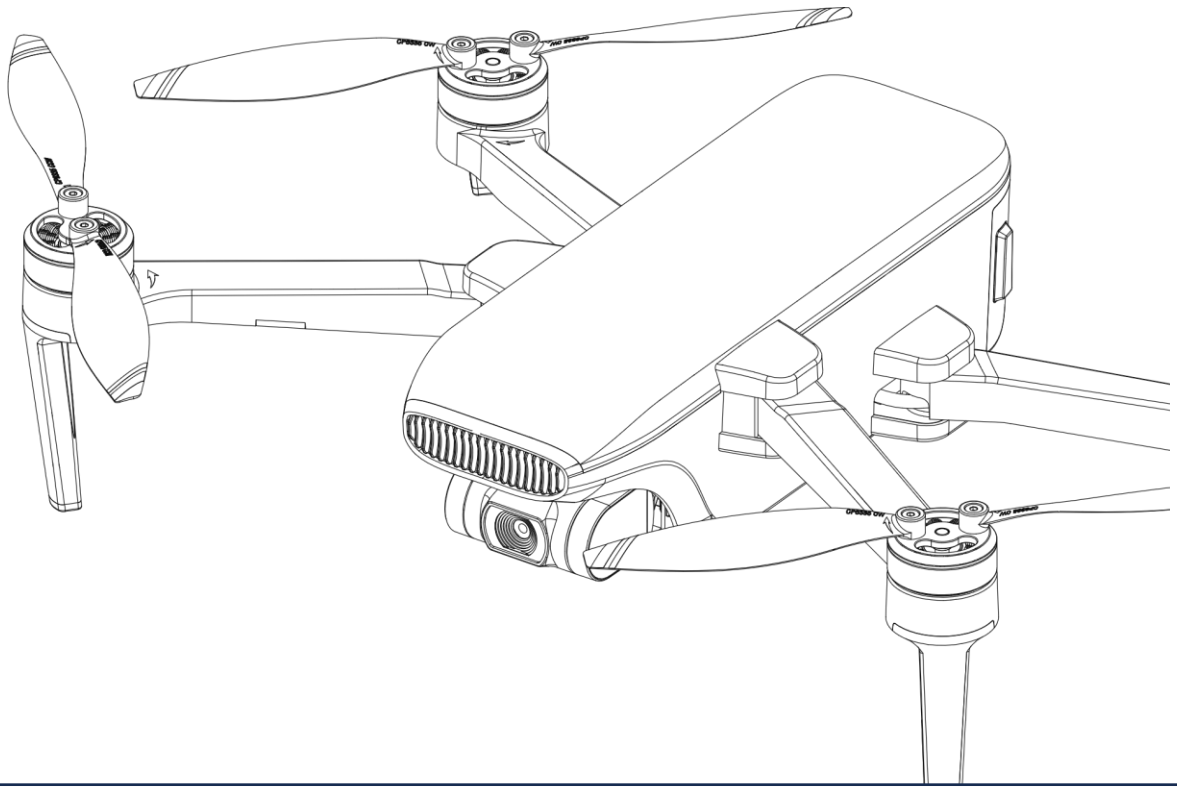
HAWK
By Drone Planet

USER MANUAL V2.01



Important

- Please read this manual carefully before using this product and operate strictly in accordance with the manual.
- Please do not try to disassemble, modify, or repair the aircraft by yourself; please get in touch with an authorized agent if necessary.
- Access the soft copy of the manual via scanning the QR code or by going to the manual section on the website.
- This instruction is updated without prior notice.

Please Take proper operation and flight safety guidelines in mind as it is very important for all of us.

Register Warranty

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A. Product Overview

1. Introduction

Hawk is equipped with a vision positioning and GPS positioning system, which allows it to fly and hover stably indoors and outdoors, and has functions such as one-key RTH, circle mode, follow me, and waypoint flight etc. Hawk

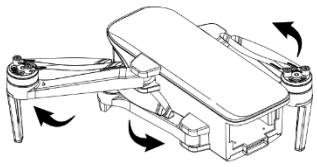
is equipped with a 3-axis mechanical stabilization gimbal to capture high-resolution pictures and videos. It can adjust the camera angle during flight to capture unique photos and videos from different angles for better aerial photography experience.

Hawk can be used with remote controller and APP to realize various operations and settings of the aircraft and camera. The App on the phone can display real time high-definition FPV (First-person view) and information like flight parameters at the same time. Using "Rocket, Dronic, Helix, Boomerang" mode to get the small unique video easily.

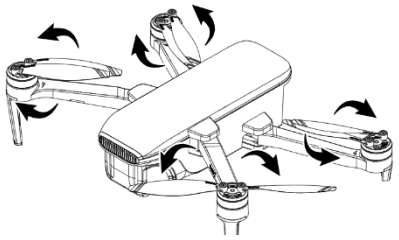
The maximum speed of the aircraft is 68.4km/h, the maximum transmission distance approach 5000m. The maximum flight time is 35 minutes.

2. Prepare The Aircraft

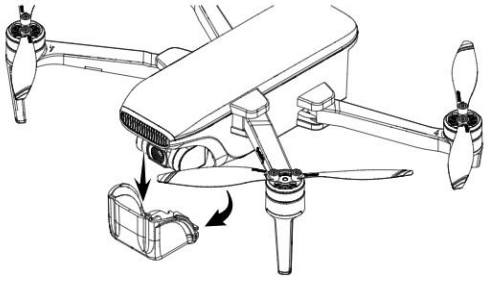
1. **Unfold the aircraft, and remove the gimbal cover**
   The aircraft is folded inside the package. Follow the steps to unfold the aircraft.



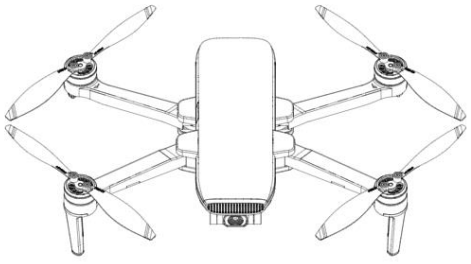
1. Extend the front and rear



2. Separate the propeller blades.



3. Remove the gimbal



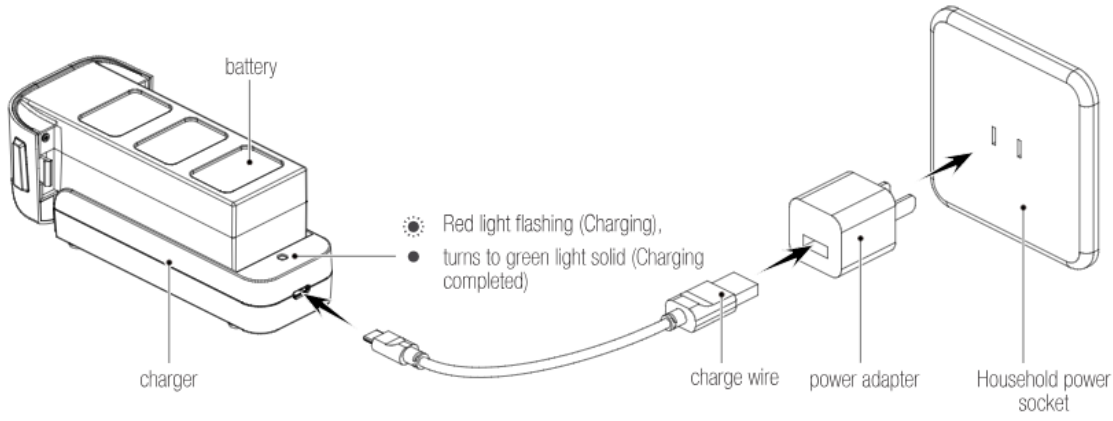
4. Complete

2. **Micro SD Card Installation**
   The Micro SD Card slot is located on the right side of the aircraft body. Before installing the Micro SD card, open the Micro SD card slot cover as shown on the picture, then insert the Micro SD card into the slot, and confirm that the Micro SD card is in the right place, then close the Micro SD card slot cover.

Note:

- Use micro SD card with transmission speed of Class 10 and above or UHS-1 rating.
- Do not install/remove the Micro SD card while the aircraft is powered on.

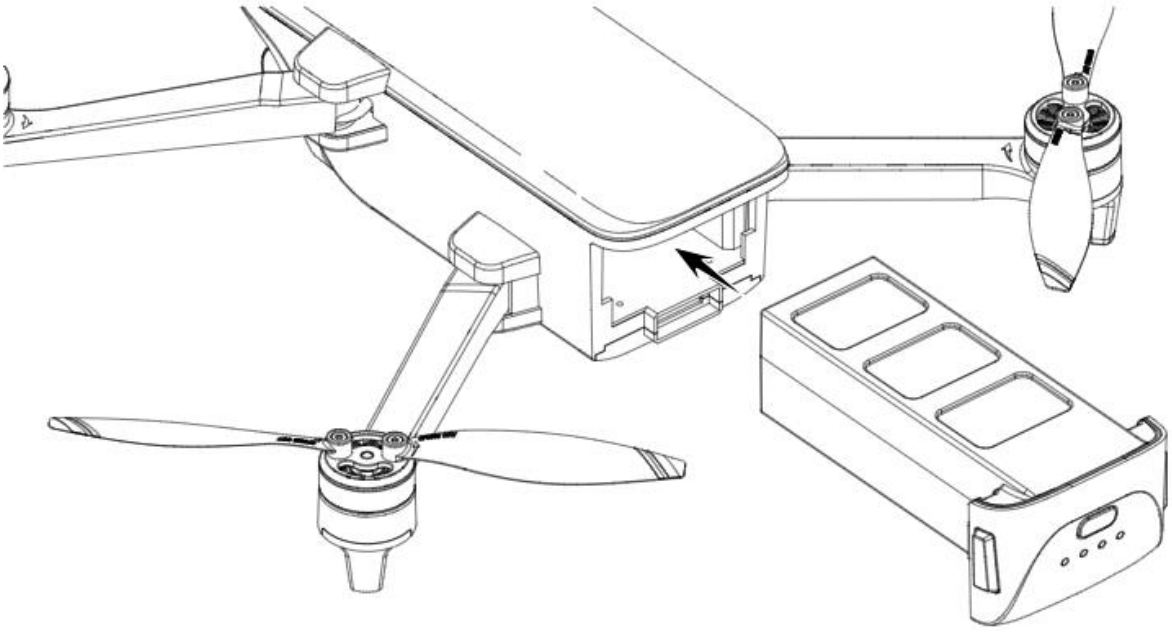
3. **Charge the battery**
   Be sure to fully charge the Aircraft battery each time before flight. Use the charger and wire to charge the battery as follows:



Note:

- The Aircraft battery must be charged using the officially supplied dedicated charger.
- Charging time depends on the USB power adapter's output (e.g., ~270 minutes with a 5V 2A adapter).

4) Battery Installation
Insert the battery into the battery compartment from the bottom. Ensure the latch is locked.



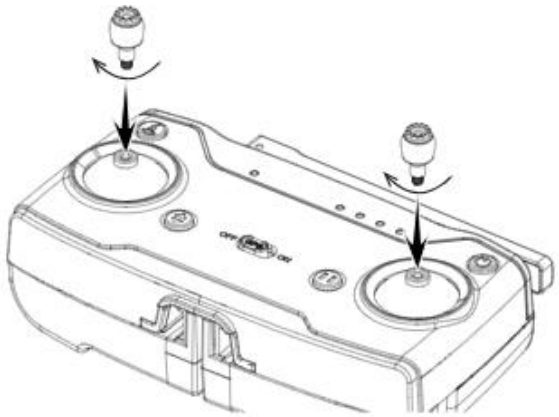
Warnings:

- Use both hands to install the battery. One-handed installation may result in poor contact.

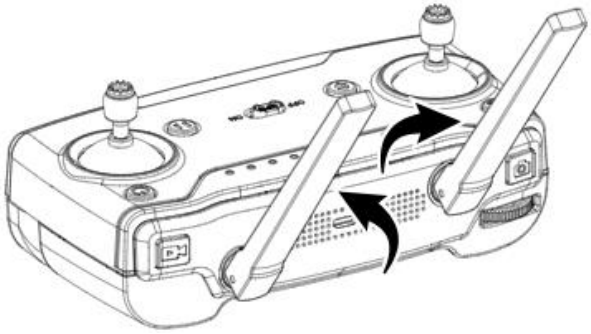
- Improper installation may cause mid-flight power loss and crashes.

3. Prepare the Remote Controller

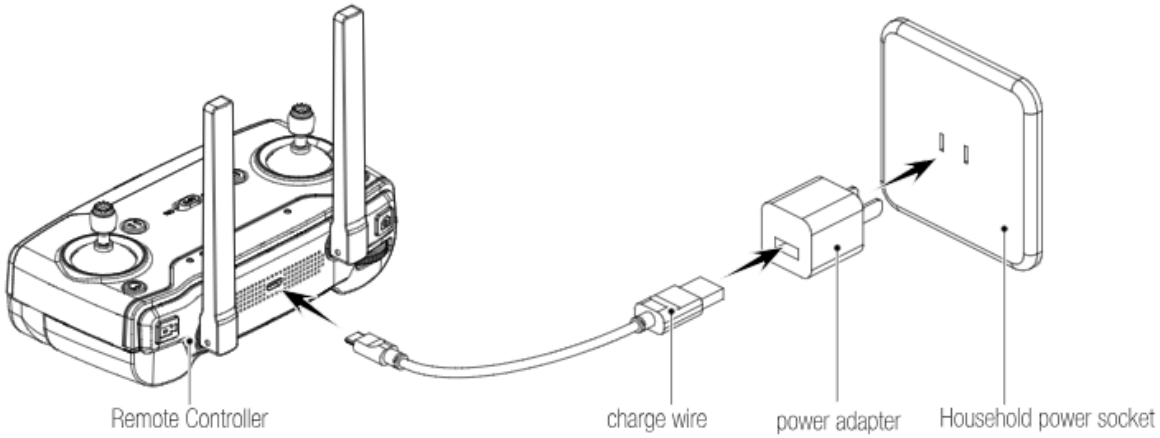
1. **Install the joystick**
   Find the sticker on the package. Install joysticks on the remote controller as shown.



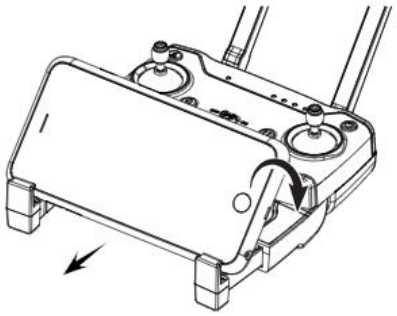
2. **Unfold the antenna**
   Unfold the antenna fully.



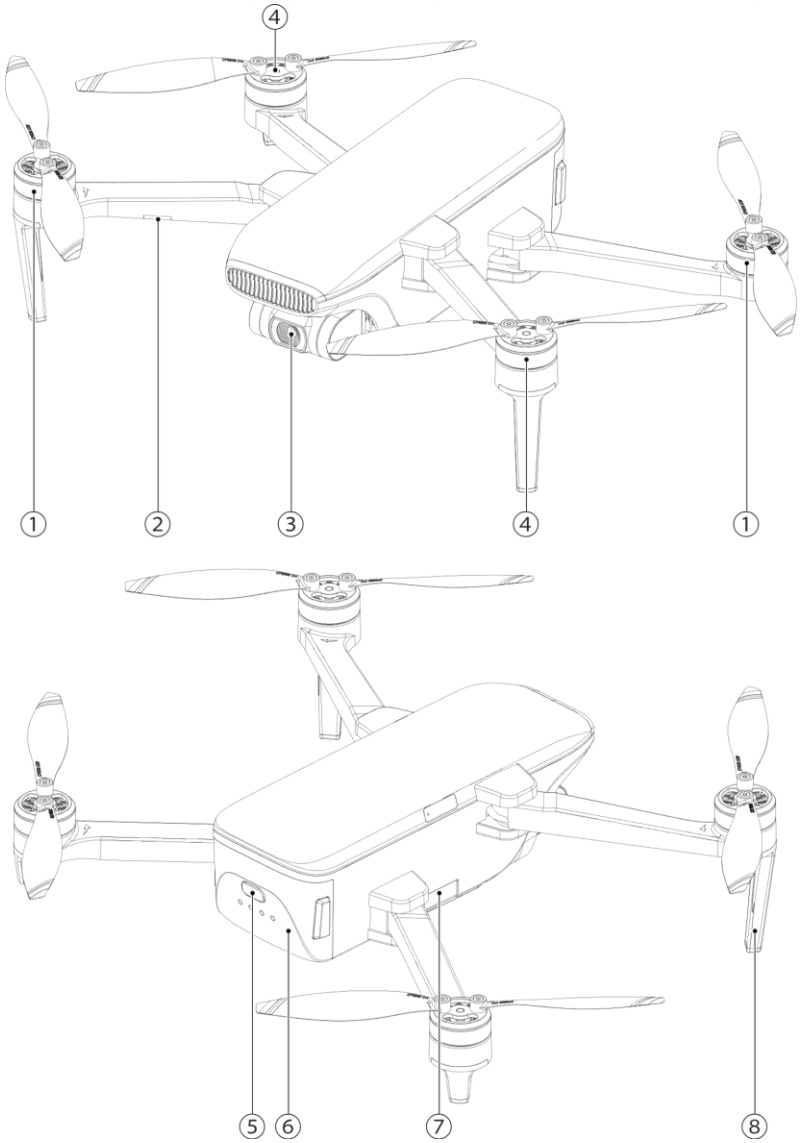
3. **Charge the remote controller**
   Connect the charge wire to the remote controller and power adapter. Plug into a household power socket.



4. **Unfold the phone support and insert the phone**
   Extend the phone holder and secure the mobile device.

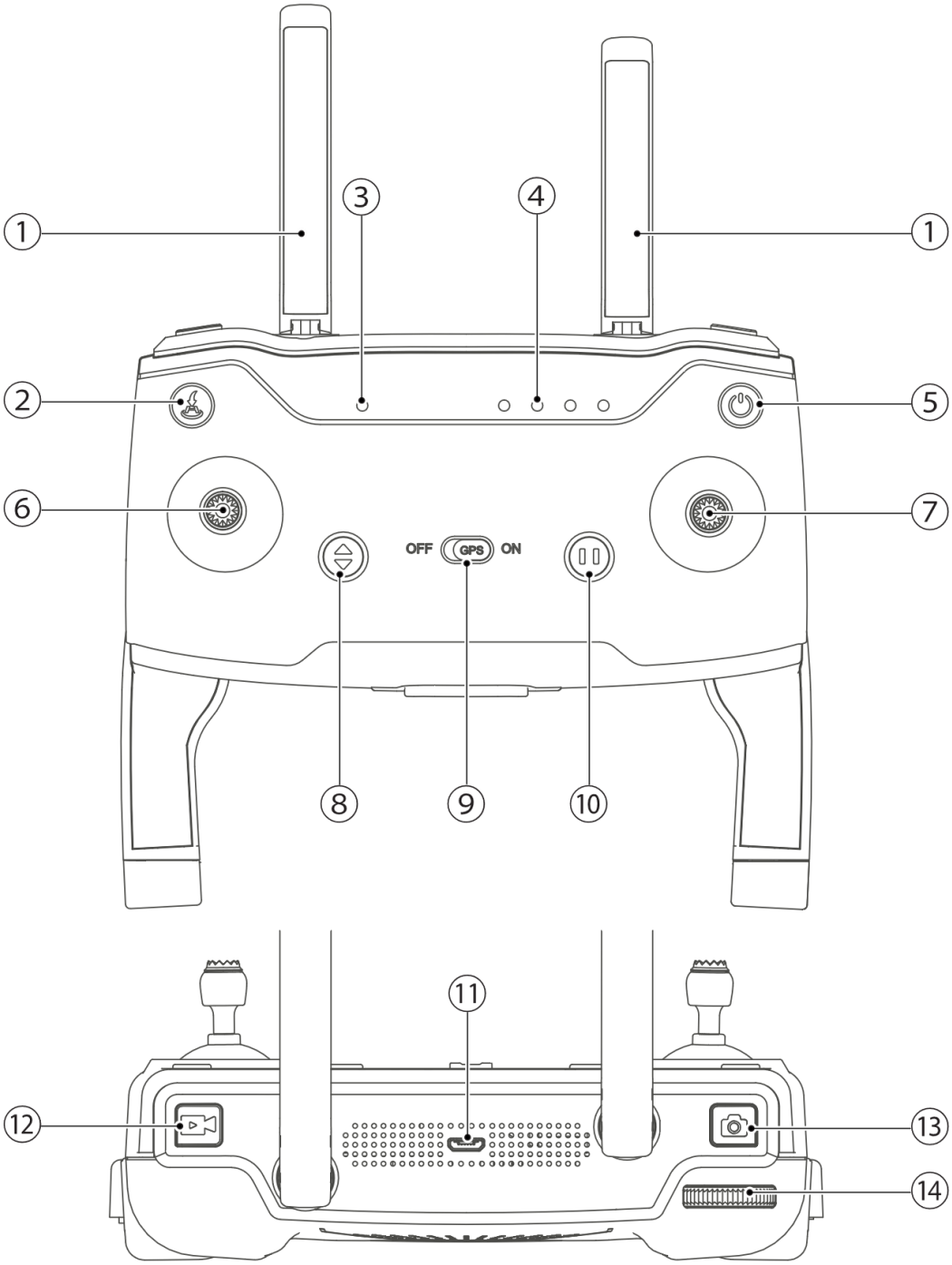


4. Aircraft Diagram



1. CCW Motor/Propeller
2. Head / Optical Flow Status Indicator Light
3. Gimbal & Camera
4. CCW Motor/Propeller
5. Head / Optical Flow Status Indicator Light
6. Gimbal & Camera
7. Micro SD Card Slot
8. Landing Gear

5. Remote Controller Diagram



① **Antenna** - Emits/transmits signals.

② **RTH Button** - Long press 2 seconds to activate/deactivate Return-to-Home (RTH).

③ **Flight Mode Indicator**

- **Green**: GPS mode active.
- **Red**: Altitude mode active.

④ **Power Indicator** - Displays current battery level.

⑤ **Power Switch**

- Short press: Check battery.
- Long press: Turn on/off.

⑥ **Left Joystick**
⑦ **Right Joystick**

⑧ **One Key Takeoff/Landing** - Activates automatic takeoff/landing.

⑨ **GPS Switch** - Toggles GPS positioning on/off.

⑩ **Pause Button -** Brakes and hovers aircraft mid-flight.

⑪ **USB Port** - Charging port.

⑫ **Video Button** - Start/stop video recording.

⑬ **Photo Button -** Capture photos.

⑭ **Gimbal Adjustment -** Controls camera pitch angle.

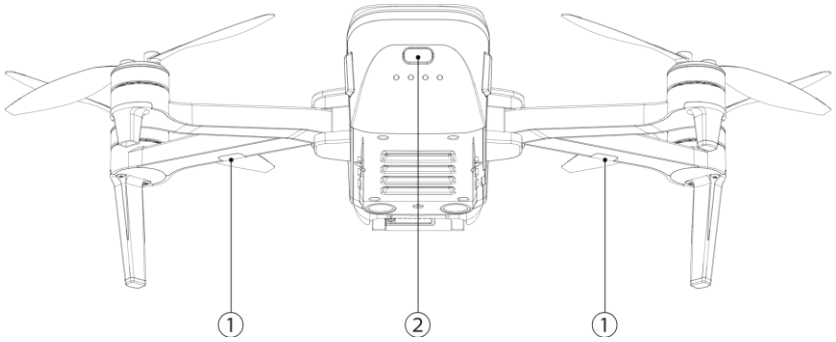
B. Aircraft

This section describes the system composition and function of the hawk drone.

The aircraft is mainly composed of flight control system, a communication system, optical flow positioning system, a power system, and an intelligent battery system. This chapter will introduce the functions of each part in detail.

1. LEDs And Status Indicator of Aircraft

LED indicator light is installed on the front arm of the aircraft, used to indicate direction. After startup, the red light activates.



(i) Optical Flow Positioning Status Indicator – LED

No.	Indicator Light	Status
1	Flashing red light	Optical flow positioning failure
2	Solid red light	Optical flow positioning active

(ii) Flight Status Indicator – LED

No.	Indicator Light	Status
1	Solid blue light on startup	Self-inspection
2	Flashing blue light	RC unpaired, GPS unlocated
3	Solid blue light	RC unpaired, GPS located
4	Solid green light	RC paired, GPS located
5	Flashing green light	RC paired, GPS unlocated
6	Red/blue alternating flashes	Horizontal calibration in progress
7	Red/green alternating flashes	Vertical calibration in progress
8	Solid red light	Critical error
9	Flashing red light	Low battery warning
10	Double red flashes	Severe low battery alert
11	Double green flashes	Beginner mode (GPS unlocated)
12	Blue/green alternating flashes	Compass data error

2. Flight Modes

1. **GPS Mode**: - Enables precise hover. Automatically switches to altitude/optical flow mode if GPS signal weakens.

2. **Altitude Mode**: - Uses optical flow/barometer for hover stability. Horizontal drift possible; requires skilled operation.
3. **Return To Home (RTH)**:

   Three types:

   - **One-key RTH**: Manual activation via remote controller.
   - **Low Battery RTH**: Auto-triggered at critical battery levels.
   - **Lose Control RTH**: Activates after 2+ seconds of signal loss.
4. **One-Key RTH**: Requires GPS signal (solid green status light). The user can override the landing position during descent.
5. **Low Battery RTH**: Auto-triggered (flashing red status light). User can adjust the landing position.
6. **Lose Control RTH**: Activates if signal lost for >2 seconds. Cancelable via pause button if signal is restored.

Attentions:

- RTH cannot avoid obstacles.
- GPS signal required for RTH activation.
- Below 30m altitude: Aircraft ascends to 30m before RTH.
- No RTH if GPS/signal is lost permanently; aircraft descends to land.

3. Optical Flow Position and Ultrasonic Altitude Hold

The aircraft is equipped with optical flow position and an ultrasonic altitude hold system, which provides better environmental adaptability.

The optical flow positioning system is located at the bottom of fuselage. As shown in the camera module (ii), the Optical Flow positioning system obtains aircraft position throughout the image.

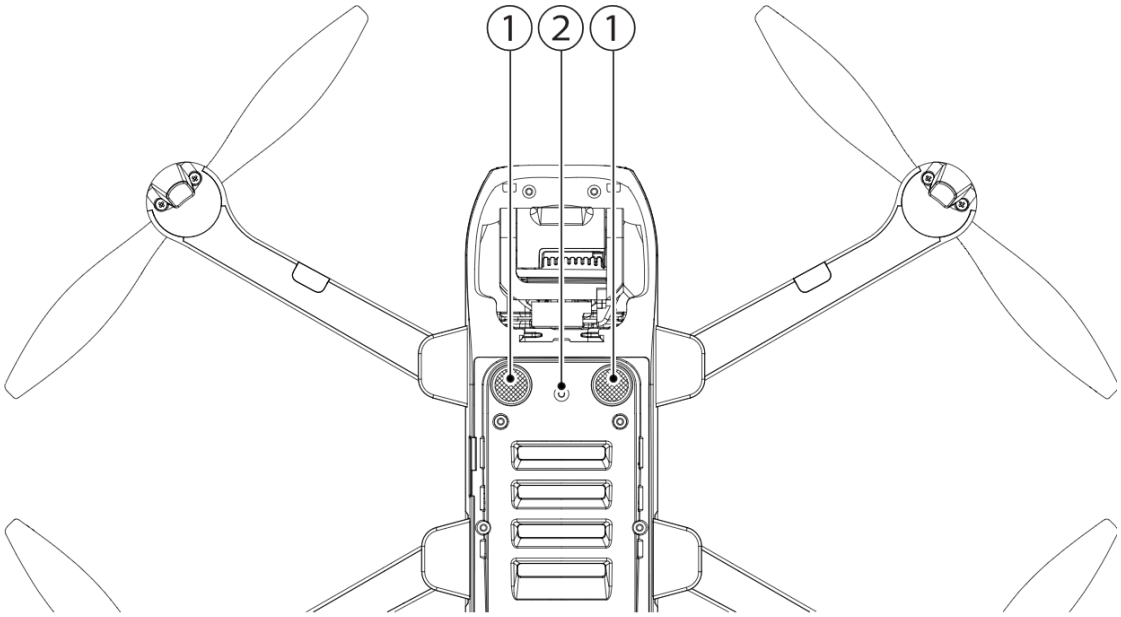
The ultrasonic height determination system, consists a pair of ultrasonic sensor modules as shown in modules (i) (transmitter and receiver). The ultrasonic sensor can measure the current aircraft height by ultrasonic technology.

- **Optical Flow System**: Uses bottom camera (module ii) for ground texture analysis.
- **Ultrasonic System**: Measures altitude via transmitter/receiver modules (i).

10 Flight

Optical Flow Positioning System
Typically used indoors when GPS is weak/unavailable. Optimal performance below 3m altitude.

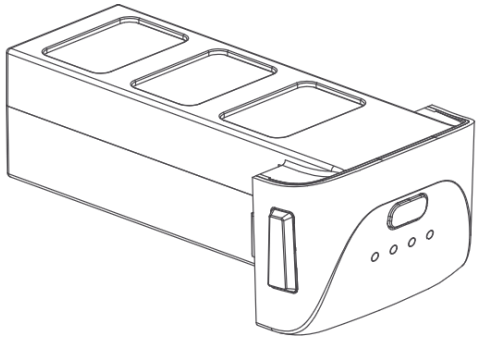
Note: The precision is affected by the light strength and features of the surface texture. Generally happens if the ultrasonic sensor cannot work normally to detect the altitude when it is flying over objects made of sound-absorbing materials. Once the optical flow sensor and ultrasonic sensor are both unavailable, the aircraft will automatically switch to altitude mode. Be cautious while operating aircraft under the following scenarios.



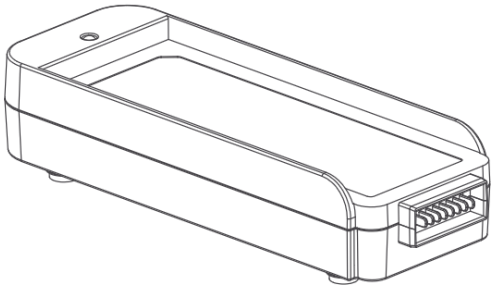
- Fly fast at an altitude below 0.5m.
- Fly over monochrome surfaces (like pure black, pure red, pure red, and pure blue).
- Fly over strong light reflective surfaces or surfaces prone to reflection.
- Fly over water or transparent object surfaces.
- Fly over moving object surfaces (such as crowds, swaying juggles and glass).
- Fly over an area where light changes dramatically and rapidly.
- Fly over surfaces extremely dark (lux<10) or extremely bright (lux>10,000).
- Fly over material surfaces that absorb ultrasonic waves (like thick carpet).
- Fly over surfaces without clear textures
- Fly over surfaces with highly repeating textures (small grid brick in the same color).
- Fly over surfaces that are tilting over 30 degrees (could not receive the echo of the ultrasonic wave).
- Flying speed should be controlled so as not to be too fast. When the Aircraft is 1 meter above the ground, the flying speed should not be over2m/s; When the Aircraft is 2 meters above the ground, the flying speed should not be over 5m/s.
- Keep sensors clean at all times.
- The vision system is only effective when the Aircraft is within an altitude of 3 meters.
- Make sure that the light is bright enough and the surfaces have clear textures so that the vision system can acquire the movement information through recognizing the ground textures.
- The vision system may not function properly when the Aircraft is flying over water, low-light ground, and surfaces without clear patterns or textures.
- Do not use other ultrasonic device with a frequency of 40 kHz when the vision system is in operation.
- Since the Ultrasonic altitude hold will emit ultrasonic waves that human ears cannot perceive, the ultrasonic waves may cause the animals to be uneasy. please stay away from the animals when using.

4. Battery of Aircraft

- **Capacity**: 3100mAh
- **Rated Voltage**: 11.4V
- High-energy battery cells used.

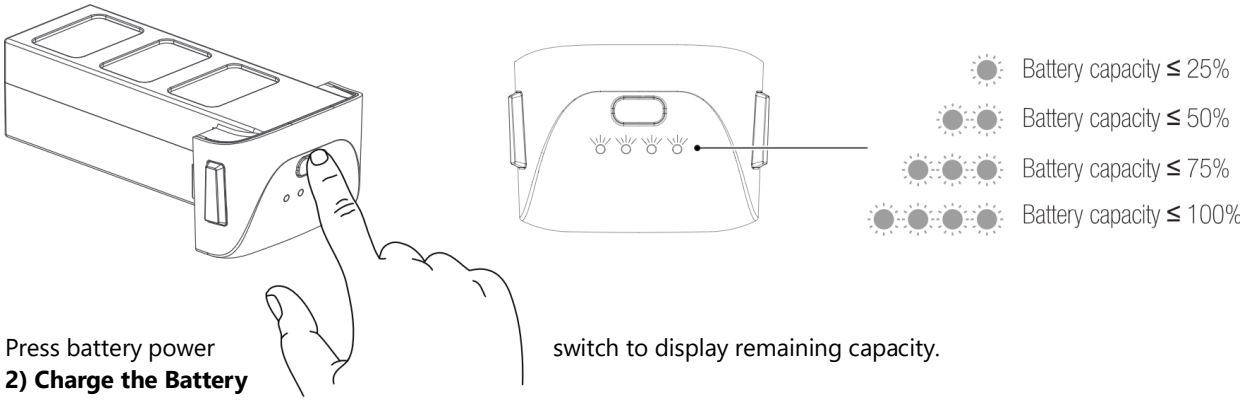


Aircraft battery



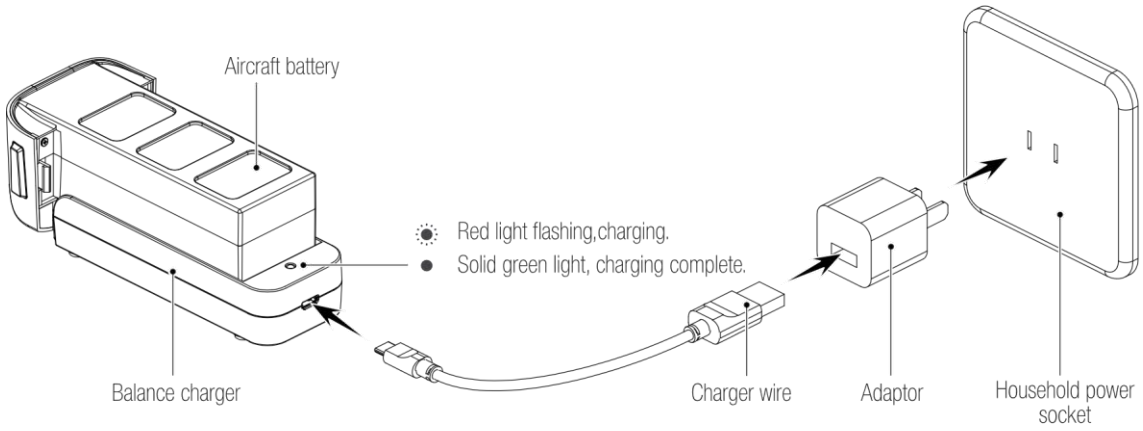
Balance charger

1) Check Battery Life



Press battery power switch to display remaining capacity.

2) Charge the Battery



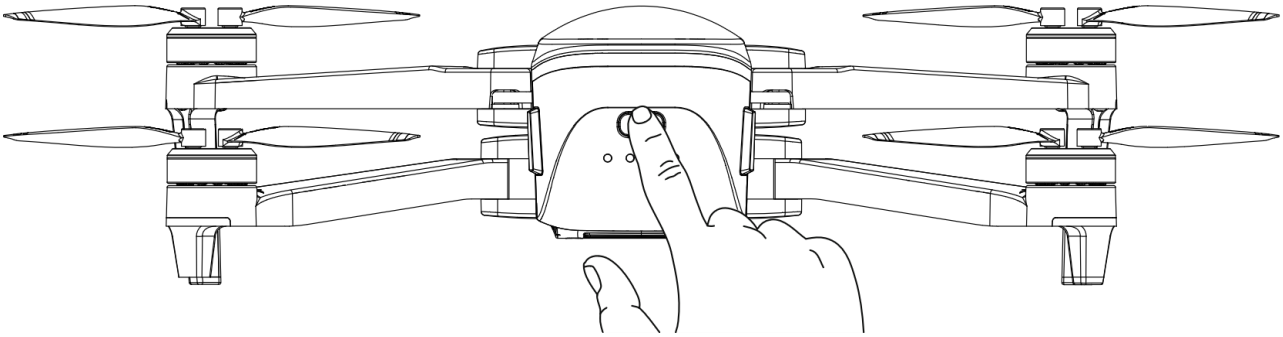
Notes:

- The Aircraft battery must be charged by using the officially supplied dedicated charger.
- The power of USB power adapter determines the charging time.
- With 5V 2A adaptor, the charging time is about 270 minutes.

Attention:

- Adult supervision is needed when the Aircraft is charging. Batteries are only to be charged under adult supervision.
- Do not short circuit and squeeze the battery to avoid explosion.
- The battery should not be short circuitted, decomposed or put into the fire, and the battery should not be short circuitted, decomposed or put into the fire; and the battery should not be placed in high temperatures and heated places, such as fire or heated places.
- The model can only use the recommended charger; regular checks should be made to check whether the charger's wires, plugs, housing and other components are damaged, when damaged, the charger should be stopped until repaired.
- Charger is not a toy and can only be used indoors.
- The battery needs to be charged after the flight before storage. If not used frequently, it is recommended to charge the battery at least once a month to avoid permanent battery damage due to excessive discharge.
- Only 5V USB power adapters that meet local laws and regulations can be used.

5 . Aircraft Power Switch

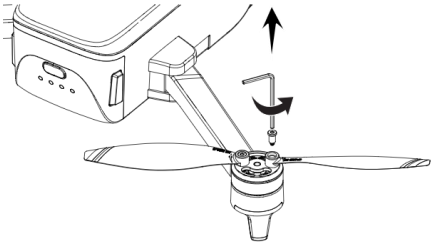


Power on and Power off

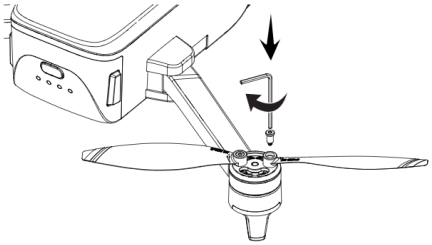
Press and hold the power switch of the Aircraft for about 2 seconds, the Aircraft will power on. At this time, the aircraft will sound a tone, and the front and rear lights will be on; press and hold again the power switch for about 2 seconds, the aircraft will power off, and the front and rear lights will be off.

5 . Attach and Detach Propellers

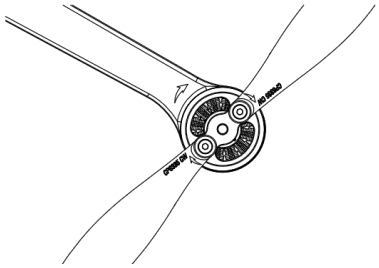
The propellers are pre-installed in the package If the propeller is damaged during use, please replace the propeller according to the following steps.



Turn the screw clockwise to remove the propellers.



Install the propeller and screw, turn the screw clockwise to lock.



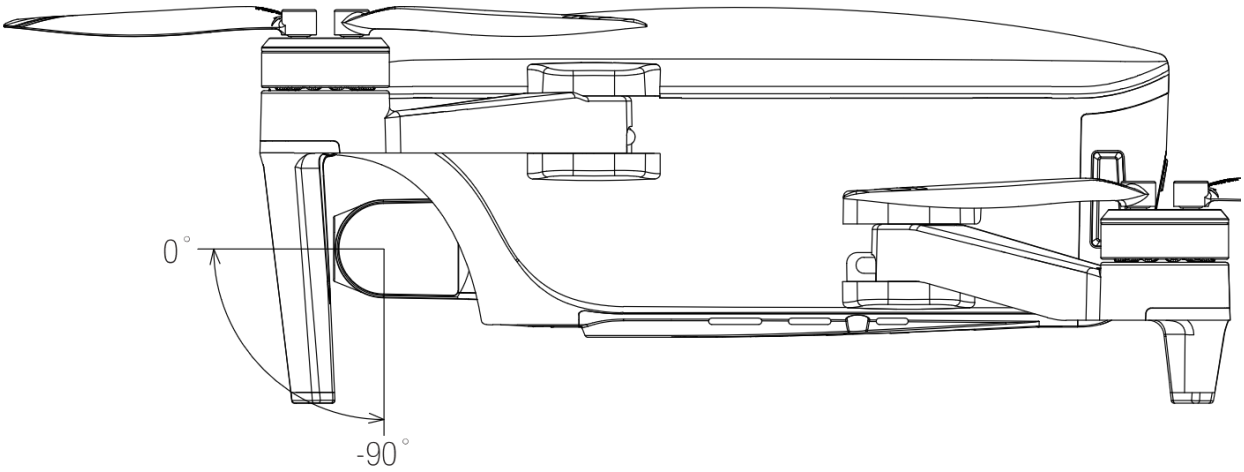
When installing the propellers, make sure that the arrow on the propeller is in the same direction as the arrow on the arm.

Note

- If the propeller with the CW-mark is to be disassembled, choose the propeller with the CW-mark for installation. If the propeller marked with the CCW-mark is removed, just choose the propeller with the CCW-mark to install.
- Make sure that the propeller CW and propeller CCW are installed in the correct positions. The Aircraft will fail to fly normally if the propellers are installed improperly.
- As the propellers are thin, be careful when installing them to prevent accidental scratches.
- Please use the official dedicated propellers for replacement
- Propellers are consumables. Please purchase the official patented propellers if necessary

7. Gimbal Camera

The 3-axis stabilized gimbal provides a stable platform for the camera, enabling stable footage during high-speed flight. Controllable pitch angle range: **-90° to 0°**.



Notes:

- Remove the gimbal cover before flight. Reinstall it during storage/transport to protect the gimbal.
- Place the aircraft on flat, open ground before takeoff. Uneven surfaces may cause gimbal contact with objects, leading to motor protection mode.
- Do not touch the gimbal after power-on.
- Do not add objects to the gimbal; this may damage motor performance.
- Avoid collisions or physical damage to the gimbal's precision components.
- Keep the gimbal clean and free of debris/sand.

Camera:

Sensor: Sony CMOS (20MP stills).
Video: 4K resolution at 30fps.
Storage: Install a Class 10/UHS-1 Micro SD card for high-quality recording. Without an SD card, media is saved to the mobile app (lower quality).

- The FPV transmission quality and distance vary by different mobile phones and different environmental situations.
- Please fly the Aircraft in an open and undisturbed environment as possible for a better FPV transmission experience.
- The actual test indicates that the maximum FPV transmission distance approaches 5000 meters in an interference environment.

Warnings:

- Do not remove the SD card during recording or while powered on.
- Limit single video recordings to ≤30 minutes for system stability.
- Stop recording before powering off to avoid file corruption.
- Clean the lens professionally to avoid damage.
- Operate/store the camera within specified temperature/humidity ranges.
- To ensure the stability of the camera system, limit the length of a single recording to 30 minutes or less.
- Check the camera settings before shooting with the camera to ensure that the parameters are correct. When using the device to take important images, please take several test shots before actually shooting to ensure that the device is in proper working condition.
- Stop recording before turning off the smart battery, otherwise, the video being recorded will be corrupted. For the damaged video, please insert the memory card back into the device and turn on the device, There is a probability that the file will be repaired automatically. We are not responsible for any damage caused by unreadable videos and photos.
- Please use and store the camera within the nominal temperature and humidity range to keep the camera lens in good condition.
- For a dirty or dusty lens surface, it is recommended to clean the lens with a professional lens cleaning tool to avoid damaging the lens or affecting the image quality.
- Make sure the camera is not covered by any shade, otherwise the high temperature may cause damage to the camera and even burn you or others.

C. Remote Controller

The remote controller should be used with the aircraft.

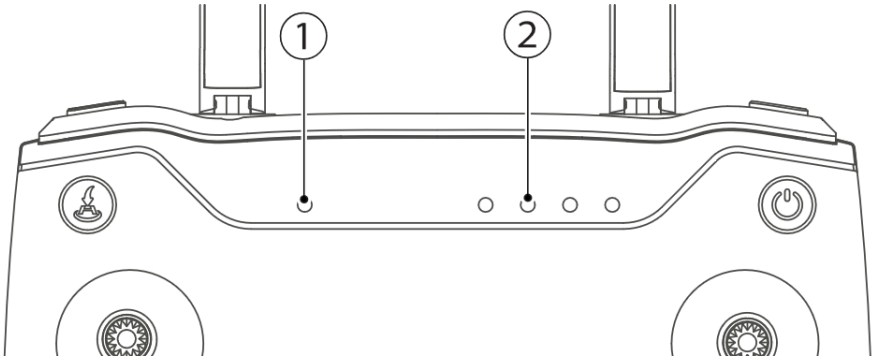
Through the joystick and function buttons on the remote controller, user can operate the aircraft and camera within a distance up to 5km (under FCC, non-blocking and non-interference environment), and display high-definition images on the mobile phone in real time through the app.

The telescopic foldable mobile phone support at the bottom of the remote controller is used to place the mobile phone. The joystick is detachable and easy to pack and carry. The remote controller is equipped with 2600 MAH rechargeable lithium battery, and the maximum working time is about 4 hours.

1. Status Indicator of Remote Controller

Flight Mode Indicator – LED

No.	Indicator Light	Sound	Status
1	Solid Green Light	No Sound	GPS mode
2	Solid Red Light	No Sound	Altitude Mode



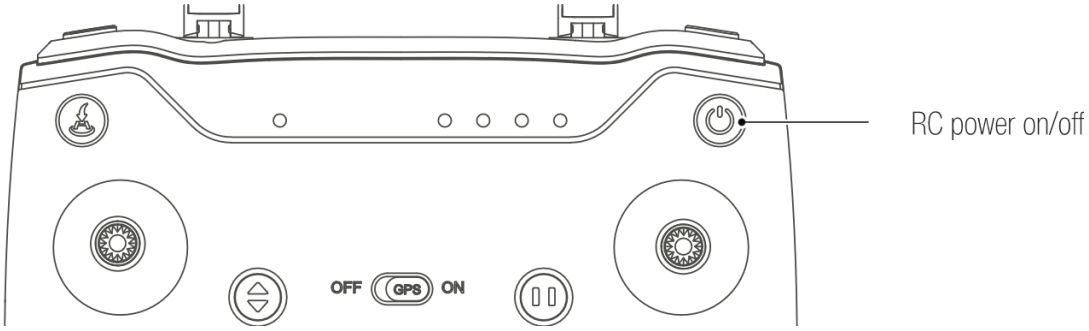
Power Indicator – LED

No.	Indicator Light	Sound	Status
1	Flashing green light	No Sound	Charging in progress
2	Solid green light	No Sound	Charging complete
3	Solid green light	No Sound	Remote controller operational
4	Slow green flashes	B-B-B……	Low battery alert
5	Double green flashes	B-B-B……	Idle for >9 minutes after power-on

2. Function Instructions of Remote Controller

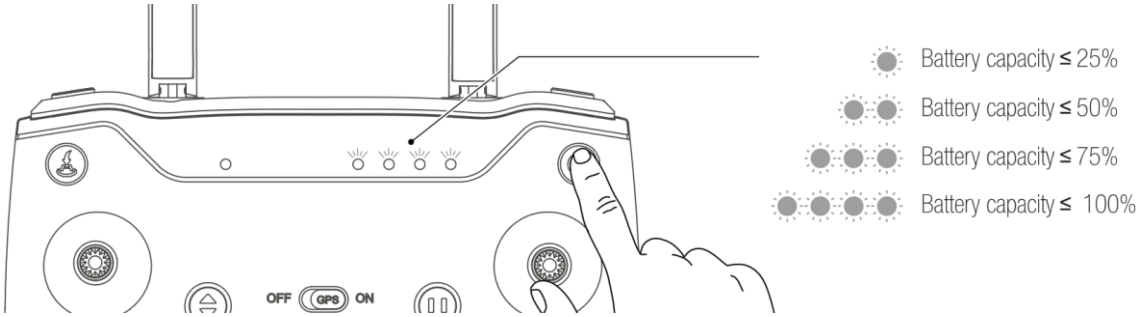
RC On and Off

Power on and Power off the remote controller by pressing the power button for more than 2 seconds.



Battery Life Check:

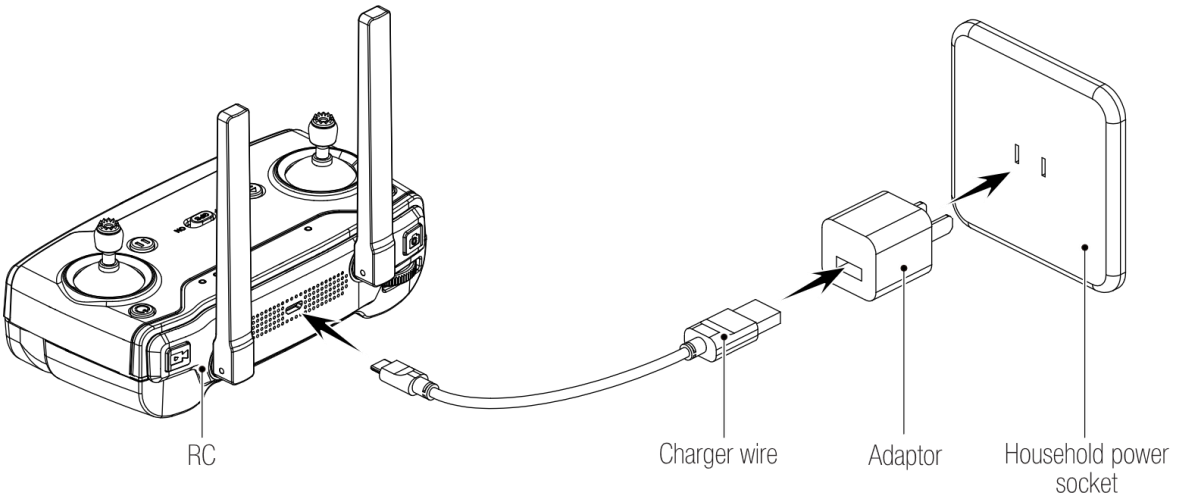
Short press the power button to display current battery level via the power indicator (④).



Charge the Remote Controller:

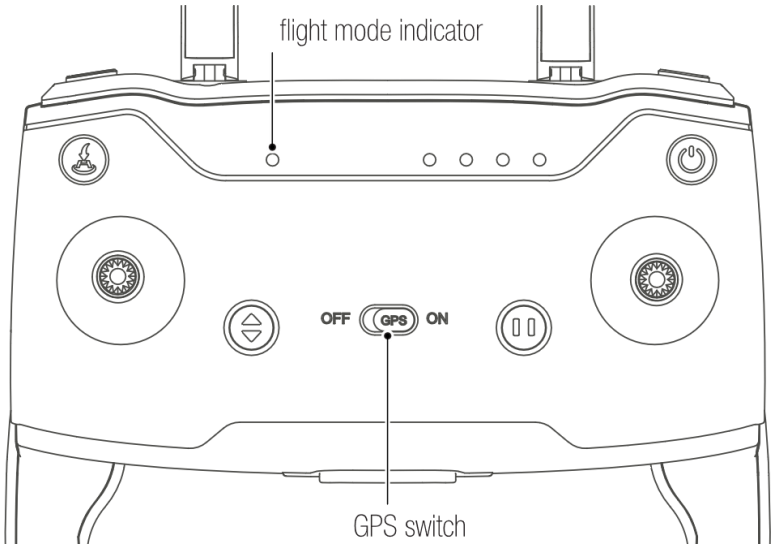
Use the **USB port (⑪)** with the included charge wire and a 5V 2A adapter. Charging time: ~3 hours.

GPS



Switch (⑨):

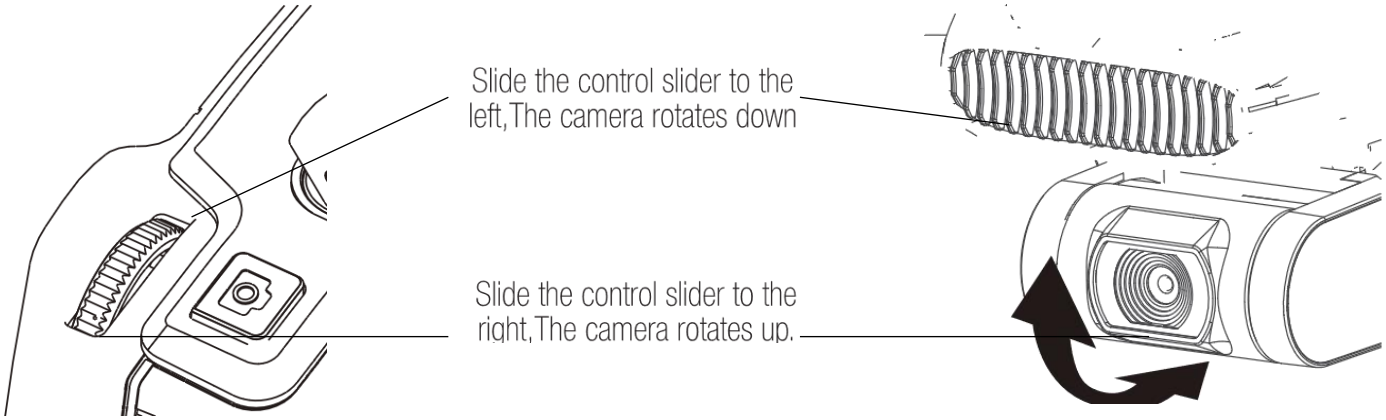
On: Enables GPS mode (green light on flight mode indicator).
Off: Switches to altitude mode (red light on flight mode indicator).



No.	Indicator	Sound	Status
1	Solid Green Light	Not	GPS Mode
2	Solid Red Light	Not	Altitude Mode

Gimbal Adjustment:

As shown in the image below, dial the scroll wheel in the upper left corner of the remote control to control the camera pitch angle.



Photo/Video:

Press the button with a camera icon on it , along with beep sound on RC, which means photo is taken successfully.

Press the button with a video camera on it, with B-B sound in RC, which indicates that video recording has been started and repeat the same action, which indicates the recording has been stopped.

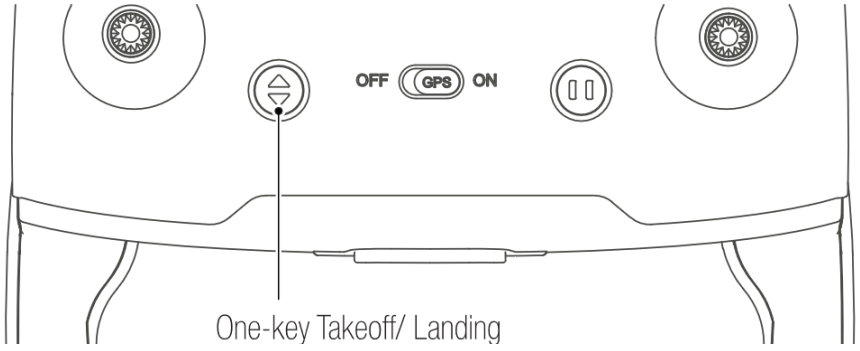
Note

- When the Aircraft is not inserted with micro SD card or the micro SD card malfunctions, the photos and videos will be stored on the mobile device, the quality of video files is relatively poor.
- Please stop recording before turn off, otherwise it will cause file damage.
- Pictures can not be taken when it's recording.

One-Key Takeoff / Landing

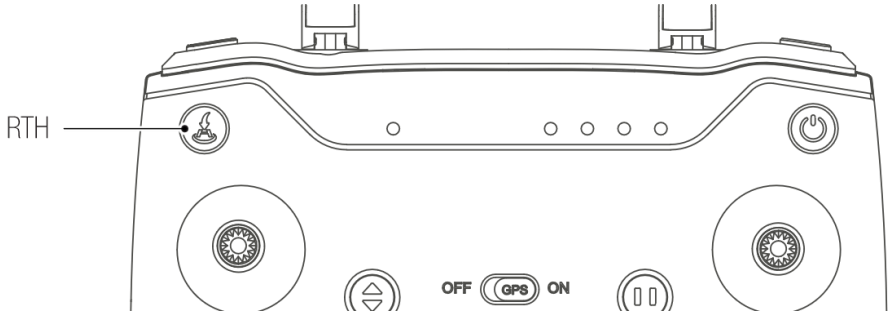
Long press the" ◌ "button for 2 to 3 seconds. When the remote controller beeps steadily, the Aircraft will automatically take off and ascend to the altitude of 1.2 meters and hover.

Long press the" ◌ "button for 2 to 3 seconds. When the Remote controller beeps steadily, the aircraft lands vertically.



RTH

Long press" "button, with "B-B-" sound on RC, to start the RTH, The Aircraft will fly back to the latest recorded return point. The joysticks can not be used during the process of ascent and return.During its landing, user can toggle the joystick to control the Aircraft and decide the landing site. During its return, press the"" button again to exit RTH mode, Then the user will re regain control of the Aircraft.

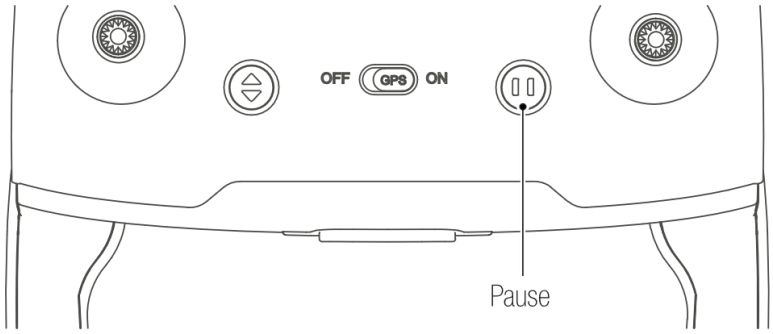


Attention:

- To ensure the return to home point as precisely as possible, please fly the Aircraft in an open area (no tall buildings in 50 meters of radius, flat in 10 meters of radius) with the GPS working well, Then the return to home function will be able to activate.
- With the GPS positioning mode turned on, it will automatically enter auto return to home mode if the remote controller loses control.
- Once the RTH mode is enabled, if the Aircraft flies below 30 meters of altitude, the aircraft will automatically ascend to 30 meters before returning to home point. If the aircraft flies over 30 meters of altitude, the aircraft will return to home point at the current altitude. Please do not use other functions during the process of return. Please ensure there are no obstacles in way of return in case of any potential accidents.

Pause

Short press the pause button, the aircraft will interrupt the current mode(such as follow me, lose control return, waypoint, one keyshot, or circle mode) and change to position mode.

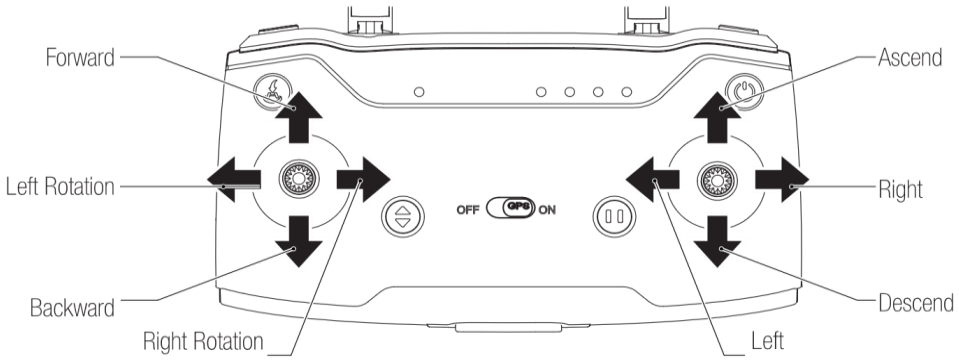


3.Throttle Stick Control Mode

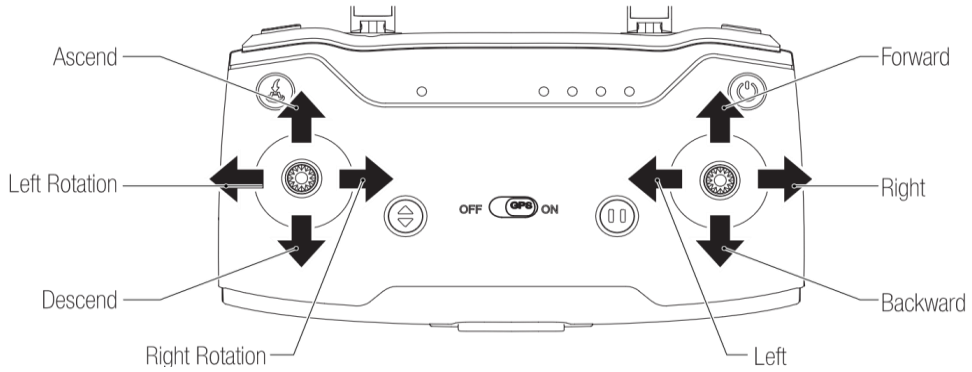
There are two kinds of control modes right hand throttle mode (mode 1, i.e. Japanese hand) and left hand throttle mode (mode 2, i.e. American hand). The methods are as follows:

The default setting mode is left hand throttle mode (mode 2, i.e. American hand)

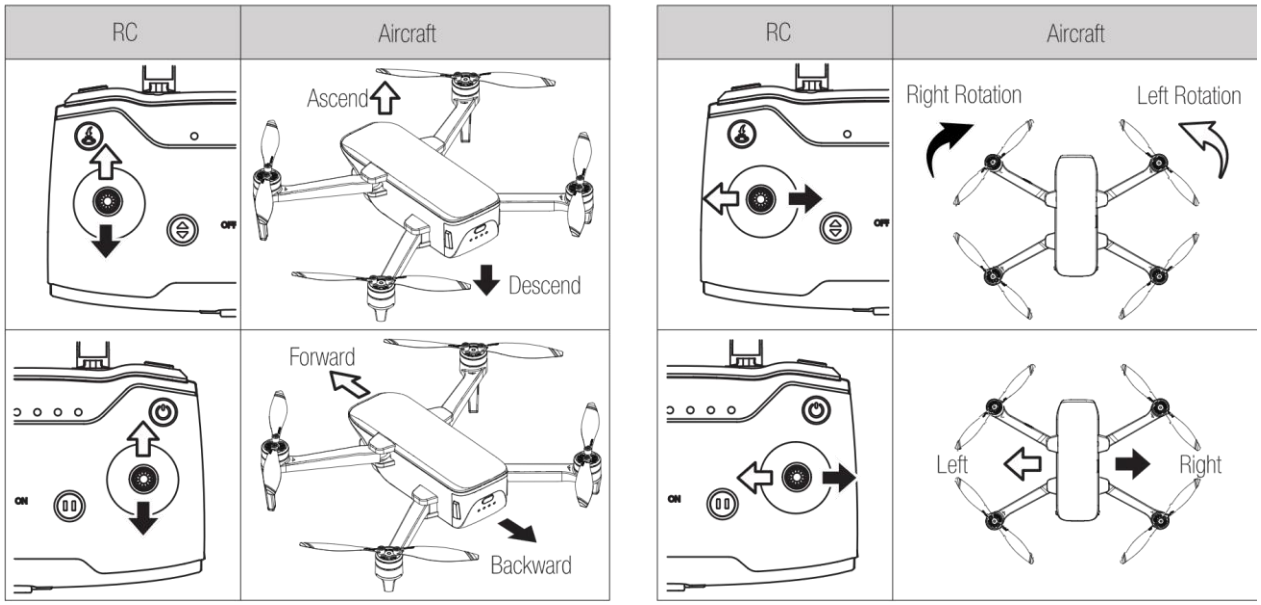
Mode 1



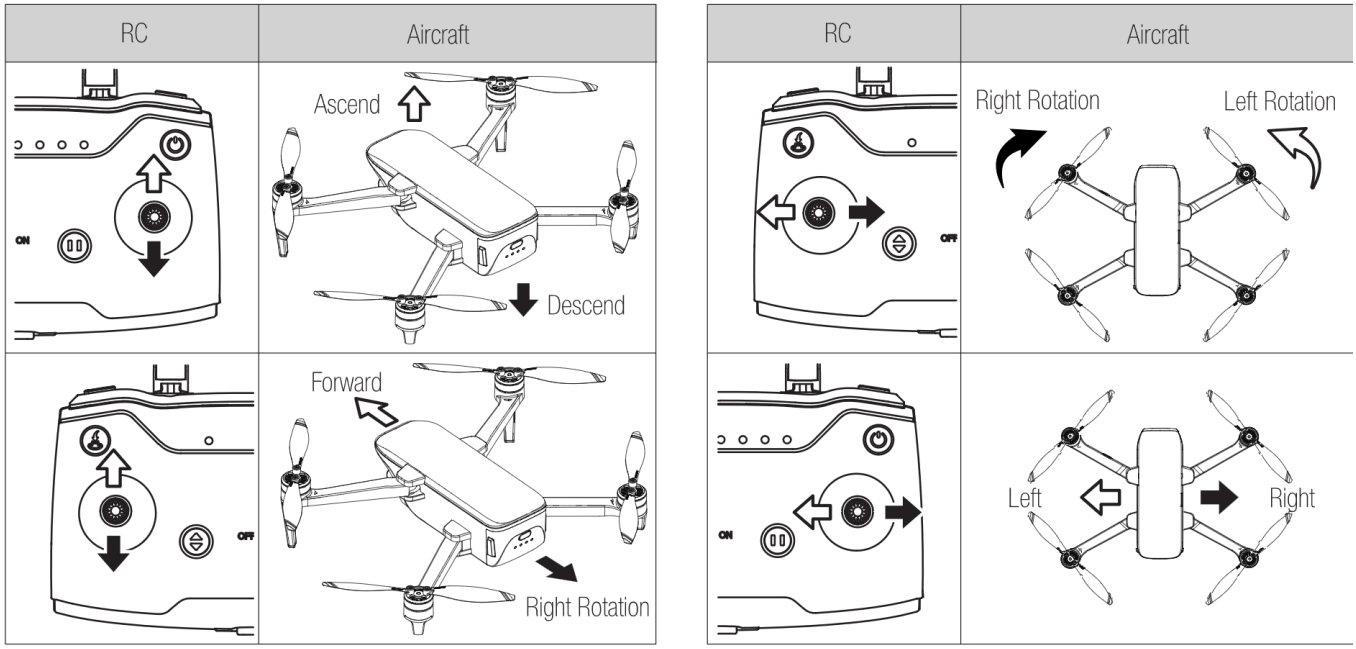
Mode 2



Mode2



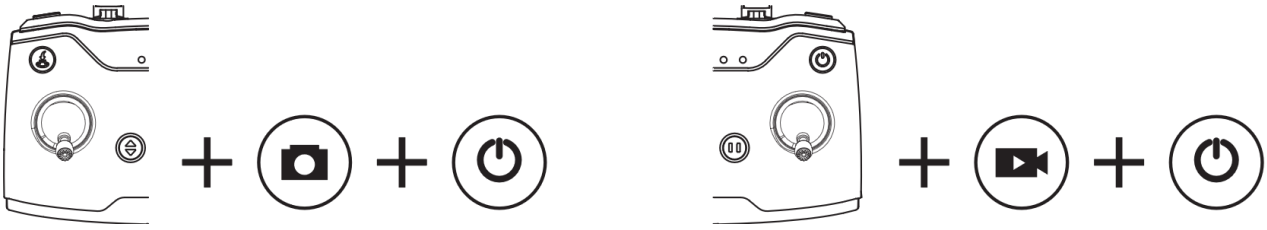
Mode1



Throttle Control Stick Mode

Switch to Mode 2 (Default setting)

Before turning on, pull the left joystick to the lowest position, press the buttons "" and "" at the same time, and keep still, wait for the remote control to make a beep and the two green lights are on to complete successfully. Switch to "mode 2", user can use it after restarting the remote controller.

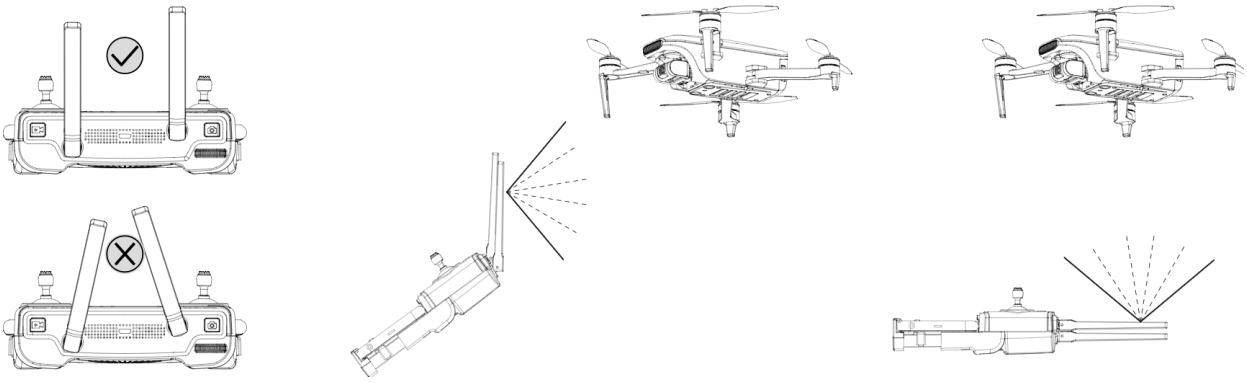


Switch to Mode 1

Before turning on, pull the left joystick to the lowest position, press the buttons "" and “at the same time, and keep still. Wait for the remote control to make a beep and the two green lights to be on to complete successfully. Switch to "mode 1." The user can use it after restarting the remote controller.

3.Optimal Transmission Zone

Please extend the antennas before the flight. The signal is weak directly above the antenna. The signal is weak directly above the antenna. The signal between the aircraft and the remote controller is most reliable when the antennas are positioned in relation to the Aircraft as depicted below.



Ensure that the aircraft is flying within the optimal transmission zone to maintain optimal transmission performance, adjust the remote controller and antennas, and keep the space between the controller and aircraft clear during the flight.

5. Pair the Aircraft

The aircraft is pre-paired with the remote controller in the package, users can use it once they turn it on. If the remote controller is replaced or for other reasons that cause a failure in matching the aircraft and the remote controller, please complete the binding as the following steps:

(1) Turn on the aircraft and the remote control.

(2) Open your phone and go to the Settings - WLAN menu to see the list of current Wi-Fi signals. The user can see the remote's Wi- signal: Ground-xxxxxx (xxxxxx is a serial number consisting of letters and Numbers). Please record the serial number of the remote control for standby.

(3) Select the Wi-Fi Signal of the remote control and connect it.

(4) Open HAWK APP, choose "mine rc paired", click "rc paired" (5) The Wi-Fi name scanned will be displayed in the dialog.

(6)Please select the Wi-Fi of the aircraft, such as Aircraft-xxxxxx and then click "OK".

(7)Enter the mobile phone "Settings" Wlan mean again and check the serial number of the remote control. if the serial number has been changed, the binding has been completed.

HAWK APP

About App

Through the HAWK APP 2 app, users can check the FPV, as well as the status and data of the current aircraft. It can also control the flight of the aircraft, control the camera of the aircraft, control the photographing, camera shooting and set the flight parameters. In order to get a better experience, please be sure to connect the HAWK APP 2 app before flight.

Download HAWK App

Scan the QR Code to download the application.

-Please make sure that your device's environment is Android 5.0 or above or IOS 9.0 or above.

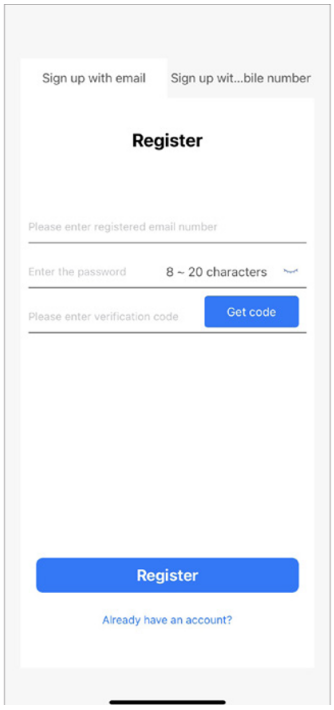
-Make sure that the mobile device has enough power prior to connecting

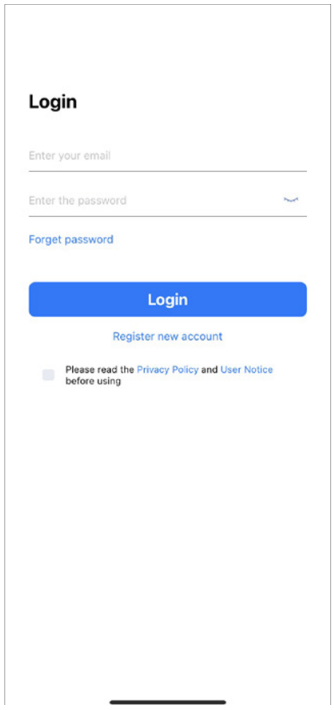
- While using the app, focus on controlling the aircraft

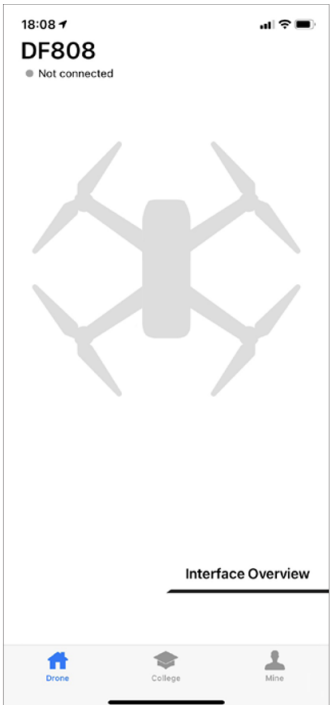
- Do necessary registrations according to local laws and regulations.

Register or Log in

Install and log in to the app as shown in the screenshot

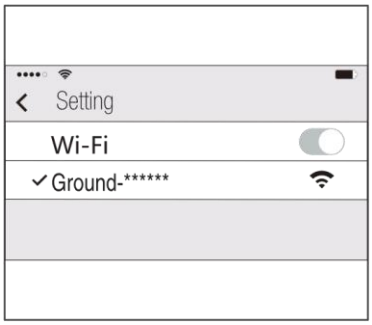




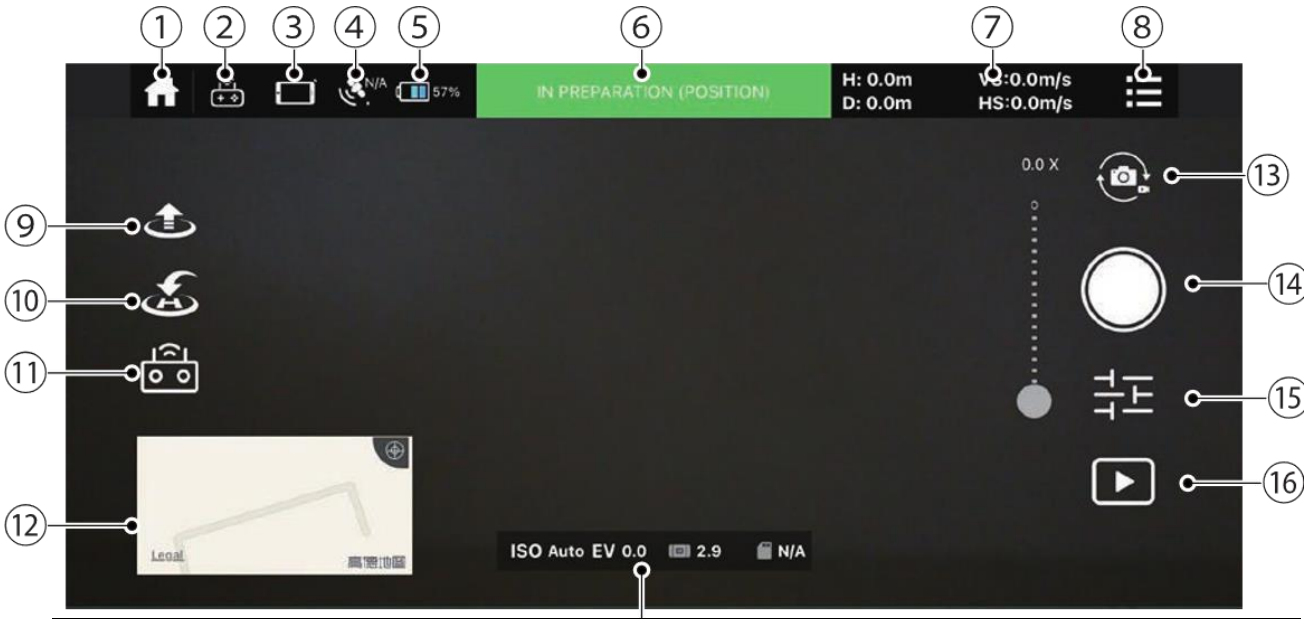


Connect the Aircraft

Click Wifi/WLAN, and click "Ground-XXXXX", exit settings options after WiFi Connection Successfully. Open HAWK App and check whether the aircraft connection status in the screen, If "Connected" click start flying to enter operation interface.



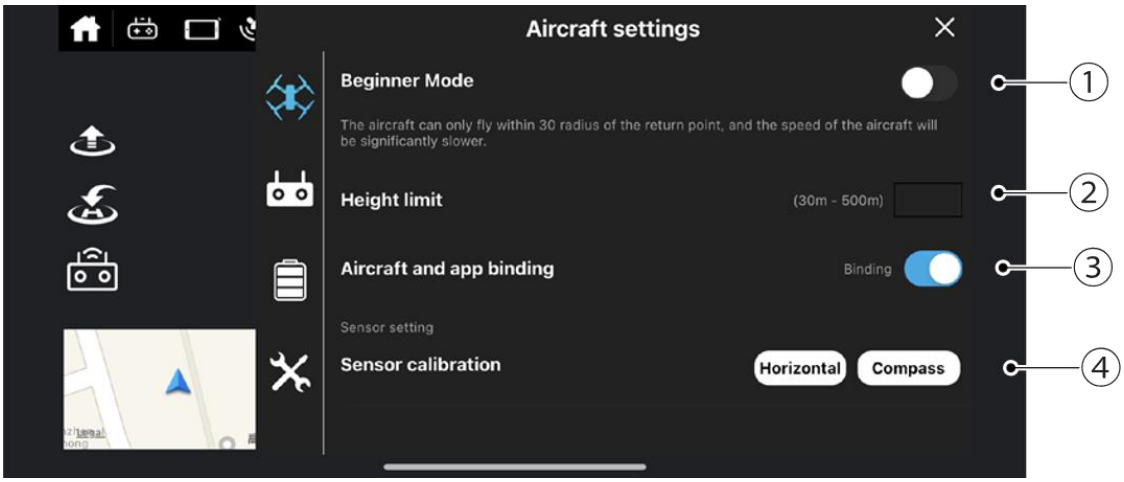
Camera Settings



1. Homepage	**9.One key takeoff:** Before the aircraft takes off, the take-off icon"" is displayed. After clicking, the aircraft will automatically take off and hover at a height of 1.2 meters. After the aircraft takes off, the landing icon"", is displayed, and the aircraft automatically descends to the ground after clicking, will automatically take off and hover at a height of 1.2 meters
2. Remote Controller signal **3. Mobile GPS accuracy** **4. GPS signal** **5. Battery life**	
6. Flight mode and status prompt:	**10.RTH**
7. **Aircraft flight status data:** H. The altitude of the aircraft's current position and take-off point. D. The distance between the current position of the aircraft and the take-off point VS:The current vertical flight speed of the aircraft; HS: The current horizontal flight speed of the aircraft.	**11.One key shots**: Switch flight modes, or start one key short. **12. Map** **13.Photo/Video switch** **14. Photo/Video start** **15. Camera setting** **16. Album**
8. **General settings**	**17. Current Camera setting**

General Settings

Aircraft Settings



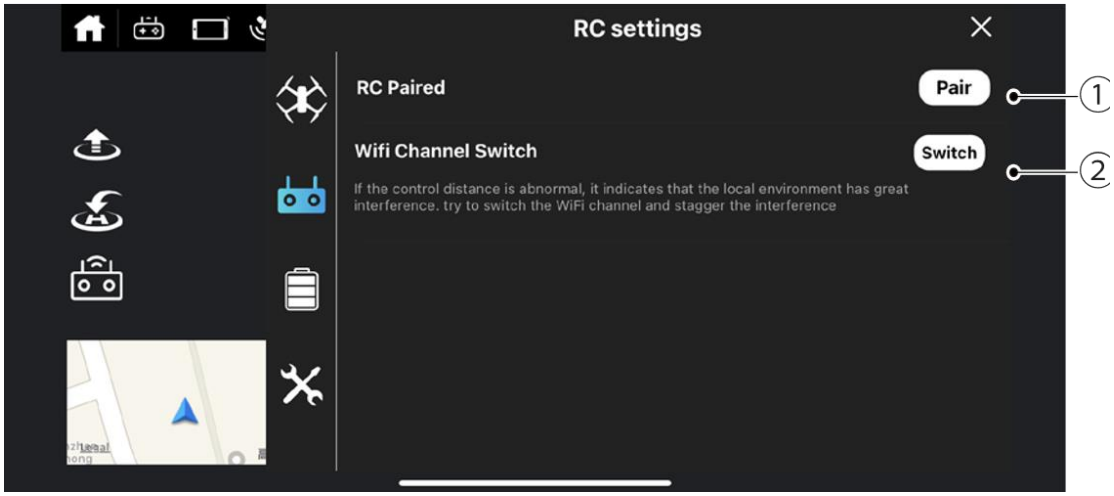
1- Beginner Mode
Activate Beginner mode before flight takeoff, flight distance and altitude will be limited, the default flight distance is 50 meters and the flight altitude is 30 meters.

2- Height Limit
Set the limited flight altitude. The default is 120 metres

3- Aircraft and app binding
If you need to change the account, the user needs to unbind the app from the aircraft first.

4- Sensor Setting
For Compass or Horizontal calibration, refer to the relevant instructions for its function.

RC Setting

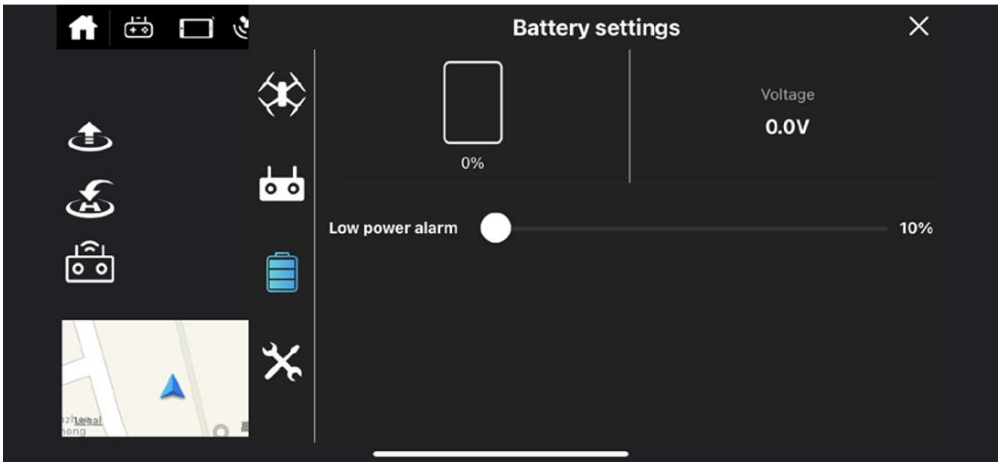


1.Gimbal Wheel Sensitivity
Adjust the maximum pitch speed of the Gimbal

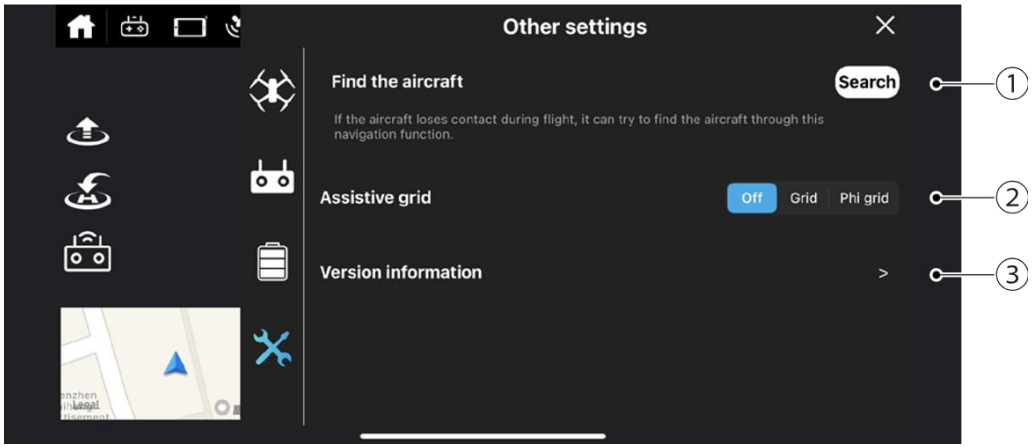
2.Wifi Channel Switching
A reasonable channel setting can avoid interference

Battery Setting

Click " " "Enter battery capacity to alarm, the value is from 0% – 80%, When the battery of the aircraft is lower than the preset value by the user, the indicator of the aircraft turns to flashing red, meanwhile, the aircraft will return home and land.



Other Settings



1.Find the aircraft
Find the lost aircraft through the navigation function

2.Grid
It is used for the composition and calibration of the picture viewfinder

3.Version Information
Display Version information

1. DGCA Guidelines and Flight Restrictions

Nano unmanned aircraft system: Weighs ≤ 250 grams.

Zone Classifications for Drone Operations: The Drone Rules 2021 categorize Indian airspace into three zones: Red Zone, Yellow Zone, and Green Zone. Here's an overview of each zone:

Red Zone: The Red Zone refers to the airspace above land areas or territorial waters of India, including specified installations or notified port limits beyond territorial waters. Only the Central Government is permitted to conduct

unmanned aircraft system operations in this zone. Strict restrictions on drone activities are imposed, and specific dimensions are defined.

Yellow Zone: The Yellow Zone comprises airspace above land areas or territorial waters of India. Unmanned aircraft system operations in this zone are restricted and require permission from the relevant air traffic control authority. The Yellow Zone includes airspace above 400 feet or 120 meters in designated green zones and airspace above 200 feet or 60 meters within a lateral distance of 8 to 12 kilometers from the perimeter of an operational airport.

Green Zone: The Green Zone encompasses airspace above land areas or territorial waters of India, up to a vertical distance of 400 feet or 120 meters. It includes areas not designated as Red or Yellow Zones on the drone airspace map. Additionally, the Green Zone covers airspace up to a vertical distance of 200 feet or 60 meters above the area located between a lateral distance of 8 to 12 kilometers from the perimeter of an operational airport.
Drone Airspace Map and Key Features:

The Central Government, under Prime Minister Shri Narendra Modi, released an interactive drone airspace map on the DGCA's digital sky platform on September 24, 2021. Key features of the map include:

- Interactive Interface: The drone airspace map allows users to visually identify yellow and red zones across India.
- Green Zone: It encompasses airspace up to 400 feet and areas within 8-12 km from the perimeter of an operational airport up to 200 feet.
- Permission: Free Operations: In the green zones, drones weighing up to 500 kg can operate without seeking permission.
- Yellow Zone: Operations in this zone require permission from relevant air traffic control authorities and have specific height restrictions near airports.
- Reduction of Yellow Zone: The yellow zone has been reduced from a 45 km radius to 12 km from the airport perimeter.
- Red Zone: Drone operations in the red zone are strictly prohibited without permission from the Central Government.
- Modification of Airspace Map: Authorized entities can modify the airspace map as needed.
- Regular Checking: Drone operators must regularly check the airspace map for any changes in zone boundaries.
- Accessibility: The drone airspace map is freely accessible on the digital sky platform without login credentials.

- **No-Fly Zones:** Drones cannot be flown in designated "no-fly zones," which include areas near airports, international borders, and other sensitive locations.
- **Airspace Restrictions:** Operations in controlled airspace require specific clearances from Air Traffic Control (ATC) and Flight Information Center (FIC).
- **Drone Equipment:** All drones (excluding Nano drones) must have mandatory equipment like GPS, anti-collision lights, ID plates, and a flight controller with data logging capability.

Flight Planning: Before flying a Small or bigger drone, an operator must file a flight plan.

Visual Range: Drones must be flown within visual line of sight.

Height Restrictions: Drones generally cannot be flown higher than 400 feet (120 meters).

Digital Sky Platform: The Digital Sky platform is the central online portal for drone registration, airspace authorization, and other regulatory compliance.

Drone Categories: Drones are categorized based on weight (Nano, Micro, Small, Medium, and Large).

Commercial Operations: Commercial drone operations require an Unmanned Aircraft Operator Permit (UAOP).

Weather Conditions: Drone flights should only be conducted when weather conditions permit.

Privacy: Drone operators must respect privacy and avoid intruding upon someone's privacy with drone use.

Noise Pollution: Drone operations should be sensitive to noise pollution and avoid flying drones in noise-sensitive areas.

2. Flight Environment Requirements

- Do not fly the aircraft in bad weather such as high winds, snow, rain, foggy weather, etc. Choose a wide, open place with no tall buildings as a fight site. Buildings that use a lot of steel bars may affect the compass work and block GPS signals, resulting in poor positioning or even the inability to locate the aircraft.
- When flying, please keep the aircraft in sight, away from obstacles, crowds, water, etc.
- Do not fly in areas that have high-voltage lines, communication base stations, or transmission towers, etc., to avoid signal interference with the remote controller.
- When flying above 6000m altitude, the performance of the aircraft battery and power system will be degraded due to environmental factors, thus the flight performance will be affected. Please fly with caution.
- GPS is not available for flights in the Arctic Circle and the Antarctic Circle.

Flight Restrictions and Flight Limits of Special Area

Flight Restrictions and Flight Limits of Special Area According to the air traffic control regulations and the aircraft management regulations of ICAD and different nations' air traffic control, aircraft must fly in the prescribed airspace.

3. Beginner Mode

For beginners, please turn on the beginner's mode. Once the mode is activated, the aircraft will locate its own position by GPS before ready to takeoff If the aircraft can not be controlled after takeoff, the RTH can be used to allow the aircraft to return automatically

Layout

For beginners, please turn on the beginner's mode. Once the mode is activated, the aircraft will locate its own position by ope before being ready to take off. If the aircraft can not be controlled after takeoff, the RTH can be used to allow the aircraft to return automatically.

It is highly recommended to use the Beginner Mode, in which the flying height of the aircraft will be limited to 30 meters and the distance will be limited to 50 meters (the height/distance limitation can be manually adjusted), and the aircraft can only take off if there is a good GPS signal. If user are already familiar with the operation of the aircraft, user can turn off the Beginner Mode in the "aircraft Settings" menu of the app.

4. Pre-Flight Inspection

1) Make sure the remote controller, aircraft battery, and mobile device are fully charged,

2) Make sure the propellers are intact and installed correctly,

3) Make sure that the front and rear arms and the blades are fully unfolded,

4) Make sure the micro SD card is installed correctly,

5) Ensure that the battery is firmly installed,

6) Always use original components or accessories certified by the Manufacturer. The use of non-original accessories may pose a hazard to the use of the aircraft,

7) Make sure that the camera lens is clean,

5.Compass calibration

The aircraft has a built-in compass that ensures that the aircraft maintains an accurate heading during intelligent flight. The compass status must be checked before each flight. If you encounter the following situations, please calibrate the compass:

(1) Before a new flight .;

(2) When the aircraft status indicator shows that the compass has errors;

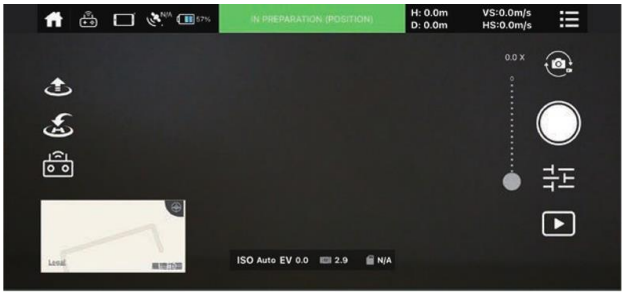
(3) When the APP and the aircraft remind to calibrate the compass;

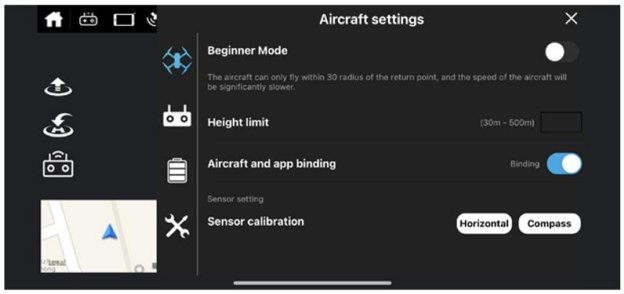
(4) When the aircraft experiences severe shifting during hovering or flying.

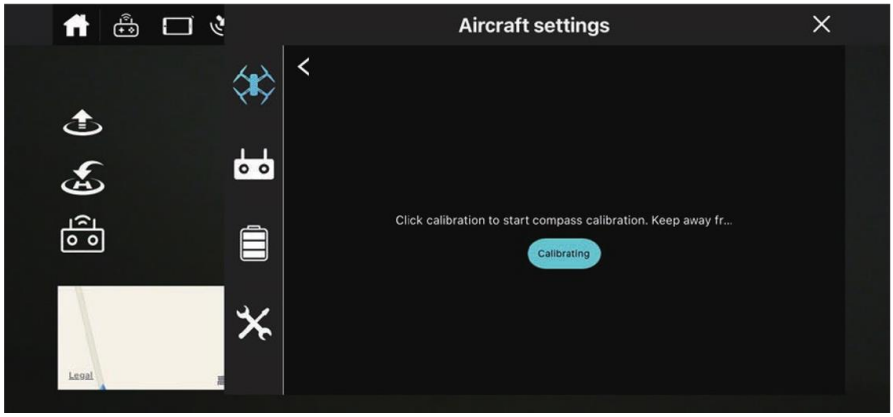
6. Compass calibration via app

Enter calibration mode:

When aircraft and app are connected, choose "Aircraft operation interface----setting---aircraft setting" click"" Sensor calibration - compass calibration



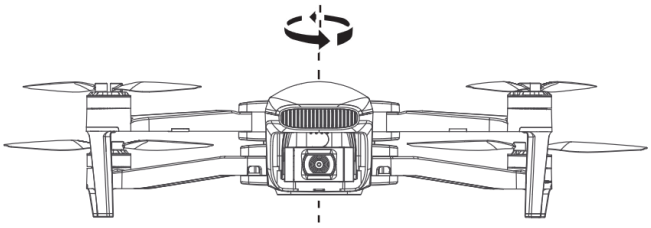




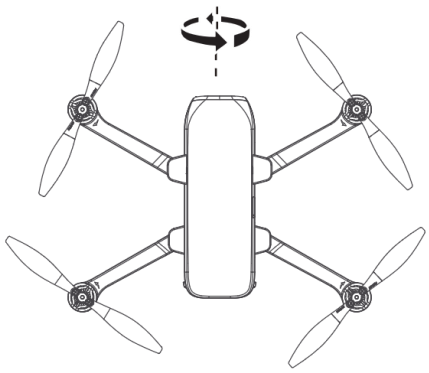
Compass Calibration:

When the APP pops up a prompt, check the current environment and keep away from metal objects as prompted. Then tap the "Calibration" button, In this case, when the status indicator on the rear arm of the aircraft flashes blue and red alternately, the compass calibration mode starts.

Horizontal Calibration: When the APP prompts to rotate the aircraft horizontally, place the aircraft horizontally in the hand, then turn the aircraft horizontally until the status indicator on the rear arm of the aircraft changes to an alternatively flashing red and green light, which means that the on horizontal calibration is successful.



Horizontal Calibration



Vertical Calibration

Vertical Calibration: When the APP prompts to place the aircraft's head up and rotates, place the aircraft in the hand and ensure that the aircraft and body are perpendicular to the ground; then rotate the aircraft horizontally. When the status indicator on the rear arm of the aircraft turns green (solid or flashing), the compass is successfully calibrated, At this time, the APP will prompt "Calibration, A this time, the APP will prompt "Calibration Successful", then tap "Finish" to end the calibration process, If the status indicator turns to solid red light for about 6 seconds. The compass calibration fails. Please go to another location and recalibrate.

!!!WARNING!!!

This Aircraft/Product is not for commercial use and is entirely for recreational purposes. In any case, while flying outdoors, follow DGCA guidelines and Drone Rules 2021.

7. Specifications

General Specifications

Category	Specification
Takeoff Weight	246 g
Dimensions (Folded)	138×81×58 mm (L×W×H)
Dimensions (Unfolded)	245×289×56 mm (L×W×H)
Max Flight Distance	15.7 km
Max Ascent Speed	5 m/s
Max Descent Speed	3.5 m/s
Max Horizontal Speed	16 m/s
Max Takeoff Altitude	4000 m (2000 m with propeller guards)
Max Flight Time	31 minutes (under ideal conditions)
Max Wind Speed Resistance	10.7 m/s (Level 5)
Max Pitch Angle	40°
Operating Temperature	0° to 40° C (32° to 104° F)
GNSS Support	GPS + GLONASS + Galileo
Hovering Accuracy (Vertical)	±0.1 m (Vision) / ±0.5 m (GNSS)
Hovering Accuracy (Horizontal)	±0.3 m (Vision) / ±1.5 m (GNSS)
Class (EU)	C0

Camera Specifications

Category	Specification
Image Sensor	1/2.3" CMOS, 12 MP

Lens FOV	83° (24 mm equiv.)
Aperture	f/2.8
Focus Range	1 m to ∞
ISO Range (Video/Photo)	100-3200
Shutter Speed	4-1/8000 s (Electronic)
Max Image Size	4000×3000
Photo Modes	Single Shot, Timed, JPEG/RAW, AEB, Panorama
Video Resolutions (Mini 4K)	4K@24/25/30fps, 2.7K@24-60fps, FHD@24-60fps
Video Resolutions (Mini 2 SE)	2.7K@24-30fps, FHD@24-60fps
Video Bitrate (Max)	100 Mbps (Mini 4K) / 40 Mbps (Mini 2 SE)
Digital Zoom	Up to 4× (FHD)
Color Modes	Normal
Quick Shots	Dronie, Helix, Rocket, Circle, Boomerang

Gimbal Specifications

Category	**Specification**
Stabilization	3-axis (tilt, roll, pan)
Mechanical Range	Tilt: -110° to 35° / Roll: -35° to 35° / Pan: -20° to 20°
Controllable Range	Tilt: -90° to 20°
Max Tilt Speed	100°/s
Angular Vibration Range	±0.01°

Battery & Charging

Category	**Specification**
Battery Capacity	2250 mAh (17.32 Wh)
Nominal Voltage	7.7 V
Charging Temperature	5° to 40° C (41° to 104° F)
Charging Hub Input	5V/3A, 9V/3A, 12V/3A
Charging Hub Output	USB-A: 5V/2A

Remote Controller

Category	**Specification**
Max Operating Time (HAWK Mini - RC-N1)	6 hrs (4 hrs when charging device)
Max Device Size Supported	180×86×10 mm
Operating Temperature	-10° to 40° C (14° to 104° F)
Transmission Power (FCC)	< 26 dBm (2.4/5.8 GHz)

Storage & Transmission

Category	**Specification**
Supported SD Cards	SanDisk Extreme, Samsung EVO Plus, Lexar 633x/667x (16 GB- 256 GB)
Video Transmission System	HAWK O2
Live View Quality	720p/30fps
Max Transmission Distance (FCC)	5 km (CE/SRRC/MIC: 6 km)
Latency	~200 ms

In the Box

Aircraft x1

Intelligent Battery x1

Remote Controller x1	Battery Charger x1
Connecting Cables x3	Spare Propellers x 4
User Manual x 1	Gimbal Protector x1

To register for Warranty, visit www.hawkdrone.in or scan the QR in the warranty card