

MARS LTV+ Series

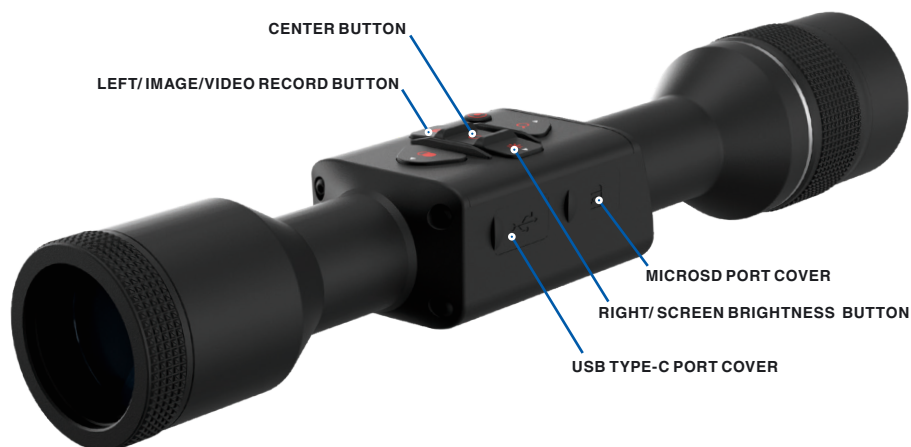
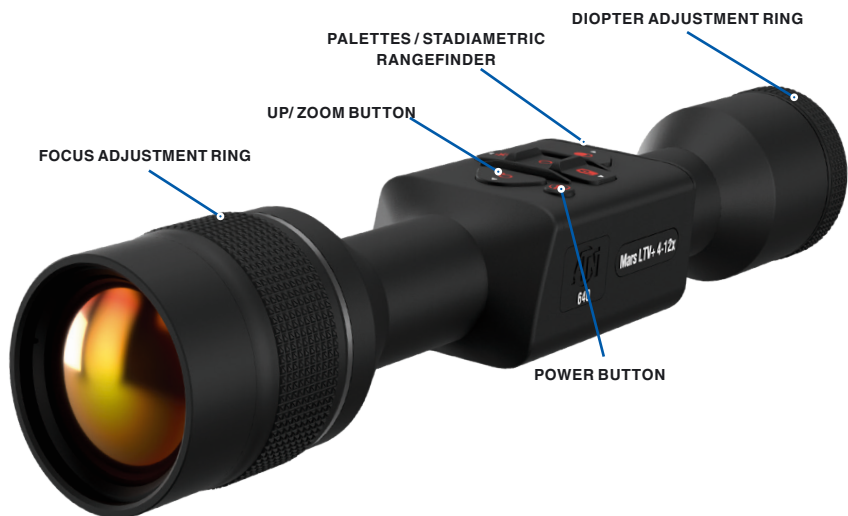
THERMAL IMAGING RIFLESCOPE



MANUAL



ATN EUROPE LTD



CAUTION!

THIS PRODUCT CONTAINS NATURAL RUBBER LATEX, WHICH MAY CAUSE ALLERGIC REACTIONS

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FEATURES

-  **HD VIDEO RECORDING**
-  **IMAGE CAPTURING**
-  **ONE SHOT ZERO**
-  **STEP ZOOM**
-  **3D GYROSCOPE**
-  **3D ACCELEROMETER**
-  **MULTIPLE RETICLES**
-  **USB TYPE-C CHARGING**
-  **ULTRA LOW POWER CONSUMPTION**
-  **ERGONOMIC DESIGN**
-  **STADIAMETRIC RANGEFINDER**

APPLICATION

Ready to hunt like a pro? Look no further than the Mars LTV+ thermal rifle-scope from ATN. Packed with features and super affordable, the Mars LTV+ is one of the lightest and easiest-to-use thermal scopes on the market.

Incorporating video recording capability, the Mars LTV+ features the latest advanced 12-micron thermal sensors, image processing and a 60 Hz refresh rate, a long-lasting rechargeable battery, and user-friendly interface. Built for tough conditions, the Mars LTV+ is available in multiple lenses and sensor resolutions to fit any budget. The mounting is easy with standard 30 mm rings.

The Mars LTV+ system is highly-versatile and can be used with a variety of platforms, including rifles, PCP air rifles, and crossbows. Whether you are hunting predators or practicing your aim at night, Mars LTV+ is the perfect thermal scope for you.

Equip your favorite weapon with ATN Mars LTV+ and get optimal accuracy, image quality and convenience.

SPECIFICATIONS

	Mars LTV + 256				Mars LTV + 320				Mars LTV + 640			
Model	Mars LTV+ 256 1.5-4.5x	Mars LTV+ 256 2-6x	Mars LTV+ 256 3-9x	Mars LTV+ 256 4-12x	Mars LTV+ 320 3-9x	Mars LTV+ 320 4-12x	Mars LTV+ 320 5-15x	Mars LTV+ 640 2-6x	Mars LTV+ 640 3-9x	Mars LTV+ 640 4-12x	Mars LTV+ 640 4-12x	
Item #	MSLTV+212X	MSLTV+219X	MSLTV+225X	MSLTV+235X	MSLTV+319X	MSLTV+325X	MSLTV+335X	MSLTV+625X	MSLTV+635X	MSLTV+650X		
Objective lens	12 mm	19 mm	25 mm	35 mm	19 mm	25 mm	35 mm	25 mm	35 mm	50 mm		
Resolution	256x192 pixels				320x240 pixels				640x480 pixels			
Sensor pixel pitch	12 µm											
Magnification	1.5-4.5x	2-6x	3-9x	4-12x	3-9x	4-12x	5-15x	2-6x	3-9x	4-12x		
Field of view	14.2°x10.7°	8.9°x6.7°	7.1°x5.4°	4.9°x3.7°	11.6°x8.7°	8.8°x6.6°	6.3°x4.7°	17.6°x13.2°	12.6°x9.4°	8.8°x6.6°		
Display Resolution	1024x768 pixels											
Eye relief	90 mm											
Video Record Resolution	1024x768 pixels											
Stadiametric Rangefinder	Yes											
3D Accelerometer	Yes											
Color palettes	12 palettes											
Reticles	7 reticles											
Micro SD card	from 4 to 64 GB											
USB, type C	Available for charging											
Mounting method	30 mm Standard Rings											
Battery life	9+ hrs											
IP rating	Weather resistant											
Human Detection Range	515 m	810 m	1035 m	1500 m	890 m	1050 m	1450 m	1042 m	1455 m	2083 m		
Dimensions	292x56x55 mm / 11.5" x 2.2" x 2.2"											
Weight	1.4 lb / 650 g											
Warranty	3 years											

* ATN reserves the right to change the above specifications at any time without notice.

PREPARING THE DEVICE

UNPACKING

The following steps must be performed before using the device:

1. Open the packaging box and check the content of the set. It should include:
 - MARS LTV+
 - Lens cap
 - Eyecup
 - Scope Cover
 - USB-C cable
 - Lens Tissue
 - User manual
 - Warranty card
2. Make sure that nothing is missing.
3. Inspect the device for damage to the optical surfaces, the device body and the accessories.
4. Make sure that all optical surfaces are clean and ready for use.

NOTE

If any accessories are missing or broken contact ATN's Customer Service at +359 32570140.

CHARGING THE DEVICE

The device is equipped with a USB Type-C port for charging located under the rubber cap on the right side of the body.

We have included a USB Type-C charging cable with your scope. In order to charge the device, plug the cable into a USB wall charger that has an output of 2 A (amperes).

Charge your scope for 6 hours using a 2 A USB wall charger.

NOTE

Using a wall charger or computer USB connector with lower amperage will take longer to charge your scope.

1. It is recommended to use a 2 A USB charger.
2. The battery charging time (from 0 to 100%) is 6 hours with 2 A USB charger.
3. The battery run time is 10 hours on a single charge.



ON/OFF

To turn on the device press and hold the power button until you hear a click (3-5 seconds) or / and the ATN logo appears on the screen.

To turn off the device press and hold the power button.

If the scope stops responding to the button commands, press and hold the power button for 3-5 seconds. Wait 5-10 seconds before turning on the device again.

USING THE KEYPAD

The buttons on the keypad can be used in two different ways - short button presses and long button presses. They are used for quick operation of the main functionalities and for navigation within the menu.



FOCUSING

DIOPTER ADJUSTMENT

By rotating the diopter adjustment ring you will be able to achieve the optimal diopter setting for your eyes. While looking through the eyepiece, try to focus your vision on the reticle and widgets on the screen. Rotate the diopter adjustment ring until the reticle and widgets are as sharp as possible.



NOTE

Once the diopter adjustment is set to your liking, re-adjustment will not be needed, unless another user is using the device.

FOCUS ADJUSTMENT

Rotate the focus adjustment ring to achieve optimal focus for the current distance of observation.



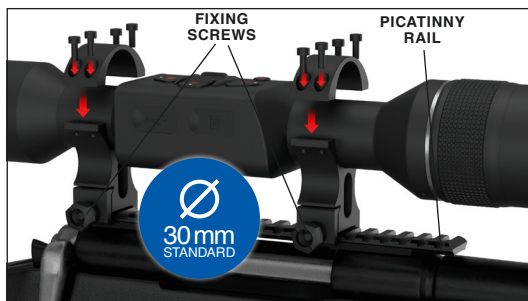
MOUNTING THE RIFLESCOPE

CAUTION!

Make sure your weapon is not loaded. Use safe weapon handling procedures at all times.

The MARS LTV+ has a 3.5-inch eye relief, and can be mounted using 30 mm mounting rings. Mount the 30 mm rings on your weapon's mounting points.

Place the scope on the bottom half of the rings you have mounted on the weapon's rail, verifying you have sufficient eye relief for your platform. Place the top portions of your rings over the mounted bottom portions. Make sure the holes align and the fixing screws turn easily. Apply equal torque to all the screws. Make sure your rings are mounted tight on your rifle and will not come loose due to recoil.



Place the scope on the bottom half of the rings you have mounted on the weapon's rail, verifying you have sufficient eye relief for your platform. Place the top portions of your rings over the mounted bottom portions. Make sure the holes align and the fixing screws turn easily. Apply equal torque to all the screws. Make sure your rings are mounted tight on your rifle and will not come loose due to recoil.

NOTE

Please do not overtighten the fixing screws when attaching the rings to your rail, we recommend using 30 in-lbs (Nm 3.39).

INTERFACE

MAIN OPERATIONS

FUNCTIONS OF THE KEYPAD

1. Power button. A long press of this button (3–5 seconds) will either power on the unit or power off the unit, depending on the current state of the scope.

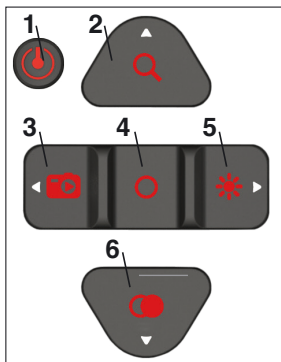
2. Up button. A short press of this button will cycle you through the available zoom steps.

3. Left button. A long press will start/stop video recording. A short press on the left button takes a picture. It is also used to go back from most sub-menus to the main menu and also from the main menu to the homescreen.

4. Center button / Confirm. Short pressing the center button will perform a NUC in the homescreen and confirm the selected item when navigating within the menu. Long pressing the center button will open the menu from the homescreen and take you back to the homescreen from any menu.

5. Right button. While on the homescreen, a short press will allow you to cycle the display brightness (1 → 2 → 3 → 1). A long press will cycle the image contrast from the homescreen.

6. Down button. A short press will cycle through the thermal imaging palettes. A long press will take you to the stadiametric rangefinder feature.



NOTE

The directional buttons are also used for navigation in the menu.

HOMESCREEN

The first screen you will see after turning on the device is the homescreen. It consists status bar and scales.



SCALES

- Roll Scale shows the rifles cant based on the device sensors.
- Pitch Scale shows rifle inclination based on the device sensors.

MENU

To open the menu, perform a long press of the center button. You will see the menu appears on the left of the screen with the following icons:

STADIAMETRIC RANGEFINDER. This feature allows you to measure the distance to the object, based on the object size.

THERMAL. In this menu you will find the following settings that you can adjust:

- Contrast/Sensitivity
- SharpIR
- Color palettes
- NUC
- Pixel correction

ZEROING. This option takes you to the zeroing interface.

RETICLE. This option allows you to select one of seven reticles available in the scope. Also, you can change the reticle color in this menu.

SETTINGS. In this menu you will find various settings that you can adjust in your scope:

- Sleep Mode
- Display widgets
- Format Micro SD card
- Date and time
- Language
- Rangefinder units
- Zeroing Units
- Restore factory settings

EXIT. This option allows you to exit to the homescreen.

STADIAMETRIC RANGEFINDER

To open this feature, you have two possibilities:

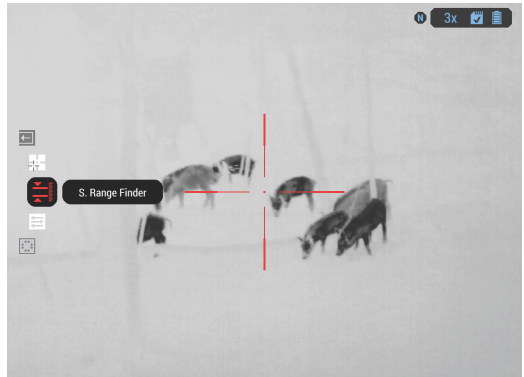
Shortcut

A long press on the down button will activate stadiametric rangefinder from the homescreen.

From the Menu

Press center button to open the menu.

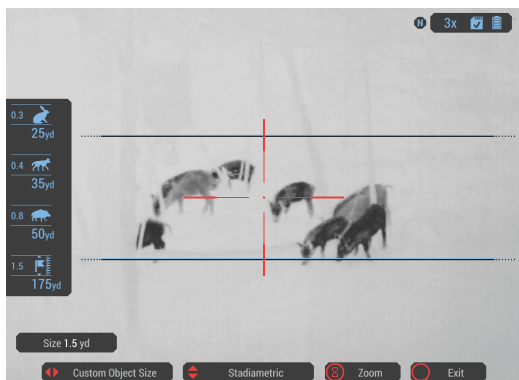
Find the S.Rangefinder icon and press the center button to select it.



To measure the distance to your target use the up and down buttons to adjust the lines and to fit the object between the lines, then the distance will automatically be displayed below the object icon.

For correct distance measurements the lines need to be placed on as follow:

- Hare - Upper line needs to be placed on the top of the head (without ears) and bottom line needs to be placed below the legs.
- Coyote/Jackal - Upper line needs to be placed on the top of the back and bottom line needs to be placed below the legs.
- Wild boar - Upper line needs to be placed on the top of the back and bottom line needs to be placed below the legs.



- Custom - Allows the user to set the height of the known object and to measure the distance to it. By pressing left and right buttons you can set the height of the object. The adjustment step is 0.1 meter/yard and is displayed on the left of the icon. Use the up and down buttons to place the lines on the top and the bottom of the object. The distance will appear below the custom icon.

NOTE

Dimensions for Hare, Coyote and Wild boar, displayed on the left side of the icons are fixed and cannot be changed.

Short press the center button to close the stadiametric rangefinder.

ZEROING

CAUTION!

Make sure you use proper weapon safety handling procedures at all times!

To zero your scope you will need to go to the zeroing section of the menu.

1. A short press on the center button will open the zeroing section.
 - Use the up and down buttons to navigate to the zeroing option within the menu.
 - While on the zeroing menu, a long press on the center button will cycle you through the available zoom steps.
2. To confirm your selection, a short press on the center button will enter zero mode.
3. You will see on your display 2 reticles.



4. The one reticle will move via use of your keypad and the other will remain stationary.
5. While keeping the gun as steady as possible, fire a round.
6. Using the keypad, move the red reticle to the point of impact while keeping the white reticle on the original point of aim at which you fired the shot.
7. Once you have placed the center of the red reticle on the point of impact, short press the center button to save the zero.
8. During the zeroing process

the reticle coordinates are displayed in the upper part of the screen in the form of value for X and Y for the two axes.

NOTE

Although you may not need more than one shot to zero your scope. We do recommend that you fire additional shots once the initial zero process is complete to insure the optic and weapon are truly zeroed. If additional corrections need to be made to fine tune the zero, then make those corrections as needed.

RETICLE

Reticle Style

Once in the menu screen, use the up and down buttons to navigate the reticle menu. Short press the center button to go to reticle options. Use the left and right buttons to cycle through the reticle options. Once you find the reticle option you intend to use, short press the center button to confirm your selection. You have a selection of 7 different reticles.

Reticle Color

In order to change the color of the reticle. Short press the center button while the reticle menu is selected. Use the up or down buttons to cycle through the color options. Once you reach the color you like short press the center button to confirm the selection.

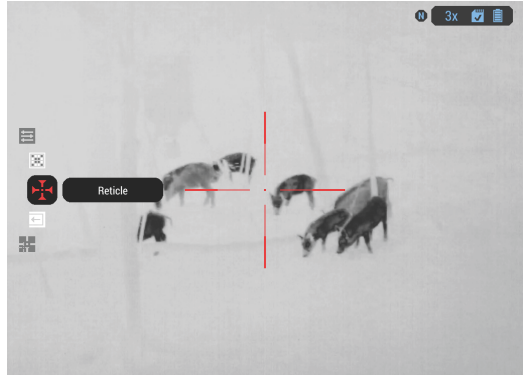
RECORD VIDEO / IMAGE CAPTURE

NOTE

It is recommended to format your Micro SD card before using it for the first time for recording with the device.

The MARS LTV+ records in stunning HD quality all your latest adventures no matter the time of day or night. Giving you a simple yet powerful scope that records hours of video on to a removable Micro SD card. Make sure you obtain a Micro SD card that is 4 to 64Gb and it is a class 10 SDHC type card.

In order to start recording a video, long press the left button in the Homescreen. Another long press of the left button, while in the homescreen, will stop the video recording.



You can take HD quality images by short pressing the left button, while in the Homescreen.

NOTE

When the Micro SD card icon in the status bar is flashing in red color, it indicates that data is being saved on it. Do not attempt to remove the Micro SD card during this phase or it may corrupt the data or / and the card itself. Wait for the card icon in the status bar to stop flashing before removing the Micro SD card.

SETTINGS



FORMAT MICRO SD CARD — This option allows you to format your Micro SD card which is used for video recording and taking images.

SLEEP MODE — Sleep mode enables your system to go into standby mode to conserve power. When activated, your scope will automatically enter sleep mode if it does not detect movement for a present time that you select.

You can set sleep mode from 5 to 30 min. Once the scope

senses movement it will exit sleep mode.

R.F UNITS - This option allows you to choose between meters and yards for the SRF measurements.

DISPLAY WIDGETS — Display widgets allow you to turn on or turn off the roll and the pitch scales.

ZEROING UNITS - This option allows you to choose between MOA, mrad and pixels for zeroing your scope.

DATE AND TIME — This function allows you to set your date and time of your scope and select 12H or 24H time format.

LANGUAGE — This setting allows the selection of the language that is used for the menus of the scope: English, German, Danish, Czech, Bulgarian, Ukrainian, Swedish, Slovenian, Slovak, Romanian, Portuguese, Polish, Dutch, Italian, Hungarian, Croatian, French, Finnish, Spanish.

RESTORE FACTORY SETTINGS — This option resets the scope to factory settings, all changes will be restored to initial settings and zeroing will be lost. Please, write down your zeroing X/Y coordinates before performing this function.

WARNINGS AND CAUTIONS

- Always remember to turn off the device when it is not in use.
- Do not disassemble, drop, open, crush, bend, deform, puncture, shred, microwave, incinerate, paint or insert foreign objects: it will void your warranty.
- Keep the scope in the provided protective cover when not in use.
- Avoid contact with dust, steam, and gas.

- This product contains natural rubber latex which may cause allergic reactions.
- The scope is a precision electro-optical instrument and must be handled carefully.
- Do not scratch the external lens surfaces or touch them with your fingers.

CAUTION

Failure to follow these safety instructions could result in damage to the device!

3 YEAR PRODUCT WARRANTY

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of 3 (three) years from the date of purchase. In the event a defect that is covered by the foregoing warranty occurs during the applicable period stated above, ATN, at its option, will either repair or replace the product, and such action on the part of ATN shall be the full extent of ATN's liability, and the Customer's sole and exclusive remedy. This warranty does not cover a product (a) used in 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 ATN without prior written consent of ATN; (d) special order or "close-out" merchandise or merchandise sold "as-is" by either ATN or the ATN 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 ATN. ATN shall not be responsible for any defects or damage that in ATN's opinion is a result from the mishandling, abuse, misuse, improper storage or improper operation, including use in conjunction with equipment which 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 waived unless the customer notifies ATN 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.

LIMITATION OF LIABILITY

ATN 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. ATN'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 ATN 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 ATN and the Customer; ATN's obligations under this Agreement extend solely to the Customer. ATN's liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to ATN by the customer or customer's dealer. ATN 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 dam-

ages arise out of a breach of warranty, a breach of agreement, negligence, strict liability or any other theory of liability.

PRODUCT WARRANTY REGISTRATION

In order to validate the warranty on your product, ATN must receive a completed Product Warranty Registration Card for each unit or complete warranty registration on our website at www.atncorp.com. Please complete the included form and immediately mail it to our Service Center: ATN Europe LTD 1588 Sofia Bulgaria ul. "Okolovrasten pat" 456B Inter Logistic Park.


OBTAINING WARRANTY SERVICE


To obtain warranty service on your unit, End-user must notify ATN service department by calling +**359 32570140** or via e-mail **support@atneu.com** to receive a Return Merchandise Authorization number (RMA).


The return of the device is organized by an ATN employee. A service RMA form must be printed and attached in the box. 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. End-user/customer is responsible for postage to ATN for warranty service. ATN will cover return postage/shipping to end-users/customers after warranty repair only if product is covered by aforementioned warranty. ATN will return product after warranty service by domestic UPS ground and/or domestic mail. Any other requested, required or international shipping method the postage/shipping fee will be the responsibility of the end-ser/customer.

EU CONFORMITY STATEMENT

 This product and - if applicable - the supplied accessories are also "CE" marked and no longer comply with the applicable harmonized European standards set out in Directive 2014/53/EU (RED), Directive 2014/30/EU (EMCD), Directive 2014 /35/EU (LVD), Directive 2011/65/EU (ROHS).

 Directive 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.

 Directive 2006/66/EC and its amendment 2013/56/EU (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.

Scan the QR code below to access the EU Declaration of Conformity for this product.





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