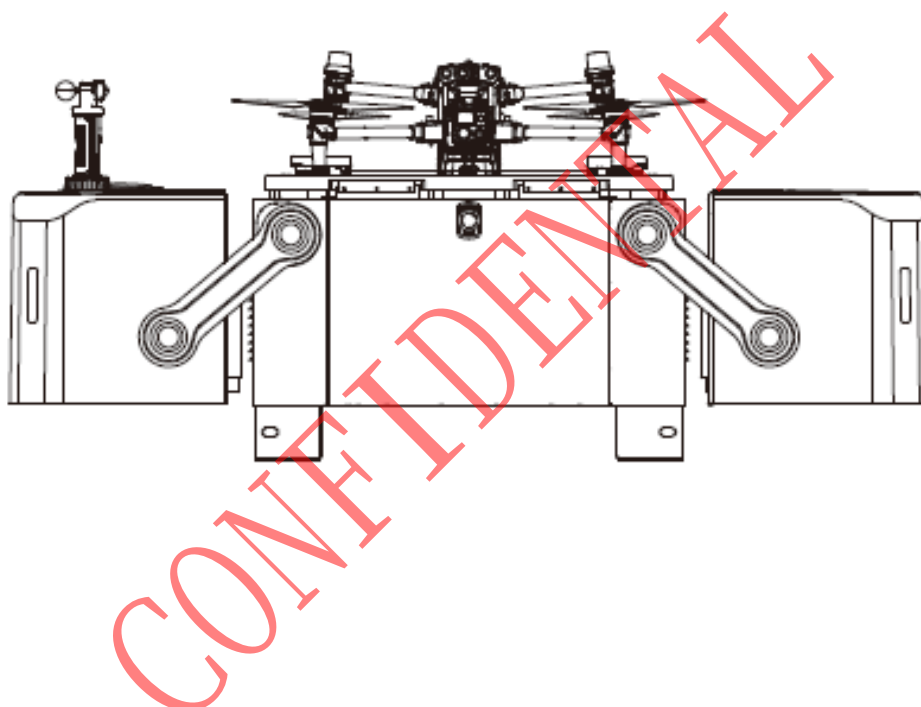


Matrice 30 Series

Dock Bundle

User Manual

v0.1 2022.12





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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.

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Using this Manual

Legend



Important



Hints and Tips



Reference

Read Before Use

DJITM provides users with tutorial videos and the following documents:

1. Safety Guidelines
2. Quick Installation Guide
3. Installation and Setup Manual
4. User Manual

It is recommended to watch all tutorial videos and read the safety guidelines before using for the first time. Prepare for your dock installation and first flight by reviewing the quick installation guide. Refer to the Installation and Setup Manual and this user manual for more information.

Download DJI Assistant 2

Download and install DJI ASSISTANT™ 2 (Enterprise Series) using the link below:

<https://www.dji.com/dock/downloads>

Tutorial Video

Go to the address below or scan the QR code to watch the DJI Dock tutorial videos, which demonstrate how to use the Matrice 30 Dock Bundle safely.



<https://www.dji.com/dock/video>



- In the Matrice 30 Series Dock Bundle, the operating temperature of DJI Dock is -35° to 50° C, while that of the aircraft is -20° to 50° C. Both products do not meet the standard operating temperature for military grade application (-55° to 125° C), which is required to endure greater environmental variability. Operate the dock and the aircraft appropriately and only for applications that meet the operating temperature range requirements of that grade.

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Product Profile

Introduction

DJI™ Dock is an automatic unattended operation platform with highly integrated design, including an ultra-wide-angle camera, an anemometer, a rain gauge, communication antennas, an RTK module, and a UPS power supply. DJI Dock has strong environmental adaptability. With built-in lightning protection and a protection level of IP55 (refer to IEC 60529 standard), DJI Dock can operate even in the harsh climate. The longest maintenance interval is 6 months^[1]. DJI Dock comes with quick-charging module and TEC air conditioner, allowing it to cool down the battery in a short time. It takes approximately 25 minutes^[2] to charge the battery from 10 % to 90 %. And the operating radius is up to 7 km.^[3] One DJI Dock weighs less than 105 kg and has a dimension smaller than 1 square-meter footprint, and supports quick installation and deployment.

The DJI MATRICE™ 30 Series (M30/M30T) Dock Version is equipped with a multi-redundancy flight controller system, 6 directional sensing and positioning system^[4], high-performance multi-camera load, and a new FPV camera with night vision, providing automatic Return to Home obstacles sensing in all directions. The aircraft has a maximum flight time of approximately 40 minutes^[5].

DJI FlightHub 2 is a cloud-based aircraft task management platform, allowing users to plan flight routes, set flight task plans, view livestreams, upload and download media files, and conduct remote operations. It can also work with DJI Dock and Matrice 30 Series Dock Version aircraft to perform unattended operations, achieving efficient flight task and device management.

[1] Depending on environmental conditions and the frequency of DJI Dock operations, it is recommended that maintenance be conducted every six months or less.

[2] Measured at a temperature of 25° C (77° F). As temperature increases, battery cooling time will increase and lengthen downtime.

[3] Measured in environments without transmission or signal interference, and wind speeds <4 m/s, where the drone has a flight speed of 15 m/s and reserves 20 % battery as a safety buffer for landing.

[4] The Vision and Infrared Sensing Systems are affected by surrounding conditions. Refer to the “Vision System and Infrared Sensing System” section for more information.

[5] Measured in windless environment with a constant flight speed of 10 m/s, and should be used for reference only. The actual use time may vary depending on the environment, flight mode and the use of accessories.

Feature Highlights

Automated Operation: The powerful adaptability allows DJI Dock to operate in harsh environment. DJI Dock can work with the Matrice 30 Series Dock Version aircraft to perform automatic flight tasks, battery charging and management, temperature and humidity control, achieving unattended operations.

Precise Positioning and Flight: The built-in RTK module of DJI Dock can receive dual-band multi-mode GNSS signal, providing high-precision data for centimeter-level positioning. Precise flight^[1] and landing can be achieved when used with the Matrice 30 Series Dock Version aircraft.

Video Transmission: Matrice 30 Series Dock Version aircraft features DJI’s long-range transmission O3 Enterprise (OCUSYNC™ 3.0 Enterprise) technology. The aircraft supports DJI Cellular Dongle for Enhanced Transmission. Enhanced transmission combines O3 Enterprise technology and 4G enhanced transmission technology, providing users with improved transmission quality and ensure safer flight in

complex environment.

Cloud Management: DJI FlightHub 2 supports flight task planning and device management of the dock. Users can set flight task plans based on actual needs. The aircraft will automatically take off according to the preset task plans, and the media files will be automatically uploaded to DJI FlightHub 2. During the operation, livestreams and real-time device information can be viewed remotely to monitor the operation site. Users can also view the operation status of the dock and aircraft, and conduct remote operations, making device management more convenient.

FPV View: DJI FlightHub 2 supports editing waypoints and setting waypoint actions in FPV View, achieving what you see is what you get ^[2].

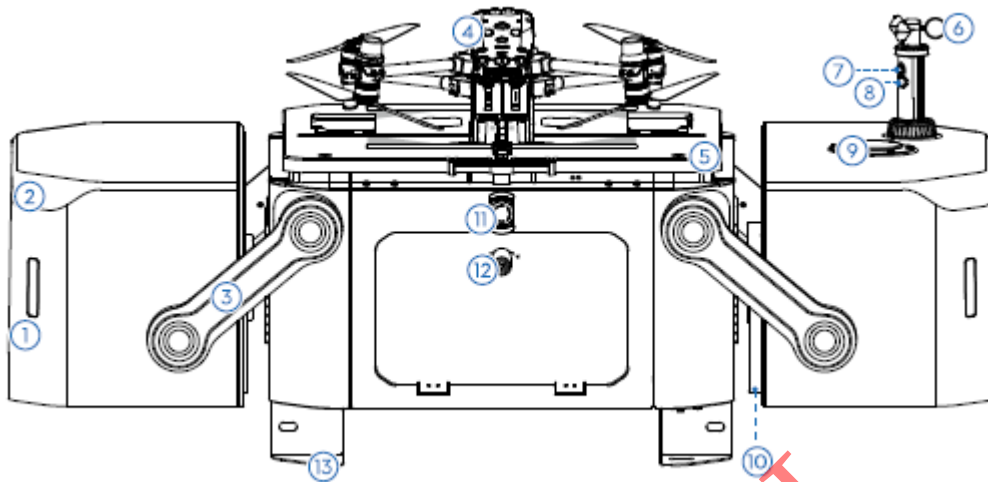
[1] The dock coordinates need to be calibrated to obtain accurate absolute position when deploying the dock.

[2] For more details, refer to the DJI FlightHub 2 User Guide, which is available to download from the official DJI website <https://www.dji.com/FlightHub-2/downloads>.

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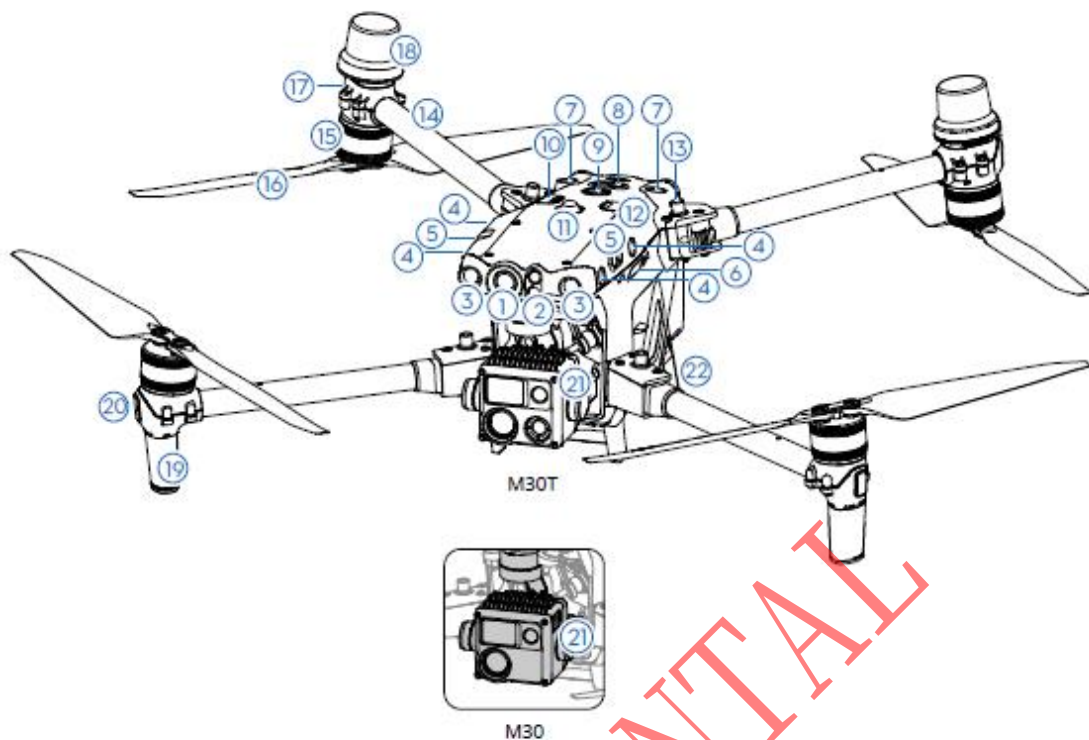
Overview

DJI Dock



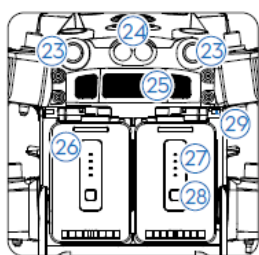
1. Dock Cover Indicators
2. Built-in Video Transmission Antennas
3. Dock Cover Driving Arm
4. Matrice M30 Series Dock Version
5. Landing Pad Triangular Bolts
6. Anemometer
7. Integrated Security Camera
8. Camera Auxiliary Light
9. Rain Gauge
10. Paddling Sharpnel
11. Emergency Stop Button
12. Electrical Distribution Cabinet Triangular Lock
13. Mounting Base Brackets

Matrice 30 Series Dock Version



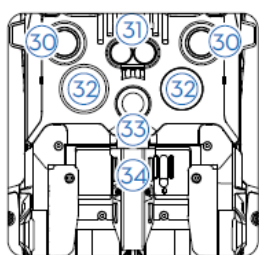
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|--|--------------------------------------|
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| 2. Forward Infrared Sensing System | 14. Frame Arms |
| 3. Forward Vision System | 15. Motors |
| 4. Left and Right Vision Systems | 16. Propellers |
| 5. Left and Right Infrared Sensing Systems | 17. Aircraft Rear Indicators |
| 6. microSD Card Slot | 18. GNSS Antennas |
| 7. Upward Vision System | 19. Video Transmission Antennas |
| 8. Upward Infrared Sensing System | 20. Aircraft Front Indicators |
| 9. Power Button/Indicator | 21. Gimbal and Camera ^[1] |
| 10. PSDK Port | 22. Landing Gear Charging Interface |
| 11. Upward Beacon | |
| 12. Assistant Port | |

[1] The M30 and M30T are equipped with different cameras. Refer to the actual product purchased.



后视图

- 22. Backward Vision System
- 23. Backward Infrared Sensing System
- 24. Air Vent
- 25. TB30 Intelligent Flight Battery
- 26. Battery Level LEDs
- 27. Battery Level Button
- 28. Battery Release Toggle



底视图

- 29. Downward Vision System
- 30. Downward Infrared Sensing System
- 31. Bottom Auxiliary Light
- 32. Downward Beacon
- 33. Dongle Compartment
- 34. DJI Cellular Dongle Mounting Bracket

Accessory Options

DJI Cellular Dongle

DJI Cellular Dongle can be mounted to the dock for 4G network connection. When the dock is connected to both a wired network and a 4G network, 4G network works as a backup to the wired network. The dock will automatically switch to the 4G network if the wired network fails. Refer to Dock Network Connection section for details.

DJI Cellular Dongle can be mounted to the aircraft for Enhanced Transmission. Enhanced Transmission will intelligently select O3 link or 4G link as the video transmission link, allowing the aircraft to deal with complex environment and ensure safe flight. Refer to Enhanced Transmission section for details.

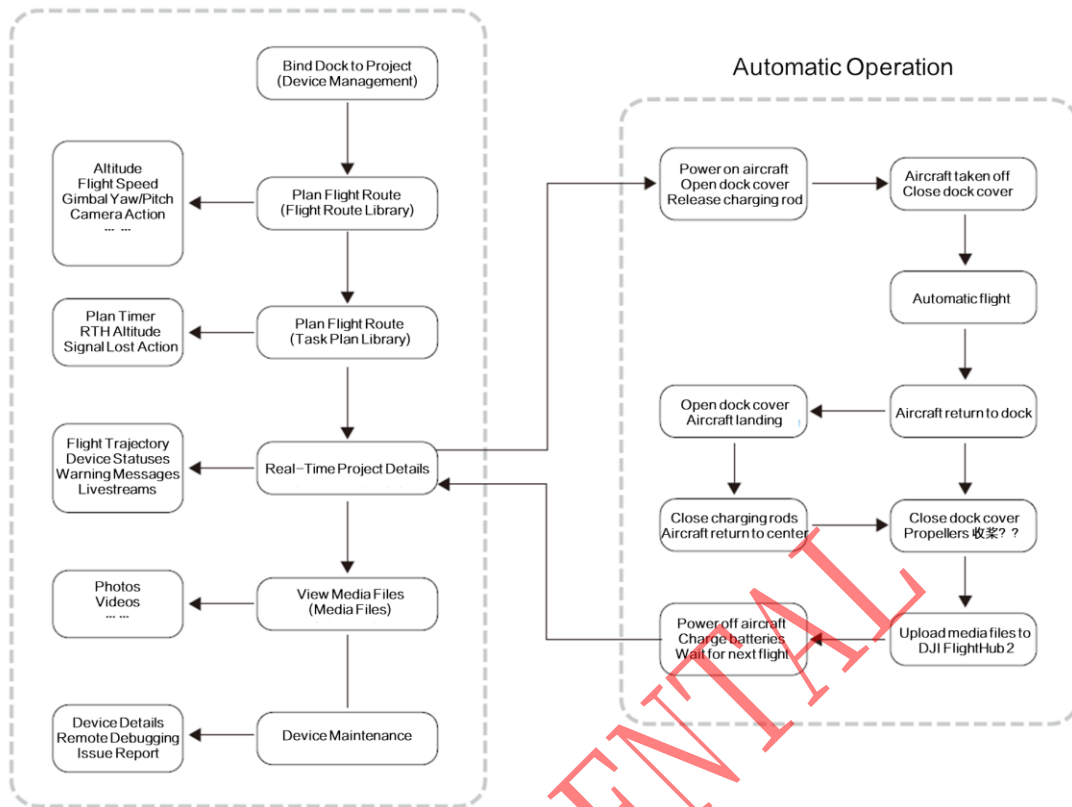
DJI RC Plus Remote Controller

DJI RC Plus remote controller can be used for dock deployment and debugging. The remote controller can also link to the aircraft as controller B for manual flight control. Refer to the Remote Controller Emergency Takeover section for details.

Flight Procedure

The operating procedure in FlightHub 2 and the automated flight procedure of the dock and the aircraft is shown in the figure:

DJI FlightHub 2



- For more details, refer to the DJI FlightHub 2 User Guide which is available to download from the official DJI website <https://www.dji.com/FlightHub-2/downloads>.

Flight Safety

Compliance with Regulations

1. DO NOT operate in the vicinity of manned aircraft. DO NOT interfere with the operations of manned aircraft. Be alert and make sure there is no other aircraft in the operation area.
2. DO NOT fly the aircraft in areas where large events are being held, including, but not limited to, sporting events and concerts.
3. DO NOT fly the aircraft without authorization in areas prohibited by local laws. Prohibited areas include airports, national borders, major cities and densely populated areas, venues of major events, areas where emergencies have occurred (such as forest fires), and locations with sensitive structures (such as nuclear power plants, power stations, hydropower plants, correctional facilities, heavily traveled roads, government facilities, and military zones).
4. DO NOT fly the aircraft above the authorized altitude. DO NOT use the aircraft to carry illegal or dangerous goods or payloads.
5. Make sure you understand the nature of your flight operation (such as for recreation, for public use, or for commercial use) and have obtained corresponding approval and clearance from the related government agencies before flight. Consult with your local regulators for comprehensive definitions and specific requirements. Visit <http://www.dji.com> for the most current instructions and warnings and <https://www.dji.com/flysafe> for more information about flight safety and compliance. Note that remote controlled aircraft may be banned from conducting commercial activities in certain countries and regions. Check and follow all local laws and ordinances before flying as those rules may differ from those stated here.
6. Respect the privacy of others when using the camera. DO NOT conduct surveillance operations such as image capture or video recording on any person, entity, event, performance, exhibition, or property without authorization or where there is an expectation of privacy, even if the image or video is captured for personal use.
7. Be advised that in certain areas, the recording of images and videos from events, performances, exhibitions, or commercial properties by means of a camera may contravene copyright or other legal rights, even if the image or video was shot for personal use.
8. DO NOT use this product for any illegal or inappropriate purpose such as spying, military operations, or unauthorized investigations.

Flight Environment and Wireless Communications Requirements

1. DO NOT fly the aircraft in severe weather conditions, including strong winds (speeds exceeding 15 m/s), sandstorms, snow, rain, smog, hail, lightning, tornadoes, or hurricanes. The aircraft can withstand a wind speed of up to 12 m/s during takeoff and landing.
2. Fly in wide open areas. Tall buildings, steel structures, mountains, rocks, or tall trees may affect the accuracy of the GNSS and block the video transmission signal.
3. Avoid interference between the dock and other wireless equipment. It is recommended to power off nearby Wi-Fi and Bluetooth devices.
4. Avoid obstacles, crowds, trees, and bodies of water (recommended height is at least 3 m above water).
5. The performance of the aircraft and its battery is limited when flying at high altitudes. Fly with caution.
6. Be extremely alert when flying near areas with magnetic or radio interference. It is recommended

to connect to the remote controller as controller B during flight test. Pay close attention to the image transmission quality and signal strength on DJI Pilot 2. Sources of electromagnetic interference include but are not limited to: high voltage lines, large-scale power transmission stations or mobile base stations, and broadcasting towers. The aircraft may behave abnormally or lose control when flying in areas with too much interference. Return to the dock and land the aircraft, and make future task plans until the flight test is stable.

7. DO NOT use the aircraft or the dock in an environment at risk of a fire or explosion.
8. Operate the dock and the aircraft only for applications in the operating temperature range. The operating temperature of DJI Dock is -35° to 50° C (-31° to 122° F), and the operating temperature of the aircraft is -20° to 50° C (-4° to 122° F). In low-temperature environment, it is necessary to check whether the dock cover and the aircraft is covered with snow and ice, and whether the propellers are frozen using dock camera livestreams.
9. Make sure to set an alternate landing site before flight. The aircraft will land to the alternate landing site when the dock is not suitable for landing. Follow the instruction in DJI Pilot 2 App to set an alternate landing site when deploying the dock. An obvious sign should be set up outside the five-meter radius of the alternate landing site. Make sure that the area within the five-meter radius of the alternate landing site is clear of obstacles.

Flight Restrictions and Unlocking

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 flight. 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.

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. GEO Zones include but are not limited to airports, venues of major events, areas where emergencies have occurred (such as forest fires), nuclear power plants, correctional facilities, government facilities, and military zones. Users can view real-time GEO information in DJI FlightHub 2.

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://www.dji.com/flysafe/geo-map>.

2. The settings and alerts provided by DJI on operations within GEO Zones are only to assist the user in ensuring flight safety and do not guarantee full compliance with all local laws and regulations. Before each flight, the user is responsible for seeking advice on the relevant local laws, regulations, and requirements, and for the safety of their own aircraft.

Flight Restrictions in GEO Zones

The following section describes in detail the flight restrictions for the above mentioned GEO Zones.

GEO Zone	Flight Restriction	Remark
Restricted Zones (Red)	UAVs are prohibited from flying in Restricted Zones. If you have obtained permission to fly in a Restricted Zone, please visit https://www.dji.com/flysafe or contact flysafe@dji.com to unlock the zone.	The dock aircraft cannot take off, and a prompt will appear in DJI FlightHub 2 when the flight route passes through the Restricted Zones.
Authorization Zones (Blue)	The aircraft will not be able to take off in an Authorization Zone unless it obtains a permission to fly in the area.	The dock aircraft cannot take off, and a prompt will appear in DJI FlightHub 2 when the flight route passes through the Authorization Zones. To fly in an Authorization Zone, the user is required to submit an unlocking license request and synchronize the license to the dock in DJI Pilot 2 App.
Warning Zones (Yellow)	The aircraft can fly in the zone.	The aircraft can fly in the zone. Please view GEO information in DJI FlightHub 2 and stay alert.
Enhanced Warning Zones (Orange)		
Altitude Zones (Gray)	The aircraft's altitude is limited when flying inside an Altitude Zone.	The dock aircraft cannot take off, and a prompt will appear in DJI FlightHub 2 when the planned flight altitude exceeds the maximum altitude of the aircraft.

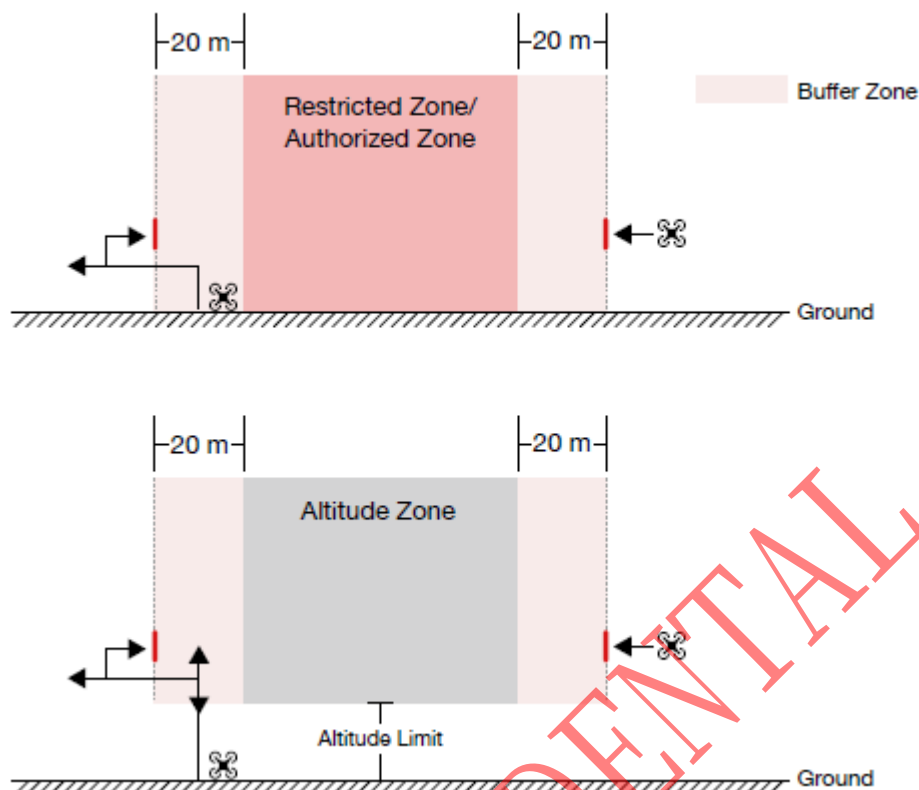
	Make sure the flight route does not pass through any GEO zones before launching flight tasks.
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Buffer Zone

Buffer Zones for Restricted Zones/Authorization Zones: To prevent the aircraft from accidentally flying into a Restricted or Authorization Zone, the GEO system creates a buffer zone of about 20 meters wide outside each Restricted and Authorization Zone. As shown in the illustration below, the aircraft can only take off and land in place or fly toward an opposite direction of the Restricted or Authorization Zone when inside the buffer zone, and cannot fly toward the Restricted or Authorization Zone unless an unlocking request has been approved. **The aircraft cannot fly back into the buffer zone after leaving the buffer zone.**

Buffer Zones for Altitude Zones: A buffer zone of about 20 meters wide is established outside each Altitude Zone. As shown in the illustration below, when approaching the buffer zone of an Altitude Zone in a horizontal direction, the aircraft will gradually reduce its flight speed and hover outside the buffer zone. When approaching the buffer zone from underneath in a vertical direction, the aircraft can ascend and descend in altitude or fly in an opposite direction of the Altitude Zone, but cannot fly

toward the Altitude Zone. The aircraft cannot fly back into the buffer zone in a horizontal direction after leaving the buffer zone.



Unlocking GEO Zones

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

Self-Unlocking is intended for unlocking Authorization Zones. To complete Self-Unlocking, the user is required to submit an unlocking request via the DJI Fly Safe website at <https://www.dji.com/flysafe>. Once the unlocking request is approved, the user may synchronize the unlocking license to the dock using the DJI Pilot 2 app to unlock the zone. The user can designate an unlocked period during which multiple flights can be operated.

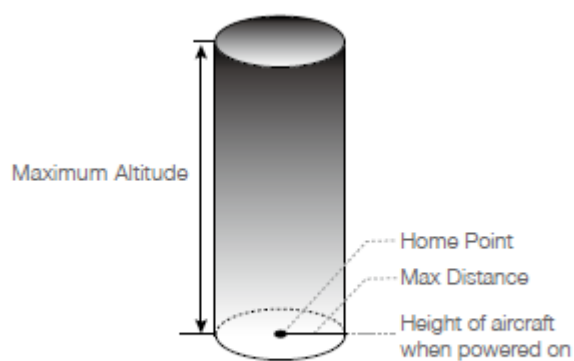
Custom Unlocking is tailored for users with special requirements. It designates user-defined custom flight areas and provides flight permission documents specific to the needs of different users. This unlocking option is available in all countries and regions and can be requested via the DJI Fly Safe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

For more information about unlocking, please visit <https://www.dji.com/flysafe> or contact flysafe@dji.com.

Maximum Altitude & Distance Restrictions

Maximum flight altitude restricts the aircraft flight altitude, while maximum flight distance restricts the aircraft flight radius around the dock. These limits can be set using the DJI FlightHub 2 for improved flight safety. The maximum flight altitude is 120 m (393.7 ft) by default. Fly at altitudes lower than the maximum altitude in accordance with all local laws and regulations.

* Flight altitude restrictions vary in different regions. DO NOT fly above the maximum altitude set forth in your local laws and regulations.



Home Point not manually updated during flight

	Flight Restrictions	FlightHub 2 Prompt
Max Altitude	Altitude of the aircraft cannot exceed the value set in DJI FlightHub 2.	Flight route altitude exceeds maximum altitude, the dock is unable to perform flight task.
Max Distance	The straight-line distance from the aircraft to the Home Point cannot exceed the max flight distance set in DJI FlightHub 2.	Flight route distance exceeds maximum distance, the dock is unable to perform flight task.

	● The aircraft cannot take off when the GNSS signal is weak. ● For safety reasons, DO NOT fly the aircraft close to airports, highways, railway stations, railway lines, city centers, or other sensitive areas.
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Remote Controller B

DJI RC Plus remote controller can be linked to the aircraft as controller B. During on-site flight tests, the remote controller can take over control and manually control flight. After the remote controller gain control, press and hold the RTH button on the remote controller, and the aircraft will return to the dock.

Linking the Remote Controller B

The dock is already linked to the aircraft when it is purchased together in the DJI Dock Bundle. Link the Remote Controller to the aircraft as controller B following the steps below:

1. Power on the aircraft and the remote controller.
2. Run DJI Pilot 2, tap "Controller A" > "Switch to Controller B".
3. Press and hold the power button on the aircraft for at least five seconds.
4. When linking is successful, the remote controller will beep twice.

Gaining Control Using the Remote Controller B

1. To gain control of the aircraft, press the aircraft control button on the upper-left of the remote controller; and then press the orange Pause button on the upper-right to control flight manually.
2. To gain control of the gimbal camera, tap  on the upper right corner of the gimbal camera view in DJI Pilot 2.

	● Make sure to link the dock to the aircraft first, and then link the remote controller B. ● The remote controller is not included in the Matrice 30 Series Dock Bundle. Pay attention to flight safety when manually controlling with the remote controller. Visit https://www.dji.com/cn/matrice-30/downloads, carefully read, understand, and follow the instructions in the disclaimer and safety guidelines, and the user manual. ● DO NOT refresh the Home Point after gaining control. Otherwise the aircraft cannot return to the dock.
--	---

Control of the Dock and the Remote Controller

1. Control over the aircraft is independent of control over the gimbal camera. When the remote controller does not have control of a device, the pilot is unable to control the device. When a remote controller has control of a device, whether it is the aircraft or the gimbal camera, the pilot can control the device by pushing the control sticks, turning the dial, pressing the shortcut buttons, or tapping the app's user interface. The operation is the same as in Single Operator mode.
2. By default, the dock connected to the aircraft is granted control of both the aircraft and the gimbal camera, while the remote controller is not given any control.
3. Only when the controller with aircraft control can it be used to start or cancel RTH. Only when the remote controller with control of the gimbal camera can it be used to adjust relevant settings for the gimbal and camera, and to download or replay media files.
4. The dock will automatically take over control before each flight task. A control transfer mechanism will be triggered if either the dock or the remote controller is disconnected from the aircraft. When this happens, control will shift to the one that still connected with the aircraft. If the dock disconnects from the aircraft, the remote controller will receive a notification that the user may manually take over aircraft control. If the pilot of the remote controller chooses not to take over

aircraft control, the aircraft will automatically perform the signal lost action. If the pilot of the connected remote controller does not choose either option within a specified time period, the aircraft will also activate the signal lost action.

5. If the disconnected remote controller reconnects with the aircraft during the flight, it will not resume its previous control and will by default have no control of any device.
6. The remote controller can be used to modify the flight control system, the sensing system and other aircraft settings. Refer to “Aircraft Settings Using the Remote Controller B” section for details.
7. Both the firmware of the dock and the aircraft can be updated in DJI FlightHub 2, but the remote controller can only be used to update the firmware of the remote controller.
8. Users can upload the logs of both the dock and the aircraft in DJI FlightHub 2, and can upload the logs of remote controller using the remote controller.
9. The remote controller cannot be used to update the Fly Safe database.
10. Enhanced transmission will be unavailable if both the dock and the remote controller are connected to the aircraft.

Flight Test Checklist

After adding new flight route or changing flight route settings, it is recommended to perform on-site flight test to ensure normal dock operation.

On-Site Checklist

- Make sure there is no foreign object in the battery ports on the aircraft.
- Make sure the TB30 batteries are installed firmly, and the battery release toggles are locked.
- Make sure the propellers are securely mounted and not damaged or deformed, that there are no foreign objects in or on the motors or propellers, that the propeller blades and arms are unfolded, and that the frame arm folding buttons are popped out in the locked position.
- Make sure the lenses of the vision systems, FPV, cameras, the glass of the infrared sensors, and the auxiliary lights are clean and not blocked in any way.
- Make sure the gimbal is unlocked and the camera is facing the front of the aircraft.
- Make sure the covers of the microSD card slot, the PSDK port, and the DJI Cellular Dongle installation bracket have been closed properly.
- Make sure that the anemometer rotates properly and that the rain gauge surface is clear of dirt or foreign matter.
- Make sure the landing pad surface is clean and clear of obstacles.
- Make sure the Emergency Stop Buttons are released.
- Modify the aircraft settings using the remote controller (excluded) based on actual needs. Check the settings of obstacle braking distance and the warning distance, gimbal camera settings, aircraft RTK Maintain Positioning Accuracy mode in DJI Pilot 2 App *.

* Refer to the Aircraft Settings section in Appendix for details.

FlightHub 2 Checklist

- Open DJI FlightHub 2 Project page, click [icon] > [icon] and check the following:
 - a. Make sure the dock status is Idle, and the aircraft status is Standby or Powering Off.
 - b. Make sure the wind speed, ambient temperature, and rainfall are within the reasonable range, and that the dock network connection is stable.

- c. Click Live to open dock livestream. Make sure the dock cover surface is clear of obstacles, snow or ice.
- d. Click Action to view device information. Make sure the dock RTK is calibrated and converged, the satellite signal is good, and that the device storage is enough.
- e. Make sure to enable Obstacle Sensing. Make sure to turn on the beacons of the aircraft during night operations. Make sure to set maximum altitude and distance, as well as appropriate alternate landing transfer altitude.
- Make sure the dock and aircraft firmware have been updated to the latest version. Make sure that the alternate landing site is set.
- Make sure to set appropriate RTH altitude to when a creating task plan.
- Make sure to set appropriate takeoff point and flight altitude, and that the flight route does not pass through the GEO zones.
- Pay attention to the flight altitude, flight speed, battery level and other flight parameters during flight test.
- Divide the airspace for flight when multiple aircraft are operating simultaneously in order to avoid collision mid-air.

	● It is recommended to link the remote controller as controller B before flight test for safety reasons. ● To ensure flight precision, when importing flight routes to DJI FlightHub 2, make sure the RTK signal source of the flight route is the same as the signal source used to calibrate the dock RTK. Otherwise, the actual flight trajectory of the aircraft differs from the preset flight route, and may even cause the aircraft to crash.
	● After a task plan is launched, the dock will automatically determine whether the environment (such as wind speed, rainfall and ambient temperature) is suitable for flight tasks. To ensure flight safety, the aircraft cannot take off in the following conditions: a. Wind speed is above 12 m/s. b. In heavy rain weathers. c. Environment temperature is below -20° C (-4° F). d. Emergency Stop Button pressed. e. The dock power supply is disabled. f. The intelligent flight battery level is below 30 %. g. The aircraft RTK is not enabled. h. The aircraft satellite signal is weak. (The aircraft satellite icon in DJI FlightHub 2 is red). ● If warning prompts in DJI FlightHub 2, click to view warning details, and follow the instructions to conduct remote debugging.

Dock

DJI Dock mainly consists of the electrical distribution cabinet, dock cover, the environmental sensors, the landing pad, the RTK module, the communication system, the air-conditioning system, and the UPS model. This chapter provides a detailed introduction to the dock components and functions.

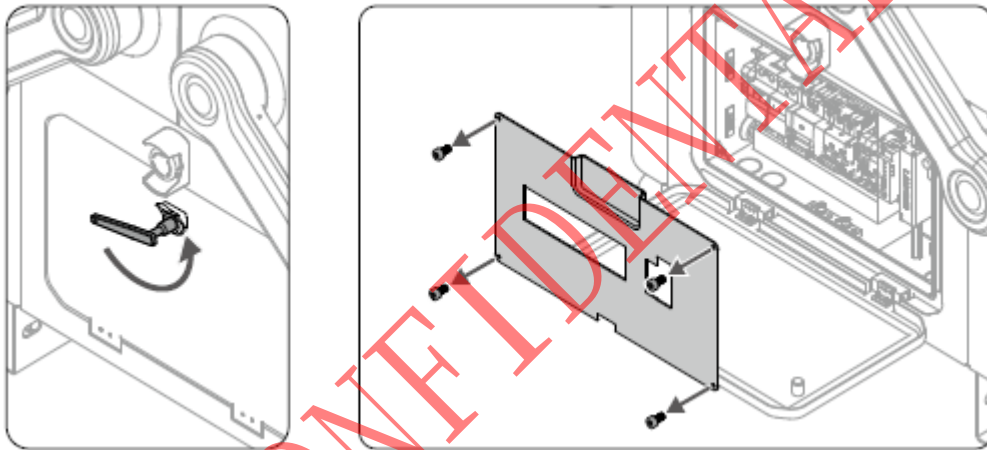
Electrical Distribution Cabinet

The Electrical Distribution Cabinet has Ground Terminals, AC Power Switch, Backup Battery Switch, Surge Protective Devices (SPD), and operation ports.

The Electrical Distribution Cabinet can be connected to external cables for dock grounding, power supply, and wired network connection. The dock can be connected to the remote controller (excluded) using the USB-C port on the electrical distribution cabinet or to the computer using the USB-A port for on-site operations.

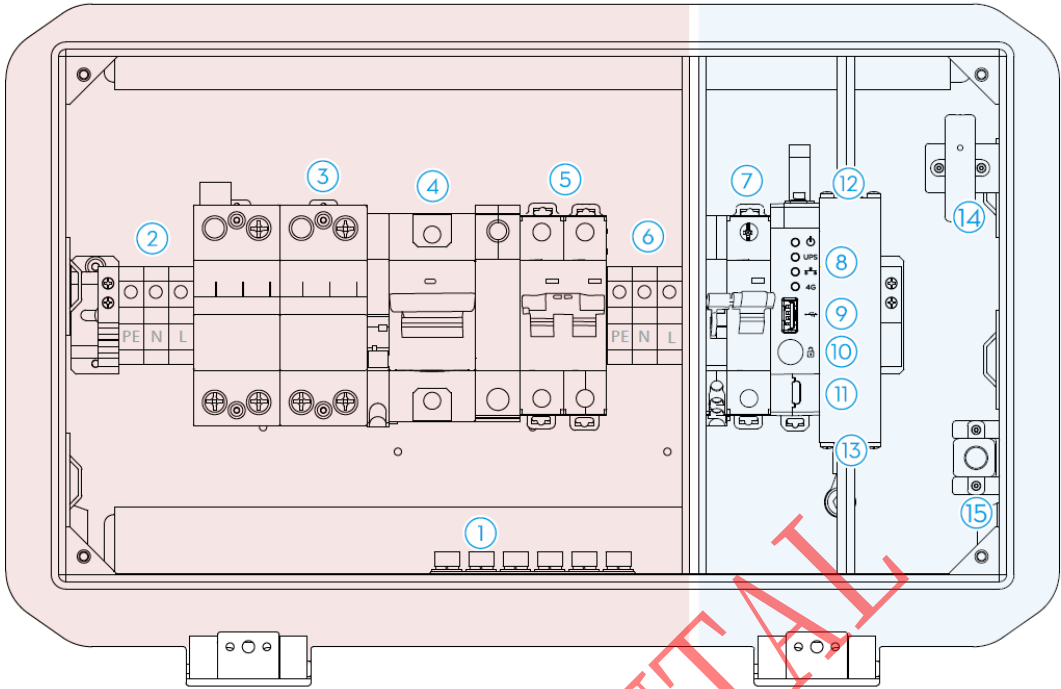
Opening the Electrical Distribution Cabinet

1. Insert the triangular key and rotate counterclockwise to open the electrical distribution cabinet.
2. Use a hex screwdriver to loosen the screws and remove the metal plate.



● 	● Stay alert during operation to avoid electric shocks. ● DO NOT press the cabinet cover or place any heavy object on it.
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Panel Description

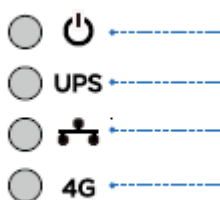


	● The red and blue areas indicate the strong current area and the weak current area, respectively. Stay alert when operating in the strong current area to avoid electric shocks.
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Overview	Function
1. Ground Terminals	Connect the dock to external grounding bodies.
2. AC Power Input	Connect to external AC Power (100-240 V). The three terminals are PE (protective earth), N (neutral), and L (live), respectively.  DO NOT touch the Ground Terminals to avoid electric shock.
3. SPD of AC Power	Protect electrical devices of the dock from lightning overvoltage and surge damage.
4. Backup SPD	Protect the SPD of AC Power and conduct leakage protection to avoid risk of fire.
5. AC Power Switch	Power on/off the dock.
6. AC Power Output	Connect to user equipment for power supply (Max. power should be less than 200 W).
7. Backup Battery Switch	Enable/Disable backup battery of the dock.
8. Electrical Distribution Cabinet Indicators	Indicate the working status of the power supply, the storage battery, the wired network and the wireless network.
19. USB-A Port	Connect the remote controller to the dock for dock deployment and debugging.
10. Dock Cover Manual Release Button:	Press to unlock the dock covers for manual control.
22. USB-C Port	Connect to the computer to access DJI Assistant 2.
12. Ethernet Port	Connect to ethernet for wired network access.
13. SPD of Ethernet Signal	Protect the dock Ethernet Interface Equipment from damage by lightning overvoltage.
14. Cover Magnetic Detector	Detect whether the Electrical Distribution Cabinet cover is closed.
15. Power Port for Emergency Unlocking	Connect to external power supply * to unlock the dock cover when the dock is powered off or failure occurs.

* It is recommended to use the standard chargers of Matrice 200 Series, Inspire 2, Phantom 4 Series.

Electric Distribution Cabinet Status Indicator



Power Indicator
Backup Battery Indicator
Wired Network Indicator
4G Network Indicator

	Status Indicator	Blinking Pattern		Description
	Power Indicator		Solid Red	AC power supply is normal.
			Off	No AC power supply.
UPS	Backup Battery Indicator		Solid blue	Backup battery is full or is supplying power.
			Blinks blue slowly	Backup battery is charging.
			Blinks blue quickly	Backup battery is low battery power.
			Off	Backup battery is not installed or the backup battery switch is in the off position.
	Wired Network Indicator		Blinks green quickly	Ethernet is connected and data transmission is working.
			Off	Ethernet is disconnected.
4G	4G Network Indicator		Blinks green quickly	DJI Cellular Dongle is attached and network is registered.
			Off	DJI Cellular Dongle is not attached or network is not registered.

Dock Cover

The built-in video transmission antennas and status indicators are located on the dock cover. The DJI Cellular Dongle mounting compartment inside the dock cover is used for 4G wireless network access. The padding shrapnel on the side edge of the dock cover is used for folding the aircraft propellers when closing the dock cover. The heating strips at the dock cover seam will automatically heat the dock cover to prevent the seam from freezing.

	- Make sure the built-in video transmission antennas are not blocked by any foreign objects, snow or ice. - The dock cover heating strips can only prevent the dock cover seam from freezing. Make sure to clean the snow or ice on covered on the surface. - The padding shrapnel is an easily-worn part, replace it if necessary.
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Opening and Closing the Dock Cover

Users can open/close the dock cover using DJI FlightHub 2 or DJI Pilot 2 App to check the inboard component status and aircraft status when conducting remote operations. The dock cover can also be controlled manually. Make sure the emergency stop buttons are released before opening the dock cover. If not, pull out or rotate clockwise to release the emergency stop buttons.

	Keep a safe distance from the dock cover to avoid injury when opening or closing the dock cover. Press the Emergency Stop Button if necessary.
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	● DO NOT press the dock cover or place heavy objects on the dock cover after opening it.
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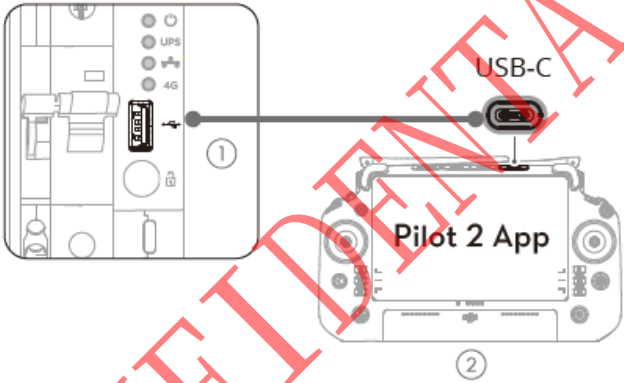
Using DJI FlightHub 2

Open DJI FlightHub 2 Project page, click  >  > Action, and enable Remote Operations; or open Devices page, click Dock > Device Maintenance and enable Remote Operations. And then click to open or close the dock cover.

	● The dock cover cannot be closed using DJI FlightHub 2 if the aircraft is not in dock.
	● When closing the dock cover, the aircraft will automatically power on and the propellers will slowly rotate to avoid damage to the propellers.

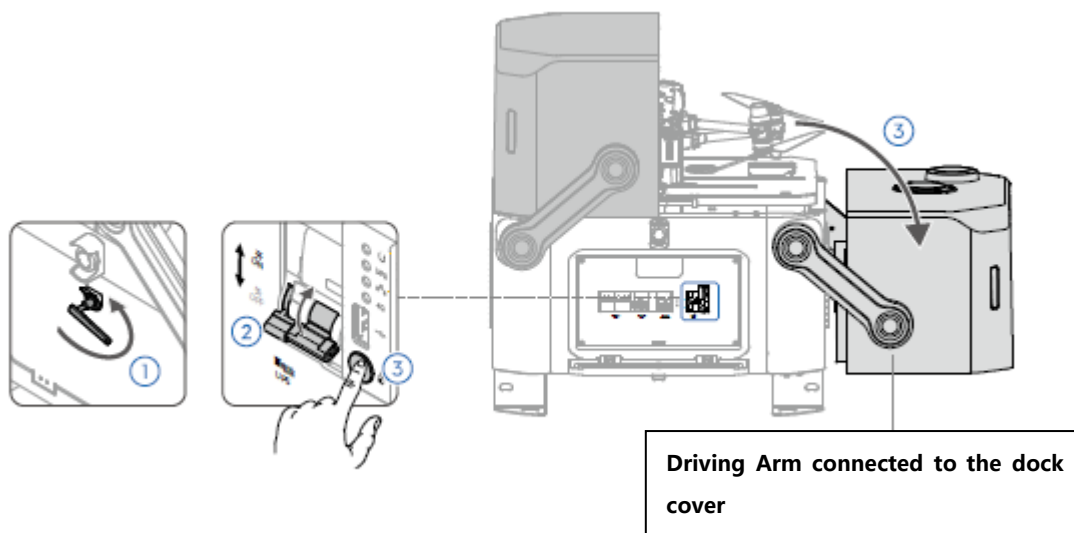
Using DJI Pilot 2 App

Connect the remote controller to the dock. Run DJI Pilot 2 and tap Open Dock Cover.



Manual Control

1. Make sure the dock is powered on. The dock cover status indicators are blinking.
2. Open the Electric Distribution Cabinet door using the triangular key.
3. Press and hold the manual release button, then lift and rotate the driving arm connected to the dock cover to open the covers. Make sure to open the right cover before the left cover and control the descent speed to avoid the cover from falling when opening.
4. Make sure to fold the propellers along the direction of the aircraft body to avoid breaking the propellers when manually closing the dock cover.



- Make sure to open the right cover before the left cover.
- DO NOT lift the dock cover directly or other parts of the drive arm when opening the dock cover to avoid damage.

Dock Cover Status Indicator and Alerts

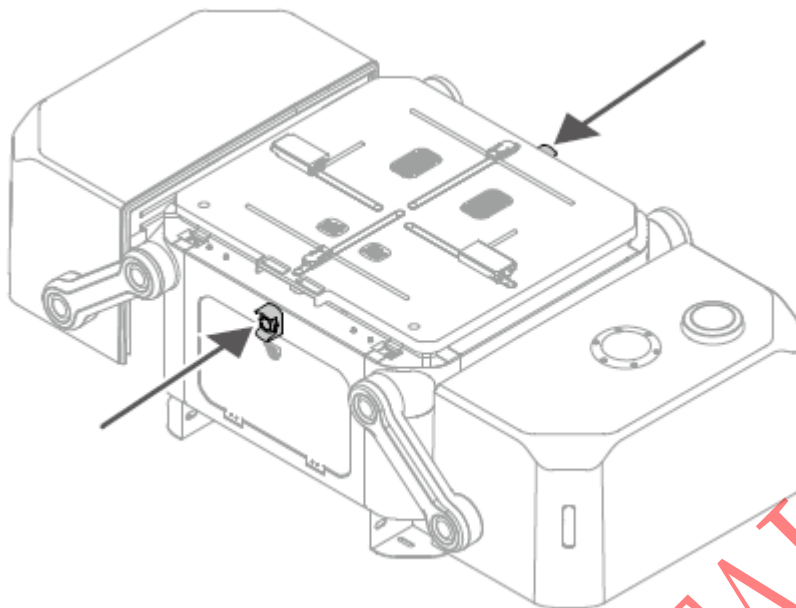
Normal Status

		Blinks white	Dock functioning normally, aircraft standby
		Blinks blue	Dock linking to the aircraft.
		Short beeps	
		Blinks green	Aircraft takeoff and task in progress
	—	Solid blue	Dock firmware updating or debugging (either remote debugging and on-site debugging)

Warning States

		Blinks red	Dock cover opening/closing; or aircraft taking off/landing
		Long beeps	
			Keep a safe distance from the dock to avoid injury.
		Blinks red and yellow alternately	Emergency Stop Button pressed
	—	Solid Red	Dock failure, unable to operate normally

Emergency Stop Button



There are two Emergency Stop Buttons on the dock. In any emergent situations, press the Emergency Stop Button to stop all dock movements when operating or maintaining the dock. The dock cover indicators blink red and yellow alternatively after pressing the Emergency Stop Button.

If the aircraft is powered on but the motor is not running, the aircraft cannot take off after pressing the Emergency Stop Button.

If the aircraft is performing a flight and the Emergency Stop Button is pressed, the aircraft will fly to the alternate landing site after completing the flight task.



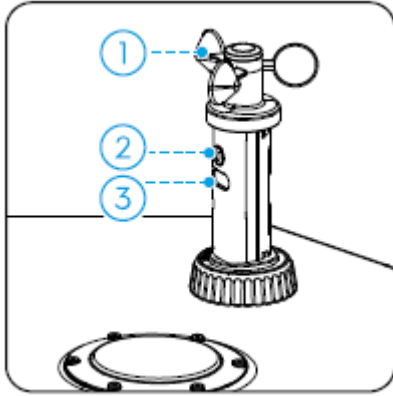
- Pull out or rotate clockwise to release the Emergency Stop Button before conducting other operations (e.g. dock cover control).

Environment Sensors

DJI Dock integrates multiple environment sensors to provide information on wind speed, rainfall, temperature, and humidity, allowing users to monitor real-time environment condition and ensure safe flight.

Anemometer Module:

The anemometer module is located on the top of the dock cover, consisting of an anemometer, an integrated security camera, and an auxiliary light.



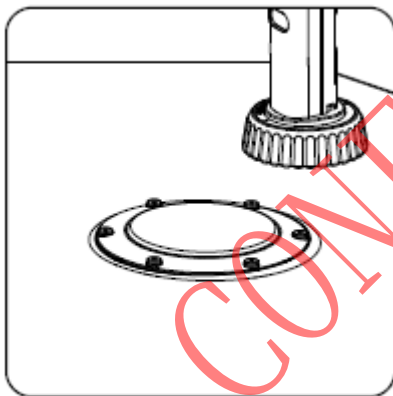
1. **Anemometer:** The anemometer is used to monitor environment rainfall information and features self-heating, allowing it to function in low-temperature environment. Users can view real-time wind speed in DJI FlightHub 2. The aircraft cannot take off or land when the wind speed is above 12 m/s to for safety reasons.

* The anemometer can only measure the wind speed at the installation location of the airport, and is different from the information provided by the local meteorological department.

2. **Integrated Security Camera (On Cover):** The integrated security camera is used to monitor real-time dock environment. Users can view dock livestreams in DJI FlightHub 2, and monitor the dock environment, or the aircraft status in the dock cabin after opening the dock cover.

3. **Auxiliary Light:** The auxiliary light can be turned on to assist dock camera monitoring at night.

Rain Gauge:



The rain gauge is located on the right dock cover, and is used to monitor environment rainfall information. The rain gauge features self-heating and allowing it to function in low-temperature environment. Users can view the rainfall information in DJI FlightHub

2. The aircraft cannot take off in heavy rain weather for safety reasons.

	- There is a pressure sensing module on the rain gauge surface. DO NOT knock on the surface of the rain gauge. Otherwise the pressure sensing module may be damaged. - Clean and maintain the rain gauge surface on a regular basis. Replace the rain gauge immediately if there is any dent, deformation, or damage.
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Temperature and Humidity Sensor

DJI Dock features temperature and humidity sensors that allowing the dock to monitor the ambient temperature and inboard temperature and humidity in real time. Users can view the dock inboard temperature and humidity as well as ambient temperature in DJI FlightHub 2.

The environment temperature sensors located at the external circulation air intake of the dock air-conditioner is used to detect the air temperature of the dock environment. The temperature and humidity sensor located inside the dock cabin is used to detect the temperature and humidity in the cabin.

Users can view temperature and humidity information in DJI FlightHub 2: open Project page in, click  >  > Action.

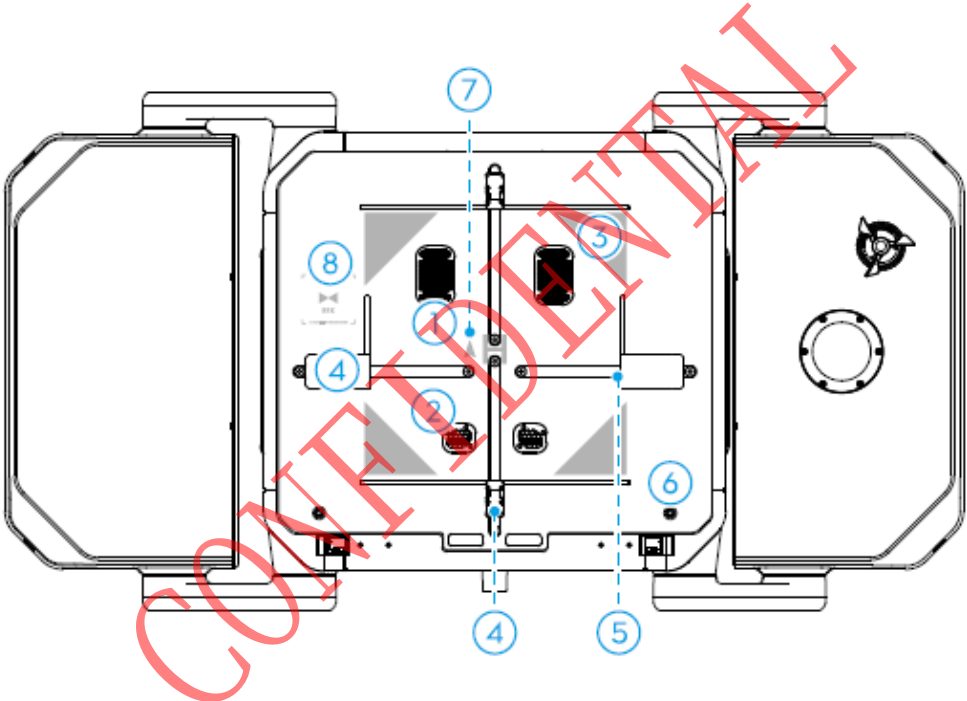
To ensure flight safety, the aircraft cannot take off when the ambient temperature goes below -20° C (-4° F), and resume flight tasks when the temperate goes back up above that.

Water Immersion Sensor

The dock lower cabin is equipped with water immersion sensors to detect whether the dock is immersed in water. If DJI FlightHub 2 prompts **dock flooding**, clean the water near the dock immediately and check whether the dock can operate.

Switch off the AC power switch and backup battery switch, and contact DJI Support if the issue persists.

Landing Pad



Overview	Function
1. Air Inlet	The air from the air conditioning system flows through the air inlet and outlet, and forms a
2. Air Outlet	circulation in the dock cabin, adjusting the inboard temperature and humidity.
3. Positioning Marks	There are four positioning marks on the landing pad for the aircraft to identify dock position.
4. Charging Rods	There is A pair of front and rear charging rods and a pair of left and right charging rods on the landing pad. The charging rods push the aircraft to the center of the landing pad after landing, and detect the aircraft position before taking off.
5. Charging Connector	The charging connector is located in the charging rods. The charging connector automatically connects to the aircraft after it is pushed to the central position, and will charge the aircraft according to the task plans.
6. Landing Pad Triangular Bolts	Insert the triangular key and rotate counter-clockwise to loosen the landing pad triangular bolts, and the dock lower-cabin can be opened.

7. Aircraft Mark	Orientation	Make sure aircraft heading is the same as arrow direction, when placing the aircraft on landing pad. Otherwise may damage the charging rods and the aircraft. Make sure the landing pad is clear of obstacles and the built-in RTK antennas are not block.
8. Built-in RTK Antenna		Otherwise, signals will be obstructed which will affect the positioning.

RTK Module

The built-in RTK module of the dock supports receiving dual-band multi-mode GNSS signal, providing high-precision data for centimeter-level positioning when used with the Matrice 30 Series Dock Version aircraft.

Make sure the dock RTK is calibrated before flight task to ensure accurate flight along the flight route. The dock RTK values are already calibrated using the remote controller during dock deployment, and are not required to recalibrated if the dock position remains the same. If the dock is moved, its position needs to be recalibrated in DJI Pilot 2 App using the remote controller. Refer to the Installation and Setup Manual for details.



- Users can open DJI FlightHub 2 Project page, click  >  > Action to view the dock RTK status.

Air Conditioning System

DJI Dock has a built-in TEC Air Conditioning System, featuring heating, cooling and drying. When the dock is idle, the Air Conditioning System will automatically modify the inboard temperature and humidity, providing a suitable environment for storing the aircraft.

If the Intelligent Flight Battery temperature is above 35° C (95° F), the Air Conditioning System will start cooling the Intelligent Flight Battery by lowering the inboard temperature. The Air Conditioning System will stop cooling when the battery temperature drops to below 25° C (77° F). When the ambient temperature is below 0° C (32° F), the Air Conditioning System starts heating to prevent the propellers from freezing.

When opening the dock cover, the Air Conditioning System will lower the speed of the inner circulating fan to prevent dust or catkins from entering the air inlet.

Backup Battery

DJI Dock features a built-in backup battery with a capacity of 12 Ah and a maximum runtime of approximately 5 hours. The backup battery can provide power for the dock so that the aircraft can safely return and land in the event of an emergency power outage.

* In this case, the dock fails to charge the aircraft battery, the air-conditioning system is unable to operate, and the heating of the anemometer, the rain gauge, as well as the dock is unavailable.

Charging the Backup Battery

The back battery needs to be charged after long-time storage:

- Open the electric distribution cabinet and remove the cabinet cover.
- Connect a three-core cable with a plug to the PE, N, and L terminals of the AC Power Input in the electrical distribution cabinet.
- Push the AC power switch upward to power on the dock, and then push the backup battery switch upward to begin charging.



- Low-voltage Electrician Certificates for special operations are required to charge the backup battery.
- DO NOT touch metal terminals to avoid electrical shock. Make sure the cables are correctly linked to the PE,

	N, and L port. The backup battery cannot be charged when the battery temperature is above 40° C (104° F) or below -20° C (-4° F).
	The backup battery needs to be maintained by connecting to an external power supply for at least six hours every three months when the dock is not in use.

Dock Network Connection

The dock can be connected to wired network or 4G network for internet access. Users can choose different internet access based on actual needs. When the dock is connected to both a wired network and a 4G network, 4G network works as a backup to the wired network. The dock will automatically switch to the 4G network if the wired network fails.

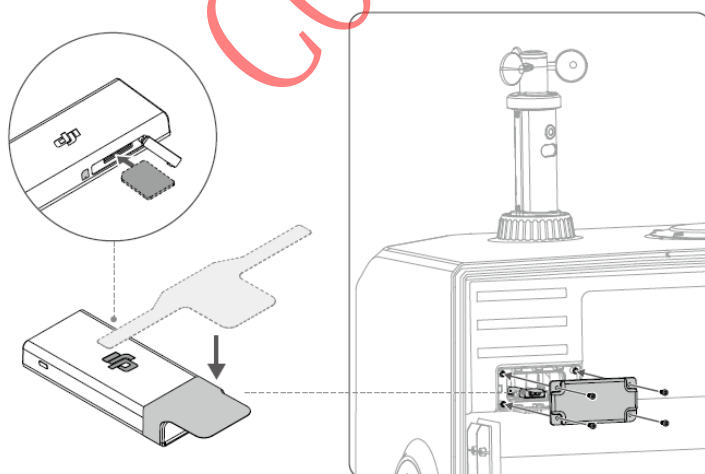
* 4G network service is not available in some countries or regions. Please consult your local distributor for details.

Mounting the DJI Cellular Dongle

Users can mount the DJI Cellular Dongle (excluded) to the dock to access 4G wireless network following the instructions below.

1. Press and hold the manual release button, then lift and rotate the drive arm connected to the dock cover, and open the dock cover on the side of the anemometer.
2. Unscrew four screws using a 2.5 mm hex wrench to remove the compartment cover.
3. Take out the handle stickers from the mounting compartment and attach the stickers to the DJI Cellular Dongle.
4. Insert the SIM card (excluded) to the DJI Cellular Dongle in the proper direction.
5. Connect the DJI Cellular Dongle to the USB-C plug with the DJI mark facing upward. The electric distribution cabinet status indicator blinks green if the dongle is properly installed.
6. Close the compartment cover and tighten the four screws.

	The handle sticker is used for removing DJI Cellular Dongle. Note that the waterproof ring cannot be blocked by the handle stickers when installing the compartment cover.
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IP Rating of the Dock

1. Under stable laboratory conditions, the DJI Dock achieves an IP55 protection rating by IEC 60529

standards when used with Matrice 30 Series Dock Version Aircraft. The protection rating is not permanent, however, and may lower over an extended period. Maintain the device on a regular basis.

2. The dock does not achieve IP55 protection rating in the following circumstances:
 - a. The electric distribution cabinet cover is not firmly closed.
 - b. The anemometer module is not firmly installed.
 - c. The dock cover is not firmly closed.
 - d. The waterproof rubber strip is not firmly attached to the dock cover when closing the dock cover manually.
 - e. The dock has suffered other damage such as a cracked shell or compromised waterproof adhesive.
3. The body surface may become discolored after long-term use. However, such color change does not affect the performance and IP rating of the dock.

CONFIDENTIAL

Aircraft

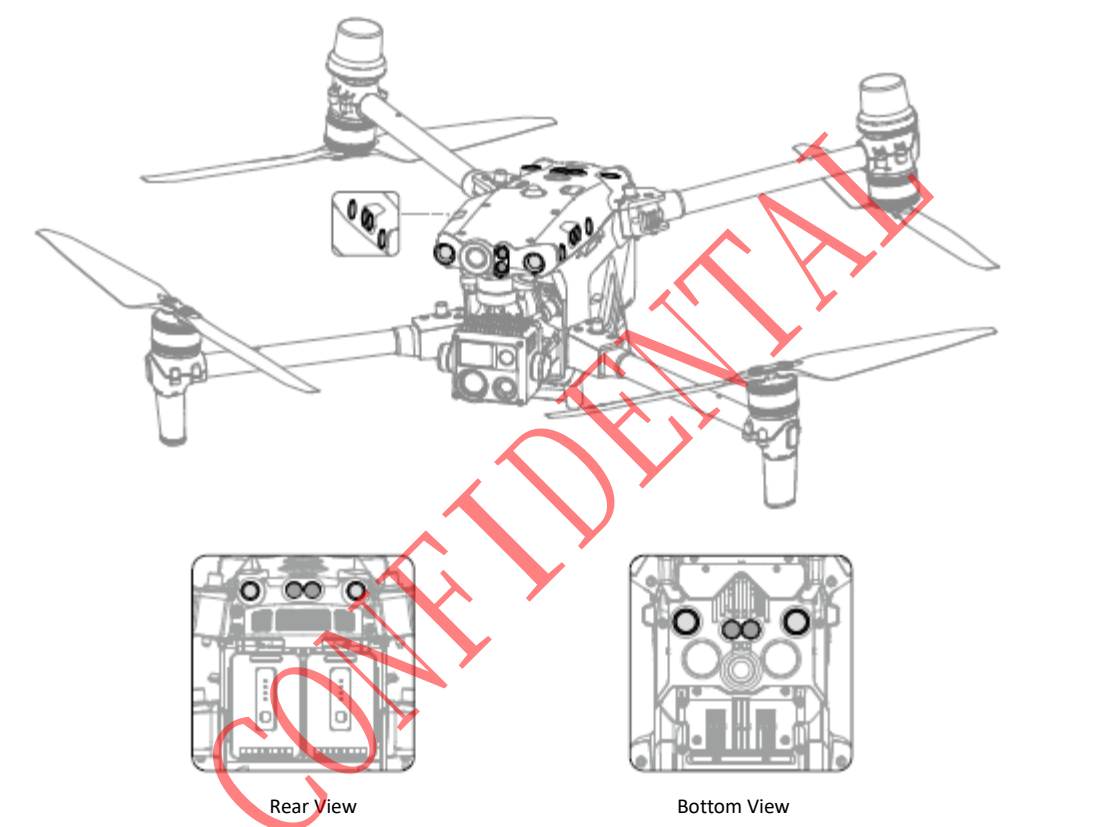
The M30 Series aircraft mainly consists of the flight control system, communication system, vision system, image processing system, propulsion system, and power and battery system. This section describes the functions of these components.

The dock is already linked to the aircraft when purchased in the Matrice 30 Series Dock Bundle. Refer to the Installation and Setup Manual to relink the dock and the aircraft after activation.

Flight Modes

Matrice 30 Series Dock Version aircraft flies in N-mode (Normal) by default. The aircraft utilizes the GNSS and the Vision System that allows for obstacle sensing in six directions to automatically stabilize itself. When obstacle sensing is enabled and the lighting and other environment conditions are sufficient, the maximum tilt angle of the aircraft will be 25°.

Vision System and Infrared Sensing System



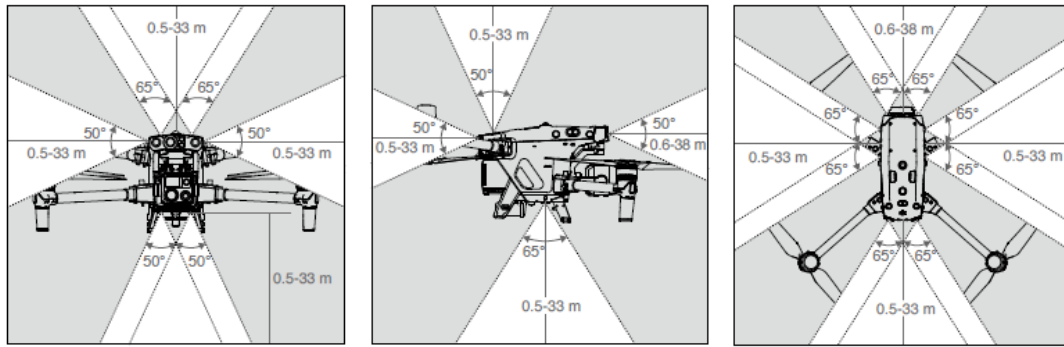
The main components of the vision system (cameras with stereo vision sensors) are located on the front, rear, left, right, top, and bottom of the aircraft. The infrared sensing system has two infrared sensors on each side of the aircraft (front, rear, left, right, top, and bottom).

The vision system constantly scans for obstacles and uses image data to calculate the aircraft position, and the infrared sensing system uses infrared sensors to detect obstacles and determine the flight altitude. Both systems work together to position the aircraft and sense obstacles during flight.

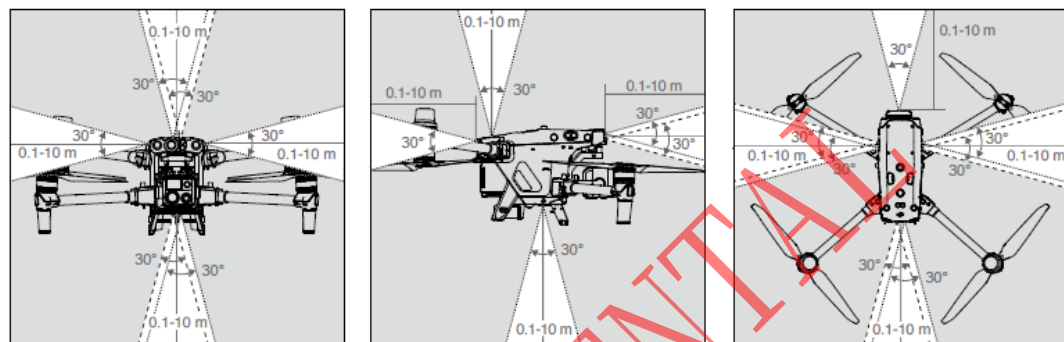
	To ensure a safe and steady flight, DO NOT block the vision and infrared sensors.
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Detection Range

Detection Range of the Vision System



Detection Range of the Infrared Sensing System



	● Be aware of the blind spot (marked gray) of the vision system and the infrared sensing system. The Aircraft cannot detect and avoid obstacles that are out of the detection range. ● The aircraft cannot avoid moving obstacles such as people, animals, or vehicles.
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Using the Vision System and the Infrared Sensing System

Obstacle sensing works best when the lighting is adequate and the obstacle is clearly textured. It does not work well with obstacles that are less dense such as twigs on a tree. The infrared sensing system can only be used to sense large or highly reflective obstacles and rough surfaces.

	● Pay attention to the flight environment. The Vision System and Infrared Sensing System only work in certain scenarios. ● The auxiliary light is automatically enabled when there is insufficient ambient light. The vision positioning performance will be negatively affected during this time. ● The vision system cannot function properly in dark environments and over surfaces without clear patterns or texture such as water and ice. ● Obstacle avoidance cannot detect certain obstacles such as iron wires, cables, branches, blind spots, and mirrored surfaces. ● The vision system cannot work properly in the following situations: - Flying over monochrome surfaces (e.g., pure black, white, red, or green) or those without clear texture. - Flying over surfaces with strong reflected light or images (e.g. water, ice, or transparent surfaces). - Flying over water, ice, or transparent surfaces. - Flying over moving surfaces or objects (e.g., moving crowds, or swaying reeds, shrubs, or grass).
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	e. Flying in an area where lighting changes frequently or drastically or with direct exposure to strong light. f. Flying over extremely dark (< 15 lux) or extremely bright (> 10,000 lux) surfaces. g. Flying at high speeds below 2 m above the ground (e.g., faster than 14 m/s at a 2m height or 5 m/s at a 1m height). h. Small obstacles (e.g., iron wires, cables, tree branches, or leaves). i. The lens is dirty (e.g., from raindrops or fingerprints). j. In low-visibility environments (e.g., heavy fog or snow). ● The infrared sensing systems may NOT detect the distance accurately in the following situations: a. Flying over surfaces that can absorb sound waves (e.g., asphalt road surfaces). b. A large area of strong reflectors situated at a distance of more than 15 m (e.g., multiple traffic signs placed side by side). c. Tiny obstacles (e.g., iron wires, cables, tree branches, or leaves). d. Mirrors or transparent objects (e.g., water or glass). e. In low-visibility environments (e.g., heavy fog or snow). ● DO NOT obstruct the Infrared Sensing System. DO NOT hang or place anything in an area that will block the vision systems, infrared sensing systems, and their observation range. ● Make sure that the sensor lens is clear and free of stains. DO NOT interfere with the vision systems and infrared sensing system in any way such as using a strong light source to illuminate the vision system or aiming specular reflectors towards the infrared sensor. ● Check the following each time before placing the aircraft onto the dock: a. Make sure there are no stickers or any other obstructions over the glass of the infrared sensing systems and vision systems. b. Use soft cloth if there is any dirt, dust, or water on the glass of the Vision Systems and Infrared Sensing system. DO NOT use any cleaning product that contains alcohol. c. Contact DJI Support if there is any damage to the lenses of the Infrared Sensing and Vision Systems.
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Vision System Calibration

The vision system installed on the aircraft is factory calibrated. If the aircraft experiences a collision or a significant change in the operating temperature, calibration may be required. DJI Pilot 2 and DJI FlightHub 2 will display a prompt when calibration is required. Follow these steps to calibrate the vision system when prompted:

1. Power on the aircraft.
2. Connect the assistant port of the aircraft to the computer.
3. Launch DJI Assistant 2 (Enterprise Series) and log in using a DJI account.
4. Select the Matrice 30 Series, then click the calibration button.
5. Position the aircraft with the vision system facing the dotted pattern displayed on the computer screen, and follow the on-screen instructions to calibrate the vision sensors on each side.

	● DO NOT power off the aircraft or unplug the USB-C cable after calibration. Wait for the data calculation to complete.
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Return to Home

Return to Home (RTH) brings the aircraft back to the dock or the alternate landing site when the GNSS signal. There are three types of RTH: Smart RTH, Low Battery RTH, and Signal Lost RTH. Low Battery RTH

will be triggered when the aircraft battery is low. Signal Lost RTH will be triggered when the signal between the dock and the aircraft is lost. And alternate landing will be triggered if the dock is not suitable for landing. The aircraft will fly to and land on the alternate landing site.



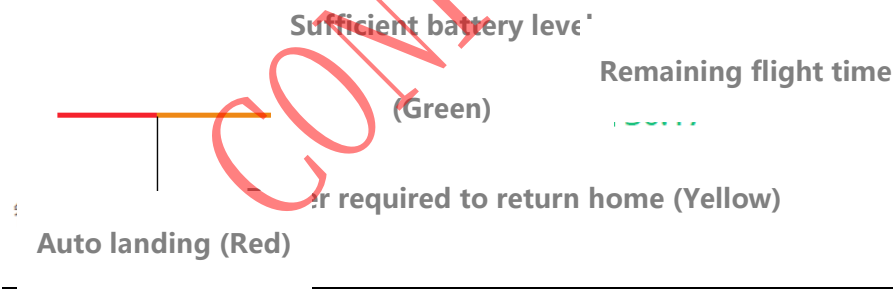
	Make sure to set appropriate RTH Altitude when creating flight task plans. The RTH should also be lower than the maximum altitude.
	The RTH feature will be disabled when the GNSS signal icon is red, or the GNSS is unavailable.

Smart RTH

Smart RTH can be triggered in DJI FlightHub 2, and cannot be cancelled once triggered.

Low Battery RTH

To avoid unnecessary danger caused by insufficient power, the aircraft will automatically calculate if it has enough power to fly to the Home Point from its current location. Flight will be interrupted and Low Battery RTH will be triggered when the Intelligent Flight Battery is depleted to the point that the safe return of the aircraft may be affected. The aircraft will land automatically if the current battery level can only support the aircraft long enough to descend from its current altitude.



Battery Level Warning	Implication	Flight
Low Battery RTH	The remaining battery level is only enough for the aircraft to fly to the dock safely.	Flight task will be interrupted and the aircraft will enter RTH. Dock landing detection will be triggered before landing.
Auto Landing	The remaining battery level is only enough for the aircraft to descend from its current altitude.	The aircraft will land automatically and dock landing detection will be triggered.
Estimated Remaining Flight Time	The estimated remaining flight time of the aircraft is based on its current battery level.	/



- The colored zones and the estimated remaining flight time on the battery level indicator are automatically adjusted according to the aircraft's current location and status.

Signal Lost RTH

Signal lost RTH is automatically enabled when the aircraft signal is lost. The action of the aircraft when the aircraft signal is lost during flight can be set to RTH or continue flight in DJI FlightHub 2. Signal Lost RTH automatically activates if the signal lost action is set as RTH.

Signal Lost RTH Procedure:

1. When Signal Lost RTH activates, the aircraft will fly to the dock on its original flight route for a maximum distance of 50 m (164 ft), during which it will try to reconnect to the dock.
2. If the aircraft cannot reconnect to the dock within 50 m (164 ft) or detects obstacles during RTH, the aircraft will enter RTH and fly to the dock. If the signal is restored and the dock reconnects to the aircraft, the aircraft will remain in RTH and fly back to the dock.

RTH Procedure

1. RTH is triggered, dock position is confirmed and the aircraft adjusts its orientation.
2. RTH:
 - a. The aircraft will fly directly to the dock if it is less than 5 m (16.4 ft) from the dock and above 20 m (65.6 ft). If it is below 20 m (65.6 ft), the aircraft will ascend to a height of 20 m before flying to the dock.
 - b. If the aircraft is farther than 5 m (16.4 ft) from the dock and above the preset RTH altitude, the aircraft will fly directly to the dock at the current altitude. If it is below the preset RTH altitude, the aircraft will ascend to the preset RTH altitude before flying to the dock.
3. The aircraft will automatically fly to the dock. Dock Landing Detection will be triggered.

Obstacle Sensing during RTH

During RTH, the aircraft can sense and avoid obstacles when the forward vision system is enabled and lighting is sufficient. The obstacle sensing procedure is as follows:

1. When the aircraft identifies obstacles in front, it will ascend to avoid the obstacles. After avoiding an obstacle, the aircraft will fly to the dock at the current altitude and land automatically.
2. If the aircraft cannot ascend to avoid the obstacle, it will hover. A prompt will appear in DJI FlightHub 2, reminding users to check actual flight environment using aircraft livestreams.



- The aircraft cannot avoid obstacles during RTH if the Forward and Downward Vision Systems are unavailable.
- During RTH, obstacles on either side of the aircraft cannot be detected or avoided.

Dock Landing Detection

Dock landing detection is activated during auto landing and is executed as follows:

1. If dock landing detection determines the dock is suitable for landing, the aircraft will land directly.
2. If the dock is not suitable for landing (fail to open dock cover, emergency stop button pressed), the aircraft will fly to the alternate landing site. If alternate landing site is not set, the aircraft will hover

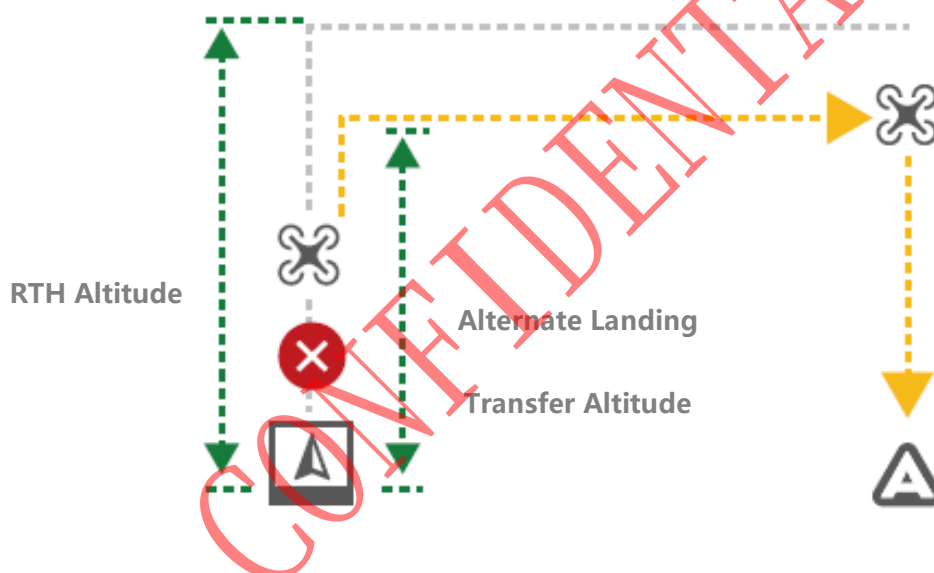
above the dock, and will start descending only when the battery level drops to 10 %.

3. If the dock landing detection is not function (dock and aircraft disconnected), or the aircraft fails to land on the dock due to bad weather, the aircraft will descend below 3 m (9.8 ft) above the ground and hover. The aircraft will fly to the alternate landing site when the battery level is less than 20 %. If alternate landing site is not set, the aircraft will hover above the dock, and will start descending only when the battery level drops to 10 %.

	● Make sure to set an alternate landing site during dock deployment. Otherwise the aircraft may crash land if the dock is not suitable for landing, damaging the aircraft and the dock.
---	---

Alternate Landing

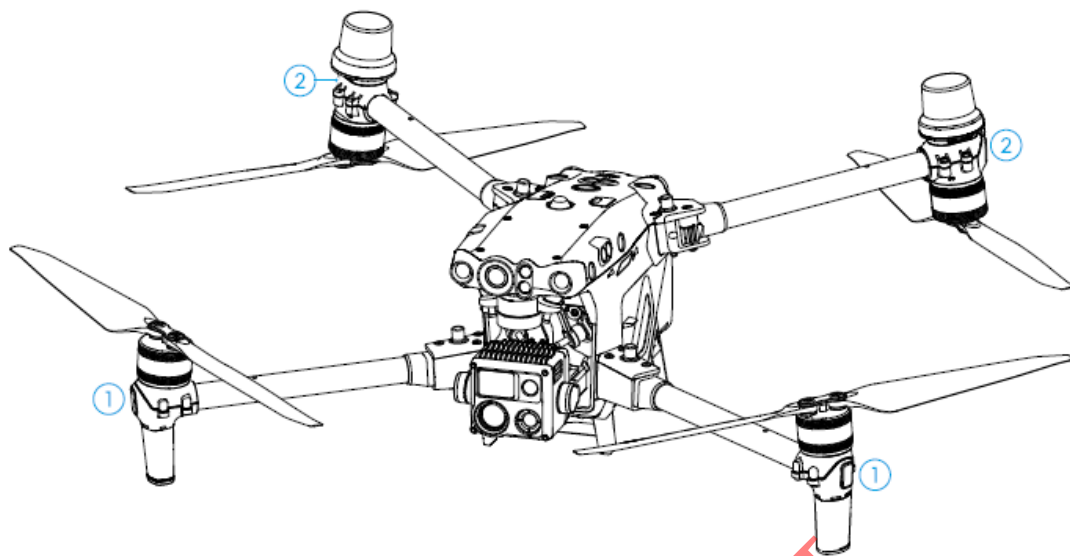
During RTH, the aircraft fly back to the dock, and Dock Landing Detection will be triggered. If the dock is determined unsuitable for landing, the aircraft will enter alternate landing. During alternate landing, the aircraft will ascend to the alternate landing transfer altitude and fly to the alternate landing site. Open DJI FlightHub 2, Click Devices > Dock > Device Maintenance to view Alternate Landing Transfer Altitude.



	● Make sure to set alternate landing site and alternate landing transfer altitude during dock deployment to ensure
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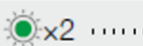
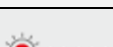
Aircraft Indicators

The aircraft has front and rear indicators.



1. Front indicators: Blinks green and red alternately to indicate the nose of the aircraft.
2. Rear indicators: Blink green to indicate the rear of the aircraft when flying. When the aircraft is powered on but not in flight, the rear indicators will show the aircraft statuses.

Refer to the table below for the different aircraft statuses.

Normal States		
	Blinks red, green, yellow in sequence twice	Powering on and performing self-diagnostic tests
	Blinks green	Only GPS is used for positioning (RTK is not used)
	Blinks green twice	Vision systems are used for positioning
	Blinks green and blue alternately	RTK enabled and RTK data is being used
	Blinks yellow slowly	Attitude mode (GNSS is not available)
Warning States		
	Blinks yellow slowly	Remote controller signal lost
	Blinks red slowly	Low battery level, takeoff is disabled *
	Blinks red quickly	
	Blinks red for five seconds **	IMU error
	Solid red	Critical error

	Blinks red and yellow alternately	Compass calibration required
	Blinks red and green alternately	RTK enabled but RTK data unavailable

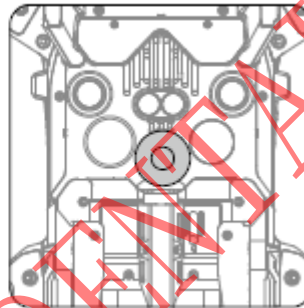
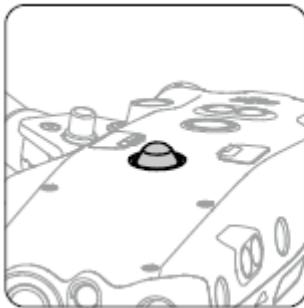
* If the aircraft cannot takeoff while the rear indicator is blinking red slowly, open DJI FlightHub 2 Project page and check the device status.

** when performing CSC after the remote controller takes control.

Beacon and Auxiliary Light

Beacon

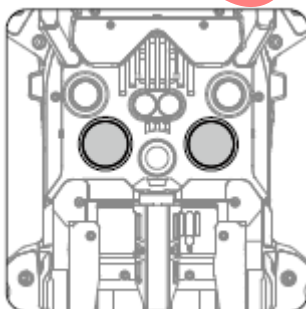
The upward and downward beacons on the aircraft enable you to find the aircraft when flying at night. The beacons can be manually turned on/off in DJI FlightHub 2 > Devices > Dock > Device Maintenance.



	DO NOT look directly at the beacon when it is in use to avoid damaging your eyes.
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Auxiliary Light

The auxiliary light located at the bottom of the aircraft will automatically turn on in poor light conditions to assist the downward vision system.

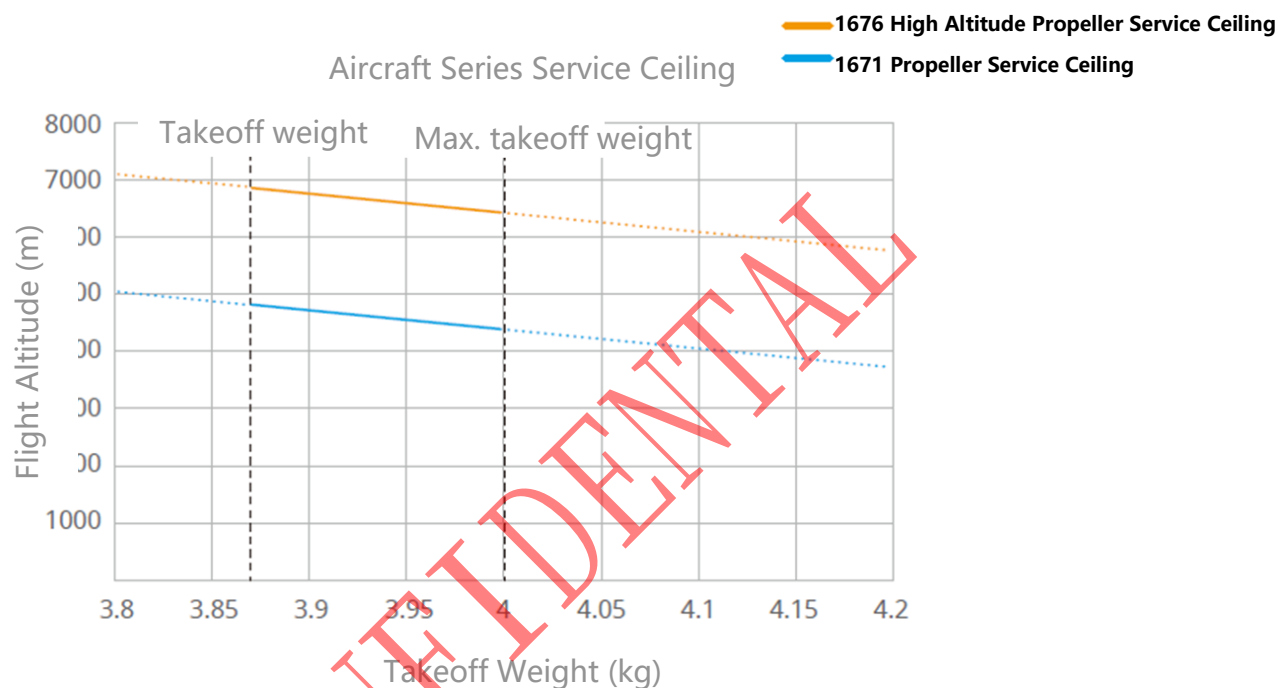


	The auxiliary light will automatically turn on in low-light environments when the flight altitude is under 5 m. Note that the positioning performance of the vision systems may be affected.
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Propellers

Using the Propellers

The Matrice 30 Series Dock Version aircraft supports both the 1671 Propeller and the 1676 High Altitude Propeller (excluded). Refer to the diagram below to choose the appropriate propellers according to the aircraft takeoff weight and the expected maximum flight altitude. The service ceiling is the theoretical maximum altitude that the aircraft can fly at normally, on the condition that the wind speed does not exceed 15 m/s when flying and 12 m/s when taking off or landing. The aircraft braking and acceleration capabilities will be reduced when flying near the service ceiling. Use the 1676 High Altitude Propeller when flying at altitudes higher than 3,000 m (9,842.5 ft) above sea level.

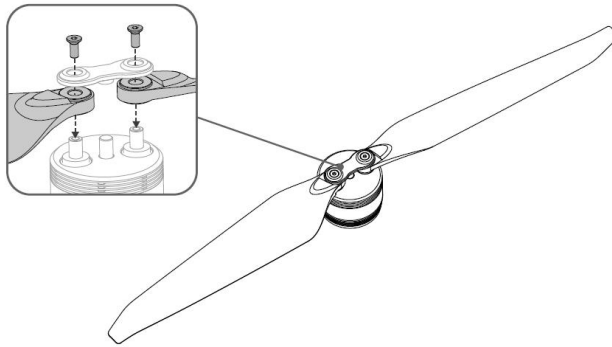


	- Using high altitude propellers for extended periods may reduce motor life. Comparing with the ordinary propellers, if high altitude propellers are used to fly at altitudes lower than 3,000 m (9,842.5 ft) above sea level, the motor temperature rises higher, which may reduce motor life or even damage it. Therefore, use high altitude propellers only at the recommended altitude or under suitable working conditions. - Only use official DJI propellers. DO NOT mix propeller types. - Propellers are consumable components. Purchase additional propellers if necessary. - Make sure that propellers are unfolded and firmly tightened before placing the aircraft on the dock. - Make sure that all propellers are in good condition placing the aircraft on the dock. DO NOT use aged, chipped, or broken propellers. - Power off the aircraft before touching the propellers. - To avoid injury, stay away from rotating propellers or motors. - The dock Air Conditioning System will start heating before each flight where the surrounding temperature is approximately 0° C (32° F) or below to prevent the propellers from freezing. Return to the dock and land the aircraft as soon as possible if a motor overload warning prompt appears in DJI FlightHub 2.
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Replacing the Propeller Blades

Use the H2.0 hex key to replace the propellers.

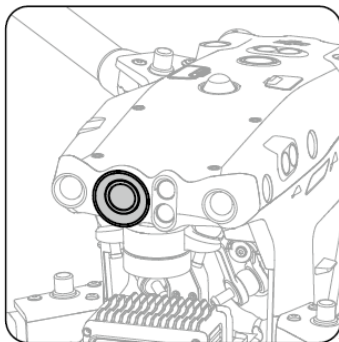
It is advised to only replace the propellers in the case of emergencies during outdoor operations. After operating, contact DJI Support or an authorized dealer for maintenance as soon as possible.



- The propeller blades are sharp. Handle with care.

FPV Cameras

The Matrice 30 Series Dock Version aircraft is equipped with a starlight FPV camera, which can optimize images in poor lighting conditions at night. Users can view real-time flight information in DJI FlightHub 2 via the FPV camera.

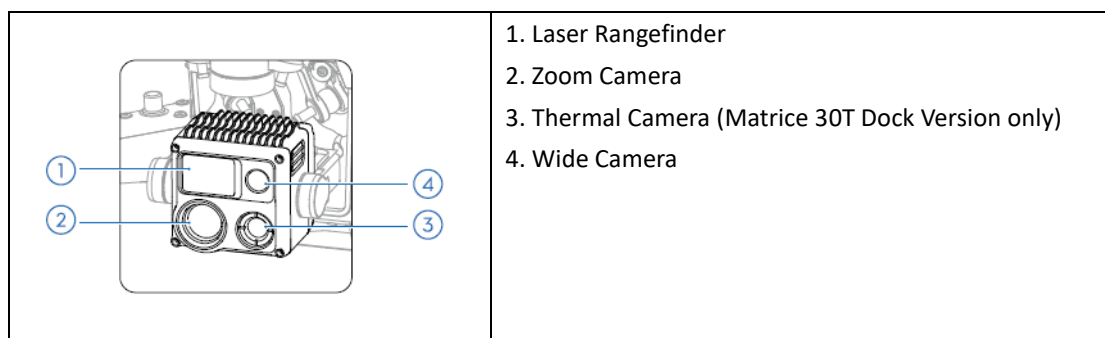


Gimbal Cameras

Both Matrice 30 and Matrice 30T Dock Version feature a laser range finder, a zoom camera, and a wide camera. The laser range finder can provide the location and distance information of a target during inspections or search-and-rescue operations. The zoom camera and the wide-angle camera, which enable users to quickly switch to a highly magnified zoom view for detailed observation after recognizing a target in the wide-angle camera view. Matrice 30T Dock Version is also equipped with a long-wave infrared thermal imaging camera, which can shoot thermal images.

The zoom camera features lens defogging. After powering on, the zoom camera will automatically heat the zoom lens for 5 s to dissipate the moisture on the lens.

The thermal camera features sunburn protection. When the camera detects direct sunlight, the infrared shutter will be automatically turned off to protect the infrared sensors.



	Due to the characteristics of the infrared sensor, the infrared sensor may be burnt before sunburn protection is triggered. DO NOT expose the infrared camera lenses to strong sources of energy such as the sun, lava, or a laser beam. Otherwise, the camera sensor may be burned leading to permanent damage.
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Camera Operations

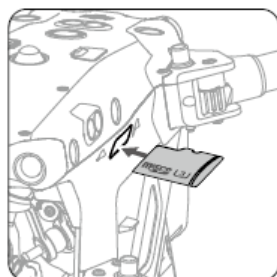
Users can designate waypoint actions when planning flight routes in DJI FlightHub 2. The aircraft will automatically hover, adjust the gimbal tilt mode, photo-shooting, video-recording according to the waypoint action during flight. Waypoints and waypoint actions can be edited in FPV View, achieving what you see is what you get. Refer to DJI FlightHub 2 User Guide for more details.

Camera Livestreams

Aircraft livestreams can be activated in DJI FlightHub 2 to view real-time flight information. Users can switch to different camera views or start recording in aircraft livestream view. The recorded video will automatically be stored to Media Files. Refer to Device Real-Time Information for details.

Storing Media Files

A 32 GB microSD card is in the microSD card slot when shipped. The aircraft supports microSD cards with a maximum capacity of up to 128 GB. To ensure that the camera can quickly read and write data for HD video recording, use a microSD card with UHS Speed Class 3 or above and a write speed greater than 30 MB/s.



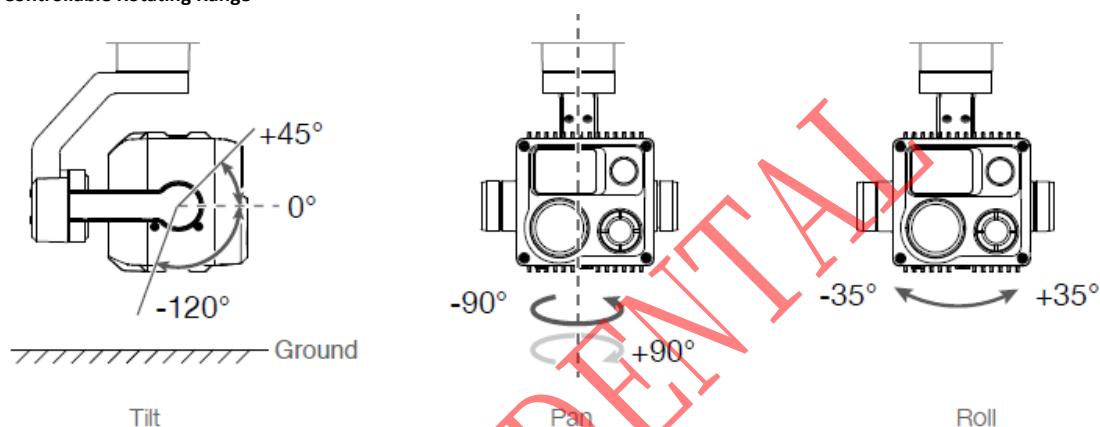
	- The following microSD cards are recommended: - Lexar 667x U3 A2 Class10 32G/64G/128G - Lexar 1066x U3 A2 V30 32G/64G/128G - SanDisk Extreme PRO U3 A2 V30 32G/64G/128G - SanDisk Extreme U3 A2 V30 32G/64G/128G
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	• The images and videos will be automatically uploaded to DJI FlightHub 2 after each flight task. Open DJI FlightHub 2 Project page and click  > Media Files to view the uploaded files. • To ensure the stability of the camera system, single video recordings are limited to 30 minutes. If the recording time exceeds 30 minutes, the video recording will stop.
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Gimbal

The 3-axis gimbal stabilizes the camera, allowing you to capture clear and steady images and videos when in flight. Refer to the figure below for the tilt, pan, and roll range of the gimbal.

Controllable Rotating Range

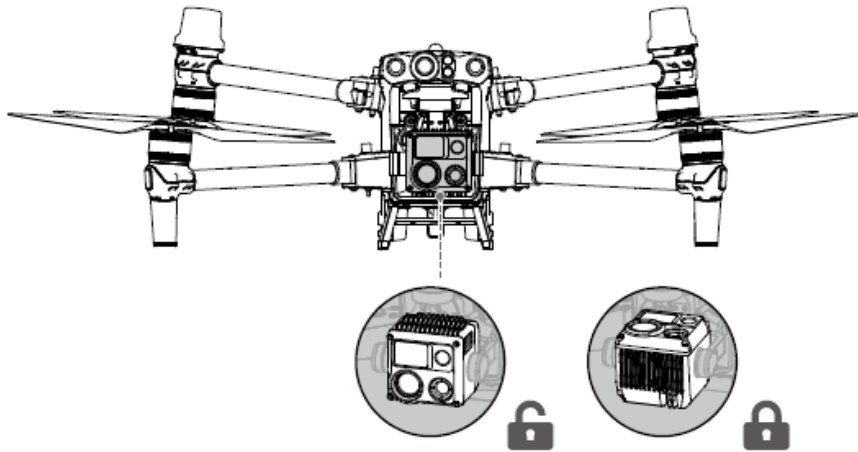


	• Precision elements in the gimbal may be damaged by a collision or impact, which may cause the gimbal to function abnormally. • DO NOT add any extra payload to the gimbal as this may cause the gimbal to function abnormally or even lead to permanent motor damage.
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Gimbal Lock

Rotate the gimbal tilt down to 0° to unlock the gimbal before use.

It is recommended to rotate the gimbal tilt up to $+90^\circ$ to lock the gimbal before transporting the aircraft.



Setting Gimbal Actions

The gimbal pitch angle, yaw angle at each waypoint can be set in DJI FlightHub 2 when editing a flight route. Refer to DJI FlightHub 2 User Guide for more details.

Aircraft RTK

The built-in RTK module of the aircraft can withstand strong magnetic interference from metal structures and high-voltage lines, ensuring safe and stable flights. More accurate positioning data can be obtained, when used with the dock built-in RTK module, allowing precise flight route and precision landing.



- After launching a task plan in DJI FlightHub 2, the aircraft will take off after the aircraft RTK position is converged and the RTK icon becomes white.

IP Rating of the Aircraft

- Under stable laboratory conditions, the Matrice 30/30T Dock Version aircraft achieves an IP55 protection rating by IEC 60529 standards when equipped with TB30 Intelligent Flight Batteries. The protection rating is not permanent, however, and may lower over an extended period.
 - DO NOT fly when the amount of rainfall exceeds 100 mm in 24 hours.
 - DO NOT fold the frame arms in the rain. Make sure the aircraft is free of any liquid by wiping it carefully before storing in the carrying case.
 - Make sure the battery ports, battery compartment ports, battery surfaces, and battery compartment surfaces are dry before inserting the batteries.
 - The product warranty does not cover water damage.
- The aircraft does not achieve IP55 protection rating in the following circumstances:
 - Frame arms are folded.
 - Batteries other than the TB30 Intelligent Flight Batteries are used.
 - The cover for the ports are not attached correctly.
 - The waterproofing top shell plug is not firmly attached to the top shell.
 - The DJI Cellular dongle installation bracket is not firmly installed.
 - The remote controller has suffered other damage such as a cracked shell or compromised waterproof adhesive.
- The aircraft body is made of flame-retardant materials to improve safety. As such, the body surface may become discolored

after long-term use. However, such color change does not affect the performance and IP rating of the aircraft.

Intelligent Flight Battery

The TB30 Intelligent Flight Battery is equipped with high-energy battery cells and uses an advanced battery management system to power the aircraft. The firmware for the Intelligent Flight Battery is included in the aircraft firmware. Make sure the firmware of all intelligent flight batteries is updated to the latest version.

Battery Features

The TB30 battery has the following features:

1. **Battery Level Display:** The battery level LEDs display the current battery level.
2. **Battery self-discharge** will be triggered if the battery level is higher than 50 %. Discharging the battery level to 50 % can extend battery life.
3. **Balanced Charging:** During charging, the voltages of the battery cells are automatically balanced.
4. **Overcharge Protection:** The battery stops charging automatically once fully charged.
5. **Temperature Detection:** To prevent damage, the battery only charges when the temperature is between 10° and 44° C (50° and 111.2° F).
6. **Overcurrent Protection:** The battery stops charging if an excess current is detected.
7. **Over-Discharge Protection:** During flight, to ensure flight safety and allow users to have as much time as possible to deal with emergencies, over-discharge protection is disabled to allow continuous output. The aircraft will intelligently determine whether to perform RTH or to land based on current flight battery level. When charging, an over-discharged battery may be a fire hazard. To prevent this, the battery will be locked and can no longer be charged or used.
8. **Short Circuit Protection:** The power supply is automatically cut if a short circuit is detected.
9. **Battery Cell Damage Protection:** The app will display a warning prompt when a damaged battery cell is detected.
10. **Hibernation Mode:** The battery will be in Hibernation mode when not in use to save power.
11. **Communication:** Information about the voltage, capacity, and current of the battery is transmitted to the aircraft.
12. **Heating:** The feature ensures the battery operates normally at a low temperature. Refer to the “Warming the Battery” section for details.
13. **Waterproofing and Dustproofing:** After being installed in the aircraft, the battery meets the IP55 rating standards.

	• Refer to the Safety Guidelines and this manual on the battery before use. Users shall take full responsibility for all operations and usage. • If only one battery is usable after takeoff, land the aircraft promptly and replace the batteries. • Use batteries provided by DJI. Do not use other batteries. • DO NOT drop or strike the battery. DO NOT place heavy objects on the battery. • Always use a clean, dry cloth when cleaning the battery terminals before inserting the battery into the aircraft to reduce the risk of connection failure.
---	---

Using the Battery

Using Paired Batteries

Charge and discharge the two batteries together to optimize flight performance and maximize battery life.

After the batteries are inserted and the aircraft is powered on, if there is a huge difference between their battery life, DJI FlightHub 2 will display a prompt alerting the user to such condition of the batteries. It is recommended to replace them with batteries with similar performance before use.

Checking the Battery Information

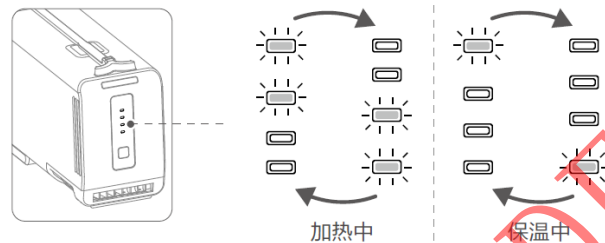
There are two paths to view the battery information in DJI FlightHub 2.

1. Open Project page, click  >  to view the battery level and battery status.
2. Open Devices page, click Dock >  to view the battery level and battery temperature, battery cycles and other information.

Warming the Battery

The battery has a built-in self-heating feature for when operating in low-temperature conditions:

1. When the battery temperature is lower than 18° C (64.4° F), self-heating starts once it is inserted into the aircraft and powered on. Self-heating will turn off automatically after aircraft takeoff. When the battery temperature is lower than 10° C (50° F), the aircraft will not take off. Flight tasks will start after the battery is warmed up.
2. If the battery is not inserted in the aircraft, press and hold the power button for 5 seconds to initiate self-heating. This keeps the battery at a temperature between 15° and 20° C (59° and 68° F) for approximately 30 minutes. Press and hold the power button for 5 seconds to stop self-heating.
3. The battery level LEDs will blink as follows when the battery is warming up and keeping warm.



Dock Warming

In low-temperature environments, the dock can automatically warm the Intelligent Flight Batteries. If the aircraft is powered off and is idle, the dock will constantly warm the batteries to keep the battery temperature above 10° C (50° F), so that the aircraft is able to take off at any time in cold regions.

Operating Mode

DJI FlightHub 2 provides two operating mode (Planning Mode and Standby Mode) for users to meet different scenerios.

Planning Mode is suitable for regular and scheduled flight tasks. Under Planning Mode, the dock will intelligently adjust the battery level and inboard temperature to prolong battery life. Batteries will be charged before the scheduled flight task.

Standby Mode is suitable for emergency flight tasks. Under Standby Mode, the dock will charge the the batteries to maintain high power level at all times to ensure the aircraft is able to take off at any time.

Switching Operating Mode: Open DJI FlightHub 2 Project page, click  >  > Action to switch to different operating mode.

	● Battery level may be low under Planning Mode.If the Timer is selected as Immediate, the aircraft cannot take off until battery charging is complete. ● Maintaining high power level in Standby Mode will affect battery life. It is recommended to select Planning Mode if there is no need to take off at any time.
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Charging and the Battery and Battery Maintenance

Charging the Battery

If the aircraft charging interface is properly connected after landing, the dock will charge the Intelligent Flight Battery automatically based on flight task plans. The charging temperature range of the TB30 battery is 10° and 44° C (50° and 111.2° F). Charging will begin after the battery temperature reaches the charging temperature range. In this case, the charging time will be extended.

Open DJI FlightHub 2 Project page, click  >  > Action. Enable Remote Operations and click Charging to begin charging the battery.

	● Battery charging can also be triggered in Device Operation and Maintenance page. Refer to Remote Operations section for details.
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Battery Maintenance

The Intelligent Flight Battery will conduct intelligent self-evaluation and prompt the user on DJI FlightHub 2 to perform capacity calibration or battery maintenance when required. open DJI FlightHub 2 Devices page, Click Dock >  > Maintenance, the dock will perform battery maintenance automatically. The maintenance process will take a long time, and battery maintenance will be interrupted if the dock receives a flight task during this process.

	● Battery performance will be affected if the battery is not maintained for an extended period. ● The battery contains hazardous chemicals, DO NOT place the battery in regular waste disposal containers. Strictly follow your local regulations regarding the disposal and recycling of batteries. ● If the batteries are swollen, involved in a crash, come into contact with liquid, damaged, or leaky, DO NOT dispose the battery in a battery recycling box directly. Contact a professional battery recycle company for assistance.
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Enhanced Transmission

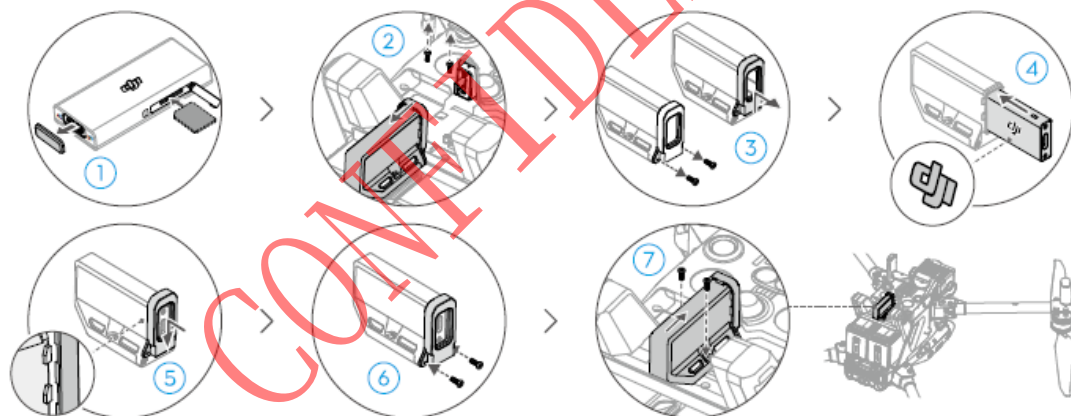
Matrice 30 Series Dock Version aircraft features Enhanced Transmission, combining O3 Enterprise and 4G network transmission. Enhanced transmission is able to select the optimal transmission link between 4G link and O3 transmission link based on O3 transmission quality and 4G data consumption. 4G link can work independently when O3 transmission link disables, allowing the aircraft to deal with complex environment and ensure safe flight.

To enable Enhanced Transmission, the aircraft is required to install DJI Cellular Dongle and SIM card (both are excluded), and the dock is required to access to wired network or 4G wireless network.

Mounting the DJI Cellular Dongle

Mount the DJI Cellular Dongle to the aircraft according to the following steps:

1. Make sure the SIM card (excluded) is inserted to DJI Cellular Dongle in the proper direction. Remove the rubber covers of the antenna port.
2. Loosen the screws on the DJI Cellular Dongle mounting bracket using a Phillips screwdriver and keep the screws. Then remove the bracket.
3. Loosen the screws on the bracket cover. Slide upward to remove the bracket cover.
4. Insert the DJI Cellular Dongle into the bracket. Make sure the USB-C port of the dongle is facing the bracket cover.
5. Align the bracket cover, slide downward to align the screw holes.
6. Tighten the screws of the bracket cover.
7. Align and insert the bracket to the USB-C port at the bottom of the aircraft, and tighten the screws.



- The DJI Cellular dongle only supports nanoSIM cards and does not support eSIM cards. According to the personal real name requirements, the SIM card needs to be purchased with the user's real name and activated with real name.
- It is strongly recommended to purchase a SIM card that supports 4G network from the official mobile network provider.
- DO NOT use an IoT (Internet of Things) card, otherwise the quality of video transmission will be seriously affected.
- DO NOT use a SIM card provided by the virtual mobile network provider, otherwise it may lead to inability to connect to the Internet.
- DO NOT cut the SIM card by yourself, otherwise the SIM card may be damaged, or the rough edges and corners may cause the SIM card to be unable to be inserted or removed smoothly.

	● If the SIM card is set with a password (PIN code), make sure to cancel the PIN code setting by inserting into the mobile phone, otherwise it will lead to inability to connect to the Internet. ● DO NOT insert or remove the SIM card after powering on the DJI Cellular dongle. ● DJI may stop the enhanced video transmission service at any time in compliance with local laws and regulations. Ending enhanced video transmission service does not affect other network features of the DJI Cellular Dongle.
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Enabling Enhanced Transmission

After the aircraft and the dock are connected using 4G link, Enhanced Transmission can be enabled in DJI FlightHub 2.

1. Open DJI FlightHub 2 Project page, click  >  > Action, and turn on/off enhanced transmission after enabling remote operations.
2. Open DJI FlightHub 2 Devices page, click Dock > Monitor and Maintain Device, turn on/off enhanced transmission after enabling remote operations.

	● Pay close attention to the image transmission quality and signal strength after enabling enhanced transmission. Fly with caution.
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Appendix

Aircraft Settings Using the Remote Controller

It is recommended to link the remote controller to the aircraft and set the remote controller B during on-site flight tests. Users can modify aircraft settings using the remote controller based on actual needs.

1. Run DJI Pilot 2, tap Enter Camera View on the homepage. And you will be directed to FPV Camera View by default after finishing the preflight check.

Tap  on the upper-right to modify aircraft settings of each module:

- a.  Sensing System: Set horizontal and vertical obstacle braking distance and the warning distance. Default values are recommended.
 - b.  RTK module: Enable Maintain Positioning Accuracy mode.
2. After the remote controller gain control over the gimbal camera, tap "CAM" on the bottom-right corner, and then tap "Infrared" on the bottom-left corner to switch to Thermal Camera View.
Palette displays the highest and lowest temperature measurement values of the current view. Tap to choose between different infrared temperature measurement palettes.

Firmware Update

Using DJI FlightHub 2

1. Power on the aircraft and the dock. Ensure the aircraft is linked to the dock, and the battery level of the aircraft is higher than 25 %.
2. Open DJI FlightHub 2, and click Devices > Dock.
3. Click Update, and a window will pop up indicating the firmware version and updates.
4. Select the multiple boxes on the left to upgrade device firmware in batches. DJI FlightHub 2 will update device firmware in the sequence displayed on the page.
5. Click "Update", the firmware will be downloaded automatically.
6. The firmware of both the dock and the aircraft will be updated simultaneously. If the aircraft is in the dock cabin, only the dock firmware will be updated.
7. The aircraft and the dock will restart automatically after the firmware update is done.

	• Make sure DJI FlightHub 2 is connected to the internet during the whole update process.
	• The Intelligent Flight Battery installed on the aircraft will be updated to the latest firmware version. • Users cannot operate the aircraft or the dock during firmware update. The aircraft and the dock will become available after the update is completed or cancelled. • Disabled enhanced transmission in DJI FlightHub 2 before firmware update.

Using DJI Assistant 2 (Enterprise Series)

Make sure that the computer is connected to the internet and that the device has sufficient power before updating the firmware. The aircraft firmware update follows the same steps as those of the dock firmware update. Take the dock firmware update as an example:

1. Open the electric distribution cabinet and power on the dock. Connect the computer to the USB-C port of the dock.
2. Launch DJI Assistant 2 and log in with a DJI account.
3. Select "DJI Dock". Tap the firmware update button on the left side.

4. Select the firmware version and tap to update. The firmware will be downloaded and updated automatically.
5. When the “Update successful” prompt appears, the update is completed, and the DJI device will restart automatically.

* MAC version is not supported for the moment.

	• Connect the dock or the aircraft to a computer separately, as the assistant software does not support updating multiple DJI devices at the same time. • DO NOT disconnect the dock and the computer during firmware update. • Do not use other Hardware and Software than specified by the manufacturer.
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Access to a 3rd Party Cloud Platform

Based on on-cloud API, DJI Dock can connect to third-party platforms for private deployment, allowing users to build customized a management system. Visit <https://developer.dji.com/cn/cloud-api/> for more details.

Users can bind the dock to a 3rd party cloud platform using DJI Pilot 2 App when deploying the dock. Refer to Installation and Setup Manual for details.

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Specifications

Dock

General	
Product Name	DJI Dock
Total weight	105 kg (excl. aircraft)
Dimensions	Dock cover opened (excl. anemometer module): 1675×885×735 mm (L×W×H) Dock cover closed (excl. anemometer module): 800×885×1065 mm (L×W×H)
Input Current	Max. 15 A
Input Voltage	100-240 VAC, 50/60 Hz
Input Power	Max. 1,500 W
Operating Temperature	-35° to 50° C (-31° to 122° F)
IP Rating ^[1]	IP55
Number of Drones Accommodated	1
Max Allowable Landing Wind Speed	12 m/s
Max Operating Altitude	4,000 m
Max Operating Radius	7,000 m
Receiving Frequency of RTK Base Station Satellite	Simultaneously receive: GPS: L1 C/A, L2 BeiDou2: B1I, B2I, B3I BeiDou3: B1I, B3I GLONASS: L1, L2 Galileo: E1, E5B
RTK Positioning Accuracy (fixed RTK enabled)	2 cm+1 ppm (horizontal) 2 cm+1 ppm (vertical)
Charging Performance	
Output Voltage	26.1 VDC
Output Current	Max. 24 A
Output Power	Max. 626 W
Charging Time ^[2]	Approx. 25 min
Video Transmission	
Video Transmission System	O3 Transmission Enterprise Edition
Operating Frequency	2.400-2.4835 GHz; 5.725-5.850 GHz
Max Transmission Distance (Unobstructed, free of interference)	15 km (FCC); 8 km (CE/SRRC/MIC)

Data Security	AES-256
Antennas	4 antennas, 2T4R
	2.4 GHz: <30 dBm (FCC)
	<20 dBm (CE/SRRC/
Transmitter Power (EIRP)	MIC) 5.8 GHz: <30 dBm (FCC)
	<23 dBm (SRRC)
	<14 dBm (CE)

Air Conditioning System

Operating Voltage	48 VDC
Air Conditioning Type	TEC Air Conditioning

Backup Battery

Battery Capacity	12 Ah
Output Voltage	24 V
Battery Type	Lead-acid battery
Backup Battery Life	> 5 hours

Network Access

Ethernet Access	10/100/1000Mbps Adaptive Ethernet port
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Integrated Security Camera (On Cover)

Resolution	1920×1080
Field of View (FOV)	180°
Auxiliary Lights	Auxiliary White Light

Lightning Protection

AC Power Port	40 KA Protection
Ethernet Port	1.5 KA Protection

Supported Software

Applications	DJI Pilot 2 (connects to DJI Dock via DJI RC Plus for configuration and commissioning)
Cloud Platform	DJI FlightHub 2
	3rd Party Platforms through DJI Cloud API

Expansion Capability

Open Protocol	DJI Cloud API
Edge Computing	Internal power supply, data interface, and installation space.

[1] This protection rating is not permanent and may reduce over time after long-term use due to aging and wear.

[2] The ambient temperature is 25°C (77° F), and the aircraft is charged from 10 % to 90 %.

Matrice 30 Series Dock Version Aircraft

General	
Dimensions (unfolded, excl. propellers)	470×585×246 mm (L×W×H)
Dimensions (folded)	365×215×226 mm (L×W×H)
Diagonal Wheelbase	668 mm
Weight (incl. two batteries, excl. DJI Cellular Dongle)	3,870 ± 10 g
Max Takeoff Weight	3,998 g
Operating Frequency ^[1]	2.4000-2.4835 GHz, 5.725-5.850 GHz
Transmitter Power (EIRP)	2.4 GHz: <33 dBm (FCC); <20 dBm (CE/SRRC/MIC) 5.8 GHz: <33 dBm (FCC/SRRC); <14 dBm (CE)
Hovering Accuracy (windless or breezy)	Vertical: ±0.1 m (Vision System enabled); ±0.5 m (N-mode with GPS); ±0.1 m (RTK) Horizontal: ±0.3 m (Vision System enabled); ±1.5 m (N-mode with GPS); ±0.1 m (RTK)
RTK Positioning Accuracy (fixed RTK enabled)	1 cm+1 ppm (horizontal) 1.5 cm+1 ppm (vertical)
Max Angular Velocity	Pitch: 150°/s; Yaw: 100°/s
Max Tilt Angle	35° (N-mode and Forward Vision System enabled: 25°)
Max Ascent/Descent Speed	6 m/s; 5 m/s
Max Tilt Descent Speed	7 m/s
Max Horizontal Speed	23 m/s
Max Service Ceiling Above Sea Level (without other payload)	5,000 m (with 1671 propellers) 7,000 m (with 1676 propellers)
Max Wind Resistance	15 m/s 12 m/s during taking off and landing
Max Hover Time ^[2]	35 min
Max Flight Time ^[2]	40 min
Motor Model	3511
Propeller Model	1671 1676 High Altitude (not included)
Ingress Protection Rating ^[3]	IP55
GNSS	GPS+Galileo+BeiDou+GLONASS (GLONASS is supported only when RTK module is enabled)
Operating Temperature	-20° to 50° C (-4° to 122° F)
Gimbal	
Angular Vibration Range	±0.01°
Controllable Range Pan:	±90°, Tilt: -120° to +45°

Mechanical Range Pan:	±105°, Tilt: -135° to +60°, Roll: ±45°
Zoom Camera	
Sensor	1/2" CMOS, Effective pixels: 48M
Lens	Focal length: 21-75 mm (equivalent: 113-405 mm) Aperture: f/2.8-f/4.2 Focus: 5 m to ∞
Exposure Compensation	±3 ev (using 1/3 ev as step length)
Electronic Shutter Speed	Auto Mode: Photo: 1/8000-1/2 s Video: 1/8000-1/30 s M Mode: Photo: 1/8000-8 s Video: 1/8000 -1/30 s
ISO Range	100-25600
Max. Video Resolution	3840×2160
Max Photo Size	8000×6000
Wide Camera	
Sensor	1/2" CMOS, Effective pixels: 12M
Lens	DFOV: 84° Focal length: 4.5 mm (equivalent: 24 mm) Aperture: f/2.8 Focus: 1 m to ∞
Exposure Compensation	±3 ev (using 1/3 ev as step length)
Electronic Shutter Speed	Auto Mode: Photo: 1/8000-1/2 s Video: 1/8000-1/30 s M Mode: Photo: 1/8000-8 s Video: 1/8000-1/30 s
ISO Range	100-25600
Max. Video Resolution	3840×2160
Photo Size	4000×3000
Thermal Camera	
Thermal Imager	Uncooled VOx Microbolometer
Lens	DFOV: 61° Focal length: 9.1 mm (equivalent: 40 mm) Aperture: f/1.0 Focus: 5 m to ∞
Infrared Temperature Measurement Accuracy ^[4]	±2°C or ±2% (using the larger value)
Video Resolution:	Infrared Image Super-resolution Mode: 1280×1024 Normal Mode: 640×512
Photo Size	Infrared Image Super-resolution Mode: 1280×1024 Normal Mode: 640×512

Pixel Pitch	12 μm
Temperature Measurement Method	Spot Meter, Area Measurement
Temperature Measurement Range	High Gain Mode: -20° to 150° C (-4° to 302° F) Low Gain Mode: 0° to 500° C (32° to 932° F)
Temperature Alert	Supported
Palette	White Hot/Black Hot/Tint/Iron Red/Hot Iron/Arctic/Medical/ Fulgurite/Rainbow 1/Rainbow 2
FPV Camera	
Resolution	1920×1080
DFOV	161°
Frame Rate	30 fps
Laser Module	
Wavelength	905 nm
Max Laser Power	3.5 mW
Single Pulse Width	6 ns
Measurement Accuracy	$\pm (0.2 \text{ m} + D \times 0.15\%)$ D is the distance to a vertical surface
Measuring Range	3-1,200 m (0.5×12 m vertical surface with 20% reflectivity)
Vision Systems	
Obstacle Sensing Range	Forward: 0.6-38 m Upward/Downward/Backward/Sideward: 0.5-33 m
FOV	65° (H), 50° (V)
Operating Environment	Surfaces with clear patterns and adequate lighting (> 15 lux)
Infrared Sensing Systems	
Obstacle Sensing Range	0.1-10 m
FOV	30°
Operating Environment	Large, diffuse, and reflective obstacles (reflectivity >10%)
TB30 Intelligent Flight Battery	
Capacity	5880 mAh
Voltage	26.1 V
Battery Type	Li-ion 6S
Energy	131.6 Wh
Net Weight	Approx. 685 g
Operating Temperature	-20° to 50° C (-4° to 122° F)
Storage Temperature	20° to 30° C (68° to 86° F)
Charging Temperature	-20° to 50° C (-4° to 122° F) (The battery starts self-heating at low temperature, and the dock air-conditioning system begins cooling at high temperature.)
Chemical System	LiNiMnCoO ₂
Auxiliary Lights	
Effective Illumination Distance	5 m
Illumination Type	60 Hz, solid glow

[1] 5.8 and 5.1GHz frequencies are prohibited in some countries. In some countries, the 5.1GHz frequency is only allowed for use indoors.

[2] The maximum flight time was tested in a lab environment and is for reference only.

[3] This protection rating is not permanent and may reduce over time after long-term use due to aging and wear.

[4] The infrared temperature measurement accuracy was tested in a lab environment and is for reference only.

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