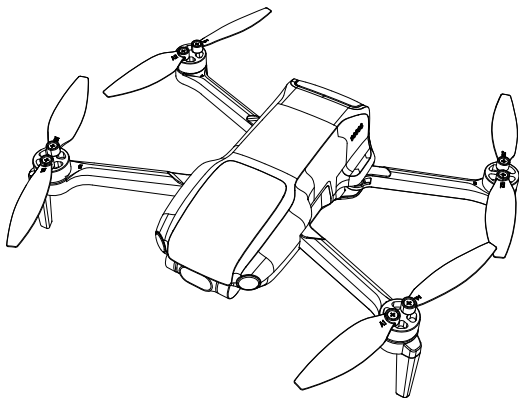




16+
for age

User Manual

v3.1



U11MINI 4K

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 +1 (888)892-0155 | Mon-Fri 7:00AM - 7:00PM (PST)



+1 (732) 207-0697



service@rukotoy.com
service.eu@ruko.net



Content

1. Product List	1
2. Requirements of Flight Environment	2
3. Find Drone	3
4. Routine Maintenance and Transportation	4
5. Flight Operation Guidelines	6
6. FCC Safety and Disclaimer	8
7. Disclaimer and Warning	9
1 Using This Manual	10
1.1 Legend	10
1.2 Recommendations	10
1.3 Download Ruko U11 App	10
1.4 Video Tutorials	11
2 Product Profile	11
2.1 Introduction	11
2.2 Feature Highlights	11
2.3 Preparing the Aircraft	12
2.4 Aircraft Diagram	13
3 Aircraft	15
3.1 Flight Speed Mode	15
3.2 Calibration and Aircraft Status Indicator	15
3.3 Return to Home	17
3.4 Optical Flow Positioning/TOF (Indoor Attitude Mode)	25

3.5 Intelligent Flight Mode	26
3.6 Propeller	32
3.7 Intelligent Flight Battery	33
3.8 Camera Overview	37
4 Remote Controller	39
4.1 Remote Controller Profile	39
4.2 Using the Remote Controller	40
4.3 Communication Range of Remote Controller	43
4.4 Matching the Remote Controller	44
5 Ruko U11 App	46
5.1 Home	46
5.2 Control Interface	47
6 Flight	53
6.1 Flight Environment Requirements	53
6.2 Connection&Settings	54
6.3 Calibration before Flight	56
6.4 Starting/Stopping the Motors	59
6.5 Automatic Takeoff/Landing	60
6.6 Basic Flight Steps	62
7 Appendix	63
7.1 Specification Parameter	63
7.2 Accessories	64
7.3 Common Problems and Solutions	65

1.Product List



Drone



Remote Controller



Intelligent Flight Battery



Camera Cover



Spare Propeller



USB Charging Cable



Screwdriver



Screw



Joystick



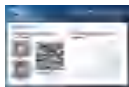
Micro USB Connector



USB-C Connector



Lightning Connector



Quick Start Guide



User Manual

2.Requirements of Flight Environment

- Flight Safety.



Sunny



Windless

Strong GPS
SignalMaintain Line
of SightFly Below
390ft

- It is recommended to fly in an open space with a radius of at least 33 feet and no obstacles. High-voltage power lines and communication towers can interfere with control signals; avoid flying near these areas.
- 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.



Obstacles

Voltage
Power Lines

Crowds

High
TemperatureLow
Temperature

Lightning



Snow



Rain



Fog

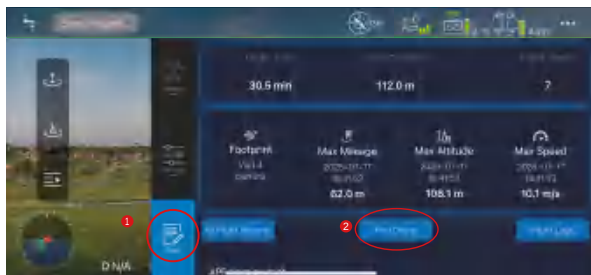


Windy



- Do not fly at night or in low-visibility conditions, such as dawn, dusk, fog, rain, snow, or dust.
- Fly only during daylight and in well-lit conditions.

3.Find Drone



- You can tap "Track" and then "Find drone" in the App settings to view the location of the last time your phone connected to the drone.
- Note: The phone needs to be connected to the Internet to cache map data.

 My Location	 Drone Location
 Tap to lock to the Drone Location.	 Tap to lock to the My Location.
 Tap to switch three layers of map	

4. Routine Maintenance and Transportation

- Please fully charge the battery for the first time before using it.
- It is recommended to charge and discharge it once a month, do not store it fully charged, keep 50%-60% of the charge, the storage temperature is 10-40°C, and the best storage temperature is 19-21°C.
- Water enters the battery and the battery protection board fails, which will cause the battery not to be used normally. Do not use the battery in rain or in a humid environment, as this may cause the battery to self-ignite or even explode.
- If the battery has been squeezed, deformed, or dropped from a high altitude, do not use it again.
- Do not expose the battery to high temperatures for extended periods. Excessive heat may increase internal pressure and lead to an explosion.
- If the aircraft has not been used for a month, remove the battery to prevent prolonged low-power discharge.
- Regularly inspect the drone for any damaged parts and replace them promptly if needed.
- Ensure the drone is properly packaged during transportation to prevent damage.
- Avoid exposing the drone to extreme conditions such as high temperatures or humidity during transport.
- Keep the drone and battery away from strong magnetic fields or static electricity.

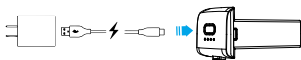
- ⚠ • Please use a charger with at least 5V/3A output.



USB Adapter
(5V/3.0A)

(Not included)

- ⚠ • It is prohibited to use computer USB, simple USB, and non-original charging cables for charging.



Original charging cable



Computer USB

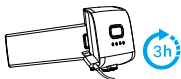


Non-original
charging cables

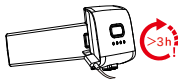


- ⚠ • Please remove the battery in time after the aircraft has landed on low power to avoid battery damage caused by battery over-discharge.

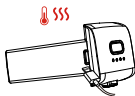
- It is forbidden to overcharge the battery, please remove charging cable in time after fully charged to avoid damage due to overcharge.



Charging Time≈3 hours



Overcharge>3 hours



Overheating warning

5. Flight Operation Guidelines

5.1 Pre-Flight Checklist

- Ensure that the remote controller, the 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 signal loss, and fly outdoors in an open area.
- Ensure your phone is properly connected to the controller. Pull out the phone holder, then insert the cable into the Type-C port at the top of the controller for data connection. Do not use the charging port on the side for data connection, as this will prevent image transmission.
- After powering on, verify that all four motors start normally and that their speeds are consistent.
- Ensure the camera is clean.
- Recommended operating altitude is below 3,000 m (9,843 ft) to ensure optimal flight performance and safety.
- If replacing parts, always use original manufacturer components. Using non-original parts can pose a safety risk. For details on supported accessories, refer to the Accessories support page in the Appendix of the user manual.

5.2 Operation Safety Guidelines

- Please unfold the arms of the aircraft and turn on the power before flying.
- Please pay attention to the direction of the aircraft when flying. The direction of the camera indicates the front of the aircraft.
- Do not answer calls, read messages, or perform any actions that may distract you from using your phone to control the aircraft during flight.
- Ensure you are not under the influence of alcohol, drugs, or anesthesia. You should also not experience dizziness, fatigue, nausea, or any condition that may impair your ability to operate the aircraft safely.
- Be sure to set the correct Return-to-Home (RTH) altitude before each flight. Ensure that your phone is correctly connected to the remote controller, with all necessary permissions enabled.
- Make sure to fly outdoors in an environment with strong GPS signals.
- When the aircraft has a strong GPS signal, it will stay in GPS mode and cannot switch to Attitude Mode. If the GPS signal is not acquired, you can manually switch to Attitude Mode by pressing and holding the compass button on the remote controller.
- After turning off the GPS, the one-button return to home, low power return, GPS follow, Point of Interest, Route Rules and aircraft finding functions are unavailable. The flight may become unstable, requiring users to have sufficient flying skills and operational proficiency.
- Always maintain manual control of the aircraft during flight. Do not rely solely on the Ruko U11 App.
- GPS flight assistance features and the App are intended only to support the pilot and cannot replace the user in controlling the aircraft. Stay alert during flight and operate the aircraft carefully to avoid obstacles when returning.
- After each flight, power off the aircraft and remote controller, then inspect the aircraft, propellers, and battery for any damage. If storing the drone for an extended period, remove the battery and store it at the recommended charge level.

6.FCC Safety 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 20 cm from the human 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; (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 tested and found 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.

7.Disclaimer and Warning

- This product is not a toy and is not intended for use by individuals under 14 years of age. Keep out of reach of children.
- Please read the user manual carefully before first use. It is recommended to practice operating the drone in an open outdoor area with GPS mode enabled.
- Improper operation may result in personal injury or property damage.
- Users must comply with all safety guidelines and local regulations.
- Ruko shall not be held responsible for any personal injury, property damage, legal disputes, or other adverse consequences resulting from violation of safety instructions or other improper use.
- Ruko reserves the right to update this disclaimer and the associated safety guidelines at any time.
- Only upgrade software through official Ruko channels. The use of unauthorized or unverified third-party update sources is strictly prohibited.
- Do not transfer data using any untrusted external devices.
- When downloading videos, images, or firmware updates, always verify the integrity and security of the files.
- When operating the drone, users must respect the privacy rights of others. Do not capture, record, or transmit images without prior consent.
- Do not use the drone to capture images in private areas (such as residences or private gardens) without permission.
- Users are responsible for complying with applicable privacy and data protection laws. Any unauthorized use of images or videos may result in legal liability.

1 Using This Manual

1.1 Legend

- ✓ Recommend ✗ Warning ⚠ Hints & Tips 📖 Reference

1.2 Recommendations

- Ruko U11MINI 4K provides users with instructional videos and the following documents:
 1. *User Manual*
 2. *Quick Start Guide*
- It is recommended that users first watch the instructional video and then read the *Quick Start Guide* to understand how to use the product. Please read the *User Manual* for more details.

1.3 Download Ruko U11 App

- Make sure to use Ruko U11 App during flight. Scan the QR code or search in the application store to download "Ruko U11".
- Ruko U11 App is compatible with Android 6.0 or above, iOS 10.0.2 or above.



(For Android)



(For iOS)

1.4 Video Tutorials

- According to the corresponding aircraft, visit the link or scan the QR code below to locate the model to watch tutorial videos or get more technical support, which explains how to use the aircraft safely.
<https://rukotoy.com/support>



2 Product Profile

2.1 Introduction

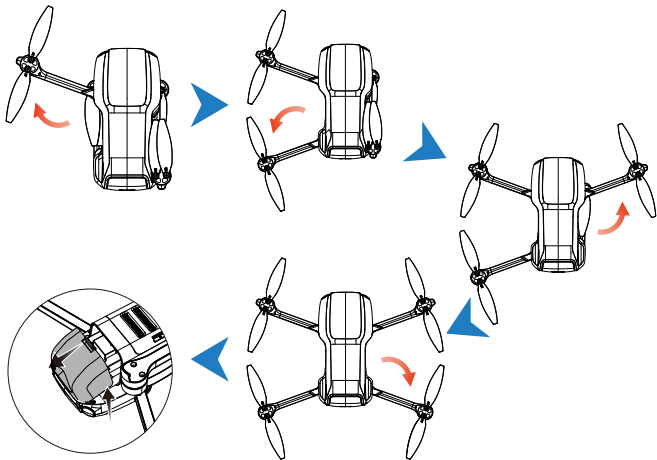
- U11MINI 4K can hover and fly stably both indoors and outdoors, with RTH function. The camera uses an upgraded 5GHz Wi-Fi FPV real-time transmission function, equipped with an 85° FOV lens and a 90° adjustable camera, which can stably shoot 4K HD video and 8K ultra-clear images, providing you with a broad field of vision for unforgettable moments.

2.2 Feature Highlights

- The U11MINI 4K drone features a foldable design, an ultra-lightweight body, and weighs less than 249 grams. **Therefore, FAA certification is not required.** It is portable, easy to operate, and allows for one-tap photo and video capture.
- U11MINI 4K's leading flight control system provides agile, stable and safe flight performance. The RTH function enables the aircraft to automatically return to its return point and land even when the remote control signal is lost or battery is low.

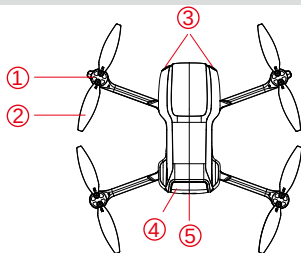
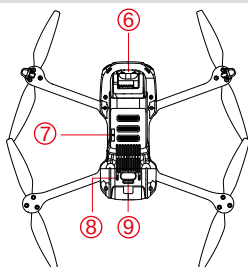
2.3 Preparing the Aircraft

- All propellers are folded before the aircraft is packaged. Follow the steps below to prepare the aircraft.
1. Unfold the front arms;
 2. Unfold the rear arms, then extend all propellers;
 3. Remove the camera cover from the aircraft's camera.

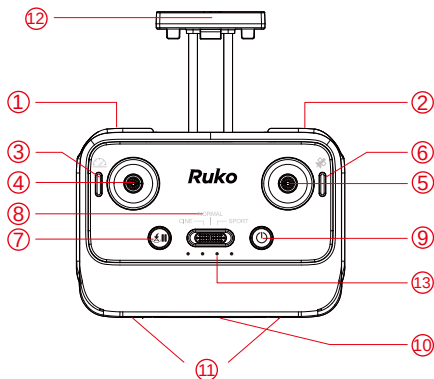


1. Unfold the front arms before unfolding the rear arms.
2. Before powering on the aircraft, ensure that the front and rear arms are extended and the aircraft is placed on the horizontal ground.

2.4 Aircraft Diagram



- | | |
|----------------|--------------------------------|
| ① Motor | ⑥ 3-Axis Brushless Gimbal |
| ② Propellers | ⑦ SD Card Slot |
| ③ LED Light | ⑧ Optical Flow Lens/TOF |
| ④ Battery | ⑨ Drone Status Indicator Light |
| ⑤ Power Button | |



① Gimbal Dial

② Photo/Record Button

Short press once to take a picture.
Long press once to start recording mode, repeat to stop recording.

③ Auto-Cruise Control

By operating the remote control stick and briefly pressing the button, then releasing the stick, the drone will automatically fly according to the control movements, activating the speed control auto-cruise mode.

④ Left Control Joystick

(American control joystick) The left control joystick can adjust the aircraft's altitude and nose direction (Up/Down, Left Rotation/Right Rotation).

⑤ Right Control Joystick

(American control joystick) The right control joystick can adjust the aircraft's flight direction (forward /backward /left/right).

⑥ Camera One-touch Adjustment /Flight Mode Switch

Short press the button to adjust the camera. Long press the button to enter Indoor Attitude Mode.

⑦ One Key Return

Press once briefly, and the drone will automatically return to the take-off position (due to GPS signal issues, the landing position may slightly deviate from the take-off position, with a deviation range of about 9.84 feet in diameter); pressing once during the return will cancel the intelligent return. Press and hold the button to activate the buzzer (the buzzer can only be turned on when the motor is not running).

⑧ Speed Adjustment (3 speed in total)

Left: CINE (Low Speed)
Middle: NORMAL (Medium Speed)
Right: SPORT (High Speed)

⑨ Power Switch

Long press to turn on the power, repeat to turn off

⑩ Charging Hole

⑪ Joystick Storage Hole

⑫ Cell Phone Holder

⑬ Indicator Light

3 Aircraft

- The Ruko U11MINI 4K drone includes a gimbal stabilization system, a communication system, a video transmission system, and a propulsion system. This section provides a detailed explanation of the functions of each component.

3.1 Flight Speed Mode

- The Ruko U11MINI 4K offers three speed modes—Low, Medium, and High—which can be selected using the speed button to suit different flying preferences and conditions.



1. Maximum speeds:
Low Speed: 4.5 m/s
Medium Speed: 8 m/s
High Speed: 14 m/s
2. In high wind conditions, Sport Mode (High Speed Mode) should be used to enhance wind resistance.
3. When flying in Sport Mode, ensure at least 3 meters of braking distance and sufficient open space, as the aircraft's power and responsiveness will be significantly increased.

3.2 Calibration and Aircraft Status Indicator

- The status indicator light of the U11MINI 4K is located in the center of the rear tail section to indicate the current status of the flight control system. Please refer to the following table for the status of the flight control system represented by different blinking modes.

	Blinking status of the indicator		Conditions
Aircraft		The red light blinks twice at short intervals	The remote controller and the drone are starting to pair
		Slow flash	Pairing complete. The drone is searching for GPS signals
		Slow flash	Drone low battery
		Stay on	Complete GPS signal search
		Green light out	Start compass calibration
		Stay on	Indoor attitude mode
		Quick flashing	Start gyroscope calibration
Remote Controller	   	Flash	GPS search in progress
		Stay on	Star search successful
		Extinguish	Turn off GPS and enter attitude mode
	   	Remote controller battery indicator	Display remote control battery level
		Flash quickly together	The remote controller and the drone are starting to pair
		Three green lights flashing slowly together	Drone low battery
		Three green lights flash in turn	The drone is returning
		Blue light and three green lights flash in turn	The remote controller is charging



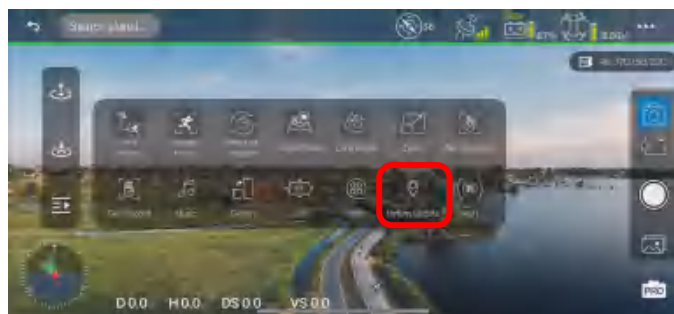
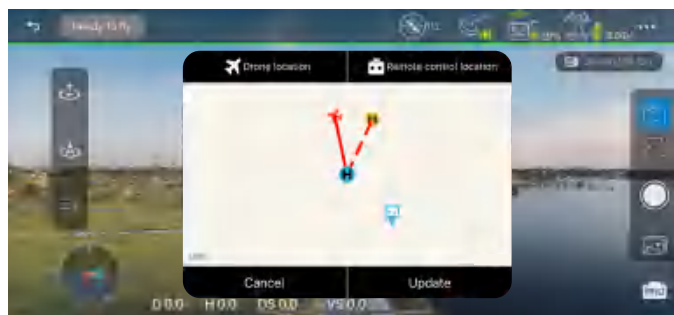
The current flight status of the drone can be determined based on the indicator lights on the drone and the remote controller.

3.3 Return to Home

- The U11MINI 4K features an automatic Return-to-Home (RTH) function when operating in GPS mode, enabling the aircraft to return to the return point. The RTH function directs the drone back to the last recorded home point.
- There are three types of RTH:
Smart RTH
Low Battery RTH
Signal Loss RTH
- If the home point has been successfully recorded and the GPS signal is strong, activating the RTH function will cause the aircraft to automatically return to the home point and land.

	GPS	Description
		When flying outdoors, once the GPS signal icon shows at least 3 bars , the aircraft will record its current position as the Home Point. If the aircraft lands and then takes off again from a new location during the same flight session, the new takeoff point will be set as the updated Home Point. The drone will return to the latest Home Point when the Return-to-Home (RTH) function is triggered.

- When the drone is not unlocked, press and hold the return key to activate the drone's buzzer, which can be used for locating the drone and assisting in finding it.
- After the drone acquires a GPS signal and takes off outdoors, the return point location can be updated via the App.



 Drone location	 New return point location
 Original return point location	 Remote control location

- 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 App map to select a new return point.
- Tap "Update" to complete the setup.

2. Drone location:

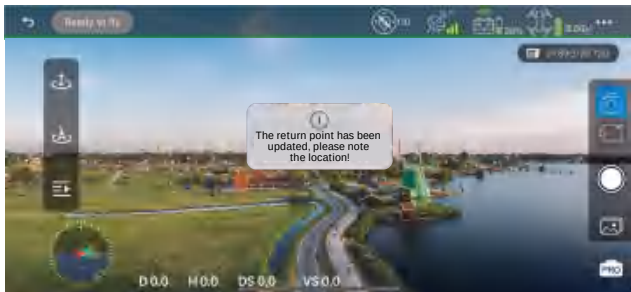
- Tap "Drone location."
- Tap  will navigate to the current location of the drone.
- Tap "OK" to complete the setup.

3. Remote control location:

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

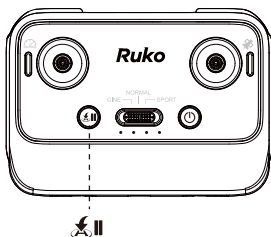
Complete setting

- 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.

Smart RTH



Activating Return

During flight, press the Smart RTH button (), and the remote controller will emit a "beep" sound. The aircraft will then automatically return to the takeoff point. While returning, the power indicator on the remote controller will flash in a loop.

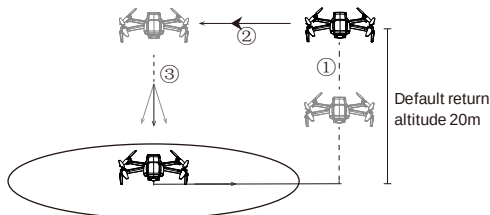
Canceling Return

To cancel the return flight, press the Smart RTH button () again.

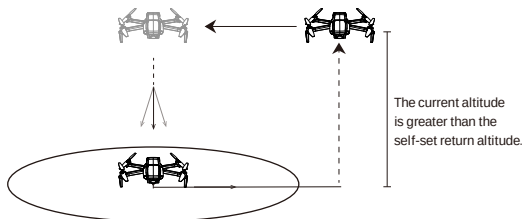
1. To initiate automatic return, press the Smart RTH button () on the remote controller or tap the return icon () in the App interface.
2. During the return flight, you can manually control the aircraft to ascend, descend, move forward, backward, or sideways to avoid obstacles.
3. To exit the return flight, short press the Smart RTH button () again or tap the return icon () in the U11MINI 4K App interface.

Note:

- If no return-to-home altitude is set and the drone's current altitude is below 65 feet (20 meters), it will automatically ascend to the default return altitude of 65 feet (20 meters) before returning. If the drone is flying above 65 feet (20 meters), it will return at its current altitude.



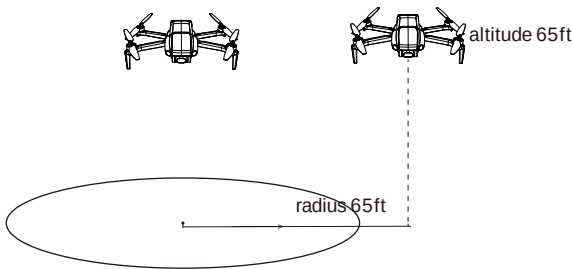
- The default return altitude is 65 feet (20 meters). In the App, the return altitude can be set between 10 and 120 meters.
- If a return altitude has been set and the drone is flying below that altitude, it will ascend to the set altitude before returning. If the drone is flying above the set return altitude, it will return at its current altitude.



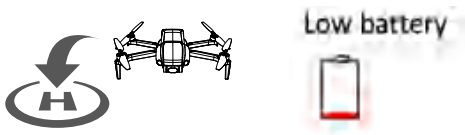
- The drone is not equipped with an obstacle avoidance system. Please assess the flight environment carefully, avoid obstacles manually, and set an appropriate flight and return altitude based on the surroundings.

Low Battery RTH

- When the intelligent flight battery is critically low or lacks sufficient power to return home, the pilot should land the aircraft immediately to prevent potential damage or accidents.
 - To prevent risks caused by insufficient battery power, the Low Battery Return-to-Home (RTH) function will be triggered automatically when the battery level is low. Based on the remaining battery level, two scenarios may occur during the return process:
1. **Level 1 Low Battery:** The drone will return and hover at an altitude of 98 feet (30 meters) above the takeoff point. After hovering, you may continue flying the drone within a 98-foot (30-meter) radius at that altitude.

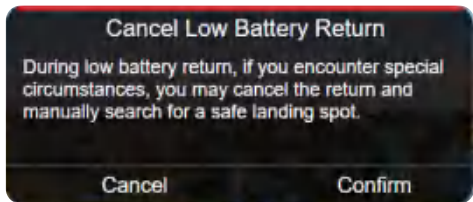


2. **Level 2 Low Battery:** The drone will directly descend from its current altitude and land.



3. Cancel low battery return:

- If needed, you can cancel low battery return by pressing the return button on the remote controller or tapping the return icon in the App.
- After tapping the confirmation button in the pop-up window, the drone will exit RTH mode.



- You can only disable low-battery return after removing the flight restrictions. Once disabled, you can fly the drone.



Caution:

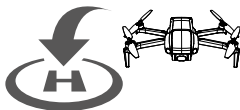
- Pay close attention to flight altitude when the battery is low.
- The remaining battery after return is affected by distance, wind speed, and wind direction.

Lost Signal Return-to-Home (RTH)

- If the drone loses signal for more than 10 seconds, it will automatically enter Return-to-Home (RTH) mode. The remote controller will emit a beeping sound, the indicator lights will flash, and a warning message will appear in the App.
- If the signal is restored, the drone will continue returning to the Home Point unless you press the RTH button again to cancel and regain manual control.

Automatic Return-to-Home Procedure

1. Once the GPS signal is successfully acquired, the drone stores its takeoff position as the Home Point.
2. If signal loss occurs (due to low remote battery, interference, etc.), the RTH function will be automatically triggered after 10 seconds.
3. The drone will adjust its orientation to face the Home Point and begin returning.
4. It will fly back to the Home Point, descend, and land automatically to complete the return.

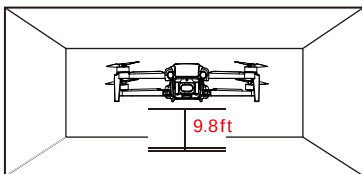


Note:

- When out of control, the aircraft cannot avoid obstacles.
- If the GPS signal is weak or unavailable, the RTH function will not be triggered, and the drone will not return automatically.

3.4 Optical Flow Positioning/TOF (Indoor Attitude Mode)

- The underside of the aircraft is equipped with a downward-facing optical flow system and a TOF (Time-of-Flight) altitude sensor, enabling the drone to better adapt to indoor environments.
- The optical flow system, composed of downward vision sensors, allows the drone to hover stably at low altitudes when flying indoors without GPS, operating in Attitude Mode.



Note:

1. The optical flow system functions best in well-lit environments with rich surface textures. It is an auxiliary system and cannot fully replace the pilot's judgment.
2. The system may be ineffective or perform poorly in the following environments:
 - Extremely bright or dark lighting
 - Reflective or smooth surfaces (e.g., mirrors, water, glass)
 - Solid-colored or low-texture areas
3. The optimal operating range is between 0.5 meters and 3 meters. Outside this range, positioning accuracy may degrade. Please maintain stable flight within this range.
4. Ensure the optical flow lens is clean and unobstructed before flight. This system functions only in Attitude Mode.



- If GPS signal is weak and you're flying indoors, manually disable GPS and switch the drone to Attitude Mode before takeoff.
- Once GPS is disabled, the drone will not support Return-to-Home (RTH) or smart flight features.

3.5 Intelligent Flight Mode

- The U11MINI 4K features 6 intelligent flight modes: GPS Follow, Image Follow, Point of Interest, Route Rules, Ges Quickshot/Ges Record, Auto-Cruise Control. Depending on the user's shooting needs, the operation can be completed with a single tap, making it simple and fast.



GPS Follow: In this mode, the aircraft will lock on to the user and automatically follow the operator's movement trajectory to capture and shoot.



Image Follow: Image Follow function enables the drone to follow the object's in circle movement to rotate.



Point of Interest: In this mode, the aircraft is centered on the location set on the App, flying around at a specific distance to shoot.



Route Rules: In this mode, aircraft flies along paths marked with way points.



Ges Quickshot/Ges Record: Use preset hand gestures to trigger photo capture or video recording automatically.

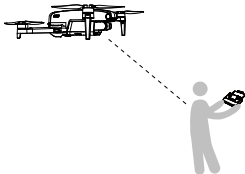


Auto-Cruise Control: The drone automatically flies at a constant speed according to the current flight action under strong GPS signal.

GPS Follow



1. Ensure that you have downloaded the Ruko U11 App on your phone.
2. Turn on the smartphone's GPS location; connect the phone with the remote control via the data cable and open the App.
3. After the aircraft takes off, the best effect is to ensure that the flight range is within 50 meters in an open environment with good GPS signal.
4. Tap the () icon on the App interface to start the () mode.
5. "GPS Follow" () will be displayed on the App interface and try to fly. The aircraft will track your movements to fly.
6. Tap the icon on the App interface again to exit the GPS Follow mode.



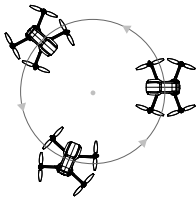
- The GPS Follow function only works when the GPS signal is strong. Please avoid high buildings, trees, and areas where signal might be interfered.
- In GPS Follow mode, the drone maintains stable flight at speeds of up to 17 m/s.
- Aircraft is not equipped with obstacle avoidance function. Please use it in open areas free of obstacles.

Image Follow



1. Launch aircraft and ensure flight height is higher than the nearby obstructions, access to the App control interface.
2. Tap(), slide to start and tap on the object or person plans to track, tap to confirm the selection, drone rotates following the object's in circle movement.
3. In Image Follow, the aircraft maintains the subject in the center of the frame by yawing only. No other flight movements are performed.

Point of Interest



1. Ensure that you have downloaded the Ruko U11 App on your phone.
2. Turn on the smartphone's GPS location; connect the phone with the remote control via the data cable and open the App.
3. Launch the aircraft and position it over the desired center point. Allow it to hover steadily before initiating the orbit.
4. Tap the () icon on the App to activate Point of Interest mode.
5. Move the right joystick forward and backward to set the radius of the drone to fly (within 5-50 meters).

6. The aircraft begins to orbit according to the radius set in step 5.
7. Tap the icon on the App interface again to exit the Point of Interest.



- The default minimum surround mode radius is 16 feet (5m).
- Move the right joystick left and right to adjust the circling speed and direction.

Route Rules



1. Ensure that you have downloaded the Ruko U11 App on your phone.
2. Connect the phone with the remote control via the data cable and open the App.
3. After the aircraft takes off, in GPS mode, tap the icon().
4. Mark the points (up to 16) which you plan to fly on App map's within red circle (limited flight range).
5. Tap "Delete Single Point" or "Delete All" to reset the marked point.
6. Make sure the marks are correct, tap "Send", The aircraft will start waypoint flight.



- Push right joystick to cancel Route Rules function.
- The map required for the map interface must be downloaded from the Internet in advance.



Ges Quickshot/Ges Record



1. Ensure that you have downloaded the Ruko U11 App on your phone. Turn on the smartphone's GPS location. Connect the phone with the remote control via the data cable and open the App.
2. After the drone takes off, use it in GPS mode.
3. Open the App, and tap the () icon on the App interface. In this mode, raise the right hand and pose () at the same height of the shoulder to take photos.
4. Tap the () icon. In this mode, raise your right hand and show your palm at the same height of the shoulder to open the recording mode.



- Use in a well-lit environment. Tap the icon again to exit Ges Quickshot/Ges Record mode.
- Ges Quickshot/Ges Record mode can only be activated with the right hand.

Auto-Cruise Control



- This function can only be used in GPS mode and when sufficient satellite signals are detected.
1. Set the desired flight distance and altitude.
 2. Fly the drone to an altitude above 15 meters (this function cannot be used below 15 meters).
 3. Operate the left or right joystick, then briefly press the cruise control button once more.
 4. Release the joystick; the drone will automatically fly according to your input (for example, if you push the right joystick forward, the drone will automatically fly forward).
 5. During automatic flight, you can adjust the drone's direction and altitude using the remote controller. Press the cruise control button again while making adjustments—once the joystick is released, the drone will continue flying based on the latest input.
 6. To exit cruise control mode without operating the joysticks, briefly press the cruise control button or tap "Cancel" in the App.

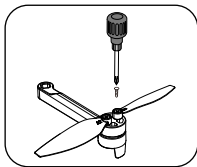
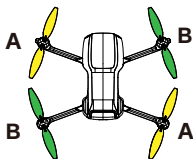


- The drone cannot use this function if the flight altitude is below 15 meters.
- The function cannot be used when the drone's battery is low.
- The drone will automatically exit this function after reaching the set distance.
- If the drone descends to 15 meters during automatic cruising, it will automatically exit this function.
- The drone does not have obstacle avoidance features. Please ensure flight safety.

3.6 Propeller

- The adjacent propellers on the motors of the U11MINI 4K are forward and reverse propellers. The two propellers on the same motor are the same, and the propellers are marked with A and B respectively.
- The rotation directions of the propellers with the same mark are the same.

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



Installation location

Attaching the Propellers

- Facing the camera as the front of the aircraft, install A-marked propellers on the left front and right rear arms, and B-marked propellers on the right front and left rear arms.
- Use a screwdriver to secure the propellers, ensuring all screws are firmly tightened.

Detaching the Propellers

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



- 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.
- Before each flight, please check to make sure that the propellers are in good condition.

3.7 Intelligent Flight Battery

- The U11MINI 4K is powered by a 2200mAh intelligent flight battery with a rated voltage of 7.6V and built-in charge/discharge management functions. This high-capacity and high-energy battery helps extend the drone's overall flight time.

Battery Features

1. Balance Protection

Automatically balances internal battery cell voltage to maintain stability and prolong battery life.

2. Overcharge Protection

Overcharging can cause serious damage to the battery. Once fully charged, please disconnect the charger promptly.

3. Over-Discharge Protection

To prevent damage from over-discharge, the battery will automatically discharge to a safe level when not in use for extended periods.

4. Short Circuit Protection

If a short circuit is detected, the battery will automatically cut off power output to prevent damage.

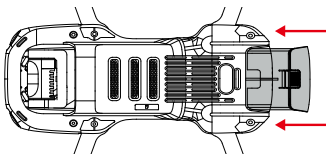
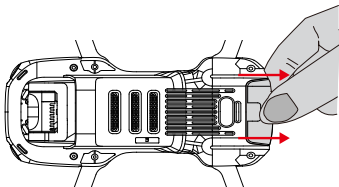
5. Easy Charging

Supports charging via Android USB cables. For optimal performance, use the official Ruko charger. Avoid using chargers that exceed 12V output.



- Please read and follow all Ruko instructions carefully in this User Manual and Quick Start Guide before using the battery.
- Be sure to read the warning labels on the battery surface before use.
- Users are responsible for any consequences resulting from improper use.

Using the Battery



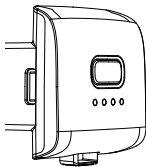
- Install the intelligent flight battery into the battery compartment and push it down until you hear a "click" from the battery buckle, indicating that it has locked into place. Make sure the battery is in place.
- To remove the battery, press the buckles on both sides of the battery and pull it out of the battery compartment.



- Do not insert or remove the battery while it is powered on. Doing so may cause poor contact at the battery interface, leading to a short circuit and potential damage to the aircraft.
- Always ensure the battery is powered off before installing or removing it from the drone.

Checking Battery Power

- Turn on the power and check the current battery.



Low — Battery Level — High



Powering On

- Press and hold the power button. When the fourth indicator light turns on, release the button to check the current battery power.

Powering Off

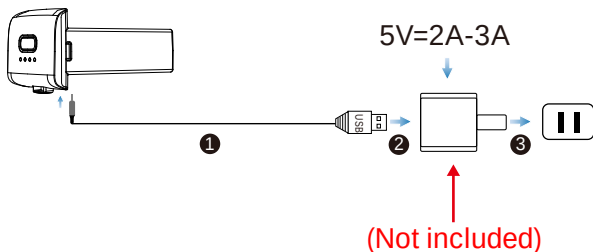
- Press and hold the power button until all lights are off and release the power button. After closing, the indicators are off.



Note: The drone features an automatic shutdown function. If no operation is performed (such as takeoff), it will automatically power off 10 minutes after being turned on.

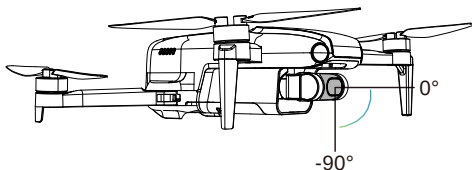
Charging the Battery

- Before using the intelligent flight battery, make sure it is fully charged.
- Use a 5V/2A or 5V/3A USB charging adapter.
 - While charging, the battery's power indicators will flash to show the current charge level. When all four lights are solid, charging is complete.
 - After charging is complete, promptly disconnect the charger.

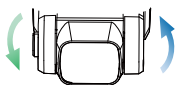


3.8 Camera Overview

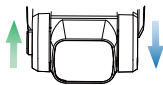
- The camera features an upgraded 5GHz Wi-Fi FPV real-time transmission system, an 85° field-of-view lens, a 90° adjustable angle, and a 3-axis brushless gimbal for advanced stabilization. This configuration enables stable recording of 4K HD videos and 8K ultra-clear images, offering a wide perspective to capture every unforgettable moment.



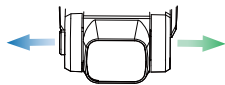
- The gimbal integrates a 3-axis mechanical stabilization system, Electronic Image Stabilization (EIS), and supports roll and pitch movement. The yaw axis is driven by a brushless motor enhanced with EIS technology.



Roll Axis



Tilt Axis



Yaw Axis

- The gimbal will not function and may appear tilted when powered off or during compass calibration—this is normal. Once powered on and calibration is complete, the gimbal will perform an automatic self-check and stabilize within approximately 20 seconds. Please avoid touching or moving the drone during this process.



- The drone's gimbal is a movable mechanical structure. When powered off, it is normal for the gimbal to appear tilted.
- If the drone takes off from grass or uneven surfaces, the gimbal may fail its self-check due to contact with the ground. To prevent this, use a launch pad or a flat piece of cardboard to keep the gimbal clear of obstacles during takeoff.
- Taking off from a floor, roadside, or table may cause vibrations that lead to gimbal self-check failures. Avoid using the drone in areas that produce significant vibrations.
- The gimbal does not function during compass calibration. After calibration is complete, place the drone on a flat surface, and the gimbal will automatically enter working mode.

Storing Photos and Videos

- U11MINI 4K is equipped with a micro SD card slot for storage space expansion.
 1. Card speed: 10M/s.
 2. File format: support FAT32 format.
 3. Memory capacity: a memory card with a memory capacity of 16-256G.
- The mobile phone and the memory card store photos and videos at the same time. If you want clearer videos, please download the video file on the memory card.



1. Make sure the memory card has sufficient available storage. If the capacity of the memory card is insufficient, videos and pictures cannot be stored.
2. If saving photos or videos fails, try formatting the memory card.
3. To copy or download media from the drone's memory card to your phone, ensure the aircraft is powered on and connected to the App.
4. Always power off the aircraft properly. Improper shutdown may result in unsaved camera settings or corrupted video files. Ruko is not responsible for any data loss caused by improper use.
5. Avoid direct contact with the SD card slot during operation. Be cautious, as it may become hot during use.

4 Remote Controller

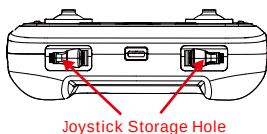
4.1 Remote Controller Profile

- U11MINI 4K remote controller uses the 5 GHz frequency band. The folding handle can stably place the mobile phone, and the maximum adjustable width is 3.15 inches.
- Remote controller built-in 1500mAh capacity battery, charging time is 80 minutes.

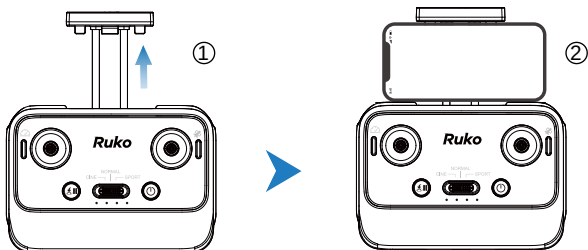
4.2 Using the Remote Controller

Install Joystick

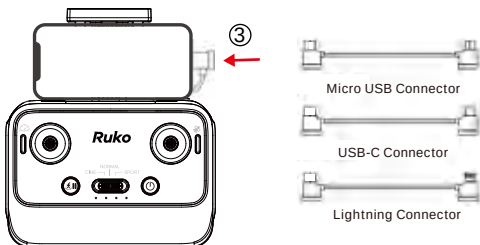
- When leaving the factory, the joystick is placed in the packaging bag of the product. When using, the joystick should be installed on the remote control as shown below.



- Unfold the phone clip and install the phone.



- Connect the phone with remote control via data cable.



**Notes:**

- The drone comes with three different types of data cables. Please choose the one compatible with your phone.
(The USB-C cable is stored inside the remote controller, while the other two cables are included in the packaging box.)
- Please correctly set the USB Settings option that pops up. Select "Transferring files" for Android phones, and "Trust" for iPhones.
- Some USB Settings of Android phones are hidden in the "Developer Options", you need to change the "Default USB Configuration" to "Transferring Files" after opening the developer mode.

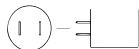
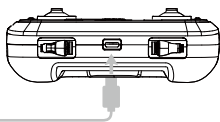
Powering On/Off the Remote Controller

- Power On: Press and hold the power button for 3 seconds.
- Power Off: Press and hold the power button again for 3 seconds.

Charging the Controller Battery

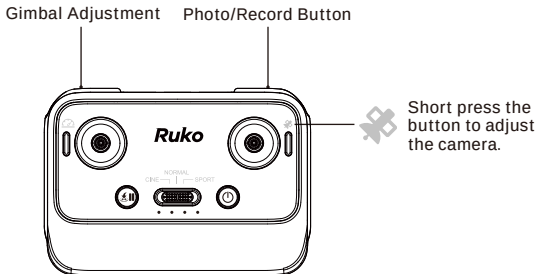
- Connect the remote controller's Micro USB port to a charger.
- Please use a charger with at least 5V/3A output.
- Charging: The four indicator lights will flash in sequence.
- Fully Charged: All four indicator lights will remain solid.

5V/2A~3A Adapter
(Not Including)



Controlling the Camera

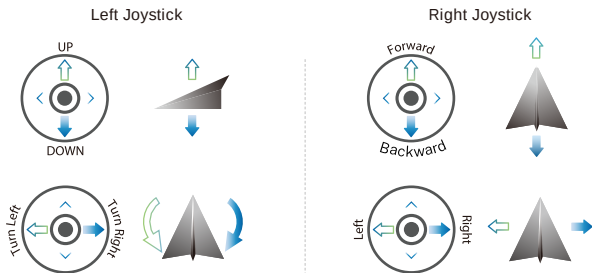
1. Photo/Record Button:
Tap once to take a picture.
Press and hold 3 seconds to start/stop recording.
2. Gimbal Adjustment:
Turn the gimbal dial to adjust the Angle.
Quick down or up with one press.



Joystick Control Aircraft

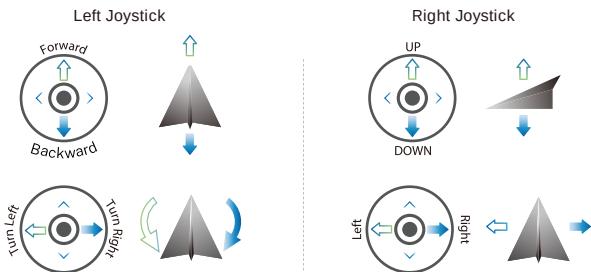
- The control method of the remote controller joystick is as follows:
American hand's control (Mode 1)

American hand's control (Mode 1)



- Switching to Japanese Hand's Control Stick:
 1. Turn on the aircraft.
 2. Press and hold the record button to turn on the power of the remote controller.

Japanese hand's control (Mode 2)

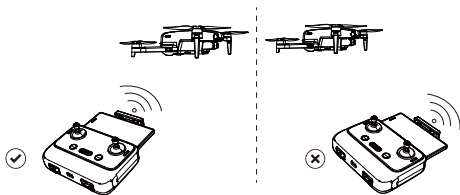


Smart RTH Button

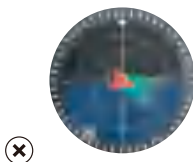
- Press the Smart RTH button on the remote controller to activate the automatic Return-to-Home (RTH) function.
- Press the button again to cancel the return. The aircraft will hover in place, allowing you to resume manual control using the joysticks.

4.3 Communication Range of Remote Controller

- When controlling the aircraft, the position and distance between the remote controller and the aircraft should be adjusted in time, and the antenna position should be adjusted to ensure that the aircraft is always within the best communication range.

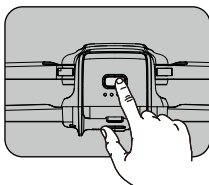


- Install the mobile phone into the remote controller bracket, refer to the aircraft flight direction of the Attitude Indicator in the App, and the Attitude Indicator points straight ahead (perpendicular to the coordinates), indicating that the remote controller is facing the aircraft.



4.4 Matching the Remote Controller

- The drone must be paired with the remote controller before each flight. Control is only possible after successful frequency pairing. Follow the steps below to complete the pairing process:
 1. Power on the drone.
 2. Power on the remote controller.
 3. The drone and remote controller will automatically complete the pairing process within approximately 30 seconds.
 4. Connect your mobile phone to the remote controller, then open the App to access the control interface. Once connected, you will see remote controller signal strength and a live camera screen, indicating that pairing was successful.





- **Successful Pairing Indicators:**

1. The drone's LED lights change from red to green.
2. The green indicator light on the remote controller changes from blinking to solid.

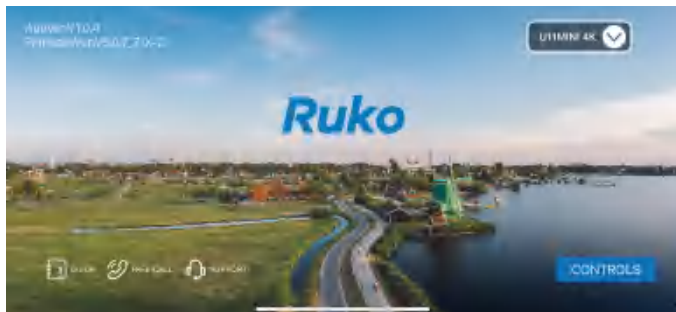


- The drone and remote controller will automatically pair within approximately 30 seconds.
- Please check the controller's battery level before each flight. The remote control will sound a tone when the battery is low.
- The remote controller will automatically power off after 10 minutes of inactivity. You can wake it up by moving the joystick or pressing any button.
- When securing your mobile device in the phone holder, make sure it is firmly clamped to prevent slipping.
- To maintain battery health, keep the battery voltage around 7.8–7.9V, and recharge it about once a month to keep it active.

5 Ruko U11 App

5.1 Home

- After running Ruko U11 App, enter the homepage.



CONTROLS

- Use the buttons in the App to operate the aircraft and access its features.

GUIDE

- Tap to view Help Manual, Instructions Videos and Quick Start.

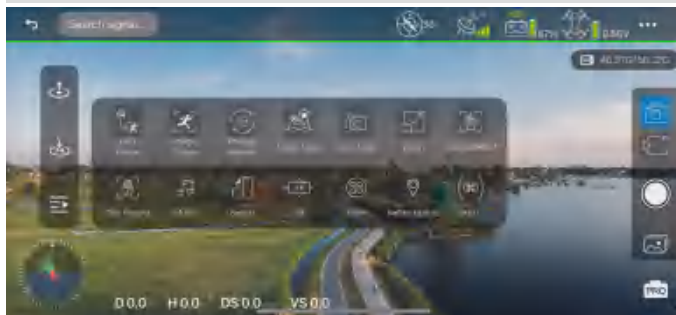
FREE CALL

- Tap to call customer support.

SUPPORT

- Tap to access technical support, after-sales service.

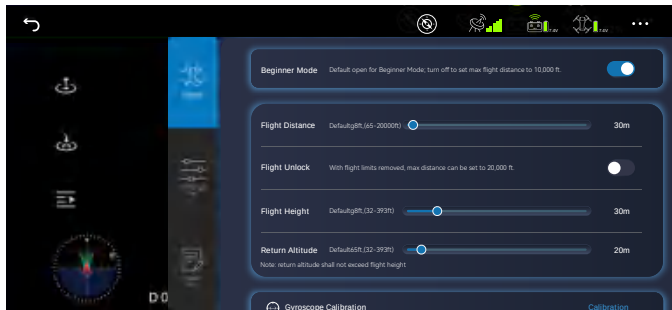
5.2 Control Interface



	Back		GPS Status
	Controller Battery Level		Aircraft Battery Level
	Auto Takeoff/Landing		Return to Home
	Shutter		Photo/Video
	Photo Album		Image Parameter Adjustment: White Balance Sharpening Contrast Brightness Saturation
	1. SD card capacity display 2. Format : Tap to format when the memory card is loaded but cannot be recognized or save files		
	Compass Interference Value	A higher value indicates stronger ambient interference. If the interference value remains at 180 or above for more than 3 seconds before takeoff, the drone will be forced to initiate compass calibration.	
D 0.0 _m H 0.0 _m DS 0.0 _{m/s} VS 0.0 _{m/s}		D : Distance H : Height DS : Flight Speed VS : Ascent and Descent Speed	

	GPS Follow	Aircraft will lock onto the user and can track the user's movement as he moves
	Image Follow	The aircraft camera will slowly rotate to follow the target
	Point of Interest	The aircraft fly around in circle with the current position as the center
	Route Rules	Aircraft flies along the path marked on the App
	Lens Angle	Adjust the shooting angle of the aircraft camera
	Zoom	Optional 5x zoom
	Ges Quickshot	Recognize your gestures and automatically take photos
	Ges Record	Tap to recognize your gesture automatically record
	Music	Select music for the video
	Switch	Switches three vertical screen functions
	VR	VR split screen interface , used with VR glasses
	Filter	Select a filter for your photo or video
	Return Update	Select a new return point location on the map
	Alert	When the drone is not unlocked, tap "Alert" on the App will turn on the drone's buzzer

Safety

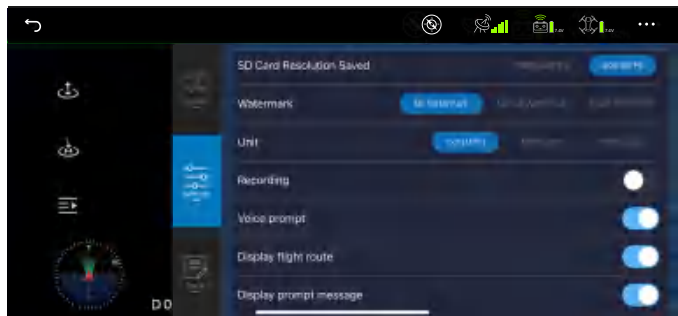


- **Beginner Mode:** In this mode, the maximum flight distance and altitude are limited to 98 ft to ensure safer flights within visual range.
- **Flight Distance:** Set the maximum flight distance.
- **Flight Unlock:** With flight limits removed, max distance can be set to 20,000 ft.
- **Flight Height:** Set the maximum flight altitude.
- **Return Altitude:** Sets the altitude at which the drone returns to the home point. Note that the return altitude cannot exceed the maximum flight altitude setting.
- **Gyroscope Calibration:** Place the drone on a level surface to recalibrate if it becomes unstable.
- **Compass Calibration:** Calibrate the compass when flying in a new location or complex environment.



- The drone's max flight distance is measured in no-wind conditions, flying forward at 9 m/s with low-battery return disabled, until forced landing at critical low battery.
- In windy conditions, the drone auto-returns at first low battery for safety. If flight limits and low-battery return are disabled, it can fly up to 20000 ft manually, but will land on the spot when battery is critically low.

Settings



1. SD Card Resolution Saved: Choose between Smooth Mode or Default Mode for video resolution.
2. Watermark: Select one of two available watermark styles.
3. Unit: Switch between metric and imperial units of measurement.
4. Recording: Enable or disable audio recording during video capture.
5. Voice Prompt: Turn on/off the App's voice prompts.
6. Display Prompt Message: Turn on/off the App's text prompts.

Note: When the drone performs certain operations, the App provides voice and text prompts, and the remote controller also emits sounds to issue alerts and indicate the drone's current flight status.

Track



- **All Flight Records:** Displays the date, location, distance, duration, and maximum altitude of each flight.
- **Find Drone:** Shows the last known position of the aircraft when the image transmission signal is lost. Opens the map to locate where the drone disconnected from the App.
- **Flight Logs:** Allows you to export detailed flight log data.
- **Drone Information Display:** Shows App version, Wi-Fi version, and drone ID number.



- Before using the Ruko U11 App, please ensure that you have granted the necessary permissions.
- Allow the Ruko U11 App to access your location; otherwise, certain functions will not be available.
- Allow the Ruko U11 App to connect to your phone on the local network; otherwise, the live image transmission from the drone will not display.
- Allow access to your albums, recordings, and other relevant permissions.
- For optimal performance, keep your phone running smoothly by closing any unused background Apps while using the Ruko U11 App.

6 Flight

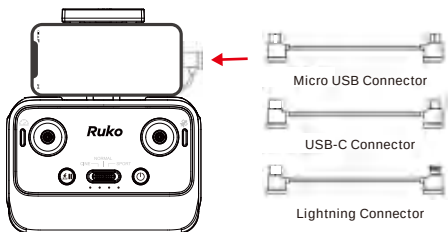
- After completing installation, please perform flight training, preferably in Beginner Mode. Choose a suitable flight environment, and strictly comply with local laws and regulations. The maximum flight altitude is limited to 393 ft (120 meters).
- Before flying, be sure to read the U11MINI 4K Disclaimer and Safety Summary and understand all safety precautions.

6.1 Flight Environment Requirements

1. Do not fly in severe weather such as strong wind, snow, rain, and fog.
2. Choose an open area free of obstructions for flying. Buildings, mountains, and trees may interfere with the aircraft's compass and GPS signals. It is recommended to fly in an open space with a radius of 33 ft (10 m) without interference. Maintain a flight altitude above 49 ft (15 m) to avoid ground obstacles and reduce signal interference from the ground.
3. Always keep the aircraft within sight and control, and stay clear of obstacles, crowds, and other hazards. When flying over water, maintain an altitude of at least 9 ft (3 m) above the surface.
4. The remote controller signal may be interfered with by high-voltage power lines, communication base stations, or transmission towers. Avoid flying near these areas.
5. Fly below 9,842 ft (3,000 m) above sea level to ensure the aircraft's air pressure sensor functions properly.
6. When GPS is active, the aircraft can hover stably and perform intelligent return-to-home and flight functions. If the GPS signal fails, these features will be disabled, and the aircraft may drift with the wind.

6.2 Connection&Settings

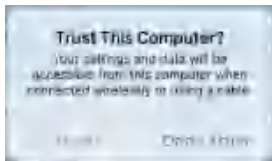
1. Choose the Appropriate data cable to connect your phone to the remote controller.



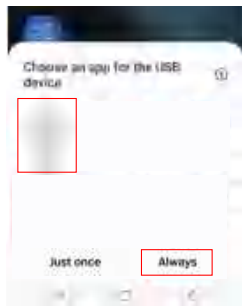
2. Tap the App, the first time to use the interface will pop up the permission setting.

Please allow the following permissions

1. Mobile phone location rights
2. Network rights
3. Recording rights
4. Album access rights



iPhone Settings



Android phone USB Settings

3. When you enter the operation interface and see the image transmission screen of the drone, the connection is successful.



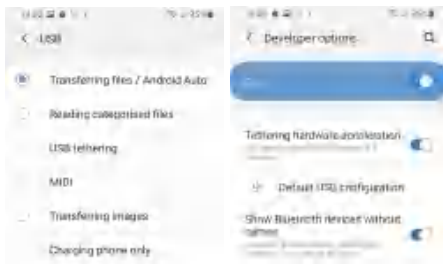
1. When connecting the data cable, ensure the plug of the data cable is fully inserted.

2. On some phones, phone cases may prevent the plug of the data cable from seating properly, causing data transmission failures, poor contact, and inability to view the transmitted image.

3. Please grant the App all required permissions to enable image preview.

4. On some Android phones, USB settings are hidden in Developer Options. After enabling developer mode, change Default USB Configuration to Transferring files.

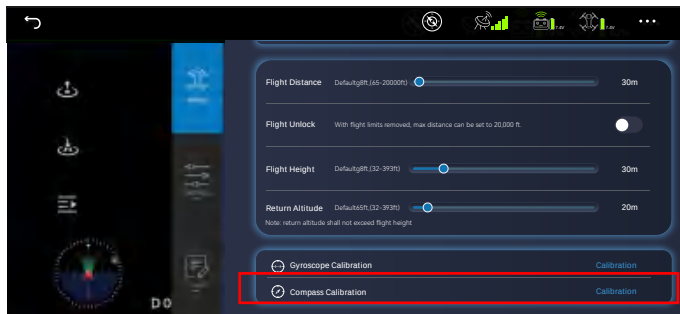
(The steps to enable Developer Options vary by phone model. Please search online for instructions specific to your device.)



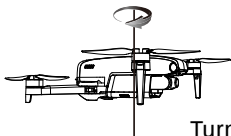
6.3 Calibration before Flight

Calibrate the Compass

- When flying in a complex environment or when magnetic interference exceeds a certain threshold, it is necessary to calibrate the compass.



- Push and hold the left and right joysticks at the "11 o'clock" and "1 o'clock" positions for 2 seconds (see Picture 1), or tap "Compass Calibration" on the App calibration interface (see Picture 2). The drone's green light will turn off, indicating it has entered calibration mode.



Turn 3 times

2. Follow the prompts to hold the aircraft approximately 3.28 ft (1 meter) above the ground, and rotate it horizontally 3 full rotations until the App prompts you to begin vertical calibration.
3. Then rotate the aircraft 3 laps vertically with the camera facing upwards until the prompt of vertical calibration on the App interface disappears.
4. After calibration is complete, place the aircraft on a level surface. The drone's three lights will flash in sequence to indicate successful calibration.



Turn 3 times



Before flying, monitor the compass interference value in the App.

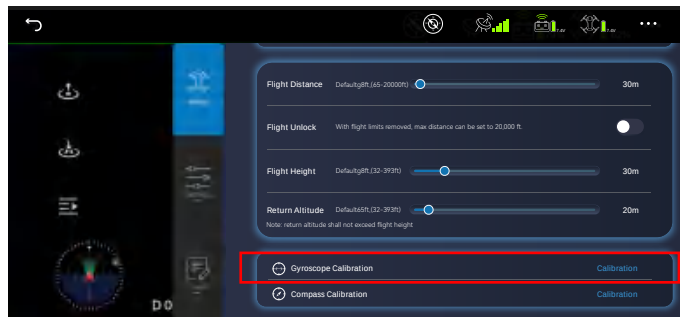
- When the value approaches 120, it's recommended to manually calibrate the compass or change to a less magnetic environment.
- When the value exceeds 180, the drone will automatically enter compass calibration mode.

If the drone flies erratically (e.g., flying in circles or out of control), it may indicate compass interference or improper calibration. In such cases, land the drone immediately and perform manual calibration. (Refer to Step 1 in Calibrate the Compass.)

During calibration, fully unfold the arms and hold the drone about 1 meter above the ground to avoid interference from the motor's magnetic field.

Calibrate the Gyroscope

1. Make sure that the Aircraft is placed on a level ground.
2. It can be calibrated by gyroscope calibration function of App.



- Or push the right joystick of the remote controller to the "5 o'clock" position for calibration.
3. The rear light flashes quickly, and the drone enters horizontal automatic calibration.
 4. The light changes back to the original light state, indicating that the calibration is completed.
 5. "Fly" is displayed in the App, and you can now prepare to take off.

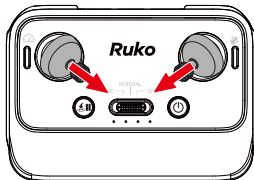


- When the aircraft's flight state is tilted and unstable, please land the aircraft on a level ground for gyroscope/horizontal calibration.
- When the tilt angle of the fuselage is greater than 10°, the horizontal correction cannot be performed.

6.4 Starting/Stopping the Motors

Starting the Motors

- Push both joysticks inward to the 5 and 7 o'clock positions simultaneously.
- Once the motors start spinning, release the joysticks immediately.



Stopping the Motors

1. Method 1:

After takeoff, gradually push the joystick to the lowest position to land the aircraft. Once the motor has completely stopped, release the joystick.

2. Method 2:

If the drone has not taken off, push both joysticks again to the 5 and 7 o'clock positions to stop the motors. Release the joysticks immediately once the motors stop.

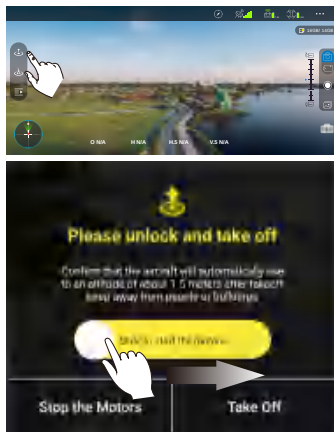
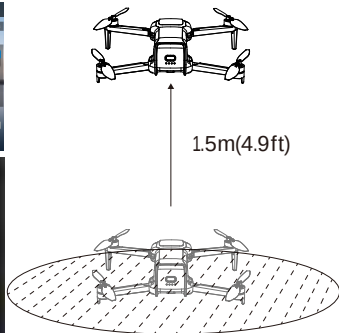


- Pull down the joysticks on the remote controller to manually land the drone. The drone will hover at a height of 1.6 feet (0.5 meters). Continue pulling down the joysticks to complete the landing and stop the motor.
- Please choose a flat surface for landing.

6.5 Auto Takeoff/Landing

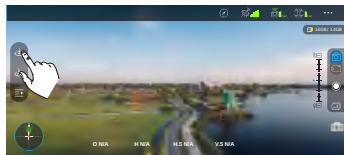
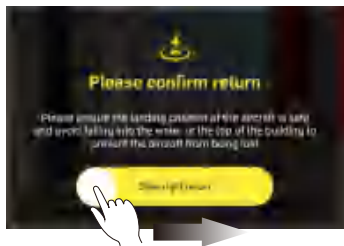
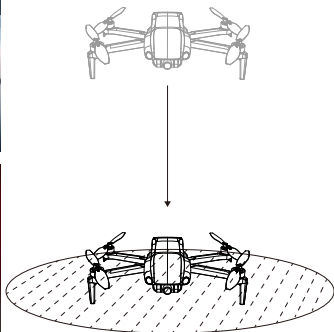
Auto Takeoff

- After the aircraft is calibrated, users can use the take-off function on the App:
- Start the motor after confirming the safe take-off conditions.
 - Tap "↑" on the App to take off.
 - Slide to unlock motor.
 - Press the One-key Takeoff button on remote controller or enter the App and tap to take off.
 - The aircraft will take off automatically and hover at a distance of 1.5m(4.9ft) from the ground.



Auto Landing

- After the aircraft takes off, the user can choose to use the automatic landing function on the App:
1. Confirm the safe landing conditions, tap the "🔽" on the App.
 2. Slide to confirm automatic landing.
 3. The aircraft descends to the ground and turns off its motors.



6.6 Basic Flight Steps

Basic Flight Steps

1. Place the aircraft on flat, open ground with the nose facing forward and the tail toward the pilot.
2. Press and hold the power button to turn on the aircraft.
3. Long-press the remote controller's power button to turn it on. The drone and remote will automatically pair within about 30 seconds.
4. After successful pairing, connect your phone to the remote controller using the data cable (make sure USB permissions are set correctly).
5. Open the Ruko U11 App and enter the flight interface.
6. After the GPS signal is successfully acquired, the drone's indicator light will turn solid green.
7. Unlock and start the motors.
8. Slowly push the joysticks upward to take off smoothly.
9. To descend, gently pull the joystick downward.
10. After landing, pull the joysticks to the lowest position and hold it until the motor stops.
11. Turn off the aircraft and the remote controller.

Aerial Photography Tips & Tricks

1. Perform pre-flight inspection.
2. It is recommended to take photos or videos in low-speed or medium-speed gear.
3. Choose sunny and less windy weather for shooting.
4. Push the stick as little as possible during the flight to make the aircraft fly smoothly.

7 Appendix

7.1 Specification Parameter

Drone	Model	U11MINI 4K
	Maximum Takeoff Weight	249g
	UAS Class	C0
	Motor Model	1503
	Operating Temperature Range	32° to 104°F (0° to 40°C)
	Satellite Systems	GPS / GLONASS
	Flight Environment	Outdoor / Spacious Indoor
	Maximum Wind Resistance Level	Level 5
	Propeller Model	C0-U165MM PPS
	Propeller Weight	0.6 g
	Propeller Radius	61.5 mm
	Maximum Propeller Speed	3400 rad/min
	Dimensions (L x W x H)	Unfolded: 32x19.2x5.8 cm
		Folded: 14.1x8.7x5.8 cm
Camera	Controllable Range of Camera (Up and down)	About -90° to +0°
	Camera Weight	About 25.7g
	Focus Range	Fixed-focus
	Resolution of Photo	Phone 3840×2160P
		SD Card 8000×6000P
	Resolution of Video	Phone 1280×720P / 30FPS
		SD Card 3840×2160P / 30FPS 1920×1080P / 60FPS
	Photo Format	JPG
	Video Format	MP4
5G Transmission	Supported SD Cards	Micro SD card(Class 10/U1 or later) 16-256G
	Supported File Systems	FAT32
	Operating Frequency	5.15-5.35 GHZ; 5.725-5.825 GHZ
	Video Transmission Frame Rate	30 FPS
	Drone combination	UA + Remote controller (Ruko RC-C0 N1)+ APP (Ruko U11)

Remote controller	Remote Controller Weight	About 358g
	Manufacture	Ruko
	Model Numer	Ruko RC-C0 N1
	Remote Controller Firmware Version	V1.1.9
	Remote Controller Hardware Version	V166.Y25.0626
	Operating Frequency	5150–5350 MHz, 5725–5825 MHz
	Battery	1500 mAh Li-polymer
	Charging Time	About 80 minutes
	Operating Voltage	7.4V
	Mobile Device Holder	4.7 to 6.7 inches Smart Phones
	Operating Temperature	32° to 104°F (0° to 40°C)
Intelligent Flight Battery	Battery model	C0-803072-2200-7.6
	Capacity	2200mAh
	Voltage	7.6V
	Battery Type	Li-polymer
	Power	16.72Wh
	Net Weight	Approximately 89g/3.14oz
	Max Charging Time	About 3 Hours (Depending on Charing Power)
	Charging Temperature Range	41° to 104°F (5° to 40°C)
Charging Cable	Interface Type	Type - C
	Input	100 - 240V, 50/60Hz, 0.5A
	Output	5V/1.5A or 5V/2A or 5V/3A
	Rated Power	≤ 15W
App	App Name	Ruko U11
	Mobile Phone System	Android 6.0 And Above System IOS 10.0.2 And Above System
	Connection Mode	Data Line Connection

7.2 Accessories



Intelligent Flight Battery



Spare Propeller



Remote Controller

- Always use original accessories. The use of non-original accessories may pose a risk to the safe use of the aircraft.
- It is forbidden to install any accessory or payload not included in the original packaging of the UA or not approved by the manufacturer.
- Distinguish similar products from manufacturer based on model name and appearance.
- MTOM Statement:
 1. Maximum take-off weight of U11MINI 4K is 249g, including battery and propellers;
 2. Users are prohibited from carrying accessories other than the list of items.

7.3 Common Problems and Solutions

Question	Reason	Solutions
The drone cannot be unlocked	No GPS signal (green light flashing)	Fly in an open area with a strong GPS signal
	Compass interference (green light off)	Complete the compass calibration. For details, refer to page 55 of the manual
	Gyroscope calibration in progress (green light flashes rapidly for 1–2 seconds)	Place the drone on a level surface and wait for the gyroscope calibration to complete
	Drone has low battery (drone shows red light)	Please charge the battery in time
	The left and right joysticks are not in place	Push the left stick to the 5 o'clock direction and the right stick to the 7 o'clock direction simultaneously, or use the one-key takeoff function in the App
Flight is unstable	Flying too low, affected by airflow	Please fly the aircraft above 9.84ft(3 meters)
	The gyroscope is not calibrated	Place the aircraft on a horizontal surface and conduct gyroscope/horizontal calibration. For details, refer to page 57 of the manual
	The propellers become deformed and incomplete	Replace the propellers with new ones
	GPS signal is unstable. Flying near buildings or in obstructed places	Fly the aircraft in an open, obstacle-free area within a 32.81ft (10 meter) radius

Question	Reason	Solutions
Fly not far, fly out a distance to bounce back	In beginner mode, you will only be able to fly 30 metres in height and 30 metres in distance	Enter the setting interface of App, turn off the beginner mode, set the flight distance and height, and save the settings
	When the drone enters the first low battery level, it can only fly up to 30 meters high and 30 meters far	Change to another battery for flight
After the drone is unlocked, it flips to the side during takeoff	4 propellers are installed backwards or a wrong propeller is installed	When installing the propeller, install it according to the corresponding mark
The drone suddenly crashed	1.The battery is not installed properly 2.The propeller is not securely installed and falls off	Check whether the battery or propellers is abnormal, and re-test after firm installation
Out of control, spinning around on its own, abnormal sound	Compass interference	Please manually land the aircraft in time and calibrate the compass. Please make sure to fly away from the buildings, trees, power lines, and signal towers
	The propellers become deformed and incomplete	Replace the propellers with new ones
Blurry or unclear image	The camera cover is not removed	Remove the camera cover before flying
	The camera lens is dirty	Use a clean cloth to clean the lens
	The lens film has not been removed	Please remove the lens film
	The video saved on the phone is only in 720P quality	Please insert an SD card into the drone, as videos saved on the SD card are in 4K quality
Video freezes, image transmission distance is short	Long-distance flight, with the transmission signal affected by obstacles	1. Choose a wide-open flying environment and ensure the drone's flight altitude is higher than the surrounding obstacles 2. Point the remote controller towards the drone's flight position
	Phone performance freezes	Close unused Apps running in the background to maintain the best performance of the phone

Question	Reason	Solutions
No image is displayed on the App	The phone is not connected to the remote controller	The phone and remote controller need to be connected via a cable. Please select the correct cable and ensure the connection is secure
	Wrong App downloaded	Download the correct App (Ruko U11)
	The drone cannot be paired with the remote controller	It takes about 30 seconds for the drone and the remote control to match, and the image captured by drone will be displayed once the match is successful
App crashes or functions abnormally	Wrong App downloaded	Download the correct App (Ruko U11)
	Some phone versions are old and incompatible with App	Please provide version and model of the phone, we will try to help you to solve it
GPS signal is weak	When the drone is indoors	GPS signals cannot be found indoors. Please search for GPS signals in an open area
	Under the tree, next to the building, in an obstructed place	Please stay away from obstacles for more than 32.81 feet(10 meters), and search for GPS signals in an open area
Unable to return home, drifting and flying away	The drone has lost GPS signal	Fly away from buildings or covered areas
	The drone's compass is being interfered with	Stay away from metal devices, electronic equipment, or signal towers
The remote control and the drone take a long time to match	It takes about 30 seconds to match the remote to the drone	Please wait patiently
Unable to charge battery/Not fully charged	Using inferior charger or charging on the computer with unstable voltage output	Ensure you use a charger with stable output power. Do not use a charger with an output lower than 5V
	Using inferior charging cables	Please use the original factory charging cable to charge
Short battery life	Flying in windy weather	Flying in windy weather will accelerate power loss
	The drone was not be charged when you received it	The batteries are fully charged with the correct USB charger before flying
	Flying in cold weather	In low temperatures, the chemical reaction of the lithium battery is slowed down and the energy cannot be fully released
The product has slight marks	We tested all drone before shipping	In order to give you the best experience, we tested functions of all drone before shipping. Therefore, it is inevitable that there will be slight traces. However, it can be guaranteed that all drone are 100% brand new



rukotoy.com

CONTACT US FOR MORE TECH SUPPORT

 +1 (888)892-0155 | Mon-Fri 7:00AM - 7:00PM (PST)



+1 (732) 207-0697



service@rukotoy.com
service.eu@ruko.net

