If you have questions that are not covered in this manual, or need service, contact AGM Global Vision customer support for additional information prior to returning a product.

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EXPORT INFORMATION
Buyer acknowledges that all products supplied by AGM Global Vision, LLC are subject to U.S. export control laws, including, but not limited to, the Export Administration Regulations, the International Traffic in Arms Regulations, the International Economic Emergency Powers Act, and various U.S. embargoes and sanctions. AGM Global Vision products may not be exported, re-exported, or transferred contrary to U.S. export control laws. In particular, AGM Global Vision products may not be exported, re-exported, or transferred to prohibited countries, individuals, organizations, or entities, including but not limited to those individuals and entities listed on the List of Specially Designated Nationals and Blocked Persons administered or maintained by the U.S. Office of Foreign Assets Control ("OFAC"), the various lists maintained by the Bureau of Industry and Security of the Department of Commerce, and the U.S. State Department and Buyer represents and warrants that neither Buyer nor any of its officers, directors, or employees are on such lists. Distribution or resale by Buyer to such countries, individuals, organizations, or entities is expressly prohibited. Buyer has and will maintain a positive process to ensure compliance with this Section.
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

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

INDUSTRY CANADA ICES-003 COMPLIANCE

This device meets the CAN ICES-3 (B)/NMB-3(B) standards requirements.
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<td>26</td>
</tr>
</tbody>
</table>
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](image)

**TABLE 1-1. MAIN PARTS**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lens Cap</td>
</tr>
<tr>
<td>2</td>
<td>Focus Ring</td>
</tr>
<tr>
<td>3</td>
<td>Power Button</td>
</tr>
<tr>
<td>4</td>
<td>Capture Button</td>
</tr>
<tr>
<td>5</td>
<td>Menu Button</td>
</tr>
<tr>
<td>6</td>
<td>Zoom Button</td>
</tr>
<tr>
<td>7</td>
<td>Dioptr Adjustment Ring</td>
</tr>
<tr>
<td>8</td>
<td>Eyepiece</td>
</tr>
<tr>
<td>9</td>
<td>Battery Cover</td>
</tr>
<tr>
<td>10</td>
<td>Battery Cover Lock</td>
</tr>
<tr>
<td>11</td>
<td>Tripod Socket</td>
</tr>
<tr>
<td>12</td>
<td>USB Type-C Interface</td>
</tr>
</tbody>
</table>

SIDEWINDER  USER MANUAL  7
1.2 KEY FEATURES

- 12μm, 384×288 or 640×512 resolution detector
- Highest thermal sensitivity (NETD <20mK)
- Advanced image processing (Digital Detail Enhancement, Digital Noise Reduction and NLM algorithm)
- 50 Hz image frame rate
- 1024×768 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
- Limited 5-year warranty

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.

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

FIGURE 1-2. STANDARD COMPONENTS
TABLE 1-2. STANDARD COMPONENTS
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.

2. Open the battery compartment cover.

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

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](image)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONTROLS</th>
<th>FUNCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>POWER BUTTON</td>
<td>Press: Standby mode/Wake up device. Hold: Power ON/OFF.</td>
</tr>
<tr>
<td>3</td>
<td>MENU BUTTON</td>
<td>Press: Enter/Exit the menu. Hold: Switch palettes.</td>
</tr>
</tbody>
</table>

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](image)
Power Off
Hold the POWER button (1) to power off the device.

NOTE
See the battery icon on the device display for the power quantity. Icon [ 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 (1). After a few seconds, the display will turn off. Press the POWER button (1) 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 (1) in live view interface to switch palettes.

<table>
<thead>
<tr>
<th>PALETTE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHITE HOT</td>
<td>The hot part is white-colored in view. The higher the temperature is, the lighter the color is.</td>
</tr>
<tr>
<td>BLACK HOT</td>
<td>The hot part is black-colored in view. The higher the temperature is, the more black the color is.</td>
</tr>
<tr>
<td>FUSION</td>
<td>The hot part is white-colored. From high temperature to low temperature, the image is colored in from white, yellow, red, pink to purple.</td>
</tr>
<tr>
<td>RED HOT</td>
<td>The hot part is red-colored in view. The higher the temperature is, the redder the color is.</td>
</tr>
</tbody>
</table>
2.1.8 DIGITAL ZOOM
You can magnify the image by using the Digital Zoom function. Press the Zoom button \( \text{Zoom} \) in the view mode, the live view switches between 1×, 2×, 4×, and 8×.

- 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 \( \text{Menu} \) to show the menu.
2. Select the Audio menu item \( \text{Audio} \).
3. Press the MENU button \( \text{Menu} \) to enable or disable this function.
4. Hold the MENU button \( \text{Menu} \) to save and exit.

Video Recording
1. In the main live view, hold the CAPTURE button \( \text{Capture} \) and start recording. The top left of the image displays the information of recording time.
2. Hold the CAPTURE button \( \text{Capture} \) again to stop recording.

Snapshot Capture
In the main live view, press the CAPTURE button \( \text{Capture} \) 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.

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

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

TABLE 2-3. MENU FUNCTION
### 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.
3. 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 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.

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 \( \bigcirc \) mark displays in the spot of the highest temperature. When the scene changes, the \( \bigcirc \) mark moves.

2.2.18 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 to enable Wi-Fi hotspot function.
3. Turn on the WLAN and connect to the Wi-Fi hotspot.
   - Hotspot Name: Wlan-IPTS Serial No.
   - Hotspot Password: Last 9 digits of Serial No.
4. Search the client software on App Store (iOS System) or Google Play™ (Android System) to download and install the app. AGM Connect APP is recommend.
5. Open the APP and connect your phone with the device. You can view the interface of monocular 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

We recommend using the AGM Connect software. Search the AGM Connect software in App Store (iOS System) or Google Play™ (Android System). Install the client software on your mobile phone first, and then connect your phone to the hotspot of the thermal device. Refer to section 2.2.19 for details of hotspot connection.

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. CLIENT SOFTWARE
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 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**

<table>
<thead>
<tr>
<th>MALFUNCTION</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The monocular fails to activate.</td>
<td>1. Battery is missing or improperly installed. Insert battery or install correctly. 2. Battery are dead. Replace the battery. 3. Battery, surfaces or contacts are dirty or corroded. Clean the contact.</td>
</tr>
<tr>
<td>The image is not clear.</td>
<td>Perform the monocular focus adjustment referring to section 2.1.6.</td>
</tr>
<tr>
<td>Wi-Fi is not found.</td>
<td>Examine whether the Wi-Fi function is turned on. If not, go to OSD menu and turn on Wi-Fi.</td>
</tr>
<tr>
<td>Capture or recording failed.</td>
<td>Examine the items below: 1. Whether the device is connected to your PC and the capture and recording features are disabled. 2. Whether the storage space is full. 3. Whether the device has a low-battery condition.</td>
</tr>
<tr>
<td>The PC cannot identify the monocular.</td>
<td>Examine the items below: 1. Whether the device is connected to your PC with standard USB cable. 2. If you use other USB cables, make sure the cable length is no longer than 1 m (3.3 ft).</td>
</tr>
</tbody>
</table>
4.1 WARRANTY INFORMATION AND REGISTRATION

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).

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 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
173 West Main Street
PO Box 962
Springerville, AZ 85938
Tel. 928.333.4300
support@agmglobalvision.com
www.agmglobalvision.com
## 5.1 Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector Type</td>
<td>Vanadium Oxide Uncooled Focal Plane Array</td>
<td>Vanadium Oxide Uncooled Focal Plane Array</td>
<td>Vanadium Oxide Uncooled Focal Plane Array</td>
<td>Vanadium Oxide Uncooled Focal Plane Array</td>
</tr>
<tr>
<td>Resolution</td>
<td>384×288</td>
<td>384×288</td>
<td>640×512</td>
<td>640×512</td>
</tr>
<tr>
<td>Pixel Interval</td>
<td>12 μm</td>
<td>12 μm</td>
<td>12 μm</td>
<td>12 μm</td>
</tr>
<tr>
<td>Refresh Rate</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>50 Hz</td>
</tr>
<tr>
<td>Response Waveband</td>
<td>8μm to 14μm</td>
<td>8μm to 14μm</td>
<td>8μm to 14μm</td>
<td>8μm to 14μm</td>
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<tr>
<td>NETD (@25°C), F# = 1.0</td>
<td>≤ 20 mk</td>
<td>≤ 20 mk</td>
<td>≤ 20 mk</td>
<td>≤ 20 mk</td>
</tr>
<tr>
<td>Detection Range (6° object)</td>
<td>1250 m</td>
<td>1800 m</td>
<td>1800 m</td>
<td>2600 m</td>
</tr>
<tr>
<td>Lens (Focal Length)</td>
<td>25 mm</td>
<td>35 mm</td>
<td>35 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Aperture</td>
<td>F1.0</td>
<td>F1.0</td>
<td>F1.0</td>
<td>F0.9</td>
</tr>
<tr>
<td>Field of View</td>
<td>10.5° × 7.9°</td>
<td>7.5° × 5.6°</td>
<td>12.5° × 10°</td>
<td>8.7° × 7°</td>
</tr>
<tr>
<td>Magnification</td>
<td>2× - 16×</td>
<td>3× - 24×</td>
<td>2× - 16×</td>
<td>2.5× - 20×</td>
</tr>
<tr>
<td>Digital Zoom</td>
<td>1×, 2×, 4×, 8×</td>
<td>1×, 2×, 4×, 8×</td>
<td>1×, 2×, 4×, 8×</td>
<td>1×, 2×, 4×, 8×</td>
</tr>
<tr>
<td>Dioppter Adjustment</td>
<td>-5 to +3 dpt</td>
<td>-5 to +3 dpt</td>
<td>-5 to +3 dpt</td>
<td>-5 to +3 dpt</td>
</tr>
<tr>
<td>Monitor</td>
<td>1024×768, OLED</td>
<td>1024×768, OLED</td>
<td>1024×768, OLED</td>
<td>1024×768, OLED</td>
</tr>
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</table>
## Model Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Palettes</strong></td>
<td>Black Hot, White Hot, Red Hot, Fusion</td>
<td>Black Hot, White Hot, Red Hot, Fusion</td>
<td>Black Hot, White Hot, Red Hot, Fusion</td>
<td>Black Hot, White Hot, Red Hot, Fusion</td>
</tr>
<tr>
<td><strong>Image Boost</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Highest Temperature</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Spot Tracking</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Wi-Fi Hotspot</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Standby Mode</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Built-in memory (64 GB)</td>
<td>Built-in memory (64 GB)</td>
<td>Built-in memory (64 GB)</td>
<td>Built-in memory (64 GB)</td>
</tr>
<tr>
<td><strong>Record Video/Audio</strong></td>
<td>Yes / Yes (on-board)</td>
<td>Yes / Yes (on-board)</td>
<td>Yes / Yes (on-board)</td>
<td>Yes / Yes (on-board)</td>
</tr>
<tr>
<td><strong>Capture Snapshot</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Battery Type</strong></td>
<td>One 18650 Rechargeable Lithium battery</td>
<td>One 18650 Rechargeable Lithium battery</td>
<td>One 18650 Rechargeable Lithium battery</td>
<td>One 18650 Rechargeable Lithium battery</td>
</tr>
<tr>
<td><strong>Battery Operating Time</strong></td>
<td>Up to 7 hours</td>
<td>Up to 7 hours</td>
<td>Up to 5 hours</td>
<td>Up to 5 hours</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>5 VDC/2 A, 1.75 W</td>
<td>5 VDC/2 A, 1.75 W</td>
<td>5 VDC/2 A, 2.1 W</td>
<td>5 VDC/2 A, 2.1 W</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>USB Type-C</td>
<td>USB Type-C</td>
<td>USB Type-C</td>
<td>USB Type-C</td>
</tr>
<tr>
<td><strong>Working Temperature</strong></td>
<td>-30°C to 55°C (-22°F to 131°F)</td>
<td>-30°C to 55°C (-22°F to 131°F)</td>
<td>-30°C to 55°C (-22°F to 131°F)</td>
<td>-30°C to 55°C (-22°F to 131°F)</td>
</tr>
<tr>
<td><strong>Protection Level</strong></td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>188 × 58 × 65 mm (7.4 × 2.3 × 2.6 in)</td>
<td>188 × 58 × 65 mm (7.4 × 2.3 × 2.6 in)</td>
<td>188 × 58 × 65 mm (7.4 × 2.3 × 2.6 in)</td>
<td>200 × 78 × 68 mm (7.9 × 3.0 × 2.7 in)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>500 g (1.1 lb)</td>
<td>505 g (1.11 lb)</td>
<td>505 g (1.11 lb)</td>
<td>636 g (1.4 lb)</td>
</tr>
</tbody>
</table>

*All data is subject to change without notice.*