

ANACONDA-MICRO

THERMAL IMAGING CLIP-ON SYSTEM

USER MANUAL

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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:

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

WARNING:

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

WARNING:

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

WARNING:

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

WARNING:

Sand and sea water can damage the optical coatings!

WARNING:

Do not point the device directly at the sun!

WARNING:

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

WARNING:

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

WARNING:

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

WARNINGS:

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

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

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

WARNING:

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

LEGAL NOTICE

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

1 GENERAL INFORMATION

1.1 SYSTEM DESCRIPTION

The AGM Anaconda-Micro TC50 is a compact thermal imaging clip-on system that allows quick transformation of the day optics into thermal imaging device without any special skills. Anaconda-Micro TC50 can be easily attaching on up to 8x magnification scopes for medium range use.

Powered with two CR123 batteries the AGM Anaconda-Micro gives up to 5 hours of continues work. An external 5 V power bank (battery pack) can be easily connected via an USB connector for a significant increase of operating time.

1.2 MAIN FEATURES

- Quick conversion of daytime optics into thermal imaging scope
- Mounts in front of any daytime scope, no re-zeroing is required
- Electronic accuracy correction
- Lightweight and compact design
- Easy to operate control panel
- Automatic or manual (silent) calibration
- High resolution OLED display
- Waterproof, shockproof
- Powered by two standard CR123A batteries
- External power supply capability

1.3 MAIN PARTS AND COMPONENTS

The Anaconda-Micro TC50 is shown in Figure 1-1. The ITEM column of Table 1-1 indicates the number used to identify items in Figure 1-1.

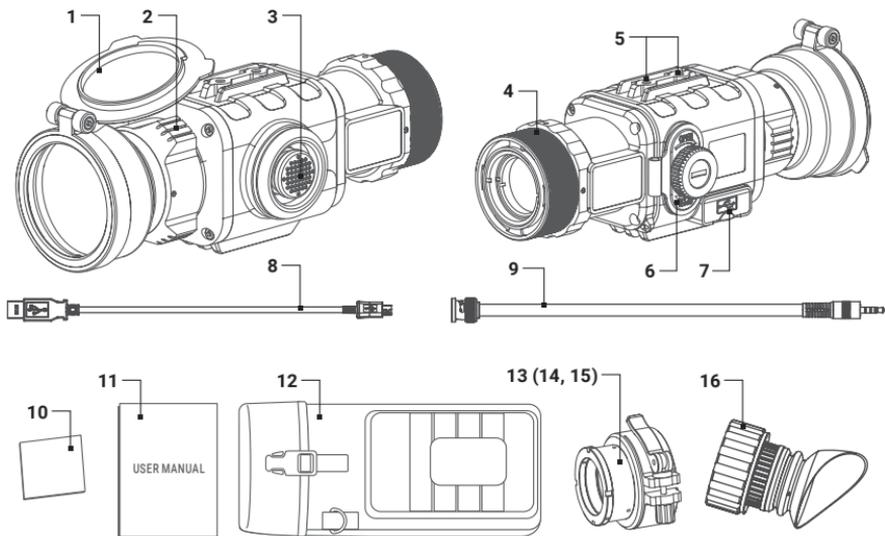


FIGURE 1-1. ANACONDA-MICRO TC50 MAIN PARTS AND COMPONENTS

TABLE 1-1. ANACONDA-MICRO MAIN PARTS AND COMPONENTS

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Lens cover	10	Lens tissue
2	Objective focus ring	11	User manual
3	Operation joystick	12	Carrying bag
4	Attachment place	13	Small day scope adapter 42-50 mm (optional)
5	Extension interface	14	Middle day scope adapter 51-59 mm (optional)
6	Battery compartment cover	15	Large day scope adapter 60-65 mm (optional)
7	USB / Video connector (closed with a cover)	16	Detachable eyepiece (optional)
8	USB cable		
9	Video cable		

2 OPERATING INSTRUCTIONS

2.1 INSTALLATION AND MOUNTING

2.1.1 UNPACKING

The following steps must be completed prior to each mission.

1. Open the carrying bag, remove the device, and verify that all components are accounted for.
2. Inspect the device for any obvious evidence of damage to the optical surfaces, body, operation button, etc. Ensure that all optical surfaces are clean and ready for use. Clean all optical surfaces with a lens tissue.

2.1.2 BATTERIES INSTALLATION

Turn the battery cover knob clockwise until stop and remove the cover from battery compartment (see the Figure 2-1, OPEN position). Install two CR123A batteries in opposite polarity direction (Figure 2-2).

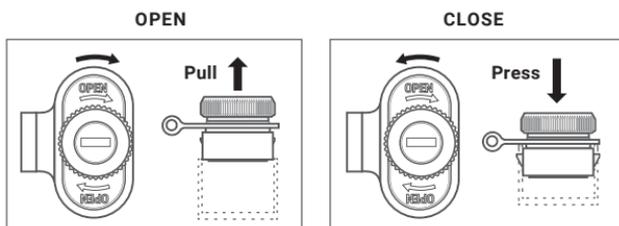


FIGURE 2-1. BATTERY COMPARTMENT

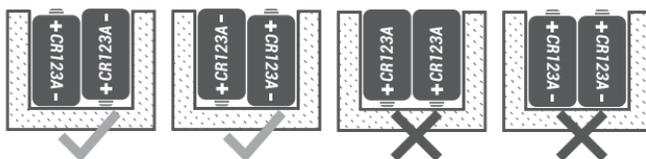


FIGURE 2-2. BATTERY POLARITY

Turn the battery cover knob counterclockwise until stop. The latches from both sides of the cover will pull out. Replace the battery cover and press it until its clicking position. (see the Figure 2-1, CLOSE position). Make sure the cover is closed on both sides.

Battery charge level is displayed on the status bar (Figure 2-3)



FIGURE 2-3. BATTERY STATUS BAR

WARNING:

Do not use rechargeable batteries since their use causes inaccurate battery level indication and possible disconnection during operation.

NOTE:

Please do not use batteries of different types or batteries with various charge levels.

2.1.3 CLIP-ON INSTALLATION

Use the optional day scope adapter (DSA) to install the Anaconda-Micro onto day scope lenses.

ATTENTION:

The day scope adapter are not recommended for installing the Anaconda-Micro on firearms with dynamic recoil (0.308 Win or stronger).

NOTE:

The adapters differ in attaching diameters and must fit with the day scope front lens diameter. There are three models of adapter: Small, Medium, and Large.

Small adaptor fits objective lenses between 42-50 mm in diameter.

Medium adaptor fits objective lenses between 51-59 mm in diameter.

Large adaptor fits objective lenses between 60-65 mm in diameter.

Install the Anaconda-Micro on the lens of a day scope as follows (refer to Figure 2-4):

1. Screw the day scope adapter (A) onto the Anaconda's attachment place thread (B).
2. Turn the lever (C) backwards to loosen the adapter clamping device.
3. Slide the Anaconda-Micro with the DSA onto the lens of the day scope as far as it goes.
4. Turn the nut (D) CW/CCW respectively for adapter's size adjustment.
5. Affix the DSA to the day scope by locking the lever (C). Verify that the clip-on is firmly secured to the day scope. If necessary, readjust the clamping device by turning the nut (D).

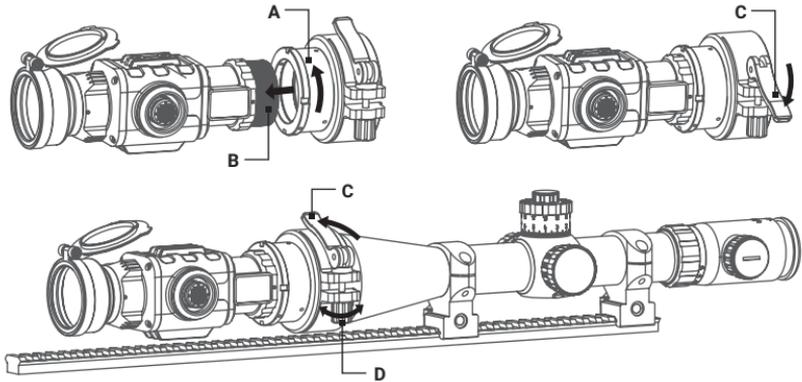


FIGURE 2-4. CLIP-ON INSTALLATION

2.1.4 VIDEO CABLE CONNECTION

Video cable serves for the connection with an external display monitor. Install the cable refer to Figure 2-5.

Open the cover of the Anaconda-Micro connectors. Plug the cable to the mini-jack 3.5mm connector.

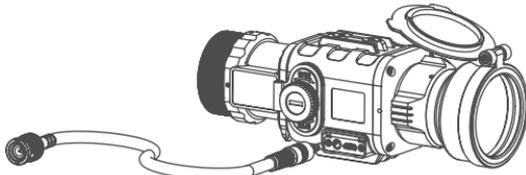


FIGURE 2-5. CABLE CONNECTION

2.1.5 USB CABLE CONNECTION

The external power source can be used for Anaconda-Micro extended operational time. Connect the external battery as follows (refer to Figure 2-6):

1. Open the cover of the Anaconda-Micro connectors.
2. Plug the USB cable to the micro-USB connector of the Anaconda-Micro. Plug the other end of the cable to the external battery.

The USB cable also enables updating the device's firmware to the latest version. Contact your local distributor for update service.

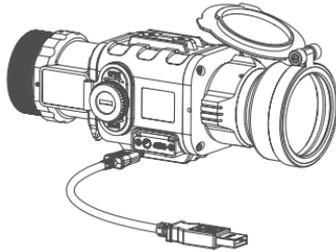


FIGURE 2-6. EXTERNAL BATTERY CONNECTION

2.1.6 INSTALLATION OF THE INTERCHANGEABLE OCULAR (OPTIONAL)

The interchangeable ocular converts the Anaconda-Micro into a 2.6x thermal imaging monocular for middle range observation.

To install the ocular to the Anaconda-Micro, do the following:

1. Take off the day scope adapter if it installed.
2. Screw the ocular part onto the Anaconda's attachment place thread.
3. Turn on the device and adjust the focus by rotation the diopter adjustment ring of ocular.

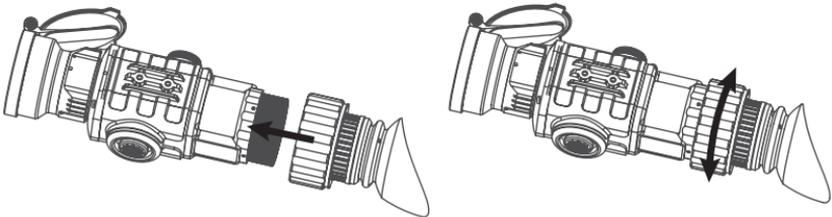


FIGURE 2-7. TRANSFORM TO MONOCULAR

2.2 CONTROLS AND INDICATION

2.2.1 CONTROLS

ATTENTION:

The main operations are performed through the operation joystick.

The Anaconda-Micro TC50 controls are shown in Figure 2-8. The ITEM column of Table 2-1 indicates the number used to identify items in Figure 2-8.

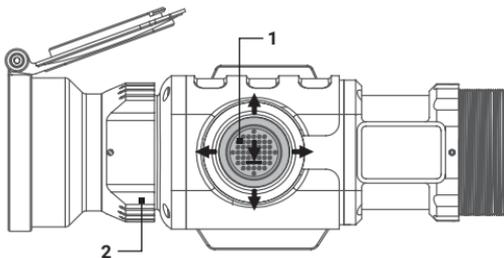


FIGURE 2-8. CONTROLS

TABLE 2-1. CONTROLS

ITEMS	CONTROLS	OPERATING MODE	SHORT PRESS	LONG PRESS
1	Joystick Button Push	Real time image	NUC	ON / OFF
		Quick menu	EXIT quick Menu	
		Main menu	Confirm selection	
	Joystick Up	Real time image	Bring out quick menu	Enter main menu
		Quick menu	Change parameters	
		Main menu	Change parameters	
	Joystick Down	Real time image	Bring out quick menu	NA
		Quick menu	Change parameters	
		Main menu	Change parameters	
	Joystick Left	Real time image	Bring out quick menu	NA
		Quick menu	Switch function	
		Main menu	Select Setting Options	
	Joystick Right	Real time image	Bring out quick menu	NA
		Quick menu	Switch function	
		Main menu	Select Setting Options	
2	Focus Ring	Focuses the objective lens for the sharpest image		

In real time image mode press any button to enter Quick Menu.

ATTENTION:

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

2.2.2 STATUS BAR

The status bar is located in the lower part of the display (Figure 2-8) and shows information about an actual operating status of the sight, including:

1. Color palette: WH (White Hot), BH (Black Hot), C1~C10.
2. Current digital zoom magnification.
3. Battery charge with current level in percent.



FIGURE 2-8. STATUS BAR

2.2.3 QUICK MENU

The Quick Menu allows change of basic settings. Enter the Quick menu with a short press of any button in Up/Down/Left/Right. To toggle between the functions below, press Left or Right button when Quick menu is in display. If select of Zoom, Palette, Brightness, Contrast, Sharpness functions do not take place in 5 second, the information disappear from display.



ZOOM

Press the Up/Down buttons to change digital zoom from 1X, 2X, 4X, and PIP. Picture in inset window under PIP mode is 2X digital zoom.



PALETTE

Basic image mode is "White Hot". Press the Up/Down buttons to select palette C1~C10.



BRIGHTNESS

Press the Up/Down buttons to change image brightness from 0~9.



CONTRAST

Press the Up/Down buttons to change display contrast from 0~9.



SHARPNESS

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



MANUAL(SILENT) CALIBRATION

Close the Lens Cover before calibration.





RANGEFINDER

Anaconda-Micro TC50 imagers are equipped with a stadiametric rangefinder which allows the user to estimate approximate distance to an object of known size.



FIGURE 2-9. RANGEFINDER

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

There are three pre-set reference objects:

Hare	- height 0.3 m
Wild boar	- height 0.7 m
Deer	- height 1.7 m

The lower fixed bar under the object automatically appear on display, press the Up/Down buttons to move the upper horizontal bar until the object fits entirely between the two lines. The distance to the object is automatically recalculated as you move the upper line.

Press Left/Right buttons to choose reference object, press Middle button to exit range-finder mode, range information will not disappear from display automatically.

Distance to the object displays in status bar.

To select the unit of measurement (meters or yards), go to the respective menu option.

2.2.4 MAIN MENU

NOTE

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

All menu is displayed in the central area of the image. The reason is the reduced field of view of the day sight by higher magnifications. Reaching a low battery state the device gives a warning in the top left corner of the central area.



EXIT

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



MODE

Press Up/Down to change your thermal imager to Clip-On mode (C = Clip-On; M = Monocular).



NOTE

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



AUTO NUC

Press the Up/Down button to turn Automatic Non-uniformity Calibration On/Off. In the automatic mode the need for calibration is based on software algorithm, calibration starts automatically. When choose Off, user will do calibration manually by either lens cover (silent without shutter) or press middle button (with shutter). Manual calibration function is in Quick Menu.





OLED BRIGHTNESS

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



UNIT

Press Up/Down to select units of measurement from Yards and Meters.



DEFECTIVE PIXEL REPAIR

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



INFO

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





RESTORE DEFAULT SETTING

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

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



ALIGNMENT

All Anaconda-Micro are adjusted on the laboratory test equipment with accuracy from 0.1 mrad to 0.3 mrad. The final accuracy depends on customer riflescope, parallax of used rifle scope and shooting distance. Anaconda-Micro TC50 is preset on 500 m distance.

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

The manufacturing process of the Anaconda-Micro TC50 ensures the shooting precision tolerance within 3 to 7 cm at 100 m. To achieve better result accuracy, use Alignment Correction in main menu (See part 2.3.3 for more detailed).



LANGUAGE

This option allows the user to select the interface language.

2.3 OPERATING

2.3.1 TURNING THE DEVICE ON

Open the objective lens cover.

NOTE

The objective lens cover protects the scope from inadvertent exposure to extremely high levels of radiant flux. Never leave the scope without confirming that the objective lens is covered.

To turn the unit on push and hold the operation joystick.

2.3.2 FOCUSING

Anaconda-Micro TC50 has the ability to focus over either long or short-range distances. Rotate the front lens to focus it until the image becomes clear and sharp.

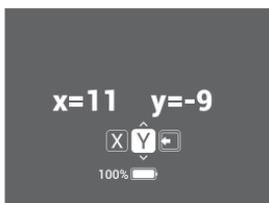
2.3.3 ELECTRONIC ACCURACY CORRECTION

Adjust the electronic accuracy correction as follows:

1. Aiming your daytime scope to the middle of target and shoot. This is test process of control good daytime scope accuracy.
2. Put Anaconda-Micro TC50 on the rifle scope using adapter. Aim to the thermal target and shoot again.
3. Measure horizontal distance (x) and vertical distance (y) between shoot and aiming position from step 2).
4. Long press up button to enter main menu. Short press up button to enter Alignment sub-menu.



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



Anaconda-Micro TC50 is preset in position X:0, Y:0.

When the point of impact with Anaconda-Micro TC50 is on the Right side of previous point of impact (previous aiming position), change value X (X- => pressing button Down), decrease X value, and vice versa.

When the point of impact with Anaconda-Micro TC50 is on the Upside of previous point of impact (previous aiming position), change value Y (Y- => pressing button Down), decrease Y value, and vice versa.

While using the Alignment Correction is shown value of axis X and Y, one step for camera Anaconda-Micro TC50 means 1.16 MOA = 3.4 cm on 100 m.

While using the Alignment Correction is shown value of axis X and Y, one step for camera.

6. The setting is saved by pressing EXIT button Up or Down
7. Control if the value is save correctly.

2.3.4 SHUT DOWN OPERATIONS

To prepare the device for storage:

1. Turn the device OFF. Push and hold the operation joystick.
2. Place the protective cover over the objective lens.
3. Disconnect the cable or adapters (if applicable). Place the protective caps over the connector sockets.
4. Return the scope and any accessories to the case.

2.3.5 MAINTENANCE

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.

2.3.6 PREPARING FOR EXTENDED STORAGE

To prepare the Anaconda-Micro TC50 for extended storage:

1. Remove the batteries.
2. Clean the device and accessories.
3. Place all items into the storage case.

3 WARRANTY INFORMATION

3.1 WARRANTY INFORMATION AND REGISTRATION

3.1.1 WARRANTY INFORMATION

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of three (3) 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.

3.1.2 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.

3.1.3 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).

3.1.4 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.

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4 SPECIFICATIONS

4.1 SPECIFICATIONS

The following tables provide information pertaining to the operational, electrical, mechanical, optical, and environmental characteristics of the goggles.

TABLE 4-1. SPECIFICATIONS

	Clip-On	Monocular
Resolution	384x288	
Detector	17 μ m, Uncooled, 50Hz	
Lens System	50 mm; F/1.1	
Optical Magnification	1x	2.6x
Field of View	7.4° x 5.6°	
Digital Zoom	2x / 4x / PIP (2x)	
Eye Relief	-	18 mm
Close-Up Range	5 m	
Eye Relief	24 mm	
Display	OLED (1024x768)	
Battery Type	Two CR123	
Battery Life (Operating)	Up to 5 hr	
Power Supply	3.6~7.2 V	
External Power Supply	5V USB	
Operating Temperature Range	-25°C to +50°C (-4°F to +122°F)	
Storage Temperature Range	-40°C to +70°C (-40°F to +158°F)	
Degree of Protection	IP66	
Shock and Vibration	1200 g/ms	
Weight	0.41 kg (0.9 lbs)	0.43 kg (0.94 lbs)
Overall Dimensions	167 x 65 x 67 mm (6.5 x 2.8 x 2.6 in)	171 x 65 x 67 mm (6.7 x 2.8 x 2.6 in)



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