Use the left button to toggle between day, night B/W, and Night Custom.

**Menu/Power** - To power on the unit, hold the center button until the unit turns on. To turn it off, hold until the display shuts off. To access the menu, click the button and the menu will open.

**Video Record/Photo** - Press the right button to activate recording. Press again to stop recording. When in photo mode, pressing the button will take a photo.

## IR ILLUMINATOR

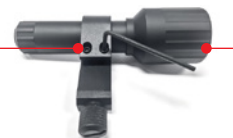
**To adjust the angle of the IR illuminator:**

1. Loosen the two bolts holding the IR illuminator.
2. Adjust the angle of the illuminator in place by apply pressure to the front or rear of the illuminator.
3. Tighten the two bolts that were loosened.

**[Twist the focus adjustment to adjust the beam width]**

**To operate the IR Illuminator:**

1. Press the button on the rear of the illuminator.
2. The illuminator has three brightness levels (low, medium, high) and they can be cycled by clicking the button.





## ZEROING THE RIFLESCOPE

1. Boresight the rifle to get the riflescope close to zero. For more information on boresighting see <http://sm-wraith.com/zero/>.

2. Take 1 to 3 shots on a paper target while aiming at the center.

3. Open the menu and go to Reticle Settings and then Reticle Zero.   



4. While keeping the crosshair on the point of aim (the center of the target in this case) use the arrows to move the red adjustment reticle to the bullet hole or the center of the grouping of bullet holes if you took 3 shots. 





5. Press the center button to save and exit the menu. 



6. Take 1 to 3 additional shots. The scope should now be zeroed. If these shots were not on target restart, from step 3.

*The numbers shown on screen represent the offset from the center of the screen. They are not needed for the zeroing process, but may be useful for re-adjusting back to a known zero if you save these numbers.*

## CHANGING THE RETICLE STYLE OR COLOR

1. Open the menu and go to Reticle Settings.  

2. Select either Reticle Color or Reticle Style and press the center button.   or  







3. Use the up and down buttons to choose a reticle or color and press the center button to save and exit the menu.  


## WEAPON PROFILES

The Wraith 4K has five weapon profiles. These profiles store the reticle setting.

**To edit these profiles:**

1. Open the menu and go to Weapon Select.  










2. Select a profile number and click the right button.  or  or  or  or  

3. Use the up, down, left and right buttons to adjust the characters to show the desired caliber and grain. This is just to help remember what each profile is. 

4. All reticle and zeroing changes will be applied to the last profile selected.








## WEAPON PROFILES (CONT.)

### To select a profile:

1. Open the menu and go to Weapon Select.   Weapon Select
2. Select a profile number and click the center button.  or  or  or  or  or  
3. All reticle and zeroing changes will be applied to the last profile selected.








## RESOLUTION SETTINGS

### To change resolution setting:

1. Open the menu and go to Settings, then Photo/Video, and then Resolution.   Settings  Photo/Video  Resolution
2. Use the up or down button to select the desired resolution.  
3. Use the center button to save and exit the setting. 





## VIDEO RECORDING AND PHOTO MODE

### To switch between video recording and photo mode:






1. Open the menu and go to Settings, then Photo/Video, and then Record Mode.   Settings  Photo/Video  Record Mode
2. Use the up or down button to select either photo or video.  
3. Use the center button to save and exit the setting. 

## VIDEO RECORDING AND PHOTO MODE (CONT.)

### Take a video/photo:






1. When looking through the unit either, a photo or video symbol will be displayed in the lower left of the screen.  or 
2. Press the right button to take a photo/start recording video. 
3. Press a second time to stop recording. 

### To watch playback of videos:

1. Open the menu and go to Playback.   Playback
2. Use the up and down arrows to look through the existing photos and videos.  
3. Press the center button to watch the video. 






## BRIGHTNESS SETTINGS

### To Adjust Brightness:

1. Open the menu and go to Brightness.   Brightness
2. Adjust the brightness slider up or down to adjust the brightness.  
3. Press the center button to save the setting and exit the menu. 




## TIME AND DATE

### To set the time/date:




1. Open the menu. 
2. Go to Settings and then Time/Date.  Settings  Time/Date
3. Select Time Format, Time Set, or Date.
4. Adjust Time Format, Time, or Date using up, down, left, and right buttons. 
5. Press the center button to save and exit. 

## FIRMWARE

### To update the firmware:

1. Confirm the batteries are full and/or connect external power.
2. Download the latest firmware from our website at  
USA: <https://sightmark.com/wraith/firmware/>  
Europe, Africa, Middle East, Asia: <https://sightmark.eu/pages/wraith-firmware>
3. Copy the firmware file on to the root of your micro memory card. The file should not be placed in a folder in the card.
4. Confirm the file name is SM18040.BRN.
5. Insert the micro memory card in to the riflescope card slot.
6. Open the menu. 
7. Go to Settings and then Firmware.  Settings  Firmware
8. Select Firmware Update.
9. When update is complete the unit will shut off. This can take a few minutes.

### To perform a factory data reset:


1. Open the menu using the center button. 
2. Go to Settings and then Factory Data Reset.  Settings  Factory Data Reset
3. Use the arrow buttons to navigate to Yes and select it with the center button.

*Warning: This will completely reset the unit to factory settings including all reticle zero settings.*


## SLEEP MODE

The unit is equipped with a sleep mode feature. This lets the unit conserve battery while also allowing the unit to quickly reactivate.

### To activate sleep mode:

1. Hold the down button for 4-5 seconds when the unit is on and not inside a menu. The screen should turn off. 




### To activate the unit when in sleep mode:





2. Press the power button and the unit should quickly turn on. 



## MENUS





Use the up and down buttons to scroll through and the center button to select. The left button can be used to exit menus.

- 1. Brightness 
- 2. Reticle Settings 
  - a. Reticle Color
  - b. Reticle Style
  - c. Reticle Zero
- 3. Playback 


Use the up and down button to scroll through pictures and video, click the center button to play back video files.  
Use the left button to exit Playback.
- 4. Settings 
  - a. Video / Photo 
    - i. Resolution 
      - 1. 4K
      - 2. 1080
    - ii. Record Mode 
      - 1. Video
      - 2. Photo
    - iii. Day Frame Rate
      - 1. 30
      - 2. 60 (interpolated)

- iv. Advanced Settings
  - 1. Resolution
    - a. 4K
    - b. 1080
  - 2. Record Mode
    - a. Video
    - b. Photo
  - 3. Day Frame Rate
    - a. 30
    - b. 60 (interpolated)
  - 4. Night Frame Rate (Night Custom Only)
    - a. 30
    - b. 60
  - 5. Exposure
    - a. Long
    - b. Original
    - c. Short
  - 6. Gain
    - a. Iso12800
    - b. Iso11200
    - c. Iso9600
    - d. Iso800
    - e. Iso6400
    - f. Iso3200

## MENUS (CONTINUED)

- 7. Contrast
  - a. High
  - b. Medium
  - c. Low
- 8. AE Meter
  - a. Multi point
  - b. Spot
- b. Format Card 
  - i. Are you sure? (Format Card)
  - ii. Cancel
- c. Factory Data Reset 
  - i. Yes
  - ii. No
- d. Firmware 
  - i. Firmware Version
  - ii. Firmware Update
- e. Time and Date 
  - i. Time Format
    - 1. 12 Hour
    - 2. 24 Hour
  - ii. Time Set
  - iii. Date

- f. Languages
  - i. English
  - ii. German
  - iii. French
  - iv. Spanish

- 5. Weapon Select 
  - a. Profile 1
  - b. Profile 2
  - c. Profile 3
  - d. Profile 4
  - e. Profile 5

## MAINTENANCE

Proper maintenance of the Sightmark Wraith is recommended to ensure longevity. **Attempts to disassemble or repair the unit will void the warranty.** It is recommended that when the unit becomes dirty that it is wiped down with a dry or slightly damp cloth. Blow dirt and debris off all optics and then clean lenses with a lens cleaning cloth. To remove oils or dried water spots, apply a small amount of denatured alcohol to a lens cloth or cotton swab. Clean the surface of the lens and let dry. Finally use your breath to clean the lens once more. No further maintenance is required.

## TROUBLESHOOTING

Never ship back a product without getting proper authorization beforehand. Doing so could result in losing the product due to a multitude of reasons, i.e. sending it to the wrong address and other problems associated with unexpected packages.

### The unit will not turn on:

1. Check the polarity of the batteries. Reinstall the batteries if necessary.
2. Clean the battery compartment contacts with denatured alcohol and a cotton swab.
3. Install fresh batteries.

### The IR illuminator will not turn on:

1. Adjust the brightness of the IR. Adjust the display brightness. If no IR light is being detected the unit may need to be returned for service.

### The image is dark:

1. Make sure the lens caps on the objective lens is opened and the IR illuminator is on. Adjust the display brightness and the IR illuminator brightness accordingly to obtain a bright, clear image.

## TROUBLESHOOTING (CONTINUED)

### **There are light or black dots on the display:**

1. The presence of dots on the display is caused by sensor production technology and is not a defect. No action is required.

### **The image is not in focus:**

1. Make sure there is no dust or condensation covering the objective lens or eyepiece.
2. Adjust the focus ring near the objective lens to adjust focus for different viewing distances.
3. Make sure to adjust the diopter setting on the eyepiece for your specific vision.

### **The image is flickering:**

1. This is common if the unit is viewing or pointing in the direction of a bright light source. Cease viewing the bright light source immediately. If flickering in normal dark conditions the unit may need to be returned for service.

## FIRMWARE UPDATING

USA: <https://sightmark.com/wraith/firmware/>

Europe, Africa, Middle East, Asia: <https://sightmark.eu/pages/wraith-firmware>

## SIGHTMARK WARRANTY

Please visit [www.sightmark.eu](http://www.sightmark.eu) for warranty details and information.



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two criteria: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

**Warning:** Changes of modifications to this unit is 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.

## NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



SIGHT  MARK<sup>®</sup>

[www.sightmark.eu](http://www.sightmark.eu)