



DIY Block Drone

User Manual



Model: PFBD102

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.

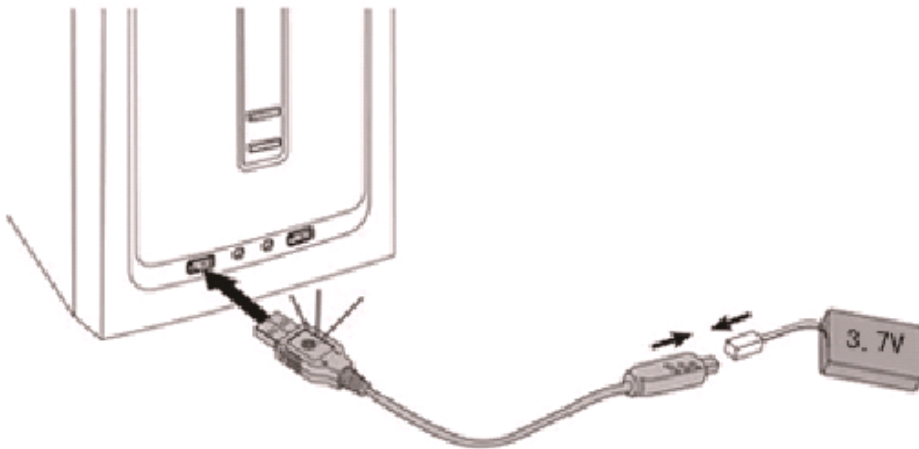
- Mishandling of Li-Po batteries can result in a fire, personal injury, and /or property damage.
- By handling, charging or using the included Li-Po battery you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If 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.

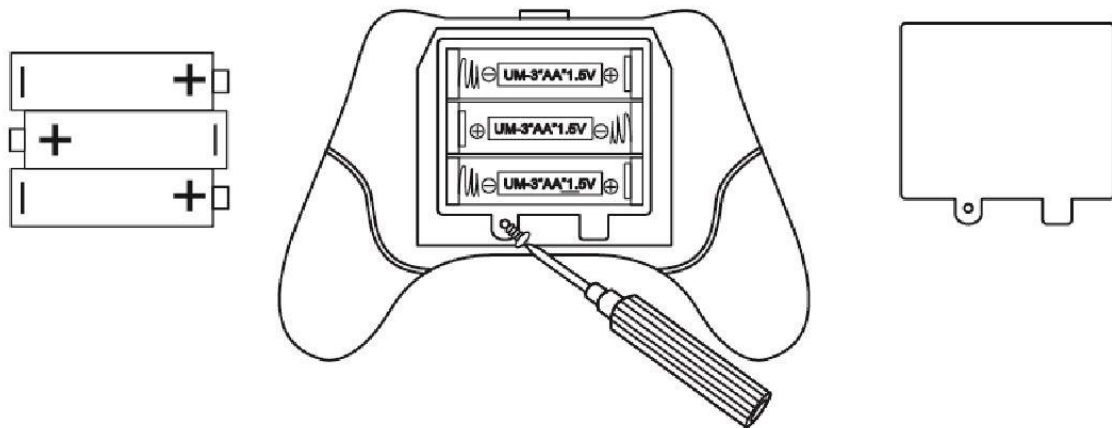
Remove the battery from the aircraft. Plug the charger into a USB socket before attaching the battery.



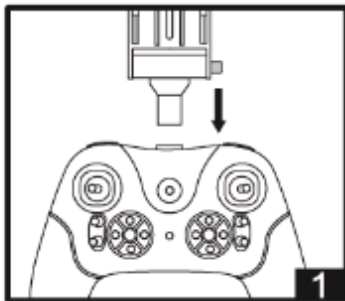
When the charger is plugged into the USB slot and charging the LED will illuminate RED. When the battery is fully charged the LED will go out. Charging should take around 60-70 minutes. DO NOT leave the battery unattended whilst charging.

Installing the Controller Batteries

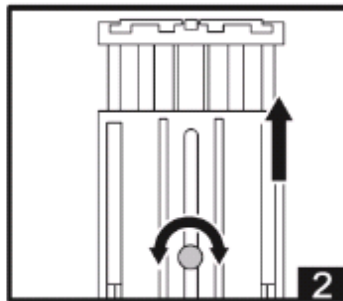
Unscrew the battery cover and insert 3 x AA Batteries, making sure the correct polarity is followed, before reattaching the battery cover



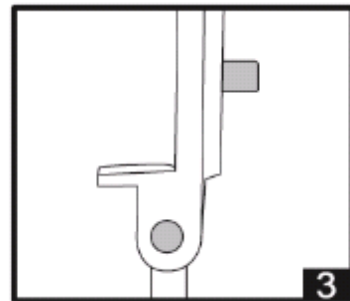
Installing the Camera Mount



1.insert the phone mount
Into the controller
(fig.1)



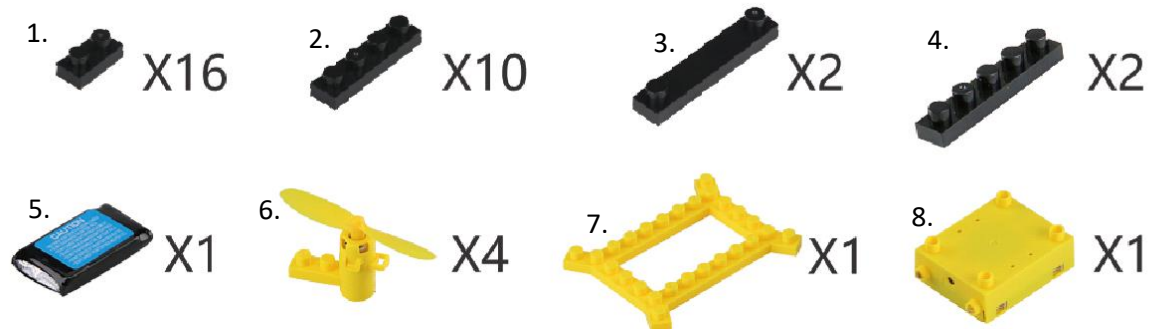
2.Fasten or loosen to
extend the photo mount
(fig.2)



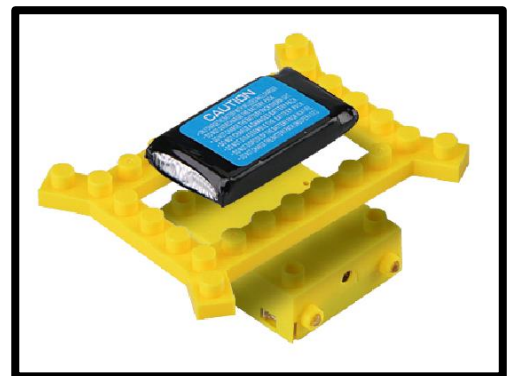
3.Fasten or loosen the screw
on the side to adjust the
angles of the mount (fig.3)

Building the Drone

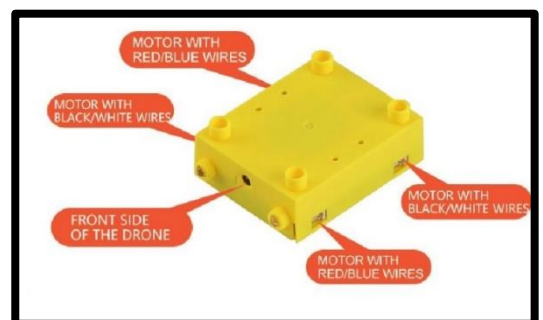
Before starting to assemble the drone, please ensure you have all the parts listed in the diagram below:



1. Start with part 8 (Control Box), and attach the main frame piece (Part 7) above it, following the orientation shown in the diagram. The Li-Po battery can then be placed within the space on the frame piece. Ensure the wire for the battery is able to easily reach the power connector on the Control box, if not please remove the battery, turn it over, and try again.



2. Use the 4 x 1 blocks (Part 2) to attach the Propeller blocks (Part 6) to the frame, as shown in the image. Please note 2 motors spin clockwise and 2 anticlockwise, as such the image below should be followed to ensure the correct propeller is fitted at each corner. Once all four propellers are secured using the 4x1 blocks above, and below, four 2x1 blocks (Part 1) should be assembled into a leg and attached to the underside of each corner of the drone.



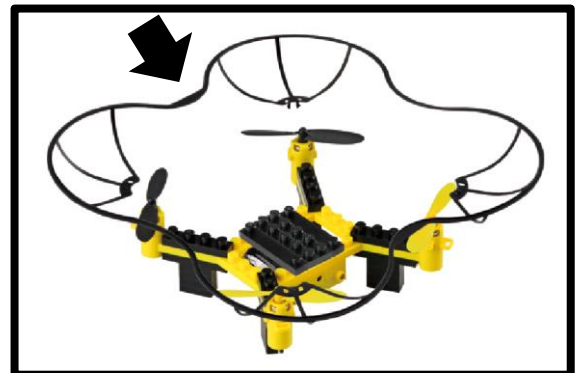
3. A cover for the battery should then be assembled using the 5x1 blocks (Parts 3 + 4). The blocks without the centre pegs (Part 3) should be put to the outside with the standard 5x1 blocks (Part 4) should be on the inside



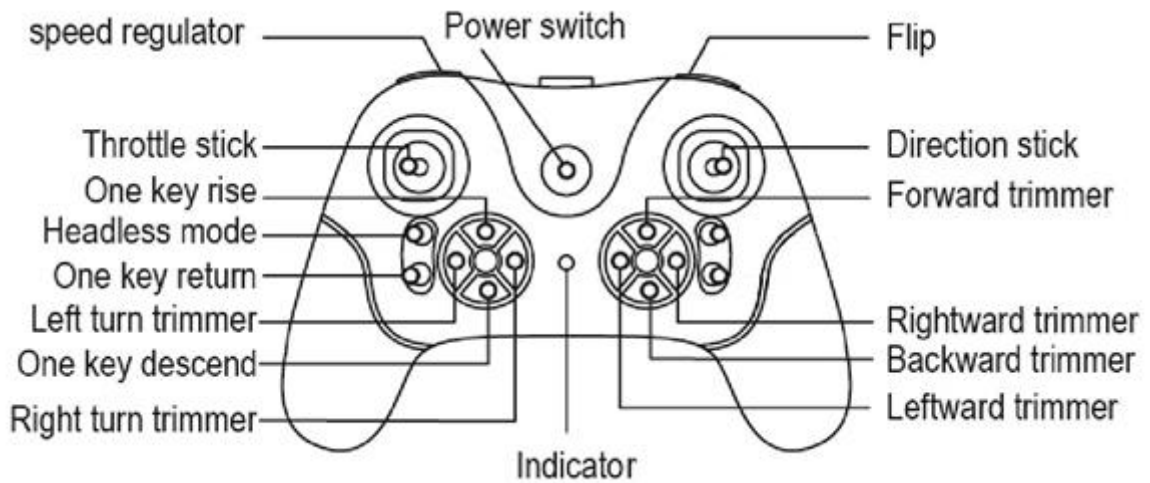
4. The Strap should then be attached. This is used to help hold the drone together after a low impact collision



5. The Propeller guard should then be eased into position. The pins on each corner should be clipped into the slots on the outside of the propeller unit. Please Note the flat sections of the guard should be positioned to the front and back of the drone.



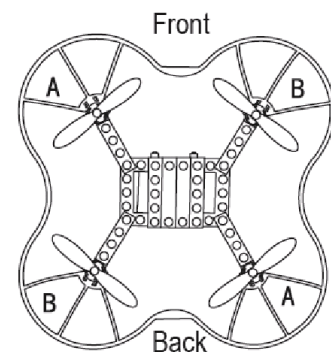
Transmitter Diagram



How to change the Propellers

The propellers can easily be removed and replaced, simply by pulling them off the motor spindle, and pushing a replacement propeller back on.

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 on the top to indicate which motor it corresponds to.



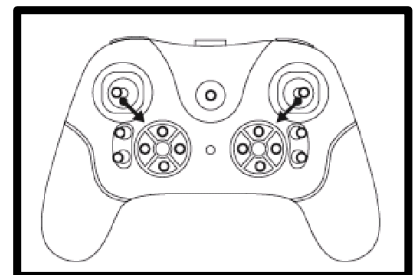
Preparing for First Flight

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.

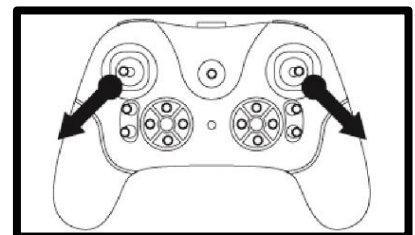
Binding of Radio Transmitter & Receiver

1. Connect the lead from the battery to the socket on the Control Box.
2. Turn on the controller.
3. The controller will beep twice, and the red LED will flash. If the unit has automatically paired, the lights on both the controller and the drone will be constantly on, if the lights are flashing, press the left stick up to bind to the drone.

4. The gyroscope should then be calibrated by sitting the drone on a flat surface, facing the controller, and then holding both joysticks diagonally downwards and inwards for a few seconds. When the lights stop flashing the drone is calibrated.



5. With the drone still sat on a flat surface, hold both joysticks diagonally downwards and outwards for a few seconds, This will unlock the drone, and start the propellers spinning



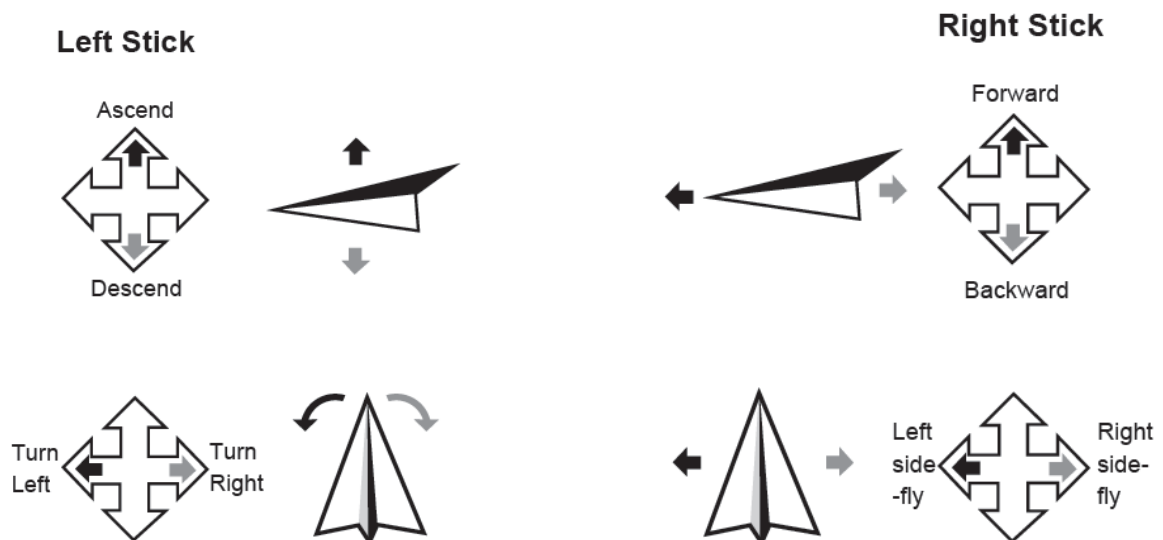
6. The aircraft can be flown using either the radio control supplied or by using the App on a smart device. For details on flying with the App, see page 14.

Flight Instructions

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

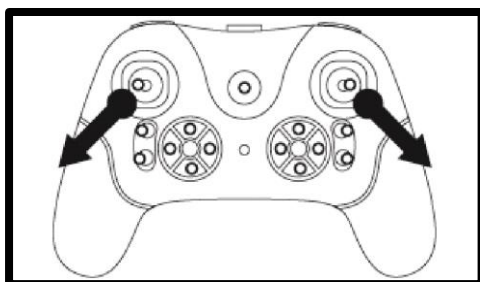
Left Joystick – Throttle & Rudder

Right Joystick – Elevator & Aileron



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.


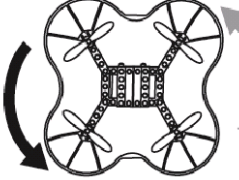

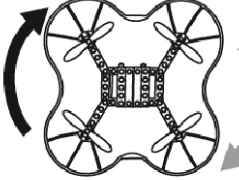

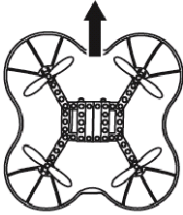

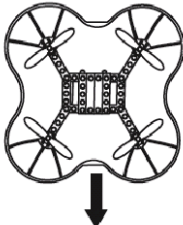

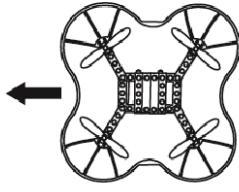

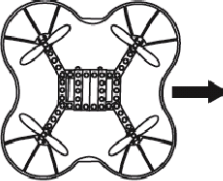
Unlock the controller



To unlock the controller and start the propellers at a low speed, both joysticks should be held pointing downwards and outwards as per the image for a few seconds.

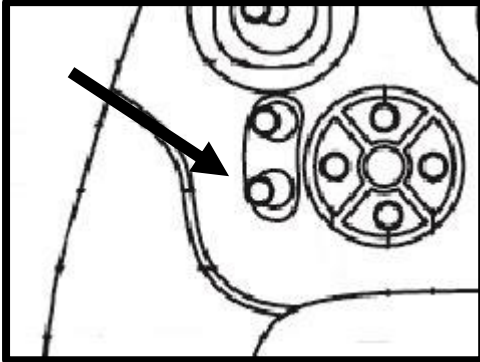
Flight Adjustment

When you lift the Drone into the air, 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. Trimming is always needed before your first flight.

	 <p>When the aircraft automatically turn left slowly in flight,press the Rightward trimmer until the aircraft hovering flight.</p>
	 <p>When the aircraft automatically turn right slowly in flight,press the Leftward trimmer until the aircraft hovering flight.</p>
	 <p>When the aircraft automatically flies forward slowly ,press the Backward trimmer until the aircraft hovering flight</p>
	 <p>When the aircraft automatically flies backward slowly ,press the forward trimmer until the aircraft hovering flight</p>
	 <p>When the aircraft automatically flies leftward slowly ,press the rightward trimmer until the aircraft hovering flight</p>
	 <p>When the aircraft automatically flies rightward slowly ,press the leftward trimmer until the aircraft hovering flight</p>

Aircraft Functions and Features

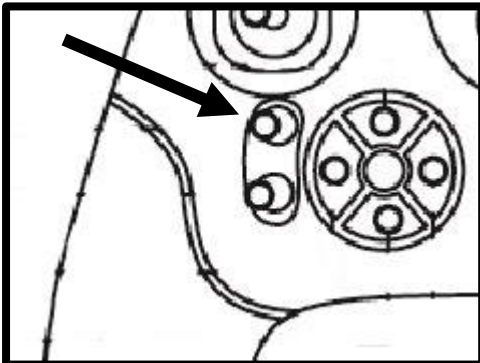
One Key Return



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.

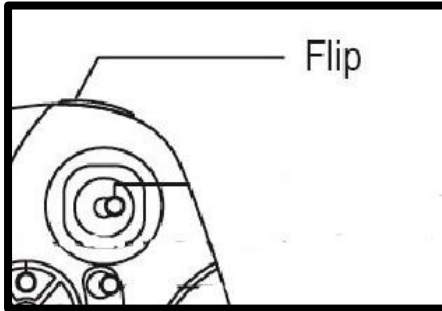
Headless Flight



The aircraft can be made to fly in Headless Flight by pressing the headless flight button. 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.

360 Flip



Before attempting a flip, please make sure the drone is at least 3 meters above the floor and 3 metres below a ceiling.

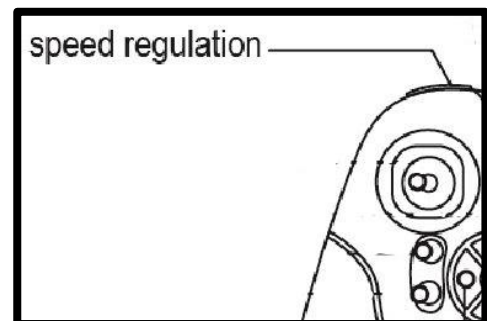
Press the flip button on the controller, it will make a bleep, then press the right lever in the direction you want the drone to flip.

Speed Control

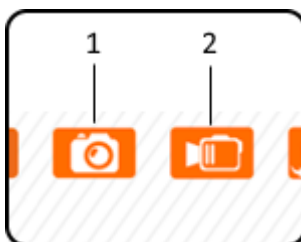
The drone has 3 speed settings. It will initially be set at 25%. By pressing the speed button the speed of the drone can be adjusted. The controller will bleep to indicate the speed it is set at after the button has been pressed.

25% - 1 Bleep, 50% - 2 Bleeps

100% - 3 Bleeps



Take Photo / Video



The app has buttons which enable a photo or video to be saved to your phone. Please note, the app must be connected and running, for the buttons to work. Make sure you have enough spare memory on your device.

APP

The camera App can be downloaded by scanning the below QR code or search for Heliway FPV in your App Store:

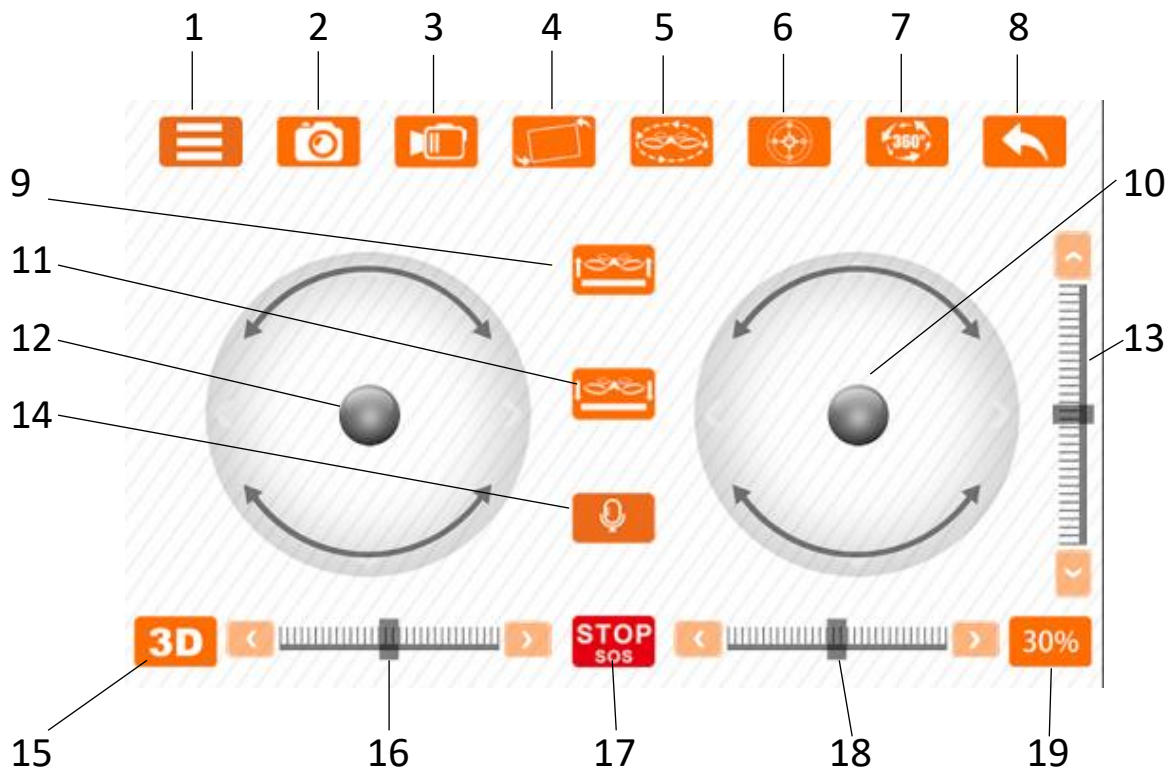


Android



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 a device starting with WiFiUFO-. Select it and wait for it to connect. Open the Heliway FPV App and click “Play”. 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.



- | | |
|--|---|
| 1. Menu | 11. Land |
| 2. Take photo | 12. Left Control Stick |
| 3. Start / Stop Recording Video | 13. Pitch Trim |
| 4. Mode – Use phones gyroscope for control | 14. Record sound from the phones microphone |
| 5. Flight Path | 15. For 3D View using Goggles |
| 6. Headless Mode | 16. Yaw Trim |
| 7. Flip | 17. Emergency Stop |
| 8. Return to main menu | 18. Roll Trim |
| 9. Take Off | 19. Speed Setting |
| 10. Right Control Stick | |

Note: 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"> 1. The aircraft and transmitter are not connected. 2. Insufficient battery power. 	<ol style="list-style-type: none"> 1. Repeat the connection procedure. 2. Recharge the battery.
2	The aircraft blades turn but it will not take off	<ol style="list-style-type: none"> 1. Insufficient battery power. 2. The blades are distorted. 3. Take off button not pressed. 	<ol style="list-style-type: none"> 1. Recharge the battery. 2. Replace the blades. 3. Press the take off button.
3	The aircraft shakes in flight	The blades are damaged/distorted	Replace the blades.
5	Camera not working in App	<ol style="list-style-type: none"> 1. Aircraft not connected to App. 	<ol style="list-style-type: none"> 1. Reconnect using the instructions on page 14



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.

UK Support

<http://www.proflightuk.co.uk/support/>

If you have been through the troubleshooting, and the unit is failing to operate, our service line can be contacted on: 0871 971 3141

Office hours: 9AM - 5PM Monday to Friday

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