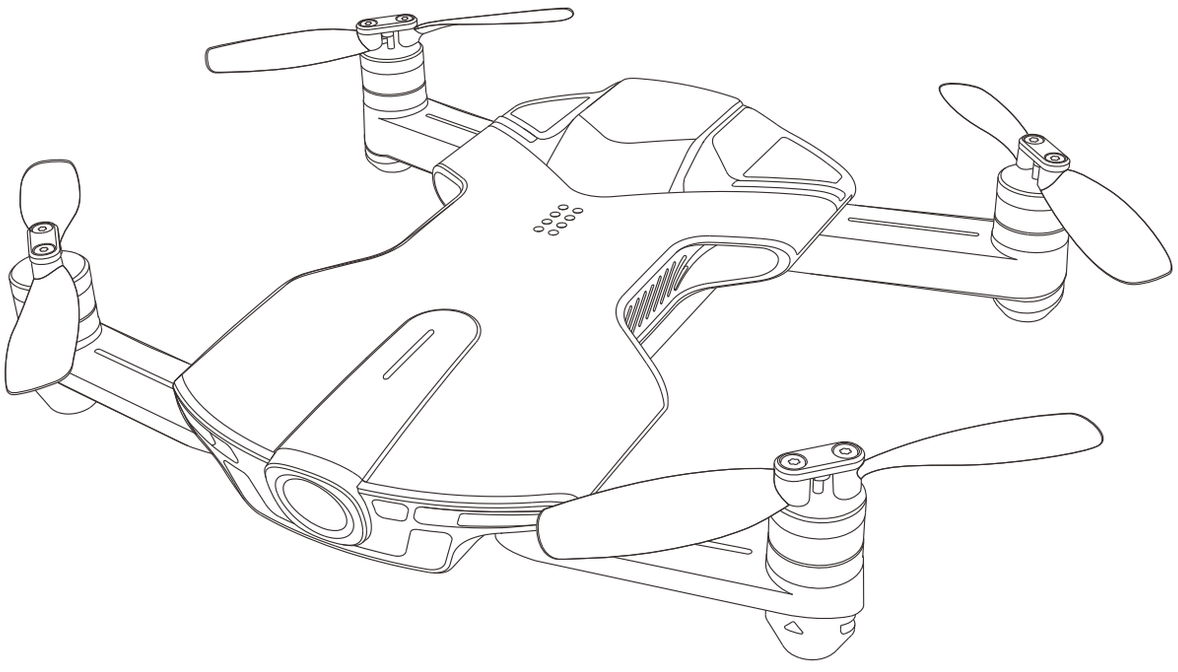
WINGSLAND S6

S6 User Manual V2.1



WINGSLAND

Height Changes Your Sight

Contents

Introduction

Thank you for purchasing the new intelligent S6 drone, from Shenzhen Wingsland Technology Co., Ltd. We recommend for a stable and smooth flight experience, that you read the Quick Start Guide and the User Manual before using this product. Practice your operating skills with the inbuilt Flight Simulator in the WINGSLAND FLY app to ensure controlling the aircraft with skilled operation.

If you have any questions about this product, please contact WINGSLAND technical support or WINGSLAND authorized dealer by sending a message or giving us a call.

For user manual renewal, firmware upgrade, company announcements and more information, please keep up with the WINGSLAND official website:
www.wingsland.com

China Tech Support Tel: +86-400-0805-969
USA Tech Support Tel: +866-944-8840
USA Tech Support Email: support@szsungreen.com
Other Country Tech Support Email: service@szsungreen.com

Download WINGSLAND FLY APP

Download and install the WINGSLAND app from App Store, Google Play, WINGSLAND official website or scan the QR code before using the aircraft.The password is 12345678 OR wingsland. Check the label of WiFi name and password beside the aircraft arm.

APP Android

APP iOS

WINGSLAND FLY APP supports iOS 9.0 (or later) or Android 5.0.1(or later). Recommended Devices: iPhone, Huawei, Xiaomi, Lenovo, OPPO.

S6 Overview

Overview

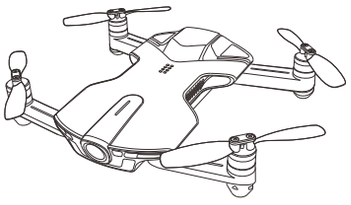
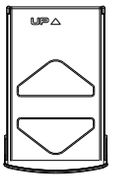
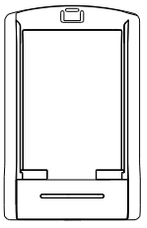
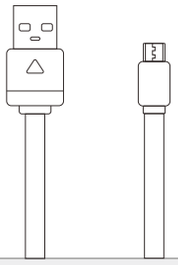
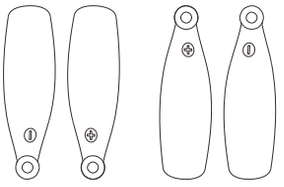
The S6 pocket drone only weights 260g with the folding arms design. It is a new generation recreational aircraft which is independently developed by WINGSLAND Technology. The camera features an electronic image stabilization system, which can capture 13MP images and shoot ultra high definition videos up to 4K at 30 frames per second or 1920*1080 at 60 frames per second.

With multi-intelligent components, an optical flow sensor, ultrasonic module, built -indual satellite navigation and WINGSLAND advanced flight control system, the S6 will always be your most reliable flying companion, bringing you a solid and remarkable flight experience whether indoor or outdoor.

The S6 is also a modular flying platform for various accessories: boom gun, searchlight, and display board. Accessories will seamlessly attach to the upper shell of your S6 through an extended port to boost the fun.

In the Box

Check all of the following items have been included in the package before use.

<table>
<tr><td colspan="3">● S6 package list:</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Aircraft x1(included a suite of propeller)</td><td>Battery x 1</td><td>Charger x 1</td></tr>
<tr><td>  </td><td>  </td><td></td></tr>
<tr><td>USB cable x 1</td><td>Documents x 1</td><td></td></tr>
<tr><td colspan="3">● Gift:</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Portable box x 1</td><td>Screwdriver x 1</td><td>Propeller(one pairs)</td></tr>
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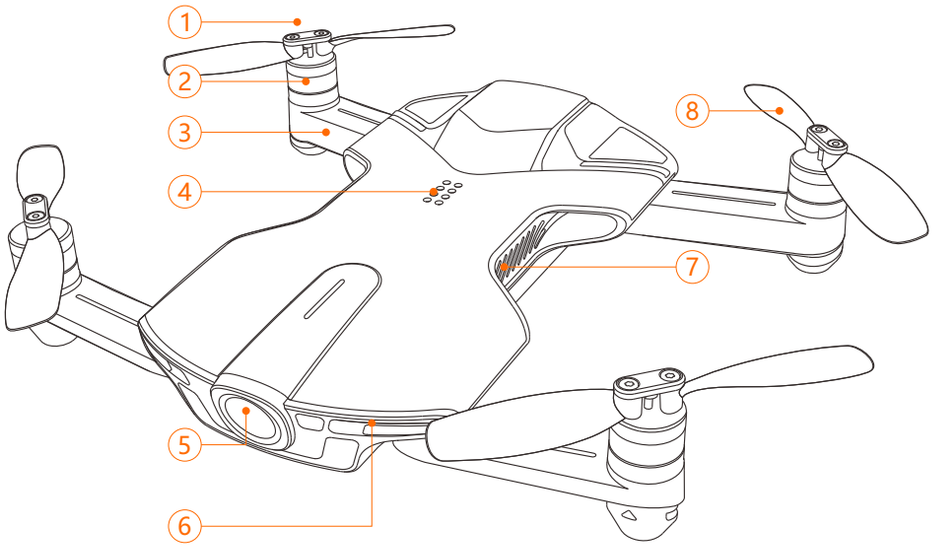
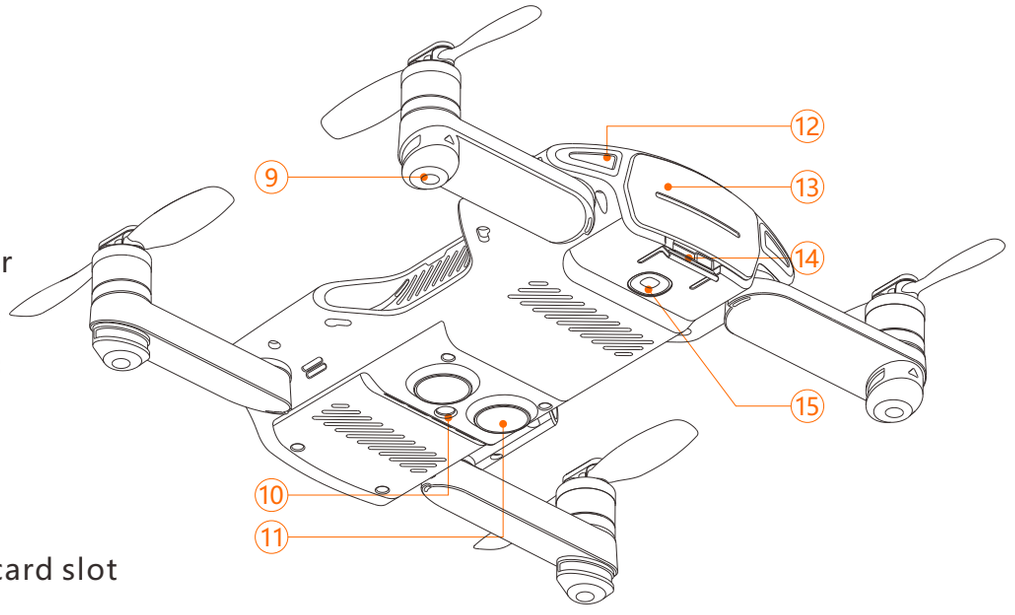
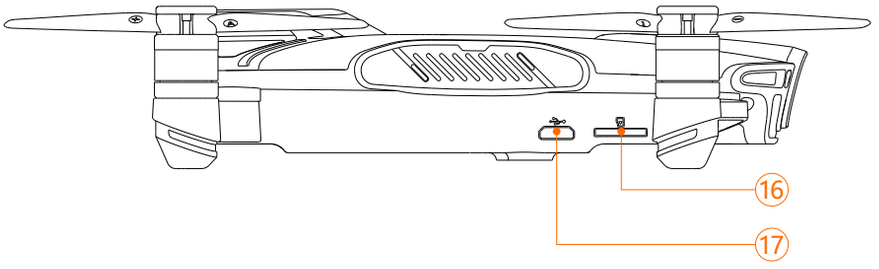
Aircraft Diagram

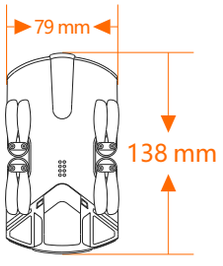


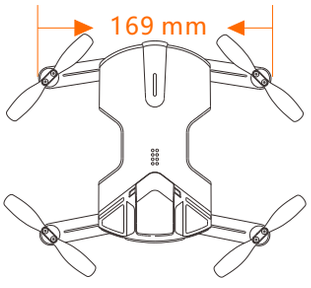
① Propeller Lock Screw
② Motors
③ Arm
④ Extended port
⑤ Built-in Camera
⑥ Front LEDs indicator(Green)
⑦ Ventilation Slot
⑧ Propellers

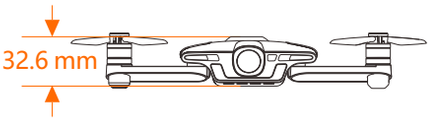


⑨ Footpads
⑩ Optical flow sensor
⑪ Ultrasonic module
⑫ Rear LEDs(orange)
⑬ Battery
⑭ Battery lock catch
⑮ Power button
⑯ Camera micro SD card slot
⑰ Micro USB port





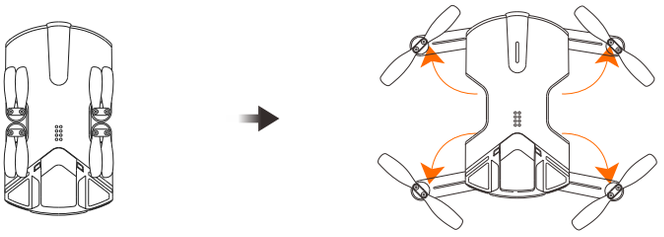




Prepare the Aircraft

Propeller

Unfold the 4 folding arms to its maximum position. Extend the 4 pairs of propellers into ready-to-fly position. After the flight, please fold the arms and the propellers and put the aircraft into the carrying box.

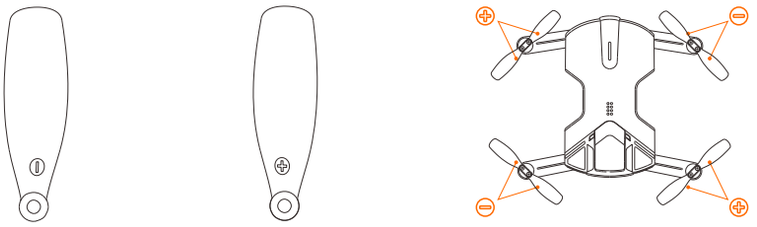


Fold the propellers　　Extend the Arm

The old version propeller blades need to be unfolded and extended into ready-to-fly position before takeoff. The new version propellers can be spread out automatically by the centrifugal force after takeoff. They cannot be mixed and used as the whole set.

Change the propellers

Distinguish marks of directions on propellers, ⊕ stands for clockwise and ⊖ stands for counter-clockwise. Unscrew the screws counter-clock wisely and take out the used propellers, then replace new propellers with the same marks of direction and fasten the screws securely.

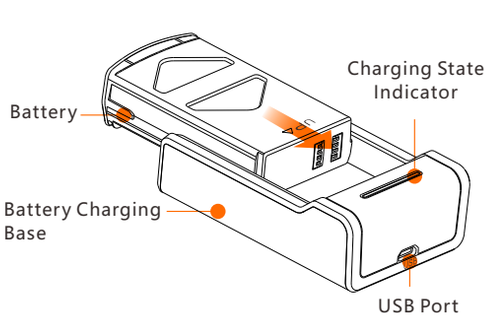


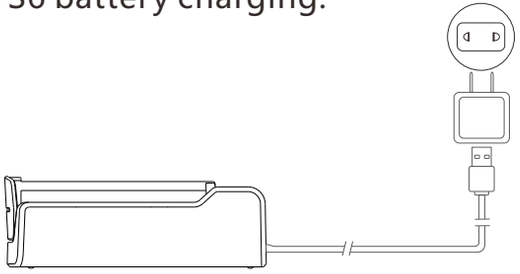
Clockwise　　Anti-clockwise　　Installation diagram

Recommend: Please fasten screws securely after every 5 hours flight time by using provided screw driver to protect it from falling off.

Charge Battery

The rechargeable S6 LiPo Battery has 1400 mAh capacity with standard voltage 7.6V. Charge it by using the S6 specialized charger. The LED light stays solid red when the battery is under chargingand the light turns green till the battery is fully charged. Remove the battery and disconnect the charger after it is fully charged. Portable power source is also available for S6 battery charging.





Connect to a suitable power source
(A fully charging takes approx. 1h 30mins.)

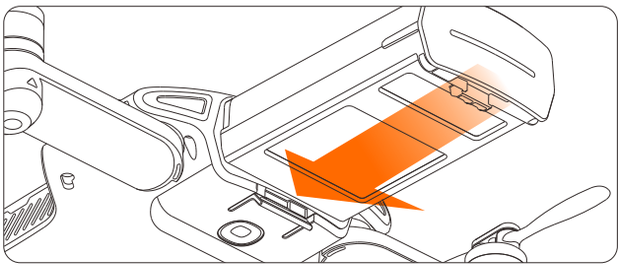
Disconnect the charger and remove the battery when green and red LED light flashes alternately, which indicates a battery error.

When working temperature is low, the performance of the battery would be affected severely and the flight time would decrease. In this case, please power on the aircraft for 3-5 minutes or warm up the battery to above 20℃ in pocket or in hands to further take off.

If the battery need to be stored for a long time, please make sure the battery level is between 40%-60% for a over discharge protection. Charge the battery every once in a while to keep the battery level.

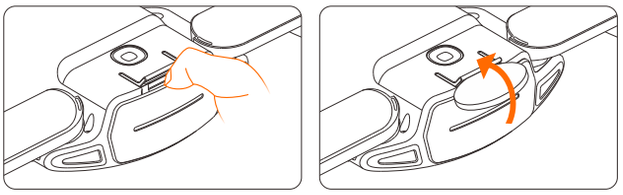
Battery Installation

Insert the battery into the compartment. The power button is located at the bottom of the aircraft.



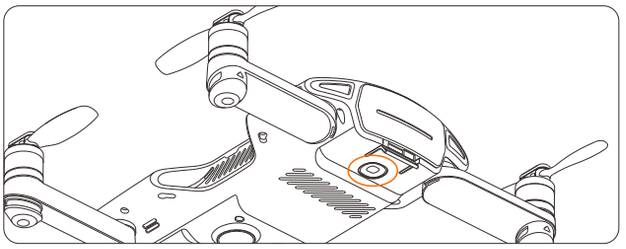
Replace the Battery

Flip over the aircraft, use your thumb to lever up the compartment lock and pull out the battery. If you are unable to do that with your thumb, please use a flat and small hard-object to pull out the used battery and replace the new one.



Power On/Off

Press and hold the power button for 5 seconds to power up the aircraft. After that, a continuously short beep sound indicates the aircraft is self-checking, a long beep sound indicates self-checking is complete and the aircraft is ready to go.



Power Button

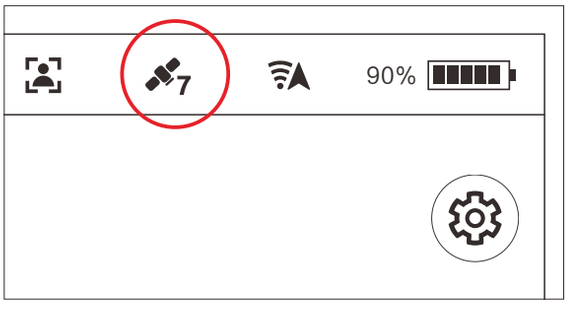
Aircraft

Flight Mode

Before the takeoff, please confirm the propeller guards prompt whether the aircraft is with or without propellers guard.The following flight modes are available in S6.

GPS Mode

S6 can use the internal GPS/GLONASS dual-module system to take off and hover outdoor where the aircraft can receive 7 or more satellites signal. Flying and geographical conditions can have a significant impact for the GPS reception, please pay attention to the following cases.



Satellite Number

1.Always fly the aircraft in an open area with clear sight and keep away from the crowds and animals.

2.Always fly at locations that are clear of buildings, power lines and locations where may have a strong electromagnetic interference.

3.Do not fly the aircraft in no-fly zone or any other legally restricted areas. Observe local laws and regulations. Keep the aircraft flight range and height within 100 meters.

4.Do not use the aircraft in severe weather conditions: snow, rain, smog, wind speeds exceeding 5m/s, etc.

5.Be more cautious when flying it at 6000 meters or more above sea level. The performance of the aircraft and the battery might be affected by the environmental conditions.

Assistant Positioning System

With the help of the Vision Positioning System, the aircraft can hover in place precisely when flying indoor or in other environments where the GPS signal is insufficient or unavailable. The system is only valid when the aircraft is between 0.45m and 2.5m above the surface. The performance of the Vision Positioning System is subjected to the flight speed, brightness and texture of the surface which the aircraft is flying over. Please be more cautious to use the assistant positioning system in the following cases:

- Flying at a high speed while at a low altitude.
- Flying over a surface with unclear patterns or highly repeating patterns.
- Flying over a monochrome surface or a water surface.

- Flying in an extremely dark or bright environment.
- Flying over a inclined surface which is tilted over 30 degrees.
- Flying over a moving surface or other environment which may affect the ultrasonic or optical flow positioning.

When flying indoor, the aircraft can only be landed by One-key Land operation.

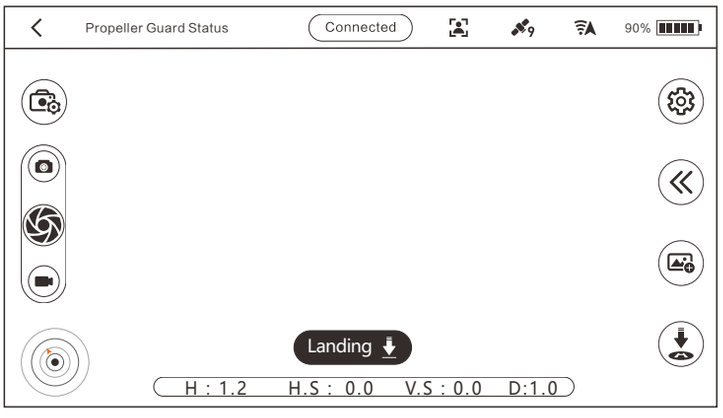
When the Vision Positioning System is not working, the aircraft can only use barometer to only maintain its altitude (the aircraft may drift horizontally).In this case, Land the aircraft as soon as possible.

Flight Failsafe

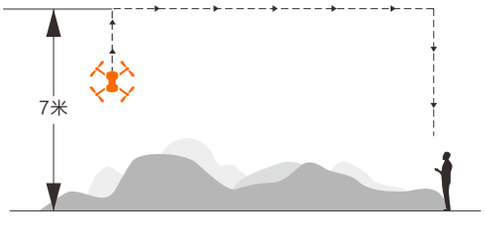
Return-to-Home

The S6 equips a auto Return-to-Home feature, when you are not clear of the position of the aircraft, you could active the feature to call back the aircraft.

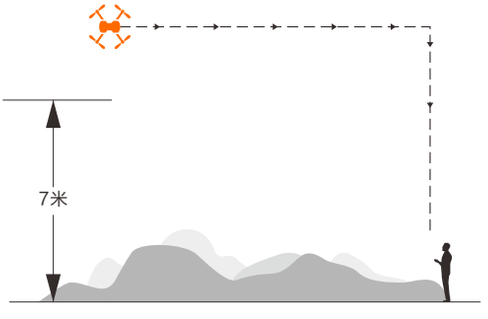
Tap the Auto Return-to-Home icon in the flying interface and Confirm to command the aircraft return to the last recorded home point in a preset altitude. The auto Return-to-Home function can be canceled during a Return-to-Home flight by tapping the exit icon or moving virtual joysticks.



APP Interface



The flight height < 7 meters.



The flight height ≥7 meters.

When the aircraft is between 5m from the Home point, it will return to the Home point at the current altitude with the Retrun-to-Home function.

The auto Return-to-Home feature can be canceled during a Return-to-Home flight by tapping the top left corner “exit” icon or by moving the virtual joysticks.
When the GPS reception is poor, the auto Return-to-Home function will not be functional.

Please make sure the battery has enough battery level for performing the auto Return-to-Home feature.

Low Battery Warning & Landing

A red prompt on the screen will appear when the flight battery is at 30 percent. It means that the low battery warning is triggered. Please choose a suitable landing ground and control the aircraft to the landing area. When the battery level at 10 percent, the aircraft will land automatically. During the landing process, the user can still use the joysticks except for the throttling.

When the aircraft starts to automatically land, the auto Return-to-Home will not work. When the low voltage triggers the alarm, please be sure to return the aircraft for landing, to prevent losing power and damaging the aircraft or danger humans and animals.

Failsafe RTH

When the control signal between the aircraft and smart device is lost,the flight control system will control the aircraft to return to the home point and automatically land. The landing point is the place where the aircraft connected to 7 or more satellites at initial flight.

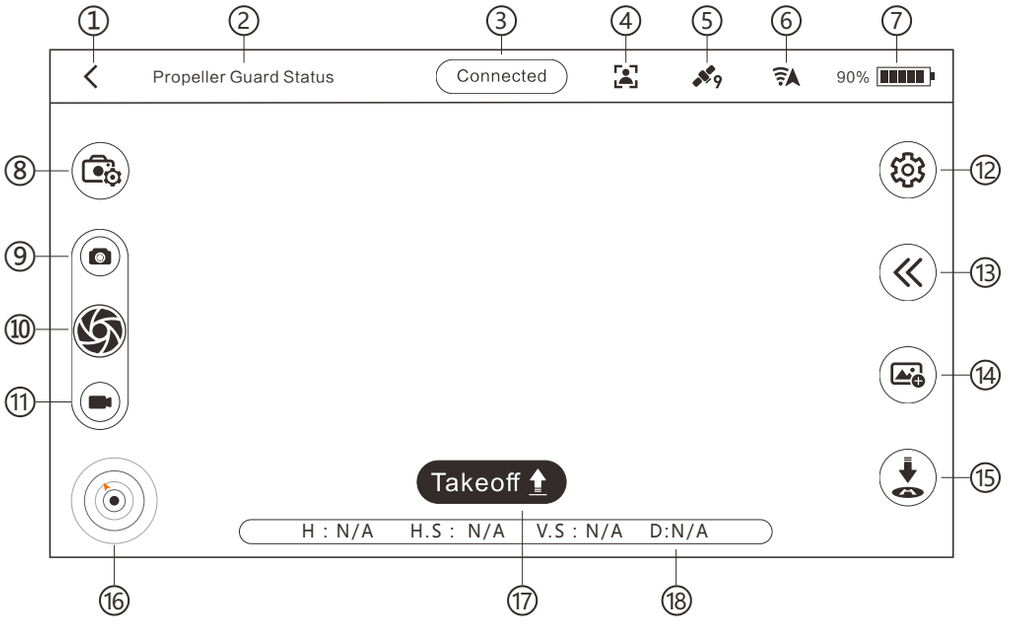
When the altitude is above 7 meters, the aircraft will keep the altitude and return to the home point. If the altitude is below 7 meters, the aircraft will automatically ascend to 7 meters, then return to the home point. When the aircraft is between 5m from the Home point, it will return to the Home point at the current altitude with the Retrun-to-Home function.

The failsafe RTH feature cannot be activated if the GPS satellites are not enough.

WINGSLAND FLY APP

WINGSLAND FLY APP is a mobile application designed specifically for WINGSLAND S6. WINGSLAND offers an ideal and powerful mobile device remote solution for controlling your S6 with the virtual remote FPV monitor and flight critical information display. With built-in simulator software and guidelines for beginner, you will soon get the hang of it. The app allows you to edit and share your photos and videos with others through the SNS platform.

Flying Interface Introduction



① **Exit:** Return to the main menu.
② **Propeller Guard Status:** With or without propeller guard
③ **Connection Status:** This icon shows the connection status between the aircraft and mobile device.
④ **Sefile Mode:** shows the aircraft is set to Sefile Mode
⑤ **GPS satellite:** Shows the current GPS signal number.
⑥ **Wi-Fi Signal:** shows the Wi-Fi strength between the aircraft and mobile device.
⑦ **Battery Level:** shows the current battery level.
⑧ **Camera Setting:** Tap to set the camera setting, such as: photo size, video resolution, live view quality, default setting, etc.
⑨ **Photo:** Switch to photo mode
⑩ **Shutter:** Start to shoot photo or record video.
⑪ **Video:** Switch to video mode
⑫ **General Setting:** Tap to enter General setting menu for changing the flight mode、calibrating、setting the control mode, etc.
⑬ **Accessories/IOC Setting:** Tap to choosing the accessories or intelligent flight function.
⑭ **Photo/Video Editor:** import and editor the photo or video
⑮ **Auto Return-to-Home:** tap this icon to activate the return-to-home function
⑯ **Radar:** indicate the forward direction of aircraft
⑰ **Auto Take off/Landing Button:** Tap to activate auto take-off or landing function
⑱ **Flight Data:** indicate the flight height、distance、vertical speed、horizontal speed.

Flight

Flight Safety Notice

- Only fly in an open area and always fly your aircraft within line of sight.
- Always fly at locations that are clear of buildings, crowds, trees, power lines, and locations where it may have a chance of strong magnetic interference.
- Do not fly the aircraft within areas such as airport, no-fly zones. Observe local laws and regulations. Keep the aircraft flight range and height within 100 meters.
- Do not use the aircraft in severe weather conditions: snow, rain, smog, wind speeds exceeding 5m/s, etc.
- Be very careful when flying at 6000 meters or more above sea level. The aircraft Functions may be affected by the environmental conditions.

Preflight Checklist

- Mobile device and flight battery are fully charged before flight.
- Make sure that the Wingsland Fly application and flight control firmware are the latest version.
- Unfold the 4 folding arms to maximum position. Propellers are mounted correctly and firmly.
- Micro-SD card has been inserted. The maximum capacity is 32G.

GO Start to Fly

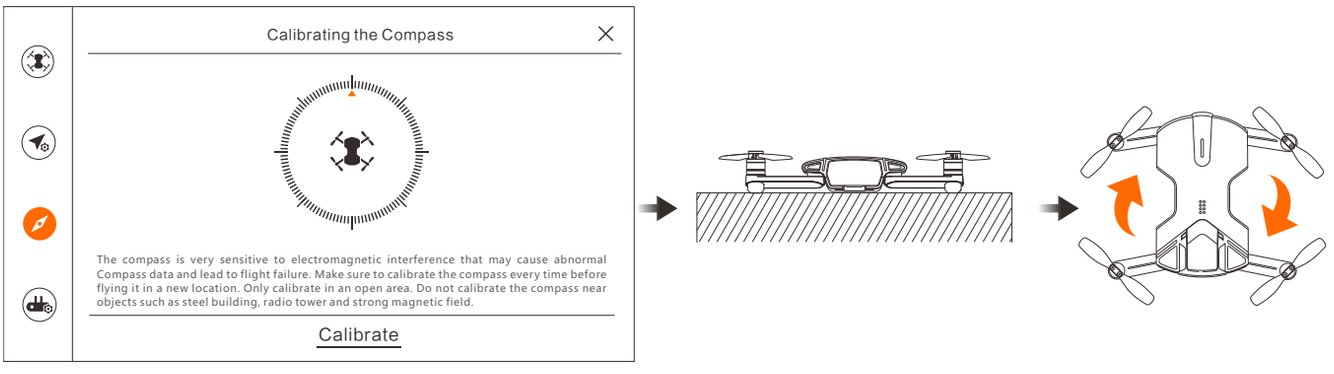
Calibrate the Compass

Please calibrate the aircraft for the following cases:

- First Flight.
- Flying in a new location or in a location that is far apart from the last flight.
- A drift occurs when the aircraft is hovering.

Calibration procedures

Tap into the general setting menu and select the compass calibration icon ①. Place the aircraft on a flat ground ② and confirm to start the calibration and follow the APP prompt to rotate the aircraft 360 degree clockwise horizontally for at least 6 times③. Place the aircraft on a flat ground and wait for the prompt shows Calibrating Data Updating. Tap yes to finish the calibrating. If a "Gyroscope Error" prompt shows up, please redo the above process.



① ② ③

- Do not calibrate in strong magnetic field.
- If the repeated calibration is not successful, please transfer to other places for calibration.
- Do not be in the vicinity of high-rise buildings or metal surface calibration.

Auto Takeoff/Landing

Takeoff: In the flying interface, tap the One-key Takeoff icon Takeoff , then confirm to active the feature. The aircraft will automatically take off and hover above the ground.

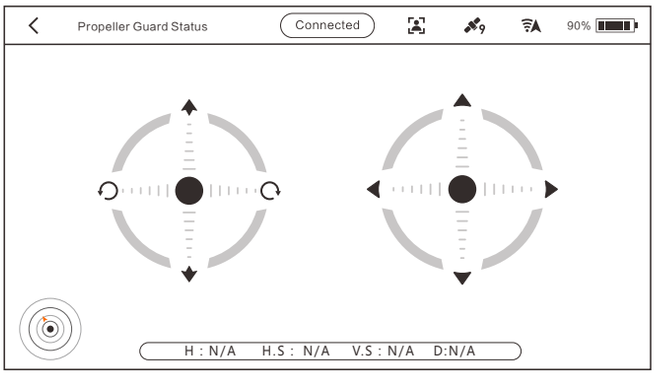
Landing: After takeoff, the One-key Takeoff icon will change to One-key Landing icon landing , By Tapping the icon , the aircraft will automatically perform the landing. Check the landing area condition and make sure no obstacle below the aircraft before the landing.

One-key Takeoff hover attitude reference: Indoor 1.2m / Outdoor 2.5m

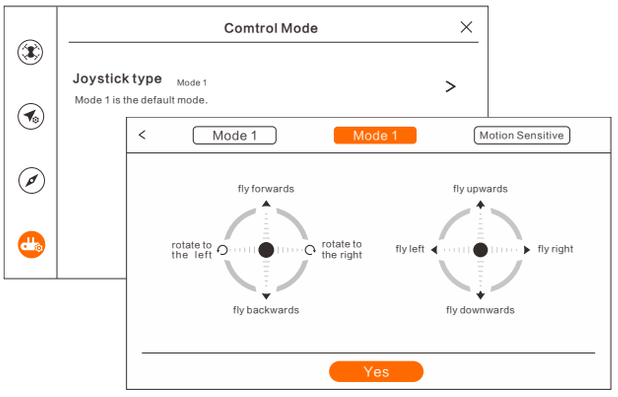
Control Mode

• Virtual Joystick Mode

Ensure the smart device has been connected to the aircraft before using the virtual joystick mode. By pressing on the screen, the virtual joystick will be displayed on the APP screen. The virtual joysticks are set to Mode2 by default (Mode1 and Mode2 can be switched under general setting). The left joystick controls the throttle and rotation of the aircraft, the right joystick controls forward, backward, left, right movement of the aircraft.



Virtual Joystick Mode



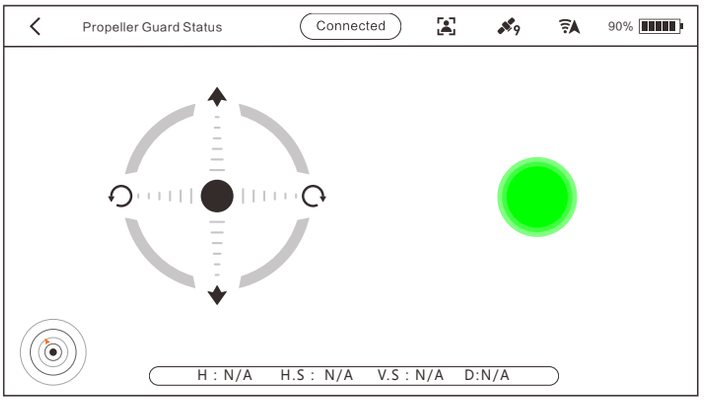
Switch Mode 1

Mode 2

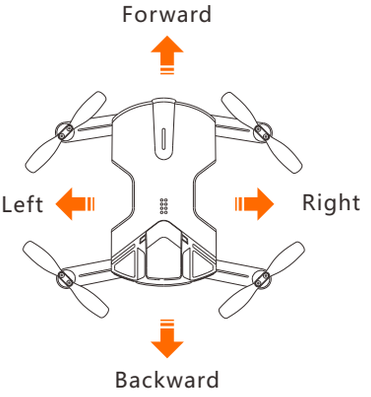
Mode 1

• Motion Sensitive Mode

Tap the general setting icon. Then change to the motion-sensitive mode by choosing the control stick setting icon. By pressing on the left half of the screen, a joystick will be displayed on left of the screen, which controls the throttle and rotation of the aircraft. By pressing on the right half of the screen, hold the green round on the right of the APP screen. The APP will record current inclined position of mobile device as a referenced position. Then tilt the mobile device to control the motion of aircraft when the circle button turns green. Tilt the mobile device forward/backward, the aircraft will fly forward/backward. Tilt the mobile device left/right, the aircraft will fly toward left/right.

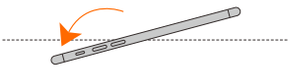


Motion-sensitive Mode Interface

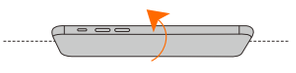


Nose Direction of Aircraft

Aircraft will fly right



Aircraft will fly left



Aircraft will fly forward

Aircraft will fly backward

Motion Sensitive Mode only works under Mode2.

Photo/Video

Photos: Under single shot mode: Tap shutter icon once to take one photo. Choosing burst mode on camera setting: Tap shutter icon once to take continuous 6 photos.

By opening Timer Photo Mode on camera setting, tap shutter icon once, the camera will take a picture automatically after 5 seconds delay.

Videos: Tap the video icon to change to the video record mode. Tap record icon once to start recording video, then tap icon again to stop recording. A recording timer will be displayed during the video shooting.

Intelligent Features

Beginner Mode

Under beginner mode, the aircraft will only take off when sufficient GPS reception is available (GPS satellite number ≥7). Intelligent functions and accessories functions are locked. Joystick sensitivity and flight speed cannot be adjusted. The above options and functions will be available under the standard mode. To switch the standard mode, please turn off the beginner mode first.

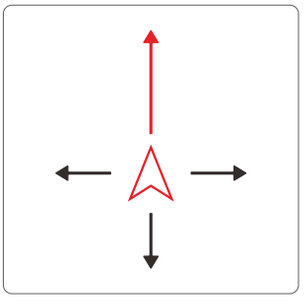
Selfie Mode

Place the aircraft on a horizontal ground in front of the operator and make sure the camera of the aircraft point at the operator before takeoff. After the takeoff, in Mode 2, push the right joystick forward, the aircraft will fly forward away from the operator.

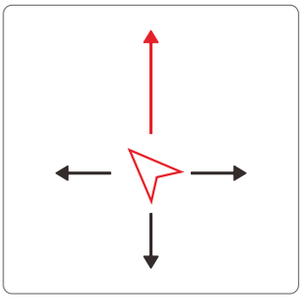
Under the Selfie mode, the forward and backward orientations are reversed. Please find an open area and look out the around environment.

Course Lock Mode

When the aircraft flies far away and the user cannot distinguish the nose direction, the course lock function will enable you to quickly control the aircraft back. By activating the course lock mode, the forward direction will be relative to nose direction during takeoff. This will easily distinguish the aircraft direction.



Normal

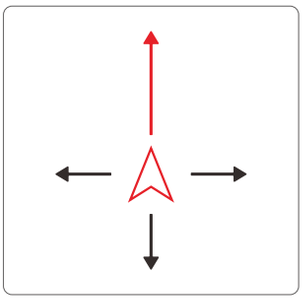


Home Lock Mode

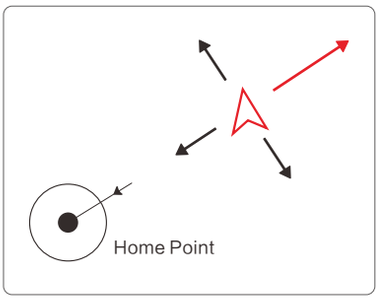
Tap onto the "course lock mode" icon and follow the prompt instruction to activate it.

Home Lock Mode

When the aircraft far away from sight, the home lock feature will help the user to easily control the aircraft back to the home point. By activating the home lock mode, this will fix your forward direction controls to be relative to the takeoff point. Easily full back on the right control stick (mode 2) to bring the aircraft back to the home point, or push forward to fly farther away, no matter which way it is facing. Move the right control stick to the left or right direction and the aircraft will circle the home point.



Normal

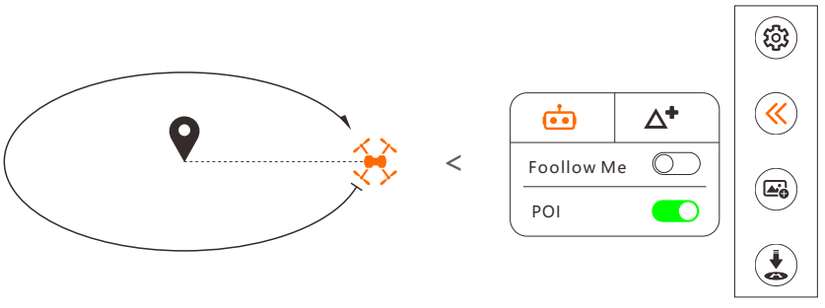


Home Lock Mode

Tap onto the “home lock mode” icon, and follow the prompt instruction to activate it.

Point-of-Interest

The aircraft will orbit around a subject automatically in POI mode. To perform POI, you need to fly the aircraft above the object that you are interested in, and then after confirmed POI function, move your aircraft from the current location to your desired location to set the orbit radius. After that the aircraft will fly in a circle with the camera fixed on the object.



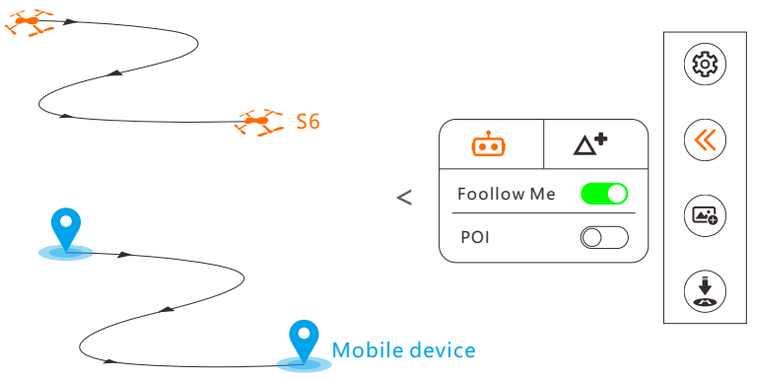
If the radius is smaller than 5 meters, the aircraft will automatically fly away from the point to 5 meters and perform POI.

Please pay attention to the flying environment and battery level during the POI flying. Only fly in an open area.

Follow Me

Follow me feature is based on your mobile device hot-spot. The performance will be affected by the mobile devices and the environment.

After confirmed Follow Me function, the aircraft will follow the operating mobile device automatically.

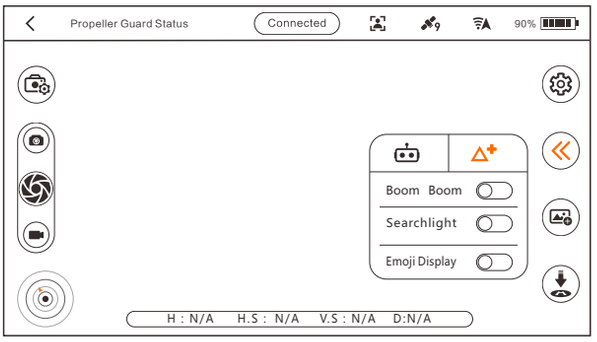


Please enable the GPS function on your mobile device. Active the Follow Me function when the aircraft is 5 meters away for best function performance. Do not cover your mobile device, and do not shake your mobile device during the Follow Me.

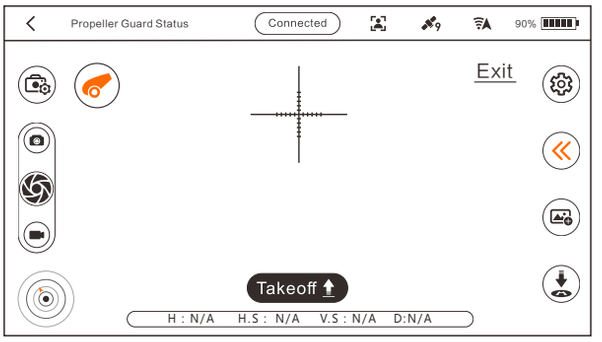
Please pay attention to the flying environment and battery level during the Follow Me flying. Only fly in an open area.

Accessories

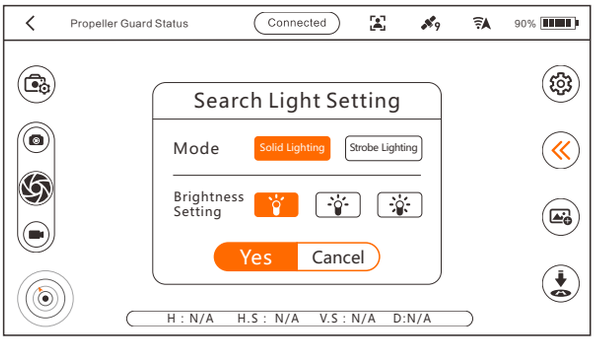
Accessories Interface



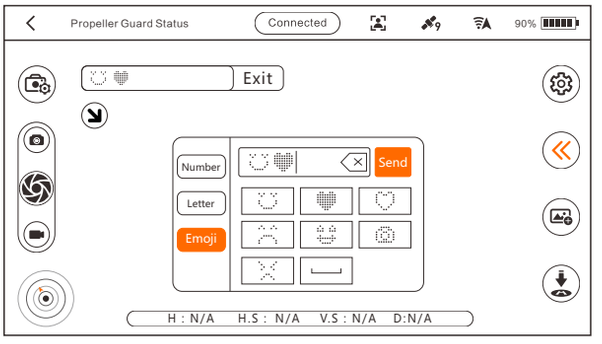
Accessories Menu



Boom Boom shoot



Searchlight

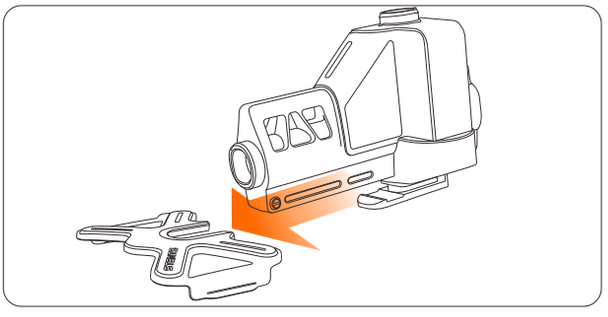


Emoji Display

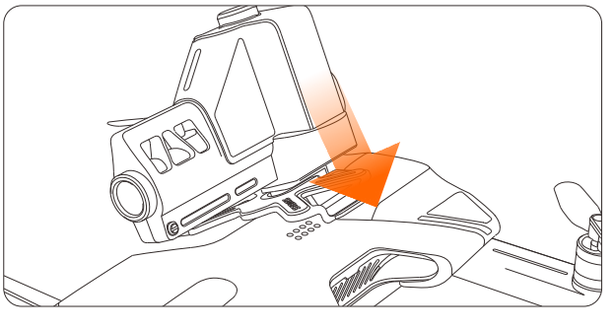
●Boom Boom

Aim through the crosshair on the app FPV screen, choose the target and fire.

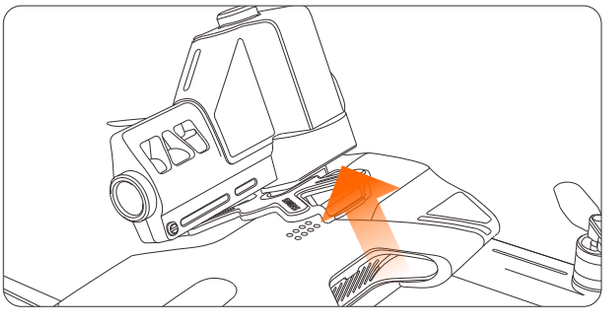
Boom Boom Installation:



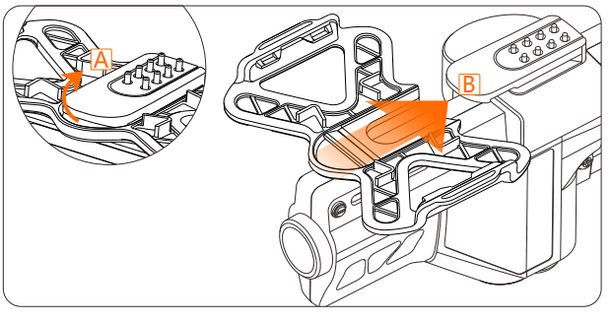
① Slide the Boom Boom into the buckle.



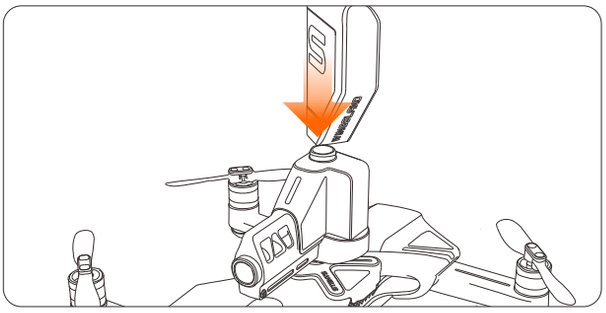
② Clasp the buckle on one side first, then push the buckle down to lock it on both side.



③ To remove the buckle, gently lever up one side first, then take off the buckle.



④ Lever Boom Boom' s bottom up A, and push it out of the buckle B.



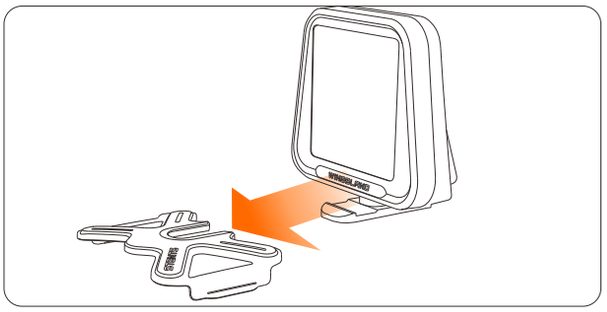
⑤ Use bullet clip to fill the Boom Boom.

⚠ Do not aim at people or animals. WINGSLAND is not responsible for any losses and damage if caused by the BOOM BOOM.

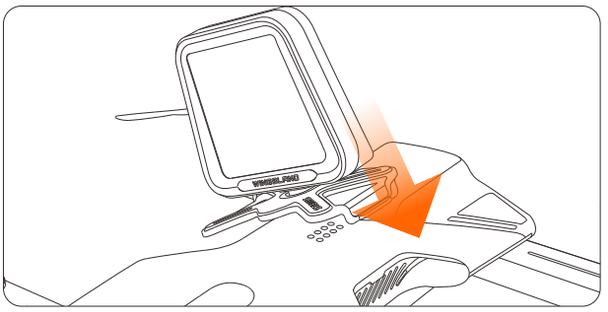
• Emoji Display

The display board will show the numbers, letters or emojis which are typed through the app.

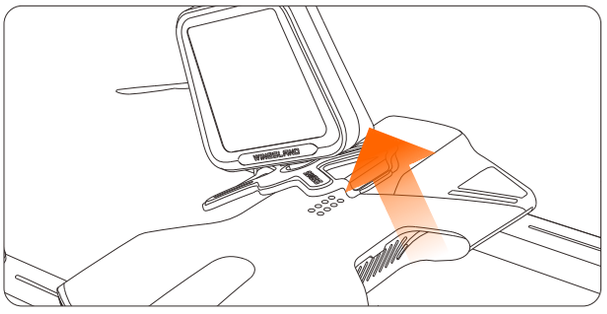
Emoji Display Installation:



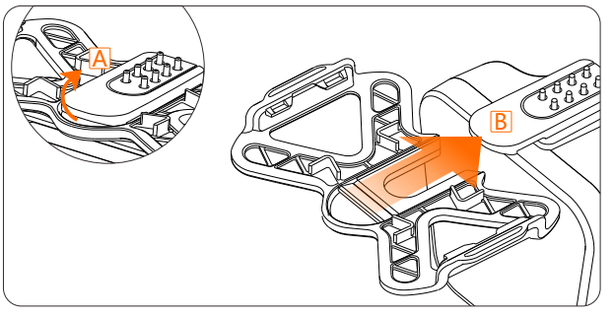
① Slide the Emoji Display into the buckle.



② Clasp the buckle on one side first, then push the buckle down to lock it on both side.



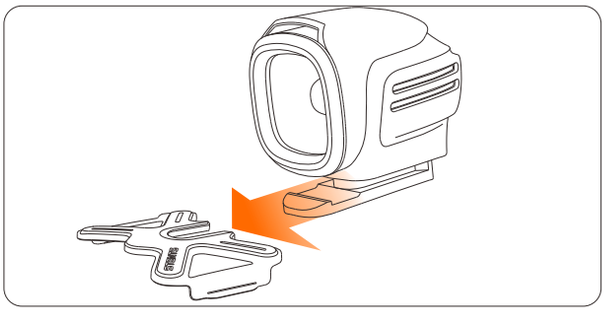
③ To remove the buckle, gently lever up one side first, then take off the buckle.



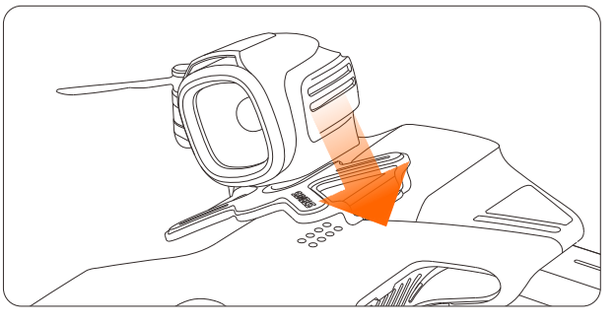
④ Lever Emoji Display' s bottom up A, and push it out of the buckle B.

• Searchlight

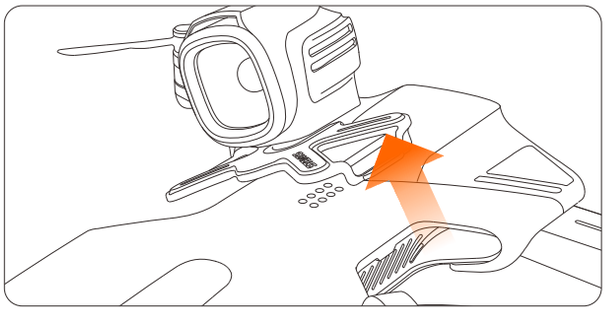
You can change different level of brightness and flash modes through the APP.
Searchlight Installation:



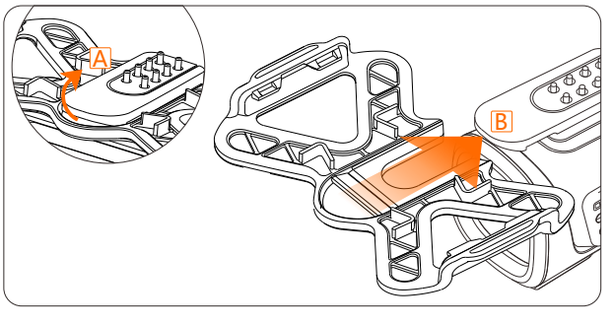
① Slide the Searchlight into the buckle.



② Clasp the buckle on one side first, then push the buckle down to lock it on both side.



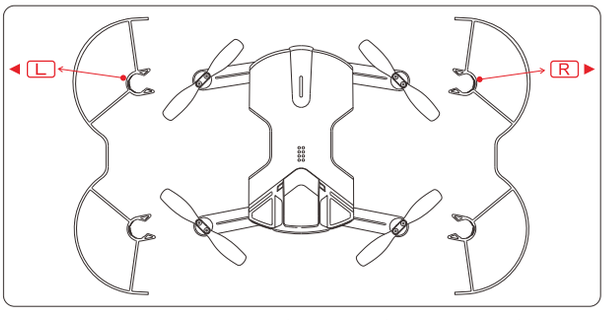
③ To remove the buckle, gently lever up one side first, then take off the buckle.



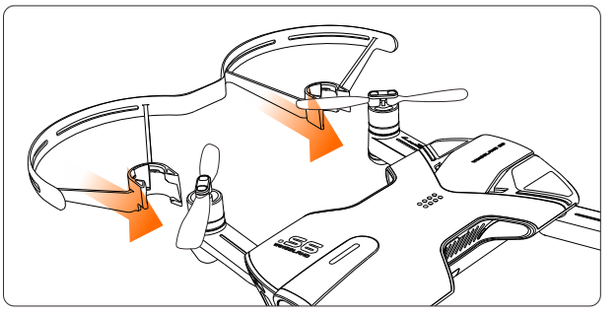
④ Lever Searchlight' s bottom up A, and push it out of the buckle B.

• Propeller Guard

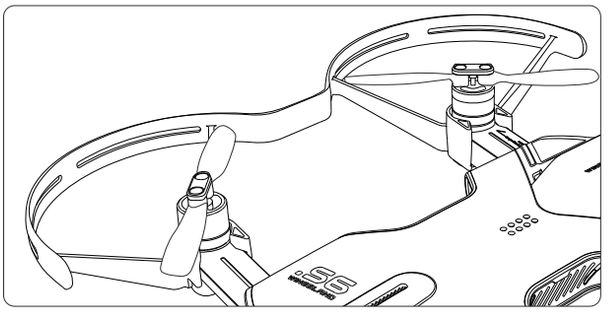
For a safe flight please install the Propeller Guard:



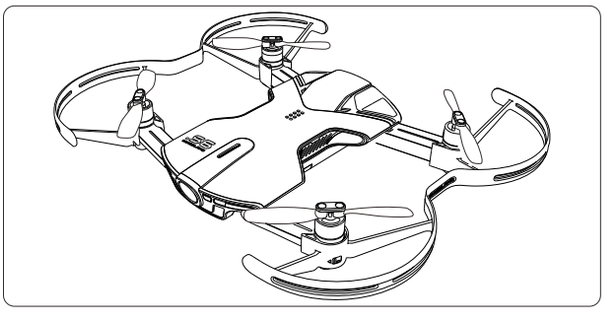
① L install on the left side of the aircraft.
R install on the right side of the aircraft.



② Clasp the Prop Guard on the arms of the aircraft firmly.



③ Same way to install both of the Prop Guard.



④ Make sure the Prop Guard is installed firmly before takeoff.

Appendix

S6 Specifications

Aircraft			
Weight	260g (include battery)		
Dimensions	Ready to Fly form：138*169*32.6 (mm)		
	Folded up form：138*79*32.6 (mm)		
Max Service Ceiling Above Sea Level	100m		
Max Transmission Distance	100m		
Max Flight Time	7-9 minutes		
Operating Temperature	10-40℃		
Max Wind Capability	Category 3		
Positioning System	Outdoor: GPS+GLONASS		
	Indoor: Ultrasonic and Optical Flow Sensor		
Hover Accuracy	Vertical: +/- 0.1m (Ultrasonic sensor active)	+/- 0.5m (GPS mode)	
	Horizontal: +/- 0.3m (Optical flow sensor active)	+/- 0.1 (GPS mode)	
Camera			
Sensor	Effective Pixels: 13M		
Lens	FOV 117° , F/2.2, Focus at Infinity		
Exposure Compensation	+4,+3,+2,+1,0,-1,-2,-3,-4		
Photo Resolution	12M 4032x3024 4:3	8M 3264x2448 4:3	5M 2592x1944 4:3
Video Resolution	1920x1080 60P 16:9	3840x2160 30P 16:9	2560x1440 30P 16:9
	1920x1080 30P 16:9	1280x720 100P 16:9	1280x720 60P 16:9
Anti-Flicker	Auto、50Hz、60Hz		
Still Photography Modes	Single Shot Mode, Burst Mode		
Slow Motion Video	1×,2×,3×,4×		
Timer Photo Mode	Turnoff, 5s Delay		
Video Format	MP4		
Photo Format	JPEG		
USB Type	Micro-USB		
Battery			
Capacity	1400mAh		
Capacity	7.6v		
Energy	10.64Wh		
Battery Type	Lithium-ion Polymer Battery		
Net Weight	74g		
Charging Environment Range	10-40℃		
Discharging Environment Range	10-40℃		
Wi-Fi			
Wi-Fi Name	WINGSLANDs6_air_xxxxxx		
Wi-Fi Frequency	2.4GHZ		
Transmitter Power	FCC:23dBm CE:19dBm		

APP	
APP Name	Wingsland FLY
Live View Quality	480p,720p
Latency	200ms (depends on environments and mobile devices)
OS Requirement	iOS 9.0 (or later)
	Android 5.0.1 (or later)
Charger	
Charging Port	Micro USB (supports portable power bank)
Input	5V/1A-2A (self-adapted)
Output	8.7V/0.5A-1A (self-adapted)

Certificates

FCC, CE, SRRC, KCC (MSIP) , NCC ,WEEE, RoHS