G620 Agriculture Frame Installation Manual

Catalogue

Attention

This product is suitable for adults over 18 years old. The company will not bear any responsibility for personal injury or property damage caused by the following reasons. Please read the following terms carefully:

1. Obtain through abnormal channels, use non-company products or imitation products.

2. The installation, setting and use are not carried out correctly according to this user manual.

3. Self-modification and replacement of parts or accessories not produced by our company may cause damage to the aircraft due to poor operation.

4. The user controls the aircraft while drinking, taking drugs, or in poor physical or mental state.

5. Property loss and personal injury caused by the operator's subjective intention or improper operation.

6. Poor operation of this product caused by natural aging and wear of aircraft parts.

7. Use this product in a strict applicable environment exceeding the label of this product.

8. The user uses this product when the visibility is insufficient and the line of sight is blocked.

9. Users use this product in government air control areas, no-fly zones, etc.

10. Product damage caused by abnormal use.

About G620

G620 is a one-piece fuselage frame, with simple structure, high strength, durability and reliability, making installation more convenient, reducing maintenance costs and improving installation efficiency. It is specially designed for large-area plant protection operations. The designed medium and large plant protection drone scheme has an effective capacity of 20 L. It adopts a plug-in medicine box and a vertically placed battery, which can quickly realize dressing + battery replacement. It is light and easy to fold. It can be equipped with obstacle avoidance radar and FPV camera. , Its battery solutions can be diversified, and three different battery plugs, AS150U, QS9L, and MOLEX can be installed, which can meet the vast majority of batteries on the market.

It adopts a three-section fuselage layout design, flight control in front box in middle part and battery in rear. The structure is exquisite and unique in shape. It extends the arms to both sides to maximize the distance between the nozzles and thereby increase the spray range. The protection level of the whole machine is IP67, it is not afraid of chemical liquid, dust, fertilizer, dustproof, waterproof and corrosion-resistant, strong and durable. The arm adopts a cross and staggered folding method, which minimizes the folded size and facilitates transportation. The whole machine adopts modular design, and each part can be quickly disassembled and replaced, which is convenient for maintenance. Optional extension rod Y-type dual nozzles can effectively reduce droplet drift, and the roots are connected by soft silicone to prevent the nozzles from breaking when impacted by external forces. FPV camera adapters are optional, which are suitable for most cameras on the market to meet the visualization of long-distance operations. And make the flight more safe, At the same time, the installation position of the obstacle avoidance fixed height radar is reserved to achieve a more precise fixed height imitation effect. The body can directly switch the spreader tank and can install the spreader V2.0 to achieve the machine's multi-purpose of spraying and spreading.

You can learn about the latest information on the EFT official website
Website: www.effort-tech.com

Wechat

Part Name

①	20L quick release tank	⑧	X9 Motor set
②	RTK fixed	⑨	Extend rod Y Nozzle fixed
③	Front shell	⑩	25000mAh Smart battery
④	Front frame	⑪	Rear shell
⑤	Camera fixed	⑫	Rear frame
⑥	Pump fixed	⑬	Arm folding fixed
⑦	Radar fixed	⑭	Landing gear

⚠ **Attention**

- **1、 Please do not violently assemble during the assembly process, if you encounter difficulties, please call 0551-65536542**

- **2、When installing the hose, please do not bend excessively to avoid creases and affect the spraying effect**

- **3、Be sure to connect the aircraft power after completing all installation and connections**

Installation

Please bring your own medium-strength screw glue when installing. First complete the unpacking inspection, and then proceed to the tripod installation, fuselage installation, arm installation, flight control installation, power system installation, and spray system installation. If there are other options, install the option at last.

Unpacking inspection

EFT provides users with the following documents
1、 'Product Packing List'
2、 'Product installation instructions'
It is recommended that users use the "Product Packing List" to check and carefully check whether the items are missing or damaged. If there is any problem, please contact our company in time. Read the "Product Installation Instructions" carefully, follow the instructions to complete the installation step by step, and read the relevant precautions carefully.

Frame installation

⚠ **Attention   To install the body, some parts of the body must be disassembled first. Please pay attention to the installation position of the removed parts to facilitate later restoration.**
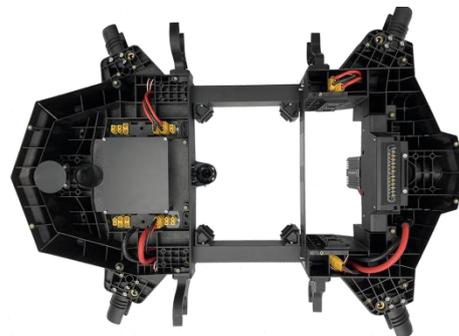
1. Remove the M3*8 fixing screws of the front shell.

2.Remove the M3*8 fixing screws of the back shell.

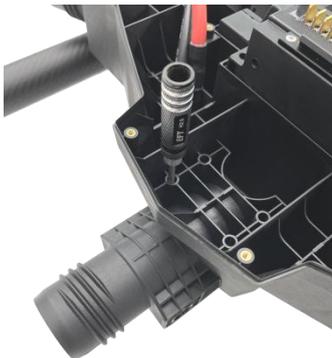3.Remove the two front body waterproof covers.

4.The front and rear shell and waterproof covers are removed.

Arm Installation

⚠️ **Attention：** Please check the front and rear thread disassemble and related accessories When installing the arm.
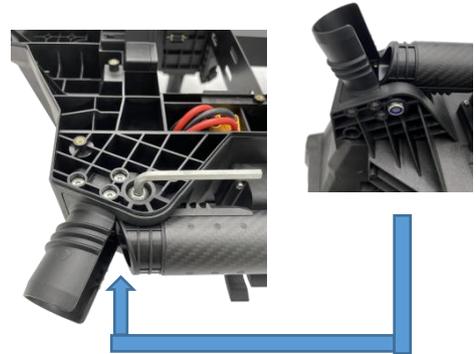

5、All accessories needed to install the arm.

6、Install the left and right arm units: Use M8*65 round head screws to fix the left and right carbon tube arm components (φ40*750) on the body.

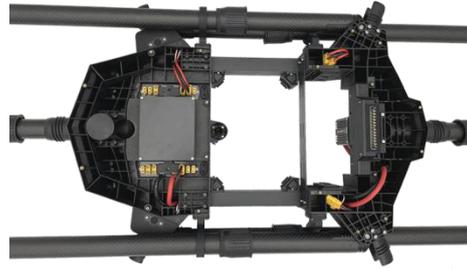7、Install the front and rear thread disassemble components: insert the front and rear thread disassemble parts into the front and rear holes, and reach the end. Use 4 M3*10 screws to fix the upper part.

8、Install the front and rear threaded disassemble components: Align the screw holes and use 2 M3x10 screws to fix the lower part.

9、Install the front and rear arm components: use M8*65 round head screws to fix the front and rear carbon tube arm components (φ40*520) in the front and rear threaded parts.
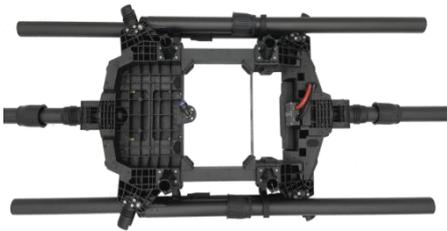
10、6 arm locking buckles.

11、Finished picture of the arm assembly: Install the 6 arm locking buckles into the 6 arm.

Landing gear installation

⚠ **Attention: Please check related accessories when installing the landing gear.**

1、Turn the body over and prepare to install the diagonal brace.

2、The accessories needed to install the diagonal brace.

3.Install diagonal brace: Put the aluminum tube with limited hole end into the tripod fixing seat and reach the deepest part of the fixing seat. Use M3x10 cup head limit screws to fix the diagonal brace.

4.Install the radar pole: insert the radar crossbar into the diagonal tee, fix the back limit screw, and then fix all the screws of the oblique tee.

5.Install the diagonal brace: Insert the straight tee into the inclined aluminum tube, and fix all the screws of the straight tee.

6.After the diagonal brace installed, tighten the M3*12 screws of the tripod fixing seat.

7. The finished diagonal brace

8.The finished diagonal brace

Motor set installation

⚠ Attention : 1. Before installing the motor, put the water pipe clamp and spray rod fixture assembly in the 4 left and right arms;

2. This manual uses the Hobbywing X9 power set. It is recommended to install the propeller after the aircraft performance is debugged.

1. Put the water pipes into the left and right arms.

2.Boom fixing accessories: (screws and nuts used: M4*40/half-tooth cup-head screws; M4 nuts; M3*10 cup-head screws).

3.Boom fixing part assembly: Use screws and nuts to assemble the boom fixing part and the boom rotating part.

4.Set the spray rod fixing components into the left and right arms (note that the installation direction requirements: buckle the left and right 4 arms in the arm pipe clamps, rotate the spray rod rotating parts in place, and require the end of the spray rod rotating parts to point to the fuselage On the outside, the flat side of the spray rod rotating part is parallel to the ground, and the spray rod fixing part assembly should be as close as possible to the end of the machine arm).
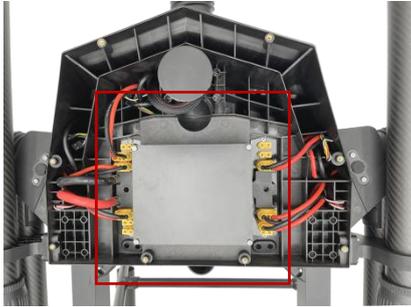
5.Put the motor harness into the snakeskin net tube and weld the XT90 male connector, paying attention to distinguish the positive and negative poles. (It is recommended to use small cable ties to tighten the ends of the snakeskin net tube to avoid the snakeskin net tube from branching.)

6.Install the power in sequence according to the direction of the machine head, and pass the motor harness through the machine arm to the inside of the machine body. Pay attention to distinguish the CW/CCW motor.

7. The XT90 plugs of the wiring harness (No. 1, No. 2, and No. 6 motors) are directly inserted into the plug of the distribution board, and the XT90 plugs and ESC signal wires of the wiring harnesses of the No. 3, 4, and 5 motors are respectively inserted into the reserved wiring harness. Pay attention to distinguish the CW /CCW motor. (The flight control cabin is the direction of the nose).

8、Installation drawing of the power harness of the front fuselage.

9、Installation drawing of the power harness of the rear fuselage.

10 、 Calibrate the body horizontally. Adjust the body level until the display is centered If it is not level.

11、Fully unfold the arms after adjusting the fuselage, tighten the nuts, and perform horizontal motor calibration. The calibration method is the same as that of the fuselage, and fix the motor screws.

12 、 The picture of 6 motors after adjustment.

Spray system installation

This manual uses a Hobbywing 5L integrated water pump*1 and an extension rod

Y-type double nozzle*4.

1、The extension rod
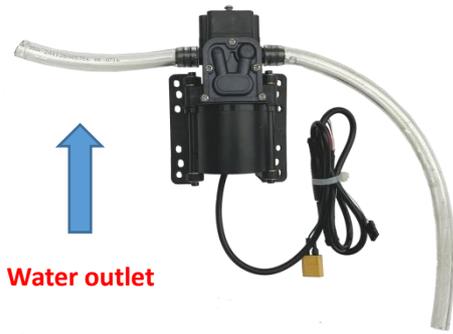 Y-type double nozzle

2、Hobbywing 5L water pump.

3、Use M3*16 cup-head self-tapping screws to fix the Y-type double nozzle on the rotating part of the spray rod. (Note that the Y-type double nozzle has a direction requirement: buckle the 4 left and right arms in the arm pipe clamps, there are 6- 8-6 pneumatic tee should point to the outside of the aircraft).

4、R-type water pipe clamp installation: Use M4*10 cup-head tapping screws to fix the pipe clamp on the machine body. Total of 4 pipe clamps are required.
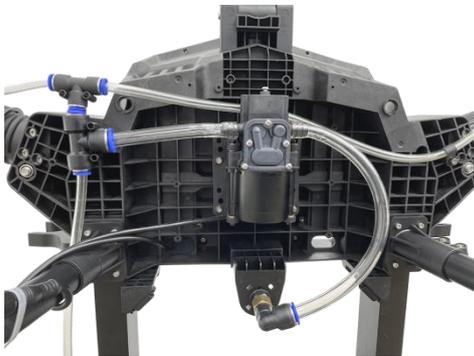
5、Water pump installation; welding XT60 male head (note: distinguish between positive and negative).

Water outlet

6、Water pump installation: use 12MM water pipe to connect the water inlet and outlet (note: '→' is the water outlet).

7、Water pump installation: use the pneumatic tee to turn the water outlet pipe to facilitate the connection of the water pipe in the next step.

8、Water pump installation: use M4*10 self-tapping screws to fix the water pump under the front fuselage, and the water inlet pipe is directly connected to the L-type pneumatic connector of the quick release head assembly, as shown in the picture, and a pneumatic tee is connected behind the another pneumatic tee .

9、Water pipe installation: Insert an 8MM water pipe into the 8MM interface of the 8-10-8 pneumatic tee, as shown in the figure, and lead the water pipe from the front fuselage to the rear fuselage.

10、Water pipe installation: As shown in the figure, the water pipe leading from the cross beam to the rear fuselage leads to two water pipes through the pneumatic tee to reach the arm where the No. 3 and No. 5 motors are located.
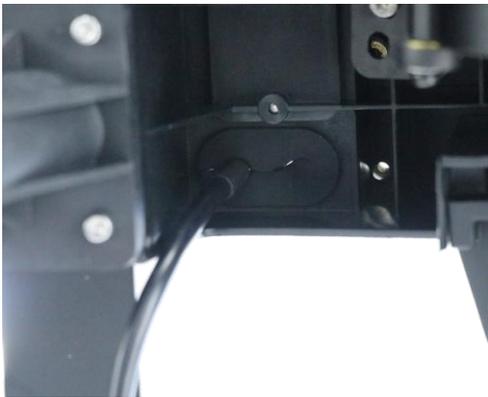
11、Water pipe installation: the water pipe from the water outlet of the water pump needs to pass through the R-type water pipe clamp.

13

12、Water pipe installation: the water pipe from the R-type clamp is then fixed in the water pipe clamp.

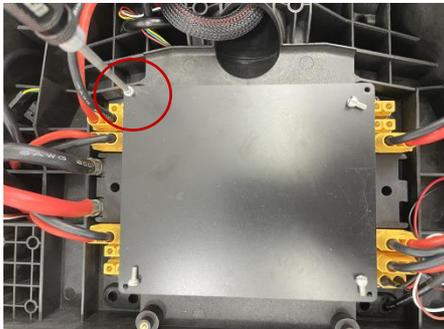
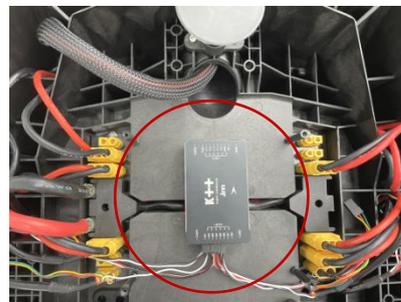13、Water pipe installation: connect the water pipe to the extension rod Y-type double nozzle T-type tee.

14、Water pump installation: pass the water pump harness through the protective coil to the flight control compartment.

Flight controller Installation

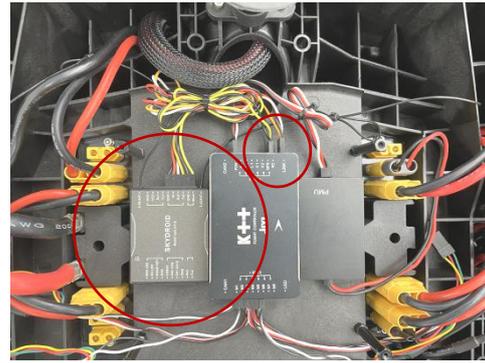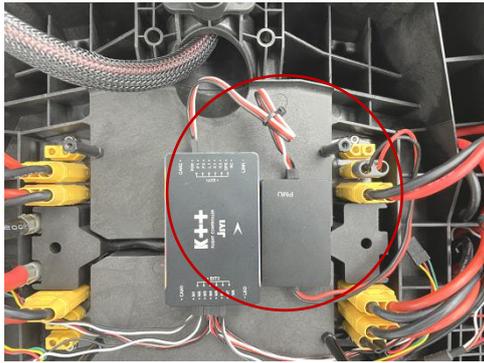This manual uses Jiyi K++ flight control and H12 remote control.

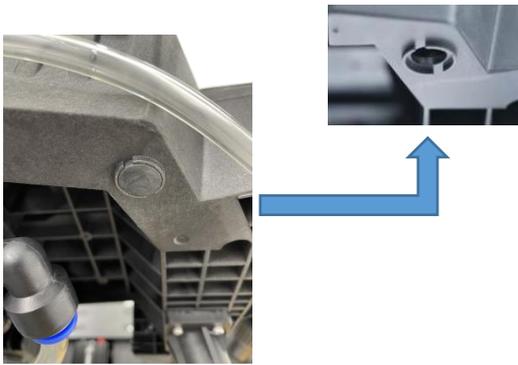1、Remove the flight control mounting plate and prepare to install the flight control.

2、Install the main control: use 3M glue to fix the main control, and connect the ESC signal line (note: the direction of the flight control can be selected by the customer).

3、The PMU installation: use 3M glue to fix the PMU, connect the power cord to the power distribution board, and connect the signal line to the flight controller.

4、The H12 receiver installation: use 3M glue to fix the receiver, and connect the receiver harness to the flight control LINK port and RC port.

5、The H12 receiver antenna installation: remove the waterproof ring of the fuselage, and the antenna can be fixed in the reserved hole of the fuselage.

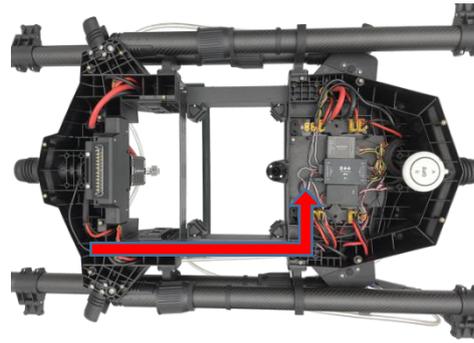6、The H12 receiver antenna installation: Insert the receiver antenna into the reserved hole of the fuselage.

7、The GPS installation: use 3M glue to fix the GPS on the GPS bracket and connect the GPS signal line to the main control.
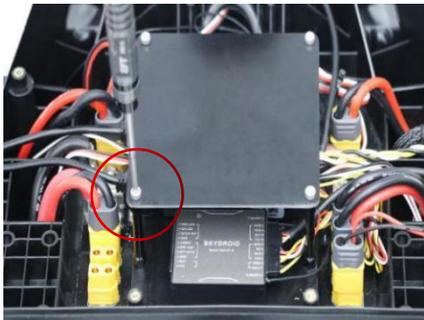

8、The LED light installation: the wiring harness of the LED light needs to pass through the protective coil of the rear frame of the rear fuselage.

9、The LED light installation: Use 3M glue to fix the LED light on the patch position at the bottom of the tail.

10、The LED light installation: Through the crossbeam and reach the flight control compartment, and connect with the main control (note: the LED light harness needs to be 1M).

11、The flight control mounting plate installation: use M3*6 cup-head screws
(Without glue) Fix the flight control mounting plate.

12、RTK accessories: the accessories are for the RTK antennas.

13、Install RTK accessories.

14、Finished picture of the RTK antenna (note: RTK feeder needs to be straight, L-shaped feeder is not available).

15、There are reserved holes for the RTK antennas at both ends of the front fuselage.

16、The RTK antenna needs to pass through the reserved hole to reach the flight control compartment.

17、Finished RTK antenna installation.

18、Use 3M glue to fix the RTK and radar module on the flight control mounting board.

19、The antenna harness is connected to the RTK.

20、One end of the wiring harness from the FC interface of RTK is connected to the main control, and one end is connected to the 12V interface of the radar module.
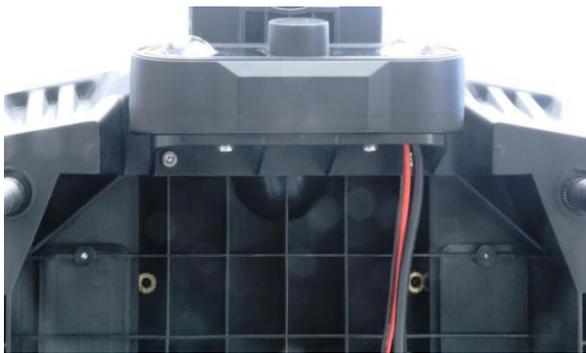
Camera Installation

This manual uses a three in one camera.

1、Camera adapter: Use M3*6 screws to fix the camera in the adapter plate, and then use M3*10 self-tapping screws to fix the camera adapter on the body.
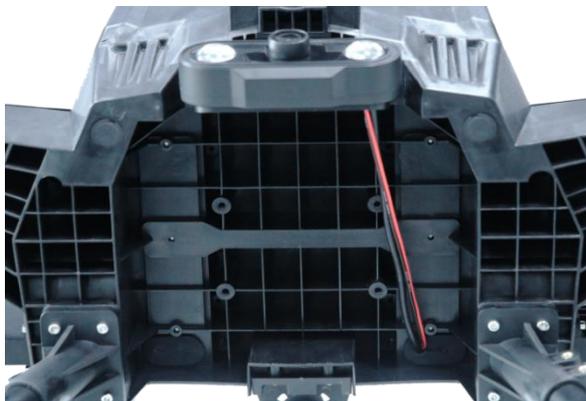

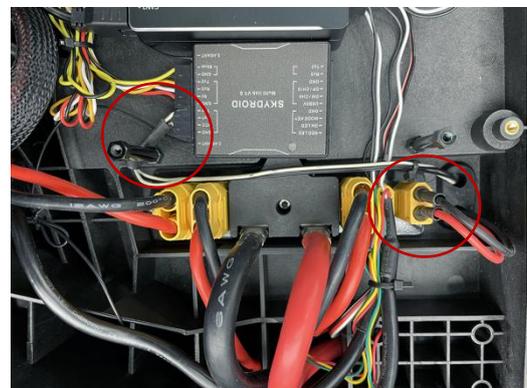2、Camera installation: Use M3*6 screws to fix the camera in the adapter plate.

3、Camera installation: The camera is fixed on the fuselage.

4、Camera installation: The finished product.

5、Camera installation: the wire harness passes through the guard coil.

6、Camera installation: the main power line of the wiring harness is connected to the power distribution board, and the signal line is connected to the receiver.

Radar installation

1、Radar fixed plate.

2、Insert the L-shaped radar adapter and fix it with M*10 screws.

3、This is the rear obstacle avoidance radar adapter: use M4*10 self-tapping screws to fix the radar adapter board.

4、This is the front obstacle avoidance and ground defense radar adapter: the ground defense radar adapter is parallel to the ground.

5、The picture of the finished front obstacle avoidance radar and ground defense radar adapter.
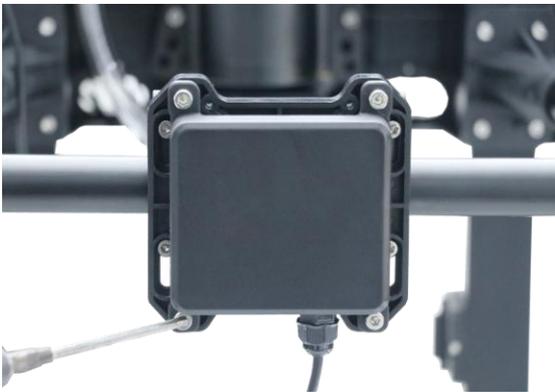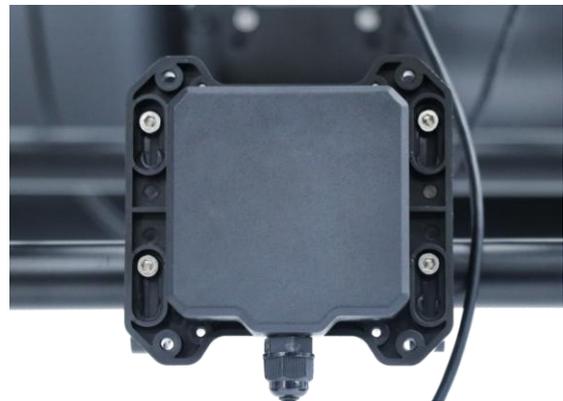
6、The picture of the radar adapter.

7、The radar fixing plate installation：install the adapter plate on the tripod diagonal support.

8、Install the radar on the radar adapter board.

9、The radar fixing plate installation：This is the installation method of ground defense radar, which can be directly fixed with M4*10 self-tapping screws.

10、The radar fixing plate installation：This is the installation method of front and rear obstacle avoidance radar which can be fixed with M3*6 screws on the reverse side.

11、Pass the radar harness through the seal of the front fuselage to the inside of the fuselage.

12、Plug the radar harness plug into the radar module.

⚠ **Attention**

Please pay attention to safety during the installation process. EFT will not be

responsible for the damage and loss caused by improper operation of the user.

Appendix

Specifications

Frame specifications	Recommended configuration
Wheelbase：2028MM	Motor：Hobbywing X9
Expanded size：2642*2569*885MM	Paddle：34inch folding paddle
Folded size：1192*623*885MM	ESC：60-80A FOC
Tank capacity：20L	Supply voltage：12-14S
Frame weight :10.85kg（without spary systems）	Max take-off weight ：51.2kg

Brushless water pump specifications	
Use voltage：12-14S（DC44-60.9V）	Flow rate：5L/min
Maximum power：150W	Protection level：IP67
Pressure：0.35Mpa	Weight：388g（without wire,338g）
Current：≤2.5A	Size：123x76x52mm
Travel range：1100-1940us	

More product support

EFT Website：www.effort-tech.com

EFT Wechat account：

This manual is subject to update without notice

If you have any questions or suggestions about the manual, please contact us through the following methods

Contact number: 0551-65536542

Contact email: infor@effort-tech.com