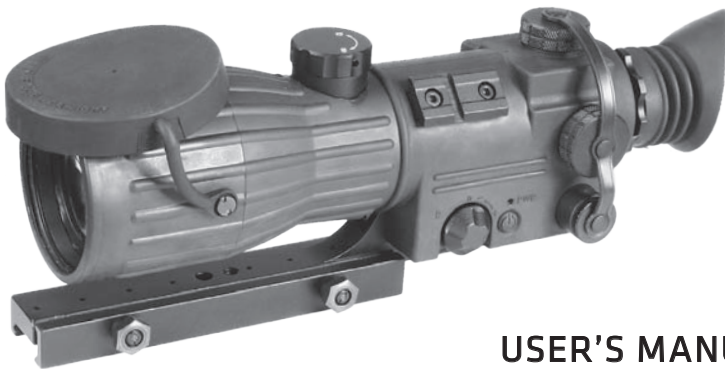




Orion 3 Orion 4 Orion 5

Night Vision Weapon Sights

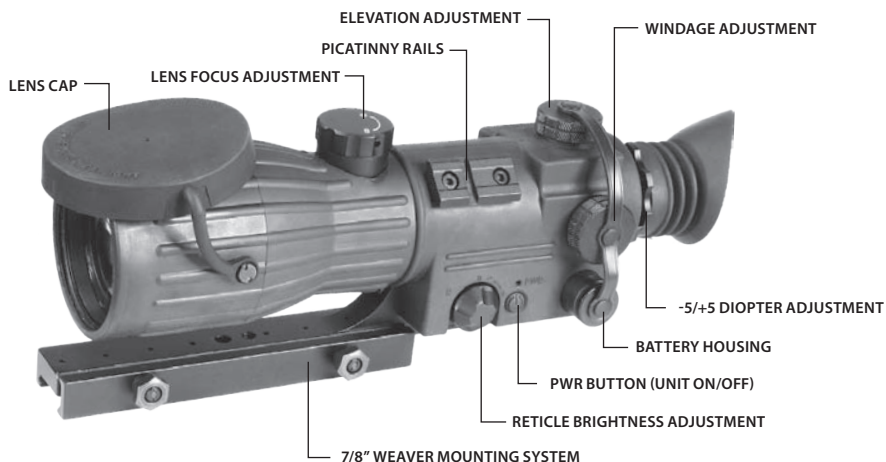


USER'S MANUAL

Important Export Restrictions! Commodities, products, technologies and services of this manual are controlled by the U.S. Department of State Office of Defense Trade Controls, in accordance with International Traffic in Arms (ITAR), Title 22, Code of Federal Regulations Part 120-130 and/or by the Export Administration Regulations (EAR) of U.S. Department of Commerce. At any time when a license or a written approval of the U.S. Government is applicable to it, it is illegal and strictly forbidden to export, intend to export, transfer in any other manner whatsoever, sell any hardware or technical data, provide any associated service to any non-U.S. resident, beyond or within the United States territory, until the valid license or written approval has been issued by the Departments of the U.S. Government having jurisdiction. Additionally U.S. law prohibits the sale, transfer, or export of items to certain restricted parties, destinations, and embargoed countries, as identified on lists maintained by the U.S. Department of State, the U.S. Department of Commerce, and the U.S. Department of Treasury. It is the responsibility of the Customer to be aware of these lists. The sale, transfer, transportation, or shipment outside of the U.S. of any product prohibited or restricted for export without complying with U.S. export control laws and regulations, including proper export licensing, documentation or authorization, is unlawful and may result in civil and/or criminal penalties and/or constitute a federal crime. Diversion contrary to U.S. law is strictly prohibited.



PARTS OF THE WEAPON SIGHT



IR810 LONG RANGE IR ILLUMINATOR



CAUTION:

This product contains natural rubber latex, which may cause allergic reactions! The FDA has noted an increase in the number of reported deaths that are associated with an apparent sensitivity to natural latex proteins. If you are allergic to latex, it is a good idea to learn which products contain it and strictly avoid exposure to those products.

The information provided in this manual is intended for familiarization with the product only; the contents may undergo further changes with no commitment by Armasight to notify customers of any updates.

Armasight© assumes no responsibility for any misprints or other errors that this manual may contain.

1. DESCRIPTION AND DATA

DESCRIPTION

The Armasight Orion Riflescopes series is a collection of high-performance, mid-range night vision weapon sights that provide excellent observational, target acquisition, and aiming capabilities for the most demanding sports shooters, hunters, and security personnel.

Armasight Orion series sights are arguably the most dependable, highest-performing weapon sights you can find in the Gen. 1+ category. We have housed our top class optics and image intensifier tubes within ruggedly designed, rubberized aluminum bodies. For improved accuracy and ergonomics, all Orion series scopes feature precision top wheel focus.

The Armasight Orion series is the best solution for any tactical shooter or hunter seeking to improve the accuracy of their shooting in dark environments.

FEATURES

- 3x, 4x or 5x magnification models
- Shock-protected optics
- Illuminated red cross reticle
- Simple, easy to operate controls and adjustments
- Water-resistant design
- Rubberized body
- Ability to mount to standard weaver rails
- Variable reticle brightness
- Detachable, long-range infrared illuminator
- Limited Two-Year Warranty

SPECIFICATIONS *

Model	ORION 3	ORION 4	ORION 5
Generation	1+	1+	1+
Magnification	3x	4x	5x
Lens system	F:1.4, F85 mm	F1.4, F90 mm	F1.6, F 108 mm
Field of view (°)	15	12	10
Focus range (m)	10 to infinity	10 to infinity	10 to infinity
Diopter adjustment (dpt)	-5 to +5	-5 to +5	-5 to +5
Exit Pupil (mm)	8	8	8
Controls	Direct	Direct	Direct
Infrared Illuminator	Detachable IR810	Detachable IR810	Detachable IR810
Power Indicator	Yes	Yes	Yes
Power Supply	CR-123 Lithium (1) 3V	CR-123 Lithium (1) 3V	CR-123 Lithium (1) 3V
Battery life (hour)	40	40	40
Reticle System	Red on Green	Red on Green	Red on Green
Windage & Elevation Adjustment	3/4 MOA	3/4 MOA	1/2 MOA
Environmental Rating	Water-Resistant	Water-Resistant	Water-Resistant
Operating temperature (°C)	-40 to +50	-40 to +50	-40 to +50
Dimensions (LxWxH, mm / in)	323 x 115 x 94/ 12.7 x 4.5 x 3.7	323 x 115 x 98/ 12.7 x 4.5 x 3.8	323 x 118 x 104/ 12.7 x 4.6 x 4.1
Weight (kg / lbs)	1.3 / 2.8	1.45 / 3.2	1.7 / 3.7

* Armasight© reserves the right to modify these specifications at any time without notice.

2. PREPARATIONS FOR OPERATION

WARNING:

The Orion night vision weapon sights are designed for several years of reliable service. To ensure trouble-free performance, please observe the following instructions:

- Do not activate the device in daylight unless the protective lens cover is fitted securely over the objective lens. If the device is ON, do not direct the device towards bright light sources, such as car headlights, camp fires, street lights, etc., as this will cause damage to the device.
- Do not check the device's operation in daylight unless the front lens cap is fitted securely over the lens, and even then, the device should only be ON for the few seconds it takes to establish correct operation.
- Do not open the body of the device or otherwise disassemble it.
- Avoid dropping or otherwise impacting the device.
- Do not expose the device to moisture or extreme temperatures.
- Do not touch the lenses. Clean optical parts with a clean, soft cloth, and only use professional lens cleaners designed for use with optics.
- Do not forget to remove the battery from the battery compartment if the device is to be stored for **more than 3 days**.
- Do not forget to turn the device off during periods of non-operation.

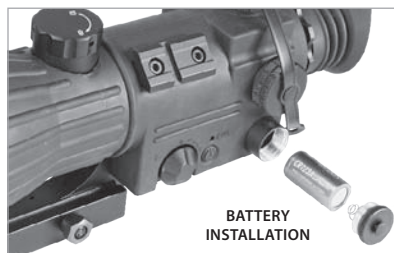
WARNING:

Consider the following information and restrictions in order to avoid damaging the device and to ensure a long service life and failure-free operation:

- Performance of the device in nighttime conditions depends on the level of ambient light in the environment. Some light (moonlight, starlight, etc.) is required for the device to provide an image.
- The level of ambient light is reduced by the presence of clouds, shade, or objects that block natural light (buildings, trees, etc.).
- The device loses its effectiveness when operated in shadowed areas.
- The effectiveness of the device is adversely affected by weather conditions such as rain, snow, sleet, and fog, as well as environmental conditions such as smoke or dust.
- The device's resolution level is reduced in environments with very low light conditions. The visibility will degrade significantly under starlight conditions, particularly in low-contrast environments such as deserts, large areas of uniform vegetation, etc.
- The device is equipped with a protection system that will automatically disable the image intensifier tube when the illuminance level stays above 40 lux for over 10 seconds.

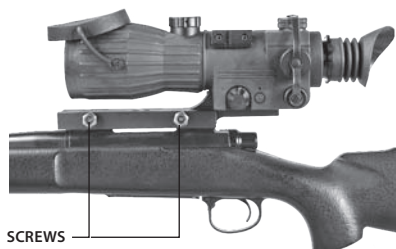
BATTERY INSTALLATION

- 1) Unscrew the battery compartment cap.
- 2) Insert the battery into the battery compartment, following the polarity order marked on the compartment for reference. Remember that the Orion requires a single 3 Volt lithium CR123A battery.
- 3) Screw the battery cap back into place.



MOUNTING THE WEAPON

- 1) Loosen the screws on the 7/8" weaver mount of the Orion.
- 2) Place the sight on the weaver base of the firearm.
- 3) Re-tighten the screws.



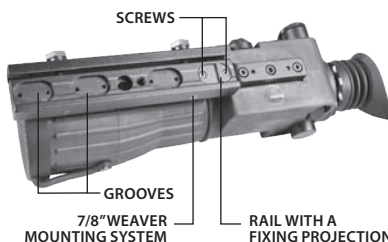
NOTE:

After a round of firing the fixing screws may need to be re-tightened.

To provide you with greater flexibility when mounting your Orion on the mount system, we have installed a small rail with a fixing projection on the base of the mount bracket, together with the determined weaver rail indents that are used for mounting. The mount bracket has two grooves that can accept this rail. You can shift the mounting position of your Orion by an extra 1/3 of an inch by simply turning the rail around.

To add additional inches to the Orion weapon mount, please follow the instructions below:

- 1) Remove the two screws that attach the rail to the mounting bracket.
- 2) Remove the rail from the groove.
- 3) Turn the rail around.
- 4) Put the rail into the other groove.
- 5) Re-tighten the two screws on the rail.



NOTE:

Occasionally, you may find that the rail does not slide out easily. If this occurs, rotate one of the removed screws into the threaded aperture in the center of the fixing projection. This will work as a jack and release the rail out of the groove.

3. OPERATION INSTRUCTIONS

CONTROLS

The Armasight Orion weapon sights feature simple, easy-to-operate controls and adjustments.

To turn on the sight, push the PWR button once.

To turn off the sight, push the PWR button again.

To adjust the reticle brightness, do the following:

- 1) Turn the sight on.
- 2) Look into the eyepiece (you will be able to see the reticle brightness through the viewfinder). Rotate the R knob to gradually adjust the reticle brightness until the desired level of brightness is reached.

FOCUSING YOUR DEVICE

To focus the Orion, turn the diopter ring clockwise until it stops. Then, while looking through the eyepiece, aim the sight towards an object in the distance and begin slowly rotating the diopter ring in a counterclockwise direction, until the image becomes sharp and clear.

You sight has the ability to focus when over both long-range and short-range distances. Focus the front lens by rotating the focusing knob until the image becomes clear.

NOTE:

If you are operating your Orion in daylight, verify that the protective lens cover is securely fitted over the objective lens **before** you begin adjusting the diopter.

SET-UP PROCEDURES

To check device's operation in daylight or in an illuminated room, observe the following procedures:

- 1) Verify that the battery is inserted into the battery compartment in accordance with the polarity markings on the body of the sight.
- 2) Verify that the objective lens is securely closed.
- 3) Without removing the protective caps, activate the unit by pushing the PWR button. While looking through the eyepiece, observe the scene. Verify that the green light indicating correct IIT operation is on.
- 4) Adjust the eyepiece's diopter ring and lens focus until the image becomes clear and sharp.
- 5) Turn the unit off by pushing the PWR button. The green glow will disappear from the eyepiece.

OPERATION IN NIGHTTIME CONDITIONS

CAUTION:

Avoid exposing the sight to bright light sources. Bright light emitted by fires, automobile headlights, lanterns, projectors, etc. will damage your Orion.

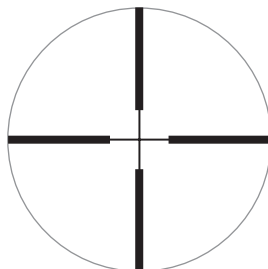
- 1) Visually estimate the illuminance level in the viewing area. Operation of the device with the objective lens cap removed is safe only when the illuminance level is less than 1 lux (at an illuminance level of 1 lux, you will barely be able to read a newspaper, even after your eyes have adapted to the dim light or darkness).

- 2) Remove the front lens cap.
- 3) Activate the unit by pushing the PWR button. After a momentary delay, a green light indicating correct IIT operation will appear.
- 4) Observe the scene and focus your Orion.

RETICLE

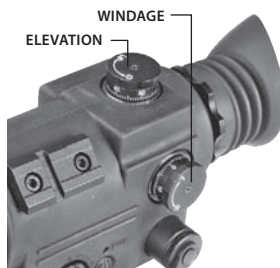
The Armasight Orion reticle provides a clear aiming point, even when difficult-to-see games or objects blend into the background. Posts and crosshairs appear in the center section of the field of view, but occupy a minimal portion of the image, making precise shots on even the smallest targets easy and accurate.

The size of the thin lines in the center of reticle corresponds as follows: 1.25 yards at 100 yard's distance.



WINDAGE AND ELEVATION ADJUSTMENT

The vertical and horizontal adjustments of the Armasight Orion can be regulated by adjusting the elevation and windage turrets. You will first need to remove the dust caps. Each click indicates 1/4 of an inch at 100 yard's distance. Once the turrets stop turning, do not attempt to turn them any further, as this may damage the mechanism.



4. IR ILLUMINATOR

Infrared illuminators are used in areas where the level of light is not sufficient for the unit to generate a bright, clear image. An IR illuminator provides infrared light which, although invisible to the naked eye, can greatly enhance the performance of night vision devices. Turn on the IR810 when working in total darkness. Remember that the beam emitted by your IR illuminator will lose its brightness over long distances.

IR ILLUMINATOR INSTALLATION

The IR810 is a removable infrared illuminator that can be installed on the rail of the Orion. To install the IR illuminator on your sight, perform the following steps:

- 1) Loosen the fixing screw on the IR810 mount.
- 2) Place the IR810 on the Picatinny rail.
- 3) Tighten the fixing screw.

IR ILLUMINATOR OPERATION

The Armasight IR810 runs on a single CR123A battery. To install the battery, unscrew the battery compartment cap and insert the battery in accordance with the polarity markings on the unit's body. Screw the battery compartment cap back into position.

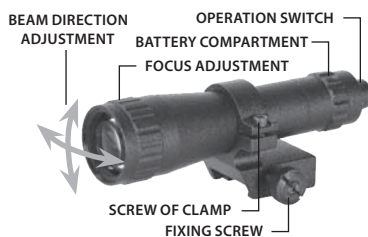
To turn the IR810 on, rotate the operation switch from the OFF position.

To adjust the power and brightness of the beam emitted by the IR810, rotate the illuminator operation switch.

Focus the IR beam to change the field of coverage. To focus the beam, rotate the IR illuminator lens until the image becomes clear.

Adjust the IR spot position in the field of view of the NVD (night vision device) as follows:

- 1) Loosen the screw of the clamp on the IR illuminator mount.
- 2) Turn on the sight and the IR illuminator.
- 3) Carefully move the lens of the IR810 up and down and side to side. While looking through the eyepieces of your device, observe the IR spot position.
- 4) Once the IR spot is centered in the field of view, tighten the fixing screw of the clamp.



5. MAINTENANCE PROCEDURES

The Orion should always be stored in the supplied packaging, particularly in heated and ventilated rooms. To keep the device operational, please follow the instructions (below) regarding preparations for storage. The battery should be stored separately from the device, and be inserted into the battery compartment **only** when the device is being prepared for use. The presence of both acids and alkalis near the device is not recommended.

While stored, your Orion should be protected from exposure to direct sunlight or extreme temperatures.

ORION CLEANING PROCEDURES

- 1) Gently remove any dirt from the sight's body using a clean, soft cloth.
- 2) Wipe external surfaces down (with the **exception** of optical surfaces) with a clean cloth that has been moistened with pure water.
- 3) Dry all wet surfaces with a different clean, dry cloth.
- 4) Carefully remove any dirt from the optical surfaces using a lens brush.
- 5) To avoid scratches, optical surfaces must be cleaned using a clean cotton swab that has been slightly dampened with pure alcohol. The glass should be wiped in circular motions starting from the center and moving out towards the edge, without touching the barrel. Change the cotton swab as soon as it becomes dirty.

EYEPIECE MAINTENANCE

Occasionally, you may have to clean the eyepiece of your Armasight Orion sight. After unpacking the Orion sight, make sure that there is no dust or dirt on or in the eyepiece. If you do find dust or dirt on the eyepiece, you will need to remove them for cleaning. The body of eyepiece has two set screws, which you will need to loosen first. After loosening these screws, turn the eyepiece counterclockwise to separate it from the body of the device.

NOTE:

It is unnecessary to completely remove the set screws. To avoid losing these miniature screws, leave them at least partially inside the body of the device.

CAUTION:

Only apply photographic lens cleaning tissues to the surface of the eyepieces. Avoid damaging or leaving fingerprints on the lenses. A can of compressed air may be used to blow dust off of the lenses. **Do not** tip the can while spraying, as you may cause the propellant to freeze as it exits the can. This may damage the glass and the tube phosphor screen.

PREPARATIONS FOR STORAGE

When preparing your Orion for storage, perform the following steps:

- 1) Verify that the sights are operating in accordance with all previously specified procedures.
- 2) Remove the batteries from the battery compartments.
- 3) Clean the sights and all accessories.
- 4) Place all components into the storage case.

6. TROUBLESHOOTING

Common problems that may occur with your Orion or the detection and viewing tests, as well as actions you can take to correct them, are listed in the Troubleshooting Table (see page 10). **This table does not list all of the malfunctions that may occur with your device.** If you experience a malfunction that is **not** listed on this table, please contact Armasight or your Orion retailer.

NOTE:

Before you use this table, be sure that you have performed all normal operational safety, care and handling checks and procedures.

Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	ACTION
The sight does not switch on	Press the PWR button.	Press the PWR button repeatedly.
	Inspect for a missing, defective or improperly installed battery.	Replace the battery or install it properly.
<i>If these actions fail, submit the device for unit level maintenance.</i>		
Poor image quality	Verify that the objective lens and eyepiece are focused.	Focus the ocular and lens.
	Check if the lenses are greasy, fogged or dirty.	Thoroughly clean the surfaces of each lens.
<i>If the problem persists, contact your service center.</i>		
Light is visible through the eyecup	Check the exit pupil distance value.	Press the eyecup to your face.
	Check the eyepiece resilience.	If the eyecup is defective, contact your service center.
Diopter adjustment cannot be performed	Check to see if the diopter adjustment ring is deformed or broken.	If the diopter adjustment ring is damaged, contact your service center.
IR illuminator does not switch on	With the sight on, turn the IR illuminator on in dark area. Visually estimate if the observed scene is lighted.	If the IR illuminator does not turn on, contact your service center.

ARMASIGHT PRODUCT WARRANTY REGISTRATION CARD

PRODUCT INFORMATION

Product Name _____ Purchased From _____
 Purchase Date _____ Product Serial # _____

CUSTOMER INFORMATION

Name _____
 Address _____
 City _____ Country _____ Zip _____
 Day Phone # _____ Home Phone # _____
 E-mail address _____

.....
 Customer Signature Required

7. WARRANTY INFORMATION

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of two (2) years from the date of purchase. In the event that a defect covered by the below warranty occurs during the applicable period stated above, Armasight, at its discretion, will either repair or replace the product; such action on the part of Armasight shall be the full extent of Armasight's liability, and the Customer's sole and exclusive repair. This warranty does not cover a product if it has (a) been 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 Armasight without prior written consent of Armasight; (d) special order or "close-out" merchandise or merchandise sold "as-is" by either Armasight or the Armasight 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 Armasight. Armasight shall not be responsible for any defects or damage that in Armasight'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. CUSTOMER IS HEREBY NOTIFIED THAT OPERATION OF THE EQUIPMENT DURING DAYLIGHT HOURS OR UNDER ANY EXCESSIVE LIGHT CONDITIONS MAY PERMANENTLY DAMAGE THE INTERNAL COMPONENTS OF THE UNIT AND SAID DAMAGE WILL NOT BE COVERED UNDER THIS WARRANTY. This warranty is extended only to the original purchaser. Any breach of this warranty shall be enforced unless the customer notifies Armasight 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

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

PRODUCT WARRANTY REGISTRATION

In order to validate the warranty on your product, Armasight must receive a completed Product Warranty Registration Card for each unit, or the Customer can complete a warranty registration on our website, at www.armsight.com. Please complete the included form and immediately mail it to our Service Center:

Armasight Inc.
815 Dubuque Avenue
South San Francisco
CA 94080
United States of America.

OBTAINING WARRANTY SERVICE

To obtain warranty service on your unit, the End-user (Customer) must notify the Armasight service department via email. Send any requests to service@armsight.com to receive a Return Merchandise Authorization number (RMA). When returning any device, please take in the product to your retailer, or send the product, postage paid and with a copy of your sales receipt, to Armasight Corporation's service center at the address listed above. All merchandise must be fully insured with the correct postage; Armasight 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 Armasight for warranty service. Armasight will cover return postage/ shipping after warranty repair to the End-user/ Customer only if the product is covered by the aforementioned warranty. Armasight 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.



Armasight Inc.

815 Dubuque Avenue
South San Francisco, CA 94080

Phone: (888)959-2259

Fax: (888)959-2260

Intl Phone/Fax: (650)492-7755

info@armasight.com

CAUTION:

This product contains natural rubber latex which may cause allergic reactions! FDA has noted an increase in the number of deaths reported to the agency that are associated with an apparent sensitivity to natural latex proteins. If you are allergic to latex, it is a good idea to learn which products contain it and strictly avoid exposure.

www.armasight.com