DJI W3 FPV Remote Controller User Manual

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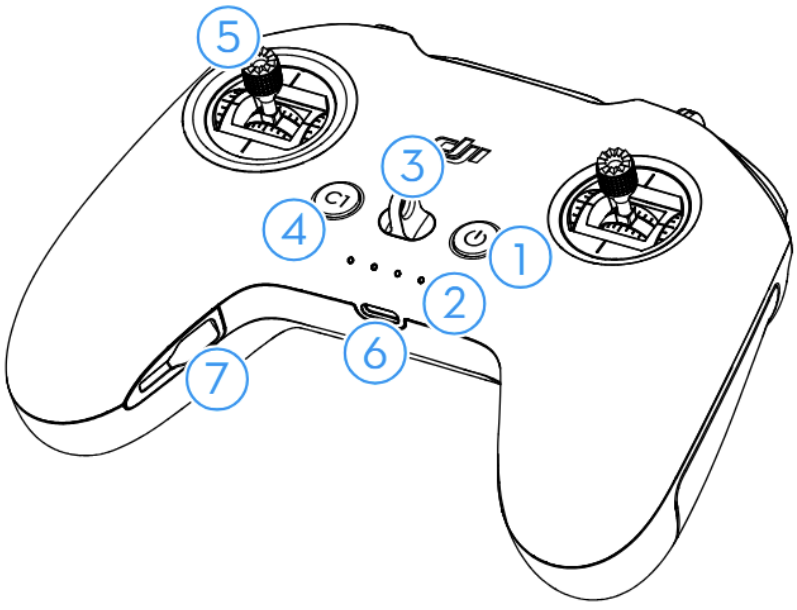

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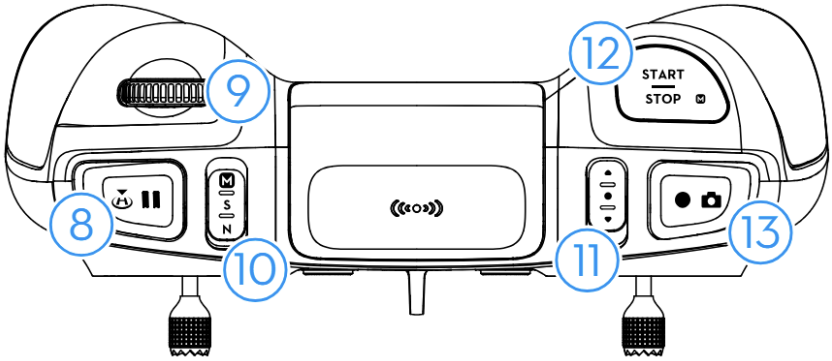

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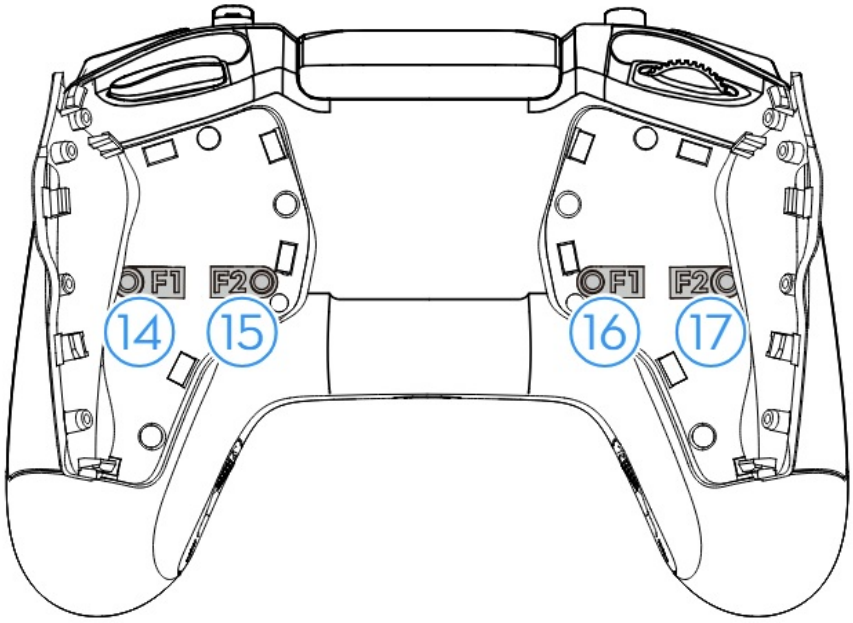
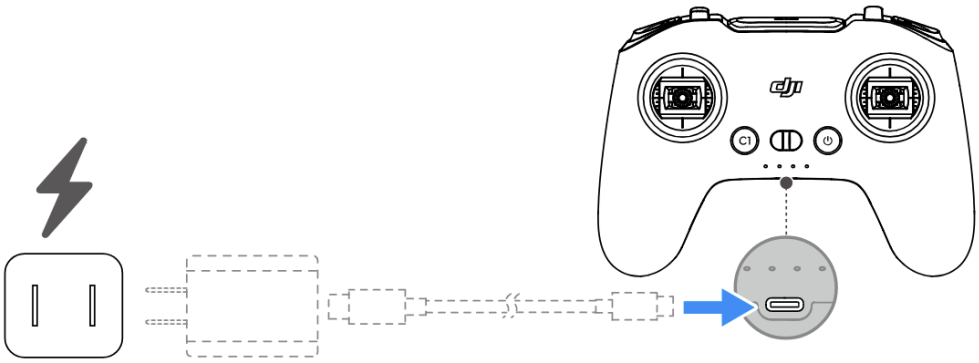


Preparing the Remote Controller

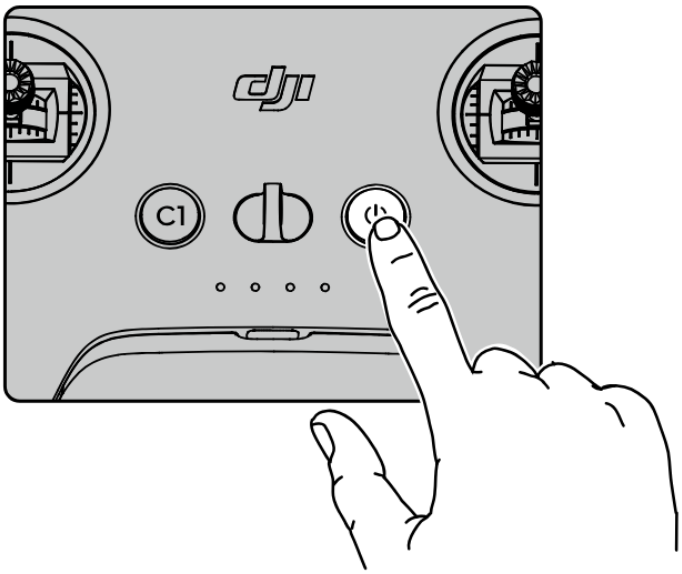
Charging

Connect the charger to the USB-C port on the remote controller, and charge the remote controller until at least three LEDs are lit up.



- It is recommended to use a USB charger that supports an output of 5 V/2 A or above to charge the device.
- Make sure the remote controller has enough power before each flight. The remote controller beeps when the battery level is low.
- Fully charge the battery at least once every three months to maintain good battery health.

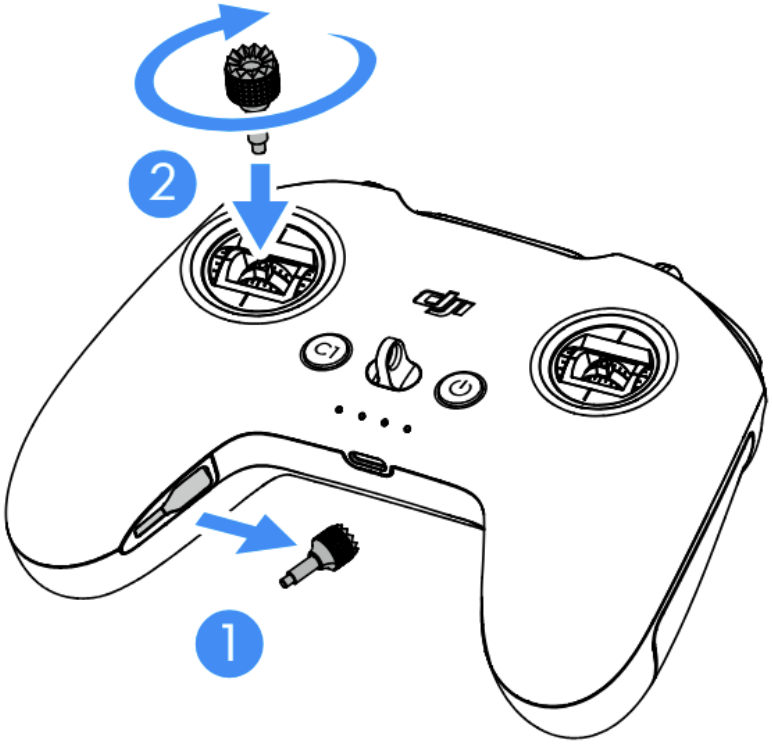
Powering On and Off



Press the power button once to check the current battery level. If the battery level is too low, charge before use. Press once, then press and hold for two seconds to power the remote controller on or off.

Installation

Remove the control sticks from the storage slots and mount them on the remote controller.



Linking

Make sure that all the DJI devices are updated to the latest firmware using DJI Assistant 2 (Consumer Drones Series) before linking.

Linking Goggles and Remote Controller (Figure A)

1. 

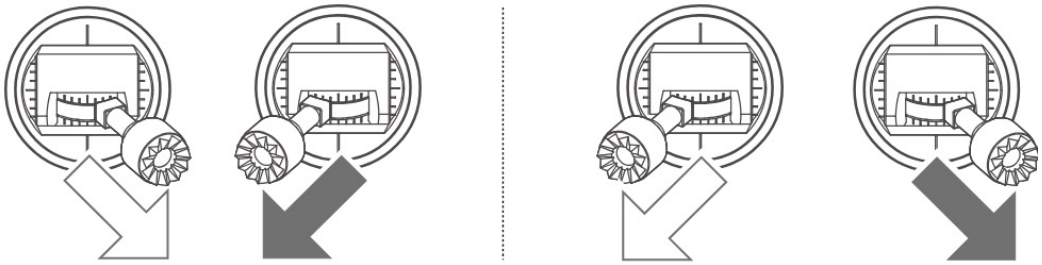
    1. Power on the aircraft, goggles, and remote controller. Press and hold the power button on the remote controller until it starts to beep continually and the battery level LEDs blink in sequence.
    2. Press and hold the power button on the goggles until it starts to beep continually and the battery level LEDs blink in sequence.
    3. Once linking is successful, the goggles and the remote controller stop beeping and both the battery level LEDs turn solid and display the battery level.
2. **Linking Goggles and Aircraft (Figure B)**

1. Press and hold the power button on the goggles until it starts to beep continually and the battery level LEDs blink in sequence.
2. Press and hold the power button on the aircraft until it beeps once and the battery level LEDs blinks in sequence.
3. Once linking is completed, the battery level LEDs of the aircraft turn solid and display the battery level, the goggles stop beeping, and the image transmission can be displayed normally.

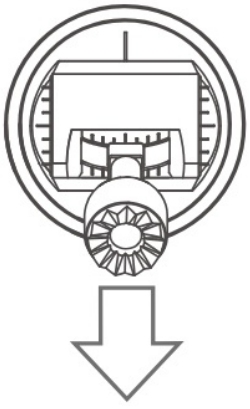
- The aircraft can be controlled with only one remote control device during flight. If the aircraft has been linked with multiple remote control devices, turn off the other remote control devices before linking.
- Make sure the devices are within 0.5 m of each other during linking.

Using the Remote Controller

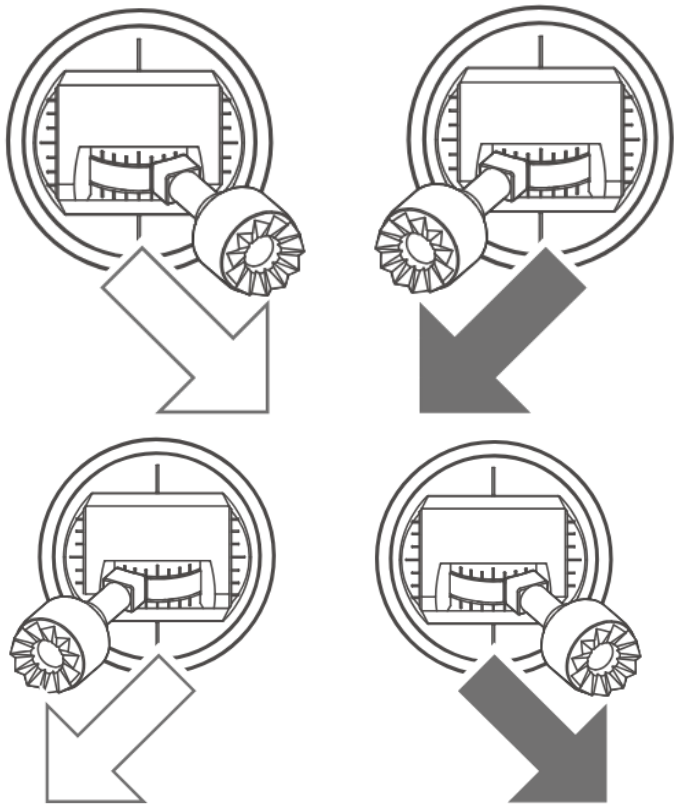
Basic Flight Operations
Starting and Stopping the Motors Starting the Motors
In Normal mode or Sport mode, the Combination Stick Command (CSC) is used to start the motors. Once the motors have started spinning, release both sticks simultaneously. Push the throttle stick up slowly to take off



Stopping the Motors
The motors can be stopped in two ways:
Method 1: After the aircraft has landed, push the throttle stick down and hold until the motors stop.

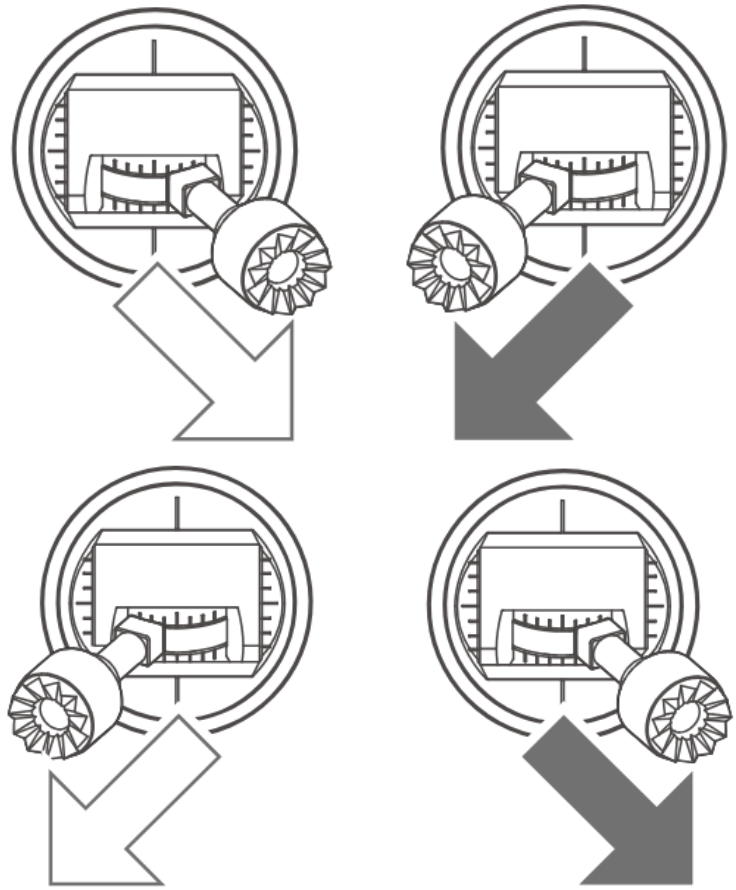


Method 2: After the aircraft has landed, perform the same CSC used to start the motors until the motors stop
Refer to the Using Manual Mode section for information on starting and stopping the motors in Manual mode.



Emergency Propeller Stop

When using Normal or Sport mode, the setting for Emergency Propeller Stop can be changed in the goggles. Press the 5D button on the goggles, and select Settings > Safety > Advanced Safety Settings.
Emergency Propeller Stop is disabled by default. When disabled, the motors of the aircraft can only be stopped mid-flight by performing a CSC in an emergency situation such as if the aircraft has a stalled motor, is involved in a collision, is rolling in the air, is out of control, or is ascending or descending quickly. When enabled, the motors can be stopped mid-flight anytime by performing the CSC.



When using Manual mode, press the start/stop button twice on the remote controller to stop the motors at any

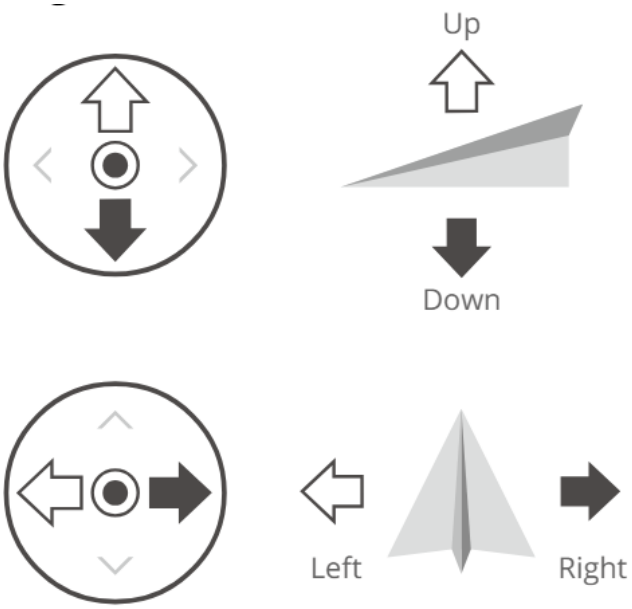
time.

- ⚠ Stopping motors mid-flight will cause the aircraft to crash. Operate with caution.

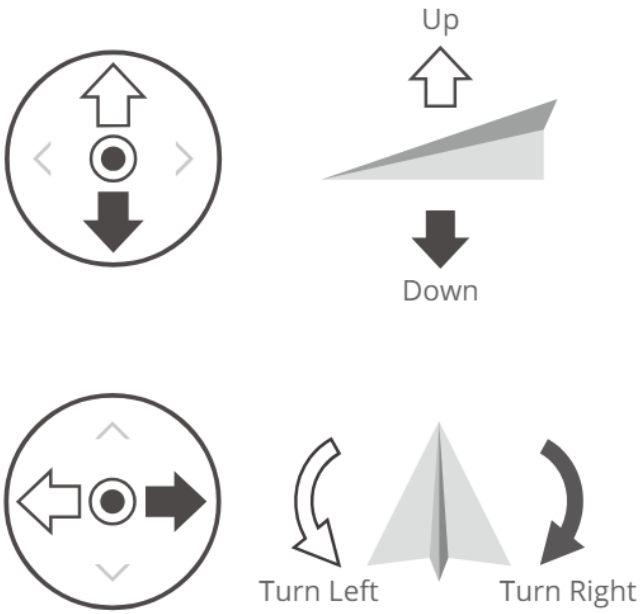
Operating the Aircraft

The control sticks of the remote controller can be used to control the aircraft movements. The control sticks can be operated in Mode 1, Mode 2, or Mode 3, as shown below.

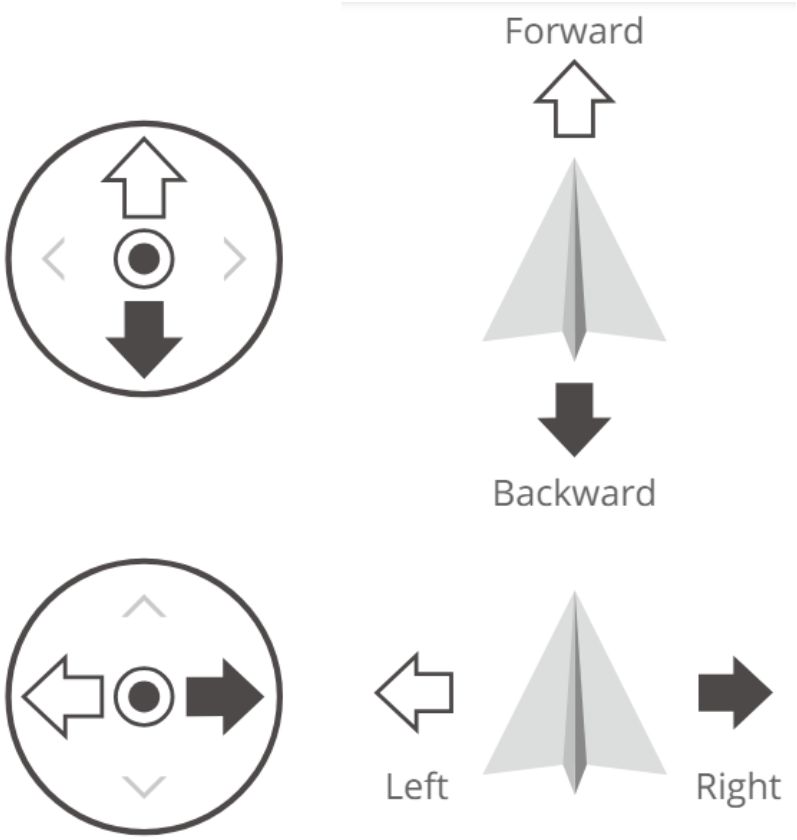
Mode1
Left Stick



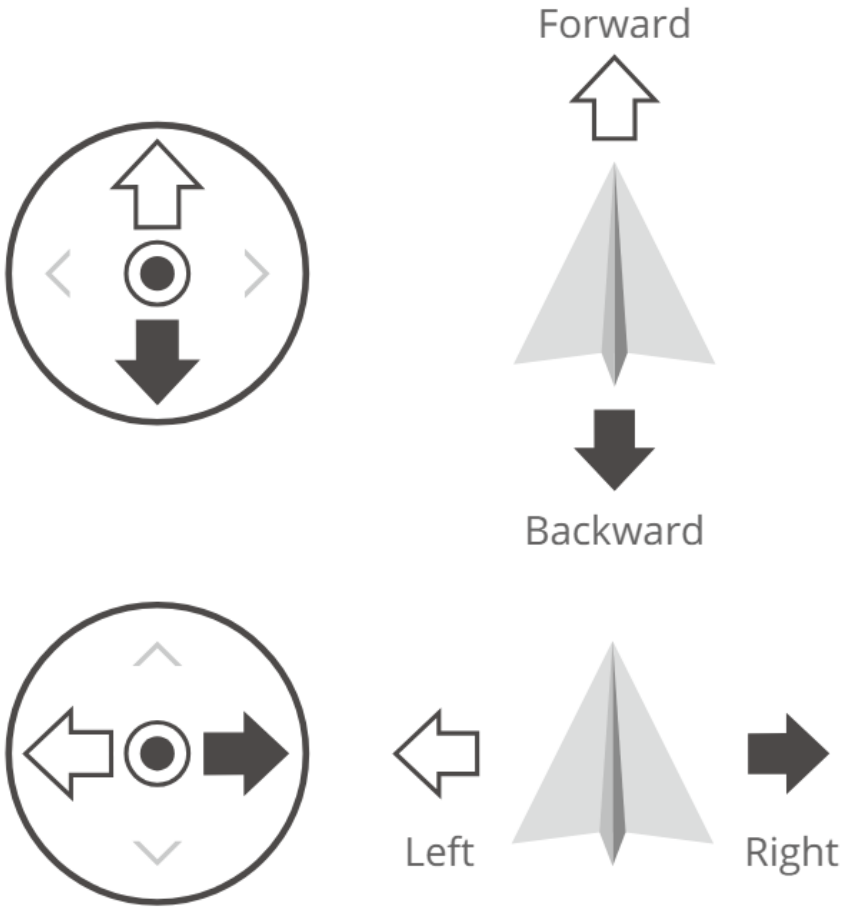
Right Stick



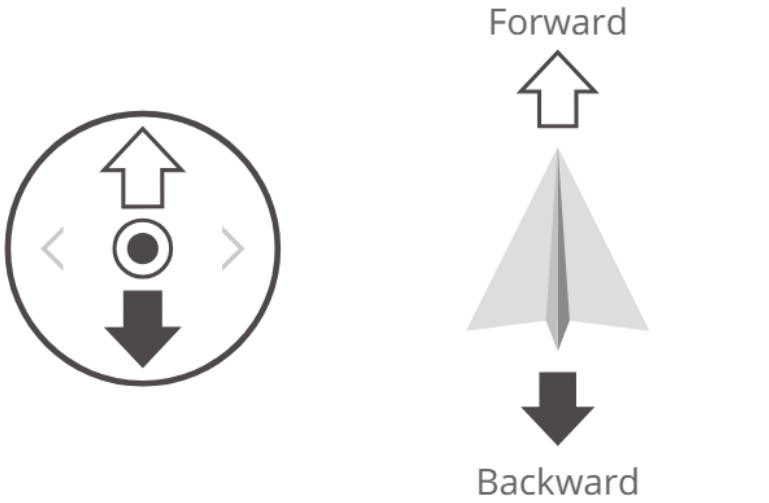
Mode 2
Left Stick

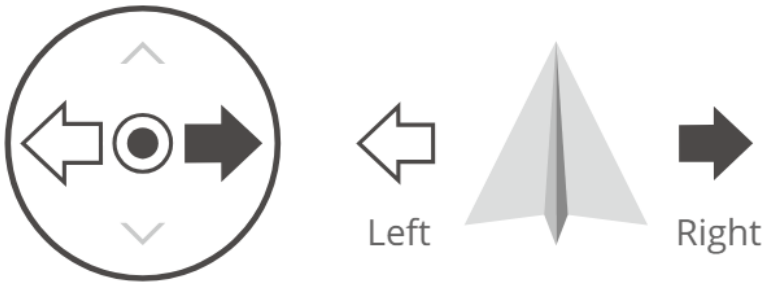


Right Stick

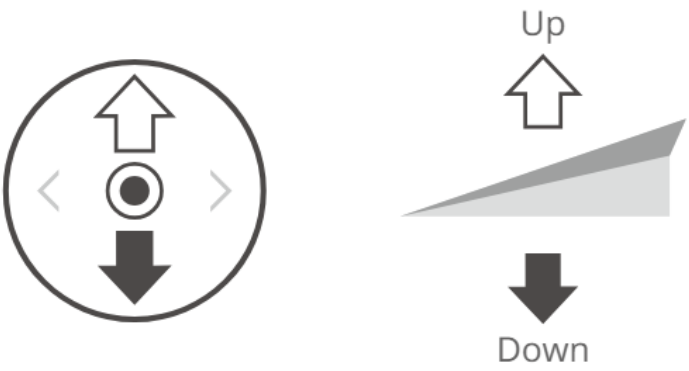


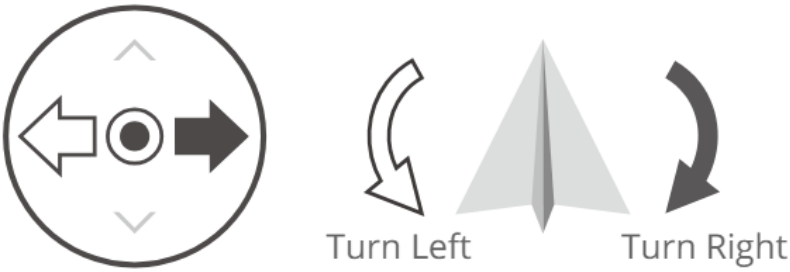
Mode 3
Left Stick



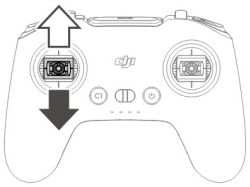
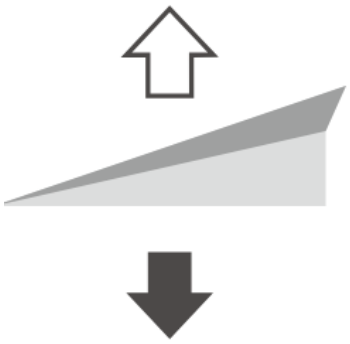
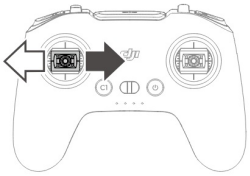
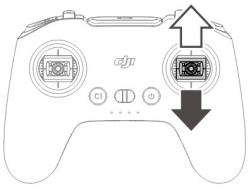
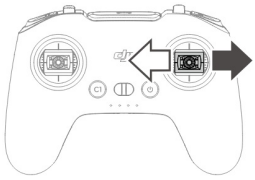


Right Stick



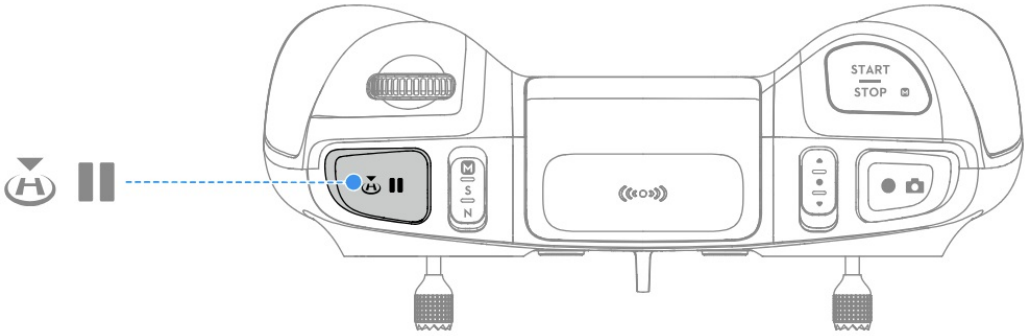


The default control mode of the remote controller is Mode 2. In this manual, Mode 2 is used as an example to illustrate how to use the control sticks in Normal mode or Sport mode.

Control Stick (Mode 2)	Aircraft	Remarks
		**Throttle Stick**• Push the stick up or down to make the aircraft ascend or descend.• The further the stick is pushed away from the center, the faster the aircraft ascends or descends.• Push the stick gently to prevent sudden an dunexpected changes in altitude during takeoff.
		**Yaw Stick**• Push the stick left or right to change the orientation of the aircraft.• The further the stick is pushed away from thecenter, the faster the aircraft rotates.
		**Pitch Stick**• Push the stick up and down to make the aircraft fly forward or backward.• The further the stick is pushed away from thecenter, the faster the aircraft moves.
		**Roll Stick**• Push the stick left or right to make the aircraft horizontally move left or right.• The further the stick is pushed away from thecenter, the faster the aircraft moves.

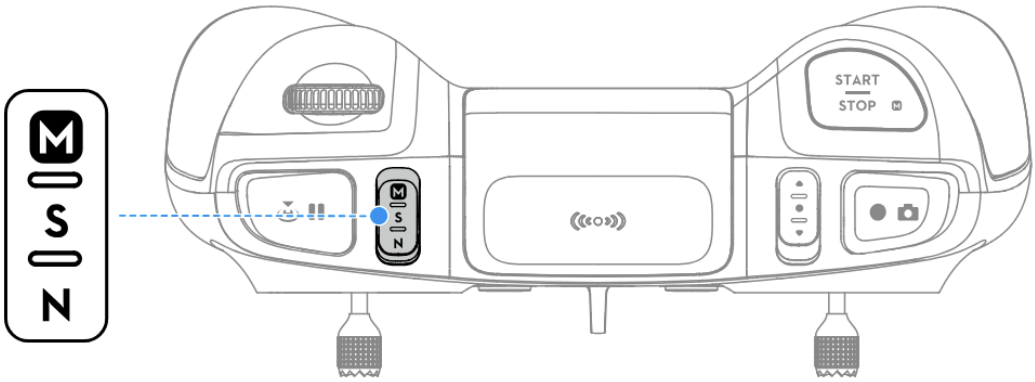
- The control stick mode can be modified in the goggles.
- In Manual mode, the throttle stick has no center position. Before flying, adjust the throttle stick to prevent it from returning to the center.

Flight Pause/Return to Home (RTH) Button



Press once to make the aircraft brake and hover in place (only when GNSS or Vision Systems are available). Make sure that the pitch stick and roll stick return to the center, and push the throttle stick to resume control of the flight.
Press and hold the button until the remote controller beeps and starts RTH. The aircraft will return to the last recorded Home Point.
When the aircraft is performing RTH or auto landing, press the button once to cancel RTH or landing.
When using Normal or Sport mode, press the Start/Stop button once to cancel Low Battery RTH countdown when the prompt appears in the goggles, and the aircraft will not enter the low battery RTH.**Switching Flight Modes**
Toggle the flight mode switch to switch between Normal mode, Sport mode, or Manual mode. Illustration Flight Mode

Illustration	**Flight Mode**
M	Manual mode
S	Sport mode
N	Normal mode



- The flight operations may vary in different flight modes. Carefully read the DJI Avata 2 User Manual and learn about each flight mode. DO NOT switch from Normal mode to either Sport mode or Manual mode unless you are sufficiently familiar with the aircraft behavior under each flight mode.
- To ensure safety, Manual mode is disabled by default. Refer to the Using Manual Mode section for more information.

Using Manual Mode

Safety Precautions

- Manual mode is the classic FPV aircraft control mode with the highest maneuverability. When using Manual mode, the remote control sticks can be used to directly control the throttle and attitude of the aircraft. The aircraft has no flight assistance functions such as automatic stabilization and can reach any attitude. Only experienced pilots should use Manual mode. Failure to operate in this mode properly is a safety risk and may even lead to the aircraft crashing.
- Manual mode is disabled by default. The aircraft will remain in Normal or Sport mode if the custom mode is not set to Manual mode in the goggles. Before switching to Manual mode, tighten the screws behind the throttle stick to keep the stick from auto recentering and set the custom mode to Manual mode in the goggles. Refer to the Enabling Manual Mode section for more information.

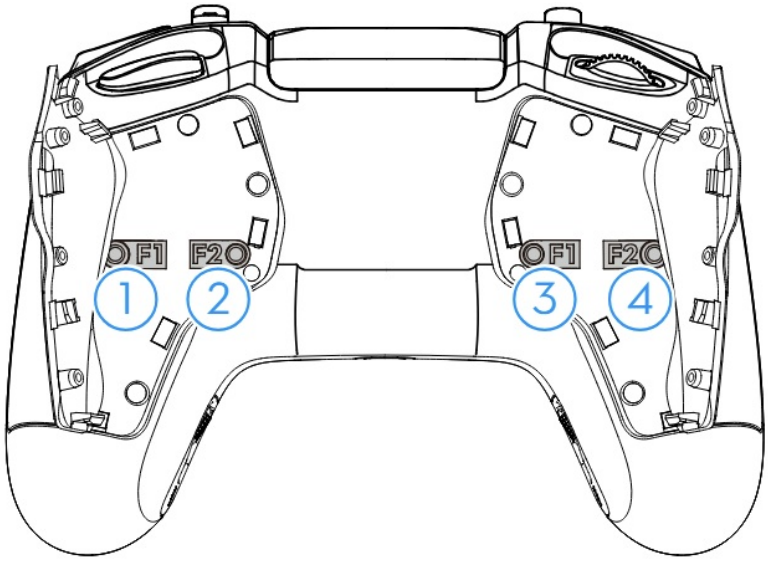
- Before using Manual mode, make sure to have enough flight practice using flight simulators to ensure that you can fly safely.
- If using Manual mode at low battery level, the power output of the aircraft will be limited. Fly with caution.
- When using Manual mode, fly in an open, wide, and sparsely populated environment to ensure flight safety.
- Users cannot enable Manual mode if the max flight distance is set to less than 30 m in the goggles.

Enabling Manual Mode

Adjusting the Throttle Stick

Before enabling Manual mode, adjust the F1 and F2 screws behind the throttle stick to keep the stick from auto recentering, and set the stick resistance according to user preference.

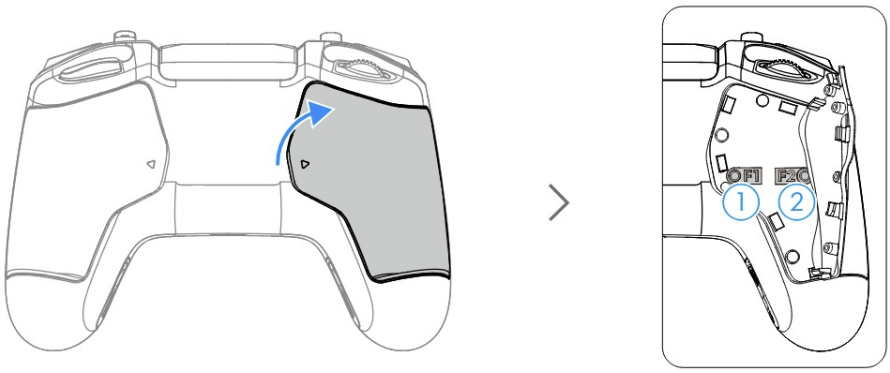
Throttle Stick Adjustment Screws



1. F1 Right Stick Resistance Adjustment Screw (Vertical) Tighten the screw clockwise to increase the vertical resistance of the corresponding stick. Loosen the screw to reduce vertical resistance.
2. F2 Right Stick Spring Adjustment Screw (Vertical) Tighten the screw clockwise to reduce the vertical spring of the corresponding stick, which in turn will loosen the stick,
3. F1 Left Stick Resistance Adjustment Screw (Vertical) Tighten the screw clockwise to increase the vertical resistance of the corresponding stick. Loosen the screw to reduce vertical resistance.
4. F2 Left Stick Spring Adjustment Screw (Vertical) Tighten the screw clockwise to reduce the vertical spring of the corresponding stick, which in turn will loosen the stick.

- The screws that need to be adjusted vary for different control stick modes. Adjust screw 3 and 4) for Mode 2. Adjust screw (1) and 2 for Mode 1 and Mode 3.

Adjusting the Screws



Taking Mode 2 as an example, follow the steps below to adjust F1 and F2 screws:

1. Turn the remote controller over and open the rubber grip on the back of the remote controller behind the throttle stick.
2. 2. Tighten the F1 and F2 screws (1) and 2) using the 1.5mm hex key included in the remote controller package to keep the throttle stick from auto recentering. a.
    1. Tighten the F2 screw (2) clockwise to reduce the spring and loosen the throttle stick.
    2. Tighten the F1 screw (1) clockwise to increase the stick resistance. It is recommended to set the stick resistance according to user preference. 3.
3. Reattach the rubber grip once the adjustment is complete.

- Only adjust the throttle stick before the aircraft takes off. DO NOT adjust during flight.

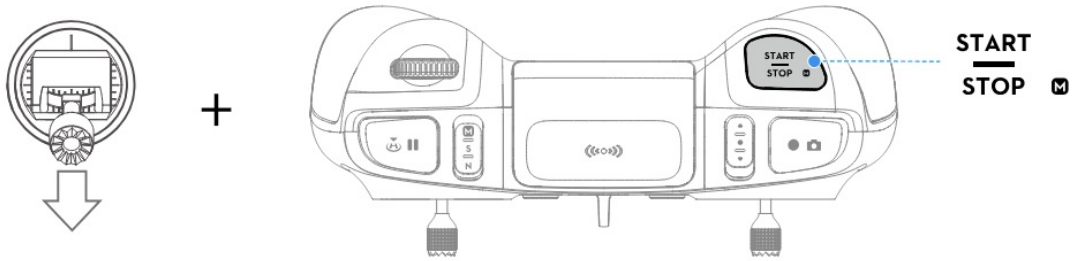
Setting the Custom Mode to Manual Mode
After adjusting the throttle sticks, Manual mode can be enabled in the goggles:

1. Power on the aircraft, goggles, and remote controller. Make sure all the devices are linked.
2. Press the SD button and open the menu. Go to Settings > Control > Remote Controller > Button Customization > Custom Mode, and Set to Manual Mode.

- When using Manual mode for the first time, the maximum attitude of the aircraft will be restricted. After the pilot is familiar with flying in Manual mode, the attitude restriction can be disabled in the goggles, and the Gain and Expo can be adjusted based on actual needs.

Flying in Manual Mode

Starting the Motors
Keep the throttle stick in the lowest position and press the start/stop button twice to start the motors.



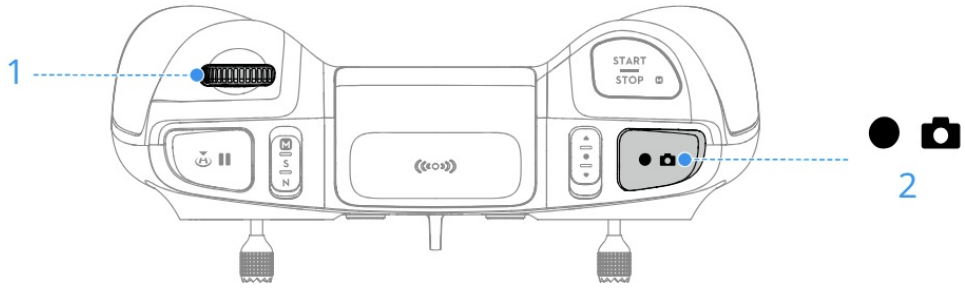
- When the aircraft is in Manual mode, press the flight pause/RTH button once to make the aircraft brake and hover in place. The aircraft attitude returns to level and the flight mode automatically switches to Normal mode.
- Land on flat ground to avoid the aircraft rolling over during landing.
- It is recommended to switch to Normal mode before landing to ensure flight safety

Training in Flight Simulators
In Manual mode, the control sticks are used to directly control the throttle and attitude of the aircraft. The aircraft has no flight assistance functions such as automatic stabilization and can reach any attitude.

Make sure to learn and practice the flying skills in Manual mode using flight simulators before flying the aircraft in Manual mode.

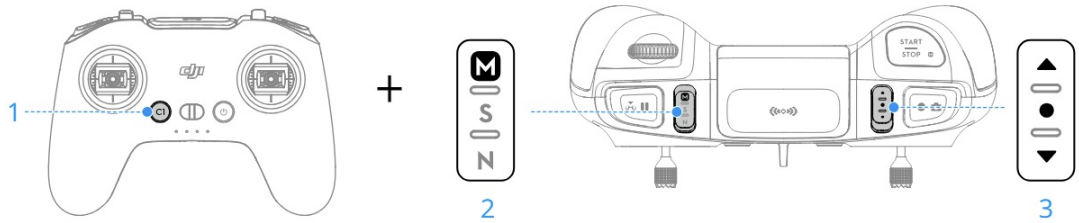
- DJI FPV Remote Controller 3 supports flight simulators such as Liftoff, Uncrashed, the Drone Racing League (DRL), and the Drone Champions League (DCL).

Controlling the Gimbal and Camera



1. **Gimbal Dial:** Use to adjust the tilt of the gimbal.
2. **Shutter/Record Button:** Press once to take a photo or to start or stop recording. Press and hold to switch between photo and video mode.

Customizable Buttons

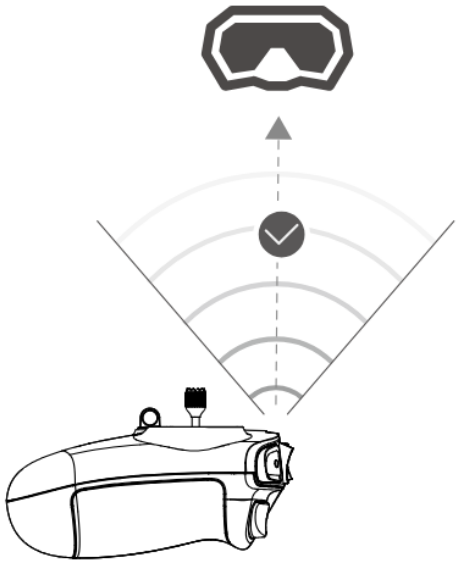


The functions of the C1 button and C2 switch, and the custom mode on the flight mode switch can be customized. Press the SD button on the goggles and open the menu. Go to Settings > Control > Remote Controller, and modify settings for the customizable buttons:

1. **C1 Button (Customizable):** The C1 button can be set to enable ESC Beeping or Turtle Mode.
2. **Custom Mode:** The custom mode can be set to Manual or Sport mode.
3. **C2 Switch (Customizable):** The C2 switch is set to control the gimbal tilt up, recenter, or tilt down by default.

Optimal Transmission Zone

The signal between the goggles and the remote controller is most reliable when the remote controller is positioned in relation to the goggles as shown below.



- In order to avoid interference, DO NOT use other wireless devices on the same frequency as the remote controller.

Remote Controller Alert

The remote controller will sound an alert during RTH, and the alert be cancelled by pressing the pause/RTH button. The remote controller sounds an alert when the battery level of the remote controller is low (6% to 10%). A low battery level alert can be cancelled by pressing the power button. The critical low battery level alert, which is triggered when the battery level is less than 5%, cannot be cancelled.

Calibrating the Remote Controller

The remote controller supports joystick calibration. Calibrate the control sticks when prompted to do so:

1. Press the 5D button on the goggles and open the goggles menu.
2. Select Settings > Control > Remote Controller > RC Calibration.
3. Follow the instructions to calibrate the control sticks

- DO NOT calibrate the device in locations with strong magnetic interference, such as near magnets, parking lots, or construction sites with underground reinforced concrete structures.
- DO NOT carry ferromagnetic materials such as mobile phones during calibration

Updating Firmware

Use one of the following methods to update the firmware:

1. Use the DJI Fly App to update the firmware for the entire set of devices including the aircraft, goggles, and

remote controller.

2. Use DJI Assistant 2 (Consumer Drones Series) to update the firmware for a single device.

Using DJI Fly

When used with DJI Avata 2: Power on the aircraft, goggles, and remote controller. Make sure all the devices are linked. Connect the USB-C port of the goggles to the mobile device, run DJI Fly, and follow the prompt to update. Make sure the mobile device is connected to the internet during the firmware update.

Using DJI Assistant 2 (Consumer Drones Series)

1. Power on the device and connect it to a computer using a USB-C cable.
2. Launch DJI Assistant 2 and log in with a registered DJI account.
3. Select the device and click Firmware Update on the left side of the screen.
4. Select and confirm the firmware version to update to.
5. Wait for the firmware to download. The firmware update will start automatically.
6. The device will restart automatically after the firmware update is complete.

-  Make sure that the device nas sufficient power before updating the firmware.
- Make sure the computer is connected to the internet during the update.
- Make sure to follow all the steps to update the firmware, otherwise the update may fail.
- The firmware update will take several minutes. Wait patiently for the firmware update to complete.
- It is normal for the device to restart automatically during the update process. DO NOT power off the device, unplug the USB-C cable, or exit the software during the update process.

Appendix

Specifications

Max Operating Time	Approx. 10 hours
Operating Temperature	-10° to 40° C (14° to 104° F)
Charging Temperature	0° to 50° C (32° to 122° F)
Charging Time	2 hours
Charging Type	5 V, 2 A
Battery Capacity	2600 mAh
Weight	Approx. 240 g
Dimensions	165×119×62 mm (L×W×H)
Operating Frequency	2.4000-2.4835 GHz
Transmitter Power (EIRP)	2.4000 GHz: <26 dBm (FCC), <20 dBm (CE/SRRC/MIC)

Aftersales Information

Visit **https://www.dji.com/support** to learn more about after-sales service policies, repair services, and support.

WE ARE HERE FOR YOU

Contact DJI SUPPORT

This content is subject to change.

https://www.dji.com/avata-2/downloads

If you have any questions about this document, please contact DJI by sending a message to **DocSupport@dji.com**.

Searching for Keywords
Search for keywords such as “battery” and **“install”** to find a topic. If you are using Adobe Acrobat Reader to read this document, press Ctrl+F on Windows or Command+F on Mac to begin a search.

Navigating to a Topic
View a complete list of topics in the table of contents. Click on a topic to navigate to that section.

Printing this Document
This document supports high resolution printing.

Using this Manual

Legend

Important

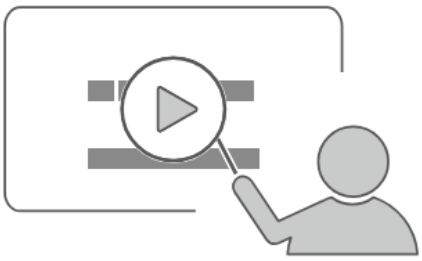
Hints and Tips

Before You Begin
DJI provides users with tutorial videos and the following documents:

1. User Guide
2. User Manual

It is recommended to watch the tutorial videos and read the user guide included in the package before using for the first time. Refer to this user manual for more information

Video Tutorials
Visit the link or scan the QR code below to watch the tutorial videos, which demonstrate how to use the product safely



Download DJI Fly app
Scan the QR code to download the latest version.

- The Android version of DJI Fly is compatible with Android v7.0 and later. The iOS version of DJI Fly is compatible with iOS v11.0 and later.
- The interface and functions of DJI Fly may vary as the software version is updated. Actual usage experience is based on the software version used.

Download DJI Assistant 2
Download DJI ASSISTANT 2 (Consumer Drones Series) at
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Documents / Resources

	DJI W3 FPV Remote Controller [pdf] User Manual W3 FPV Remote Controller, W3, FPV Remote Controller, Remote Controller, Controller

References

- User Manual