VORTEX®

PRODUCT MANUAL

DEFENDER-ST™

MICRO GREEN DOT

SPECIFICATIONS

DOT SIZE	3 MOA
DOT COLOR	Bright Green
BATTERY TYPE	CR2032
BATTERY RUN TIME (@ SETTING 6)	25,000 hrs.
ILLUMINATION SETTINGS	12 Settings (10 Daylight, 2 NV)
EYE RELIEF	Unlimited
MAGNIFICATION	1x
ADJUSTMENT GRADUATION	1 MOA
TRAVEL PER ROTATION	25 MOA
MAX ELEVATION ADJUSTMENT	115 MOA
MAX WINDAGE ADJUSTMENT	145 MOA
PARALLAX SETTING	Parallax Free

WIDTH	1.2"
HEIGHT	1.2"
LENGTH	1.8"
WEIGHT (W/ BATTERY)	1.48 oz.
MOUNTING FOOTPRINT	DeltaPoint® Pro

DEFENDER-ST™ MICRO GREEN DOT

Handguns. Shotguns. Offset on a carbine. Whether running drills at the range or holding the line during rigorous duty use, the all-purpose Defender-ST™ delivers the toughness, accuracy, and adaptability your challenging world demands.

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

BASIC OPERATION

Battery Installation and Replacement

Remove the Battery Cap. Install one CR2032 battery so the "+" faces out and replace the cover. When replacing the Battery Cap, be sure it is fully tightened.

Note: Upon first use, remove the battery isolator from under the battery.

Power Up

To turn the Defender-ST™ on, press either the "Up" or "Down" button. To turn off the Defender-ST™ manually, press and hold the "Down" button for approximately five seconds.

Auto-Shutoff

The green dot will automatically shut off after 10 minutes. To turn on the Auto-Shutoff feature, press and hold both the "Up" and "Down" buttons for three seconds. During these three seconds, the dot will turn on at the lowest brightness setting and gradually increase to the brightest setting. Once the dot has reached its brightest setting, the Auto-Shutoff feature is now on. To disengage Auto-Shutoff, hold "Up" and "Down" for three seconds. The dot will start at the highest setting and step down to the lowest brightness setting over three seconds.

Motion Activation

The Defender-ST™ is equipped with motion activation. This feature is only available when the Auto-Shutoff feature is turned on. By allowing the unit to shut off automatically after 10 minutes, the dot will turn on automatically the next time you pick up your gun. Powering down the green dot manually will disable the motion activation.

Button Lockout

The Defender-ST™ includes a button lockout mode to prevent unintentional setting changes. To turn on the button lockout feature, press and hold the “Up” button for three seconds. The dot will blink off for a half of a second and then remain on. To turn the button lockout feature off, press and hold the “Up” button for three seconds. The dot will blink off twice in one second to confirm the lockout mode has been disabled and then will remain on.

Brightness Selection

The Defender-ST™ offers 12 brightness settings 10 daylight settings and two night-vision settings. Adjust the dot brightness by pressing the appropriate “Up” or “Down” button.

Battery Run Time and Battery Life

The Defender-ST™ uses a CR2032 battery. The battery run time is the actual power draw of the unit compared to the capacity of the battery. Not all batteries have the same output. On average, with the Defender-ST™ in constant on mode with the Auto-Shutoff disabled the battery run time at setting six is 25,000 hours.

Battery life is the time measured in-between putting a battery into the unit and having to replace it. This number is a variable based on many different factors including, time used, brightness setting changes, Auto-Shutoff mode engaged etc. While this number is dependent on the user, here are some scenarios:

	Battery Life	
Defender-ST™ on setting 6 for 24 hours a day	25,000 Hours	1,041 Days
Defender-ST™ on setting 6 for 12 hours a day	50,000 Hours	2,083 Days
Defender-ST™ on setting 6 for 8 hours a day	75,000 Hours	3,125 Days
Defender-ST™ on setting 6 for 6 hours a day	100,000 Hours	4,166 Days

Turret Adjustments

Turrets are used to adjust the bullet's point of impact and are marked in Minute of Angle (MOA). There are two turrets on your green dot. The turret on the top of the green dot is the Elevation Turret and is used to adjust the point of impact up and down. The turret on the right-hand side is the Windage Turret and is used to adjust the point of impact left and right.

Your Defender-ST™ features adjustable Elevation and Windage Turrets with audible and tactile clicks. Each click moves the bullet's point of impact 1 Minute Of Angle. The chart below indicates how many inches your bullet's point of impact will move per 1 MOA click at different distances from your target.

DISTANCE IN YARDS	MOVEMENT PER CLICK (INCHES)
10 YDS.	~0.10"
20 YDS.	~0.20"
25 YDS.	~0.25"
30 YDS.	~0.30"
40 YDS.	~0.40"
50 YDS.	~0.50"
75 YDS.	~0.75"
100 YDS.	~1.00"
200 YDS.	~2.00"

Note: If not shooting at one of the example distances, use this formula:

(Yardage x .01) x 1.047 = Movement Per Click in Inches

EXAMPLE: At a 25-yard sight-in distance, it will take 12 clicks of the turret to move the bullet's point-of-impact three inches.

To Make Turret Adjustments:

1. Use the included Custom Tool.
2. Turn the turret in the appropriate direction: up/down or left/right as indicated by the arrows.

   Note: The green dot will move in the opposite direction of the turrets when dialed.

Mounting the Defender-ST™ Micro Green Dot

To get the best results from your Defender-ST™ Micro Green Dot, proper mounting is essential. Although not difficult, the correct steps must be followed.

The Defender-ST™ utilizes the same screw spacing as the DeltaPoint® Pro footprint and will work on any pistol that is cut for a DeltaPoint® Pro green dot. You may have to reference the pistol's manual to see if any additional plates are required to mount the green dot. If a plate is required, mount the plate using the pistol or plate manufacturer's recommendations.

To install the green dot, place the sight on top of your pistol's slide or plate, being careful to match up the screw holes and recoil lugs. Select the appropriate screw size from the screws included in the box with the Defender-ST™. Tighten down the screws to 15 in-lbs

without thread locking compound or 10-12 in-lbs with non-permanent thread locking compound. Thread locking compound is recommended to ensure the screws do not back out under recoil.

If the screw needed is not included, please contact our Technical Dept at **1-800-4VORTEX**.

Note: The Defender-ST™ comes with a mounting plate specifically designed for the Glock MOS System. This plate replaces the Glock MOS number 4 plate. This is included because it provides better lock up on the MOS system by having four recoil lugs instead of two.

SIGHTING IN

After the green dot has been mounted, an initial sight-in at 25 yards is recommended. This should allow for the unit to have enough travel to overcome most alignment issues.

1. Following all safe shooting practices, fire a three-shot group as precisely as possible.
2. Next, adjust the illuminated dot to match the approximate center of the shot group. Be sure to read Page 10 prior to making adjustments.
3. Carefully, fire another three-shot group and see if the bullet group is centered on the bullseye. This procedure can be repeated as many times as necessary to achieve a perfect zero.

Note: When you dial the turrets up, the dot will move down, if you dial down, the dot will move up, if you dial left, the dot will move right, if you dial right, the dot will move left.

MAINTENANCE AND STORAGE

Cleaning

Your Defender-ST™ Micro Green Dot requires very little routine maintenance other than periodically cleaning the exterior lenses. The optic's 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 very small amount of water or pure alcohol, can help remove stubborn dried water spots.

Lubrication

All components of the Defender-ST™ Micro Green Dot are permanently lubricated, so no additional lubricant should be applied.

Note: Other than removing the Battery Cap and Rubber Cover, do not attempt to disassemble any components of the Defender-ST™ Micro Green Dot. Disassembly may void warranty.

Storage

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

TROUBLESHOOTING

Common Issues

Green Dot Does Not Illuminate

If the green dot does not illuminate, please check the following before returning the green dot for service:

- Is the battery dead? Replace the battery.
- Is the battery installed correctly? Be sure the battery is oriented with the "+" facing away from the unit.
- Is the battery cap loose? Be sure cover is snug and contact points are clean.

Dot Moves Within the Window

- This is a normal function of any green dot that is parallax free. The placement of the dot within the window does not affect your point of impact. As long as the dot is on the target and zeroed, you will hit your target.

Dot is Blooming

- An astigmatism may cause the dot to look clustered, linear, or starbursted. Lowering the green dot intensity to an appropriate brightness setting, focusing on the target and not the dot, and keeping both eyes open helps reduce blooming.

Dot is Stuck in Bottom of Window or Dot Will Not Move

- If the dot is stuck in the bottom of the window, the green dot could be mounted backward. The Down button should be on the green dot's right side when mounted.

Green Dot Does Not Line Up with My Iron Sights

- Iron sights are independent of the dot. You can have the iron sights sighted in and the green dot sighted in and they may not line up with one another.

Mounting Screws Coming Loose

- Check to make sure that the mounting screws were torqued to proper specifications. Add a thread locking compound to the screw. Torque to 10-12 in-lbs with thread locking compound or 15 in-lbs without.

Bullets Are Not Grouping

- Be sure all mount screws are tight. You should not be able to twist or move the green dot in any direction. Many times, problems thought to be with the green dot are actually mount problems.

SAFETY AND PRECAUTIONS

The Defender-ST™ Micro Green Dot contains a 3V CR2032 battery.

⚠WARNING

- **INGESTION HAZARD:** this product contains a CR2032, 3V button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **INTERNAL CHEMICAL BURNS** in as little as **2 HOURS.**
- **KEEP** new and used batteries **OUT OF REACH OF CHILDREN.**
- **SEEK IMMEDIATE MEDICAL ATTENTION** if a battery is suspected to be swallowed or inserted inside any part of the body.

- Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
- Even used batteries may cause severe injury or death.
- If ingested, call a local poison control center for treatment information.
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).

- Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

NOTICE

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This product may be protected by patents in the U.S. and elsewhere for Vortex Optics. **http://vtx.legal** website is provided to satisfy the virtual patent marking provisions of various jurisdictions including the virtual patent marking provisions of the America Invents Act and provide notice under 35 U.S.C. §287(a). Please visit **http://vtx.legal** to view list of products that may be covered by one or more U.S./Foreign patents or published patent applications.

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

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