

# PRO FLIGHT

## ECHO

### User Manual



Model: PFBD77

Thank you for choosing ProFlight.

Please read this user manual before using this drone and keep it safe for future reference.

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## SAFETY

Read the entire instruction manual and familiarise yourself with the product and all its features before operating. Failure to operate the product correctly can result in damage to the product, surroundings or even serious injury. This product is not a toy and must be operated with caution and common sense. It requires some basic mechanical knowledge. This product is not intended for use by children without direct adult supervision. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in this manual prior to assembly, setup or use in order to operate correctly and avoid damage or serious injury.

- Not intended for use by children under 14 years of age. This is not a toy.
- Always operate your drone in open spaces away from vehicles, buildings, traffic and people.
- Always keep out of reach of children.
- Avoid exposure to water as moisture can cause damage to the electronics.
- Never operate your drone with low transmitter batteries.



The battery charger included with the drone has been designed to safely charge the Li-Po battery.

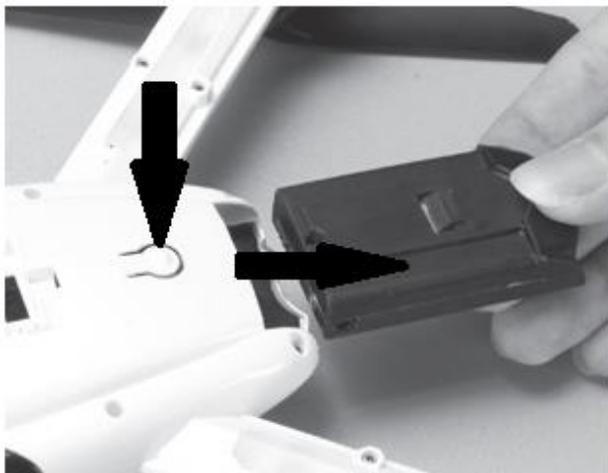
- Mishandling of Li-Po batteries can result in a fire, personal injury, and /or property damage.
- By handling, charging or using the included Li-Po battery you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging or discharging, discontinue and disconnect. Continuing to use, charge or discharge a battery that is ballooning or swelling can result in fire.
- Always store the battery at room temperature in a dry area for best results.

- Do not store battery or drone in a car or direct sunlight. If stored in a hot environment, the battery can be damaged or even catch fire.
- Never use any other type of battery charger other than the one supplied with the drone. Failure to charge the battery with a compatible charger may cause fire resulting in personal injury and/or property damage.
- Never exceed the recommended charge rate.
- When a Li-Po battery is discharged below 3.7V, the battery may be damaged and may no longer accept a charge. The drone will automatically land and become inactive when the battery reaches this level, this is to protect the battery.

## Battery Charging

Use only the enclosed USB Li-Po charger to charge your battery.

Remove the battery from the battery compartment at the rear of the aircraft. Press down the release button on the underside of the aircraft and slide it out.



Plug the charger into the battery.

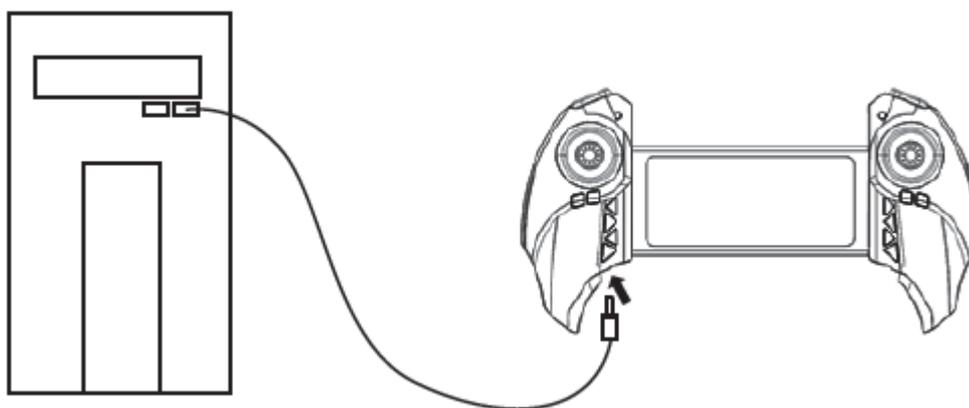


Plug the charger into the USB socket before attaching the battery.

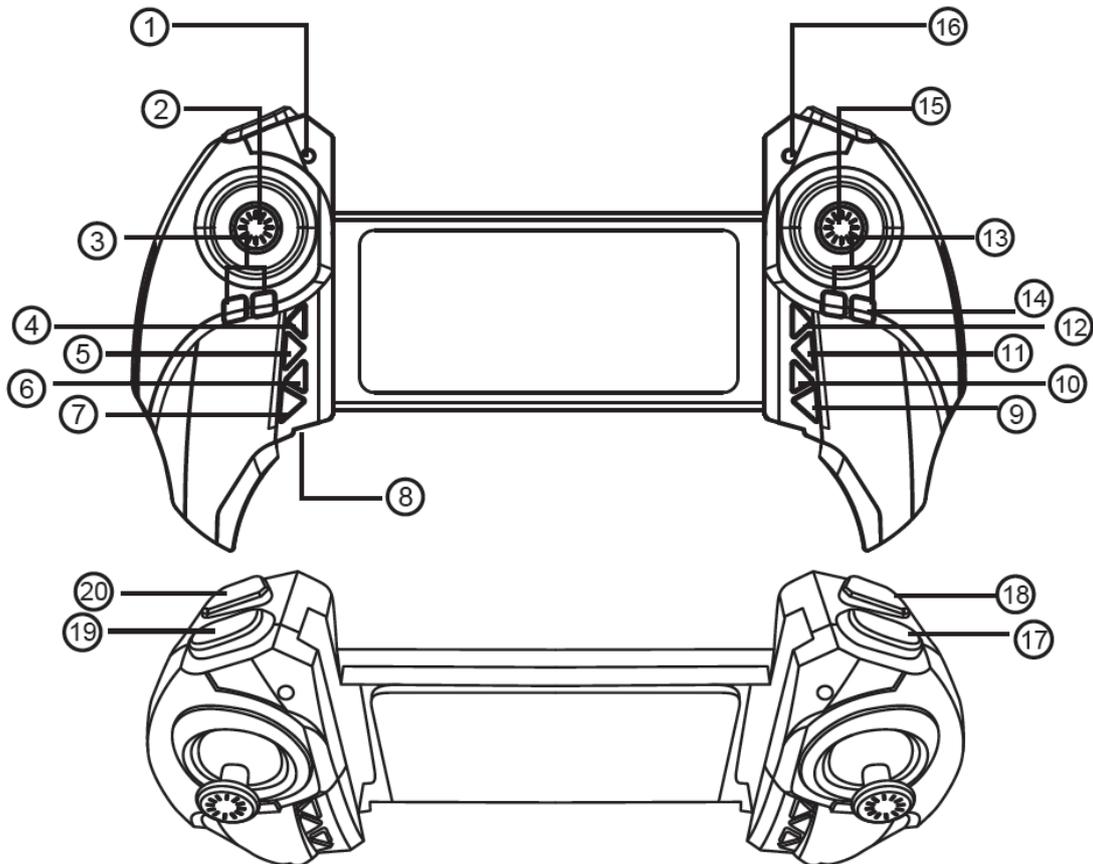
When the charger is plugged into the USB slot (with no battery attached) the LED will illuminate RED. When the battery is charging the LED will go out. When the battery is fully charged it will illuminate RED. Charging should take around 90 minutes. DO NOT leave the battery unattended whilst charging.

### **Remote Control Charging**

Turn off the remote control. Connect the USB cable to the remote control. The GREEN light on the control will illuminate whilst charging. Once charged the RED light on the USB charger will illuminate.

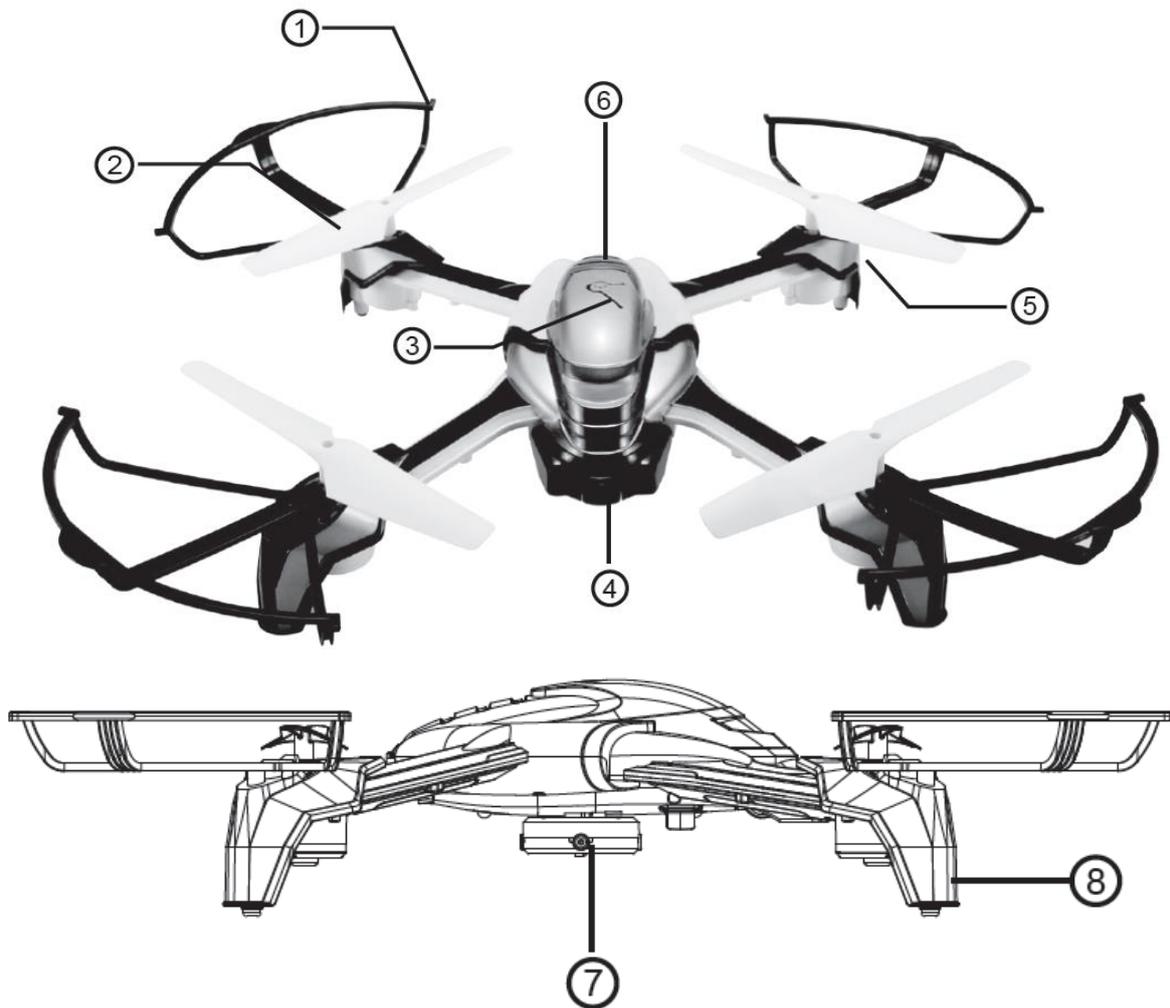


# Transmitter Diagram



- |  |  |
|--|--|
| 1. Charging indicator  | 15. Direction control stick  |
| 2. Throttle control stick  | 16. Power indicator  |
| 3. Left/right rotation trim  | 17. Auto take off/landing<br>(hold for 3 seconds)                      |
| 4. Power switch  | 18. Speed select (One<br>beep for low, two for<br>med, three for high) |
| 5. Camera lens up  | 19. Photo control. (Future<br>firmware updates)                        |
| 6. Camera lens down  | 20. Return key   |
| 7. 3D flip (Future firmware update)  |  |
| 8. Charging socket   |  |
| 9. Headless mode   |  |
| 10. LED light control switch   |  |
| 11. Backward trim  |  |
| 12. Forward trim   |  |
| 13. Left/right trim  |  |
| 14. Press and hold to before power on<br>to switch left & right control sticks |  |

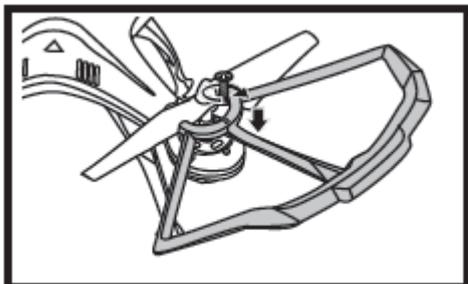
## Aircraft Diagram



1. Prop-guards
2. Propeller
3. Power button
4. Camera module
5. Motor
6. Battery module
7. Obstacle avoidance module
8. Landing gear

## Fitting Propeller Guards

It is recommended that until you are fully comfortable with the controls and handling of the aircraft that you install the propeller guards. These will protect the propellers and aircraft in the event of a crash or hard landing.



Place the propeller guard over the outside of the propeller and attach it with the screw provided.

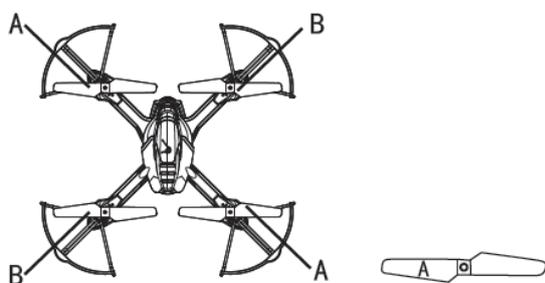
The aircraft comes with a collision avoidance system, but this will only function in Low speed mode.

## Propeller Installation

Insert the propeller over the motor spindle and use a screwdriver to tighten the screw.



It is important for the correct blade to be placed on the correct motor or the aircraft will not fly correctly. Each blade is marked with an A or B to indicate which motor it corresponds to.



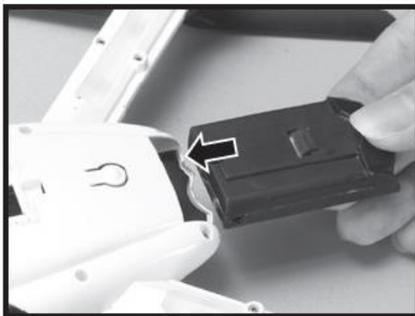
The white rotors are positioned at the front, and the black at the rear.

## Preparing for First Flight

1. Make sure both the transmitter and aircraft batteries are sufficiently charged.
2. Find a suitable place to fly the aircraft, away from people, buildings and vehicles.
3. Make sure the throttle stick is centred before turning on the transmitter.

## Binding of Radio Transmitter & Receiver

1. Place the aircraft on a flat surface and insert the battery into the aircraft.



2. Turn on the controller.
3. The lights on the aircraft will flash repeatedly, hold the left stick down until the transmitter binds with it. At this point the lights will illuminate and stay on.
4. The aircraft is ready to fly.

The aircraft can be flown using either the radio control supplied or by using the App on a smart device. For details on flying with the App, see page 14.

## Sensitivity

The aircraft has 3 levels of sensitivity – High, Medium and Low. To change the sensitivity, click the speed button. The controller will beep once when in Low mode, twice when in medium mode and three times when in high mode.

## High

In high sensitivity setting the aircraft will be more agile but more difficult to control if you are new to flying.

## Low

In low sensitivity setting the aircraft will be more docile and easier to control.

## Medium

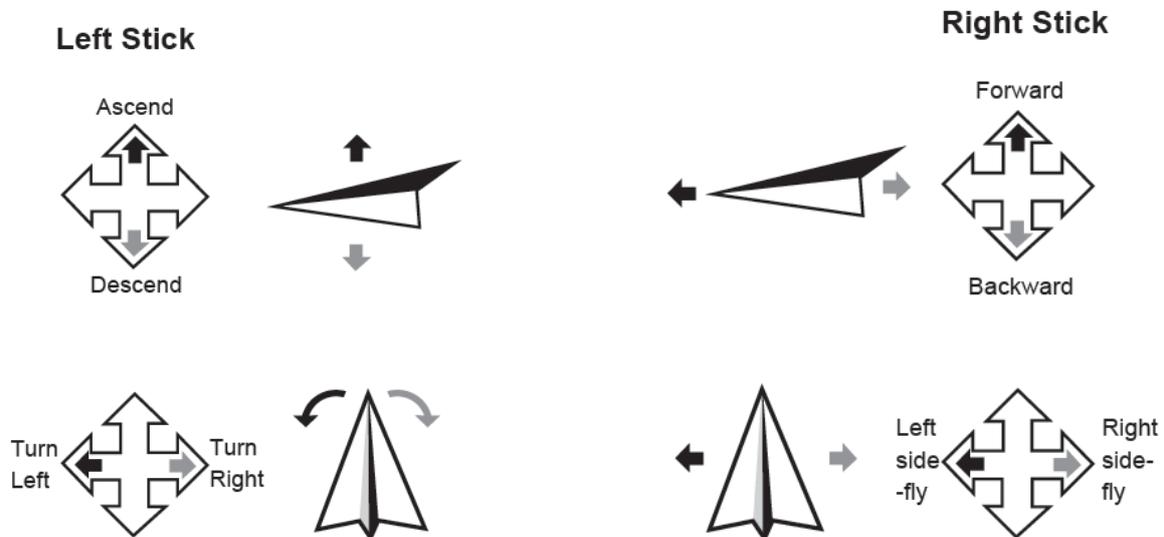
In medium mode the sensitivity will be between high and low.

## Flight Instructions

Before your first flight make sure you are familiar with the controls of the aircraft.

Left Joystick – Throttle & Rudder

Right Joystick – Elevator & Aileron



If the aircraft drifts in a particular direction you can trim the controls using the trim buttons. Select the trim key opposite the direction of drift.

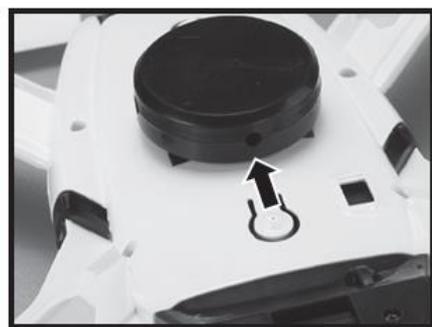
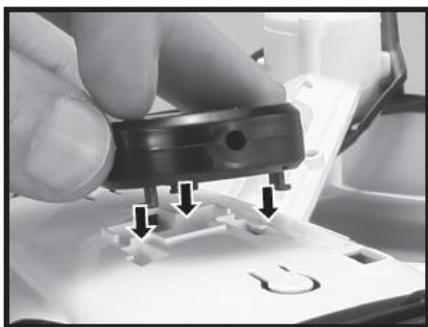
The aircraft can only take off and land by pressing the take off / land button (click once to take off and once to land). Once the aircraft is airborne it will hold a steady hover, you are now in control of the aircraft and can use the left and right sticks to control it.

**Note:** Should the aircraft be left for a while with no control inputs it will go to sleep, simply press and hold the take off/land button to reactivate the aircraft.

## Aircraft Functions and Features

### Obstacle Avoidance Sensor

Install the collision sensor to the bottom of the aircraft as per the below diagram:



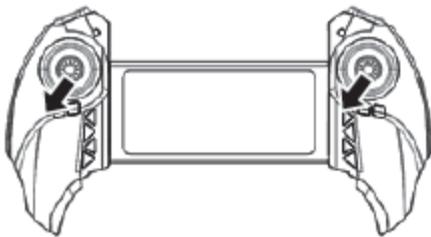
Collision avoidance will only work in Low speed mode. The sensor will work to keep the drone around 2m away from any obstacles. Solid white objects (e.g. walls) will be the easiest detected objects. Glass will not be detected. If an object is detected the aircraft will move in the opposite direction to avoid it.

### Smart Return

The aircraft can be made to return in a fixed direction by pressing and holding the return button. When the aircraft is turned on it will remember the direction it is oriented and upon activation of the Smart Return feature it will fly back in that direction. **NOTE:** Be careful to orientate the aircraft with the rear tail facing towards you if you want the aircraft to fly back towards you using the smart return mode. You can retake full control of the aircraft at any time by moving the control sticks. The aircraft will not return to where it started, it will simply move in the direction it was orientated when turned on.

## Headless Flight

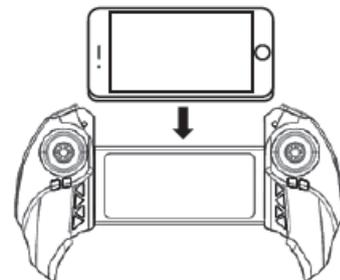
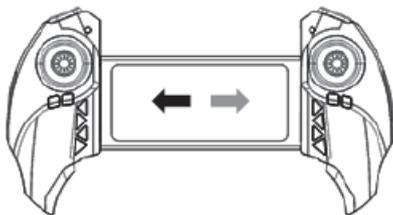
The aircraft can be made to fly in Headless Flight by pressing the headless flight button (9). This will make the aircraft fly without a front or rear. It will fly in the orientation of the pilot. If you move the right joystick right, the aircraft will fly right. Move the joystick left and it will fly left. Move the joystick forwards and the aircraft will fly away from you and pull it back to make it fly towards you. It does not matter which direction the drone is facing in headless mode. To calibrate the aircraft for headless flight, place it on a flat surface with the front facing away from the operator. Then push both the left and right sticks to the lower left at the same time and hold for 2 seconds.



The indicator lights on the aircraft will change from stable to a fast flickering for 2 seconds before returning to solid.

## Phone installation

Stretch the controller apart and slide your phone/tablet into the middle of the device.



## Camera

Insert the camera module in the same way as the battery module. Make sure the drone is turned off when you install or remove the camera module.

The camera App can be downloaded by scanning the below QR code:



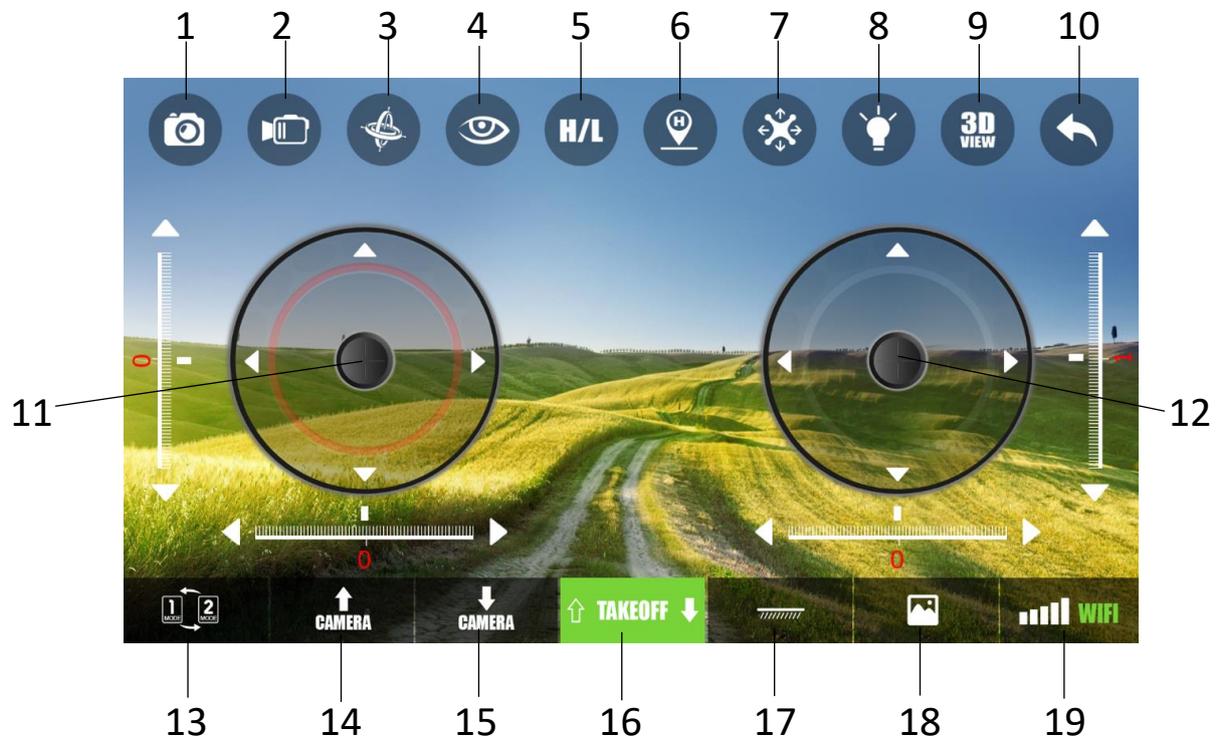
Android



iOS

To connect the aircraft to your mobile device: turn on the aircraft and go to settings on your mobile device. Open the WiFi settings and search for KD-\*\*\*\* from the device list. Select it and wait for it to connect. Open the PANTONMA App and click “My Drone”. This will lead you to the control screen and show the view of the camera. You can either use the on screen controls or the controller to control all aspects of the aircraft.

# APP



- |  |                                 |
|--|---------------------------------|
| 1. Take photo  | 11. Left control stick          |
| 2. Start/stop video recording                              | 12. Right control stick         |
| 3. Control aircraft using phone G-sensor (tilt to control) | 13. Mode ½ select               |
| 4. Toggle control sticks on/off screen                     | 14. Camera up                   |
| 5. Speed control (high or low only)                        | 15. Camera down                 |
| 6. Return function   | 16. Take off / land             |
| 7. Headless mode   | 17. Level calibration           |
| 8. Turn lights on/off                                      | 18. Enter picture/video gallery |
| 9. Turn on 3D view   | 19. WiFi signal strength        |
| 10. Return to App menu                                     |                                 |

## Flying using the App

Once you have downloaded the App (see page 13), turn on the aircraft and the lights will flash rapidly for around 5 seconds.

Once they have stopped rapidly flashing, go to the settings in your chosen smart device and search for the aircraft (KD-\*\*\*\*).

Once you have discovered it, select connect and wait for the WiFi to fully connect.

Open the PANTONMA app and select “MY DRONE”. This will take you into the live view on the camera and display on screen controls.

See Flight Instructions on page 10.

**Note:** Do not turn on the supplied remote control if you want to control the aircraft using the App. If you want to fly using the controller, the App can only be used for live view and photography, not controlling the aircraft.

## Troubleshooting

	Problem	Cause	Solution
1	The lights on the aircraft are flashing but it does not respond to the control	<ol style="list-style-type: none"><li>1. The aircraft and transmitter are not connected.</li><li>2. Insufficient battery power.</li></ol>	<ol style="list-style-type: none"><li>1. Repeat the connection procedure.</li><li>2. Recharge the battery.</li></ol>
2	The aircraft blades turn but it will not take off	<ol style="list-style-type: none"><li>1. Insufficient battery power.</li><li>2. The blades are distorted.</li><li>3. Take off button not pressed.</li></ol>	<ol style="list-style-type: none"><li>1. Recharge the battery.</li><li>2. Replace the blades.</li><li>3. Press the take off button.</li></ol>
3	The aircraft shakes in flight	The blades are damaged/distorted	Replace the blades.
4	The aircraft won't fly using the App.	<ol style="list-style-type: none"><li>1. Aircraft not connected to App.</li><li>2. Connection not done in correct order.</li><li>3. Main controller is turned on.</li></ol>	<ol style="list-style-type: none"><li>1. Reconnect using the instructions on page 15</li><li>2. Reconnect using the instructions on page 15</li><li>3. Aircraft can not fly on App when main controller is turned on. Turn off controller, reset aircraft, app and WiFi to reconnect to App</li></ol>
5	Camera not working in App	<ol style="list-style-type: none"><li>1. Aircraft not connected to App.</li><li>2. Camera module has come loose.</li></ol>	<ol style="list-style-type: none"><li>1. Reconnect using the instructions on page 15</li><li>2. Check camera module is firmly installed in body of aircraft.</li></ol>

6	Collision avoidance does not work.	<ol style="list-style-type: none"> <li>1. Aircraft not in Low speed mode.</li> <li>2. Being flown in a small area.</li> <li>3. Obstacle is glass or black.</li> </ol>	<ol style="list-style-type: none"> <li>1. Press the Speed select button until it beeps once.</li> <li>2. Collision avoidance works at 2m from the aircraft, if you fly in a small area this will confuse the system.</li> <li>3. The collision avoidance system can not easily see glass or black objects.</li> </ol>
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Disposal: Do not dispose this product as unsorted municipal waste. Collection of such waste must be handled separately as special treatment is necessary

Recycling facilities are now available for all customers at which you can deposit your old electrical products. Customers will be able to take any old electrical equipment to participating civic amenity sites run by their local councils. Please remember that this equipment will be further handled during the recycling process, so please be considerate when depositing your equipment. Please contact the local council for details of your local household waste recycling centres.