



dji RC Motion 2 Controller User Manual

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DJI RC Motion 2

dji RC Motion 2 Controller



Product Information: DJI RC Motion 2

The DJI RC Motion 2 is a motion controller designed for controlling DJI consumer drones and cameras. It allows users to control the aircraft and camera through intuitive hand movements, providing a more immersive and natural flight experience. The motion controller features battery level LEDs, a power button, and a lock button for controlling camera settings.

Product Usage Instructions

Before Flight

Before using the DJI RC Motion 2 for the first time, it is recommended to watch all tutorial videos and read the in-box document. Prepare for your first flight by referring to the user manual for more information.

Powering on/off

To power on the motion controller, press and hold the power button. To power off, press and hold the power button again. To check the current battery level, press the power button once. The battery level LEDs will display the power level of the battery during charging and discharging. If the battery level is low, it is recommended to use a charger that supports 5V, 2A output to charge the device.

Linking

Before linking the aircraft with the motion controller, ensure that the aircraft, goggles, and motion controller are powered on. Open the goggles menu and select Status to ensure that the correct aircraft model is displayed. If not, select Switch from the upper right corner of the menu and select the correct aircraft. Ensure that the aircraft is linked with the goggles. To link the aircraft with the motion controller, press and hold the power button on the aircraft until the battery level LEDs start to blink in sequence.

Controlling Camera and Aircraft

The lock button on the motion controller can be pressed to open the camera settings panel in the FPV view. Scroll the dial to navigate the settings menu or adjust the parameter value, then press the dial to confirm the selection. Press and hold the dial to exit the current menu. The motion controller can be used to control the camera and aircraft through intuitive hand movements.

Motion Control and Calibration

The motion control feature allows users to control the aircraft through intuitive hand movements. The motion controller alert provides warnings if there are any issues with the motion controller. The motion controller calibration ensures accurate and reliable performance of the motion controller.

Firmware Update

Regular firmware updates are released to improve the performance and stability of the DJI RC Motion 2. Refer to the user manual for instructions on how to update the firmware.



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.

Revision Log

Version	Date	Revisions
v1.2	2023.04	<ul style="list-style-type: none">• Updated the FN dial functions.• Updated the firmware update methods.• Updated the supported product list.

Using this Manual

Legend

⚠ Important



Hints and Tips

Before Flight

It is recommended to watch all tutorial videos and read the in-box document before using for the first time. Prepare for your first flight by referring to this user manual for more information.

- 5.8 GHz is not supported in some regions. This frequency band will automatically be disabled when the aircraft is activated or connected to the DJI™ Fly app in these regions. Observe local laws and regulations.

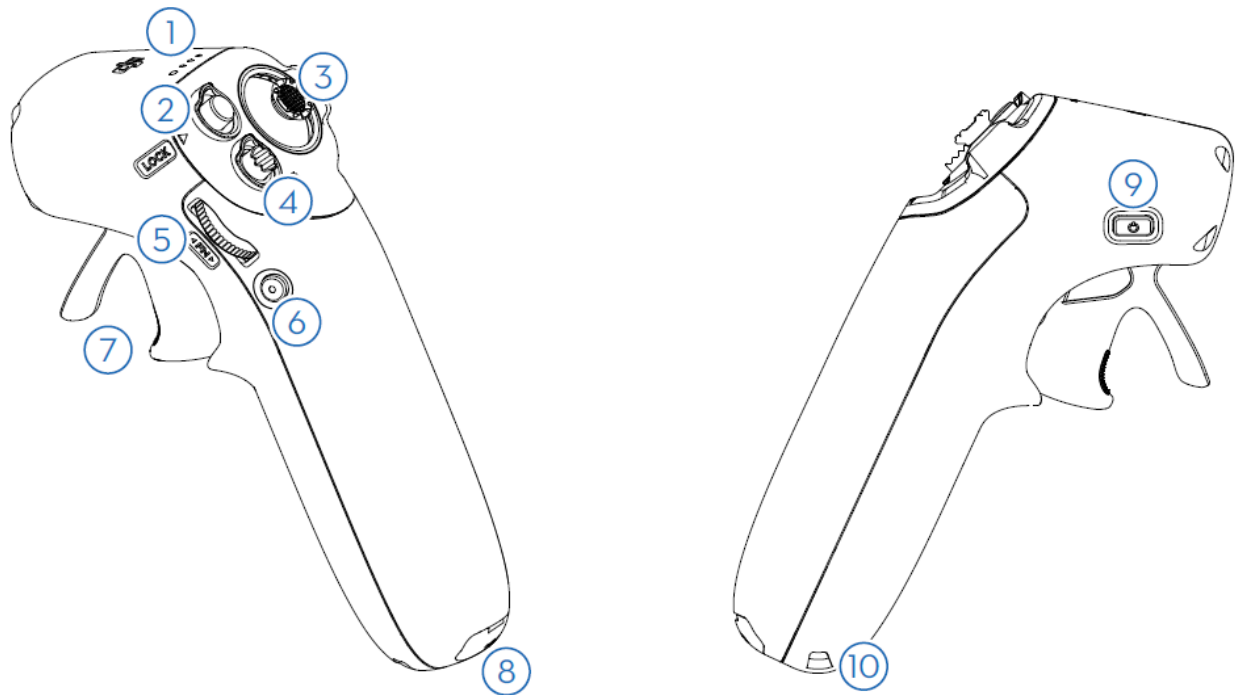
Video Tutorials

<https://www.dji.com/rc-motion-2/video>

Download the DJI Fly App

<https://www.dji.com/rc-motion-2/downloads>

Overview



1. Battery Level LEDs
2. Lock Button

Start/stop motors: press the lock button twice to start or stop the aircraft motors. Takeoff: press twice to start the aircraft motors, then press and hold to make the aircraft take off. The aircraft will ascend to approximately 1.2 m and hover.

Landing: while the aircraft is hovering, press and hold to land the aircraft and stop the motors.

Brake: press once to make the aircraft brake and hover in place. Press again to unlock the attitude.

When the aircraft is performing RTH or auto landing, press the button once to cancel RTH or landing.

3. Joystick

Toggle up or down to make the aircraft ascend or descend. Toggle left or right to make the aircraft move horizontally left or right.

4. Mode Button

Press to switch between Normal and Sport mode. Press and hold to initiate RTH. Press again to cancel RTH.

5. FN Dial

- The FN dial cannot be used when using with the DJI FPV Goggles V2.

Press the dial to open the camera settings panel in the FPV view. Scroll the dial to navigate the settings menu or adjust the parameter value, then press the dial to confirm the selection. Press and hold the dial to exit the current menu.

6. Shutter/Record Button

Press once: take a photo or start/stop recording.

Press and hold: switch between the photo and video modes.

7. Accelerator

Press to fly the aircraft in the direction of the circle in the goggles. Push forward to fly the aircraft backward.

Apply more pressure to accelerate. Release to stop and hover.

8. USB-C Port

9. Power Button/Link Button

Press the power button once to check the current battery level.

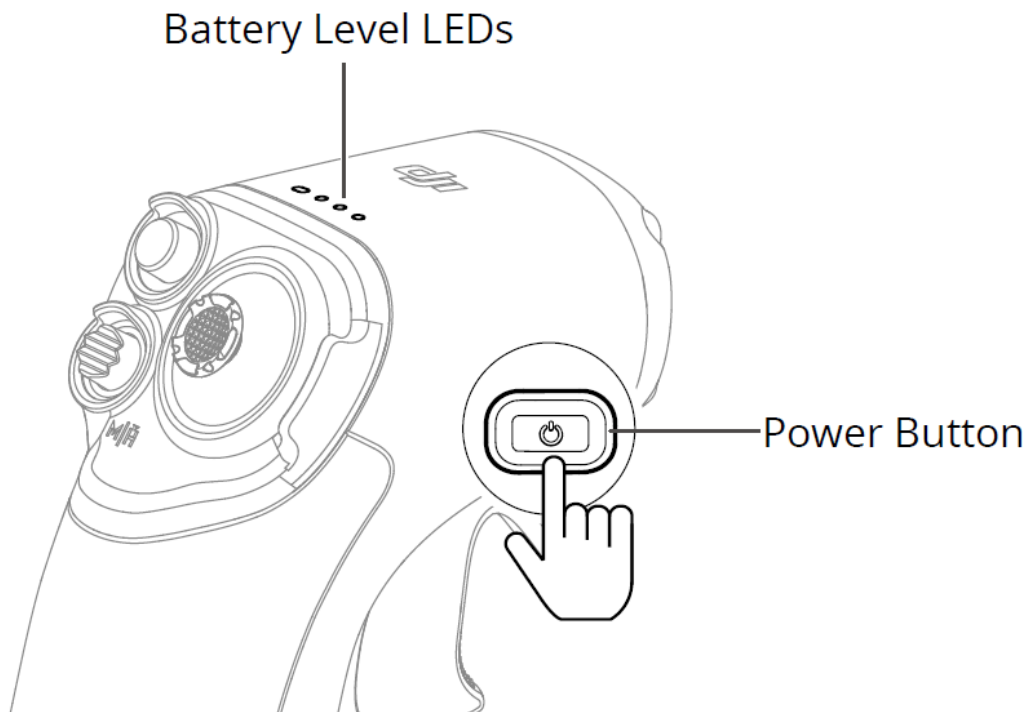
Press, and then press and hold to power the motion controller on or off.

When powered on, press and hold the power button to initiate linking.'

10. Lanyard Hole

Using the Motion Controller

Powering on/off



Press the power button once to check the current battery level.

Press, and then press and hold the power button to power the motion controller on or off.

The battery level LEDs display the power level of the battery during charging and discharging. The statuses of the LEDs are defined below:



LED is on.



LED is flashing.

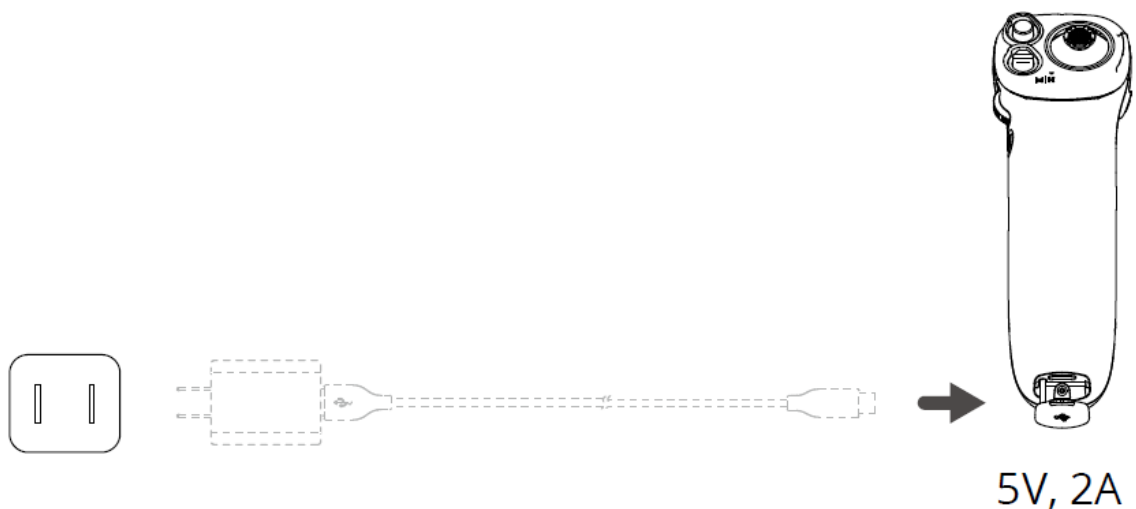


LED is off.

LEDs				Battery Level
				81%-100%
				76%-80%
				64%-75%
				51%-63%
				26%-50%
				16%-25%
				9%-15%
				1%-8%

If the battery level is low, it is recommended to use a charger that supports 5 V, 2 A output to charge the device.

- Make sure that the default output voltage of the charger is 5 V. Excessive voltage will damage the device.



The table below shows the battery level LED statuses during charging.

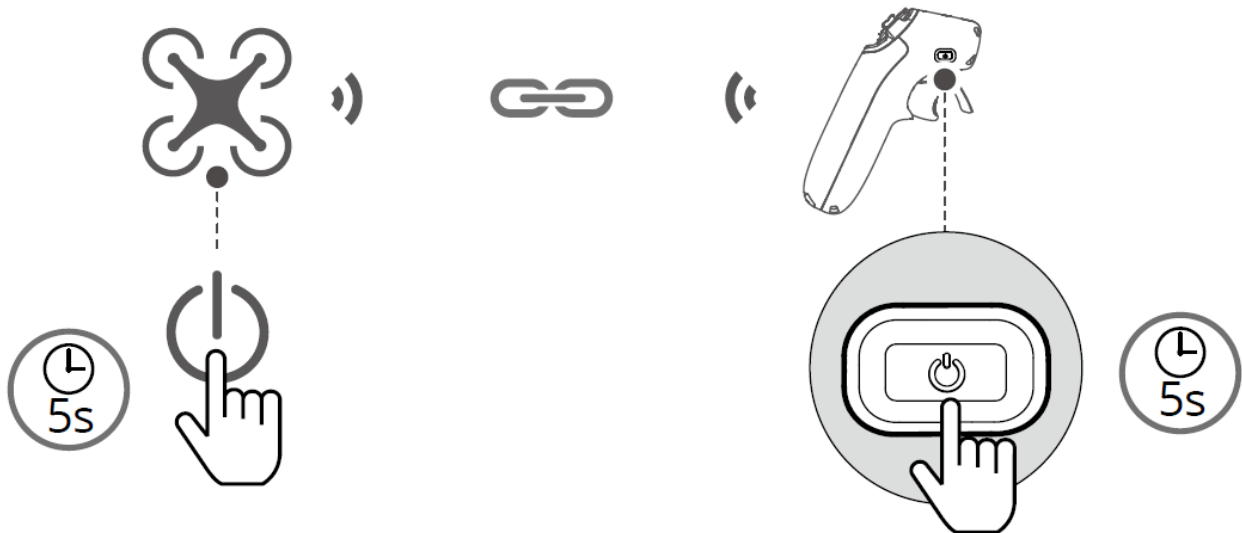
LEDs				Battery Level
				1%-50%
				51%-75%
				76%-99%
				100%

Linking

Preparation before linking:

1. Power on the aircraft, goggles, and motion controller.
2. Open the goggles menu. Select Status and make sure that the aircraft model displayed at the top of the menu is correct. Otherwise, select Switch from the upper right corner of the menu and then select the correct aircraft.
3. Make sure the aircraft is linked with the goggles.

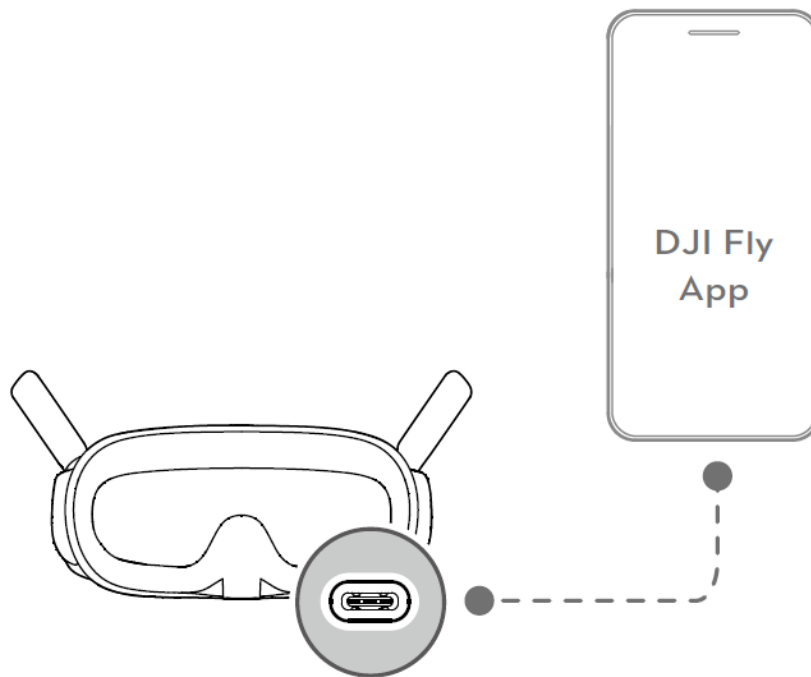
Link the aircraft with the motion controller:



1. Press and hold the power button on the aircraft until the battery level LEDs start to blink in sequence.
2. Press and hold the power button on the motion controller until the controller beeps continually and the battery level LEDs blink in sequence.
3. The motion controller stops beeping once linking is successful, and both the aircraft and motion controller battery level LEDs turn solid and display the battery level.

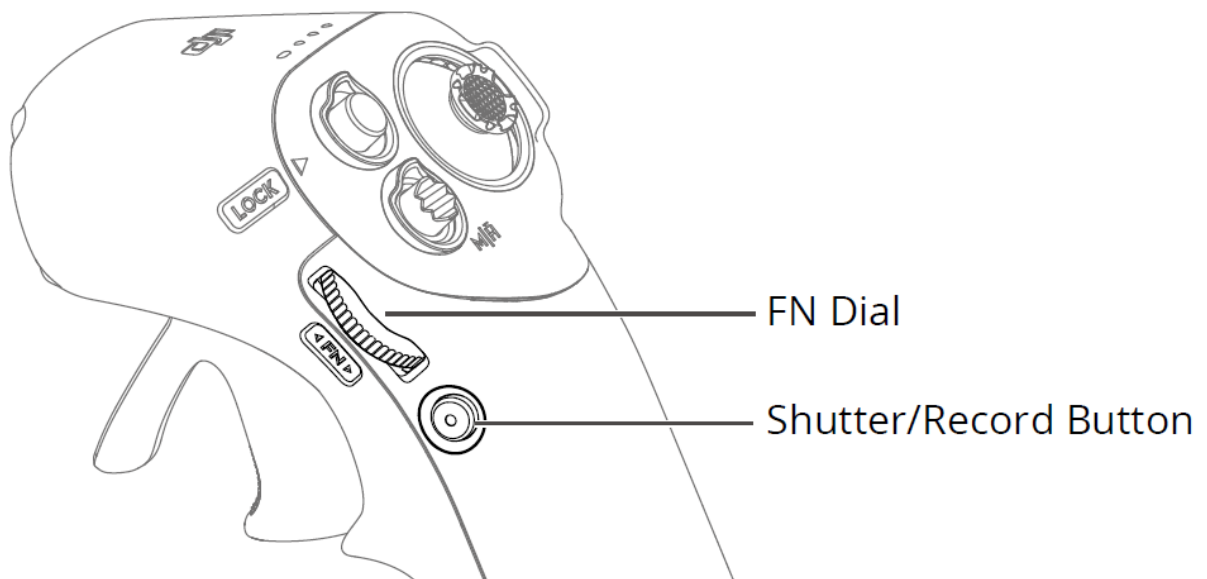
The aircraft can be controlled with only one remote control device during flight. If your aircraft has been linked with multiple remote control devices, turn off other control devices before flight.

Activation



When all devices are powered on and linked, connect the USB-C port of the goggles to the mobile device and run the DJI Fly app. The app will automatically identify the DJI RC Motion 2 and activate it in silent mode. Activate the device as soon as possible after purchase to avoid affecting the after-sales service.

Controlling the Camera



FN Dial

- The FN dial cannot be used when using with the DJI FPV Goggles V2.

Adjusting the camera parameters: press the dial to open the camera settings panel from the FPV view of the goggles. Scroll the dial to navigate the settings menu or adjust the parameter value, then press the dial to confirm the selection. Press and hold the dial to exit the current menu.

Controlling the camera tilt: before takeoff or during RTH and landing, press and hold the dial from the FPV view and then scroll up or down to tilt the camera. Release the dial to stop the camera tilt.

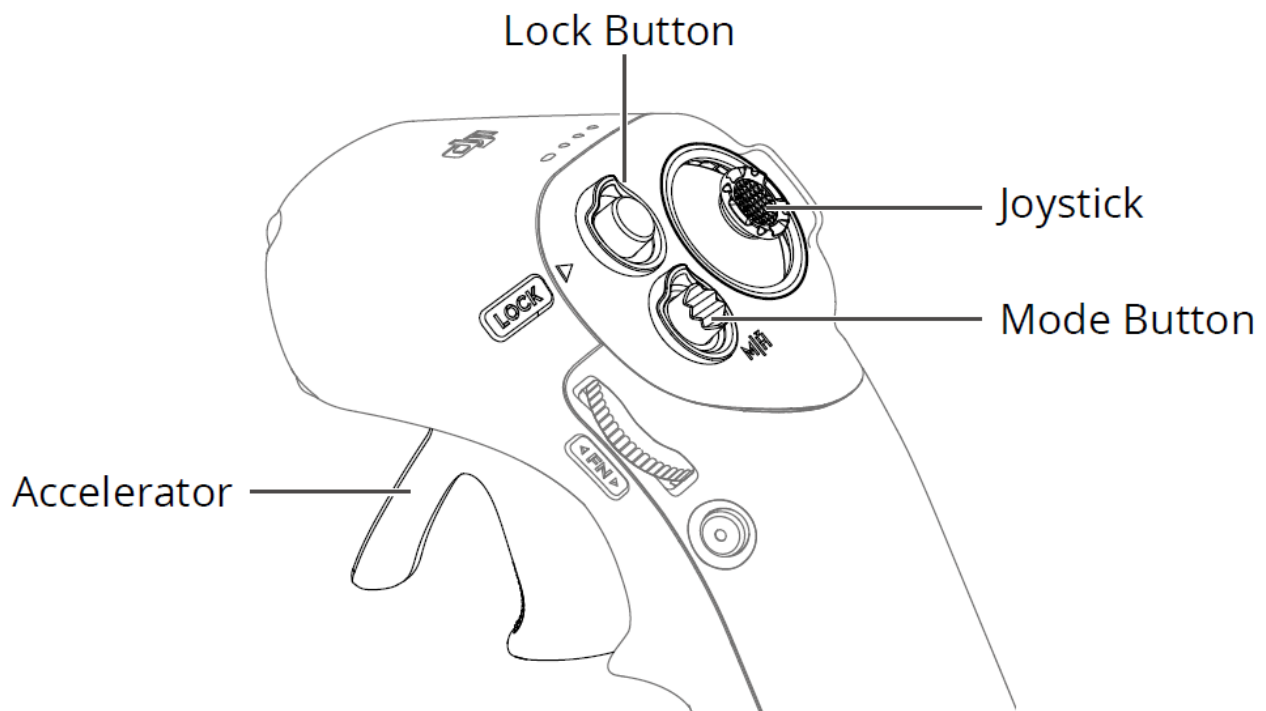
Adjusting the zoom in Explore Mode: if the aircraft supports Explore Mode and Explore Mode is turned on, scroll the dial on the goggles FPV view to adjust the camera zoom.

Shutter/Record Button

Press and hold to switch between the photo and video modes. Press once to take a photo or to start or stop recording.

Controlling the Aircraft

- To ensure flight safety when controlling the aircraft with the motion controller, press the lock button once to make the aircraft brake and hover before operating the goggles. Failure to do so is a safety risk and may lead to the aircraft losing control.



Mode Button

The motion controller has two modes: Normal mode and Sport mode. Normal mode is selected by default. Press the mode button to switch between Normal and Sport mode. Press and hold to initiate RTH. Press again to cancel RTH.

Lock Button

Use the lock button to control the takeoff, landing, and brake of the aircraft:

Start/stop motors: press the lock button twice to start or stop the aircraft motors. Takeoff: press twice to start the aircraft motors, then press and hold to make the aircraft take off. The aircraft will ascend to approximately 1.2 m and hover.

- **Landing:** press and hold the lock button while the aircraft is hovering to land and stop the motors automatically.
- **Brake:** during flight, press once to brake the aircraft and make it hover in place with the attitude locked. Press again to unlock the attitude and resume the flight control.

When the aircraft is performing RTH or auto landing, press the button once to cancel RTH or landing.

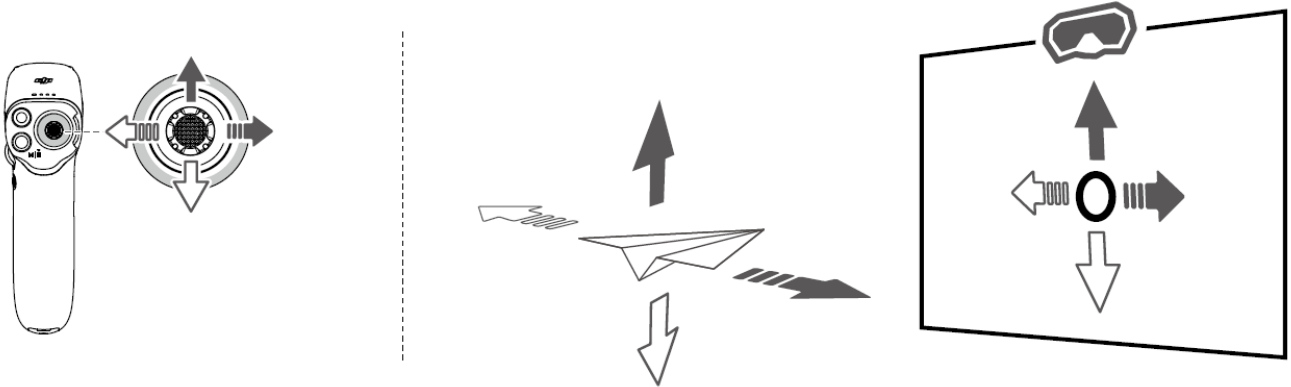
- Critical Low Battery landing cannot be canceled.

Stopping Aircraft Motors Mid-flight: if an emergency occurs (such as a collision or the aircraft is out of control) during flight, pressing the lock button four times can stop the aircraft motors immediately.

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

Joystick

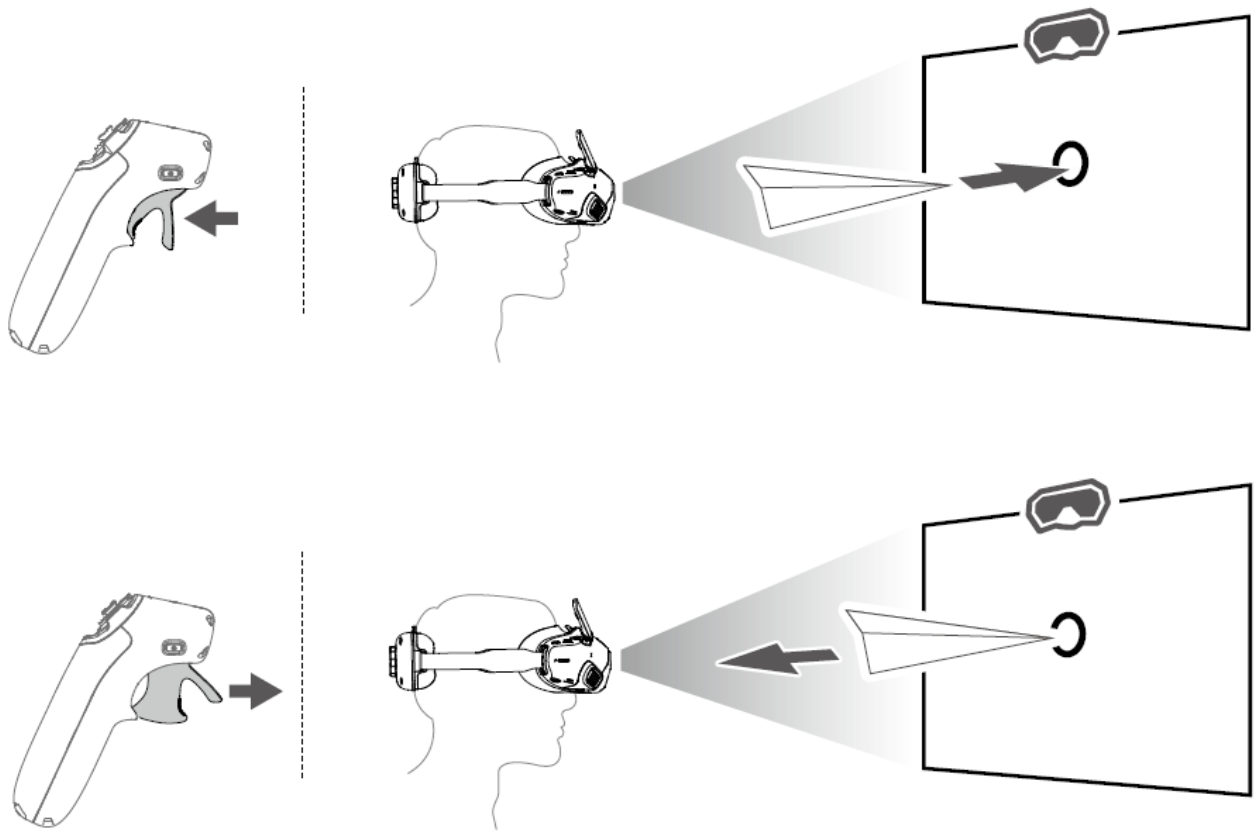
Toggle up or down to make the aircraft ascend or descend. Toggle left or right to make the aircraft horizontally move left or right.



- After the aircraft motors are started by double-pressing the lock button, slowly push the joystick up to make the aircraft take off.
- Once the aircraft flies to the landing position, pull down the joystick to land the aircraft. After landing, pull down the joystick and hold in position until the motors stop.

Accelerator

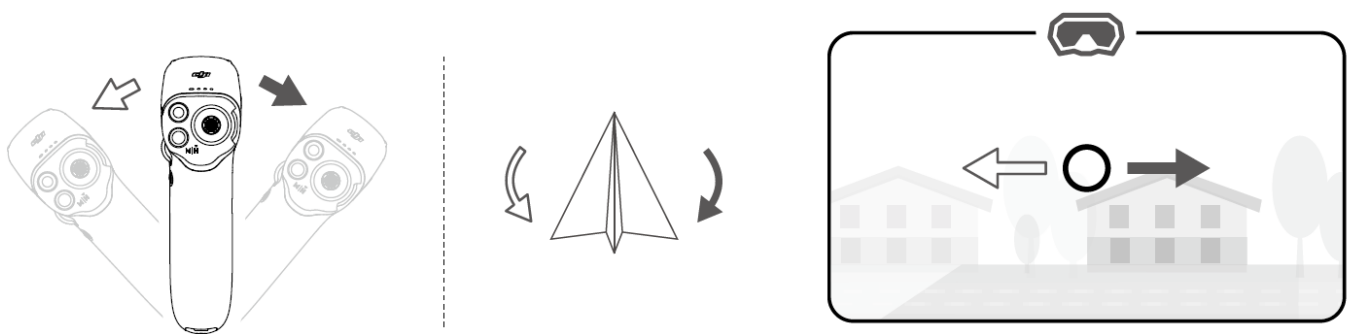
Press the accelerator to fly in the direction of the circle in the goggles. Push forward to fly the aircraft backward. Apply more pressure to accelerate. Release to stop and hover.



The flying speed controlled by the joystick and the accelerator can be configured as below:

1. Open the goggles menu.
2. Select Settings > Control > Motion Controller > Gain Tuning, then set the maximum speed in each direction.

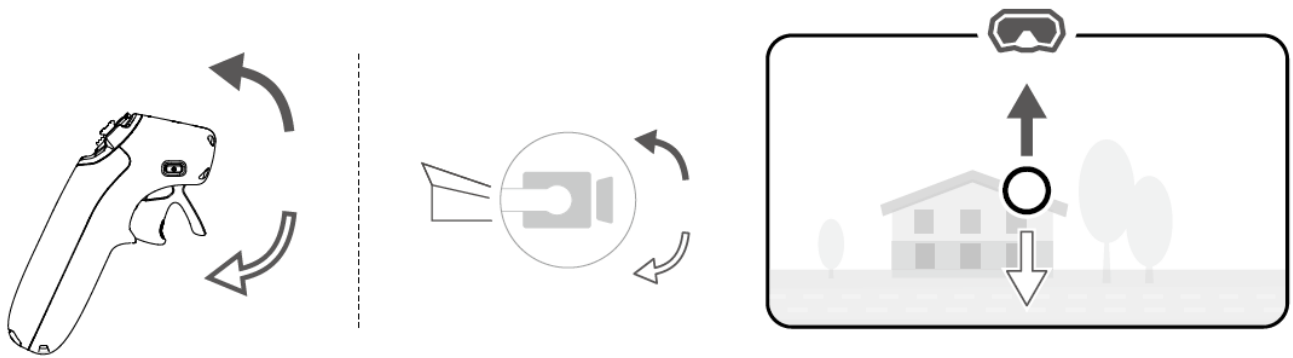
Motion Control



The orientation of the aircraft can be controlled by tilting the motion controller left and right. Tilt left to rotate the aircraft counterclockwise and tilt right to rotate clockwise.

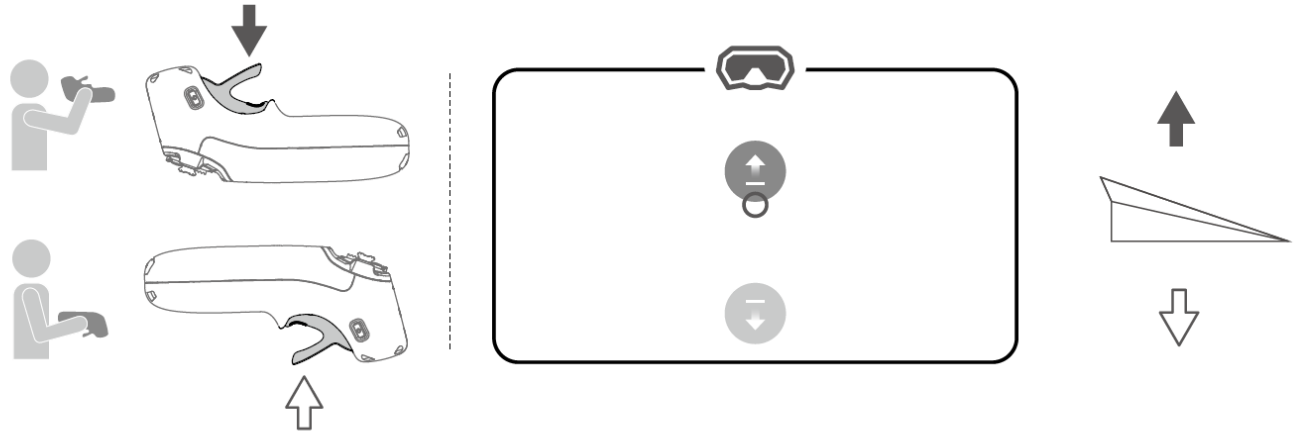
The circle in the goggles screen will move left and right and the image transmission will change accordingly.

The greater the tilt angle of the motion controller, the faster the aircraft will rotate.



Tilt the motion controller up and down to control the tilt of the gimbal during flight.

The circle in the goggles screen will move up and down and the video transmission will change accordingly.



To control the ascent or descent of the aircraft, first tilt the motion controller 90° up or down. Once the circle in the goggles goes into the ascend or descend icon, press the accelerator to make the aircraft ascend or descend.

Motion Controller Alert

The remote controller sounds an alert when the battery level is between 6% and 15%. A low battery level alert can be canceled by pressing the power button. A critical battery level alert will sound when the battery level is less than 5% and cannot be canceled.

The remote controller sounds an alert during RTH. The alert cannot be canceled.

Motion Controller Calibration

The compass, IMU, accelerometer, and joystick of the motion controller can be calibrated. Immediately calibrate any of the modules when prompted to do so:

1. Open the goggles menu.
2. Select Settings > Control > Motion Controller > RC Calibration.
3. Select the module and follow the prompts to complete calibration.

- 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.

Firmware Update

Use one of the following methods to update the firmware.

Using DJI Fly App

When used with DJI Avata:

Power on the aircraft, goggles, and motion 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 prompts to update the firmware. Make sure the mobile device is connected to the internet during the firmware update.

When used with other DJI aircraft:

Power off the aircraft. Power on the goggles and the motion controller. Connect the USB-C port of the goggles to the mobile device and run DJI Fly. Select Profile > Device Management. Locate the corresponding goggles. Select Firmware Update and follow the on-screen instructions to update the firmware. 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. Connect the USB-C port of the device to the computer using a USB-C cable.
 2. Launch DJI Assistant 2 and log in with a DJI account.
 3. Select the device and click Firmware Update on the left side of the screen.
 4. Select the firmware version.
 5. The firmware will be downloaded and updated automatically.
 6. The device will restart automatically after the firmware update is complete.
- Make sure the computer is connected to the internet during the update.
 - Make sure the device has sufficient power before updating the firmware.
 - Make sure to follow all the steps to update the firmware, otherwise the update may fail.
 - The firmware update will take several minutes. Please wait patiently for the firmware upgrade to complete.
 - Do not unplug the USB-C cable during the update.
 - Note that the update may reset the parameters. Before updating, take note of your preferred settings and reconfigure them after the update.

Appendix

Specifications

DJI RC Motion 2

Model Number	RM220
Weight	Approx. 170 g
Operating Frequency	2.4000-2.4835 GHz 5.725-5.850 GHz[1]
Transmitter Power (EIRP)	2.4 GHz: <30 dBm (FCC), <20 dBm (CE/SRRC/MIC) 5.8 GHz: <30 dBm (FCC), <23 dBm (SRRC), <14 dBm (CE)
Operating Temperature	-10° to 40° C (14° to 104° F)
Operating Time	Approx 5 hours
Integrated Battery Type	Li-ion
Battery Chemical System	LiNiMnCoO ₂
Supported Goggles	DJI Goggles Integra DJI Goggles 2 DJI FPV Goggles V2[2]
Supported Aircraft Models	DJI Avata DJI Mavic 3 Pro / DJI Mavic 3 Pro Cine DJI Mavic 3 / DJI Mavic 3 Cine DJI Mavic 3 Classic DJI Mini 3 Pro

1. The 5.8 GHz frequency band is currently banned in certain countries or regions. For details, refer to local laws and regulations.
2. The FN dial cannot be used when using with the DJI FPV Goggles V2.

Aftersales Information

Visit <https://www.dji.com/support> to learn more about aftersales service policies, repair services, and support.



Contact

This content is subject to change without notice. Download the latest version from DJI website.




<https://www.dji.com/rc-motion-2/downloads>

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DocSupport@dji.com

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Documents / Resources

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