



PRODUCT MANUAL

# **VIPER<sup>®</sup> HD 3000**

**LASER RANGEFINDER**

## Specifications

<b>MAGNIFICATION</b>	7x
<b>OBJECTIVE LENS</b>	25mm
<b>MAX REFLECTIVE RANGE</b>	Up to 3000 yds. (2743m)
<b>TREE RANGE</b>	Up to 2300 yds. (2103m)
<b>DEER RANGE</b>	Up to 2000 yds. (1829m)
<b>MINIMUM RANGE</b>	6 yds. (5m)
	± 1 yd @ ≤ 100 yds.
<b>ACCURACY</b>	± 2 yds. @ ≥ 100 yds. & ≤ 1000 yds.
	± 3 yds. @ ≥ 1000 yds.
<b>MAXIMUM ANGLE READING</b>	± 89°
<b>FIELD OF VIEW</b>	Linear @ 1000 yds. 314'
	Angular 6°
<b>EYE RELIEF</b>	15.5mm
<b>BATTERY TYPE</b>	CR123
<b>BATTERY LIFE</b>	4000 + Range Cycles at Brightness Level 4
<b>LENGTH</b>	4.2" (107.2mm)
<b>HEIGHT</b>	3.1" (79mm)
<b>WIDTH</b>	1.7" (42mm)
<b>WEIGHT W/ BATTERY</b>	9.1 oz. (258g)

## VIPER® HD 3000 LASER RANGEFINDER

Conquer those long-range shots when every moment matters, and precision is everything. Packed into the Viper® HD 3000 is an HD optical system, and a 3000-yard max range to close the distance.



Images are for representation only.  
Product may vary slightly from what is shown.

## BASIC OPERATION

### Battery Installation and Replacement

To insert a new battery, flip up the finger tab on the Battery Cap located on the bottom of the unit and unscrew, counterclockwise, to remove. Insert CR123 battery with the positive side (+) facing outwards. Reinstall Battery Cap and ensure it is tightly closed.



### Power Up

Once the battery is installed, the Viper® HD 3000 is in ready condition – the normal power-off condition when not ranging.

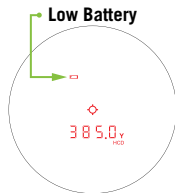
To power up the Viper® HD 3000 from ready condition and prepare for ranging, press and release the “Measure” button. The HCD or LOS ranging screen will display. The auto-shutoff feature can be adjusted to 15, 30, or 60 seconds. See the “Auto-Shutoff” section on page 14.

**Note:** While in the menu, the Viper® HD 3000 will auto-shutoff after 20 seconds if no buttons are pressed.



## Low Battery Icon

The Low Battery Icon comes on at 25% and stays on until there is no power or the battery is replaced.



## Adjust the Eyecup

The eyecup on the Viper® HD 3000 twists in and out so any viewer can see the full field and enjoy comfortable viewing and ranging – with or without eyeglasses. When not using eyeglasses or sunglasses, it is recommended to keep the eyecup fully extended. For best viewing when wearing eyeglasses, twist eyecup in.



## Focus

Adjust the diopter until the image is sharp. Make note of this diopter setting in case you need to set it again.

## Attaching the Wrist Lanyard

The Lanyard provides a secure way to carry your rangefinder.



Loop the Lanyard through attachment socket.

## Utility Clip

The Viper® HD 3000 comes with a Utility Clip on the unit's left-hand side. You can switch Utility Clip's side by unscrewing the 2.5mm hex screws on the left-hand side, and the 2.5mm hex screws on the unit's right-hand side. Reinstall the Utility Clip on the unit's right-hand side and replace the 2.5mm hex screws on the left-hand side.



## MODE SELECTION

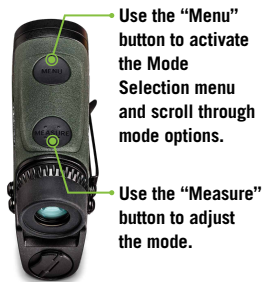
### Changing Modes on the Viper® HD 3000

The Viper® HD 3000 is factory set to the angle compensating HCD range mode, Normal target mode, brightness level 3, default auto-shutoff at 30 seconds, and displayed in yards.

### To Change Modes

Press and release the “Measure” button to power the unit On. To change modes, press and hold the “Menu” button until the Mode Selection screen appears (about 2 seconds).

Scroll through the mode options by clicking the “Menu” button. To adjust a mode, click the “Measure” button.



## RANGING MODE SELECTION

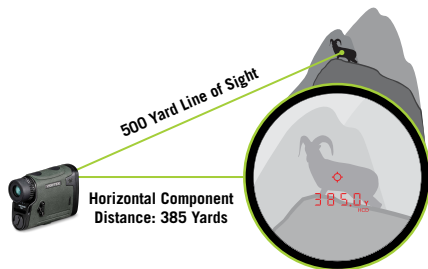
### Choose Between the HCD and LOS modes

After activating the Mode/Display Selection, press the “Measure” button to toggle between the HCD and LOS displays. Press the “Menu” button to save your desired choice and move to the Yards/Meters selection screen.



## HCD Mode

The Horizontal Component Distance (HCD) range display is intended to be the primary mode, used for most rifle and archery shooting applications. The yardage number displayed is the critical horizontal component distance.



The displayed HCD yardage number is corrected for shot angle and needs no extra user input; shooters simply use the appropriate level ground bullet drop for the range displayed and shoot. Archers use the appropriate level ground sight pin for the range displayed.

### Use the HCD range mode in the following situations:

- Rifle shooting on level ground at any range.
- Rifle shooting out to ranges of 800 yards with mild slopes (less than 15 degrees).
- Rifle shooting out to ranges of 400 yards with moderate slopes (15 to 30 degrees).
- For all archery shooting.

**Note:** To correctly account for wind, you need to know the Line of Sight distance to the target as it is based on how far the bullet travels to the target. This can be achieved using LOS mode.

## LOS Mode

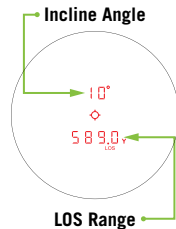
The Line of Sight (LOS) Mode is intended for rifle shooters who are using slope correcting ballistic drop data cards, ballistic cell phone applications, or other devices with ballistic programs and who are shooting at distances beyond 500 yards and with slopes greater than 15 degrees.

The range number displayed in LOS Mode is the actual line of sight range with no ballistic correction for slope. Most of the commonly used ballistic devices can provide independent slope correction for bullet drop data and require actual line of sight range input. Using the LOS range when calculating bullet wind drifts under these steep slope/long range conditions will provide a higher degree of accuracy than using the HCD range.

To use, simply input the LOS range number into the electronic device or use the LOS range when referencing ballistic drop cards with slope correction.

When in LOS Mode, an additional number is displayed above the yardage number. This number is slope incline shown in degrees.

The slope incline number can be entered into ballistic programs or field cards to help calculate precise bullet drops in mountainous terrain.



## Range Unit Selection

Press the “Measure” button to toggle between the Yards and Meters display. Press the “Menu” button to save your desired choice and move to the Brightness selection screen.

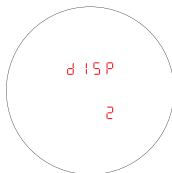


**Choose between Yards and Meters.**

## Brightness Selection

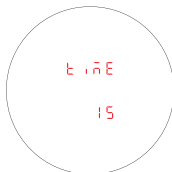
### Choose Between Five Brightness Settings

The Viper® HD 3000 provides five brightness settings. Press the “Measure” button to toggle through the five brightness settings. Press the “Menu” button to save your desired setting and move to the Auto-Shutoff selection screen.



### Auto-Shutoff

The Viper® HD 3000 provides 3 auto-shut off program options: 15 seconds, 30 seconds, or 60 seconds. Press the “Measure” button to toggle through the different auto-shutoff times. Press the “Menu” button to save your desired setting.



**Note:** If HCD mode was selected, pressing the “Menu” button will move back to Ranging Mode Selection.

## TARGETING MODE EXPLANATIONS

The Viper® HD 3000 provides four target modes: Normal Mode, First Mode, Last Mode, and Extended Laser Range (ELR) Mode.

### Normal Mode

Your Viper® HD 3000 comes preset to Normal Mode. This is the standard mode providing the targets range with the strongest range result. Normal Mode is the recommended target mode for most situations.

### First Mode

This mode displays the closest distance when ranging. This mode is ideal for ranging a smaller target in front of other larger or more reflective objects.

**Note:** If unsure about the range, simply range again.



**Range captured on closer elk.**



## Last Mode

This mode displays the farthest distance when ranging. This mode is ideal for ranging a specific target behind a group of objects like brush, trees, rocks, etc.

**Note:** If unsure about the range, simply range again.



Range captured  
on farther elk.

## Extended Laser Range (ELR) Mode

The ELR Mode target mode allows for ranging smaller, less reflective targets at extended distances. It is ideal for ranging when Normal Mode is unable to obtain a desired range. A longer response time may be required to build the desired range. For best results, use a tripod.

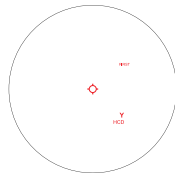
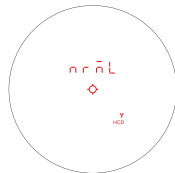
For additional information on targeting modes, please visit [VortexOptics.com](http://VortexOptics.com)

## SETTING AND USING TARGET MODES

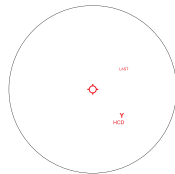
While in ready condition, cycle between target modes by pressing and releasing the “Menu” button. Once a target mode is selected, press the “Measure” button to activate the target mode.

When Normal Mode is selected, “NRML” will be displayed in the upper segment of the display. Once “Measure” is pressed, “NRML” will disappear from the display, but the unit remains in Normal Mode. If powered down in Normal Mode, “NRML” will be displayed each time the unit powers back on.

For First and Last Mode, “First” and “Last” will always be displayed, signaling that you are in the respective target mode. The range measurement will display as the Measure button is pressed and released.

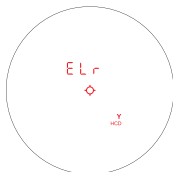


First Mode



Last Mode

When Extended Laser Range Mode (ELR) is selected, “ELR” will be displayed in the upper segment of the display. Once “Measure” is pressed, “ELR” will disappear from the display, but the unit remains in ELR Mode. If powered down in ELR Mode, “ELR” will be displayed each time the unit powers back on.

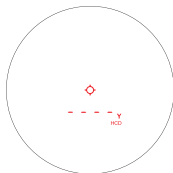


**Note:** While using ELR Mode, it may take longer to acquire a target depending on the target’s size, distance to the target, reflectivity of the target, and the environmental conditions.

## RANGING

### Ranging in Normal Mode

With the Viper® HD 3000 powered up, position the reticle on the target object and press and release the “Measure” button to get the distance measurement. If the laser is not able to range due to the reflectivity of the target, you will see a display similar to that shown here. To range a new target, simply re-aim and press the “Measure” button again.



No Range Returned

### Scan Feature

Activate Scan Feature by pressing and holding the “Measure” button down. Keeping the button depressed will continuously measure distance as you pan back and forth across target objects. “Scan” will blink as you pan. Releasing the “Measure” button will return laser to the power up condition.

**Note:** For best results, use a tripod while attempting to range targets past 1,000 yards.

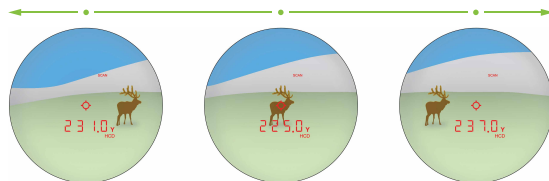


HCD Scan



LOS Scan

### Scanning to get range:



Scan back and forth, watching for yardage number to display or change.

## Tripod Use For Ranging

Using a tripod to steady the rangefinder will increase your ability to range small targets at longer distances. If the Viper® HD 3000 is used on a tripod, the reticle may appear tilted depending on tripod level.



Tripod Socket

## Rangefinding Tips

Laser rangefinders work by emitting a brief pulse of light aimed at a target object. Distance is determined by the amount of time taken for the light to emit and return to the laser's internal receiver. A laser's ability to read range can be affected by many things—mostly relating to the target objects.

- Light colors will usually reflect better than dark ones.
- Snow, rain, fog, and air quality will have adverse effects on ranging ability.
- Dull or textured surfaces will not reflect as well as a hard, shiny surface.
- Ranging under cloud cover can improve laser performance compared to bright sunny conditions.
- Solid objects, such as a rock, will reflect better than bushes.
- Flat surfaces perpendicular to the laser will reflect better than curved surfaces or surfaces angled in relation to laser.
- Ranging over water can sometimes cause false reflections and readings.
- At longer distances, large objects will be easier to range than small objects.
- Using a tripod to steady the Viper® HD 3000 will greatly increase your ability to range small targets at longer distances.
- If you have difficulty ranging an animal or object, try ranging a different nearby object. Use the Scan Feature to pan back and forth while watching for changes in range number, or switch to ELR Mode.

## MAINTENANCE

### Cleaning

Your Viper® HD 3000 requires very little routine maintenance other than periodically cleaning the exterior lenses. The exterior may be cleaned by wiping with a soft cloth. When cleaning the lenses, be sure to use products that are specifically designed for use on coated optical lenses.

- Be sure to blow away any dust or grit on the lenses prior to wiping the surfaces.
- Using your breath, or a small amount of water or pure alcohol, can help remove stubborn dried water spots.

### Lubrication

All components of the Viper® HD 3000 are permanently lubricated, so no additional lubricant should be applied.

**Note:** Other than to remove the Battery Cap and Utility Clip, do not attempt to disassemble any components of the rangefinder. Disassembling of rangefinder may void warranty.

### Storage

If possible, avoid storing your rangefinder in direct sunlight or any very hot location for long periods of time.

## FCC REQUIREMENTS

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## SAFETY AND PRECAUTIONS

Do not stare into beam or view directly without laser eye protection. Staring continuously into beam for prolonged periods of time could cause harm to your eyes. If used properly, this device is safe for your eyes and laser eye protection is not needed.

- Use the correct battery (CR123) and proper battery orientation.
- Do not look at sun.
- Do not activate Menu or Measure buttons while aiming at eye or looking into objective lens.
- Do not disassemble.
- Do not allow children to play with unit.
- Consumer laser product EN 50689:2021

### CLASS 1 LASER PRODUCT

THIS PRODUCT COMPLIES WITH IEC 60825-1:2007-03 ED. 2.0 AND IEC 60825-1:2014-05 ED. 3.0  
THIS PRODUCT COMPLIES WITH 21CFR SUBCHAPTER J PARTS 1040.10 AND 1040.11  
EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE NO.50 DATED JUNE 24, 2007.  
CLASS 1 CONSUMER LASER PRODUCT EN 50689:2021  
Sheltered Wings, Inc., One Vortex Drive, Barneveld, WI 53507 October 2023



**Caution**—Use of controls, adjustments, or performance of procedures other than those specified herein may result in hazardous laser radiation exposure.



## NOTICE

### Virtual Patent Marking Notice by Vortex Optics

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### **VIP® WARRANTY** OUR UNCONDITIONAL PROMISE TO YOU.

We promise to repair or replace the product. Absolutely free.

- ▶ **Unlimited.**
- ▶ **Unconditional.**
- ▶ **Lifetime Warranty.**

You do not have to register, save the box, or a receipt for the Warranty to be honored.

**Learn more at [VortexOptics.com](http://VortexOptics.com)**

[service@VortexOptics.com](mailto:service@VortexOptics.com) • 1-800-4VORTEX

**Note:** *The VIP® Warranty does not cover loss, theft, deliberate damage, or cosmetic damage not affecting product performance.*

For the most up to date manual visit **[VortexOptics.com](http://VortexOptics.com)**



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