



# XLR-IR850

Long-Range Infrared Illuminator



USER MANUAL

## DESCRIPTION

Armasight's extra long-range infrared illuminators provide greater, image-intensified viewing capabilities for operations in little to no ambient light.

Infrared illuminators are used in areas where the level of natural light is not sufficient for the image intensifier tube to generate an image. An IR illuminator provides near-infrared light, which, although invisible to the naked eye, can greatly enhance the performance of night vision devices (NVD). The illuminator features adjustments for field-of-view beam divergence and output power. Armasight long-range IR illuminators significantly extend the capabilities of night vision weapon sights and observation devices. Turn on the IR illuminator when working in total darkness. Always remember that the beam emitted by your IR illuminator will lose its brightness over long distances and that your beam may be seen by others using night vision devices.

The powerful XLR-IR850 model comes standard equipped with a rechargeable battery and charger unit. An optional Afocal Doubler for XLR-IR850 doubles the distance of IR beam for ultra-long-distance observation.

## FEATURES

- **Powerful, Long-Range Infrared Illuminator**
- **High Power, IR-emitting Diode**
- **Power Adjustment**
- **Wide-Range Beam Angle Adjustment**
- **Precise adjustment of beam direction**
- **Invisible to the human eye**
- **Eye safe**
- **Lightweight and rugged**
- **Ideal for extreme, low-light conditions**
- **Can be mounted on the Weaver rail or used as a handheld device**
- **Comes standard equipped with a rechargeable battery and charger unit**
- **Optional afocal doubler for ultra-long-range observation**
- **Limited Two-Year Warranty**

## SPECIFICATIONS

**TABLE 1. XLR-IR850 SPECIFICATIONS\***

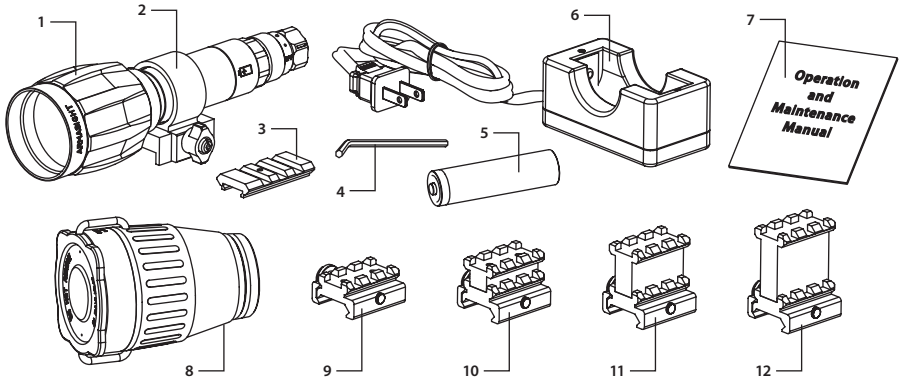
| ITEM                            | DATA   |
|---------------------------------|--|
| IR Emitter Type                 | LED  |
| Power                           | 1,000 mW   |
| Peak Wavelength                 | 850 nm   |
| Compatible Night Vision Devices | Gen 1, CORE, Gen2, Gen 3, Digital  |
| Illumination Range              | Up to 1,000 m  |
| Divergence                      | 4° to 35°  |
| Battery                         | Single 18650 (3.7v ) Rechargeable Battery                                  |
| Operational Time at 20°C        | up to 10 (1/4 Power); 8 (1/2 Power); 6 (3/4 Power); 2.5 (Full Power) hours |
| Environmental Rating            | Water Resistant  |
| Operating Temperature           | -30°C to +50°C   |
| Dimensions w/o Mount            | 150 x 46 x 46 mm / 5.9 x 1.8 x 1.8 in                                      |
| Weight w/o Mount and Battery    | 210 g / 7.4 oz   |

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

## STANDARD COMPONENTS AND OPTIONAL EQUIPMENT

The standard components and optional equipment of the XLR-IR850 are shown in Figure 1 and listed in Table 2.

The ITEM NO. column indicates the number used to identify items in Figure 1.



**FIGURE 1. XLR-IR850 STANDARD COMPONENTS AND OPTIONAL EQUIPMENT**

**TABLE 2. XLR-IR850 STANDARD COMPONENTS AND OPTIONAL EQUIPMENT**

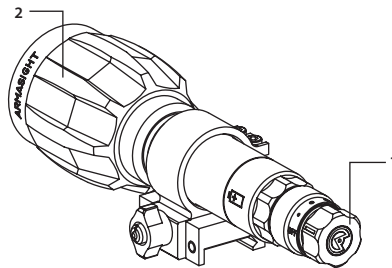
| ITEM NO. | DESCRIPTION  | QUANTITY / PART NO. |
|----------|--|---------------------|
| 1        | <b>XLR-IR850</b><br>Detachable Wide Angle Adjustable Long-Range Infrared Illuminator   | 1                   |
| 2        | <b>Mount</b><br>Dedicated mount in order to be installed on a Picatinny/Weaver rail  | 1                   |
| 3        | <b>Dovetail to Weaver Transfer Piece #21</b><br>Allows the IR illuminator to be mounted on the NVD   | 1                   |
| 4        | <b>2.5 mm Hex Key</b><br>A key for the screws of clamp of the IR illuminator   | 1                   |
| 5        | <b>18650 Rechargeable Battery</b><br>A single, rechargeable battery used to power the IR illuminator   | 1                   |
| 6        | <b>Battery Charger</b><br>Charger for 18650 Rechargeable Battery   | 1                   |
| 7        | <b>User Manual</b><br>Provides equipment description and operating instructions  | 1                   |
| 8        | <b>XLR-IR Afocal Doubler (optional)</b><br>Doubles the distance of XLR-IR850 IR Illuminator beam. Comes complete with an thread adapter #174.            | ANAF18XXLR          |
| 9        | <b>Riser 1.5 #55 (optional)</b><br>Allows the IR illuminator to be mounted on the NVD with large objective lens. Increases the mounting height onto 10mm | ANAM000017          |
| 10       | <b>Riser #182 (optional)</b><br>Allows the IR illuminator to be mounted on the NVD with large objective lens. Increases the mounting height onto 20mm    | ARSXLR182           |

**TABLE 2. CONTINUED**

| ITEM NO. | DESCRIPTION   | QUANTITY / PART NO. |
|----------|---|---------------------|
| 11       | <b>Riser #181 (optional)</b><br>Allows the IR illuminator to be mounted on the NVD with large objective lens. Increases the mounting height onto 30mm | ARSXLR181           |
| 12       | <b>Riser #180 (optional)</b><br>Allows the IR illuminator to be mounted on the NVD with large objective lens. Increases the mounting height onto 40mm | ARSXLR180           |

## IR ILLUMINATOR CONTROLS

The controls of the optional IR illuminators are shown in Figure 2 and defined in Table 3. The ITEM NO. column indicates the number used to identify items in Figure 2.



**FIGURE 2. IR ILLUMINATOR CONTROLS**

**TABLE 3. IR ILLUMINATOR CONTROLS**

| ITEM NO. | FUNCTION     | DESCRIPTION   |
|----------|--------------|---|
| 1        | POWER SWITCH | Switches the IR illuminator on/off and adjusts for radiated power. Four ON positions are located between the two OFF positions, and are each marked with a different-sized spot. The larger the spot, the greater the radiated power. |
| 2        | LENS FOCUS   | Adjusts for IR beam divergence. Adjustment range is covered within approximately one turn of the lens.  |

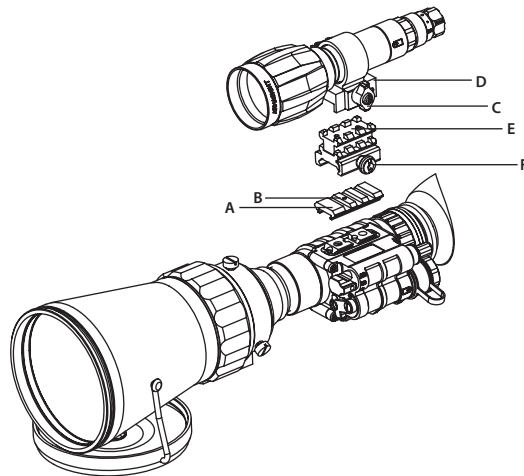
## IR ILLUMINATOR INSTALLATION

The XLR-IR850 is a removable near-IR illumination device that can be installed on the rail of night vision device (NVD). The IR illuminator is delivered with a dedicated mount, to be installed on the Picatinny/Weaver rail.

To mount an IR illuminator on the dovetail-type mini-rail of NVD, use the Dovetail to Weaver Transfer Piece. Perform the following steps (refer to Figure 3):

1. Install the transfer piece (A) onto the NVD rail.
2. Tighten the fixing screw (B) on the transfer piece.
3. With the nut (C) loosened, install the mount (D) on the Weaver rail so that the recoil stop slides into one of the transverse slots of the rail.
4. Tighten the nut (C).

You can use one of the optional Risers for increase the height of illuminator's mount (for example, when a large objective lens interferes with or obscures the beam). In this case install the XLR-IR850 on the rail of riser (E). Then install the illuminator with riser on the Weaver rail of NVD so that the recoil stop of riser slides into one of the transverse slots of the rail. Tighten the nut (F) of riser using a screwdriver.



**FIGURE 3. MOUNTING THE XLR-IR850 ILLUMINATOR TO A NIGHT VISION DEVICE**

## BATTERY INSTALLATION

Fully charge the 18650 rechargeable battery before installing in XLR-IR850 illuminator. Insert the battery into charger, aligning the polarity symbols on the battery with the polarity symbols on the charger. Never install the battery backwards.

Connect the power cord to an appropriate power source. An indicator light will flash red when a battery is charging, and will change to green when battery has been fully charged. Remove the battery promptly after charging has been completed.

### CAUTION:

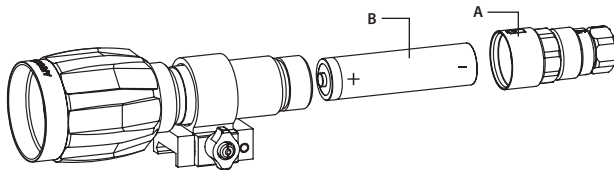
- Use only the supplied battery, and do not install any other types.
- Keep the lithium batteries well away from flames or extreme heat or combustible materials. If handled or recharged incorrectly, lithium ion batteries can cause fires, explosions, property damage, injuries, and death.
- Keep the batteries and charger well away from water or liquids of any kind. Exposure to water may cause shock hazards and fatal electrocution.
- Do not leave lithium ion rechargeable batteries and chargers unattended while recharging.
- Do not operate the charger on wood, carpet, fabric, or any other soft or flammable surfaces.
- Do not attempt to recharge disposable lithium batteries. Do not use any unprotected lithium ion rechargeable batteries. Never recharge lithium ion batteries in any chargers other than those designed for the specific battery types being used.

Install the battery as follows (refer to Figure 4):

### CAUTION:

Ensure that the IR illuminator is off before installing the battery.

1. Unscrew the battery cap (A).
2. Install the fully charged 18650 rechargeable battery (B) into the battery compartment. Align the polarity symbols on the battery with those on the cap face.
3. Replace the battery cap (A).



**FIGURE 4. BATTERY INSTALLATION**

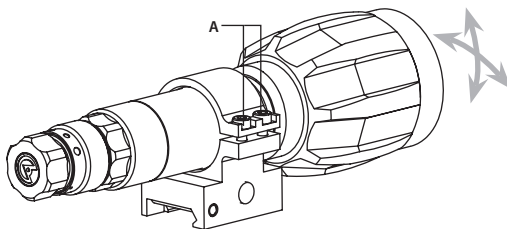
## IR ILLUMINATOR OPERATION

### CAUTION:

- The device is equipped with an infrared LED which is not hazardous to human health. However do not point the IR illuminator at anyone's eyes.
- The IR illuminator infrared light will be invisible to the naked eye. The light can, however, be detected by other night vision devices.
- DO NOT leave the IR illuminator activated in the ON position if it is not being used.

Operate the IR illuminator as follows:

1. Turn on the IR illuminator by rotating the power switch from OFF position.
2. To change the radiated power level, turn the power switch to one of the spots between the two OFF positions. The brightness levels are marked with dots of increasing size, respective to the four different output power levels.
3. To adjust IR beam divergence, turn the objective lens of IR illuminator.
4. Adjust the IR spot position in the field of view of the NVD as follows (refer to Figure 5):
  - a) loosen the screws (A) of the clamp on the IR illuminator mount (using a 2.5 mm hex key);
  - b) turn on the night vision device and the IR illuminator;
  - c) carefully move the IR illuminator up and down and side to side while looking through the eyepiece of your device to, observe the IR spot position relative to the night vision device;
  - d) once the IR spot is centered in the field of view, tighten the fixing screws (A) of the clamp.

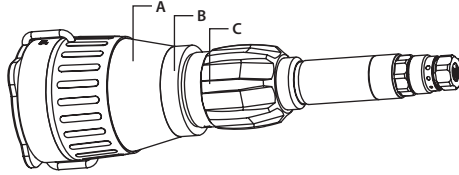


**FIGURE 5. IRSPOT POSITION ADJUSTMENT**

The XLR-IR850 can be used as hand-held long-range IR illuminator with an optional afocal doubler. Attach the magnifying lens to the XLR-IR850 as follows (refer to Figure 6):

1. Screw the Afocal Doubler (A) into the threading adapter (B).

2. Screw the Afocal Doubler with adapter into the threading of the XLR-IR850 objective lens (C) housing. Be careful not to over-tighten the lens.



**FIGURE 6. XLR-IR850 ILLUMINATOR WITH AFOCAL DOUBLER**

**NOTE:**

The caution notice **DO NOT REMOVE IN DAYLIGHT** on the front lens cap of this universal magnifying lens is not applicable when using it on the XLR-IR850.

## WARRANTY INFORMATION

### 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 the Customer can complete a warranty registration on our website, at [www.armsight.com](http://www.armsight.com).



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