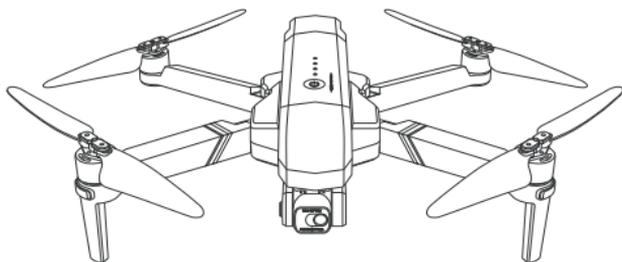


Ruko[®]

14+
for age

User Manual



F11GIM2

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1 Using This Manual

1.1 Legend

- The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product :

✔ Recommend ✘ Warning ⚠ Hints & Tips 📖 Reference

1.2 Read Before the First Flight

- Read the following documents before using Ruko drone.
 - ① User Manual
 - ② Flight Start & Safety Disclaimer
- It is recommended to watch all the guide videos on our website and read the disclaimer and safety guidelines before using for the first time.

1.3 FAA Remote ID Registration Process

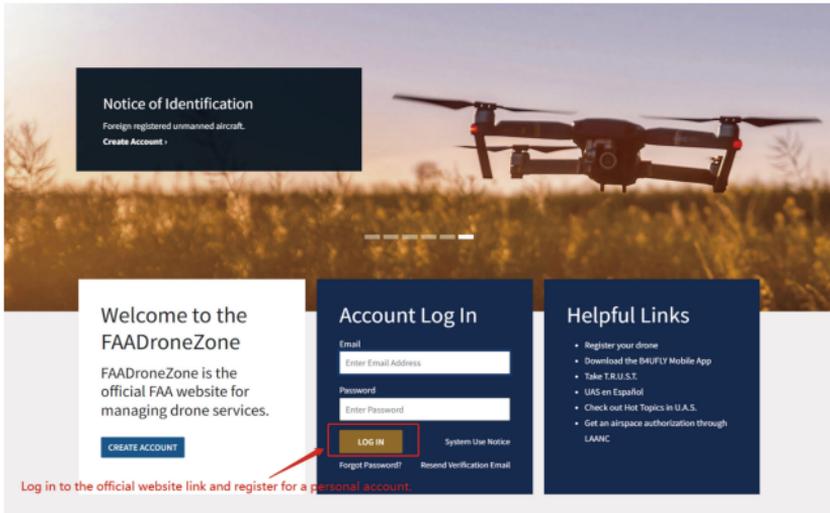
- You can check the serial number of the drone in two ways.
 - ① RID-compliant labels on the drone.
 - ② Successfully matched drone with remote control---Insert the data cable---enter “RUKO DRONE” app---enter CONTROL page---click the power icon in the upper right corner---the RID information will pop up.





• Registration

- ① Please go to <https://uasdoc.faa.gov/login>
- ② Please complete and submit the information following these steps.



An official website of the United States government [Here's how you know](#)

United States Department of Transportation

 **Federal Aviation Administration**
FAADroneZone

Contact Drone Events Hi, Jing Log Out

Recreational Flyers Certificated Remote Pilots Public Safety & Government Educational Institutions Where Can I Fly? UAS en Español

HOME / FAADroneZONE SERVICES

Select Add "Drone Owners and Pilots" item

FAADroneZone Services

Thank you for registering an FAADroneZone Access account. To proceed, simply add an FAADroneZone Service using the Add a Service option below.

Drone Owners and Pilots

Drone Owners and Pilots who need to complete the following tasks:

- Registration
- Waivers
- Airspace Authorizations

Not sure which rules to follow? We can help you >

[LAUNCH DRONE OWNERS AND PILOTS DASHBOARD](#)

[+ Add a Service](#)

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United States Department of Transportation

 **Federal Aviation Administration**
FAADroneZone

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Part 107 Add Account Type

PART 107 DASHBOARD

Part 107 Dashboard

Inventory

1
Total Devices

1 Active Device

[MANAGE DEVICE INVENTORY](#)

Part 107 Users

1
Total Users

1 Active User

[MANAGE USER ACCOUNTS](#)

An official website of the United States government [here's how you know](https://www.faa.gov)

United States Department of Transportation

Federal Aviation Administration
FAADroneZone

Contact Hi, Jing Log Out

Part 107 Add Account Type

PART 107 DASHBOARD / INVENTORY

Your Shopping Cart

ADD DEVICE

Part 107 operators must add manufacturer and model information for all UAS that they own and operate. For standard remote identification UAS and broadcast modules, you'll also be required to provide the serial number. Each broadcast module serial number may only be associated with a single, specific UAS and may not be listed on more than one registration.

FAA Notice
Your cart is empty.

Add Device

* Indicates a required field or that a selection is required.

1

DOES YOUR DRONE BROADCAST **FAA REMOTE ID** INFORMATION? YES NO

Not sure? Contact your UAS manufacturer or see if your drone is listed here: <https://uasdoc.faa.gov/listDocs>

2

UAS TYPE* Standard Remote ID NICKNAME Enter a Nickname

UAS MANUFACTURER* Ruko UAS MODEL* F11GIM2

3

REMOTE ID SERIAL NUMBER* 1869CGM200000001

Not sure if you have a Remote ID Serial Number? Contact your Manufacturer.

CANCEL ADD DEVICE 4



Your Shopping Cart

ADD DEVICE

Part 107 operators must add manufacturer and model information for all UAS that they own and operate. For standard remote identification UAS and broadcast modules, you'll also be required to provide the serial number. Each broadcast module serial number may only be associated with a single, specific UAS and may not be listed on more than one registration.

Filter by

NICKNAME*	UAS MANUFACTURER*	UAS MODEL*	SERIAL NUMBER*	REMOTE ID*	DEVICE TYPE*	ADDED BY*	AMOUNT	ACTIONS
Ruko	F11GIM2	1869CGM200000001	Yes	Standard Remote ID	Jing Lian	\$5.00	⋮	
Select *CHECKOUT* and fill in your personal information to make a payment of \$5						TOTAL:	\$5.00	

CHECKOUT



1. Operational Requirements → 2. Payment → 3. Review & Pay → 4. Confirmation

Payment Information

* Indicates a required field.

Credit Card Info

Complete the above steps

CARD NUMBER* CV2/CV2* EXPIRATION* /

MARK YOUR AIRCRAFT!

- When you register, you will receive a unique registration number valid for 3 years. After 3 years, you must renew your aircraft registration.
- You must mark each aircraft with the assigned unique registration number before it is operated.

Billing Address

Use Mailing Address

FIRST NAME* LAST NAME*

COUNTRY*

ADDRESS* ADDRESS

CITY* STATE / PROVINCE / REGION*

ZIP*

BACK

NEXT

Small UAS Certificate of Registration	
Registered Owner: JingYuLian	<p>This Small UAS Certificate of Registration <u>is not an authorization to conduct flight operations</u> with an unmanned aircraft. Operations must be conducted in accordance with applicable FAA requirements. The operator of the aircraft is responsible for knowing and understanding what those requirements are. For more information on flying requirements, please visit the FAA website at www.faa.gov/uas</p> <p>For U.S. citizens, permanent residents, and certain non-citizen U.S. corporations, this document constitutes a Certificate of Registration. For all others, this document represents a recognition of ownership.</p> <p>Operators of unmanned aircraft must ensure they comply with the appropriate safety authority from the FAA and economic authority from the DOT.</p>
UAS Manufacturer: Ruko	
UAS Model: U11S	
Serial Number: 1869AU11S000001	
Registration Number: FA3KTPA3H3	
Issued: 07/06/2023	Expires: 07/06/2026



- The drone will start broadcasting the FAA remote ID signal when all of the following conditions are met.
 - ① The drone has built-in Remote ID functionality.
 - ② The drone is within airspace of the United States.
 - ③ The drone's motors began to spin.

1.4 Video Tutorials

- Scan the QR code to watch the guide videos, which demonstrate how to use Ruko drone.



1.5 Download the App

- Scan the QR code download **"RUKO DRONE"** app.



QR code of "RUKO DRONE" for Apple IOS system.

The iOS version of RUKO DRONE is compatible with iOS 13.0 and later.



QR code of "RUKO DRONE" for Android system.

The operation system version of RUKO DRONE is compatible with Android 8.0 and later.

2 Package Contents



Drone



Remote Controller



Drone Battery



Gimbal Cover



Spare Propeller



USB Charging Cable



Spare Joysticks



Allen Wrench



Screw



User Manual



RC Cable (USB-C connector)



RC Cable (Micro USB connector)



RC Cable (Lightning connector)

3 Preface

- Thank you for purchasing the Ruko-Series GPS aircraft. Please read all instructions and warnings carefully before operating. Please also keep this instruction manual for future reference and maintenance.

Important

- This product should be operated by the people who are over 14 years old. It is a precision device that combined machinery, electronics with air mechanics and high frequency transmission into a single unit. It requires correct assembly and debugging to avoid any accident. The user should operate and control this product in a safe manner. In case of incorrect operation, it may cause serious injury or damage property. It can also be lost due to incorrect operation.
- This product is suitable for experienced UAV pilots no less than 14 years of age.
- In the event of a problem during using, operating, or maintaining, please contact the local sales agent, retailer or keep in touch with the responsible staff of our company.

Safety Precautions

- This R/C aircraft can be dangerous when in use, **please make sure you keep it far away from any persons or spectators when flying.** In-correct installation, poor conditions, or users not familiar with operation may cause damage to the aircraft or injure people or may cause an unexpected accident. Please pay close attention to flying safety and learn to recognize more dangerous conditions which may cause an accident due to your own negligence.

- **Keep it far away from any structures or crowds.**

This R/C aircraft may vary slightly in speed or sensitivity while flying and can cause potential danger. Therefore, please keep it far away from crowds, buildings, trees, structures, high-voltage wire, etc. Please also avoid flying in adverse weather conditions such as rain, electrical storms, and high winds to ensure safety of the user, any spectators, and surrounding property.

- **Keep it away from any moist environment.**

The inside of the aircraft is composed of many precision electronic and mechanical parts. Therefore, please try to avoid any moisture or water content from entering the main body of the aircraft as it may cause a breakdown of the mechanical and electronic parts and thus cause an accident.

- **Only operate with included parts for intended use.**

Please use the original parts made by Ruko-Series for any re-equipping or maintenance to ensure flying safety. Please operate and use only under the scope of the product function permitted. Using un-approved parts will void warranty.

DO NOT use for any illegal purpose or use beyond the scope of which your local laws and regulations have stipulated.

- **Avoid controlling it independently.**

New users may have certain difficulties during the early stages of learning to operate this aircraft. Please try to avoid operating the aircraft alone. When available, always operate this aircraft under the guidance of a more experienced user.

- **Do not operate under the influence of drugs or alcohol.**

Please operate this R/C aircraft according to your own state and flying skill. Any fatigue, bad mental state, or incorrect operation may increase the probability of accidental risk.

- **Please keep a safe range from aircraft when using top speed.**

When the operator is flying in a high speed, please keep the aircraft far from any surrounding persons or objects so as not to cause danger or damage.

- **Store it in a cool, dry place.**

The R/C aircraft is composed of material such as metal, fiber, plastic, electronics, etc. Therefore, please keep it away from any heat source and avoid prolonged exposure to direct sunlight. Excessive heat exposure can cause distortion and damage.

 This equipment 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 equipment may generate and radiate radio-frequency energy when in use. Please install and use it according to the instructions or it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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.

Please note that changes or modifications not expressly approved by the party responsible for compliance could void the use's authority to operate the equipment.

4 Warning

- **There is some important information in this package and instruction, please keep it for future reference.**
- You have the responsibility to make sure that this model of aircraft won't cause injury to others' body or cause any damage to property.
- Please operate strictly as shown on the instruction manual when debugging or assembling this aircraft. During the process of flying or landing, please pay more attention to keep 1-2 meters between the user and the aircraft to avoid colliding to the head or face or body, which may cause injury.
- Our company and distributors won't be responsible for any incorrect operation, which may cause loss or damage or injury to the body.
- Children ages 14 and up should use this product under the guidance of an adult. This product is **FORBIDDEN** to be used by children under 14 years old.
- Please correctly assemble and use this product as shown on the instruction manual or packing instruction. Some parts should be assembled by an adult.
- Small parts are included with this product. Please place it beyond the reach of the children to avoid a **CHOKING HAZARD** or parts being mistakenly swallowed.
- Playing on the road or near high traffic areas is strictly **FORBIDDEN** so as not to cause an accident.
- Please dispose of the packing material timely so as not to cause injury to children.
- **Please DO NOT** disassemble or re-equip the aircraft as it may cause a breakdown of the aircraft during flying.

- Batteries in the battery compartment of the charger should be inserted into the designated power source which has the same logo as the product.
- Built-in rechargeable 3.7V lithium polymer battery included in the remote controller.
- Only the original charging cable make from our factory can be used.
- **Charging cable is not a toy.**
- When charging the battery, please conduct it under the surveillance of an adult. Please also keep it far away from any combustible object when charging. Please keep this aircraft within eyesight when charging.
- **Please DO NOT** make it short-circuited or squeeze the battery so as not to cause an explosion.
- **DO NOT** mix the Li-ion battery with a different type of battery.
- Intelligent lithium battery is loaded in the Quad-rotor. Both built-in or external can be used for charging.
- **Please DO NOT** make the battery short-circuited or decompose the battery. **DO NOT** throw the battery into the fire; **DO NOT** place the batteries near the high temperature or heated area (such as near the fire or near the electric heating device).
- The aircraft should be kept far away from any other electric compliance or equipment as far as possible or kept far away from the place where having the magnetic object nearby as they may cause interference with each other.
- Please keep the safe distance from the high-speed rotating rotor so as not to cause twisted or danger of being wounded or being cut.

- Engine will heat up. **Please DO NOT** touch it to avoid being burned or injured.
- **Please DO NOT** close this product to your ear as it may cause injury to your hearing.
- To comply with the command of the magnetic environment requirement formulated by the Aviation Radio Bureau and the related authority, during the regulated period in certain areas, please stop using the remote controller of this model when such regulation command is issued.
- Keep your UAS within sight.
- Never fly over groups of people.
- Never fly over stadiums or sports events.
- Understand airspace restrictions and requirements.



-  • The product should only be used by adults and children 14 years and older. Adult supervision is required for children under 14 years of age.

5 Fly Safety

- **Image transmission area requirements:**

- ① Make sure the antenna of the remote control is oriented towards the drone.
- ② Make sure fly in the open area without any interference and obstacle.
- ③ Do not fly against the wind, the video transmission distance is 3KM.



Fly in Open Areas

+



Strong GPS Signal

+



Maintain Line of Sight

+



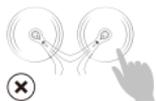
Maximum flight altitude height is about 120 meters



- Avoid flying over or near obstacles, crowds, high voltage power lines, trees, airport or bodies of water.
- **DO NOT** fly near strong electromagnetic sources such as power lines and base stations as it may affect the onboard compass.



- **DO NOT** use the drone in adverse weather conditions such as rain, snow, fog and wind speeds exceeding 7 m/s or 16 mph.
-



Stay away from the rotating propellers and motors.



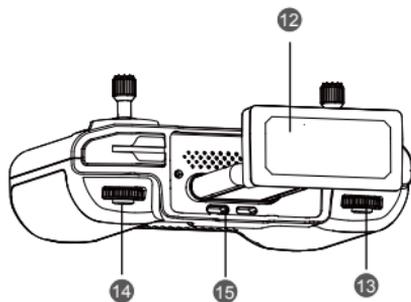
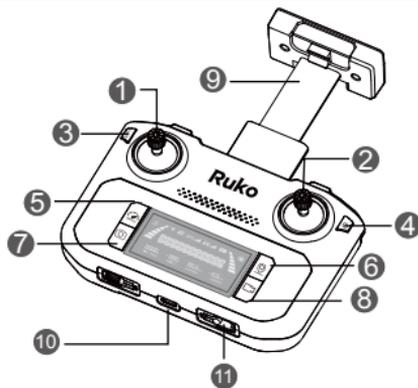
No Fly Zone



It's important to understand basic flight guidelines, for the safety of both you and those around you. Don't forget to read the Safety Guidelines before flight.

6 Remote Controller

6.1 Controller Features



1. Left Joystick

The left joystick is the throttle stick which controls the aircraft up/down, left rotation/right rotation.

2. Right Joystick

The right joystick is the directional stick which controls the aircraft forward/backward, fly left sideways/ fly right sideways.

3. Emergency Stop

Press once and then long press for 3 seconds to trigger an emergency stop, the aircraft will lose power and drop in place. (DO NOT use unless it is an emergency.)

4. Power Button

Press once to check the current battery level. Press once and then long press to turn on the remote controller.

5. Speed Mode Switch/ Indoor Mode

Press once to switch between Camera mode, Normal mode, and Sport mode. The default is normal mode.

Long press for 3 seconds to turn off GPS mode and switch to indoor mode. (GPS mode is on by default, please do not turn it off when flying outdoors to avoid losing the aircraft.)

6. Return to Home (RTH) Button

Return to Home (RTH) Button
Press the button to initiate RTH. The aircraft returns to the last recorded Home Point (Due to GPS signal issues, the landing position may deviate slightly from the Home Point, within a radius of about 3 meters). Press again to cancel RTH.

7. Shutter

Press once to take a photo.

8.Record

Press once to record a video.

9.Mobile Device Holder

Used to securely mount the mobile device to the remote controller.

10.USB-C Port

For charging the remote controller.

11.Joysticks Storage Slot

For storing the control joysticks.

12.Antenna

Signal reception area

13.Camera Zoom

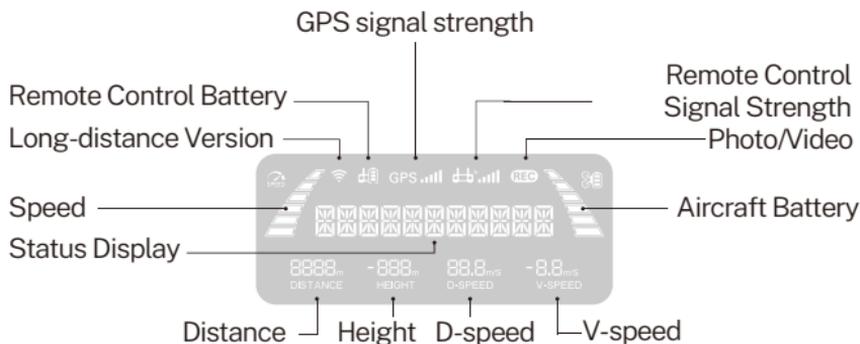
Controls the camera zoom in and out.

14.Gimbal Dial

Controls the tilt of the camera.

15.Remote Controller Cable

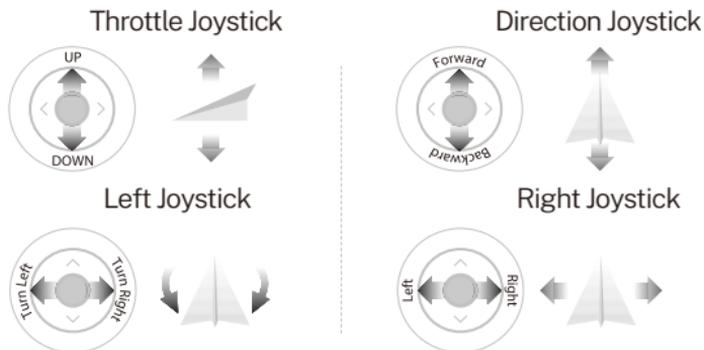
Connect to a mobile device for video linking via the remote controller cable. Select the cable according to the mobile device.



- The F11GIM2 has three speed mode: Camera mode 4.5m/s, Normal mode 6.5m/s, and Sport mode 10m/s. The default speed is Normal mode, higher speed will consume battery faster.

6.2 Controlling the Drone

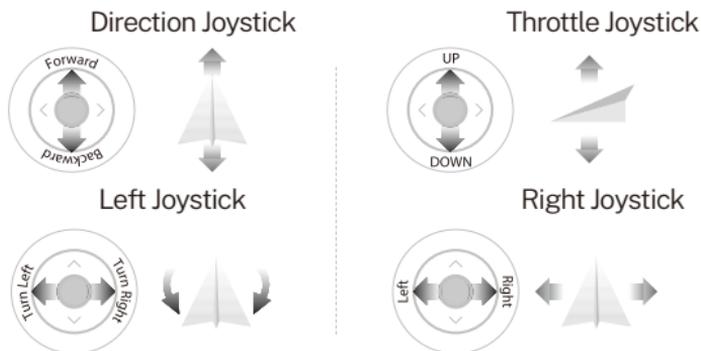
• Remote Controller Stick Mode-Mode 1 (Default Mode)

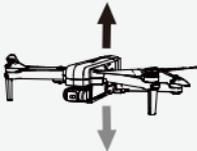
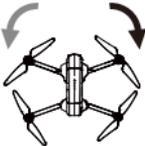


• Switch Remote Controller Stick Mode--Mode 2



Power off the remote control. Keep pressing the , then press once and long press the  (press once indicating the power level, long press the remote control beeps three times and power on, LED screen indicates "RHAND MODE".)

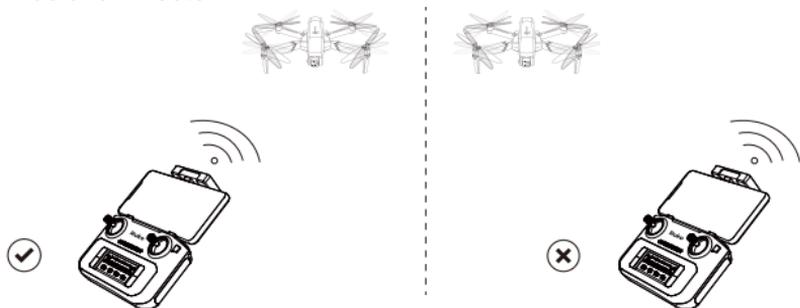


Remote controller (Default Mode)	Aircraft Direction
	
<p style="text-align: center;">Remarks</p> <p>Push up or down on the throttle stick to control the aircraft's altitude. Push up and the aircraft rises. Pull down the lever and the aircraft lowers. When released, the joystick is in the middle position and the aircraft remains hovering. When the aircraft takes, the throttle lever must be pushed up and the aircraft takes off the ground (please push the stick slowly to prevent the aircraft from suddenly rush up).</p>	
Remote controller (Default Mode)	Aircraft Direction
	
<p style="text-align: center;">Remarks</p> <p>Push the throttle stick left/right to control the aircraft heading. Push the stick to the left and the aircraft will rotate counter-clockwise. Push the stick to the right and the aircraft rotates clockwise. In the neutral position, the angular velocity of rotation is zero, and the aircraft does not rotate.</p>	

Remote controller (Default Mode)	Aircraft Direction
	
Remarks	
<p>Push up/down the direction bar to control the aircraft to fly back and forth.</p> <p>Push the stick up and the aircraft leans forward and flies forward. Pull down the lever, the aircraft tilts backwards and flies backwards. The aircraft's front and rear directions remain level in the neutral position. The joystick offset corresponds to the angle of the aircraft's front and rear tilt. The greater the offset, the greater the tilt angle and the faster the flight speed.</p>	
Remote controller (Default Mode)	Aircraft Direction
	
Remarks	
<p>Push the direction stick left/right to control the aircraft to fly left and right.</p> <p>Hit the stick to the left, the aircraft tilts to the left and flies to the left. Hit the stick to the right, the aircraft tilts to the right and flies to the right. The left and right directions of the aircraft remain horizontal in the middle position.</p> <p>The joystick offset corresponds to the angle of the aircraft left and right tilt. The greater the offset, the greater the tilt angle and the faster the flight speed.</p>	

6.3 Optimal Transmission Zone

- The signal between the drone and the remote controller is most reliable when the antennas are positioned in relation to the aircraft as shown below.



- ⚠ • DO NOT use other wireless devices to avoid interference to the remote controller.**

6.4 Emergency Stop



- Click once and hold the **STOP** for **3 seconds** to enter into Emergency Stop mode. It only activated when the drone's flight altitude within 42ft(13m).

- ⚠ • By using this function the drone motor will stop working immediately thus fall to the ground, which might cause damage. Only use this feature when in emergency so as to reduce the risk of damage or injury.**

6.5 Charging the Controller



≤15W Adapter
USB Adapter (Not included)



Charging Time: About 2 hours



The Remote Control Is Charging



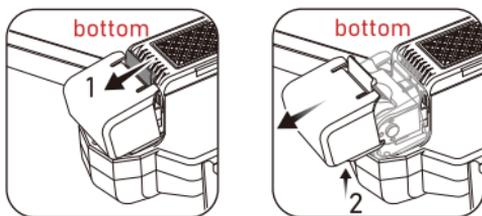
Fully Charged With Remote Control

- ⚠** • Connect the remote controller Micro USB-C Port to the charger for charging. Please note: Never overcharge.

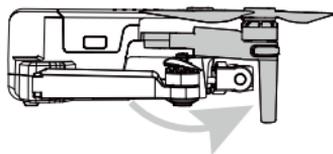
7 Drone

7.1 Preparing the Aircraft

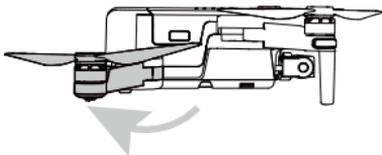
- All aircraft arms are folded before ship out of the factory. Please follow the steps below to unfold the arms.



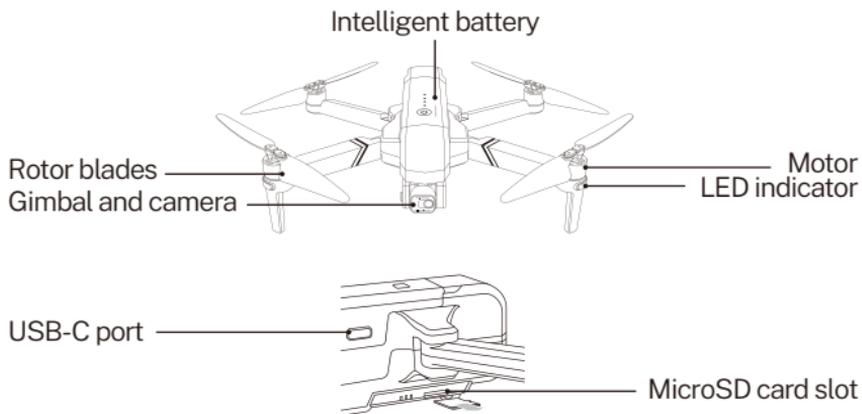
- Take off the Gimbal Cover
- Unfold the front arms



- Unfold the rear arms and then unfold all the propellers

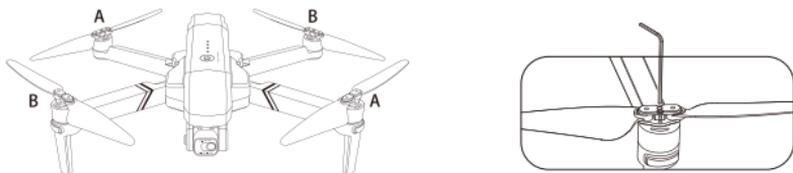


7.2 Drone Diagram

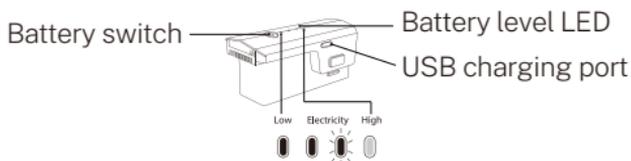


7.3 Assemble the Propeller

- Please note that the letter "A" or "B" is printed on each propeller, and make sure all the propellers are attached in the correct motor position.



7.4 Intelligent Flight Battery

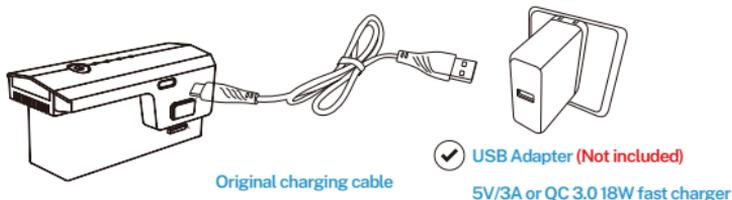


- Hold the switch button for 3 sec. power on; then press the button for 3 sec. power off.
- Refer to the battery level LED, when only one LED left, charge the battery.

- ⚠ • DO NOT install the battery with the power already switched on.**
- **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.**

Charging the Intelligent Flight Battery

- Before using the intelligent flight battery, be sure to fully charge it.



1. Please use a 5V/2A or 5V/3A USB charging plug. Also support QC 3.0 18W fast charge.
2. In the charging state, the battery power indicator will flash and indicate the current charge level; when the fourth indicator light is always on, it indicates that the charging is complete.
3. After charging is complete, please remove the charger in time.



- Charging time: When charging with a 5V/2A or 5V/3A plug, it takes about 4.5 hours to fully charge. When charged with a QC 3.0 18W plug, it takes about 3 hours to fully charge.
- Suggestions for battery preservation:
 1. It is recommended to use once a month. When you were not going to fly the aircraft for a while please do not fully charged the battery, just keep 50%-60% of the power. The best storage temperature is 66-69°F.
 2. Do not use the battery in the rain/snow or wet environment (including light rain and snow). If the battery is wet, the positive and negative poles will be short-circuited, and the battery protection plate will fail, which will cause the battery not to work well.
 3. If the battery is squeezed and deformed or dropped from a height, it is prohibited to use again.
 4. Prolonged exposure to high temperature is prohibited. High temperature will cause the internal pressure of the battery is too high and thus cause an explosion.
 5. When not flying the aircraft for a long time, please remove the battery to avoid a long time of low electric discharge state.



- The new batteries of the aircraft need to be charged and discharged 3 times to fully activate the lithium ions inside the battery and achieve the longest endurance.
- Please check the battery power and fully charge before each flight.
- Please remove the battery from the aircraft when charging.
- It is prohibited to charge for a long time or use a charger that exceeds the rated power of the battery.
- Self discharge protection: The F11GIM2 smart battery is equipped with an automatic discharge storage function to prevent battery expansion resulting from long-term full charge storage. If the battery remains fully charged for 24 hours without use, it will automatically discharge 1-2 minutes of flight time. When left in storage for one week, it will self-discharge approximately 25%. After self-discharge, it is normal for the battery to have a certain temperature on its surface.
- Low Temperature Environment Notice:
 1. When using the battery in a low-temperature environment (32°F-41°F), make sure that the battery is fully charged. Battery working in a low temperature environment will reduce the discharge capacity.
 2. In a low-temperature environment, due to the battery output power limitation, the aircraft's wind resistance and flight performance will be reduced. You need to be more cautious when flying in low-temperature and high-altitude environments.
- Please ensure to purchase original batteries for the F11GIM2 drone, as non original or lower versions of batteries may be incompatible and may affect drone flight.

7.5 Gimbal and Camera

- The gimbal of F11GIM2 drone ensure the user can capture clear and stable image and videos even when the drone is flying, the camera also equipped with electronic stabilization function.
- The camera uses an upgraded 5GHz Wi-Fi FPV real-time transmission function, equipped with 2-Axis Gimbal 4K EIS, 100° FOV lens and a 80° adjustable camera, which can stably shoot 4K ultra-clear videos and images, providing you with a broad field of vision for unforgettable moments.



Camera Guideline:

- ① Please remove the gimbal camera cover before flight.
- ② When taking off from grass or sand, please place the aircraft on the landing pad or cardboard to keep it level.



⊗ On the grass



⊗ On the sand

- ③ Do not turn on the aircraft when it is placed on a desk or hollow wooden floor. These surfaces can amplify small vibrations into high-frequency vibrations which may cause the gimbal to malfunction and not work properly.



⊗ On the desk



⊗ On the hollow wooden floor

④ **Do not** interfere with the gimbal by putting external forces or picking up the aircraft during calibration. Otherwise, the gimbal will stop to work.



⊗ Touching the camera

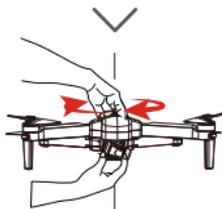


⊗ Picking up the Aircraft
(during self-inspection)

⑤ The Gimbal cannot work during the compass and Gyro calibration. Put the aircraft on a level surface after calibration, then the gimbal will start to work after **20 seconds**.



Before Start



During Compass and Gyro calibration



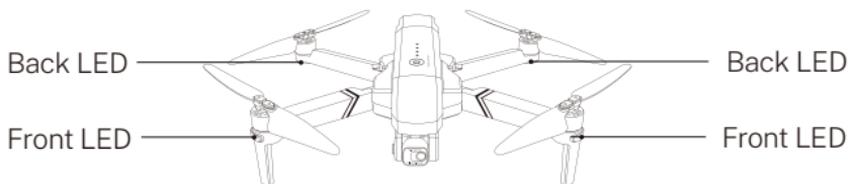
Put on a level surface and wait for 20 seconds



- Precision elements in the gimbal may be damaged in a collision or impact , which may cause the gimbal to function abnormally.
- Avoid getting dust or sand on the gimbal and the camera, especially in the gimbal motors.
- **DO NOT** apply extra force to the gimbal after the gimbal is powered on, as this may cause the gimbal to function abnormally or even lead to permanent motor damage.
- Make sure to install the gimbal cover when the drone is not in use.
- If the gimbal get wet after flying in wet weather, temporary failure might occur, make the gimbal and the drone dry so as to get it recover to full function.

8 Drone Status Indicators

- F11GIM2 drone has front and back four LED lights.



LED light indicator	Color	Reason	Action required
Front and back lights flashing red		Low Power	Charge the battery
		The controller is not connected to the drone	Restart and wait for the drone and controller auto-connection
Front and back lights flashing white and pink		The drone turns to Compass Calibration process	Follow the instruction to rotate the drone to complete calibration process
Front and back lights rapid-flashing white and blue		The drone is in Gyroscope Calibration process	Wait till the drone complete calibration automatically (This only take 2-3 seconds)
Front and back lights flashing white and blue		GPS searching	Waiting for GPS signal
			Change to another place and try again

9 Product Functions Profile

9.1 Return to Home

- The Return to Home (RTH) function brings the drone back to the Home Point.
- This function can only be achieved under GPS mode. There are three types of RTH: Smart RTH, Low Battery RTH, and Fail connection RTH. If the drone have successfully recorded the Take off Point and the GPS signal is strong, the RTH will be triggered when either the Smart RTH is initiated, the drone battery level is low, or when the signal between the drone and remote controller is lost.

Home Point	GPS	Description
		The default Home Point is the first location where the drone received a strong or moderately strong GPS signal (3 or more satellite reception).

• Smart RTH

Smart RTH can bring the drone back to the Home Point. It is initiated by either clicking the  button once on the remote controller or on the app, the remote controller will alert with a "DI DI" sound. Click the  button again cancel the RTH process.



• Fail Connection RTH

If the Home Point has been recorded successfully and the compass function can work normally, the Fail Connection RTH function will be triggered once the remote controller signal is lost, the drone will return to the Home point in straight line. The drone may link to the remote controller automatically during the RTH process, if connected successfully, the RTH process will stop.

• Low-Battery RTH

Low-Battery RTH is triggered when the drone battery level is low, this function is triggered automatically, drone will first rise to the setted return altitude and fly back to the Home Point, this process is unable to cancel, but it is allowed to control the drone with direction joystick to land it in a safe area.

If the battery can't support the drone fly back to the Home Point, it will land automatically where it is, and the remote controller dircition joystick is available during landing.

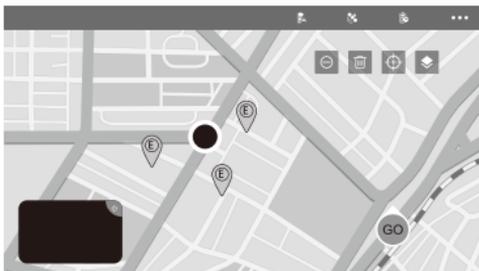


Cautions

- Never turn off the remote controller during RTH process.
- Set a proper return home altitude on the app before take-off.
- NO obstacle avoidance function is available with this drone.
- When flight distance less than 98 ft, the drone flies back at the current altitude instead of setted return altitude, make sure it flies higher than any other objects surrounding.
- When flight distance further than 98 ft, make sure the drone has enough battery to fly back.
- The drone can NOT return to Home Point without a strong GPS signal.

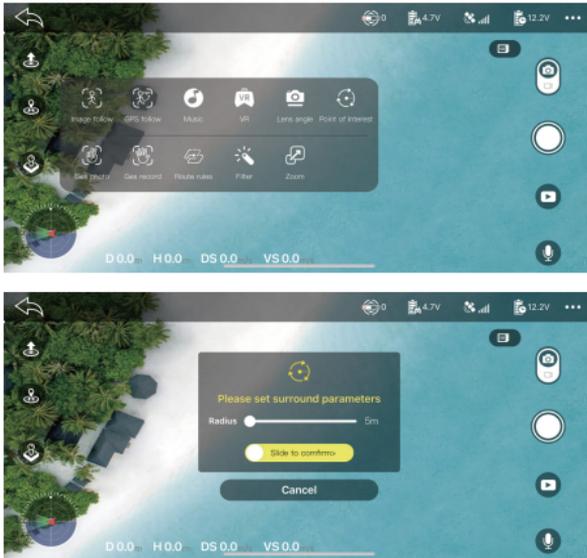
9.2 Route Rules

- When the phone mobile data is available, select  in the app, load the map data of the area which intended to fly.
- Launch aircraft and ensure flight height is higher than the nearby obstructions, view the map by clicking "  " on the app.
- The red circle is the limited flight range for this function, click to set points within the red circle to execute the waypoint flight function (16 points the most).
- Click  and  to reset the points of flight route.
- Click  , confirm to start Waypoint Flight.
- Push the Direction Joystick to cancel the Waypoint Flight .



9.3 Point of Interest

- This feature enable the drone to fly around the point in a 360 circle.



- Open the app,click "CONTROLS" 
- Click  ,click "Point of Interest"
- Slide to right to set the surround radius
- Slide to confirm to perform Point of Interest
- Click "Cancel" to exit Point of Interest



When the electromagnetic interference value is bigger than 150, please land the drone and complete the compass calibration again or change to another place to fly.

 • This function will only be available when the GPS signal is strong.

9.4 GPS Follow Me

GPS Follow Me function requires strong GPS signal, once the function been initiated, the drone can follow the smart phone wherever it goes, below are the steps to activate this function:

- Access to the app and tap CONTROL  interface.
- Make sure the flight distance is within **10-100meters**.
- Click the  on the app.
- Waiting for app to indicate drone status "**Follow Me Ready**", now the drone will move along with the positioning coordinates on the app.
- Click the  on the app interface again to exit the Follow Me mode.

 • GPS Follow Me function will be affected by the tall structures, trees and the living areas with signal interference. GPS Follow-me function is not activated when the GPS signal weak or GPS positioning off on the mobile device.

9.5 Image Recognition Follow Me

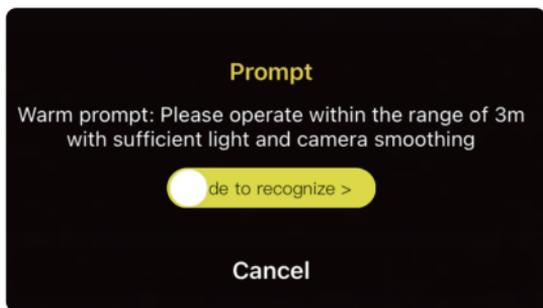
Image Recognition Follow Me function enables the drone to follow the object's in circle movement to rotate.

- Launch aircraft and ensure flight height is higher than the nearby obstructions, access to the app CONTROL  interface.
- Click , 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.

 • Make sure the size of the frame isn't too large, so as to ensure the recognition is achievable.

9.6 Hand Gesture

- Click  on the app, count down 3 seconds to 0 with hand motion to take photos and record video. Follow the instruction on the app.



 • When raise the hand, make sure to keep the elbow at the same height of the shoulder.

10 Connect the APP

10.1 Download the App



QR code of "RUKO DRONE"
for Apple IOS system.



QR code of "RUKO DRONE"
for Android system.

10.2 Connect the APP with Drone



RC Cable (USB-C connector)



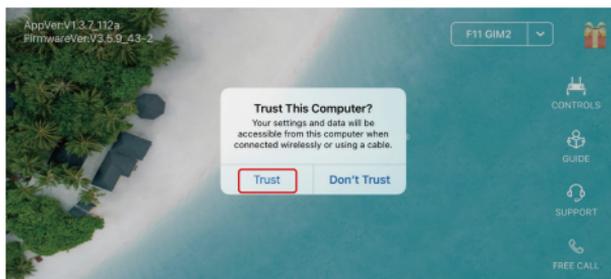
RC Cable (Micro USB connector)

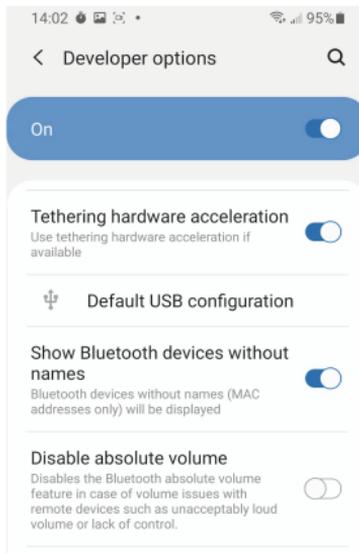
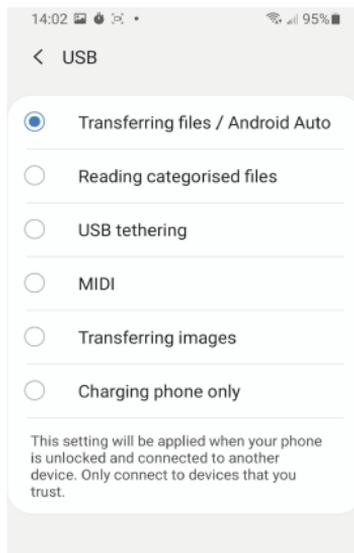
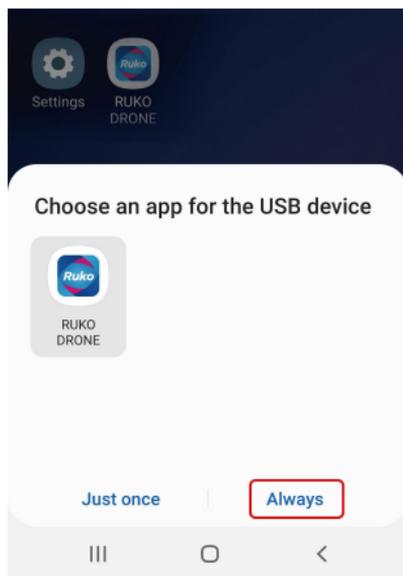


RC Cable (Lightning connector)



1. Select the Appropriate RC cable.
2. Connect one end of the RC cable to the remote controller and the other end to the mobile phone.
3. Enter the App, and allow the permission to pop up.
When you enter the CONTROL interface and see the image transmission screen of aircraft, the connection is successful.







• 1. When the data cable is connected to the phone, ensure that the plug of the data cable is installed in place. If installed incorrectly, it will result in the failure of data transmission with poor contact and inability to see image transmission.

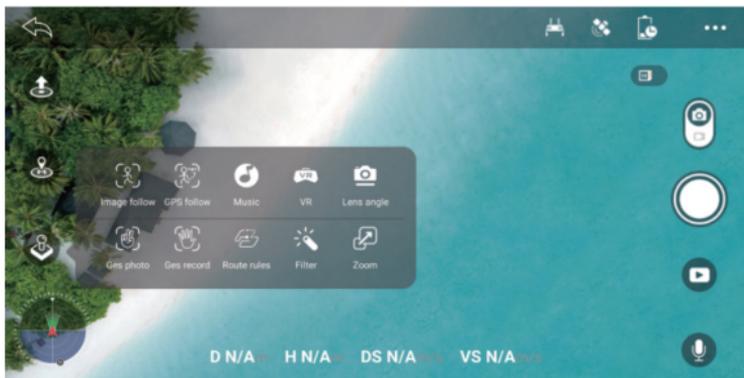
2. Please correctly set the USB Settings option that pops up. Select "Transferring files" for Android phones, and "Trust" for iPhones. Some USB Settings of Android phones are hidden in the "Developer options", you need to change the "Default USB configuration" to "Transferring files" after opening the developer mode.

3. The data cable cannot charge the mobile device. Please check the battery power of the mobile device before use.

11 APP Functions

11.1 Control

- Wait until the drone status says "**Ready to Fly**" before initiating flight, access to the control interface.



11.2 APP Icons Introduction

Back to main menu



GPS signal



Setting



Remote Battery



Aircraft battery
and RID information



Auto take off

SD card status
(pls format the SD card
for the 1st time)



GPS return home

Photo/video switching



More functions

Shutter



Media gallery
(one key to share)

Altitude(meters)

D 0.0m

H 0.0m

DS 0.0m

VS 0.0m/s

Sound recording



Distance(meters)

Speed(meters/sec)



Image follow



GPS follow



Music



VR



Lens angle



Gestural



Ges record



Route rules

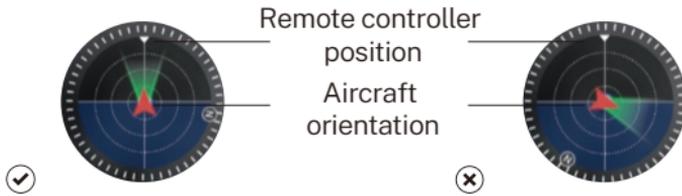


Filter



Zoom

- User can refer to the aircraft flight direction from the Attitude Indicator in the app.

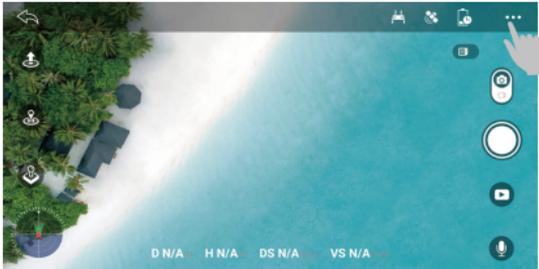


- Tap the '  ' icon to view the RID information



12 APP Setting

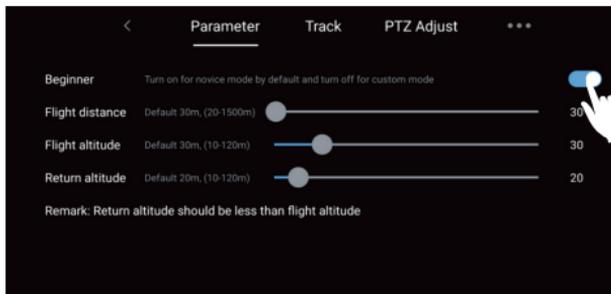
12.1 Settings



- **Flight Setting and Out of Beginner Mode**

While the drone is under GPS mode, its default mode is Beginner Mode, Which limits the flight range: Maximum Flight Distance is 30 meters; Maximum Flight Altitude is 30 meters; Setted RTH Altitude is 20 meters; Follow below picture to turn off the Beginner Mode and set the proper flight setting in the app.

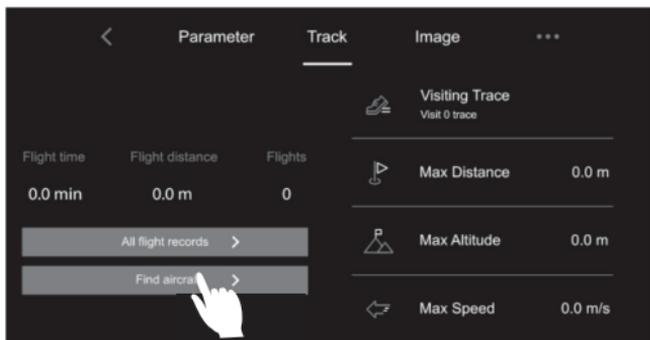
 The drone must be conneted with the app to save the setting.



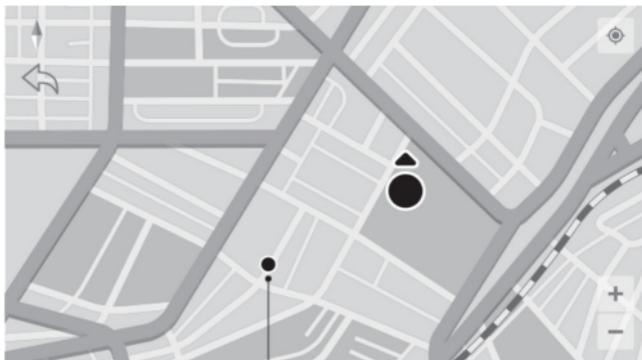
• Find the Lost Drone

When the drone has connected with app, and drone GPS signal is strong, the drone's location can be recorded in the app.

- ① Access to "Track", click **Find aircraft >** to open the map surface to search the drone.



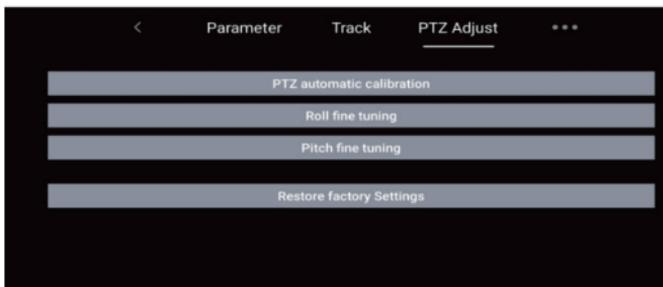
- ② The last position of lost drone will be showed on the map.



Current position of the mobile phone

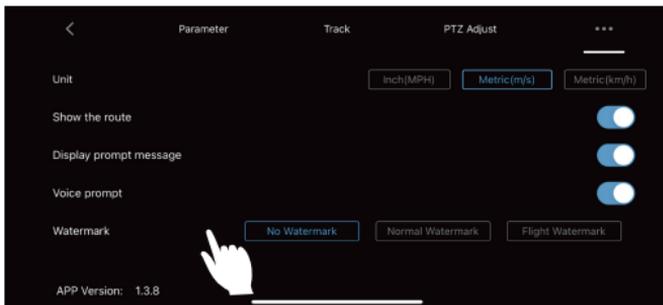
- **Gimbal Back to Factory Setting**

Get the gimbal back to factory setting, access to "PTZ adjust", click "Restore factory setting"



- **How to change units**

This function enables to switch the units between Inch(MPH), Meter(m/s), Metric(km/h).



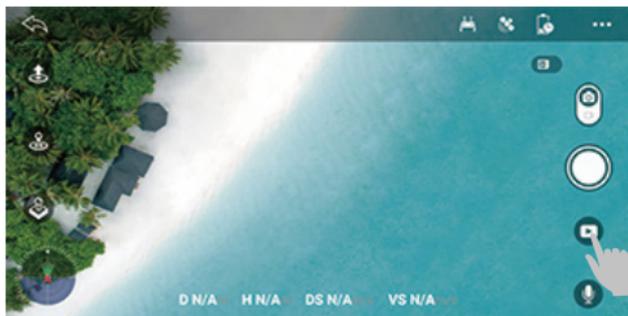
- **Watermark**

Choose different watermark modes for the captured images.

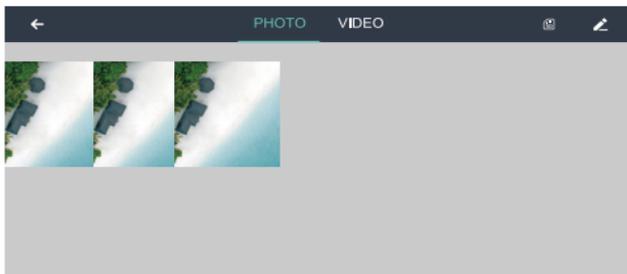
13 Image Storage

13.1 App One Key Share Function

- Open the app, click , enter into the file (Pic 1).

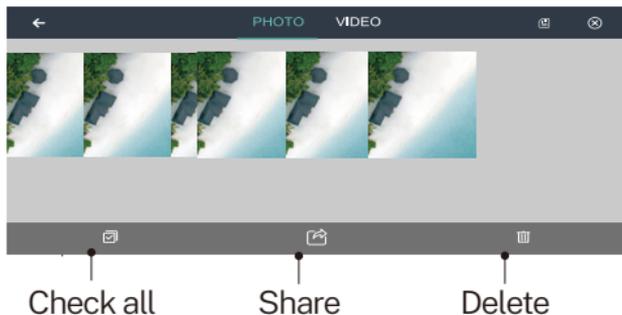


Pic 1

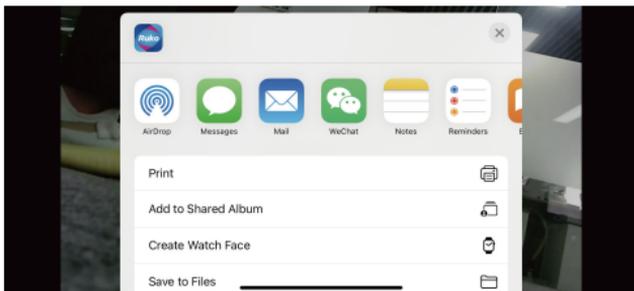


- Click once or press  to select the photos which to share, click  , choose the media to be shared (Pic 3).

Pic 2



Pic 3



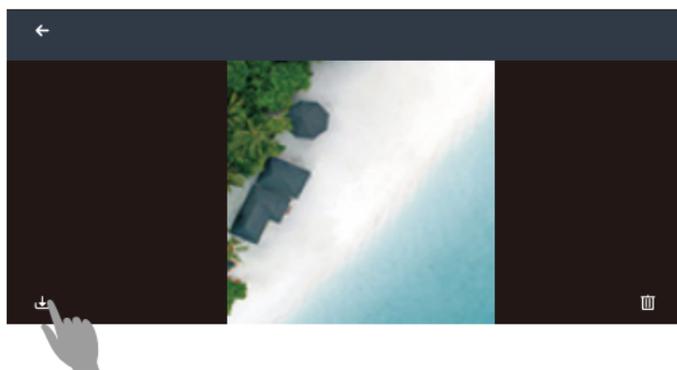
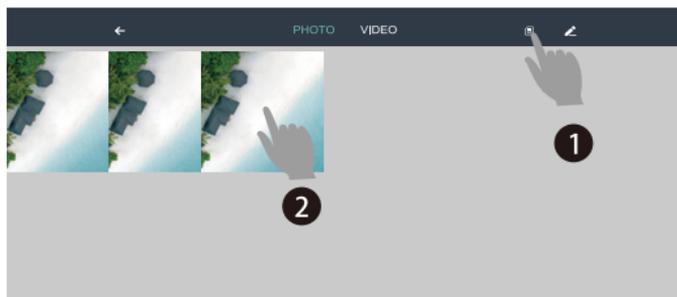
 • It is only allow to share 9 pictures or 1 video the maximum at one time.

13.2 How to Download the Pictures and Videos

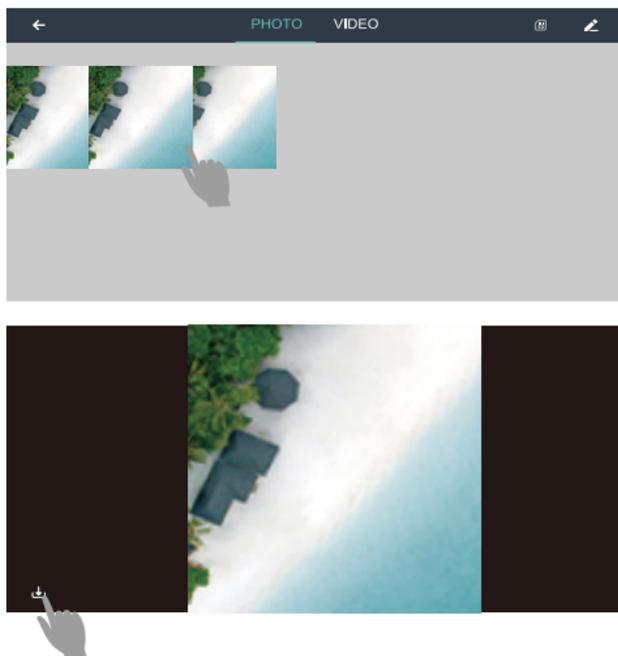
After shooting and recording were completed, photo and video save to both the app album and microSD card, to download the files:

- Remote control and phone are connected by RC cable, access to the app "control" interface, click "  ", either choose to download the picture and video from SD card or app album:

- ①Download the picture and video from SD card, click  ,choose files and click  save to the mobile album.



- ② Download the picture and video from app album, choose files and click  to save to mobile album.



- Take out the SD card from drone, insert the card into a card reader and read the data on computer, download the video and photo into a computer.

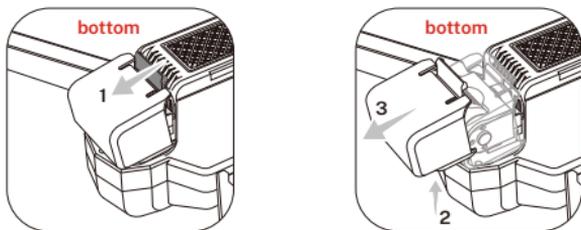


 • Video be stored in the app album will be compressed, thus always suggest to download the video from the SD card to get the best resolution.

14 Flight

14.1 Takeoff/Landing Procedures

- Place the drone in an open, flat area, remove the gimbal cover.



- Power on the remote controller and the drone.
- Wait until the remote controller and drone connected, connect the app, complete the calibration process.
- Keep the drone camera facing forward, start the motors.
- Gently push the throttle joystick up to take off.
- Pull the throttle joysticks down to land the drone.
- Stop the motors after landing.
- Power off the drone remote controller, replace the gimbal cover.

14.2 Quick Start

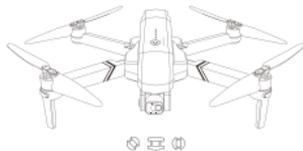
- **Step 1: Turn on the controller**

Press once and long press for 3 seconds to turn on the remote controller.



- **Step 2: Turn on the drone**

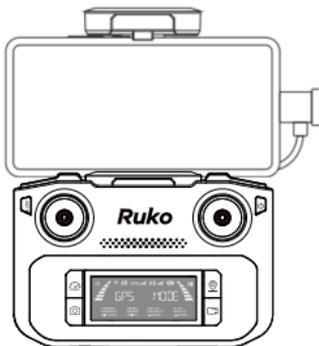
Remove the gimbal cover gently, place the drone on a level surface, power on the drone. All lights blinking red. Drone and remote controller connects successfully, all lights flashing white and blue then turn to flashing white and pink.



 • It takes about 50 seconds to complete the connect process.

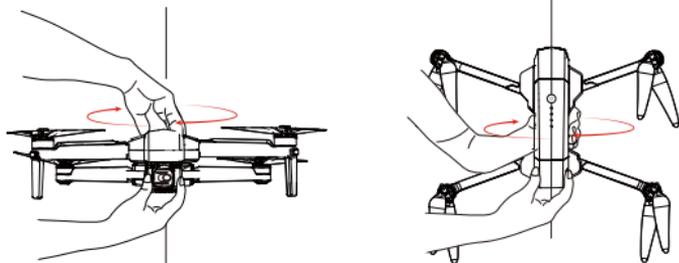
- **Step 3: Connect the app**

Select the Appropriate RC cable.



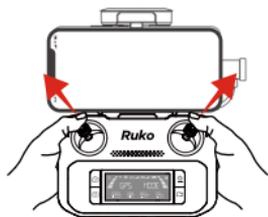
- **Step 4: Complete compass calibration**

Pick up the drone and hold it levelly, rotate the drone in one full circle (360°), until hear a "beep" sound reminder. Hold the drone vertically with camera facing to the sky, rotating a full circle (360°), there are two "beep" sound reminder.



- **Step 5: Complete the gyroscope calibration**

Put the drone on a level surface, push the left and right joysticks to the 11' and 1' o'clock positions, lights flashing white and blue quickly.



- Drone searches for GPS signal automatically, when lights turn to solid blue and white, drone is ready to fly.
- App drone status: "Fly" is displayed in the app, drone is ready to fly.

⚠ • When it is needed to manually trigger the compass calibration to adapt to the environment, please push the joystick to 1 & 11 o'clock position, follow the above steps to rotate the drone.



- **Step 6: 3 Ways to land the drone**

Press the RTH button  , drone will return to the Home Point.

Press the land button  on the app, the drone will land directly.

Keep pulling Throttle Joystick down until the drone lands and motors stop.



Always keep the head of drone facing forward

-  • If the drone keep searching for GPS but no success because of weak GPS signal, keep pressing the  button to turn off the GPS Mode and switch to Manual Control mode, so that it is able to get the drone take-off. However, under Manual Control mode, there is high risk that the drone will fly away with the wind, as no GPS positioning assisted.

15 Specifications

15.1 Drone

- MODEL: F11 GIM2
- Weight (Including Battery): 585g/20.6oz
- Flight Time: About 28 mins
- Motor Model: 1806
- Operating Temperature Range: 32° to 104° F (0° to 40° C)
- Satellite Systems: GPS/GLONASS
- Dimensions (LxWxH): Unfolded: 45X40.5X8(cm)
- Folded: 17.6X10.5X8(cm)

15.2 Gimbal Stabilization

- Mechanical Range: Tilt About -100° TO $+70^{\circ}$, Roll About -35° TO $+35^{\circ}$
- Controll Range: Adjusted angle of camera (up and down): About -80° TO $+0^{\circ}$

15.3 Camera

- Lens:FOV: 100°
- Equivalent Focal Length: 60CM
- Focus range: Fixed-focus
- Resolution of photo: Phone 3840X2160P
SD card 3840X2160P
- Resolution of video: Phone 1280X720P
SD card 3840X2160P
- Photo Format: JPEG
- Video Format: MP4
- Supported File Systems: FAT32
- Supported SD Cards: Micro SD card (Class 10/U1 or later) 32G-128G



15.4 5G Transmission

- Operating Frequency: 5.15-5.35 GHz; 5.725-5.825 GHz
- Supported Transmission Protocol: 802.11a; 802.11n20; 802.11n40
- Video Transmission Frame Rate: 30FPS

15.5 APP / Live View

- Mobile App: RUKO DRONE
- Live View Quality:

CONFIGURATION	STORAGE METHOD		RESOLUTION	TRANSMISSION FRAME RATE
4K	Phone	Photo	3840X2160P	
		Video	1280X720P	30fps
	SD card	Photo	3840X2160P	
		Video	3840X2160P	30fps

- **Required Operating System: IOS 9.0 or later/Android 5.0 or later**

15.6 Remote controller

- Operating Frequency: **2.4G + 5G bridge**
- Max operating distance: Up to 3KM (Outdoor and Unobstructed)
- Battery: 1500mAh Li-polymer
- Compatible Charger(not include): Out currency 5V/3A
- Charging time: About 2 hours
- Operating time: about 2 hours
- Operating Voltage: 3.7V
- Mobile Device Holder: Adjustable to 3.2inches
- Operating Temperature: 32° to 104° F (0° to 40° C)

15.7 Intelligent Flight Battery

- Capacity: 2500 mAh
- Voltage: 11.1V
- Battery Type: Li-polymer
- Energy: 27.75Wh
- Net Weight: 195 g / 6.8 oz
- Compatible Charger(not include): 5V/3A charger or QC 3.0 fast charger
- Charging time(5V/3A charger): About 4.5 hours
- Charging time(QC 3.0 fast charger): About 3 hours
- Max Charging Time: About 4.5 hours (Depending on Charging Power)
Charging Temperature Range: 32° to 104° F (0° to 40° C)

16.Common Problems and Solutions

Question	Reason	Solutions
The motors cannot be started	Weak GPS signal	Turn on the Aircraft in an open area with strong GPS signal
	The red light stays on	The Aircraft has low battery. Please charge the battery in time
	The pink light stays on	The compass is not calibrated. Please refer to the "Calibration Before Flight" section of the user manual
	The left and right joystick are not in place	Push the left and right joysticks simultaneously to 5 o'clock and 7 o'clock for 2 seconds
Unstable flight	Flying too low, affected by Aircraft 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. Please refer to the "Calibration Before Flight" section of the user manual
	The propellers become deformed and incomplete	Replace the propellers with new ones
	GPS signal is unstable. Flying near buildings and in obstructed places	Please fly the Aircraft in an open area free of obstacles within the circle of radius 32.81 ft(10 meters)

Question	Reason	Solutions
Out of control, spinning around on its own, abnormal sound	The remote controller signal is interfered or the Aircraft exceeds the range of remote control	Please fly the Aircraft outdoors without interference, and ensure that it is within a controllable range
	Compass interference	Please manually land the drone 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
The camera is tilted/Gimbal is not working/ Can't adjust the camera angle	The drone was placed on an unlevel surface such as grass and sand and so on	Place the drone on landing pad or cardboard horizontally, and ensure a gap between the camera and the surface
	The drone was placed on the surface which transfer small vibration, such as hollow wooden floor, desk and so on	Place the drone on a solid level ground
	Keep touching the camera and gimbal or holding the drone before all set	Never touch the camera when the power is on, place the drone on a level ground until the gimbal complete self-check
	The compass is in calibrating	After complete the compass calibration, place the drone on a level ground

Question	Reason	Solutions
Video freezes, image transmission distance is short	Wireless signal interference	Fly the Aircraft in an unobstructed open area free of buildings, high-voltage wires and signal towers
	The remote controller and the mobile phone are not pointed at the direction of the drone	Make sure the antenna of the remote control is oriented towards the drone.(The antenna is built into the mobile phone holder)
	Phone performance freezes	Close unused apps running in the background to maintain the best performance of the phone
Video is not clear	If use APP storage, the pixels are 1920×720P	Insert the memory card and storage the video on the memory card
App does not show what the drone's camera is taking	The remote control and phone are not connected through RC cable	Connect the RC cable of the remote controller to the mobile phone
	The phone operating system version is too low	The required device operating system to work with the app is Android 6.0 and above, IOS 10.02 and above
	Certain phones' setting preventing the app working normally	Set the phone to airplane mode
	USB permissions are not set	Allow all the pop-up permission

Question	Reason	Solutions
APP crashes or functions abnormally	Wrong app downloaded	Download the correct App
	A few mobile phone versions are old and incompatible with APP	Provide mobile phone version and model, we will adapt and solve it
GPS signal is weak	Turning on the drone indoors	GPS signals cannot be found indoors. Please search for GPS signals in an open place outdoors
	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	GPS signal was turned off during the flight	Please don't turn off GPS suddenly during outdoor flight. Switch back to GPS mode in time
Cannot charge battery/Cannot fully charge battery	Using inferior charger or charging on the computer with unstable voltage output	Use a mobile USB charger that ensures constant stable voltage output(5V) and amperage output(2-3A)
	Using inferior charging cables	Please use the original factory charging cable to charge

Question	Reason	Solutions
Short battery life	Flying in windy weather	Flying in windy weather will accelerate power loss
	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 battery is not fully charged	Fully charged with the correct USB charger before flying
The product has slight marks	We tested all Aircraft before shipping	In order to give you the best experience, we tested functions of all Aircraft before shipping. Therefore, it is inevitable that there will be slight traces. However, it can be guaranteed that all Aircraft are 100% brand new

17 Accessories Support



Battery



Propeller



Landing Gear



Arm



Remote controller



Joysticks

All of the above accessories can be searched and purchased on Amazon, and you can enter the Ruko store to buy them yourself. Be sure to use original accessories. The use of non-original accessories may cause danger to the safe use of the aircraft.



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Ruko Tech Support

<https://rukotoy.com/support-drones>

This User Manual is subject to change without notice.

You can check the recently updated version of "User Manual" on Ruko's official website

<https://rukotoy.com/support-drones>

If you have any questions or suggestions about the User Manual, please contact us via the following email:

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