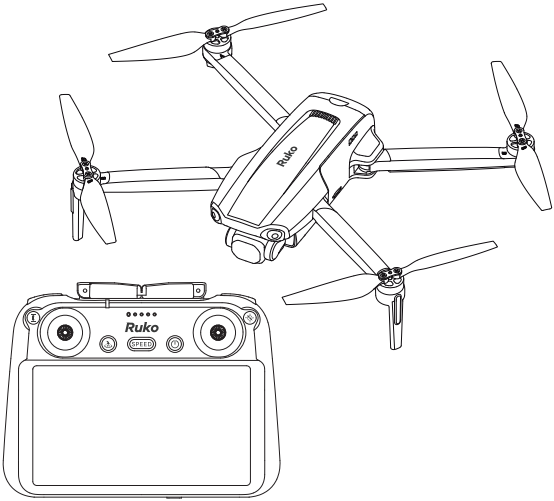
Ruko®

16+
for age

User Manual

v1.0



F11PRO 2 Plus (RC4)

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1. Before You Fly

1.1 Symbols Overview

Recommend Warning Hints & Tips Reference

1.2 Read Before Your First Flight

- Read the following documents before using the Ruko F11PRO 2 Plus (RC4)
  1. User Manual
  2. Quick Start Guide
  3. Disclaimer and Safety Instructions
- We recommend watching all tutorial videos on our website and reading the **Quick Start Guide** before your first flight.

1.3 Watch Tutorial Videos

- Scan the QR code to watch the tutorial video and learn how to use the product safely and correctly.

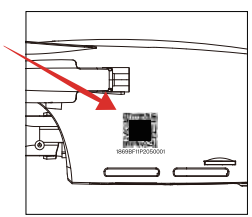
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1.4 FAA Remote ID Registration

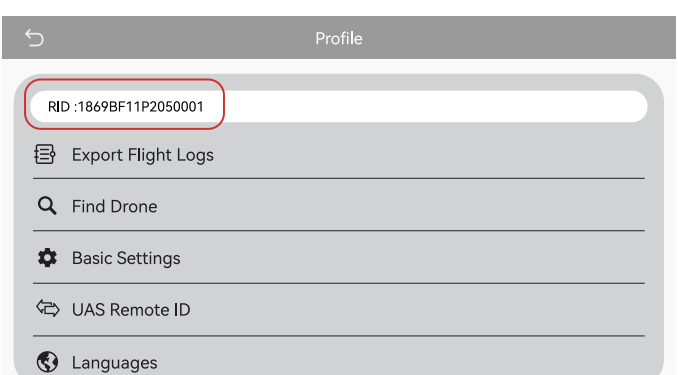
1.4.1 Find the Serial Number

- The F11PRO 2 Plus (RC4) has a built-in FAA Remote ID module. You can find the Remote ID serial number in the following three ways. Please complete the registration in accordance with local FAA regulations.

① Remote ID serial number on the aircraft.

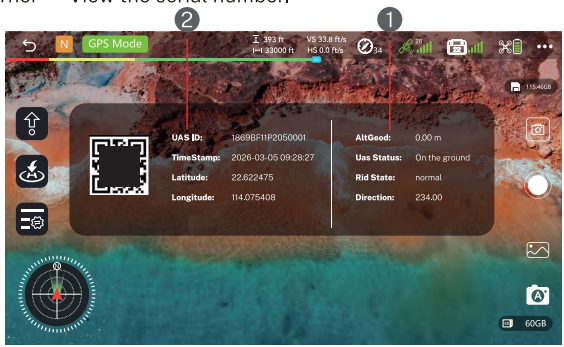


② Turn on the remote controller → Tap "Profile" → View the Remote ID serial number. (If the serial number is not displayed, please connect the drone to the remote controller first).



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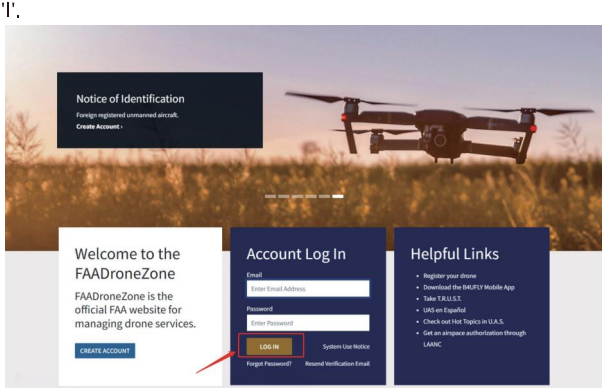
③ Turn on the drone and remote controller to pair automatically → Tap "Go Fly" to enter the live view → Tap the [ ] in the top right corner → View the serial number.



1.4.2 Registration

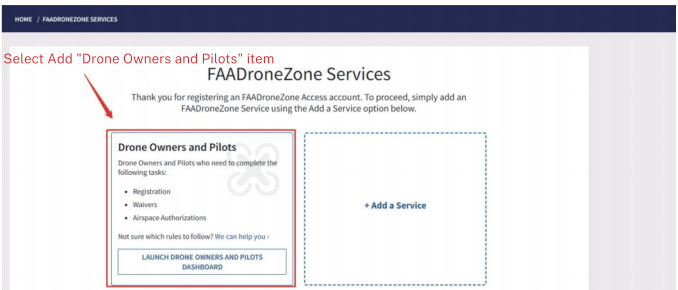
① Please visit the FAA's official site: https://faadronezone-access.faa.gov/#/

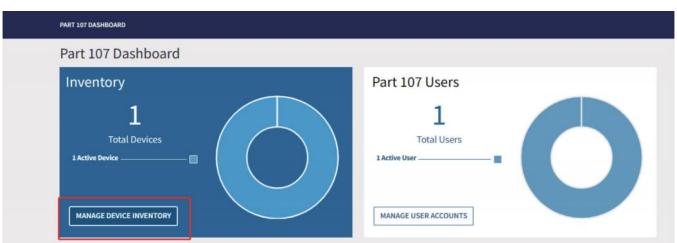
② Please follow these steps to complete and submit your information. Note: The serial number uses the digits '0' and '1', not the letters 'O' or 'I'.

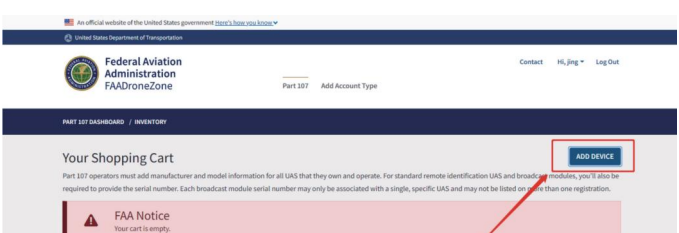


Go to the FAA DroneZone website and create a personal account.

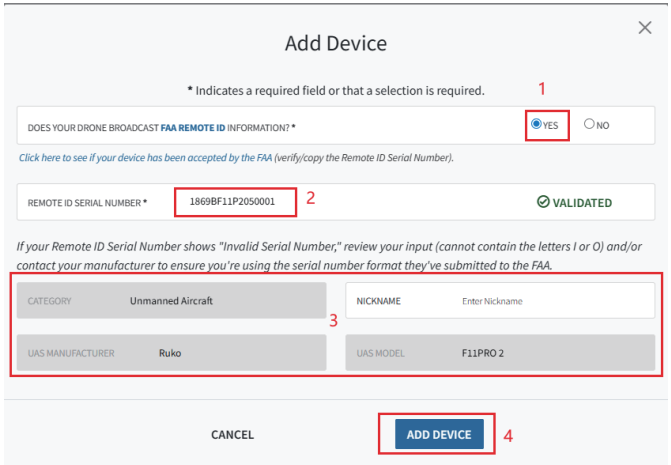
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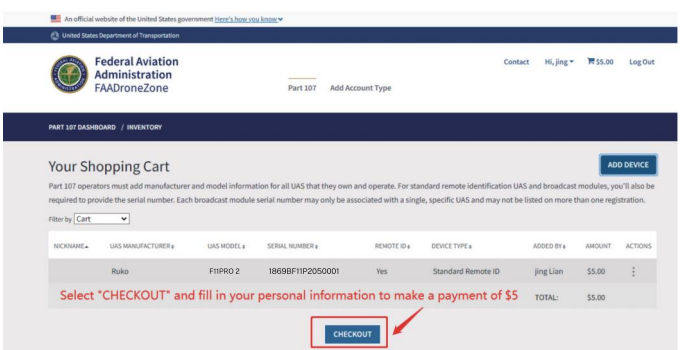




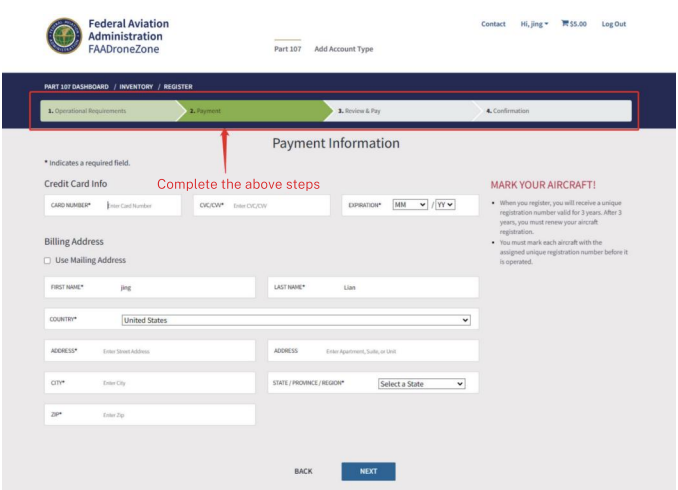


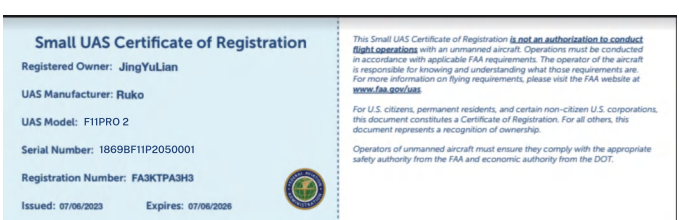
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- The aircraft starts broadcasting its FAA Remote ID signal once the motors start.

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1.5 Safety Disclaimer & Warnings

- This product is NOT a toy and is NOT suitable for individuals under the age of 16. Keep the drone out of reach of children and exercise caution when operating it around them.

- This product is a flying camera designed for easy flight when properly maintained. Read all accompanying materials before using the drone for the first time. These documents are included in the product package. It is recommended to operate the drone in GPS mode in an open outdoor area to familiarize yourself with its controls.

- Improper use of this product could result in personal injury or property damage.

- The information in this document affects your safety and your legal rights and responsibilities. Read this entire document carefully to ensure proper configuration before use. Failure to read and follow the instructions and warnings in this document may result in product loss, serious injury to you, or damage to your aircraft.

- By using this product, you hereby signify that you have read this disclaimer carefully and that you understand and agree to abide by the terms and conditions herein. Please be sure to strictly abide by the specification requirements and safety guidelines stated in this document.

- You agree to use this product only for purposes that are proper and in accordance with local regulations, terms and all applicable policies, and guidelines Ruko may make available.

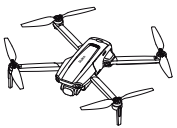
- Any personal injury, proper damage, legal disputes, and all other adverse events caused by the violation of the safety instructions or due to any other factors, WILL NOT be Ruko's responsibility.

- Ruko reserves the right to update this disclaimer and safety guidelines.

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2 Product Overview

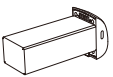
2.1 What's in the Box



Drone



Remote Controller



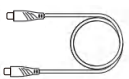
Intelligent Flight Battery



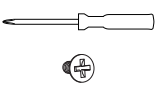
Camera Cover



Spare Propeller



Charging Cable



Screwdriver/Screw



Disclaimer and Safety Instructions



Quick Start Guide



Drone Landing Pad

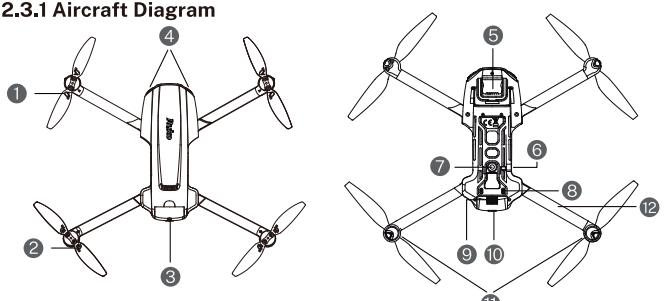
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2.2 Product Introduction

- More than just a drone, the F11PRO 2 Plus (RC4) is a complete smart aerial photography solution that combines advanced imaging, intelligent flight features, and intuitive controls. Designed to deliver a premium aerial photography experience, it makes capturing stunning photos and videos easier than ever.Featuring AI Ultra-Clear Night Mode, 4K HD video recording, a 48MP camera system, up to 10 km (6.2 miles) of video transmission range, Smart Tracking, One-Key QuickShots, and multiple built-in safety features, the F11PRO 2 Plus (RC4) helps you capture breathtaking aerial perspectives with ease. Whether you're documenting family moments, creating travel vlogs, exploring the outdoors, or producing creative content, it provides the tools you need to bring your vision to life.Paired with a 5.5-inch HD smart controller with a built-in display, the F11PRO 2 Plus (RC4) offers a convenient power-on-and-fly experience, eliminating the need for a smartphone connection and making every flight simpler, more efficient, and more enjoyable.

2.3 Product Diagram

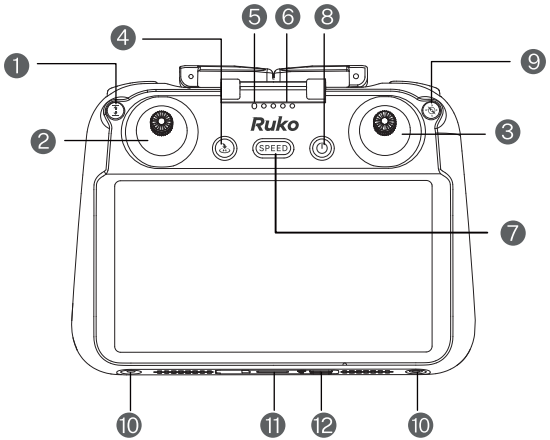
2.3.1 Aircraft Diagram

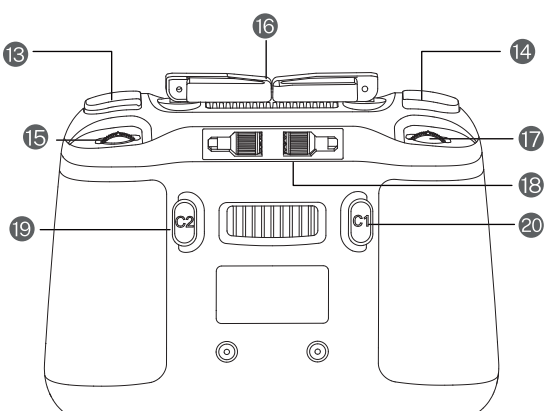


❶ Propeller
❷ Motor
❸ Smart Flight Battery
❹ LED Light
❺ 3-Axis Brushless Gimbal Camera
❻ SD Card Slot
❼ Visual-Inertial Odometry
❽ Infrared TOF Sensor
❾ Battery Buckle
❿ Power Button
⓫ Aircraft Status Indicator Light
⓬ Arm

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2.3.2 Remote Controller Diagram





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1 One-Key Takeoff/ Landing and Cruise Control Button

(1) One-Key Takeoff: After unlocking the motors, press and hold this button. The aircraft will automatically take off to a height of about 1.5 meters.
(2) One-Key Landing: Press and hold this button while the drone is flying. It will descend and land at its current location.
(3) Cruise Control: When the flight altitude is above 15 meters, press this button while using the joysticks to activate Cruise Control mode.

2 Left Joystick

(American stick mode) Throttle stick, used to adjust the aircraft's altitude and control the direction of the front of the aircraft. See section 5.2.5 for details.

3 Right Joystick:

Directional stick, used to control the aircraft's flight direction (forward/backward/left/right). See section 5.2.5 for details.

4 Smart RTH Button

(1) Return-to-Home (RTH): Press this button to start the automatic Return-to-Home function. The drone will return to its takeoff point and land. (Depending on GPS signal strength at takeoff, the landing point may vary by up to 3 meters.)
(2) Cancel RTH: To stop the RTH process while the drone is returning, press the button again.

5 Connection Status Indicator

(1) Blinking Red: The remote controller and the drone are not connected (pairing required).
(2) Solid red: The drone is connected to the remote controller.
(3) Solid green: The drone has acquired GPS signal.

6 Battery Level Indicators

Displays the current battery level of the remote controller.

7 SPEED Button

Press down for speed adjustment, (2 speeds in total) default is stable mode, accelerate is sport mode.

8 Power Button

(1) Check The Battery Level: Press the button briefly once. The battery indicators will light up to show the current power status.
(2) Turn On / Off: Press the button once, then press and hold it for 3 seconds to power the remote controller on or off.

9 Toggle GPS / Attitude Mode

GPS mode/Attitude mode:
①If GPS signal is not found, press and hold the button for 3 seconds to turn off GPS and switch the aircraft to Attitude Mode.
②When the aircraft is in Attitude Mode, press and hold the button for 3 seconds to turn on GPS and switch to GPS Mode.

⚠ (GPS is turned on by default when powering on, please do not turn it off when flying outdoors to avoid losing the aircraft.) (Once GPS signal is acquired, you can not switch back to Attitude Mode.)

10 Lanyard Hole

Designed for attaching a neck strap or lanyard using standard M4 screws. (Note: M4 screws and lanyards are not included and must be purchased separately.)

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⓫ **Micro SD Card Slot**
Supports a Micro SD card with a capacity of up to 256GB.

⓬ **USB-C Port**
(1)Charging: Use this port to charge the remote controller.
(2)Data Connection: Connect your phone to this port with a data cable to view the real-time live video feed on the app.

⓭ **Shutter Button**
Press the button briefly once to take a photo.

⓮ **Record Button**
Press the button briefly to start or stop recording.

⓯ **Gimbal Gear**
Adjust the camera's pitch angle (tilt up or down).

⓰ **Antennas**
Fully unfold the antennas before use. Keep the antennas perpendicular (at a 90° angle) to the direction of the drone for optimal signal strength. See section 5.2.5 for details.

⓱ **Zoom Dial**
Scroll this dial to zoom the image in or out.

⓲ **Joystick Storage Slots**

⓳ **Customizable Button C1**
Functions can be customized. See section 5.2.6 for details.

⓴ **Customizable Button C2**
Functions can be customized. See section 5.2.6 for details.

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3 Flying Environment & Safety

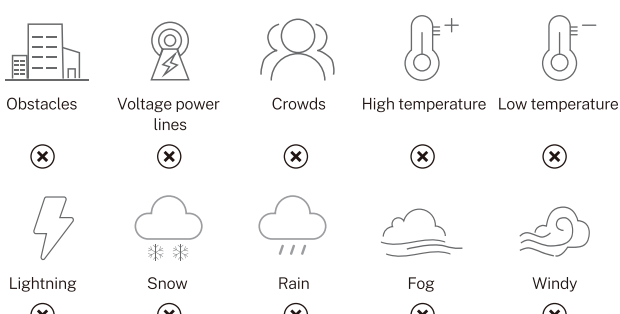
3.1 Suitable Flying Conditions

- Flight Safety.



- We recommend flying in an open area with a radius of at least 33 feet (10 meters) and free of obstacles. Avoid flying near high-voltage power lines or communication towers, as they may interfere with the control signals.

- Do not fly over or near crowds. Avoid flying in extreme weather conditions such as high or low temperatures, or during thunderstorms and heavy rain.



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- Avoid severe weather: Do not fly in strong winds, snow, rain, or fog.
- Choose a safe, open area: Fly in an open space at least 33ft (10m) from obstacles. Buildings, mountains, and trees can affect the aircraft's compass and GPS signals. Flying above 49ft (15m) is recommended to avoid ground obstacles and signal interference.
- Maintain line of sight: Always keep the aircraft within your line of sight and away from obstacles and crowds. When flying over water, maintain at least 9.8ft (3m) above the surface.
- Avoid signal interference: High-voltage power lines, communication towers, and transmission towers can disrupt control signals. Stay clear of these areas.
- Altitude limits: Fly below 9,842ft (3,000m) to ensure the barometric altitude hold function works properly.
- GPS functions: When GPS is active, the aircraft can hover stably and use smart flight features such as Return-to-Home and route planning. Without GPS, these functions will not work, and the aircraft may drift with the wind or fail to hover.

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3.2 FCC Compliance and Disclaimer

Radiation Exposure Statement

- To maintain compliance with FCC's RF Exposure guidelines, this equipment should be installed and operated with a minimum distance of 20cm from your body.

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

- Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- Note:
  This device has been confirmed to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
  This device may generate and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications (which can be determined by turning the device on and off). It is recommended to eliminate the interference using the following methods:
  -- Reorient or relocate the receiving antenna.
  -- Increase the separation between the equipment and receiver.
  -- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  -- Consult the dealer or an experienced radio/TV technician for help.

- This device and its antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter.

- The device has been evaluated to meet general RF exposure requirements in portable exposure conditions without restriction.

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4. Aircraft Details

- The F11PRO 2 Plus (RC4) aircraft includes a flight control system, a communication system, a camera system, a power system, and an intelligent flight battery.

4.1 Speed Mode

- F11PRO 2 Plus (RC4) has two speed modes, Stable Mode and Sport Mode. After the aircraft is turned on, the stable speed mode is turned on by default. You can switch by pressing the SPEED button on the remote controller.

- In strong wind, switch to Sport Mode for better wind resistance.
- When flying in sport mode, the pilot should reserve at least 3 meters of braking distance to ensure flight safety.
- When flying in sport mode, the power of the aircraft will be greatly improved, and the small stick movements can cause large aircraft movements. Please reserve enough flying space to ensure the safety of the flight.

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4.2 Status Indicator

- The F11PRO 2 Plus (RC4) status indicator light is located above the front landing gear and is used to display the current status of the flight. Please refer to the table below to understand what each flashing pattern indicates.

Blinking status of the indicator		Conditions
	Indicator is in solid yellow	Optical flow positioning
	Indicator is in solid green	GPS mode (GPS signal search completed)
	Indicator off for 1 second	Taking pictures
	Indicator flashes twice at intervals in yellow	Recording Video
	Indicator flashes slowly in red	Low battery
		The aircraft was not placed on a level surface after pairing
	Indicator flashes quickly in yellow	Enter compass calibration
	Indicator flashes slowly in yellow	Frequency Calibration in Progress
	Indicator flashes quickly in green	Weak GPS signal
	Indicator is in solid red	During Return to Home
		Searching for GPS signal
	Indicator flashes quickly for 2 seconds in yellow	Enter gyroscopes calibration

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4.3 Multi-Sensor Positioning System

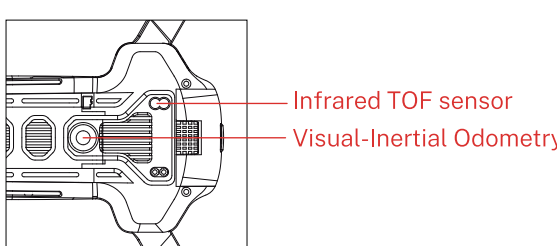
- The system enables real-time sensing of the drone's position, altitude, and motion state using GPS positioning, VIO (Visual-Inertial Odometry), ToF sensing, and a barometric altitude sensor, improving flight stability and overall control experience.

- GPS Positioning
  Acquires the drone's position. A good GPS signal enables the drone to maintain its current position more accurately.

- VIO (Visual-Inertial Odometry)
  Identifies ground or surrounding environmental features to help the drone determine its position and movement status. It assists the drone in achieving more stable flight and hovering during low-altitude flight, and provides auxiliary support for flight stability in environments with weak GPS signals.

- TOF (Time-of-Flight)
  Provides close-range altitude information for the drone through precise distance measurement. It assists the drone in maintaining a stable hover during low-altitude flight and improves takeoff and landing stability.

- Barometer
  Senses changes in flight altitude to help the drone maintain a relatively stable flight altitude, making the flight process smoother.



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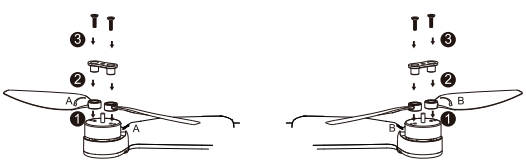
- Flight stabilization performance depends on environmental conditions. Please fly in well-lit and open areas whenever possible.
- GPS requires a strong satellite signal and will not work indoors. Positioning accuracy may decrease near tall buildings or in heavily obstructed outdoor areas.
- The VIO relies on surrounding details to track movement. It may struggle to hold its position over surfaces without clear patterns, such as solid-colored floors, water, or snow.
- The TOF sensor may experience measurement errors over transparent, highly reflective (mirror-like), or dark surfaces.
- Keep all aircraft sensors and lenses clean to prevent dust, water droplets, or smudges from affecting their performance.
- The flight stabilization system is a pilot-assist feature. Always keep your eyes on the drone and maintain full control during flight.

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4.4 Propellers

- The propellers on the adjacent motors of the F11PRO 2 Plus (RC4) are forward and reverse propellers. Adjacent motors use counter-rotating propellers. The propellers are marked A and B.

Propellers	Mark A	Mark B
		
Installation location	Installed to the motor with A mark on the arm	Installed to the motor with B mark on the arm



Install the propellers

- Position the aircraft so the camera faces forward.
- Attach the propellers marked A to the left front and right rear arms.
- Attach the propellers marked B to the right front and left rear arms.
- Use a screwdriver to secure the propellers, and make sure all screws are tightened.

Detach the Propellers

- Use the screwdriver to detach the propellers from the motors.

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- Please use the propellers provided by Ruko, and do not mix propellers of different types.
- Please check whether the propeller is installed correctly and tightly before each flight.
- Please check to make sure that the propellers are in good condition before each flight.

4.5 Intelligent Flight Battery

- The F11PRO 2 Plus (RC4) intelligent flight battery has a capacity of 3,200 mAh and a rated voltage of 7.7 V. It features built-in charge and discharge management to protect the battery. High-energy, large-capacity cells provide reliable power for longer flight times.

4.5.1 Battery Features

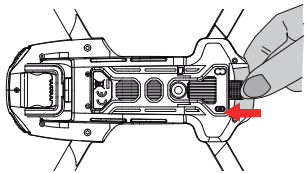
Self-Discharge Protection	Prevents battery swelling from long-term full-charge storage. When stored fully charged, the F11PRO 2 Plus (RC4) battery will automatically discharge to around 50% to ensure safety and prolong battery life.
Balance Protection	Automatically balance the internal battery cell voltage to protect the battery.
Overcharge Protection	It can prevent the battery from being overcharged and causing serious damage to the battery. When the battery is fully charged, remove the charger device in time.
Over-discharge Protection	It can avoid damaging the battery due to over-discharge.
Short Circuit Protection	When the battery detects a short circuit, the output will be cut off to protect the battery.

- Please read carefully and strictly abide by Ruko's Requirements in this User Manual, Quick Start Guide, and stickers on the battery surface before using the battery. The user shall bear the consequences caused by failure to use it as required.

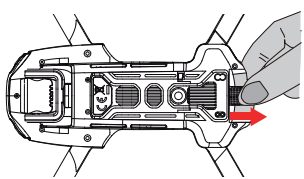
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4.5.2 Install / Remove the Battery

- **Install**
  Insert the smart flight battery into the battery compartment and push it down until you hear a "click" from the battery buckle, indicating that it pops up and locks. Make sure the battery is in place.



- **Remove**
  To remove the battery, press the buckle on the bottom of the battery and pull the battery out of the compartment.



- Do not install the battery into the aircraft or remove the battery from the aircraft when the battery power is turned on. Otherwise, the poor contact of the battery interface during the operation may cause the battery to short-circuit and burn the aircraft.
- Install or remove the battery only when it is powered off.

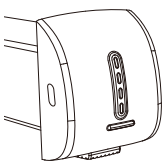
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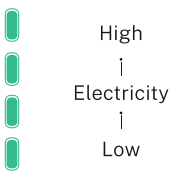
4.5.3 Power On/Off

- Press and hold the power button to power on or off.

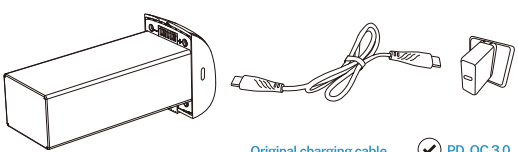
4.5.4 Check Battery Level

- Press and hold the power button until all four bars of the indicator light up, then release the power button. After powering on, the power indicator shows the current battery level.





4.5.5 Charge the Battery



- Before using the battery, be sure to fully charge it.
- While charging, the battery level indicator flashes and indicate the current charge level. When the fourth indicator light is always on, it indicates that the charging is complete.
- After charging is complete, please remove the charger in time.
- Charging Time: Approximately 2.5 hours using the included USB-C fast charging cable.

- The F11PRO 2 Plus (RC4) features self-discharge protection, so the battery will automatically discharge during storage. To ensure optimal performance, please fully charge the battery before each flight.

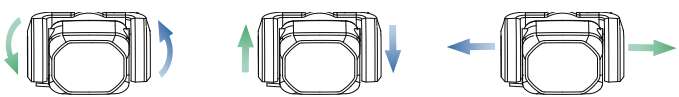
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4.6 Camera Overview

- The camera features upgraded 5.8GHz Wi-Fi FPV real-time transmission, an 85° FOV, a 90° adjustable angle, and a 3-axis brushless gimbal. It can capture stable 4K HD videos and 8K ultra-clear photos, giving you a wide field of view to preserve unforgettable moments.

4.6.1 3-Axis Brushless Gimbal

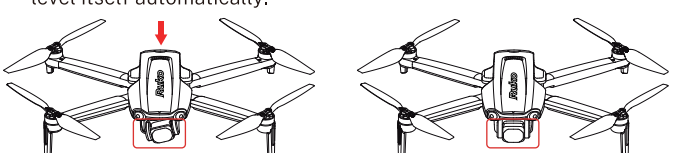
- The F11PRO 2 Plus (RC4) is equipped with a three-axis mechanical stabilization gimbal, with roll, pitch, and yaw axes powered by brushless motors. This ensures stable and smooth image transmission.



Roll Axis Pitch Axis Yaw Axis

- Before powering on, the gimbal may appear tilted and will not function. This is normal.

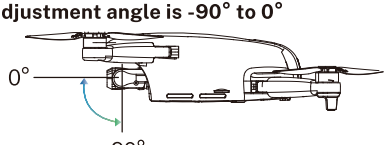
- Once powered on, the gimbal will perform an automatic self-check, which takes about 20 seconds. After the check, it will stabilize and level itself automatically.



Before power on and self-check (Non-operational state)

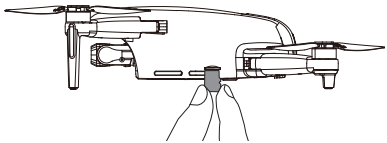
After powering on and completing the self-check (operational state)

4.6.2 The aircraft adjustment angle is -90° to 0°



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4.6.3 Image Storage



- The F11PRO 2 Plus (RC4) is equipped with a micro-SD card slot for expanding storage capacity. (SD card is not included in package)

  ① Card speed: 10M/s.
  ② File format: Support FAT32 format.
  ③ Memory capacity: A memory card with a memory capacity of 16-256 GB

- Check whether the capacity of the memory card is sufficient. If the capacity of the memory card is insufficient, videos and pictures cannot be stored in the memory card.
- If you cannot save pictures or videos, try formatting the memory card.
- After the memory card is installed, photos and videos are saved to the SD card, not to the phone.
- Do not insert or remove the micro SD card after the aircraft is powered on, as this may cause damage to the card or result in data loss.
- Do not touch the SD card slot area while the aircraft is in use or immediately after use, as it may be hot and cause burns.

- For Mac Users – Format the Memory Card First
- To ensure your videos save properly and can be read and played back on your Mac, please format the SD card as "MS-DOS (FAT)" on your Mac before using it for the first time. If the SD card is not formatted correctly, your Mac may fail to recognize it.

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5 Remote Controller

5.1 Overview

- The RC4 remote controller features a 5.5-inch 1080P HD display that delivers sharp image details and natural color reproduction. With a 1200-nit high-brightness screen, it remains clearly visible even in bright outdoor sunlight.

- Equipped with a dual-antenna system, the RC4 supports 1080P HD real-time video transmission, providing a stable and smooth viewing experience throughout your flight. It also supports connection to a smartphone, allowing you to view the live aerial feed on both the remote controller and your mobile device.

- The remote controller is powered by a built-in 3.7V 3000mAh rechargeable battery. A full charge takes approximately 2.5 hours and provides up to 3.5 hours of operating time.

5.2 How to Use the Remote Controller

5.2.1 Power On / Off

- Power On: Press the Power Button once briefly, then press and hold it until the remote controller beeps once.

- Power Off: Press the Power Button once briefly, then press and hold it until the remote controller emits a long beep and the screen turns off.

- Checking Battery Level: Press the Power Button briefly once to view the current battery level.

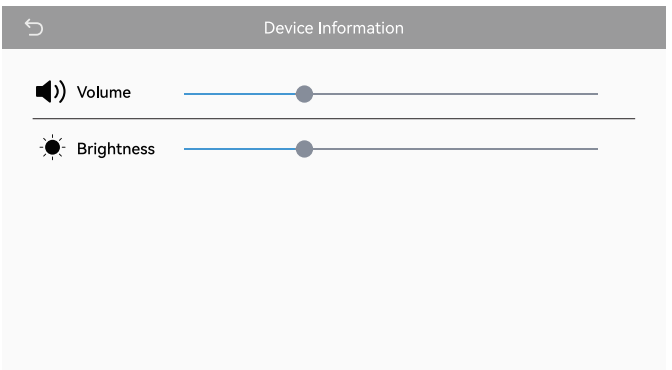
5.2.2 Charging

- The USB-C charging port is located at the bottom of the remote controller.

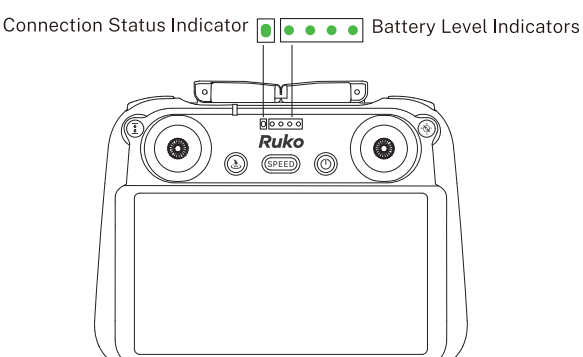
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5.2.3 Screen Brightness and Volume Settings

- On the remote controller's home screen, tap “ Profile” and then tap “ Basic Settings ” to adjust the brightness and volume levels.



5.2.4 Remote Controller Indicators



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Connection Status Indicator

- Blinking Red: The remote controller and the drone are not connected.
- Solid Red: The remote controller and the drone are connected, but no GPS signal is found.
- Solid Green: The drone has successfully acquired a GPS signal.

Battery Level Indicators

LED Indicators				Battery Level
				76%~100%
				51%~75%
				26%~50%
				5%~25%
				0%~5%

- It is recommended to use a PD 3.0 charger for charging. The charging time is approximately 2.5 hours. Using a charger below 5V will extend the charging time.
- Unplug the charger promptly once fully charged. Do not overcharge.

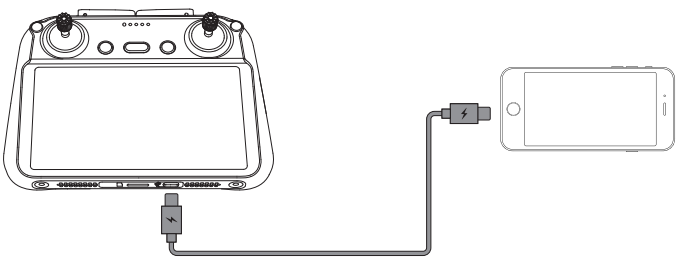
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5.2.5 Viewing the Live Video Feed on Dual Screens

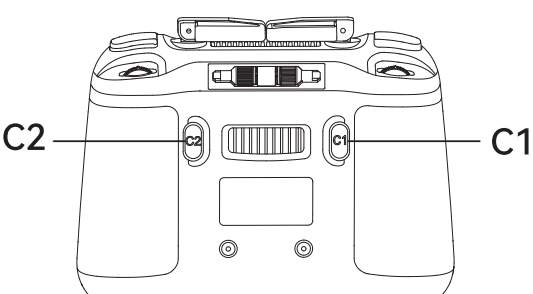
① Open the Ruko Mini app.

② Use a data cable to connect your mobile device to the USB-C port on the bottom of the remote controller.

③ Enter the camera view in the app to see the live video feed.



5.2.6 Custom Buttons



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How to Configure:

- Once the drone and the remote controller are successfully paired, tap “Go Fly” to enter the camera view > tap the "..." icon in the top right corner to enter the settings menu > tap Other > tap "Custom Buttons".

Available Custom Button Assignments:	
Photo Button	Landing Button
Video Button	Motor Unlock Button
RTH Button	Cruise Control Button
Takeoff Button	Buzzer Button

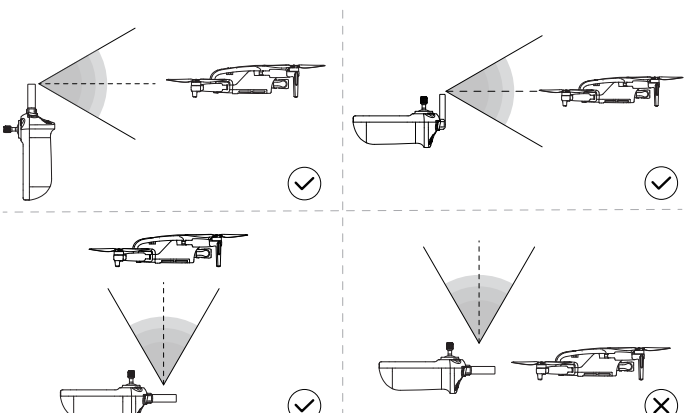
- Custom Buttons C1 and C2 have no default functions. If a button is set to "None" in the settings, pressing it will perform no action.

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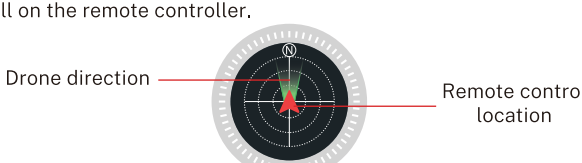
5.2.7 Remote Controller Transmission Range

- When operating the aircraft, adjust the orientation and distance between the remote controller and the drone in time, and position the remote controller's antenna properly to ensure the drone always stays within the optimal signal connection range.

- When the antenna forms a 180° or 270° angle with the back of the controller and is pointed directly at the drone, the controller and drone provide the strongest signal connection.



- You can check the drone's current orientation through the attitude ball on the remote controller.



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5.2.8 Pairing Guide

- The drone and the remote controller must be connected before each flight. The connection process takes approximately 20 seconds. Once the connection is complete, the drone can be controlled via the remote controller.

- Please follow the steps below to complete the connection:
  ① Power on the drone.
  ② Power on the remote controller.
  ③ Automatic Connection: The drone and the remote controller will pair automatically. When the remote controller's Connection Status Indicator turns solid green, the pairing is successful.

⚠
- Once the connection is complete, the drone's indicator lights will change from flashing yellow to either solid red (weak or no GPS signal) or solid green (strong GPS signal acquired).

- Always check the remote controller's battery level before each flight. When the battery is low, the remote controller will emit an alert sound.

- If the drone is powered on for 20 minutes without being unlocked for takeoff, it will automatically power off. If the remote controller is then left idle for another 30 minutes, it will also automatically shut down.

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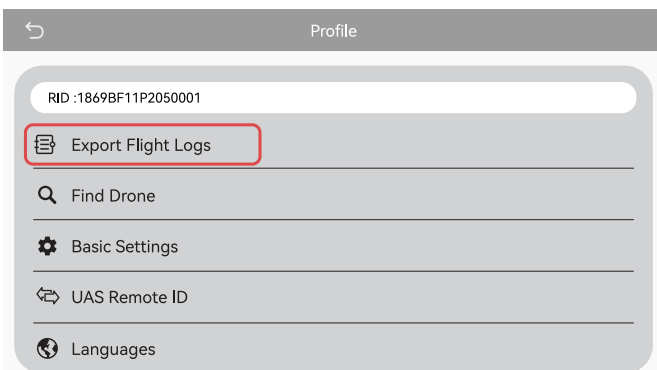
5.3 Transferring Flight Logs and Photos/Videos

5.3.1 Transferring Flight Logs

- Flight logs are saved on the remote controller by default.

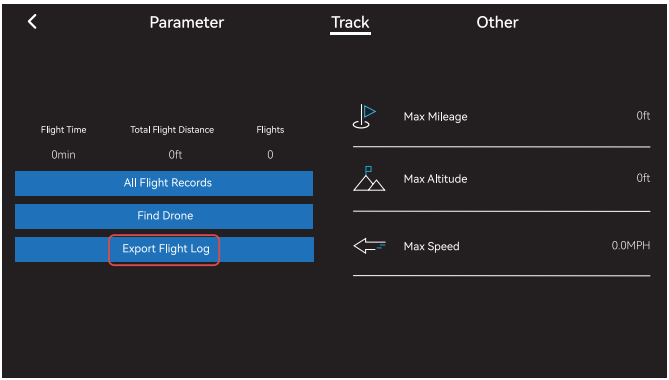
How to Export Flight Logs to the SD Card

- Method 1
  1. On the main screen, tap Profile.
  2. Tap Export Flight Logs. Wait a moment for the logs to save to the SD card.



- Method 2
  1. On the main screen, tap Go Fly or Disconnect.
  2. Tap the "···" icon in the upper-right corner.
  3. Tap Track.
  4. Tap Export Flight Logs, then wait a moment. The logs are saved to the SD card.

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Note:

- **Insert the SD card before exporting**: Insert an SD card into the remote controller before exporting logs. If no card is inserted, tapping "Export Flight Logs" will do nothing.
- When the drone is connected to both the Ruko Mini app and the remote controller during flight, flight logs will be saved and synced on both devices.
- **Make sure the card is recognized:** Before exporting flight logs or video files to the SD card, confirm that the remote controller reads the card properly. If the card needs formatting, the app will show a formatting prompt.

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5.3.2 Transferring Photos/Videos

- When an SD card is inserted into the drone, high-resolution photos/videos are saved to the drone's SD card, while only low-resolution copies are saved on the remote controller. It is recommended to remove the SD card and transfer files directly.

- When no SD card is inserted into the remote controller, photos/videos are saved in the remote controller's internal storage. If an SD card is inserted into the remote controller, photos/videos will only be saved to the SD card.

How to Export Photos and Videos Saved on the Remote Controller:

- Insert the SD card into the remote controller first, then follow either method below.

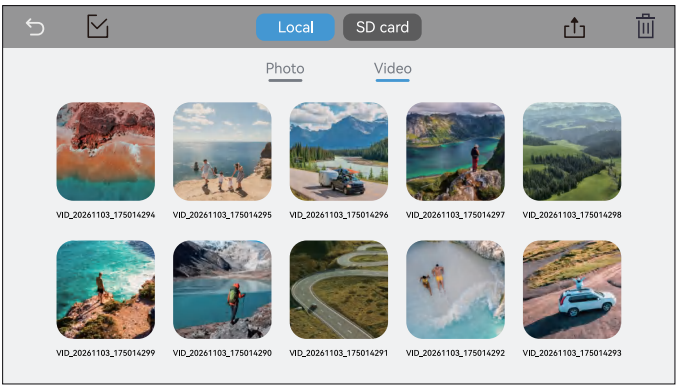
Select Export

- 1. Open the Gallery.
  2. Tap the icon in the upper-left corner to enter selection mode.
  3. Select the photos you want to export.
  4. Tap the icon in the upper-right corner to save them to the SD card.

Export All at Once

- Tap the icon in the upper-right corner to export all photos and videos to the SD card in one step.

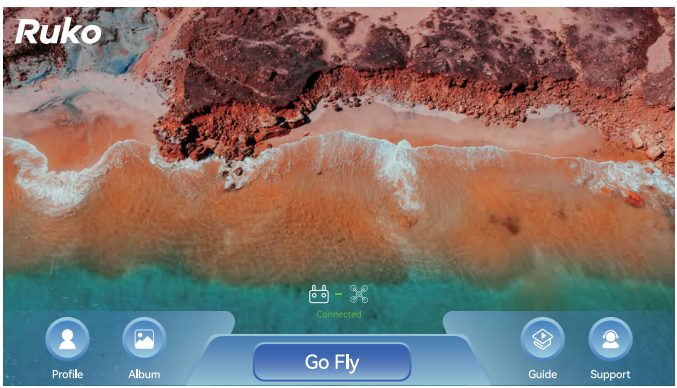
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6 App

6.1 Home Screen Overview

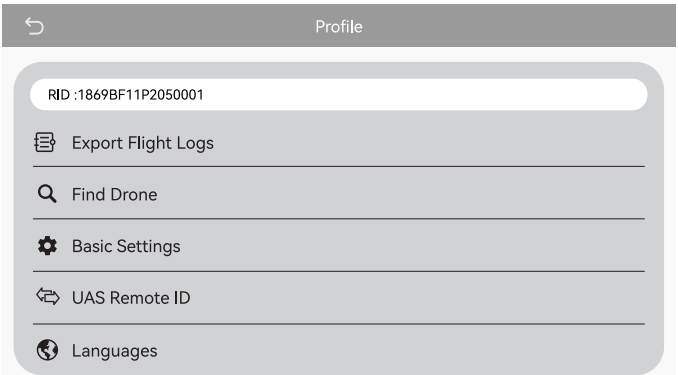


Profile

RID: Remote ID Serial Number: The serial number will be displayed after the remote controller is connected to the aircraft for the first time.

- Export Flight Logs: Tap to export historical flight logs.
- Find Drone: Tap to find the drone's last connected location.
- Basic Settings: Adjust the remote controller's volume and brightness.
- UAS Remote ID: View detailed Remote ID information of the drone after it connects to the remote controller.
- Languages: Tap to change the controller language.

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Album

- Tap to view captured photos and videos.

Guide

- Scan the QR code to download the Ruko Mini app or visit the official website to download the user manual and watch tutorial videos.

Support

- Open to view Ruko customer support channels and contact information.

Go Fly

- When not connected: The button displays "Disconnected".
- When connected: The button changes to "Go Fly". Tap it to enter the flight control interface.

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6.2 OTA Upgrade

- OTA (Over-The-Air) upgrade allows you to update the drone firmware and remote controller app through your phone. Updates are released periodically, and you will receive a notification in the app when a new update is available. Keeping your firmware up to date helps improve flight stability, optimize performance, and access new features.

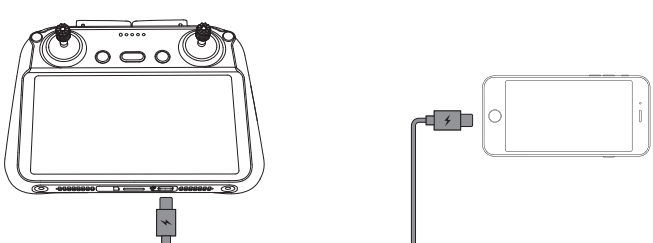
6.2.1 Update Procedure

- Download Ruko Mini from the App Store or Google Play, or scan the QR code below.

Android For iOS

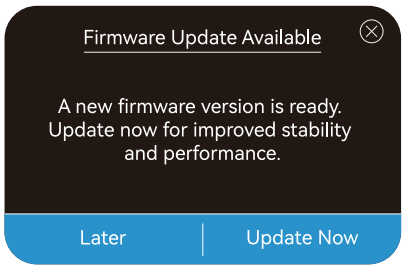
- Make sure the drone and remote controller are paired.

- Connect the remote controller to your phone using the provided cable.

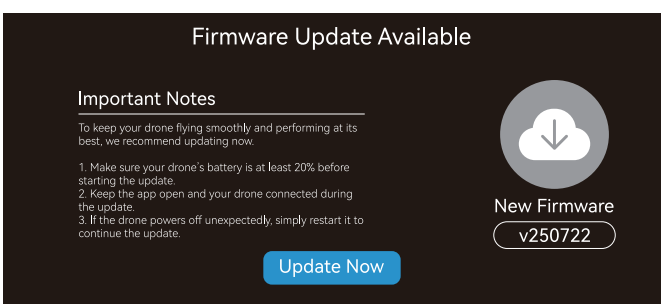


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- Open the Ruko Mini app. An update pop-up will appear on the home screen.



- Tap “Update Now” to enter the update page, then tap “Update Now” again to start the update. The remote controller screen will display the update details and progress. The update process takes approximately 1–2 minutes.



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- Once the update is complete, the drone and remote controller will automatically restart and return to normal operation.

6.2.2 Important Notes

- Before starting the update, make sure the devices have sufficient battery power. (At least 20% battery level is recommended.)
- During the update process, do not close the app or disconnect any devices.
- If the connection is interrupted during the update (for example, the app is closed, the cable is disconnected, or the remote controller is powered off), simply restart the related devices and continue the update process.
- If the drone stops responding unexpectedly, restart the drone, remote controller, and Ruko Mini app. Reconnect the devices and continue the update.
- If the update fails multiple times, please contact Ruko Technical Support.

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6.3 Control Interface



	Back		Drone GPS Signal
34	Compass Interference	22	Remote Controller GPS Strength; Remote Control Signal Strength
N	Speed Mode: N is Stable Mode (stable flight), and S is Sport Mode (high-speed flight).		Drone Battery
GPS Mode	Drone Status		Camera Mode Switch
	One-Key Takeoff		Shutter / Record Button
	Return-to-Home (RTH)		Album
	More Features		Camera Settings
115.46GB	Drone MicroSD Capacity	60GB	RC MicroSD Capacity
393 ft 33000 ft	VS 33.8 ft/s HS 0.0 ft/s	Flight height Flight distance	Speed of horizontal flight Speed of vertical flight

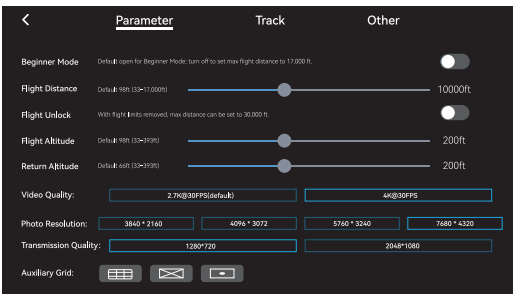
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	**Waypoints**	The drone flies along the pre-set route.
	**Orbit**	The drone automatically circles around its current position, using that position as the orbit center. The default orbit radius is 5m (about 16.4ft).
	**Night Mode**	Increases the brightness of the screen image.
	**Gravity Flip**	Flip the camera view 360°.
	**Update Home Point**	Set a new Return-to-Home (RTH) point using the remote controller.
	**Camera Angle**	Adjust the tilt angle of the drone camera.
	**Zoom**	Optional 5x zoom.

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6.4 Parameter Settings

- Tap "⋯" to enter the flight settings interface.

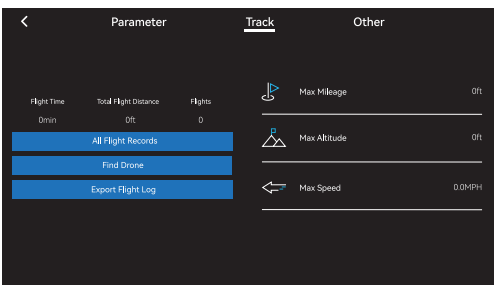


- Beginner Mode: In this mode, the aircraft 's maximum flight distance and altitude are 98ft, so that the aircraft can fly more safely within sight. Disabling Beginner Mode allows for a longer flight range and higher flight altitude.
- Flight Distance: Set the longest distance to fly.
- Flight Unlock: Turning on the 'Flight Unlock' option allows for the maximum flight range.
- Flight Altitude: Set the maximum flight altitude.
- Return Altitude: The default RTH altitude is 20 meters, and it is recommended to set the altitude higher than the height of the surrounding obstacles.
- Video Resolution: Select the video recording resolution saved to the SD card.
- Photo Resolution: Select from the available photo resolutions.
- Transmission Quality: Switch between different real-time video transmission qualities.
- Auxiliary Grid: Different auxiliary lines can be selected to assist in composing the shot.

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- The maximum flight distance of the drone is measured under no-wind conditions, with flight restrictions lifted and low-battery return-to-home disabled, flying at 9 m/s until a forced landing.
- In windy conditions, the drone will automatically return home when the battery is low to ensure flight safety. Users can continue flying after unlocking flight restrictions and disabling low-battery return, but safety precautions must be observed.

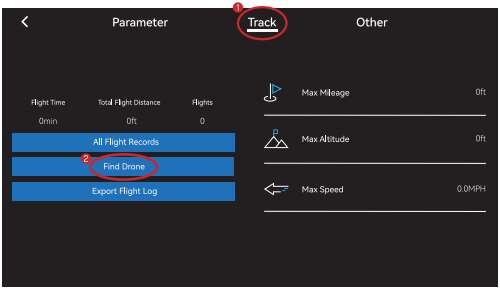
6.5 Track (Find Drone)

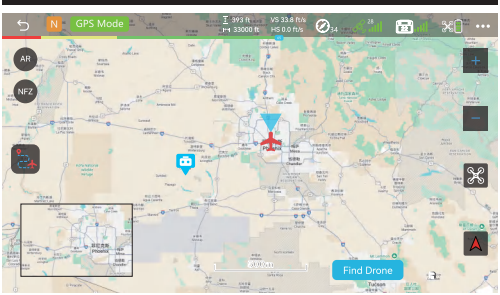


- Flight Time: Total flight time
- Total Flight Distance: Total flight distance
- Flights: Number of flights
- Max Mileage: The longest single flight distance.
- Max Altitude: The highest single flight altitude.
- Max Speed: The fastest single flight speed.
- All Flight Records: Date, location, distance, duration, and maximum altitude for each flight.
- Find Drone: Shows the last known location when the aircraft is lost video transmission. Open the map to locate the position where the aircraft disconnected from the App.
- Export Flight Log: Allows you to export flight data.

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6.5.1 Find Drone



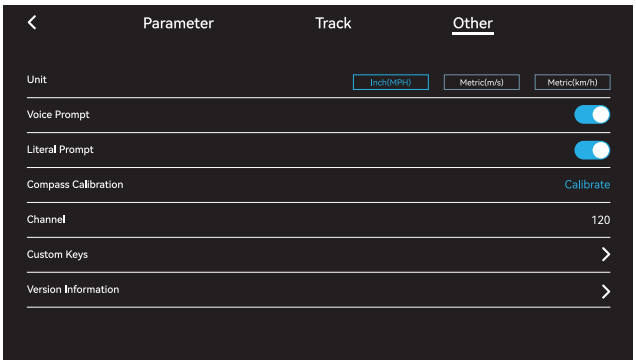


- You can click "Track" and then "Find drone" in the App settings to see where your phone last connected to the drone.

Find Drone	Use "Find Drone" to activate the buzzer, making it easier to locate the drone.		
	Tap to view the aircraft's flight path.	+ −	Zoom in / zoom out on the map.
	Drone Location		My Location
	Tap to lock the map on the aircraft's position.		Tap to lock the map on the remote controller's current position.

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6.6 Other



- Unit: Switch the drone's flight parameter display between Metric and Imperial units.
- Voice Prompt: Turn the remote controller's voice alerts on or off.
- Literal Prompt: Turn the text notifications on the control interface on or off.
- Compass Calibration: Tap "Calibrate" to start compass calibration. See section 7.3 for details.
- Channel: Switch between different communication channels.
- Custom Keys: Set different functions for the remote controller's custom buttons. See section 5.2.6 for details.
- Version Information: View hardware and software details. These appear once the drone is connected.

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7 Flying the Drone

- After setting up the aircraft, start with flight training or practice—we recommend using Beginner Mode.
- Choose a safe and open flying environment. The aircraft has a maximum flight altitude of 120 meters.
- Always follow local laws and regulations while flying.
- Read the Quick Start Guide before your first flight to understand all safety precautions.
- Before flying the drone, please choose a suitable flight environment. For details, see Section 3.1 Suitable Flying Conditions.

7.1 Pre-flight Checklist

- Ensure that the remote controller, smart flight battery, and mobile device have sufficient power.
- Make sure the aircraft's arms are fully extended.
- Ensure the battery compartment cover is securely fastened and the smart flight battery is properly installed.
- Check that the propellers are not damaged, worn, or deformed, and that there are no foreign objects tangled in them. Ensure they are securely installed.
- Make sure GPS is enabled to avoid losing signal, and fly outdoors in an open area.
- After powering on, verify that all four motors start normally and that their speeds are consistent.
- Ensure the camera is clean.
- If replacing parts, always use original manufacturer components. Using non-original parts can pose a risk to the safe operation of the aircraft. For details on supported accessories, refer to the accessories support page in the appendix of the user manual.

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7.2 Safety Guidelines

(1) Please unfold the arms of the aircraft and turn on the power before flying.

(2) Please pay attention to the direction of the aircraft when flying. The camera direction is the forward of the aircraft.

(3) Make sure that you are not under the influence of alcohol, drugs, or anesthesia, nor are you experiencing dizziness, fatigue, nausea, or any other conditions, which may impair your ability to operate the aircraft safely.

(4) It is important to set the proper RTH altitude before each flight.

(5) Make sure to fly outdoors in an environment with strong GPS signals.

(6) As long as the aircraft has a sufficient GPS signal, it cannot switch to Attitude Mode. If the aircraft has not completed the GPS signal search, you can switch to Attitude Mode by pressing and holding the compass button on the remote controller.

(7) After turning off the GPS, the one-button return to home, low power return, GPS follow, surround mode, route planning, and aircraft finding functions are unavailable. Flight may become unstable, requiring users to have certain operational skills and proficiency.

(8) Pay attention to control the aircraft at all times during the flight. Do not just rely on the remote controller.

(9) GPS flight assistance features and app are only used to assist the pilot and cannot replace the pilot in controlling the aircraft. Please pay attention to the flight and operate the aircraft carefully to avoid hitting obstacles when returning.

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7.3 Calibrate the Compass

- If the aircraft is flying in an area with strong interference or behaves unusually, check the compass interference level in the app.
- This helps prevent sensor interference from causing abnormal behavior, which could lead to loss of control or a crash.
- Before takeoff, if the compass interference level reaches 255 and lasts for 3 seconds, the app warns that strong interference has been detected. Choose a different takeoff location.



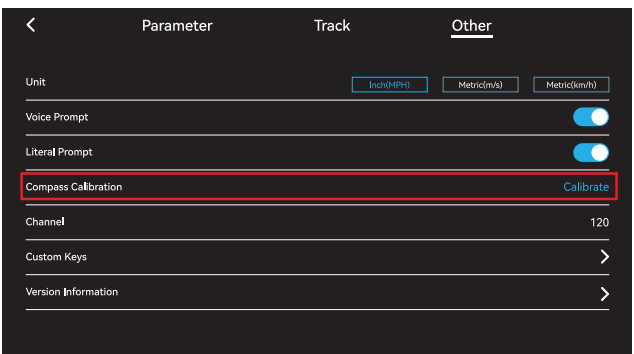
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Manual Compass Calibration

(1) Extend the aircraft's four arms and place it on a flat, open surface.

(2) Turn on the aircraft and the remote controller, and ensure they are paired successfully.

(3) Open the app settings, tap "Other", and select "Calibrate" to start compass calibration.



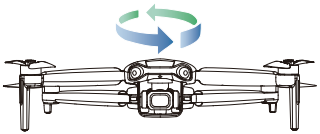
(4) Return to the flight control screen to view the compass calibration animation.

- If the aircraft exhibits uncontrolled behavior, such as spinning or erratic flight, in a complex environment, it may indicate that the compass calibration is incorrect or affected by interference. In this case, promptly land the aircraft manually and move to a more open flying area.
- When calibrating the aircraft, extend the arms and ensure the aircraft is at a height of 3.3ft (1m) above the ground to avoid magnetic interference.

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Calibration Steps:

Horizontal Calibration



- Follow the app's instructions: Hold the aircraft at a height of 1 meter above the ground, rotate it horizontally 2-3 times until you hear a beep and the app indicates that it's time to begin vertical calibration.

Vertical Calibration



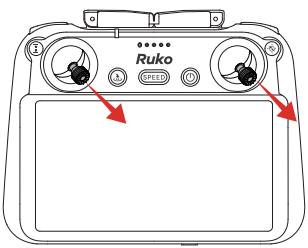
- Hold the aircraft to a height of 1 meter above the ground with the camera facing up. Rotate the aircraft vertically 2-3 times until you hear a beep and the animation on the app interface stops. This indicates that the compass calibration is complete. The aircraft's lights will return to their original state.

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7.4 Calibrate the Gyroscope

Gyroscope Calibration Steps:

- Ensure the aircraft is placed on a level surface with enough space below the camera.
- Push both the left and right control sticks to the 5 o'clock position simultaneously.



- The Aircraft's lights will flash quickly, indicating that automatic horizontal calibration is in progress.
- When the app calibration prompt disappears and the lights return to their original state, calibration is complete.

⚠

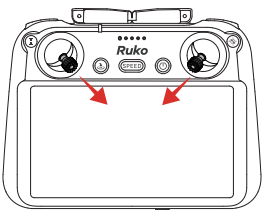
- If the aircraft shows tilt or instability during flight, land the aircraft on a level surface to perform gyroscope calibration.
- When resetting the gyroscope calibration, make sure the aircraft is placed on a flat, level surface.

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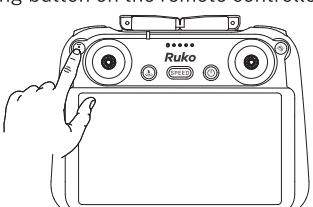
7.5 Start / Stop the Motors

7.5.1 Starting the Motors

- Method 1:
  Push the joysticks to the 5 o'clock and 7 o'clock positions simultaneously. Once the motors start, immediately release the joysticks.

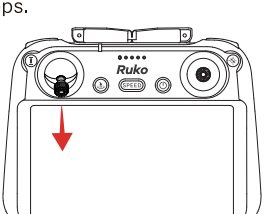


- Method 2:
  When the motors are not running, press and hold the takeoff/landing button on the remote controller to start them.



7.5.2 Stopping the Motors

- Push the throttle stick to the lowest position and do not release it until the motor stops.



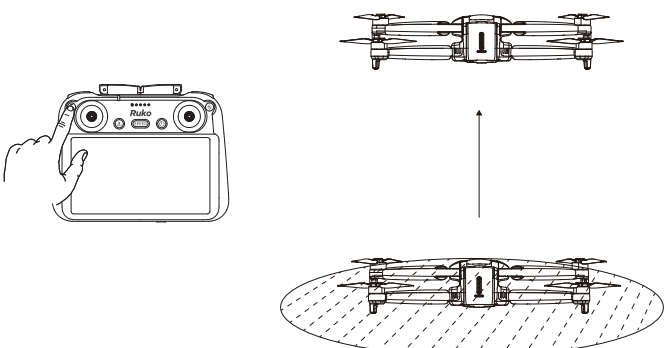
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7.6 One-Key Takeoff/Landing

7.6.1 One-Key Takeoff

- Method 1:
  After starting the motors, press and hold the takeoff/landing button on the remote controller. The aircraft will take off automatically and hover at a distance of 4.9ft (1.5m) from the ground.

- Method 2:
  Tap the One-Key Takeoff icon in app, then swipe right in the pop-up window. The aircraft will take off automatically and hover at a distance of 4.9ft (1.5m) from the ground.

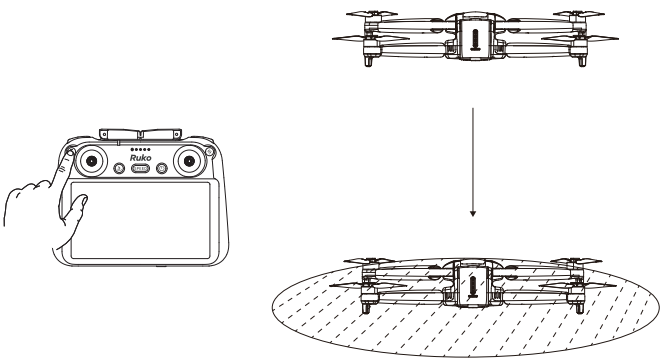


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7.6.2 Tap the One-Key Takeoff Landing

- Method 1:
  After takeoff, press and hold the takeoff/landing button on the remote controller. The aircraft will land and the motors will stop.

- Method 2:
  Tap One-Key Landing icon in the app, then swipe right in the pop-up window. The aircraft will land and the motors will stop.



- During the aircraft's descent, pushing the throttle stick up on the remote controller will cancel the automatic landing.

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7.7 Return to Home (RTH)

- The F11PRO 2 Plus (RC4) aircraft features a Return to Home (RTH) function in GPS mode when it has a strong GPS signal. This function returns the aircraft to the last recorded home point and lands it automatically. There are 3 types of RTH: Smart RTH, Low Battery RTH, and Lost Signal RTH.

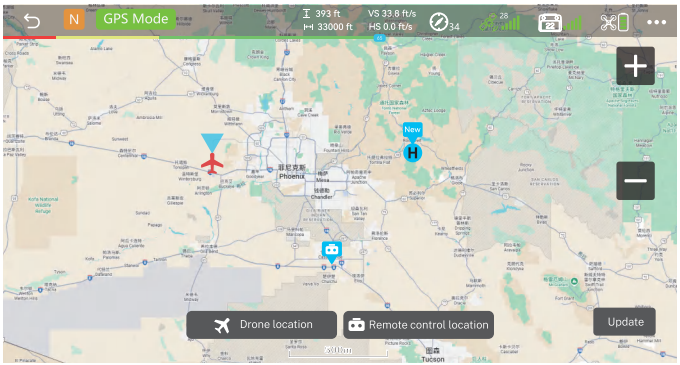
7.7.1 Home Point Definition

	GPS	Description
Home Point		During outdoor flights, when the GPS signal icon first shows three bars or more, the takeoff location will be recorded as the return-to-home point. During the flight, if you land at a new location, the new takeoff point will become the latest return-to-home point, and the return-to-home function will direct the aircraft to this latest point.

7.7.2 Update Home Point



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Tap this icon to set the drone's current position as the new Home Point.	Tap this icon to set the remote control's current position as the new Home Point.
Drone location	Remote control location
New H New Home Point location	Update Tap this icon to complete the update.

- You can select a new return point location on the map or set the latest location of the drone or remote controller as the new return point location.

1. Select a new return point location:

- Drag freely on the remote controller map to select a new return point.
- Tap "Update" to complete the setup.

2. Drone location:

- Tap "Drone location."
- Tap H will navigate to the current location of the drone.
- Tap "OK" to complete the setup.

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3. Remote control location:

- Tap "Remote control location."
- Tap H will navigate to the current location of the remote controller.
- Tap "OK" to complete the setup.

Complete setting

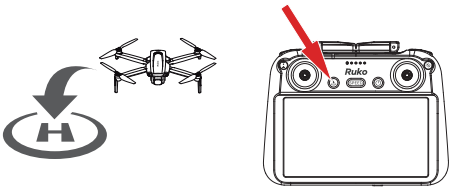
- After the new return point is set, a confirmation popup will Appear, indicating that the new return point has been successfully configured.

> ⚠ Available only after takeoff in GPS mode.

7.7.3 Smart RTH

- When you need the aircraft to return home automatically, you can press the Smart Return-to-Home button on the remote controller or tap the return-to-home icon on the app interface to initiate automatic return.
- During the return-to-home process, pressing the button or tapping icon again will cancel the return. After canceling Smart RTH, you can regain control of the aircraft.
- During the Smart RTH process, you can maneuver the aircraft to ascend or descend to avoid obstacles. You can also press the RTH button again to cancel the return.
- When the aircraft is locked, press and hold the Return-to-Home button on the remote to turn the buzzer on or off.

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1. After clicking the return button, the aircraft will return to the destination in different ways depending on the flight distance, flight altitude, and whether the return altitude is set in the app. After pressing the RTH button on the remote controller or tapping the return icon on the app:

(1)If the flight distance is within 16.4ft (5m): The aircraft will land directly.

(2) If the flight distance is within 98.43ft (30m):
① When the aircraft's flight altitude is below 8.2ft (2.5m): It will automatically rise to the default return altitude of 8.2ft (2.5m) and then return to the Home Point.
② When the aircraft's flight altitude is above 8.2ft (2.5m): It will return to the Home Point from the current altitude.

(3) If the flight distance is greater than 98.43ft (30m):
① If the return altitude is NOT set in the app: It will automatically rise to the default return altitude of 65ft (20m) and then return to the Home Point.
② If the return altitude has been set in the app, and the flight altitude < set altitude: The aircraft will rise to the set return altitude and then return to the Home Point.
③ If the return altitude has been set in the app, and the flight altitude ≥ set altitude: The aircraft will return to the Home Point from the current altitude.

2. The aircraft does not have an obstacle avoidance system, please make reasonable judgments of the flight conditions during the flight, avoid obstacles in time, and set the appropriate flight and return altitude according to the flight environment.

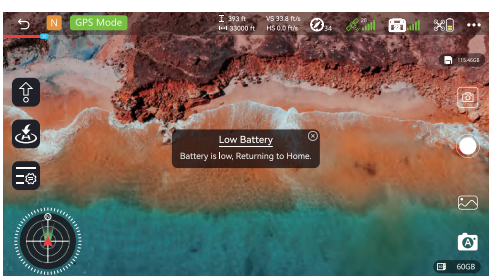
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7.7.4 Low Battery RTH

- If the battery is too low to return home, land the aircraft as soon as possible to avoid damage or injury.

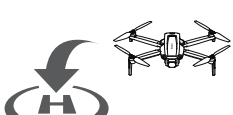
- To prevent safety risks from low battery, the Low Battery RTH function will be automatically triggered when the aircraft battery power is low.

- Depending on the remaining battery level, there are two low-battery RTH scenarios:
  ① Level 1 Low Battery:
  When low-battery RTH triggers, the aircraft automatically returns to the takeoff point and descends to 7 m above the ground.
  - If a Ruko landing pad is placed at the return point, the app shows an auto-landing prompt. You can cancel auto-landing and keep flying.
  - If no Ruko landing pad is placed, the aircraft hovers in place.



② Level 2 Low Battery:
The aircraft will land directly to the ground.

- When the aircraft's battery is low, the remote controller will emit a sound. At First-level Low Battery, the remote controller will beep slowly. At Second-level Low Battery, the remote controller will beep rapidly.



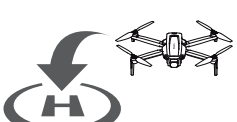


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- Must pay attention to the flight altitude when the battery is low. Avoid hitting obstacles due to the low flying altitude when returning home with the second-level low battery.
- The remaining power after returning is related to the return distance, wind speed, and wind direction.
- When the aircraft is low on battery and is returning home, you cannot cancel the return. You can use the remote controller stick to avoid obstacles.

7.7.5 Lost Signal RTH

- If the remote controller's battery is low, the controller is turned off, or lost signal for 10 seconds, the aircraft will enter automatic return-to-home mode and return to the Home Point.
- If the remote controller reconnects during the RTH process and you wish to cancel the return, you can press the RTH button to cancel it.
- Lost Signal RTH process:
  (1) Record Home Point.
  (2) Trigger RTH (triggered by low battery of remote controller, signal loss, etc.).
  (3) After triggering the RTH, the aircraft adjusts the nose direction and starts to return home.
  (4) The aircraft automatically flies to the Home Point, then starts to land, and completes the return.





Signal Loss

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- When out of control, the aircraft cannot avoid obstacles.
- When the GPS signal is weak, the aircraft cannot return to home automatically.

7.8 Smart Flight Features

7.8.1 Tracking



- Tracking includes three tracking modes: Follow, Focus, and Parallel. The drone will automatically track the selected target based on the chosen mode while recording video automatically.

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How to Use

1. Ensure the drone is airborne and maintain a safe distance of at least 5 m (16 ft) from the subject.

2. Draw a box around the target on the screen. A Tracking pop-up will appear in lower-right corner.

3. Select your desired follow mode.

4. Tap GO  on the right side of the screen to start Tracking and recording.

5. To stop recording: Tap the recording icon on the right side. 

6. To exit Tracking:
① Method 1: Tap the Exit icon on the left side. 
② Method 2: Move either control stick on the remote controller.

Follow Modes Overview

	Mode	Description	Supported Subjects
	Focus	Keeps the subject tracked by rotating the aircraft and camera without autonomous flight.	① Stationary subjects ② Moving subjects (people and vehicles)
	Follow	Automatically follows behind the subject while maintaining a consistent distance.	① Moving subjects (people and vehicles)
	Parallel	Flies alongside the subject while maintaining a parallel flight path.	①Moving subjects (people and vehicles)

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Important Notes:

- Tracking cannot be used before takeoff.
- Moving either control stick during Tracking will automatically exit the feature.
- If the target is lost, the drone will stop and hover in place.
- For optimal Tracking performance, the subject should accelerate and decelerate gradually, with an average speed not exceeding 4 m/s (13 ft/s). Maintain a distance of at least 5 m (16 ft) between the drone and the subject, and keep the drone at an altitude of 4 m (13 ft) or higher.
- Use this feature in open, unobstructed areas. The drone does not have an obstacle avoidance system. Always watch its flight path closely to prevent damage or crashes.
- Only use Tracking in environments with a strong GPS signal to prevent unstable flight caused by weak signals.
- During Tracking, when the subject overlaps with other objects, the system may incorrectly switch to a different subject.
- Always comply with local privacy laws and regulations when using Follow.
- Use extra caution in the following scenarios:
  - The subject is moving at high speed.
  - The subject has a similar color or pattern to the surrounding environment.
  - The subject is moving on non-level terrain.
  - The subject undergoes significant shape changes while moving.
  - The subject is partially or fully blocked for an extended period, or moves out of view.
  - The flight environment is extremely dark or extremely bright.
- Always be ready to exit the feature and take manual control of the drone immediately in case of an emergency.

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7.8.2 Auto Shots



- Auto Shots includes five cinematic shooting modes: Pull Away, Ascend, Orbit, Spiral, and Flyby.
- After selecting a subject on the screen and choosing a desired mode, the drone will automatically execute a predefined flight path to capture the footage.
- Once the shooting is completed, the system will automatically generate a video.

How to Start

- Ensure the drone is airborne and select a subject on the screen.
- A function panel will appear at the bottom of the screen. Select Auto Shots mode.
- Choose a desired shooting mode and tap GO (GO) on the right side. The drone will automatically begin flying and recording.

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How to Exit

- Method 1: Tap the on the left side of the app.
- Method 2: Move either control stick on the remote controller.
- Method 3: Press briefly the RTH button to activate Return-to-Home (RTH).

Icon	Mode	Description
	Pull Away	The drone moves backward and upward simultaneously while keeping the subject centered in the frame.
	Ascend	The drone ascends vertically, capturing the subject from a top-down perspective.
	Orbit	The drone flies in a circular path around the subject, starting from its current position and maintaining the subject at the center of the frame.
	Spiral	The drone circles around the subject while gradually ascending, creating a spiral flight path.
	Flyby	The drone flies around the subject along an elliptical path. It gradually ascends to the farthest point, then descends while returning to the starting position, creating a cinematic flyby effect.

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Important Notes:

- Auto Shots cannot be used when the drone is not airborne.
- During Auto Shots, moving either control stick will immediately exit the function.
- Auto Shots will be unavailable when the drone battery is low.
- Use Auto Shots only in open and unobstructed environments. The drone does not have obstacle avoidance capability. Always monitor the flight path to avoid collisions.
- Use Auto Shots in areas with a strong GPS signal to ensure stable flight performance.
- When using Auto Shots, always comply with local laws and regulations regarding privacy.
- Use Auto Shots with caution in the following scenarios:
  - The subject is moving at high speed.
  - The subject has similar colors or patterns to the surrounding environment.
  - The subject is in the air.
  - The subject is partially or fully occluded for an extended period or moves out of view.
  - The distance between the drone and the subject exceeds 50 m (164 ft).
  - The flight environment is extremely dark or extremely bright.
- During Auto Shots, always be prepared to exit the function in an emergency and take manual control of the drone.

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7.8.3 Waypoints

- The drone will fly automatically along the pre-set waypoint path.

How to Start

- While the drone is in flight and has a strong GPS signal, tap the  on the app screen to enter the map view.
- Tap the  icon in the upper-right corner of the map.
- Tap on the map to place waypoints (up to 14).
- Tap the  icon to begin Waypoint Flight.

How to Exit

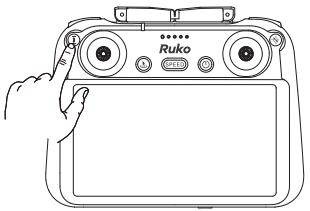
- Method 1: Tap the  again to exit.
- Method 2: Press briefly the RTH button to activate Return-to-Home (RTH).

Notice:

- In Beginner Mode, the adjustable flight radius on the map is limited to 30 meters (98 feet). Once Beginner Mode is disabled, the maximum adjustable radius increases to 300 meters (984 feet).
- Use the Waypoint Flight feature in open, unobstructed outdoor environments. Always monitor the drone's flight path closely to prevent damage or crashes.
- Only use Waypoint Flight in environments with a strong GPS signal to avoid unstable flight caused by weak signals.
- Always be ready to exit the feature and take manual control of the drone immediately in case of an emergency during Waypoint Flight.

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7.8.4 Cruise Control



- The drone will automatically maintain its flight based on the pre-set direction and speed.

How to Start

- While the drone is in flight and has a strong GPS signal, increase the drone's flight altitude to above 15 meters (49 feet).
- Move the left control stick, right control stick, or a combination of both to your desired speed and direction, then Press briefly the Cruise Control button
- Once the control sticks are released, the drone will automatically maintain the selected direction and speed.

How to Exit

- Method 1: When the control sticks are not being operated, press briefly the Cruise Control button to exit.
- Method 2: Tap the red "X" icon on the left side of the app to exit.
- Method 3: Press briefly the RTH button to activate Return-to-Home (RTH).

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Notice:

- Cruise Control is unavailable if the flight altitude is below 15 meters (49 feet).
- Cruise Control cannot be used when the drone is in low-battery status.
- The drone will automatically exit Cruise Control if it reaches the maximum set altitude limit (e.g., if the drone reaches 120 meters / 393 feet during an upward cruise).
- During Cruise Control, you can still operate the control sticks. If your stick input contradicts the pre-set cruise direction (e.g.pulling backward while the drone is cruising forward), the drone will prioritize your manual stick input. Once you release the sticks, the drone will resume its original cruise direction.
- The drone does not have an obstacle avoidance system. Always monitor its flight path closely to prevent damage or crashes.
- Always be ready to exit the feature and take manual control of the drone immediately in case of an emergency during Cruise Control.

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7.8.5 Gravity Flip

- The drone will rotate around the subject in the selected direction while recording, then automatically create a video.

How to Start

- Make sure the drone is paired with the remote controller, connected to the app, has a strong GPS signal, and has taken off.
- Tap the Gravity Flip icon on the app control screen, set the parameters, and tap Confirm to start the Spiral function.

How to Exit

- Tap the red "×" icon on the app control screen to exit.
- Move either joystick to exit the Gravity Flip, or press briefly the Return to Home (RTH) button to force the drone to return home.

⚠ Notice:

- When Gravity Flip is enabled, the aircraft flies forward automatically. This aircraft has no obstacle avoidance system, so use Gravity Flip only in an open outdoor area free of obstacles. Always watch the aircraft's flight path closely to prevent accidents or damage.
- Use the Spiral function in areas with a strong GPS signal. Weak signals may cause unstable flight.
- When using the Spiral function, follow local laws and regulations regarding privacy protection.
- Always be ready to exit the function and manually control the drone in case of an emergency.

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7.9 Basic Flight

7.9.1 Basic Flight Steps:

(1) Place the aircraft on a flat, open surface with the front of the aircraft facing forward and the rear facing the pilot.

(2) Press and hold the power button to turn on the aircraft.

(3) Press and then long-press the power button on the remote controller to turn it on. The aircraft and remote controller will automatically pair, which takes about 20 seconds.

(4) Once pairing is complete, the remote control will automatically enter the operation interface.

(5) Wait for the GPS signal search to complete; the aircraft's indicator light will be solid green.

(6) Unlock and start the motors.

(7) Slowly push the throttle stick up to achieve a smooth takeoff.

(8) Pull down the throttle stick to descend.

(9) After landing, pull the throttle stick to its lowest position and hold it there until the motors stop.

(10) After stopping the motors, power off the aircraft and remote controller in sequence.

7.9.2 Aerial Photography Tips

(1) Perform the pre-flight check.

(2) It's recommended to take photos or record videos in Stable Mode.

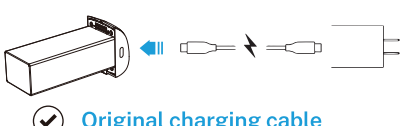
(3) Choose clear, calm weather for shooting.

(4) During flight, make small, smooth stick movements to keep the aircraft stable.

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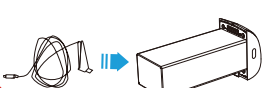
8. Maintenance & Storage

- Do not use low-quality charging adapters or cables, otherwise, the battery may be damaged, reduce performance, or cause a fire.
- Never overcharge the battery. Unplug the charger once fully charged to prevent overheating and damage.
- It is strictly forbidden to use batteries or charging cables that are not officially provided by Ruko. We are not responsible for any damage caused by charging cables that are not from Ruko.
- DO NOT charge the battery immediately after flight as the temperature may be too high. Wait until it cools down to room temperature before charging again. Slight heating during flight is normal due to the battery current output.
- Please use the USB cable provided in the package for charging. Support PD, QC3.0 chargers. Do not charge the battery with a power source above 12 V.



Original charging cable

Non-original charging cables



Overheating warning



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8.1 Battery Safety and Maintenance Precautions

- Keep the product in a cool environment, avoid high temperatures, exposure to the sun, water suction, pressing, and descent from high altitude. Do not expose the battery to heat, humidity, fire, or direct sunlight.



⊗ Liquid



⊗ Sun Exposure

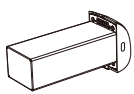


⊗ Severely Squeezed

- Charge and discharge the battery once a month. Store it at about 50–60% charge in a dry, cool place; do not store it fully charged.



✓ Dry & Cool



✓ 50%-60% electricity

- Remove the charger after the battery is fully charged.
- Fully charge the battery at least once per month to keep it healthy.
- Never disassemble or pierce the battery with sharp objects in any way, otherwise, battery leakage will cause fire or even explosion.
- Do not touch the electrolyte in the damaged battery, otherwise it might harm your skin or eyes.
- Store the battery in a dry and ventilated place.
- Keep the battery out of the reach of children and animals.

⚠ • Charge the aircraf battery under adult supervision. Never leave the battery unattended while charging.

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9. Appendix

9.1 Specifications

Aircraft	
Model	F11PRO 2
Weight (including battery)	About 360g/12.7oz
Battery capacity	3200mAh
Satellite system	GPS/GLONASS
Maximum flight altitude	393ft
Unfolded size	360 × 280 × 65 mm
Folded size	165 × 90 × 65 mm
Operating temperature range	32°F - 104°F (0°C - 40°C)

Gimbal Stabilization	
Mechanical range of gimbal stabilization	Tilt axis: Approximately -100° to +70° Roll axis: Approximately -35° to +35° Yaw axis: Approximately -20° to +20°
Camera angle adjustment range	Approximately 90° to 0°

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Camera	
Lens	FOV 85°
Image Sensor	1/2-inch CMOS
Effective Pixels	48MP
Aperture	f/1.8
Focus range	Fixed focus
Maximum photo resolution	Remote Controller: 3840×2160P
	SD card: 7680×4320P
Maximum video resolution	Remote Controller: 2048×1080@30fps
	SD card: 3840×2160@30fps
Photo format	JPEG
Video format	MP4
Supported file system	FAT32
Supported SD card	Micro SD card (Class 10/U1 or higher) 16GB to 256GB

5.8G Transmission	
Working frequency	5.725-5.825 GHz
Supported Transmission Protocols	802.11a; 802.11n20; 802.11n40

Live View	
Maximum Live View Quality	2048×1080@30fps

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Remote Controller	
Model	RC4
Battery	Capacity 22.2Wh (3000mAh)
Charging Port	USB-C (Supports up to 22W PD fast charging)
Charging Temperature	41°F to 104°F (5°C to 40°C)
Operating Temperature	32°F to 104°F (0°C to 40°C)
Max Live View Quality	2048×1080@30fps
Battery Life	Approx. 3.5 hours
Charging Time	Approx. 2.5 hours

Smart Flight Battery	
Battery capacity	3200 mAh
Voltage	7.7V
Battery type	Li-polymer
Energy	24.64Wh
Net weight	About 126.5 g/4.46 oz
Charging time	About 2.5 hours (using PD fast charging)
Charging temperature range	32°F to 104°F (0°C to 40°C)

9.2 Accessories



Battery



Propellers



Remote controller

- You can purchase these accessories from Amazon and visiting the Ruko store. Be sure to use only original manufacturer parts. Using non-original parts may pose a risk to the safe operation of the aircraft.

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9.3 Troubleshooting

Issue	Description	Solution
Remote Controller Issues	Remote controller app won't update	1. Connect the remote controller to your phone with a USB cable. 2. Follow the prompts in the Ruko Mini app to complete the update. See section 5.2.6 of the manual for details.
	Remote controller touch screen doesn't respond	1. Dry your fingers and the screen, and remove any gloves before using it. 2. Press the screen firmly with the pad of your finger and try again. 3. Restart the remote controller. 4. If it still doesn't respond after trying the above, record a video of the issue and contact Ruko Technical Support.
	Remote controller won't charge	1. Check that the charging cable and power adapter are plugged in securely. 2. Try a different charging cable or power adapter. 3. If you're using a power bank, plug a separate charging cable into the power bank's output port instead.
Drone Won't Take Off	Propellers won't spin, and the motors won't unlock	1. Move to a wider, open outdoor area, wait until the GPS icon turns green, then unlock and take off. 2. If the aircraft's indicator lights blink red rapidly, place it on a flat, level surface before takeoff. 3. If the indicator lights blink yellow rapidly (10 times per second), complete the compass calibration as described in the Compass Calibration section of the manual. See section 7.3 of the manual for details. 4. Check that both joysticks are centered: push the left and right joysticks toward the 5 o'clock and 7 o'clock positions at the same time and hold for 2 seconds—or use the One-Key Takeoff function on the remote controller or in the app.

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Issue	Description	Solution
Flight Control Issues	Drone flies unsteadily, wobbles, drifts, or shakes	1. Check that you're flying above 3m (10ft). Flying too low can make the aircraft unstable in its own airflow. 2. Make sure the area is open: stay at least 32.81ft (10m) away from obstacles such as trees, buildings, and signal towers. 3. Check whether the propellers are bent, loose, or damaged. Replace them with new ones if you find any issues. 4. If it still flies unsteadily after trying the above, record a video of the issue and contact Ruko Technical Support.
	Won't fly far—the drone stops and comes back after a short distance	1. Go into Settings, make sure Beginner Mode is turned off, then set the flight distance and altitude as needed and save. 2. Check the aircraft's battery and make sure it has enough charge. (If the battery is low, the aircraft enters Level 1 low-battery mode, which limits flight altitude and distance to 30m.)
	Drone loses control and spins in circles mid-air	1. Manually land the aircraft as soon as possible. 2. Recalibrate the compass. 3. Make sure the area is open: stay at least 32.81ft (10m) away from obstacles such as trees, buildings, and signal towers. 4. Check whether the propellers are bent, loose, or damaged. Replace them with new ones if you find any issues. 5. If it still loses control after trying the above, record a video of the issue and contact Ruko Technical Support.

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Issue	Description	Solution
Gimbal & Image Transmission Issues	Gimbal self-check fails, or the gimbal doesn't work	1. Check that the gimbal's protective cover has been removed. 2. After the aircraft powers on, the gimbal runs an automatic self-check for about 20 seconds. Don't touch the aircraft or pick it up during this time. 3. Use a landing pad for takeoff, or switch to a flat takeoff and landing area, so the gimbal doesn't bump into anything. 4. If the aircraft is doing a compass calibration, place it on a level surface once calibration finishes—the gimbal will calibrate itself. 5. Check whether anything near the takeoff point is vibrating. Move away from the vibration source and take off and land in a steady, vibration-free area.
	Video stutters or freezes, and the transmission range is short	1. Make sure the area is open: stay at least 32.81ft (10m) away from obstacles such as trees, buildings, and signal towers. 2. Fold out the antenna at a 180° or 270° angle from the back of the remote controller and point it at the aircraft. See section 5.2.7 of the manual for details.
	No live video feed	1. Check that the aircraft and remote controller are connected. If the connection fails, restart both the aircraft and the remote controller so they reconnect automatically. 2. Check whether the aircraft has been involved in any hard impacts. A crash can damage the camera. 3. Record a video of the issue and send it to Ruko Technical Support along with your flight logs.

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Issue	Description	Solution
Signal Connection Issues	Can't find a GPS signal	1. Make sure you're flying outdoors. (The aircraft can't pick up a GPS signal indoors.) 2. Make sure the area is open: stay at least 32.81 ft (10 m) away from obstacles such as trees, buildings, and signal towers. The aircraft can only find a GPS signal outdoors in an open area.
	Remote controller and drone take a while to pair	After you power on both the remote controller and the aircraft, they pair automatically in about 20 seconds. Please wait patiently.
Intelligent Flight Features	Intelligent Follow doesn't work	1. The aircraft can only follow people, cars, or boats in view. Re-select the target and try again. 2. Move to a brighter area and try again. 3. If it still can't recognize the target, adjust the camera angle so the target appears more fully in frame, and move the aircraft's camera a bit closer to it.
	One-Key QuickShots won't work	1. Move closer to the target, adjust the camera angle, and try again. 2. Move to a brighter area and try again.
	Can't take photos or videos	1. Check whether the storage is full. If it is, delete photos or videos you don't need, or insert an SD card to add more space, then try again. 2. Check the SD card you're using. We recommend an SD card with a speed class of U3 or V30 or higher.
	Can't read photos or videos on a Mac	Before using the memory card, format it as MS-DOS (FAT) on your Mac first. It will work normally after that.
Flight Log & File Export Issues	Can't export flight logs, photos, or videos	Insert an SD card into the remote controller first, then follow section 5.3 of the manual to export the files.
	Exporting photos from the remote controller to an SD card is slow	Exporting a large number of photos or videos at once can take a while. Try exporting in batches and select only the files you need.

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Issue	Description	Solution
Battery Issues	Battery won't charge or	1. Use a reliable, high-quality charger and charging cable. 2. Use the original Ruko charging cable.
	Battery life is short	1. Fly on calm or breezy days. Flying in strong winds drains the battery faster. 2. Charge the battery fully with the correct charger and try again. 3. Check the flight speed mode and switch to Normal mode. 4. Fly in mild temperatures. In cold weather, the lithium battery's chemical reaction slows down, so it can't release its full energy.
Other	The new drone has light marks	To give you the best experience, every aircraft is function-tested before shipping, so it may show light marks—but rest assured, every aircraft is 100% brand new.

This User Manual is subject to updates without notice.
For the latest version of the User Manual, please visit the official Ruko website.
https://www.rukotoy.com/
If you have any questions or suggestions about the User Manual, please contact us via the following email:
service@rukotoy.com

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