RC-PRO

PRO28

INSTRUCTION MANUAL

2.4G FPV 1080P HD DOUBLE CAMERAS FOLDING DRONE

FPV | Optical Flow | Camera Switching | Altitude Holding | Phone App Rc

Speed Control | 1080P | Longer Battery Life | Headless Mode | Trajectory Flight

Photo/video | One Key Take-off | One Key Landing

Always fly your drone safely and legally. Learn the rules and regulations in your airspace and always follow them.

INTRODUCTION

Thank you for purchasing the PRO28 Drone. Please read all instructions and warnings carefully before operating. Please also keep this instruction manual for future reference and maintenance.

IMPORTANT:
1. This drone is not a toy. It may cause injury or damage if not used properly under a controlled environment. Always make sure you practice flying this drone in an open airspace area while following the rules and regulations which applies to the area to avoid any potential damage or Injury.
2. This product is suitable for experienced UAV pilots no less than 14 years of age.

SAFETY PRECAUTIONS:
1. Keep it far away from any structures or crowds.
   This R/C drone 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.
2. Keep it away from any moist environment.
   The inside of the drone 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 drone as it may cause a breakdown of the mechanical and electronic parts and thus cause an accident.
3. Only operate with included parts for intended use.
   Always use original parts made and authorized by RC-PRO for replacements and maintenance to insure flight safety.
DO NOT use for any illegal purpose or use beyond the scope of which your local laws and regulations have stipulated.
4. Do not operate under the influence of drugs or alcohol.
   Please operate this R/C drone according to your own state and flying skill. Any fatigue, bad mental state, or incorrect operation may increase the probability of accidental risk.
5. Store it in a cool, dry place.
   The R/C drone 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.

WARNING

DO NOT operate drone in a crowded area. Unexpected conditions, technical issues or improper assembly may cause unplanned manoeuvring, which can cause serious injury and/or property damage. The operator of this product accepts all responsibility for any damages caused by its misuse.

1. KEEP AWAY from people and obstacles including high-rise buildings, high voltage wires, etc.
2. DO NOT store the drone in a damp environment. The drone's interior is composed of delicate electronic components and mechanical parts, which can be seriously damaged by moisture.
   Please take serious care, as this type of damage may not be visible on the outside, but can cause the product damage or act unpredictably once in use.
3. Always operate with safety in mind. DO NOT use this drone under the influence of drugs or alcohol, or in the case of fatigue, as improper operation can cause serious injury and/or property damage.
4. KEEP AWAY from rotating parts once the drone is in motion. Propeller blades can cause serious harm to people and property.
5. DO NOT store or operate in high heat, as electrical components can be damaged.
6. 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.
7. Only the original charger made from our factory can be used.
8. Charger is not a toy.
9. Engine will heat up. Please DO NOT touch it to avoid being burned or injured.
10. Mini USB 5V wall charger recommended for charging. DO NOT use any charger stronger than 5V. (The current cannot be >1A)
11. Always operate your drone within eye sight.
12. Never fly over groups of people.
13. Never fly over stadiums or sports events.
14. Always understand and comply with airspace rules and regulations.

RECHARGEABLE BATTERY

Connect the drone battery to the charger. Plug the charger into a power outlet and fully charge (about 180 mins). DO NOT LEAVE CHARGING BATTERY UNATTENDED. Battery may be warm when charging is complete. Disconnect the charger from the outlet, then the battery from the charger.

BATTERY PRECAUTIONS

• Non-rechargeable batteries cannot be recharged
• Do not dismantle or short circuit batteries
• Keep batteries away from heat and flame
• Charge rechargeable batteries under adult supervision
• Remove rechargeable battery from drone before charging and when not in use
• Remove battery before cleaning
• Regularly check all wires, plugs and batteries to ensure proper performance and safety. In case of damage discontinue use until repair

Lithium Battery Safety Precautions

Our company is not liable for any damages incurred by the appropriate or inappropriate use of this product.

⚠ Warning:

Check all batteries before charging and before use. Do not use or charge damaged batteries. Do not over-charge batteries. Keep batteries away from heat and flame. Lithium is highly reactive with water; always keep batteries away from water and humid conditions. Keep out of reach of children and pets. Product should not be used by persons under 14 years of age, and should be accompanied by an adult until 18 years of age. Our company is not liable for any damages resulting from improper use or handling of the product.

⚠ **WARNING:**
CHOKING HAZARD -Small parts.
Not for children under 3 years.

NOT SUITABLE FOR
CHILDREN UNDERSTEARS
DUE TO SMALL PARTS
هشدار ! برای کودکان زیر ۳ سال
مناسب نیست . دارای قطعات کوچک است
تحذیر : غیر صالح للاطفال تحت ۳۰ سنوات ، بسبب
القطعة الصغیرة ؛
COUNTRY OF ORIGIN:CHINA
بلد المنشأ : الصین

صنّعت وفقاً للمواصفات والمعاییر العالمیة
Tested according to international standards

MADE IN CHINA

WARNING: Product should only be used by adults and children 14 years and older.Adult supervision required for children under 14 years of age.

WARNING: CHARGING OF THE DRONE BATTERY MUST BE SUPERVISED AT ALL TIMES BY AN ADULT. UNPLUG THE BATTERY WHEN FULLY CHARGED. DO NOT OVER-CHARGE THE BATTERY.

PRODUCT PACKAGING CONTENT

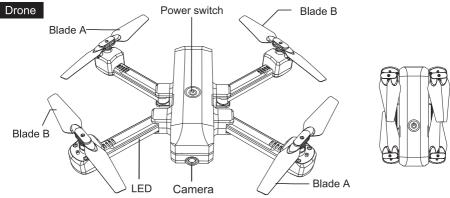PRO28 X1   Transmitter X1   Rechargeable Battery x1   USB Charging Cable X1
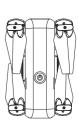
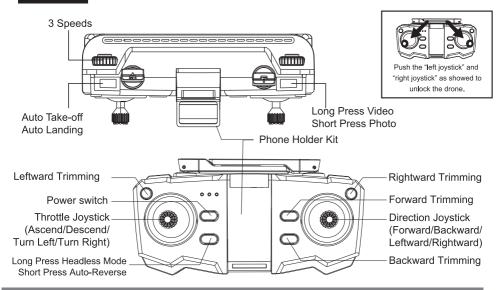Blade A/B X1   Blade Protector X4   Screws X8   Screwdriver X1   Instruction Manual X1

PART IDENTIFICATION

Drone

Blade A   Power switch   Blade B

Blade B

LED   Camera   Blade A

Transmitter

3 Speeds

Push the "left joystick" and "right joystick" as showed to unlock the drone.

Auto Take-off
Auto Landing

Long Press Video
Short Press Photo

Phone Holder Kit

Leftward Trimming   Rightward Trimming

Power switch   Forward Trimming

Throttle Joystick
(Ascend/Descend/
Turn Left/Turn Right)

Direction Joystick
(Forward/Backward/
Leftward/Rightward)

Long Press Headless Mode
Short Press Auto-Reverse

Backward Trimming

This 2.4G remote control features a low-voltage indicator which will beep twice when it is time to replace the "AAA" batteires.
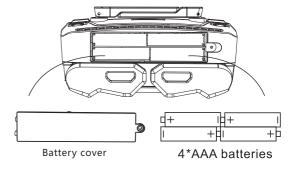
BATTERY INSTRALATION AND CHARGING

Battery installation of transmitter

1. Remove the battery cover.
2. Install 4 "AAA" batteries, according to the correct polarity.
3. Close the battery cover.

Attention
1. Install batteries with correct polarity
2. Do not mix old and new batteries
3. Do not mix different types of batteries
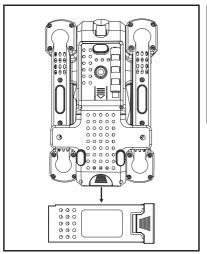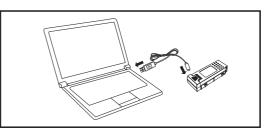
Battery cover

4*AAA batteries

Lithium Battery Charging

Remove the battery from the drone, and then plug the USB cable into the USB port of the computer or other USB charger. The indicator light will be off.
Connect the plug of the battery with the socket on the USB charging cable. The indicator light is on during charging, and indicator goes off when fully charged.
Charging time is around 180 mins. Flying time is around 15 mins.

⚠ Note: The USB charging cable can be connected to most smartphone chargers or mobile power sources or USB interface in automobiles. The voltage in USB interface is 5V±0.5v. (The current cannot be> 1A)

CAUTIONS WHEN CHARGING:

1. When charging, please put this product in a dry ventilated area and keep it far away from heat sources or flammable products.
2. When charging, it is recommended to remove the batteries from the drone. Charging process should be supervised by an adult so as not to cause an accident. The battery can also be charged while in the drone.
3. After flying, please do not charge the battery if the surface temperature is still warm. If the battery has been used for a long time, or appears to be swollen, please replace them.
4. Please make sure that you use the original USB charging cable provided.
5. A battery when not in use for a long time will lose its charge automatically. Charging or discharging too often may reduce the life of the battery.

PREPATATION FOR FLIGHT

Please choose the spacious indoor or outside environment for flying. Do not fly under rain, wind or snow condition. When flying, please DO keep it far away from the crowd, tree, electric wire, skyscraper, airport or signal transmitting tower, etc.
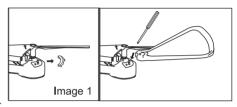
Step 1: Protector kit installation

Install the protector kit as shown in Image 1. First remove the protector kit cover and then install the protector kit with a screw.
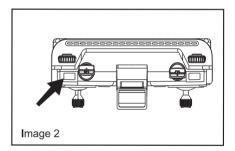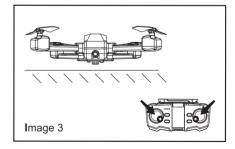
Image 1

Step 2: Preparing to fly

1. Open the PRO28 battery cover and connect the power plug to the battery.
2. Hold the power button down for 2 seconds and the PRO28 LED lights will start flashing.
3. Place the drone on a flat surface with open space around. Position the drone with camera facing forward.
4. Press the remote's power button to "on" position and you will hear a "beep" sound and remote's red lights will start flashing.
5. Wait a few seconds and the PRO28 will pair with the remote control and the LED lights will stop flashing.
6. Press the "Auto Takeoff" button(Image 2) and enjoy your flight.

Image 2

Step 3: Drone calibration

After pairing the drone with the remote control, place the drone on a flat surface and hold the "left joystick" and "right joystick" towards the buttom center until the LED lights flashes, as shown in Image 3. After the calibration is completed, the LED lights will return to normal. (When the drone is offset in any direction and trimming cannot be adjusted, this calibration can be used for repairing.)
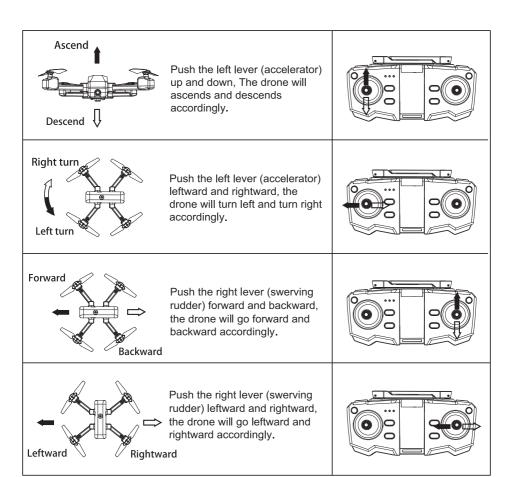
Image 3

Optical flow hovering system
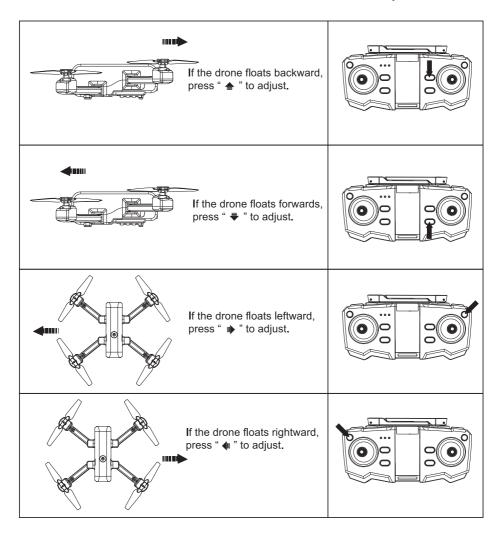
The PRO28 features a fixed-pointing Auto-Hovering feature which allows the drone to hover accurately and independently at any given position. Once in Auto-Hovering, you can use the remote's left stick to ajust the altitude.

OPERATING INSTRUCTIONS

Ascend / **Descend**	Push the left lever (accelerator) up and down, The drone will ascends and descends accordingly.	
Right turn / **Left turn**	Push the left lever (accelerator) leftward and rightward, the drone will turn left and turn right accordingly.	
Forward / **Backward**	Push the right lever (swerving rudder) forward and backward, the drone will go forward and backward accordingly.	
Leftward / **Rightward**	Push the right lever (swerving rudder) leftward and rightward, the drone will go leftward and rightward accordingly.	

Trimming is manual adjustment of the drone's flight angles. It should only be used when the drone is drifting instead of hovering in a secure space with no wind. Please follow these instructions in order to trim your drone:

If the drone floats backward, press " ⬆ " to adjust.	
If the drone floats forwards, press " ⬇ " to adjust.	
If the drone floats leftward, press " ➡ " to adjust.	
If the drone floats rightward, press " ⬅ " to adjust.	
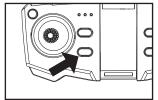
Repeat the steps above until the drone hovers in the same spot.

FLYING EXERCISES

precise rotating

forward and backward

sideward fly

precise landing
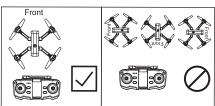
HEADLESS MODE

Please put the drone in a forward-facing position. After syncing, but before take-off, long press the Headless Mode button on the remote control and to enter Headless Mode and LED lights on the drone will keep flashing, from this point your Forward/Backward will be the Drone's Forward/Backward regardless of which direction the Drone's nose points. Press it again to exit Headless Mode.

Front

EFFECTIVE AREA

NON-EFFECTIVE AREA

AUTO-REVERSE FEATURE

In headless mode, press the AUTO-REVERSE button " ⚓ " and the drone will automatically return backwards. At this point use the right joystick to direct the drone back to you. Use the left Joystick to adjust the flight altitude.
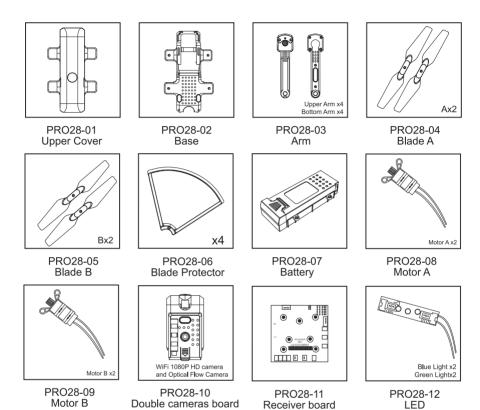
TROUBLESHOOTING

Problem	Reason	Approach
The drone is instable while flying	1. The drone is not trimmed	1. Perform trimming close to the ground (Page 9)
	2. The drone is not calibrated	2. Perform gyroscope calibration (Page 7)
	3. The drone's blades are damaged	3. Replace the blades according to (Page 5)
	4. Wind is too strong	4. Do not fly in windy conditions
Remote control status light does not light	1. Controller is turned off	1. Turn switch to ON position
	2. Battery is incorrectly inserted	2. Check that batteries are inserted correctly
	3. Battery has no charge	3. Replace the batteries with new ones
Can not Control	1. The remote control is not turned on	1. Press the power switch
	2. The drone battery is not connected	2. Check battery connection of the drone
	3. The remote control frequency has not paired with the drone	3. Turn the remote control off and on again to reset the connection
	4. Wind is too strong	4. Do not fly in windy conditions
The drone will not ascend	1. Rotor speed is too slow	1. Push up on the left lever
	2. Drone battery is too low	2. Charge the drone battery
	3. The blades are not positioned properly	3. Refer to the page 5 for proper blades positioning
The drone crashed instead of land	Improper use of the emergency shutdown feature.	Make sure you use the auto landing button for easy landing

NOTE:

1. The control range can be effected by low battery levels.
2. Try to avoid flying high altitude when the battery level is low.
3. If your drone has physical damage, replace the damaged parts to avoid accidents.
4. Remove the "AAA" batteries from the remote control if you are storing your drone for a long period of time.
5. Only use original parts made by RC-PRO when replacing your drone's parts.

PARTS LIST

PRO28-01
Upper Cover

PRO28-02
Base

Upper Arm x4
Bottom Arm x4

PRO28-03
Arm

Ax2

PRO28-04
Blade A

Bx2

PRO28-05
Blade B

x4

PRO28-06
Blade Protector

PRO28-07
Battery

Motor A x2

PRO28-08
Motor A

Motor B x2

PRO28-09
Motor B

WiFi 1080P HD camera
and Optical Flow Camera

PRO28-10
Double cameras board

LG121216RX1

PRO28-11
Receiver board

Blue Light x2
Green Lightx2

PRO28-12
LED

LITHIUM BATTERIES WARNINGS AND PROPER USAGE INFORMATION

- DO NOT LEAVE LITHIUM BATTERIES CHARGING UNATTENDAND. You should always remain close to the charging battery to monitor the charging process and react to potential problems should they occur.
- Only use the provided charger in order to charge the included battery. Failure to do so may cause fire, which may result in personal injury and/or property damage.
- Do not charge Lithium batteries inside the model/car/boat etc.
- Do not puncture the Lithium battery.
- Only charge in isolated charging area away from flammable materials and on non-conductive and non-flammable surface. Lithium batteries fires cannot be extinguished with water. If a fire occur, wither cover it with sand or better still salt. On no account use water to extinguish a fire as water acts as petrol for Lithium batteries.
- If at any time you see a part of the battery 'puff up' disconnect from the charger immediately and either cover it with sand, or place in a non-conductive container and place it outside away from all flammable objects for at least 30 minutes.
- Manually check the temperature of your Lithium battery pack constantly during charging. Unlike other types of cells, Lithium cells should never get warm and should stay at the ambient temperature when being charged. If any of the individuals cell within a pack becomes warm/hot compared to the other cells, disconnect it immediately and either cover it in sand or place it in a non-conductive container and place it outside away from all flammable objects for at least 30 minutes.
- Store Lithium batteries in a temperature between 5-27°c (40°-80°F) for best results. The lower the temperature the better.
- Always disconnect the battery from your device/car/boat etc. when not in use.
- Always check the batteries for physical or electrical damage before charging or discharging.
- Do not short wires of your Lithium batteries, this is very dangerous and can cause a fire or even explosion. If you accidentally short wires your Lithium battery. Either cover it in sand or place it in a non-conductive container and place it outside away from all flammable objects for at least 30 minutes.
- Do not 'Top up' your Lithium batteries. Even if you charged them a year ago. Lithium loose less than 1% of their capacity per month just use them and recharge as normal.
- Do not charge cells that have been stored in cold conditions below 10°c/50°f, let them warm up for a minimum of 30 minutes.
- You risk an explosion if you attempt to charge batteries which has been used or stored under 0°c/32°f. Warm them first for at least 60 minutes above 10°c before charging.
- Do not store your Lithium batteries for extended periods of time (more than 1 hour) in a hot place as this may cause them to catch fire or even explode.
- Do not ingest contents of Lithium batteries; if you do accidentally swallow any content of Lithium batteries seek medical attention immediately.
- Keep all batteries out of reach of children.

RC-PRO PRO28 APP OPERATING INSTRUCTIONS

1. Install mobileclient

To start using the WiFi live video streaming, please install our FPV APP by scanning the QR code below or by searching for "RC-PRO PRO 28" at:

ISO   Android

2. Connect to PRO28

(1). Connect the battery and turn the drone on.
(2). Go to your device's Wifi connections list.
(3). Find the drone on the Wifi list and connect to it.
(4). Open the PRO28 APP and press START

3. Recommended smart streaming devices

（1）ios

Configuration	Recommended	Optimal （support 2K）
Product model	iPhone 5S, iPhone SE, iPhone 6 and above	iPhone 7 and above
System version	iOS 8.0 and above	iOS 9.0 and above

（2）Android

Configuration	Recommended	Optimal（support 2K）
The CPU model	Snapdragon 630 and above Samsung Exynos 7420 and above Hair division Helio X25 and above Kirin 950 and above	Snapdragon 835 and above Samsung Exynos 8895 and above Hair division Helio X30 and above Kirin 970 and above
System version	Android 5.0 and above	Android 8.0 and above
Memory size	3G and above	6G and above
CPU usage	Occupancy rate of 25% and above	Occupancy rate of 10% and above

● Clean up the background program, which can effectively reduce the CPU usage.

Video streaming instructions

NOTE: You can only stream to 1 device at a time.

Special Instructions

Here's tips on how to get better streaming quality and range:
1. Try to aim the lens directly to your face;
2. Fly in an area with lots of light;
3. Perform gestures at about 2m distance from the PRO28's lens.

The following cases will result in lower streaming quality and range:
1. Bad lighting conditions;
2. Low or interfered WiFi signal

Auto-Hovering optimization

The PRO28 features a fixed-poiting Auto-Hovering feature which allows the drone to hover accurately at any given position. The following conditions will interefere with the function and result with inaccurate hovering.
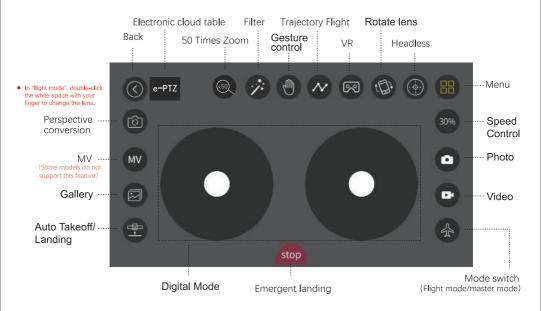
| Water surface | Poor lighting | Large vertical gap | Reflective ground | Two-color stripe |

Instruction to operation interface

Electronic cloud table   Filter   Trajectory Flight   Rotate lens

Back   50 Times Zoom   Gesture control   VR   Headless

e-PTZ

● In "flight mode", double-click the white space with your finger to change the lens.

Menu

Perspective conversion

Speed Control

MV
(Some models do not support this feature)

Photo

Gallery

Video

Auto Takeoff/ Landing

stop

Digital Mode   Emergent landing

Mode switch
(Flight mode/master mode)

Control mode

● In "setting", you can switch operation and control mode.

Digital mode

In this mode, the control pad on the left controls the drone's ascend, descend channels, and left, right turns of the drone, the control pad on the right controls the drone's forward, backward channels and rightward, leftward channels of the drone.

Classic mode

In this mode, the control pad on the left controls the drone's up and down channels, the control pad on the right controls the drone's forward, backward channels and rightward, leftward channels of the drone. Slip your figners on the screen to the left or right, controlling the drone's left or right turn.

Hidden mode

In this mode, the control pad on the left controls the drone's ascend, descend channels, and left, right turns of the drone, the control pad on the right controls the drone's forward, backward channels and rightward, leftward channels of the drone.

● When the thumb touches the phone's screen, it displays the control panel. With the thumb off the screen, the drive is hidden.

Motion sensing mode

In this mode, the control pad on the left controls the drone's up and down channels, the control pad on the right controls the drone's forward, backward channels and rightward, leftward channels of the drone. Slip your figners on the screen to the left or right, controlling the drone's left or right turn.

interface mode - flight mode

Flight Mode

In flight mode, a number of gesture recognition operations can be performed.

Gesture photo Stand approx. 2 meters in front of the drone and hold the Yeah gesture with one hand flat aside your body and the drone will start a 3 seconds countdown before starting to take photos. (* The time difference between two consecutive gestures recognitions should be greater than 3 seconds.)
(* Some mobile phones do not support this function. Opening the function will cause picture delay.)

Gesture video Stand approx. 2 meters in front of the drone and put your hands on the position of the face jaw to make a square video gesture, and the drone will start a 3 seconds countdown before starting to record video.
 (* No gesture recognition while recording video.)

Gesture video Stand approx. 2 meters in front of the drone and hold your palm flat aside your body and the drone will start a 3 seconds countdown before starting to record video.
 (* No gesture recognition while recording video.)

Additiontal Fuctional Icons

Perspective conversion

Perspective conversion

Click the "switch lens" button to switch the following four functional states:

    (1) ordinary front lens;

    (2) shooting;

    (3) painting within painting;

    (4) split screen.

If the button "switch lens" is not clicked, the default function is normal front-lens function.

*PIP（Picture in picture）

In the picture in picture mode, you can live stream the HD downfacing camera in real time;
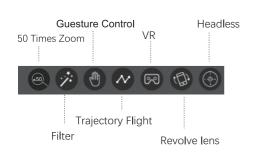In the control screen, click to open the "draw in picture" feature the lower lens of the drone and the video screen captured by the front lens will be displayed together.

*split screen

In the split screen function, you can view live streeming video bythe front lens and the bottom lens simultaneously through the left and right screen.

After the picture in picture/split screen is opened, if MV mode is entered at this time, MV video of two shots can be recorded simultaneously.

Additiontal Fuctional Icons

Guesture Control

50 Times Zoom

VR

Headless

Trajectory Flight

Filter

Revolve lens

Trajectory Flight

With this function, using your finger draw a trajectory in the frame on the right of the screen, and the drone will fly accordingly.

Headless

Please put the drone in a forward-facing position. After syncing, but before take-off, enter Headless Mode and LED lights on the drone will keep flashing slowly, from this point your Forward/Backward will be the Drone's Forward/Backward regardless of which direction the Drone's nose points. Press it again to exit Headless Mode.

Anti-Shaking

Enable this feature through the "setting" screen for a video optical stability effect.
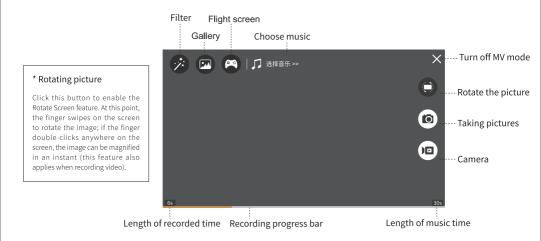
50 Times Zoom

This feature adjusts the zoom multiples of the lens view by adjustingthe right slide bar. After the view is enlarged, the finger slides the visual range of the movable view on the screen.

Electronic cloud table

The current range of vision displayed on the screen of mobile phone is part of the entire field of vision captured by the camera. After clicking on the icon to open the "Electronic Cloud Desk" function, you can move up, down, left, and right across the current field of view through the small analog cloud console under the icon.

The MV interface

Introduction to MV interface

Filter

Flight screen

Gallery

Choose music

选择音乐 >>

Turn off MV mode

Rotate the picture

Taking pictures

Camera

* Rotating picture

Click this button to enable the Rotate Screen feature. At this point, the finger swipes on the screen to rotate the image; if the finger double-clicks anywhere on the screen, the image can be magnified in an instant (this feature also applies when recording video).

6s

30s

Length of recorded time

Recording progress bar

Length of music time

**We believe that you should make the most out of your drone.
If you are ever in need of advice, service or parts please visit our website for a list of our retailers and service centers.**

WWW.RCPRO.CA