Falcon-B410

User Manual

Please read carefully this user guide and keep it well for further reference if necessary.

EHANG 亿航

Falcon-B410 User Manual
includes packing list, assembly, parts
and specification information.

Congratulations on purchasing your new Falcon-B410!
For customer service and support, please e-mail service@ehang.com
or contact our customer service hotline: （+86）020-29028899.

www.ehang.com
www.twitter.com/ehang
www.facebook.com/theghostdrone
www.instagram.com/ehang.official/
forum.ehang.com

Thank you, and enjoy your Falcon-B410!

www.ehang.com
Business Hour: (GMT+8)9:00am-6:00pm,Monday to Friday
Customer Service Phone: （+86）020-29028899
Customer Service Email: service@ehang.com

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Parameters

Laws & Regulations

With a curb weight of 4-15 kg and a takeoff weight of 7-25 kg, Falcon-B410 is categorized into the Ⅲ class of civil UAV. It is governed and bound by the Civil Aviation Law (2015 Amendment) of the People's Republic of China amended and issued by the NPC Standing Committee on April 24th, 2015, the Provisions on the Operation of Light and Small UAVs (for Trial Implementation) and the Administrative Provisions on UAV Pilots issued respectively on September 29th, 2015 and July 11th, 2016 by the Flight Standards Department of Civil Aviation Administration of China.

Pilots Qualification

The pilot must hold a valid Pilot Certificate of Civil UAV System issued by the Aircraft Owners and Pilots Association (hereinafter abbreviated as "AOPA") of China.

UAV Electronic Fence

The operators should install and use electronic fences.

UAV Cloud

The operator should access the UAV cloud. And the latest status should be reported at least once per second in densely populated areas and at least once every 30 seconds in other areas.

Third-party Liability Insurance

The UAV operator should be covered by the third-party liability insurance.

Airspace Application

Prior to operating a civil UAV not connected to the UAV cloud yet, application should be filed to the regulatory authority and effective monitoring methods be provided.

ID Card

For users who have not accessed the UAV cloud system, there should be ID cards pasted onto the UAV surface that clearly show the relevant information including the UAV model, serial NO., the name and contact info of its owner, etc., so that the UAV owner and operator can be quickly traced to in the event of UAV crash.

No Careless or Reckless Operation

The UAV shall be operated with care and caution to prevent any personal injury or property loss.

Pre-flight Preparation

a. To know the weather conditions in the flight areas.

b. To confirm that the conditions of the flight areas conform to the conditions required by the UAV operation manual.

c. To check and confirm that the components/parts of the UAV, fuel or battery storage, communication signals conform to the operational requirements. Users of UAV cloud system shall confirm their access to the system.

d. To make contingency plan that includes the predetermined locations for emergency landing.

Others

The pilot is not allowed to operate the UAV within 8 hours after having any drinks that include alcohol, or under the influence of alcohol or any drug, or when his/her work competence adversely affects the flight safety.

The operator and pilot shall abide by relevant laws, administrative regulations or local policies. And the liability and ensuing consequences of any violation against these laws, regulations or policies should be sorely borne by the operator and pilot.

Warnings

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Please note the following warnings

Before flying, please read carefully relevant documents issued by the International Civil Aviation Organization (ICAO) and local aviation authorities regarding the management of local air space and unmanned aircraft operation. Users are liable for any actions against the national laws due to the violation of relevant regulations and any personal injuries or property damages caused by noncompliance with the instructions and warnings of this manual, and all ensuing legal liability is solely theirs.

1. The drone requires cautious operation during flight. If you are flying your Falcon B-400 for the first time, please fly it in an open area in order to experience its various functions safely.

2. DO NOT fly in restricted air zones.

3. DO NOT fly near obstacles, people, power lines, trees, above waters or any other environments which are not safe for flying.

4. The drone may not fly properly near tall buildings due to GPS interferences. Please fly it in an open area to reduce positioning error.

5. DO NOT fly in or around congested electromagnetic (EM) environments. The drone must be kept at least 200 m (656 ft.) away from strong EM sources, including signal towers and ground stations. EM interference can cause malfunctioning situations such as failure to take off or loss of control.

6. DO NOT fly the drone in inclement weather conditions, including extreme temperatures, heavy snow, strong wind (above force 6), storm or fog.

7. It is recommended to always retain line-of-sight with the drone during flight. Losing sight of the drone may result in accidents.

8. Falcon B-400 is not suitable for use by children or teenagers under 18 years of age.

9. Please make sure your tablet, the G-Box and the drone have sufficient battery before flying.

10. Stand clear of the drone (at least 10m or 33ft) with its head facing away from you when ready to fly. Please keep away from any other unsafe elements (such as obstacles, crowds, power lines, etc.)

11. To avoid injury, DO NOT approach or touch the propellers while they are spinning.

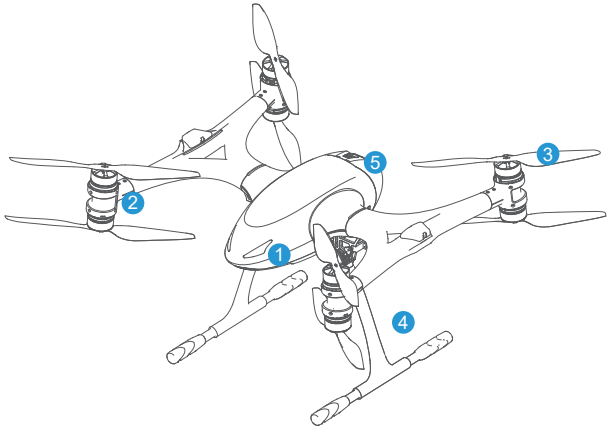
12. During flight, the G-Box should be kept within a distance of 3 meters from the tablet. DO NOT place the G-Box on the ground or put it into the pocket, or it may lead to communication loss. Orient the main antenna of the G-Box towards the drone to acquire optimal communication.

13. Please keep an eye on the real-time battery of your tablet and the drone. We strongly suggest to land the drone when the battery of either device is low.

Aircraft Introduction

Specially designed for industrial applications, Falcon-B410 is a high-performance drone that can be used in multiple scenarios including inspections, mapping, forest firefighting, transportation and professional aerial shooting. With 4 axes and 8 propellers, the drone's airframe is made up of carbon fiber materials of extremely high specific strength, ensuring its strength and stiffness while reducing the weight to a maximum extent. The flight control system boasts the redundancy design of dual sensors to ensure the flight safety and stability. The drone also comes with a large-capacity battery for longer flight duration.

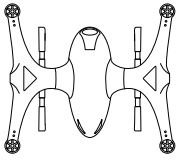
Aircraft Diagram



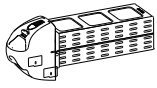
1. Headlamp
2. Motor
3. Propeller
4. Landing Gear
5. Battery

Product List

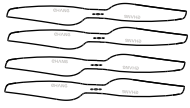
Note: Before flying Falcon-B400, please check whether all the products in the product list are included in the package.



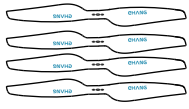
Falcon-B410*1



Smart Battery*1

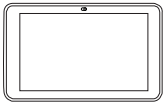


19-inch Propeller L*4



19-inch Propeller R*4

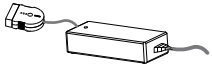
*



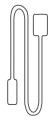
Tablet*1

Communication Box*1

Tablet Charger*1

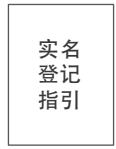


Charger*1



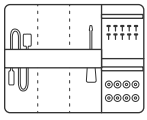
USB cable*1

Lubricant*1



Real-name Registration Guide*1

User Guide*1



Accessory Kit*1

Fireproof Box*1

A4 Adhesive Label*1

The accessory kit includes: USB cable*1, Hex key*1, 2mm screw*10, 2-M4*25, screw*4, round gasket*8.
The USB cable can be used to charge the ground station.

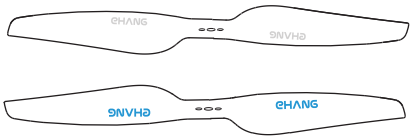
* Each drone comes with one tablet. Users can order extra tablets based on your needs.

Propeller Installation and Removal

Falcon-B410 uses dual-blade 19-inch carbon fiber propellers, each drone comes with 8 dual-blade propellers.

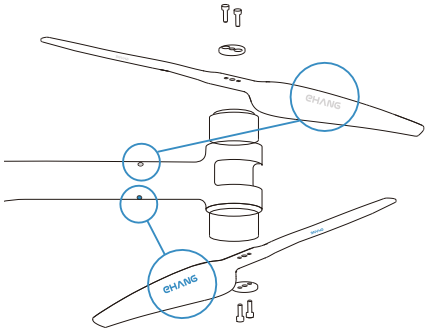
Signs

The propellers are distinguished by the silver and blue “EHANG” logo. The propellers with silver “EHANG” rotate clockwise, while those with blue “EHANG” rotate anticlockwise.



Installation

1. As shown below, place the propeller with a silver logo onto a motor with a silver dot on its side, put the gasket on the middle of the propeller, then use the hex key to tighten the screws.



2. Place the propeller with a blue logo onto a motor with a blue dot on its side, put the gasket on the middle of the propeller, then use the hex key to tighten the screws.

Removal

Use the hex key to remove the screws one by one, then remove the gaskets and propellers.

Note:

Please make sure that all the logos are facing upward.

Battery Charging and Use

Note: Incorrect use of the battery may lead to fire, explosion or other hazards. Please make sure to familiarize yourself with the product before use.

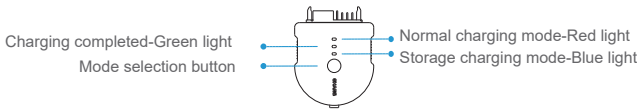
The smart flight battery uses 12S lithium polymer battery with a capacity of 15000 mAh and a voltage of 44.4 V. Charging of the flight battery must use the proprietary EHANG power adapter.

Battery Diagram

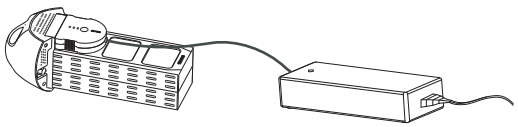
Battery Charging

Use the power adaptor to connect the battery with the power source. The power adaptor provides two kinds of charging mode: normal charging mode and storage charging mode.

If the battery is to be frequently used, please select the normal charging mode. If the battery is to be left idle for a long time, please select the storage charging mode.



Charging plug



Charging Diagram

Note: Generally, it takes 2.5 hours to fully charge a battery. Please charge the battery in cool and dry environments.

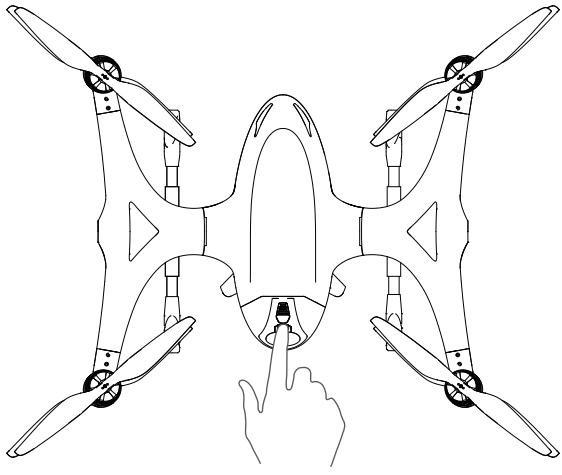
Battery Charging and Use

Step 1: Connecting	Use the power adaptor to connect the battery with the power source.
Step 2: Turning on the battery	Press twice and hold the button to turn on the battery.
Step 3: Select charging mode	Press the mode selection button shortly to select the charging mode (Storage charging mode is not applicable for batteries with voltages above 46V).
Step 4: Completing charging	When the green light remains on, it means the battery has been fully charged, and the power adaptor will automatically disconnect the power source. The battery then enters standby mode and automatically powers off in around 15 minutes.

How to Use

Powering On	Press twice and hold the power button to power on the battery, the indicator light will flash at first and then remain on.
Powering Off	Press and hold the power button until the indicator light is off.
Charging	The corresponding indicator light flashes.
Fulling Charged	The five indicator lights remain on.
Check Battery Level	Press the power button shortly, more lights indicate higher battery level.

As shown below, press the battery buckle and insert the battery into the battery compartment, pull the handler to make sure the battery is tightly secured.



Unfolding and Folding the Landing Gear

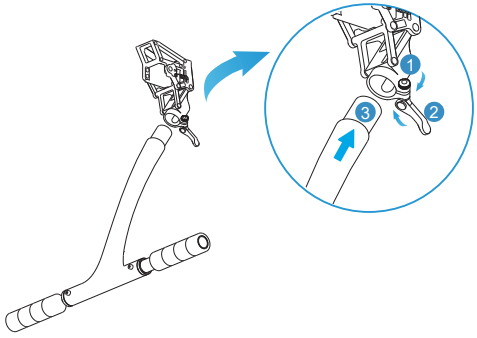
Unfolding

Loosen the two straps and pull the landing gear downward to the maximum extent, then lock the clamp.

Folding

1. Unlock the clamp and pull upward to fold landing gear, then tighten the strap.

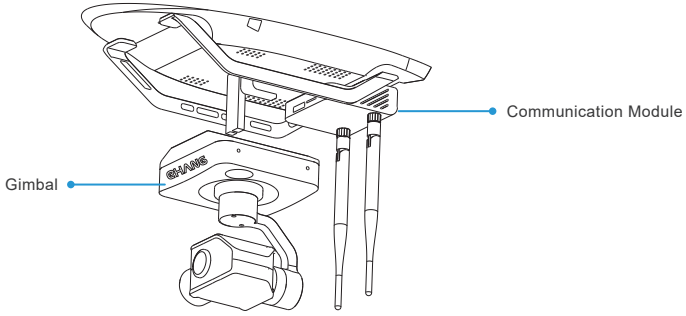
2. In case the two landing gears are unbalanced, you can pull ❷ outward and adjust ❸ to a balanced position, then tighten ❶ and ❷ following the directions of the arrows.



Gimbal Installation and Removal

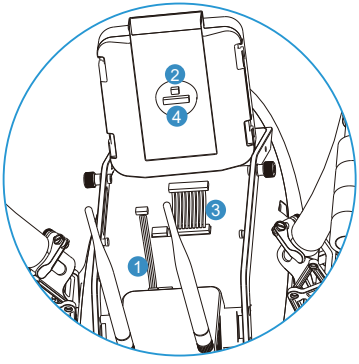
Diagram

The gimbal and the communication module are mounted on the bottom of the drone. Unfold the antennas as shown below when flying the drone.

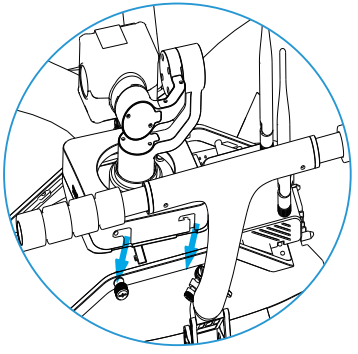


Installation

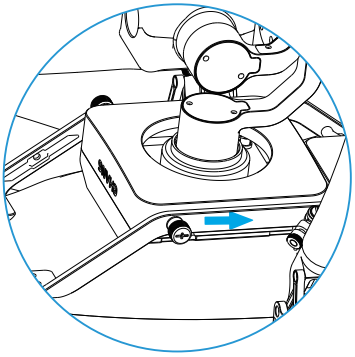
1. As shown below, connect ❶ of the communication module to ❷ of the gimbal with the black cable. And connect ❸ on the drone bottom to ❹ of the gimbal with the colorful flat cable.



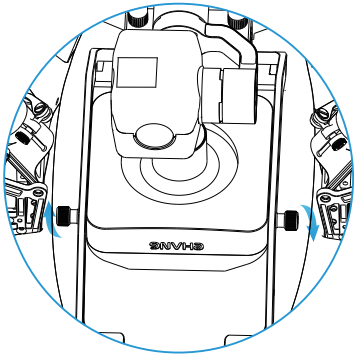
2. Match the gimbal grooves to the screws as shown below.



3. As shown below, follow the arrow direction to push and tighten the gimbal to the drone.



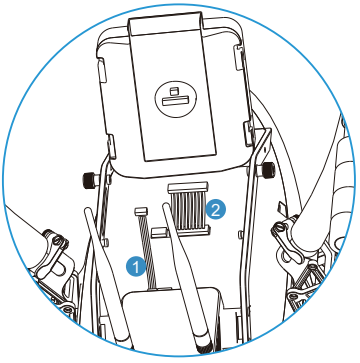
4. Turn clockwise and tighten the screws on the two sides of the gimbal.



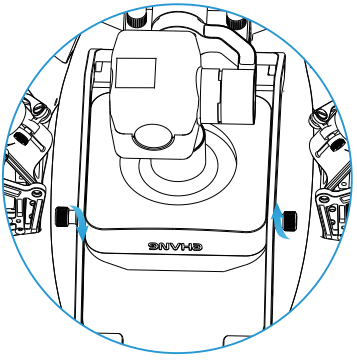
5. Place the drone on a flat surface, gently shake the gimbal to check whether it is tightly secured and successfully installed.

Removal

1. Untie the cables that connect the gimbal ❷ respectively with the drone ❶ and the communication module.



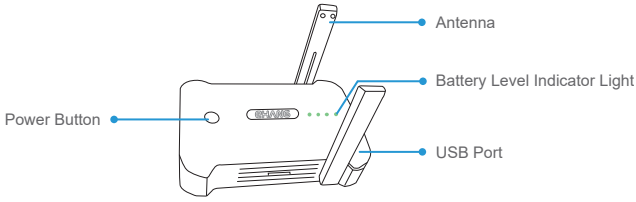
2. Loosen the screws and remove the gimbal.



Communication Box Use and Charging

Communication Box is the communication device that transmits signals for EHANG Falcon B-410, and it connects EHANG Pro with the Falcon via Wi-Fi. It is recommended to keep it within 3 meters from the tablet to ensure optimum signals.

Diagram

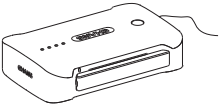


How to Use

Powering On	Press once, then quickly press and hold to turn it on. When powered on, the indicator light will remain on.
Powering Off	Press once, then quickly press and hold until the indicator light turns off.
Charging	The indicator light flashes.
Fulling Charged	The four indicator lights remain on.
Check Battery Level	More lights indicate higher battery level.

Charging

charging/battery level indicator lights

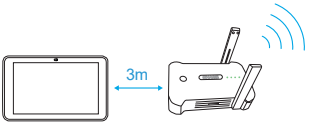


Charging Diagram

Note: You can use USB cable to connect and charge the Communication Box, and the current shall be maintained at no less than 500 mA.

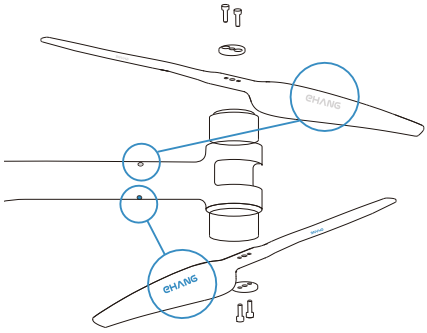
⚠ Warnings

During flight, the Communication Box must be kept within 3 meters from the controlling computer and the antennas must be pulled upward. Please always maintain within the communication range to prevent any communication loss.



Propeller Maintenance

Removal: Use the screwdriver to remove the screws on the motors, then remove the gasket.



Maintenance: If the drone is to be left unused for a long period, it is recommended to remove the propellers and put them into a flannelette bag to prevent them from dust, moisture, exposure to sunlight, aging, pressure and impact.

Battery Storage and Maintenance

If the battery is to be left unused for a long period, please select the storage charging mode to make sure the battery will not be over-discharged. A battery fully charged in this mode will have a battery level of 80% (48V), and is ready for a storage period of 2 months.

Use Tips

1. The battery must be charged with the proprietary EHANG power adaptor.

2. DO NOT use any non-EHANG batteries. EHANG bears no liability for any incident caused by using non-EHANG batteries.

3. DO NOT use second-hand batteries. EHANG bears no liability for any incident caused by using second-hand batteries.

4. DO NOT use or store swelling, damaged or deformed batteries. DO NOT charge/discharge swelling, damaged or deformed batteries.

5. DO NOT charge the battery when it's powered on, or it may be damaged.

6. DO NOT leave a charging battery unattended for a long time.

7. DO NOT charge/discharge or store batteries with direct exposure to sunlight. DO NOT store batteries in high/low temperatures.

8. When charging a used battery or using a charged battery, wait until it cools down to normal temperature.

9. DO NOT use batteries in strong electrostatic or electromagnetic environments, or its electronic protection device may be damaged.

10. DO NOT use conducting wires or other metal objects to cause short circuit of batteries.

11. DO NOT dismantle the battery shells. DO NOT disassemble or change the battery circuits in any manner. DO NOT pierce the batteries.

12. Please keep the battery in your carry-on baggage instead of the checked baggage.

Storage Tips

1. The ideal storage temperature of the batteries is 23±5℃.

2. Keep the batteries away from children, water, fire or metal objects.

3. Cement or pottery are ideal materials on which you can store or charge/discharge batteries. DO NOT charge batteries on combustible objects. DO NOT put combustibles such as wooden furniture, blankets or oil bottles in battery storage zones. Please put a fire extinguisher near the battery storage zone.

4. It is recommended to use fireproof bags or boxes when charging/discharging or storing the batteries.

5. Please maintain the battery level at 50%-60% when the battery is to be left unused for a long period. Charge/discharge the battery once every two months.

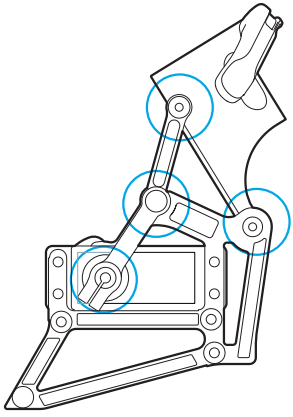
6. DO NOT dispose the battery as daily waste. Damaged or unavailable batteries should be put into special containers with specific use. Batteries belong to electronic/electric waste, please recycle/dispose them in accordance with local regulations.

Maintenance of Landing Gears

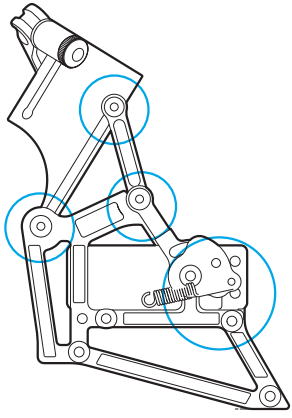
Maintenance is required as the foldable parts of the landing gears are connected by axes. Adding lubricants is the main maintenance method.

Lubrication process:

1. Add a small amount of lubricants to the positions marked below as well as to the axes joints.
2. After adding the lubricants, slows rotate the axes to make the whole structure fully lubricated.
3. Wipe out redundant lubricants left on the surface.



Lubricated positions-front



Lubricated positions-back

Note

1. When manually rotating the axes, make it slow enough to avoid any damage to the actuator gears.
2. If the rotation is stuck, check if there is any foreign object stopping the rotation. Clean the foreign object before adding the lubricants.
3. If noises are generated when rotating the actuator, it indicates that the actuator has been damaged, please contact the customer service for replacement.
4. The spring comes with high elasticity. Please be cautious not to be injured by the spring in maintenance.
5. The foldable parts of the landing gears will release a “KaDa” sound when self-locking.
6. DO NOT disassemble and modify the mechanical structures.

Model and Configuration

Model：Dell Venue Pro 11

Configuration

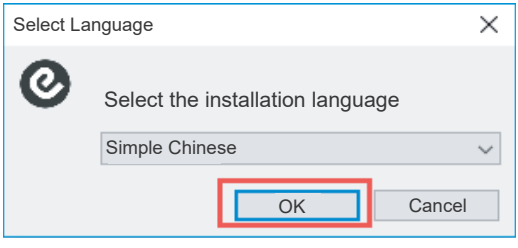
Chipset	Intel Lynx Point
Processor Type	Intel Haswell ULX Y series CPU
Memory Capacity	4 GB / 8 GB
Communication Network Adaptor	WLAN, LTE, HSPA+
LCD Screen Size	10.8-inch HD
Dimension	250.20*149.25 mm Diagonal: 239.04 mm
Max Resolution	1920 x 1080 Pixels
Front Camera	OV 2722（2 Megapixels）
Rear Camera	IMX 175（8 Megapixels）
Storage	NGFF SSD 128 GB / 256 GB
Battery Type	2-chip lithium-ion (36 WHr)
Weight	240.00 g （0.53 lb）
Operating Environment Temperature	0℃~+40℃

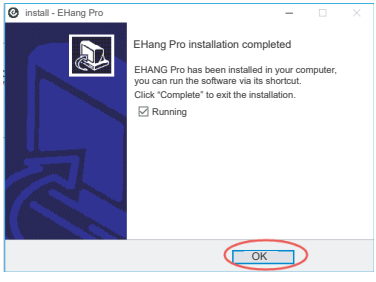
Install EHANG Pro

Make sure smooth network connection for the first installation. Open the installation package, select the language and tap “OK”.

Note: The default installation directory is C:\Program Files (x86)\ EHANG Pro.

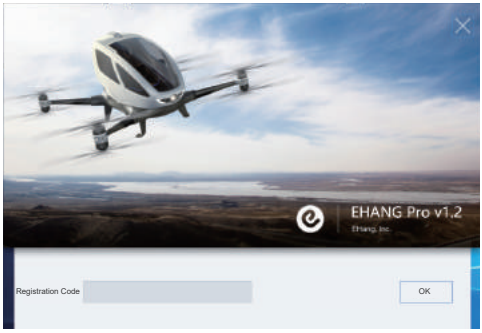
1. Tap “next” until the software is successfully installed, then tap “OK”, a EHANG Pro icon will appear on the desktop and the software will start running in default.

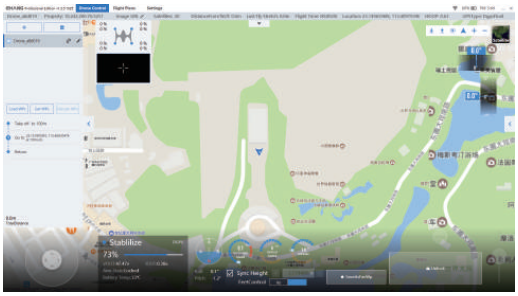




2. When running EHANG Pro for the first time, you'll see a popup window where you can type in the registration code.

3. Type in the registration code and tap "OK", when successfully verified, the page will automatically redirect to the main interface.



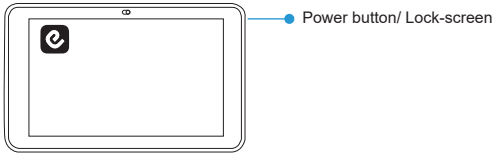


SIM Card Installation

Install Micro-SIM Card

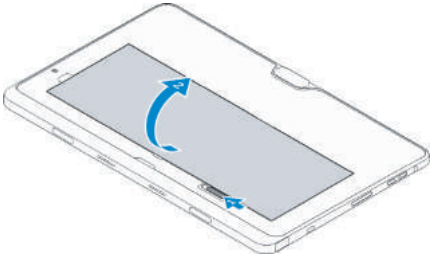
CAUTION: Removing the Micro-SIM card when the tablet is on may cause data loss or damage the card. Make sure your tablet is turned off or the network is disconnected when removing the card.

1. Press and hold the power button to turn off the tablet.

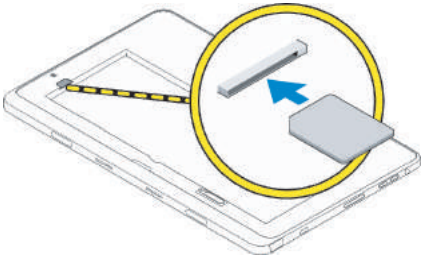


2. Pry the base cover in the direction indicated and lift it at an upward angle to remove it from the tablet.

3. Slide the release latch to unlock the battery. Lift and remove the battery from the tablet.



4. Install the micro-SIM card into its slot.



Acquire Registration Code

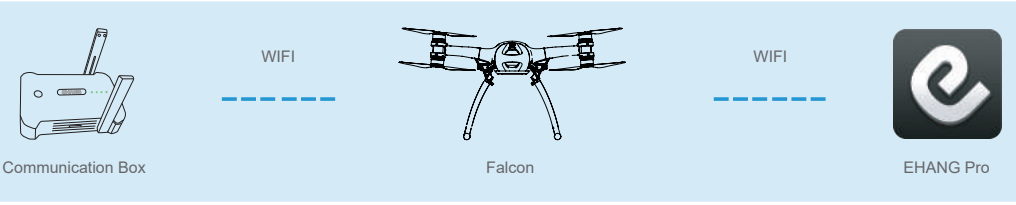
The registration codes are provided by EHANG, also applicable for registration in computers. Each registration code can only be used for limited times, please keep your code well.

Connect Devices

There are two ways to connect a drone with the software. See below their brief introductions.

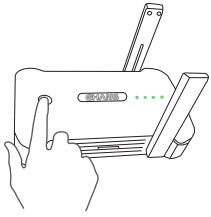
1

Communication Box+ Falcon+ Software WIFI Connection



1. Turn on the drone: Place the drone on a flat surface. Press twice and hold the power button until the indicator light flashes to turn on the drone.

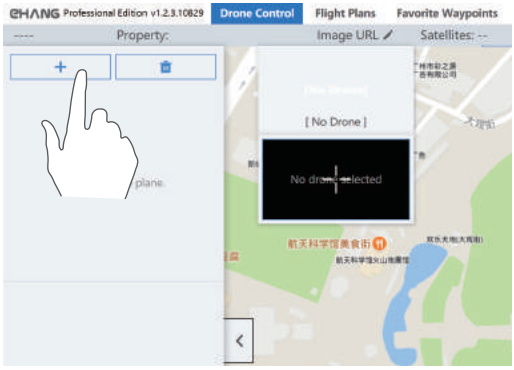
2. Turn on the ground station: Press and hold the power button until the indicator light remains on to turn on the ground station.



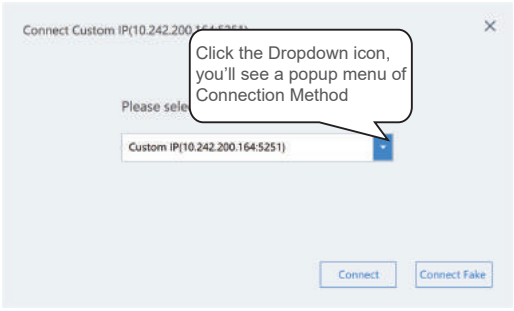
3. Open the software: Tap the software icon to open the software.

4. Connect Communication Box: Search the WIFI “EHANGBat-GND_xxxxxxxx”, xxxxxxxx is the password, type in the password to complete connection.

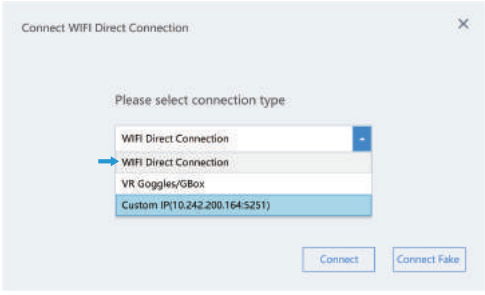
5. Tap “+” to connect drone as indicated.



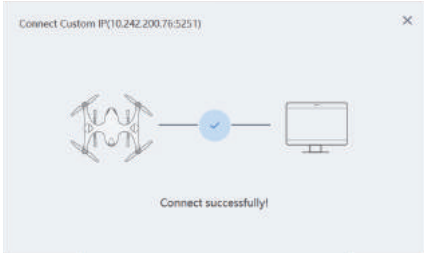
6. Tap the Dropdown icon as indicated.

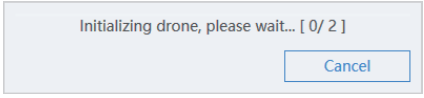


7. Select “WIFI Direct Connection”, then tap “Connect”, wait for several seconds until it automatically finishes connection.



8. After successfully connected, the page will redirect to the main interface.





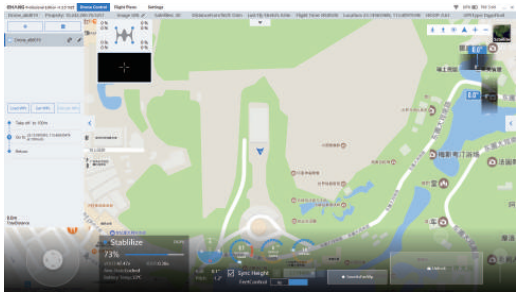
9. Back to the main interface, check whether the drone is properly receiving data:

a. Check whether the “Heartbeat” beats;

b. Check whether it’s set to “Self-stabilization” mode;

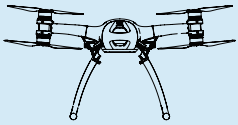
c. Check the drone’s detailed status;

d. Check whether the GPS positioning aligns with the drone's current position.



❷

Falcon+ Software 4G Connection



Falcon

4G

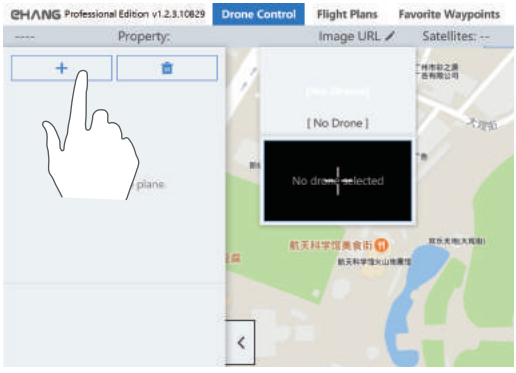
EHANG Pro

1. Turn on the drone: Place the drone on a flat surface. Press twice and hold the power button until the indicator light flashes to turn on the drone.

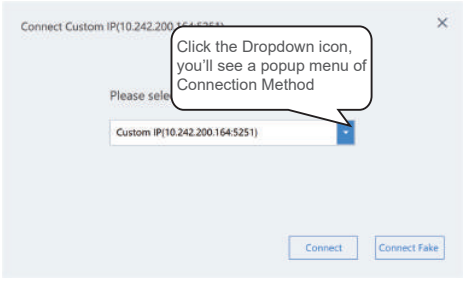
2. Insert the 4G SIM card into the tablet, connect the 4G network and make sure it functions normally.

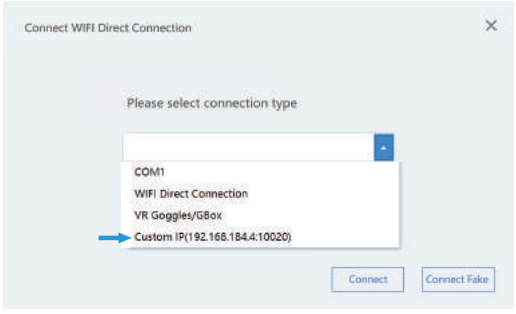
3. Open the software: Tap the software icon to open the software.

5. Tap “+” to connect drone as indicated.

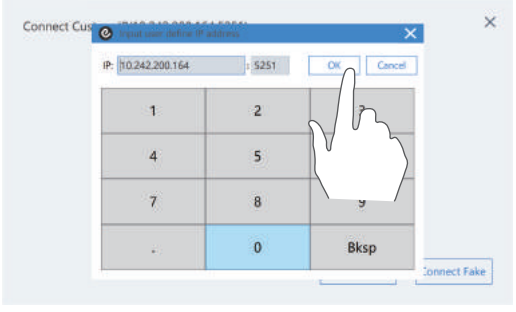


5. Tap the Dropdown icon as indicated.

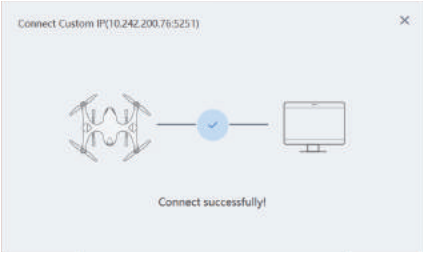




6. To use 4G connection mode, tap “Customer IP”, enter the IP address provided by EHANG in the new interface, tap “OK”, then tap “Connect”, wait for several seconds until it automatically finishes connection.



7. After successfully connected, the page will redirect to the main interface.



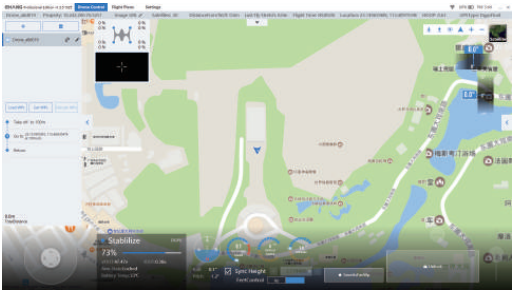
8. Back to the main interface, check whether the drone is properly receiving data:

a. Check whether the “Heartbeat” beats;

b. Check whether it’s set to “Self-stabilization” mode;

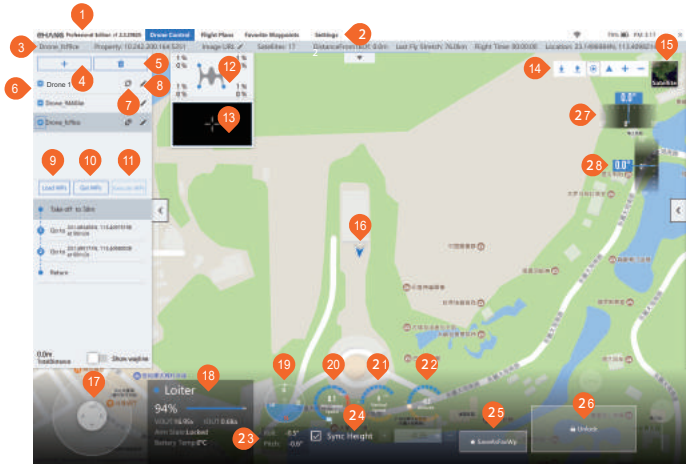
c. Check the drone’s detailed status;

d. Check whether the GPS positioning aligns with the drone's current position.



Flight Control Interface Introduction

Interfaces Introduction



1. Software Version
2. The Ribbon
3. Status Bar
4. Add Drone
5. Delete Drone
6. Drone Name
7. Connect or Disconnect Drone
8. Drone Status Details
9. Import the preset flight path. Only applicable after setting the flight plan.
10. Read and check the flight path after “Import Flight Path”.
11. After finishing steps 9 and 10, tap “Implement Flight Path”, the drone starts cruising.
12. Detected drone type and motor load
13. Camera image transmission and map switching button
14. Small Icons
    - Download map
    - Load offline map
    - Locate laptop position
    - Drone position
    - Map zoom in
    - Map zoom out
15. Map mode switching
16. Drone position
17. Micro-control: Slightly adjust the drone position. Drag the white dot and control the drone to fly slowly. Please be cautious about the drone heading.
18. Battery level
19. Level gauge and compass
20. Horizontal flight speed
21. Vertical flight speed

Flight Control Interface Introduction

22 Flight distance from the takeoff point

23 Roll angle; Pitch angle

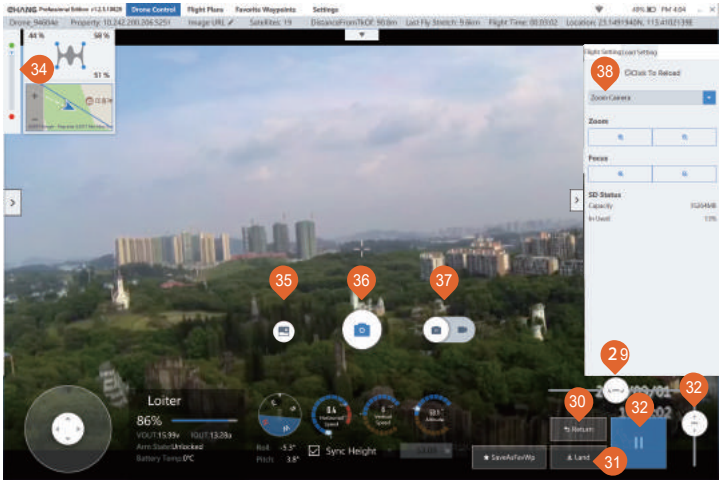
24 Maintain the initial flight altitude

25 Add current flight position to favorite waypoint

26 Unlock button: tap to check whether the propellers are functioning normally.

27 Gimbal yaw slide bar: slide leftward/rightward to adjust yaw angle (auto reset to default)

28 Gimbal pitch slide bar: slide upward/downward to adjust pitch angle (not auto reset to default)



29 Drone nose yaw control slide bar: slide to the left, the drone will rotate anticlockwise; slide to the right, the drone will rotate clockwise.

30 Return: tap the button, the drone will return to preset altitude above the takeoff point.

31 Land: tap the button, the drone will vertically and slowly land to the ground. Please make sure the landing point is safe enough.

32 Hover: tap the button, the drone will hover.

33 Altitude adjustment slide bar: slide upward, the drone will lift vertically, slide downward, the drone will descend vertically.

34 Flight path progress bar: The green dot represents the takeoff point, the red dot represents the destination, and the blue line represents the covered flight path. This progress bar only appears during route flight.

35 Album: tap to enter the album folder.

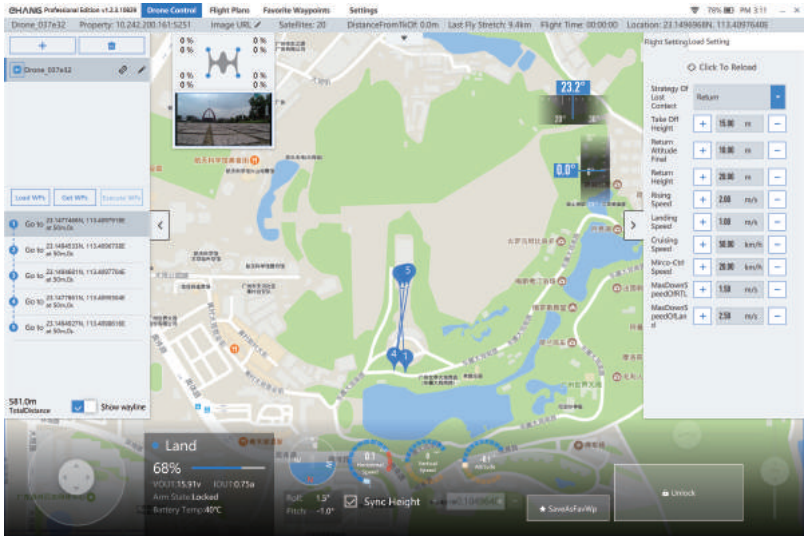
36 Take photos/ Record videos: In Photo mode, tap once to take photos; In Video mode, tap once to start recording, tap once again to stop recording.

37 Photo/Video mode switching button

38 Camera type

Flight Parameters Settings

Tap to unfold the “Flight Settings” on the right, set the flight parameters based on your requirements.



1. Strategy of Lost Contact: the drone’ s next move after losing connection. Recommend to select “Return”.

2. Takeoff Height: The altitude to which the drone ascends after takeoff. It will hover at that altitude to wait for the next command.

3. Return Altitude Final: The altitude at which the drone hovers after it returns above the takeoff point.

4. Return Height: The altitude at which the drone flies during its return path to the takeoff point.

5. Rising Speed: The speed at which the drone ascends. Recommended value: 1.2 m/s.

6. Landing Speed: The speed at which the drone descends. Recommended value: 1.2 m/s.

7. Cruising Speed: The speed at which the drone flies horizontally. Recommended value: 36 km/h.

8. Micro-Ctrl Speed: The speed at which the drone flies horizontally. Recommended value: 5 m/s.

9. Max descent speed in returning: The max speed at which the drone descends to the hovering point upon having returned above the takeoff point. Recommended value: 1.5 m/s.

10. Max descent speed in landing: The max speed at which the drone descends from the hovering point to land onto the ground. Recommended value: 1.5 m/s.

Type in Image Transmission Address

Tap “Image Transmission Address” and type in the image transmission address. There are two kinds of image transmission addresses for Falcon-B400.

WIFI Mode

The image transmission IP address of the zoom camera is: ehc://192.168.43.11/2, click “Connect” to acquire image transmission.

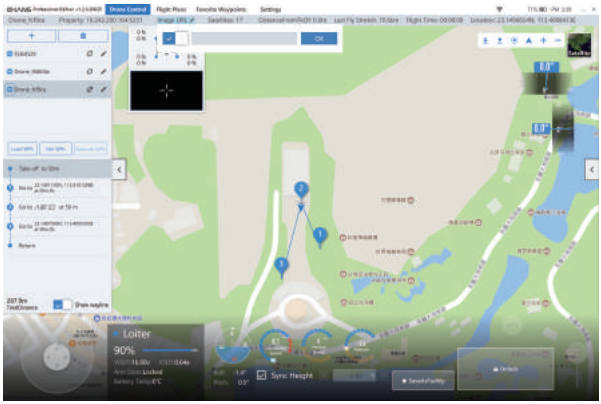
The image transmission IP address of the 4K spherical camera is: rtsp://10.242.200.10/live, click “Connect” to acquire image transmission.

4G Mode

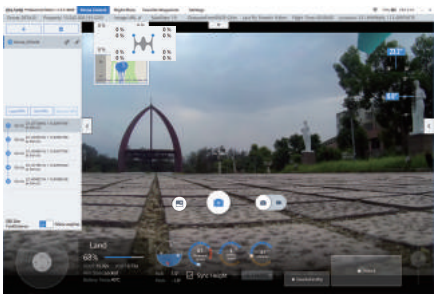
The format of image transmission address is: rtsp://（SIM Card IP）/live. For instance, if the SIM Card IP is “10.242.200.10”, then the image transmission addresses are:

“rtsp://10.242.200.10/live” (for 4K spherical camera only);

“ehc://10.242.200.10/2” (for zoom camera only), then click “Connect” to acquire image transmission.



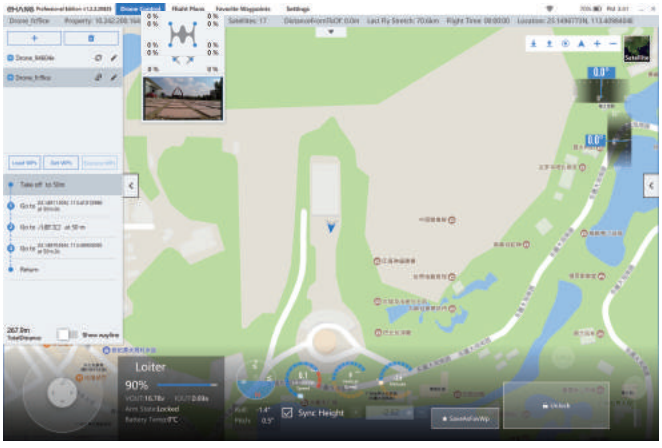
You can view the images/videos captured by the camera after having connected the image transmission.



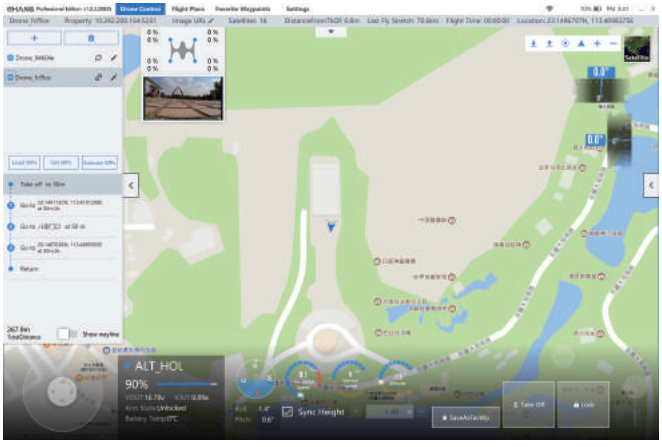
Unlock to Take off

Before unlocking, make sure the surrounding environment is safe and spacious without interferences, and more than 14 satellites can be detected.

Tap the “Unlock” button, the propellers and motors will start spinning. Check whether the motors/propellers are rotating in correct directions and normal speed.

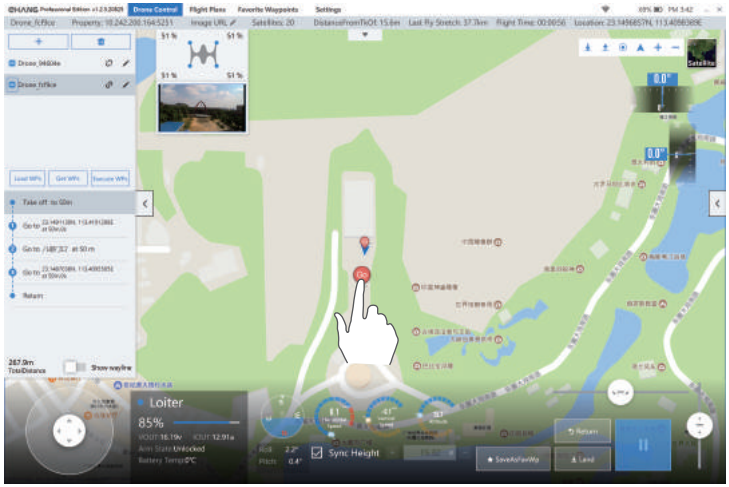


In case of any detected malfunctions after the check, tap the “Lock” button to abort the takeoff. If everything is functioning normally, continue to tap the “Take off” button, the drone will ascend to the preset altitude and hover, waiting for the next command.

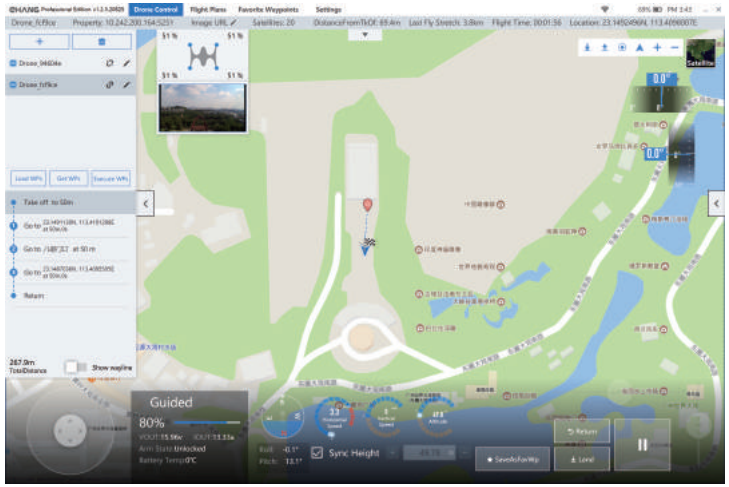


Touch-to-Go Mode

Adjust the flight altitude via the altitude adjustment bar at the bottom right corner, then select (single tap the map) the flight destination on the map, tap the “Go” that appears on your selected point, the drone will fly towards the destination.



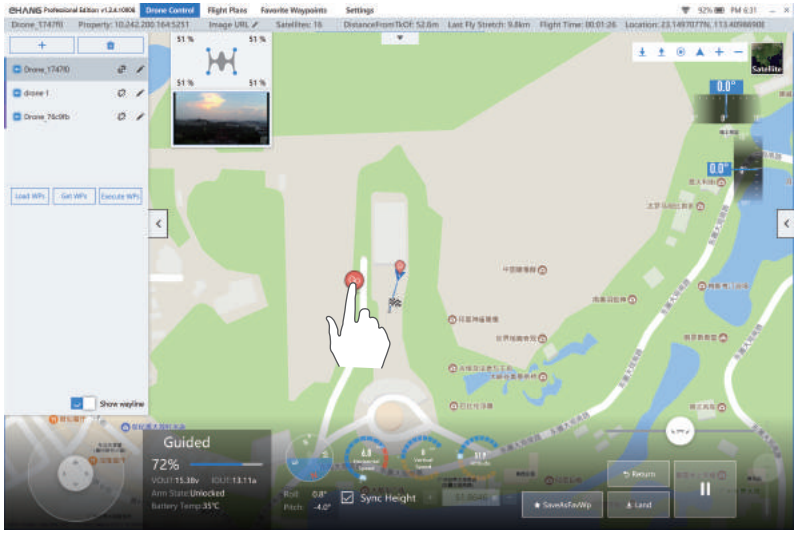
The blue line represents the preset flight path, and the white line represents the route already covered by the drone. In case of emergency, tap the “Hover” button immediately.



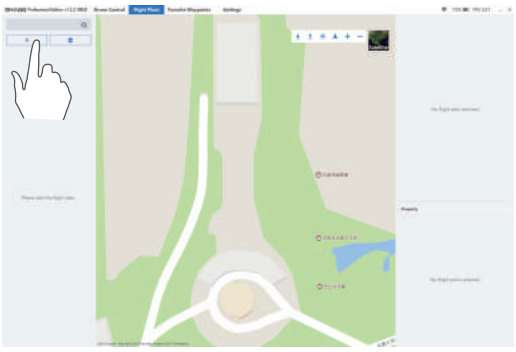
Note: After tapping the “Hover” button, the drone will glide a bit instead of hovering instantly, so please be cautious about the surrounding environment, and make sure there is no obstacles in the flight path. The gliding distance depends on the flight speed. Faster/lower speed means longer/shorter gliding distance.

Touch-to-Go Mode

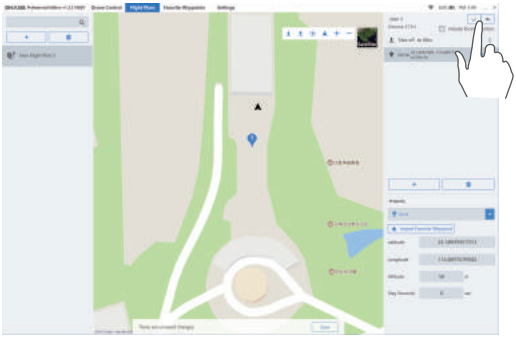
If you want to modify the flight path during flight, tap the “Hover” button first, then tap the new destination on the map and tap “Go”.



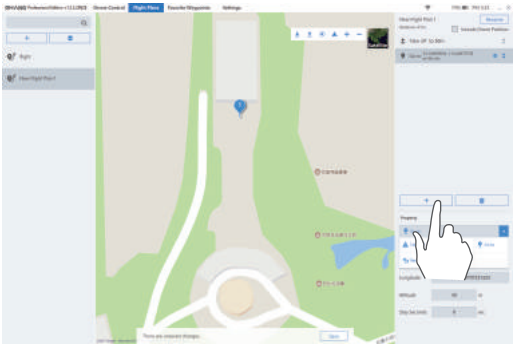
Step 1: Tap “+” to create new flight paths.



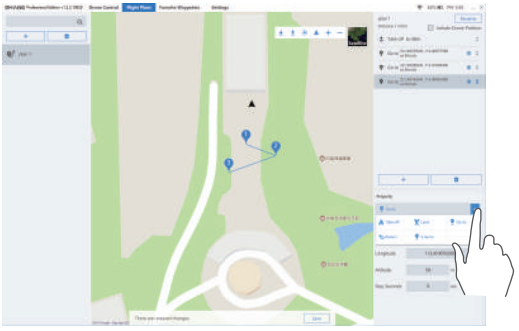
Step 2: Tap “Rename” on the top right corner to change the name of flight path. The first action of executing the flight path is “Take off”, please DO NOT change it.



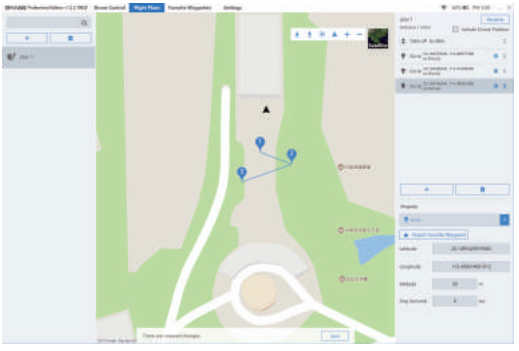
Step 3: Tap “+” on the right or double tap on the map to add waypoints. You can change the waypoint location by dragging it to a different position on the map. On the bottom right corner, you can adjust the waypoint parameters including the longitude, latitude, relative altitude, hovering duration, etc.



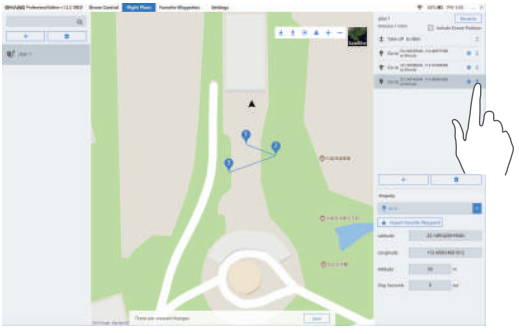
Step 4: Unfold the “Property” tab and set the flight missions at the waypoint based on your needs.



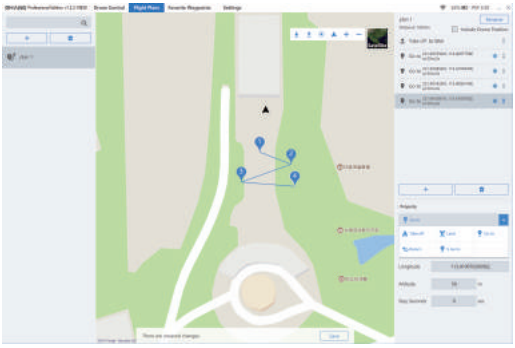
Step 5: Tap “+” on the right or double tap on the map to continue adding waypoints.



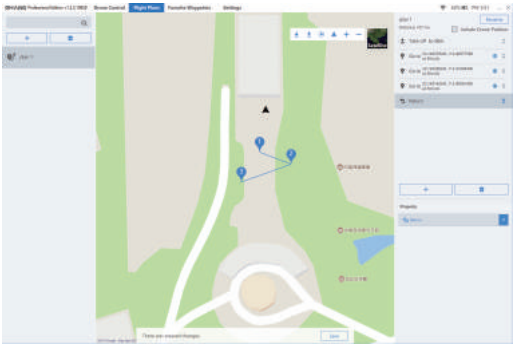
Step 6: As indicated below, drag ⇕ to adjust the waypoints order. Please DO NOT make any change of the first flight mission “Take off”.



Step 7: If the flight path involves three waypoints, you need to add a fourth waypoint. Tap to adjust its “Properties” by setting this waypoint as a flight mission, such as “Return”.

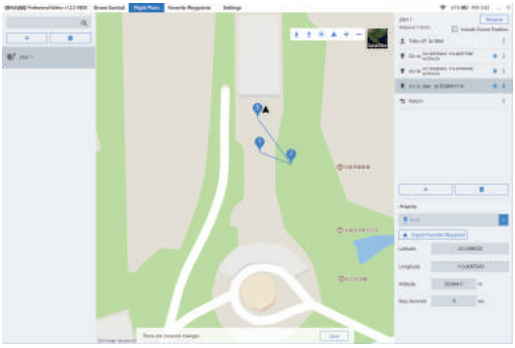


The final flight path will display three waypoints, as shown below.

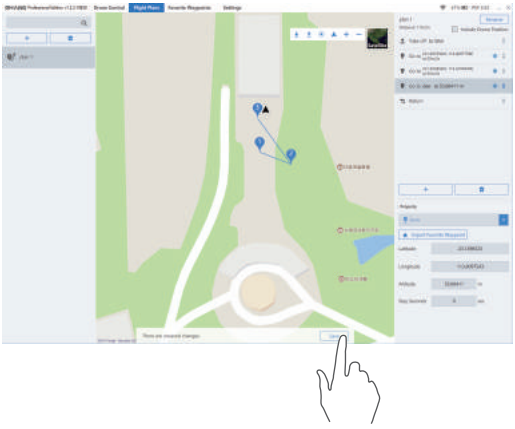


Add Favorite Waypoints

Select the waypoint to be replaced, tap “Import Favorite Waypoint” (make sure you have added favorite waypoints in advance) and select the waypoints from your favorites.



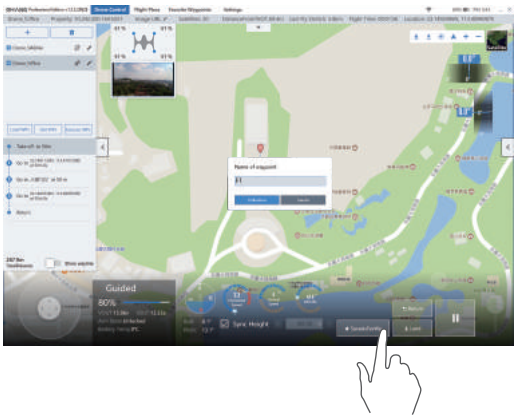
After setting the flight plan, DO NOT forget to tap “Save” to complete your setting.



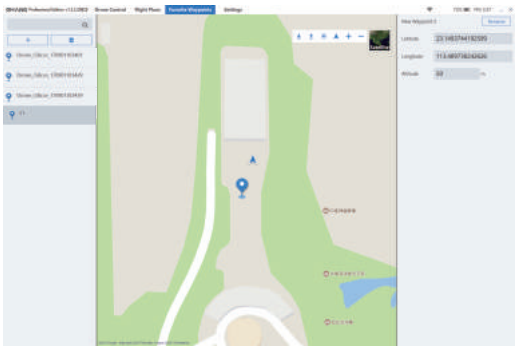
Favorite Waypoints

You can save the frequently-used waypoints or import the saved waypoints to your flight plan.

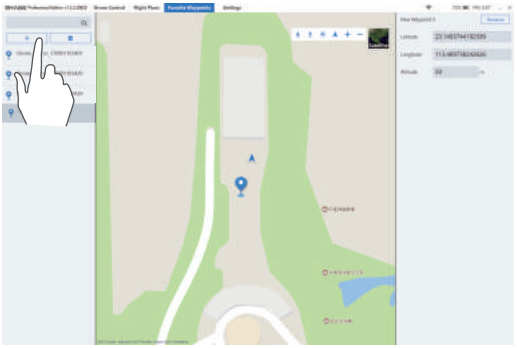
(1) Tap “Favorite Waypoints” on the flight control interface, tap “Add” after renaming the waypoint.



(2) Tap “Favorite Waypoints” to view or modify the waypoints you have added.

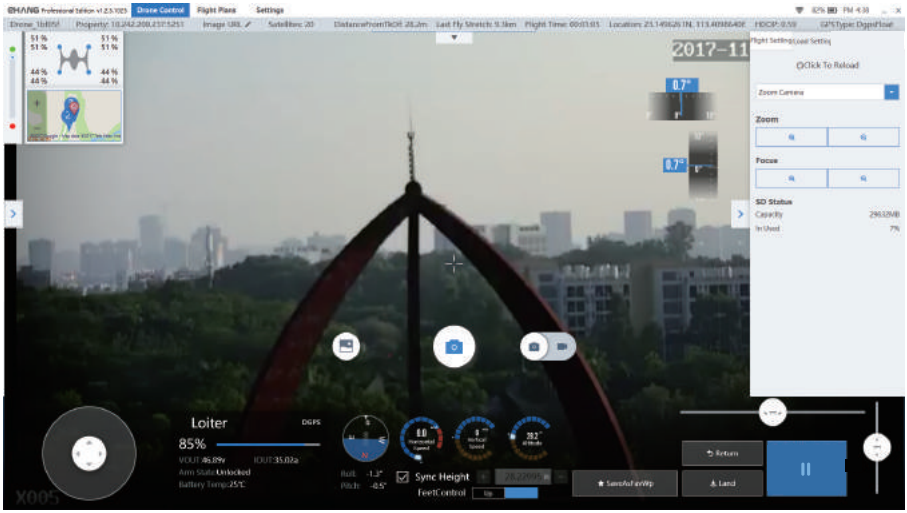


(3) Tap “+” or double tap on the map to add new waypoints.



Select photography/recording mode

Photo/Video: Select “Photo” mode and tap the “Photo” button to take photos. Select “Video” mode and tap “Video” to record videos, to stop recording, just tap the button again.



Note：

Slide the slide bar to adjust the gimbal angle when taking photos or recording videos.

Gimbal yaw slide bar: slide leftward or rightward to modify the yaw angle (automatically reset to default);

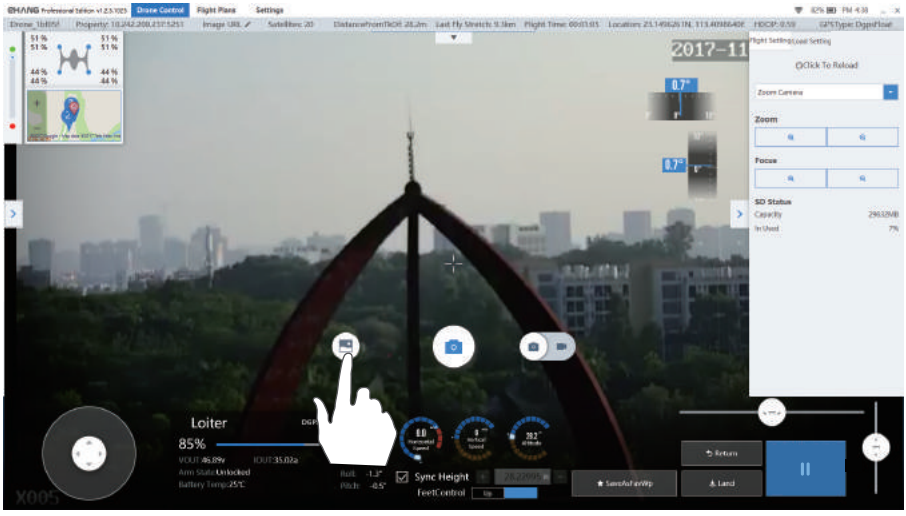
Gimbal pitch slide bar: slide upward or downward to modify the pitch angle (not automatically reset to default).

Zooming

Tap “Mounted Modules” in the Flight Settings and select “Zoom Camera”. Tap “ ⊕ ”,“ ⊖ ” in the “Zoom” tab to modify the focal length. Tap “ ⊕ ” to enlarge the focal point and decrease the focal length, tap “ ⊖ ” to narrow the focal point and increase the focal length.

Check the Album

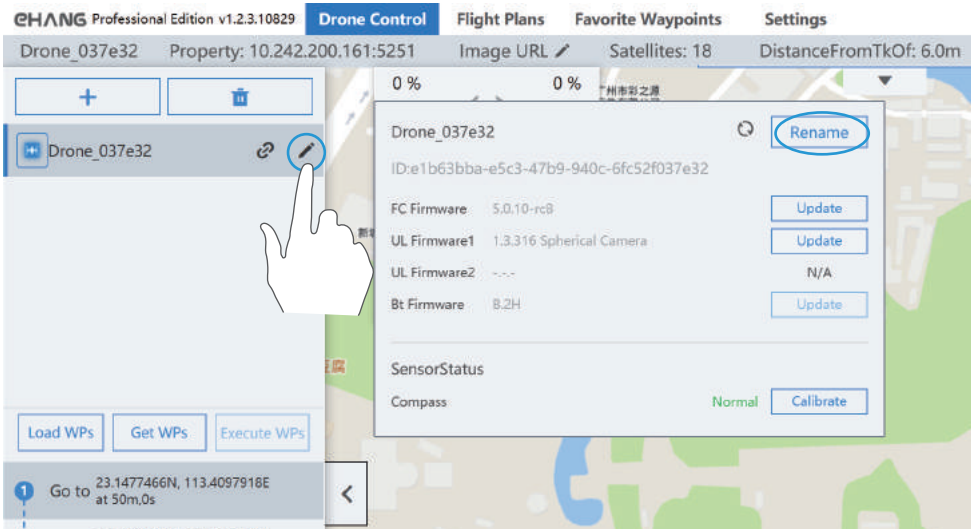
Tap the icon as indicated to enter the Album. The photos exported via the “Album” function will be tagged with relevant information such as GPS positioning and time.



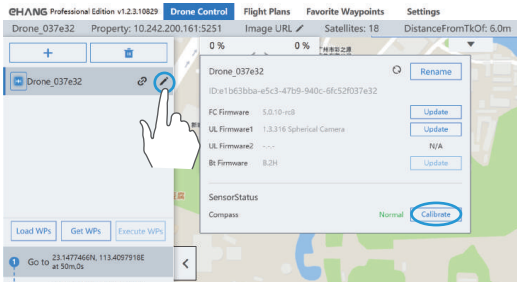
Renaming the Drone and Compass Calibration

Renaming the Drone

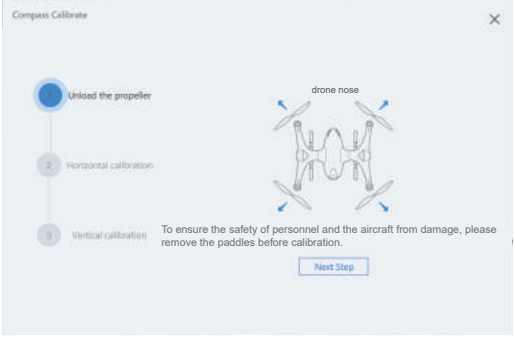
Tap ✎ to enter the Rename interface, edit the name, then tap “OK”.



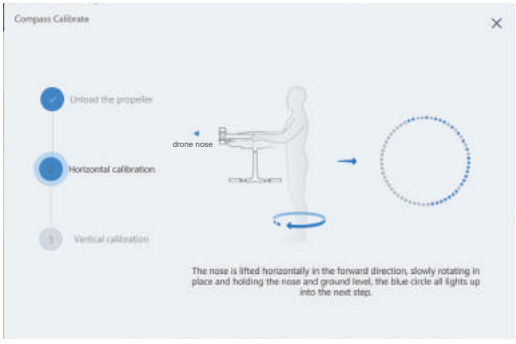
Compass Calibration



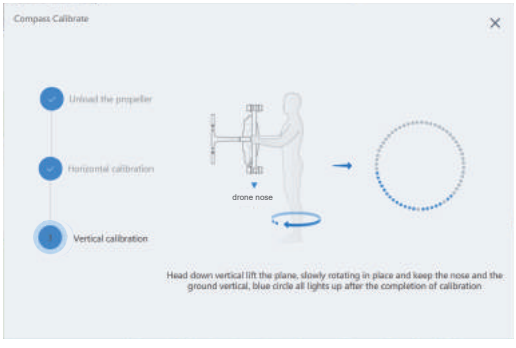
Step 1: To ensure safety, please remove all the propellers.



Step 2: As shown in the picture, hold the drone horizontally with its nose pointing away from you, spin with the drone until the grey circle is filled with blue dots, then the interface will automatically proceed to the next step.

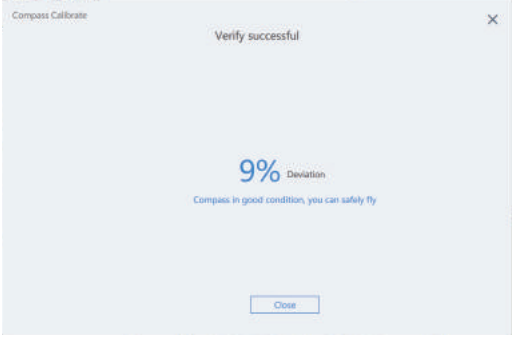


Step 3: As shown in the picture, hold the drone vertically with its nose pointing downward to the ground, spin with the drone until the grey circle is filled with blue dots, then the interface will automatically proceed to the next step.

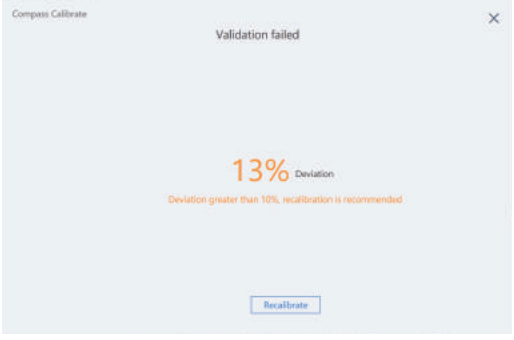


Step 4: You'll see either of the following two results after calibration.

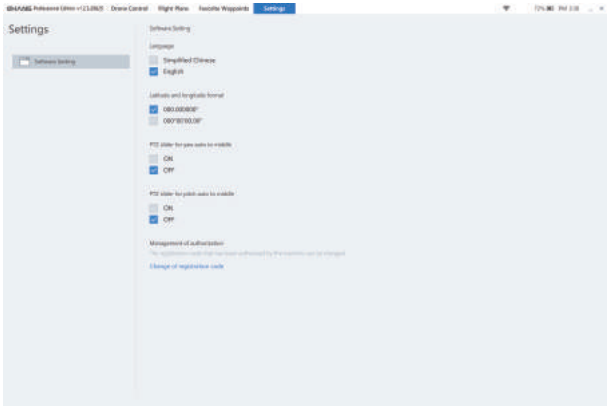
Result 1: "Verify successful" with a deviation value less than 10%. Just tap "Close" to exit the calibration interface.



Result 2: "Validation failed" with a deviation value greater than 10%. You need to tap "Recalibrate" and repeat the aforementioned steps.



Below are basic settings of software/system. Please refer to the “Flight Control” section for settings of flight parameters.



1. Language: Simplified Chinese/English.

2. Latitude and longitude format: select the display format of longitude/latitude based on your personal needs.

3. PTZ slider for yaw auto to middle: Select “On”, the value will auto reset to 0.0 after the rotation angle is adjusted; Select “Off”, the current value remains after the rotation angle is adjusted.

4. PTZ slider for pitch auto to middle: Select “On”, the value will auto reset to 0.0 after the pitch angle is adjusted; Select “Off”, the current value remains after the pitch angle is adjusted.

Legends: “PTZ slider for yaw auto to middle” On. “PTZ slider for pitch auto to middle” Off.

Legends: “PTZ slider for yaw auto to middle” Off. “PTZ slider for pitch auto to middle” Off.

Pre-flight Check

1. Check whether the battery level suffices the flight.
2. Check whether any propeller is damaged.
3. Check the gimbal is properly connected.
4. The drone should be placed on a flat surface with a distance above 50m from any obstacle.
5. Check whether the surrounding magnetic field is in normal condition: hold your smartphone flat and move it vertically upward, the smartphone compass should have a deviation value no more than 15°.
6. Maintain a distance of more than 5m with the drone when flying.
7. It is recommended to calibrate the compass before each flight.
8. Check if the drone “Heartbeat” is beating normally after connecting the drone.
9. Users of UAV cloud system shall confirm their access to the system.
10. Make contingency plan that includes the predetermined locations for emergency landing.

Flight Tips

1. The return altitude must be higher than the maximum altitude in the flight path.
2. For long-range flight, set Auto mode to better execute waypoint missions.
3. The operation of micro-control or roll should be handled mildly.
4. When resuming an interrupted waypoint flight between two waypoints with different altitudes, the drone will fly to the next waypoint in an oblique line, be cautious to avoid high buildings on the way.
5. The drone uses dual-GPS mode, if one GPS is malfunctioning, it will automatically switch to the other GPS to ensure safe flight. If the GPS switches during takeoff, the drone will deviate 1-2 meters horizontally, please maintain a safe distance from the drone.
6. When setting the Flight Plan, the distance between any two waypoints should be more than 1m.

Technical Specifications

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Falcon

Exterior	
Drone Body Materials	Carbon-fiber composite
Height	506 mm
Width	770 mm
Length	680 mm
Shaft Distance	912 mm
Operating Environment	
Operating Temperature	-10 ℃～+50 ℃
Storage Temperature	-30 ℃～+70 ℃
Relative Humidity	No more than 98%
Landing Pad Requirements	Radius≥2m
Designed Limits	
Operating Altitude (Above Sea Level)	0～4000 m
Wind Resistance	≤ Force 6 (Beaufort scale)
Weather Conditions	No thunderstorm
Maximum Payload	5 kg
Performance	
Max Level Flight Speed	60 km/h
Cruising Altitude	No more than 150 m (Above Ground Level)
Max Climb Rate	2.5 m/s
Max Descent Rate	3.5 m/s
Hover Duration (Full payload)	17 min
Max Flight Distance (Empty)	25 km
Max Flight Duration (Empty)	32 min
Hover Accuracy	Vertical ±0.5m, horizontal ±1m

Battery

Dimensions	134*92*34 mm
Weight	4300 g
Voltage	44.4 V
Capacity	15000 mAh
Storage Temperature	23±5 ℃
Charging Time	2.5 h

Communication Box

Dimensions	134*92*34 mm
Weight	300 g
Communication	4G + WiFi
Voltage	3.7 V
Battery Type	LiPo
Capacity	3400 mAh
WIFI Communication	
Protocal	802.11 b/g/n
Communication Distance	Standard omnidirectional antenna ≥ 3km, External directional antenna ≥ 5km
Image Transmission Latency	≤50 ms

3D Gimbal for Spherical Camera

Weight	115 g
Gimbal Type	Mechanical 3-axis gimbal
Static Accuracy	±0.03°
Dynamic Accuracy	±0.1°
Controllable Range	Yaw -45° to +45°/ Pitch Angle -90° to +30°
Supported Cameras	Spherical Camera

Spherical Camera

Weight	45g
Dimension	57*49*45 mm
Lens	F/2.8 93°
ISO	100 – 800
Effective Pixels	12MP
Video/Photo Format	MOV/JPG
Compressed Format	H.264
Video	4K@30fps
Storage	Micro SD card (64 GB max)

Infrared thermal imaging camera & gimbal

Infrared thermal imaging camera	
Weight	<65g or 45g (excluding lens, including lens mount)
Effective Pixels	640×480
Storage Function	Support TF memory card storage of infrared images/videos and infrared data
Operating Voltage	DC 5～12V
Operating Temperature	-40℃～+60℃
Storage Temperature	-50℃～+85℃
Noise Equivalent Temperature Difference (NETD)	≤65mk@30℃
Gimbal	
Weight	674 g
Gimbal Type	Mechanical 3-axis gimbal
Stability Accuracy	±0.02°
Max RPM	Yaw (±180°/s)，Roll (±180°/s)，Pitch (±180°/s)
Controllable Angle	Yaw (±45°)，Roll (±0°)，Pitch (-90°~+30°)
Supported Cameras	Infrared thermal imaging camera

10x zoom camera & gimbal

10x zoom camera	
Zoom ratio	10x optical zoom
Focal length	4.9-49 mm
Zoom speed	3 s
Field of View (H)	53.2°-5.65°(wide angle- long focus)
Max resolution rate	2megapixels, max 1920*1080P
Min object distance	10 mm (W) -1000 mm (T)
Frame rate	20fps(1920*1080); 25fps(1280*960)
Gimbal	
Weight	793 g
Gimbal Type	Mechanical 3-axis gimbal
Stability Accuracy	±0.01°
Max RPM	Yaw (±180°/s), Roll (±180°/s), Pitch (±180°/s)
Controllable Angle	Yaw (±45°), Roll (±0°), Pitch (-90°~+30°)
Supported Cameras	10x zoom camera

Technical Specifications

CHANG 亿航

Tablets

Chipset	Intel Lynx Point
Processor Type	Intel Haswell ULX Y series CPU
Memory Capacity	4 GB / 8 GB
Communication Network Adaptor	WLAN, LTE, HSPA+
LCD Screen Size	10.8-inch HD
Dimension	250.20*149.25 mm Diagonal：239.04 mm
Max Resolution	1920 x 1080 Pixels
Front Camera	OV 2722 (2 Megapixels)
Rear Camera	IMX 175 (8 Megapixels)
Storage	NGFF SSD 128 GB / 256 GB
Battery Type	2-chip lithium-ion (36 WHr)
Weight	240.00 g (0.53 lb)
Operating Environment Temperature	0℃~+40℃

Tablet Power Adapter

Input Voltage	100 VAC ~ 240 VAC
Input Current (Max)	0.60 A
Output Power	23.4 W
Output Current (30 W)	1.2 A/2.0 A
Rated Output Voltage	19.5 Vdc

Tablet Battery

Type	2-chip lithium-ion (36 WHr)
Voltage	7.4 VDC (Rated) and 8.7 VDC (Max)
Weight	240.00 g
Dimension	240.85*7.17*70.60 mm
Rated Output Voltage	19.5 Vdc

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www.ehang.com

ENTERPRISE STANDARD: Q/ EHT 001-2017

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