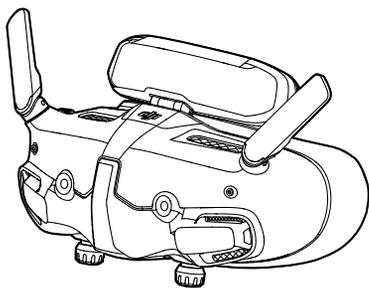
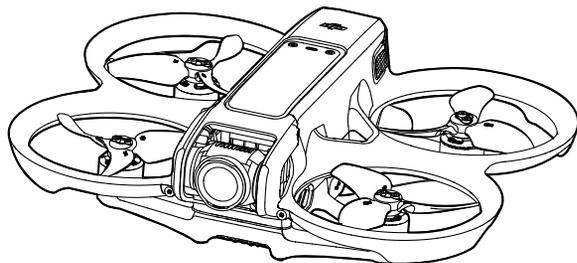


# DJI AVATA 2

## User Manual

v1.0 2024.05





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### **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 the Manual

## Legend

 Important

 Hints and Tips

 Reference

## Read Before the First Flight

Read the following documents before using DJI AVATA™ 2.

1. Safety Guidelines
2. Quick Start Guide
3. User Manual

It is recommended to watch all tutorial videos and read the safety guidelines before using for the first time. Prepare for your first flight by reviewing the quick start guide and refer to this user manual for more information.

## Video Tutorials

Go to the address below or scan the QR code to watch the tutorial videos, which demonstrate how to use the product safely:



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

## Download the DJI Fly App

Make sure to use DJI Fly during flight. 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.

\* For increased safety, flight is restricted to a height of 98.4 ft (30 m) and a range of 164 ft (50 m) when not connected or logged into the app during flight. This applies to DJI Fly and all apps compatible with DJI aircraft.

## Download DJI Assistant 2

Download DJI ASSISTANT™ 2 (Consumer Drones Series) at:

<https://www.dji.com/downloads/softwares/dji-assistant-2-consumer-drones-series>

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- The operating temperature of this product is -10° to 40° C. It does not meet the standard operating temperature for military-grade application (-55° to 125° C), which is required to endure greater environmental variability. Operate the product appropriately and only for applications that meet the operating temperature range requirements of that grade.
-

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# Product Profile

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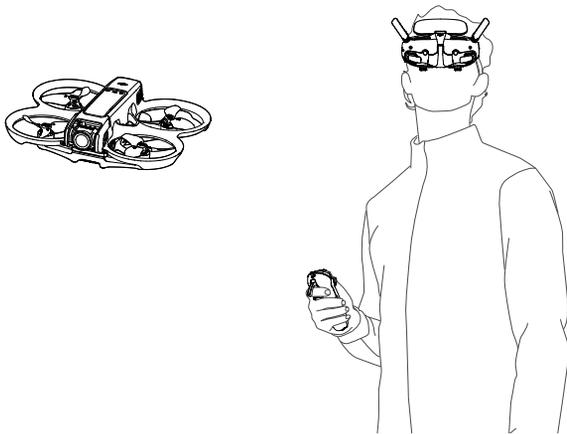
# Product Profile

## Introduction

DJI Avata 2 is a compact and portable FPV camera drone equipped with built-in propeller guards. The aircraft uses both GNSS and a Vision System, allowing for stable hovering and smooth aerobatic maneuvers while flying both indoors and out. With a gimbal and 1/1.3" sensor camera, the aircraft shoots stable 4K 100fps ultra-HD video and 4K photos. The maximum flight time of the aircraft is approximately 23 minutes<sup>[1]</sup>.

When the aircraft is used with the compatible goggles and remote control devices in an unobstructed, interference-free environment, the maximum video transmission range can reach 8 mi (13 km)<sup>[2]</sup>, with a bitrate up to 60 Mbps, providing an immersive flight experience.

DJI Goggles 3 (hereinafter referred to as goggles) are equipped with two high-performance screens, giving you a real-time FPV experience. To provide a more comfortable experience for users who wear glasses or have visual impairments, the goggles support diopter adjustment so that glasses are not required during use. There are two cameras on the front side of the goggles, so users can view the surrounding environment via Real View without having to take off the goggles. With DJI Goggles 3 and DJI RC Motion 3 (hereinafter referred to as motion controller), users can easily and intuitively control the aircraft, and enjoy a new and convenient flight control experience.



- [1] The maximum flight time of the aircraft is measured at a constant flying speed of 21.6 kph in a windless environment at sea level, with camera parameters set to 1080p/30fps, video mode off, and from 100% battery level until 0%. Data is for reference only. Always pay attention to reminders on the goggle screen during your flight.
- [2] The remote control devices reach their maximum transmission distance (FCC) in a wide open area with no electromagnetic interference at an altitude of about 120 m (400 ft). The maximum transmission distance refers to the maximum distance that the aircraft can still send and receive transmissions. It does not refer to the maximum distance the aircraft can fly in a single flight.

- Visit the official DJI website to check the goggles and remote control devices supported by the aircraft. This manual only takes DJI Goggles 3 and DJI RC Motion 3 as examples for introduction. Refer to the user manuals of other supported devices respectively for use.
- Using the goggles does not satisfy the requirement of visual line of sight (VLOS). Some countries or regions require a visual observer to assist during flight. Make sure to comply with local regulations when using the goggles.
- DJI Goggles 3, DJI RC Motion 3, DJI FPV Remote Controller 3, and all types of ND filters are fully compatible with DJI Avata 2.

## Using for the First Time



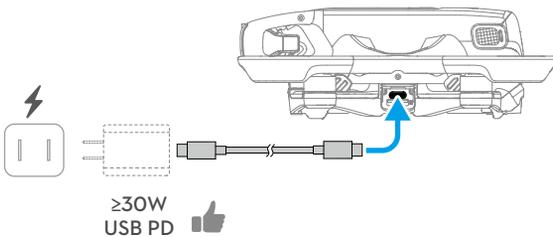
Click the link below or scan the QR code to watch the tutorial video before first time use.



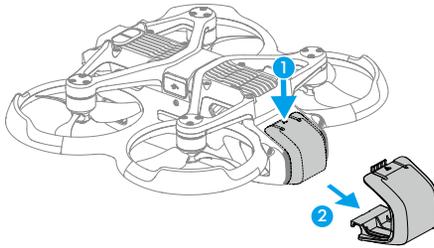
<https://www.dji.com/avata-2/video>

## Preparing the Aircraft

All Intelligent Flight Batteries are in hibernation mode before shipment to ensure safety. Charge to activate the batteries before first use. Connect the USB charger to the USB-C port on the aircraft to charge. The battery is activated when it begins charging.



Remove the gimbal protector.



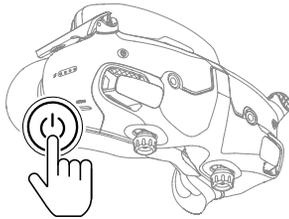
- It is recommended to use the DJI 65W USB-C Charger or other USB Power Delivery chargers with a charging power equal to or greater than 30W.
- It is recommended to attach the gimbal protector to protect the gimbal when the aircraft is not in use. Adjust the camera to keep it facing forward and horizontal, then install the gimbal protector and make sure it is secure.



- Peel off the protective stickers from the gimbal camera before first use.
  - Make sure to remove the gimbal protector before powering on the aircraft. Otherwise, it may affect the aircraft when performing self-diagnostics.
-

## Preparing DJI Goggles 3

### Powering on the Goggles



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

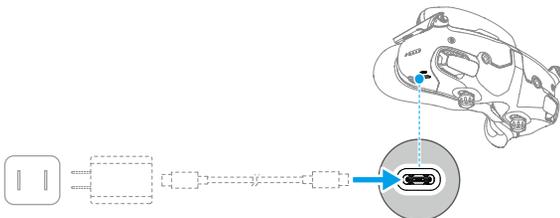
Press once, then press and hold for two seconds to power the goggles on or off.

The battery level LEDs display the power level during charging and when in use:

-  LED is on
-  LED is flashing
-  LED is off

LED1	LED2	LED3	LED4	Battery Level
				89%-100%
				76%-88%
				64%-75%
				51%-63%
				39%-50%
				26%-38%
				14%-25%
				1%-13%

If the battery level is low, it is recommended to use a USB charger to charge the device.



The table below shows the battery level during charging:

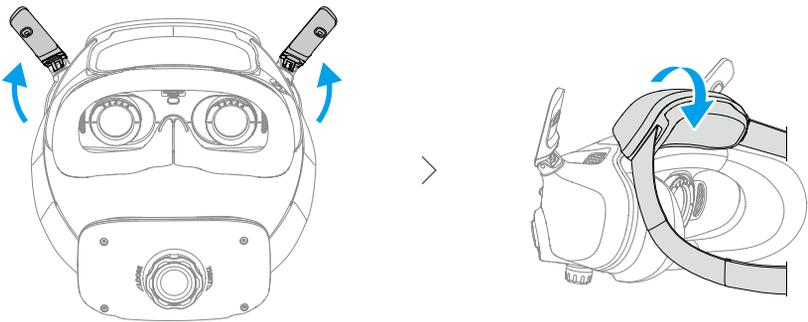
LED1	LED2	LED3	LED4	Battery Level
				1%-50%
				51%-75%
				76%-99%
				100%

• USB-C port spec: USB 2.0 (480 Mbps). The maximum input power is 9V/3A.

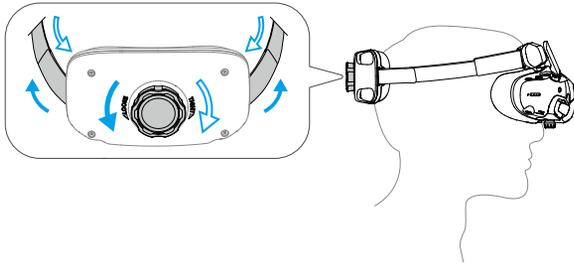
## Wearing the Goggles

- The battery wires are embedded in the headband. DO NOT pull the headband with force to avoid damaging the wires.
- Fold the antennas to avoid damage when the goggles are not in use.
- DO NOT tear or scratch the foam padding, the additional forehead pad, and the soft side of the battery compartment with sharp objects.
- DO NOT bend the additional forehead pad with force.
- DO NOT rotate the headband adjustment knob or the diopter adjustment knob with force to avoid component damage.

1. Unfold the antennas.
2. Adjust the forehead pad downward to the lowest position.



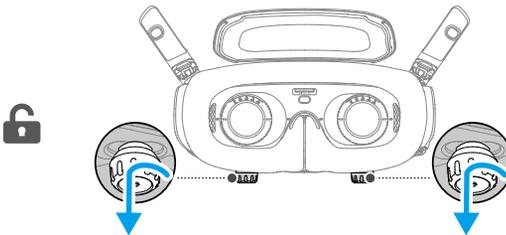
- Put on the goggles after the devices are powered on.
- Rotate the headband adjustment knob on the battery compartment to adjust the length of the headband. Rotate clockwise to tighten the headband and counterclockwise to loosen the headband. It is recommended to wear the goggles with the battery compartment placed on the upper back part of the head to avoid it sliding down.



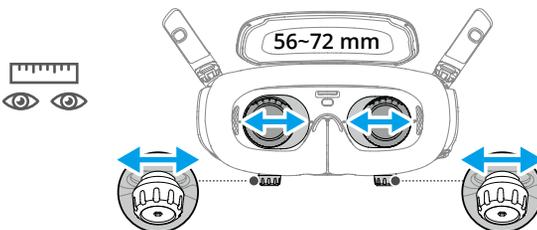
## Getting Clear Vision

Rotate the knobs on the bottom of the goggles to adjust the diopters if your vision is in the range of  $-6.0D$  to  $+2.0D$ . The screen in the goggles will display the diopter value when rotating.

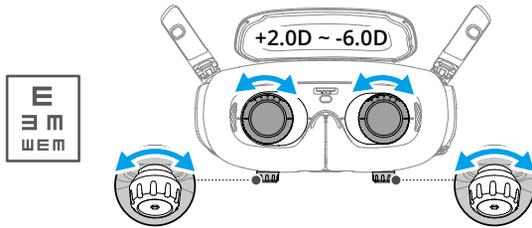
- Rotate both the knobs in the direction as shown to unlock them. Once unlocked, the knobs will pop out.



- Slide left and right to adjust the distance between the lenses until the image is properly aligned.

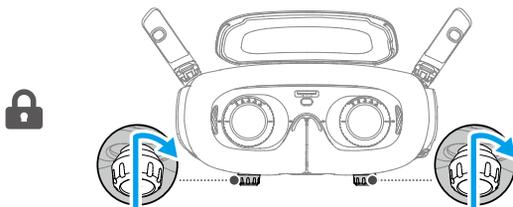


3. Slowly rotate the knobs to adjust the diopters. The supported adjustment range is from -6.0D to +2.0D.



- The goggles do not support astigmatism correction. If you require astigmatism correction or if the diopters of the goggles are unsuitable, you can purchase additional lenses and use the corrective lenses frames provided to install them on the goggles. Refer to "Using the Corrective Lenses" for more information.
- When adjusting the diopters for the first time, you are advised to adjust to a degree that is slightly lower than the strength of your actual eyeglasses. Give your eyes enough time to adapt, then adjust the diopters again until you get a clear view. Do not use a diopter value higher than your actual eyeglass power to avoid eyestrain.

4. After you get a clear view, press the knobs in and rotate them in the direction as shown to lock in the lenses' position of the lenses and the diopters.

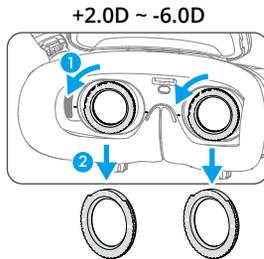


### Using the Corrective Lenses

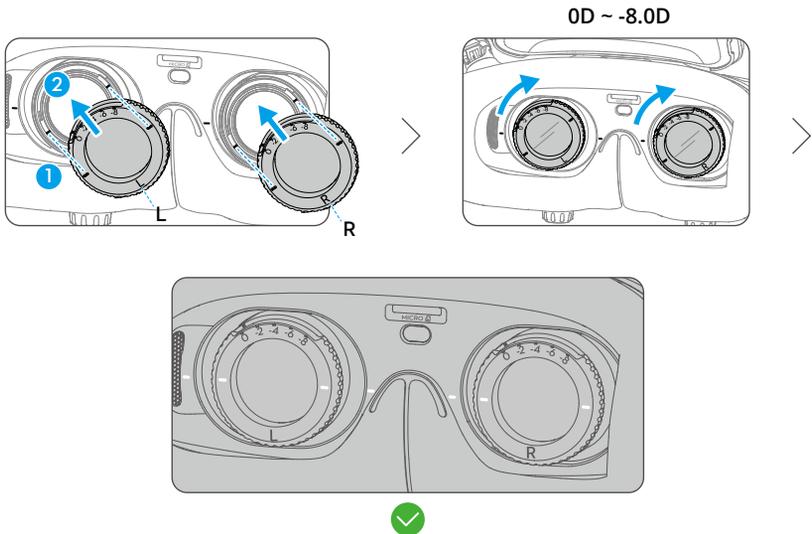
DJI Goggles 3 supports diopter adjustment from -6.0D to +2.0D.

If your vision is in the range of -6.0D to -8.0D, you can install the provided -2.0D Corrective Lenses.

1. Detach the original lens frames from the goggles by rotating counterclockwise as shown.



2. Take out the -2.0D Corrective Lenses and peel off the protective film. Distinguish the left and right lenses via the L and R marks on the bottom.
3. Align the positioning marks on the left and right sides of the corrective lens frame with the marks on the inner circle of the goggle lens frame. Mount the corrective lens by pressing it down, and then rotate it clockwise until the marks on the corrective lens frame are aligned with the marks on the goggle lens frame.



4. Adjust the diopters of the goggles according to your needs and lock the knobs.

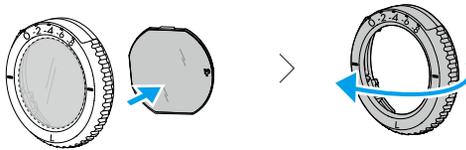
⚠ • After installing the -2.0D Corrective Lenses, the diopter value displayed on the screen is not the actual diopter value. The actual diopter value is the sum of the on-screen value and -2.0D.

## Purchasing and Installing Your Own Corrective Lenses

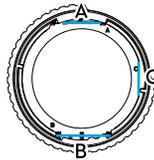
If you require astigmatism correction or the diopters of the goggles cannot meet your needs, you can purchase suitable lenses and use the corrective lens frames to install them.

- ⚠ • When purchasing lenses, bring the full set of -2.0D Corrective Lenses (a pair with the frames) to a professional optician to ensure that the shape, size, astigmatism axis, and edge thickness (< 1.8 mm) of the lenses meet the installation requirements of the corrective lens frames.

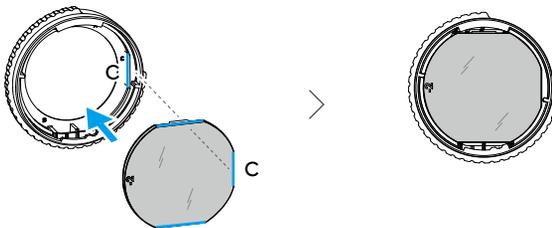
1. Push and remove the -2.0D lens from the frame. Turn the frame over.



2. Identify the shortest cut edge (c) in the frame.



3. Take out the purchased lenses, also identify the shortest cut edge.
4. Distinguish the left and right lens and the corresponding frame. Align the shortest cut edge and install the lens into the frame with the concave side of the lens facing the eye.



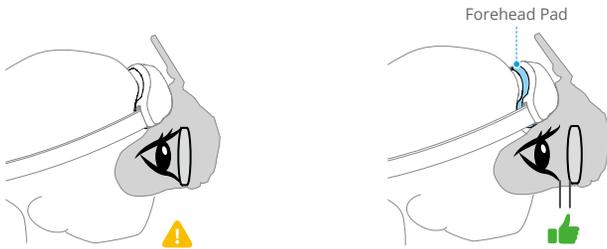
5. Make sure the lens is installed in the correct way and not tilted. Clean the lens with the lens cleaning cloth to wipe off fingerprints and dust.
6. Mount the corrective lenses to the goggles.

7. Adjust the diopters of the goggles according to your needs and lock the knobs.

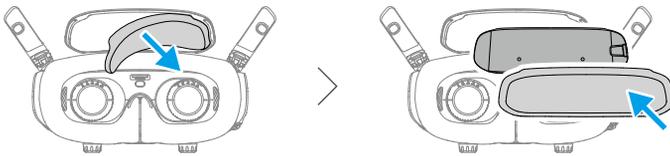
- 💡 • If you usually wear -9.0D glasses, you can purchase a pair of -3.0D lenses, and adjust the diopters of the goggles to -6.0D. Then the overall diopter value will be -9.0D after the self-prepared lenses are installed.

## Using the Additional Forehead Pad

After installing the corrective lenses, the distance between the lenses and your eyes is reduced and your eyelashes might sweep the lenses. If you feel any discomfort, install the additional forehead pad.

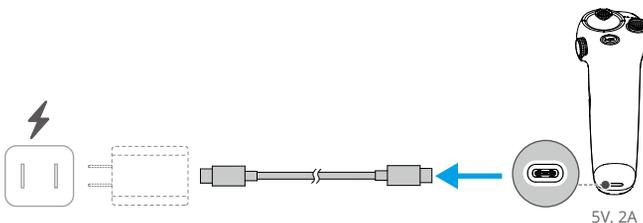


1. Peel off the original forehead pad.
2. Attach the additional forehead pad and then install the original forehead pad on top.



## Preparing DJI RC Motion 3

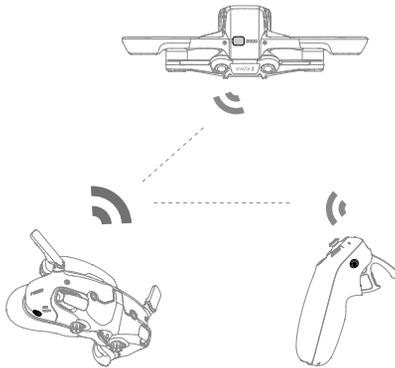
Press the power button once to check the current battery level. Charge before using if the battery level is too low.



## Linking

The aircraft, goggles, and motion controller are already linked when purchased together as a combo. Otherwise, follow the steps below to link the devices.

Make sure that the devices used with the aircraft have been updated to the latest firmware version via the DJI ASSISTANT™ 2 (Consumer Drone Series) software before linking and powered on.



### 1. Linking the aircraft and the goggles:



- a. Press and hold the power button on the aircraft until it beeps once and the battery level LEDs start to blink in sequence.
- b. Press and hold the power button on the goggles until the goggles start to beep continuously and the battery level LEDs start to blink in sequence.
- c. Once linking is completed, the battery level LEDs of the aircraft turn solid and display the battery level, the goggles stop beeping, and image transmission can be displayed normally.

## 2. Linking the goggles and motion controller:



- Press and hold the power button on the goggles until the goggles start to beep continuously and the battery level LEDs start to blink in sequence.
- Press and hold the power button on the motion controller until it starts to beep continuously and the battery level LEDs start to blink in sequence.
- Once linking is successful, the goggles and the motion controller stop beeping and both the battery level LEDs turn solid and display the battery level.



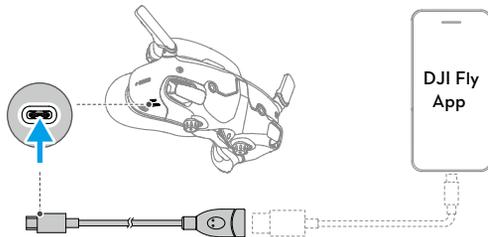
- Make sure the devices are within 0.5 m of each other during linking.
- Restart the devices if the devices fail to link. Connect the goggles to a mobile device, run the DJI Fly app, select Connection Guide, and then follow the on-screen instructions to link.



- 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 the other remote control devices before flight.

## Activation

DJI Avata 2 must be activated before using for the first time. Make sure all devices are linked after powering on the aircraft, goggles, and remote control device. Connect the USB-C port of the goggles to the mobile device, run DJI Fly, and follow the prompts to activate. An internet connection is required for activation. If automatic binding fails, follow the on-screen prompts on DJI Fly to bind the aircraft and goggles. The aircraft and goggles must be bound to receive service under warranty.



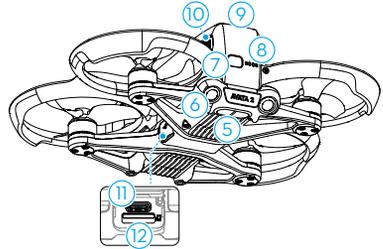
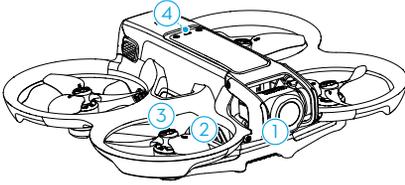
- The goggles only support standard USB-C protocols and MFi-certified Lightning cables. Non-standard cables are not supported. If the devices do not respond after connecting, use a different data cable and try again.

## Updating Firmware

A prompt will appear in DJI Fly when new firmware is available. Update the firmware whenever prompted to ensure optimal user experience. Refer to “Updating Firmware” for more information.

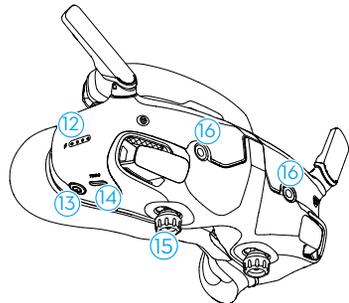
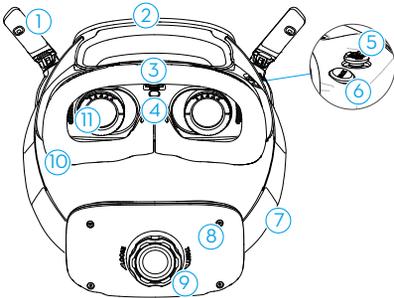
## Overview

### Aircraft



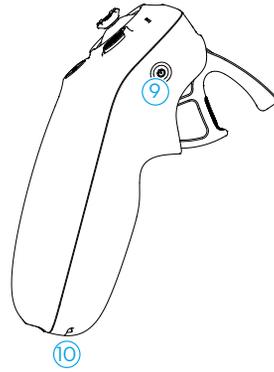
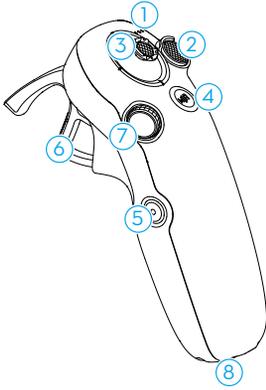
- |  |  |
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| <ol style="list-style-type: none"> <li>1. Gimbal and Camera</li> <li>2. Propellers</li> <li>3. Motors</li> <li>4. Aircraft Status Indicator</li> <li>5. Infrared Sensing System</li> <li>6. Downward and Backward Vision System</li> </ol> | <ol style="list-style-type: none"> <li>7. Power Button</li> <li>8. Battery Level LEDs</li> <li>9. Intelligent Flight Battery</li> <li>10. Battery Buckle</li> <li>11. USB-C Port</li> <li>12. microSD Card Slot</li> </ol> |
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### DJI Goggles 3



- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Antennas</li> <li>2. Forehead Pad</li> <li>3. microUSB Card Slot</li> <li>4. Proximity Sensor<br/>Detects whether the user is wearing the goggles and automatically turns the screen on or off.</li> <li>5. 5D Button</li> <li>6. Back Button</li> <li>7. Headband</li> <li>8. Battery Compartment</li> </ol> | <ol style="list-style-type: none"> <li>9. Headband Adjustment Knob</li> <li>10. Foam Padding</li> <li>11. Lens</li> <li>12. Battery Level LEDs</li> <li>13. Power Button/Link Button</li> <li>14. USB-C Ports</li> <li>15. IPD (Interpupillary Distance) Slider / Diopter Adjustment Knob (hereinafter referred to as "knob")</li> <li>16. Camera</li> </ol> |
|---|--|

## DJI RC Motion 3



- |                          |                  |
|--------------------------|------------------|
| 1. Battery Level LEDs    | 6. Accelerator   |
| 2. Lock Button           | 7. Dial          |
| 3. Joystick              | 8. USB-C Port    |
| 4. Mode Button           | 9. Power Button  |
| 5. Shutter/Record Button | 10. Lanyard Hole |

# Flight Safety

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# Flight Safety

After completing pre-flight preparations, it is recommended to train your flying skills and practice flying safely. Pick a suitable area to fly in according to the following flight requirements and restrictions. Strictly abide by local laws and regulations when flying. Read the Safety Guidelines before flight to ensure safe use of the product.

## Flight Restrictions

### GEO (Geospatial Environment Online) System

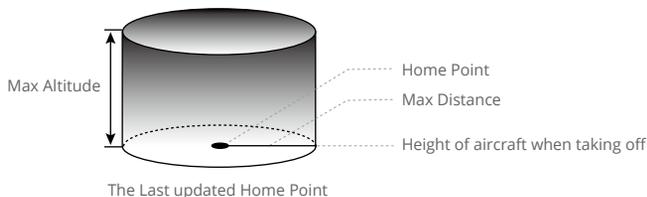
The DJI Geospatial Environment Online (GEO) System is a global information system that provides real-time information on flight safety and restriction updates and prevents UAVs from flying in restricted airspace. Under exceptional circumstances, restricted areas can be unlocked to allow flights in. Prior to that, the user must submit an unlocking request based on the current restriction level in the intended flight area. The GEO system may not fully comply with local laws and regulations. Users shall be responsible for their own flight safety and must consult with the local authorities on the relevant legal and regulatory requirements before requesting to unlock a flight in a restricted area. For more information about the GEO system, visit <https://fly-safe.dji.com>.

### Flight Limits

For safety reasons, flight limits are enabled by default to help users operate this aircraft safely. Users can set flight limits on height and distance. Altitude limits, distance limits, and GEO zones function concurrently to manage flight safety when GNSS is available. Only altitude can be limited when GNSS is unavailable.

### Flight Altitude and Distance Limits

Max altitude restricts the flight altitude of the aircraft, while max distance restricts the flight radius around the Home Point. These limits can be set using the goggles for improved flight safety.



## Strong GNSS Signal

	Flight Restrictions	Prompt in Goggles
Max Altitude	Flight altitude must be below the preset height.	Max flight altitude reached.
Max Distance	The straight-line distance from the aircraft to the Home Point cannot exceed the max flight distance set in the goggles.	Max flight distance reached.

## Weak GNSS Signal

	Flight Restrictions	Prompt in Goggles
Max Altitude	<ul style="list-style-type: none"> <li>Altitude is restricted to 50 m from the takeoff point if lighting is sufficient.</li> <li>Altitude is restricted to 3 m above the ground if lighting is not sufficient and the infrared sensing system is operating.</li> <li>The altitude is restricted to 50 m from the takeoff point if lighting is not sufficient and the infrared sensing system is not operating.</li> </ul>	Max flight altitude reached.
Max Distance	No limits	

-  Each time the aircraft is powered on, the altitude limit of 3 m or 50 m will be automatically removed as long as the GNSS signal ever becomes strong (GNSS signal display white or yellow) once, and the limit will not take effect even if the GNSS signal becomes weak afterwards.
- If the aircraft flies out of the set flight range due to inertia, users can still control the aircraft but cannot fly it any further. If the aircraft flies above the altitude limit, it will descend below the altitude limit at 5 m/s. If the aircraft flies into an Altitude Zone, landing will be triggered after a 100-second countdown.
  - For safety reasons, DO NOT fly the aircraft close to airports, highways, railway stations, railway lines, city centers, or other sensitive areas. Only fly the aircraft within a visual line of sight.

## GEO Zones

The DJI GEO system designates safe flight locations, provides risk levels and safety notices for individual flights and offers information on restricted airspace. All restricted flight areas are referred to as GEO Zones, which are further divided into Restricted Zones, Authorization Zones, Warning Zones, Enhanced Warning Zones, and Altitude Zones. Users can view such information in real-time in DJI Fly. GEO Zones are specific flight areas, including but not limited to airports, large event venues, locations where public emergencies have occurred (such as forest fires), nuclear power plants, prisons, government properties, and military facilities. By default, the GEO system limits takeoffs and flights in zones that may cause safety or security concerns. A GEO Zone map that contains comprehensive information on GEO Zones around the globe is available on the official DJI website: <https://fly-safe.dji.com/nfz/nfz-query>.

## Unlocking GEO Zones

To satisfy the needs of different users, DJI provides two unlocking modes: Self-Unlocking and Custom Unlocking. Users may make a request on the DJI Fly Safe website.

Self-Unlocking is intended for unlocking Authorization Zones. To complete Self-Unlocking, the user must submit an unlocking request via the DJI Fly Safe website at <https://fly-safe.dji.com>. Once the unlocking request is approved, the user may synchronize the unlocking license through the DJI Fly app. Alternatively, to unlock a zone, the user may launch or fly the aircraft directly into the approved Authorization Zone and follow the prompts in DJI Fly to unlock the zone.

Custom Unlocking is tailored for users with special requirements. It designates user-defined custom flight areas and provides flight permission documents specific to the needs of different users. This unlocking option is available in all countries and regions and can be requested via the DJI Fly Safe website at <https://www.dji.com/flysafe>.



- To ensure flight safety, the aircraft will not be able to fly out of the unlocked zone after entering it. If the Home Point is outside the unlocked zone, the aircraft will not be able to return home.
-

## Flight Environment Requirements

1. DO NOT operate the aircraft in severe weather conditions including wind speeds exceeding 10.7 m/s, snow, thunder and lightning, rain, and fog.
2. Only fly in open areas. Tall buildings and large metal structures may affect the accuracy of the onboard compass and GNSS system. Therefore, DO NOT take off from a balcony or anywhere within 15 m of buildings. Keep a distance of at least 15 m from buildings during flight. After takeoff, make sure you are notified with the message prompt "Home Point has been updated" before continuing flight. If the aircraft has taken off near buildings, the accuracy of the Home Point cannot be guaranteed. In this case, pay close attention to the current position of the aircraft during auto RTH. When the aircraft is close to the Home Point, it is recommended to cancel auto RTH and manually control the aircraft to land at an appropriate location.
3. When the GNSS signal is weak, fly the aircraft in environments with good lighting and visibility. The vision system may not work properly in poor light conditions. Only fly the aircraft in the daytime.
4. Avoid obstacles, crowds, trees, and bodies of water (recommended height is at least 6 m above water).
5. Minimize interference by avoiding areas with high levels of electromagnetism, such as locations near power lines, base stations, electrical substations, and broadcasting towers.
6. Try to keep a distance of more than 200 m from strong electromagnetic wave interference sites, such as radar stations, microwave relay stations, mobile communication base stations, and drone jamming equipment.
7. The performance of the aircraft and its battery is limited when flying at altitudes above 5000 m (16,404 ft). Fly with caution.
8. The braking distance of the aircraft is affected by the flight altitude. The higher the altitude, the greater the braking distance. When flying at an altitude above 3000 m (9843 ft), the user should reserve at least 20 m for vertical braking distance and 25 m for horizontal braking distance to ensure flight safety.
9. GNSS cannot be used on the aircraft in polar regions. Use the vision system instead.
10. DO NOT take off from moving objects, such as cars and ships.
11. DO NOT take off from solid-colored surfaces or surfaces with strong reflections such as a car roof.
12. DO NOT operate the aircraft in an environment where there is risk of a fire or explosion.
13. Operate the aircraft, goggles, remote control device, battery, battery charger, and the battery charging hub in a dry environment.
14. DO NOT use the aircraft, goggles, remote control device, battery, battery charger, and the battery charging hub near accidents, fire, explosions, floods, tsunamis, avalanches, landslides, earthquakes, dust, sandstorms, salt spray, or fungus.
15. DO NOT operate the aircraft near bird flocks.
16. DO NOT use the battery charger in humid environments.

## Operating the Aircraft Responsibly

To avoid serious injury and property damage, observe the following rules:

1. Make sure you are NOT under the influence of anesthesia, alcohol, or drugs or suffering from dizziness, fatigue, nausea, or other conditions that could impair the ability to operate the aircraft safely.
2. When landing, power off the aircraft first, then power off the remote control device.
3. DO NOT drop, launch, fire, or otherwise project any dangerous payloads on or at any buildings, persons, or animals, which could cause personal injury or property damage.
4. DO NOT use an aircraft that has been crashed or accidentally damaged or an aircraft that is not in good condition.
5. Make sure to train sufficiently and have contingency plans for emergencies or when an incident occurs.
6. Make sure to have a flight plan. DO NOT fly the aircraft recklessly.
7. Respect the privacy of others when using the camera. Make sure to comply with local privacy laws, regulations, and moral standards.
8. DO NOT use this product for any reason other than general personal use.
9. DO NOT use it for illegal or inappropriate purposes such as spying, military operations, or unauthorized investigations.
10. DO NOT use this product to defame, abuse, harass, stalk, threaten, or otherwise violate legal rights such as the right to privacy and publicity of others.
11. DO NOT trespass onto the private property of others.

## Pre-Flight Checklist

1. Make sure the goggles, remote control devices, Intelligent Flight Battery, and mobile device are fully charged.
2. Make sure the propellers are mounted correctly and securely.
3. Make sure the Intelligent Flight Battery is properly connected and secure.
4. Make sure the dust-resistant covers of the USB-C port and the microSD card slot are firmly closed.
5. Make sure the gimbal protector has been removed. Make sure all camera lenses and sensors are clean.
6. Make sure the aircraft, the remote control device, the gimbal and the camera are functioning normally.
7. Make sure the goggles antennas are unfolded.
8. Make sure that the goggles are functioning normally and display the video transmission.
9. Make sure the max flight altitude, max flight distance and RTH altitude are all set properly in the goggles according to the local laws and regulations.
10. Only use genuine DJI parts or DJI-authorized parts. Unauthorized parts may cause system malfunctions and compromise flight safety.

11. Check if the Remote ID is up to date and working.
12. DO NOT fly over densely populated areas.

# Flight Operation

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# Flight Operation

This section explains how to perform different actions with the aircraft. The steps below will help users operate the aircraft properly.

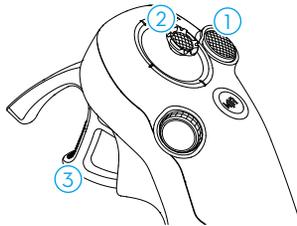
1. Place the aircraft in an open, flat area with the rear of the aircraft facing the user.
2. Power on the goggles, remote control device, and the aircraft.
3. Wait until the aircraft status indicator blinks green slowly and put on the goggles.
4. Start the motors.
5. Check the flight liveview in the goggles to make sure that there are no warning prompts and that the GNSS signal is strong.
6. Press the lock button 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.
7. Press and hold the lock button while the aircraft is hovering to land it automatically and stop the motors.
8. Power off the aircraft, goggles, and remote control device.

## Basic Flight Operations

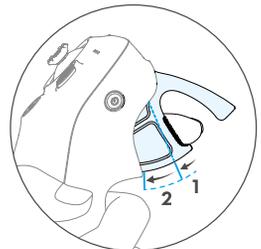


- It is recommended to watch the tutorial guide in the goggles before the first flight. Go to Settings > Control > Motion Controller > Flight Control > Motion Controller Instructions.

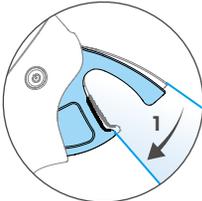
Operate the aircraft by using the lock button, joystick, and accelerator of the DJI Motion Controller 3.



- ① Use the lock button to control the takeoff, landing, and braking of the aircraft.
- ② Move the joystick to make the aircraft ascend, descend, or move left or right horizontally\*.
- ③ There are two levels of pressure when pressing the accelerator. When gently pressing to the position in the middle of the first and second stop, you can feel a noticeable pause. Press the accelerator to different stops to control different actions of the aircraft.



\* When Easy ACRO is not enabled or the Easy ACRO action is selected as Slide.

	<p>When the accelerator is not pressed, the aircraft will hover.</p>
	<p>When gently pressing the accelerator to the first stop, you can adjust the aircraft orientation by tilting the motion controller vertically to the left or right. Note that the aircraft will not fly forward at this time.</p>
	<p>Press the accelerator to the second stop to make the aircraft to fly in the direction of the circle in the goggles.</p>

## Taking Off, Braking and Landing

<b>Takeoff</b>	Press the lock button twice to start the aircraft motors, then press and hold the button again to make the aircraft take off. The aircraft will ascend to approximately 1.2 m and hover.
<b>Braking</b>	Press the lock button during flight to make the aircraft brake and hover in place. Press again to resume flight control.
<b>Landing</b>	Press and hold the lock button while the aircraft is hovering to land it automatically and stop the motors.

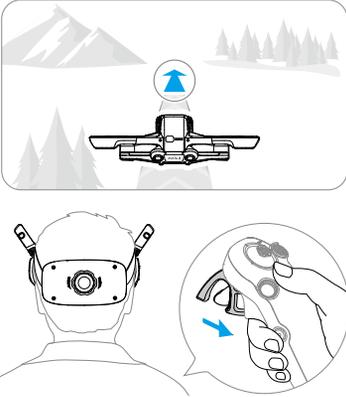
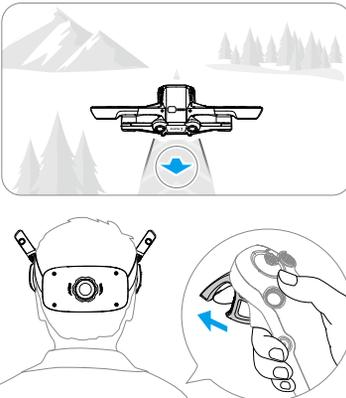


- After the aircraft motors have been started by double-pressing the lock button, slowly push the joystick up to make the aircraft take off.
- When Easy ACRO is disabled, once the aircraft flies to the landing position, gently push the joystick downwards to land the aircraft. After landing, push the joystick down and hold in position until the motors stop.

- ⚠️ • If an emergency occurs (such as a collision or the aircraft is out of control) during flight, pressing the lock button four times will trigger Stop Motors Mid-flight, which will stop the aircraft motors immediately. **The Stop Motors Mid-flight function will cause the aircraft to crash. Operate with caution.**
- To ensure flight safety when using the motion controller, press the lock button once to brake and hover before operating the goggles. Failure to do so is a safety risk and may lead to the aircraft losing control or injury.

## Flying Forward and Backward

Press or push the accelerator of the motion controller to fly forward or backward. Apply more pressure when pressing or pushing to accelerate. Release to stop and hover.

Flight Trajectory	Remarks
	<p>Press the accelerator to the second stop to make the aircraft fly in the direction of the circle in the goggles.</p>
	<p>Push the accelerator forward to fly the aircraft in reverse.</p>

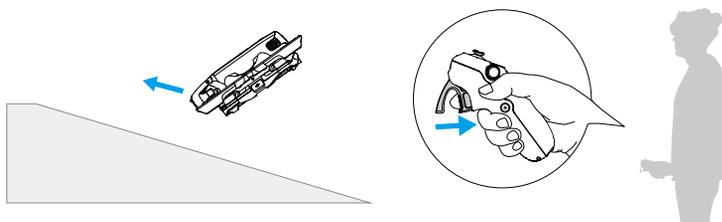
## Adjusting Aircraft Orientation

Gently press the accelerator to the first stop and simultaneously tilt the top of the motion controller in either direction to make the aircraft rotate. The greater the tilt angle of the motion controller, the faster the aircraft will rotate. The circle in the goggles will move left and right and the flight liveview will change accordingly.

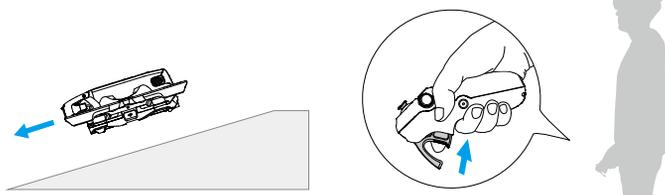


## Making the Aircraft Ascend or Descend at an Angle

When the aircraft needs to fly at an upward angle, press the accelerator to the second stop while simultaneously tilting the motion controller up.

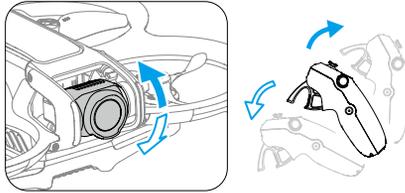


When the aircraft needs to fly at a downward angle, press the accelerator to the second stop while simultaneously tilting the motion controller down.



## Controlling the Gimbal and Camera

During flight, or when the accelerator is not being pressed and the aircraft is hovering, tilt the motion controller up and down to control the tilt of the gimbal. The tilt of the gimbal changes with the tilt of the motion controller accordingly and is always consistent with the orientation of the motion controller. The circle in the goggles will move up and down and the flight liveview will change accordingly.



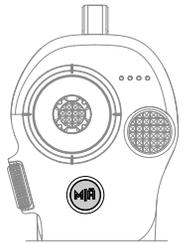
- 
- ⚠ • Before takeoff or when using the lock button to trigger the aircraft to hover, the tilt of the gimbal cannot be controlled.
  - Using the dial on the motion controller, scroll up or down to tilt the camera before takeoff or during RTH and landing.
- 

## Switching Flight Modes

The motion controller has two modes: Normal mode and Sport mode. Normal mode is selected by default.

Press the mode button once to switch between Normal mode and Sport mode. While flying in Sport mode, the flight speed of the aircraft will be faster. The operation logic of the motion controller remains the same in Sport mode as it is in Normal mode.

Refer to the section "Flight Modes" to know more about the difference between each flight mode.

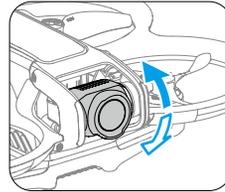
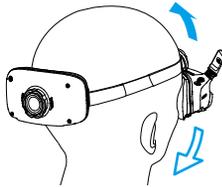
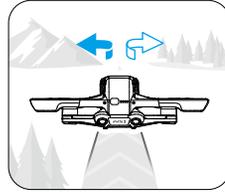
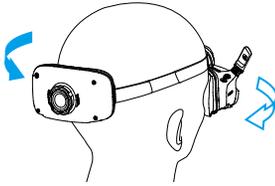


## Head Tracking

When Head Tracking is enabled, the horizontal orientation of the aircraft and the gimbal tilt can be controlled through head movements. Open the shortcut menu from the flight liveview, access the quick control menu, and click  to enable Head Tracking.

Once in Head Tracking mode, the motion controller will not be able to control the gimbal tilt, and only control via the aircraft is available. Users can still control the aircraft's heading by tilting the motion controller without pressing the accelerator.

- 
- ⚠ • Head Tracking is not available after taking off the goggles.
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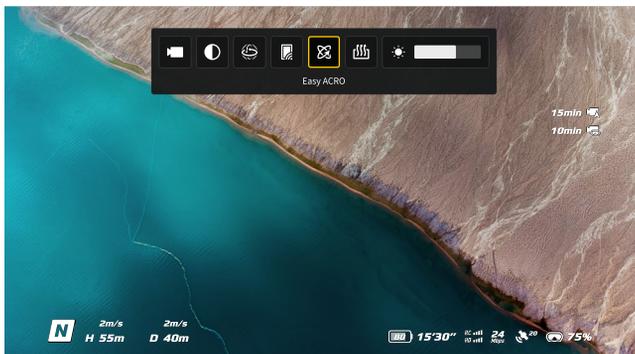


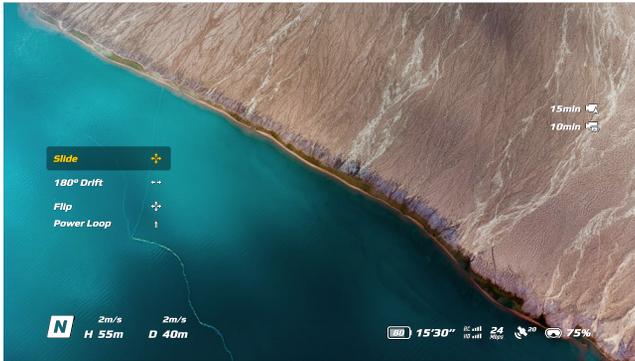
## Easy ACRO

Use the motion controller to perform Easy ACRO actions including front flip, backflip, roll, and 180° drift.

 • For flight safety, perform Easy ACRO actions in an open environment.

1. Open the shortcut menu and select Easy ACRO. The aircraft will be in Easy ACRO mode. Easy ACRO includes three actions: Slide, 180° Drift, Flip, and Power Loop. View the selected action on the left side of liveview in the goggles.



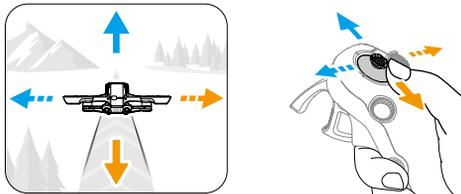


2. Use the dial on the motion controller to switch between Easy ACRO actions.
3. When Easy ACRO is enabled, move the joystick to perform different Easy ACRO actions as shown below.

## Slide

Push the joystick up or down to make the aircraft ascend or descend.

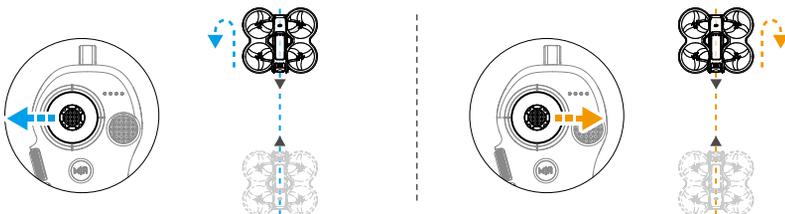
Push the joystick left or right to make the aircraft move left or right horizontally.



## 180° Drift

Push the joystick left or right to make the aircraft 180° drift left or right.

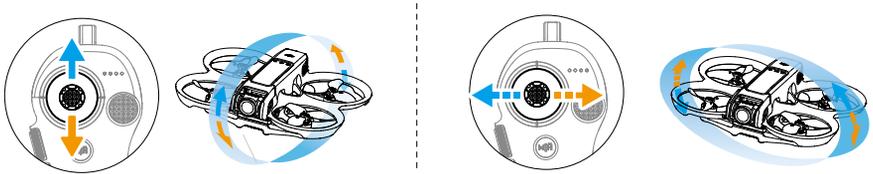
The aircraft will not respond when pushing the joystick up or down in this action mode.



## Flip

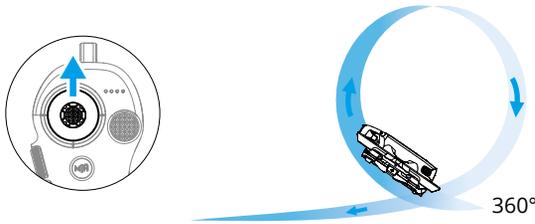
Push the joystick up or down to make the aircraft perform a front flip or backflip.

Push the joystick left or right to make the aircraft do one roll to the left or right.



## Power Loop

Push the joystick up to make the aircraft move forward and perform a complete 360° loop in the air. Note that the power loop feature has a fixed radius and speed, which cannot be altered.



- ☀ • Easy ACRO cannot be enabled in the following situations:
  - a. When recording video;
  - b. When Head Tracking is enabled;
  - c. When used with DJI FPV Remote Controller 3.

- ⚠ • Pay attention to surroundings and make sure there are no obstacles nearby before performing Easy ACRO actions.
- Keep a safe distance from the water when performing Easy ACRO actions.
- Easy ACRO is unavailable in the following situations:
  - a. The aircraft is taking off, hovering, landing, or returning to home;
  - b. The aircraft is in Sport mode;
  - c. The aircraft battery level is lower than 25%;
  - d. The altitude of the aircraft is less than 1.5m;
  - e. Flying in an environment with strong wind (wind speed exceeding 10 m/s);
  - f. The positioning performance is not good (the GNSS signal is weak);
  - g. The aircraft is in a buffer zone of a Restricted Zone or an Altitude Zone, or is approaching the Max Flight Distance.
- As the attitude angle of the aircraft increases (such as when making high-speed turns or when accelerating or decelerating quickly), the aircraft altitude will also need to be increased, otherwise Easy ACRO cannot be used.

## Video Recording Suggestions and Tips

1. The pre-flight checklist is designed to help the user fly and shoot videos safely. Go through the full pre-flight checklist before each flight.
2. It is recommended to use Normal mode to take photos or record videos.
3. DO NOT fly in bad weather such as on rainy or windy days.
4. Choose the camera settings that best suit your needs.
5. Perform flight tests to establish flight routes and preview scenes.
6. When flying, control the pressure applied on the accelerator to ensure smooth and stable movement of the aircraft.

# Aircraft

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# Aircraft

## Flight Modes

The aircraft supports the following flight modes. Flight modes can be switched between Normal mode and Sport mode using the Mode button on the motion controller.

**Normal Mode:** The aircraft can hover precisely and fly with stability in this mode, making it suitable for most flight scenarios.

**Sport Mode:** The maximum horizontal flight speed of the aircraft will increase in Sport mode.

**Manual Mode:** Classic FPV aircraft control mode with the highest maneuverability. In Manual mode, all flight assistance functions including precise hovering and auto-brake are disabled and proficient control skills are required.

In Normal or Sport mode, the aircraft will experience horizontal drift and RTH will be unavailable when the downward vision system is unavailable or disabled and when the GNSS signal is weak or the compass experiences interference. In this case, the aircraft cannot hover or brake automatically. Land the aircraft as soon as possible in order to avoid accidents. Avoid flying in confined spaces, or in areas where the GNSS signal is weak or the lighting is not sufficient.



- For safety reasons, the aircraft flies in Beginner mode by default for the first flight. In Beginner mode, the maximum flight speed of the aircraft is 1 m/s. To exit Beginner mode, open the menu on the goggles, go to Settings > Control > Beginner Mode.
- Manual mode is only supported when using the DJI FPV Remote Controller 3 to operate the aircraft. Throttle stick resistance can also be adjusted. DJI Motion Controller 3 does not support Manual mode. Refer to the DJI FPV Remote Controller 3 User Manual for more information on Manual mode.

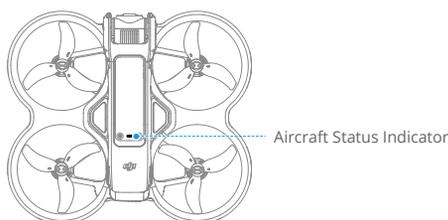


- A minimum braking distance of 10 m is required in windless conditions while the aircraft is ascending and descending in Sport mode or Normal mode.
  - The maximum flight speed and braking distance of the aircraft significantly increases in Sport mode. A minimum braking distance of 30 m is required in windless conditions.
  - The responsiveness of the aircraft significantly increases in Sport mode, which means a small control stick movement on the remote control device translates into the aircraft moving a large distance. Make sure to maintain adequate maneuvering space during flight.
-

- When the flight altitude of the aircraft is less than 5 m or when there are obstacles within a radius of 5 m around the aircraft, use caution when enabling Manual mode. The attitude may become unstable when turning the aircraft in Manual mode in the situations mentioned below. Operate the aircraft with caution to ensure a stable flight.
  - a. When turning the aircraft at a high speed;
  - b. When the flight height is over 3000 meters above the sea level;
  - c. When the flight speed exceeds 13 m/s or the wind speed exceeds 7.9 m/s.

## Aircraft Status Indicator

The aircraft has an aircraft status indicator on the top of the body.



## Aircraft Status Indicator Descriptions

### Normal States

	Blinks red, yellow, and green alternately	Powering on and performing self-diagnostic tests
	Blinks green slowly	GNSS or vision system enabled for positioning
	Blinks yellow slowly	GNSS and vision system disabled
	Blinks purple slowly	The aircraft is in Manual mode

### Warning States

	Blinks yellow quickly	Remote control device signal lost
	Blinks red slowly	Takeoff is disabled, e.g. low battery <sup>[1]</sup>
	Blinks red quickly	Critically low battery
	Blinks red	IMU error
	Solid red	Critical error
	Blinks red and yellow alternately	Compass calibration required

[1] If the aircraft cannot takeoff while the status indicators are blinking red slowly, view the warning prompt in the goggles.

## Return to Home

The Return to Home (RTH) function will automatically fly the aircraft back to the last recorded Home Point. RTH can be triggered in three ways: the user actively triggers RTH, the aircraft has low battery, or the remote control signal or video transmission signal has been lost (Failsafe RTH is triggered). If the aircraft records the Home Point successfully and the positioning system is functioning normally, when the RTH function is triggered, the aircraft will automatically fly back and land at the Home Point.

	GNSS	Description
Home Point		<p>The first location where the aircraft receives a strong to moderately strong GNSS signal (indicated by a white icon) will be recorded as the default Home Point. The Home Point can be updated when taking off as long as the aircraft receives another strong to moderately strong GNSS signal. If the signal is weak, the Home Point will not be updated. The aircraft status indicator blinks green quickly and a prompt appears in the goggles to confirm the Home Point has been updated.</p> <p>During flight an H symbol is displayed in the goggles to indicate the location of the last recorded Home Point of the aircraft.</p>

## Warnings

-  • During RTH, obstacles around and above the aircraft cannot be detected or avoided.
- The aircraft cannot return to the Home Point if the GNSS signal is weak or unavailable. If the GNSS signal becomes weak or unavailable after Failsafe RTH is triggered, the aircraft will automatically descend and land.
- Make sure set the RTH altitude before each flight. Go to Settings > Safety on the goggles and set a suitable RTH altitude.
- GEO Zones will affect RTH. The aircraft will hover if it flies into a GEO Zone during RTH.
- The aircraft may not be able to return to the Home Point when the wind speed is too high. Fly with caution.
- When the aircraft is flying in an environment surrounded by obstacles (such as near tall buildings), or when the GNSS signal is weak, the location of the Home Point may be inaccurate, leading to a large error in the horizontal distance between the aircraft and the Home Point displayed on the goggles. Fly with caution.

## Trigger Method

### The user actively triggers RTH

Press and hold the Mode button on the motion controller to initiate RTH. The aircraft will fly back to the last updated Home Point. When the aircraft is performing RTH, press the lock button

once to cancel RTH. After exiting RTH, users will regain control of the aircraft.

### **Aircraft low battery**

When the battery level is low and only sufficient to fly to the Home Point, a warning prompt will appear in the goggles and RTH will be triggered following the prompt. RTH can be canceled using the remote control devices. If RTH is canceled following a low battery warning, the Intelligent Flight Battery may not have enough power for the aircraft to land safely, which may lead to the aircraft being crashed or lost.

The aircraft will land automatically if the current battery level can only support the aircraft long enough to descend from its current altitude. Auto landing cannot be canceled, but the remote control devices can be used to control the horizontal movement of the aircraft during landing.

### **Loss of remote control or video transmission signal**

When the remote control signal or video transmission signal is lost, the aircraft will automatically initiate Failsafe RTH if the Signal Lost Action is set to RTH.

The aircraft will fly backwards 50 m along its original flight route and then perform the RTH procedure. The aircraft will directly perform the RTH procedure if the signal is restored when flying backward along the original flight route.



- The response of the aircraft when the wireless signal is lost can be modified in the goggles. The aircraft will not perform Failsafe RTH if land or hover has been selected in the settings.
- 

### **RTH Procedure**

1. The Home Point is recorded.
2. RTH is triggered.
3. When RTH begins, the RTH procedure varies according to different RTH distances (the horizontal distance between the aircraft and the Home Point):
  - a. The aircraft lands immediately if the RTH distance is less than 5 m.
  - b. If the RTH distance is farther than 5 m but less than 20 m, it flies to the Home Point in a straight line at the current altitude.
  - c. If RTH distance is farther than 20 m, it ascends to the RTH altitude and flies back to the Home Point. The aircraft flies to the Home Point at the current altitude if the RTH altitude is lower than the current altitude.
4. The aircraft begins to land when it reaches the spot above the Home Point.

### **Landing Protection**

Landing Protection activates during RTH and auto landing.

1. During Landing Protection, the aircraft will automatically detect and carefully land on suitable ground.
2. If the ground is determined unsuitable for landing, the aircraft will hover and wait for pilot confirmation.

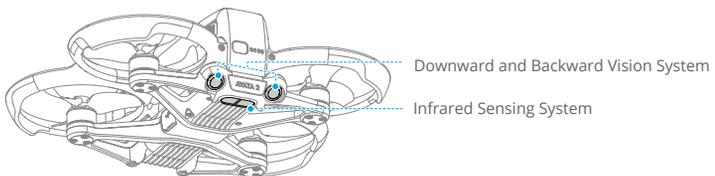
3. If Landing Protection is not operational, the goggles will display a landing prompt when the aircraft descends to 0.25 m. Press and hold the lock button on the motion controller and the aircraft will land.



- Landing Protection only assists in determining the landing environment. Pay attention to the surrounding environment during landing to ensure safety.
- In the following situations, Landing Protection may be unavailable and the aircraft may land directly on unsuitable ground:
  - a. Flying over monochrome, reflective, or low-light surfaces, a large area of surfaces without clear texture, or surfaces with dynamic texture, such as smooth ceramic tiles, garage ground with insufficient light, and grass blowing in the wind;
  - b. Flying over obstacles without clear texture, such as large rocks, or reflective or monochrome surfaces, such as raised tiles;
  - c. Flying over small or fine obstacles, such as power lines and tree branches;
  - d. Flying over surfaces that are similar to flat ground, such as trimmed and flat shrubs, flat tree tops, and hemispherical ground.
- In the following situations, Landing Protection may be triggered by mistake and a prompt will appear in the goggles that the aircraft is unable to land:
  - a. Flying over surfaces that the vision system may confuse for water, such as wet ground and areas with puddles;
  - b. Flying over flat surfaces, but there are surfaces with clear texture (oblique surfaces or stairs) nearby, such as monochrome car tops and monochrome tables.

## Vision System and Infrared Sensing System

The aircraft is equipped with both a Downward and Backward Vision System and Infrared Sensing System.



The positioning function of the downward vision system is applicable when GNSS signals are unavailable or weak. It is automatically enabled in Normal or Sport mode.

## Detection Range

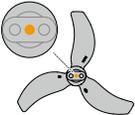
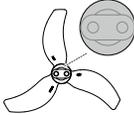
<b>Backward</b>	FOV: 78° (horizontal), 78° (vertical)
<b>Downward</b>	FOV: 78° (horizontal), 78° (vertical) Precision Measurement Range: 0.3-20 m; Precision Hovering Range: 0.3-10 m.

-  • Pay attention to the flight environment. The vision system and infrared sensing system only work in certain scenarios and cannot replace human control and judgment. During flight, pay attention to the surrounding environment and to the warnings on the goggles. Be responsible for and maintain control of the aircraft at all times.
- The aircraft has a maximum hovering altitude of 20 m when using the vision system in an open and flat environment with clear texture. The vision system works best when the aircraft is at an altitude from 0.5-10 m. Extra caution is required if the altitude of the aircraft is above 10 m as vision positioning performance may be affected.
  - The vision system may not work properly when the aircraft is flying near water. Therefore, the aircraft may not be able to actively avoid water below it when landing. It is recommended to maintain flight control at all times, make reasonable judgments based on the surrounding environment, and avoid over-relying on the downward vision system.
  - The vision system and infrared sensing system may not function properly when the aircraft is flying too fast.
  - The vision system cannot work properly near surfaces without clear pattern variations or where the light is too weak or too strong. The vision system cannot work properly in the following situations:
    - a. Flying near monochrome surfaces (e.g., pure black, pure white, pure green);
    - b. Flying near highly reflective surfaces;
    - c. Flying near water or transparent surfaces;
    - d. Flying near moving surfaces or objects;
    - e. Flying in an area where the lighting changes frequently or drastically;
    - f. Flying near extremely dark (< 10 lux) or bright (> 40,000 lux) surfaces;
    - g. Flying near surfaces that strongly reflect or absorb infrared waves (e.g., mirrors);
    - h. Flying near surfaces without clear patterns or texture (e.g., power poles);
    - i. Flying near surfaces with repeating identical patterns or textures (e.g., tiles with the same design);
    - j. Flying near obstacles with small surface areas (e.g., tree branches and power lines).
  - Keep the sensors clean at all times. DO NOT tamper with the sensors. DO NOT use the aircraft in environments with significant dust or humidity. DO NOT obstruct the infrared sensing system.
  - If the aircraft is involved in a collision, it may be necessary to calibrate the vision system.
  - DO NOT fly when it is rainy, smoggy, or the visibility is lower than 100 m.

- Check the following every time before takeoff:
  - a. Make sure there are no stickers or any other obstructions over the glass of the infrared sensing system and vision system;
  - b. Use a soft cloth if there is any dirt, dust, or water on the glass of the vision systems and infrared sensing systems. DO NOT use any cleaning product that contains alcohol;
  - c. Contact DJI Support if there is any damage to the glass of infrared sensing system and vision system.

## Propellers

There are two types of propellers, which are designed to spin in different directions. Make sure to match the propellers and motors by following the instructions.

Propellers	With Orange Marks	Without Orange Marks
Illustration		
Mounting Position	Attach to the motors of the marked arm.	Attach to the motors of the unmarked arm.

## Attaching and Detaching the Propellers

Attach the marked propellers to the motors of the marked arm, and the unmarked propellers to the motors of the unmarked arm. Use the 1.5mm screwdriver from the aircraft package to mount the propellers. Make sure the propellers are secure.

