MAZTECH INDUSTRIES

X4 FIRE CONTROL SYSTEM

X4-FCS

WITH A

USER MANUAL

March 2025

Table of Contents

Congratulations on your purchase! 1
Package Contents 2
Charging Your Batteries 4
Getting to Know Your X4-FCS™ 6
Installing Batteries 8
Powering On/Off Your X4-FCS™ 12
X4-FCS™ Compass Calibration 16
Installing X4-FCS™ on Your Weapon 20
Installing Your LPVO 22
LPVO Initial Alignment 25
Installing the Maztech Companion App 32
Connecting X4-FCS™ to Maztech Companion App 34
Setting Up Ballistic Profiles 41
Weapon Zeroing and Final LPVO Alignment 50
Using the X4-FCS™ Reticle 57
Maintenance and Care 59
Troubleshooting 60
Battery Safety 61
Terms of Use, Warranty, License & Liability Waiver 62
FCC Compliance Notices 63
Third Party Acknowledgements 65
Export Control Notice 66

CONGRATULATIONS ON YOUR PURCHASE!

The X4-FCS™ is a revolutionary fire control system (FCS) with integrated Applied Ballistics® calculator for your preferred Low Power Variable Optic (LPVO).

This User Manual will give you “the basics” on how to install and configure your X4-FCS™.

For instructional videos and a more detailed online user manual, it is recommended that you visit our website at www.MaztechIndustries.com. You can also get there by scanning this QR code with your smartphone or tablet:

PACKAGE CONTENTS

The following are included with the X4-FCS™:

18650 Batteries

Bluetooth®
USB Dongle

USB-C Cables

T15 Torx Wrench

Mini Flathead
Screwdriver

Loctite® 242

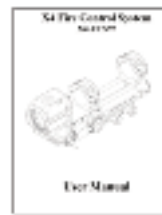
Cloth Drawstring Bag

Stickers

Lens Cleaning Cloth

Patch

Quick Start Guide

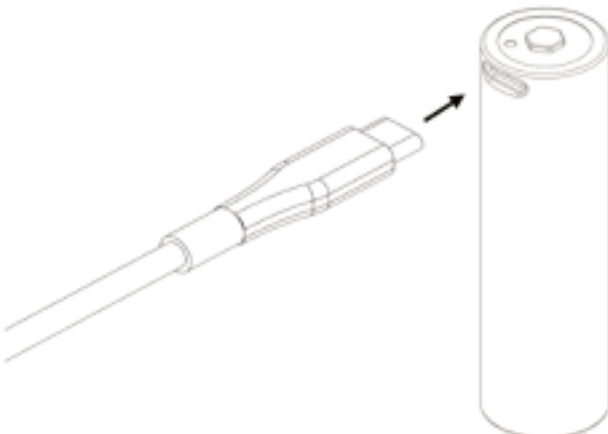


This Manual

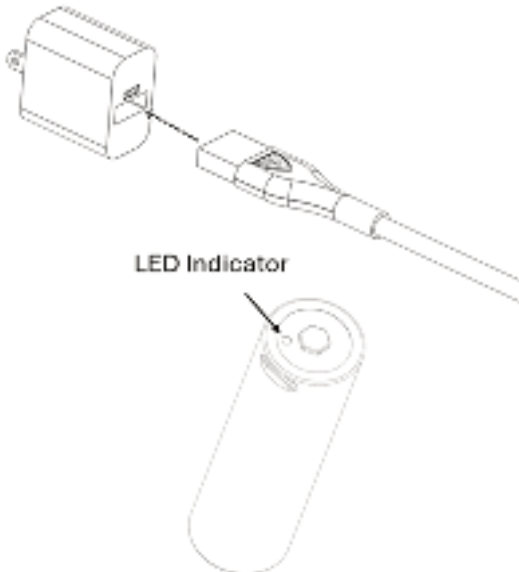
Charging Your Batteries

It is recommended to charge the Maztech 18650 batteries before first use by utilizing the provided USB-C cables:

Plug the USB-C cable into the battery charging port:



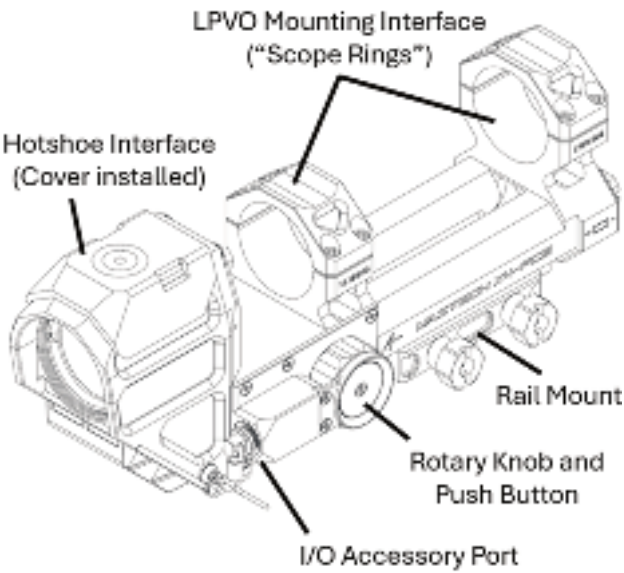
Plug the other end into any standard USB port or wall-charger (not provided):

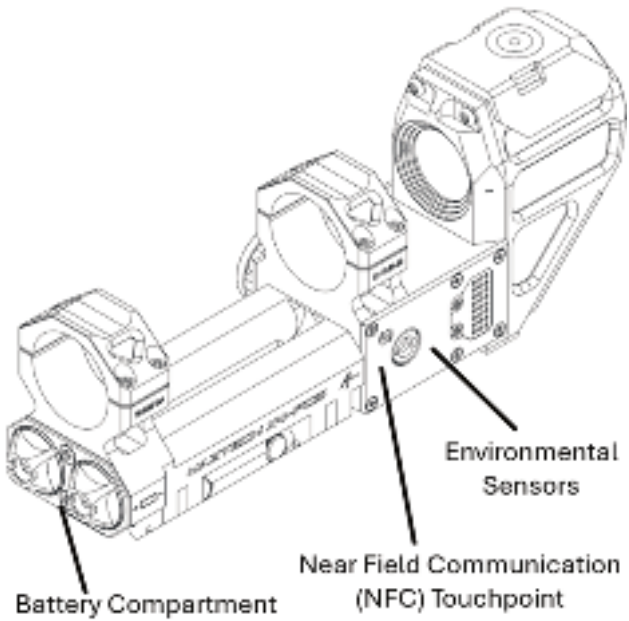


When properly charging, a small LED on the battery will blink red. It will become **solid red** when charging is complete

- **Important**: If the light on the battery is solid green, this means the battery is NOT charging. Try a different power source.

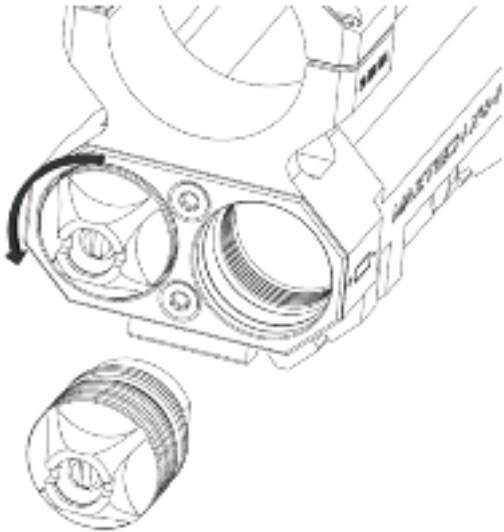
GETTING TO KNOW YOUR X4-FCS™



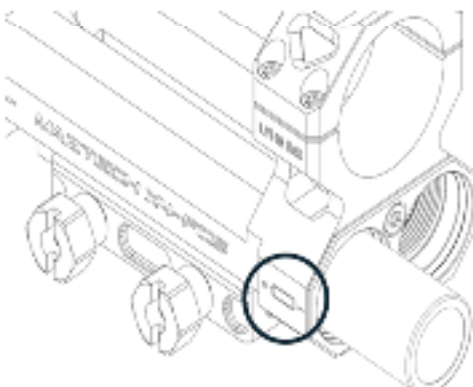

Environmental
Sensors
Near Field Communication
(NFC) Touchpoint
Battery Compartment

Installing Batteries

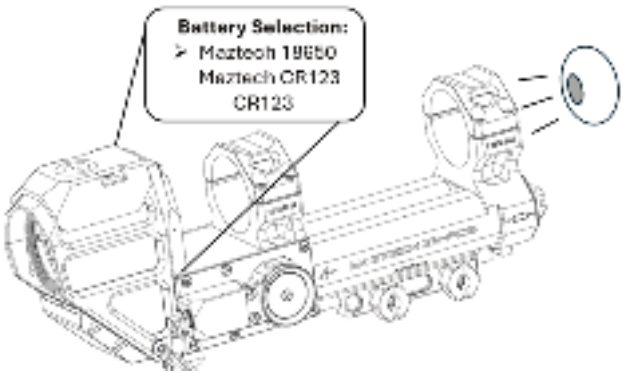
Unscrew the battery caps by hand:



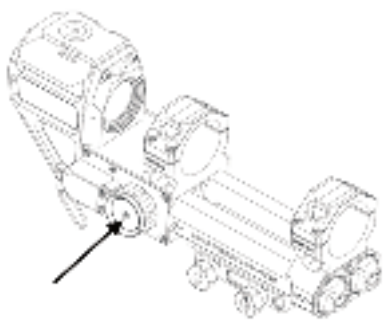
Insert 18650 batteries with +/- polarity as shown on the X4-FCS™ housing:



Hand-tighten the battery caps, then look into the X4-FCS™ display as shown. Confirm the arrow is selecting **Maztech 18650** as the battery type:



Press the button on the X4-FCS™ to confirm battery type selection:



The X4-FCS™ display should now look as follows:

Note on Alternate Batteries:

- Use only **protected cell** 18650 batteries*

  OR

- **Four CR123 batteries** can also be utilized. See Maztech's Online User Manual at www.MaztechIndustries.com for instructions on how to adjust your X4-FCS™ battery caps to work with CR123 batteries.

**18650 battery lengths can vary. See Online User Manual for instructions on how to adjust your X4-FCS™ battery caps to work with alternate batteries*

For important Battery Safety Information, see the Battery Safety section at the end of this manual.

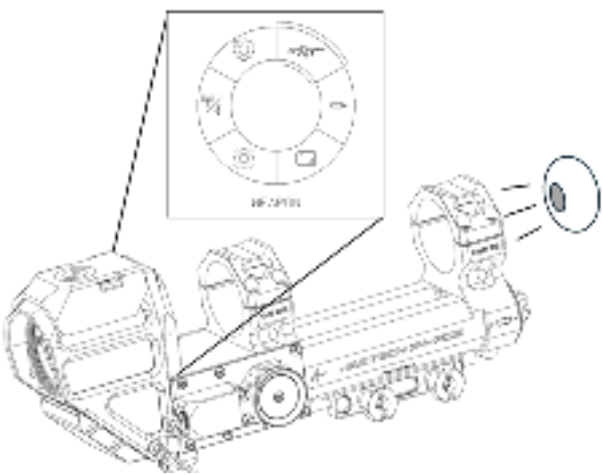
Powering On/Off Your X4-FCS™

The X4-FCS™ will automatically power-down after **30 minutes** of non-use (see the online manual to adjust this setting).

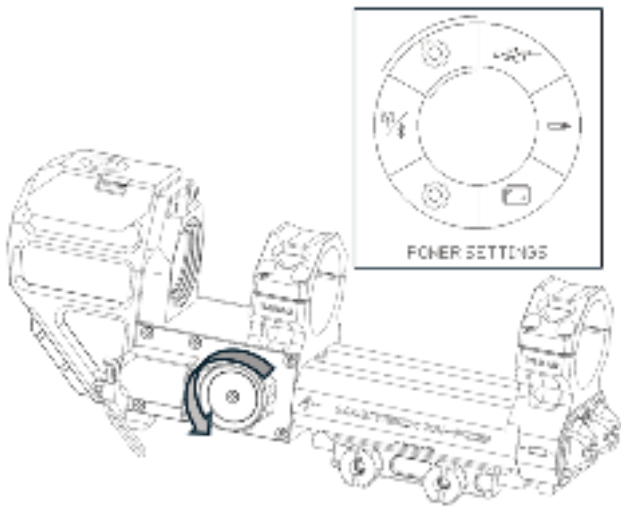
- **Shake-to-wake**: When motion is detected, it will power-up automatically.

To **manually** power-down and prevent motion from powering up the X4-FCS™:

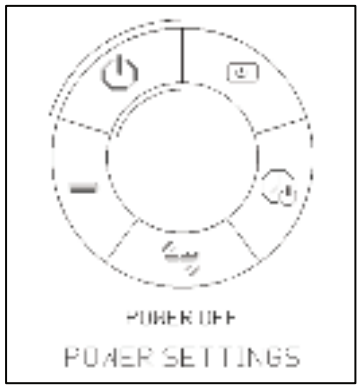
- **Click and hold** (for 1 second) the X4-FCS™ button. Then look into the X4-FCS™ display to see the X4-FCS™ main menu:



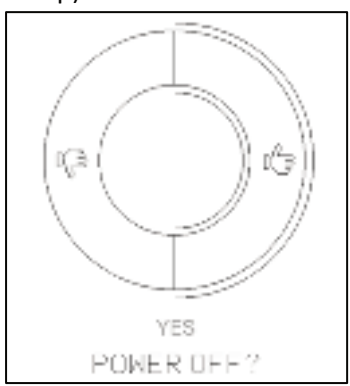
Rotate the knob to the POWER SETTINGS menu and click the button to select:



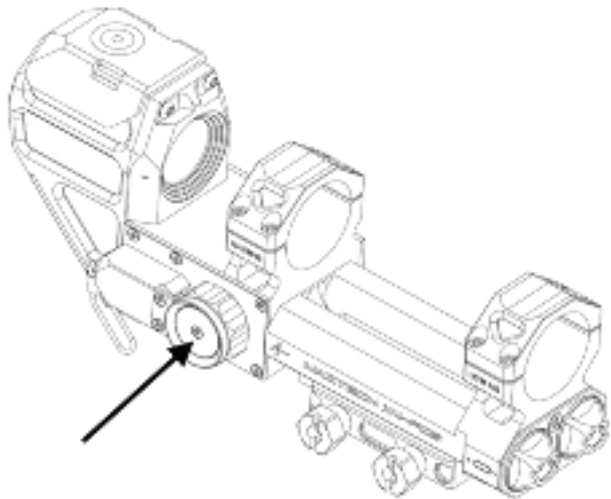
Rotate the knob again and select POWER OFF:



Rotate the knob again and select YES
(with Thumbs-Up):



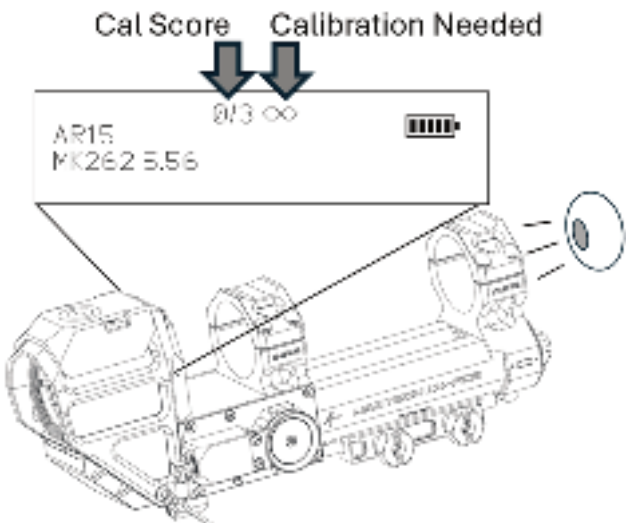
Important: After manually powering down the X4-FCS™, it will only turn back on when you press the X4-FCS™ button:



X4-FCS™ Compass Calibration

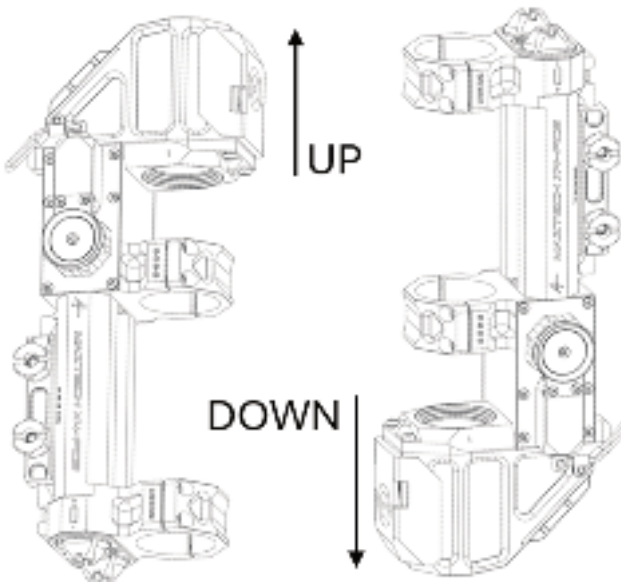
After batteries are installed, a simple calibration routine needs to be performed in order for the X4-FCS™ to display an accurate compass heading.

Looking into the X4-FCS™ display, you should see the following two indicators:



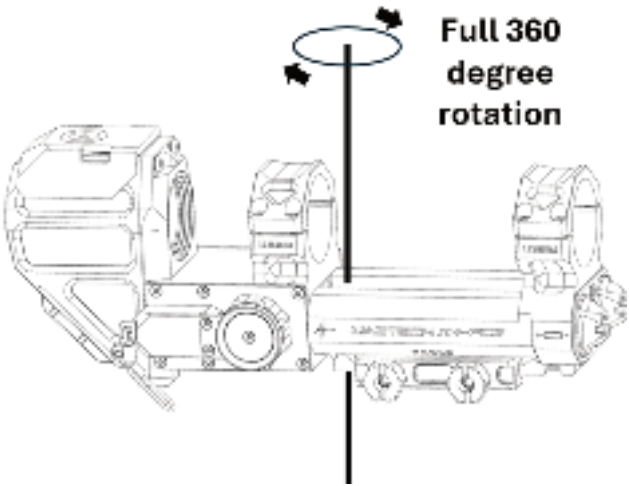
- **Tip**: If a compass heading is already shown on the display, then compass calibration is not needed.

Compass Calibration **Step 1 of 2**:



Point the X4-FCS™ up and down, holding it in each position for approximately 2 seconds.

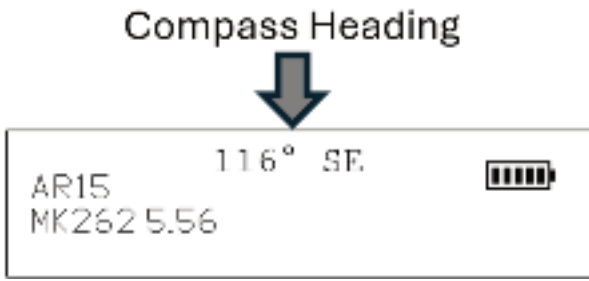
Compass Calibration **Step 2 of 2**:



While holding the X4-FCS™ **horizontal** to the ground, spin it around a full 360 degrees.

- **Tip**: For an online video demonstrating compass calibration, go to www.MaztechIndustries.com

After a successful calibration, you will see a proper compass heading in the X4-FCS™ display:



- **Tip**: If the compass fails to calibrate, remove and replace the battery cap, then repeat the compass calibration process.

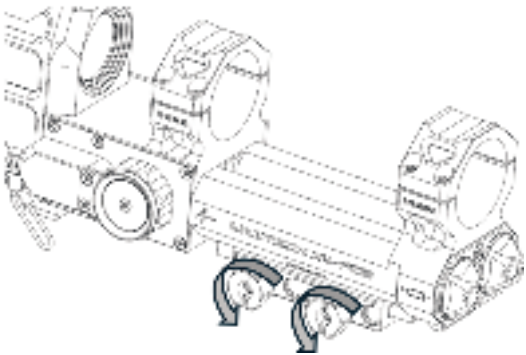
The X4-FCS™ compass will continuously auto-calibrate as you change locations. The only time the compass calibration will need to be re-performed is after the battery is changed.

- **Hint**: After installation of the X4-FCS™ on your weapon, field-strip your firearm in order to safely and easily perform compass calibration without having to remove the X4-FCS™ from your weapon.

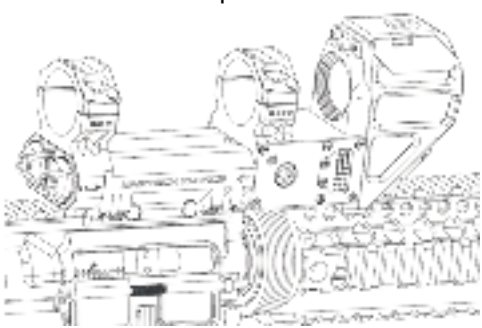
INSTALLING X4-FCS™ ON YOUR WEAPON

Tip: Perform compass calibration (see previous section) before installing X4-FCS™ on your weapon

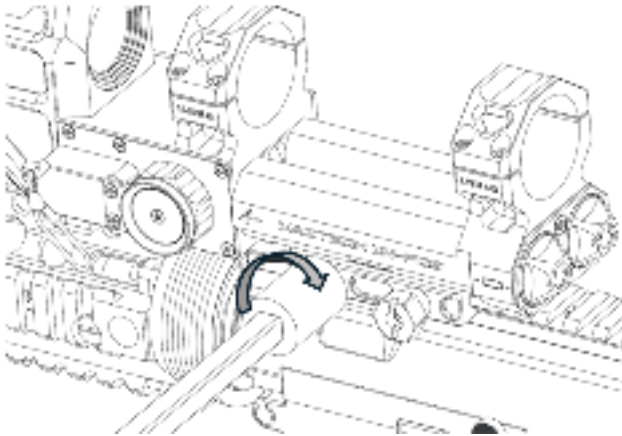
Loosen both rail bolts on your X4-FCS™:



Place X4-FCS™ onto weapon rail:



Tighten both rail bolts using a 1/2-inch wrench:

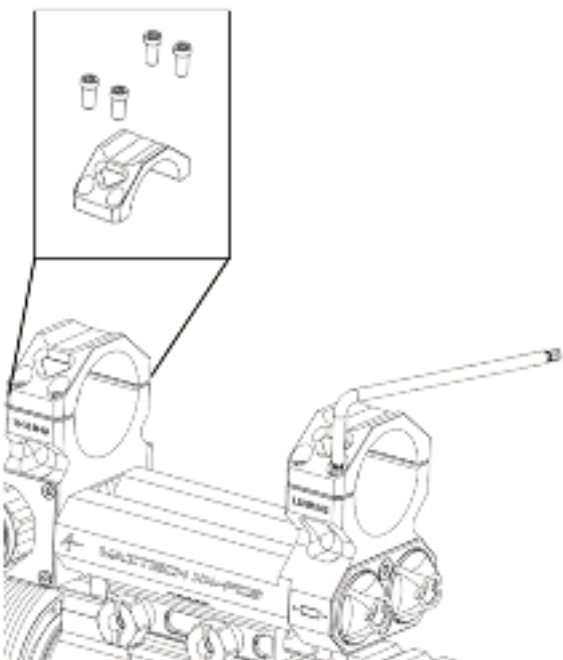


Important: Do not torque more than **77-in-lb**. If you do not have a torque wrench, turn to 1/4 turn past hand-tight.

INSTALLING YOUR LPVO

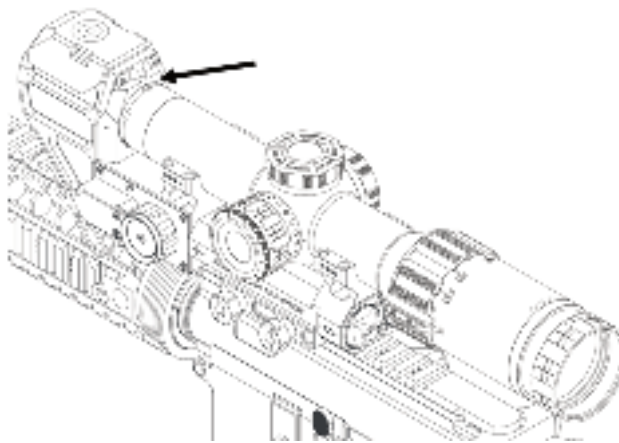
Tip: Install X4-FCS™ on your weapon (see previous section) before installing your LPVO.

Use a T15 Torx tool (provided) to remove the scope rings from the X4-FCS™:



Important: If you purchased an X4-FCS™ Diving Board Mount or you want to install a Reptilia® or Geissele® red-dot mount on top of your X4-FCS™, now is the time to locate it and have it ready to install.

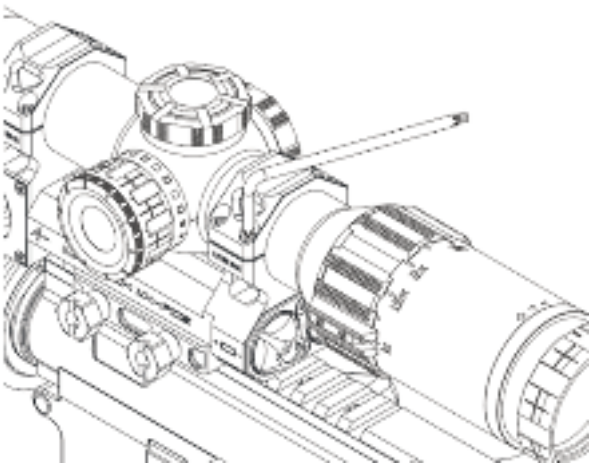
Place your LPVO inside the X4-FCS™ so that the front of the LPVO is contacting the X4-FCS™ housing:



Tip: If you are using the X4-FCS™ in a maritime environment, leave a small gap to allow for quicker water egress.

Place the scope rings back on the X4-FCS™ and **loosely-tighten** the T15 Torx fasteners:

- **Note**: If desired, use X4 Diving Board Mount or Reptilia® or Geissele® red-dot mount instead of the X4-FCS™ Scope Rings. In these cases, it is required to use the fasteners from the original manufacturer.

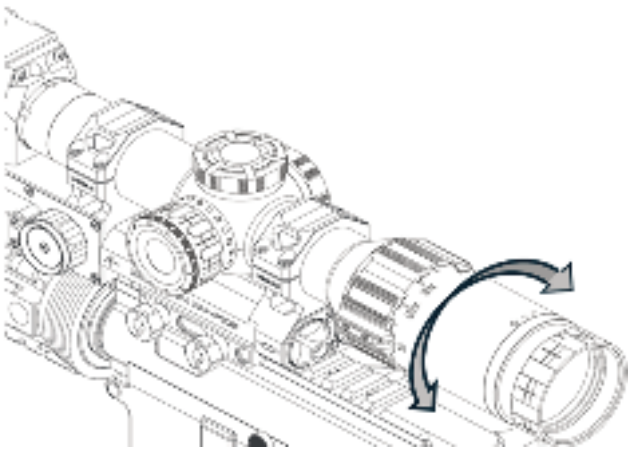


Important: Tightening the fasteners occurs after LPVO alignment (see next page).

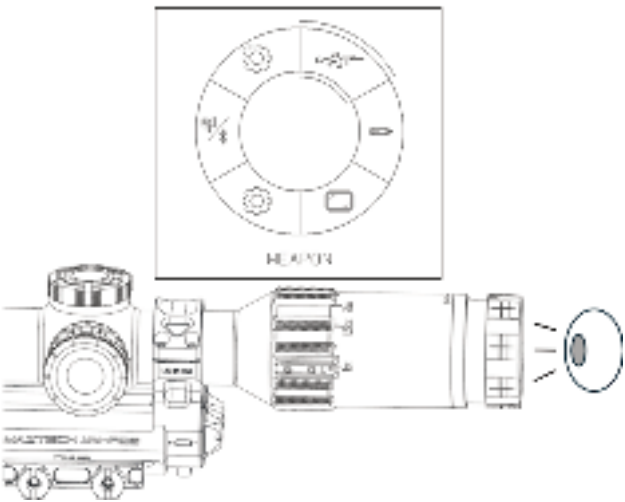
LPVO Initial Alignment

After installing your LPVO (see previous section), the X4-FCS™ needs to be aligned to your LPVO reticle.

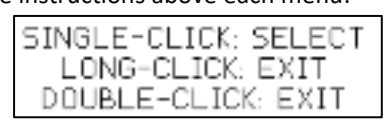
Slightly loosen the T15 Torx fasteners so your LPVO can **rotate** inside of the scope rings:



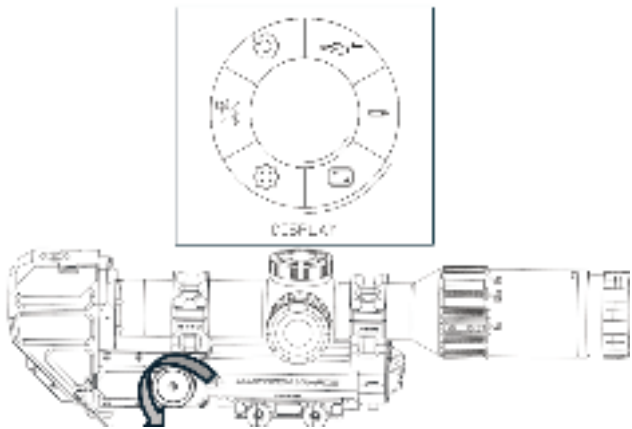
Click and hold (for 1 second) the X4-FCS™ button. Then look through your LPVO to see the X4-FCS™ main menu:



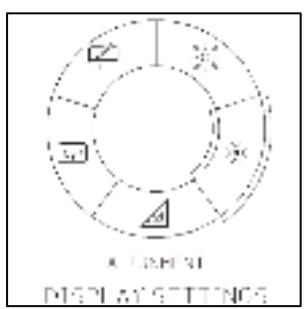
- **Hint**: It is helpful to adjust the zoom of your LPVO in order to easily see the X4-FCS™ menus. However, be sure to balance the zoom level so that you can still see the instructions above each menu:



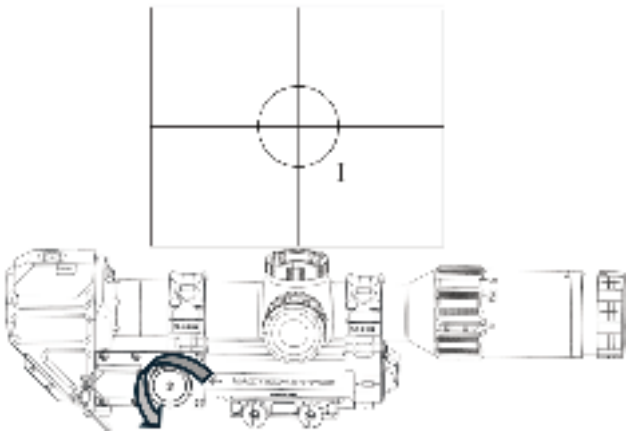
Rotate the knob to the DISPLAY menu. Then click the X4-FCS™ button:



Rotate the knob again and click to select ALIGNMENT:



Now use the X4-FCS™ knob to move the X4-FCS™ crosshairs to align with your LPVO reticle:

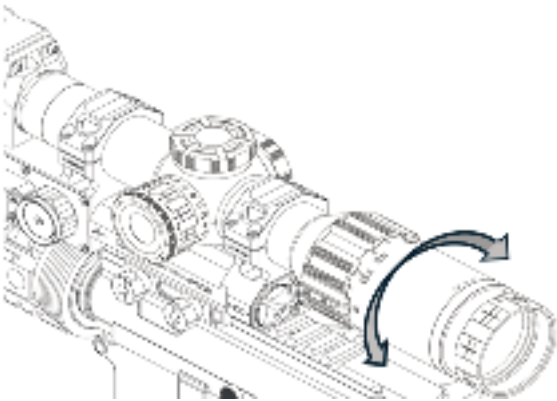


Single-clicking the X4-FCS™ button will toggle between knob functions:

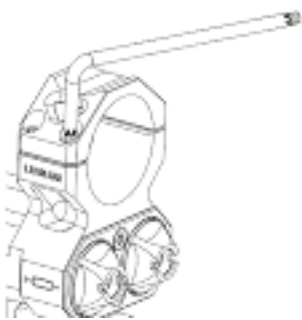
- ❖ Left-Right
- ❖ Up-Down

➢ **Hint**: During alignment, adjust your LPVO to the maximum zoom level that allows you to properly see both reticles.

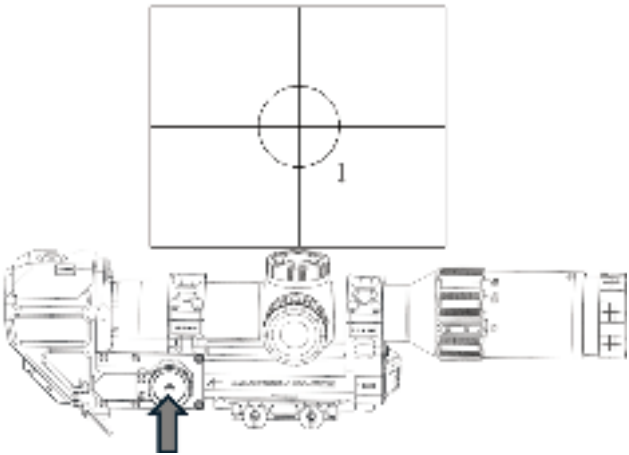
Rotate your LPVO so its reticle and the X4-FCS™ reticle are horizontally aligned with each other:



When the rotation is aligned, **hand-tighten** the scope rings so the LPVO can no longer rotate:



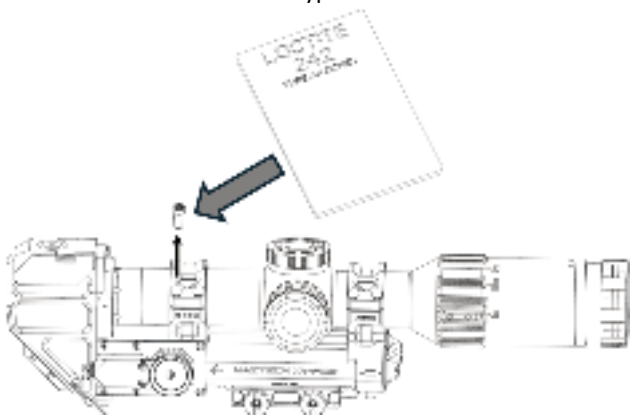
Re-check the X4-FCS™ crosshairs against the LPVO reticle and continue digital adjustment, if necessary:



Click and hold (for 1 second) the X4-FCS™ button to save the alignment settings.

Finally, remove one of the scope ring fasteners, apply **Loctite® 242** (provided) to the threads and re-install the fastener with 15 to 18 in-lbs of torque:

- **Note**: Use of Loctite® 242 is optional. However, do NOT use other types of thread locker.



Repeat for each of the eight scope ring fasteners, one at a time to keep the LPVO in place.

Congratulations on completing initial alignment!

- The **final digital alignment** will occur after weapon zeroing at the firing range (page 50).

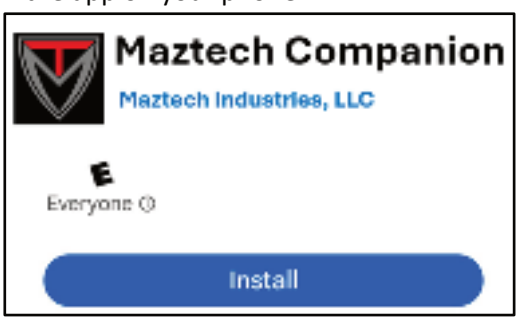
Installing the Maztech Companion App

Maztech recommends connecting your X4-FCS™ to your smartphone via Bluetooth® Wireless Technology for the most efficient setup of your ballistic profiles.

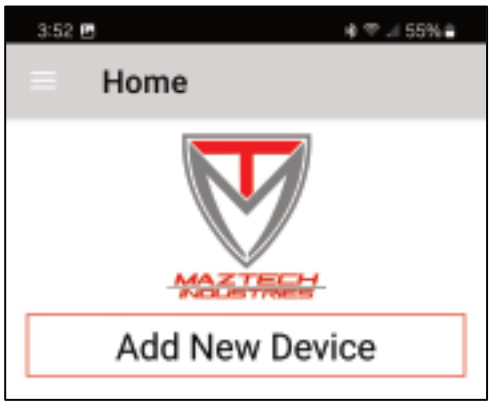
- **Note**: If you do not want to connect your X4-FCS™ to your smartphone, reference the online manual at www.MaztechIndustries.com for instructions on setting up ballistics profiles without a wireless connection.

Use your smartphone to connect to the App Store or Google Play:

Search for **Maztech** or **Maztech Companion** and install the app on your phone:



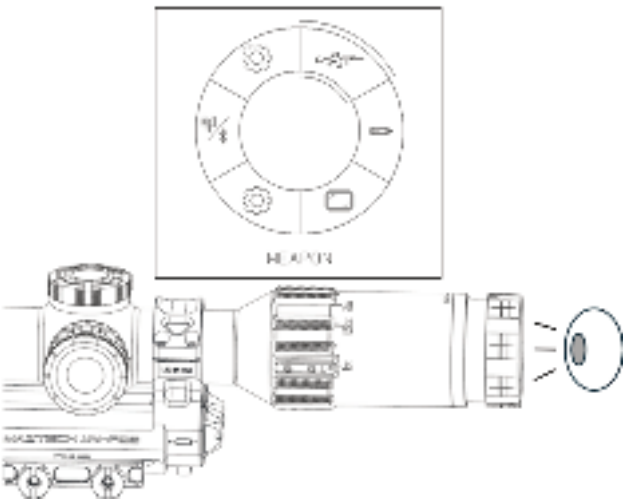
Launch the Maztech Companion App and you should see a screen that looks like this:



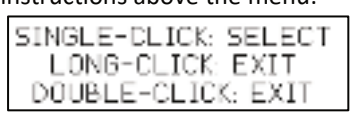
Note: Before attempting to initiate a wireless connection to the X4-FCS™, verify you have Bluetooth® enabled on your smartphone.

CONNECTING X4-FCS™ TO MAZTECH COMPANION APP

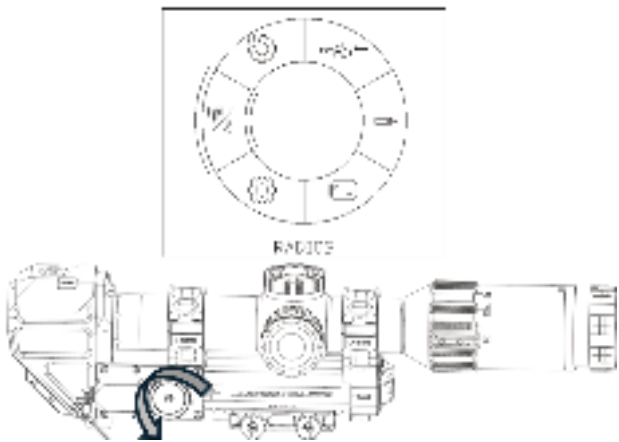
Click and hold (for 1 second) the X4-FCS™ button. Then look through your LPVO to see the X4-FCS™ main menu:



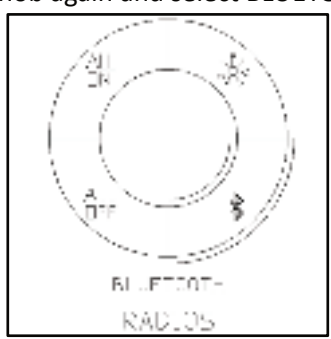
- **Hint**: It is helpful to adjust the zoom of your LPVO in order to easily see the X4-FCS™ menus. However, be sure to balance the zoom level so that you can still see the instructions above the menu:



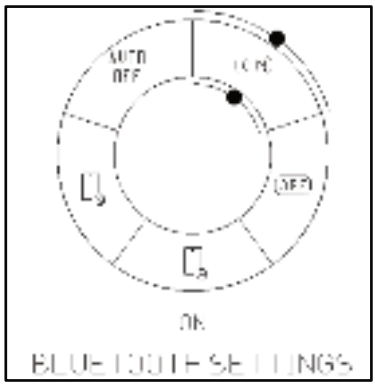
Rotate the knob to the RADIOS menu. Then click the X4-FCS™ button:



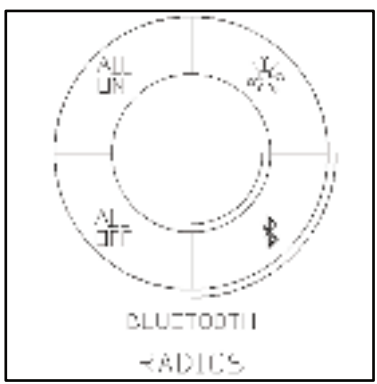
Rotate the knob again and select BLUETOOTH®:



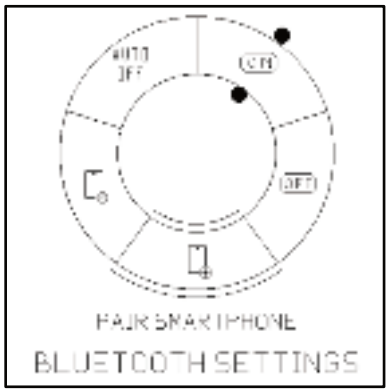
Rotate the knob again and select Bluetooth® ON:



Click the button **again** to re-enter the BLUETOOTH® sub-menu:



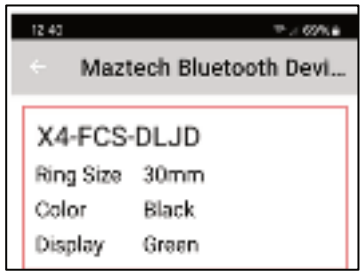
Finally, rotate the knob and select PAIR SMARTPHONE:



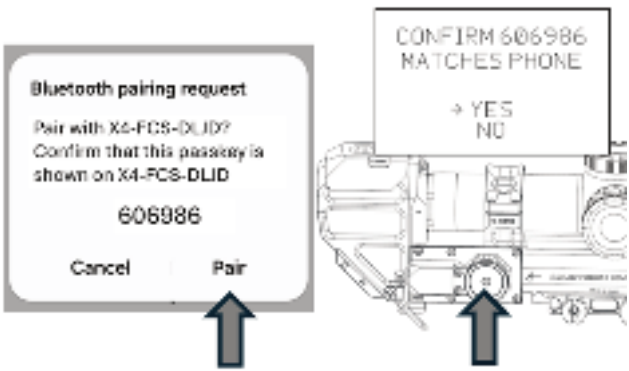
On the Maztech Companion App, touch the **Add New Device** button:

Your X4-FCS™ will show up as an available device.

Touch the box with the red outline:



After pairing starts, you will need to respond to confirmations on **both** devices:



Touch **Pair** on your phone and click the X4-FCS™ button to confirm pairing operation

When pairing is complete, the X4-FCS™ will show up as an device in the Maztech Companion App:

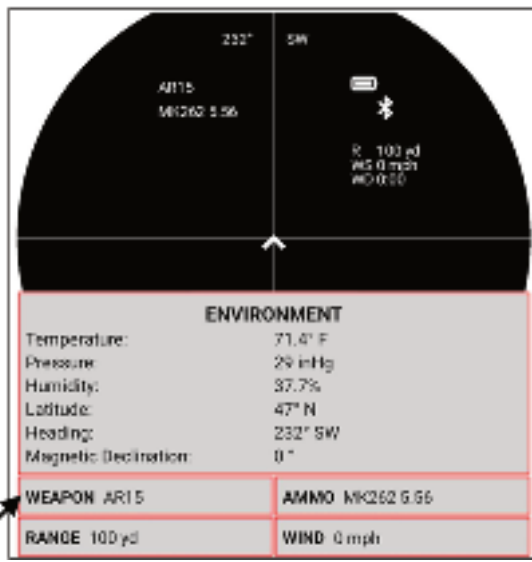
Touch here to connect to the X4-FCS™ via Bluetooth® Wireless Technology.

Note: It will take **approximately 10 seconds** to create an encrypted connection:

Setting Up Ballistic Profiles

You can now use your Maztech Companion App to setup ballistic profiles on your X4-FCS™.

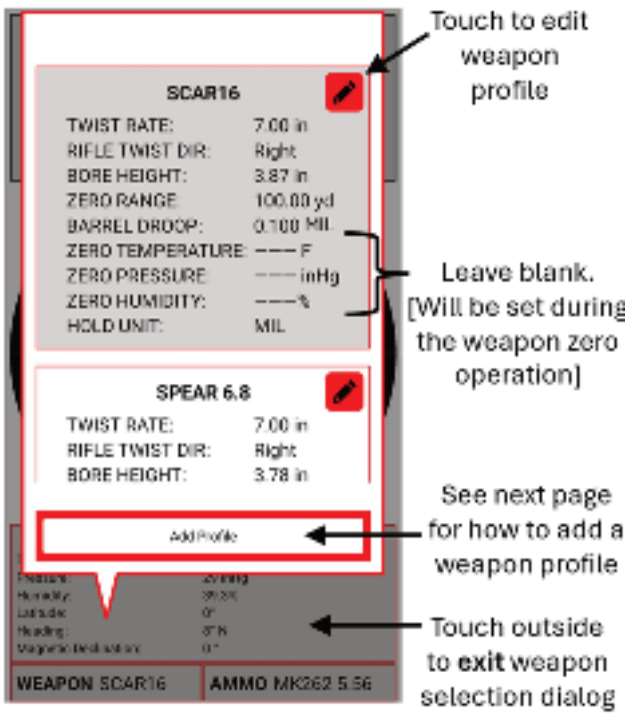
- **Note**: If you do not want to connect your X4-FCS™ to your smartphone, reference the online manual at www.MaztechIndustries.com for instructions on setting up ballistics profiles without a wireless connection.



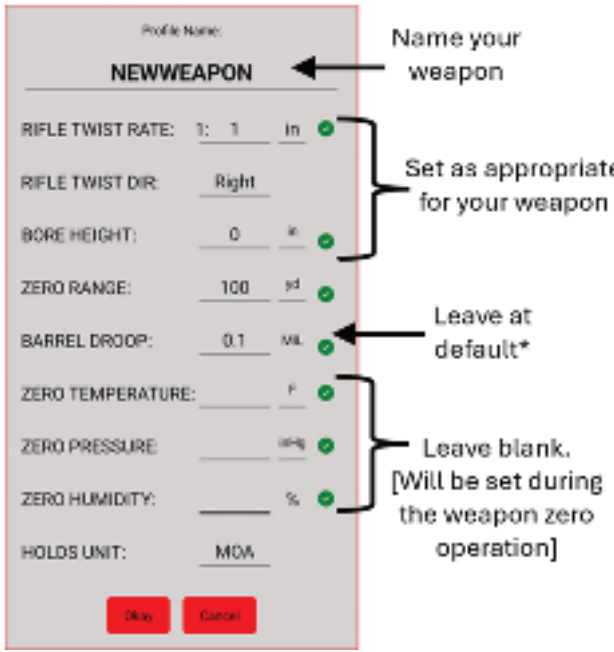
Touch here to select your weapon

- **Hint**: Anything in the app with a red box around it is something you can touch to adjust

Scroll through and select one of the 5 common weapon profiles already available, or touch **Add Profile** to create a profile for your weapon:

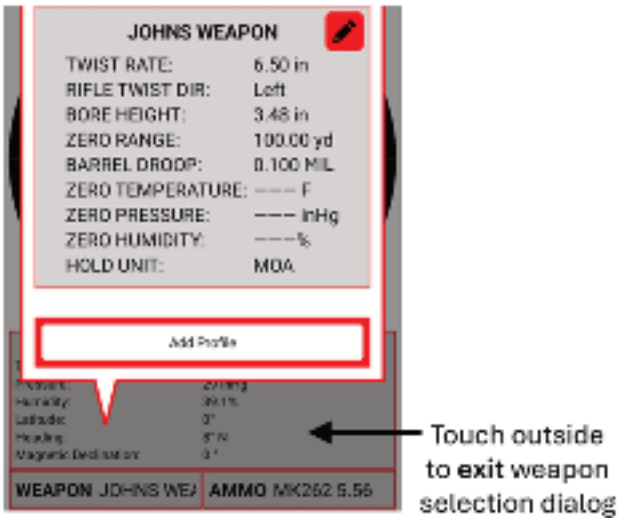


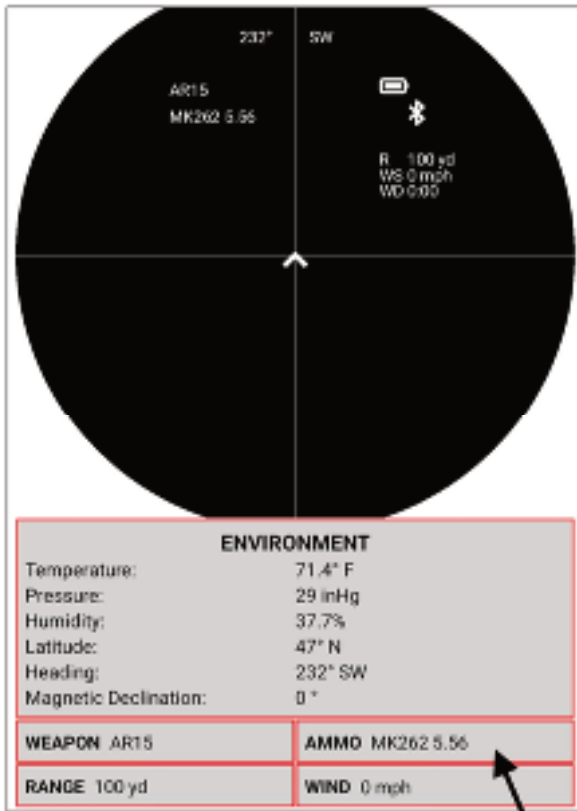
Instructions for adding a new weapon profile:



*Barrel Droop is an advanced Applied Ballistics® setting. Most users can use the default value. If desired, see X4-FCS™ Online User Manual for instructions on setting Barrel Droop.

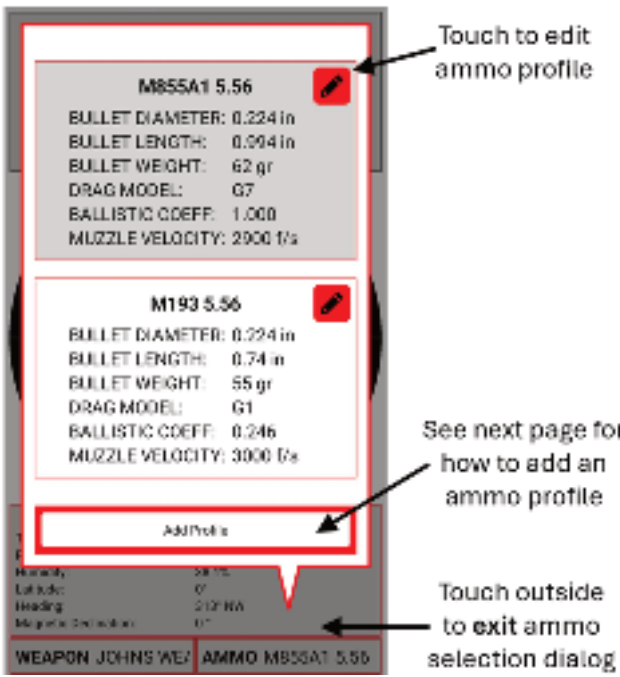
Example of a successful **new** weapon profile:



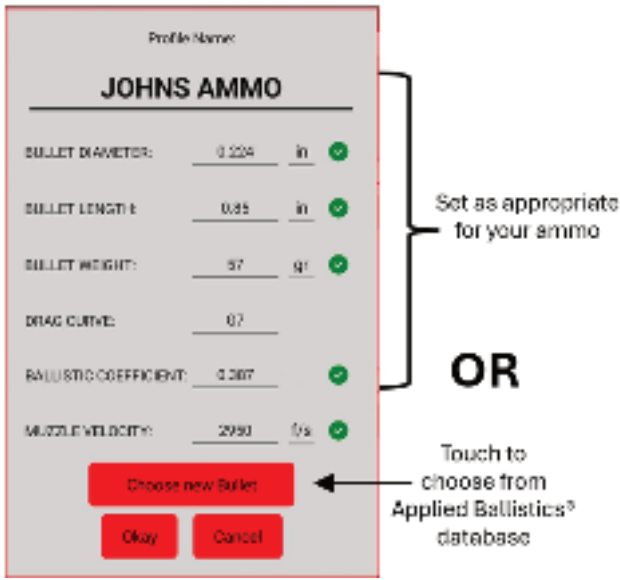


Touch here to select your ammunition

You can scroll through and select one of the 5 common ammunition profiles already available, or touch **Add Profile** to create a profile for your ammo:

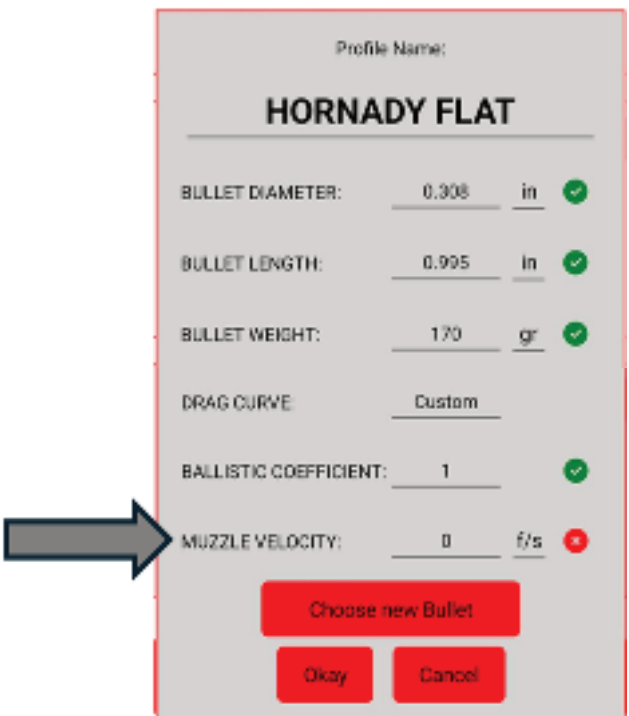


Instructions for adding a new ammo profile:

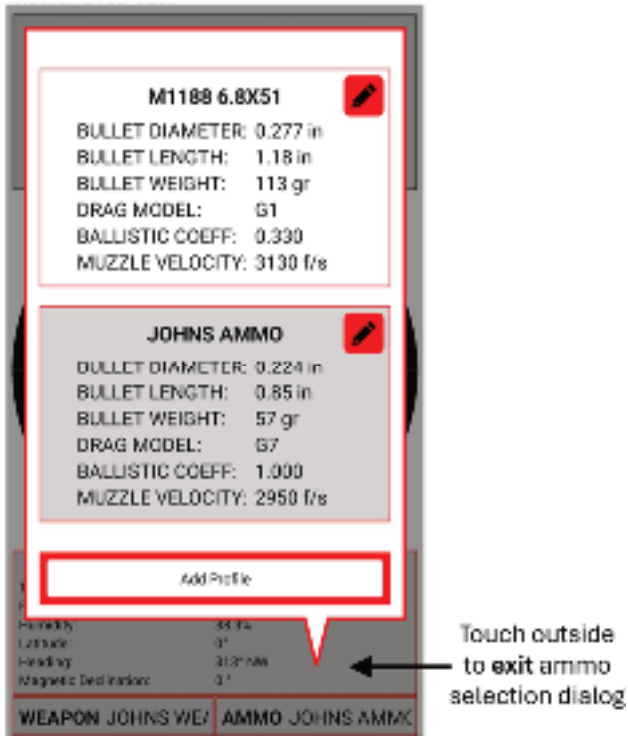


Hint: Try finding your ammunition in the Applied Ballistics® database before manually entering any information.

Muzzle Velocity: For best results, use a chronograph to measure your muzzle velocity. Otherwise, use your ammunition manufacturer's box or online references.



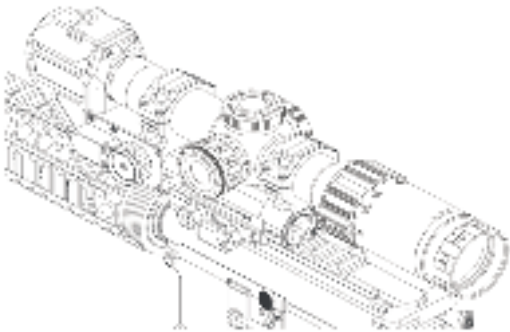
Example of a successful new ammunition profile:



Weapon Zeroing and Final LPVO Alignment

Now that you have set your ballistic profiles and your LPVO and X4-FCS™ are properly mounted on your weapon, head to the range and zero your LPVO using your scope manufacturer's instructions.

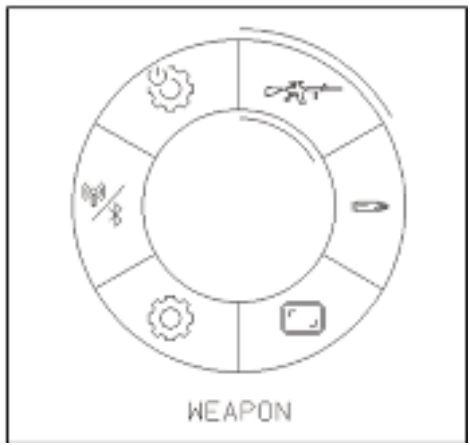
- **Note:** Maztech recommends to zero at **100 yards**.



- **Hint:** Turn off the X4-FCS™ (see page 12) during LPVO zeroing to remove X4-FCS™ symbols from your field of view.

Immediately after zeroing your LPVO, ensure your X4-FCS™ is ON and utilize it to capture the current temperature, pressure, and humidity for enhanced zeroing data (see next page).

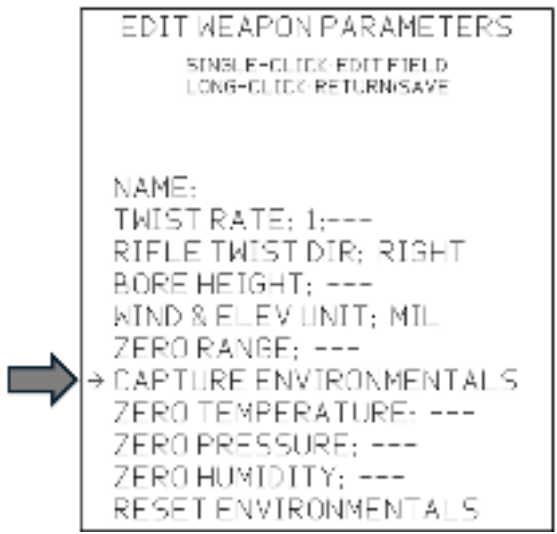
Click and hold (for 1 second) the X4-FCS™ button to bring up the main menu:



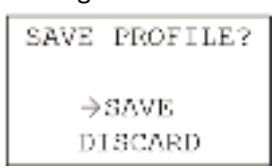
Then, click the X4-FCS™ button again to select the WEAPON menu

Click and hold (for 1 second) the X4-FCS™ button to EDIT your selected weapon:

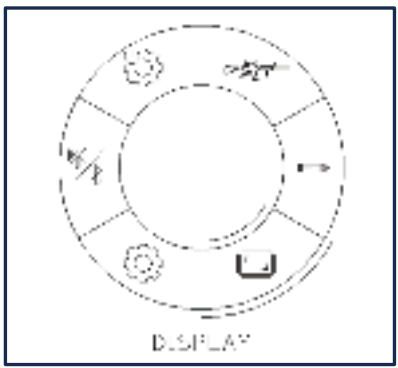
Rotate the X4-FCS™ knob to select CAPTURE ENVIRONMENTALS. Click to initiate capture:

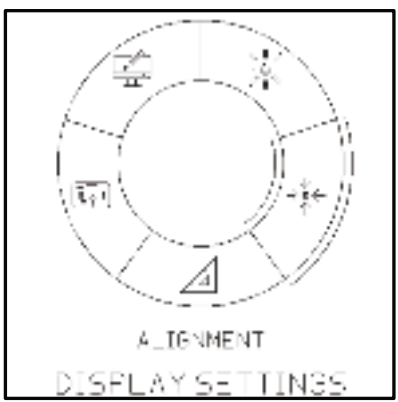


Click and hold (for 1 second) the X4-FCS button and click again to confirm:

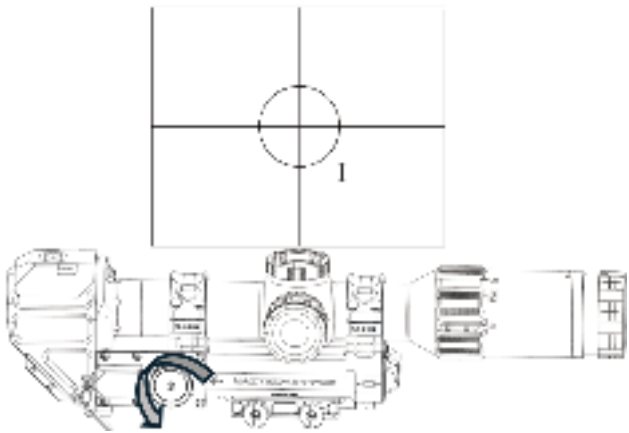


Now, navigate back to the display alignment screen via the DISPLAY menu:





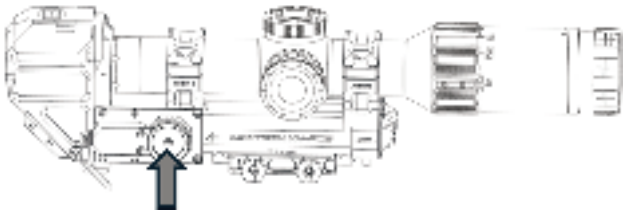
Use the X4-FCS™ knob to ensure the X4-FCS™ crosshairs to align with your LPVO reticle:



Single-clicking the X4-FCS™ button will toggle between knob functions:

- ❖ Left-Right
- ❖ Up-Down

- ➢ **<u>Important</u>**: During this final alignment, adjust your LPVO to the <u>maximum</u> zoom level possible (that still allows you to properly see both reticles).



Click and hold (for 1 second) the X4-FCS™ button to save the alignment settings.

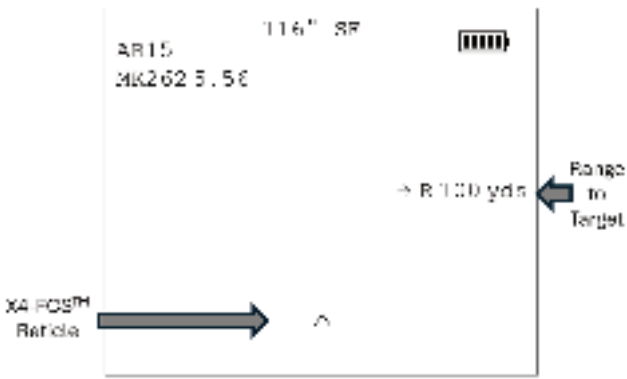
Final step: Safely discharge 2 or 3 rounds from your weapon and ensure the reticles remain aligned.

- **Hint**: At your 100-yard zeroing target, the X4-FCS™ reticle (see next page) should also align to your LPVO reticle. If it needs to be adjusted again, you can return to the display ALIGNMENT screen to re-adjust.
- **Tip**: X4-FCS™ compass calibration can be further optimized by safely rotating your weapon per the instructions on page 16.

USING THE X4-FCS™ RETICLE

The X4-FCS™ reticle will give you a calculated aimpoint based on:

- ✓ X4-FCS™ environmental and motion sensors
- ✓ X4-FCS™ ballistics settings
- ✓ Range to target



To manually set range to target:

- **Scroll** the X4-FCS™ knob to set your range
- Then, while aiming at the intended target: **Click** the X4-FCS™ button to save the range setting and calculate your ballistic solution.

Recommended: Use the X4-FCS™ in conjunction with the Maztech X4 Laser Rangefinder (X4-LRF™) for fully-integrated ranging.

To manually set other parameters (i.e. wind speed and direction):

- See Online User Manual at www.MaztechIndustries.com

  You can also get there by scanning this QR code with your smartphone or tablet:

MAINTENANCE AND CARE

- Always follow standard firearm safety handling practices.
- Refrain from applying any bake-on finishes to the X4-FCS™, as this may damage the lenses, sensors or electronics.
- The X4-FCS™ does not contain user-serviceable internal components.
- Scope rings should be free of dirt or foreign objects in the fastener holes.
- Clean your X4-FCS™ lenses with a microfiber cloth (included) and refrain from using abrasive cleaners.
- Operate between -40°F and +140°F (-40°C and +60°C).
- Store between -51°F and 160°F (-46°C and +71°C).

TROUBLESHOOTING

Problem: I cannot see the display.

Solution: The brightness is set too low. To resolve:

a) Cover the front lens of the X4-FCS™
b) Navigate to the **Display Brightness** menu and turn UP the brightness setting.

Problem: The X4-FCS™ is resetting during weapon fire.

Solution: Tighten battery caps.

- If this does not solve the problem: The interior of each battery cap may not be properly adjusted to the length of your batteries. See the online user manual for how to adjust the interior of each battery cap to the length of your batteries

For further troubleshooting tips, reference the X4-FCS™ Online User Manual at www.MaztechIndustries.com. You can also get there by scanning this QR code with your smartphone or tablet:

Battery Safety

Batteries must be handled with care to ensure safe and reliable operation. To prevent potential hazards and maximize battery performance, please observe the following guidelines:

- Use only batteries specified in this manual. Incorrect battery types or sizes can lead to malfunction or damage.
- Store batteries in a cool, dry place, away from direct sunlight and extreme temperatures. Do not store batteries loose in pockets or bags where they might come into contact with metal objects.
- Follow the instructions in this manual for proper battery installation. Ensure that batteries are inserted with the correct polarity (+ / -) as indicated by the device markings.
- Dispose of batteries in accordance with local regulations. Do not dispose of batteries in fire as they may explode or leak hazardous materials.
- If a battery appears damaged, deformed, or leaks, do not use it. Safely remove the battery and replace it with a new one.
- Keep batteries out of reach of children and pets. Swallowing or mishandling batteries can result in serious injury.

Terms of Use, Warranty, License & Liability Waiver

Maztech Industries, LLC offers its products with specific terms, conditions, notices and license agreements. The terms and conditions apply to all sales and uses. Please review carefully at www.MaztechIndustries.com. These terms and conditions include limited warranties and disclaimers of liabilities. Keeping, using or allowing use of Maztech Industries, LLC's products indicates your agreement to these terms.

The X4-FCS™ does not contain user-serviceable internal components. Any modifications or repair attempts on the X4-FCS™ beyond those explicitly outlined in this manual or the online manual may nullify the warranty.

FCC Compliance Notices

The X4-FCS™ complies with FCC radio frequency (RF) exposure limits for an uncontrolled environment. Users must follow the specific operating instructions included in this User Manual to ensure RF exposure compliance. With respect to the potential for human exposure to RF radiation, calculations prepared in accordance with FCC Bulletin OET-65 (Edition 97-01) indicate that the calculated safe distance for Maximum Permissible Exposure is 0.2 inches (5 mm).

The X4-FCS™ complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. **Changes or modifications to the X4-FCS™ not expressly outlined in this manual or in the online manual could void the user's authority to operate the equipment.** Operating the Ultra-wideband (UWB) radio onboard an aircraft, ship or satellite is prohibited.

The X4-FCS™ 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: (a) Reorient or relocate the receiving antenna, (b) increase the separation between the equipment and receiver, (c) connect the equipment into an outlet on a circuit different from that to which the receiver is connected, (d) consult the dealer or an experienced radio/TV technician for help.

Third Party Acknowledgements

Bluetooth®

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Maztech Industries is under license. Other trademarks and trade names are those of their respective owners.

APPLIED BALLISTICS®

APPLIED BALLISTICS and the are registered in the United States Patent and Trademark Office.

Maztech Industries

Maztech, X4-FCS, X4-LRF and the Maztech Logo are trademarks of Maztech Industries.

Third Party Software and Trademarks

Portions of Maztech software may utilize or include third party software and other copyrighted material. Acknowledgements, licensing terms and disclaimers for such material are contained in electronic documentation at www.MaztechIndustries.com, and use of such material is governed by their respective terms.

All third-party product, company names, and logos are trademarks or registered trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them.

Export Control Notice

International Traffic in Arms Regulations (ITAR) Controlled

The X4-FCS™ is controlled for export by the International Traffic in Arms Regulations (ITAR). These controls take the form of export regulations and license requirements. As part of the express consideration provided for receipt of Maztech's goods, technical data and/or services, you, our customer, acknowledge that the export, re-export or other transfer, directly or indirectly, of the goods, technical data and/or services provided by Maztech in violation of U.S. law is prohibited. Customers acquiring ITAR goods, technical data and/or services from Maztech shall be responsible for obtaining any necessary U.S. or other government authorization required to ensure compliance with applicable export laws.