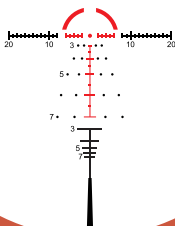




ATMR4 SFP IR MOA

Helos BTR GEN2 1-10x28 Riflescope

SECOND FOCAL PLANE

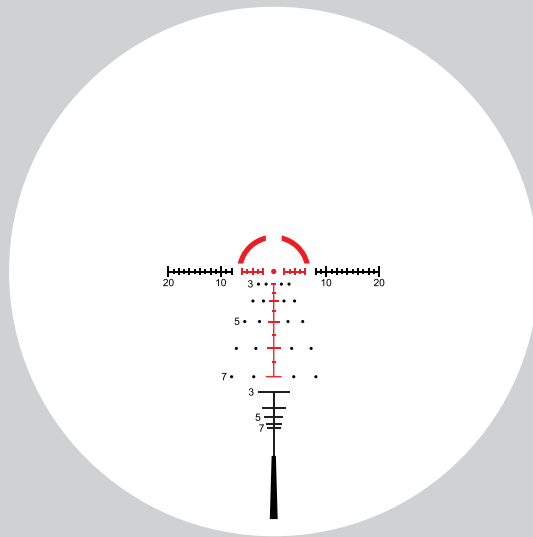


RETICLE MANUAL

THE ATHLON® ATMR4 SFP IR MOA RETICLE

ATMR4 SFP IR MOA reticle is designed for the fast CQB or long-range engagements. The 12 moa illuminated quartered half circle aids in rapid acquisition for close range targets or hunting and stalking in thick brush. The drop compensation is suitable for many standard and magnum calibers out to 700 yards. A target ranging reticle located just above the vertical post is designed to estimate target range on an 36" silhouette target.

Application: Short and Mid Range Hunting and Tactical application

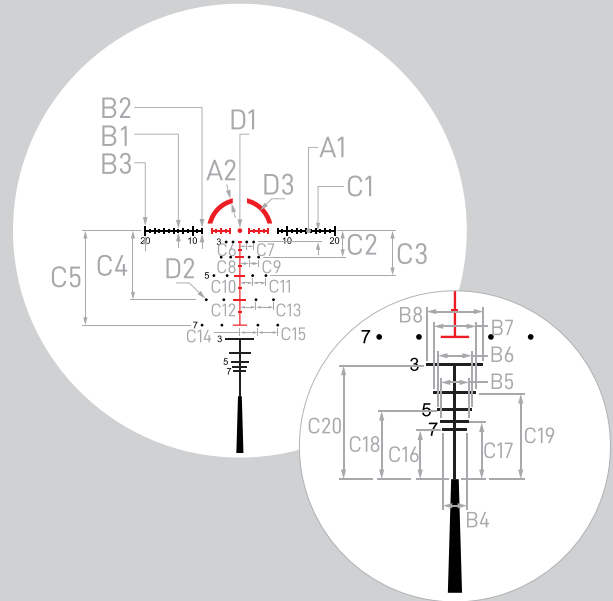


RETICLE SUBTENSIONS

The ATMR4 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 degrees/minute. If the target is 100 yards (3600 inches) away, we can use a formula, $3600 * \text{TAN}(\text{RADIANS}(.016667))$, to get 1.047 inches which means 1 moa equals to 1.047 inches at 100 yards. Many people just round down the 1.047 inches to 1 inch @100 yards. If you are using metric system, formula $10000\text{mm} * \text{TAN}(\text{RADIANS}(.016667))$ gets you that 1 moa equals to 29.1mm @100 meters.

The ATMR4 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 10x.



SUBTENSIONS IN MOA

A1	A2	B1	B2	B3	B4	B5	B6	B7	B8	C1
.25	1	.8	1.2	2	2.6	3	3.6	4.5	6	2.4
C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
5.6	9.5	14.6	20	1.4	1.5	1.95	2.1	2.7	2.8	3.4
C13	C14	C15	C16	C17	C18	C19	C20	D1	D2	D3
3.7	3.8	4.2	5.15	6	7.2	9	12	1	.6	12

EXAMPLE

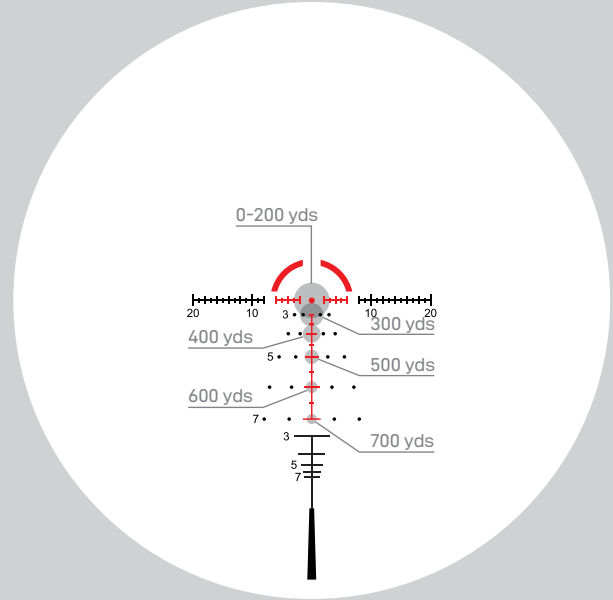
HOLDOVER FOR COMPENSATING BULLET DROP

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 moa). Since many bullet ballistic charts highlight bullet drops in inches and 1moa equals to 1.047 (rounded down to 1 inch) at 100 yards, 2 inches at 200 yards, and 10 inches at 1000 yards, etc, we can use those to calculate the holdover position in moa on this reticle.

For example, under no wind condition, if you knew your target is at 300 yards and your ammo has a 7.2 inch bullet drop at that distance, you want to use 2.4 moa holdover point. Here is how you got the 2.4 moa: since 1 moa equals to 1 inch x 3 =3 inches at 300 yards, and then 2.4 moa equal to 2.4 x 3 inches =7.2 inches at 300 yards, you want to hold the 2.4 moa drop point to compensate the 7.2 inch bullet drop.

To achieve ultimate precision, it is always a better idea to develop your own D.O.P.E (Data of Previous Engagement)chart so that you can refer back to it for specific bullet drop compensation under different ambient environment and weather condition.

The ATMR4 reticle is designed for 68 and 69 grain BTHP 223 Rem/5.56 mm NATO rounds. It is also suitable for many other bullet weights in these calibers.



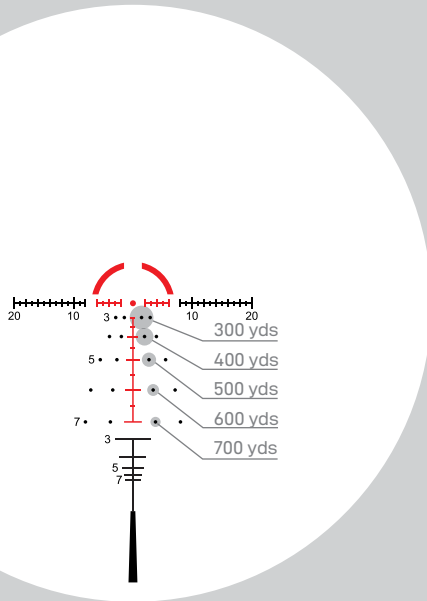
Bullet holdovers for target at every 100 yards. No wind. Zeroed at 200 yards, ballistic calculation based on 68 grain hornady and 69 grain sierra cartridge.

HOLDOVER FOR WIND CORRECTION

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. Once again you have to understand the impact of those three factors on

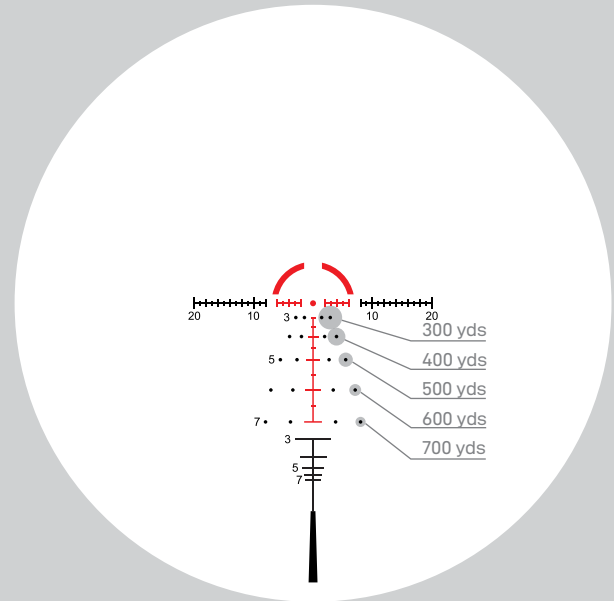
your bullet's flying path in terms of inches or moa and calculate how much holdover you have to hold, and then finding the corresponding holdover position on the reticle is a much easier task to accomplish.

EXAMPLE 1



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

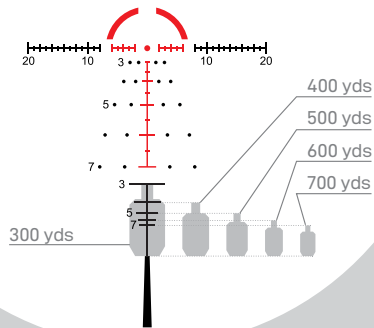
EXAMPLE 2



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

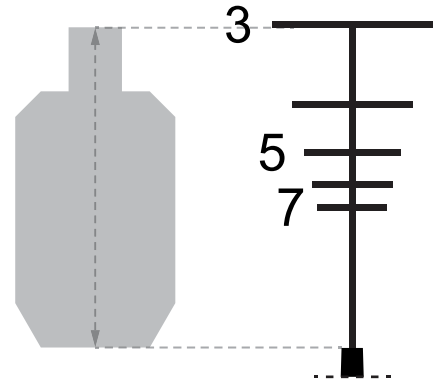
DISTANCE RANGING RETICLE

EXAMPLE



The gap between the ranging reticle line to the top of the thick black line is 36 inches, a height of a standard silhouette target.

DETAIL



Example of a 36 inch silhouette target at 300 yds.

If you can fit a silhouette target into a gap just call out the distance in hundred yards by using the number beside the horizontal line.

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