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OPTICS



**RETICLE
MANUAL**

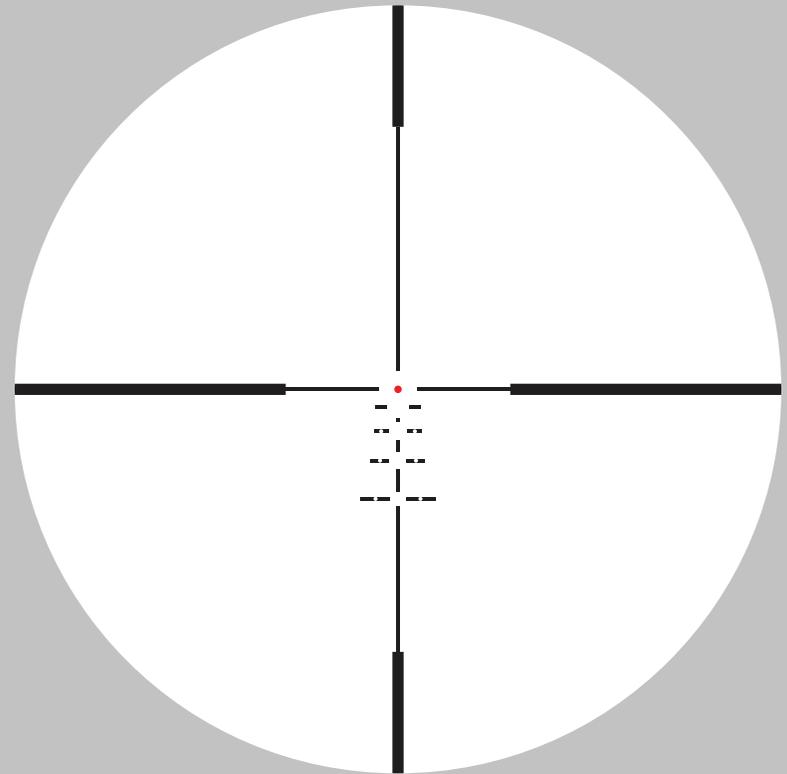
ATSR1 SFP IR MOA

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The ATHLON® ATSR1 SFP IR MOA Reticle

The ATSR1 reticle is specifically designed for 3 gun competition (68 grain hornady and 69 grain sierra cartridge) and any Nato 5.56/.223 caliber rifle with hold over points for both bullet drop and wind. The 1 moa center red dot is perfect for zeroing your rifle at 200 yard. You can use the open centers below the center red dot for targets at 300, 400, 500, and 600 yard. The unique design of open centers does not block any 12~18 inch targets beyond 200 yards and allows a shooter to take a quick shot once a target fills up the gap in the middle.

Application: 3 Gun Competition and Short and Mid-Range Application



Note: The reticle image shown above will appear differently among different models due to different magnification and location of the reticle.

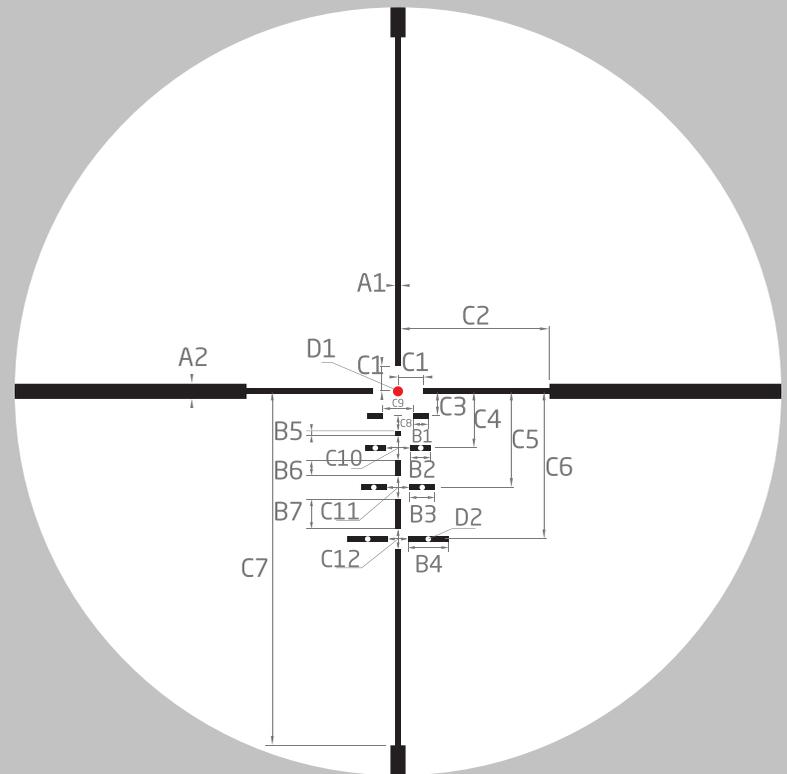
Reticle Subtensions

The ATSR1 SFP IR MOA reticle is based on the minute of angle, a unit of angular measurement, usually shortened to moa. A "moa" is defined as "one minute of an angle". As a full circle has 360 degrees, and each degree is composed of 60 minutes (60'), thus there are 360 (degrees) x 60 (minutes) = 21,600 minutes in a circle. Since there are 360 degree in a circle, we can get 360 degree/21600 minutes=0.016667°/minute. If the target is 100 yards (3600 inches) away, we can use a formula, $3600 * \text{TAN}(\text{RADIANS}(0.016667))$, to get 1.047 inches which means 1 moa equals to 1.047 inches at 100 yards. Many people just round up the 1.047 inches to 1 inch @100 yards. If you are using metric system, formula $100000\text{mm} * \text{TAN}(\text{RADIANS}(0.01667))$ gets you that 1 moa equals to 29.1mm @100 meters.

The ATSR1 SFP IR MOA reticle is located at the second plane which stays in between erector tube and ocular lens. The size or the appearance of a second focal plane reticle does not change when you try to zoom in or zoom out, however the relative ratio between reticle and your target changes all the time because your target appears bigger or smaller when the magnification changes.

The subtensions of a second focal plain reticle and ranging capability are only accurate at certain magnification and due to this nature, the subtensions of the reticle are only valid at 6x.

Example



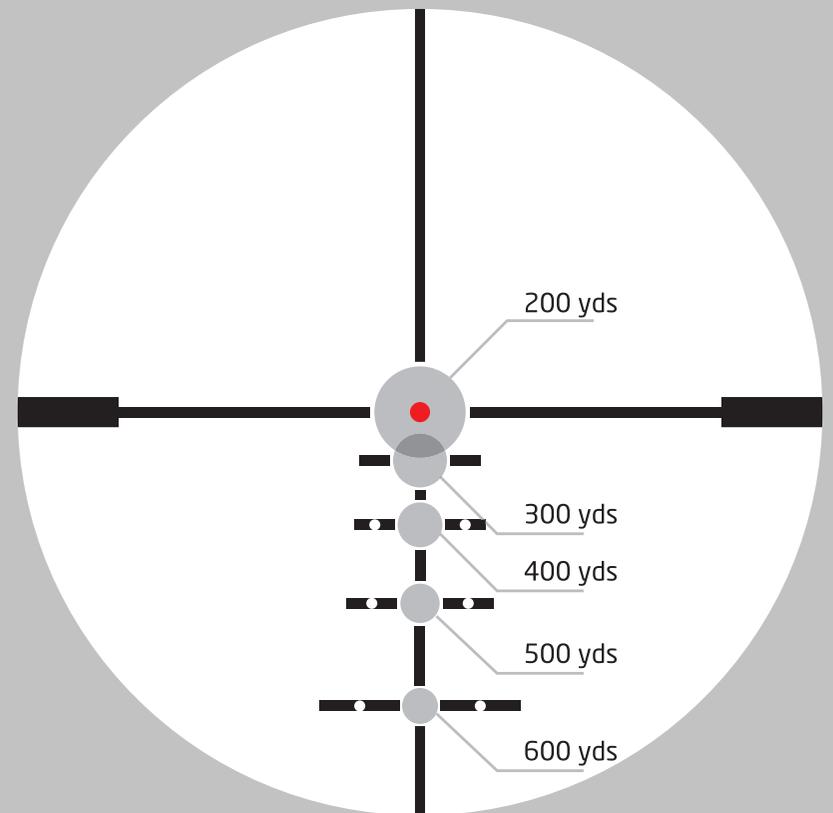
ATSR1 SFP IR MOA	A1	A2	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3
SUBTENSIONS IN MOA	.5	1.5	1.5	2	2.5	4	.45	1.5	2.95	2.5	15	2.4
	C4	C5	C6	C7	C8	C9	C10	C11	C12	D1	D2	
	5.6	9.5	14.6	35	1.5	3	2.5	2.3	2	1	.55	

Holdover For Compensating Bullet Drop

To be able to use the elevation holdovers effectively, you have to know the distance to your target and bullet trajectory (bullet drop in inches or moas). ATSR1 reticle is effective for any typical NATO 5.56/.223 ammunition up to 600 yard in general, but is more precise for 68 grain hornady and 69 grain sierra cartridge both of which are widely used by 3 GUN shooters.

Under no wind condition, you can zero in your rifle at 200 yard and use the center red dot for targets at both 100 and 200 yards. The center of the first open gap below (2.4 inches below the center of red dot) is for a 300 yard target; the center of second open gap (5.6 inches below) is for a 400 yard target; the center of third open gap (9.5 inches below) is for a 500 yard target; the center of the last open gap (14.6 inches below) is for a 600 yard target. The sizes of the open gaps are designed specifically for fitting a typical 12-16 inch target used in 3 GUN competition. Once you see a target filled up the gap, you know can just simply take your shoot.

Example

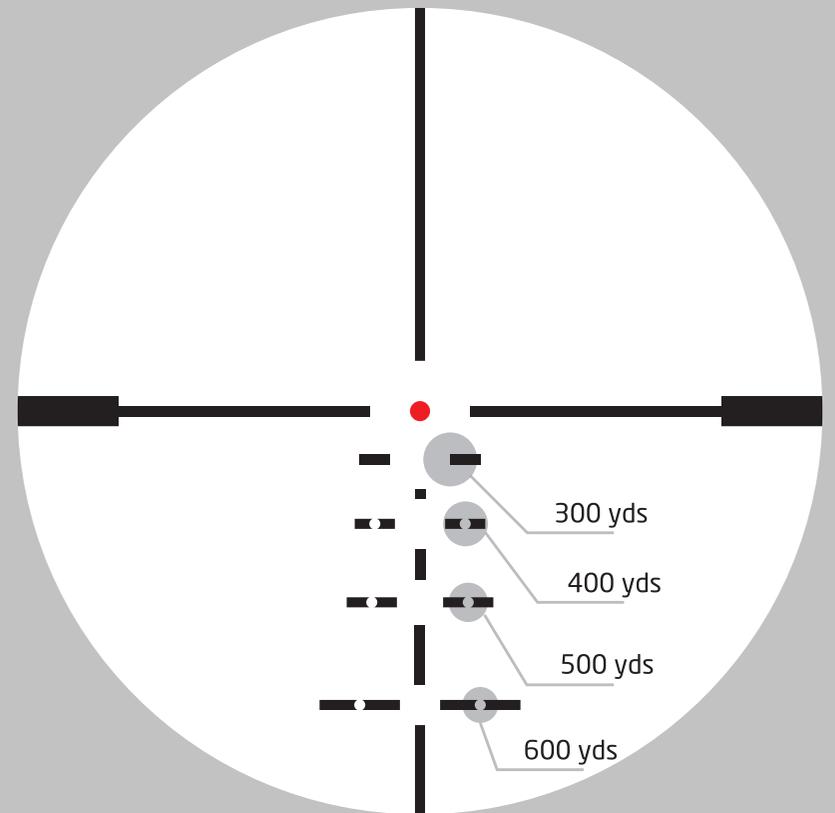


*Bullet holdovers for target at every 100 yards. No wind.
Zeroed at 200 yards, ballistic calculation based on 68 grain hornady and 69 grain sierra cartridge.*

Holdover for Wind Correction and Moving Target

The flying time of a bullet, the velocity and direction of the wind and the "slippery-ness" of the bullet expressed in BC (Ballistic Coefficient) determine your holdover for wind correction. The windage hold over positions are calibrated based on 5 mph wind at 90 degree from right or left.

Example



5 mph wind from right to left, holdover for wind correction at every 100 yards.

THE ATHLON GOLD MEDEL LIFETIME WARRANTY*

Your Athlon product is not only warranted to be free of defects in materials and workmanship for the lifetime of the product. Athlon will also repair or replace, at no charge to you, your product if you should damage it through normal use. No receipt is needed, no registration is required. This is a commitment that Athlon Optics will be the best product you can buy for your money.

**This warranty does not cover damages caused by deliberate damage, misuse, theft or maintenance provided by someone other than the Athlon Authorized Service Department.*





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