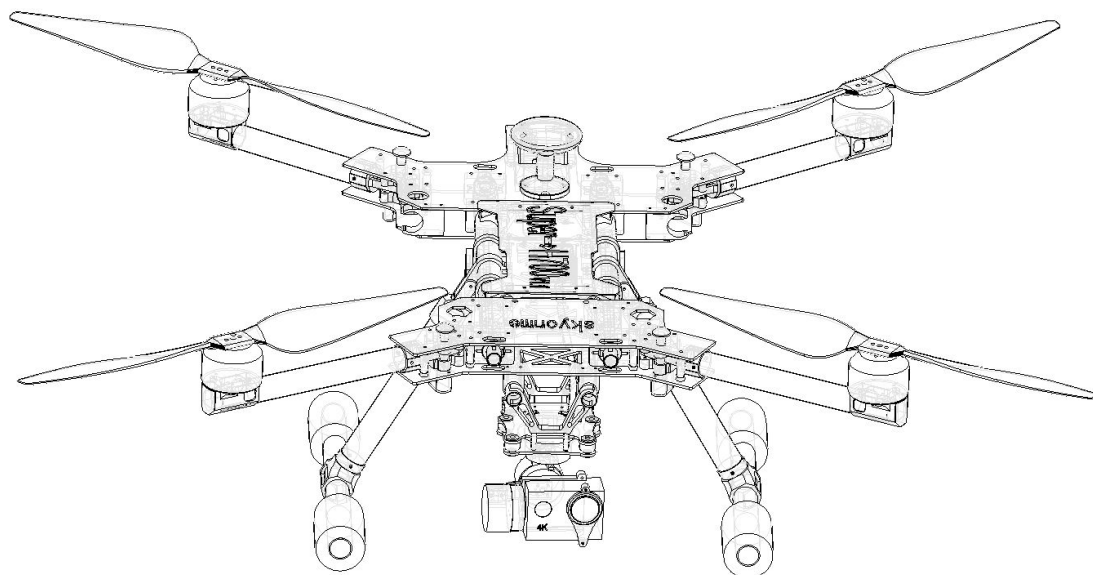# Skyonme Super H700

User's Attitude　　V1.0

Disclaimer:

Thanks for buying Skyonme Multi rotor.

Skyonme Aviation Model Co.,Ltd.(www.skyonme.com)has its special page, the users can get the newest information on the website but we will not inform you the renewed information and beg your forgiveness.Any user should read this instruction carefully before using it. Once using it, the users are deemed to approving and accepting all the content of the instruction.Please follow the handbook strictly to install and use the production.

For any consequence and loss caused by users' improper use, installment and modification (including using installation kits which is not specified such as:motor, Esc, propeller), Skyonme will not bear the legal liability.

Introduction:

Super-H700 is a professional aerial photography muti-rotor which has the features: convenient folding,convenient carrying and easy using, easy operating,safe and stable.Its design is highly integrated and modular. The equipment with perfect outof factory,the unique internal folding design and the integrated GPS mounting base system make it have the good portability and

excellent user experience.

The universal gimbal mounting base is compatible with 3axis GOPRO gimbal or 2 axis GOPRO gimbal. It can guarantee the photos' stability and bring the full range shooting and aerial view with high quality.

Super-H700 equips the power distribution center which is used to shunt easily and also can reduce shock. The pre-installed skyonme-EZ flight control can get safe and stable flight performance, and it used widely in various UAV application domain. The pre-installed high speed Esc controller and motor, combining with efficient propeller, can supply ample power.

With 6S10000 lithium battery, the plane itself can fly for 29minutes, with 6S16000 lithium battery, it can fly for 47minutes(hovering without wind).

Product use notes:

1.Be sure to wipe screw glue and guarantee no screw loosening before flying when the Propeller is installed.

2.There is no rainproof processing in parts of electric circuit,so you'd better not fly when it is raining or snowing.

3.Please stay away from unsafe factors while flying such as：Obstacles, people, children, buildings, high pressure lines, trees, the water and so on.

4.Be sure to use 6S lithium battery power matching with the mutirotor.

5.Be sure to fly in the safe takeoff weight to avoid accident.

6.Do not close or contact the rotating motor or propeller to avoid being cut by rotating propeller.

Notes before flight:

1. A screw loose check must be done, if there is a loose, be sure to wipe the glue and tighten screws .

2. The compass calibration and plane calibration must be done before flying at each new place.

3. Be sure the Red - yellow - Blue - white light must be in the state of breathing and then the plane can fly. It can not fix point or return until meeting the following condition: Ensure GPS antenna searches satellite signal and the last white light turns green.

Box items list

Mutirotor body(motor ,ESC and LED lamps have pre-assembled) one set
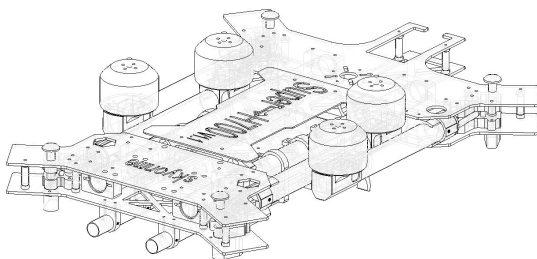
Skyonme-EZ flight control(including GPS) one set (pre-assembled)
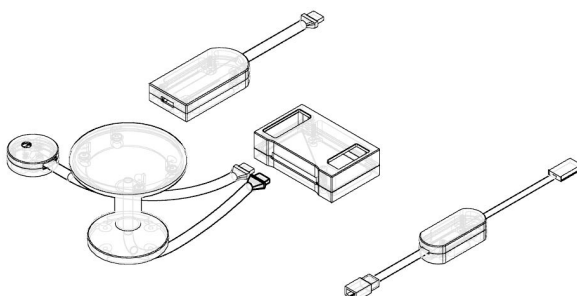
The foot stool (including sponge shock absorption) x2
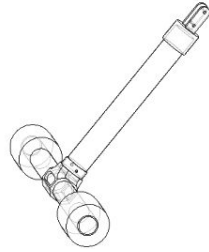
1555 Carbon fiber   Propeller (Positive and negative paddle) x2
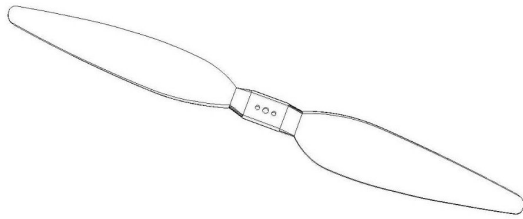
Flight control cable
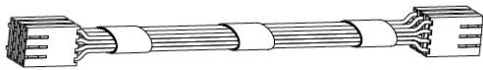
Two axis brushless gimbal(Optional three axis brushless gimbal)
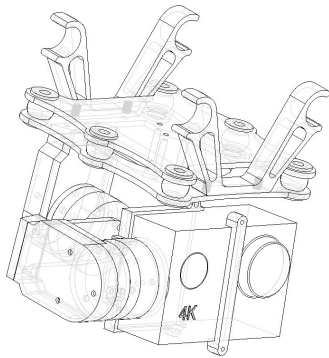
Three axis brushless gimbal(Optional)
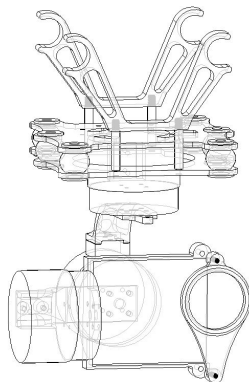
Large capacity lithium battery(preloaded mounting bracket)
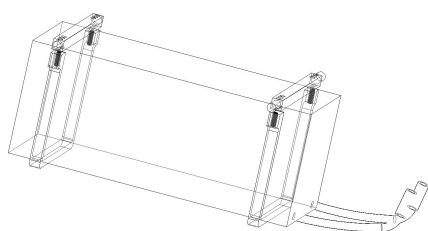
1080P HD motion camera(The optional 4K HD motion camera)
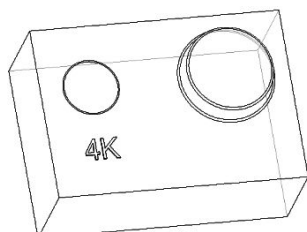
5.8G ultra long distance wireless video audio transmission(optional)
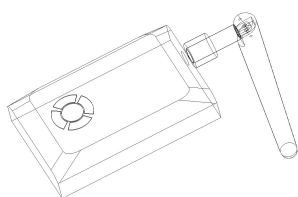
5.8G wireless video LCD display (optional)
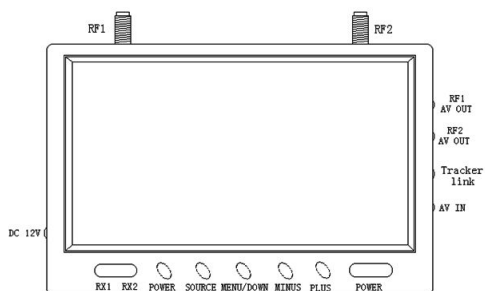
The other installers needed

A number of screw parts   M3,M2 inner six angle screwdriver

M3X5 (install tripod)   Screw glue (anaerobic glue)

M3X7 (install propeller)

Install the Landing gear

Wipe the screw glue on theM3x5 and then screw it into the main hole with the inner six angle screw driver.

M3X5
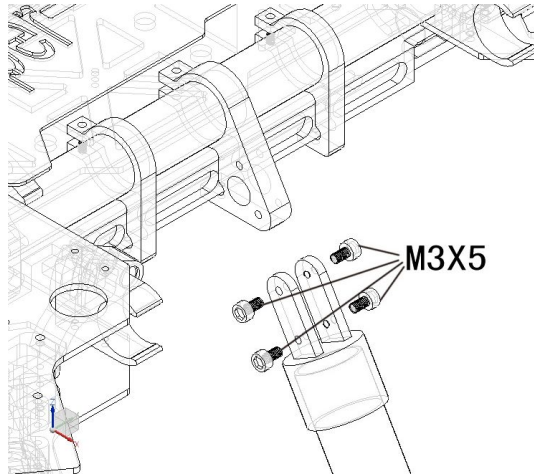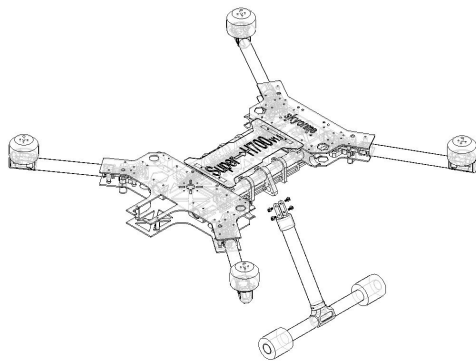
Install propeller:

1.Install 1234 four propellers correctly according to the positive and negative sides of the propeller.

2.To ensure the slurry screws be wiped by the screw glue.

3.Check the machine arm installation. The machine arm M1 and M2 are the aircraft head, M3 and M4 are the aircraft tail. Observed from the top, the motor connected to M1 and M3 rotates counterclockwise and the motor connected to M2 and M4 rotates clockwise.

M3X7

head
M2   M1
M3   M4
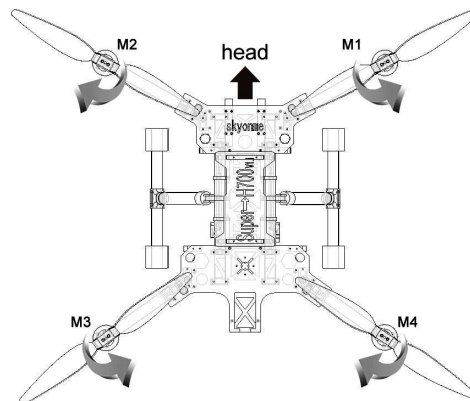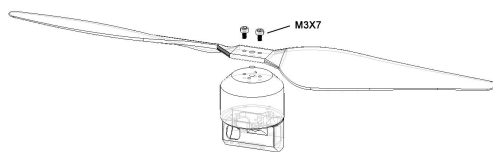
Install GPS(Pre-installed)

GPS shell is a kind of integrated installation seat structure, easy to be installed. Pay attention the direction of arrow on the GPS while installing.

M2X4
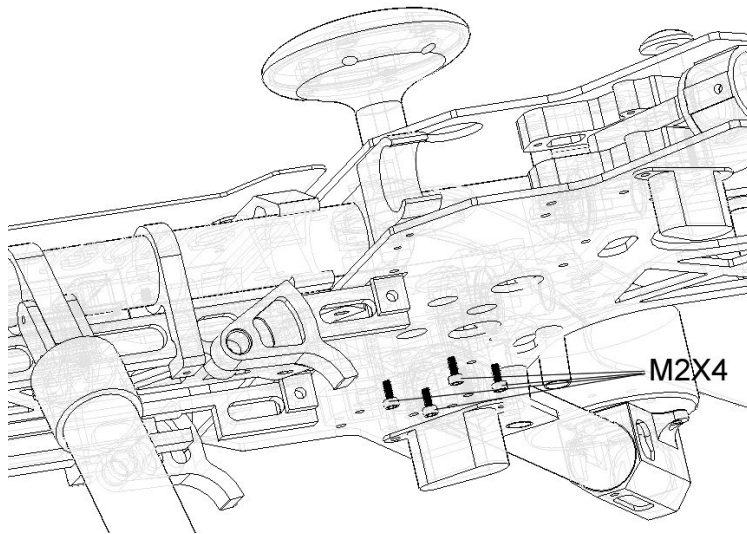
The installation and debugging of the flight control(pre-installed)

1.The flight control system is composed of flight control IMU, power supply module, dual mode GPS(supporting GPS and GLONASS) and USB debugging board.

2.Flight control system has completed pre-installation and tested before delivery, installed and connectted .

3.Insert the receiver and connect according to the corresponding sequence of the channels, Paying attention to the positive and negative sides of the signal line.
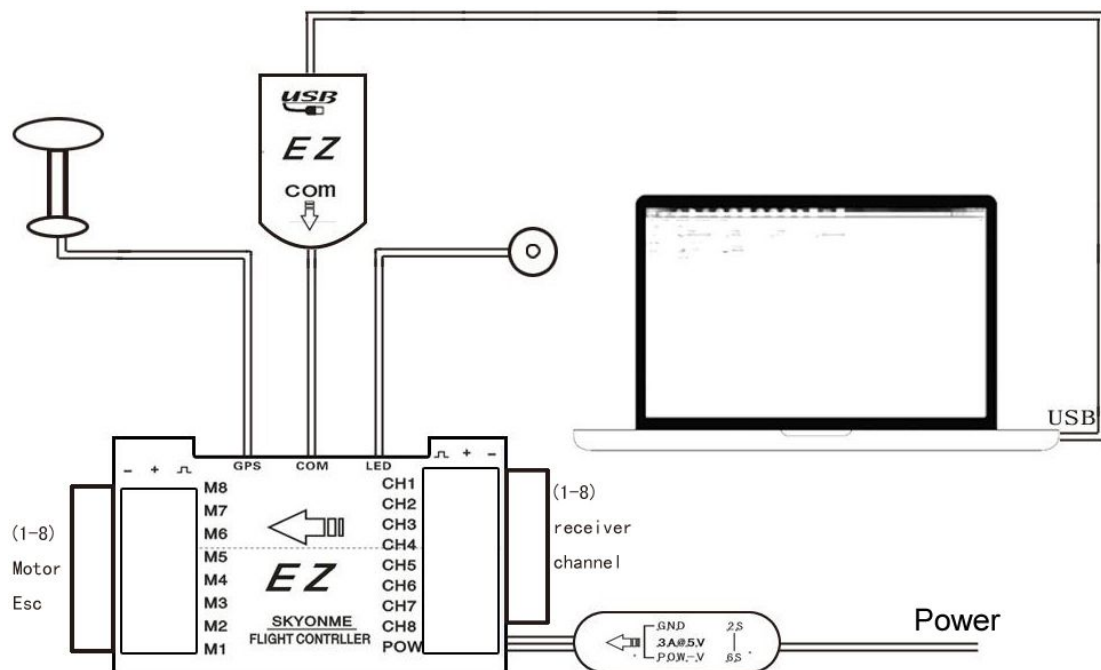
4.Calibrate the channel trip. Power the flight control, toggle switches in the channel 5 back and forth several times at the 123 position, and LED lights turn purple and then bright all the time. And then rotate the left and right rockers of control with full amount of rudder for several circles, after several seconds, the Purple light turn into flashing. Meanwhile, put the left and right rocker back to neutral point position. LED lights are back to the "red ~yellow~ blue ~white " breathing cycle, and the channel trip calibration is completed.
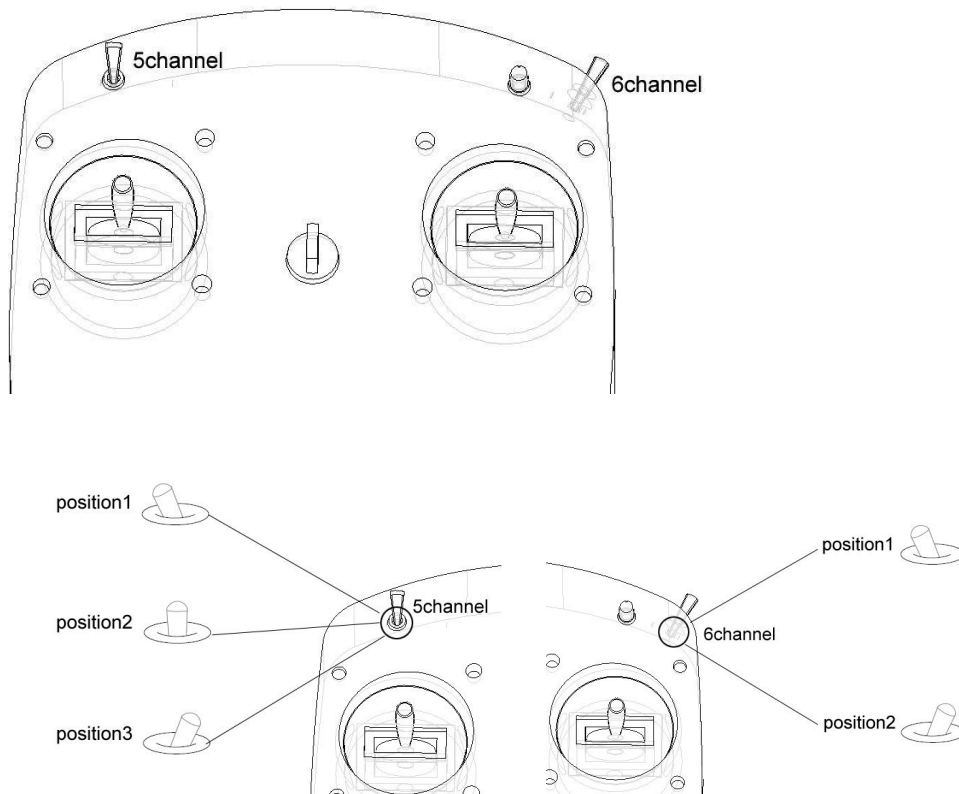
5.Calibrate the compass. Toggle the switch of channel5 to "Attitude" 1 position, and move back and forth the switch of channel 6 for several times, and LED lights turn green and then bright all the time. Then the plane rotated 360 degrees around in the horizontal direction, LED lights turn blue,and then the plane rotated 360 degree horizontally for several circles with the plane's head down. LED lights are back to the "red ~yellow~ blue ~white " breathing cycle, and the compass calibration is completed. If the blue point is flashing,the calibration failed and the recalibration is needed.

Notes:　Do not calibrate in a strong magnetic field

　　　　Do not calibrate near large metal

　　　　Do not calibrate in the room

If the Blue lights are flashing after the calibration failed, and be sure to re-calibrate until it is finished.
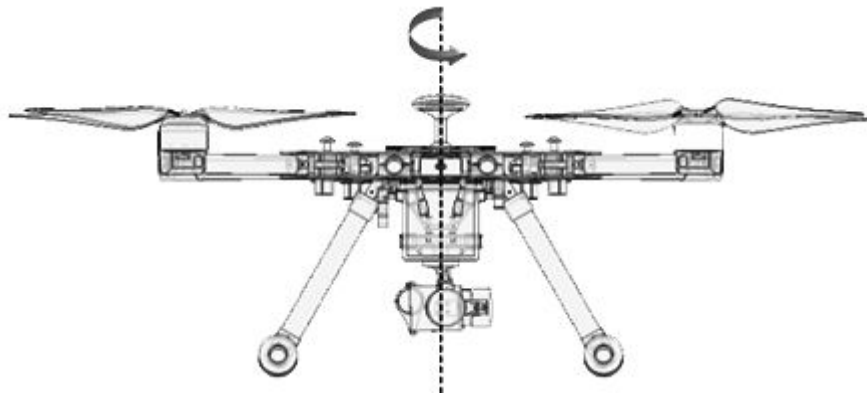
The flight body is placed and rotated horizontally. LED lights change from green to blue
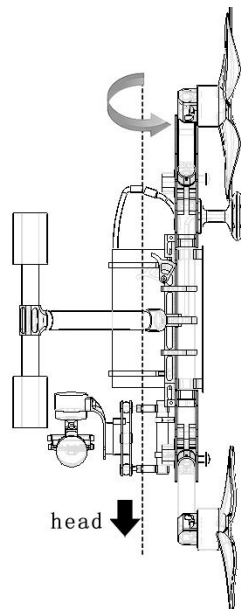
It is rotated horizontally with the head down. LED lights go back to the normal breathing state from being blue.

6.For plane calibration. The plane should be placed on the horizontal ground as far as possible when it is calibrated, toggle the switch of channel5 to "Return state" 3 position, move back and forth the switch of channel 6 for several times. LED lights turn green and breathing, waiting for about one minute, LED lights turn "red ~yellow~ blue ~white " from green and the plane calibration is completed.

Notes: when the green lights are breathing, do not move or touch aircraft.

Be sure to carry out compass calibration and plane calibration before each flight.

The flight control connects with computer through USB

After linking one end of the USB debug board of the EZ flight control to flight control,link the other end to the USB interface of laptop computer, Double clicking the "SKYONME-EZ" icon to open the adjustable parameter configuration assistant. The installation and debugging parameter are tacitly completed when it is out of factory, Under the premise of fully familiar with the flight control function , do not arbitrarily change the flight parameter.
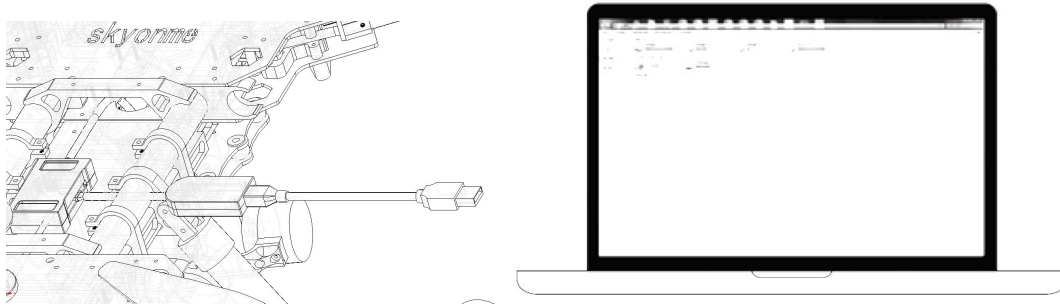
1.After installing the receiver, please set up the Corresponding positive and negative rudder of control channel according to the following adjustment software page, having the same rudder direction with the flight control parameter adjustment software.

2.Observe the parameter adjustment software at page 2,check the parameters in the flight self-check information column. Factory has completed the setting work, do not need to change.

3.Customers are allowed to set their own common parameters in the setting column, the parameters tacitly approved by this aircraft are: **sensitivity of 60;assistant sense of 120**. Do not change this parameter.

The approved maximum altitude is between 200 meters and 500 meters, the maximum return speed is 10 m / S. Customers can set the return height according to the actual need. The alarm voltage and landing voltage has been preset, and temporarily customers are not allowed to change them.

4.The firmware update, the subsequent firmware function updates can be downloaded and upgraded in the official website (www.skyonme.com), and the current firmware is the newest firmware which don't need to be upgraded.

SKYONME EZ FLIGHT CONTROLLER CONFIGURATION ASSISTANT   ✕

Connecting equipment   help

✳ View   🎮 Channel   🛠 Setting   ⤓ Upgrade   ⓘ Information

📖 Equipment information

Sensitivity Information : 0	Auxiliary sensitivity : 0
Battery Type : 0Piece	Air Type :
Warnning Voltage : 0mv	
Landing Voltage : 0mv	1
Maximum Height : 0m	2 — ┼ — 4
Return Height : 0m	3
Return Speed : 0m/s	四轴+

📍 Flight parameter information

Longitude : 0	Altitude : 0m
Latitude : 0	Satellite number : 0
Current state of aircraft : 0	Current voltage : 0v

Pitch: ∠0 Roll: ∠0 Yaw: ∠0

🎦 flight controller self-inspection

IMU Initialization	☉	The compass initializ ☉
Barometer initializati	☉	GPS initialization ☉
Gyroscope calibration	☉	Accelerometer calibra ☉
Compass calibration	☉	Gyroscope data stop ☉
Accelerometer data s	☉	Compass data stops ☉
Barometer data stop:	☉	excessive fluctuation ☉
GPS data stops upda	☉	The abnormal Compa ☉
Check Channel 1 dat:	☉	Check Channel 2 dat: ☉
Check Channel 3 dat:	☉	Check Channel 4 dat: ☉
Check Channel 5 dat:	☉	Check Channel 6 dat: ☉
SBUS Data	☉	Calman error ☉
ID CPU verification	☉	Motor 1 error ☉
Motor 2 error	☉	Motor 3 error ☉

Current mode: N/, Connection state: ready to upgrade   Upgrade progress: ▭▭▭   Version: 1.0.0

SKYONME EZ FLIGHT CONTROLLER CONFIGURATION ASSISTANT   ✕

Connecting equipment   help

✳ View   🎮 Channel   🛠 Setting   ⤓ Upgrade   ⓘ Information

FLIGHT CONTROLLER CHANNEL INFORMATI(PATTERN INFORMATION   FLY DIRECTION

climb

deeline

Left Turn Rudder Right Turn

Manual o| GPS   Return

Invalid   Failsafe   Carefree

forward

backward

Left Aileron Right

SET INSTRUCTION

1. Please set the the positive and negative rudders of controller channel which have the same rudder direction as the ones on the so

2. Left and right hand mode, channel rudder should correspond with the relative channels. Default the American hand mode and un

3. Please set the failsafe of channel 6 to make sure that it is on the position of failsafe while closing transmitter.

Current mode: N/, Connection state: ready to upgrade   Upgrade progress: ▭▭▭   Version: 1.0.0

EZ FLIGHT CONTROLLER CONFIGURATION ASSISTANT

SKYONME

Connecting equipment   help

View   **Channel**   **Setting**   **Upgrade**   **Information**

BASIC SETTING

sensitivity: [0] + − **SURE**   Auxsensitivity: [0] + − **SURE**   BatteryType: [2] + − **SURE**

MaxHeight: [0] + − **SURE**   AlarmVoltage: [0] + − **SURE**   LandVoltage: [0] + − **SURE**

ReturnHeight: [0] + − **SURE**   ReturnSpeed: [0] + − **SURE**

MULTI-ROTOR MIXER TYPE

四轴+   四轴X   Y4 双桨在前   Y4 双桨在后   六轴+   六轴X

Current mode: N/. Connection state: ready to upgrade   Upgrade progress: Version: 1.0.0

EZ FLIGHT CONTROLLER CONFIGURATION ASSISTANT

SKYONME

Connecting equipment   help

View   **Channel**   **Setting**   **Upgrade**   **Information**

Select File : [   ]   **SELECT PATH**

UPGRADE

Current mode: N/. Connection state: ready to upgrade   Upgrade progress: Version: 1.0.0

Connecting equipment   help

View   Channel   Setting   Upgrade   Information

EZ flight controller configuration assistant

V1.0.0

Notes :

1.Ensure all the self-checking information of flight controller is green before flying or check the relative reasons.

2. Ensure the four sparkly lights are breathing, and do the corresponding calibrations while the lights are flashing.

3.Ensure the last white light is green before the outside GPS flies at the fixed point, or the points cannot be fixed.

LED lights flashing and attitude description :

when the power is going on, the LED lights are flashing red~yellow~blue~white successively. After twice circle, they should become brea

If the lights are still flashing after twice circle, they need to be calibrated.If all the lights become breathing, the mutitor can be unlocked a

Red light--represents Gyroscope accelerometer. If it is flashing, the flat-faced calibrations are needed.

Yellow light --represents compass. If it is flashing, the compass needs to be calibrated.

Blue light---represents channel. If it is flashing, the channel needs to be calibrated.

White light--represents GPS signal intensity. If it becomes green,the Satellite number meets the demand of flying.

---- Powered by Skyonme ----

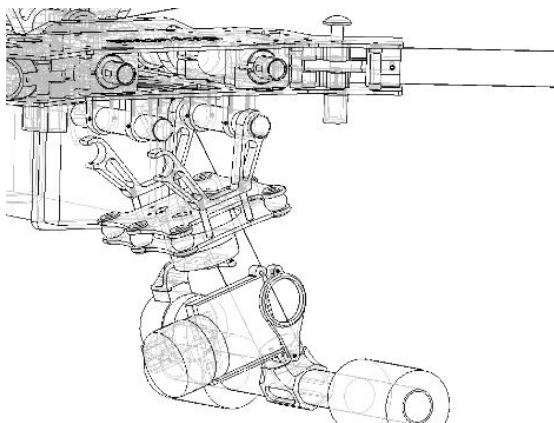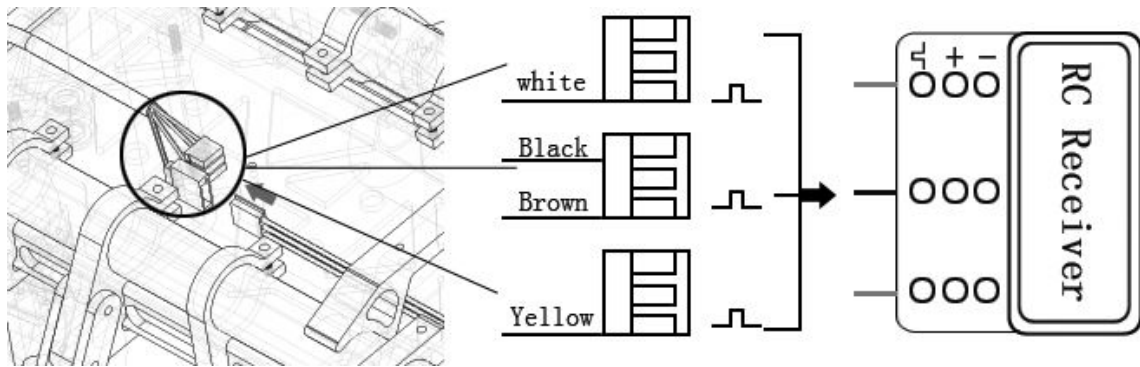Current mode: N/∕ Connection state: ready to upgrade   Upgrade progress: Version: 1.0.0

The installation and powering of Gimbal:

This machine is compatible with universal micro gimbal, the installation:

1.Stuck the below horizontal tube of the body with fixing ring on one side, and the other side is

forcibly clipped in the below horizontal tube of the body.

2.Inside the fuselage,connect the electrical connecting line and then power it.

3.Gimbal connection :

White line indicate Heading control

Brown line indicate Pitch control

Black line is gnd

Yellow line indicate Mode switch

2 axis Gimbal:

When connect to RC receiver , pitch and roll can be control by RC.(white and brown)

3 axis　Gimbal :

When connect to RC receiver it can switch in 3 working modes,also can control the heading and pitch via the RC recerver.

Heading follow mode:

Camera pitch and roll angles remain constant,heading follows the nose position,pitch can be control by RC

Heading and pitch follow mode:

Camera roll angle remains constant,heading follow the nose position and pitch follow the elevation of the aircraft

Heading lock mode:

Heading,pitch and rolll are all locked to point at one position, heading and pitch can be control by RC.

The installation and powering of Battery:

1.Install the battery on the battery slot, and then catch the buckle in the end of battery with the bait rotation on both sides.
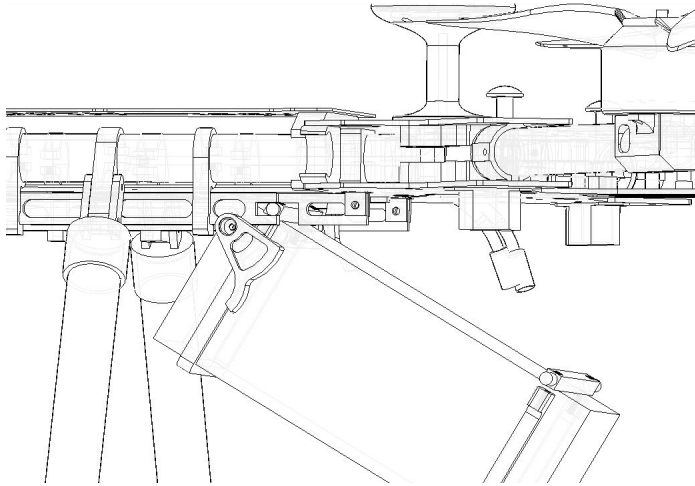
2.For the safety, when power is on, always plug in black first and then the red. When the power is off, always pull out the red first and then the black.
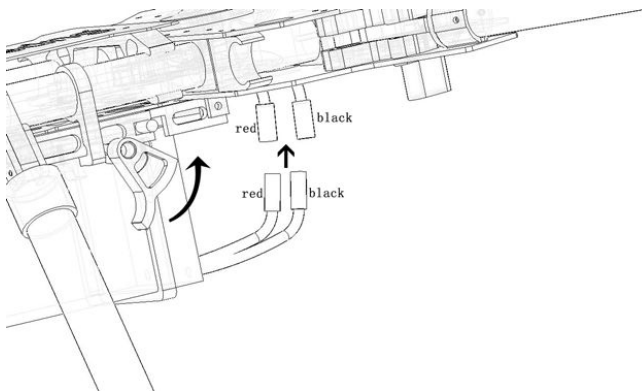
Set of failsafe:

Set up channel 6 of remote control, when the remote control is closed, channel 6 is in neutral point position, LED red lights are bright all the time, adjustable parameter software 6 channel slider is in the failsafe position. And the setting is successful.

Flight operation instructions:

Be sure to make a compass and a plane calibration at first after each flight, and then wait for the GPS searching star, according to weather conditions, it takes about 30 seconds -60 seconds to complete the star searching.

The last flashing LED light turns green from white,that is, "red~ yellow~ blue～green "breathing state. It proves the accuracy of GPS positioning has reached the requirements of take-off and can achieve GPS mode flight and return function. Be sure to set the failsafe before flying, when the remote control is closed, the flight control is in failsafe state, LED red lights are bright all the

time.

In Attitude mode or the GPS mode

1.To start the motor: start the motors by pulling both control sticks to the bottom outside corners, and then release rocker quickly after the motor starting.

2.In Attitude mode, after starting the motors ,throttle directly acts on the power transferring and controls the flight height. It can not automatically fix the point and height.

3.In the GPS mode,after starting the motors,the throttle quickly push over half of the trip, the plane successfully completes take-off action, and automatically hovers at a certain height,after throttle is back to the center, it makes a fixed point and height hover.

4.Return, after the channel 5 switching to return the position, and waiting for 3 seconds, the aircraft automatically return. Within 50 meters from the point of take off. there is no climbing but returning in direct line to the tail.Over 50 meters, it climbs to a preset height first and then return in direct line after docking the tail. In the process of returning,any operation of the rocker on the aircraft can have the direct intervention,the remote control has priority.

5.Motor stop: After the execution of pulling both control sticks to the bottom outside corners,the motor will stop immediately in any case(including flight process). Channel 5 goes back to return state, and can automatically stop before take-off. In GPS mode, if the plane does not take off within several seconds after starting the motor, it will automatically stop. In the return state,it can not start the motor.
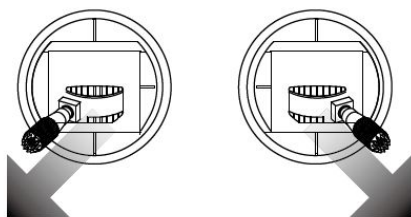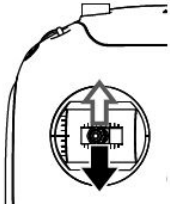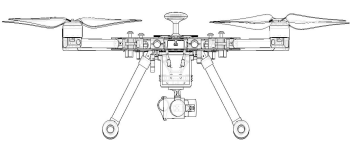

Flight controls

As shown in figure: at first,expand the aircraft from the unfolded state and press the button of the folding parts, and then expand the machine arm to the right position,loosen the button, the machine arm can be automatically bounced and locked, while being folded, operate conversely. Then cover the flight control cabin as shown in figure.
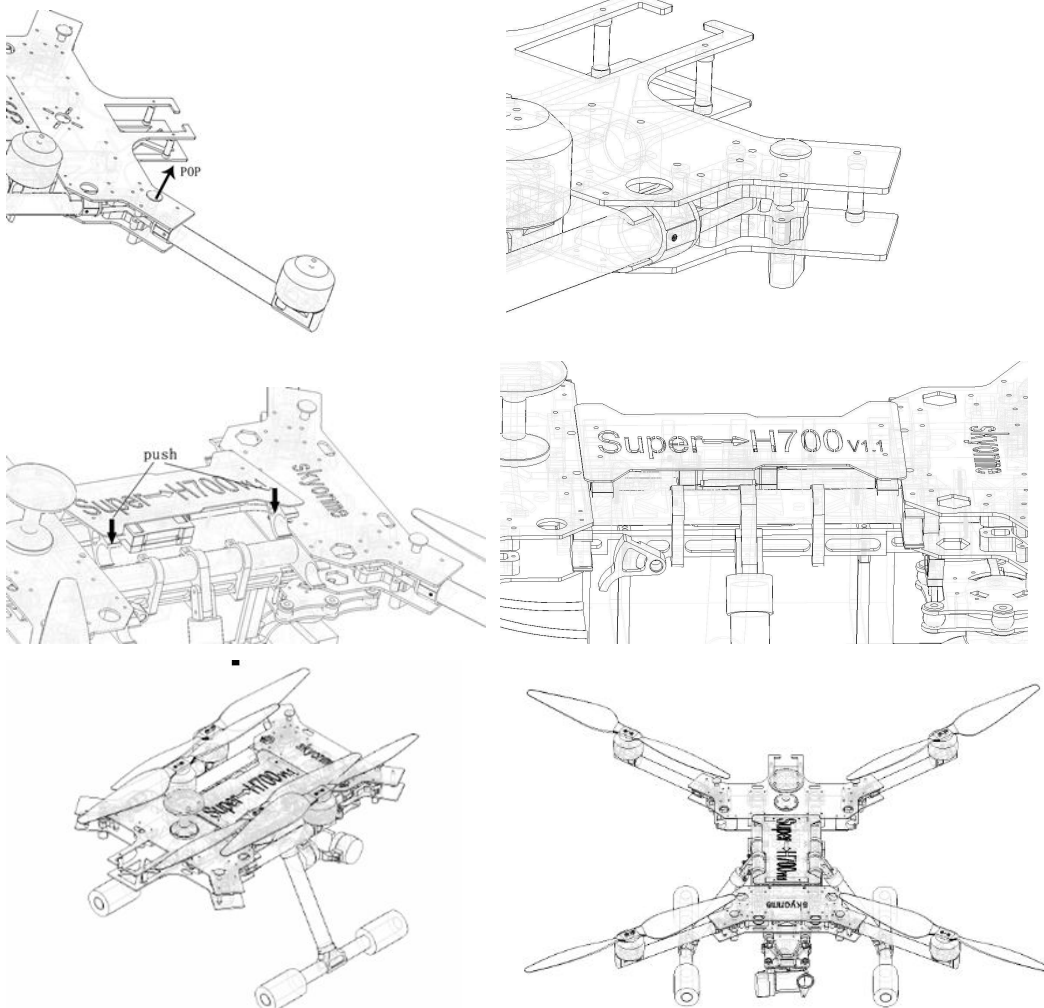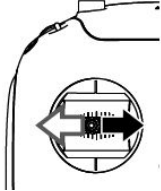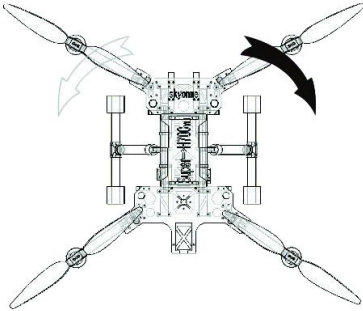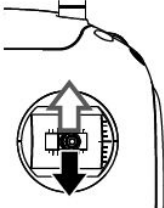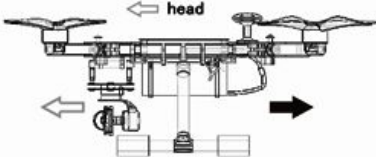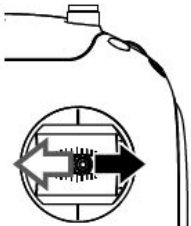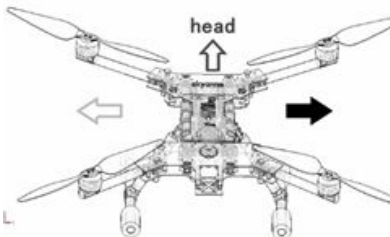
Take America hand (model2) as an example, illustrating the control methods of remote control.
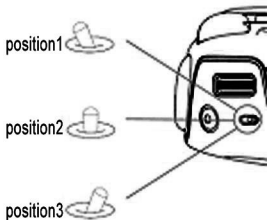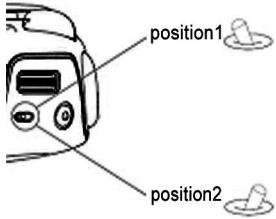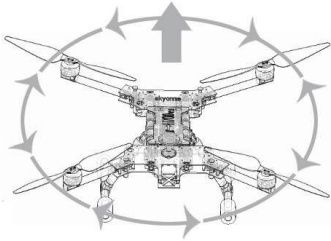
the rocker is back in the central / neutral point:the rocker of remote control is in the neutral position.

Rocker rudder amount: the offset of rocker deviation from center of remote control.

Transmitter (America hand)	Aircraft(← shows the direction of aircraft's head)	control methods
		Throttle rocker is used to control aircraft up and down,push the throttle up, the aircraft can rise. Pull the throttle down,the aircraft can reduce. When it is at the neutral point, the height of aircraft keep unchanged(at gps mode)

		When the aircraft is taking off, in the GPS mode,throttle must be pushed over neutral point first and then aircraft can leave the ground. In the Attitude mode, please gently push rod to prevent run-up suddenly.
		The yaw rocker is used to control the aircraft's heading Play the rudder to the left,the aircraft rotates counter-clockwise Play the rudder to the right ,the aircraft rotates clockwise The rudder is at the neutral point, the aircraft does not rotate. Rocker rudder amount is corresponding to the angular speed of the aircraft rotation. The greater the amount of rudder is , the greater angular speed of rotation is.
		Pitch rocker is used to control the forward and back of aircraft Push it up,the aircraft flies leaning forward. Pull it down, the aircraft flies leaning back. At the neutral point,the aircraft keep even and still front-and-back. Rocker rudder amount is corresponding to the front and rear tilt angle of the aircraft. The larger the rudder is, the

		bigger the tilt angle is, the faster the flight speed is. In the GPS mode ,if the throttle is neutral,the aircraft keeps the same height in the process of flight. In the Attitude mode, the process of flight can change with the throttle.
		Rolling rocker is used to control the aircraft flying around. Put the rocker to the left,the aircraft flies tilting left. Put the rocker to the right,the aircraft flies tilting right. Put the rocker at the neutral point, the aircraft keeps even and still. Rocker rudder amount is corresponding to the left and right tilt angle of the aircraft, And the larger the rocker is, the more the angle is , the faster the flight speed is. In the GPS mode ,if the throttle is neutral,the aircraft keeps the same height in the process of flight. In the Attitude mode, the process of flight can change with the throttle.

position1 position2 position3	1.If the channel 5 rocker is in3 position, it is in the Attitude mode. 2.If the channel 5 rocker is in 2 position, it is in the GPS mode. 3.If the channel 5 rocker is in1 position, it is in the return mode. The above model needs to be mapped in the parameter adjustment software.	The three switches in channel 5 are in the 3 position,it is the "Attitude mode" correspondingly and the aircraft moves with the throttle, and there is no altitude maintenance and GPS fixed point function. The three switches in channel 5 are in the 2 position,it is the "GPS mode" correspondingly and the aircraft takes off after the throttle being pushed over half, and stopping at the neutral point. Fixed point and fixed height can be achieved in the premise of having good GPS signal. The three switches in channel 5 are in the 1 position,it is the "return mode" correspondingly,and the aircraft returns.
position1 position2	If the channel 6 rocker is in 2 position, it is in the headless mode . 	The two switches in channel 6 are in 1 position,it is the "normal mode" correspondingly and the head direction of mutitor is the direction of the corresponding rocker. In 2 position, it is the " carefree headless mode" correspondingly. When the motor starts, the corresponding direction is the direction of head. After taking off, the actual direction of the mutitor needs no attention. The headless mode can only be played in

		the GPS mode.

LED lights flashing instructions:

When the"red light" is flashing(not breathing),the sensor needs to be calibrated, plane calibration is also needed.

When the "yellow light" is flashing, the compass needs to be calibrated.

When the "blue light" is flashing, the channel trip needs to be calibrated.

When the "white light" is flashing, GPS self inspection did not pass, and the GPS contection line need to be checked.

When the "blue light" is bright all the time, the right and left rocker channel in the Channel calibration need full rudder circles., when the "blue light" is flashing speedily,the right and left rocker channel need to go back to the center.

If the "green light" is bright all the time and is breathing, Plane calibration is needed , do not touch the plane body and keep static.

In flight, if the "red light" is flashing every 2 secondsthe flight mode is Attitude mode.

In flight, if the "green light" is flashing every 2 seconds, the flight mode is GPS mode.

If the "red~yellow~blue~white" lights are flashing successively for two circlesthe flight control is in the self inspection.

If the "red~yellow~blue~white" lights are flashing under the breathing state, the plane passes self inspection and waits to take off.

In flight, if the green light flashes with a blue flash,the flight state is GPS mode and no head mode is turned on

In flight, if the "red light" is bright all the time,the plane is in the outof control safe protection.

In flight,when the "red light" is flashing, voltage is insufficient. The more points flash, the lower the voltage

In flight, if the "white light" is bright all the time(its occasional appearance is normal) ,attitude state alarms,please don't fly and contact us.

Automatic return and outof control safe protection return:

The Multi rotor aircraft supported by Skyonme-EZ flight control has the automatic return function. Before flying, the LED light last flash is green, recording the return point successfully. And the

out of control safe protection has been set up before flying.When the signal between the remote control and the aircraft is interrupted, the aircraft will automatically climb to the preset height and then return, landing at the take-off   point to avoid the accident.

Dial the channel 5 switch to the return position, the aircraft will climb to the preset height in 3 seconds to return and land at the take-off point . In the return process, remote control priority is the highest,any movement of the rocker will directly control the flight of the aircraft, loose bar after 3 seconds and restart return to home .In the process of out of control safe protection return, after re-receiving the signal of remote control, LED lights are still red and the return is executed. Switch to Attitude state, the return stops.

Notes: In any case,the remote control executes the priority control to the flight control. As long as there is a remote control signal, at any case, the remote control can control the aircraft at any time.

Low voltage protection:

When the flight control LED lights of Skyonme-EZ system are at low voltage,they can launch red light flashing alarm.The more times the red light flashes, the lower the voltage. If there are more than 4 red flashing lights, if the red light flashes for more than 4 times in a circle. the aircraft began to slow down. At this moment, if the throttle lever is pushed up the aircraft can be still pulled up and land in a safe place according to the actual condition.

Intelligent course of Carefree function:

Dial the 6 channel switch to the CF position,when the motor is started, the direction is the head's direction. In the process of flight, no matter what the head direction is, the direction of the take-off is the head's direction and no need to see the actual aircraft head direction.

Flight problems and Solutions:

Notes:

Do not close remote transmitter in the Attitude mode, or the motor will stop and not return out of control.

In the GPS mode, if the aircraft is circling when it starts to hover, (it flies for the first time.)the GPS installation direction can be justified, the heading angle was 0 degrees in the north, the installation direction is ensured to be within ten degrees.The flight control can adjust intelligently hovering and circling problems till it can hover without circling.

Aircraft configuration and its parameters:

Diagonal motor wheelbase after deploying: 700mm,

The maximum safe flight weight: recommended no more than 6KG

Empty weight with flight control,motor, electric motor, propeller,1100G

Motor type :skyonme 4114,400KV

Esc: 40A

Propeller: 1555 full carbon Propeller

The maximum horizontal speed :15 m / s(GPS mode)

The maximum rise speed: 5 m / s

The maximum fall speed: 2m/s

The maximum flight altitude: 200-500 meters can be set

Flight time; standard version of no-load for 29 minutes 40 seconds.

Upgraded version of no-load for 47 minutes.

Enhanced version of no-load for 1 hours 8 minutes.

GPS for GPS/GLONASS dual mode antenna

Flight control Skyonme-EZ flight control system