

# **SIDEWINDER**

THERMAL IMAGING MONOCULAR

**USER MANUAL**

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## FCC INFORMATION

Please note that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.



FCC compliance: This product 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 product 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 product 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.

### FCC Conditions

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.

## EU CONFORMITY STATEMENT



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: [www.recyclethis.info](http://www.recyclethis.info)



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: [www.recyclethis.info](http://www.recyclethis.info)

## INDUSTRY CANADA ICES-003 COMPLIANCE

This device meets the CAN ICES-3 (B)/NMB-3(B) standards requirements.

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# SAFETY SUMMARY

- Read and follow all instructions
- Read all warnings
- Only use the attachments/accessories specified by the manufacturer
- All service must be provided by the manufacturer

## **WARNING:**

**This product contains natural rubber latex, which may cause potentially fatal allergic reactions! If you are allergic to latex, it is important that you strictly avoid exposure to products that contain it.**

## **WARNING AND CAUTIONS:**

### **Transportation**

- Keep the device in original or similar packaging while transporting it.
- Keep all wrappers after unpacking them for future use. In case of any failure, you will need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage to the device and the company shall not be responsible.
- DO NOT drop the product or subject it to physical shock. Keep the device away from magnetic interference.

### **Power Supply**

- The input voltage for the device should meet the Limited Power Source (5 VDC, 2 A) according to IEC61010-1 standard. Please refer to technical specifications for detailed information.
- Use the provided power adapter. Refer to the product specification for detailed power requirements.
- Make sure the plug is properly connected to the power socket.
- DO NOT connect multiple devices to one power adapter to avoid overheating and fire hazard caused by overloading.

### **Battery**

- Improper use or replacement of the battery may result in an explosion hazard. Replace with the same or equivalent type only. The battery type is 18650 with the protection board, and the battery size should be 19 mm × 70 mm. The rated voltage and capacity are 3.6 VDC/3.35 Ah (12.06 Wh). Dispose of used batteries in conformance with the instructions provided by the battery manufacturer.
- For long-term storage of the battery, make sure it is fully charged every half year to ensure the battery quality. Otherwise, damage may occur.
- The battery cannot be charged with external power source directly.
- Do not charge other battery types with the supplied charger. Confirm there is no flammable material within 2 m of the charger during charging.
- DO NOT place the battery near heating or fire source. Avoid direct sunlight.
- DO NOT swallow the battery.
- DO NOT place the battery within the reach of children.

## **Maintenance**

- If the product does not work properly, please contact your dealer or the nearest service center. AGM cannot assume any responsibility for problems caused by unauthorized repair or maintenance.
- Wipe the device gently with a clean cloth and a small quantity of ethanol if necessary.
- It is recommended to reboot the device every 2 hours when using it to ensure maximum performance.

## **Using Environment**

- Make sure the ambient environment meets the requirement of the device. The operating temperature shall be -30°C to 55°C (-22°F to 131°F), and the operating humidity shall be 95% or less.
- DO NOT expose the device to extremely hot, cold, dusty, corrosive, saline-alkali, or damp environments.
- This device can only be safely used in the region below 2000 meters (6,500 ft) above the sea level.
- Avoid equipment installation on vibrating surfaces or places subject to shock (neglect may cause equipment damage).
- DO NOT aim the lens at the sun or any other bright light.

## **EMERGENCY:**

- If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.

## **COMPLIANCE NOTICE:**

The thermal imaging devices might be subject to export controls in various countries or regions, including without limitation, the United States, European Union, United Kingdom and/or other member countries of the Wassenaar Arrangement. Please consult your professional legal or compliance expert or local government authorities for any necessary export license requirements if you intend to transfer, export, re-export the thermal imaging devices between different countries.

# 1 GENERAL INFORMATION

## 1.1 SYSTEM DESCRIPTION

The Sidewinder™ is premium handheld observational thermal monocular. Equipped with a 384×288 or 640×512 infrared detector and 1024×768 OLED display with improved color rendering. The Sidewinder also features an improved millikelvin thermal detector, robust body, and works with single rechargeable 18650 battery, making this monocular a premium choice for professional end-users.

Built-in 64 GB memory module supports video recording and snapshot capture. The monocular is mainly used in scenarios such as patrolling, law enforcement, search-and-rescue, drug enforcement, anti-smuggling, hiking, and hunting.

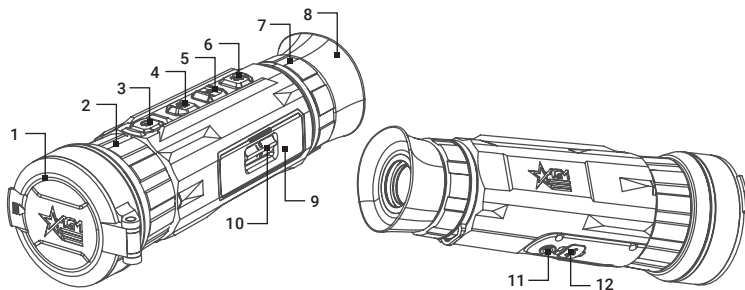


FIGURE 1-1. MAIN PARTS

TABLE 1-1. MAIN PARTS

ITEM	DESCRIPTION
1	Lens Cap
2	Focus Ring
3	Power Button
4	Capture Button
5	Menu Button
6	Zoom Button

ITEM	DESCRIPTION
7	Diopter Adjustment Ring
8	Eyepiece
9	Battery Cover
10	Battery Cover Lock
11	Tripod Socket
12	USB Type-C Interface

## 1.2 KEY FEATURES

- 12 $\mu$ m, 384 $\times$ 288 or 640 $\times$ 512 resolution detector
- Highest thermal sensitivity (NETD <20mK)
- Advanced image processing (Digital Detail Enhancement, Digital Noise Reduction and NLM algorithm)
- 50 Hz image frame rate
- 1024 $\times$ 768 resolution OLED display
- Built-in memory supports image capture, video and audio recording
- Wi-Fi hotspot
- Powered by one rechargeable 18650 Li-Ion battery
- Up to 7 hours continuous running
- 5-year warranty (depending on the region of sale)

## 1.3 STANDARD COMPONENTS

The standard components are shown in Figure 1-2 and listed in Table 1-2. The ITEM NO. column indicates the number used to identify items in Figure 1-2.

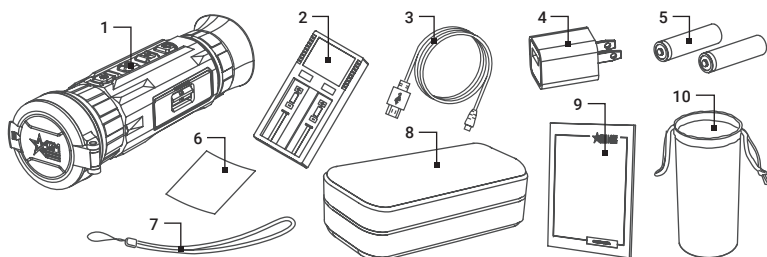


FIGURE 1-2. STANDARD COMPONENTS

TABLE 1-2. STANDARD COMPONENTS

ITEM	DESCRIPTION	QUANTITY
1	Monocular	1
2	Battery Charger	1
3	USB Cable	1
4	Power Adapter (US and EU plugs included)	1
5	18650 Rechargeable Battery	2
6	Lens Cloth	1
7	Wrist Strap	1
8	Carrying Case	1
9	User Manual	1
10	Protective Bag	1

# 2 OPERATING INSTRUCTIONS

## 2.1. BASIC OPERATIONS

### 2.1.1 UNPACKING

The following steps must be completed prior to each mission.

1. Open the carrying case, remove the monocular, and verify that all components are present.
2. Inspect the monocular for any obvious evidence of damage to the lenses, body, eyecup, buttons, etc. Ensure that all optical surfaces are clean and ready for use. Clean all optical surfaces with a lens tissue.

### 2.1.2 BATTERY INSTALLATION

1. Unlock the battery compartment cover.

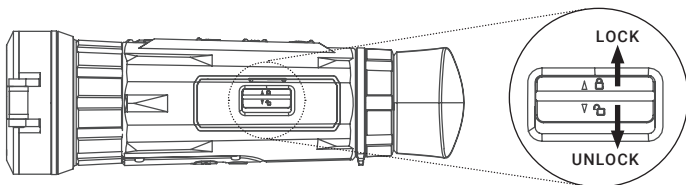


FIGURE 2-1. BATTERY COMPARTMENT

2. Open the battery compartment cover.
3. Insert the battery into the battery compartment as the positive and negative marks indicate.

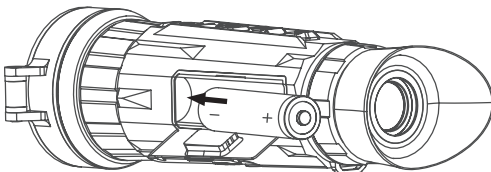


FIGURE 2-2. BATTERY INSTALLATION

4. Close the battery compartment cover and lock it.

**NOTE:**

Remove the battery from the battery compartment if the device is not being used for a long time.

### 2.1.3 CONTROLS

The Sidewinder controls are shown in Figures 2-3 and are defined in Tables 2-1. Each button is responsible for some functions selected by a short pressing or a long pressing (holding) the button. Pushing a button for 2+ second is considered “long press” (hold).

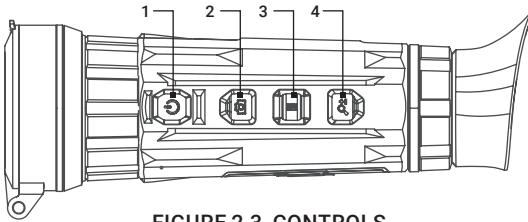



FIGURE 2-3. CONTROLS

TABLE 2-1. FUNCTIONS OF CONTROL BUTTONS

ITEM	CONTROLS	FUNCTIONS
1	POWER BUTTON	Press: Standby mode/Wake up device. Hold: Power ON/OFF.
2	CAPTURE BUTTON	Press: Capture image. Hold: Start/stop recording.
3	MENU BUTTON	Press: Enter/Exit the menu. Hold: Switch palettes.
4	ZOOM BUTTON	Press: Switch digital zoom.

### 2.1.4 POWER ON AND OFF

#### Power On

When the charged battery is installed, hold the POWER button  to power on the device.

Refer to the figure below for the main view of the monocular display.

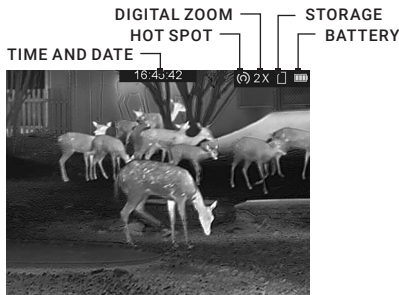




FIGURE 2-4. THE DISPLAY MAIN VIEW

## Power Off

Hold the POWER button  to power off the device.

### NOTE

See the battery icon on the device display for the power quantity. Icon  means the battery is fully charged, and icon  means that the battery is low. When the low power notification appears on the display, charge the battery.

In the "Auto Power Off" menu you can set the time for the automatic shutdown of the device as required (OFF / 30 min / 45 min).

## 2.1.5 STANDBY MODE

In the view mode, press the POWER button . After a few seconds, the display will turn off. Press the POWER button  again to exit the Standby mode.

## 2.1.6 THERMAL VIEW OBSERVATION

1. Open the objective lens cap.
2. Power on the monocular.
3. Hold the monocular and make sure the eyepiece covers your eye.
4. Adjust the diopter adjustment ring until the OSD text or image is clear.
5. Point the monocular towards the target.
6. Bring the object into focus by turning the objective focus ring.

### NOTE:

You must perform the focus adjustment before any further use of the monocular.

7. For best observation effectiveness, set palette, brightness, contrast, scene mode and FFC (Flat Field Correction).

## 2.1.7 PALETTE SETTINGS


You can select different palettes to display the same scene in different effects. Press the MENU button  in live view interface to switch palettes.

TABLE 2-2. PALETTE SETTINGS

PALETTE	DESCRIPTION
WHITE HOT	The hot part is white-colored in view. The higher the temperature is, the lighter the color is.
BLACK HOT	The hot part is black-colored in view. The higher the temperature is, the more black the color is.
FUSION	The hot part is white-colored. From high temperature to low temperature, the image is colored in from white, yellow, red, pink to purple.
RED HOT	The hot part is red-colored in view. The higher the temperature is, the redder the color is.

## 2.1.8 DIGITAL ZOOM

You can magnify the image by using the Digital Zoom function.





Press the Zoom button  in the view mode, the live view switches between 1x, 2x, 4x, and 8x.

- AGM Sidewinder TM25-384: 2x, 4x, 8x, 16x
- AGM Sidewinder TM35-384: 3x, 6x, 12x, 24x
- AGM Sidewinder TM35-640: 2x, 4x, 8x, 16x
- AGM Sidewinder TM50-640: 2.5x, 5x, 10x, 20x

## 2.1.9 SET AUDIO / VIDEO RECORDING / IMAGE CAPTURE

### Set Audio

If you enable the audio function, the sound will be recorded with the video. If there is a loud noise in the video, you can disable this function.

1. Hold the MENU button  to show the menu.
2. Select the Audio menu item .
3. Press the MENU button  to enable or disable this function.
4. Hold the MENU button  to save and exit.

### Video Recording



1. In the main live view, hold the CAPTURE button  and start recording. The top left of image displays the information of recording time.
2. Hold the CAPTURE button  again to stop recording.



FIGURE 2-5. VIDEO RECORDING

### Snapshot Capture

In the main live view, press the CAPTURE button  to capture picture.

### NOTE:

- When capture is successful, the image freezes for 1 second and a prompt shows on the display.
- For information about exporting captured images, see File Export paragraph.

## 2.1.10 CONNECTING THE DEVICE

1. Open the cable interface cover.
2. Connect the device and PC with USB-C cable to copy/delete files.

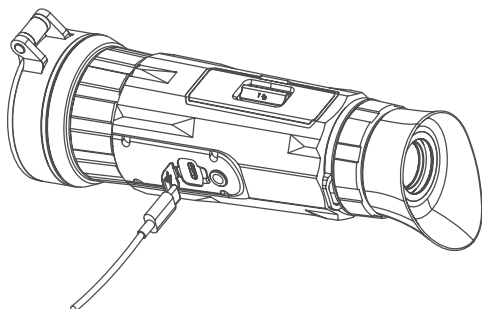


FIGURE 2-6. CABLE CONNECTION

## 2.1.11 FILE EXPORT

1. Connect the thermal monocular to your PC with USB cable and open the detected disk.
2. Open computer disk and select the disk of device. Go to the DCIM folder and find the folder named after the capture year and month. For example, if you capture a picture or record a video on June 2022, go to DCIM -> 202206 to find the picture or video.
  - Select and copy the videos to PC and play the file with the player.
  - Select and copy the snapshots to PC and view the files.
3. Disconnect the device from your PC.

### **NOTE:**

- The device displays images when you connect it to PC. The recording, capture and hotspot functions are disabled at this time.
- When you connect the device to PC for the first time, it installs the drive program automatically.

## 2.2 MAIN FUNCTIONS

### 2.2.1 MENU OPERATION

When the device powers on, hold the MENU button  to display the menu.



































In the menu, you can press the buttons  and  to select functions, press the button  to configure the selected function, and hold the button  to exit the menu.

TABLE 2-3. MENU FUNCTION




MENU ITEM	SYMBOL	OPTION	FUNCTION
CONTRAST		10 Levels of contrast	Adjust the image contrast.
BRIGHTNESS		10 Levels of brightness	Adjust the image brightness.
IMAGE BOOST		ON	Turn on and off the Image Boost function.
		OFF	
SCENE MODE		Recognition	Switch between the Recognition mode and Jungle mode.
		Jungle	
IMAGE CALIB.		Auto FFC/ Manual FFC/ External	Select the Flat Field Correction (FFC) mode.
CVBS		OFF	Turn on and off the CVBS Output function to view the video on CVBS monitor.
		ON	
DPC		---	Correct dead pixel manually.
AUTO POWER OFF		OFF / 30 min / 45 min	Set the automatic shutdown time.
UNIT		yard / m	Select the unit of measurement for distance.
BURNING PREVENTION		ON	Turn on and off the Burning Prevention function.
		OFF	
VERSION		---	View the firmware version number and serial number.
RESTORE		---	Restore the device to defaults.
LANGUAGE		20 Languages	Select the language of interface.
TIME SYNC.		Time Format / Time / Date	Set the time and date.

MENU ITEM	SYMBOL	OPTION	FUNCTION
OSD		ON	Enable or disable OSD.
		OFF	
MEASURE		0.8m / 1.2m / 1.8m / 3.0m Target Height	Measures the distance between the target and the observation position.
AUDIO		ON	Enable or disable Audio.
		OFF	
HOT TRACKING		OFF	Enable or disable hot spot mark (marking the spot of highest temperature).
		ON	
NETWORK		OFF	Enable or disable the Wi-Fi hotspot.
		Hotspot	

## 2.2.2 CONTRAST ADJUSTMENT

1. Hold the MENU button  to go to the menu.
2. In the menu mode, select the Contrast menu item  and press the button  to adjust image contrast. You can select one of ten levels of the contrast.





## 2.2.3 BRIGHTNESS ADJUSTMENT

1. Hold the MENU button  button to go to the menu.
2. In the menu mode, select the Brightness menu item  and press the button  to adjust brightness. In white hot mode, the higher the value of brightness is, the brighter the image is. The image effect in white hot mode is showed as picture below and effect in black hot mode is opposite.

You can select one of ten levels of the brightness to adjust the image lighter or darker.

## 2.2.4 IMAGE BOOST





The Image Boost function enhances image detail.


1. Hold the MENU button  to go to the menu.
2. Select the Image Boost menu item .
3. Press the button  to enable this function.
4. Hold the button  to return to the live view interface, and view the target.


The details of the whole live view image will be enhanced.


## 2.2.5 SCENE MODE

You can select proper Scene Mode according to environment temperature to improve the display effect.

1. Hold the MENU button  to go to the menu.
2. In the menu mode, select the Scene Mod item  /  and press the button  to switch scene.




**Recognition mode** () improves an image so that the object edge is more distinct. Recognition mode is default option.


**Jungle mode** () is more suitable for hunting environment because of the highlight function of small objects.

3. Hold the button  to save settings and exit.


## 2.2.6 IMAGE CALIBRATION

The Image Calibration (Flat Field Correction - FFC) function can correct non-uniformity of display.

1. Hold the MENU button  to show the menu.
2. Select the Image Calib. menu item  and press the button  to switch the FFC mode between Manual FFC, Auto FFC and External.

**Manual:** Hold the button  in live view to correct the non-uniformity of display.

**Auto:** The device performs FFC automatically according to the set schedule when switching on the camera.

**External:** Cover the lens cover, then hold the button  in live view to correct the non-uniformity of display.

3. Hold the button  to exit.

## 2.2.7 CVBS OUTPUT

You can view the video on CVBS monitor, to get a clear and a better image.



1. Connect the USB-CVBS cable to USB port of thermal monocular and to monitor's CVBS port.

### **NOTE:**

USB-CVBS cable need to be purchase separately.

### **NOTE:**

CVBS Output function doesn't support hot plug, so please connect the cable before power on.

2. Hold the MENU button  to show the menu.
3. Select the CVBS menu item **CVBS** and press the button  to turn on or turn off the CVBS video output.

## 2.2.8 DEFECTIVE PIXELS CORRECTION

The Defective Pixels Correction (DPC) function can correct the defective pixels on the screen which are not performed as expected.

Before you start switch the palettes mode to White Hot mode.

1. Hold the MENU button  to show the menu.
2. Select the DPC menu item .








3. Press the button  to select the axis direction. If you select **X**, the cursor moves left and right; if you select **Y**, the cursor moves up and down.
4. Press the button  or  to move the cursor to the defective pixel.
5. Press the button  to set the axis as **N**, and press the button  or  to select **DPC**.
6. Press the button  to correct the defective pixel.



FIGURE 2-7. DEFECTIVE PIXELS CORRECTION




#### NOTE:

The selected defective pixel can be magnified and displayed at the bottom right of the interface.

If the screen OSD blocks the dead pixel, the device performs mirror display automatically.

### 2.2.9 AUTO POWER OFF





You can set the time for the automatic shutdown of the device as required.

1. Hold the MENU button  to show the menu of device.
2. Select the Auto Power Off menu item  and press the button  to select OFF, 30 min or 45 min.

### 2.2.10 UNIT SETTINGS

You can switch the unit to the distance measurement function.




Steps

1. Hold the MENU button  to show the menu.
2. Select the Unit menu item , and press the button  to switch the unit. **m** and **yard** are selectable.
3. Hold the button  save settings and exit.

### 2.2.11 BURNING PREVENTION

This function can prevent the detector of the thermal channel from being burned. When you enable this function, the shield will close if the grey scale of the detector reaches a certain value.




1. Hold the MENU button  to go to the menu.

2. Select the Burning Prevention menu item  and press the button  to enable or disable the Burn Prevention function.
3. Hold the button  to save settings and exit.

#### **NOTE:**




Avoid direct sunlight and enable the Burning Prevention function to reduce the risk of sensor damage from the heat.

### **2.2.12 VIEW DEVICE INFORMATION**

1. Hold the MENU button  to show the menu of device.
2. Select the Version menu item  and press the button . You can view the device information such as firmware version, and serial number.







### **2.2.13 RESTORE DEVICE**

You can reset the settings of device.











1. Hold the MENU button  to show the menu of device.
2. Select the Restore menu item  and press the button  to restore the device to defaults according to the prompt.

### **2.2.14 LANGUAGE SETTING**





You can select different languages of user interface.

1. Hold the MENU button  to show the menu.
2. Select the Language menu item  and press the button  to select the language.
3. Press the button  or  to select the language as required, and press the button  to confirm.

### **2.2.15 TIME SYNCHRONIZATION**

1. Hold the MENU button  to show the menu.
2. Select the Time menu item  and press the button  to enter the time setting interface.
3. Press the button  to switch the time system, and press the buttons  and  to select the time and date to be synchronized.
4. Press the button  to select the hour, minute, second, year, month, or day to be synchronized, and press the button  or  again to change the number.
5. Hold the button  to save settings and exit.

### **2.2.16 OSD**

1. Hold the MENU button  to go to the menu.
2. Rotate the wheel to select the OSD menu item  /  and press the button  to switch the OSD mode.








When OSD (On-Screen Display) is on the information such as time, date, Wi-Fi hotspot activation, digital zoom, storage memory status, and battery status displays in top right corner of viewfinder.

## 2.2.17 DISTANCE MEASUREMENT

The device can measure the distance between the target and the observer's position.




### NOTE:

When measuring the distance, keep the hand and the position steady. Otherwise, the accuracy may be affected.

1. Hold the MENU button  to show the menu.
2. Select the Measure menu item  and press the button  to go to the setting interface.
  - 1) Press the button  to select the target from Deer, Grey Wolf, Brown Bear, and Custom.
  - 2) Press  to select height, and press the buttons  and  to set the target height.

### NOTE:

The available height ranges from 0.1 m to 9.9 m.


- 3) Press the button  to confirm.
  3. Align the center of top mark with the edge of target top. Press the button .
- The cursor blinks on the top edge of the target.
4. Align the center of bottom mark with the edge of target bottom. Press the button .

The left top of the image displays the distance measurement result and the height of the target.







FIGURE 2-8. DISTANCE MEASUREMENT

### NOTE:

Go to distance measurement interface, and press the button  to view the result of the previous measuring target.





## 2.2.18 SET AUDIO



If you enable the audio function, the sound will be recorded with the video. When there is too loud noise in the video, you can disable this function.

1. Hold the MENU button  to show the menu.
2. Select the Audio menu item .
3. Press the button  to enable or disable this function.
4. Hold the button  to save and exit.

## 2.2.19 HOT TRACKING







The device can detect the highest temperature spot in the scene and mark it on display.

1. Hold the MENU button  to show the menu.
2. Select the Hot Tracking menu item  and press the button  to mark the spot of highest temperature.
3. Hold the button  to save settings and exit.

When the hot spot mark is enabled, the  mark displays in the spot of the highest temperature. When the scene changes, the  mark moves.

## 2.2.20 NETWORK CONFIGURATION

Connect your phone to the Wi-Fi hotspot of the monocular, you can configure the parameters and realize functions of the device.

1. Hold the MENU button  to show the menu.
2. Select the Network menu item  and press the MENU button  to enable or disable Wi-Fi hotspot.
3. Press  or  buttons to move to another menu item or hold the MENU button  to exit a menu.

Open the AGM Connect APP and connect your phone with the device (refer to Section 2.3). You can view the interface of rifle scope on your phone.

### **NOTE:**

**When the power is less than 15%, the Wi-Fi hotspot function will be turned off automatically.**

## 2.3 CLIENT SOFTWARE INTRODUCTION




Search the AGM Connect software in App Store (iOS System) or Google Play™ (Android System) and install the application on your mobile phone. Turn on the Wi-Fi hotspot on the thermal device and then connect your phone to the hotspot.

- Hotspot Name: Wlan-<Serial No.>

- Hotspot Password: Last 9 digits of Serial Number of your thermal device.

### NOTE:

The device password is set by user at first activation. If the password was lost or forgotten, it can be reset. To reset a password perform the following steps:

1. Hold the MENU button  to show the menu of device.
2. Move the cursor to Restore menu item  and press the button  to restore all parameters to default settings.

1. Run the app and connect the phone or tablet with the device.
2. If the device is inactivated, set the password and activate it. If the device is activated, enter the password to add it to the app.
3. When the device is added, the live view can be seen. You can view the interface of the monocular on the software. User can change such image parameters as brightness, contrast, zoom, palettes directly via phone or tablet as well as record video on phone/tablet memory.

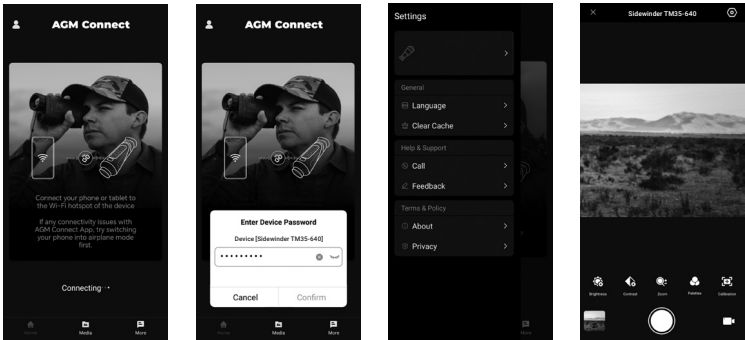


FIGURE 2-9. AGM CONNECT APPLICATION

# 3 MAINTENANCE

## 3.1 MAINTENANCE

### 3.1.1 CLEANING PROCEDURES

1. Gently brush off any dirt from the body of the device using a clean, soft cloth.
2. Moisten the cloth with fresh water and gently wipe down the external surfaces (except lenses).
3. Dry any wet surfaces (except lenses) using another dry, clean, soft cloth.
4. Using a lens brush, carefully remove all loose dirt from the lenses.
5. Dampen a cotton swab with ethanol and slowly, gently wipe down the lenses. Clean the glass surfaces using circular movements, starting from the center of the lens and moving out towards the edge, without touching the lens holder. Change the cotton swab after each circular stroke. Repeat this step until the glass surfaces are clean.
6. Clean the accessories with a soft brush (or cloth) dampened with soap and water.

### 3.1.2 PREPARING FOR EXTENDED STORAGE

#### **CAUTION:**

Thoroughly dry each item before placing them into the storage case.

To prepare the monocular for extended storage:

1. Clean the monocular and accessories.
2. Place all items into the storage case.
3. Make sure to remove the battery from the unit.

### 3.1.3 UPDATING THE DEVICE FIRMWARE

1. Visit [www.agmglobalvision.com/firmware](http://www.agmglobalvision.com/firmware) website. Select your product, download the firmware update package to your PC and unzip it. Follow the detailed instructions on the website.
2. Connect the thermal device to your PC with USB cable.
3. Turn on the thermal device. Make sure the Wi-Fi hotspot function is disabled.
4. Open the detected disk (USB drive) in file manager program. Copy the unzipped digicap.dav file and paste it to the root directory of the device.
5. Turn off the device completely, then power it back on. After awhile, the firmware update process will start automatically. During the update, the screen will display the inscription "Upgrading...". The update process will be completed when the inscription "Upgrading..." goes out.

6. Repeat steps 4-5 for each updating file.
7. Turn off the device and disconnect it from your PC.

You can also enjoy automatic update function in AGM Connect App.

## 3.2 TROUBLESHOOTING

Table 3-1 lists the most common malfunctions that may occur with your equipment. Perform the tests, inspections, and corrective actions in the order they appear in the table.

This table does not list all the malfunctions that may occur with your device, or all of the tests, inspections, and corrective actions that may be necessary to fix them. If the equipment malfunction is not corrected by the suggested actions, or a problem occurs that is not listed in this table, please contact AGM Global Vision's Customer Support center or your retailer.

**TABLE 3-1. TROUBLESHOOTING**

MALFUNCTION	CORRECTIVE ACTION
The monocular fails to activate.	<ol style="list-style-type: none"> <li>1. Battery is missing or improperly installed. Insert battery or install correctly.</li> <li>2. Battery are dead. Replace the battery.</li> <li>3. Battery, surfaces or contacts are dirty or corroded. Clean the contact.</li> </ol>
The image is not clear.	Perform the monocular focus adjustment referring to section 2.1.6.
Wi-Fi is not found.	Examine whether the Wi-Fi function is turned on. If not, go to OSD menu and turn on Wi-Fi.
Capture or recording failed.	Examine the items below: <ol style="list-style-type: none"> <li>1. Whether the device is connected to your PC and the capture and recording features are disabled.</li> <li>2. Whether the storage space is full.</li> <li>3. Whether the device has a low-battery condition.</li> </ol>
The PC cannot identify the monocular.	Examine the items below: <ol style="list-style-type: none"> <li>1. Whether the device is connected to your PC with standard USB cable.</li> <li>2. If you use other USB cables, make sure the cable length is no longer than 1 m (3.3 ft).</li> </ol>

# 4 WARRANTY INFORMATION

## 4.1 WARRANTY INFORMATION AND REGISTRATION

The below description of AGM Global Vision warranty terms and conditions refer specifically to AGM branded products purchased within the United States. Customers purchasing AGM products outside the United States can obtain specific information about their product's warranty term on the [www.agmglobalvision.eu](http://www.agmglobalvision.eu) website.

### 4.1.1 WARRANTY INFORMATION

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of five (5) years from the date of purchase. In the event that a defect covered by the warranty below occurs during the applicable period stated above, AGM Global Vision, at its discretion, will either repair or replace the product; such action on the part of AGM Global Vision shall be the full extent of AGM Global Vision's liability, and the Customer's sole and exclusive reparation. This warranty does not cover a product if it has been (a) used in ways other than its normal and customary manner; (b) subjected to misuse; (c) subjected to alterations, modifications or repairs by the Customer or by any party other than AGM Global Vision without prior written consent of AGM Global Vision; (d) is the result of a special order or categorized as "close-out" merchandise or merchandise sold "as-is" by either AGM Global Vision or the AGM Global Vision dealer; or (e) merchandise that has been discontinued by the manufacturer and either parts or replacement units are not available due to reasons beyond the control of AGM Global Vision. AGM Global Vision shall not be responsible for any defects or damage that in AGM Global Vision's view are a result from the mishandling, abuse, misuse, improper storage or improper operation of the device, including use in conjunction with equipment that is electrically or mechanically incompatible with, or of inferior quality to, the product, as well as failure to maintain the environmental conditions specified by the manufacturer. This warranty is extended only to the original purchaser. Any breach of this warranty shall be enforced unless the customer notifies AGM Global Vision at the address noted below within the applicable warranty period.

The customer understands and agrees that except for the foregoing warranty, no other warranties written or oral, statutory, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, shall apply to the product. All such implied warranties are hereby and expressly disclaimed.

### 4.1.2 LIMITATION OF LIABILITY

AGM Global Vision will not be liable for any claims, actions, suits, proceedings, costs, expenses, damages, or liabilities arising out of the use of this product. Operation and use of the product are the sole responsibility of the Customer. AGM Global Vision's sole undertaking is limited to providing the products and services outlined herein in accordance with the terms and conditions of

this Agreement. The provision of products sold and services performed by AGM Global Vision to the Customer shall not be interpreted, construed, or regarded, either expressly or implied, as being for the benefit of or creating any obligation toward any third party of legal entity outside AGM Global Vision and the Customer; AGM Global Vision's obligations under this Agreement extend solely to the Customer. AGM Global Vision's liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to AGM Global Vision by the customer or customer's dealer. AGM Global Vision shall not, in any event, be liable for special, indirect, incidental, or consequential damages, including, but not limited to, lost income, lost revenue, or lost profit, whether such damages were foreseeable or not at the time of purchase, and whether or not such damages arise out of a breach of warranty, a breach of agreement, negligence, strict liability, or any other theory of liability.

### **4.1.3 PRODUCT REGISTRATION**

In order to validate the warranty on your product, the customer must complete and submit AGM Global Vision PRODUCT REGISTRATION FORM on our website ([www.agmglobalvision.com/customer-support](http://www.agmglobalvision.com/customer-support)).

### **4.1.4 OBTAINING WARRANTY SERVICE**

To obtain warranty service on your unit, the End-user (Customer) must notify the AGM Global Vision service department via e-mail. Send any requests to [support@agmglobalvision.com](mailto:support@agmglobalvision.com) to receive a Return Merchandise Authorization number (RMA). When returning any device, please take the product to your retailer, or send the product, postage paid and with a copy of your sales receipt, to AGM Global Vision's service center at the address listed above. All merchandise must be fully insured with the correct postage; AGM Global Vision will not be responsible for improper postage or merchandise that becomes lost or damaged during shipment. When sending product back, please clearly write the RMA# on the outside of the shipping box. Please include a letter that indicates your RMA#, the Customer's Name, a Return Address, reason for the return, contact information (valid telephone numbers and/or an e-mail address), and proof of purchase that will help us to establish the valid start date of the warranty. Product merchandise returns that do not have an RMA# listed may be refused, or a significant delay in processing may occur. Estimated Warranty service time is 10-20 business days. The End-user/Customer is responsible for postage to AGM Global Vision for warranty service. AGM Global Vision will cover return postage/shipping after warranty repair to the End-user/Customer only if the product is covered by the aforementioned warranty. AGM Global Vision will return the product after warranty service by domestic UPS Ground service and/or domestic mail. Should any other requested, required, or international shipping methods be necessary, the postage/shipping fee will be the responsibility of the End-user/Customer.

For service, repair or replacement, please contact:

#### **AGM Global Vision, LLC**

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[www.agmglobalvision.com](http://www.agmglobalvision.com)

# 5 SPECIFICATIONS

## 5.1 SPECIFICATIONS

MODEL	SIDEWINDER TM25-384	SIDEWINDER TM35-384	SIDEWINDER TM35-640	SIDEWINDER TM50-640
Image Sensor	12 $\mu$ m VOx Uncooled Focal Plane Array	12 $\mu$ m VOx Uncooled Focal Plane Array	12 $\mu$ m VOx Uncooled Focal Plane Array	12 $\mu$ m VOx Uncooled Focal Plane Array
Resolution	384×288	384×288	640×512	640×512
Refresh Rate	50 Hz	50 Hz	50 Hz	50 Hz
Response Waveband	8 $\mu$ m to 14 $\mu$ m	8 $\mu$ m to 14 $\mu$ m	8 $\mu$ m to 14 $\mu$ m	8 $\mu$ m to 14 $\mu$ m
NETD	≤ 20 mk (@25°C, F#=1.0)	≤ 20 mk (@25°C, F#=1.0)	≤ 20 mk (@25°C, F#=1.0)	≤ 20 mk (@25°C, F#=1.0)
Detection Range (6' object)	1250 m	1800 m	1800 m	2600 m
Lens System	25 mm, F/1.0	35 mm, F/1.0	35 mm, F/1.0	50 mm, F/0.9
Magnification	2× - 16×	3× - 24×	2× - 16×	2.5× - 20×
Digital Zoom	1×, 2×, 4×, 8×	1×, 2×, 4×, 8×	1×, 2×, 4×, 8×	1×, 2×, 4×, 8×
Field of View	10.5° × 7.9°	7.5° × 5.6°	12.5° × 10°	8.7° × 7°
Diopter Adjustment	-5D to +3D	--5D to +3D	-5D to +3D	-5D to +3D
Display	1024×768, OLED	1024×768, OLED	1024×768, OLED	1024×768, OLED
Hot Tracking	Yes	Yes	Yes	Yes
Palettes	Black Hot, White Hot, Red Hot, Fusion	Black Hot, White Hot, Red Hot, Fusion	Black Hot, White Hot, Red Hot, Fusion	Black Hot, White Hot, Red Hot, Fusion
Image Boost	Yes	Yes	Yes	Yes

MODEL	SIDEWINDER TM25-384	SIDEWINDER TM35-384	SIDEWINDER TM35-640	SIDEWINDER TM50-640
Flat Field Correction (FFC)	Auto, Manual, External Correction	Auto, Manual, External Correction	Auto, Manual, External Correction	Auto, Manual, External Correction
Wi-Fi Hotspot	Yes	Yes	Yes	Yes
Video Recording	Yes	Yes	Yes	Yes
Capture Snapshot	Yes	Yes	Yes	Yes
Audio Recording	Yes	Yes	Yes	Yes
Storage	Built-in memory (64 GB)	Built-in memory (64 GB)	Built-in memory (64 GB)	Built-in memory (64 GB)
Standby Mode	Yes	Yes	Yes	Yes
Battery Type	One replaceable rechargeable 18650 Li-Ion battery (two 18650 batteries included)	One replaceable rechargeable 18650 Li-Ion battery (two 18650 batteries included)	One replaceable rechargeable 18650 Li-Ion battery (two 18650 batteries included)	One replaceable rechargeable 18650 Li-Ion battery (two 18650 batteries included)
Battery Life (operating)	Up to 7 hours	Up to 7 hours	Up to 5 hours	Up to 5 hours
External Power Supply	5 VDC/2 A, 1.75 W, USB Type-C	5 VDC/2 A, 1.75 W	5 VDC/2 A, 2.1 W	5 VDC/2 A, 2.1 W
Operating Temperature	-30°C to 55°C (-22°F to 131°F)	-30°C to 55°C (-22°F to 131°F)	-30°C to 55°C (-22°F to 131°F)	-30°C to 55°C (-22°F to 131°F)
Protection Level	IP67	IP67	IP67	IP67
Weight	500 g (1.1 lb)	505 g (1.11 lb)	505 g (1.11 lb)	636 g (1.4 lb)
Dimensions	188 × 58 × 65 mm (7.4 × 2.3 × 2.6 in)	188 × 58 × 65 mm (7.4 × 2.3 × 2.6 in)	188 × 58 × 65 mm (7.4 × 2.3 × 2.6 in)	200 × 78 × 68 mm (7.9 × 3.0 × 2.7 in)

\*All data is subject to change without notice.



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