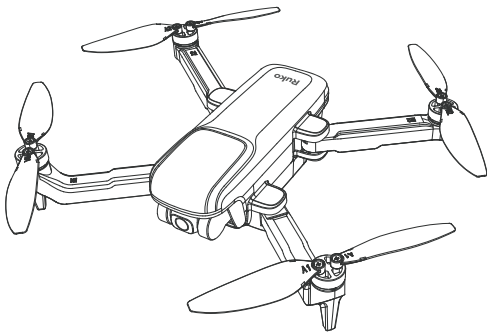


Safety Disclaimer & User Manual

v4.0



U11PRO

CONTACT US FOR MORE TECH SUPPORT

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



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rukofunnytoys@gmail.com



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1. Safety Disclaimer

 The Ruko U11PRO is NOT a toy and is NOT suitable for people under the age of 14.

1.1 Glossary

- 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 Disclaimer and Warning

- Keep the aircraft out of the reach of children and exercise caution when operating this aircraft in the presence of children.
- This product is a flying camera that offers easy flight when in good working order as set forth below. Read the materials associated with the product before using for the first time. These documents are included in the product package.
- Inappropriate use of the product could result in personal injury or property damage.
- The information in this document affects your safety and your legal rights and responsibilities. Read this entire document carefully to ensure proper configuration before use. Failure to read and follow the instructions and warnings in this document may result in product loss, serious injury to you, or damage to your aircraft.
- By using this product, you hereby signify that you have read this disclaimer carefully and that you understand and agree to abide by the terms and conditions herein. Please be sure to strictly abide by the specification requirements and safety guidelines stated in this document.
- You agree to use this product only for purposes that are proper and in accordance with local regulations, terms and all applicable policies and guidelines Ruko may make available.
- Any personal injury property damage, legal disputes and all other adverse events caused by the violation of the safety instructions or due to any other factor, WILL NOT be Ruko's responsibility.

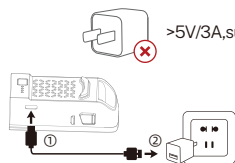


- Ruko reserves the right to update this Safety Disclaimer & User Manual. Visit www.rukotoy.com periodically for the latest version.
- Ruko is a trademark of Shenzhen Ruike Innovation Technology Co., Ltd. and its affiliated companies. Names of brands, etc., appearing in this document are trademarks of their respective owner companies.

2. Intelligent Flight Battery Safety Guidelines

2.1 Precautions for Charging

- Mini USB 5V/2A~3A wall charger recommended. **DO NOT use any charger stronger than 5V/2A~3A, or the battery may be damaged, reduce performance, and cause a fire.**



✓ Original cable 5V/2A~3A



Computer



USB Socket Outlet

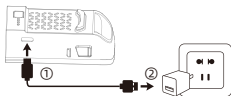


✗ Power Bank

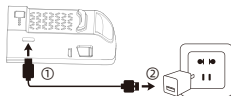


✗ USB Car Charge

- **DO NOT** charge the battery for a long time, please remove charging cable in time after fully charged to avoid damage due to overcharge.



✓ Charging Time $\leq$ 2.5 hours



✗ Overcharge $>$ 2.5 hours

- DO NOT use non-RUKO poor quality batteries or chargers. RUKO takes no responsibility for any damage caused by non-RUKO batteries or chargers.



✓ Ruko Original Cable



✗ Non-Ruko Batteries or Chargers

- DO NOT charge the battery immediately after the flight as the temperature may be too high. Wait until it cools down to room temperature before charging again. Due to the battery current output, slight hotness is normal while flying.



Overheating warning

2.2 Daily Maintenance of the Battery

- DO NOT allow battery to touch with any kind of liquid, or put it under sun exposure, severely squeezed, and dropped from high altitude.



✗ Liquid



✗ Sun Exposure



✗ Severely Squeezed

- Charge and discharge the battery once a month, store in a dry and cool environment. It is recommended to discharge the Intelligent Flight Batteries to 50% -80% during storage.



✓ Dry & Cool

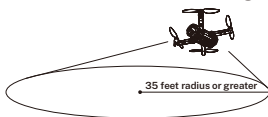


✓ 50%-80% electricity

- Detach the USB charger when the battery is fully charged.
- Fully charge the battery at least once every month to maintain battery health.
- Keep the batteries out of the reach of children and animals.
- DO NOT disassemble or pierce a battery in any way or it may leak, catch fire, or explode.
- DO NOT touch the electrolytes in damaged batteries, it may injure your skin or eyes.
- Discharge the Intelligent Flight Batteries to 50% or lower during transport. Fully charge the Intelligent Flight Battery before using it for the first time.

3 Flight Environment Requirements

- Only fly it in open environment (35 feet radius or greater) without occlusion, it can ensure the image transmission is stable.



 Fly in open environment

- Flight Safety.



Sunny



Windless



Strong GPS Signal



Maintain Line of Sight



Fly Below 400ft



- Only fly in open environments that are clear of magnetic or radio interference, obstacles, trees high voltage power lines, tall structures, and other obstacles. DO NOT fly above or near large crowds.



Obstacles



Tall Structures



Voltage power lines



Tree



Crowds



- Do not fly the drone in the bad weather.



Lightning



Snow



Rain



Fog



Windy



- Only fly in moderate weather conditions with temperatures between 0° to 40° C (32°F to 104°F).
- USA: Only fly in authorized areas. To learn more about drone requirements, visit the Federal Aviation Administration's drone page. <https://www.faa.gov/>
- UK: Only fly in authorized areas. To learn more about drone requirements, visit the Civil Aviation Authority's drone page. www.caa.co.uk/home/

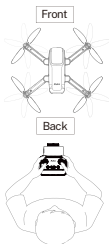
4 Flight Operate Guidelines

4.1 Pre-Flight Checklist Guidelines

- Make sure the aircraft batteries, remote controller, and mobile device are fully charged.
- Make sure the Intelligent Flight Battery is securely mounted.
- Make sure all arms of the aircraft are unfolded before flying.
- Make sure to remove the camera protector before powering on the aircraft.
- Make sure there is nothing obstructing the motors.
- Make sure the camera lens and sensors are clean and free of stains.
- Make sure all the propellers are unfolded and in good condition.
- Make sure to complete the pre-flight checklist before flying.
- Be familiar with the selected flight mode and understand all safety functions and warnings.

4.2 Operation Safety Guidelines

- Before each flight, need to manually unfold the arms of the drone and then turn on the power.
- **DO NOT answer incoming calls, text messages, or do anything that may distract you from operating the mobile device to control the aircraft during flight.**



Unfold arms



Stay away from People



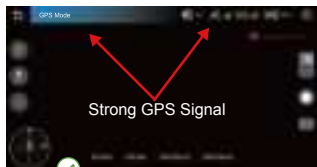
- Make sure you are not under the influence of alcohol, drugs, or anesthesia, or suffering from dizziness, fatigue, nausea, or any other conditions, whether physical or mental, that could impair your ability to operate the aircraft safely.
- It is important to set an appropriate RTH altitude before each flight.
- Make sure your phone has permission to access the Wi-Fi "RUKO-U11PRO-*****" and connect successfully.



RUKO-U11PRO-*****



- Make sure fly outdoor in environments that have strong GPS signals .
DO NOT fly the aircraft when the GPS signal is weak.



- DO turn off GPS Mode while flying indoor. DO NOT turn off GPS Mode while flying outdoor. Long press the GPS button of the remote controller will turn off the GPS Mode.



- Pay attention and control the aircraft at all times during flight. DO NOT rely only on the Ruko Fly APP. GPS flight assistance features and APP are meant to assist the pilot, not replace their control of the aircraft. Pay close attention to its flight when operate return to home, Use discretion to operate the aircraft and manually avoid obstacles in a timely manner.

5 Problems You May Encounter

5.1 Wi-Fi Guidelines

- The required Operating System of the phone must be iOS 9.0 or later / Android 5.0 or later. This drone will be compatible with the phones which's WLAN function supports dual-band Wi-Fi (2.4GHz and 5.8 GHz).

For iOS system:

Connect the Wi-Fi "RUKO-U11PRO-*****" with your phone.

For Android system:

①After connecting with the drone's Wi-Fi "RUKO-U11PRO-*****" please wait for about 10-30 seconds.

②Note if there is any option popping up about internet settings, Please keep connected, otherwise, there is no picture after entering APP.

③If still without a Wi-Fi connection, please turn on your phone's airplane mode for a few seconds, then turn off the airplane mode and open the Wi-Fi list to connect it again.

*Note: Need to turn off the VPN, VPN will affect Wi-Fi connection.



5.2 Remote Controller Guidelines

- After a full charge, if it shows a low battery of controller on App, please try to re-pair the remote controller first with the drone, then connect Wi-Fi and access to the APP to check. 📖 (Refer to page 32 on User Manual) .
- The remote control can't work during charging.

5.3 Camera Guidelines

- DO NOT place the drone on rough ground, please place it in a horizontal position to make sure there is enough gap under the camera, or the camera would be stuck.



- If the camera is stuck, please place the drone in a horizontal position without obstacles and restart the drone, then check if it can make self-calibration, or make gyroscope calibration to check camera self-calibration.
- If not, turn off the drone, then move the camera up and down by hand. If still stuck, please contact us for technical support.

5.4 About Drone FAA Registration

- The weight of the drone is 278g. It should follow the local laws and register with FAA. The SN on the drone can be used as the serial code for registration. The registration process is as follows:
- The SN number is the serial number of the drone, please log in to the FAA <https://faadronezone.faa.gov/#/>, and register.
When you register,
- Question: IS YOUR UAS OR DEVICE EQUIPPED WITH REMOTE IDENTIFICATION (REMOTE ID) CAPABILITIES?
- Please choose: NO
- Then enter the serial number--Add Device, last type this number, and paste it on the drone. It's done.

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1 Reading tips

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 Recommendations

- RUKO U11PRO provide users instructional videos and the following documents:
 - ① Quick Start Guide
 - ② Safety Disclaimer & User Manual
- We recommend you to watch the instructional videos and the <Quick Start Guide> to get the using steps. To get more details, please read the <Safety Disclaimer & User Manual>.

1.3 Download the Ruko Fly App

- Make sure to use Ruko Fly App during flight. Scan the QR code on the right to download the latest version of the app.



- Ruko Fly App supports Android 6.0 or higher, iOS 10.0.2 or higher, dual-band wifi (2.4GHz) and 5.8GHz phones.

1.4 Video Tutorials

- Visit the following link to watch the tutorial videos to ensure correct and safe use of the product.
<https://rukotoy.com/support-drones/>



Flight Guidance Video

2 Products Overview

2.1 Introduction

- Ruko U11PRO is equipped with upgraded frame arm to carry larger propellers, which allows it to resist level 4 winds(7m/s).
- The aircraft has a maximum flight speed of 3.5m/s (normal mode) and 7m/s (sport mode), with a 56 maximum flight time of 28 minutes, provided by two Intelligent Flight Batteries (the parameters are tested in a windless environment) .
- The Ruko U11PRO is beginner friendly with easy operation.
- You can also start the intelligent flight modes (GPS Follow, Route Planning, Fly Around) on the Ruko Fly App, bringing you a better flight experience.
- Scan the QR code to watch the tutorial videos to ensure correct and safe use of the product.

2.2 Feature Highlights

- Camera: With a 120°FOV lens and a 90° adjustable camera, Ruko U11PRO can shoot 4K photos and 4k video (defaults) to show you a broad field of vision.
- Video Transmission: With a maximum image transmission distance of 1640 feet, you can save the video in 2.5K (smooth) or 4k (default)on the SD card, and 720p (default) / in the album of Ruko Fly App.

2.3 Intelligent Flight Modes

- GPS Follow, Route Planning and Fly Around. The aircraft can follows or flies around you with one click in the Ruko Fly app. It also can flies along the path you marked in the app.



- Unfold the front arms before unfolding the rear arms.
- Tear off the protective film.

2.4 Product Diagram



Drone (no battery)



Transmitter



Drone Battery



Carrying Case



Propeller A

Propeller B



USB Charging Cable



Screwdriver



Screw

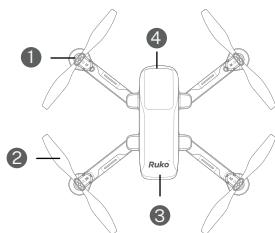


Quick Start Guide



Safety Disclaimer & User Manual

* The content of the package is subject to the actual product

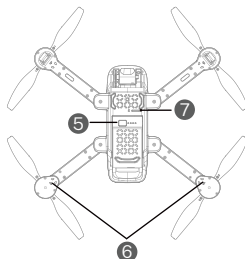


① Motor

② Propellers

③ Intelligent Flight Battery

④ Camera

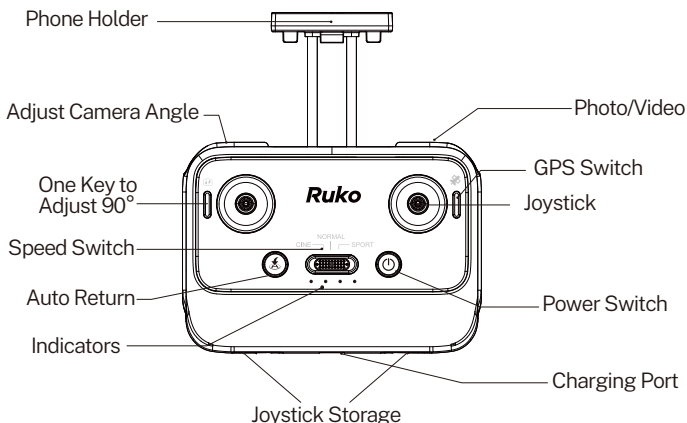


⑤ Power Button

⑥ LED Indicator Light

⑦ TF card slot

2.5 Transmitter Diagram



Power Switch	Long Press power switch for 3 seconds until the 4 indicator light flash
Indicators	The first light indicates GPS status and the rear 3 lights indicates power
Auto Return	Press the button to let the Aircraft automatically return to the take-off position (Due to GPS signal problems (commercial class), the landing position may be slightly different from the take-off position. The deviation range is about in 10 feet(3 meter). Press the RTH button once again to cancel the intelligent return.
One Key to Adjust 90°	Adjust camera angle automatically from 0 to -90 degrees, repeat this will return to the previous position.
Joystick	Take out control stick to control Aircraft movements. The left control stick is the throttle lever, which can adjust the Aircraft's altitude and nose direction. The right control sticks is a directional stick that controls the Aircraft's flight direction (forward/back/left/right).
Speed Switch	Slide to switch the speed (3 gears speed in total). Low speed on the left, medium speed in the middle, high speed on the right
Phone Holder	Pull the holder for placing mobile devices. The width of the phone holder is adjustable
GPS Switch	Default mode with GPS, need to switch to indoor mode if flying indoors. Long press once to turn off the GPS mode and long press once to turn on it.
Adjust Camera Angle	Rotate the left wheel to adjust the camera angle from 0° to 90°.
Photo/Video	Short press once to take a picture and long press to take a video.
Joystick Storage	Joystick can be removed for storage
Charging Port	Charging the remote controller

3 Aircraft

- U11PRO aircraft is mainly composed of a flight controller, communication system, video downlink system, propulsion system, and an intelligent flight battery.

3.1 Three Gears Speed of the Aircraft

- U11PRO has three speed ranges, there are: 8ft/s, 11ft/s, and 22ft/s. The default speed is medium speed. You can switch to different speed as your need to get different flight experience.



- When the weather is extremely windy, high speed flight should be maintained to improve wind resistance effect.
- When flying with fast gear, the user should reserve at least 3 meters of braking distance to ensure flight safety when flying in windy conditions.
- When using the high-speed mode for flight, the power of the aircraft will be greatly improved, and the operation of the remote lever on the Transmitter will lead to the large flight action of the Aircraft. During the actual flight, the user should reserve enough flying space to ensure a safety flight.

3.2 Calibration and Aircraft Status Indicator

- Aircraft Indicator Light
The U11PRO Aircraft has three status indicator, two of them are under the nose landing gear and the rest one is located in the tail of the aircraft, which can 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.

Color of light	Blinking status of the indicator	Status
The front light is red and the rear light goes off.	 0	Compass level calibration is required.
The front light is red and the rear light is green.	 	Compass vertical calibration is required.
The front light is red and the rear light is green.	 	The drone is low battery.
The front light is red and the rear light is green.	 	The drone is searching for GPS, while it's failed.
The front light is white and the rear light is green.	 	Gyroscope/level calibration is required.
The front light is red and the rear light is green.	 	GPS signal is detected.

• Remote Controller Indicator Lights

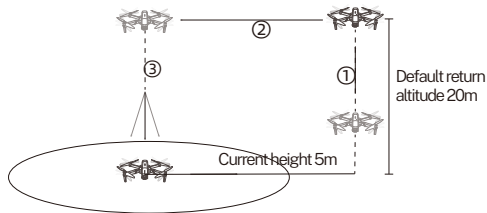
The remote controller of U11PRO is a bilateral controller with light and sound prompt function.

Color of light	Blinking status of the indicator	Status
1 Blue light + 3 white lights 	4 lights flashing slowly together	The remote controller is pairing with the drone
1 Blue light + 3 white lights 	Blue light flashes slowly + 3 white lights are always on	Pairing is done, the remote controller is searching for GPS signal.
1 Blue light + 3 white lights 	Four lights are always on	GPS signal is done
1 Blue light + 3 white lights 	4 lights flashing slowly together when flying	Remote control signal lost
1 Blue light + 3 white lights 	The blue light is always on + 3 white lights flashing cyclically	Return home
1 Blue light + 3 white lights 	The blue light is always on + 3 white lights flash slowly together	drone low battery
1 Blue light + 3 white lights 	The blue light is always on + 3 white lights flash quickly together and make a beep sound	The power of drone is less than 1%, the drone is forced to descend
1 Blue light + 1 white lights 	The blue light is always on + 1 white lights flash quickly together and make a beep sound	The power of the controller is less than 1%

3.3 Return Home

- The U11PRO aircraft can return to the take-off point automatically under GPS mode. There are three types of RTH: Smart RTH, Low Battery RTH, and Signal Disconnection RTH. If you activate the RTH function under the condition that the Aircraft successfully recorded the Home Point and GPS signal is good, the Aircraft will automatically return to the Home Point and land.

	GPS	Description
Home Point	Illustrate with 5 bars of signal. 	When flying outdoors, the GPS signal icon is displayed with 3 bars or more for the first time, and the take-off location will record the Aircraft's current position as the Home Point. During the flight, if the Aircraft lands at a new location, the point from which you retok off will become the latest Home Point, and the Aircraft will return to the latest Home Point.



• Smart RTH

When the user needs the Aircraft to return home automatically, he can click the smart RTH button  on Transmitter or tap the return home icon on the Ruko Fly App to activate RTH.

Click the smart RTH button  on Transmitter or tap the return home icon on the Ruko Fly App to cancel the progress when the drone is returning. Then the user can re-control the drone.

- ⚠️ • If the return altitude is not set, and the drone's flying altitude is below 20 meters, **the drone will automatically rise to the default return altitude of 20 meters before returning home.**
- When the return altitude is set, while the drone's flying height is lower than the set height, the drone will rise to the set return altitude and then return to the take-off point. If the drone's altitude exceeds the set return altitude, it will return from the current altitude to the point of departure.
- The aircraft is not equipped with obstacle avoidance function. Please judge the flight status reasonably during the flight, avoid obstacles in time, and set the corresponding flight mode and return altitude according to the flight environment.
- **The drone can only complete return to home when the GPS signal is strong enough.**

• Low Battery RTH

When the intelligent flight battery is too low or there is not enough power to return home, the user should land the Aircraft as soon as possible to avoid Aircraft damage or other dangers. In order to prevent unnecessary dangers due to insufficient battery power, when the Aircraft is low battery, the intelligent low battery return home function will be automatically triggered. According to the remaining power after returning, there are 2 situations:

- ① The first level of low battery return: it will be triggered when 20% of power remained. The aircraft will return to the take-off point and descend to a height of 20 meters, then continue to fly within a radius of 20 meters from the take-off point until it is forced to land automatically.
- ② The second level of low battery return: the aircraft will land in place slowly.

- ⚠️ • Must pay attention to the flight altitude when the battery is low. And avoid hitting obstacles due to the low flying altitude when returning home with the second-level low battery.
- The remaining power after returning is related to the return distance, wind speed and wind direction.
- The drone can only complete return to home with low battery when the GPS signal is strong enough.

• Lost Signal RTH

When the Transmitter has low battery or is loses signal for 6 seconds, the aircraft will enter the auto-return mode and return to the take-off point. If the signal is recovered during the return home process, the Aircraft will stop returning and rebind with the Transmitter signal, then the Transmitter can control the Aircraft again at this time.

- ① Aircraft records its position as the Home Point when taking off after the GPS signal is successfully received;
- ② Trigger RTH (triggered by low battery of Transmitter, signal loss, etc.
- ③ After triggering the Return-to-Home function, the Aircraft adjusts the direction and starts to return home;
- ④ The Aircraft automatically flies above the home point, then starts to land, and completes the home return.

3.4 Intelligent Flight Mode (GPS Follow / Route Planning / Fly Arround)

- U11PRO has 3 intelligent flight modes: GPS Follow, Route Planning, Fly Arround. According to the user's shooting needs, the operation can be completed by one click, which is easy and fast.

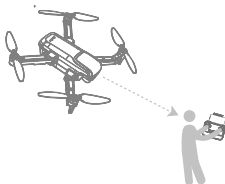
 GPS Follow: The aircraft will lock onto the user and can track user's movement as he moves.

 Route Planning: Aircraft flies along the path marked on the app.

 Fly Arround: You can set a radius of 16ft-65ft(5-20m) , The aircraft starts to fly around according to the set radius and speed.



• GPS Follow



- ① Ensure that the Ruko Fly App has been downloaded and installed on the smartphone;
- ② Turn on the GPS positioning of the smartphone to connect to the Aircraft WiFi;
- ③ After the Aircraft takes off in an open environment with good GPS signal, ensure that the flight range is within 32-164 feet(10-50 meters) for the best effect;
- ④ Tap the ➤ on the APP interface, and then click the "GPS Follow" icon to enter the Follow Me mode;
- ⑤ The aircraft turns on the Follow Me mode and locates the target for flight movement.
- ⑥ Tap the icon on the APP interface again to exit the "GPS Follow" mode.

⚠ • Push the right joystick to cancel the waypoint flight function.

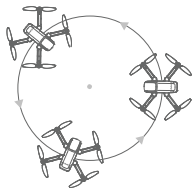
• Route Planning



- ① Make sure you have downloaded Ruko Fly App on your phone;
- ② Connect your smartphone to the Aircraft's WiFi;
- ③ After the Aircraft takes off, tap the Route Planning on the app under GPS mode;
- ④ You will find a red circle on the map (limited flight range). Mark the points (up to 21) which you plan to fly the Aircraft along within the circle;
- ⑤ If you want to reset the marked point or flight path, you can tap "Delete Single Point" or "Delete All";
- ⑥ Confirm that the marked points are correct and tap "Go" button. The Aircraft will start Route Planning Flight.

- ⚠ • The GPS follow function only works when the GPS signal is strong. Please avoid high buildings, trees, and areas where WIFI signal might be interfered.
- The Aircraft is not equipped with obstacle avoidance function. Please use it in open areas that free of obstacles.

• Fly Around



- ① Make sure you have downloaded Ruko Fly App on your phone;
- ② Connect your smartphone to the Aircraft's WiFi under the GPS mode;
- ③ Tap the 'Fly Around' on the APP, and the drone will enter the Surround mode;
- ④ You can set a radius of 16ft-65ft(5-20m) by controlling the right joystick to fly back and forth, and move the joysticks to the left or the right to set the orbiting speed and direction.
- ⑤ The plane starts to fly around according to the set radius and speed.
- ⑥ Click the Fly Around function button on the APP to cancel.

- ⚠️ • If the surrounding radius is less than 16 feet (5 meters), the aircraft will automatically fly up to 16 feet (5 meters).
- Pay attention to the flying height when flying under surround mode and avoid hitting obstacles.

• Camera Angle Adjustment

- ① Tap the angle adjustment on the mobile APP, and the adjustment button will appear on the screen.
- ② Tap the  on the transmitter, can one step to adjust to 90 degree.

3.5 Propellers

- The propellers on the adjacent motors of U11PRO are forward and reverse propellers. The two blades 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 different.

Propellers	Mark A	Mark B
Photos	A 	B 
The position of installation	Installed to the motor with A mark on the arm	Installed to the motor with B mark on the arm

• Installation

Taking the camera direction as the front, the left front arm and right rear arm must be equipped with propellers marked with A, and the right front arm and left rear arm must be equipped with propellers marked with B. Then use a screwdriver to install and make sure the screws are tightened.



• Disassemble

Use a screwdriver to loosen the screws on the propeller and remove the propeller.

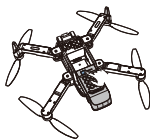
- ⚠️ • Please use the propellers provided by Ruko, and do not mix propellers of different models.
- Please check whether the propeller is installed correctly and tightly before each flight.
- Before each flight, please check and make sure that the propellers are in good condition.
- Ensure that there is no abnormal noise during flight after the aircraft is powered on.

3.6 Intelligent Flight Battery

- The U11PRO intelligent flight battery has a capacity of 1900mAh, a rated voltage of 7.6 V, and with charge and discharge management functions. This battery uses high-energy and large-capacity batteries to increase the flight time of the Aircraft.

• Usage of the Intelligent 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 pops up and locks. Please make sure the battery is in place.



To remove the battery, please press the buckles on both sides of the battery and pull it out of the battery compartment.

• Checking Battery Level

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

Low _ Electricity _ High



- ① Power on/off
- ② Battery LED Light
- ③ Type-C charging port

• Power On

Press and hold the power button for 3 seconds, release the power button after the indicator light turns on to the fourth. When turned on, the power indicator shows the current battery power.

• Power off

Press and hold the power button for 3 seconds, release the power button after all the indicator lights are off; after the battery is turned off, the indicator lights are all off.

• Tips When Using in Low Temperature

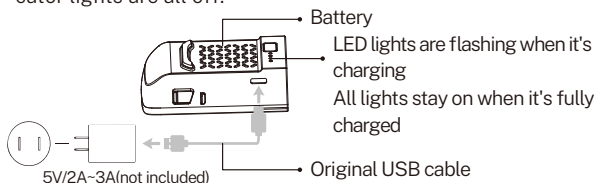
① When using the battery in a low temperature environment (0°C to 5°C), make sure that the battery is fully charged. The discharge capacity of the battery will be reduced when working in a low **temperature environment**.

② In a low temperature environment, due to the battery output power limitation, the Aircraft's wind resistance and flight performance will be reduced. Please be careful.

③ You need to be extremely cautious when flying in low-temperature and high-altitude environments.

• Charging the Battery

Press and hold the power button for 3 seconds, release the power button after all the indicator lights are off; after turning off, the indicator lights are all off.



- ⚠ • Do not install the battery into the Aircraft or remove the battery from the Aircraft when the battery is powered on. Otherwise, the poor contact of the battery interface during the operation may cause the battery to short-circuit and burn the Aircraft. The battery must be installed or removed with the battery power turned off.

Before using the Intelligent Flight Battery, be sure it is fully charged.

① Please use a 5V3A or 5V2A USB charging plug.

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. And it would take 2.5 hours.

③ Please remove the charger in time after charging is complete.

• Preservation Advice

① It is recommended to charge and discharge it once a month, do not store with a full charge, keep 50%-60% of the power, the storage temperature is 10-40°C, and the best storage temperature is 19-21°C.

② Water will damage the battery protection board, and the battery cannot 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.

③ If the battery is squeezed, deformed or dropped from a high altitude, it is forbidden to use it again.

④ It is forbidden to exposure the battery to high temperatures for a long time. High temperatures will increase the internal pressure of the battery and cause an explosion.

⑤ The positive and negative poles are short-circuited for a long time (such as water coming out of the battery contacts, short-circuit caused by foreign objects like hairs, etc.). If it exceeds 30 minutes, the protection board IC will fail and disconnect, and the battery cannot be used normally.

⑥ It is forbidden to use fast chargers that exceed the battery's rated power for charging. It is recommended to use a 5V/2A or 5V/3A charger.

⑦ If the Aircraft has not been used for a month, the battery must be removed to prevent the battery from being discharged for a long time.

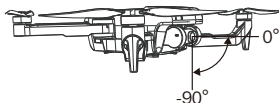
3.7 Camera Overview

• Camera Overview

The camera uses an upgraded 5GHz Wi-Fi FPV real-time transmission function, equipped with a 120° FOV lens and a 90° adjustable camera, which can stably shoot 4K HD video and photos when store in SD card, providing you with a broad field of vision for unforgettable moments.

• Camera Guideline

- ① Remove the camera cover before usage.
- ② Do not place the Aircraft on rough ground and turn it on, because the camera will adjust up and down for self-calibration. Please place it in a horizontal position to ensure that there is enough clearance under the camera, otherwise the camera will get stuck.

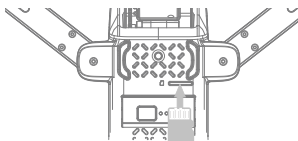


• Please remove the lens protective film before the camera is using.

• Storage of Photos and Videos

U11PRO is equipped with a micro SD card slot for storage space expansion.(microSD card is not included)

- ① Card speed: 10M/s;
- ② File format: support FAT32 format;
- ③ Memory capacity: **the capacity of a memory card should equal to 32G or less than it.**
- ④ The phone and the memory card store photos and videos at the same time.



SD card is not included

Storage Mode	Photo Resolution	Video Resolution
Mobile Phone	3840x2160P	1280x720P@20fps
SD Card	3840x2160P	3840x2160P@15fps
	2560x1440P	2560x1440P@25fps

4 Transmitter

4.1 Transmitter Profile

- U11PRO Transmitter uses the 2.4 GHz frequency band, and the Transmitter distance is up to 984FT-1640FT (unobstructed and interference-free environment). The foldable handle can stably place the mobile device, and the maximum adjustable width is 3.38 inches.
- The charging time of the built-in 500mAh capacity battery is 1 hours, the voltage of the battery is 3.7V, **and the longest working time is about 3.5 hours.**

4.2 Usage of the Transmitter

• Power on and Power off

Power on : Long Press power switch for 3 seconds until the 4 indicator light flash

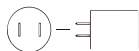
Power off : Long Press power switch for 3 seconds until the 4 indicator light off



• Charging the Battery

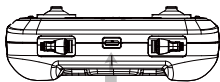
Connect the Transmitter Micro USB interface to the charger for charging. It is forbidden to use fast chargers that exceed the rated power of the battery. **It is recommended to use 5V/2A or 5V/3A chargers, do not use more than 5V/3A chargers.**

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



②

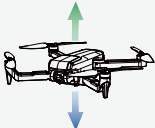
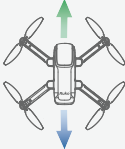
Original USB cable



①

Charging Time:
About 1 hours

When charging, 4 lights flash in turn, 4 lights are always on when fully charged.

Transmitter (Default Mode)	Aircraft Direction	Remarks
		Pushup/down the throttle stick to control the aircraft up and down. Push up and the Aircraft rises. Pull down and the Aircraft lowers. When released, the joystick is in the middle position and the Aircraft remains hovering. When the aircraft takes off, the throttle lever must be pushed up and the aircraft takes off off the ground (please push the stick slowly to prevent the aircraft from suddenly rush up)
		Push the throttle stick left/right to control the aircraft heading. Push the stick to the left and the Aircraft will rotate counterclockwise. 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.
		Push up/down the direction bar to control the aircraft to fly back and forth. Push the stick up and the Aircraft leans forward and fly forward. Pull down the lever, the Aircraft tilts backwards and fly 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.
		Push the direction stick left/right to control the aircraft to fly left and right. 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. The joystick offset corresponds to the angle of the Aircraft left and right tilt. The greater the offset, and right, the greater the tilt angle and the faster the flight speed.

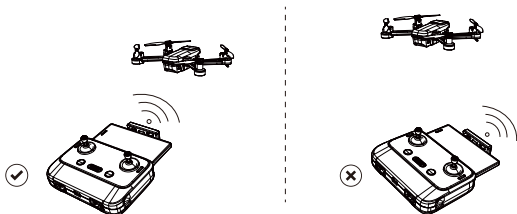
- ⚠ • The forward direction of the Aircraft is based on the direction of the nose.

• Smart RTH Button

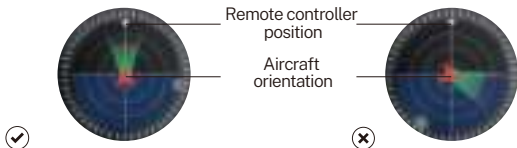
Tap the smart RTH button on the Transmitter, and the Aircraft will activate the automatic return home function. Tap it again to exit the smart return home. The aircraft is hovering in the mid-air of the return home. At this time, you can operate the joystick to control the Aircraft.

4.3 Communication Range of Transmitter

- When controlling the Aircraft, the position and distance between the Transmitter 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 Transmitter 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 Transmitter is facing the Aircraft.



4.4 Pairing the Transmitter

- Before each aircraft flight, you need to link with the Transmitter. After the linking is successful, you can control the flight of the Aircraft. The steps for the pairing are as follows:
 - ① Turn on Aircraft
 - ② Turn on Transmitter
 - ③ Once successfully paired, 4 indicator light flashing change to indicator light is always on and dripping sounds
 - ④ Connect your mobile phone to Aircraft's "RUKO-U11PRO_*****", tap the APP to enter the control interface; the mobile phone screen displays information such as the Transmitter's battery signal and camera screen.

-  • Before each flight, check the power of the Transmitter. The rear 3 lights indicate power, only one indicator is on when the battery is low.
- Keep the battery at around 50-60% and recharge it every 1 month or So to keep the battery active.

5 Ruko Fly App



Home

U11PRO		Choose U11PRO Model
Control		Click the Control enter to control interface
Photo Album		Click the Photo album to view photo and video
Instruction		Enter to Video Guide, APP Guide, Disclaimer&Safety Guidelines, Quick Start Guide, User Manual. Contact Us:rukotoy.com

MORE Features

Mobile phone joystick		You can use your mobile phone to control the drone through the virtual joystick.
GPS Follow		Tap to start the follow me function, the Aircraft will use the GPS in the smartphone to follow you
Filters		Tap to select a different filter mode to take photos or videos.
VR		Click this button to use the VR glasses function.
Route planning		Click the change icon to enter the map, select a waypoint on the map, and the Aircraft will follow the waypoint to fly. Up to 21 waypoints can be set.
Fly Around		Click to enter the orbital flight, you can control the surround distance in therange of 5-20 meters through the right joystick front and back, and adjust the surround speed and direction from left to right
Camera Angle		Adjust camera angle

Instruction

Video Guide		Watch video of Unboxing, Preflight, First Flight for U11PRO drone
APP Guide		Read the App Guide to operate more smoothly.
Quick Guide & Safety Disclaimer		Read the Quick Guide & Safety Disclaimer to fly more easily and safely.
User Manual		Read the electronic version of User Manual to learn more.

Control

Back		Tap to return to the home screen
Compass disturbance value		Once over 200, recommended to change the flight environment
GPS signal bar		Four grid signals in the GPS signal bar means that the drone can be used normally
Transmitter Signal Display		Used to display the remote signal strength
Drone power		Display the drone's battery level
System Settings		System settings include flight range settings, data recording, English and metric unit switching, route display, reminder information and voice prompt settings
Auto Takeoff/Landing		Click to expand the control panel, long press to make the Aircraft take off or land
RTH		Tap to initiate Smart RTH and have the aircraft return to the last recorded Home Point and turn off the motors
Function button		Click to enter function pages
SD Card		Display the SD card(not included), click to format the SD card
Shooting Mode		Choose to take a picture or record a video
Shutter		Tap to start/stop shooting photos or recording video
Image & Video Gallery		View pictures and videos recorded by drone
Map Compass		Tap the Map to switch between Camera View and Map View

Calibrate

Compass Calibrate		Tap "Calibrate" to Compass Calibrate
Acc Calibrate		Tap "Calibrate" to Acc Calibrate

Parameter

Beginner Mode	In this mode, the aircraft's farthest flight distance and altitude is 65ft, and the return altitude is 65ft, so that the aircraft can fly more safely within sight.
Max Distance	Set the longest distance to fly.
Max Altitude	Set the maximum flight altitude.
Return Altitude	Set the flight altitude for the aircraft to return in a straight line using the RTH function. When setting the flight altitude, you should consider higher than the obstacles on the return route to avoid collision with the aircraft.

Track

Footprint	The total number of aircraft flying areas
Max Mileage	The longest mileage for a single flight.
Max Altitude	The highest single flight altitude.
Max Speed	The fastest single flight speed,
All flight records	The date, location, distance, duration and maximum altitude of each flight.
Find The Drone	Shows the last position of the drone when it loses the image transmission signal. Open the map to lock the position of the drone when it is disconnected from the APP

...

Unit	Switch between metric and imperial measurement units.
Track	Turn on or off all flight records of map tracks in the track menu.
Prompt	Turn on or off the Aircraft status prompt message in the APP
Voice prompt	Turn on or off the aircraft status voice prompt of the APP.



- Before using the Ruko Fly App, make sure that the phone has sufficient power.
- When you use the Ruko Fly App on your mobile phone, please focus on controlling the Aircraft. Do not answer incoming calls, send and receive text messages or use other mobile phone functions during the flight.
- The map used in the map interface needs to be downloaded from the Internet. Before using this function, do not connect to the Aircraft WiFi, and connect the mobile device to the Internet to cache the map.

6 Flight

- After the installation preparation is complete, please conduct flight training or training first. It is recommended to conduct training in the beginner mode. Please choose a suitable flight environment when flying. The flying altitude is limited to 120m, and the local laws and regulations must be strictly observed during flight. Please be sure to read the U11PRO Disclaimer and Safety Summary, and understand the safety precautions before flying.

6.1 Flight Environment Requirements

- Do NOT fly in severe weather such as strong wind, snow, rain, and fog.
- Do NOT fly in severe weather such as strong wind, snow, rain, and fog.
- Choose an open place with no obstructions around as the flying field. The compass and GPS signals on the Aircraft will be interfered by buildings, mountains, and trees. It is recommended to fly in an open space with a radius of 10m without interference. It is recommended that the flight altitude be greater than 15m to avoid ground obstacles and other signal interference from the ground.
- When flying, keep in sight and control, and stay away from obstacles, crowds, etc. When flying on the water surface, please be more than 3m above the water surface.
- The Transmitter may be interfered by high-voltage lines, communication base stations or transmission towers. Please fly away from these areas.
- Please fly below 2000m sea level to ensure that the Air pressure setting function of the Aircraft can work normally,
- When GPS is active, the Aircraft can achieve stable hovering, intelligent return to home, and intelligent flight functions. When the GPS function fails, these functions cannot be implemented, The Aircraft will be unable to hover, drifting away in the direction of the wind.

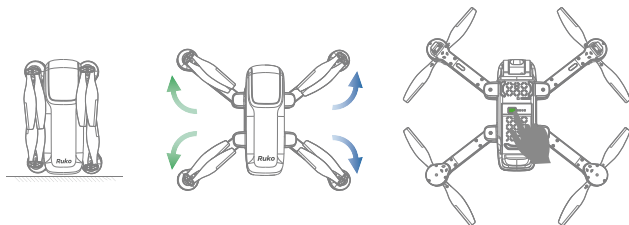
6.2 Pre-Flight Checklist

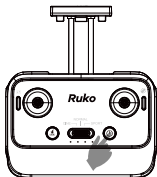
- Make sure the remote controller, mobile device, and Intelligent Flight Battery are fully charged.
 - Make sure the aircraft arms are unfolded. Make sure the Intelligent Flight Battery was stable installed.
 - Ensure that the propeller has no damage, aging, deformation, no foreign matter entanglement, and firm installation.
 - Please make sure that GPS is turned on to avoid that it would be lost please fly outdoor in an open place.
 - Whether the 4 motors can start normally after starting up, and whether the rotation speeds are consistent.
 - Connect drone wifi with your phone, make sure that you have connected the WIFI name "RUKO-U11PRO-*****" exactly after App access right and Internets permission with your phone.
 - Make sure that the camera lens is clean.
- If you need to replace accessories, be sure to use original accessories.
- The use of non-original accessories may cause danger to the safe using of the aircraft. For accessory support, please refer to the accessory support page in the appendix of the user manual.

6.3 Calibration

Transmitter Pair with Aircraft

- Long Press the power switch for 3 seconds until the 4 indicator light flash. Once successfully paired, 4 indicator light flashing change to indicator light is always on and dripping sounds





Wifi Connection

- ① WiFi The drone open after 30s, open the WiFi list, and find the drone's wifi.
- ② Connect the phone with the drone's WiFi ("RUKO-U11PRO-*****"), then click on the APP to enter Control interface.
- ③ When the Android phone connect drone's wife, there is a option popping up about internet settings, The time for the pop-up setting option is different depending on the performance of the mobile phone, ranging from 10 to 40 seconds, and the network setting options are also different. Please read carefully before selecting the correct option, so as fail to see the image transmission screen.

- ⚠ • Please turn off the VPN, so as fail to see the image transmission screen.
- When Internet speed priority is set on some mobile phones, the APP cannot see the image transmission screen, and the mobile phone can try to adjust to the flight mode.
- The drone's image transmission WiFi is 5.8G, and the mobile phone WLAN function must be supported; dual-band WiFi, 2.4G+5G, can be applied.

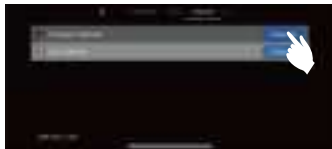
Compass Calibrate

- When the interference is large, you can push the joystick to 11&1 o'clock position on the remote controller for compass calibration.
- Or You can find compass calibration in the app interface then click "calibrate" to enter the manual calibration step.

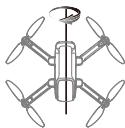
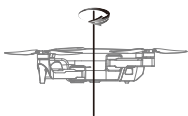
①



or



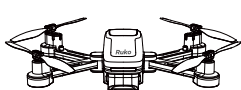
②



- Once the interference value reaches 200, the compass interference will be prompted at the top of the APP page. After the prompt, it means that the interference is large and the compass needs to be calibrated. Otherwise, the drone may have a weak signal reception ability and cause loss of control; when the drone once the interference value reaches 400, the drone will be forced to enter the compass calibration.
- When the drone is flying in a circle or out of control in a complex environment, the drone's compass calibration is not standard or is disturbed. Please manually land the drone in time and restart the calibration of the drone.
- Please open the drone's arms when calibrating the drone to prevent the magnetic of the motor from being affected.

Acc Calibrate

- When the drone is flying unbalanced, you can push the right joystick to 5 o'clock position on the remote controller for Acc calibration. Or You can find acc calibration in the app interface then click "calibrate".



①



or



②

- ⚠ • When the Aircraft's flight state is tilted and unstable, please land the Aircraft on a level ground for gyroscope/horizontal calibration.
- When the drone is in GPS mode, if it does not find enough GPS signals, the drone cannot be unlocked to take off. Please place the drone in an open environment to search for GPS signals.

6.4 Manual Starting/Stopping the Motors

• Starting the Motors

Push the joysticks into 5 & 7'o clock position to start the motor, when the motor start to rotate, please release the joysticks.

• Stopping the Motors

After the motor starts rotating, there are two ways to stop:

- ① After the Aircraft takes off, push the throttle stick to the lowest position and operate the Aircraft to land until the motor stops, then release the joystick.
- ② Push the joysticks into 5 & 7'o clock position. When the flight is not taking off, Push the joysticks into 5 & 7'o clock position to start the motor. After the motor is turned off, please release the joystick immediately.

• Manually Land the Aircraft

When you need to manually land the Aircraft, continue to push the Transmitter throttle lever downwards. Do not release the throttle lever during landing until the Aircraft lands and the motors stop.

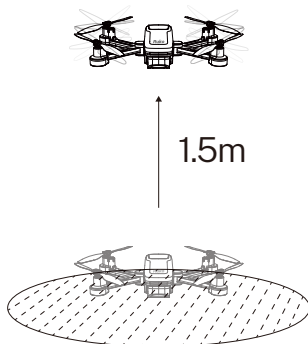


- ⚠ • Please choose a flat ground to land. Avoid causing damage to the drone.

6.5 Automatically Take-off / Landing

• Automatically take-off

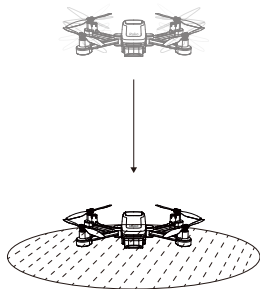
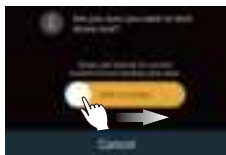
- ① Start the motor after confirming the safe take-off conditions.
- ② Click the One- key Takeoff button on Transmitter or enter the APP and click OK to take off.
- ③ The Aircraft will take off automatically and hover at a distance of 1.5m from the ground.



• Automatically landing

After the Aircraft takes off, the one-key take-off function on the APP becomes the one-key landing function, users can choose to use the automatic landing function:

- ① Confirm the safe landing conditions, enter the APP, click the One key landing button, confirm to enter the automatic landing, the drone will automatic land.
- ② The Aircraft landed on the ground and turned off the motors by itself.



- ⚠ • Please choose a flat ground to land. Avoid causing damage to the drone.
- Push the Transmitter throttle lever forwards can stop the automatic landing in the process of drone landing.

6.6 Basic Flight

• Drone Flight Steps

- ① Place the Aircraft on a flat and open ground with the nose facing forward and the tail facing the pilot.
- ② Power on the Aircraft.
- ③ Turn on the power of transmitter.
- ④ Connect the mobile phone to Aircraft's WiFi "RUKO-U11PRO-*****". Open the Ruko Fly App, and enter the camera interface.
- ⑤ After GPS search successfully, the status of rear indicator is always green, and the motor is started.
- ⑥ Slowly push the throttle stick upward to let the Aircraft take off smoothly.
- ⑦ Pull down the throttle stick to lower the Aircraft.
- ⑧ After landing, pull the throttle stick to the lowest position and hold it until the motor stops.
- ⑨ Turn off the power of Aircraft and Transmitter in turn after shutdown.

- **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.



Awareness of flight safety is very important for the safety of you, the surrounding people and the environment. Please read Safety Disclaimer & User Manual carefully.

7 Appendix

Specifications	
Mode	U11PRO
Weight (Including Battery)	278g/9.80Z
Dimensions (L x W x H)	Unfold: 9.05x10.4x2.36inch Folded: 5.91x3.94x2.36inch
Max Rise Speed	2m/s
Max Down Speed	1.6m/s
Max Horizontal Flight Speed (Windless Conditions)	3m/s(Low Speed) 6m/s (Default Speed) 8m/s(High-Speed)
Max Flight Height	393ft
Operating Temperature Range	0° to 40°C
Operating Frequency	5.15-5.35 GHz; 5.725 ~ 5.825 GHz
Transmit Power	< 24dbm
Satellite Systems	GPS / GLONASS
Controller Range of Camera (Up and Down)	About -90° TO +0°
Camera	
Equivalent Focal Length	2.5M
Focus Range	Fixed-focus
Resolution of Photo	Phone: 3840x2160P SD Card: 3840x2160P/2560x1440P
Resolution of Video	Phone: 1280x720P SD Card: 3840x2160P/2560x1440P
Photo Format	JPG
Video Format	MP4
Supported SD Cards	Micro SD card (Class 10/U1 or later) 32G or less
Operating Temperature Range	0° to 40°C
Mobile Device Holder	4.7" to 6.5" Smart Phones
Image 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	25FPS
Real-time image transmission	720p/25fps
Battery	
Capacity	Drone: 1900 mAh Transmitter: 1200mAh
Voltage	Drone: 7.6V Transmitter: 3.7V
Battery Type	Li-polymer
Power	15W
Charging Time	About 2.5 hours
Charging Temperature Range	0° to 40°C
Charging Cable	
Input	100V to 240V, 50/60Hz, 0.5A
Output	5V/1.5A or 5V/2A or 5V/3A
Rated Power	≤15W
APP Name	
APP Name	RukoFlyApp
Mobile Device System Version	OS 9.0 or later/ Android 5.0 or later

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:
rukodrone@gmail.com

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