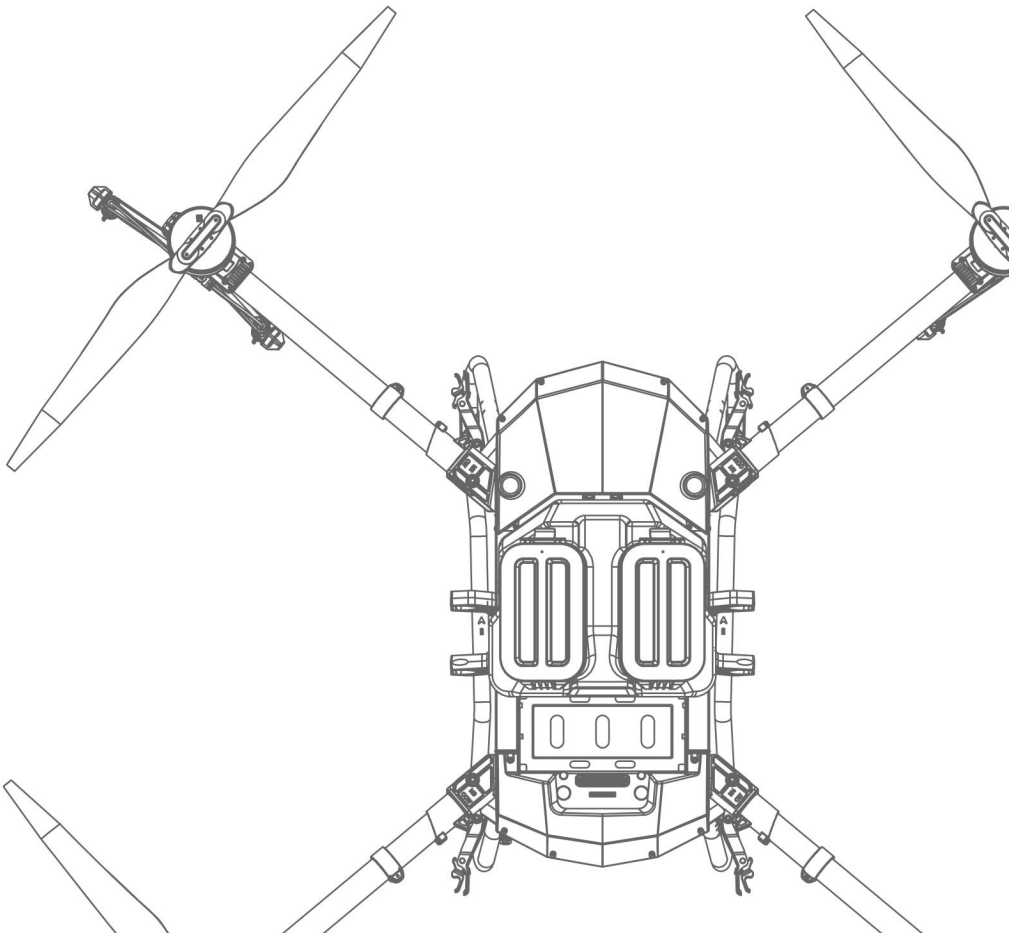
G18

产品安装手册

INSTALLATION MANUAL

Version 1.0en



Revision	Version	Author	Description	Date
1	V1.0		First Edition	May 2025

CONTENT

Chapter 1: Usage Instructions

1.1 Document Information

The G18 is a 20L lightweight quadcopter frame from EFT. It is not a complete drone and is not ready to fly.Facilitate customers to use this product, this document provides detailed installation and debugging instructions.The spraying system, motor system, control system, and power supply configurations mentioned in this document are provided for reference only and are not included in EFT standard set.Users may configure these components according to their own needs, and there is no mandatory configuration requirement.

While we have made every effort to ensure the accuracy of this document, errors may still exist. If you find any mistakes or have suggestions for improvement, please contact EFT technical support team.

For more information, please visit the official EFT website www.effort-tech.com

1.2 Disclaimer

Due to the particular nature of drone frame products, please read this document carefully before use. By using this product, you are deemed to have thoroughly read, understood, acknowledged, and accepted all terms and content of this document.

This product is not a toy and carries certain safety risks during use. It is not suitable for individuals under the age of 18, or those legally defined as having limited or no civil capacity, or individuals with physical disabilities affecting safe operation. Keep this product out of the reach of children. Be especially cautious when operating the product in environments where children are present.

Any product may be subject to accidents due to improper operation or environmental factors. You fully understand and agree to bear all risks and losses caused by such accidents. EFT shall not be held liable for any such incidents.

Do not disassemble, modify, add to, or use this product beyond its original intended purpose without authorization. Faults, crashes, or other incidents caused by improper storage, incorrect assembly, settings, operations, unauthorized modifications or add-ons, or third-party components will not be covered under warranty or maintenance services. The user shall bear all related economic and legal responsibilities.

In all cases, purchasers and users must comply with the applicable laws and regulations, user instructions, and safety requirements of the country or region where the product is used. EFT assumes no responsibility for any consequences arising from violations of such laws or regulations.

EFT reserves the right to update and make the final interpretation of this manual. Without prior notice, EFT may update, revise, or remove product information—including that on its official website, social media, and

e-commerce platforms—as well as content in the User Manual, Assembly Manual, software, and firmware.

Chapter 2 Product Overview

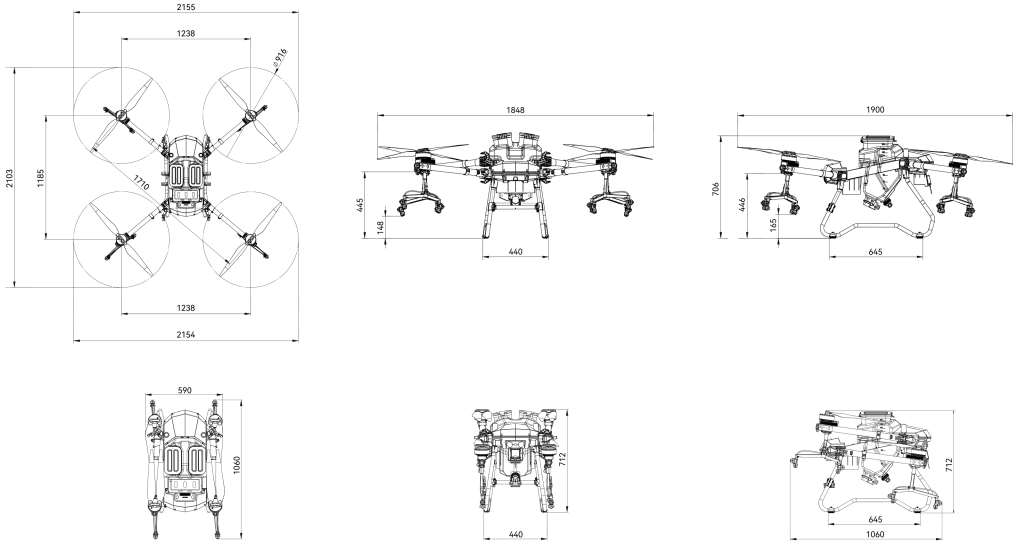
2.1 Product Introduction

The G18 agricultural drone frame continues the classic foldable design for easier transport and storage. It is integral Die-forged truss frame , providing enhanced durability and impact resistance. Doubled strength ensures stable and flexible flight under heavy loads. Equipped with dual-lock buckles, it enhances safety during farming operations.Two optional battery plugs allow for various battery installation. The front and rear power distribution boards, combined with an extra-large flight controller bay, allow compatibility with various flight controllers and receiver devices.

The spraying system features a modular design that supports single or dual pump installation. Optional pressure nozzles or centrifugal nozzles, enabling efficient spraying across diverse farming scenarios.

NO.	NAME	NO.	NAME
①	Front Upper Cover	⑥	Rear Upper Cover
②	Motor Set	⑦	Smart Battery
③	Landing Gear	⑧	Drone Arms
④	Pressure Nozzle	⑨	Landing Gear Crossbar
⑤	Spraying Tank	⑩	Water Pump

2.2 Parameters



Parameters	Configuration
Wheelbase	1710mm
Frame Weight	8.75kg
Unfolded Size（with propeller）	1848*1900*706mm
Folded Size	590*1060*712mm
Tank Capacity	20L
Tank Weight	2.12kg
Color	Orange
Recommended Motor	X9 PLUS
Recommended Battery	22000mAh（14S）
Battery Compartment Size	259*125*190mm
Arm Diameter	Φ40mm
Test Flight Time	No Load 26’43”；Full Load 11’37”
Note: The endurance time is based on tests using a 14S 22000mAh battery and is for reference only.	

* The weight parameters may vary by ± 100g depending on the actual product configuration and manufacturing tolerances.

Chapter 3 Installation

* Please check all parts before installation.

3.1 Drone Installation

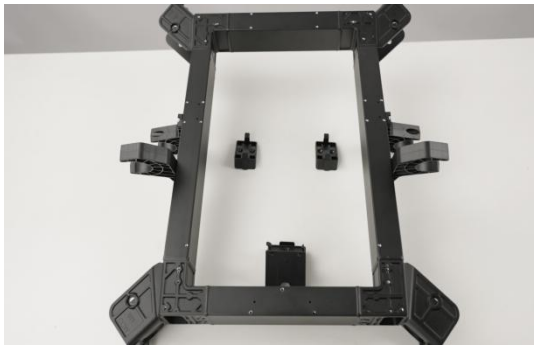
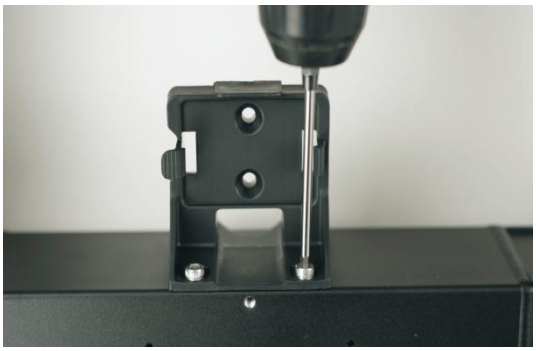
- **Drone Frame Installation**

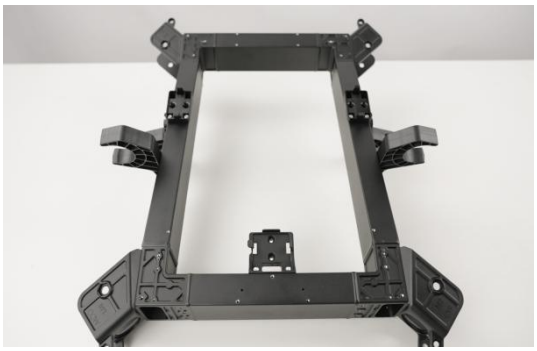
* The positions marked M1 and M2 are the front drone, while M3 and M4 are the rear.The sides of the frame with four positioning holes are the top, and the sides with five positioning holes are the bottom.

1、Take out the drone frame and other parts from the package. Use M4*10 cup head screws(8pcs) to install the four arm clamps on both sides of the frame. The clamps near the front arms should face upward, and those near the rear arms should face downward. (Note: Distinguish between the front,rear,top and bottom of the frame.)



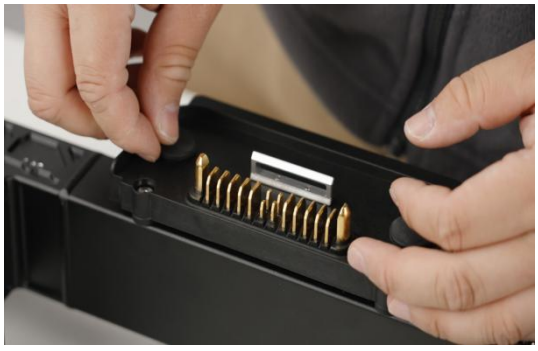

2、Use M4*10 screws(12pcs) to fix the weighing pads onto the inside of the front crossbeam and the top of the left and right side beams of the drone frame.(Note: Distinguish between the front weighing pad and the side pads.)

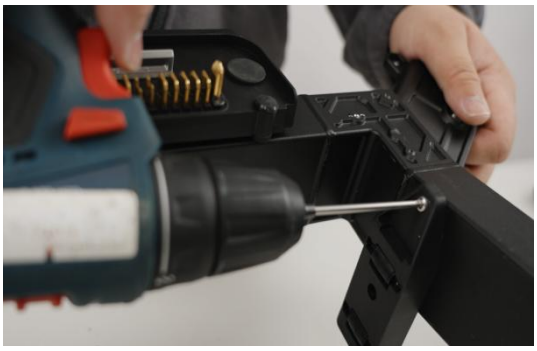


- **Installing the 300A Battery Plug**

1、Use M4*9 stepped screws(4pcs) to mount the rear PDB onto the rear crossbeam of the frame. Then seal the screw holes with rubber plugs.

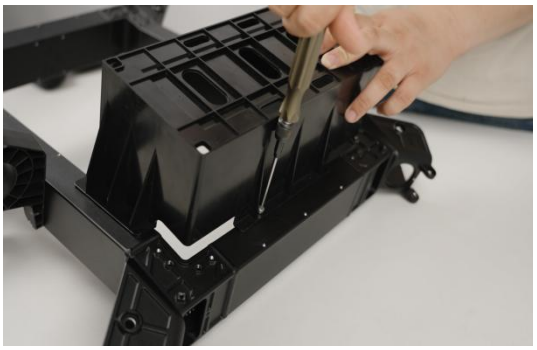
2、Use M4*10 screws(4pcs) to install two battery rails on the inner sides of the left and right side crossbeams.(Note: Install with the pointed ends facing upward.)



- **Installing the AS150U Battery Plug**

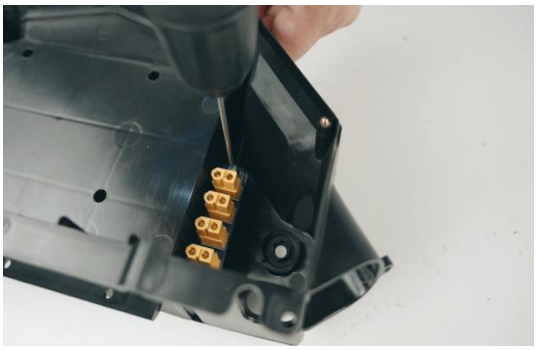
1、.Use M4*9 stepped screws(4pcs) to mount the rear PDB onto the rear crossbeam of the frame, and seal the screw holes with rubber plugs.


2、Use M4*10 screws(8pcs) to fix the battery compartment onto the back side of the drone frame.

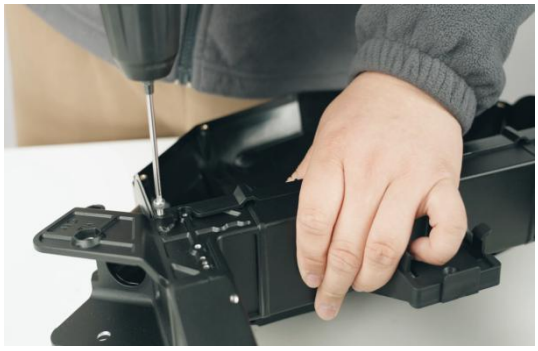



- **Front Cover Installation**

1、Use M3*8 self-tapping screws(4pcs) to secure the two PDB to each side of the front cover.



2、Place the front cover onto the front end of the frame's crossbeam. First, secure both sides of the cover using M4*10 screws. Then fix the GPS bracket onto the top of the front cover and the crossbeam.Secure the two sides of the front fuselage lower shell with M3*8 screws. Finally, tighten the remaining three screws on the bottom side.

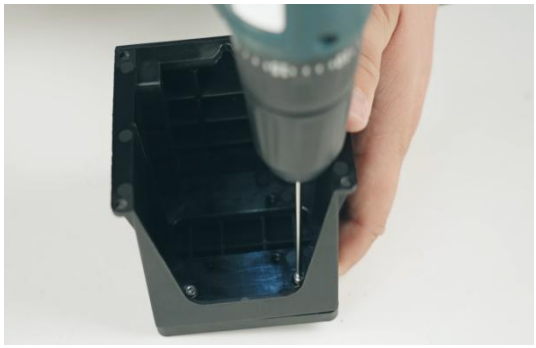




- **Rear Cover Installation**

1、Use M4*10 screws to fix the lower rear cover onto the rear end of the frame 's crossbeam. (Note: Screws on both the front and back sides must be tightened.)

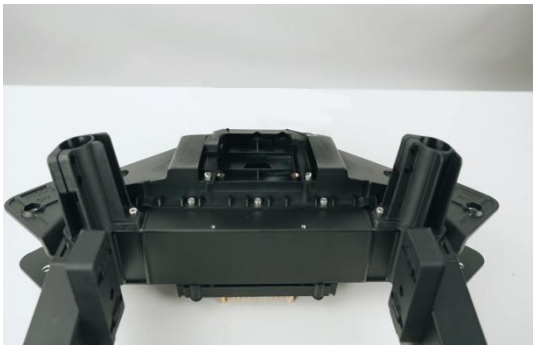

2、Use M3*8 self-tapping screws to fix the front obstacle avoidance radar adapter cover and the altitude radar adapter cover to the radar bracket. Then, use M4*8 screws to fix the radar bracket onto the lower rear cover.





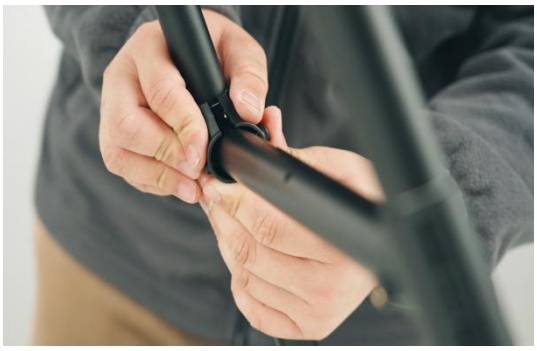

- **Landing Gear Installation**

1、Use M4*10 screws to install the four landing gear mounting parts onto the bottom of the frame.



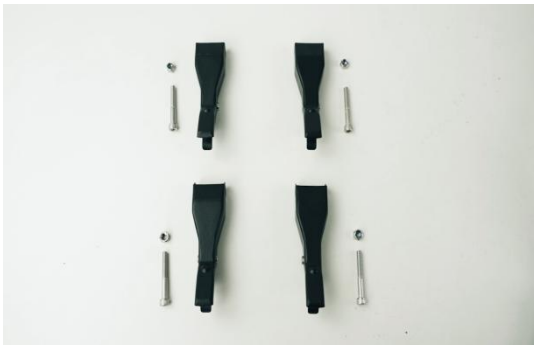

2、Insert the landing gear into the mounting parts, then turn it over onto a flat surface and press until it reaches the limit line. Finally, use M4*10 screws to tighten the landing gear mounting parts. (Note: The landing gear should be higher in the front and lower in the rear.)

3、Install the landing gear adapters along the positioning lines. First, insert one end of the tube into the adapter and use M3*30 screw to tighten one side of the crossbar. Then install the adapter on the other side in the same way. First using M3*30 screw to secure it, and then use M3*10 screws to tighten the remaining screw holes. (Note: Tighten the screws from the outside to the inside.)

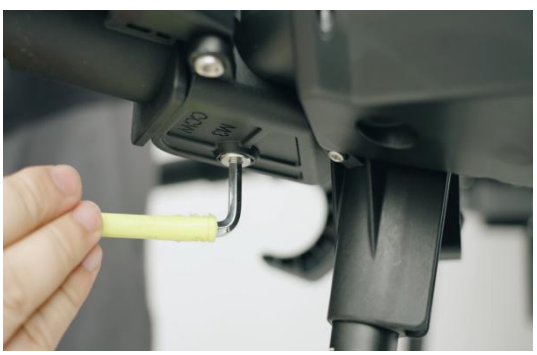


- **Arm and Motor System Installation**

1、Insert the M6 nut into the hexagonal slot of the folding part. Insert the locking handle into the arm folding part until the holes are aligned, then fasten from below with M6*45 screws. Repeat the same steps to install the remaining three locking handles.



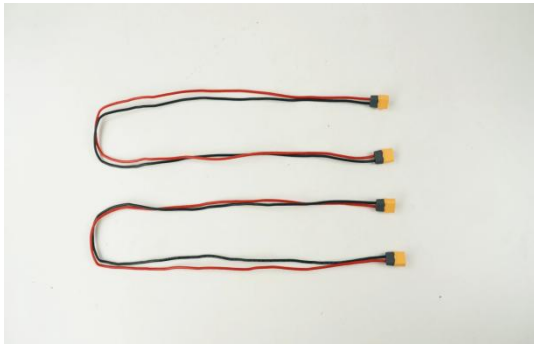
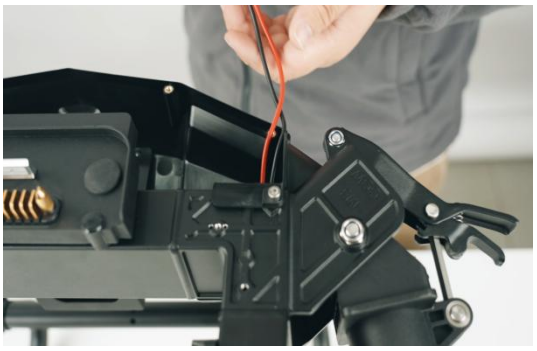
2、Install the arms into the fixed positions on the folding parts. Insert the M8 self-locking nut into the hexagonal slot of the folding part, then fasten from below with M8*65 screws. Repeat the same steps to install the remaining three arms



3、Fix the hexagonal stud onto the short pin, then use M4*12 screw to connect the hexagonal stud with the long pin. Repeat the same steps to connect the remaining three locking handles.

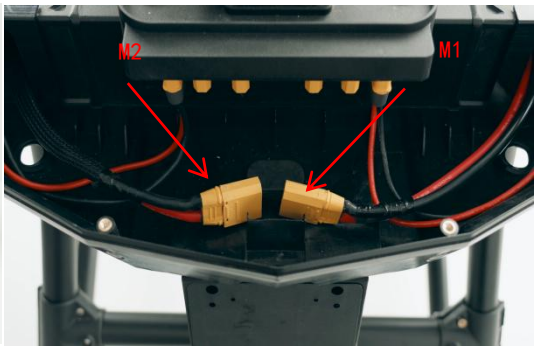


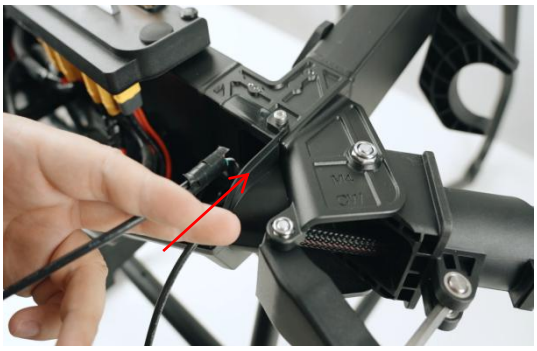
4、Route the two power cable through both sides of the frame and connect the plugs to the front and rear power distribution boards.

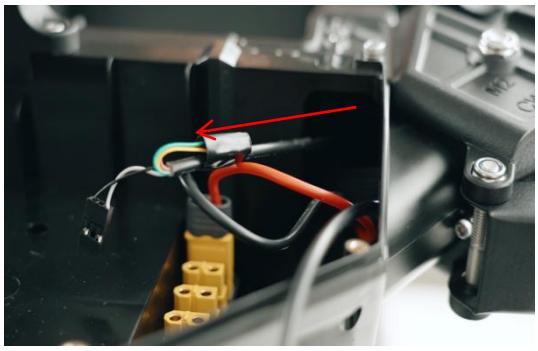



5、Identify the mounting holes and motor positions on the frame. The location of the camera marks the front drone. From left to right, the arms are M1 to M4. Install CCW motors on M1 and M3, and CW motors on M2 and M4.

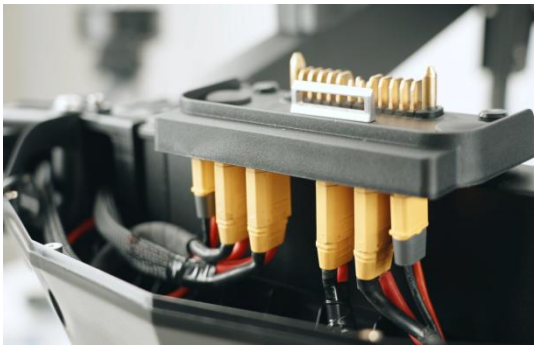
6、Route the power cables for M1 and M2 motors from both sides of the frame to the rear. Route the signal cables for M3 and M4 motors from both sides of the frame to the front.





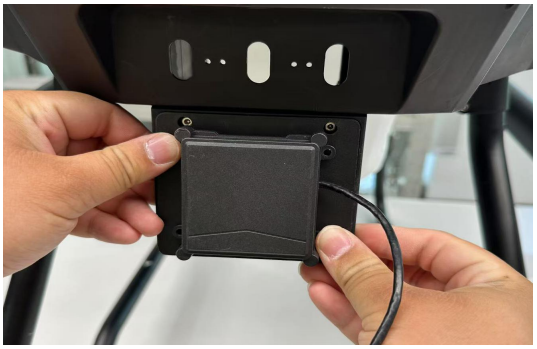


7、Connect the power cables to the rear power distribution board.



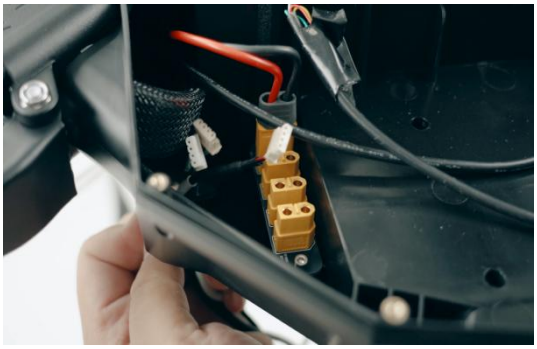
- **Radar and Other Components Installation (Optional)**

1、Remove the front obstacle avoidance radar adapter cover, fix the front radar to the cover, then reattach the cover to the radar bracket.

2、Mount the altitude radar onto the altitude radar cover.

3、Route the FPV camera cable through the cable hole on the frame, then use screws to fix the camera at the front drone. Route both the radar and camera cables out through the wiring holes on both sides of the lower front cover.

3.2 Spraying System Installation

- **Nozzle Installation**

1、 Use M3*10 screws to attach the Y-type dual-nozzle spray rod to the nozzle adapter. (Note that the longer rod faces outward and the shorter rod faces inward.)

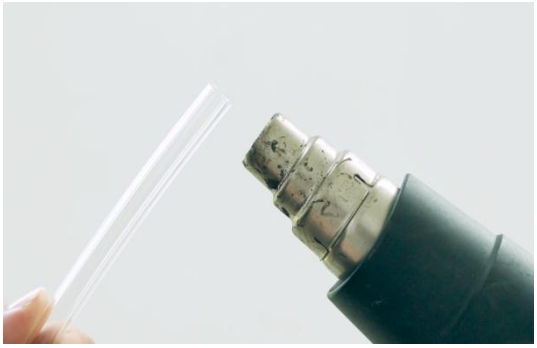

2、 Secure eight hose clamps onto the drone arms with the buckles facing downward. Fix them using M3*8 self-tapping screws.


- **Pump Installation**

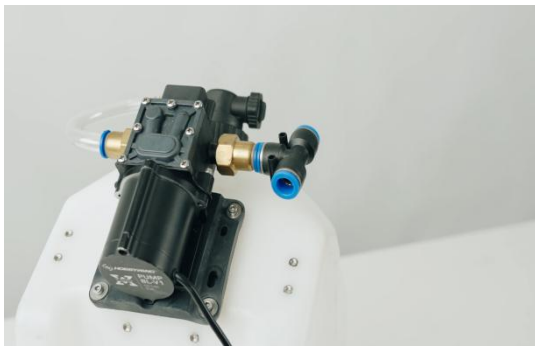
1、Use M4*10screws and washers to mount the pump onto the tank.（Ensure the pump head is aligned with the tank's outlet）Then install a 12mm hose clamp on the back of the tank.




2、Use a heat gun to soften one end of the 12mm hose. Insert the softened end into the tank outlet, and connect the other end to the pump's inlet.

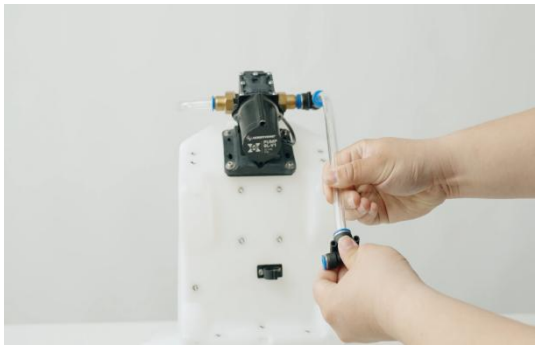



3、Connect a T-shaped tee to the pump outlet using a 12mm hose.

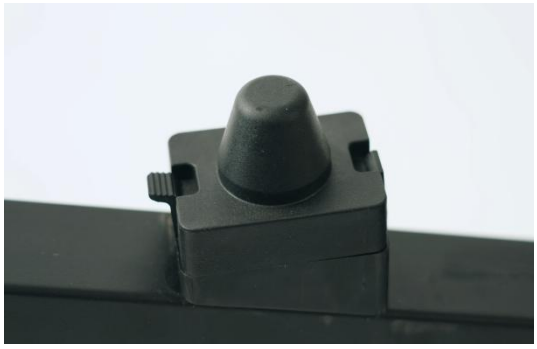
4、Attach two 12mm hoses to both sides of the tee, and install a 12mm-to-8mm T-shaped tee at the end of each 12mm hose.



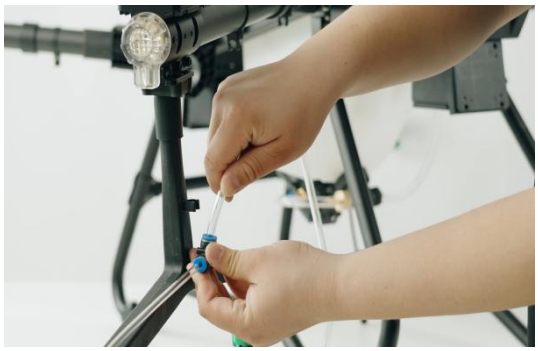
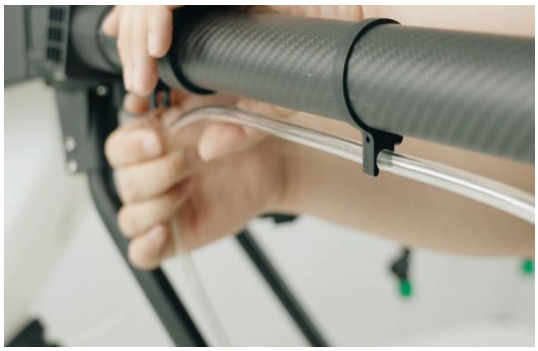


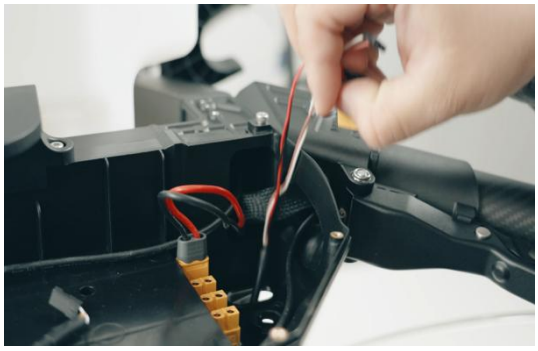

5、Secure the rear hose of the drone to the hose clamp. Install the weighing module on the weight pad, and place the tank onto the drone frame.






6、Use 8mm hoses to connect the nozzles. Fix the hoses onto the hose clamps on the arms, and connect the other end to the 12mm-to-8mm T-shaped tee on the tank. Repeat the same method for the remaining arms. Finally, route the pump power cable through the wiring hole at the front drone.

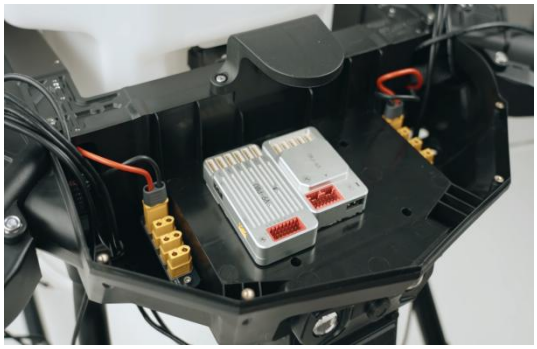
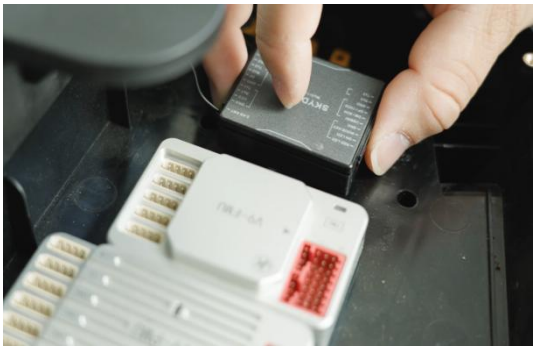





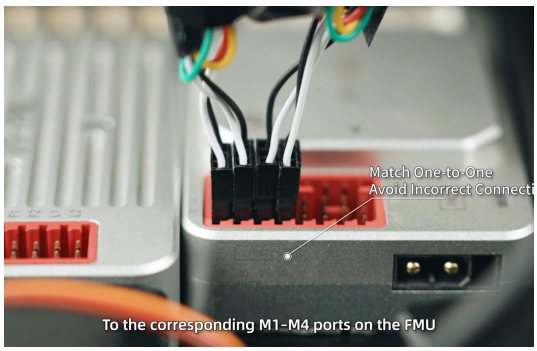
3.3 Control System Installation

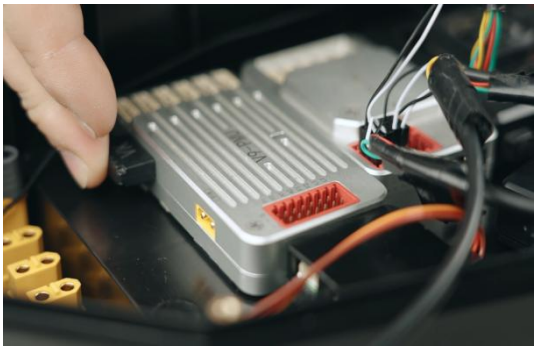
- **Install the flight controller**

1、Use 3MM double-sided tape to secure the FMU to the FC bracket. Then use the tape to secure the PMU and the receiver on either side of the FMU.

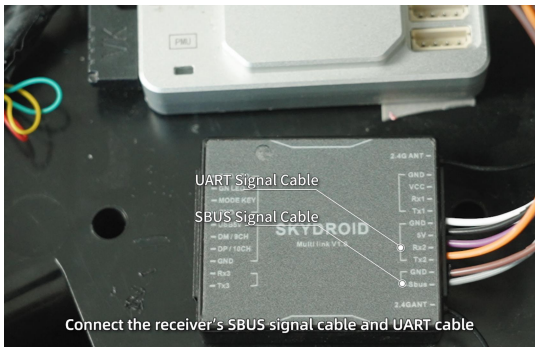



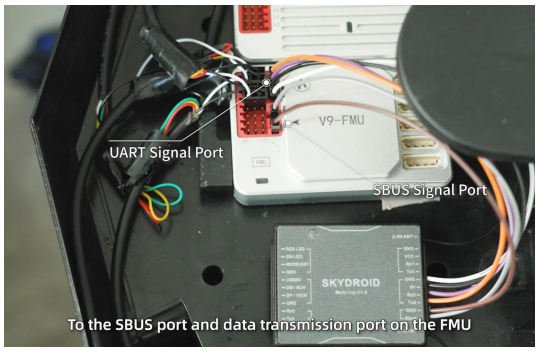
2、Plug the M1–M4 motor signal cables into the corresponding M1–M4 ports on the FMU. Then plug the PMU cable into the PDB after connecting the PMU to the FMU.



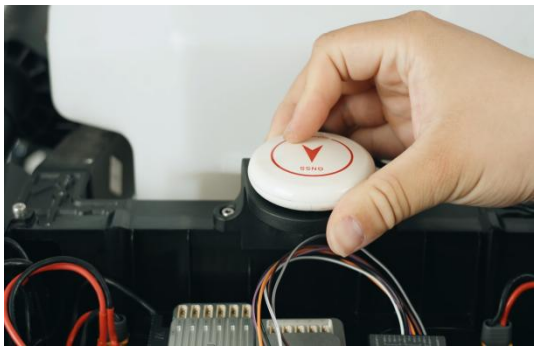


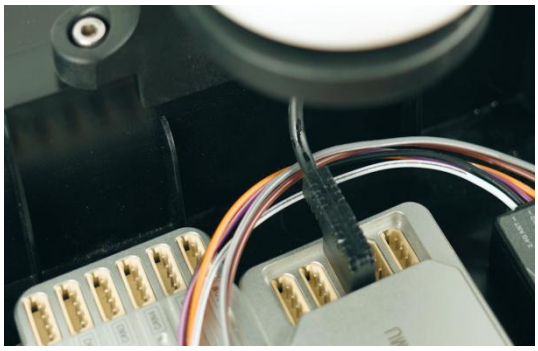

3、Connect the SBUS and UART signal cables from the receiver to the corresponding ports on the FMU.



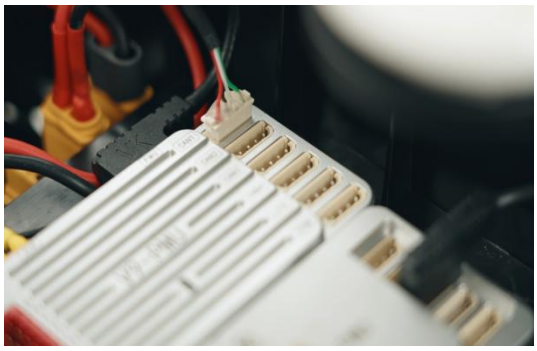


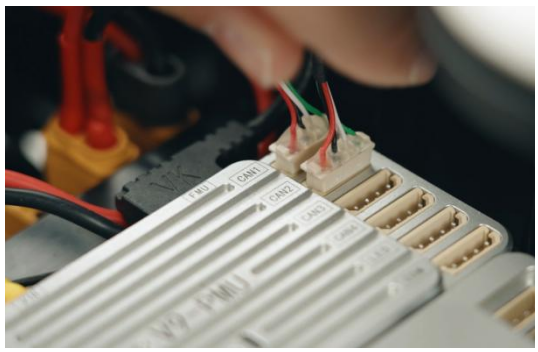
4、Use 3MM double-sided tape to secure the GPS to the GPS bracket. Then plug the GPS cable into the GPS port on the FMU.



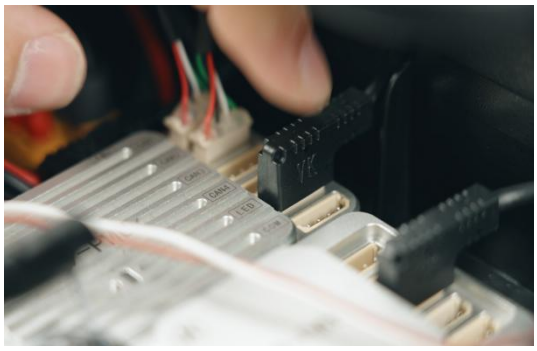


5、Plug the radar signal cables into the CAN1 and CAN2 ports on the PMU, respectively.

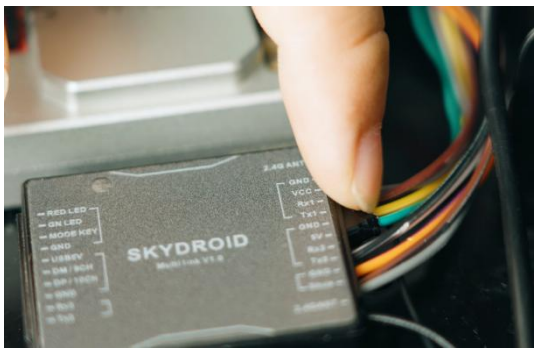


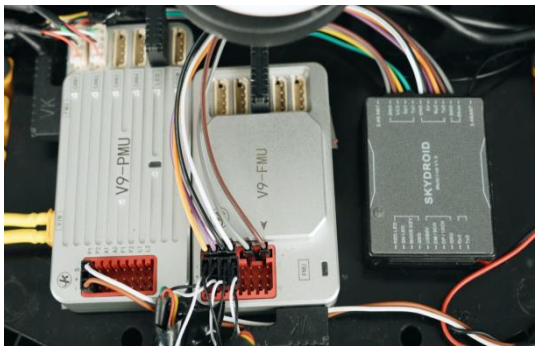


6、Plug the FC indicator light connector into the LED port on the PMU. Then use 3MM tape to secure the indicator light onto the light cover at the rear of the drone.



7、Plug the camera signal cable into the camera transmission port on the receiver.



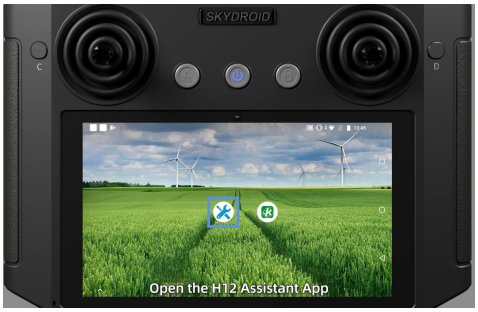


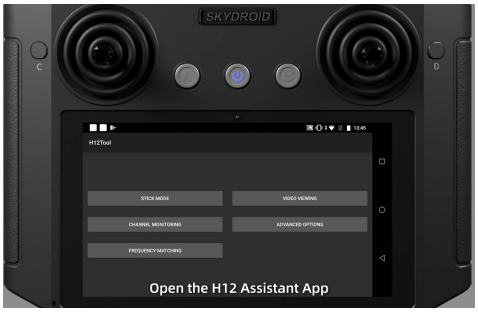
Chapter 4 Drone Debugging

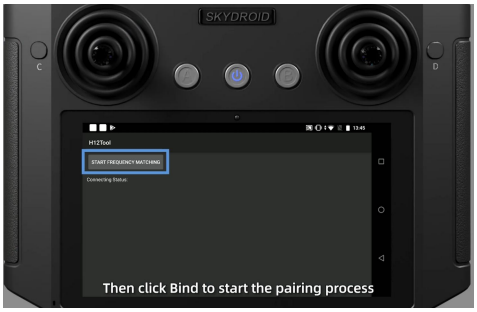
4.1 Drone Debugging

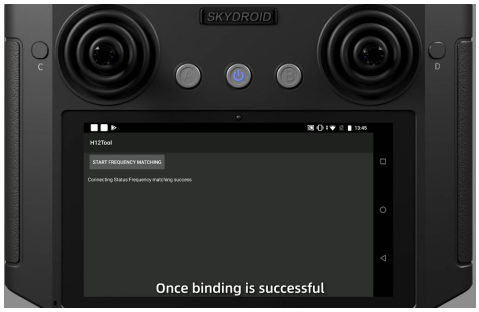
- **Link the drone**

1、Power on the drone and the SKYDROID H12 remote controller. Use tweezers to short the receiver's MODE KEY and GND to enter pairing mode, then tap "Link" in the H12 Assistant app until connected.

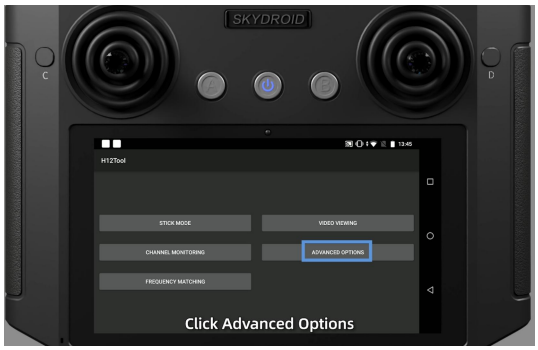


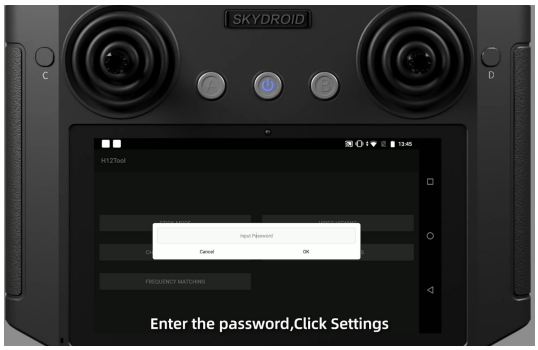


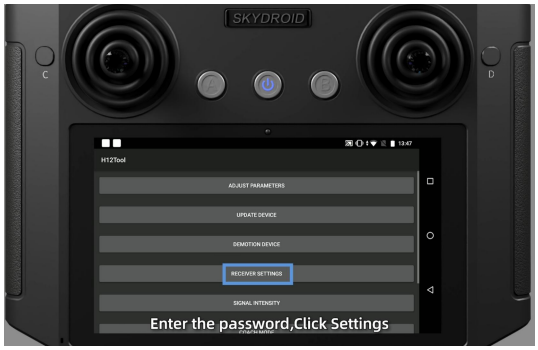


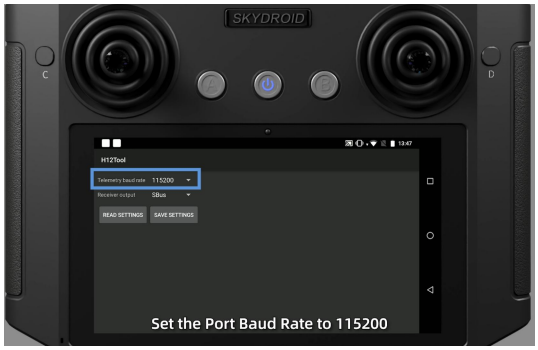


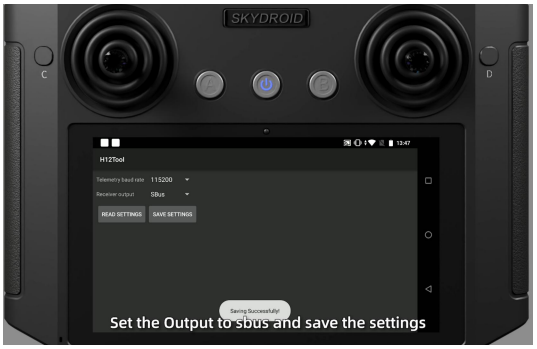
2、Click ADVANCED OPTIONS, enter the password, then click RECEIVER SETTINGS. Set the Baud Rate to 115200, select SBus as the output, and save the settings.

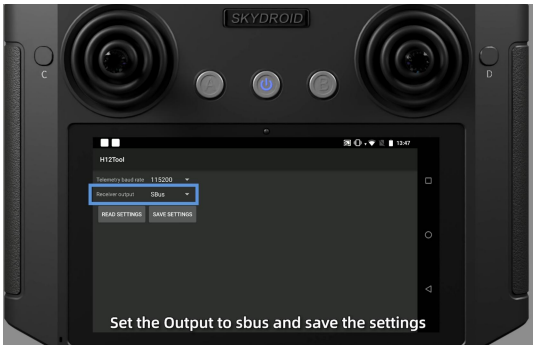




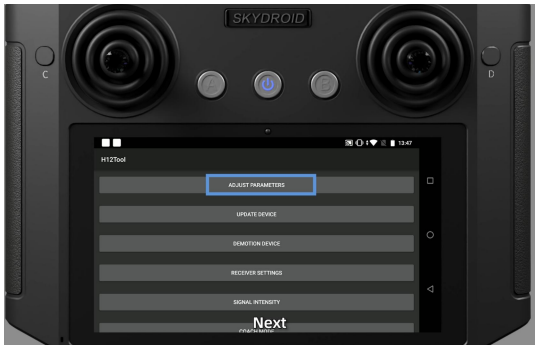


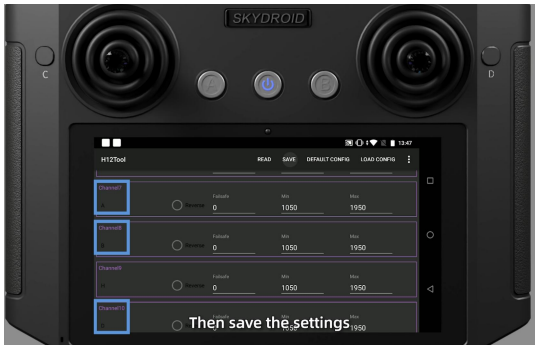






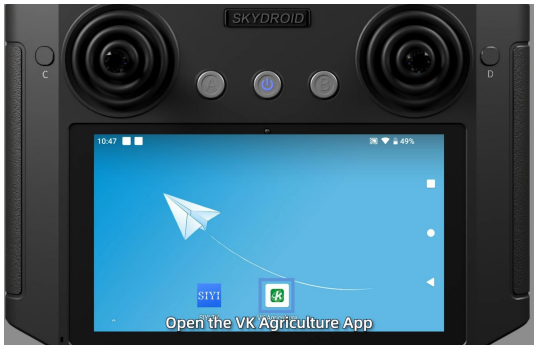
3、Click ADJUST PARAMETRS under ADVANCED OPTIONS. Channels 1–5 are default, while channels 6–9 can be customized. Set Channel 6 to F Dial, Channel 7 to Button A, Channel 8 to Button B, and Channel 9 to H Dial, then save.

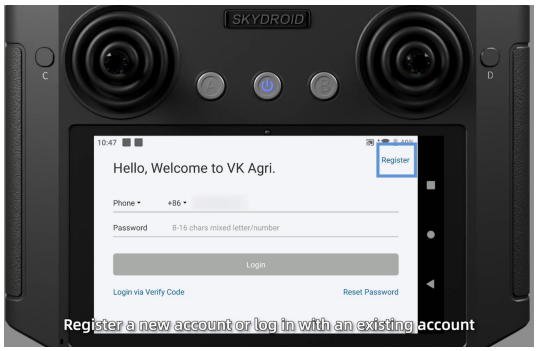


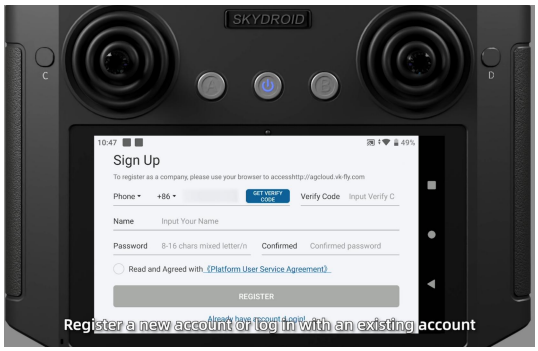


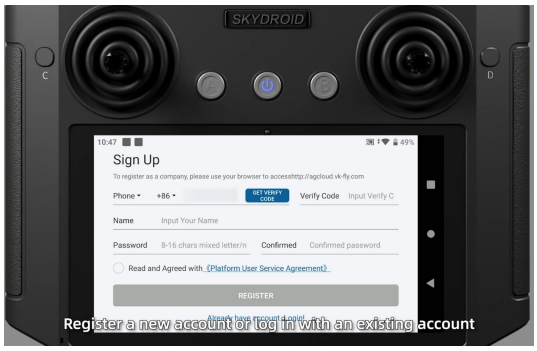
- **Ground Station and Flight Controller Parameter**

1、Open the VK Agriculture APP. Ensure the remote controller is connected to the internet. Register a new account, or log in with an existing one to automatically connect to the drone.

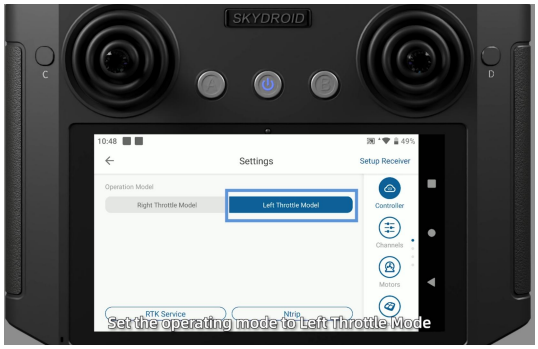




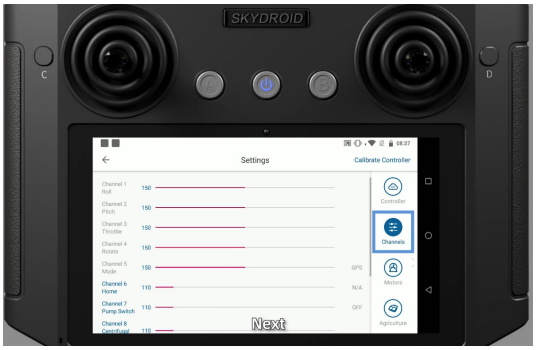




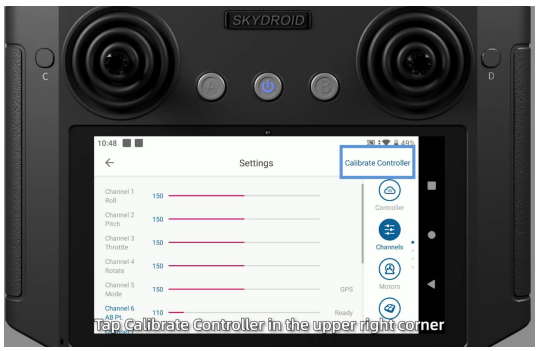
2、Tap Settings> Controller, and choose the Operation Model: Left throttle Model or Right throttle Model.

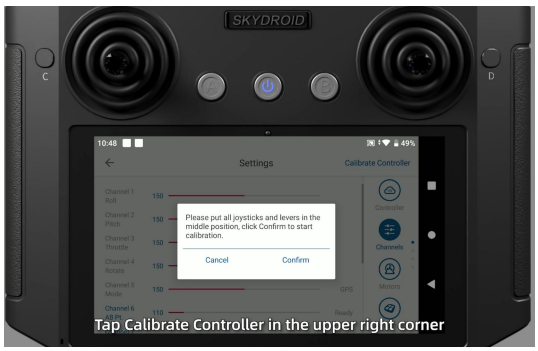


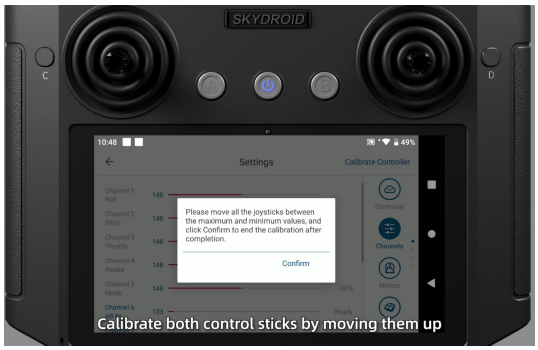
3、Tap Channels to configure switch channels. It is recommended to set Channel 6 for Home, Channel 7 for Pump Switch, and Channel 9 for AB Pt.



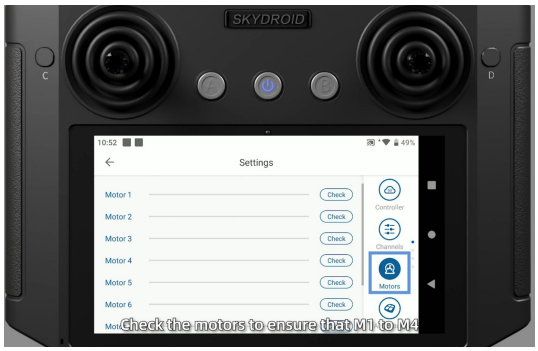
4、Tap　Remote Calibrate Controller.Calibrate the sticks (up, down, left, right) and switch channels. Confirm all sticks and buttons function correctly.

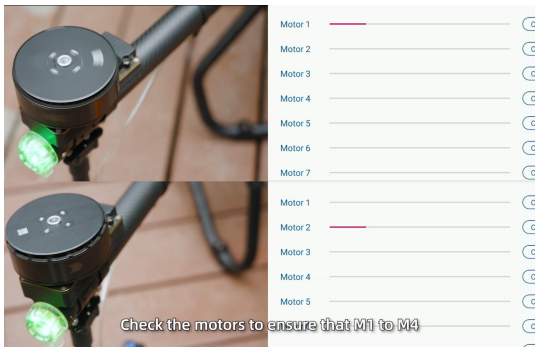




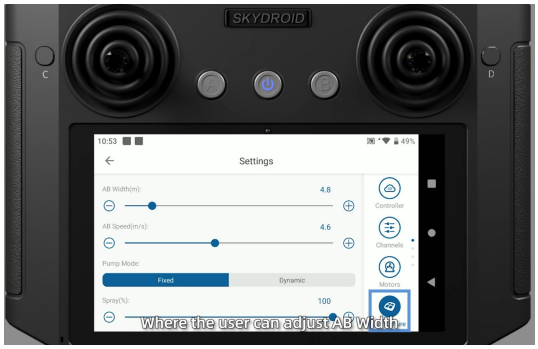


5、Tap Motors. Spin the motors in sequence from M1 to M4. Observe whether the motor order and rotation directions are correct.

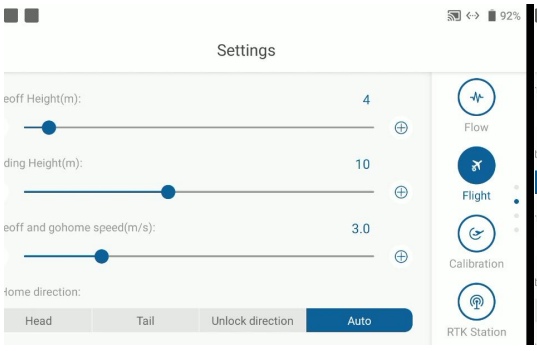


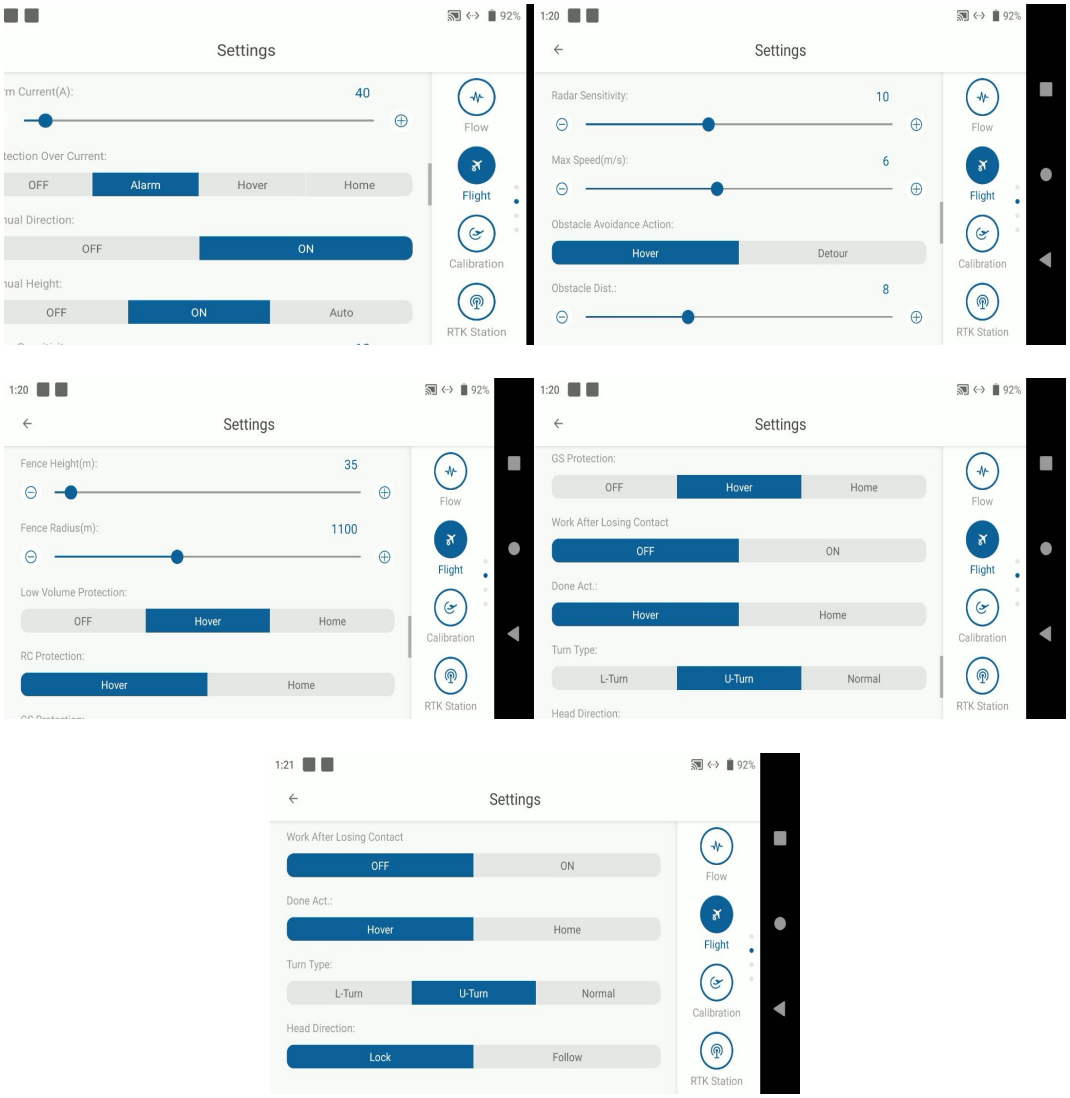


6、Tap Agriculture to customize parameters such as AB width,AB Speed,pump mode, and Spray.



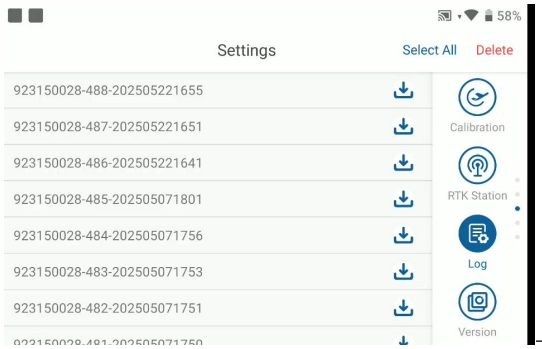
7、Tap Flight to configure:Takeoff Height (recommended: 4 m),Landing Height (recommended: 10 m), Alarm Volt.LV1(recommended:50.4V),Protection.LV1(recommended:Alarm),Alaim Volt.LV2(recommended: 49V),Protection.LV2 (recommended: Hover),Manual Direction (recommended: ON),Manual Height (recommended: ON),Radar Sensitivity (recommended: 10),Max Speed (recommended: 6 m/s),Obstacle Avoidance Action (recommended: Hover),Obstacle Dist (recommended: 8 m),Fence Height (recommended: 35 m),Fence Radius (recommended: 1100 m),Low Volume Protection (recommended: Hover),RC Protection (recommended: Hover),GS Protection (recommended: Hover),Work After Losing contact (recommended: Hover),Turn Type (recommended: U-turn),Head Direction (recommended: Lock)

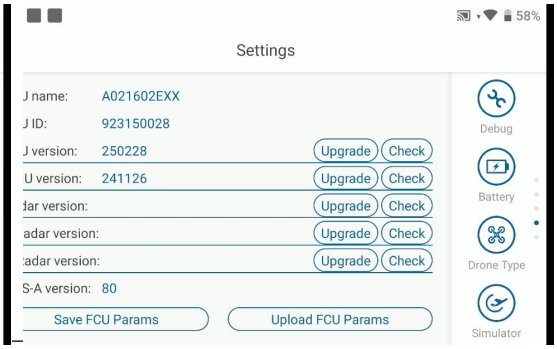


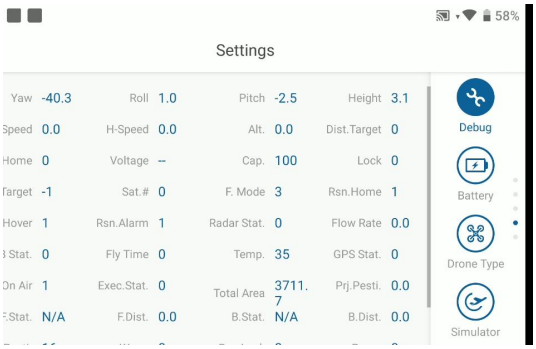


8、Tap Calibrate > Mag.Calib. Follow the RC prompts: For X-axis calibration, lift the drone and rotate horizontally. For Z-axis calibration, hold the drone vertically and rotate until calibration is complete. After successful calibration, power off and reboot the drone to finish.

9、Tap Log to download and view flight logs. Tap Version to check and update firmware versions. Tap Debug to view detailed flight parameters.



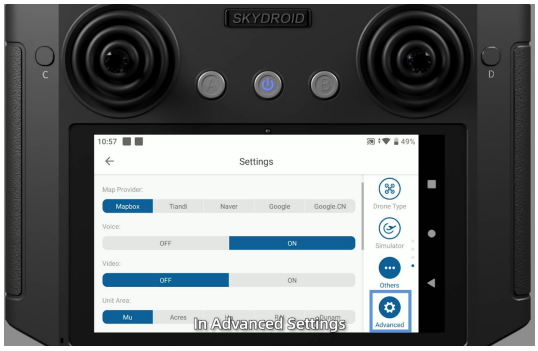




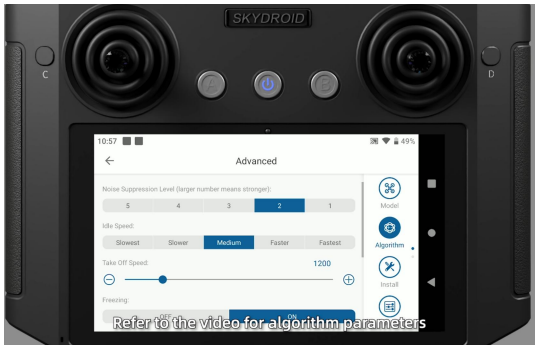
10、Tap Drone Type, and choose the default operation mode. Ensure the pump and centrifugal nozzle min/max values remain at default. Manual adjustment is not recommended.

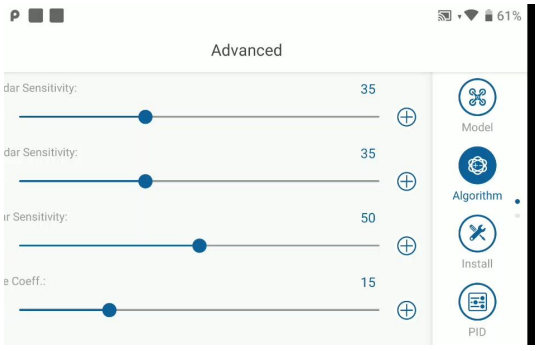
11、Tap Advanced for in-depth configuration, including Model, Algorithm, Install, PID and Calibration. The following recommended sensitivity settings are for reference. If instability or anomalies occur, contact the official support for guidance.

（1） Model: Set G18 to X-type quadcopter.

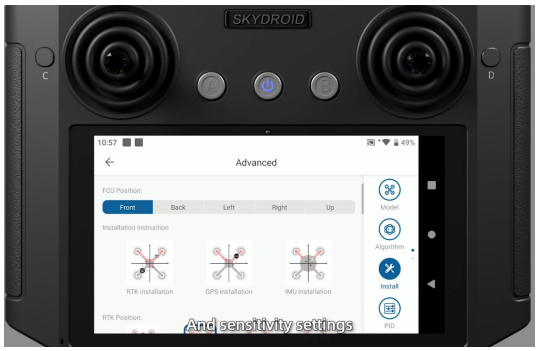


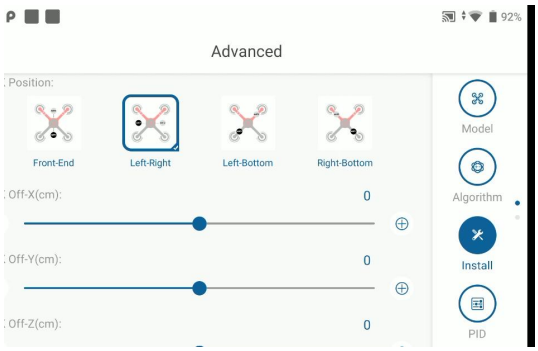
（2）Algorithm : Noise Suppression Level: 2,Idle Speed: Medium,Take off Speed: 1200,Freezing: On,F/B-Radar Sensitivity: 35,Radar Sensitivity: 50,Brake Coeff: 15





（3）Install:FCU Position: Front,RTK Position: Left - Right,RTK/GPS/IMU Off- X/Y/Z: All set to 0;

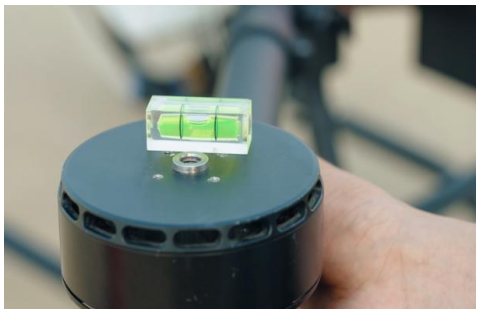




（4）PID:R/P Gain: 135,Y Gain: 470,R/P/Y Gain 510,R/P Damping: 8,Y Damping: 0,Height Coeff: 13,V-Speed Coeffi: 300,H-Speed Damping: 15,H-Speed Coeff: 140;

4.2 Flight Test

1、Use M3*10 screws (4 pcs) and M4*10 screws (2 pcs) to secure the front upper cover. Then calibrate the motors and install the propellers (make sure the motor and propeller rotation directions match).



2、In spray mode, tap Button A to turn on the pump, and check whether the pump and nozzles are functioning properly.


3、Then unlock the drone by pushing the sticks inward or outward and holding them for a few seconds. If it fails, try again. Move the throttle stick to take off.


Thank you for reading this document. If you have any questions or suggestions, please contact our official after-sales service.

Tel：0551-62579736

Email：infor@effort-tech.com

Please stay tuned for more technical support.:

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Updates to this guide will not be notified separately, so please continue to follow our official website www.effort-tech.com