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Title of WP: WP2 -Strengthening VET Teacher Competencies for FLIGHT

Activity Reference: 2.7 - Handbook for FLIGHT KIT



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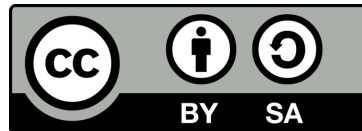
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1. Product Profile

1.1. Introduction

This training handout provides structured guidance for operating the DJI Mini 4 Pro drone with the DJI RC 2 remote controller. Designed for vocational training contexts, it aims to strengthen technical competence in drone usage, with a focus on flight control, intelligent features, and data acquisition through the DJI Fly interface. The content is especially relevant for learners and instructors in disciplines such as environmental protection, agriculture, infrastructure inspection, and disaster management.

Beyond its role in aerial photography, the DJI Mini 4 Pro's high-resolution imaging, stable flight behavior, easy-to-use features and repeatable automated flight paths make it suitable for visually capturing environmental conditions across diverse terrains. These capabilities enable applications such as monitoring vegetation health, detecting changes in land surfaces, observing water quality, and documenting pollution-related phenomena like haze or smoke.

With a fully stabilized 3-axis gimbal and 1/1.3" sensor camera, the DJI Mini 4 Pro can shoot HDR videos and 48MP photos. It supports switching between Landscape mode and Portrait mode as well as controlling the gimbal's tilt angle from -90° to 60° with one tap in DJI fly app or one button click the DJI RC 2 remote controller. This transforms the DJI Mini 4 Pro into a powerful tool for educational, scientific, and operational tasks requiring environmental awareness and spatial accuracy.

The DJI Mini 4 Pro also features both an omnidirectional vision system and a 3D infrared sensing system as well as intelligent flight modes such as FocusTrack, MasterShots, QuickShots, Hyperlapse, Waypoint Flight and Cruise Control enable users to capture cinematic videos effortlessly. It is capable of hovering and flying indoors and outdoors as well as flying safely back to Home Point using Return to Home button while sensing obstacles in all directions. The aircraft also boasts a foldable and compact design, weighing more than 249 g with the Intelligent Flight Battery Plus. The aircraft has a maximum flight time of 45 minutes with the Intelligent Flight Battery Plus.

1.2. 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://s.dji.com/guide66>



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1.3. User Manuals

Go to the address below or scan the QR code to get the safety guidelines, quick start guides and user manuals.



<https://www.dji.com/mini-4-pro/downloads>

1.4. Download the DJI Fly App

Make sure to use DJI Fly during flight. Scan the QR code above to download the latest version on your mobile device.

- The remote controller with screen has the DJI Fly app already installed. Users are required to download DJI Fly to their mobile device when using QuickTransfer to export the footage to a mobile device.

2. Setup and Activation

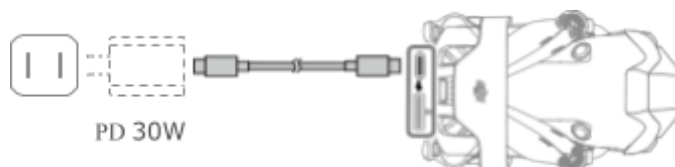
Before flight, the DJI RC 2 and aircraft must be properly configured following the steps below. These steps are essential for linking the DJI RC 2 remote controller to the DJI Mini 4 Pro and preparing for safe and responsive flight.

2.1. Using for the First Time

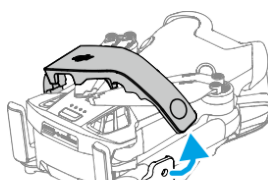
2.1.1. Preparing the DJI Mini 4 Pro Aircraft

All aircraft arms are folded before the aircraft is packaged. Follow the steps below to unfold the aircraft.

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



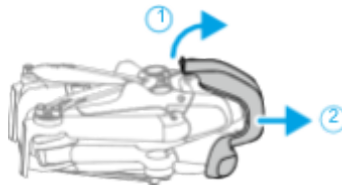
2. Remove the propeller holder.



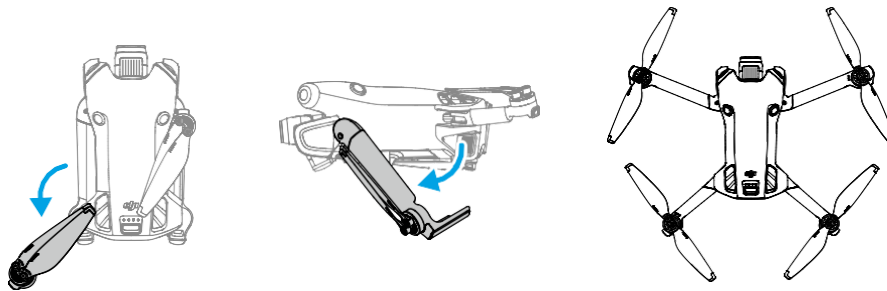
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3. Remove the gimbal protector from the camera.



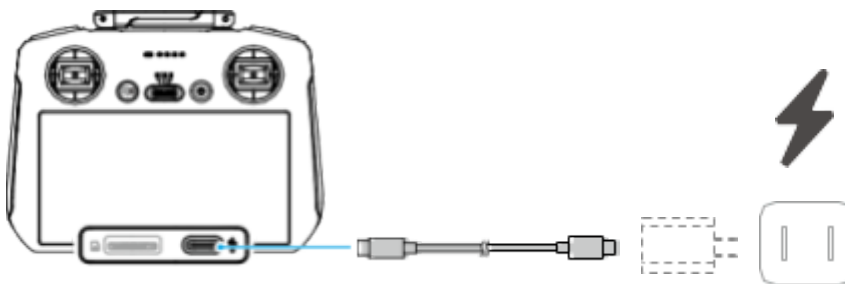
4. Unfold the rear arms, followed by the front arms, and then all of the propeller blades.



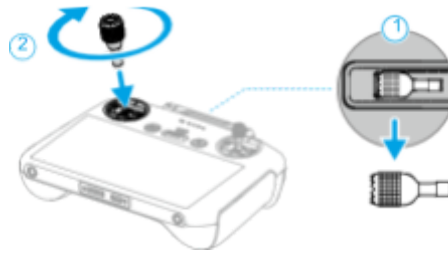
- It is recommended to use the DJI 30W USB-C Charger or other USB Power Delivery chargers.
- Make sure the gimbal protector is removed and all arms are unfolded before powering on the aircraft. Otherwise, it may affect the aircraft self-diagnostics.
- It is recommended to attach the gimbal protector and propeller holder when the aircraft is not in use.

2.1.2. Preparing the DJI RC 2 Remote Controller

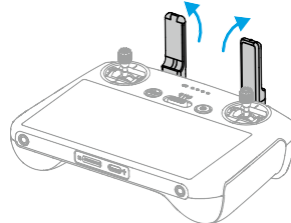
1. Connect the charger to the USB-C port on the remote controller. It takes approximately 1 hour and 30 minutes to fully charge the remote controller (with a 9V/3A USB charger).



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



3. Unfold the antennas to enable optimal signal transmission.



4. The remote controller needs to be activated before first use and an internet connection is required for activation. Press, and then press and hold the power button to power on the remote controller. Follow the on-screen prompts to activate the remote controller.
5. Open the DJI Fly app to ensure firmware is up to date. Update if prompted.

2.1.3. Activating the Aircraft

The aircraft requires activation before first use. Press, and then press and hold the power button to power on the aircraft and remote controller respectively, and then follow the on-screen prompts to activate the aircraft using DJI Fly. An internet connection is required for activation.

2.1.4. Binding the Aircraft and Remote Controller

After activation, the aircraft is bound to the remote controller automatically. If automatic binding fails, follow the on-screen prompts on DJI Fly to bind the aircraft and remote controller for optimal warranty services.

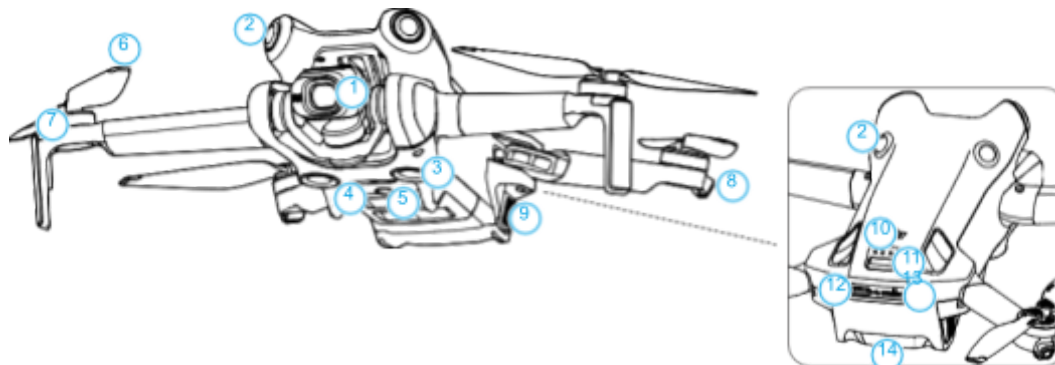
2.1.5. Firmware Update

A prompt will appear in DJI Fly when new firmware is available. Update the firmware whenever prompted to ensure optimal user experience.



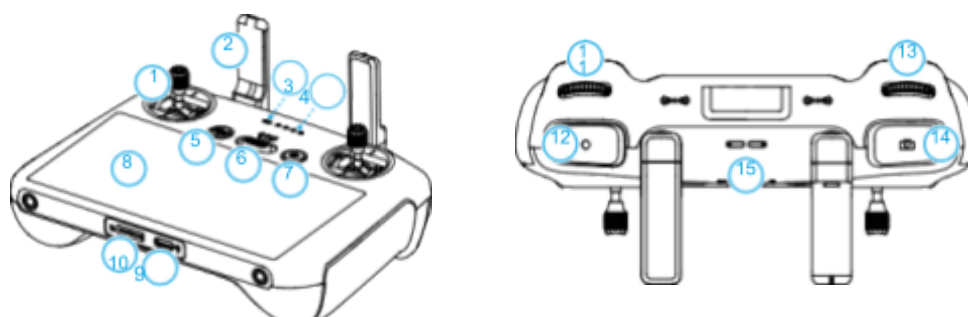
3. Diagrams

3.1.Aircraft



1. Gimbal and Camera
2. Omnidirectional Vision System
3. Downward Vision System
4. 3D Infrared Sensing System
5. Auxiliary Light
6. Propellers
7. Motors
8. Aircraft Status Indicators
9. Battery Buckles
10. Battery Level LEDs
11. Power Button
12. USB-C Port
13. microSD Card Slot
14. Intelligent Flight Battery

3.2.DJI RC 2 Remote Controller



1. Control Sticks

Use the control sticks to control the aircraft movements. Set the control stick mode in DJI Fly. The control sticks are removable and easy to store.



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2. Antennas

Transmit aircraft control and video wireless signals.

3. Status LED

Indicates the status of the remote controller.

4. Battery Level LEDs

Displays the current battery level of the remote controller.

5. 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). Press and hold to initiate RTH. Press again to cancel RTH.

6. Flight Mode Switch

For switching between three flight modes: Cine, Normal, and Sport mode.

7. Power Button

Press once to check the current battery level. Press, and then press and hold to power the remote controller on or off. When the remote controller is powered on, press once to turn the touchscreen on or off.

8. Touchscreen

Touch the screen to operate the remote controller. Note that the touchscreen is not waterproof. Operate with caution.

9. USB-C Port

For charging and connecting the remote controller to your computer.

10. microSD Card Slot

For inserting a microSD card.

11. Gimbal Dial

Controls the tilt of the camera.

12. Record Button

Press once to start or stop recording.

13. Camera Control Dial

For zoom control. Set the function in DJI Fly by entering Camera View > Settings > Control > Button Customization.

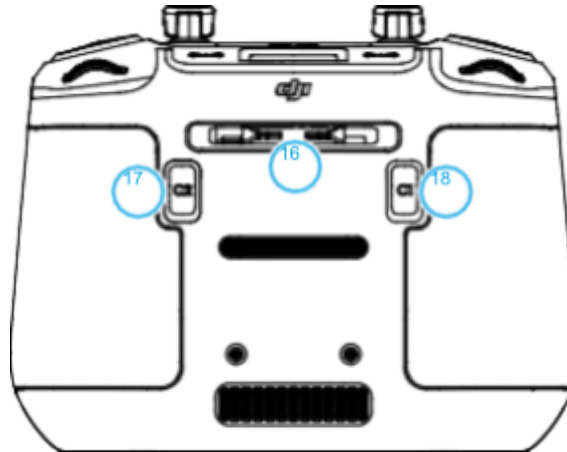
14. Focus/Shutter Button

Press halfway down on the button to autofocus and press all the way down to take a photo. Press once to switch to photo mode when in record mode.

15. Speaker

Outputs sound.





16. Control Sticks Storage Slot

For storing the control sticks.

17. Customizable C2 Button

Switch between Landscape and Portrait mode. Set the function in DJI Fly by entering Camera View > Settings > Control > Button Customization.

18. Customizable C1 Button

Switch between recentring the gimbal and pointing the gimbal downward. Set the function in DJI Fly by entering Camera View > Settings > Control > Button Customization.

4. Flight

4.1. Pre-Flight Checklist

1. Make sure the propeller holder and the gimbal protector are removed.
2. Make sure the Intelligent Flight Battery and the propellers are mounted securely.
3. Make sure the remote controller, mobile device, and Intelligent Flight Battery are fully charged.
4. Make sure the aircraft arms are unfolded.
5. Make sure the gimbal and camera are functioning normally.
6. Make sure that there is nothing obstructing the motors and that they are functioning normally.
7. Make sure that DJI Fly is successfully connected to the aircraft.
8. Make sure all camera lenses and sensors are clean.
9. Only use genuine DJI parts or DJI authorized parts. Unauthorized parts may cause system malfunctions and compromise flight safety.
10. Make sure the Obstacle Avoidance Action is set in DJI Fly, and the max flight altitude, max flight distance and RTH altitude are all set properly according to the local laws and regulations.

4.2. Basic Flight

4.2.1. Auto Takeoff

Use the Auto Takeoff function:

1. Launch DJI Fly and enter the camera view.
2. Complete all steps in the pre-flight checklist.
3. Tap . If conditions are safe for takeoff, press and hold the button to confirm.
4. The aircraft will take off and hover approximately 1.2 m (3.9 ft) above the ground.

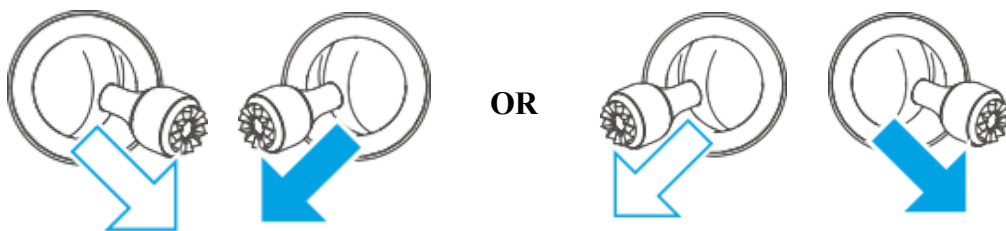
4.2.2. Auto Landing

Use the Auto Landing function:

1. Tap . If conditions are safe to land, press and hold the button to confirm.
2. Auto landing can be canceled by tapping .
3. If the Downward Vision System is working normally, Landing Protection will be enabled.
4. Motors will stop automatically after landing.

4.2.3. Starting the Motors

Perform the Combination Stick Command (CSC) as shown below to start the motors. Once the motors have started spinning, release both sticks simultaneously.

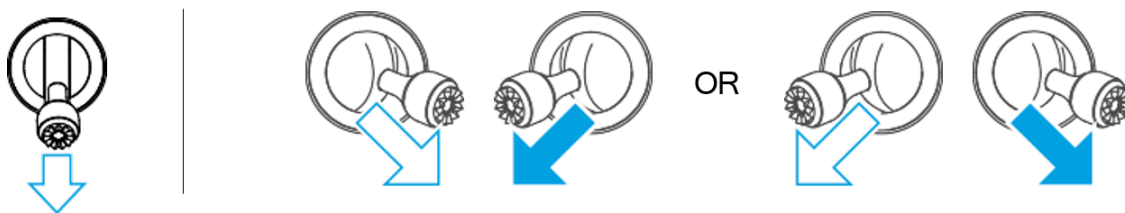


4.2.4. Stopping the Motors

The motors can be stopped in two ways:

Method 1: When the aircraft has landed, push the throttle stick down and hold until the motors stop.

Method 2: When the aircraft has landed, perform the same CSC used to start the motors until the motors stop.



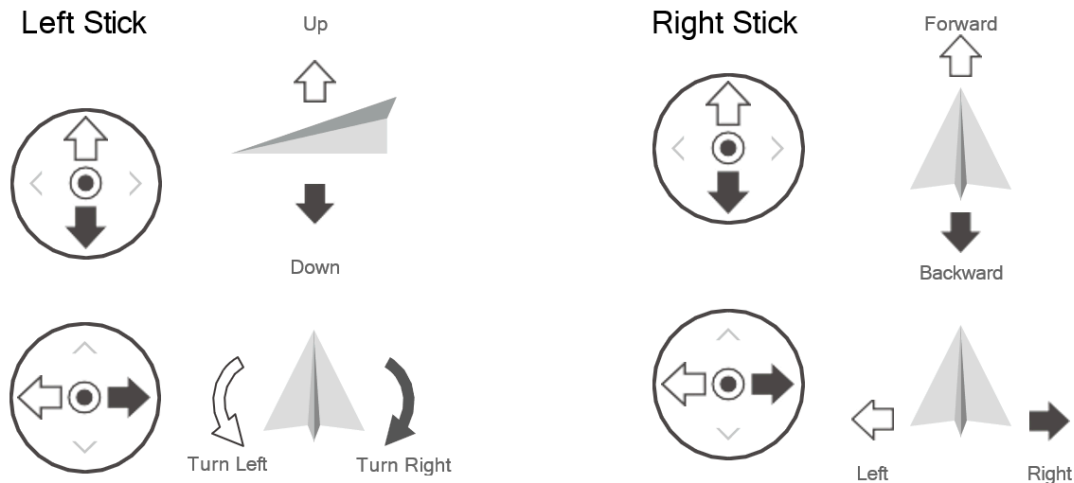
Method 1

Method 2



4.2.3. Controlling the Aircraft

The control sticks of the remote controller can be used to control the aircraft movements. The control sticks can be operated as shown below.



4.2.4. Takeoff/Landing Procedures

1. Place the aircraft in an open, flat area with the rear of the aircraft facing towards the user.
2. Power on the remote controller and the aircraft.
3. Launch DJI Fly and enter the camera view.
4. Tap Settings > Safety, and then set the Obstacle Avoidance Action to Bypass or Brake. Make sure to set an appropriate Max Altitude and RTH Altitude.
5. Wait for the aircraft self-diagnostics to complete. If DJI Fly does not show any irregular warning, you can start the motors.
6. Push the throttle stick up slowly to take off.
7. To land, hover over a level surface and push the throttle stick down to descend.
8. After landing, push the throttle down and hold until the motors stop.
9. Power off the aircraft before the remote controller.

- Make sure to place the aircraft on a flat and steady surface before takeoff. DO NOT launch the aircraft from your palm or while holding it with your hand.

4.3. Intelligent Flight Modes

Besides basic flight, the DJI Mini 4 Pro offers intelligent flight modes such as Focustrack, MasterShots, QuickShots, Hyperlapse, Waypoint Flight, and Cruise Control. For an overview of how to use these intelligent flight modes, go to the address below or scan the QR code to watch the tutorial videos.





Click the link below or scan the QR code to watch the tutorial video.



<https://s.dji.com/intelligent-flight>

5. Aircraft

The aircraft contains a flight controller, video downlink system, vision systems, infrared sensing system, propulsion system, and an Intelligent Flight Battery.

5.1. Flight Modes

The aircraft supports the following flight modes, which can be switched via the Flight Mode switch on the remote controller.

5.1.1. Normal Mode

The aircraft utilizes GNSS, the omnidirectional vision system, the downward vision system, and the 3D infrared sensing system to locate itself and stabilize. When the GNSS signal is strong, the aircraft uses GNSS to locate itself and stabilize. When the GNSS is weak, but the lighting and other environmental conditions are sufficient, the aircraft uses the vision systems for positioning. When the vision systems are enabled, and lighting and other environmental conditions are sufficient, the maximum pitch angle is 30° and the maximum horizontal speed is 12 m/s.

5.1.2. Sport Mode

In Sport Mode, the aircraft uses GNSS and the downward vision system for positioning, and the aircraft responses are optimized for agility and speed, making it more responsive to control stick movements. The maximum horizontal speed is 16 m/s. Note that obstacle sensing is disabled in Sport Mode.

5.1.3. Cine Mode

Cine mode is based on Normal mode with a limited flight speed, making the aircraft more stable during shooting.

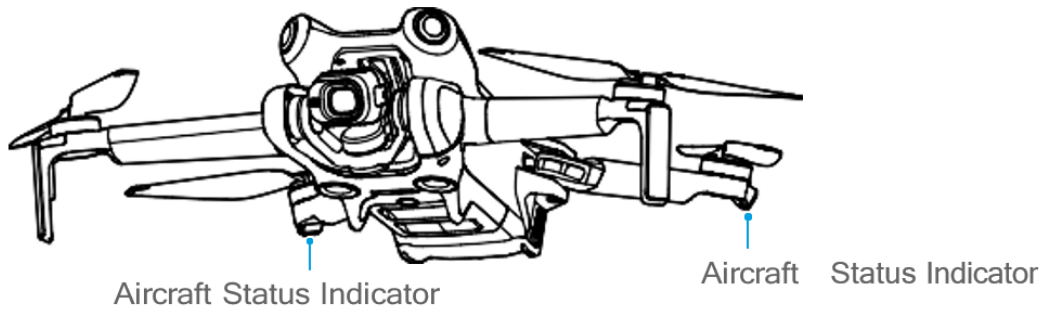
The aircraft automatically changes to Attitude (ATTI) mode when the vision systems are unavailable or disabled and the GNSS signal is weak or the compass experiences interference. In ATTI mode, the aircraft may be more easily affected by its surroundings. Environmental factors such as wind can result in horizontal drift of the aircraft, which may present hazards especially when flying in confined spaces. The



aircraft will not be able to hover or brake automatically, therefore the pilot should land the aircraft as soon as possible to avoid accidents.

5.2. Aircraft Status Indicators

The aircraft has two aircraft status indicators.



When the aircraft is powered on, but the motors are not running, the aircraft status indicators will display the current status of the flight control system. Refer to the table below for more information about the aircraft status indicators.

5.2.1. Aircraft Status Indicators Descriptions

Normal States		
	Blinks red, yellow, and green	Powering on and performing self-diagnostic alternately tests
 ×4	Blinks yellow four times	Warming up
	Blinks green slowly	GNSS enabled
 ×2	Blinks green twice repeatedly	Vision systems enabled
	Blinks yellow slowly	GNSS and vision systems disabled (ATTI mode enabled)
Warning States		
	Blinks yellow quickly	Remote controller signal lost
	Blinks red slowly	Takeoff is disabled, e.g. low battery ^[1]
	Blinks red quickly	Critically low battery
 —	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 DJI Fly.

After the motors start, the aircraft status indicators will blink green for conspicuity purpose, which indicate the aircraft is a UAV. While in Chinese Mainland, the status indicator on the left side of the aircraft blinks red and the status indicator on the right side blinks green.

- Lighting requirements vary depending on the region. Observe local laws and regulations.

5.3.Return to Home



Click the link below or scan the QR code to watch the tutorial video.



<https://s.dji.com/RTH>

The Return to Home (RTH) function brings the aircraft back to the last recorded Home Point. The RTH can be triggered in three ways: the user actively triggers RTH, the aircraft has low battery, or the control signal between the remote controller and the aircraft is lost. 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.

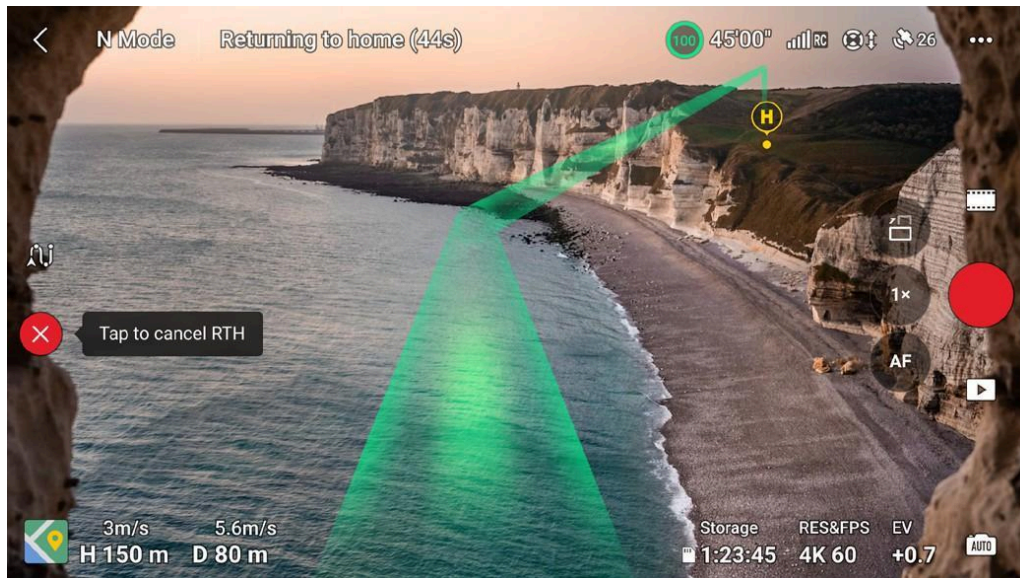
	GNSS	Descriptions
Home Point	 10	The first location where the aircraft receives a strong to moderately strong GNSS signal (indicated by a white icon) will be recorded as the default Home Point. The Home Point can be updated before takeoff as long as the aircraft receives another strong to moderately strong GNSS signal. If the signal is weak, the Home Point will not be updated. After the Home Point is recorded, DJI Fly will issue a voice prompt. If it is necessary to update the Home Point during a flight (such as where the position of the user has changed), the Home Point can be manually updated in Settings > Safety page in DJI Fly.

During RTH, the aircraft will automatically adjust the gimbal tilt to point the camera toward the RTH route by default. If the video transmission signal is normal, the AR Home Point, AR RTH route, and AR aircraft shadow will be displayed in the camera view by default. This improves the flight experience by helping users view the RTH route and Home Point and avoid obstacles on the route. The display can be changed in System Settings > Safety > AR Settings.

- The AR RTH route is only used for reference, and may deviate from the actual flight route in different scenarios. Always pay attention to the liveview on the screen during RTH. Fly with caution.



- During RTH, use the gimbal dial to adjust the camera orientation or press the customizable buttons on the remote controller to recenter the camera will stop the aircraft from automatically adjusting the gimbal tilt, which may prevent the AR RTH route from being viewed.
- When reaching the Home Point, the aircraft will automatically adjust the gimbal tilt vertically down.



5.4. Advanced RTH

When Advanced RTH is triggered, the aircraft will automatically plan the best RTH path, which will be displayed in DJI Fly and will adjust according to the environment.

If the control signal between the remote controller and the aircraft is good, exit RTH by tapping in DJI Fly or by pressing the RTH button on the remote controller. After exiting RTH, users will regain control of the aircraft.

5.4.1. Trigger Method

- **The user actively triggers RTH**

Advanced RTH can be initiated either by tapping in DJI Fly or by pressing and holding the RTH button on the remote controller until it beeps.

- **Aircraft low battery**

When the Intelligent Flight Battery level is too low and there is not enough power to return home, land the aircraft as soon as possible.

To avoid unnecessary danger caused by insufficient power, the aircraft automatically calculates if the battery power is sufficient to return to the Home Point according to the current position, environment, and flight speed. A warning prompt will appear in DJI Fly when the battery level is low and only enough to complete an RTH flight. The aircraft will automatically fly to the Home Point if no action is taken after a countdown.



The user can cancel RTH by pressing the RTH button on the remote controller. If RTH is canceled following the warning, the Intelligent Battery may not have enough power for the aircraft to land safely, which may lead to the aircraft crashing or being 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 controller can be used to control the horizontal movement and the descent speed of the aircraft during landing. If there is sufficient power, the throttle stick can be used to make the aircraft ascend at a speed of 1 m/s. The aircraft will initiate force landing when the available battery power is depleted, and the throttle stick cannot be pushed to change the descent speed.

During auto landing, move the aircraft horizontally to find an appropriate place to land as soon as possible. The aircraft will fall if the user keeps pushing the throttle stick upward until the power is depleted.

• **Loss of remote controller signal**

The action of the aircraft when the remote controller signal is lost can be set to RTH, land, or hover in Setting > Safety > Advanced Safety Settings in DJI Fly. If the action is set to RTH, the Home Point was successfully recorded and the compass is functioning normally, Failsafe RTH automatically activates after the remote controller signal is lost for more than six seconds.

When the lighting is sufficient and the environment is suitable for the vision systems to work normally, DJI Fly will display the RTH path that was generated by the aircraft before the remote controller signal was lost. The aircraft will start RTH using Advanced RTH according to the RTH settings. The aircraft will remain in RTH even if the remote controller signal is restored. DJI Fly will update the RTH path accordingly.

When the lighting is not sufficient or the environment is not suitable for the vision systems to work normally, the aircraft will enter Original Route RTH. The aircraft will enter or remain in Preset RTH if the remote controller signal is restored during RTH. The Original Route RTH procedure is as follows:

1. The aircraft brakes and hovers in place.
 2. When RTH begins:
 - If the RTH distance (the horizontal distance between the aircraft and the Home Point) is farther than 50 m, the aircraft adjusts its orientation and flies backward for 50 m on its original flight route before entering Preset RTH.
 - If the RTH distance is farther than 5 m but less than 50 m, it adjusts its orientation and flies to the Home Point in a straight line at the current altitude.
 - The aircraft lands immediately if the RTH distance is less than 5 m.
 3. The aircraft begins to land when it reaches above the Home Point.
- If RTH is triggered through DJI Fly and the RTH distance is farther than 5 m, DJI Fly will display the two following options: RTH and Landing. Users can select either RTH or directly land the aircraft.



- The aircraft may not be able to return to the Home Point normally if the positioning system is functioning abnormally. During Failsafe RTH, the aircraft may enter ATTI mode and land automatically if the positioning system is functioning abnormally.
- It is important to set a suitable RTH altitude before each flight. Launch DJI Fly and set the RTH altitude. The default RTH altitude is 100 m.
- The aircraft cannot sense obstacles during Failsafe RTH if the vision systems are unavailable.
- GEO zones may affect the RTH. Avoid flying near GEO zones.
- The aircraft may not be able to return to a Home Point when the wind speed is too high. Fly with caution.
- Pay extra attention to small or fine objects (such as tree branches or power lines) or transparent objects (such as water or glass) during RTH. Exit RTH and control the aircraft manually in an emergency.
- RTH cannot be activated during auto landing.

5.4.2. RTH Procedure

1. The Home Point is recorded.
2. Advanced RTH is triggered.
3. The aircraft brakes and hovers in place. When RTH begins:
 - The aircraft lands immediately if the RTH distance is less than 5 m.
 - If the RTH distance is farther than 5 m, the aircraft will adjust its orientation to the Home Point and plan the best path according to the RTH settings, lighting, and environmental conditions.
4. The aircraft will fly automatically according to the RTH settings, environment, and transmission signal during RTH.
5. The aircraft lands and the motors stop after reaching the Home Point.

5.4.3. Landing Protection

Landing Protection will activate during RTH. Landing Protection is enabled once the aircraft begins to land.

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, DJI Fly will display a landing prompt when the aircraft descends to 0.5 m from the ground. Tap confirm or push the throttle stick all the way down and hold for one second, and the aircraft will land.

5.4.4. Precision Landing

The aircraft automatically scans and attempts to match the terrain features below during RTH. The aircraft will land when the current terrain matches the Home Point. A prompt will appear in DJI Fly if the terrain match fails.

- Landing Protection is activated during Precision Landing.
- The performance of Precision Landing is subject to the following conditions:



- a. The Home Point must be recorded upon takeoff and must not be changed during flight. Otherwise, the aircraft will have no record of the terrain features of the Home Point.
- b. During takeoff, the aircraft must ascend at least 7 m before moving horizontally.
- c. The Home Point terrain features must remain largely unchanged.
- d. The terrain features of the Home Point must be sufficiently distinctive. Terrain such as a snow-covered field is not suitable.
- e. The lighting conditions must not be too bright or too dark.
- The following actions are available during Precision Landing:
 - a. Press the throttle stick down to accelerate landing.
 - b. Movement of any other control stick apart from the throttle stick will be regarded as giving up Precision Landing. The aircraft will descend vertically after the control sticks are released. Landing Protection is still effective in this case.

5.5. Flight Recorder

Flight data including flight telemetry, aircraft status information, and other parameters are automatically saved to the internal data recorder of the aircraft. The data can be accessed using DJI Assistant 2 (Consumer Drones Series).

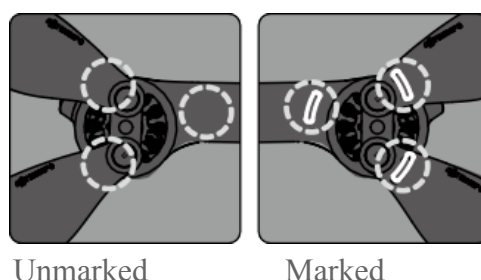
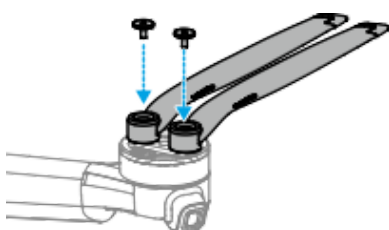
5.6. Propellers

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

Propellers	Marked	Unmarked
Illustration		
Mounting Position	Attach to the motors of the marked unmarked arm	Attach to the motors of the arm

5.6.1. Attaching 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 screwdriver from the aircraft package to mount the propellers. Make sure the propellers are secure.



- Make sure to only use the screwdriver from the aircraft package for mounting propellers. Using other screwdrivers may damage the screws.
- Make sure to keep the screws vertical while tightening them. The screws should not be at a tilted angle to the mounting surface. After installation is complete, check whether the screws are flush and rotate the propellers to check for any abnormal resistance.

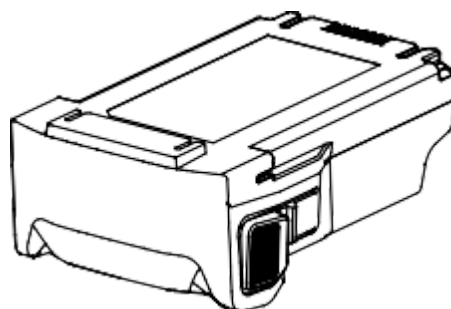
5.6.2. Detaching the propellers

Use the screwdriver from the aircraft package to loosen the screws and detach the propellers from the motors.

- Propeller blades are sharp. Handle with care.
- The screwdriver is only for mounting the propellers. DO NOT use the screwdriver to disassemble the aircraft.
- If a propeller is broken, remove the two propellers and screws on the corresponding motor and discard them. Use two propellers from the same package. DO NOT mix with propellers from other packages.
- Only use official DJI propellers. DO NOT mix propeller types.
- Propellers are consumable components. Purchase additional propellers if necessary.
- Make sure that the propellers and motors are installed securely before each flight. Check to make sure the screws on the propellers are tightened after every 30 hours of flying time (approx. 60 flights).
- Make sure that all propellers are in good condition before each flight. DO NOT use aged, chipped, or broken propellers.
- To avoid injury, stay away from rotating propellers or motors.
- To avoid damaging the propellers, place the aircraft correctly during transportation or storage. DO NOT squeeze or bend the propellers. If propellers are damaged, the flight performance may be affected.
- Make sure the motors are mounted securely and rotating smoothly. Land the aircraft immediately if a motor is stuck and unable to rotate freely.
- DO NOT attempt to modify the structure of the motors.
- DO NOT touch or let hands or body parts come in contact with the motors after flight, as they may be hot.
- DO NOT block any of the ventilation holes on the motors or the body of the aircraft.
- Make sure the ESCs sound normal when powered on.

5.7. Intelligent Flight Battery

DJI Mini 4 Pro Intelligent Flight Battery Plus (BWX162-3850-7.38) is a 7.38V, 3850mAh battery equipped with smart charging and discharging functionality.

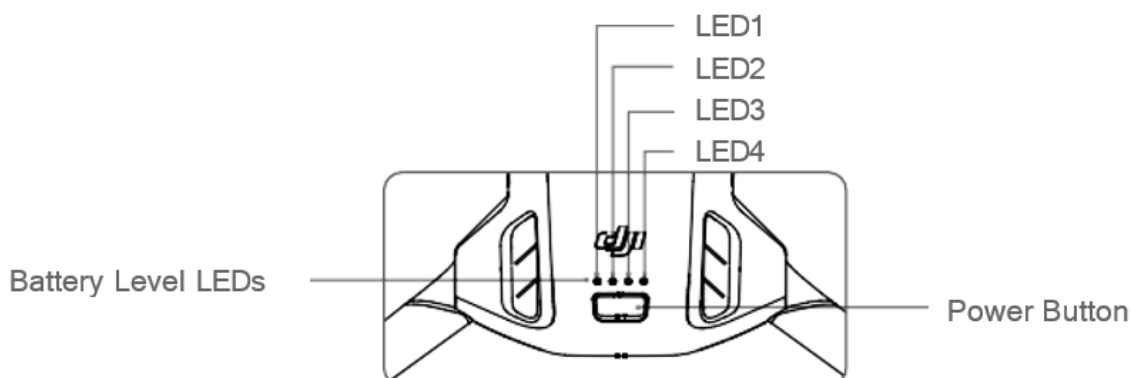


5.7.1. Battery Features

1. **Balanced Charging:** during charging, the voltages of the battery cells are automatically balanced.
2. **Auto-Discharging Function:** to prevent swelling, the battery automatically discharges to 96% battery level when it is idle for three days, and automatically discharges to 60% battery level when it is idle for nine days. Note that it is normal for the battery to emit heat during the discharging process.
3. **Overcharge Protection:** the battery stops charging automatically once fully charged.
4. **Temperature Detection:** to prevent damage, the battery only charges when the temperature is between 5° and 40° C (41° and 104° F). Charging stops automatically if the temperature of the battery cells exceed 55° C (131° F) during charging.
5. **Overcurrent Protection:** the battery stops charging if an excess current is detected.
6. **Over-Discharge Protection:** discharging stops automatically to prevent excess discharge when the battery is not in use. Over-discharge protection is not enabled when the battery is in use.
7. **Short Circuit Protection:** the power supply is automatically cut if a short circuit is detected.
8. **Battery Cell Damage Protection:** the app will display a warning prompt when a damaged battery cell is detected.
9. **Hibernation Mode:** if the battery is less than 10% when the aircraft is idle, the battery enters Hibernation mode to prevent over-discharge. Charge the battery to wake it from hibernation.
10. **Communication:** information about the voltage, capacity, and current of the battery is transmitted to the aircraft.
11. **Maintenance Instructions:** the battery automatically checks the voltage differences between battery cells and decides whether maintenance is required. If maintenance is required, insert the battery into the aircraft and power it on, the aircraft will not be able to take off, and a prompt for maintenance will appear in DJI Fly. If the maintenance prompt appears in DJI Fly, follow the prompt to fully charge the battery and allow the battery to rest for 48 hours. If the battery still does not work after two times of maintenance, contact DJI Support.

5.7.2. Checking the Battery Level

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



- 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

LED1	LED2	LED3	LED4	Battery Level
●	●	●	●	88%-100%
●	●	●	●	76%-87%
●	●	●	○	63%-75%
●	●	●	○	51%-62%
●	●	○	○	38%-50%
●	●	○	○	26%-37%
●	○	○	○	13%-25%
●	○	○	○	0%-12%

5.7.3. Powering the battery On/Off

Press the power button once and then press and hold for two seconds to power the aircraft on or off. The battery level LEDs display the battery level when the aircraft is powered on. The battery level LEDs turn off when the aircraft is powered off.

If LEDs 3 and 4 blink simultaneously, this indicates the battery is malfunctioning. Remove the battery from the aircraft, insert the battery again and make sure that it is securely mounted.

5.7.4. Battery Low-Temperature Notice

- Battery capacity is significantly reduced when flying at low temperatures from -10° to 5° C (14° to 41° F). Make sure to fully charge the battery before takeoff. It is recommended to power on the aircraft for a while to warm up the battery. Take off after DJI Fly prompts that the battery is fully warmed up.
- Batteries cannot be used in extremely low-temperature environments of lower than -10° C (14° F).
- To ensure optimal performance, keep the battery temperature above 20° C (68° F).
- The reduced battery capacity in low-temperature environments reduces the wind speed resistance performance of the aircraft. Fly with caution.
- Take extra caution when flying at a high elevation with a low temperature.

5.7.5. Charging the Battery using a Charger

- Ensure the battery has been correctly installed in the aircraft.
- Connect a charger to an AC power supply (100-240 V, 50/60 Hz; use a power adapter if necessary).
- Connect the charger to the charging port on the aircraft using a USB-C cable.
- The battery level LEDs display the current battery level during charging.
- The Intelligent Flight Battery is fully charged when all the battery level LEDs emit a solid light. Detach the charger when the battery is fully charged.





- The battery cannot be charged if the aircraft is powered on.
 - The maximum charge voltage for the aircraft charging port is 12 V.
 - DO NOT charge an Intelligent Flight Battery immediately after flight as it may be too hot. Wait for the battery to cool down to the operating temperature before charging again.
 - The charger stops charging the battery if the battery cell temperature is not within the operating range of 5° to 40° C (41° to 104° F). The ideal charging temperature is from 22° to 28° C (71.6° to 82.4° F).
 - Fully charge the battery at least once every three months to maintain battery health.
- When using the DJI 30W USB-C Charger, the charging time for Mini 4 Pro Intelligent Flight Battery is approximately 1 hour and 10 minutes, while for Mini 3 Pro Intelligent Flight Battery Plus it is approximately 1 hour and 41 minutes.
 - For safety purposes, keep the batteries at a low power level in transit. Before transportation, it is recommended to discharge the batteries to 30% or lower.

The table below shows the battery level during charging.

LED1	LED2	LED3	LED4	Battery Level
				0%-50%
				51%-75%
				76%-99%
				100%

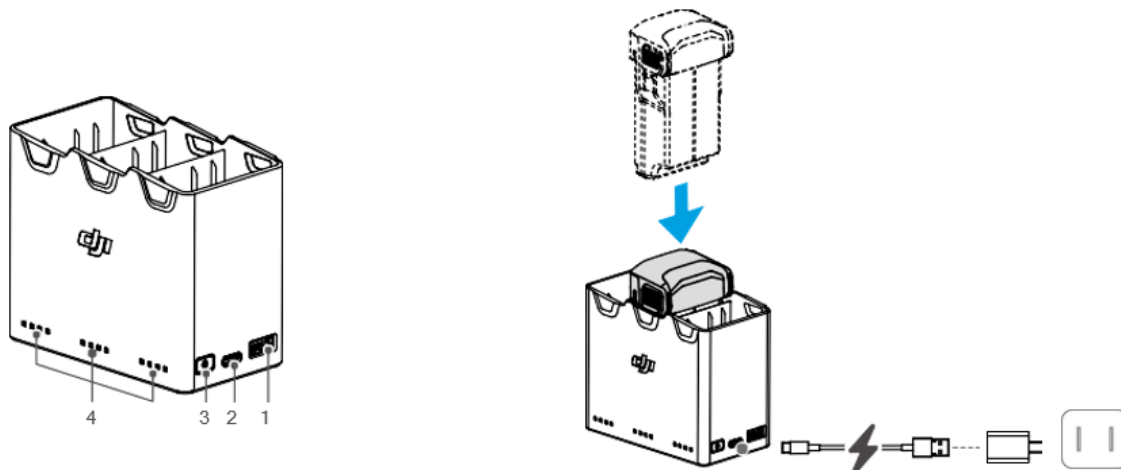
- The blinking frequency of the battery level LEDs differs depending on the USB charger used. If the charging speed is fast, the battery level LEDs will blink quickly.
- If the battery is not correctly inserted into the aircraft, LEDs 3 and 4 will blink simultaneously. Insert the battery again and make sure it is securely mounted.
- Four LEDs blinking simultaneously indicates the battery is damaged.

5.7.6. Charging the Battery using the Charging Hub

When used with a USB charger, the DJI Mini 3 Pro Two-Way Charging Hub can charge up to three Intelligent Flight Batteries or Intelligent Flight Batteries Plus in sequence from high to low power level. When used with the DJI 30W USB-C Charger, the charging hub can fully charge one Intelligent Flight Battery in approximately 58

minutes, and one Intelligent Flight Battery Plus in approximately 1 hour and 18 minutes.

When the charging hub is connected to an AC power outlet using a USB charger, users can connect both the Intelligent Flight Batteries and an external device (such as a remote controller or smartphone) to the hub to be charged. The batteries will be charged before the external device by default. When the charging hub is not connected to an AC power outlet, insert the Intelligent Flight Batteries into the hub and connect an external device to the USB port to charge the device, using the charging hub as a power bank. Refer to the DJI Mini 3 Pro Two-Way Charging Hub User Guide for more details.



1. USB port
2. Power Port (USB-C)
3. Function Button
4. Status LEDs

How to Charge

1. Insert the batteries into the charging hub until there is a click.
2. Connect the charging hub to a power outlet (100-240 V, 50/60 Hz) using a USB-C cable and a DJI 30W USB-C charger or other USB Power Delivery chargers.
3. The battery with the highest power level will be charged first. The rest will be charged in sequence according to their power levels. The corresponding status LEDs will display the charging status (see table below). After the battery is fully charged, the corresponding LEDs will change to solid green.

Battery Level

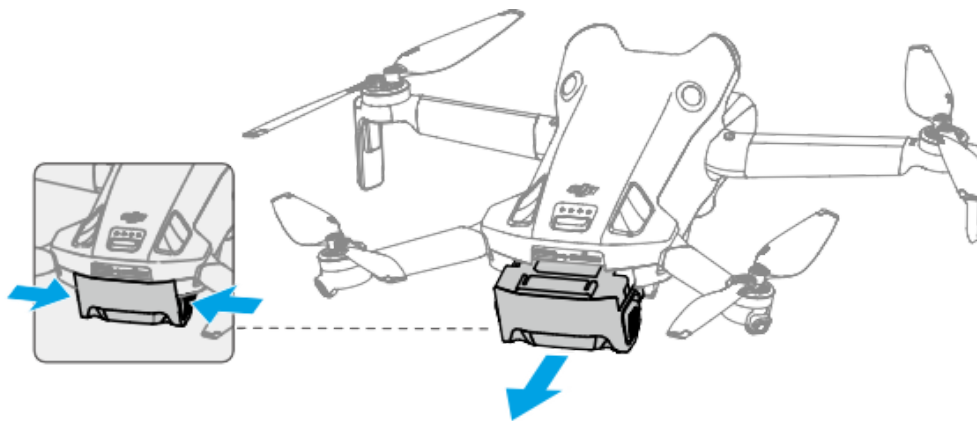
Each battery port of the charging hub has its corresponding status LED array, from LED1 to LED4 (left to right). Check battery levels by pressing the function button once. The battery level LED statuses are the same as those on the aircraft. For details, refer to aircraft battery level LEDs statuses and descriptions.

5.7.7. Inserting/Removing the Battery

Insert the Intelligent Flight Battery into the battery compartment of the aircraft. Make sure the battery is fully inserted with a clicking sound, which indicates the battery buckles are securely fastened.



Press the textured part of the battery buckles on the sides of the battery to remove it from the compartment.

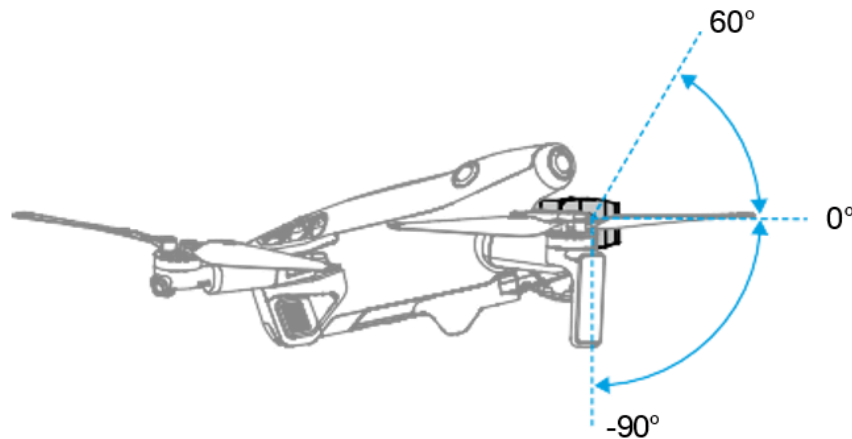


- Ensure the battery is inserted with a clicking sound. DO NOT launch the aircraft when the battery is not securely mounted, as this may cause poor contact between the battery and the aircraft and present hazards. Make sure the battery is mounted securely.

5.8. Gimbal and Camera

5.8.1. Gimbal Profile

The 3-axis gimbal stabilizes the camera, allowing you to capture clear and steady images and video at a high flight speed. The gimbal has a control tilt range of -90° to $+60^{\circ}$, and two control roll angles of -90° (portrait) and 0° (landscape).



Use the gimbal dial on the remote controller to control the tilt of the gimbal. Alternatively, do so through the camera view in DJI Fly. Press and hold the screen until the gimbal adjustment bar appears. Drag the bar up and down to control the gimbal's tilt.

Tap the Landscape/Portrait Mode Switch in DJI Fly to switch between the two gimbal roll angles. The roll axis will rotate to -90° when Portrait Mode is enabled, and back to 0° in Landscape Mode.

5.8.2. Gimbal Operation Modes

Two gimbal operation modes are available. Switch between the different operation modes in Settings > Control in DJI Fly.

Follow Mode: the angle of the gimbal remains stable relative to the horizontal plane. Users can adjust the gimbal tilt. This mode is suitable for shooting stills.

FPV Mode: when the aircraft is flying forward, the gimbal synchronizes with the movement of the aircraft to provide a first-person flying experience.

- Make sure there are no stickers or objects on the gimbal before taking off. DO NOT tap or knock the gimbal after the aircraft is powered on. Launch the aircraft from open and flat ground to protect the gimbal.
- After installing the wide-angle lens, unfold the arms before powering on the aircraft. Make sure the gimbal is level and pointing forward before takeoff, so that the aircraft can correctly detect the installation status of the wide-angle lens. The gimbal will be level when the aircraft is powered on, if the gimbal rotates, recenter the gimbal using the remote controller or DJI Fly as follows:
 - a. Tap Recenter Gimbal on the Settings > Control page of DJI Fly.
 - b. Press the Fn button on DJI RC-N2 remote controller or the Customizable C1 Button on DJI RC 2 remote controller. The default function is recentering the gimbal or pointing the gimbal downward, which can be customized.
- Pano and Asteroid functions will not be available after the wide-angle lens is installed.

- Precision elements in the gimbal may be damaged by a collision or impact, which may cause the gimbal to function abnormally.
- Avoid getting dust or sand on the gimbal, especially in the gimbal motors.
- A gimbal motor may enter protection mode if the gimbal is obstructed by other objects when the aircraft is put on uneven ground or on grass, or if the gimbal experiences an excessive external force, such as during a collision.
- DO NOT apply external force to the gimbal after the aircraft is powered on.
- DO NOT add any extra payload other than an official accessory to the gimbal, as this may cause the gimbal to function abnormally or even lead to permanent motor damage.
- Remove the gimbal protector before powering on the aircraft. Attach the gimbal protector when the aircraft is not in use.
- Flying in heavy fog or clouds may make the gimbal wet, leading to temporary failure. The gimbal will recover full functionality once it is dry.

5.8.3. Camera Profile

DJI Mini 4 Pro uses a 1/1.3-in CMOS sensor with 48MP effective pixels. The equivalent focal length is approximately 24 mm. The aperture of the camera is F1.7 and shoots from 1 m to infinity.

The DJI Mini 4 Pro camera can take 48MP stills and supports shooting modes such as Single, Burst, AEB, Timed Shot, and Panorama. It also supports H.264/H.265 video recording, digital zoom, and slow motion recording. 4K 60fps HDR and 4K 100fps videos are also supported.

- DO NOT expose the camera lens in an environment with laser beams, such as a laser show, or point the camera at intense light sources for an extended period, such as the sun on a clear day, in order to avoid damaging the sensor.
- Make sure the temperature and humidity are suitable for the camera during use and storage.
- Use a lens cleanser to clean the lens to avoid damage or poor image quality.
- DO NOT block any ventilation holes on the camera as the heat generated may damage the device and injure the user.
- The cameras may not focus correctly in the following situations:
- Shooting dark objects far away.
- Shooting objects with repeating identical patterns and textures or objects without clear patterns or textures.
- Shooting shiny or reflective objects (such as street lighting and glass).
- Shooting flashing objects.
- Shooting fast-moving objects.
- When the aircraft/gimbal is moving fast.
- Shooting objects with varying distances in the focus range.
- DJI Mini 4 Pro uses SmartPhoto mode by default in Single Shot, which integrates features such as scene recognition or HDR for optimal results. SmartPhoto needs to take multiple shots continuously for image synthesis. When the aircraft is moving or using the 48MP resolution, SmartPhoto will not be supported, and the image quality will differ.



5.9. Storing and Exporting Photos and Videos

5.9.1. Storing Photos and Videos

DJI Mini 4 Pro supports the use of a microSD card to store your photos and videos. A UHS-I Speed Grade 3 rating or above microSD card is required due to the fast read and write speeds necessary for high-resolution video data. Refer to the Specifications for more information about recommended microSD cards.

Photos and videos can also be saved in the internal storage of the aircraft when no microSD card is available. Use of a microSD card is recommended for large data storage.

5.9.2. Exporting Photos and Videos

- Use QuickTransfer to export the footage to a mobile device.
- Connect the aircraft to a computer using a data cable, export the footage in the internal storage of the aircraft or in the microSD card mounted on the aircraft. The aircraft does not need to be powered on during the exporting process.
- Remove the microSD card from the aircraft and insert it into a card reader, and export the footage in the microSD card through the card reader.

5.10. QuickTransfer

The aircraft can connect directly to mobile devices via Wi-Fi, enabling users to download photos and videos from the aircraft to the mobile device through DJI Fly without using the remote controller. Users can enjoy faster and more convenient downloads with a transmission rate of up to 30 MB/s.

5.10.1. Method 1: mobile device is not connected to the remote controller

1. Power on the aircraft and wait until the self-diagnostic tests of the aircraft are complete.
2. Make sure Bluetooth and Wi-Fi are enabled on the mobile device. Launch DJI Fly and a prompt will appear to connect to the aircraft.
3. Tap **Connect**. Once successfully connected, the files on the aircraft can be accessed and downloaded at high speed. When connecting the mobile device to the aircraft for the first time, press and hold the power button of the aircraft for two seconds to confirm.

5.10.2. Method 2: mobile device is connected to the remote controller

1. Make sure that the aircraft is connected to the mobile device via the remote controller and the motors are off.
2. Enable Bluetooth and Wi-Fi on the mobile device.
3. Launch DJI Fly, enter playback, and tap  in the upper right corner to access the files on the aircraft to download at high speed.



6. DJI RC 2 Remote Controller

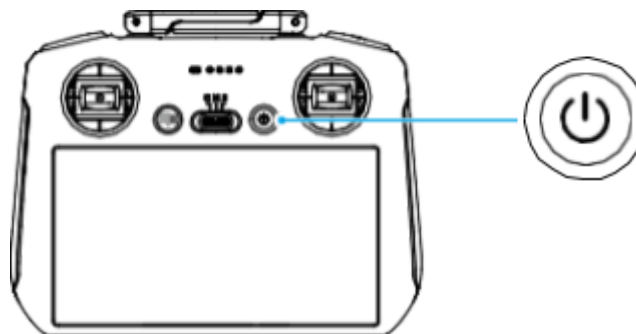
The DJI RC 2 remote controller features O4 video transmission when used with DJI Mini 4 Pro, and works at 2.4 GHz, 5.8 GHz and 5.1 GHz frequency bands. It is capable of selecting the best transmission channel automatically and can transmit 1080p 60fps HD live view from the aircraft to the remote controller at a distance of up to 20 km (12.4 mi) (compliant with FCC standards and measured in a wide-open area without interference). Equipped with a 5.5-in touchscreen (1920×1080 pixel resolution) and a wide range of controls and customizable buttons, DJI RC 2 enables users to easily control the aircraft and remotely change the aircraft settings. DJI RC 2 comes with many other functions such as built-in GNSS (GPS+Galileo+BeiDou), Bluetooth, and Wi-Fi connection.

The remote controller has detachable control sticks, built-in speakers, a 32GB internal storage, and supports the use of a microSD card for additional storage needs.

The 6200mAh 22.32Wh battery provides the remote controller with a maximum operating time of three hours.

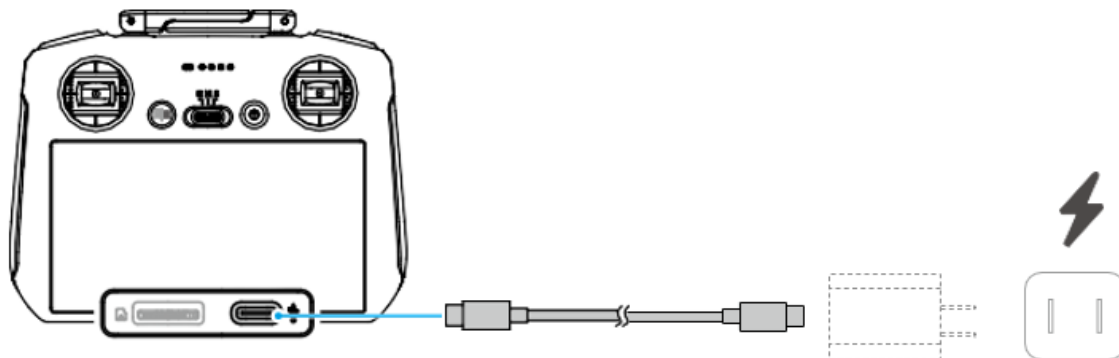
6.1. Powering On/Off

Press the power button once to check the current battery level. Press once, then press and hold for two seconds to power the remote controller on or off.



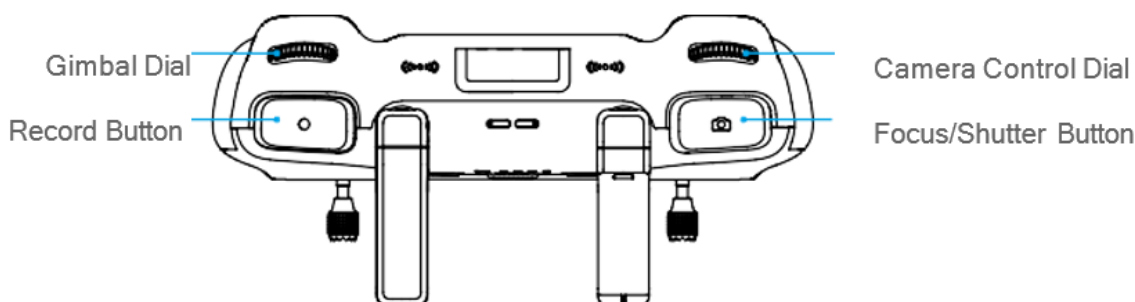
6.2. Charging the Battery

Connect the charger to the USB-C port on the remote controller. It takes approximately 1 hour and 30 minutes to fully charge the remote controller (with a 9V/3A USB charger).



6.3. Controlling the Gimbal and Camera

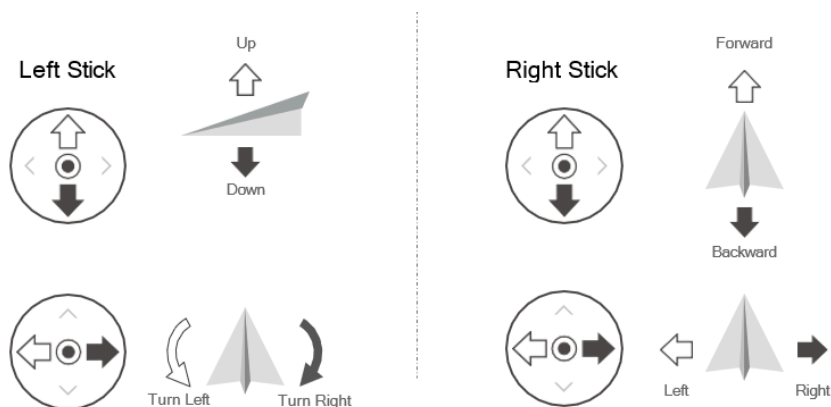
1. Focus/Shutter Button: press halfway down to auto-focus and press all the way down to take a photo.
2. Record Button: press once to start or stop recording.
3. Camera Control Dial: use to adjust the zoom by default. The dial function can be set to adjust the focal length, EV, shutter speed, and ISO.
4. Gimbal Dial: control the tilt of the gimbal.



6.4. Controlling the Aircraft

Three preprogrammed modes (Mode 1, Mode 2, and Mode 3) are available and custom modes can be configured in DJI Fly. Please refer to the manual to learn more about Mode 1 and 3.

Mode 2



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.

- Stick Neutral/Center Point: control sticks are in the center.
- Moving the control stick: the control stick is pushed away from the center position.

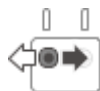
Remote Controller (Mode 2)	Aircraft	Remarks
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Throttle Stick: moving the left stick up or down changes the altitude of the aircraft.

- Push the stick up to ascend and push down to descend.
- The aircraft hovers in place if the stick is in the center.
- The more the stick is pushed away from the center, the faster the aircraft changes elevation.

Use the left stick to take off when the motors are spinning at an idle speed. Push the stick gently to prevent sudden and unexpected changes in altitude.



Yaw Stick: moving the left stick to the left or right controls the orientation of the aircraft.

- Push the stick left to rotate the aircraft counterclockwise and right to rotate the aircraft clockwise.
- The aircraft hovers in place if the stick is in the center.
- The more the stick is pushed away from the center, the faster the aircraft rotates.



Pitch Stick: moving the right stick up and down to change the pitch of the aircraft.

- Push the stick up to fly forward and down to fly backward.
- The aircraft hovers in place if the stick is in the center.
- The more the stick is pushed away from the center, the faster the aircraft moves.



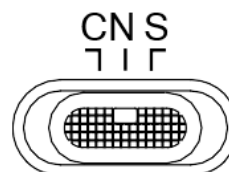
Roll Stick: moving the right stick to the left or right changes the roll of the aircraft.

- Push the stick left to fly left and right to fly right.
- The aircraft hovers in place if the stick is in the center.
- The more the stick is pushed away from the center, the faster the aircraft moves.

6.5. Flight Mode Switch

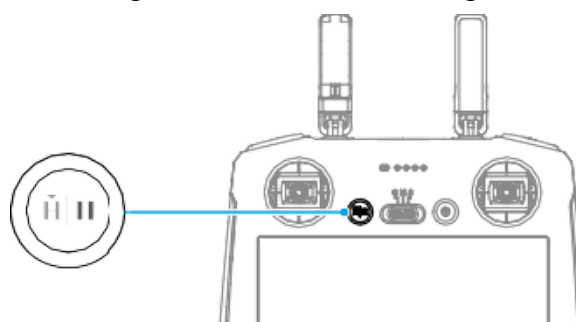
Toggle the switch to select the desired flight mode.

Position	Flight Mode
S	Sport Mode
N	Normal Mode
C	Cine Mode



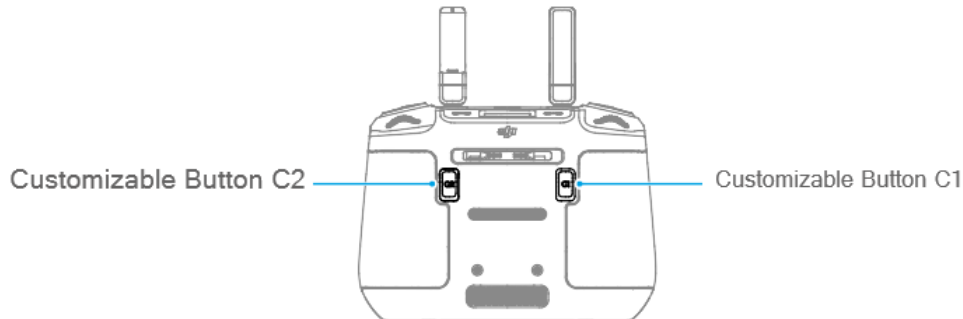
6.6. Flight Pause/RTH Button

Press once to make the aircraft brake and hover in place. Press and hold the button until the remote controller beeps and starts RTH. The aircraft will return to the last recorded Home Point. Press the button again to cancel RTH and regain control of the aircraft.

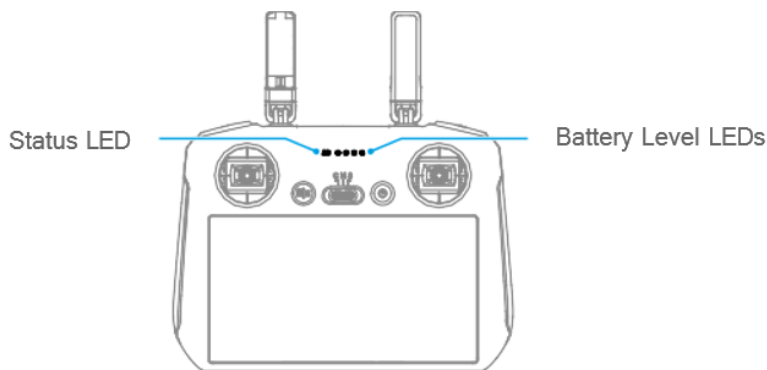


6.7. Customizable Buttons

Go to Settings > Control in DJI Fly to set the functions of the customizable C1 and C2 buttons.



6.8. Remote Controller LEDs



6.8.1. Status LED

Blinking Pattern	Descriptions
—— Solid red	Disconnected from the aircraft.
 Blinking red	The battery level of the aircraft is low.
 Solid green	Connected with the aircraft.
 Blinking blue	The remote controller is linking to an aircraft.
 Solid yellow	Firmware update failed.
 Solid blue	Firmware update successful.
 Blinking yellow	The battery level of the remote controller is low.
 Blinking cyan	Control sticks not centered.
	

Battery Level LEDs

Blinking Pattern				Battery Level
				76%-100%
				51%-75%
				26%-50%
				0%-25%

6.9. Remote Controller Alert

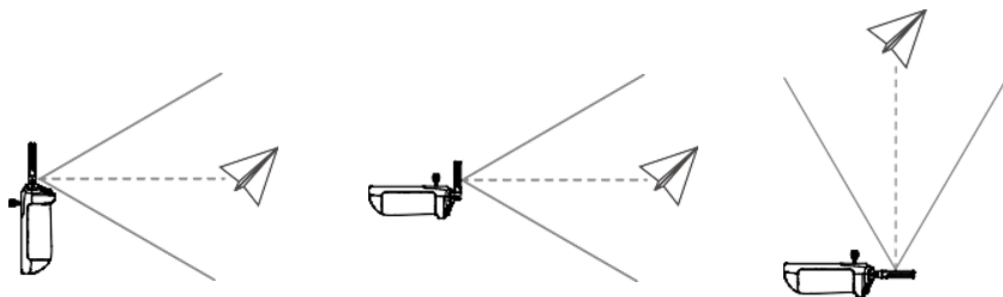
The remote controller beeps to indicate an error or warning. Pay attention when prompts appear on the touchscreen or in DJI Fly. Slide down from the top of the screen and select Mute to disable all alerts, or slide the volume bar to 0 to disable some alerts.

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

6.10. Optimal Transmission Zone

The signal between the aircraft and the remote controller is most reliable when the antennas are positioned in relation to the aircraft as illustrated below.

The optimal transmission range is where the antennas face toward the aircraft and the angle between the antennas and the back of the remote controller is 180° or 270°.



6.11. Linking the Remote Controller

The remote controller is already linked to the aircraft when purchased together as a combo. Otherwise, follow the steps below to link the remote controller and the aircraft after activation.

1. Power on the aircraft and the remote controller.
2. Launch DJI Fly.
3. In camera view, tap  and select Control and then Re-pair to Aircraft. During linking, the status LED of the remote controller blinks blue and the remote controller beeps.

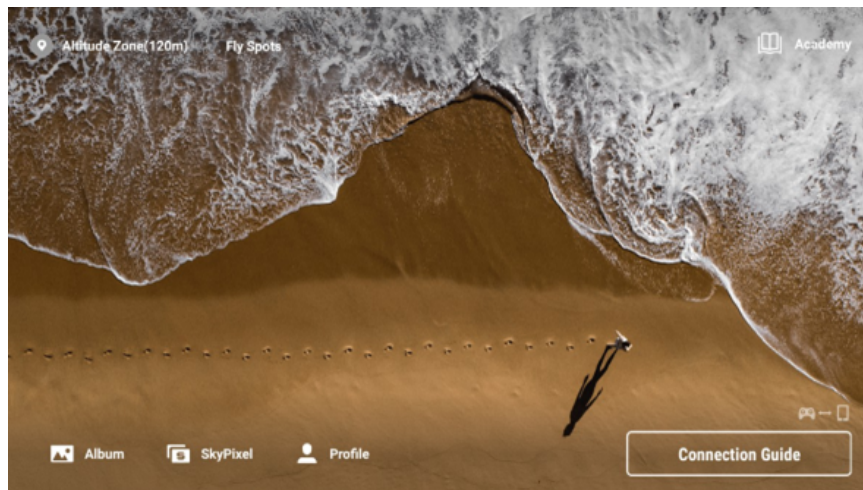


4. Press and hold the power button of the aircraft for more than four seconds. The aircraft beeps once, and its battery level LEDs blink in sequence to indicate it is ready to link. The remote controller will beep twice, and its status LED will turn solid green to indicate linking is successful.

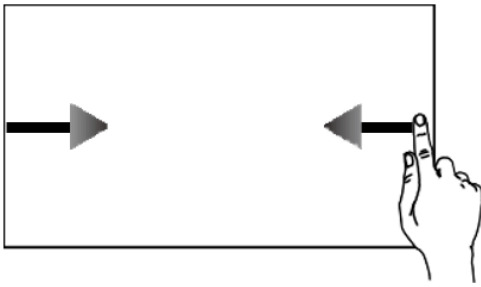
- Make sure the remote controller is within 0.5 m of the aircraft during linking.
- The remote controller will automatically unlink from an aircraft if a new remote controller is linked to the same aircraft.
- Turn off Bluetooth and Wi-Fi for optimal video transmission.
- Fully charge the remote controller before each flight. The remote controller sounds an alert when the battery level is low.
- If the remote controller is powered on and not in use for five minutes, an alert will sound. After six minutes, the remote controller automatically powers off. Move the control sticks or press any button to cancel the alert.
- Fully charge the battery at least once every three months to maintain the battery's health.
- DO NOT operate the aircraft when the light condition is too bright or too dark using the remote controller to monitor flight. User is responsible for the correct adjustment of display brightness and shall take care of direct sunshine onto the screen during flight operation.

6.12. Operating the Touchscreen

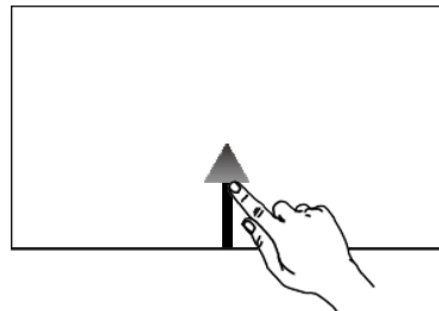
6.12.1. Home



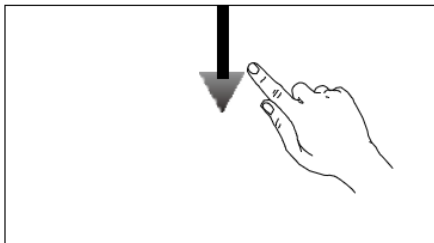
6.12.2. Screen Gestures



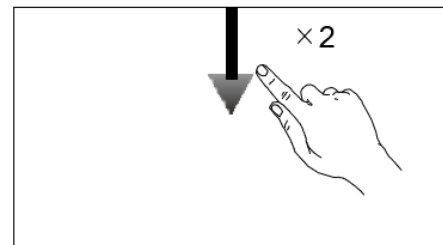
Slide from the left or right to the center of the screen to return to the previous screen.



Slide up from the bottom of the screen to return to DJI Fly.

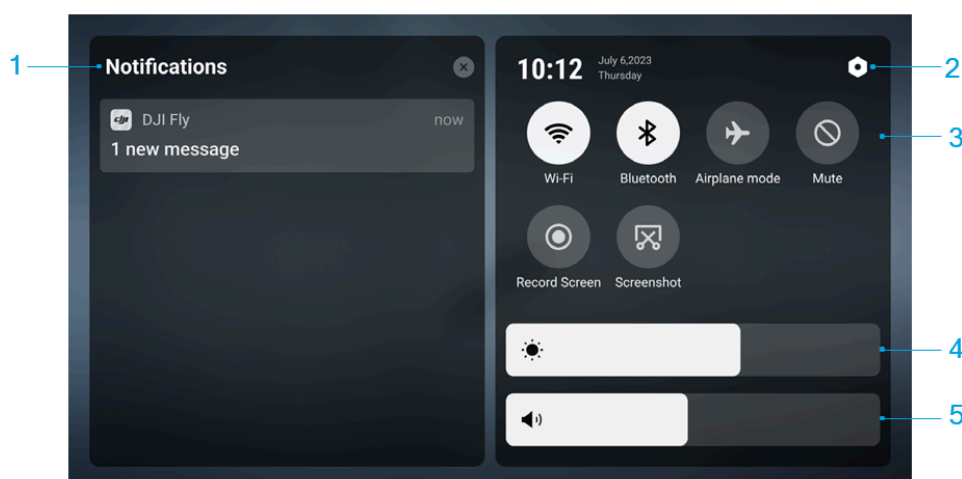


Slide down from the top of the screen to open the status bar when in DJI Fly.
The status bar displays the time, Wi-Fi signal, battery level of the remote controller, etc.



The status bar displays the time, Wi-Fi signal, battery level of the remote controller, etc.

6.12.3. Quick Settings



1. Notifications

Tap to check system notifications.

2. System Settings



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Tap to access system settings and configure settings such as Bluetooth, volume, and network. Users can also view the Guide to learn more about the controls and status LEDs.

3. Shortcuts

📶 : tap to enable or disable Wi-Fi. Hold to enter settings and then connect to or add a Wi-Fi network.

📶 : tap to enable or disable Bluetooth. Hold to enter settings and connect with nearby Bluetooth devices.

✈️ : tap to enable Airplane mode. Wi-Fi and Bluetooth will be disabled.

🔕 : tap to turn off system notifications and disable all alerts.

📹 : tap to start recording the screen.

📷 : tap to take a screenshot.

4. Adjusting Brightness

Slide the bar to adjust the screen brightness.

5. Adjusting Volume

Slide the bar to adjust the volume.

7. Using the DJI Fly App

The DJI Fly app is the central software interface for managing drone flight, safety settings, and image capture. Key capabilities include:

- **Live Camera View:** Monitor surroundings in real-time with telemetry overlays.
- **Flight Settings Menu:** Adjust obstacle avoidance, RTH height, gimbal speed, and other parameters.
- **Camera Settings Panel:** Control ISO, shutter speed, resolution, and white balance.
- **Intelligent Flight Modes:** Activate features such as FocusTrack, Waypoint, MasterShots, and QuickShots.
- **Custom Button Assignments:** Tailor the RC 2 for specific workflows.
- **Firmware Updates and Logs:** Receive alerts and access automatic flight records.

7.1.Home

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. Launch DJI Fly and enter the Home screen to use the following features:

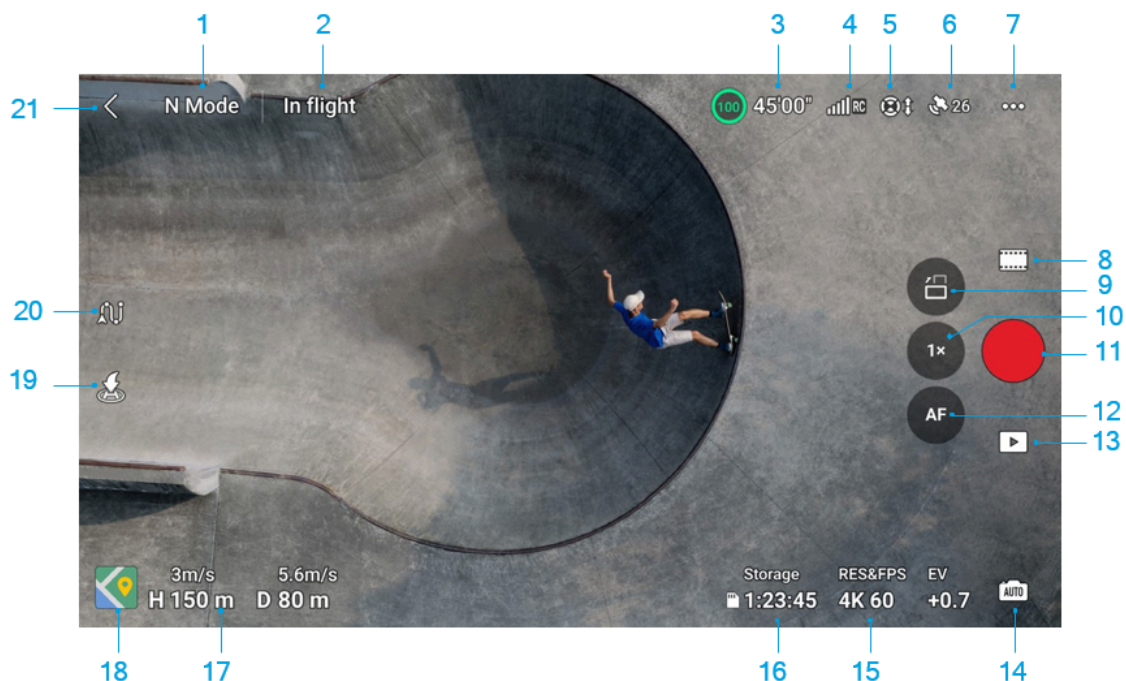
- Search for tutorial videos, user manuals, Fly Spots, flight tips, and more.
- Check regulatory requirements of different regions and gain information on Fly Spots.



- View photos and videos from the aircraft album or footage that has been saved on the local device or explore more shared footage from SkyPixel.
- Log in with your DJI account to check your account information.
- Get after-sales service and support.
- Update firmware, download offline maps, access the Find My Drone feature, visit the DJI Forum and DJI Store, and more.

7.2. Camera View

7.2.1. Button Descriptions



1. Flight Mode

N Mode: displays the current flight mode.

2. System Status Bar

In Flight: displays aircraft flight status and various warning messages. Tap to view more information when a warning prompt appears.

3. Battery Information

24'17" : displays the current battery level and remaining flight time. Tap to view more information about the battery.

4. Video Downlink Signal Strength

: displays the video downlink signal strength between the aircraft and the remote controller.

5. Vision System Status



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 : the left side of the icon indicates the status of the horizontal vision system and the right side of the icon indicates the status of the upward and downward vision systems. The icon is white when the vision system is working normally and turns red when the vision system is unavailable.

6. GNSS Status

 ²⁶ : displays the current GNSS signal strength. Tap to check the GNSS signal status. The Home Point can be updated when the icon is white, which indicates the GNSS signal is strong.

7. Settings

 : tap to view or set parameters for safety, control, camera, and transmission. Refer to the Settings section for more information.

8. Shooting Modes

	Photo: Single, AEB, Burst Shooting, and Timed Shot.
	Video: Normal, Night, and Slow Motion.
	MasterShots: drag-select a subject. The aircraft will record while executing different maneuvers in sequence and keep the subject in the center of the frame. A short cinematic video will be generated afterward.
	QuickShots: Dronie, Rocket, Circle, Helix, Boomerang, and Asteroid.
	Hyperlapse: Free, Circle, Course Lock, and Waypoints.
	Pano: Sphere, 180°, Wide Angle, and Vertical. The aircraft will automatically take several photos and synthesize a panoramic photo based on the selected panoramic photo type.

- The Night video mode provides better noise reduction and cleaner footage, supports up to 12800 ISO.
- The Night video mode currently supports 4K 24/25/30fps and 1080p 24/25/30fps.
- FocusTrack is not supported in Night video mode.

9. Landscape/Portrait Mode Switch

 : tap to switch between Landscape and Portrait modes. The camera will rotate 90 degrees when switching to Portrait mode, for shooting portrait videos and photos. Portrait mode is not supported when using Pano or the Asteroid shooting mode in QuickShots.

10. Zoom

 : displays the zoom ratio. Tap to adjust the zoom ratio. Tap and hold the icon to expand the zoom bar and slide on the bar to adjust the zoom ratio. Use two fingers on the screen to zoom in or out.

- Digital zoom is only supported when taking 12MP photo, or recording in Normal or Night video mode.
- When zooming in or out, the larger the zoom ratio, the slower the aircraft will rotate to achieve a smooth view.

11. Shutter/Record Button

● : tap to take a photo or to start or stop recording a video.

12. Focus Button

AF / MF : tap to switch between AF and MF. Press and hold the icon to bring up the focus bar to adjust the focus.

13. Playback

▶ : tap to enter playback and preview photos and videos as soon as they are captured.

14. Camera Mode Switch

AUTO : tap to switch between Auto and Pro mode. Different parameters can be set in different modes.

15. Shooting Parameters

RES&FPS

4K 60 : displays the current shooting parameters. Tap to access parameter settings.

16. Storage Information

Storage

1:23:45 : displays the remaining number of photos or video recording time of the current storage. Tap to view the available capacity of the aircraft internal storage or the microSD card. Tap to view more information about the storage.

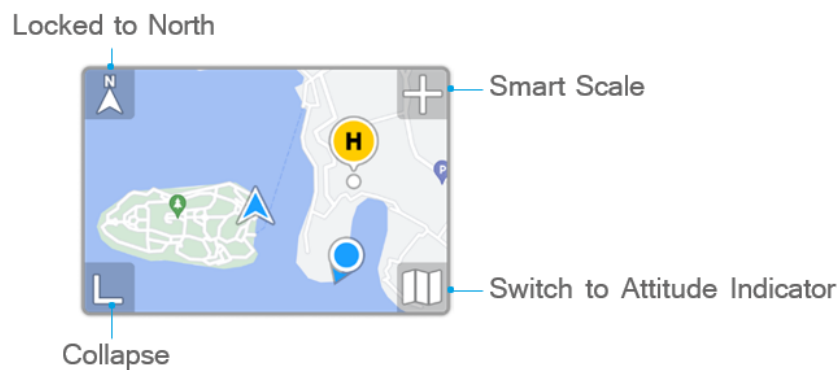
17. Flight Telemetry

Displays the horizontal distance (D) between the aircraft and the Home Point, height (H) from the Home Point, aircraft horizontal speed, and aircraft vertical speed.

18. Map/Attitude Indicator/Vision Assist

☒ : tap to expand to the mini map, and tap the center of the mini map to switch from the camera view to the map view. The mini map can be switched to the attitude indicator.

- Mini Map: displays the map in the bottom left corner of the screen so that the user can simultaneously check the camera view, the real-time position and orientation of the aircraft and the remote controller, the Home Point location, and flight paths, etc.



Locked to North	North is locked on the map with North pointing upward in the map view. Tap to switch from Lock to North to the remote controller orientation where the map rotates when the remote controller changes the orientation.
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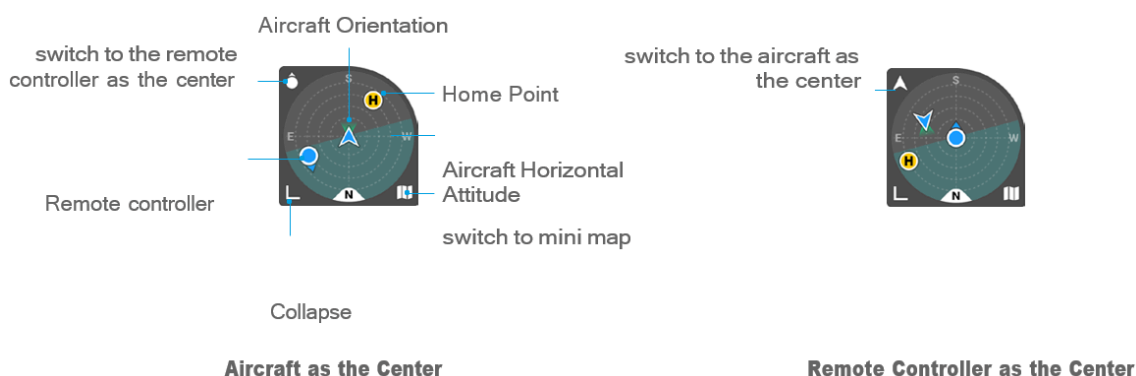
Switch to Attitude tap to switch from the mini map to the attitude indicator.

Indicator

Collapse tap to minimize the map.

tap to switch from the attitude indicator to the mini map.

- **Attitude Indicator:** displays the attitude indicator in the bottom left corner of the screen so that the user can simultaneously check the camera view, the relative location and orientation of the aircraft and the remote controller, the Home Point location, and the aircraft horizontal attitude information, etc. The attitude indicator supports displaying the aircraft or the remote controller as the center.



Switch to the aircraft / remote controller as the center	Tap to switch to aircraft/remote controller as the center of the attitude indicator.
Aircraft Orientation	Indicates the aircraft orientation. When the aircraft is displayed as the center of the attitude indicator and the user is changing the aircraft orientation, all the other elements on the attitude indicator will rotate around the aircraft icon. The arrow direction of the aircraft icon stays unchanged.
Aircraft Horizontal Attitude	Indicates the aircraft horizontal attitude information (including pitch and roll). The deep cyan area is horizontal and in the center of the attitude indicator when the aircraft hovers in place. If not, it indicates that the wind is changing the aircraft attitude. Fly with caution. The deep cyan area changes in real time based on the aircraft horizontal attitude.
Switch to the Vision Assist	Tap to switch from the attitude indicator to the vision assist view.
Collapse	Tap to minimize the attitude indicator.
Home Point	The location of the Home Point. To manually control the aircraft to return home, adjust the aircraft orientation to point towards the Home Point first.
Remote Controller	The dot indicates the remote controller location, while the arrow on the dot indicates the remote controller orientation. Adjust the remote controller orientation during the flight to make sure the arrow points towards the aircraft icon for

optimal signal transmission.

- Vision Assist: the vision assist view, powered by the horizontal vision system, changes the horizontal speed direction (forward, backward, left, and right) to help users navigate and observe obstacles during flight.



Horizontal Speed of the Aircraft	The direction of the line indicates the current horizontal direction of the aircraft, and the length of the line indicates the horizontal speed of the aircraft.
Vision Assist View Direction	Indicates the direction of the vision assist view. Tap and hold to lock the direction.
Switch to the Mini Map	Tap to switch from the vision assist view to the mini map.
Collapse	Tap to minimize the vision assist view.
Max	Tap to maximize the vision assist view.
Locked	Indicates that the direction of the vision assist view is locked. Tap to cancel the lock.

19. Auto Takeoff/Landing/RTH

⬆️⬆️: tap the icon. When the prompt appears, press and hold the button to initiate auto takeoff or landing.

🏠: tap to initiate RTH and have the aircraft return to the last recorded Home Point.

20. Waypoint Flight

📍: tap to enable/disable Waypoint Flight.

21. Back

<: tap to return to the home screen.

8. Practical Training Activities

The following tasks are recommended during hands-on training sessions:

- Power on the RC 2 and connect it to the DJI Mini 4 Pro.
- Perform an **automatic takeoff** and **landing**.
- Practice gimbal control while recording short video segments.
- Use the **Return to Home** function to test automated recall.



- Explore DJI Fly app menus to adjust camera settings, view battery status, and activate flight modes.

These activities help trainees become proficient in both the manual and intelligent aspects of drone control.

8.1. Scenario 1: Urban Earthquake Search & Rescue and Damage Assessment

Disaster Context: A magnitude 6.8 earthquake has struck an urban area. Several multi-story buildings have partially or fully collapsed, and streets are blocked with debris. Electricity and communication are down.

Objective: Use the DJI Mini 4 Pro to **locate survivors, support search and rescue teams, and assess building damage** using only live video and photos.

Operational Plan:

- **Search & Rescue:**
 - Launch the drone from a cleared safe zone close to the epicenter.
 - Fly the drone **close to rooftops and upper levels** of damaged buildings to check for **individuals trapped on balconies, rooftops, or inside partially collapsed floors**.
 - Use the **4K HDR live feed and digital zoom** to identify hand signals, movement, or signs of life without entering the building.
 - Capture and share images live with the command center using the DJI RC 2 screen.
- **Damage Assessment:**
 - Fly **grid patterns** over the neighborhood and capture high-resolution images of building facades.
 - Manually count and document **visibly damaged or collapsed buildings** for preliminary assessment.
 - Focus on **identifying which buildings are too damaged for responders to safely enter**, helping prioritize safe zones and red zones.
 - Multiple battery swaps will be required to cover a wide area.



Limitations & Justification:

- No 3D models will be created; visual documentation and pilot judgment are critical.
- DJI Mini 4 Pro's portability and low-noise operation make it ideal in crowded and sensitive environments.

8.2.Scenario 2: Mountain Road Vehicle Accident Response & Rescue

Disaster Context: A minibus has slid off a mountain road due to landslide-triggered mud. The vehicle is trapped halfway down a steep slope with unclear access for rescue teams.

Objective: Use the drone to **reach and inspect the accident scene, assess survivors' conditions, and guide rescue teams** with live visuals.

Operational Plan:

- **Scene Assessment:**
 - Fly the drone directly over the cliff edge and descend slowly to the accident scene using obstacle avoidance features and real-time video feed.
 - Perform **360-degree orbital inspection** around the vehicle to check for:
 - Crushed sections indicating injury zones
 - Survivors waving, signaling, or attempting to exit
 - Fuel leaks, smoke, or fire risk
 - Zoom in on survivor faces and body postures to **estimate injury severity** and communicate this to medics.
- **Live Navigation Assistance:**
 - Maintain the drone position over the scene while using the live video feed to **guide rescue teams** on foot toward the safest and fastest descent path.



- If a rope rescue or stretcher is needed, use the drone to mark exact coordinates and document the terrain.

Limitations & Justification:

- Since DJI Mini 4 Pro is lightweight and agile, it can maneuver around rugged terrain better than a ground crew.
- No infrared or thermal features, so this scenario must be done during the daytime.

8.3.Scenario 3: Forest Fire Prevention & Drought-Season Fire Risk Assessment

Context: During the late summer season, a prolonged drought has increased the risk of forest fires. Authorities want to visually inspect forest zones near urban perimeters for early fire hazards.

Objective: Use the drone to **monitor vegetation dryness, inspect for fire-prone litter, and detect potential ignition sources** using live video and images.

Operational Plan:

- **Flight Path:**
 - Pre-select fire-prone zones such as forest edges, hilltops, and regions near powerlines or recreational areas.
 - Launch the drone during the **late morning or early afternoon** to ensure good lighting conditions for image clarity.
- **Visual Inspection:**
 - Fly low and slow above tree canopy and forest floor areas.
 - Use the camera to **look for dense accumulations of dry leaves, branches, and dead trees.**
 - Zoom in on **fire-starting hazards** like:
 - Illegally dumped garbage or glass bottles
 - Burned tree stumps or previous campfire spots



- Capture geotagged photos to document any high-risk zones for follow-up by forestry teams.
- **Reporting:**
 - Use the DJI controller's live feed to inform the ground team in real-time.
 - If multiple areas are found to be high-risk, prioritize them based on visible dryness and proximity to residential areas.

Limitations & Justification:

- No thermal imaging or automatic fire detection; relies entirely on operator skill.
- DJI Mini 4 Pro's high-resolution video and stable gimbal help in identifying even small vegetation features.

8.4. Disaster Response Drone Scenarios

#	Scenario	Disaster Type	Primary Function	Key Features Used
1	Urban Earthquake Response	Earthquake	Live search, survivor spotting, structural assessment	4K live video, digital zoom, low-altitude flight
2	Mountain Vehicle Accident	Landslide, Traffic Accident	Scene inspection, survivor triage, navigation aid	Real-time video, obstacle avoidance, orbit shots
3	Forest Fire Risk Assessment	Drought Season	Fire prevention, litter and hazard detection	Stable flyover, visual zoom, daylight imaging
4	Flooded Area Rescue	Flood	Survivor location, access route identification, live coordination	Aerial overview, live video feed, route tracing over flooded terrain
5	Dam Inspection After Earthquake	Earthquake	Detect cracks, assess risk of failure	Close-up hovering, high-resolution video/image of dam structures
6	Landslide Monitoring	Landslide	Assess debris field, identify blockages or trapped vehicles	Top-down flyover, image capture, live terrain inspection
7	Post-Disaster Recovery Monitoring	Recovery Phase	Track rebuilding progress, verify resource use	Repetitive manual flights, visual



				comparison of time-series images
8	Environmental Forest-Health Surveillance	Environmental / Drought	Vegetation-stress monitoring, fire-hazard mapping	Wide-area scanning, manual vegetation assessment
9	Construction Site Safety & Progress Check	Construction	Verify PPE compliance, monitor structural progress, detect unsafe zones	Hovering inspections, zoom on workers/equipment, real-time reporting
10	Crop Stress & Irrigation Audit	Agriculture	Identify visibly wilted zones, blocked sprinklers, pest outbreaks	Low-altitude passes, visual color/leaf-curl cues, live guidance to farmers
11	Industrial Emission & Spill Patrol	Environmental Pollution	Spot smoke plumes, leaking storage tanks, illegal dumping near waterways	Oblique aerial views, zoom on stack emissions and ground stains, geo-tagged photos

9. Safety and Maintenance Guidelines

To ensure long-term reliability and safe operation, the following safety and maintenance principles should be followed:

- Monitor LED indicators and battery levels before every flight.
- Perform full **pre-flight and post-flight inspections**.
- Avoid flying near **electromagnetic interference sources** or in restricted zones.
- Store the controller and drone in a dry, temperature-stable environment.
- Only use genuine DJI accessories, batteries, and cables.
- Charge the controller with a DJI-certified USB-C charger.
- Regularly check for and install firmware updates.

Adhering to these best practices helps minimize operational risks and extends the lifespan of the equipment.

After completing the pre-flight preparation, 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 the safe use of the product.



9.1. Flight Environment Requirements

1. DO NOT operate the aircraft in severe weather conditions including wind speeds exceeding 10.7 m/s, snow, 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 10 m of buildings. Keep a distance of at least 10 m from buildings during flight. After takeoff, make sure you are notified with the voice prompt Home Point is 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. The performance of the aircraft and its battery is limited when flying at high altitudes. Fly with caution. The maximum takeoff altitude of the aircraft is 4,000 m (13,123 ft) when flying with the Intelligent Flight Battery. If the Intelligent Flight Battery Plus is used, the maximum takeoff altitude drops to 3,000 m (9,843 ft). If a propeller guard is installed on the aircraft with the Intelligent Flight Battery, the maximum takeoff altitude becomes 1,500 m (4,921 ft). DO NOT use the propeller guard together with the Intelligent Flight Battery Plus.
4. 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 3,000 m (9,843 ft), the user should reserve at least 20 m of vertical braking distance and 25 m of horizontal braking distance to ensure flight safety.
5. Avoid obstacles, crowds, trees, and bodies of water (recommended height is at least 3 m above water).
6. Minimize interference by avoiding areas with high levels of electromagnetism, such as locations near power lines, base stations, electrical substations, and broadcasting towers.
7. GNSS cannot be used on the aircraft in polar regions. Use the vision system instead.
8. DO NOT take off from moving objects such as cars, ships, and airplanes.
9. DO NOT take off from solid-colored surfaces or surfaces with strong reflection such as a car roof.
10. DO NOT use the aircraft, remote controller, battery, battery charger, and the battery charging hub near accidents, fire, explosions, floods, tsunamis, avalanches, landslides, earthquakes, dust, sandstorms, salt spray, or fungus.
11. Operate the aircraft, remote controller, battery, battery charger, and the battery charging hub in a dry environment.
12. DO NOT operate the aircraft in an environment at risk of a fire or explosion.
13. DO NOT operate the aircraft near bird flocks.

9.2. 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 switch off the remote controller.
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.

9.3. Flight Restrictions

9.3.1. GEO (Geospatial Environment Online) System

DJI's 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>.

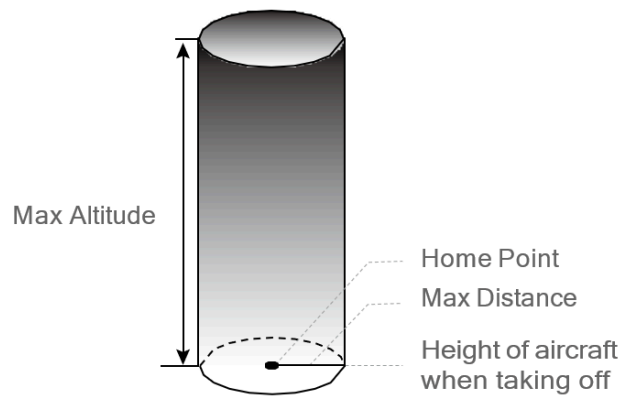
9.3.2. Flight Limits

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.

9.3.3. Flight Altitude and Distance Limits

Max altitude restricts an aircraft's flight altitude, while max distance restricts an aircraft's flight radius around the Home Point. These limits can be changed in the DJI Fly app for improved flight safety.





Home Point not manually updated during flight

9.3.4. Strong GNSS Signal

	Flight Restrictions	Prompt in DJI Fly App
Max Altitude	Altitude of the aircraft cannot exceed the value set in DJI Fly.	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 DJI Fly.	Max flight distance reached.

9.3.5. Weak GNSS Signal

	Flight Restrictions	Prompt in DJI Fly App
Max Altitude	- Altitude is restricted to 30 m from the takeoff point if lighting is sufficient. - Altitude is restricted to 2 m above the ground if lighting is not sufficient and the 3D infrared sensing system is operating. - Altitude is restricted to 30 m from the takeoff point if lighting is not sufficient and the 3D infrared sensing system is not operating.	Max flight altitude reached.
Max Distance	No limits	

- Each time the aircraft is powered on, the altitude limit of 2 m or 30 m will be automatically removed as long as the GNSS signal ever becomes strong (GNSS signal strength ≥ 2) 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, you can still control the aircraft but cannot fly it any further.
- For safety reasons, DO NOT fly the aircraft close to airports, highways, railway stations, railway lines, city centers, or other sensitive areas. Fly the aircraft within a visual line of sight (VLOS). Any flight beyond visual line of sight (BVLOS) can be conducted only when the aircraft performance, the knowledge and skills of the pilot, and the operational safety management are compliant with local regulations for BVLOS.

9.3.6. GEO Zones

DJI's 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>.

