NOCTURN INDUSTRIES
INNOVATIVE NIGHT VISION SOLUTIONS

U.N.V.M. “Talon” Operators Manual

Nocturn Industries LLC

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If you have questions or need help with anything listed or not listed in this manual, please contact: cs@nocturnindustries.com

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*Denotes pending status

SAFETY WARNING:

Read and follow all the instructions.

Do Not Disassemble the device. Disassembly can cause permanent damage to the device.

This device contains components made of natural rubber Latex which may cause potentially fatal allergic reactions. If you have an allergy to Latex it is important that you do not expose yourself to products that contain it

Warranty Information

All Housings from Nocturn Industries have a lifetime warranty no questions asked. Inquiries into the cause of damage may be subject to voluntary retort for development and feedback reasons but are in no way under obligation to be answered. If your device is submitted for a warranty it may be repaired or replaced at the discretion of the

manufacturers' best judgement after evaluation. Image Intensifier Tubes, Optics, and other components or accessories not manufactured by Nocturn Industries are not subject to warranty by Nocturn Industries and must follow warranty of the original manufacturer from which the components or accessories were purchased. Nocturn Industries holds no responsibility for the loss or damage of components or accessories made from other manufacturers used in conjunction with products manufactured from Nocturn Industries.

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Product Overview

U.N.V.M. “Talon”
(Ultralight Night Vision Monocular)

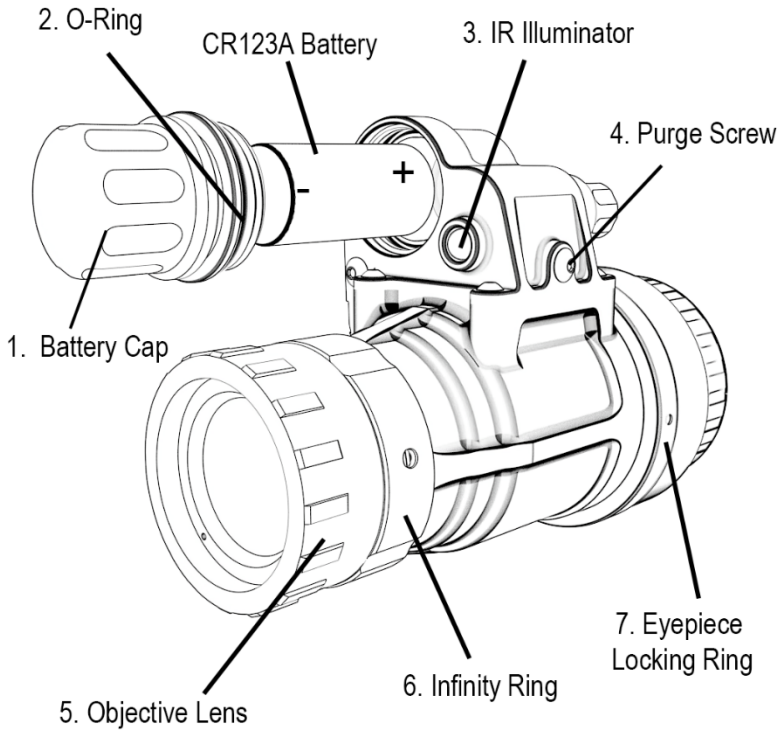
The Talon is an ultralight night vision monocular designed for handheld or helmet-mounted use. The device incorporates manual gain control, a low-battery indicator, an integrated IR illuminator with adjustable brightness, and support for multiple battery power options.

All user controls are accessed through a single control knob located on the rear of the device. When the unit is powered on, rotating the control knob increases or decreases the image tube gain. Double-pressing the control knob activates the IR illuminator. When the IR illuminator is active, rotating the control knob adjusts the illuminator’s brightness output. A clear internal indicator ring illuminates when the IR illuminator is active or when battery voltage is low.

The Talon incorporates a programmable Auto Shut-Off function that is configured using the control knob. Depending on the selected mode, the system will automatically power down when the device is stowed at the extreme left or right limits of the user’s field of view, or when stowed in a vertical orientation on a helmet mount. The Auto Shut-Off function may be disabled by the user if automatic power-down is not desired.

The Talon is supplied with a battery cap compatible with a single CR123A battery, which provides approximately 50 hours of continuous operation under standard conditions. Optional battery caps are available for CR2 and AA batteries. When powered by a CR2 battery, the device provides approximately 24 hours of operation, while an AA battery provides approximately 50 hours. Actual runtime may vary depending on operating conditions, IR illuminator usage and manual gain setting.

Front Diagram



1. **Battery Cap** – The standard battery cap on the Talon is compatible with CR123A batteries, and optional caps are available for CR2 and AA batteries. When tightening the cap, ensure it is fully seated before powering on the device. Failure to do so may prevent the device from turning on and could compromise its environmental seal.

2. **O-Ring** – The battery cap O-ring provides a watertight seal for the night vision monocular's battery port. The O-ring should be regularly lubricated with a silicone-based lubricant to minimize wear. If the O-ring becomes worn or damaged, contact Nocturn Industries for a replacement.

3. **IR Illuminator** – The IR illuminator, when activated, is invisible to the unaided eye. However, its illumination can be seen by other night vision devices.

4. **Purge Screw** – The purge screw is fitted with a small O-ring that seals the port used to purge the night vision device. The purge screw should not be removed by the user. If the purge screw is removed or loosened, the seal may be compromised, allowing moisture to enter the pod. Moisture can expose internal components to corrosion and may cause the optics to fog internally.

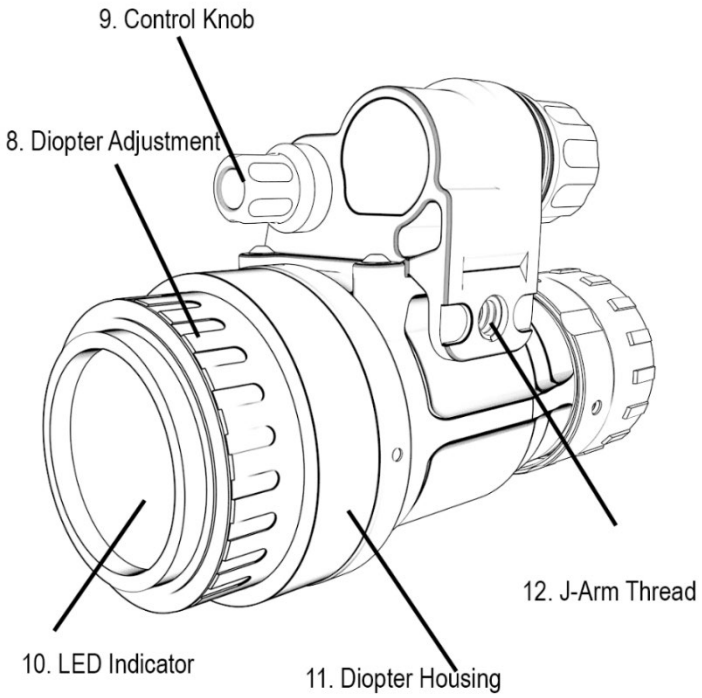
5. **Objective Lens** – The objective lens is the front lens of the night vision device and is responsible for providing the device's optical focus.

    a. **Focus Distance Adjustment** - The objective lens (front) controls the focus distance of the night vision monocular. The user adjusts focus by twisting the objective lens, which threads in and out of the end of the monocular pod. While looking through a powered-on monocular with a functioning image intensifier tube and appropriate lens set, twisting the objective lens will gradually shift the sharp focus from close range to maximum distance. The lens is designed with a stopping limit that prevents it from unthreading completely, ensuring it cannot fall out. This design maintains the device's seal and preserves the integrity of the purge seal.

6. **Infinity Stop Ring** – The infinity stop ring can be set either by the manufacturer on a test bench or manually by the user. When the objective lens (front) is focused at infinity, distant objects such as stars will appear sharply in focus. To set the infinity stop ring, thread it outward toward the objective lens until it makes contact. A grub screw a small screw threaded into one of the holes on the infinity stop ring can then be tightened against the device threads to lock the ring in place. Avoid using excessive torque; the screw should be tightened only enough to prevent the infinity stop ring from moving under normal use. Once set, the user can adjust the focus freely and return to infinity focus quickly and easily. All infinity stop rings on pre-built goggles from Nocturn Industries come pre-set.

7. **Eyepiece Locking Ring** – The eyepiece locking ring secures the diopter housing assembly in place and should not be adjusted by the user. If the eyepiece locking ring is unthreaded or moved, the diopter housing assembly may shift, potentially affecting the visual collimation of the night vision binocular. The locking ring is set by the builder after proper collimation is achieved. There are no set screws holding the eyepiece locking ring, so the user must take care not to thread or unthread it.

Rear Diagram



8. **Diopter Housing** – The diopter housing assembly should be installed only by the manufacturer or builder and must not be threaded or unthreaded by the user. Users should take care not to adjust (twist) the diopter housing assembly, as doing so can disrupt the optical collimation of the night vision device. Improper collimation may result in discomfort, including headaches, eye strain, disorientation, and other visual issues.

9. **Control Knob** - The knob on the rear of the battery compartment controls power, IR, gain, and stowage functions. A detailed explanation of how to use the knob for each function can be found on page 12.

10. **LED Indicator** – There is a red LED indicator inside the device that illuminates a light ring to provide the user with status information. When the power supply is nearly depleted, the red indicator will appear inside the pod while looking through the device. This indicator is separate from and should not be confused with the IR indicator, which is also visible inside the pod.

11. **Diopter Adjustment** – The outermost ring of the diopter assembly (rear) is the diopter adjustment ring. Twisting this ring moves the diopter cell (lens) in and out within the assembly, ranging from -6 to +2 diopters. While looking through the night vision binocular with the device powered on, a functioning image intensifier tube installed, and the appropriate optic pair properly mounted the user can adjust the diopter ring until the image is clear and comfortable. Adjust until your eyes feel comfortable and the image through the eyepiece matches the size seen with the unaided eye.

12. **J-Arm Threads**- These threads are compatible with PVS-14 J-Arms as well as any monocular arm that follows the PVS-14 J-Arm thread standard.

Control Knob Functions

Power Control- Press and hold the knob to power on the device. Press and hold it again to power the device off.

IR Control- Double-press the knob to power on the IR illuminator. A red glow on the device's light ring indicates that it is active. While the IR illuminator is on, rotating the knob adjusts its brightness. Single press the knob to turn the IR illuminator off.

Manual Gain Control- When the device is powered on and the IR illuminator is off, rotating the knob will adjust the device's gain, increasing or decreasing it as needed.

Auto Shutoff Control- The Talon contains six programs for Auto Shutoff Control. To access programming mode, hold in the control knob while screwing on the battery cap with a battery installed. The LED indicator in the device will flash three times to indicate that programming mode has started; at this point, you can release the knob. Turn the knob to scroll through the available programs. Each blink indicates a different program (one blink is Program 1, two blinks is Program 2, etc.).

You can use the table on the next page to understand the differences between programs.

	Flip-up Shutoff	Side Stow Shutoff	J-Arm Compatibility
Program 1	DISABLED	DISABLED	ALL
Program 2	ENABLED (Standby)	ENABLED (Automatic)	Steele/Nocturn Rugged J-Arm
Program 3	ENABLED (Standby)	ENABLED (Standby)	Steele/Nocturn Rugged J-Arm
Program 4	ENABLED (Standby)	DISABLED	Steele/Nocturn Rugged J-Arm
Program 5	ENABLED (Standby)	ENABLED (Standby)	Standard J-Arm
Program 6	ENABLED (Standby)	DISABLED	Standard J-Arm

Standby: Control knob will need to be pressed once the device is brought back into the active position

Automatic: Power will automatically turn on when brough back into the active position.

Flip-up Shutoff: The device will automatically power off when it is flipped up into the stowage position on a helmet.

Side Stow Shutoff: The device will automatically power off when it is moved far enough to the left or right, out of the user's field of view.

Once you have the program that you want selected press and hold the knob and the program change will be saved.

Troubleshooting

No Power

Battery - If the night vision device is not powering on start by ensuring there is a fresh CR123A battery in the device in the proper positive negative orientation.

Battery Cap – If the night vision device will not power on ensure that the battery cap in tightened appropriately to make proper contact.

Auto Shutoff / Program Check – If the device is in a deployed viewing state and is not powering on, it's possible that the incorrect program is selected for the J-Arm you are using. If you are unsure, please refer to page 13 for the Auto Shutoff Control guide.

Can't Focus

Infinity Stop Ring – Make sure that the infinity stop ring has not unthreaded or moved in any way. If it is suspected that the infinity stop ring has been moved start by unscrewing the small set screw or screws that fastens the infinity stop ring in place. Thread the infinity lock ring all the way in against the night vision device and then look through the night vision device as you adjust your focus distance. Refer to the front diagram for information on how to reset infinity stop ring in place.

Notes