S188

FOUR AXIS AIRCRAFT

S188 Vido Tutorial

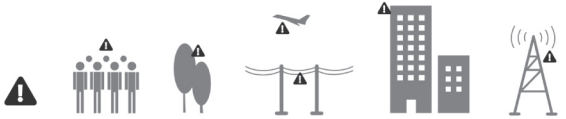
Safety precautions:

1.1 In order to ensure the electromagnetic environment of the aviation radio station (station), it is forbidden to enlarge the area with the center of the airport runway as the circle and the radius of 5000M Use all types of model remote controls. During the period when the relevant state department issues the radio control order, the mold shall be stopped as required
Type remote control. Choose warm, sunny and windy weather, do not fly in severe weather conditions such as overheating, overcold, strong wind and heavy rain
Choose indoor or outdoor open places, and keep a safe distance from people, pets, empty rack wires and other obstacles, and confirm that there is no other use
Same frequency; do not keep the aircraft out of sight,
2.After the aircraft starts, please do not contact the high speed rotating part of the aircraft to keep a distance from the high speed rotating propeller, so as to avoid twisting danger. (Including gears, rotors, etc.)
3.After the aircraft is used and used, the battery and motor will produce high temperature, do not touch, to avoid the danger of scald.
4.Do not look directly at the beam of the diode to avoid the eyes

Please read the instructions before use (please read the details)
Keep this instruction for future use

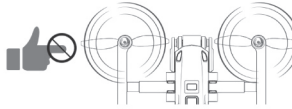
Safe flight guidance

It is recommended to fly under the following conditions:



It is recommended to avoid flying over or close to people, trees, high voltage lines, buildings, airports or water, and high intensity power or base stations because It may affect the compass carried on the drone.

Never use this product in severe weather conditions, such as rain, snow, fog and wind speed exceeding 10 m/s or 22 mph.



Away from the rotating spiral prize and motor

Ban to can not fly
Area for flight.

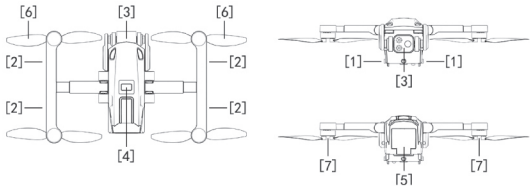
Understanding safety guidelines is important for safe flight, please read the safety guidelines carefully before flying.

Product overview

Product Configuration (Packaging List)

	unmanned aerial vehicle	X1
	telecontroller	X1
	Body battery	X1
	USB charging cable	X1
	screwdriver	X1
	Spare propeller	X1
	instruction	X1

Uav parts name

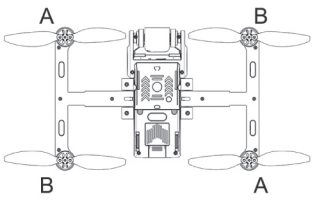


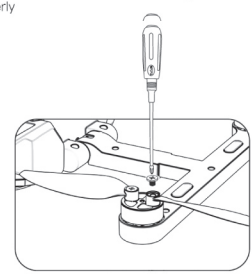
[1] Barrier avoidance equipment [2] LED fire [3] HD camera [4] Power switch [5] battery

[6] wind blade [7] motor

1.Spiral Award installation

Ensure that all the propellers are mounted in the correct orientation as shown in the figure below.
If the installation is wrong, the aircraft will not fly properly

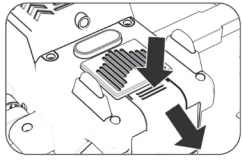


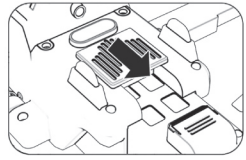


Blade replacement	1. The wind blade to be replaced must be replaced according to the relative position on the machine. Leaf A shall be installed in A In the position, the blade B should be installed in the position B. If the blade is replaced wrongly, it will not be controlled. 2. During the flight, the blade A rotates clockwise, and the blade B rotates counterclockwise.

2. Instructions for using drone carp battery charging:

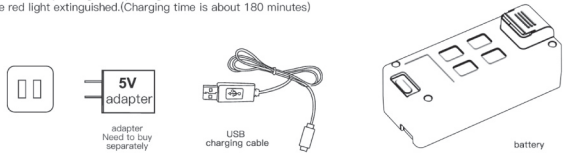
Please remove the UAV battery as shown in the figure below





Battery charging steps:

USB plug into the battery, connect the USB charger plug to the computer or mobile phone charger for charging, charging on the battery red light, fully charged
The red light extinguished.(Charging time is about 180 minutes)



Warm reminder:	• Please insert the plug correctly • 5V is recommended 1-2A adapter for charging.

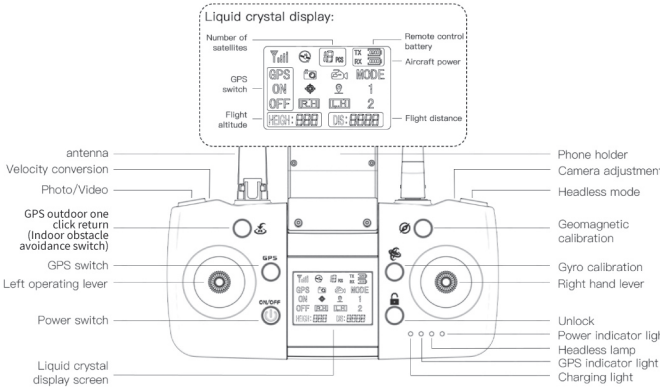
Note: If the battery is plugged into the charger, the red light on the battery is not on, and there is no need to recharge

kindly reminder:

- When charging a rechargeable battery, do not use it alone for children.It must be under adult supervision and must be far away from charging Flammable, charging guardian please do not leave the model aircraft to the monitoring range.
- Please do not short-circuit or squeeze the battery to avoid an explosion.
- The power terminal shall not be removed from the model and shall not be short circuit, decompose or put the battery into fire Do not place the battery in a high temperature, hot place (such as in the fire or near the electric heating device)
- The model can only use the recommended charger and regularly check the charger wires, plugs, housing and other components for damage If the damage is found, it should be stopped until it is well repaired.
- The charger is not a toy; the charger can only be used indoors.
- The post-flight battery should be charged and stored again. If not used, it is recommended to charge the battery at least once every 3 months to avoid electricity Permanent damage to the battery.

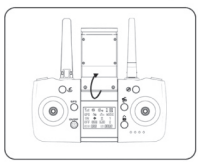
kindly reminder: The camera should be used with the real-time transmission APP. See the APP manual for the download process,
The description of the camera function is detailed in the APP.

Remote control function introduction

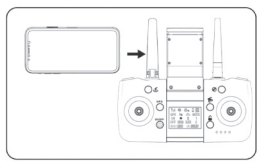


Remote control low power warning: When the remote control power supply is lower than 3.5V, it will emit a "drop" low power prompt sound, at this time the user needs to charge the charger

Mobile phone installation introduction

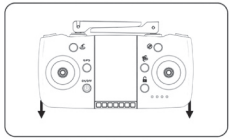


1. Open the phone holder on the remote control

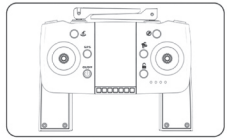


2. Install the mobile phone on the mobile phone holder

Remote control handle introduction

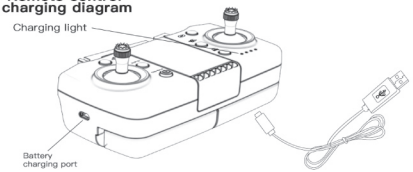


1. Pull the handle on the remote control down



2. The remote control handle is opened complete

Remote control charging diagram



Built-in 3.7V lithium battery

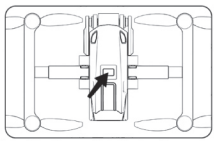
Remote control low power warning

- Please insert the plug correctly.
- A 5V 1-2A adapter is recommended for charging.
- Make sure the remote control is powered off while charging.
- When charging, the charging indicator of the remote control is on, and the full lamp is off (about 90 minutes).

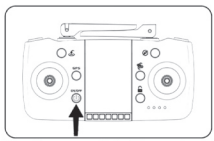
Drone Flight Tutorial (Outdoor GPS mode)

1.Drone frequency matching

Place the drone on the horizontal ground and turn on the power supply, then turn on the remote control power supply, at this time the light on the drone quickly flashes, the light on the remote control flashes, the remote control and the drone automatic frequency, at this time the front and rear lights of the drone quickly flashes into the headlight is on, and the rear light slowly flashes indicating that the frequency is successful. (After the second frequency alignment after calibration in the same position, the headlight is long on, and the rear light is slow flashing directly into the star search state)



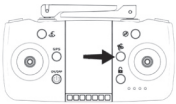
Load the drone with batteries, then press and hold the drone power switch until the drone lights up.

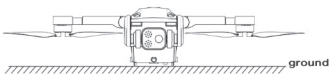


Open the power switch of the remote control, hear a "drip" sound, at this time the remote control power indicator blinks to steady on, which means that the frequency is successful: the drone headlight is steady on, and the rear light blinks slowly. (If the drone is not turned on, the remote control light keeps flashing.)

2.Gyro calibration operation

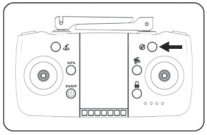
Put the drone in a horizontal position to ensure that the wind blades are at the same level, press the L[X] on of "Gyroscope Calibration only" on the remote control, the remote control "drop" sound, the drone light flashes quickly and then the headlight is back to steady, the rear light flashes slowly, and the remote control emits a "drop" sound, indicating successful calibration.



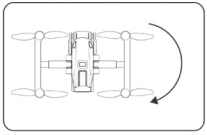


3.Corrected geomagnetism

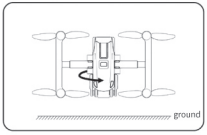
Geomagnetic is susceptible to interference from other electronic devices, which will lead to data anomalies affecting the flight, each use, geomagnetic calibration must be carried out, according to the following steps to calibrate geomagnetic:



Press the "Geomagnetic calibration" button on the remote control "drop", and the drone light flashes quickly.



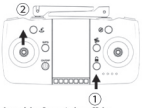
Hold the drone in your hand and slowly turn it 3-5 times horizontally clockwise until the remote control makes a "drop" sound.



At this time, the vertical direction of the machine head down clockwise slowly turn 3-5 circles, until the remote control issued a "drop" sound, the UAV headlight is steady, the rear light is slow flashing, indicating that the geomagnetic calibration is successful.

3.Search for GPS signals

After the calibration is successful, the green light on the front of the UAV will flash slowly, and the red light on the back will be on. When the UAV is placed in the horizontal position for about 1-3 minutes, the green light on the front of the aircraft will change from a slow flash to a steady light, and the remote control will sound "Di", indicating that the star search is successful. At this time, press the "unlock button" of the remote control and push up the throttle to fly.



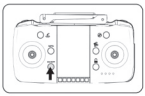
3.Search for GPS signals

Special note:

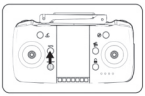
- **Please take the drone to an open area outside to calibrate, the satellite signal before takeoff is greater than 9 stars.**
- **After the UAV calibration is completed, if no GPS signal is found for a long time or enough GPS signals are not found, please move the UAV to an open environment for use (with the UAV as the center point, enough GPS signals cannot be found when the surrounding environment is blocked). If the star search is successful, please pay attention to the rear light of the UAV, the light indicates that the star search is successful.**
- **Each region is different in latitude and longitude, new customers must calibrate once, such as Guangdong and Beijing 28 degrees, so the non-calibration performance is forward and backward not straight flight, calibration is for the accuracy of the barometer measurement height.**

Introduction to indoor mode operation (turning off GPS)

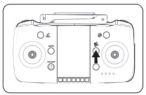
Indoor unlocking/takeoff introduction



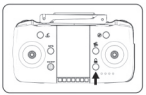
① Remote control switch



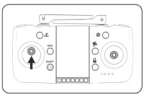
② GPS button



③ Gyroscope calibration



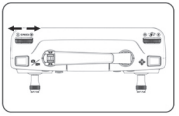
④ Unlock key



⑤ Throttle lever

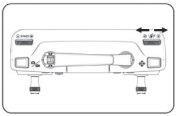
① Open the remote control on/off key
② Long press the "GPS" button to turn off, and when the remote control beeps, it enters indoor mode.
③ Press the "Gyroscope Calibration" button, and when the remote control emits a "beep" sound, wait for 5 seconds for the remote control to emit a "beep" sound, The calibration is successful.
④ Press the "unlock button" and the fan blades will rotate slowly.
⑤ Push the throttle lever upwards for takeoff.

Speed switching



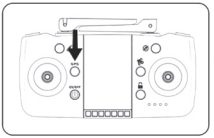
Move the speed switch key left and right, you can change the speed of first, second and third gear. Move to the left, hear a "drop" sound, switch gear; Move to the right, hear "drip, drip" two sound, switch second gear; Flick to the right again, hear "drip, drip, drip" twice, shift to third gear

Camera adjustment



You can adjust the camera up and down by flipping the camera left and right. The left/right "one and a half" flicks can be fine-tuned up/down; You can also press and hold for large up/down adjustments.

GPS function introduction



1. After the success of the drone frequency: after 1-3 minutes in an open and unobtrusion environment, the ®remote control will make a "drop" sound, and the front and rear lights of the drone will be lit up, indicating that the rapid fixed point is successful.

2. The front and rear lights of the drone flash before and after, indicating that the current location receives signal interference and needs to change the site.

3. Press the GPS switch button, the remote control "drop" sound, that is, enter the indoor mode,

4. It is recommended to use GPS mode in outdoor open places to calibrate magnetic star search, which can be operated by long-distance flight. Unable to search for stars indoors, turn off the GPS switch, you can fly in the open space indoors.

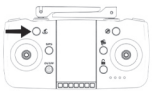
Attention: After the GPS function is turned off, the flight does not have a series of GPS functions such as low power return, one-button return, etc. Please pay attention to the flight distance and height when using.

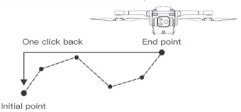
One key return/break signal return /low power return

One-button return: When the GPS signal is good (the number of satellites is greater than 9), you can start the UAV return by pressing the "one-button return" button of the remote control. After starting, the UAV will return to the take-off position and land in a straight line. When returning, the remote control will sound "Di-Di" until the UAV lands or cancellations the return. The homecoming process is the same as the runaway break signal homecoming, the difference is that when the drone homecoming lands, the player can avoid obstacles through the joystick control, and then press the homecoming key to exit the homecoming, and the player can regain control.

Broken signal return: the GPS signal is good (the number of GPS satellites is greater than 9), and after the drone successfully records the return point before takeoff (that is, after the satellite search is connected to the GPS before takeoff), if the remote control signal and APP signal are broken for more than 6 seconds, the flight control system will take over the control of the drone and control the drone to fly back to the place with signals to stop.

Low power return: the indicator light of the UAV will flash slowly after low pressure, and the remote control will send out at this time, the UAV will automatically return to the vicinity of 20 meters from the take-off point (After low power, the height and distance of the UAV will be limited to 20 meters).





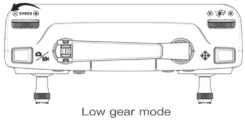
Attention: In the process of automatic return, the drone returns to the take-off position in a straight line and cannot avoid obstacles (if the flight altitude is too low, it will first rise to a height of 20 meters and then return). When the drone is in a low-power homecoming state, the homecoming will be enforced and cannot be canceled. When the GPS signal is poor or not working, it cannot be returned.

Obstacle avoidance function and working principle are introduced in detail

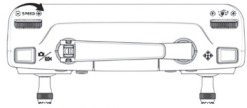
A. Working conditions of obstacle avoiders

(Indoor mode has obstacle avoidance function, outdoor mode does not have obstacle avoidance function)

The product defaults to low-speed gear mode when turned on, and the drone has four-way obstacle avoidance function. If switching to high-speed gear mode, the drone will fly The driving speed is fast, and the drone automatically turns off obstacle avoidance function.



Low gear mode

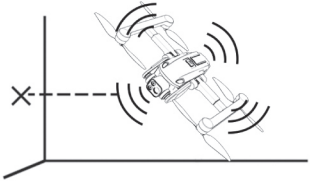


High speed gear mode

图1

B. The use and effectiveness of indoor obstacle avoidance function

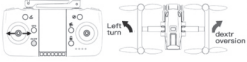
Press the button shown in the right image to turn on obstacle avoidance mode, then press again to turn off obstacle avoidance mode.Avoid obstacles on all sides and retreat in the opposite direction to the obstacles.



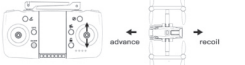
Indoor obstacle avoidance key

Uav control method

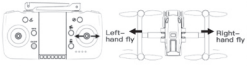
When the left joystick (throttle) pushes up, the main vane speed increases and the aircraft rises.
When the left joystick (throttle) is pushed down, the main vane speed slows down and the aircraft descends.



When the left joystick (rudder) is pushed to the left, the aircraft nose is pushed to the left, the aircraft nose is pushed to the right.



When the right joystick (rudder) is pushed up, the vehicle moves forward.
When the right joystick (rudder) is pushed down, the vehicle reverses.



When the right joystick (rudder) is pushed to the right, the aircraft flies to the right.
When the right joystick (rudder) is pushed to the left, the vehicle flies to the left.

⚠warn: When the UAV is 30cm above the ground, the UAV will be affected by its own blade eddy currents and become unstable, which is called "ground effect reaction". The lower the altitude of the UAV, the greater the impact of ground effect reaction.

The impact of temperature and environment on the use of lithium batteries in drones:

1, the temperature has a certain impact on lithium batteries: the best use of the battery temperature is 20℃~30℃, low temperature environment will reduce the activity of lithium ions, so that the battery discharge capacity is weak, the use of time is shorter.

2. The impact of the flight environment on the endurance time. When the UAV encounters a large wind or flies against the wind, the consumption is medium and fast due to the large resistance, which will shorten the endurance time. Therefore, before flying outdoors, please pay attention to the weather and the surrounding environment. If the temperature is low and the wind is strong, pay attention to not flying far away when flying against the wind. Return in advance when the battery is sufficient to avoid the failure to complete the return due to insufficient power in the middle.

GPS function working principle and use precautions

After the frequency of the drone and the remote control is successfully synchronized, the GPS module carried by the drone will be connected with the satellite. When the accuracy of the satellite reaches the positioning standard, the remote control will display GPS ON and MODE1 mode, and the red light behind the drone will change from blinking to steady on, that is, the GPS positioning will be completed and the drone will remember the take-off point.

1, Drone and remote control off signal: When the ultra-distance or signal interference between the drone and the remote control signal interrupted for more than 6 seconds, the drone GPS signal is normal, the drone uses the broken signal to return to the departure point.

2, Uav GPS signal interruption: When the encounter of large occlusions, signal interference and other conditions may directly lead to the UAV cannot receive satellite signals, the UAV GPS signal interruption, the UAV cannot locate, and the UAV cannot return to the departure point through broken signals or one-click return.

Safety criteria

In order to avoid accidents, the following safety guidelines should be observed when flying drones:

- Get a good GPS signal before you take off
- Both hands remain in control of the vehicle throughout
- Check the appearance of accessories and fuselage to ensure that the device is fully charged
- Fly at a safe altitude and avoid the canyon
- Flying at a safe altitude, Avoid buildings with large height and height
- Avoid areas with high signal interference such as cell towers and power pylons
- Fly in the open and within sight range For safety reasons, never fly over people, animals or moving vehicles
- Stay sober. Do not fly drunk
- Comply with local laws and check them before flying

Make the homeward voyage

一、When the UAV starts the homecoming procedure, different altitude homecoming methods:

1.the height of the drone is less than 20 meters: the drone will first rise vertically to a height of 20 meters from the ground, and then return to the vicinity of the take-off point, and then land vertically to the ground.

2.The height of the drone is greater than 20 meters: the drone will return to the vicinity of the take-off point at the height where it is located, and then land vertically to the ground.

二、Landing differences in different return procedures:

1.One-button return, low-power return: If the drone returns to the vicinity of the take-off point, the user can control the drone through the rocker to avoid obstacles.

2.broken signal return: due to the broken signal of the drone and the remote control, the remote control can not control the drone, the drone in the air of 20 meters or more than 20 meters to return to the near the take-off point after the vertical landing to the ground.

In summary, users need to pay attention to the following points when using drones to return to the sea:

1. When the UAV uses GPS ON and MODE1 mode, it should be in an open and unobstructed place outdoors; otherwise, once the UAV triggers the homing procedure, it will rise vertically and hit the obstacle.

2. The take-off point of the UAV should be far away from complex places such as crowds, water, tall buildings, signal towers, trees, etc., and take off in a relatively empty place to prevent the triggering of broken signals to land directly on obstacles or water.

Don't panic when you have a problem

Serial number	problem	Solve the problem
1	The drone motor cannot be unlocked indoors, the drone cannot take off, the headlight is on, and the rear light flashes slowly	If the GPS function is not turned OFF, the UAV enables the protection program, long press the GPS button until "drip" sounds, and switch to "GPS OFF,MODE 2 "to turn off the GPS function (use with caution outdoors, there is no return function after turning off the GPS).
2	After the GPS function is turned off in indoor mode, the drone motor still cannot be unlocked, cannot take off, and the front and rear lights flash at the same time.	Geomagnetic calibration status The geomagnetic calibration step has not been completed. Re-calibrate the geomagnetic field after restart
3	After the indoor mode takes off, the drone can't hover, float around	The ground is too smooth, the environment is too dark will lead to the optical flow lens can not be fixed, please get good light, the ground is not reflective, more texture do not smooth the floor of the place to fly.
4	After taking off in GPS ON.MODE 1 mode, the hover effect of the drone is poor, floating around, and the number of stars in front of PCS on the LCD screen of the remote control jumps up and down	The ground is too smooth, the environment is too dark will lead to the optical flow lens can not be fixed, please get good light, the ground is not reflective, more texture do not smooth the floor of the place to fly. GPS signal instability leads to poor positioning, interference is too large, please get open, unshielded, no high voltage wire place
5	In GPS ON, MODE 1 mode, the UAV cannot be unlocked for takeoff, and the UAV body light flashes	Geomagnetic calibration status The geomagnetic calibration step has not been completed. Restart the geomagnetic material again
6	The drone shook really hard	The blade is deformed or damaged. Replace the blade
7	After the drone is unlocked, the propeller turns but cannot fly, or it seriously hits one side quickly after takeoff	When replacing the propeller, please note that it is necessary to distinguish between A and B. B. Incorrect sequential installation may lead to rotation but not flying or serious damage to the propeller
8	After normal takeoff, you can't control the front and back flight, but you can lift and turn around	Take the drone to an outdoor open environment or remove the obstacle avoidance device. The sensor range of the obstacle avoidance device is large, and within about 20 meters, when there are walls around the room to control the direction, there are obstacles that can not be detected
9	Drone strikes and reactivates Drone flies unchecked	Place the drone on the plane and press the gyroscope level to calibrate before unlocking and taking off

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.

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

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

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

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

FCC Radiation Exposure statement

The device has been evaluatec to meel general RF exposure requirement. The device can be used in porlable exposure condition without restriction.