



RETICLE MANUAL

# **AR-BDC3**

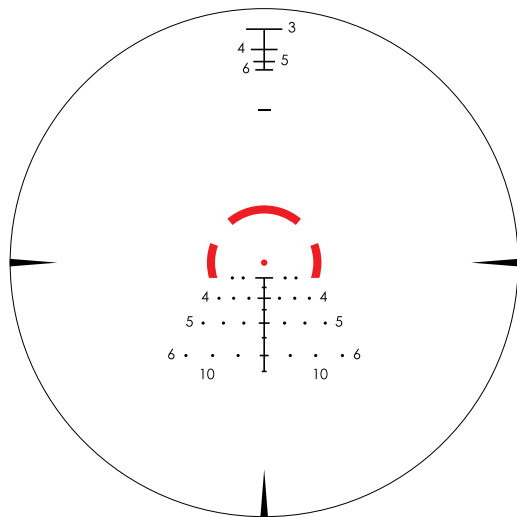
## **MOA RETICLE**

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**SECOND FOCAL PLANE**

## AR-BDC3 MOA RETICLE

Our exclusive AR-BDC3 reticle facilitates rapid shooting at distances from 20 to 650 yards with popular .223/5.56mm and .308/7.62mm loads. This versatile reticle can also be used effectively with a wide variety of other firearms and loads using the Precision BDC Technique outlined on page 7 of this manual.

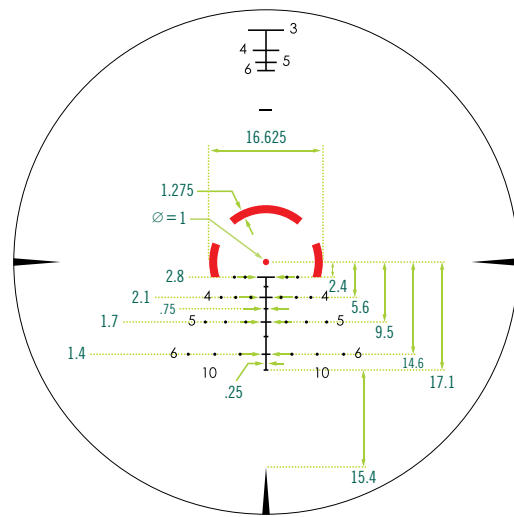


Images are for representation only. Product may vary slightly from what is shown.

## MOA Subtensions

The AR-BDC3 MOA reticle is based on Minute of Angle (MOA) subtensions. MOA is an angular unit of measurement used to account for bullet drop, wind corrections, and range estimation. 1 MOA will correspond to 1.047" for each 100 yards.

**Note:** Although 1 MOA is very commonly corresponded to 1" at 100 yards, this is not correct. 1 MOA at 100 yards equals 1.047". Calling 1 MOA, 1" per hundred yards may be acceptable for short distances but will result in a five percent error in ranging and holdovers. This could result in missed shots.



**Note:** The AR-BDC3 reticle is available in second focal plane (SFP) riflescopes. The MOA values are valid at the highest magnification on most models. Check your riflescope's product manual to validate the subtended magnification of your scope.

**Note:** Subtended magnification is the magnification to which the reticle is calibrated to and where all the values stated are correct.

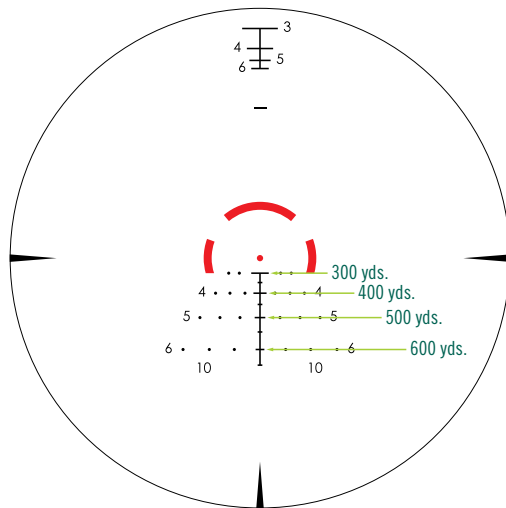
## Second Focal Plane Reticles

In SFP riflescopes, the listed MOA subtensions are calibrated to a specific magnification (subtended magnification), typically the highest. The shooter can use the center dot on any magnification, but when using the hashmarks for longer-range shots or windage corrections, the shooter must be on the subtended magnification. If the shooter is not on the subtended magnification, additional calculations must be done to determine the hashmark's value.

## STANDARD BDC TECHNIQUE

Most rifles will work well zeroed at 50/200 yards using the center dot. Consult the riflescope product manual for the sight in procedure. For most popular 5.56/.223 loads and .308/7.62mm loads, the center dot will then provide good accuracy from 20 to 220 yards.

Use the lower hashmarks when aiming at targets farther than your zero distance. See the corresponding target ranges for the hashmarks listed on page 6.



**STANDARD BULLET DROP FOR .223/5.56MM LOADS****.223/5.56mm, 60 gr., 3050 FPS Muzzle Velocity**

(Main crosshair zeroed at 50/200 yds.)

HASHMARK	SUBTENSION	DISTANCE	BULLET DROP
Zeroed	—	200 yds.	0"
1st	2.4 MOA	300 yds.	7.5"
2nd	5.6 MOA	400 yds.	23.5"
3rd	9.5 MOA	500 yds.	49.7"
4th	14.6 MOA	600 yds.	92.7"

**STANDARD BULLET DROP FOR .308/7.62MM LOADS****.308/7.62mm, 168 gr., 2650 FPS Muzzle Velocity**

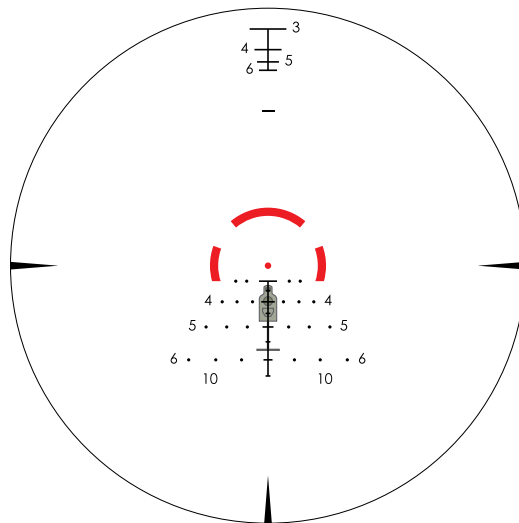
(Main crosshair zeroed at 50/200 yds.)

HASHMARK	SUBTENSION	DISTANCE	BULLET DROP
Zeroed	—	200 yds.	0"
1st	2.4 MOA	285 yds.	7.2"
2nd	5.6 MOA	385 yds.	22"
3rd	9.5 MOA	485 yds.	47.4"
4th	14.6 MOA	600 yds.	92"

**Note:** Bullet Drop Compensating (BDC) reticles are designed to get rounds on target quickly. Distances will be approximate, and will change depending on the gun, load, and environmental conditions. Using the MOA values for each hashmark you can figure out exactly where your specific load will line up with each hashmark. You are not limited to using a .223/5.56mm or .308/7.62mm. The AR-BDC3 MOA reticle is a second focal plane reticle, therefore all the hashmarks will only be true on their subtended magnification.

The AR-BDC3 MOA reticle makes it easy to quickly select the correct bullet-drop reference. If the shooter prefers to dial for bullet drop using the Elevation Turret, knowing the bullet drop in MOA will allow for much easier adjustments.

If shooting a known range, simply use the hashmarks that correspond to the ballistics of your ammo. Each hashmark down form the center dot represents 50 yards, with common .223/5.56mm loads.



**Elevation correction at 400 yards and no wind  
(.223/5.56mm round).**

## PRECISION BDC TECHNIQUE

If you wish to get the best accuracy, or have a caliber that is not listed, you can get more detailed ballistic data using the Vortex Long Range Ballistic Calculator (LRBC) located at [vortexoptics.com](http://vortexoptics.com).



1. Input your max shooting distance and yardage increments you would like displayed. We recommend selecting a shooting distance farther than what you plan on shooting and the smallest increments allowed (10 yds.).
2. Input your ammunition data. You can find this information on the ammo box or on the manufacturer's website. For more accurate information, chronograph your rifle to obtain your true muzzle velocity.
3. Input your zero range and firearm information.
4. Input your environmental data.
5. Select "Calculate."
6. Select "MOA."
7. Cross reference the bullet's drop with the hashmark's values (2.4, 5.6, 9.5, 14.6 MOA) and the corresponding yardage. If the drop does not match up exactly, round to the closest number.

### Example:

#### BULLET DROP FOR SUBSONIC 300 BLACKOUT

##### 220 GR., 1000 FPS MUZZLE VELOCITY

(Main crosshair zeroed at 50 yds.)

YARDS	VELOCITY (FPS)	ELEVATION (MOA)
50 yds.	984	0
75 yds.	977	2.4
100 yds.	970	6
125 yds.	963	9.5
150 yds.	956	13.9

\* LRBC doesn't include 5 yard increments. Numbers are an estimated reference.

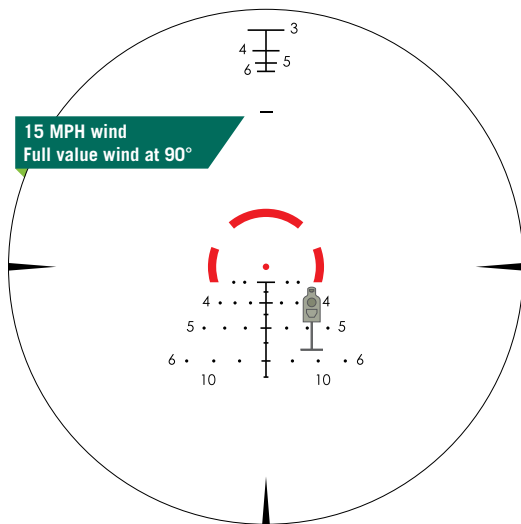
## WINDAGE CORRECTION

Using the reticle for effective windage leads requires thorough knowledge of your weapon system's ballistic performance under varying conditions and experience in reading wind strengths. As a bullet drops, it is important to learn a particular weapon's windage corrections in MOA. Always hold the reticle into the wind when correcting for wind drift.

## Basic Windage Correction on Center Dot

When dialing windage adjustments, use the center dot for windage or moving target leads.

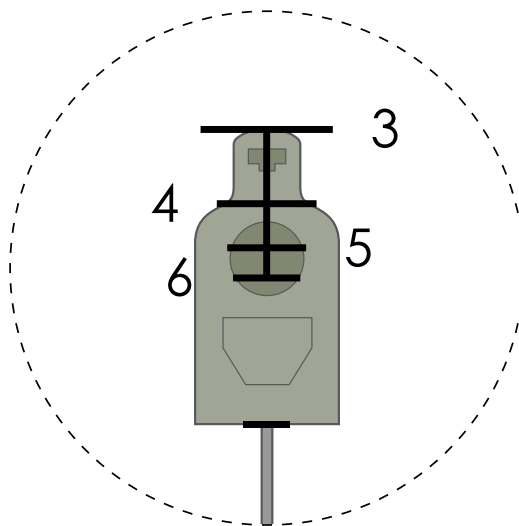
**Note:** Starting at the vertical stadia, each dot represents a 5, 10, or 15 MPH crosswind hold.



Windage correction at 400 yards and 15 mph crosswind.

## RANGING

The ranging feature at the top of the reticle can be used to range a silhouette target. The horizontal lines correlate to the width of the shoulders of a silhouette target (18" across and 40" tall) at each distance. Place the horizontal hashmark at the base of the target. With the firearm supported, look at the top of the target to see which reference line the target aligns with. The 3, 4, 5, and 6 indicate the range in hundreds of yards.



**Note:** Example of a 40" tall target at 300 yards.



## **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.

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*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  
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