ZWO ASI Mount

User Manual

ZWO-AM3N

Table of Contents

Preface

Thank you for purchasing the ZWO AM3N Strain Wave Gear Mount (hereinafter referred to as AM3N).
The AM3N is a portable mount designed specifically for astrophotography. One of its key features is the strain wave gear, which delivers ultra-low periodic error, stable transmission, and high torque output—ensuring high precision and outstanding stability throughout your astrophotography sessions.
To ensure performance, each AM3N unit undergoes a 360° Periodic Error (PE) test. A detailed test report is included in the packaging for your reference.
Both the Right Ascension (RA) and Declination (DEC) axes adopt a belt-driven transmission, achieving a total reduction ratio of 300:1. This enables precise control and accurate target tracking throughout your observing sessions.
In terms of design, the AM3N combines integrated manufacturing techniques with modern industrial aesthetics, emphasizing both stability and portability to deliver a well-balanced and user-friendly experience.
As a lightweight, German-style mount equipped with a strain wave gear system, the AM3N delivers excellent load capacity, making it suitable for most portable astrophotography setups and visual observation scenarios.
Both the software and hardware of the AM3N are independently developed by ZWO, with full intellectual property rights. This ensures a unique and customized user experience driven by ZWO's innovative engineering.
The AM3N is fully compatible with ASIAIR, and also supports ASCOM and INDI platforms, providing flexibility across various astrophotography environments and making both observing and imaging more efficient and enjoyable.
We sincerely hope the AM3N brings more joy and satisfaction to your astronomy journey.
If you have any questions or need support, please don't hesitate to contact us.
Clear skies and happy observing!

Tips

This manual can guide the user to use the ASI Mount safely and efficiently. Please read the following tips carefully before using and follow the instructions in this manual during actual use.

1. When using the mount, do not observe the Sun directly with the naked eye through the telescope or finder scope, as this can cause permanent and irreversible damage to the observer's eyes. When observing the sun, please be sure to equip a dedicated solar filter.
2. Please choose a suitable tripod and counterweight based on the size and weight of the telescope. A strain wave gear mount without proper balancing may cause the center of gravity of the telescope to shift, increasing the risk of tipping. Please test the center of gravity in multiple directions before use to avoid equipment damage or personal injury.
3. If the mount is powered on while not at the zero position, please return it to the home position before performing any operation. After use, also return the mount to the home position before powering it off. Otherwise, this may lead to inaccurate positioning at the next startup, or cause malfunction or injury when using the GOTO function.
4. Please avoid children touching the mount alone to prevent the mount from tipping over or causing personal injury. In addition, the small parts included in this mount may also cause choking or other injuries to children.
5. Do not place the mount in environments with high humidity or high salinity, which will cause corrosion to the parts of the mount, which may lead to the mount running poorly, or reduce the accuracy of the mount, and even cause short circuits and permanent damage.
6. Do not use corrosive solutions to clean the mount to avoid corroding the surface oxide layer, damaging the mount; and avoid exposing the mount to the sun for a long time to prevent discoloration of the exterior oxide layer.
7. Do not attempt to disassemble the mount alone; this may cause damage to the mount, reduce the accuracy of the mount, and even cause personal injury to the user.
8. The mount is a precision instrument, please handle it with care to avoid knocking and damaging the mount, reducing accuracy.
9. The operating temperature of ASI Mount: General Mode: 0 °C to 40 °C; Low Temperature Heavy Duty Mode (needs to be activated in the software): -20 °C to 40 °C. If the ambient temperature is beyond this range, do not use it to prevent the mount from being damaged. Also please store it in the original packing box if you intend to leave it unused for an extended period of time.

Packing List

1. Foam packaging box x1
2. Mount unit x1
3. 2-meter USB 2.0 cable (Type-B to Type-A) x1
4. 1-meter USB 2.0 cable (Type-C to Type-A) x1
5. ASI Mount periodic error test report x1
6. Quick start guide x1
7. Hand Controller x1
8. 2-meter hand pad connection cable x1
9. M6 hex wrench x1 (included within the unit)

1. Product Introduction

AM3N is the second mount in ZWO ’s ASI Mount series. It has been greatly improved compared to its original edition, offering larger load capacity, higher precision, better low-temperature tolerance, and better cable management, greatly enhancing the user experience. This mount combines portability, accuracy, intelligence, and high performance, catering to the diverse needs of astronomy enthusiasts in the field.

The mount's features are as follows:

1. High precision: Equipped with a specialized astronomical strain wave gear, it achieves high precision with a Periodic Error (PE) consistently lies in ±15 arc-seconds. This ensures stable transmission of large torque output, and each machine’s PE error curve is tested to guarantee performance.
2. High load capacity: The main body weighs 4.1 kg (9.04 lbs) and has a payload up to 8 kg (17.64 lbs). With counterweights attached, the payload can even increase to 13 kg (28.66 lbs).
3. Proprietary control system: A completely proprietary software and hardware control system maintained and upgraded by the professional ZWO development team to ensure stability.
4. Dual-mode: Offers both equatorial and alt-azimuth modes to cater to both imaging and visual observation needs.
5. No regional limitations: Designed with a 0-90-degree latitude scale, it can be used at the equator and polar regions.
6. Hand controller/APP control: Through Wi-Fi and Bluetooth wireless connection, you can access the basic and important functions, such as Tonight's Best, target GOTO, and real-time star database on the mobile app ASI Mount - no need to connect to a computer! And you can even upgrade the firmware of the mount and hand controller on the APP.
7. Cable management: Supports cable management with an integrated DC output and Type-C port on the dovetail plate, effectively preventing cable entanglement.
8. Bluetooth functionality: The APP has added Bluetooth connectivity for controlling the mount, significantly improving the control experience.
9. Low-temperature high-load mode: To combat the impact of a low-temperature operating environment on the performance of the mount, this mode can be activated in the APP to effectively enhance the device's load capacity.

Other key points:

1. Fully sealed transmission components: The strain wave drive is designed with a fully sealed structure, ensuring that the strain wave gear does not rust over time and that its performance remains consistent.

2. One-click mechanical zeroing: The design features mechanical zeroing, supporting a one-click return to the zero position from any position.
3. Power-off brake device: In the event of a power failure, the RA axis has brake protection to prevent the telescope from falling and causing damage to the equipment or personal injury.
4. APP/PC software to meet different needs: Mobile devices can install the "SkyAtlas" or "ASIAIR" APP to control the ASI Mount, while computers support control by ASIStudio, ASCOM, and INDI.

2. Performance Parameters

Items	Description
Mount type	Strain Wave Gear Mount
Mount mode	Equatorial / Alt-Azimuth
Drive	Strain Wave Gear + synchronous belt (300:1 reduction ratio)
Periodic error	< ±15 "
PE duration	288 s
Drive (R.A.)	Stepper motor + synchronous belt + 14 type 100 reduction ratio strain wave gear + brake
Drive (DEC)	Stepper motor + synchronous belt + 14 type 100 reduction ratio strain wave gear
Payload	8 kg (17.64 lbs) (without counterweight) / 13 kg (28.66 lbs) (with counterweight)
Mount weight	4.1 kg (9.04 lbs)
Altitude adjustment range	0°-90°
Azimuth adjustment range	± 6°
Dovetail saddle	Losmandy & Vixen
Interface thread for counterweight bar	M12x1.75 coarse thread
Resolution	0.17 "
Max slew speed	6° / S
Slew speed	0.5x, 1x, 2x, 4x, 8x, 20x, 60x, 720x (max speed in heavy duty mode), 1440x
Power port	DC D5.5x2.1 mm, center positive (12V, no less than 3A)
Power consumption	12V / 0.65A (Standby) 12V / 0.8A (Tracking) 12V / 1.3A (GOTO) (1.8A-Heavy Load Mode)
Auto guide port	ST4
Communication port	USB / Wi-Fi / Bluetooth
Zero position	Mechanical
Operating temperature	-20° C to 40° C (It is recommended to enable the low-temperature high-load mode in the upper computer

	software when the ambient temperature is below 0° C to ensure reliable operation of the equipment)
Power-off brake	R.A. axis
Cable management	Support

3. How to Use

3.1 Introduction to the ASI Mount

① **Finder shoe slot mounting holes:** Can be used to install the ZWO finder bracket, which can mount the ASIAIR and the finder.
② **Power switch:** Turn the mount power on or off.
③ **Counterweight screw hole:** By loosening the nut, you can mount the counterweight bar and counterweights, M12×1.75 coarse thread.
④ **Altitude gear adjustment screw:** A pair of screws are on both sides of the mount. Loosen altitude gear fine adjustment knob with the M6 hex wrench, then adjust your desired altitude gear. Don't forget to tighten them after adjustment.
⑤ **Altitude gear tension knobs:** Loosen the knob to adjust the altitude. Don't forget to tighten it after adjustment.
⑥ **Altitude gear fine adjustment knob:** Rotate it clockwise to get the mount up in altitude and counterclockwise to get it down in altitude.

⑦ **Azimuth gear fine adjustment knobs:** Rotate the knobs in opposite directions to each other to adjust the azimuth base. It is best to keep the knobs slightly tightened to prevent wobbling.
⑧ **Dovetail saddle plate tension knobs:** Compatible with Vixen and Losmandy style dovetails.
⑨ **Auto guide:** ST-4 compatible auto guide port.
⑩ **USB 2.0 port:** Equipped with a USB-B 2.0 port, which can be used to connect devices that support a USB connection. This interface allows for control of the ASI Mount and firmware upgrades.
⑪ **BT button/Bluetooth indicator light:** The BT button is used during the Bluetooth pairing process to confirm and lock the connection to the correct ASI Mount, preventing accidental connection to other devices.
The indicator light displays a steady blue when the ASI Mount is powered on and operational. Once the APP successfully connects to the ASI Mount via Bluetooth, the indicator light turns off. (Note: Bluetooth connections can only be made through the ASI Mount APP interface.)
⑫ **HC: hand controller port** – Used to connect the hand controller device.
⑬ **DC 12V Power Input port:** Supports 12V/3A power input via a DC 5.5×2.1 mm connector (center positive, outer negative). When the input voltage drops below 10.8V, the buzzer inside the AM3N mount will sound to alert the user of a low voltage warning.
⑭ **Mode indicator:** Red light for the equatorial mode, green light for the alt-azimuth mode. It flashes red and green when the time and location information are not synchronized to the mount. Once synchronized, it keeps the light on in the mode's color accordingly.
⑮ **Altitude scale:** Indicates the current altitude of the ASI Mount from 0° to 90°.
⑯ **Dovetail saddle:** Designed for mounting and securing the telescope's dovetail plate, Compatible with both Vixen and Losmandy style standard plates.
⑰ **DC power port:** DC 12 V 3A, can power ASI Mount as well as provide power to external devices like the ASIAIR.
⑱ **Type-C port:** Can be used to control ASI Mount, update firmware, etc., and connect to devices with a Type-C interface (such as ASIAIR) or a computer (with the same functionality as the previous USB 2.0).

3.2 Introduction to the Hand Controller

① **Indicator light:** Indicates the current speed mode of the ASI Mount. A lit red light signifies high-speed mode (20-1440 times sidereal rate), while a red light that is off indicates low-speed mode (1, 2, 4, 8 times sidereal rate).
② **Direction control joystick:** Can be used to control the mount's both axes to move accordingly and vertically. Press down on the joystick to switch between high and low speed modes.
③ **T button:** Click to turn tracking on or off. When the tracking is on, the T button will turn the red light on, and the status indicator of the ASI Mount will flash red (green) in the equatorial (alt-azimuth) mode.
④ **Cancel button:** Implements cancellation function, go home position, and mode switching.
Function cancellation: Press briefly to cancel functions, such as stopping the GOTO process on the ASI Mount by pressing the cancel button.
Go home position: Press and hold for 3 seconds to reset the ASI Mount to its home position.
Mode switching: While the ASI Mount is turned off, press and hold the cancel button without releasing it, until the indicator light changes color after the ASI Mount turns on, then you can release the button, indicating a successful mode switch on the ASI Mount.

How to determine the current mode of the mount?
After turning on the mount, if the indicator light is red within the first 5 seconds, it indicates equatorial mount mode; if it is green, it indicates alt-azimuth mount mode.

Note:
How to get the Wi-Fi information for the hand controller:
Each hand controller has a silver nameplate on the back with the Wi-Fi information for that controller, including the SSID and password for the hand controller's Wi-Fi.

If you forget the hand controller Wi-Fi password: (The hand controller has a built-in Wi-Fi module for wireless control and firmware upgrades.)

If you forget the hand controller Wi-Fi password, you can reset it by pressing and holding both the tracking and cancel buttons on the ASI Mount while it is turned off. Continue holding these buttons until 5 seconds after the ASI Mount powers up and turns on, at which point the hand controller's indicator light will flash, indicating that you can release the buttons. This resets the Wi-Fi password to the default password: 12345678.

3.3 Mounting the ASI Mount

3.3.1 Mount Installation

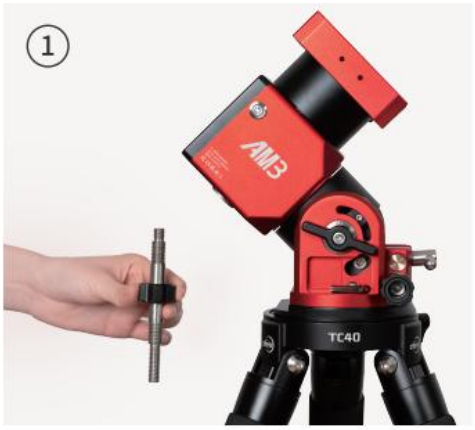
*Tripod model: ZWO carbon fiber TC40 (optional)

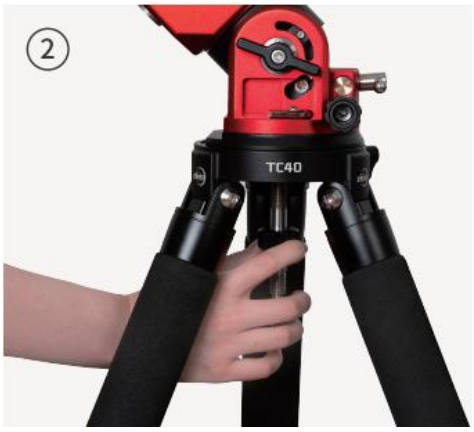
Unfold the tripod

Install the silver mounting plate:

Remove the three M6 screws from the silver mounting plate on the tripod, and then lock the mounting plate tight onto the mount.

Install the ASI Mount onto the tripod:
Place the AM3N with the silver mounting plate installed onto the tripod, insert the multi-function support rod as shown in figure below (see figure 1), rotate the knob on the multi-function support rod clockwise and tighten it, then fit the tripod spread er and rotate its knob clockwise to lock it in place.





3.3.2 Mount Hand Controller
Connect the hand controller to the AM3N using the supplied hand controller cable, and plug it into the [HC] hand controller port on the AM3N. The hand controller has a
built-in Wi-Fi module, allowing wireless devices with WLAN capability to connect to the hand controller's Wi-Fi for wireless control of the AM3N.

3.3.3 Optional Accessory Installation

3.3.3.1 Pier Extension Connection to Mount (Optional)

1. Assemble the mounting plate onto the mount

Remove the three M6 screws used to fix the mounting plate on the tripod, and then lock the mounting plate tight onto the mount.

2. Install the pier extension onto the tripod:

Mount the pier extension body onto the tripod and tighten the knobs on the tripod to secure it in place.

Insert the multi-function support bar as shown in figure below (see figure 1), rotate the knob on the multi-function support bar clockwise and tighten it, then fit the tripod spreader and rotate its knob clockwise to lock it in place.

3. Mount the AM3N body onto the pier extension and tighten the knobs on the pier extension.

4. Pier extension installation completed.

3.3.3.2 Counterweight Bar /Counterweights Installation (Optional)

How to Determine Whether to Install Counterweights

If the total weight of the telescope and associated equipment is less than 8 kg (17.64 lbs), the mount can be used without installing counterweights; however, when the total weight exceeds 8 kg (17.64 lbs), the mount will need to use counterweights, and the total weight should not exceed 13 kg (28.66 lbs) (the counterweight should be secured on a counterweight bar of no more than 25 cm in length).

To ensure the stability of the entire system, when the total weight of the telescope and associated equipment reaches 8 kg (17.64 lbs), it is advisable to use counterweights. The counterweight bar has a threaded port with a coarse thread size of M12×1.75.

Counterweight Bar/Counterweights Installation Steps:

1. Locate the counterweight mounting screw hole at the bottom of the ASI Mount unit.

2. Unscrew the counterweight bar thread hole protective nut counterclockwise until it's completely unscrewed and removed, exposing the screw hole.

3. Align the counterweight bar with the screw hole and rotate it clockwise to tighten it, then install the counterweights.

4. Install the nut removed in step 2 onto the end of the counterweight bar.

3.3.3.3 ASIAIR Installation (Optional)

Install and secure the ZWO finder bracket onto the finder shoe slot mounting hole on the side of the telescope (if it is not already installed). Then attach the ASIAIR or finder to the bracket.

3.4 How to Use ASI Mount

3.4.1 How to Adjust the Altitude from the First Gear to the Second Gear

The AM3N mount's altitude scales can be divided into two gears, with a range of 0 to 60 degrees for the first gear and 30 to 90 degrees for the second gear. When the mount is in its first gear, the maximum adjustment angle can only reach 60 degrees; To get a larger altitude angle, you need to use a hex wrench to loosen the "altitude gear adjustment screw" on both sides of the mount body. Then, you can pivot the mount and adjust the "altitude gear fine adjustment knob" to the second gear (at the 90-degree mark on the altitude scale). After the adjustment, tighten the screws on both sides. The adjustment range of 30 to 90 degrees are available now. Just make sure the altitude gear tension knob is in a loosen state when you are adjusting the altitude angle. It is recommended to switch the mount's gear when it is not carrying any weight.

Adjust the altitude from the first gear to the second gear

(Adjust the altitude angle from 0° to 90°), as follows :

Loosen the "altitude gear tension knob" on both sides. Rotate the "altitude gear fine adjustment knob" clockwise until the hex screw (the "altitude gear adjustment screw") is fully visible from the hole (approximately at the first gear, 40° position).

Loosen both hex screws on the sides completely by turning counter clockwise with a hex wrench.

Move the mount head to slide and adjust the "altitude gear fine adjustment knob". Slide the hex screw to the bottom end of the sliding rail in the hole, with the scale screw indicating 90°. At the same time, re-tighten the hex screws on both sides.

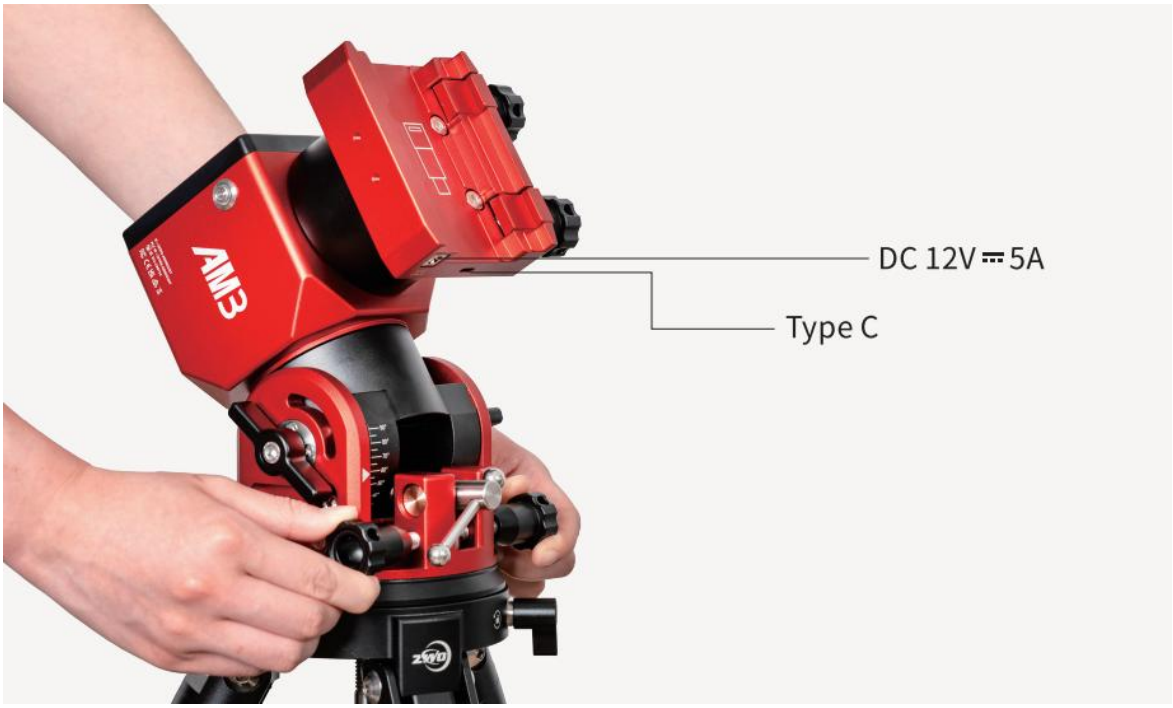
(Note: After adjusting the altitude gear, be sure to tighten the gear screws firmly, otherwise the equipment may become loosen and the gear adjustment function can be easily damaged.)

At this point, the mount is in the second gear position. In this state, the mount can adjust the altitude angle within a range of 30° to 90°. After completing the adjustment, tighten the altitude gear tension knobs.

To adjust from the second gear to the first gear, simply reverse the steps outlined above. (Note: The scale screw tightens the "altitude gear adjustment screw" at 65°.)

3.4.2 How to Adjust the Azimuth Scale

Rotate the “azimuth gear fine adjustment knobs” in opposite directions to each other to adjust the azimuth scale of the AM3N. It is best to keep the knobs slightly done up to prevent wobble.



3.4.3 How to Switch the Equatorial / Alt-Azimuth Mode

The indicator light being constantly red signifies the mount mode, while a constant green indicates the altitude-azimuth (alt-az) mode. Before the mount acquires GPS and time information, the indicator light will remain on for only 5 seconds and then proceed to a flashing state, alternating between red and green.

Mode switching:

Before switching modes, turn off the mount and remove any load.

To switch from equatorial mount mode to altitude-azimuth mode:

Connect the hand controller. Long-press and hold the [CANCEL] button, then turn on the ASI Mount. Wait until the indicator light turns green before releasing the [CANCEL] button. Next, adjust the ASI Mount's altitude angle to 90° (for specific operations, refer to section 3.4.1). The ASI Mount has now successfully switched to altitude-azimuth mode.

To switch from altitude-azimuth mode to equatorial mount mode:

Connect the hand controller. Long-press and hold the [CANCEL] button, then turn on the ASI Mount. Wait until the indicator light turns red before releasing the [CANCEL] button. Next, adjust the ASI Mount's altitude angle to match the latitude value of your location (for specific operations, refer to section 3.4.1). The ASI Mount has now successfully switched to equatorial mount mode.

Note 1:

After the ASI Mount is powered on, if the indicator light flashes alternately red and green following a 5-second constant illumination, you need to connect the ASI Mount to the relevant app or computer to synchronize location and time information. Once the synchronization is successful, the indicator light will revert to displaying the working mode status.

Note 2:

After switching modes on the mount, be sure to tighten the gear position adjustment screw. Otherwise, the device may loosen.

Note 3:

When installing the telescope in the altitude-azimuth mode, please position the telescope tube to point to the left side, as shown in the diagram below (when the altitude-azimuth is in the zero position, the dovetail saddle plate tension knobs should be facing upwards). If the telescope is installed in the opposite direction, tracking errors may occur during the GOTO procedure.

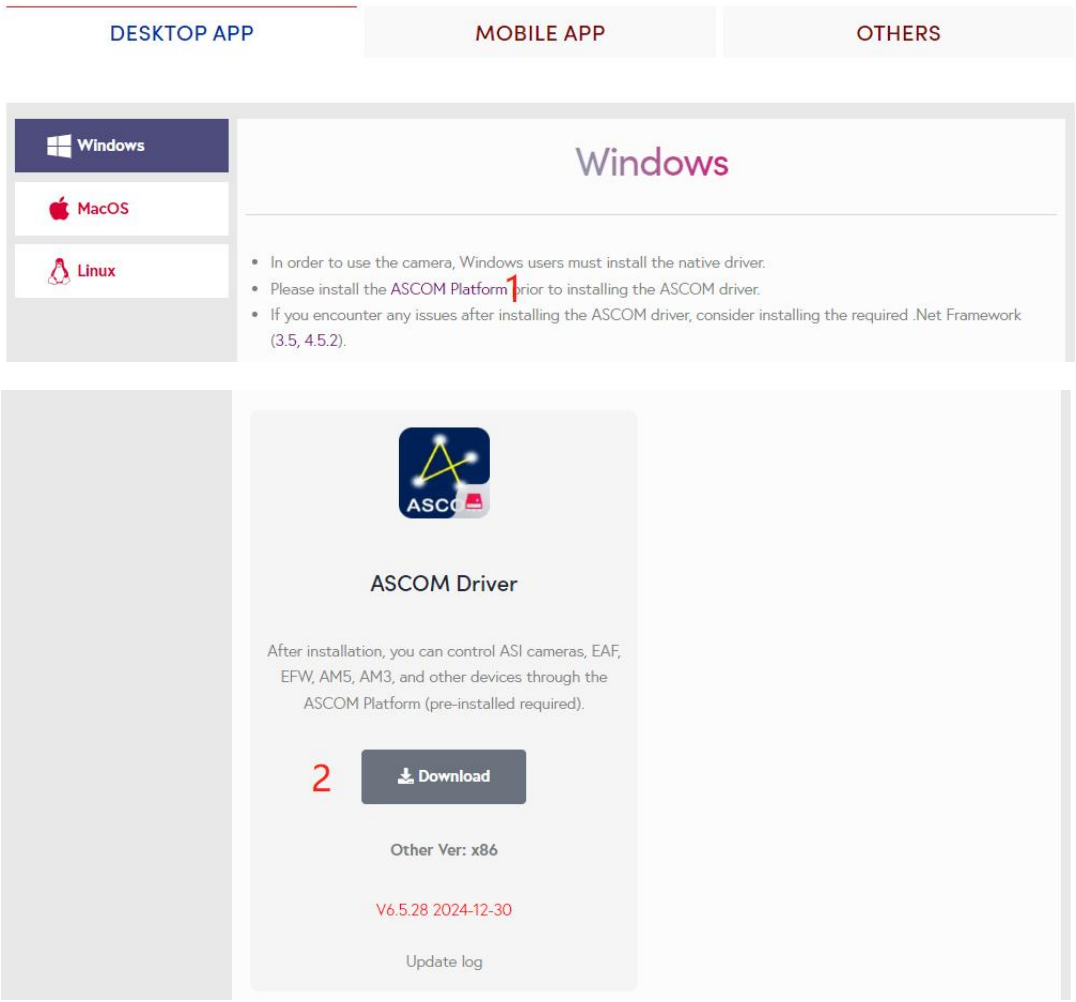
Correct installation:

Incorrect Installation:

3.4.4 How to Control the ASI Mount on PC

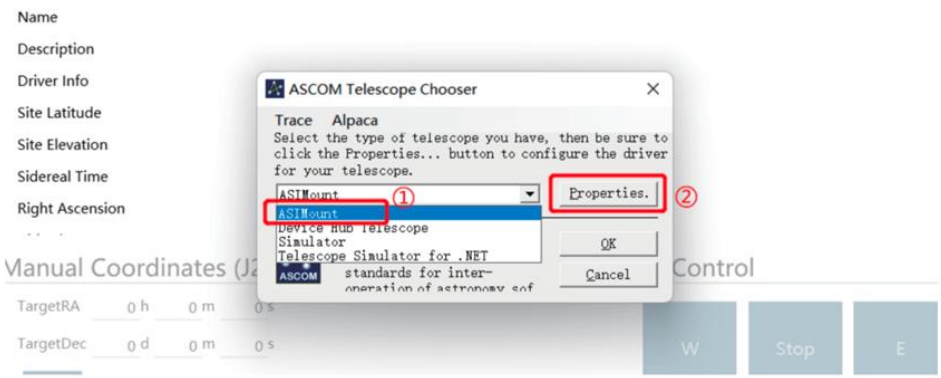
Preparation: Power on the ASI Mount and use the ZWO USB-B to USB-A 2.0 cable to connect the USB port on the ASI Mount and the USB-A port on your PC.
Step 1: Go to the ZWO official website: https://www.zwoastro.com/software/

Step 2: Click to download the ASCOM Platform and the ASCOM driver.



Step 3: Double-click to install the ASCOM Platform and the ASCOM driver.
Step 4: Download and install software applications that support the ASCOM driver, such as ASI Studio, MaxIm DL, NINA, SGP, and other computer software.

In the mount section of the corresponding software,
① Select ASI Mount
② Click on [Properties] and a new dialog box will appear.

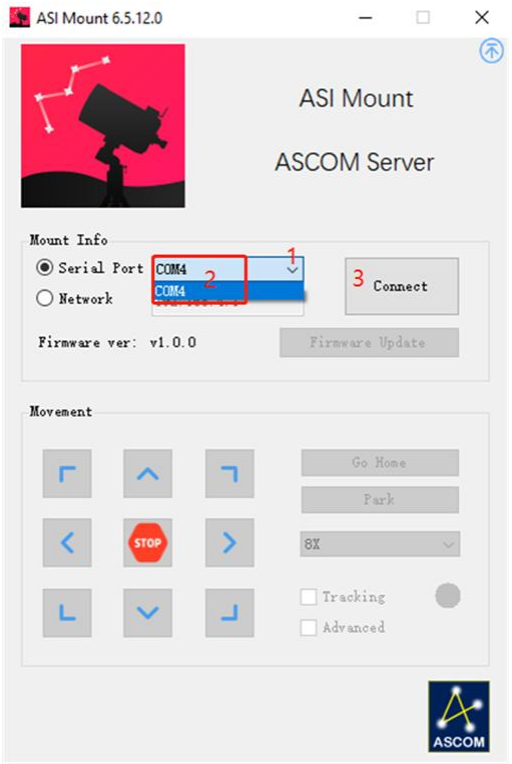


Step 4-1

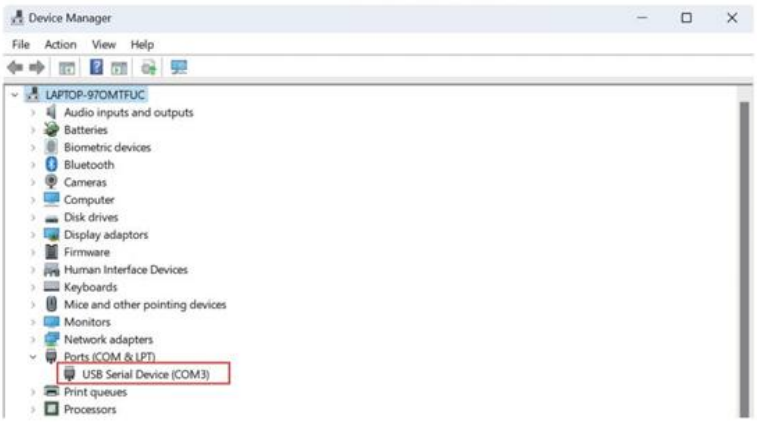
① Click the dropdown menu button in the new window.

② Select a port (*).

③Then click [Connect] to link the mount to the computer.

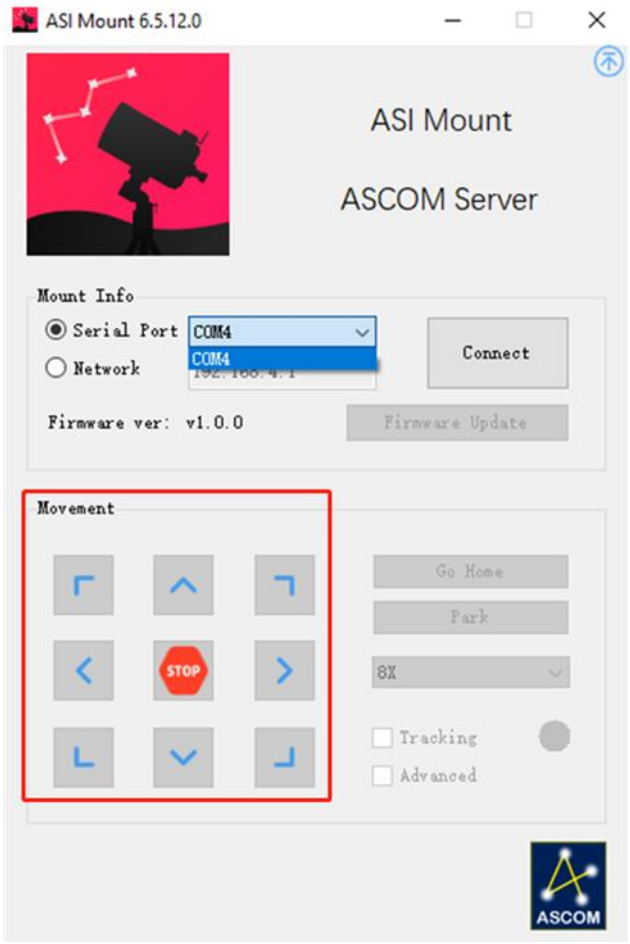


* Note: The port number to select can be found in Computer Management, as shown below. Alternatively, you can try each serial port provided in the ASI Mount ASCOM interface one by one.



Step 4-2

Done! Click or long press the directional buttons marked in the image below to control the movement of the ASI Mount.

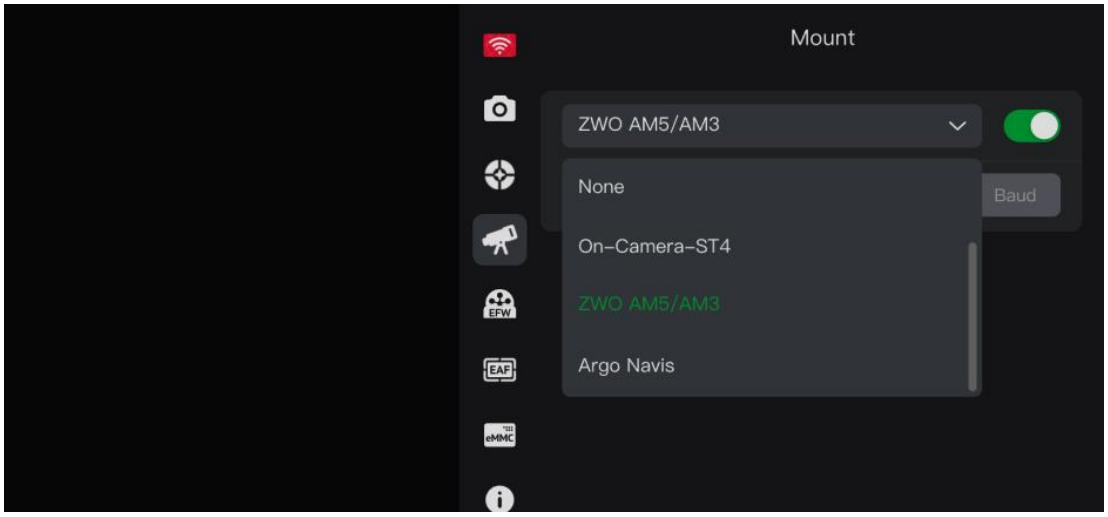


3.4.5 How to Control the ASI Mount via ASIAIR

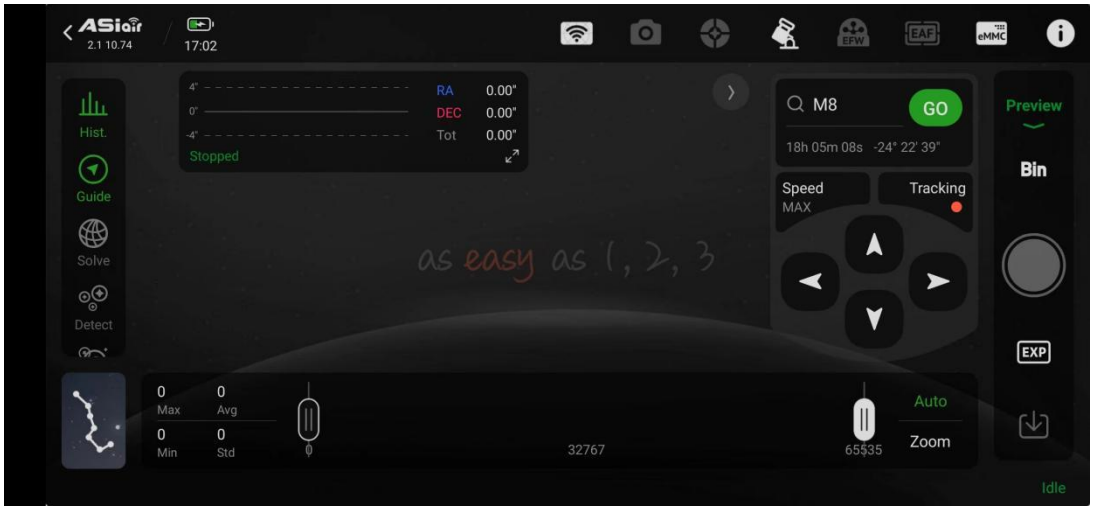
Step 1: It is recommended to secure the ASIAIR in a suitable location.

Step 2: After powering on the system, select the corresponding ASIAIR wireless signal in your mobile device's Wi-Fi settings.

Step 3: Open the ASIAIR APP, go to the mount selection page, choose ZWO ASI Mount, and then press the button to start the application (the port will display as connected, and the various parameters of the corresponding mount will be shown on the page).



Step 4: Return to the main page of the APP to set up or activate various devices, and you can control the mount through ASIAIR.



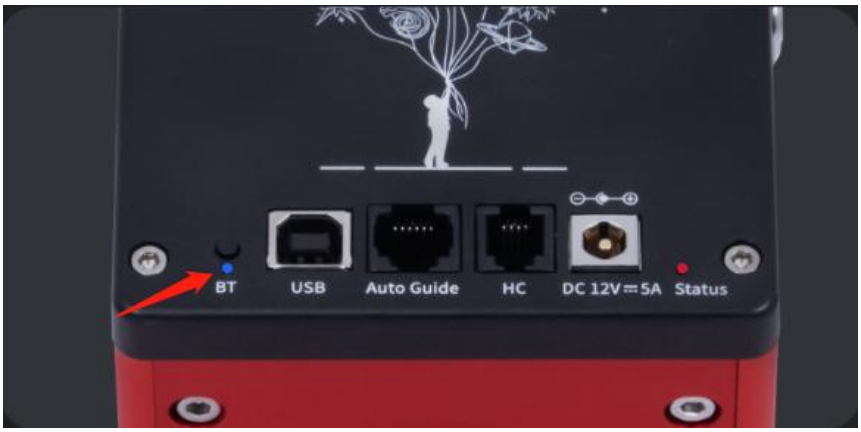
3.4.6 How to Control the ASI Mount via Bluetooth/Wi-Fi

Step 1: Install the "SkyAtlas" APP

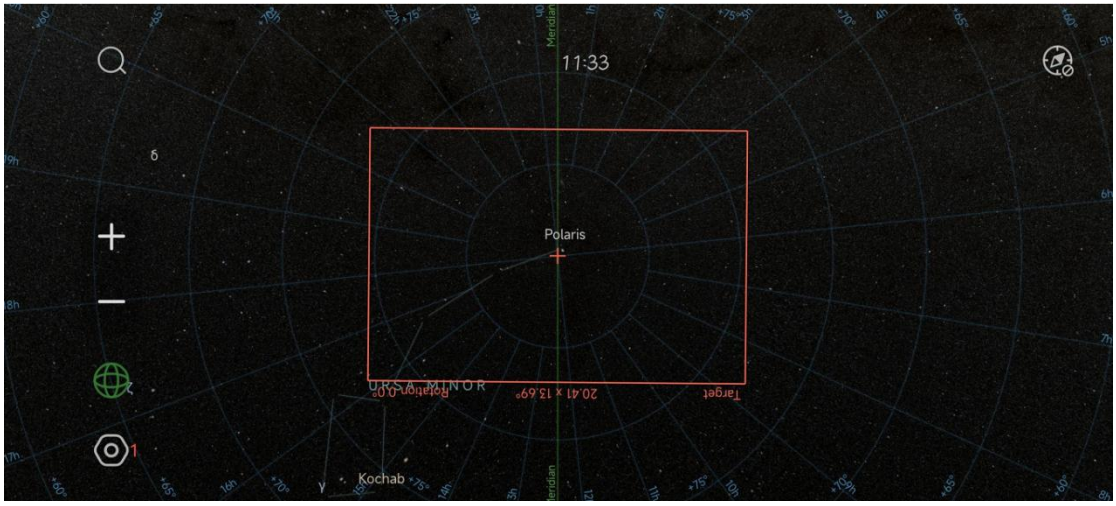
Scan the QR code below to download and install the "SkyAtlas " APP:

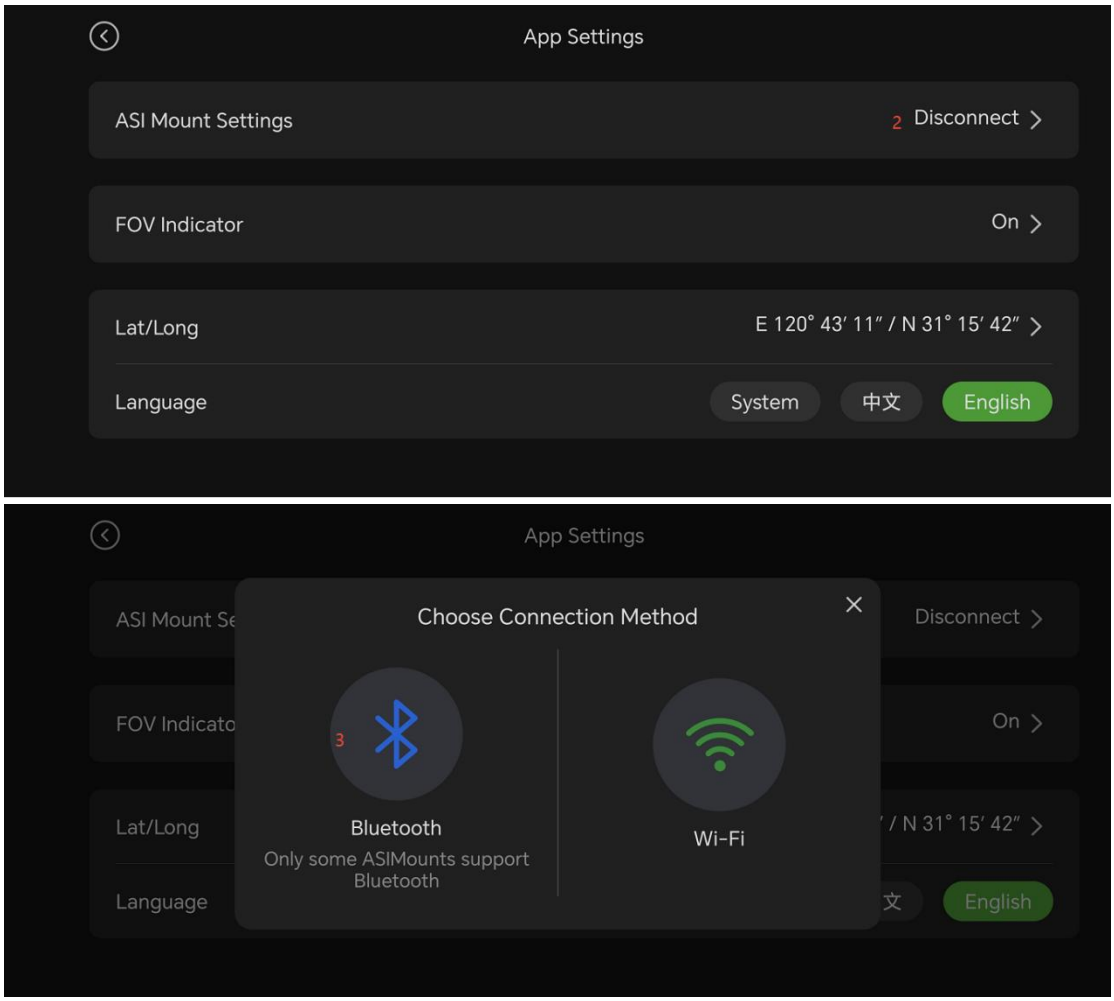
Step 2: Control the ASI Mount via Bluetooth
The ASI Mount unit is equipped with a built-in Bluetooth module. If you forget to bring the Hand Controller when going out, you can control the ASI Mount through the APP by connecting via Bluetooth.

As follow:
1. ASI Mount status confirmation:
Check if the [BT] indicator light on the ASI Mount unit is constantly lit in blue. A constant blue light indicates that the ASI Mount is ready to connect. If the light is not constantly blue, it means that the ASI Mount is currently not connectable. You may check the status of the ASI Mount and restart it, or press and hold the [BT] button for 5 seconds and then check the status of the indicator light.



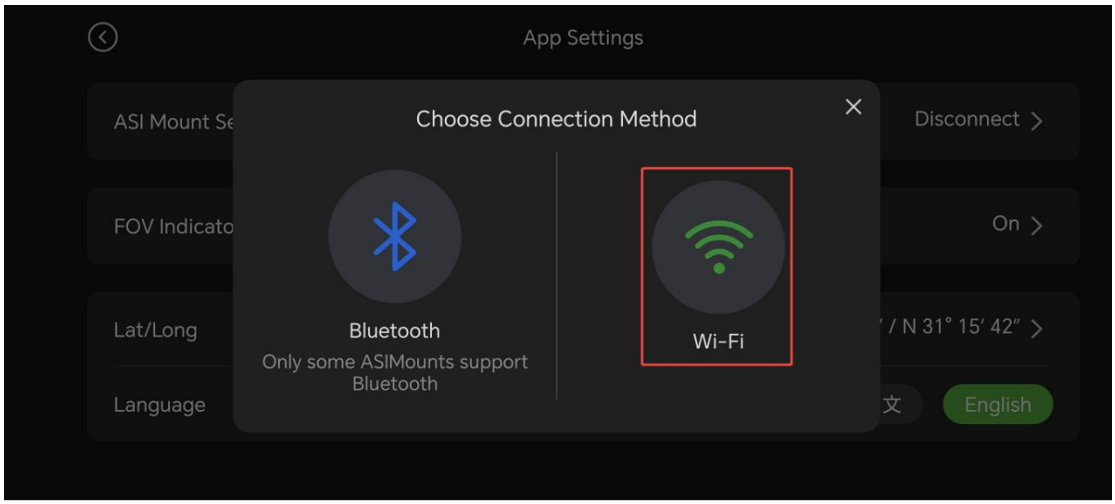
2. Bluetooth Connection:
Start the [SkyAtlas] APP; the homepage is shown as in the following figure. Click the "1" icon to pop up the [APP Setting] prompt box, then click "2" to pop up "Choose Connection Method" and choose "3" Bluetooth.





3. Connection Confirmation:
Connect to the required ASI Mount from the mount list provided by the APP. During the connection process, when the [BT] indicator light is flashing, you need to press the [BT] button on the ASI Mount to confirm the device. After the connection is successful, the [BT] indicator will turn off.

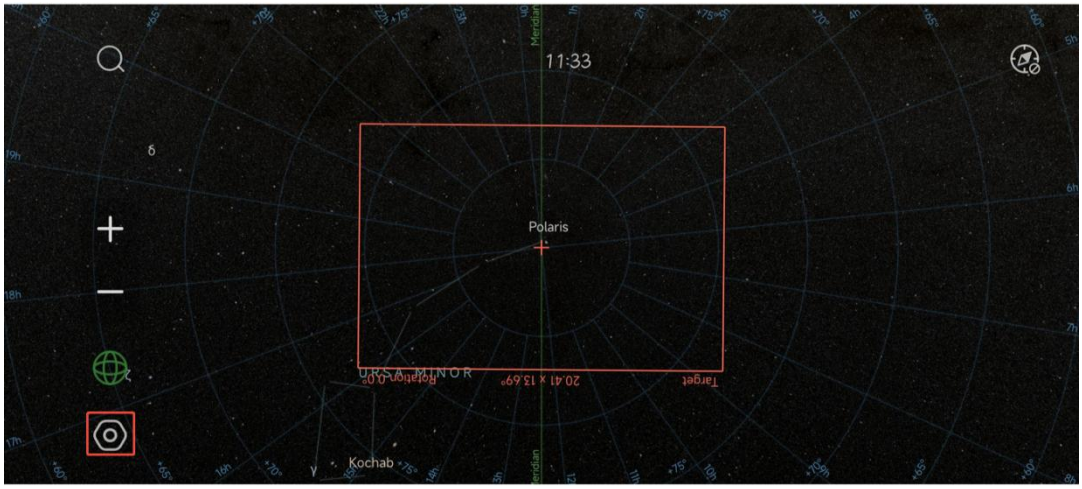
Step 3: How to control the ASI Mount via Wi-Fi
Power on the ASI Mount and turn it on. Connect the Hand Controller, then go to the Wi-Fi settings page on your mobile device. Select and connect to the Hand Controller's Wi-Fi hotspot, typically named [AMH_XXXXXX]. Once the connection is successful, return to the app. After the app confirms a successful Wi-Fi connection, you can begin controlling the mount.



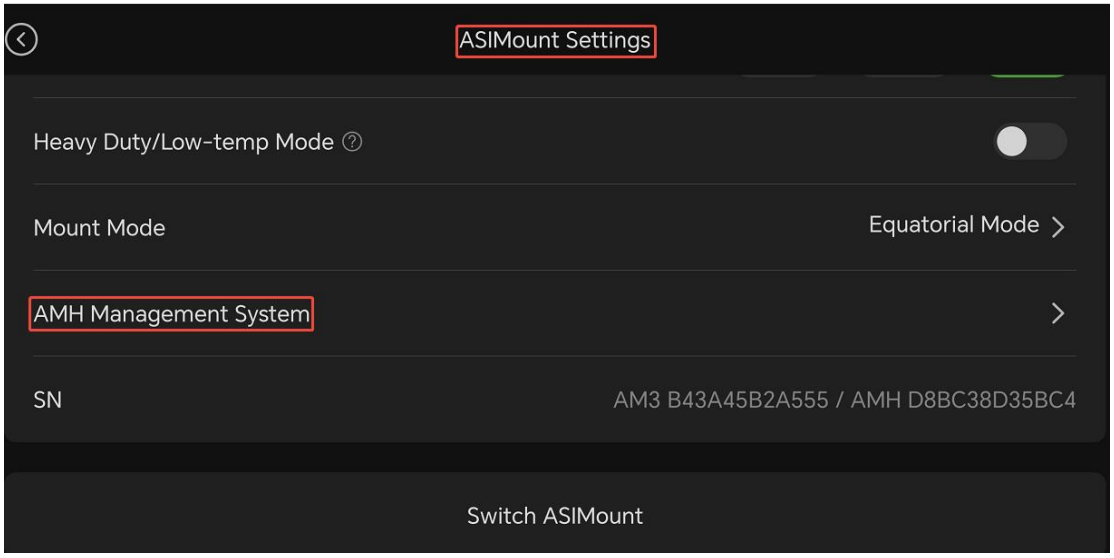
3.4.7 How to Upgrade the Firmware of ASI Mount

3.4.7.1 Update Firmware with APP

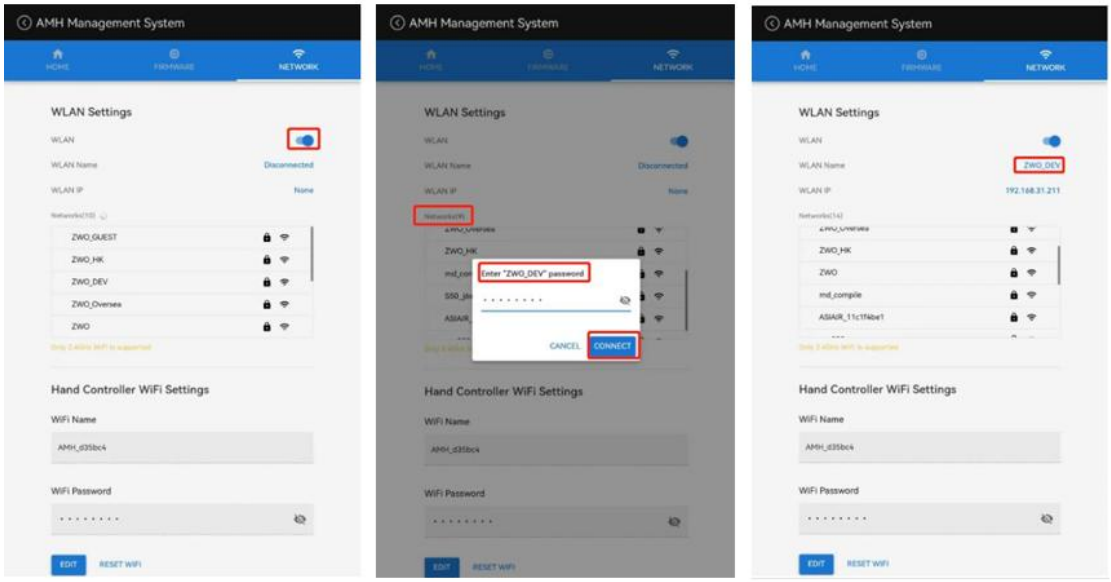
Step1: Open the SkyAtlas APP, and connect to the WiFi of ASI Mount's Hand Controller.
Step2: Hit the mount icon to enter the setting page.



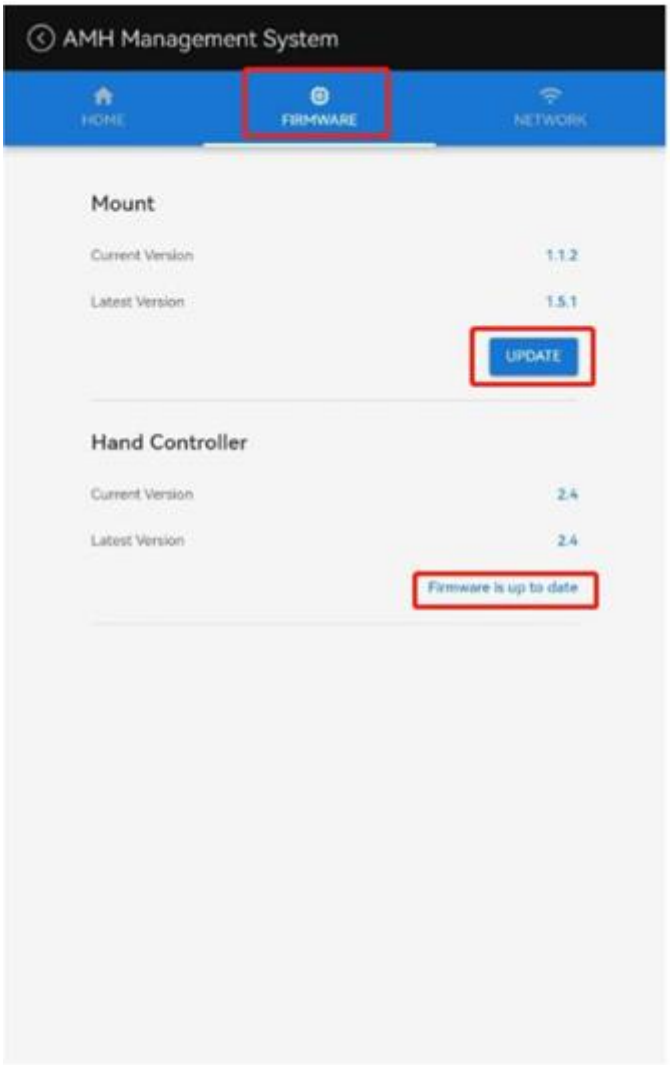
Step3: Hit "AMH Management System" to enter the firmware update page.



Step4: Enter the “NETWORK” and enable WLAN, to bridge the current AM3N WiFi to your home router network (ZWO_DEV in our case).

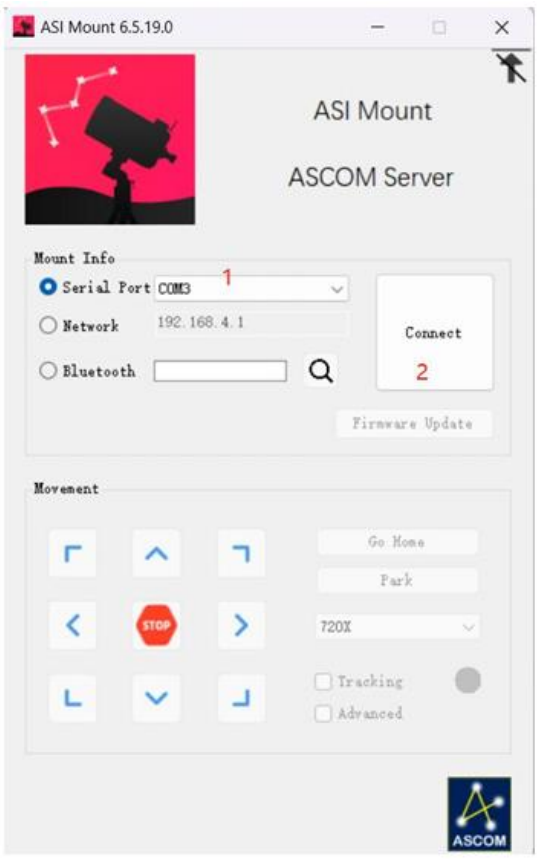


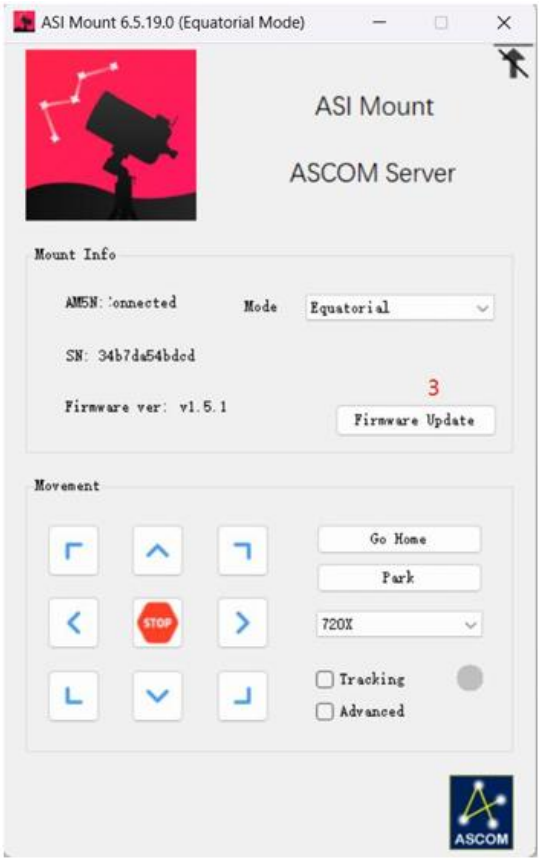
Then click “FIRMWARE” to initiate the firmware update for either the Hand Controller or the mount.



3.4.7.2 Firmware Upgrade via ASCOM

Open the ASCOM platform (refer to Section 4.4) and follow the steps below:
Step 1:
Connect the ASI Mount to your computer using a USB 2.0 cable.
Make sure to select the correct “Serial Port.”
Step 2:
Click “Connect” to establish communication with the ASI Mount.
Step 3:
Click “Firmware Update” to enter the firmware upgrade interface.
Click “Open File” to select and install a local firmware package.
(Ensure the firmware file has been downloaded in advance.)
Or click “Online Update” to download and install the latest firmware from the server.
Step 4:
Wait for the firmware update process to complete.





3.4.7.3 Firmware Upgrade via ASIStudio

Open ASIStudio on your computer and follow the steps below:

Step 1:

Connect the ASI Mount to your computer using a USB 2.0 cable.

Make sure to select the correct “Serial Port” connection.

Step 2:

Click the arrow icon to enter the firmware update page.

Step 3:

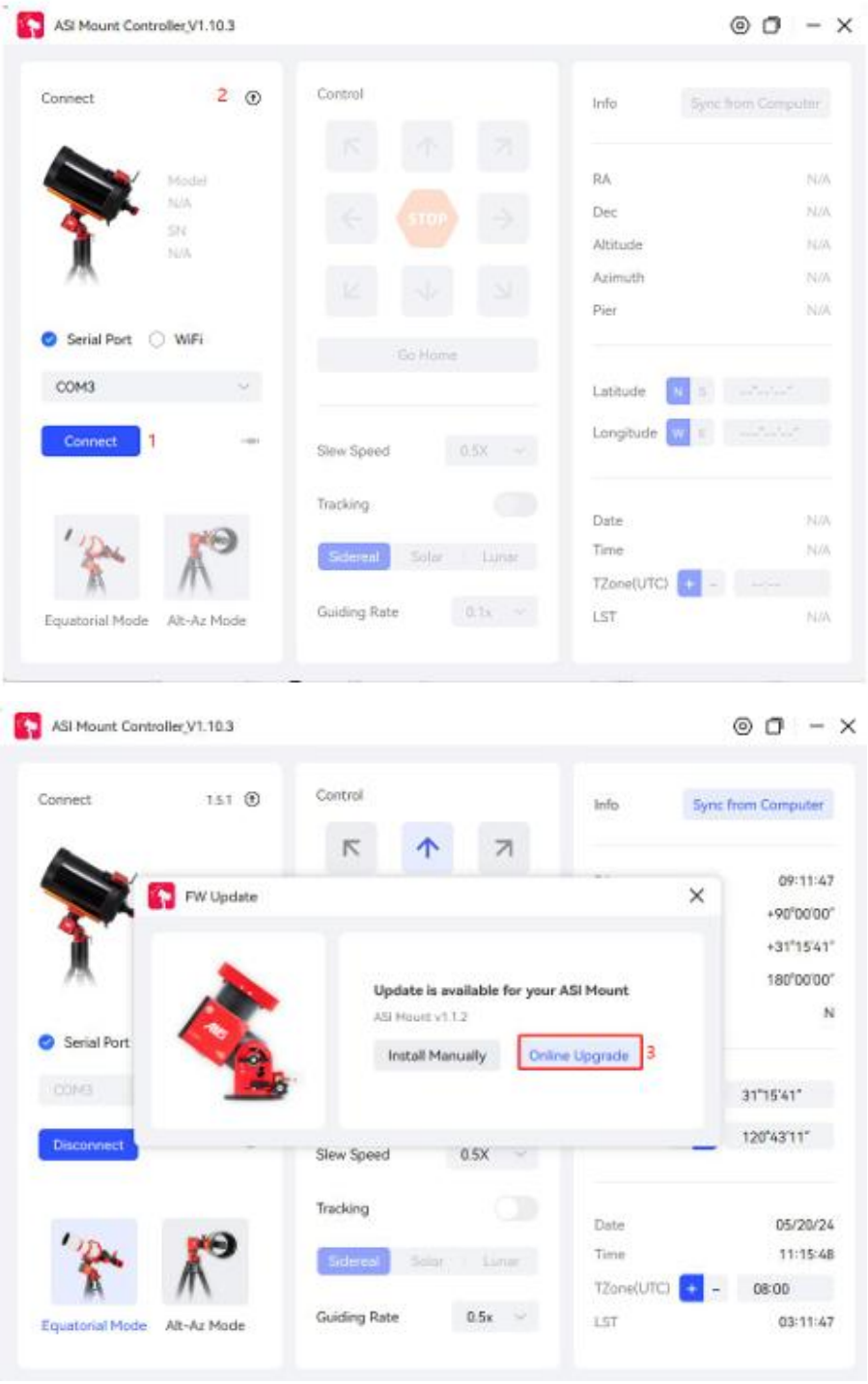
Click “Install Manually” to select and install a local firmware update file.

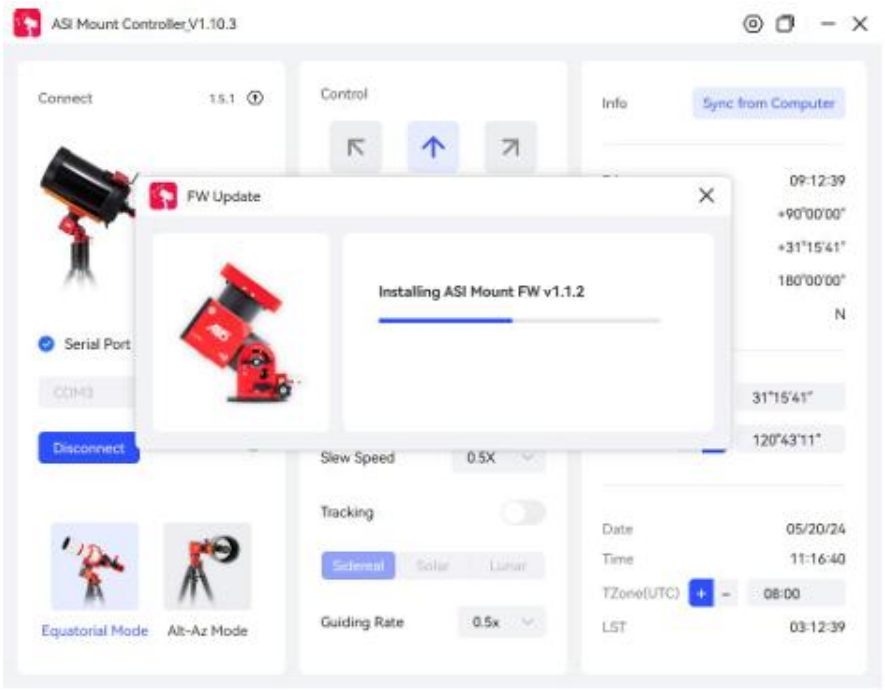
(Ensure the firmware file has been downloaded in advance.)

Or click “Online Update” to download and install the latest firmware file directly from the internet.

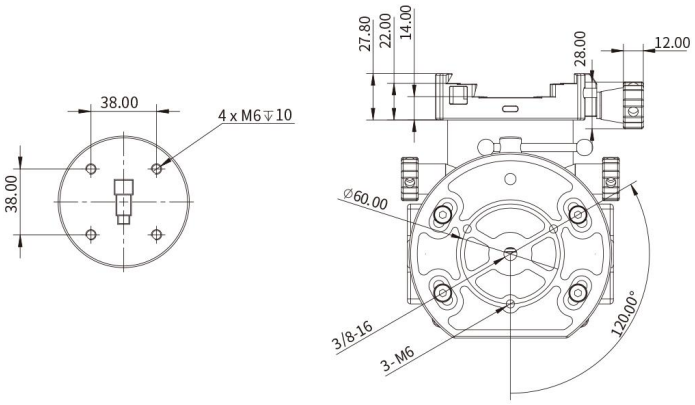
Step 4:

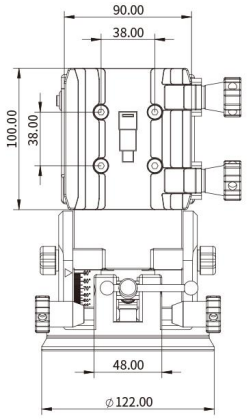
Wait for the firmware update process to complete.

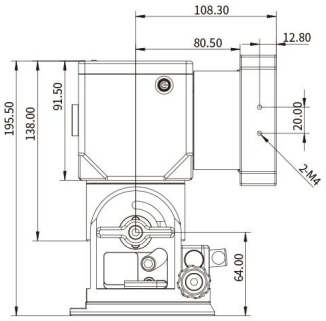


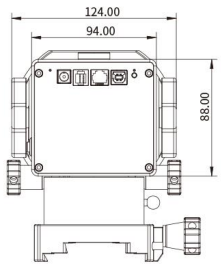

ASI Mount Controller_V1.10.3
Connect
1.5.1
Control
Info
Sync from Computer
09:12:39
+90°00'00"
+31°15'41"
180°00'00"
N
FW Update
Installing ASI Mount FW v1.1.2
Serial Port
COM3
Disconnect
31°15'41"
120°43'11"
Slew Speed
0.5X
Tracking
Sidereal
Solar
Lunar
Date
05/20/24
Time
11:16:40
TZone(UTC)
08:00
LST
03:12:39
Guiding Rate
0.5x
Equatorial Mode
Alt-Az Mode

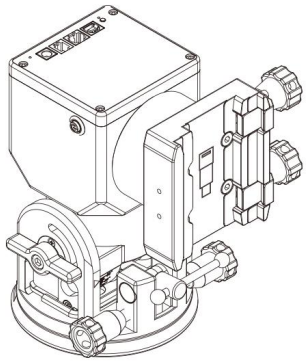
4. Structural Dimensions

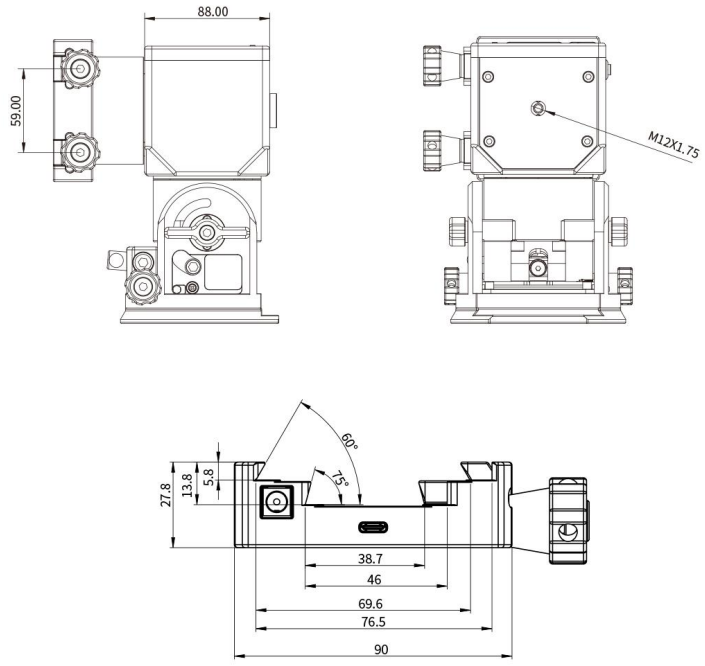











88.00
59.00
M12X1.75
60°
75°
27.8
13.8
5.8
38.7
46
69.6
76.5
90
100

5. After Sales

For software upgrades, please download the update directly from the official website, " Official Website Homepage - Software. "
https://www.zwoastro.com/software/
Email address: info@zwoptical.com

For repairs and other services, please get in touch with us:
https://support.zwoastro.com/

1. For products usually repaired or replaced within the warranty period, the user will bear the cost of returning them. When sending back the product, the user should note the real cause of the product damage and provide corresponding valid proof, such as pictures or videos. For products that need to be replaced after being confirmed by ZWO in writing, the user should return the fully packaged product with all accessories, manuals, etc., to the address designated by ZWO.
By sending back the product, the user agrees to pay the maintenance fee that may be incurred during the product maintenance process, which is not covered by the warranty service. ZWO will return the product after payment.
2. For products that need to be sent back for after-sales service, ZWO will provide the corresponding RMA code for reference. ZWO will only accept returned products with an RMA number and ZWO's written confirmation.
3. If the user purchased the ZWO product from a ZWO agent, he can directly contact the ZWO agent to obtain relevant after-sales service.

6. Warranty

1. ZWO provides a 2-year free warranty service for the products purchased by users from the company, and the warranty period starts from the day after the user receives the product; for ASI Mount products, the warranty period starts from the activation date of the user's equipment.
2. If the user encounters the following damage-on-arrival (DOA) situations and contacts ZWO within the corresponding period, and issues product purchase invoices and relevant certificates, ZWO will provide free postage service and offer the following products after-sales replacement (or partial replacement), repair or return (or partial return) service:
1) Product quality problem: If you find a quality problem with the product within 180 days from receipt, you can contact ZWO to confirm it has quality problems or defects after testing by the ZWO customer service center. You can get a free replacement service.
2) Product transportation problem: After receiving the product, the user finds that the outer packaging of the product has obvious signs of water soaking or serious backlog and deformation, and shall provide ZWO with pictures of the outer packaging of the product and receipt of the goods within three days from the date of receipt of the product After verification by the ZWO customer service center, it is confirmed that the product is directly shipped to the user or agent by ZWO, then ZWO will provide relevant return and exchange services; if the product is directly sold or shipped to the user by the ZWO agent, the ZWO agent will be responsible for providing relevant return and exchange services.
3. If the product occurs in the following situations, it is not within the scope of warranty service, and ZWO can provide maintenance services for users:
1) The product exceeds the warranty period;
2) The product is exposed to liquid and corroded by moisture;
3) The product is damaged by external force (such as scratches on the surface, deformation of the product shell, broken USB port, etc.);
4) Dismantling, third-party maintenance, modification and refurbishment, flashing (downloading wrong firmware) without express written authorization from ZWO;
5) The product system is changed, or the warranty label is lost or changed;
6) Product quality problems caused by failure to install according to product usage requirements or instructions;
7) Physical damage and failure of the product caused by irresistible external forces (such as floods, fires, earthquakes, lightning strikes, and other strong vibrations or extrusions);
8) Damage caused by improper user operation during shooting or use;
9) There is no valid product purchase invoice or warranty certificate;
10) The product purchased by the customer is a second-hand product.
Quality problems with accessories or other product parts are not a condition for returning the host, and users can request a replacement of new accessories separately.

7. FCC Statement

This device 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.

This equipment 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:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/ TV technician for help.

FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, Human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

8. ISED Statement

English: This device contains licence-exempt transmitter(s) / receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.
The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).
French: Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada.
L'exploitation est soumise aux deux conditions suivantes :
(1) Cet appareil ne doit pas provoquer d'interférences.
(2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.
l'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).
This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian Information
on RF exposure and compliance.
cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.
This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.
Cet équipement est conforme aux limites d'exposition aux rayonnements du Canada établies pour un environnement non contrôlé.
This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.
Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.