aovo

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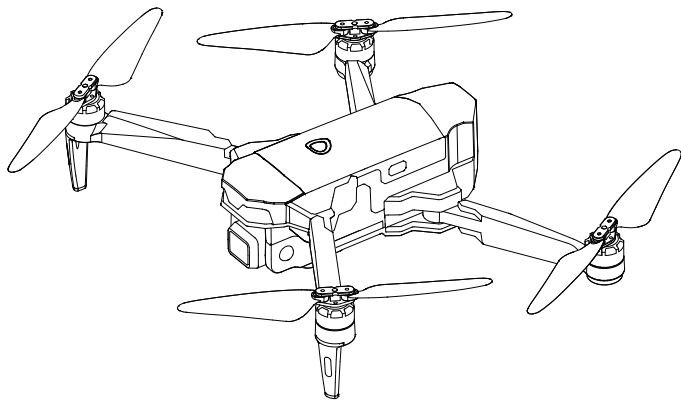
Instructions For Use

(Please keep and read this manual carefully before using this product)

W PRO

support@aovotoys.com

DISCLAIMER & WARNING

1. Please read this Disclaimer & Warning and Safety Guidelines carefully before using our product. This product is not recommended for people under the age of 14. By using this product, you hereby agree to this disclaimer and signify that you have read it fully. You agree that you are responsible for your own conduct and any damaged caused while using this product, and its consequences . You agree to use this product only for purposes that are proper and in accordance with local regulations, terms and all applicable polices and guidelines AOVO may make available.

2. When using this product, please be sure to strictly abide by the specification requirements and safety guidelines stated in this document. Any personal injury property damage, legal disputes and all other adverse events caused by the violation of the safety instructions or due to any other factor, WILL NOT be AOVO's responsibility.

SAFETY GUIDELINES

Check Before Use:

① This product is a high precision drone that integrates various electronic stability and control mechanisms. Please be sure to setup this drone carefully and correctly to ensure safe, accident-free operation.

② Please be sure that the batteries of the drone and transmitter are clean, undamaged and, fully charged.

③ Please be sure that all the propellers are undamaged and are installed in the correct orientation.

④ Please do a thorough check of the product before each use. Inspect the integrity of the parts, any signs of cracks and wear of the propeller, battery power and effectiveness of the indicator, etc. If after doing a complete check any issues are found, please refrain from using the product until the issue has been resolved.

Flight Environment:

Fly in Open Areas	Maintain Line of Sight	Fly Below 390 feet (120 m)

Avoid flying over or near obstacles, crowds, high voltage power lines, trees,South pole and North Pole, base station.
DO NOT fly near strong electromagnetic sources such as power lines and base stations as it may affect the onboard compass.

Don't use this drone in adverse weather conditions such as rain, snow, fog, and wind.

Operation Requirements：

① Please don't use this product to follow any moving vehicles .

② During the flight, only turn off the motor in case of an emergency.

③ As battery becomes low return the drone back to your starting point.

④ This product should not be used while drinking alcohol, if you are feeling fatigued, taking medicine, or feeling any physical discomfort.

⑤ Beware of the noise volume the drone produces. Keep your distance to avoid ear damage.

⑥ **Stay away from the rotating propellers and motors.**

⑦ **Don't fly in the No-Fly Zone.**

Use of Battery:

① Please ensure batteries are fitted in the correct orientation as shown in the instruction manual.

② Avoid short circuits by fitting the batteries incorrectly, and do not crush or squeeze the batteries as this could carry the risk of an explosion.

③ Do not mix new and old batteries as this can lead to a poor performance of the product.

④ Dispose used batteries carefully, do not litter.

⑤ Please keep dead batteries away from heat and fire.

⑥ If the device is not going to be used for an extended period of time, remove batteries to prevent potential damage from battery leakage.
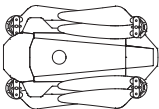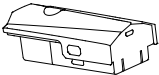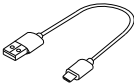
⑦ It is recommended to only use the USB charging cable that comes with the drone to charge the battery.

⑧ Don't connect the battery directly to wall outlets or car cigarette -lighter sockets.

⑨ Don't attempt to disassemble or modify the battery in any way.

⑩ Don't use the battery if it gives off an odor, generates heat, becomes discolored or deformed,or appears abnormal in any way. If the battery is in use or being charged, remove it from the device or charger immediately and discontinue use.

⑪ Don't pierce the battery casing with a nail or other sharp object, break it open with a hammer, or step on it!

⑫ Always charge the batteries in a fireproof container and away from combustible materials. Don't charge on surfaces that can catch fire. This includes: wood, cloth, carpet, or in the application's device.

⑬ Don't immerse the battery in water or allow it to get wet.

⑭ Don't solder battery terminal directly.

⑮ Keep battery out of reach of children or pets.

⑯ Don't short-circuit the battery by connecting wires or other metal object to the positive(+) and negative(-) terminals.

Li-Po Battery Disposal & Recycling

Waste Lithium-polymer batteries must not be placed with household trash. Please contact local environmental or waste agency or the waste agency or the supplier of your model or your nearest Li-Po battery recycling center.
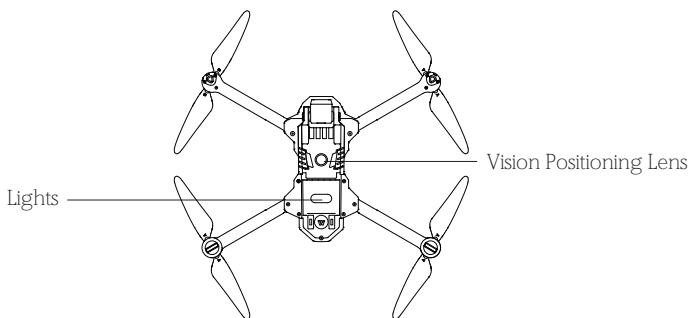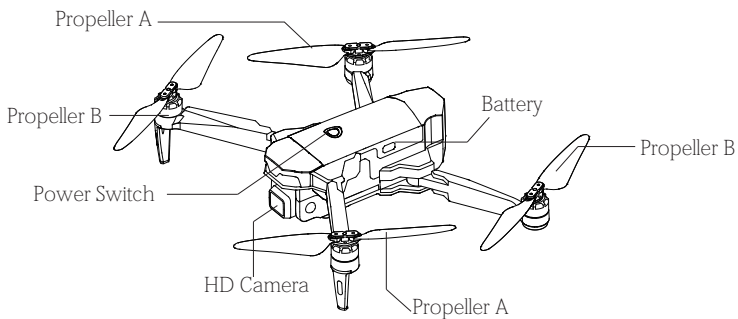
MAINTENANCE

① Clean the product after each use with a clean, soft cloth.

② Avoid prolonged exposure to direct sunlight and avoid buildup of heat on the drone.

③ This device is not waterproof and must not be submerged in water under any circumstance. Failure to maintain the device completely dry will result in the failure of the unit.

④ Check the charging plug and other accessories for signs of damage frequently. If any part of the device is damaged, refrain from flying until maintenance can be carried out.

PACKAGE CONTENTS

×1	×1	×1
Drone	Transmitter	Drone Battery
×4	×1	×1
Propeller	USB Charging Cable	Screwdriver

DRONE'S DETAILS

Propeller A

Propeller B

Battery

Propeller B

Power Switch

HD Camera

Propeller A

Vision Positioning Lens

Lights

TRANSMITTER DETAILS

Transmitter Functions

Antenna

Speed

Left Joystick

Unlock

Gyroscope calibration

Right Joystick

Return to Home

Phone Holder

Camera Angle Adjustment

GPS Mode Switch

Record Video

Take Photos

Charge
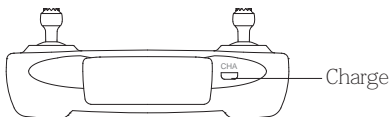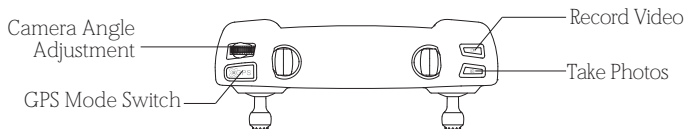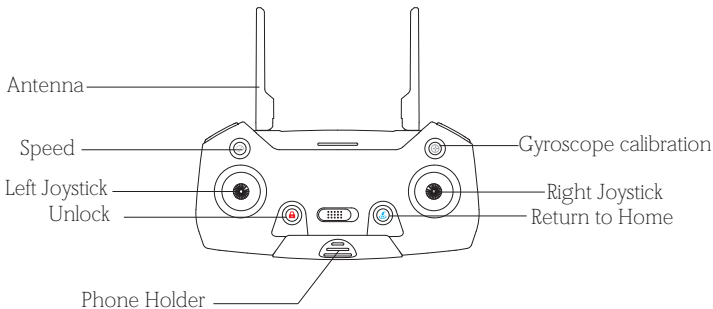
• GPS Mode Switch

When turning on the transmitter, the default mode is the GPS Mode. Turn off GPS by press GPS switch. Check the icon " GPS " on the App interface to confirms GPS status.

• Return to Home

Press the button to start the RTH, the transmitter makes "beep beep" sound per 1.5 seconds and the drone will fly back to the recorded Home Point.
Press the RTH button again to exit RTH procedure and regain control of the drone.

• Unlock/Lock

Press the button " 🔒 " then the motor will rotate.
Pull the Left Joystick to the bottom position. The motor will stop rotating and the drone will be locked.

• Photo/ Video

Press the button and the camera icon " 📷 " on the Controllor, the camera takes one photo.
Press the same button, the video icon " 🎥 " on the Controllor, the camera will take the video. Press again will exit shooting.

• Speed Switch

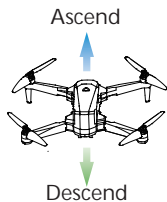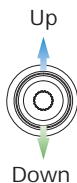Low speed is default setting before speed change.

Press the button " ⏱ " on the Controllor and you will hear a beep, which means the drone is at the low speed.
Press the button " ⏱ " again and you will hear two beeps, which means the drone is at the high speed.
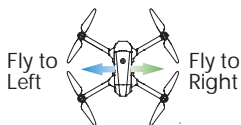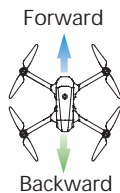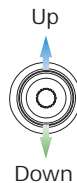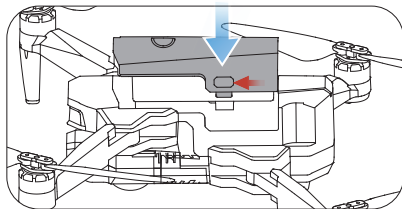
Controller Operation

Left Joystick

Up

Down

Ascend

Descend

Left   Right

Rotate Left   Rotate Right

Right Joystick

Up

Down

Forward

Backward

Left   Right

Fly to Left   Fly to Right
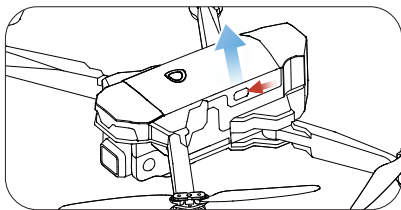
INSTALLATION
Drone Battery

Installation: Push the battery into the battery compartment of the drone. Make sure that you hear a click sound indicating the battery is firmly installed.

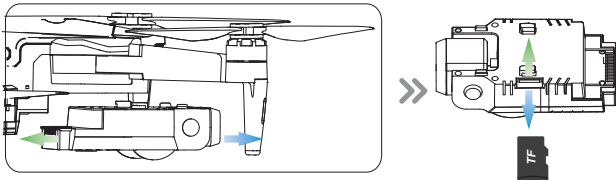Attention:

The battery should be installed firmly, failure to do so may affect the flight safety of your drone. The drone may crash due to power-cut during the flight.

- -

Removal: As shown above, press and hold the lock on the both side of the battery at the same time to remove the battery.

Install TF Card

As shown in the above figure. Please push the camera module out and insert the TF card (Need to be purchased separately) to TF card slot, then you could hear "Click" , means insert successfully. Push the camera module into the specified position of drone.

⚠️

1. Please operate carefully for avoid damage the camera module.

2. The original pixel pictures and videos will be stored in the TF card.

- -

Transmitter Battery
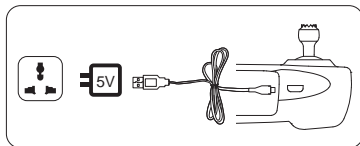
1. Connect the USB cable to a USB socket such as mobile power supply.

2. Connect the remote controller with USB cable, the LED of controller is turn solid in Green means Charging status. If the LED of controller is off, means Charging completed. .
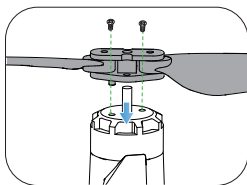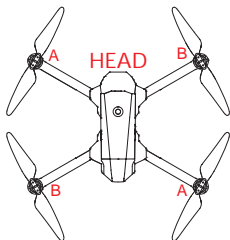
⚠️

Note：The voltage of power supply is no greater than or equal to 5V, otherwise there is a risk of overloading the USB cable. The charging time approx 45 mins
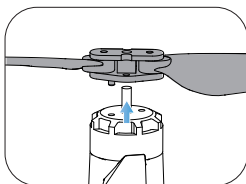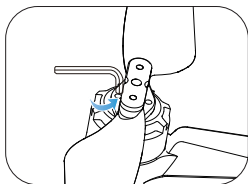
Propellers

Installation

The drone will not fly unless the correct propeller is installed on the correct motor shaft. See illustration above. An "A" or "B" is printed on the back of each propeller. Lock the propeller to the motor shafts with screws rotating each screw clockwise.
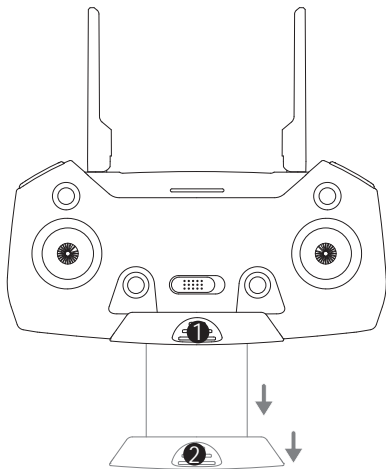
Removal

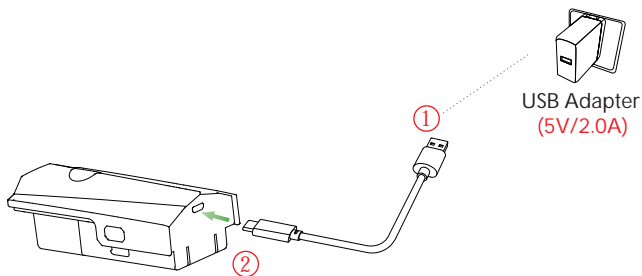For propeller removal use screwdriver (provided) to rotate counter-clockwise and remove propellers.

Phone Holder

① Pull down the ❶ position of controller.
② Adjust the Mobile Device Holder to hold tightly for the mobile device.

CHARGING

USB Adapter
(5V/2.0A)

① Connect the USB cable to a USB socket such as mobile power supply
(Use an power supply with standard output voltage 5V and current greater
than or equal to 2A). And then connect the battery with USB cable, the LED
of battery is flashing, means charging. When four LEDs on battery are
bright and go steady, means Charging completed.
② The charging time of a single battery is 4.5~5.5 hours.

⚠

· Before charging, please check the contents of the " Use of Battery"
section of the " Safety Guidelines" carefully!
· This product is only equipped with a single battery, you can choose to
buy another battery to experience a longer flight.
· Use an power supply with standard output voltage 5V and current
greater than or equal to 2A, otherwise there is a risk of overloading the USB
cable.

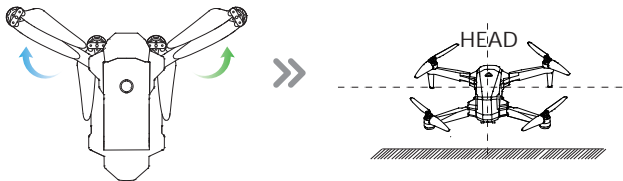# OPERATION GUIDE

Download APP

iOS

Android APP on Google play

Scan the QR code, corresponding to either App Store™ or Google™ Play Store and download the " W - GPS " application for free.
Required Operating Systems: iOS v8.0 and later / Android v4.3 and later

Unfolding the Drone

HEAD

To unfold the drone follow the steps below.
Step 1: Unfold the front arms.
Step2: Unfold the rear arms and place drone on a flat, level surface. Head should face forward.
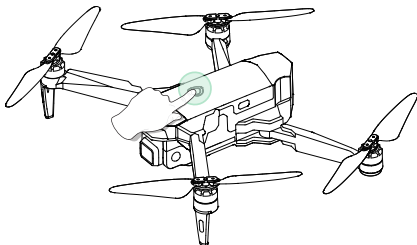
CONTACT US

Please do not hesitate to contact us if you need further support.
support@aovotoys.com

Connect to Wi-Fi

① Short press and then long press the Power Switch approx 2 seconds, and the LEDs on the battery are fully bright and the drone make a sound, means the drone power on, and place it on a level surface with the head forward.

Connect your smart phone to the Wi-Fi network created by the drone. Check the drone's status in the "W - GPS" App.

② Your smartphone will launch a search of the available Wi-Fi networks:
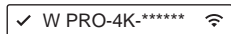
✓ W PRO-4K-****** 📶

③ Select the Wi-Fi network: W PRO-4K-******.

④ Wait for several seconds until your smartphone connect to the Wi-Fi network of the drone.
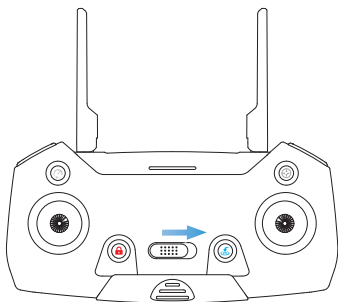
This connection is generally represented by the Wi-Fi logo appearing on your smartphone's screen.

⑤ Launch the W - GPS application.

> The connection between your smartphone and the drone will be established automatically.

Pairing

After connect the WiFi signal between smart phone and drone. Turn on the switch on the transmitter. Once the transmitter sends out "Beep" sound, it means that the drone has been successfully paired with the transmitter.

Calibrating the Compass

After pairing operation, the LED lights of the drone are sharp-flashing, that mean is begin compass calibration.

Front lights

flash rapidly ➡ flash slowly

Rear lights
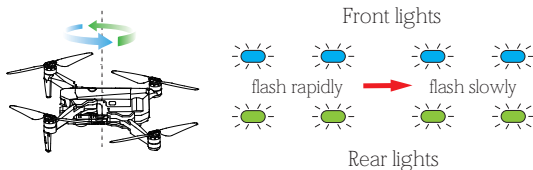
Step 1:

Now, the APP interface displays the diagram. Hold the drone horizontally and rotate the drone in approx 3 complete circles. When completed the transmitter sends out "Beep" sound and LED lights of drone flash slowly.

Front lights

flash slowly → Solid

Rear lights
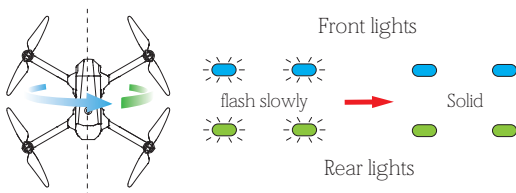
Step 2:

Now, the APP interface displays the diagram. Hold the drone vertically and rotate the drone in 3 complete circles. When completed the transmitter sends out "Beep" sound and LEDs lights of drone turn solid.

Attention:

· If the GPS receives a signal from 7 or more satellites the rear LEDs of the drone will flash twice per second.

· Every time the drone is powered on the compass calibration should be performed.

- -

## Gyroscope calibration

HEAD

flash rapidly → Solid

3S
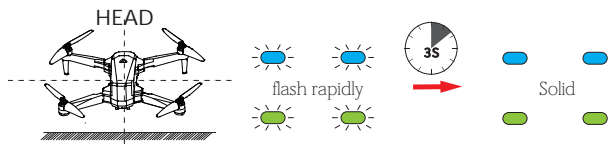
Now, the APP interface displays the diagram. Place the drone on the level surface and ◯ Slide right to confirm . The LED lights of the drone will flash rapidly for about 3 seconds. When completed, the front and rear lights turn solid. Or press the Gyroscope calibration switch " ⊕ " on the remote control. The LED lights of the drone will flash rapidly for about 3 seconds. When completed, the front and rear lights turn solid.

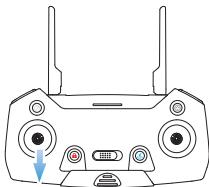## Unlocking the Motor

Please unlock the motor before take-off.
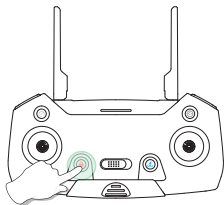
Press the red button " 🔒 " , the motors rotate.

⚠️

① Unlock the motor function will be activated, base the GPS receives a
   signal from 7 or more satellites OR Indoor mode.
② If you do not any operation approx 10 seconds after unlock the drone,
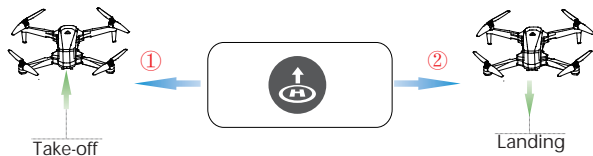   the motors will stop rotating.

- -

Locking the Motor

Pic. 1

Pull the Left Joystick to the bottom position. The motor will stop rotating and
the drone will be locked. (Pic.1)

One Key Takeoff/ Landing

Take-off   Landing

① After unlocking the drone, press the " 🔄 " button in the APP interface, then " ⬤ Slide right to confirm " and the drone will automatically take off and hover at 1.5m altitude. Or press the button " 🔒 " again for take off after unloack the motors.
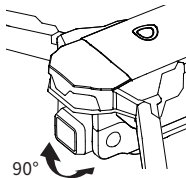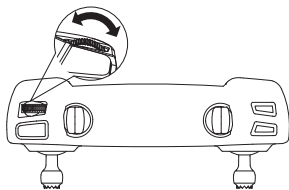
② When the drone is flying, press the " 🔄 " button, the drone will flight back to the Home point and automatically land on the ground.

Tips:

Before flying, make sure the GPS Mode is turned on in case the drone gets lost!

FUNCTION DETAILS

Camera Angle Adjustment

90°

During the flight, you can dial the wheel left / right to tilt the camera up/down.

(The gimbal has an 90° tilt range.)

Return to Home (RTH)

· The Return to Home function brings the drone back to the Home Point.

· The Home Point is the location at which the drone takes off. This location will be recorded as the Home Point.

- -

Smart RTH

If the GPS signal is available (7 or more satellites reception) and the home point is recorded previously, press the " 🛥 " button on the transmitter, then the drone will fly back to the Home Point.

Exit the RTH mode by pressing the " 🛥 " button again.

- -

Failsafe RTH

If the GPS signal is available (7 or more satellites reception) and the home point is recorded previously. Failsafe Return will be triggered if the transmitter signal is lost for more than 6 seconds. The drone will automatically start the return procedure and it will fly back to the Home Point. You can exit "Failsafe RTH" mode by pressing the "Return to Home" button or pushing the Throttle Joystick if the transmitter signal is recovered.

⚠️

· During the Failsafe Return procedure, the drone can not avoid obstacles.

· The drone cannot Return-to-Home if the GPS signal is weak (satellites number is less than 7).

· If there is no GPS signal or the transmitter signal has lost for more than 6 seconds, the drone will not Return-to-Home but it can descend slowly until landing on the ground and locking the drone.

Low Voltage RTH

① When the drone's lights flash slowly, the " [▭] " symbol is displayed on the APP interface, the First Low Voltage RTH will be triggered. The transmitter will emit a "Beep, Beep, Beep" alert every 5 seconds. The drone will return automatically in the following two conditions: (At this time, the drone can only fly within a safe range of the height no more than 20m and the distance no more than 30m .)
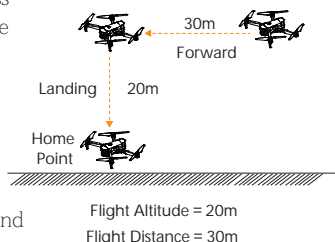
a. When the filght distance is more than 30m, the drone will fly automatically into the electronic fence (H 20m x D 30m) and stay the current distance, then exit the First Low Voltage RTH. If he filght distance is equal to 30m, the drone will stay current distance, then exit the First Low Voltage RTH.

Flight Altitude > 20m
Flight Distance > 30m
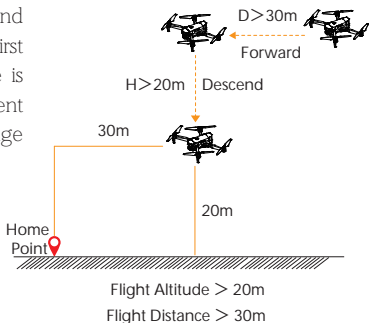
b. When the filght altitude is higher than 20m, the drone stay in current hight and fly automatically into the electronic fence (H 20m x D 30m), then exit the First Low Voltage RTH. If the filght altitude is lower than 20m, the drone will ascend to 20m and fly automatically into the electronic fence (H 20m x D 30m), then exit the First Low Voltage RTH.

② If the drone's lights begin to flash rapidly the " " symbol will be displayed on the APP interface and the transmitter will emit a "Beep…, Beep…" alert. The Second Low Voltage RTH is automatically triggered. Now, the drone will return automatically and compulsively.

a. When the filght distance is 30m, the drone will fly automatically to Home Point and landing on the ground. If flight distance is less than 5m, the drone will stay current distance and landing on the ground.

30m
Forward

Landing 20m

Home Point

Flight Altitude = 20m
Flight Distance = 30m

b. When the filght altitude is equal to 20m and the distance more than 5m , the drone will stay in the current altitude and fly automatically to Home Point then landing on the ground. If the flight altitude is lower than 20m and distance is more than 5m, the drone will ascend to 20m and fly automatically to the Home Point and landing on the ground.
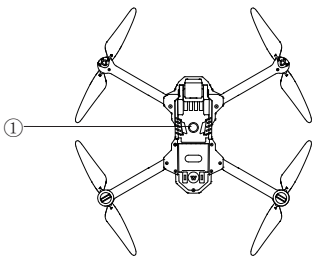
⚠️
·During the Second Low Voltage RTH, the drone can not be controlled to Ascend and Descend. But you could operate the Right Joystick to change the landing position (Adjustable range 10 meters).
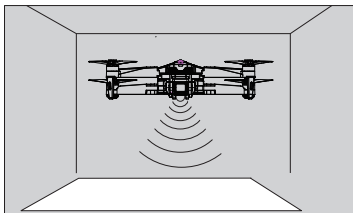·The drone cannot avoid obstacles.

Image Positioning System

The Image Positioning System consists of a camera ① module, which acquires the position information of the drone through visual images to ensure precise positioning and safe flight of the drone.

The Image Positioning System is typically used in indoor environment and the altitude lower than 8m. It works best when the drone altitude is less than 5m.

1. Fly fast at an altitude below 0.5m.

2. Fly over monochrome surfaces (like pure black, pure red, pure red and pure green).

3. Fly over strong light reflective surfaces or surfaces prone to reflection.

4. Fly over water or transparent object surfaces.

5. Fly over moving object surfaces (such as crowds, swaying juggles and glass).

6. Fly over an area where light changes dramatically and rapidly.

7. Fly over surfaces extremely dark (lux< 10) or extremely bright (lux> 10,000).

8. Fly over surfaces without clear textures.

9. Fly over surfaces with highly repeating textures (small grid brick in the same color).

10. Flying speed should be controlled not to be too fast. When drone is 1 meter from the ground, the flying speed should not be over 2m/s. When the drone is 2 meter against the ground, the flying speed should not be over 3m/s.

· Keep sensors clean at all times.

· The vision system is only effective when the drone is within the altitude range of 5 meters.

· Make sure that the light is bright enough and the surfaces is with clear textures so that the vision system can acquire the movement information through recognizing the ground textures.

· The vision system may not function properly when the drone is flying over water, low light ground and surfaces without clear patterns or textures.

APP OPERATION INSTRUCTION

Operation Interface

180° Screen Rotation	3D VR	Waypoint flight	Follow me	Surrounding
Gesture to take pictures	Lock	Music	Find drone	Home page
Flying record	Drone signal	GPS Signal	Battery	Setting
Take off	Return	Function	Photo	Shutter button	Video
Filter	Zoom	Media	Flight data	

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Setting Parameters
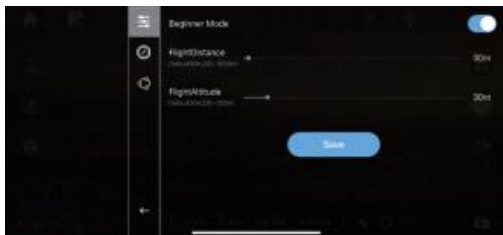
Click the " ⚙ " icon to enter the setting interface (as shown in the figure above), you can set a limited flight range:

1. Maximum flight distance: 60~3300 feet / 20~1000 m.

2. Maximum flight altitude: 60~390 feet / 20~120 m.

3. Maximum flight radius: 16~160 feet / 5~50 m. (The Point of Interest's flight radius is set at 16 feet by default.) .

4. Beginner Mode (default setting): The default flight altitude is 100 feet.
                                    The default flight distance is 100 feet.
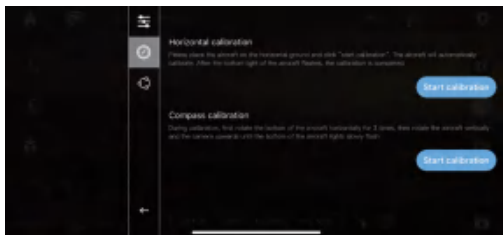
You can also Start calibration the Gyroscope and Compass in the setting interface (as shown above).

Follow Me
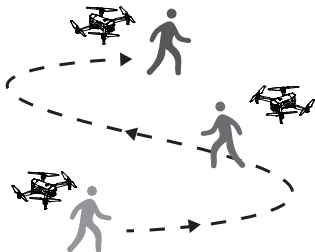
When the Follow Me function is enabled, the drone will follow the GPS in your smart phone to follow you wherever you go.

1. Ensure the drone's flight range is within 30m.

2. Click the " 📦 " icon on the App interface, and click " 🏃 " in the to enter the Follow Me function then " ◯ Slide right to confirm " the drone will now follow the phone's coordinates.

3. To exit Follow Me Mode, simply click the " 🏃 " icon on the app interface again.

Common Issues :

① Follow Me mode may be difficult to activate if the phone's GPS signal is too weak. This could be due to the signal loss from surrounding buildings, trees, or congestion from too many mobile phones in the area.

② Use in an open area and be mindful of your surroundings. The drone is NOT equipped with obstacle avoidance.

Waypoint flight

It is recommended to enlarge the map if you want to use Waypoint flight.
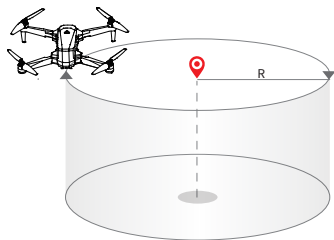

1. Click the " " icon on the app interface, then click " " to enter the Waypoint flight function.

2. Draw a line on the map to create a path (Max 15 paths), click " GO " icon to submit the route, then " Slide right to confirm ", and the drone will now fly along the path according to the points connected on the map.

3. Click the " " icon for deduct the path.

4. Exit the Waypoint flight mode by clicking the " ".

5. If the flight path submission fails, you can choose to re-submit or exit again.

⚠️

· DO NOT fly the drone towards people, animals, or small/ fine objects (e.g. tree branches and power lines) or transparent objects (e.g. glass or water).

· There may be some deviation between the expected and actual flight path.

Point of Interest

1. Click the " " icon on the App interface, and click " " then " ◯ Slide right to confirm " to enter the Point of Interest function.

2. The drone will record it's flight position the moment you enter this function as the point of interest. The drone will now continuously circle clockwise around the preset point. (The default radius is 5m. To change the point, please click "Setting ⚙ " —"Flight Radius ⟳ " to reset.)
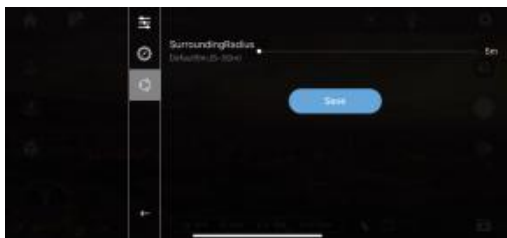
3. To exit Point of Interest mode, simply click the " " icon on the app interface again.

Take Photo/ Video

1. Click the " 📷 🎥 " icon to switch between photo and video mode.
2. When the shutter button is " ◯ ", click once to take a photo.
3. When the shutter button is " ⬤ ", click once to start recording, and click again to stop recording.
4. Click the " ▶ " icon to enter the Media for viewing Photo and Video.

| Photo | Video |

Pic 3

When the TF card is not installed, the photos or videos will be stored directly in the APP photo album (Pic.3) and smartphone.

Tips:

• The APP needs your access allowance to phone album, when first activate this function.

When the TF card is installed, the photos or videos are stored in the TF card .

DRONE STATUS INDICATOR

Indicator Status			Meanings
F	R	The LED lights of the drone are flash rapidly	The drone is connected to the transmitter and begin Compass Horizontal Calibration.
F	R	The LED lights of drone are flash slowly.	Compass Horizontal Calibration has completed and begin Compass Vertically Calibration.
F	R	Front light turns solid blue, rear light turns solid Green.	Compass Calibration has completed. No GPS signal or weak GPS signal.
F	R	Front light turns solid blue, Green rear light flash twice per second.	Good GPS signal.
F	R	Front and rear lights flash rapidly, when press the calibration button.	Currently calibrating the Gyroscope.
F	R	Front and rear lights flash slowly, when flighting.	The First Low Voltage RTH will be triggered.
F	R	Front and rear lights flash rapidly, when flighting.	The Second Low Voltage RTH is automatically triggered.

SPECIFICATIONS

DRONE

Model: W PRO

Weight: 520 g / 18.4 oz

Max Flight Time: Approx 30 minutes

Operating Temperature Range: 32° to 104℉

Dimensions: 115 x 175 x 80 mm (Folded)

285 x 225 x 80 mm (Unfolded)

DRONE BATTERY

Capacity: 2500 mAh

Voltage: 11.4 V

Battery Type: Li-Po

Energy: 28.5 Wh

Charging power: 34.2 W

Charging Temperature Range: 41° to 104℉ (5° to 40℃)

Charging Time: 4.5~5.5 hours

TRANSMITTER

Operating Frequency: 2.4 GHz

MAX Transmission Distance: 1000m (outdoor and unobstructed)

Battery: 3.7V 300 mAh.

Charging Time: Approx 45 mins

Operating Temperature Range: 32° to 104℉

CAMERA

      Camera frequency: 5 GHz

      Video/ Photo Resolution: 4K

      Lens: FOV 90°

      FPV Distance: 800m (outdoor and unobstructed)

      Photo: JPEG

      Video: MP4

      MAX Supported TF Cards: 64 GB (Not included)

      Controllable Range: Pitch: -90° to 0°

      Operating Temperature Range: 32° to 104℉

USB CHARGING CABLE

      Voltage: 5 V

      Ampere: > 2 A

TROUBLE SHOOTING

No.	Problem	Solution
1	When the drone is powered on, the indicator light keeps flashing rapidly.	The drone is in the gyroscope calibration state. Please place the drone on an flat and level surface.
2	The drone cannot hover after takeoff and tilts to one side.	Place the drone on a flat, level surface and repeat the gyro calibration.
3	The drone vibrated in flight.	The propeller are damaged. Please replace the new propeller.
4	The drone could not be unlocked and the drone's lights flashed.	The drone battery voltage is too low. Please fully charge the battery.

CONTACT US

Please do not hesitate to contact us if you need further support.

support@aovotoys.com

BATTERY WARNING:

1. Failure to follow all the instructions may result in serious injury, irreparable damage to the battery and may cause a fire, smoke or explosion.

2. Always check the battery's condition before charging or using it.

3. Replace the battery if it has been dropped, or in case of odor, overheating, discolouration, deformation or leakage.

4. Never use anything other than the approval LiPo charger the battery. Always use a balancing charger for LiPo cells or a LiPo cell balancer. It is recommended that you do not to use any other charger than the one provided with the product.

5. The battery temperature must never exceed 60℃ (140°F) otherwise the battery could be damaged or ignite.

6. Never charge battery on a flammable surface, near flammable products or inside a vehicle (perferably place the battery in a non-flammable and nonconductive container).

7. Never leave the battery unattended during the charging process. Never disassemble or modify the housing's wiring, or puncture the cells. Always ensure that the charger output voltage corresponds to the voltage of the battery. Do not short circuit the batteries.

8. Never expose the LiPo battery to moisture or direct sunlight, or store it in a place where temperatures could exceed 60℃(car in the sun, for example).

9. Always keep it out of reach of children.

10. Improper battery use may result in a fire, explosion or other hazard.

11. Non-rechargeable batteries are not to be recharged. Rechargeable batteries are only to be charged under adult supervision.

12. Different types of batteries or new and used batteries are not to be mixed.

13. Batteries are to be inserted with the correct polarity.

14. The supply terminals are not to be short-circuited. Regular examination of transformer or battery charger for any damage to their cord, plug, enclosure and other parts and they must not be used until the damage has been repaired.

15.The packaging has to be kept since it contains important information.

16.The toy is only to be connected to Class II equipment bearing the symbol.

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