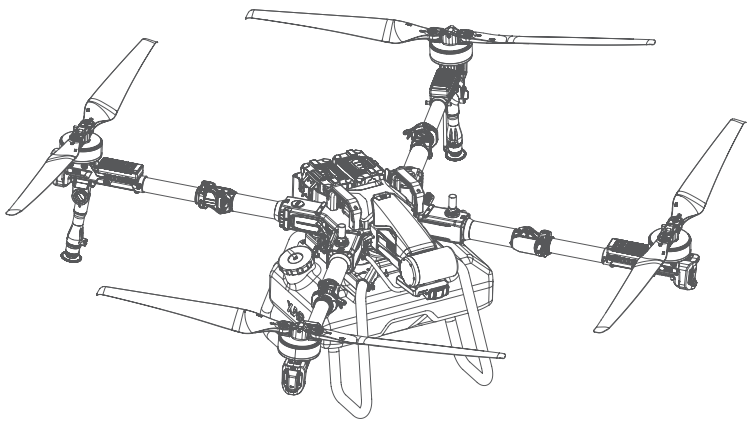
XAG **P100 Pro** 2023 Agricultural Drone

(Model: 3WWDZ-50AH)

User Manual

Version 1.3 EN



XAG ADVANCING AGRICULTURE

To User

Dear user, thank you for choosing XAG's products.

For safety purposes and better user experience, it is highly recommended that you read this manual carefully and strictly follow the instructions hereof.

Contact Us

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Add: XSpace, No.115, Gaopu Road, Guangzhou, Guangdong Province, China

Technical Support Team: support@xa.com

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Disclaimer

1. Please read this document carefully before using the product, as it has much to do with both operational safety and your legitimate rights and interests. You shall be deemed to have read, understood, agreed, and acknowledged all terms and conditions and information stated herein upon the use of the product.
2. Not being a toy, plus for certain safety risks, the product is NOT suitable for those who are under 18 years old, or those who have no or limited capacity for civil conduct, or those with mobility impairments, or those without a UAS operator certificate accredited by XAG or existing laws, regulations and policies. Please keep the product out of reach of children and be particularly cautious while there are children present.
3. The product, manufactured by XAG, is a multi-rotor agricultural unmanned aerial vehicle solely for agricultural use. Please read this User Manual carefully to scrutinize your legitimate rights and interests, responsibilities and safety guidelines, or it may pose risks of property loss, flight accident and personal injury.
4. User pledges to use the product within the bounds of the law only for a legitimate purpose and acknowledge the terms and conditions herein and the future policies or norms formulated by XAG. User understands and accepts that the product has the features of uploading and saving flight records and operation data to XAG's server during operation. XAG assumes no responsibility for the failure to analyze the above-mentioned records and data caused by any failure to upload and save them ascribed to your reasons.
5. Please install, use, transport and maintain the product under the instructions of User Manual. Do not modify or dismantle the product without permission. Any malfunction or damage caused by improper use, modification or dismantling of the product by the user will not be covered in the warranty, and all financial and legal responsibilities arising therefrom shall be borne by the user.
6. To the maximum extent permitted by law, under no circumstances shall XAG offer an implicit or explicit guarantee for this product, including but not limited to implicit guarantees pertaining to vendibility, fitness for a particular use, or non-infringement.
7. To the maximum extent permitted by law, XAG shall not be liable for all losses incurred by user's improper use. Also, XAG shall not be liable for any indirect, consequential, punitive, accidental, special or exemplary damage, including any loss resulting from your purchase, use, or inability to use the product, even if you have been advised of the possibility of such loss.
8. To the maximum extent permitted by law, under any circumstances, the liability or compensation amount from XAG to you for all damage, losses and litigation arising therefrom will not exceed the amount that you paid to XAG for purchasing the product.
9. You understand that in the use of any products, accidents may occur due to single or combined factors, including but not limited to improper operation, surroundings and communication networks. You understand that the aforesaid accidents are reasonable and acceptable in the use of the product, and that XAG shall not be held accountable for such accidents.
10. On any account, purchaser or user shall comply with the laws and regulations of the country and the region where the product is used. XAG shall assume no liability arising from your violation of relevant laws and regulations.
11. Please note that, as services provided by the product and its auxiliary devices may involve capture, storage and processing of the geographic information and data on the fields, the use of the product shall comply with local laws and regulations dealing with such issues. Otherwise, the user shall bear the sole responsibility, both financially and legally, for any illegal acts.

12. As exclusion clauses may be prohibited by laws in some countries, your rights and interests in different countries may vary. However, this does not imply that the terms contained in this Disclaimer are necessarily invalid.
13. To the extent permitted by law, XAG reserves the rights for final explanation and revision of the terms and conditions hereinabove. XAG also has the right to update, modify or terminate these terms and conditions via channels including its official website, the User Manual and online App, without prior notice.

Warning

User is required to read through the User Manual and obtain a UAS operator certificate accredited by XAG or existing laws, regulations and policies. Otherwise, it may cause serious injury to yourself or others, or damage to the product and property loss. User should be strongly safety-conscious. This product is not suitable for those who are under 18 years old. Do NOT use the components that are not provided or suggested by XAG. Please install and use the product by strictly following the instructions in XAG's User Manual.

Safety Guidelines

Safety Rules

- Please make sure that you have completed a drone pilot training program, passed the exam and obtained a UAS operator certificate prescribed by laws and regulations where the product is used before use. Otherwise, you shall NOT operate the product.
- Instead of operating alone, the beginner should seek help from a veteran beforehand and operate the aircraft accompanied by a veteran.
- It is necessary to observe the surroundings in advance to ensure an open operation area with no buildings and obstructions around, clear of electromagnetic interference sources including high-voltage lines, base stations and radio towers, far away from obstacles and crowds, and free from potential hazards. Please refrain from indoor flying.
- For safety purposes, it is advisable to remove all propellers before each flight or after firmware update until you conduct a trial run of the aircraft, inspect the remote control devices, motors and other modules and ensure everything is in order.
- Please see that all parts are intact and that those aging or broken are replaced before each flight. All devices should be sufficiently charged. When the battery runs low during operation, you should return the aircraft immediately and replace the battery.
- Please see that areas where the aircraft is going to fly have strong and stable signal coverage since sustained RTK and 4G networks are essential for the aircraft to function properly.
- It is required to keep the firmware and the "XAG One" App up to date before each flight.
- You should strictly observe local laws and regulations on flying agricultural drones, including but not limited to the rules on flight height, flight area and visual line of sight.
- It is advisable to use the product on sunny, cloudy or overcast days with winds of force 3 or below. NEVER use it in adverse weather conditions including rain, snow, frost, fog, thunder, hail, dust storm and gale or in an area with strong electromagnetic interference.
- Hover and return the aircraft immediately when encountering bad weather, such as gale, rain, snow or hail, or other cause preventing operation. In case of conditions unfavorable for returning, hover and fly the aircraft toward a safe place nearby immediately.
- Please ensure that the aircraft does not carry a load beyond the safe takeoff weight specified in this User Manual. Overload, a safety hazard, is NEVER allowed.
- To prevent impurities from clogging the tubes, please mix pesticide with clean and purified water and filter it before adding it to the tank.
- Be cautious when preparing and spraying pesticides. Using personal protective equipment is highly advisable. Refrain from direct contact with the pesticide. Avoid splashes that may result in damage to the aircraft and bodily injury. (See page 13 for "Precautions for Pesticide Preparation")
- Before spraying, please see that propellers are damage free with no adhering contaminants. Also, they should be securely installed with blades fully spread out. Motors on the aircraft should be clean and intact. Ensure the spraying system runs smoothly.
- Before spraying, please see that the space around the takeoff point and that along the route is open and far from crowds. Besides, select an appropriate height for takeoff/return according to the working environment.
- Be environmentally aware when preparing and spraying pesticides. It is prohibited to pollute rivers and drinking water sources.

- Make sure to keep the aircraft in sight and stay alert for obstacles throughout the operation. Autonomous obstacle avoidance will not work when the obstacle avoidance module fails to recognize some hard-to-identify obstacles, like sloping power lines, due to their special material, size, shape and position. In that case, please maneuver the aircraft manually at once.
- Strong and stable GNSS signal coverage throughout the operation is a must to complete the task.
- No crowd, animal or obstacle is allowed to stay near the spinning propeller which is hazardous. NEVER approach the running propeller and motor or touch them with any object. NEVER wear loose-fitting clothing as it could pose an entanglement hazard.
- NEVER install/remove any module or insert/extract any circuit while the power is on.
- Please charge the remote controller or aircraft when the battery falls to 20% to avoid damage to the device caused by overdischarge of the battery stored at a low charge state for a long time. When the aircraft sits idle, battery should be taken out, kept at 50%-60% charged, and stored in a dry, well-ventilated and clean place.
- Be sure to remove the battery and put it in a safe, level place before transporting the aircraft.
- When the aircraft sits idle, or for long-term storage or long-distance transportation, please remove and empty the liquid tank, and store the aircraft in a cool, dry place.
- Keep the product away from heat to prevent damage to the electronic component and other parts or fire incidents.
- Never take human bodies or animals, whether still or moving, or other hazardous objects as obstacles in the obstacle avoidance experiment.
- Do NOT use non-XAG components as they may seriously affect the safety and service life of the aircraft.
- Do NOT turn off the communication device connecting to the aircraft during the flight. Do NOT make or answer phone calls during operation. Do NOT fly the aircraft after drinking alcohol or taking medication.
- As RTK and 4G network are necessary for the use of the aircraft, users should have detailed knowledge of the local network when purchasing the product.
- As insufficient mobile data will prevent the aircraft from accessing real-time locations, please make sure you have enough data for the operation.
- There is a SIM card in each aircraft, ARC3 two-handed remote controller, ACS3 ControlStick and ACS2 ControlStick. When a user buys and activates the whole set of devices, XAG will give 2GB of data to each account. If more data is needed, user can buy it through "XAG One" App - Device Details - Mobile Data. If the SIM card is not used for two years, it will be cancelled automatically.

Safety Signs



Personal Protection



Read User Manual First



Center of Balance



Toxic Hazard



Risk of Pinching Hands



Do Not Press



Hot Surface



Properly Install the Blade



High Voltage

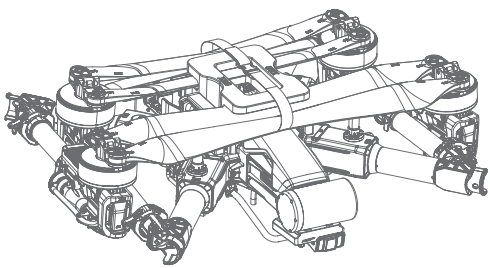
Introduction

XAG P100 Pro 2023 Agricultural Drone ("aircraft" for short) has a brand-new foldable structure and a simplified modular design. It is robust, easily detachable and able to work in multiple modes. The higher-performance RevoSpray, RevoCast, RealTerra and radar systems deliver more efficient, more precision and safer farming operations like precision spraying, even spreading and smart mapping, making P100 Pro a new flagship in smart agriculture with large payload capacity and high efficiency.

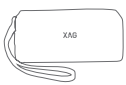
List of Items

The list below contains three boxes - **P100 Pro airframe, XAG RevoSpray P3 and Remote Controller**. Please see that all of the following items are present when unpacking the box. Should there be any item missing, please contact your seller immediately.

P100 Pro Airframe

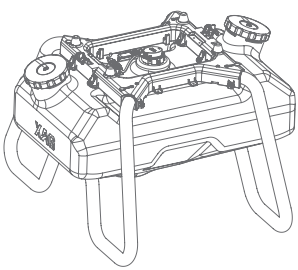


P100 Pro Airframe
×1



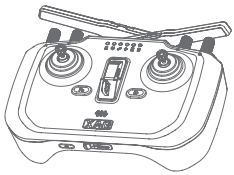
Tool Kit
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XAG RevoSpray P3



XAG RevoSpray P3
×1

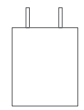
Remote Controller - ARC3 Two-Handed Remote Controller



ARC3 Two-Handed Remote Controller
×1



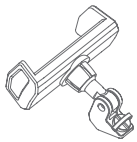
RTK Module
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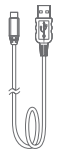
Charging Adapter
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Strap
×1

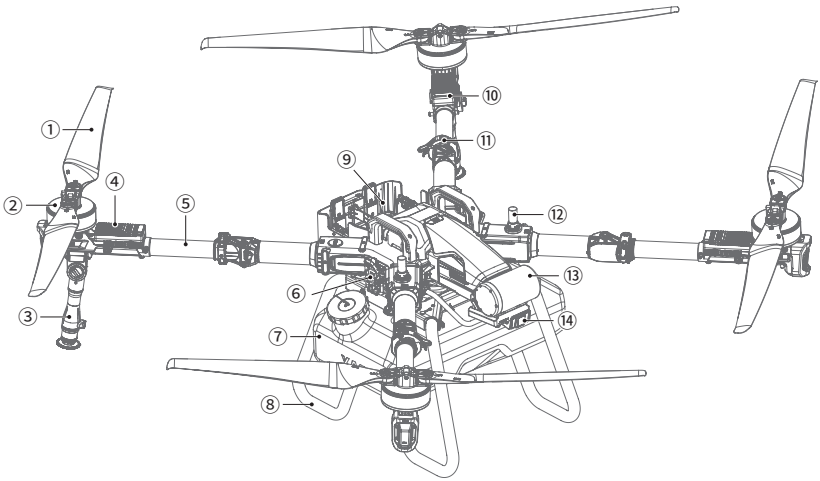


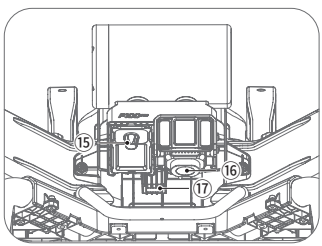
Phone Holder
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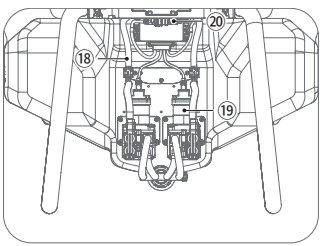
USB-A To Type-C Cable
×1

Main Components





Front Bottom View



Rear View

① Propeller
② Motor
③ Spraying Bar
④ ESC
⑤ Foldable Arm
⑥ Airframe Hasp
⑦ Liquid Tank
⑧ Landing Gear
⑨ Battery Compartment
⑩ Arm Light
⑪ Arm Fastener
⑫ RTK Antenna
⑬ 4D Imaging Radar
⑭ Forward PSL Camera
⑮ Terrain Radar
⑯ Downward PSL Camera
⑰ UPS Module
⑱ Liquid Tube
⑲ Peristaltic Pump
⑳ Payload System Cable

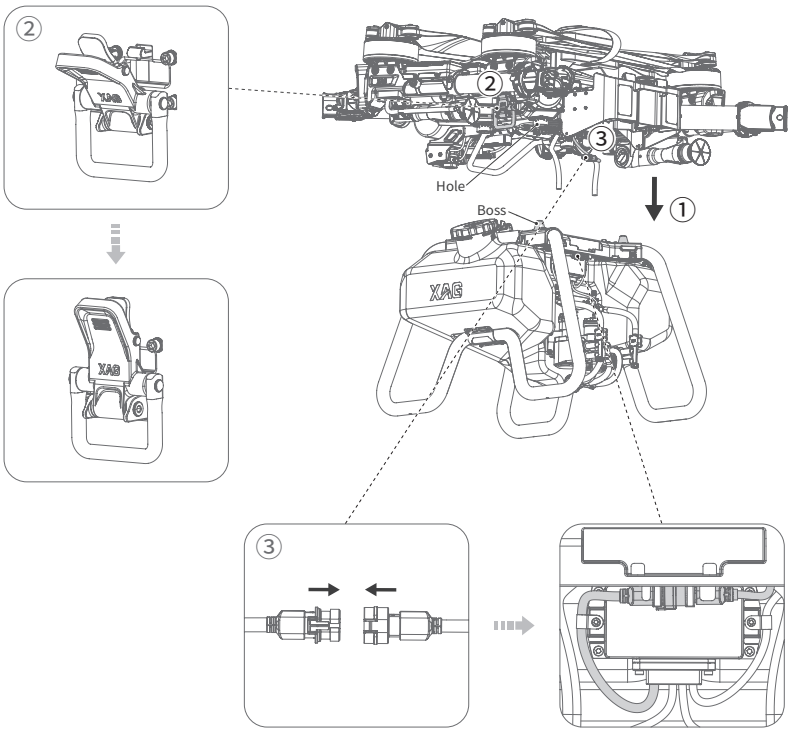
Prepare Aircraft

Install RevoSpray System

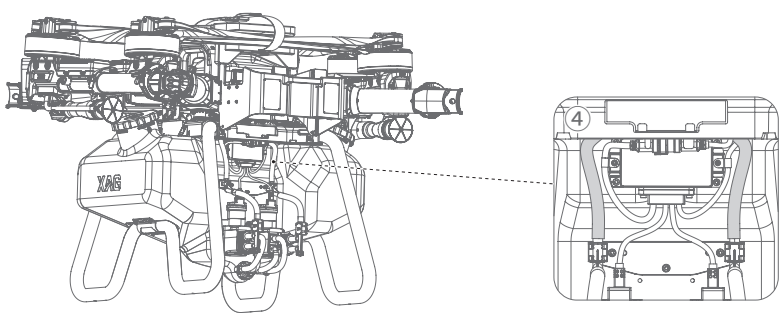
① Attach the airframe to the RevoSpray system by lining up the holes on the bottom of the airframe with the bosses on the top of the RevoSpray system;

② Open the left and right hasps (one on each side) and fasten the airframe to the RevoSpray system;

③ Connect the payload system cables of the airframe and the RevoSpray system. Affix them to the cable holder;

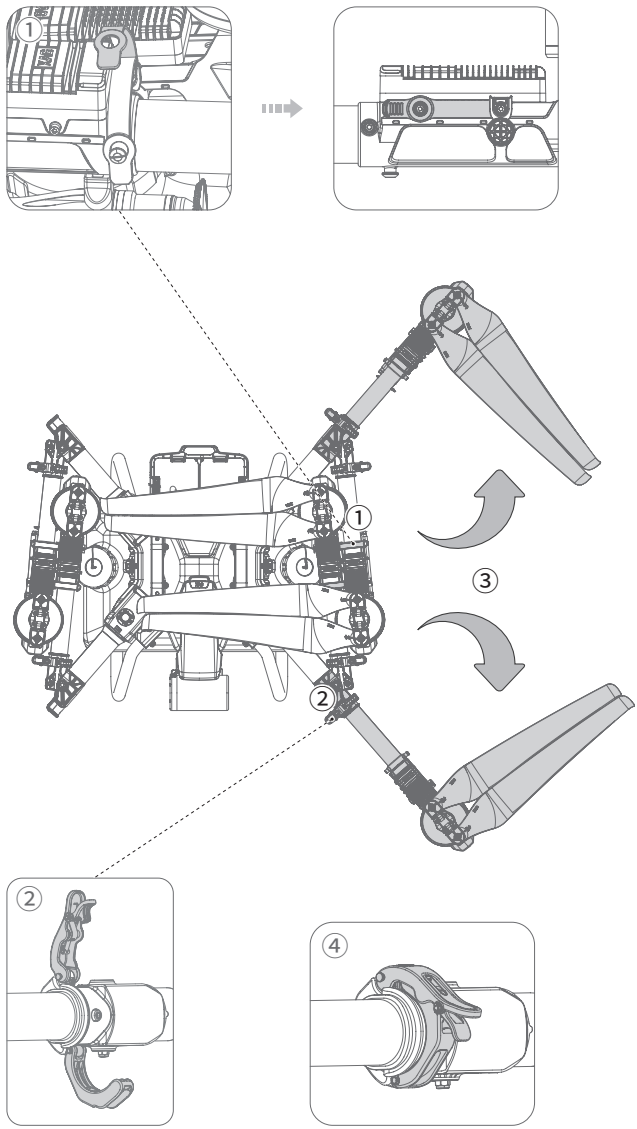


④ Connect the two liquid tubes to the pump of the RevoSpray system.



Unfold Arms

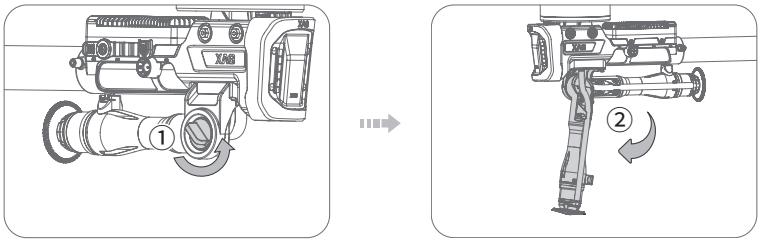
① Loosen the tie (take the left arm as an example);
② Unlock the fasteners of Arm No.2 and No.3;
③ Spread out Arm No.3 and No.2;
④ Lock fasteners of Arm No.2 and No.3.



Unfold Spraying Bars

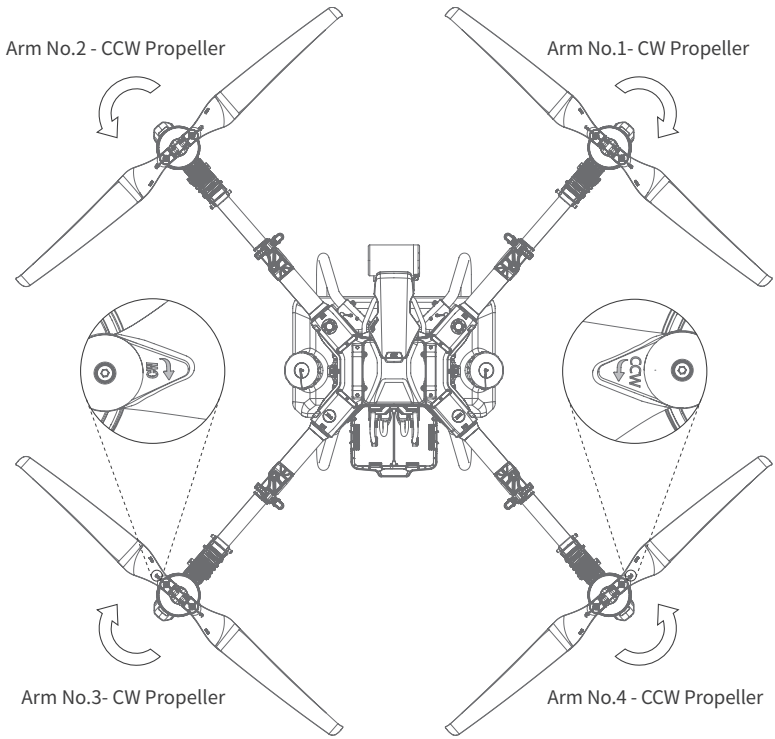
① Rotate the knob counterclockwise to release it;

② Spread out the spraying bar and turn the knob clockwise until tight.



Unfold Propellers

Spread out 4 propellers and see whether their models, which could be found between the clamp and the blade, match those on the arms respectively. CW propellers, rotating clockwise, should be on Arm 1 and 3. CCW propellers, rotating counterclockwise, should be on Arm 2 and 4.



⚠ Note

⚠ CW propeller and CCW propeller are NOT interchangeable, or it could cause accidents.

Prepare Batteries

Only B13960S and B13970 Smart SuperCharge Battery ("battery" for short) can be used in XAG P100 Pro 2023 Agricultural Drone. The instructions in this User Manual take B13970 as an example.

Power ON / OFF

To power ON the battery: Upon connection with the charger or the device, long-press the power button until all the battery level indicators flash simultaneously, followed by another long-press until the battery beeps and all the status indicators are on.

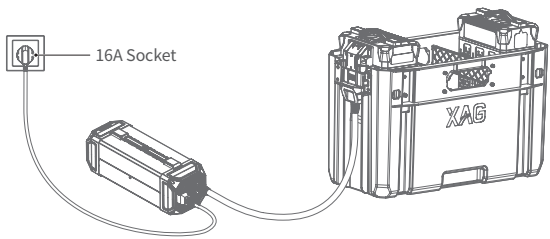
To power OFF the battery: Long-press the power button until all the battery level indicators flash simultaneously, followed by another long-press until the battery beeps and all the status indicators go off.

Charge

Use Auto SuperCharge Station or charger to charge. When the battery is fully charged, Auto SuperCharge Station or charger will stop charging and battery will power off.

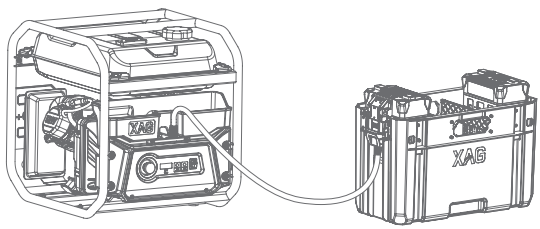
Charge with Charger

CM13600 Charger



Charge with Auto SuperCharge Station

GC4000+ Auto SuperCharge Station

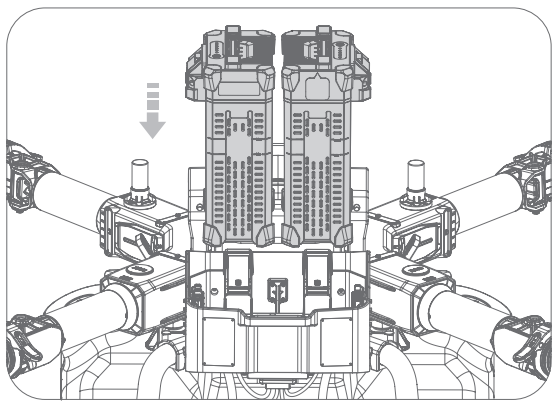


⚠ Note

- ⚠ If you need to remove the battery during the charging process, please turn off the battery or the Auto SuperCharge Station first, or the Auto SuperCharge Station may be down due to over-voltage protection.
- ⚠ For heat dissipation, the battery should be immersed in clean and noncorrosive water within the maximum and minimum level marks for no more than 60min. Never immerse the whole battery in water.
- ⚠ Please take out the battery before pouring the Cooling Tank.
- ⚠ Before charging, please keep the power contacts clean and dry, and make sure the charger connector and battery connector are free of metal foreign objects or liquid.
- ⚠ Avoid splashing water on the charger or the Auto SuperCharge Station when charging, lest a power failure or damage to the charger, Auto SuperCharge Station or battery may occur.

Install Battery

Insert the battery into the battery compartment until hearing a clicking sound.

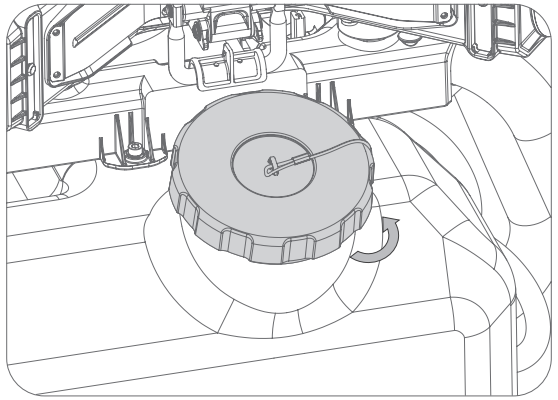


⚠ Note

- ⚠ Before installing the battery, please keep the power connector of the aircraft and the battery connector clean, dry and free of metal foreign objects and liquid.
- ⚠ Before powering up the battery, please ensure that it has been fully inserted into the battery compartment, or it may cause a flight accident during operation.

Tank Filling

Unscrew the cap counterclockwise, fill the tank up and then tighten the cap clockwise.



Protective Measures for Pesticide Preparation

Safety is paramount in preparing pesticides, so please strictly follow the guidelines below.

① Wear long sleeves, trousers, a mask, goggles, and rubber gloves and stay at upwind, airy and shady place while preparing pesticides.

② Check and replace your long sleeves, trousers, mask, goggles and rubber gloves immediately if they are worn out.

③ NEVER smoke, eat or drink when spraying pesticides. When tubes or nozzles are clogged up, unclog them with soft objects or clean water. Do NOT blow them with your mouth.

④ If pesticides get into your eyes, flush them immediately with plenty of clean water. When you have symptoms such as headaches, nausea and vomiting, stop the operation, take off your protective clothing and seek medical care in the nearest hospital with the packaging of the pesticides applied.

⑤ Upon completion of the operation, wash your hands with soap and wash your whole body in time.

⑥ Soak and wash your protective equipment with lye.

⑦ Pesticide containers and packaging must be collected for proper disposal. NEVER discard them in ditches, wells or places with people and animals, otherwise, pesticide hazards, poisoning or environmental pollution could occur.

Pesticide Preparation Precautions

- Handle pesticides in accordance with manufacturer's safety instructions.
- During operation, aircraft protection is as important as personal protection. Avoid pesticide getting into the circuit board when installing or removing the liquid tank, causing short circuits and damaging the aircraft. Prevent malfunctions resulting from improper operation as possible as you can.
- Prepare pesticides with clean water as dirty or muddy water could reduce the dispersity, wettability and permeability of pesticides in water, causing them to precipitate and become less effective. Impurities in water could break down part of the active ingredients in pesticides, reducing their effectiveness.

- After adding clean water, stir the solution thoroughly so that pesticides fully dissolve with fewer precipitates and thus become more effective. Do NOT use warm water as the solution could crystallize and precipitate as the water cools down.

Pesticide Poisoning Symptoms and Emergency

Symptoms: dizziness, headache, nausea, vomiting, excessive sweating, chest tightness, blurred vision, weakness, shortness of breath, increased heart rate, or even incontinence, constricted pupils, etc.

Emergency Response: In case of swallowed poison, do NOT induce vomiting. Send the victim to the hospital immediately with the pesticide label.

Prepare Remote Controller

There are two remote controller models - ACS2 ControlStick and ARC3 two-handed remote controller. Unless otherwise specified, the features or precautions of the "remote controller" in this manual are common to both models.

⚠ Warning

⚠ DO charge the remote controller with XAG's charging device, otherwise, user shall be held liable for any remote controller failure or damage arising from charging with non-XAG devices.

⚠ As the remote controller is specially designed for XAG's product, it is very likely that it is not compatible with non-XAG products. User who uses it on other products shall be held accountable for the damage and legal responsibilities arising therefrom.

⚠ As the remote controller is not waterproof, do not get it drenched or soaked during charging and use. Otherwise, user shall be responsible for any product failure or damage arising therefrom.

⚠ The remote controller has a single LTE antenna and is designed for applications with low data transfer rates.

⚠ A SIM card is installed in the slot when the remote controller leaves the factory. Please do not remove it or the remote controller may not work properly.

⚠ When flying the aircraft with the remote controller, please ensure that the environment is open, stay a safe distance from the aircraft, and keep the aircraft away from crowds, animals or other obstacles.

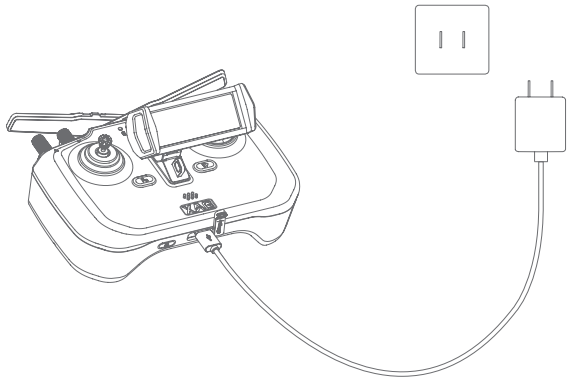
⚠ For manipulation by remote controller, the App will pop up "Low battery, aircraft will be forced to land" when the battery level of the aircraft is below 15%; it will alarm "Low battery, please pay attention" when the battery is less than 10%. You should keep the aircraft within your line of sight, pay close attention, and return or force it to land in time according to the warning message. When the battery is lower than 3%, the aircraft must be forced to land immediately.

ARC3

Charge ARC3

Connect the Type-C end to the charging port of ARC3 and the USB-A end to the charger, then connect the charger to the power supply.

While charging with the fast charger, the power indicator emits flashing green and the buzzer beeps. The power indicator will turn solid green when the remote controller is fully charged (the remote controller will automatically power off if it's not connected to the aircraft).



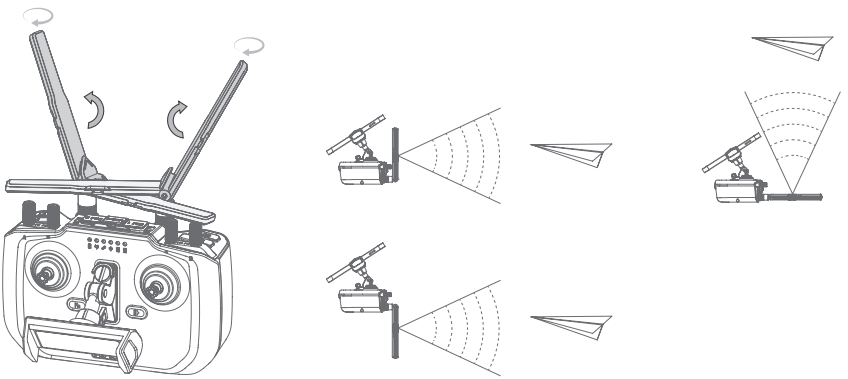
⚠ Note

⚠ When ARC3 is on, slow charging only ensures it works at a certain battery percentage. To achieve a full charge, please power off the remote controller.

⚠ The eSIM card (embedded SIM card) may be already installed in the SIM2 card slot according to the restrictions by the carriers. If SIM2 card slot is sealed, please do NOT open it and insert other SIM card or foreign matters without permission. The user shall be held liable for the damage caused by assembling or disassembling the SIM2 card slot.

Unfold Antennas

Spread out the antennas and adjust them to the suitable positions. Rotate the antennas clockwise to adjust the direction.

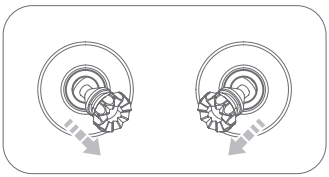


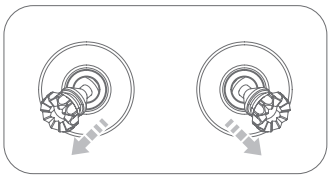
⚠ Note

⚠ User can adjust the antenna for the strongest signal when flying the aircraft with the controller as signal strengths vary according to the antenna position.

Start Motors

Before a flight, push both the joystick and the throttle as below to start the motors. If you fail to push the throttle within 3 seconds after releasing them, the motors will stop automatically.



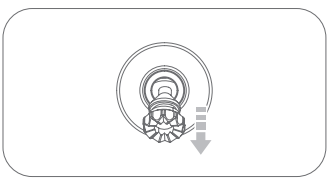


⚠Warning

⚠ Do NOT push the joystick and throttle to start motors when the aircraft is flying because it will cause the aircraft to crash due to the stopped motors.

Stop Motors

After the aircraft lands, pull the throttle to the lowest position and hold it for 1 second and the motors will stop.



Hover & Return

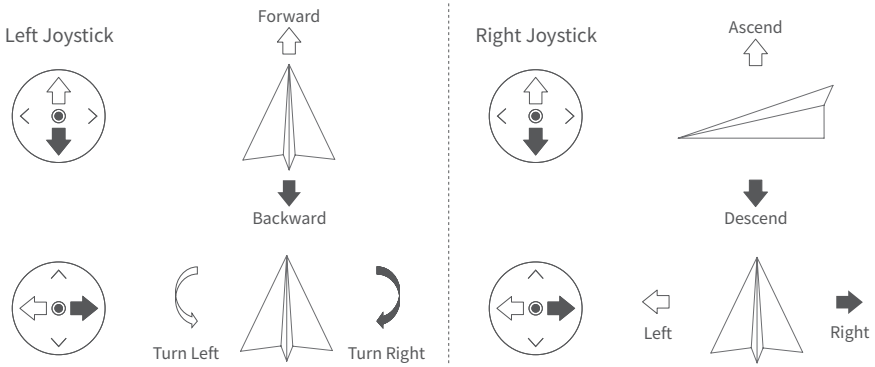
When the aircraft is in "Autonomous Flight", short press the Stop button to hover it.

When the aircraft is in "Autonomous Flight" or "Manual Operation Mode", long press the Stop button and Fn button to have it return.

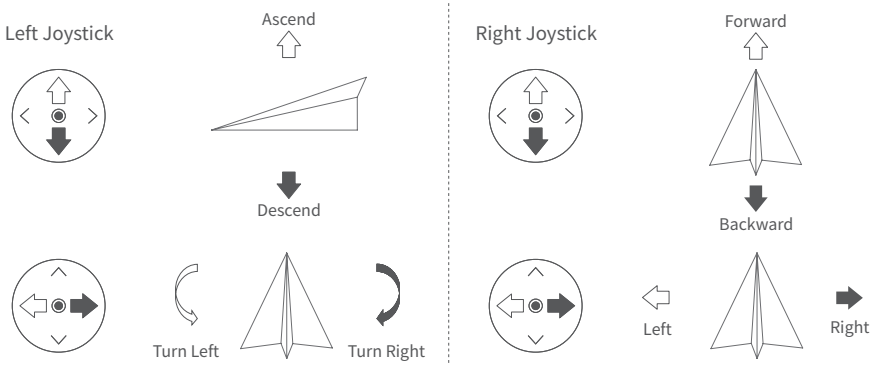
Joystick Mode

The Joystick Mode is divided into Japanese Hand, American Hand and Chinese Hand. The default mode is American Hand (Mode 2).

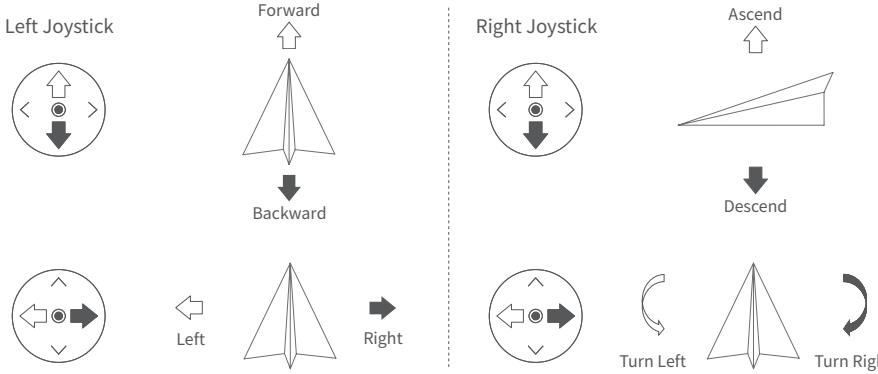
Japanese Hand (Mode 1)



American Hand (Mode 2)



Chinese Hand (Mode 3)



Use of Aircraft

Download "XAG One" App

Android system users can scan the QR Code above to download/install "XAG One" App
iOS system users can search for "XAG One" in App Store to download and install

Add a Device

Add an Aircraft

For the first time use, you need to add the aircraft to the "XAG One" App by following the steps below.

1. Open the "XAG One" App, enter the phone number to register for an account and log in.
2. On the "Field" page, tap on ⊕ in the upper right corner and then "Add a Device" (or tap on "Me" - "Device" - " ⊕ " to add a device).
3. Scan the QR code on the fuselage nameplate, or enter the fuselage serial number.
4. Set the device name and tap on "Next".
5. Tap on "View Device Details".
6. On the "Device Details" page, find "Set as operation device" to set this aircraft as an operation device and add.

Add a Remote Controller

After adding a remote controller, you can use the remote controller for field mapping. You can follow the steps below to add the remote controller.

1. Open the "XAG One" App, and tap on "Me" - "Device" - " ⊕ ".
2. Scan the QR code of the remote controller, or enter the serial number to add.
3. Put the remote controller on Add Mode by following the steps on the App page.
4. Name the device and tap on "OK".

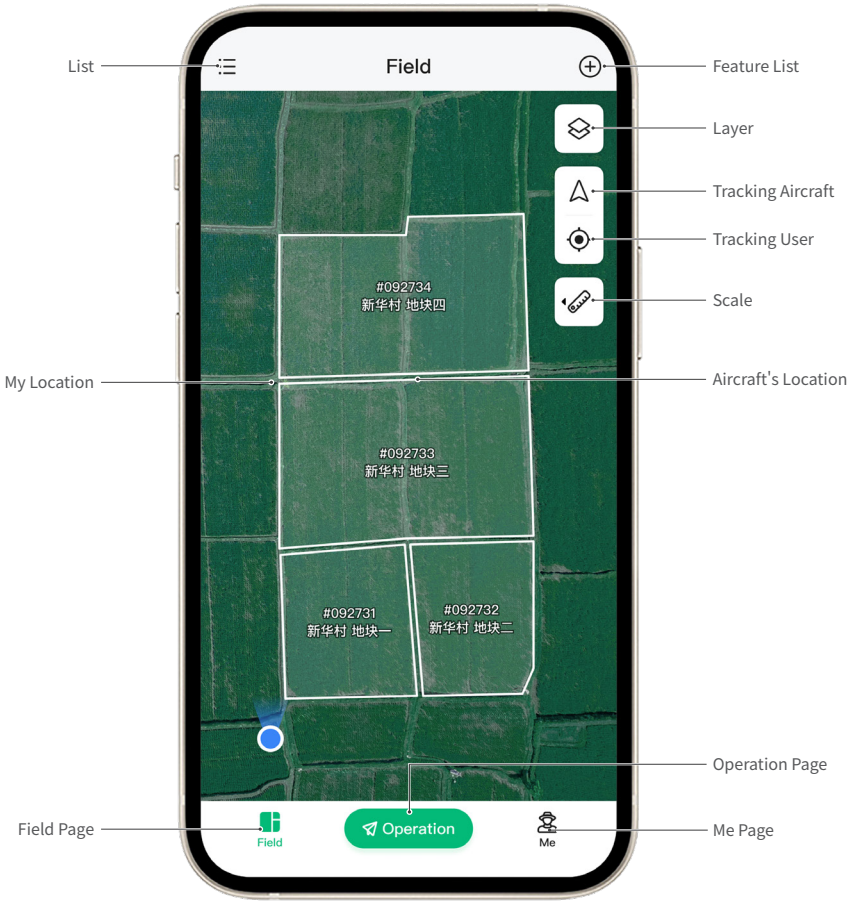
Link Remote Controller

To fly the aircraft with the remote controller, you need to link an added remote controller. You can follow the steps below to link a remote controller.

1. Enter the "Device" page and tap on the aircraft to be linked to the remote controller.
2. On "Device Details" - "General" page, select "Link Remote Controller".
3. Select the remote controller to be linked and tap on "Link". Then you can operate the aircraft using the remote controller (refer to page 15 to 17 for how to use it).

App UI

Field Page (Main Page)



List: view Device List, Field List and HD Map List

My Location: current user's location

Field Page: tap to enter Field Page

Feature List: tap to view Create a Field, Create Field Group, Create HD Map, Import Data, Add a Device, and other features

Layer: tap to switch map modes

Tracking Aircraft: access aircraft's current location

Tracking User: access user's current location

Scale: tap to measure the distance on the map

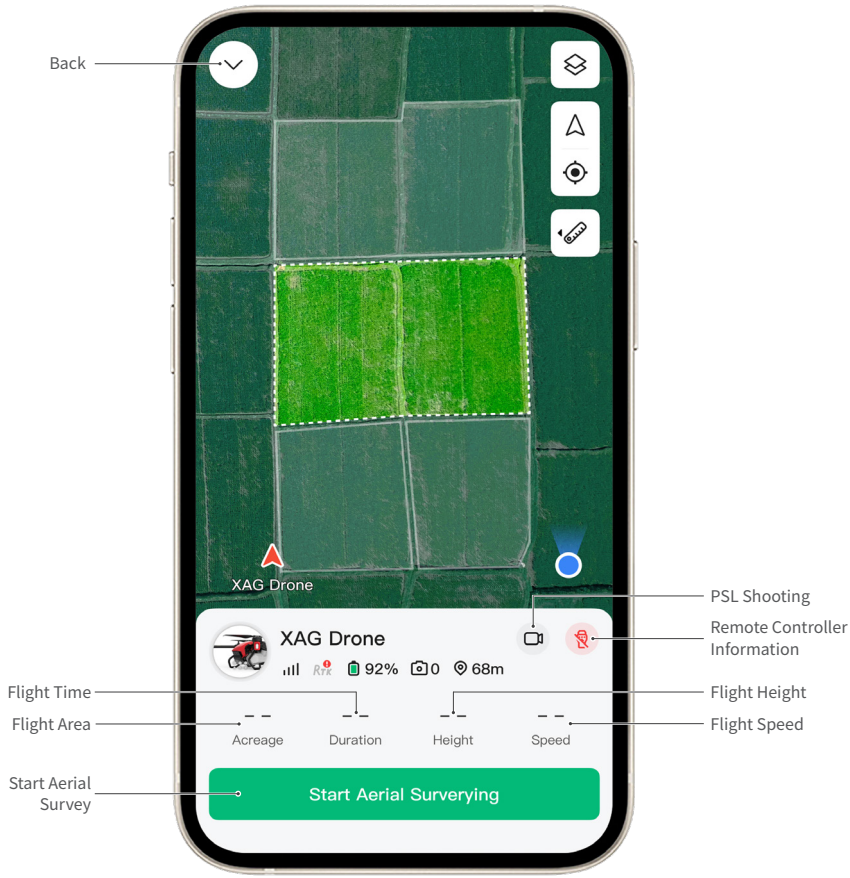
Aircraft Location: aircraft's current location

Operation Page: tap to enter Operation Page

My Page: tap to enter Me Page

Aerial Survey Page

If the aircraft is equipped with RealTerra, tap on "Field" Page and then "Operation" to enter Aerial Survey Page.



Back: tap to go back to the Field Page

Flight Area: field area of aerial survey

Flight Time: time for aerial survey

Start Aerial Survey: tap to start aerial survey

Flight Speed: flight speed during aerial survey

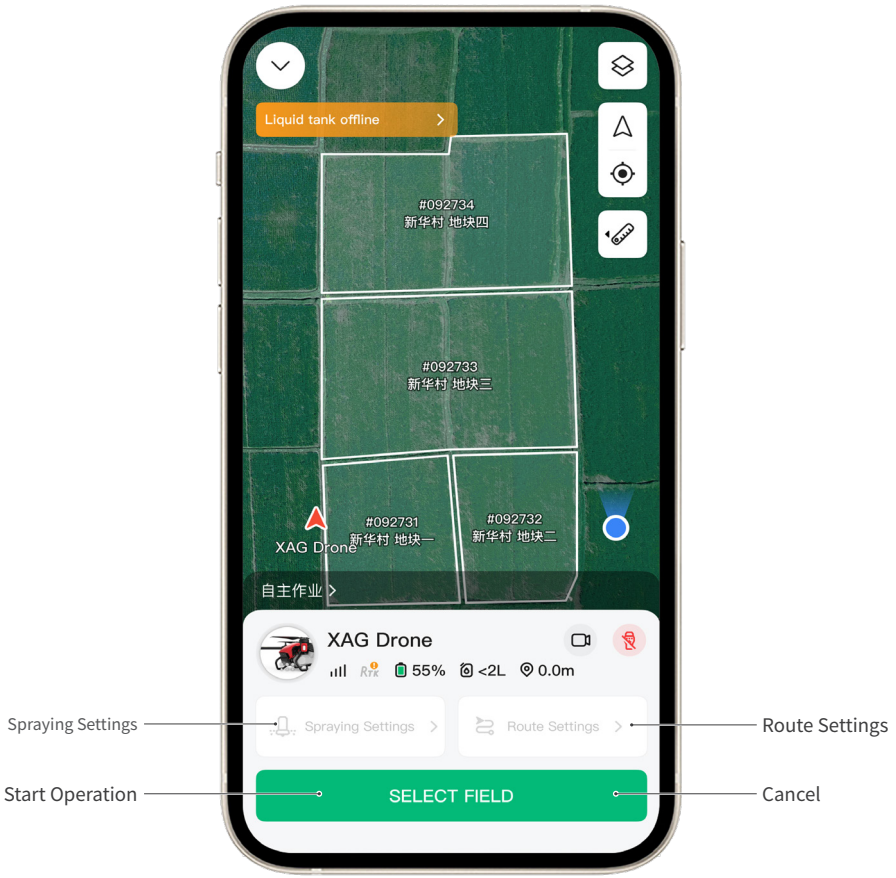
Flight Height: height of aerial survey

Remote Controller Information: view remote controller information

PSL Shooting: namely "Pilot Sight Livestream", view current flight perspective of the aircraft

Operation Page

Tap on "Field" Page (main page) – "Operation" to enter Operation Page.



Spraying Settings: tap to set spraying parameters

Start Operation: tap to start operations

Cancel: cancel operations

Route Settings: tap to set route parameters

Device Details

Tap on "Me" - "Device" – "Select Aircraft" to view device details of the aircraft.

- Tap " " to enter "General" page to link remote controller, share a device, update firmware, view data and provide security guarantee service.
- Tap " " to enter "Communication System" page to view current connection status and carrier settings.
- Tap " " to enter "Positioning System" page to view RTK positioning status, connected RTK base station, the quantity of current connected satellites, positioning accuracy, heading accuracy and change positioning modes.
- Tap " " to enter "Battery System" page to view battery level, current voltage/electrical current, battery temperature, cell voltage, cycle count, etc.
- Tap " " to enter Spraying System page to drain the tubes, start manual spraying test and normal calibration, and view the remaining volume, spraying rate and other information.
- Tap " " to check the running status of propulsion system's four motors and start "Idle Test" and "In-situ Takeoff Test".
- Tap " " to enter Sensing System page to check the working status of "Radar Terrain Following", "Radar Obstacle Avoiding" and "Night Vision Mode".

Update Firmware

Before using the device, if the main page prompts "New firmware available", please update the firmware to the latest version.

1. Open "XAG One" App and tap on "New firmware available" to enter firmware update page.
2. Tap on "Download and update". After the firmware is updated, tap on "Complete" to go back to firmware update page, and check if the firmware is updated to the latest version. If not, please update it again until the update is completed.

Create a Field

Before starting autonomous operation, you need to create a field in three ways - Tap to Mark, Mark by Remote Controller and Fly to Mark, which will be introduced below.

Tap to Mark

Tap to Mark includes Mark on HD map and Mark on Satellite Map (the instructions here are for Mark on HD map, and the steps are the same for Mark on Satellite Map). HD map can be obtained through aerial survey by RealTerra or importing HD map from an aerial survey aircraft, which will be introduced below.

Aerial Survey by RealTerra

1. Open "XAG One" App. On the "Field" page, tap on ⊕ in the upper right corner and select "Create HD Map".
2. Select an aerial survey type (it's recommended to select "Plain Mode" for field aerial survey to generate a 2D HD map and "Mountain Mode" for mountain aerial survey to generate a 3D HD map). Tap the map to mark boundary points of the area for aerial survey. After marking all the points, the system will automatically generate the aerial survey area after tapping on the starting point. And then, tap on "Next" in the upper right corner.

3. Name the HD map and tap on "Save". Then it will automatically plan a route.
4. Tap on "Start Aerial Survey", make sure there is no one within 10 meters around the aircraft, and slide to take off. After the self-testing is completed, the aircraft will automatically take off for aerial survey and return upon completion.

More

- Tap on "Settings" to select an aerial survey type again and turn on/off Auto Obstacle Avoidance and Terrain Following as needed.
- During the aerial survey, tap on "Hover" and the aircraft will hover at its current position. Tap on "More" and then "Land", the aircraft will land at its current position. Tap on "Return", the aircraft will stop shooting and return to the take-off point.

⚠ Note

⚠ RealTerra aerial survey needs to replace the payload of RealTerra. Please refer to "XAG RealTerra® 2 Instructions" to install the RealTerra.

⚠ Before aerial survey, please make sure there are no obstacles such as high-voltage wires within the route.

⚠ Please do NOT power off the aircraft and RealTerra when it is processing HD Map.

Import HD Map

1. Open "XAG One" App. On the "Field" page, tap on ⊕ in the upper right corner and select "Import Data".
2. Select the HD map to be imported, view the importing prompt and tap on "Continue" - "Import" to import HD map generated by aerial survey.

Mark on HD Map

The generated or imported HD map allows you to mark points by tapping it to generate a field for operation.

1. Open "XAG One" App. On the "Field" page, tap on ⊕ in the upper right corner and then "Create a Field".
2. Tap the map to mark boundary points of the operating field (tap on ↶ / ↷ to undo/redo the mark). After marking all the points, tap on the starting point, and the system will generate a field.
3. Tap on ▣ to select "Obstacle" or "Non-operating Area" and tap to mark the boundary points of obstacles or non-operating areas.
4. After marking the operating area, tap "Complete" in the upper right corner.
5. Enter field information and tap "Complete" to save the field.

Mark by Remote Controller

Mark by Remote Controller can be done by ASC3 ControlStick and ARC3 Two-handed Remote Controller. The instructions here are for ARC3 two-handed Remote Controller.

1. Open the USB-C cover on the top of ARC3, insert RTK module in it and put the phone on the phone holder after the RTK module is installed.
2. Open "XAG One" App. On the "Field" page, tap on ⊕ in the upper right corner and select "Create a Field". Tap in the bottom right corner to select ARC3 for mapping.

3. Long press Fn button to enter mapping mode (the buzzer emits two beeps, and the fourth indicator turns solid green). Hold ARC3 and move to the boundary of the field to be marked. Short press "L1" button to mark the boundary points of the field. After marking all the points, tap on the starting point, and the system will generate a field.
4. Select "Obstacle"/"Non-operating Area". Hold ARC3 and walk around the obstacle/non-operating area. Short press "L1" button (short press "L2" button to undo the point) to mark the boundary points of obstacles or non-operating areas.
5. After mapping the operating area, tap "OK" in the upper right corner (or long press "L1" button).
6. Enter field information and tap "Complete" to save the field.

Fly to Mark

Fly to Mark is only applicable to field generation by piloting aircraft with ARC3. The steps are as follows.

1. Open "XAG One" App. On the "Field" page, tap on ⊕ in the upper right corner and select "Create a Field". Select in the bottom right corner to select the aircraft for mapping.
2. Fly the aircraft over the field that needs to be marked. Tap PSL perspective on the phone screen to switch to downward PSL perspective. Short press "L1" button to mark boundary points of the field. Then fly the aircraft to other boundary points and mark. After marking all the points, tap on "Auto Closing" on the App, and the system will automatically generate a field.
3. Select "Obstacle"/"Non-operating Area". Fly the aircraft around the obstacles/non-operating areas. Short press "L1" button (short press "L2" button to undo the mark) to mark the boundary points of obstacles or non-operating areas.
4. After mapping the operating area, tap "OK" in the upper right corner.
5. Enter field information and tap "Complete" to save the field.
6. Remotely control the aircraft to make it fly to the safe area and land, or long press Stop and Fn buttons to make it return.

Manage Fields

After creating fields, you can edit fields or create shuttle/customized routes by Manage Fields.

Edit Fields

You can use Edit Fields to edit the saved fields mapping by HD maps again.

1. Open "XAG One" App. On the "Field" page, tap on ☰ in the upper left corner, select the field to be edited and tap on "Manage Fields".
2. Tap on "Edit Fields" and drag the boundary points to adjust. Select the field boundary that needs to add points and tap on to create boundary points. Select the boundary point and tap on "Delete" to delete the point.
3. Tap and select "Obstacle" or "Non-operating Area". Drag the boundary points of obstacles/non-operating areas to adjust the ranges. Select the boundary that needs to add points and tap on to create boundary points. Tap the center of obstacles/non-operating areas and tap on "Delete" to delete the obstacles/non-operating areas.
4. After editing, select how to save to complete field editing.

Create Shuttle/Customized Routes

After mapping the field, you can create shuttle/customized routes by Manage Fields to be adapted to the operations in different scenarios.

1. Open "XAG One" App. On the "Field" page, tap on ☰ in the upper left corner, select the field to be edited and tap on "Manage Fields".
2. Tap on "Route" in the menu bar and then "Create" in the upper right corner, and select a route type.
3. Select "Shuttle Route" and the system will automatically plan the shuttle route. You can manually adjust route direction, route spacing, boundary safety distance and obstacle safety distance. Select "Customized Route" and users can plan the route as needed. Tap the screen or use ● to add points. Add two points and create a line, namely a segment, successively connect multiple points and the aircraft will follow this route for operation.
4. Tap on "Complete" in the upper right corner, enter the route name and tap on "OK" to save the route.

⚠ Note

⚠ Routes with different types and parameters can be created in the same field, and users can select a suitable route for flight operations.

Field Alignment

In the field generated by Mark by Remote Controller and Fly to Mark, you can use Field Alignment to align the locations of field and aircraft to improve the positioning accuracy for operations.

Alignment in Autonomous Mode

1. Open "XAG One" App and tap on "Operation" on the "Field" page.
2. Tap on "Select Fields" and select the fields for operation on the map. After selecting the fields, move the aircraft to the boundary of the selected field.
3. Tap on "Alignment" on the map and the settings page will pop up. Tap the boundary point closest to the aircraft and adjust the boundary points to move to aircraft's current position on Alignment page (or directly drag the boundary points to aircraft's current position). Tap on "Align with aircraft's current position", and the app page will display "Aligned" to indicate that field alignment is completed.

Remote Controller Alignment

1. Open "XAG One" App and tap on "Operation" on the "Field" page.
2. Tap on "Select Fields" and select the fields for operation on the map. After selecting the fields, start the aircraft and remotely control it to make it fly to the boundary points of the fields. Tap on "Alignment" on the map and the settings page will pop up.
3. Tap on "Align with aircraft's current position", and the app page will display "Aligned" to indicate that field alignment is completed.

Start Operations

After creating fields, start the aircraft for autonomous flight operations.

1. Open "XAG One" App and tap on "Operation" in the "Field" page.
2. Tap on "Select Fields" and select the fields for operation on the map. After selecting the fields,

the operation information will be displayed in the menu bar. You can complete spraying settings and route settings as needed.

3. Tap on "Start Operation", make sure there is no one within 10 meters around the aircraft, and slide right to confirm takeoff. After the self-testing is completed, the aircraft will automatically take off and start spraying.

Spraying Settings

- Tap on Spraying Settings in the menu bar on operation page, drag the adjusting button to set spray volume and atomized droplet size.
- Start "Prescription Map Operation" and the system will automatically generate prescription map for more precise operations.
- Tap on "Change segment for operation" to select whether to start spraying when the segment is changed.

Route Settings

- Tap on Route Settings in the menu bar on operation page and select "Entry/Exit Routes" to set flight height and speed. Turn on/off "use safe spot planning" and "set return auxiliary route".
- Tap on the route name to select to change routes.
- Select "Operation Route" to set flight height, flight speed, route direction, route spacing, boundary safety distance and obstacle safety distance.
- Select "Advanced Settings" to turn on/off radar terrain following, radar obstacle avoiding, auto route optimization of breakpoint continuous flight and 3D route operation.
- Tap on "Operation Area" to drag adjusting button to adjust shuttle operation route and turn on/off boundary mode.

More

- During flight, tap on "Hover" and the aircraft will hover at current position. Tap on "More" to perform landing, return, tap & go operations, adjust operating height and speed, and turn on/off radar terrain following or radar obstacle avoiding.
- After entering tap & go, the aircraft will hover at current position. Drag the white cross cursor to move it to the target position and tap on "Go", the aircraft will fly to the target position following the planned route. When it is completed, tap on "Exit" to go back to flight page and then tap on "Continue", the aircraft will continue to start operation.

⚠ Note

⚠ Before starting flight operation, please make sure RevoSpray/RealTerra system is installed.

⚠ Before using 3D route for operation, please use "Mountain Mode" of RealTerra to generate 3D HD maps.

⚠ During flight operation, the operator should closely observe the flight environment for unsafe factors and ensure the aircraft is away from obstacles and crowds.

⚠ The effective range of target position for "Tap & Go" is within a radius of 50 meters (i.e. the green circle) and with the current aircraft's position centered.

⚠ When the aircraft performs flight operation along the route, you can set low battery return value (10%/15%/20%/25%) via App. When it is about to reach the preset value, the App will prompt "Low battery; returning", and the aircraft will calculate the distance between current position and return point and automatically return.

Operation Report

After the "Autonomous Operation" is completed, users can view the operation report to know about operations of corresponding fields.

Personal Operation Records

1. Open "XAG One" App and tap on profile picture on "Me" page. Tap on "Current Team" to select "Me".
2. Go back to "Me" page and tap on " Personal Operation Records" to enter "My Operation Records" page.
3. On "Personal Operation Records" page, tap on "Operation Records" to view current account's monthly operation records, yearly operation records, total operation records, total operation area, total operation time and total operation fields. Tap on "Device Records" to view spraying/spreading operations of the device at a certain time and place. Tap on "Operation Calendar" to view all the operation records of a certain date.
4. On "Personal Operation Records" page, select the operation records of the date to view the operation data and operation traces. Tap on in the upper right corner to share this operation report.

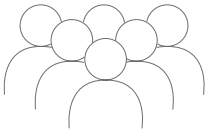
Team Operation Records

1. Open "XAG One" App and tap on profile picture on "Me" page. Tap on "Current Team" to select team (tap on ⊕ in the upper right corner to join a team or create a team).
2. Go back to "Me" page and tap on " Team Operation Records" to enter "Team Operation Records" page.
3. In "Team Operation Records" page, tap on "Team Operation Sand Table" to view the operations of field groups at a certain time. Tap on the field to view details and tap on in the upper right corner to share this operation sand table.
4. On "Team Operation Records" page, tap on "Team Operation Records" to view current account's monthly operation records, yearly operation records, total operation records and the operations of team members. Tap on "Operation Calendar" to view all the operation records of a certain date.
5. On "Team Operation Records" page, select the operation records of the date to view the operation data and operation traces. Tap on in the upper right corner to share this operation report.

⚠ Note

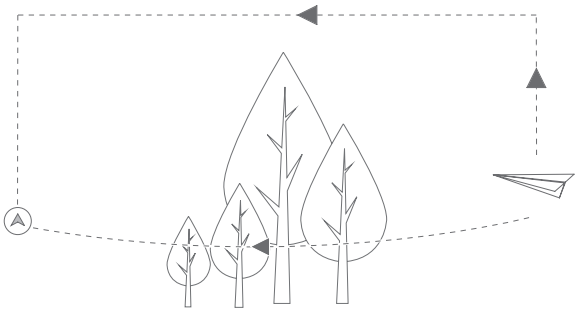
⚠ If the team is selected as a collective team, all the fields to be created belong to the team. Users can tap on profile picture on "Me" page and then "Current Team" to change.

Safe Parking





- The landing point should be in an open area far from buildings and crowds. Make sure that the aircraft's return trip is free of obstacles.



- When the aircraft is flying back, the operator should observe the environment around it and steer it away from any obstacle found on the route.
- Power off the aircraft once it lands safely.

Share a Device

Users (owner of the device) can share the use of device to other users using Share a Device and the owner still have the ownership of device.

1. Open "XAG One" App and tap on "Me" and then "Device" to enter device list.
2. Select the aircraft to be shared, enter "Device Details" page and tap on "Share a Device".
3. Enter the account of borrower, set duration and tap on "OK".
4. Confirm the account and tap on "OK". After the aircraft is shared, the page will show the shared device, borrower's account and duration. Tap on "Terminate sharing" to withdraw the use of device.

⚠ Note

⚠ The owner will not be able to use the device when it is shared.

⚠ The owner will not be able to withdraw the use of device during operation.

Maintenance

After each use, clean the spray parts and surface of the aircraft in a timely manner. Regular aircraft maintenance should be conducted.

Cleaning After Operation

Pesticides are caustic and could corrode the device, shortening its lifespan. Clean the device timely after each use. The cleaning steps are as follows.

Detergent: soapy water or laundry powder/water mixture

① Fill the liquid tank with soapy water or the laundry powder/water mixture. Start spraying to clean pesticide residues in the spraying system.

② Fill the liquid tank with clean water and start spraying to wash off residual soapy water or the laundry powder/water mixture in the spraying system until all tubes are drained, avoiding damage to other objects during transportation or storage.

③ Wring out a damp rag and wipe the surface of the aircraft to remove pesticide stains and mud. Empty the liquid tank and drain the tubes if you need to transfer the aircraft or will not use it for an extended period.

Regular Maintenance

Wear and tear as well as malfunctions in/of the device could occur as a result of ordinary use. Regular maintenance ensures that the device performs at its best in farming activities with fewer malfunctions and improved efficiency. Maintenance steps are as follows.

A. Airframe

① Check if any screw on the airframe is loosening or missing.

② Check if the components including landing gears, fuselage, arms, motors and antennas are secure.

③ Check if the connectors of each component are firmly in position, if they have oxidized, and if the battery plug is deformed.

④ Check breakages and cracks on the airframe and its components. Check if the beams of the aircraft are bent out of shape or cracked, if the fasteners joining the arms and motors together are secure, if the arms are bent and twisted, or if the parts on the arms are at a proper angle.

⑤ The aircraft should be cleaned regularly and thoroughly, especially those hard-to-clean spots including the liquid tank socket and battery plug on the airframe.

B. Propulsion System

(1) Propeller

① Check by sight if the propeller clamps are cracked or deformed and if the blades are loosening, damaged, bent out of shape or softened.

② Check if the blades and clamps are properly joined.

③ Check if the setscrews holding the clamps and motors are missing or loosening.

④ Wipe the propellers clean with a damp rag.

(2) Motor

① Remove the propellers and clean the motors with an air blow gun.

② Rotate the motors and check whether the bearings wobble or make noise.
③ Check by sight if the enameled wires of the motors are damaged or broken.
④ Gently rock the motors and see if they are firmly fixed on the motor mounts.
⑤ Check the connectors and cables between motors and ESCs.

(3) ESC
① Remove the power plugs of the ESCs and check if the metal parts are deformed or oxidized.
② Check if the setscrews on the ESCs are missing or loosening.
③ Check if there is any dirt including pesticides on the heat dissipation part of the ESCs.

C. RevoSpray System

Calibrate the spraying system once it has a large error (outside of plus or minus 5%) because of chemical corrosion, thick pesticides, replacement of peristaltic pump parts and tubes, etc. Calibration needs to be done with clean water or pesticides used in operation. If the health index remains unusual after calibration, check whether the peristaltic pump tubes or spray tubes are in good condition. Replace them in time if they shrivel, lose their elasticity or are out of shape.

(1) Peristaltic Pump
① Take apart the peristaltic pump and check if the peristaltic pump tube and roller are sufficiently lubricated. If not, apply a proper amount of Vaseline.
② Check if the connectors of the RevoSpray system have come loose or oxidized, etc.

(2) Smart Liquid Tank
① Check the sealing ring of the liquid inlet.
② Unscrew the cap, clean dirt off the filter and check if the inner tubes are in good condition.

D. Power System

(1) Battery
① If the battery shows single flashing green after flight, charge it to 50%-60% in time for storage. Batteries not charged timely before storage could be less active, damaged or even have a shortened lifespan.
② If you will not use the battery for an extended period, charge and discharge it every three months to keep it active.
③ When the battery is swelling, leaking, deformed, or having exterior damage, stop using it immediately and contact XAG or any XAG after-sales service center in a timely manner.
④ Never transport any potentially unsafe battery that is swelling, leaking, or having visible exterior damage.
⑤ Check by sight the exterior of the battery. Should there be any damage, send it to any XAG after-sales center.
⑥ Do NOT charge the battery in a damp environment.
⑦ Do NOT insert or remove the battery when it is on, or its socket could be damaged.
⑧ Handle the battery with care; NEVER take it apart without permission.

(2) Auto SuperCharge Station

(2) Auto SuperCharge Station

Items		Maintenance Tips
Oil	Check Oil Level	Check the oil level before each use; the oil level should fall between the MIN and MAX marks on the oil dipstick
	Change Oil	Change oil after 20 hours of using for the first time along with subsequent changes every 50 hours
Air Cleaner	Check	Check the filter element of the air cleaner and the oil level in the oil reservoir before each use
	Clean	Clean the air cleaner every 50 hours, or every 20 hours in dusty areas
Spark Plug	Replace	Replace it every 500 hours
Valve Lash	Adjust	Adjustment of valve lash by after-sales professionals is required every 500 hours
Fuel Tank & Filter	Clean	Clean the fuel tank and filter every two years
Oil Tube	Replace	Replace it in case of aging or cracking

(3) Power Socket

With dust, liquid, or other foreign objects sticking to the power socket when it is in use, poor contact, short circuits or sparking could occur in the battery, charger or socket. Before and after the use of the power device, user should check and clean each component including the battery plug and socket, ensuring that the power socket remains clean, dry and free of foreign objects.

E. Devices with Lithium Batteries

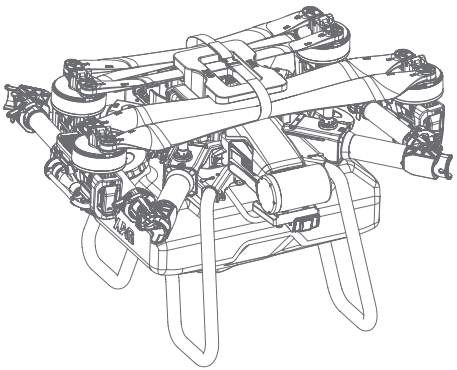
When not used for an extended period, devices with lithium batteries (exclusive of the Battery) including remote controllers should be charged to 50% to 60% every two months for storage.

Device Storage

Devices like batteries, aircraft, remote controllers and chargers should be stored in a dry place with a temperature between 10°C and 30°C . Do NOT store devices in leaky or damp places.

Transportation

Propeller blades of the aircraft should be folded and fastened by clamps for transportation. Meanwhile, fasten the aircraft with a safety belt and make sure the aircraft is secure during transportation.



⚠ Note

- ⚠ For long-distance transportation, remove the spray bars of the aircraft before transportation.
- ⚠ Before transporting the aircraft, clean and empty its spraying system and drain all liquid tubes, to avoid damage to other devices during transportation.
- ⚠ Pesticide packaging and sewage must be collected for proper disposal to avoid pesticide hazards and environmental pollution.
- ⚠ NEVER place batteries in the aircraft for transportation.
- ⚠ During transportation, do NOT drive while tired; devices should be stored separately with good air circulation to avoid poisoning by inhalation of pesticides.

Appendix

Indicator Description

Get to know the aircraft's current status by checking the indicators on the SuperX 4 Pro Intelligent Control System and arm lights (ESC indicators on the arms). Details are as follows.

Flight Controller RTK Indicator	Description
Solid Red	Not searching for satellites, not positioning, no output from board
Flashing Red (Slow)	RTK timeout over 10s
Flashing Green (Slow)	Normal
Flashing Red (Fast)	Exited RTK; no differential signal; no heading
FlashingGreen (Fast)	Satellites less than 16; heading accuracy lower than 2°
Flashing Red & Green	Initializing/Configuring
Flashing Red & Green (Fast)	Updating firmware

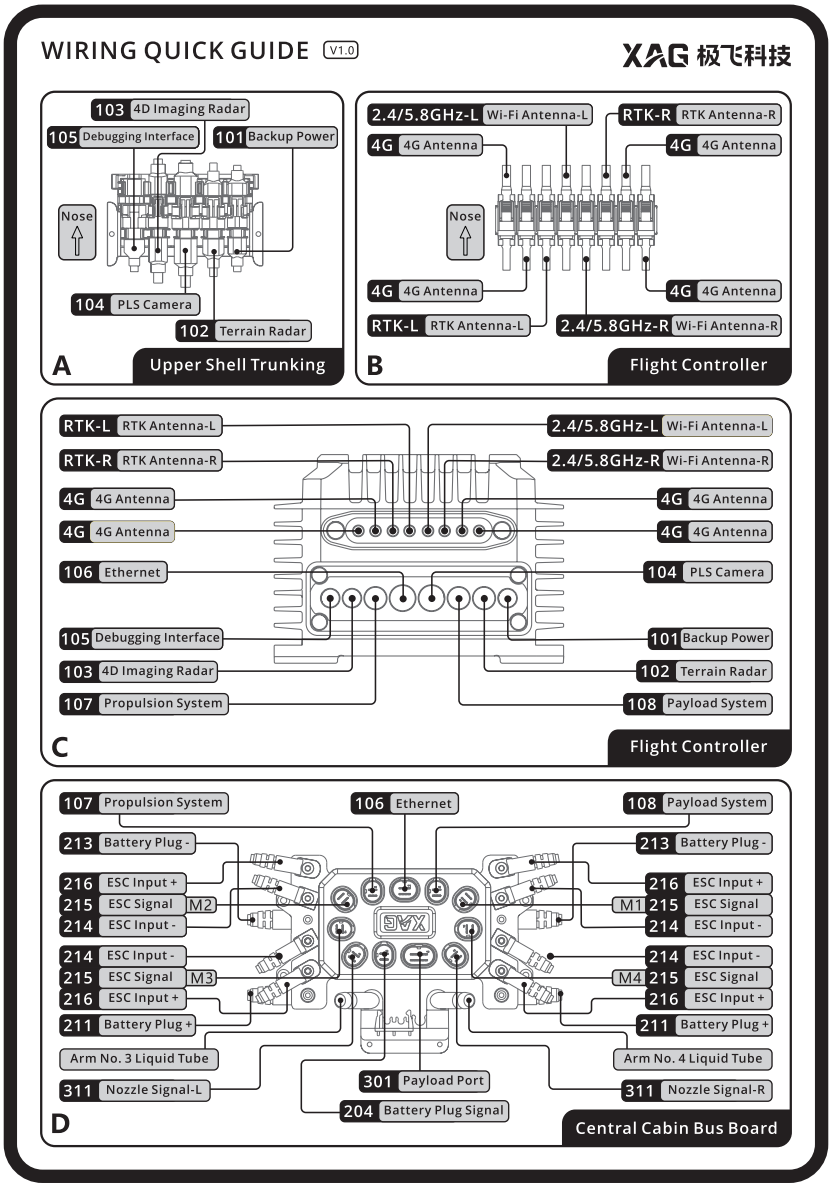
Flight Controller 4G Indicator	Description
Flashing Red (Slow)	Disconnected from IoT
Flashing Green (Slow)	Connected to IoT

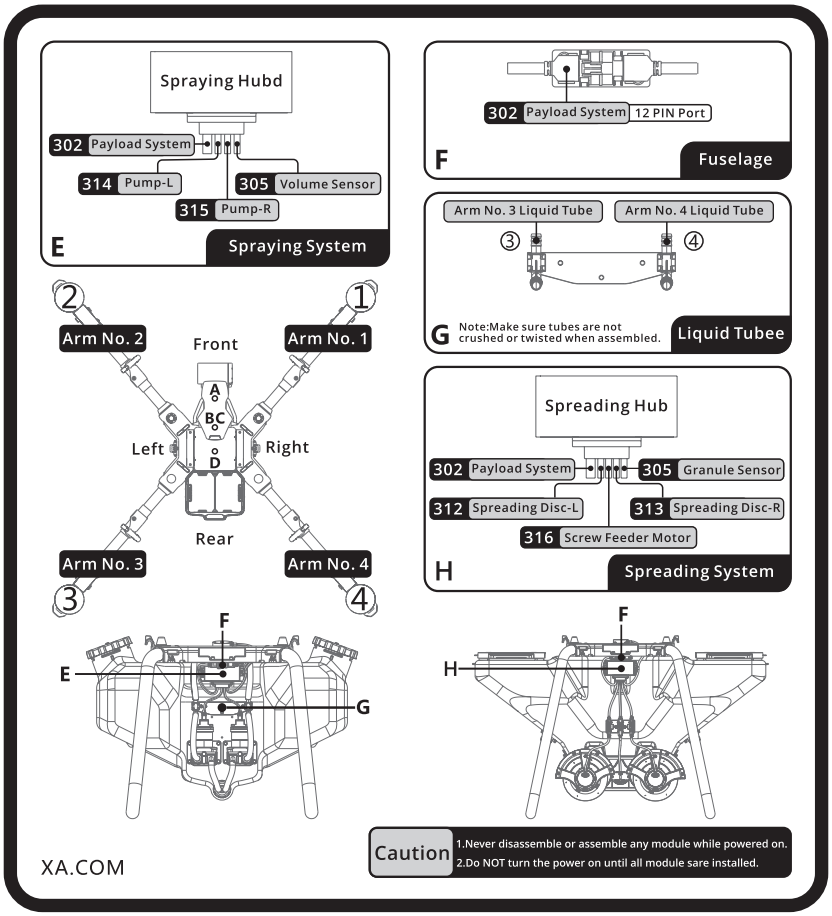
Flight Controller Wi-Fi Indicator	Description
Flashing Red (Slow)	Disconnected from Wi-Fi module
Flashing Green (Slow)	Connected to Wi-Fi module
Flashing Orange (Slow)	Flight controller's Wi-Fi hotspot enabled

Flight Control System Status Indicator	Description
Solid Green	In operation
Solid White	File system mounting failed
Flashing Red (Slow)	Taking off/landing
Single Flashing Red	GPS malfunctioning/dramatic satellite loss
Single Flashing Green	Attitude mode
Single Flashing Blue	Manual mode
Single Flashing Purple	Initialization failed or preheating
Flashing Red (Fast)	Sensor error
Flashing Blue (Fast)	Propulsion system error
Flashing Purple (Fast)	Underlying controller formatting/incorrect parameters

Flashing Yellow (Fast)	First low voltage; battery level: 20%
Double Flashing Red	Flight in safe mode; App or remote controller disconnected from aircraft
Double Flashing Green	Manual GPS mode; good GPS signal
Flashing Red & Green	Weak GPS signal
Triple Flashing Red	Second low voltage; battery level: 10%
Triple Flashing Green	Auto GPS mode; good GPS signal
Alternating Flashing Red/ Green/Blue	Unlocking

Arm Light (ESC Indicator)	Description
Solid Green	In operation
Solid White	File system mounting failed
Flashing Red (Slow)	Taking off/landing
Single Flashing Red	GPS malfunctioning/dramatic satellite loss
Single Flashing Green	Attitude mode
Single Flashing Blue	Manual mode
Single Flashing Purple	Initialization failed or preheating
Flashing Red (Fast)	Sensor error
Flashing Blue (Fast)	Propulsion system error
Flashing Purple (Fast)	Underlying controller formatting/incorrect parameters
Flashing Yellow (Fast)	First low voltage; battery level: 20%
Double Flashing Red	Flight in safe mode; App or remote controller disconnected from aircraft
Double Flashing Green	Manual GPS mode; good GPS signal
Flashing Red & Green	Weak GPS signal
Triple Flashing Red	Second low voltage; battery level: 10%
Triple Flashing Green	Auto GPS mode; good GPS signal
Alternating Flashing Red/ Green/Blue	Unlocking
Breathing Red	Entering, returning, or avoiding/bypassing obstacles


WIRING QUICK GUIDE V1.0
XAG 极飞科技
103 4D Imaging Radar
105 Debugging Interface
101 Backup Power
Nose
104 PLS Camera
102 Terrain Radar
A
Upper Shell Trunking
2.4/5.8GHz-L Wi-Fi Antenna-L
RTK-R RTK Antenna-R
4G 4G Antenna
4G 4G Antenna
Nose
4G 4G Antenna
4G 4G Antenna
RTK-L RTK Antenna-L
2.4/5.8GHz-R Wi-Fi Antenna-R
B
Flight Controller
RTK-L RTK Antenna-L
RTK-R RTK Antenna-R
4G 4G Antenna
4G 4G Antenna
106 Ethernet
105 Debugging Interface
103 4D Imaging Radar
107 Propulsion System
2.4/5.8GHz-L Wi-Fi Antenna-L
2.4/5.8GHz-R Wi-Fi Antenna-R
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4G 4G Antenna
104 PLS Camera
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102 Terrain Radar
108 Payload System
C
Flight Controller
107 Propulsion System
106 Ethernet
108 Payload System
213 Battery Plug -
213 Battery Plug -
216 ESC Input +
215 ESC Signal M2
214 ESC Input -
M1
216 ESC Input +
215 ESC Signal
214 ESC Input -
214 ESC Input -
215 ESC Signal M3
216 ESC Input +
M4
214 ESC Input -
215 ESC Signal
216 ESC Input +
211 Battery Plug +
211 Battery Plug +
Arm No. 3 Liquid Tube
Arm No. 4 Liquid Tube
301 Payload Port
311 Nozzle Signal-L
311 Nozzle Signal-R
204 Battery Plug Signal
D
Central Cabin Bus Board


Spraying Hubd
302 Payload System
314 Pump-L
305 Volume Sensor
315 Pump-R
E
Spraying System
302 Payload System 12 PIN Port
F
Fuselage
Arm No. 3 Liquid Tube
Arm No. 4 Liquid Tube
③
④
G
Note:Make sure tubes are not crushed or twisted when assembled.
Liquid Tubee
2
1
Arm No. 2
Front
Arm No. 1
A
BC
D
Left
Right
Rear
Arm No. 3
Arm No. 4
3
4
Spreading Hub
302 Payload System
305 Granule Sensor
312 Spreading Disc-L
313 Spreading Disc-R
316 Screw Feeder Motor
H
Spreading System
F
E
G
F
H
XA.COM
Caution
1.Never disassemble or assemble any module while powered on.
2.Do NOT turn the power on until all module sare installed.

Specifications

Aircraft

Model	3WWDZ-50AH
Flight Control System	SuperX 4 Pro (online RTK)
Diagonal Motor Wheelbase	2094 mm
Overall Dimensions	2927×2868×725 mm (blades unfolded) 1682×1619×725 mm (blades folded) 893×1095×747 mm (blades & arms folded)
Arm Material	Glass & carbon fiber composite
Empty Weight	54 kg (XAG RevoSpray P3 & batteries included) 60 kg (XAG RevoCast P3 & batteries included)
Rated Takeoff Weight	104 kg (rated spraying takeoff weight) 110 kg (rate spreading takeoff weight)
Maximum Takeoff Weight	< 150 kg
Protection Rating	IPX6
Operating temperature range	0° C~40° C

Flight Parameters

Operating Frequency (Wi-Fi)	2.4000 GHz to 2.4835 GHz ; 5.725 GHz to 5.850 GHz
Effective Isotropic Radiated Power (EIRP)	2.4GHz CE ⩽ 18dBm ;FCC ⩽ 28dBm 5.8GHz CE ⩽ 14dBm
Hovering Accuracy (good GNSS signal)	RTK enabled: horizontal ±10cm, vertical ±10cm RTK disabled: horizontal ±0.6m, vertical ±0.3m
2G Operating Frequency	CE：GSM 900: 880.2 – 914.8 MHz；DCS 1800: 1710.2 – 1784.8 MHz FCC：GSM850；PCS1900 ANATEL：GSM850, GSM900，GSM1800,GSM 1900
2G Maximum transmit power	Class 4（33dBm）for EGSM900，Class 1 (30 dBm) for DCS1800
3G Operating Frequency	CE：WCDMA B I: 1922.4 MHz-1977.6 MHz, 2210 – 2170 MHz； WCDMA B VIII: 882.4 - 912.6 MHz KCC：WCDMA B1 FCC：WCDMA B4 ；WCDMA B2 ANATEL：WCDMA B1、WCDMA B2、WCDMA B5、WCDMA B8 MIC: WCDMA B1、WCDMA B5、WCDMA B6、WCDMA B8、WCDMA B19
3G Maximum transmit power	Class 3（24dBm ）for WCDMA bands
4G Operating Frequency	CE: B1:1922.5-1977.5MHz、B3:1710.7-1784.3MHz、B7: 2502.5-2567.5MHz、B8: 880.7-914.3MHz、B20:834.5-859.5MHz、B38:2572.5-2617.5MHz、B40:2302.5-2397.5MHz KCC: B1、B3、B5、B7、B8 FCC: B2、B4、B5、B7、 B25、B26、B38、B41 ANATEL: B1、B3、B5、B8、B25、B26、 B28、B39、B40、B41 MIC: B1、B3、B5、B8、B18、B19、 B26、B28、B41
4G Maximum transmit power	Class 3（24dBm）for LTE-TDD bands Class 3（24dBm）for LTE-FDD bands

GNSS Frequency Band	GPS：L1/L2；GLONASS：L1/L2；BDS：B1/B2；Galileo：E1/E5b
High Precision Positioning Duration with RTK Data Latency	≤600 s
Hovering Duration	16.5 min (no-load with XAG RevoSpray P3 @20000mAh x2 & takeoff weight 54 kg) 6 min (full-load with XAG RevoSpray P3 @20000mAh x2 & takeoff weight 104kg)
Max. Flight Speed	13.8 m/s
Max. Flight Height	30 m
Max. Flight Distance	2000 m
Recommended Operating Wind Force	≤3

Propulsion System

Motor

Quantity	4
Dimensions of Stator	136 x 30 mm
KV Value	68 (r/min)·V
Rated Power (Single Motor)	4100 W
Max. Tension (Single Motor)	52 kg

ESC

Max. Continuous Operating Current (30s)	110 A
Max. Output Current	230 A

Foldable Propeller

Quantity	4
Material	Carbon fiber nylon
Diameter	1420 mm

Power System

Smart SuperCharge Battery

Model	B13960S
Battery Type	13S lithium polymer battery
Rated Output	48.1V/120A
Rated Capacity	20000mAh（962Wh）
Max. Charging Current	100A（5C）
Recommended Charging Temperature	10~45°C

XAG CM12500P Charger

Model	CM12500P
Charging Adapter Quantity	1

Output Power	1250 W（90~165 Vac 50/60 Hz） 2500 W（180~260 Vac 50/60 Hz）
Input Voltage	90~165 Vac 50/60Hz 23 A (Max) 180~260 Vac 50/60Hz 23 A (Max)
Ambient Temperature for Operating	-20~40°C

RevoSpray P3

Smart Liquid Tank

Model	M4TANP50AH
Demension	737×738×498 mm
Weight	7.83 kg
Quantity	1
Material	Plastic (PE)
Rated Volume	50 L

Centrifugal Atomizing Nozzle

Quantity	2
Nozzle Type	Centrifugal
Spray Bar Length	1510 mm
Spray Disc Rotational Speed	1000~16000 RPM
Atomized Droplet Size	60-400 μm
Spray Width [1]	5~10 m (subject to flight speed, flight height, dosage, environment, etc.)

High-Frequency Pulse Peristaltic Pump

Quantity	2
Voltage	50 V
Pump Type	Peristaltic
Pump Flow Rate [2]	Max. operating flow rate: 22.0 L/min (dual pumps) Flow rate (single pump): 0.5~11.0 L/min
Obstacle Avoidance Mode	Stop in front of & fly around obstacles

Obstacle Sensing & Avoidance System [3]

4D Imaging Radar

Model	RD24912
Operating Voltage	24~60V
Power	12 W
EIRP	MAX 20dBm (CE)
Operating Frequency	24.05~24.25 GHz
Sensing Mode	Millimetre-wave imaging, MIMO
Sensing Parameters	Obstacle's position, distance, direction and relative speed

Sensing Range	1.5 ~ 80 m
Field of View (FOV)	Horizontal: ±40° ; vertical: ＋ 90° ~ － 45°
Distance of Safe Obstacle Avoidance	2.5 m (distance between propeller tip and obstacle after the aircraft brakes and hovers stably)
Relative Height of Safe Obstacle Avoidance	≥1.5 m
Relative Speed of Safe Obstacle Avoidance	≤13.8 m/s

Terrain Radar

Model	TR24S100
Operating Voltage	12 V
Power	1.5 W
EIRP	MAX 20dBm (CE)
Operating Frequency	24.05~24.25 GHz
Sensing Mode	Millimetre-wave
Sensing Range (Height)	0.5 ~ 100 m (distance to crop surface)
Fixed Height Range	1 ~ 30 m (distance to crop surface)
Max. Gradient	45° (@ flight speed ⩽ 2m/s)

PSL Camera

Operating Voltage	Downward PSL (5V), forward PSL (48V)
Video Resolution	1920 × 1080
Video Coding Format	H.264
Frame Rate	30 fps
Focal Length	3.2 mm
Image Sensor	1/2.9-inch CMOS-RGB image sensor

[1]: A spray width of 8m is recorded under the flight height of 3±0.5m, flight speed of 3m/s and flow rate (single pump) of 5L/min. For reference only.

[2]: Actual minimum flow rate varies depending on route spacing, flight speed, flight conditions, etc. Please refer to the App.

[3]: The effectiveness of the obstacle sensing & avoidance system depends on obstacles' material, position, shape, size, etc. Please ensure that the aircraft is always in your sight during operation. Pay close attention to the aircraft and steer it away from obstacles using the remote controller when necessary.

Compliance Information

FCC/ISEDC Compliance Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment complies with FCC and Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

EU Compliance Statement: Guangzhou Xaircraft Technology CO.,LTD.All Rights Reserved.hereby declares that this device is in compliance with the essential requirements and other relevant provisions of the RED Directive. This equipment must be installed and operated in accordance with provide instructions and the antenna used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operation in conjunction with any other antenna or transmitter.End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.



Warning: Operation of this equipment in a residential environment could cause radio interference.

“Hereby, ***[Guangzhou Xaircraft Technology CO.,LTD.],*** declares that this ***[P100 Pro Agricultural Drone]*** is in compliance with the essential requirements and other relevant provisions of ***2014/53/EU.***
The full text of the EU declaration of conformity is available at the following internet address:
www.address.com/doc.pdf”

Suppliers Name(EU)：***DRONEUA AGRICULTURE EUROPE Sp. Z O.O.***
Suppliers Address (EU) ： ***21-007 Melgiew, Janowice 144 str., Poland.***
Suppliers phone number and / or internet contact information：***(093)4575757***

KCC Warning Message

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FCC Supplier's Declaration of Conformity

Brand name / model number：***3WWDZ-50AH***
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.
Suppliers Name(FCC): Pegasus Spray LLC
Suppliers Address (FCC): 2235 79th Ave NE, Medina, WA 98039, USA
Suppliers phone number and / or internet contact information: +1 (503) 866-1228

NCC statement

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減少電磁波影響，請妥適使用。
電波功率密度 MPE 標準值：0.9mW/cm^2，送測產品實測值： 0.088 mW/cm^2，建議使用時設備天線至少距離人體 20 公分。
警告使用者：此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻騷動，在此種情況下，使用者會被要求採取某些適當的對策。
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XAG ADVANCING AGRICULTURE

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