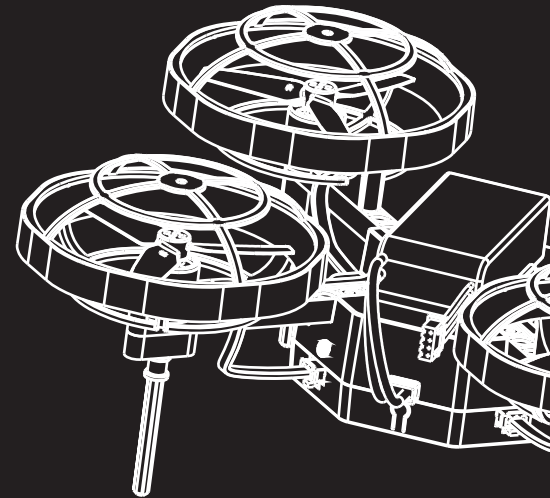


Product Introduction

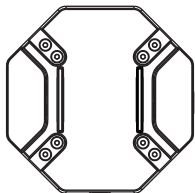
<http://rcsadrone.com/>



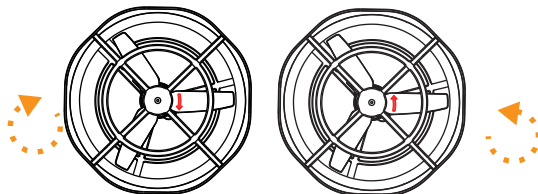
CONTENTS

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What's Included



Flight controller module



Clockwise*2 Counter-clockwise*2

Motor set*4



Remote controller

Hex screw(M3*8*6) 18*

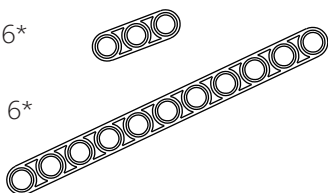
Hex wrench 2*

Pin with bush 6*

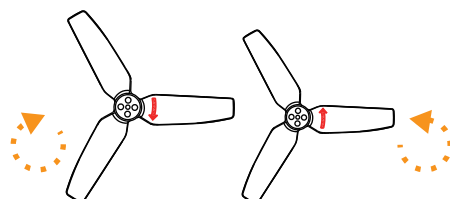
Cross axel 6*

3-hole-beam 6*

11-hole-beam 6*

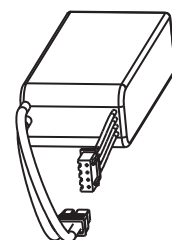


Parts package

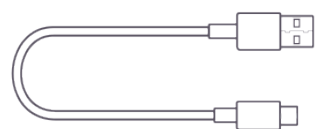


Clockwise*4 Counter-clockwise*4

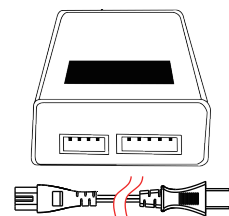
3-blade propeller set*2



3s 11.1V Battery*2



USB cable



3s-4s Charger with power cord

Specifications

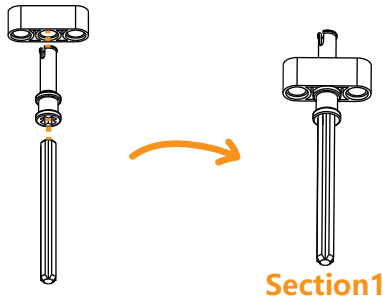
Drone size	(L)231*(W)231*(H)107mm
Take off weight	310g
Wheelbase	206mm
Motors	1404/4000KV
Battery	1200mAh/3S
Propellers	T3*3*3
Prop guard	Enclosed prop cage
Flight range	100m
Flight time	10 mins(hover)
Altitude hold method	LiDAR and barometer
Positioning	Optical flow
Control method	Remote controller /RCSA coding software
Wireless communication frequency band	2.4GHz-2.483
Hovering accuracy	xy:50mm z:30mm

Electronic speed control	4-channel, 40A max
Max tilt angle	35°
Max ascent/descent speed	1.5m/s
Max horizontal speed	2m/s
Max flight height (relative)	LiDAR 8 m, barometer 50 m
Wind Resistance	< 3 m/s
Camera	8MP effective pixels, 68° FOV
Photo format	.JPEG
Video format	.MP4
Coding software	RCSA coding software
Coding method	Graphical, Python, Arduino
Compatible with	Windows
Operating temperature range	0-40°C
Micro SD card	4GB

Build Your Drone

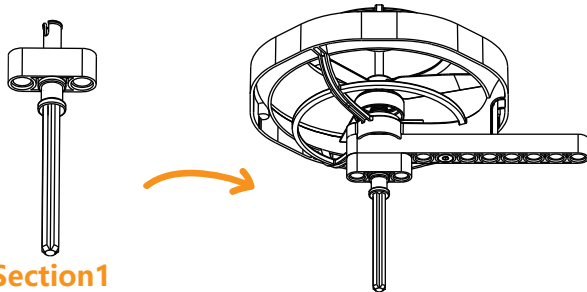
The RCSA EDU comes in kits, please follow the steps to assemble your drone properly.

1 Mount the motor set



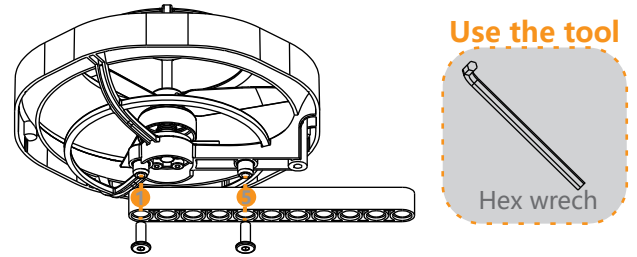
Section1

Attach a cross axle, a pin with bush and a 3-hole-beam to **section1** as shown.

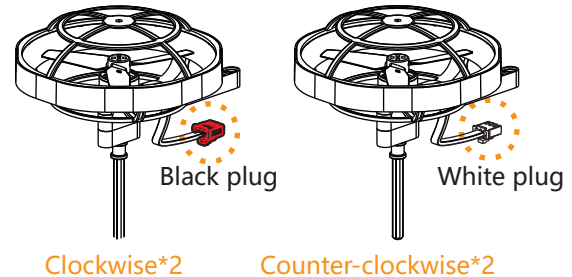


Section1

Insert section1 into the 11-hole-beam as shown to get a motor component.



Fix a 11-hole-beam to the motor set with 2 screws as shown.

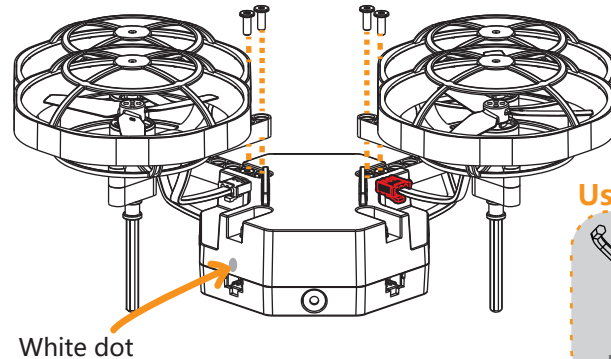
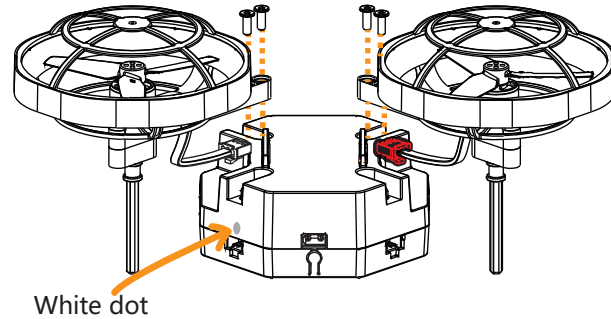
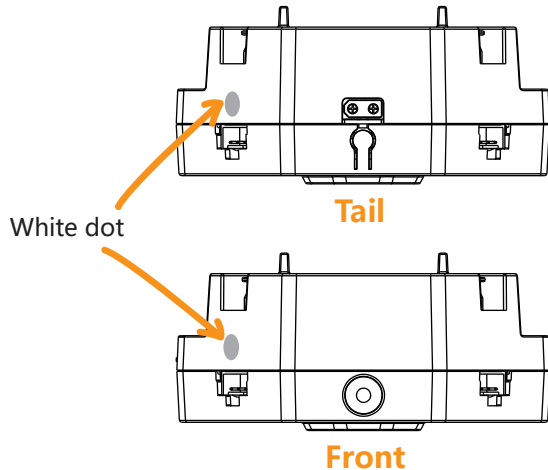


Mount the other three motor sets in the same way to get 4 motor components in total.

2 Attach motor components to the flight controller module

! CAUTION

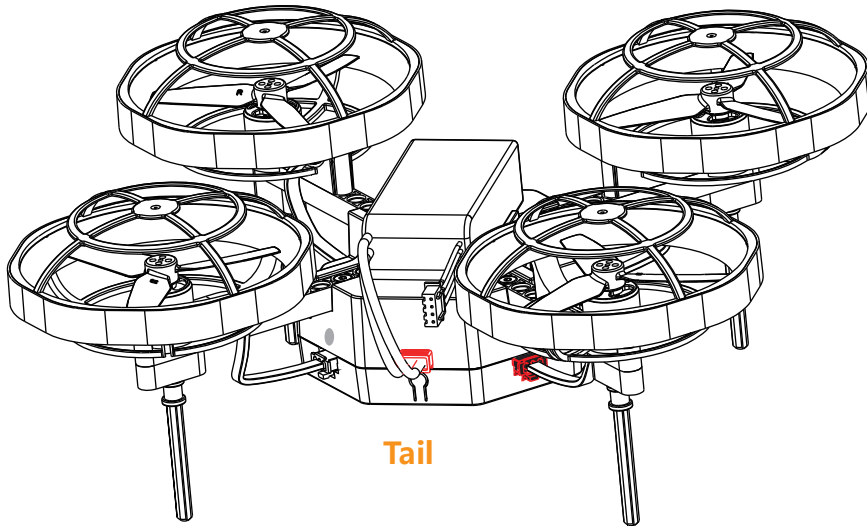
Incorrect motor component placement will lead to uncontrollable flight and may cause the drone to crash.



Find two white dots mark on the flight controller module.

Fix motor components with **white plug** at white-dot position on flight controller module. And fix motor components with **black plug** at unmarked position.

3 Fix the battery



Fix the battery directly in the center of the flight controller. Insert the battery and the motors correctly into their ports. You've completed the assembly of the drone. Congratulations!

Getting to Know Your Drone

Propeller guard

Protects the propellers and the drone from impact. Also, protect you and others!

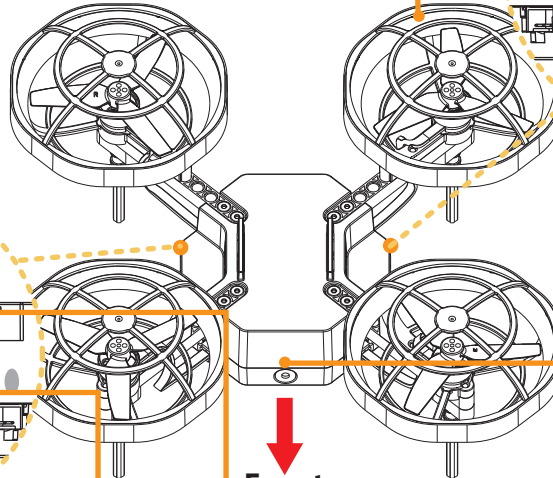
UART port 7

1	2	3	4
G	5	T	R
N	V	X	X
D			

Digital/analog port 5

Digital/analog port 6

1	2	3
G	5	G
P	V	N
I		D
O		

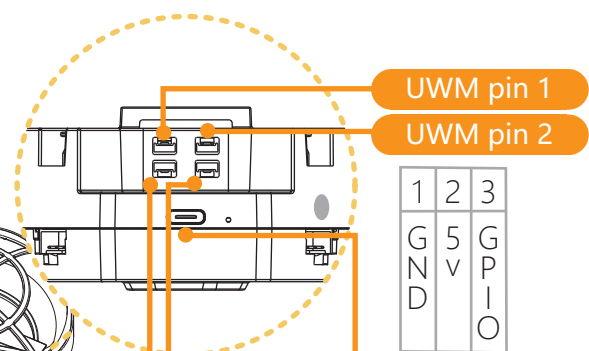


Front

TF card slot

Type-C port

For programming/uploading code to the Arduino.



UWM pin 1

UWM pin 2

1	2	3
G	5	G
N	V	P
D		I
		O

UWM pin 3

UWM pin 4

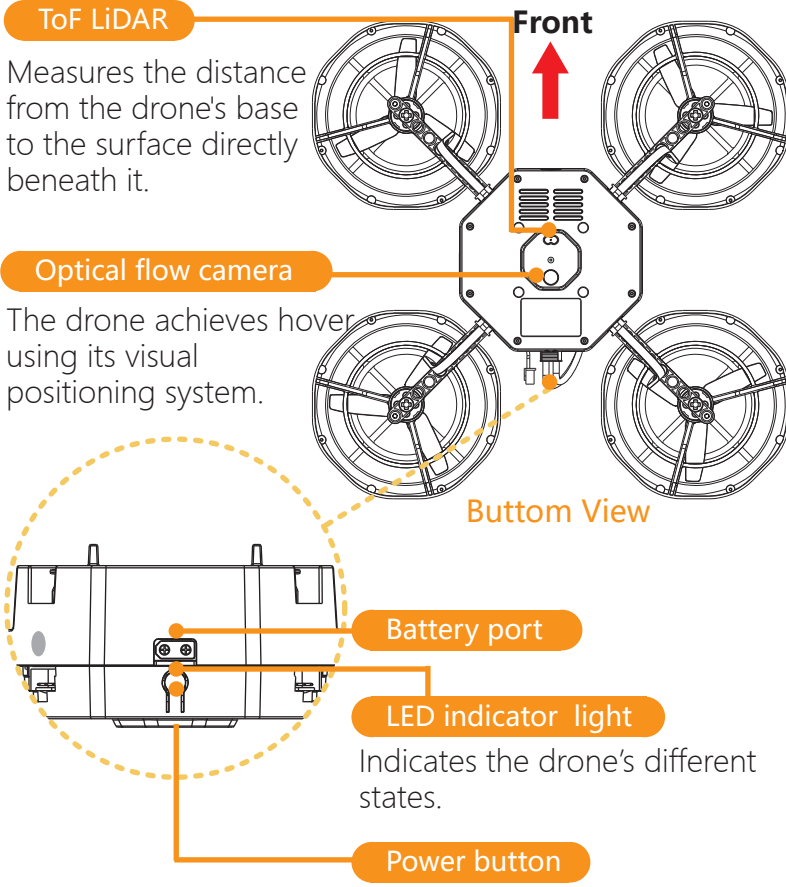
1	2	3
G	5	G
P	V	N
I		D
O		

Type-C port

For uploading code to the flight controller.

FPV Camera

Transmits live video.

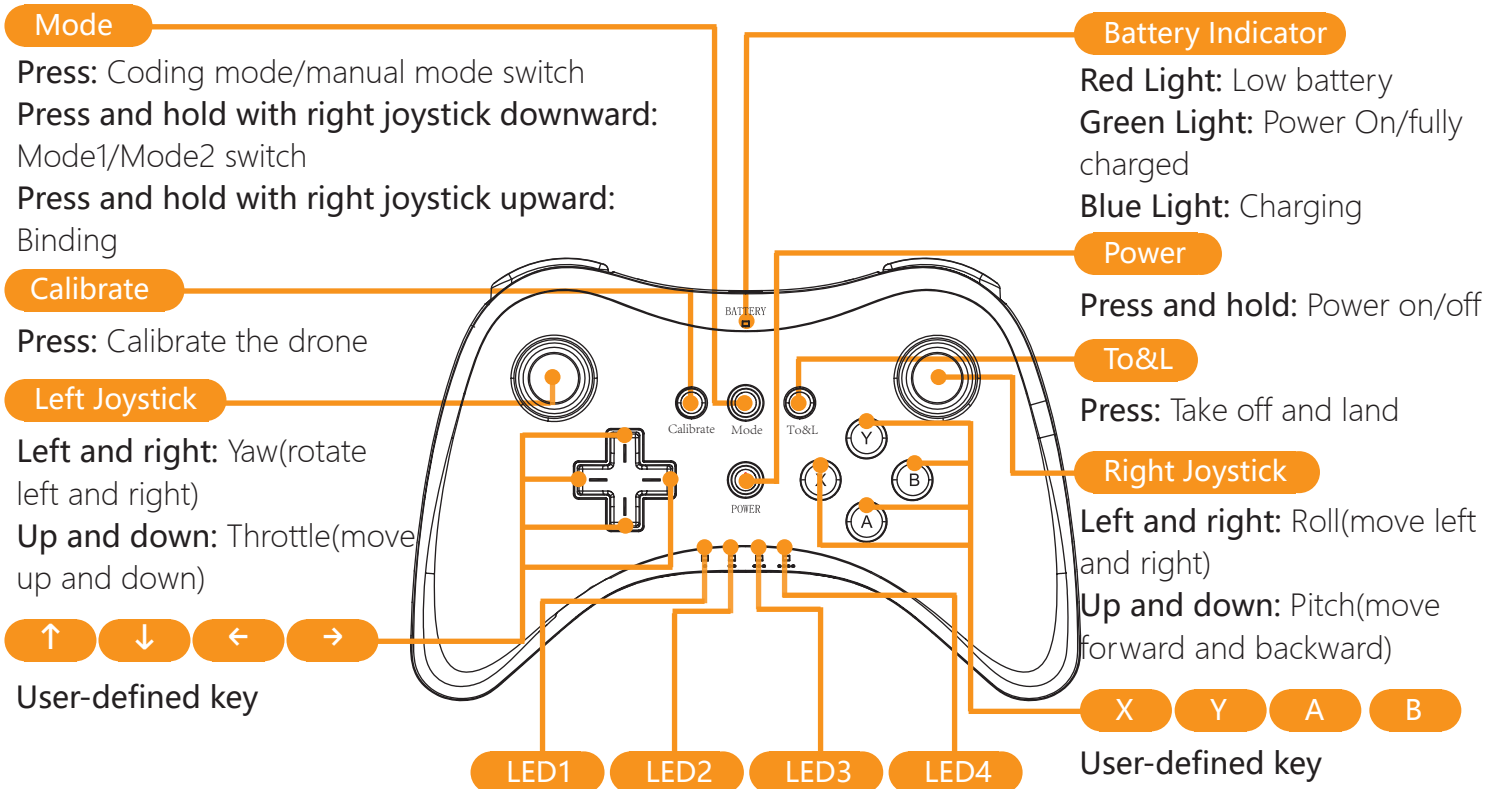


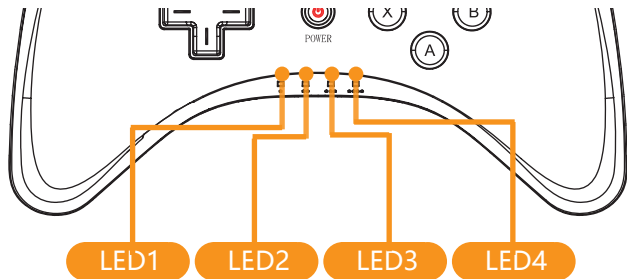
Status Light Patterns

Solid green light	Hover status
Green light flashing slowly	To/L or move status
Solid blue light	Calibrating gyroscope
Blue light flashing one time	Photo mode
Blue light flashing slowly	Video mode
Solid red light	System failure
Red light flashing fast	Automatic landing due to low voltage
Red light flashing slowly	Not connected(not binded, signal lost)
Solid yellow light	Sensor error(Calibrating failure, optical flow sensor/gyroscope error)

Getting to Know Your Controller

Using your controller, you can pilot your drone or connect your controller to your computer for coding. These are the controls of your controller in **Mode1(left throttle)** by default.

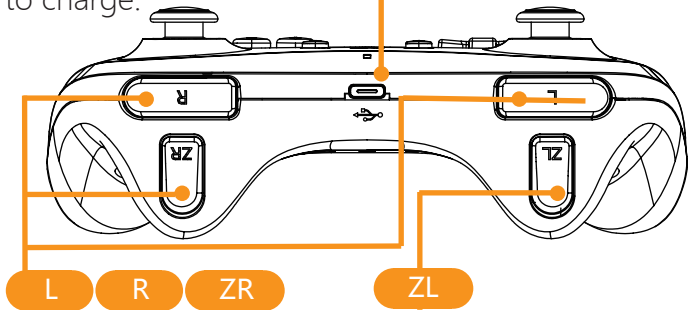




LED1	<p>Red: Not binded</p> <p>Green: Binded successfully</p> <p>Flash green: Binding</p>
LED2	<p>Off: Manual mode</p> <p>Green: Coding mode</p>
LED3	<p>Off: Low speed mode</p> <p>Green: Medium speed mode</p> <p>Red:High speed mode</p>
LED4	<p>Off: Mode1(left throttle)</p> <p>Green: Mode2(right throttle)</p>

Type-C Port

Connect to your computer or an external power source to charge.



User-defined key

Press: change flight speed (low/medium/high speed)

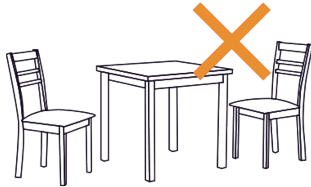
Before You Fly

Whether you are new to drones or a seasoned pilot, we recommend reading through the following safety guidelines before using your drone.

CAUTION

RCSA EDU is designed for indoor and outdoor use. When pilot your drone outdoors, **rainy** and **windy** conditions may affect the flight stability. Please avoid piloting under such circumstances. Additionally, do not fly over **water surfaces** to prevent potential damage to the drone. For indoor use, please follow the tips below.

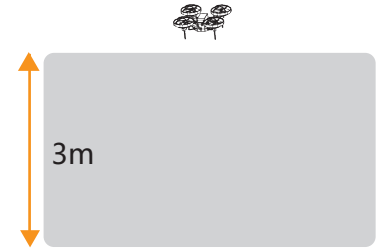
1 Check the environment



Designate an open area for flight without obstacles.



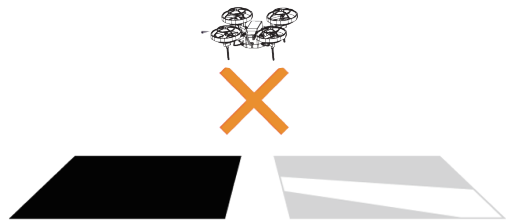
Put away fragile items and open liquids.



Try to keep your drone below 3m to avoid damage indoors.

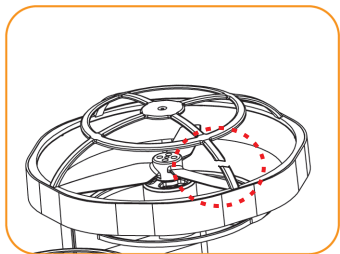


To maximize signal strength and safety, maintain line of sight between yourself/the controller(1) and the drone(2). The signal has difficulty passing through people, glass and walls.

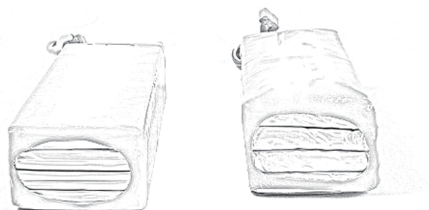


For the best performance, avoid flying over solid-color surfaces or highly reflective surfaces. Surfaces that are bright, flat, well-lit, and patterned will work best.

2 Check your drone



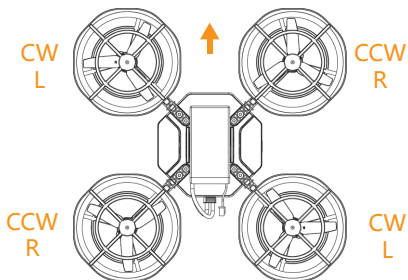
No major structural damage to propeller guard.



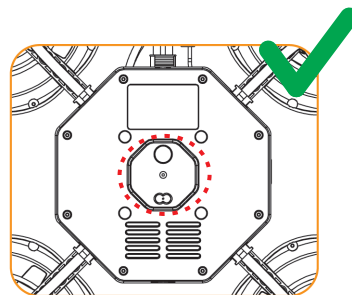
Normal

Expanded

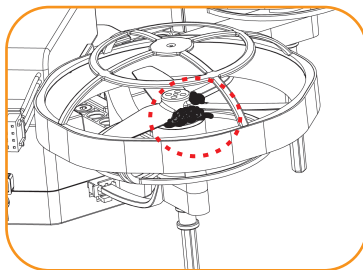
Drone battery has not expanded and has no signs of structural damage.



Propellers and motors are in the correct position.

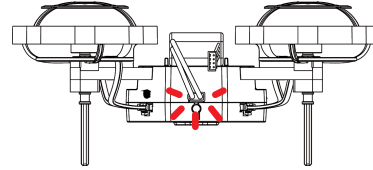


Bottom sensors are not obstructed.



There is no debris beneath the propellers, and the propellers can spin freely.

Avoid flying when the drone or controller are on low battery. Flight and signals stability will be less reliable when the battery is low.



Flash red

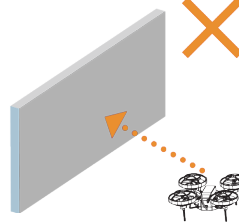


Battery indicator turns red

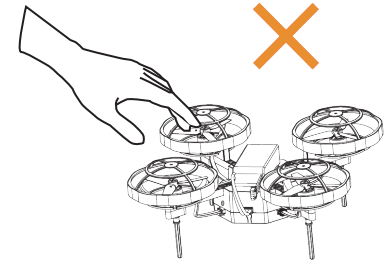
3 Know the rules of operation



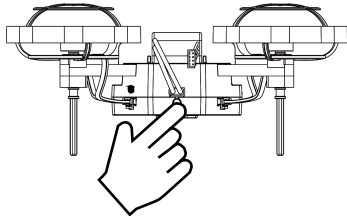
Do not fly over people.



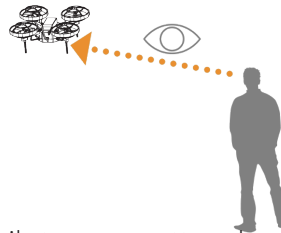
Do not fly at walls or at people.



Keep hands, fingers, and other objects away from propellers.

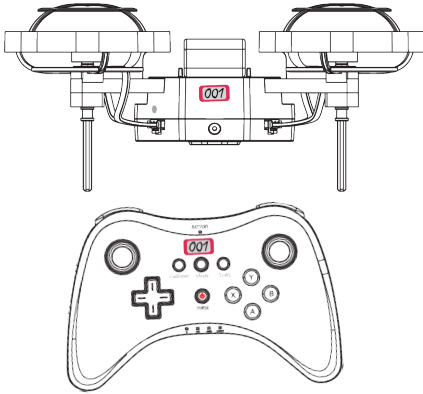


If the drone crashes, shut off the drone and avoid drone damage.



The pilot or a spotter should always maintain a visual on the drone.

4 Label your drone



Use a set of stickers to label your binded drone and controller. For example, you can label them with "001". That way, you'll know which drone and controller go together without powering them on.

5 Check your firmware


The drone and controller occasionally have firmware updates. We're recommend updating to the latest version.

<http://rcsadrone.com/>

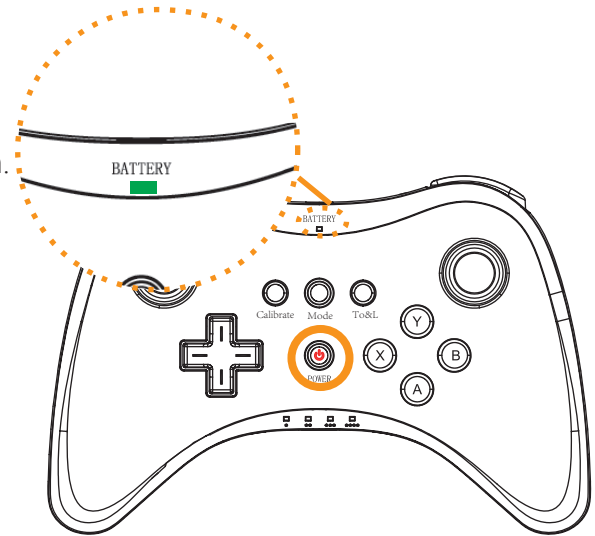
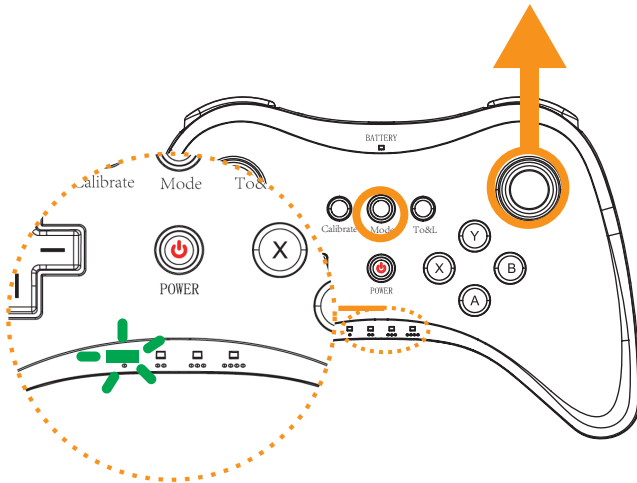


Powering On and Binding

1 Powering on the controller

Press and hold the power button  for 2 seconds to power on. Once the battery indicator light is **green**, it's good to go. When the battery indicator light turns **red**, please charge your controller.

You can also use a Type-C cable to power the controller with a computer or an external power source.



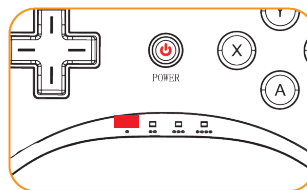
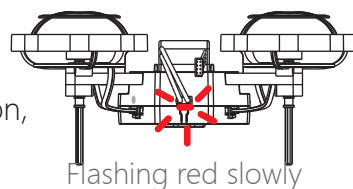
2 Put controller in binding mode

Push the right joystick upward and hold, press and hold the **Mode** key until hearing a “beep” and LED1 flashing green, the controller enters binding mode.

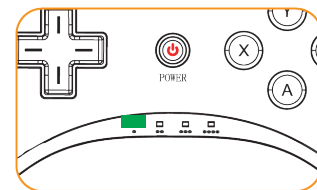
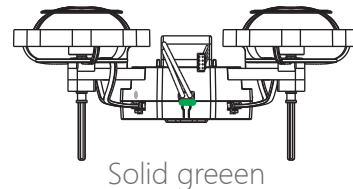
3 Powering on the drone and binding

Fix and insert the battery to the drone properly. Press and hold the power button for 2 seconds to power on, the drone will bind with the controller automatically.

When you hear a long "beep" from the controller, the controller LED1 turns solid green light and the drone tail light turns solid green, the drone binding accomplished.

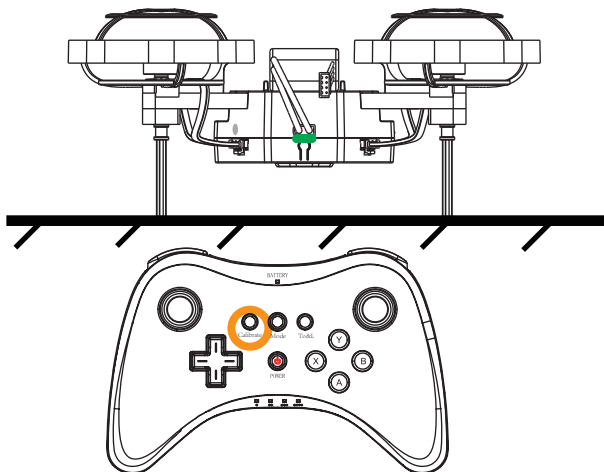


Not bound



Bound

4 Calibrate your drone



Put your drone on a flat surface, press **Calibrate** button until hear a "beep" from both controller and the drone. You're ready to go!

! CAUTION

The radio transmission range is up to 100 meters, with a maximum flight height of 50 meters. Please ensure the aircraft remains within your visual line of sight during operation.

Using Your Controller

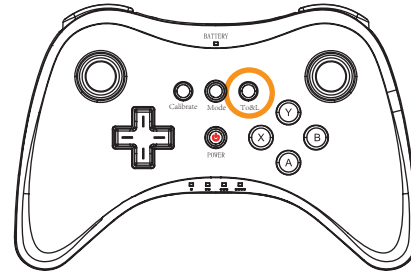
Here are a set of common commands you can use with the controller to pilot your drone.

Taking off, landing and changing speed



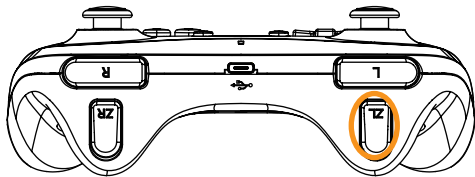
Take off

Press **To&L** key the drone will take off and hover at about 120cm above ground.



Land

During flight, press **To&L** key.



Change speed

Press **ZL** key to change speed. You can check the current speed on LED3 indicator light.

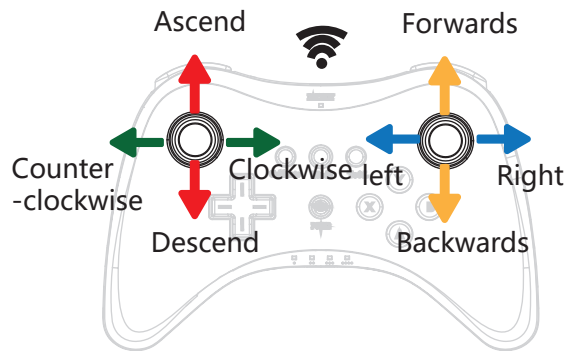
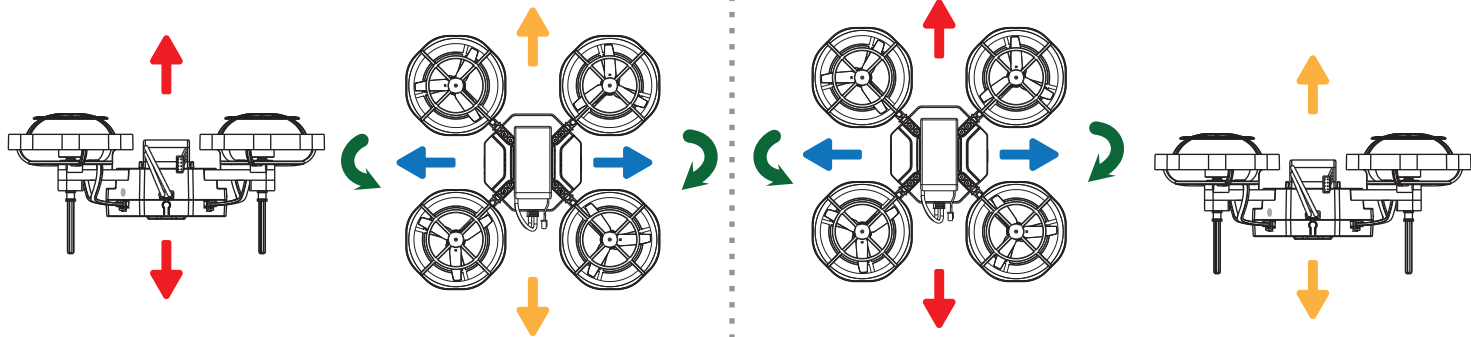


TIP

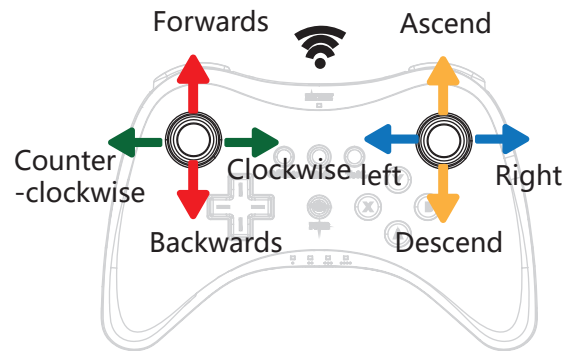
Default Mode: **Mode 1 (Left Throttle)**

To switch to **Mode 2 (Right Throttle)**, follow the steps:

- Power on the controller by pressing and holding the Power button for 2s.
- Push and hold the right joystick fully downward.
- While holding the joystick, press and hold the Mode button.
- Release both buttons when LED 4 turns green.



Mode1 Left Throttle
(by default)



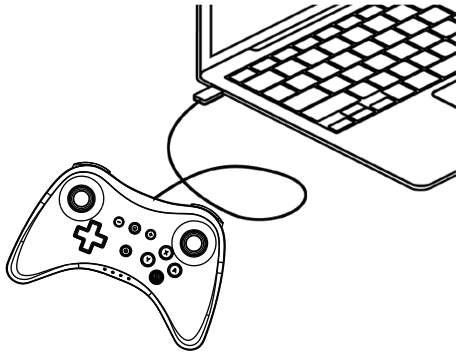
Mode2 Right Throttle

Charging

Low Battery

When the controller battery is low, the battery indicator light will turn red.

When the drone battery is low, the indicator LED on tail will flash red fast and land automatically.



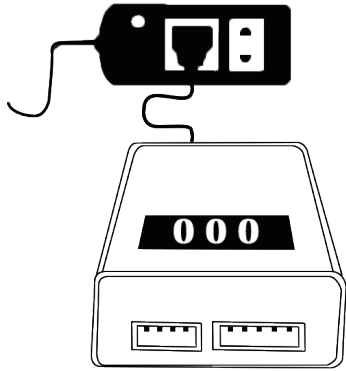
Use the Type-C cable to charge the controller with a computer or an external power source. The battery indicator light turns **blue** while charging. And the indicator light go solid green when fully charged.



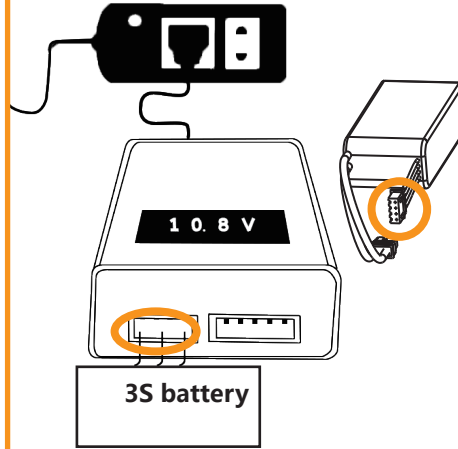
CAUTION

Please read the following safety instructions carefully before charging your drone battery. Improper operation will cause damage to charger.

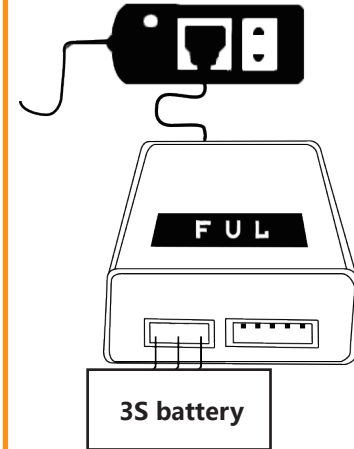
- Please do not use in flammable, explosive and humid environment.
- Please do not use the charger in the case of noone watching.
- Please do not touch the charger or power with wet hand.
- Please do not pull or replace the power cord while using it.
- Please do not charge the battery when it is inflated or damaged.
- Children need to use it under adult supervision.
- Do not connect the charger to the battery without charging it.



The input voltage range of the charger is **100V-240V**, connect the charger to power, when the display lights up, it indicates that the charger is working properly.



The charger can charge 3S and 4S battery. Insert drone battery charging plug into the 3S(left) port of the charger. The display screen will show the total battery voltage. **(Only charge one set of batteries at a time.)**



When the battery is fully charged, the display will show an alternating flashing status of "FUL" and the voltage. **(Do not connect the charger to the battery when it is not charging.)**

Disclaimer Statement

This product is a multi-rotor aircraft. We recommend for children over 8 years old. Children under the age of 8 are required to be accompanied by adults. Please be careful when handling this product in the presence of children.

Please read this document carefully before using this product. This statement has important guidance for your safe use of this product and your legal rights. This product provides an easy flight experience when the power supply is working properly and the components are not damaged. Be sure to know your legal rights, responsibilities, and safety instructions before using this product, and also clear about that use this product may bring property damage, safety accidents and personal safety hazards. By using this product, you are deemed to have read, recognized and accepted all terms and conditions of this statement. The user is committed to being responsible for his non-compliant operations and the consequences thereof; the user undertakes to use the product solely for legitimate purposes and agrees to these terms and any relevant policies or guidelines that may be developed by us. We are not liable for any direct or indirect personal injury or property damage caused by failure to use this product in accordance with the safety guidelines.



<http://rcsadrone.com/>