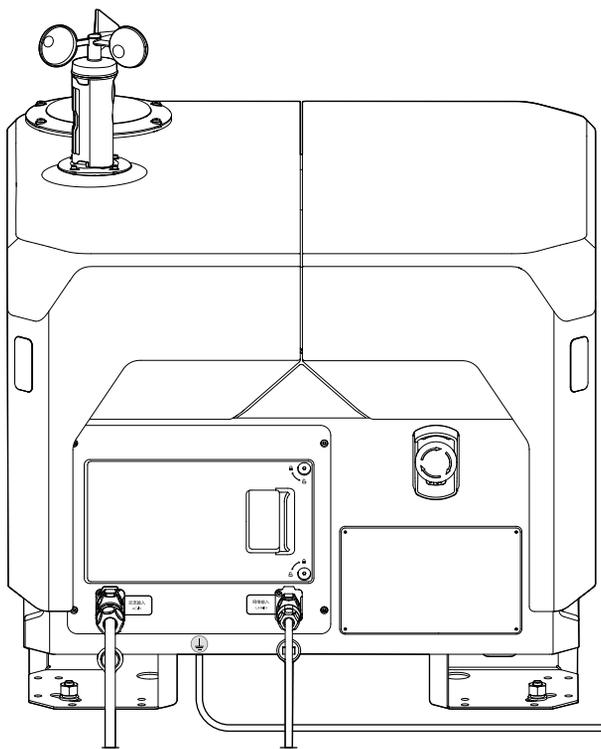# DJI DOCK 2

Installation and Setup Manual

v2.0　2024.08

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🔍 **Searching for Keywords**

Search for keywords such as Battery or Install to find a topic. If you are using Adobe Acrobat Reader to read this document, press Ctrl+F on Windows or Command+F on Mac to begin a search.

🖑 **Navigating to a Topic**

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

🖨 **Printing this Document**

This document supports high resolution printing.

Revision Log

Version	Date	Revisions
v2.0	2024.08	Added instructions for 4G Enhanced Transmission, Multi-Dock Task, and Trial Flight.

Using this Manual

Legends

⚠ Important   ☼ Hints and Tips

Read Before Use

DJI™ provides users with the following documents.

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

It is recommended to watch all the tutorial videos and read the Installation and Setup Manual to understand the safety precautions and construction preparations before installation. Read the Safety Guidelines to understand important safety matters. Read the Quick Installation Guide and the User Guide of the aircraft to complete on-site installation, configuration, and first flight test. Refer to the User Manual for more information.

Video Tutorials

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

https://enterprise.dji.com/dock-2/**video**

⚠   • The operating temperature of the dock is -25° to 45° C (-13° to 113° F) and the aircraft is -20° to 45° C (-4° to 113° F). [1] It does not meet the standard operating temperature for military-grade application (-55°to 125° C/-67° to 257° F), which is required to endure greater environmental variability. Appropriately use the product for applications that meet the operating temperature range requirements of that grade.

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[1] When the temperature is below -20° C (-4° F), the aircraft cannot perform flight tasks.

Contents

Product Profile

DJI Dock 2 is an automated platform with a highly integrated design, including an RTK module, wind speed gauge, rainfall gauge, multiple security cameras, communication antennas, and more. The dock can be transported by two individuals and supports quick installation and configuration. With the DJI MATRICE™ 3D Series aircraft [1], DJI FLIGHTHUB™ 2 can be used to perform automated operations remotely. In addition, DJI Dock 2 supports multi-dock tasks where the aircraft will take off from one dock and land in another dock, allowing for flight tasks in large areas with long distances. [2]

[1] Various aircraft models of DJI Matrice 3D series (sold separately) may be equipped with different cameras. Refer to the actual product purchased.

[2] To perform a multi-dock task, purchase multiple docks as needed. Make sure to update the docks, aircraft, and remote controller to the latest firmware version. Go to the Installation and Setup Manual to refer to the Multi-Dock Task section before installing and configuring the docks.
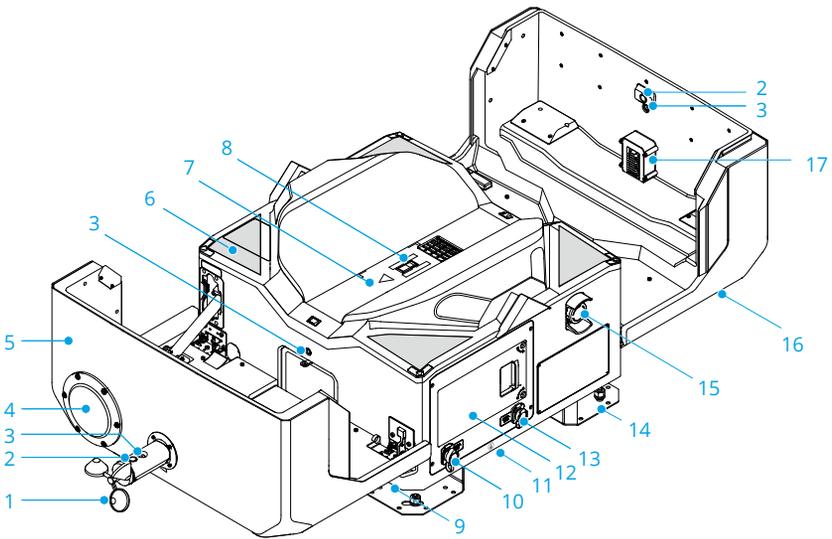
1. Wind Speed Gauge
2. Security Camera
3. Camera Auxiliary Light
4. Rainfall Gauge
5. Dock Cover
6. Positioning Markers
7. Landing Pad
8. Aircraft Orientation Marker [1]
9. Carrying Points
10. AC-IN Port
11. Earth Wire (located underneath the dock)
12. Electrical Cabinet
13. LAN-IN Port
14. Mounting Base Brackets
15. Emergency Stop Button [2]
16. Status Indicators
17. Dongle Compartment
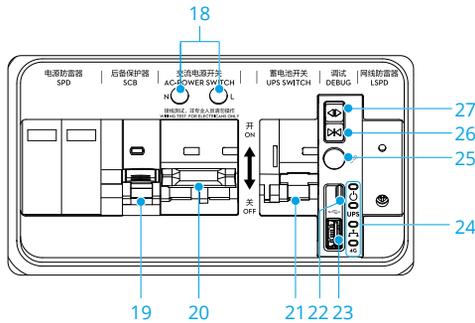
18. Wire Testing Terminals
19. Surge Protector Circuit Breaker (SCB)
20. AC Power Switch
21. Backup Battery Switch
22. USB-C Port
23. USB-A Port
24. Electrical Cabinet Indicators
25. Link Button
26. Close Button [3]
27. Open Button [3]

⚠ **[1] DJI Dock comes with a built-in charging module. Make sure that the landing pad surface is clear of any metal objects in order to avoid high temperatures that may damage the landing pad.**

[2] The dock cover will fail to open or close if the emergency stop button is pressed.

[3] Press and hold the button when opening and closing the cover. Make sure that there are no obstacles blocking the dock cover. Keep a safe distance from the dock cover to avoid injury when opening or closing the dock cover.

☼ • The software images are for reference only. The actual interface varies according to the software version.

Safety Precautions Before Installation

To ensure safety of people and the devices, follow the labels on the devices and the safety precautions in the manual during installation, configuration, and maintenance.

[XXX icon]	• Installation, configuration, maintenance, troubleshooting, and repair of the dock must be done by DJI-authorized technicians in compliance with local regulations. • The person who installs and maintains the dock must have undergone training to understand the various safety precautions and be familiar with the correct operations. They must also understand the various potential dangers during dock installation, configuration, and maintenance and be familiar with the solution. • Only those who hold a certificate issued by the local department can carry out above-safety-voltage operation. • Only those who hold a certificate issued by the local department can carry out operations at heights above 2 m. • Only those who hold a certificate issued by the local department can carry out welding work.
[manual icon]	• Make sure to perform operations such as installation, configuration, and maintenance in accordance with the steps in this manual.
[PPE icons]	• Make sure to wear protective equipment during installation, configuration, and maintenance, such as a safety helmet, goggles, insulated gloves, and insulated shoes. • Pay attention to personal safety when using any electrical tools. • Wear a dust mask and goggles when drilling to prevent dust from entering the respiratory tract or eyes.
[ground icon]	• Make sure DJI Dock is properly grounded before use. When installing the dock, connect the earth wire before other cables. When moving the dock, remove other cables before the earth wire. • DO NOT operate the dock without an earth wire installed. • DO NOT damage the earth wire installed.
[weather warning icon]	• DO NOT install, configure, or maintain the dock (including but not limited to moving or installing the dock, connecting the cables, or performing operations at a height) in severe weather such as thunderstorms, snowfall, or wind speed is 8 m/s and above.
[electric shock icon]	• DO NOT wear conductive objects (such as watches, rings, necklaces or other metals) to install, configure, or maintain the dock in order to avoid electric shocks or burns. • Measure the voltage on the contact points of the conductor with a multimeter, make sure there is no risk of electric shock before touching any conductor surfaces or terminals (such as the terminals of the AC power input). The dock must be powered off before installation. • Make sure to turn off the main switch in the distribution box, then use a multimeter or a voltage tester to conduct an electrical test at the end of the power cable before installing or removing the power cable. • Make sure the handle of the other tools such as a voltage tester is insulated to avoid electric shocks.

	• In the event of a fire, immediately evacuate the building or the dock installation area and then call the fire department. DO NOT re-enter a burning building or dock installation area under any circumstances.
	• When carrying heavy objects, make sure to prepare to bear the weight to avoid injures or being crushed by heavy objects. • Pay attention to personal safety if the dock needs to be hoisted.
	• Make sure to keep away from the dock when it is in operation, so as not to be injured by moving mechanisms or rotating propellers.

Construction Preparation

Make sure to read this chapter carefully, select a site for the dock according to the requirements, and fill out the DJI Dock Site Survey Checklist. Failure to select a site according to the requirements may lead to the malfunctioning of the dock, operational stability deterioration, shortening of the service life, unsatisfactory effects and potential safety hazards, property losses, and casualties.

Environmental Survey

Environmental Requirements

- The installation site altitude should not be higher than 4000 m.
- The annual temperature of the installation site should be between -25° to 45° C (-13° to 113° F), considering the dock operating temperature is between -25° to 45° C (-13° to 113° F), [1] and the aircraft flight operating temperature in the dock is between -20° to 45° C (-4° to 113° F). Temperatures exceeding the range will cause the device to not work. To ensure operation safety, operation can resume after the temperature is within the temperature range.
- In order to ensure the normal operation of the dock and aircraft, choose a location with little wind, sand or dust to install the dock. Make sure that the wind speed is not greater than 8 m/s and the airflow is stable when the aircraft takes off or lands.
- Make sure there are no obvious biological destructive factors such as rodent infestation and termites at the installation site
- DO NOT install the dock near dangerous sources without permission, such as gas stations, oil depots, and dangerous chemical warehouses.
- DO NOT install the dock in a site with flammable materials such as debris and catkins that are easy to accumulate. RISK OF FIRE: Install the dock on a concrete or other non-combustible surface only.
- DO NOT install the dock on moving objects, such as cars and boats.
- Avoid installing the dock in lightning strike areas.
- Avoid areas that are prone to water accumulation, servere erosion, landslides, heavy snow accumulation, or other natural disasters.
- Avoid installing the dock in areas with chemical plants or septic tanks upwind to prevent pollution and corrosion. If the dock is configured near coastlines, avoid installing in areas where the dock may be immersed in or splashed by seawater in order to prevent the corrosion of metal components.
- Avoid installing the dock directly under artificial lighting with reflective items on the ground. Otherwise, it will interfere with the vision system of the aircraft, affecting its landing and flight stability.
- Make sure to install the dock at a distance of more than 200 m from sites with strong electromagnetic wave interference, such as radar stations, mobile communication base stations, and drone jamming equipment.
- It is recommended to install the dock at a distance from sites with iron ore and large steel structures or buildings to avoid interference with the aircraft compass.
- It is recommended to install the dock at a distance from sites with strong vibration sources and strong noise. Otherwise, it can cause interference to the dock environment sensors, and at the same time easily lead to a decrease in the operating life of the whole machine.
- It is recommended to consider the future environmental factors of the installation site. Make sure to avoid areas with large-scale construction plans or large environmental changes in the

future, including but not limited to the growth of weeds and trees (such as bamboo forests and vines), new buildings, bridges, communication base stations, and high-voltage towers. If there is any change, re-survey is required.

· It is recommended to consider whether the planned flight area is near or in a Restricted Zone. Make sure to apply for a GEO Zone Unlocking License and import it to the aircraft during installation and configuration.

· The dock and aircraft will produce a certain amount of noise when in use. Consider the impact on nearby residents when selecting the installation site of the dock. DO NOT install the dock near residential areas.

[1] When the temperature is below -20° C (-4° F), the aircraft cannot perform flight tasks.

☀ · Historical weather data can be queried on meteorological websites.

· The dock can work in an environment with 93% relative humidity as it has a protection rating of IP55.

· The normal transportation and storage temperature range is between -25° to 55° C (-13° to 131° F). If the period does not exceed 24 hours, the dock can be transported or stored at up to 70° C (158° F).

· When the dock is operating at full capacity, it has an A-weighted sound power level of less than 68 dB(A) ± 3 dB(A) at a height of up to 0.5 m and a horizontal distance of 1.5 m from the dock. (tested in the soundproof room with a background noise of 5 dB(A))

Signal Quality Requirements

It is recommended to install the dock in a location without obvious signal obstruction, such as in an open area or on a roof top. Make sure there is no obvious signal obstruction within the range of 20° from the ground elevation angle to ensure the signal quality and stability of the built-in RTK module in the dock.

If there is an obstacle, the minimum distance between the dock and the obstacle needs to meet the following requirements:

$$d \geq h/0.36$$

Where:

d is the minimum distance between the dock and the obstacle.

h is the obstacle height (the height of the obstacle can be measured by operating the aircraft).
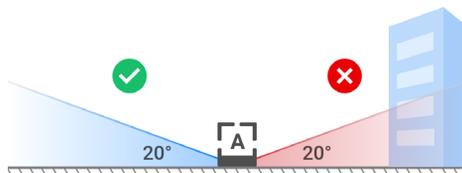
☀ · Make sure there are no obvious reflectors in the sky and around the dock installation location, so as to avoid impact on the normal operation of the aircraft video transmission system and GNSS system. Reflectors include but are not limited to the glass curtain wall of the building, tinned roofing, large solar panels, and metal billboards.

Using the Aircraft to Test

GNSS Signal Quality Survey

Use the DJI MAVIC™ 3 Enterprise series aircraft (sold separately) or DJI Matrice 3D series aircraft to collect data at the planned installation location. [1] Follow the steps below for inspection:

1. Power on the aircraft and DJI RC Pro Enterprise remote controller. Make sure the aircraft is linked to the remote controller.

2. Run the DJI PILOT™ 2 app and tap 👤 on the home screen, select Dock Site Evaluation.

3. Follow the instructions in the app to create a new site evaluation task.

4. Make sure to check that the RTK module is working properly, and then update the ephemeris and calibrate the aircraft. Fly the aircraft to the planned dock site and wait for the aircraft to automatically conduct the GNSS signal quality survey.

[1] DJI Mavic 3 Enterprise Series aircraft need to install the RTK module before use.

☼ • When performing the quality survey, make sure that the aircraft flight altitude is at the same height as the landing pad after the dock is installed at the planned dock site.
   • DO NOT perform the dock site evaluation in rainy weather or at night.
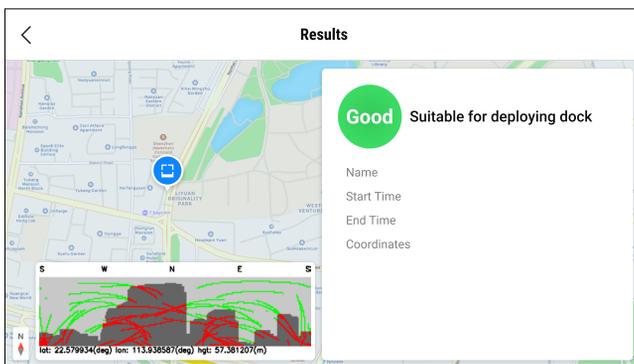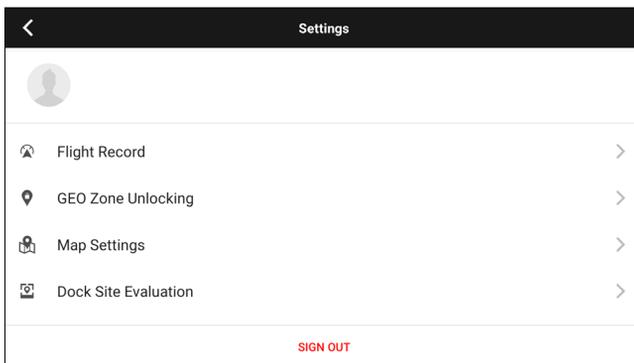
Performing a Flight Route Test

Perform flight routes around the planned installation location to evaluate operational capabilities, such as video transmission signal strength, flight endurance, and RTK signal interference. Follow the steps below:

1. Use the aircraft to create the flight route tasks via the app on the remote controller.

2. Take off from the planned installation location, and record the video transmission signal quality and flight endurance during the flight.

☀ • During the test, make sure the remote controller is near (and at the same height as) the planned dock site.

• The flight distance is related to the actual operating area around the dock, so the survey needs to be determined according to the user requirements.

• Make sure the planned installation location is not in a Restricted Zone or Altitude Zone using DJI Pilot 2, otherwise the flight operation will be affected. If permission to fly in a Restricted Zone is available, please visit https://fly-safe.dji.com/ or contact flysafe@dji.com to unlock the zone.

Ground Conditions Survey

After completing the ground condition survey, fill out the information such as the dock installation location, installation method, installation orientation, and the list of required materials. It is recommended to mark the planned installation location of the dock and the Alternate Landing Site using paint.

Installation Location Requirements

⚠️
- Try to avoid installing the dock on top of existing underground facilities.
- Make sure to install the dock on the roof of a building that is structurally sound. Reserve at least 2 m from the edge of the roof for the installation site or alternate landing site. DO NOT install the dock in the corner of a roof to avoid the aircraft accidentally crashing.
- When installed on top of a building, make sure the RTK and video transmission signals are not obstructed by any surrounding walls, structures, or other obstacles. Increase the height of the installation base if necessary.
- The dock needs to be installed in a ventilated area to facilitate heat dissipation. To achieve better ventilation, it is recommended to install the dock at a height of more than 0.5 m above the ground.

- The ground bearing capacity must not be less than 100 kg/m^2.
- Make sure the orientation of the security camera on the wind speed gauge module is not facing direct sunlight. Otherwise, the service life of the product and camera view may be affected due to environmental factors.
- The installation area is recommended to be larger than 1.8 m × 1.8 m. Reserve at least 0.6 m at the sides of the dock to allow the dock cover to open and the air conditioning unit to dissipate heat. Reserve at least 0.6 m at the front and rear of the dock to allow for installation and maintenance.

Top View
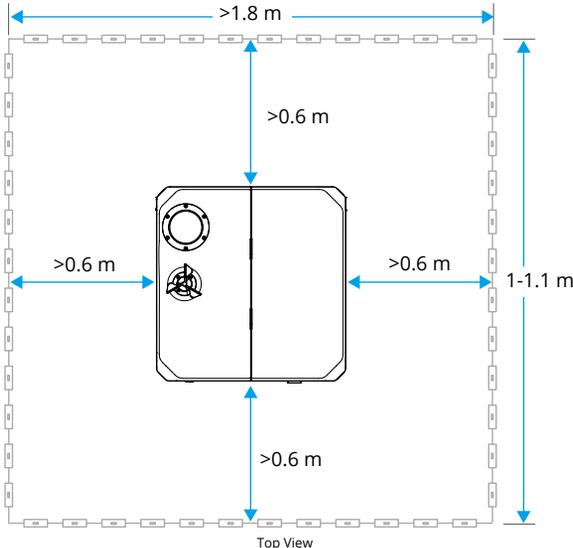
Installation Method

Select one of the following methods to install the dock according to the actual situation, such as establishing a concrete base, placing a steel frame base, or installing on the ground directly.

Using A Concrete Base

A. Applicable Locations

Installing the dock on a concrete base can raise the height of the dock, avoiding ground subsidence or risk of flooding. Applicable locations are as follows:
a. Ground without hardened concrete such as fields, woodlands, and grasslands.
b. Ground with hardened concrete and large slopes or unevenness.
c. Ground with a loading capacity requirement, such as on top of buildings.

B. Concrete Base Requirements
- The concrete base size is recommended to be 700 mm × 700 mm × 100 mm. The specific height of the concrete base can be adjusted according to the on-site flooding risk situation, generally the minimum height should be no less than 100 mm.
- The concrete base is established using C25 concrete, with a single-layer two-way reinforcement and φ4 @ 150 mm mesh inside. Make sure the reinforcement is wrapped with a concrete protection layer larger than 25 mm. C25 concrete mix ratio is shown as below:

	Cement	Water	Sand	Gravel
Weight	372 kg	175 kg	593 kg	1260 kg
Weight Ratio	1	0.47	1.59	3.39

- Reserve four mounting holes with M8 bolts pre-imbedded or mount four M8 expansion bolts directly after the concrete hardens to facilitate subsequent installation of the dock.
- Preparing for lightning protection: The earth electrode above the ground should be made of 50 mm × 5 mm galvanized flat steel and is connected to the dock with a flexible copper core cable. The part under the ground should be made of 50 mm × 50 mm × 5 mm galvanized angle steel, and should be inserted under the ground with a depth no less than 1.6 m. Refer to the Lightning Protection and Grounding Requirements section for more information.
- Make sure to maintain the concrete base for at least 7 days after establishing it.
- Consider whether the base can be established easily, and the pipelines and cables surrounding the concrete base installed can be exposed at a later stage.
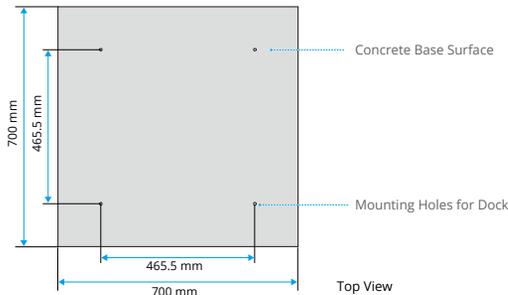
C. Base Establishing Steps

The base establishing steps vary according to the applicable site.

a. Applied to no hard ground

1. Press down on the soil to ensure a stable foundation.
2. Add a 150mm thick crushed stone layer (sand and crushed stone ratio of 3:7, and crushed stone particle size of 5-40 mm) on the top of the original soil layer, and then use the C25 concrete around the crushed stone layer to form the edge.
3. Add the C25 concrete on the top of the crushed stone layer.
4. Smooth the C25 concrete surface, make sure the flatness does not exceed ±4 mm and the inclination is less than 3° from either side of the installation surface.
5. Install the earth-termination system for lightning protection.

Sectional View
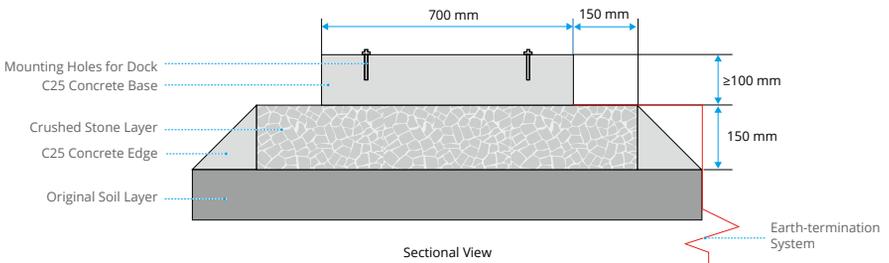
b. Ground surface has hardened concrete with large slopes or unevenness

1. Roughen the original concrete base surface.
2. Add the C25 concrete.
3. Smooth the C25 concrete surface, make sure the flatness does not exceed ±4 mm, and the inclination is less than 3°.
4. Install the earth-termination system for lightning protection.

Sectional View
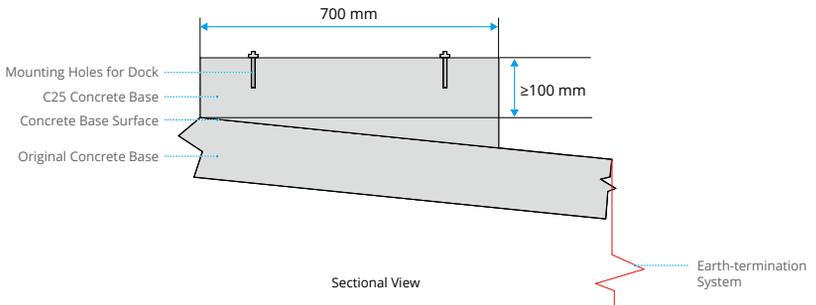
   c. Ground has loading capacity requirement

      1. Make two C25 concrete mounds.

      2. Smooth the C25 concrete surface, make sure the flatness does not exceed ±4 mm, and the inclination is less than 3°.

      3. Install the earth-termination system for lightning protection. The space between the two mounds can be used for piping and wiring.

Top View

Using A Steel Frame Base

⚠   • Ground that is soft is not suitable for installation.
     • When installing the dock on the top of the building, confirm in advance whether the roof floor can be drilled. If not, it is recommended to use a steel frame properly fixed with heavy objects (such as sandbags).

A. Applicable Locations

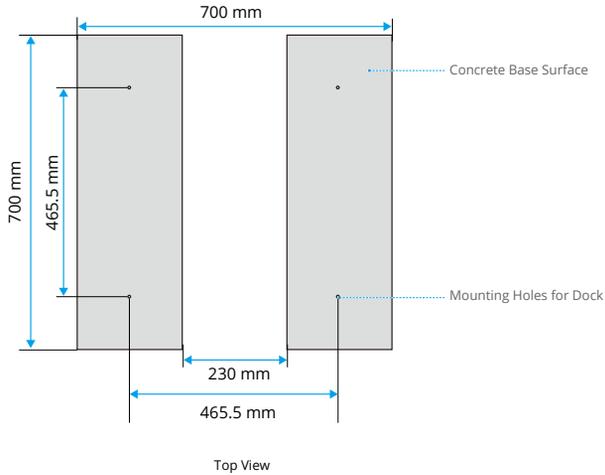If the installation location already has a concrete-hardened ground (such as a building roof), but there may be risk of flooding, signal blocking, or land subsidence, use a steel frame base. The construction period for this method is shorter as there is no maintenance stage.

B. Steel Frame Base Requirements

Customize a steel frame base (not provided) by following the below requirements:

•   Considering the tolerance of outdoor environments, it is recommended to use 40mm galvanized square tube or 304 stainless steel square tube, and spray paint to avoid corrosion.

•   It is recommended that the base height of the dock is no less than 200 mm from the ground. Make sure the installation site is more than 100 mm from the highest recorded water level.

•   The recommended measurements are shown as below:

Secured with 4×M8 bolts

465.5 mm

465.5 mm

505.9 mm

40.0 mm

520.0 mm

Top View

200.0 mm

40.0 mm

40.0 mm

Side View
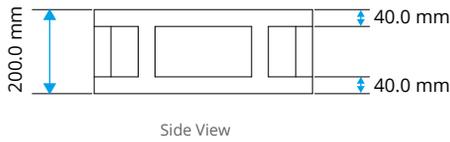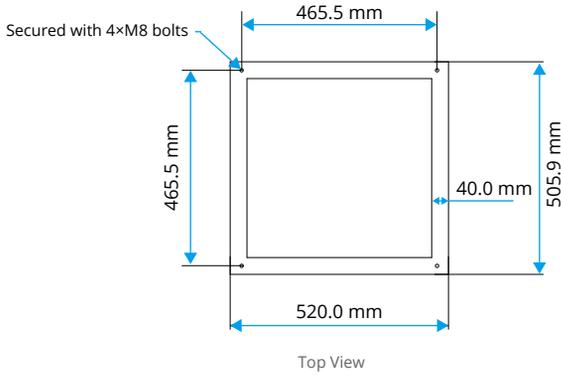
C. Installation Steps
   1. Fix the steel frame base on the hardened ground with expansion bolts or heavy objects such as sandbags.
   2. Use M8 screws to install the dock on the steel frame base.
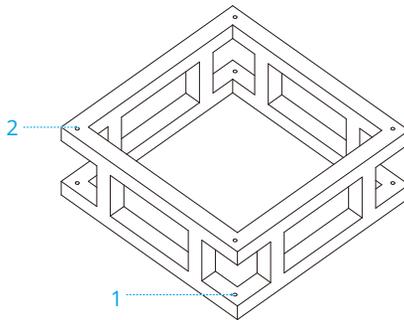
Directly Installing on Ground

If the installation site has hardened-concrete ground and no risk of flooding or obvious obstacles surrounding it, the dock can be directly installed on the ground using expansion bolts.
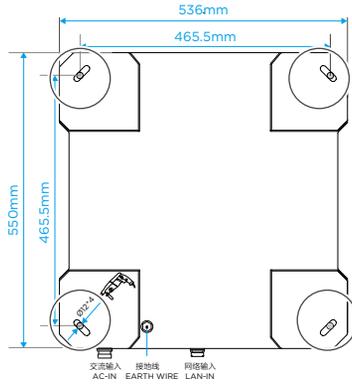
Alternate Landing Site Requirements

It is necessary to set up an alternate landing site near the dock. When there is an issue with the dock or the aircraft cannot land due to bad weather or equipment failure, the aircraft will hover until low battery level occurs and then fly to the alternate landing site and land.

· When choosing the alternate landing site, consider the clearance needed during the aircraft landing process. Make sure there are no obstacles within a 1 m radius of the alternate landing site.

· It is recommended to set the alternate landing site in an open area near the dock, which is at the same height and has a straight-line distance of 1-50 m from the dock.
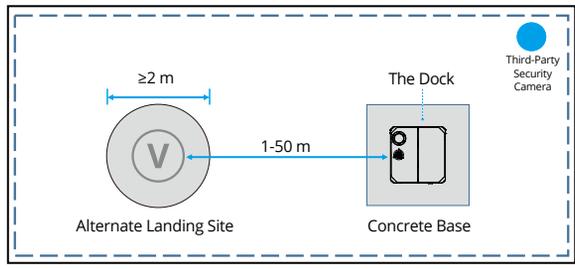
:·:· · Pay attention to avoid personal injury when the aircraft is landing at the alternate landing site.

· If the alternate landing site is set on the roof of the building, make sure not to set it in the corner of a roof in order to avoid the aircraft from accidentally crashing.

· For the alternate landing site, it is recommended to use a V symbol as the marker and a single-colored background. Using other types of symbols or background colors may affect the aircraft's visual identification, thereby reducing landing accuracy.

Lightning Protection and Grounding Requirements

Earth-Termination System

The earth-termination system is an important part of the lightning protection system that can discharge the electrical current to the earth. Use an earthing resistance meter to measure the earthing resistance, and make sure that the earthing resistance for the dock is less than 10 Ω. It is recommended to use an existing outdoor earth-termination system when installing the dock. Once the distance between the earth-termination system and the dock is greater than 0.5 m, install the 40 mm × 4 mm flat steel within 0.5 m of the dock and connect it to the earth-earth electrode. If there is no existing earth-termination system, additional earth electrodes and installation is required. Follow the below descriptions for producing and installing the earth electrode.

A. Requirements for producing and installing the earth electrode

- It is recommended to produce a vertical earth electrode using hot-dip galvanized steel, copper, or copper-clad steel. The recommended length of the vertical earth electrode is 1.5-2.5 m according to the soil quality and geographical conditions around the earth electrode.
- The earth electrode number is determined by the size of the earth-electrode network and the geographical environment. The distance between any two vertical earth electrodes should not be less than 5 m. When using an earth-electrode network, make sure its four corners use the vertical earth electrodes.
- If using angled steel, make sure one end is pointed, which can be made by using oblique cutting.
- When installing the earth electrode under the ground, the depth should generally be no less than 0.7 m (the distance between the upper end of the earth electrode and the ground surface). In cold weather regions, the earth electrode should be installed below the permafrost layer. In areas with thin gravel soil, the installation depth of the earth electrode should be determined according to actual conditions.

:💡: • When using an earth resistance meter, make sure to operate it according to its instructions, and to perform short-circuit zero calibration on the meter before performing the measurement.
- If the earth resistance does not meet the requirements of the dock installation, it is recommended to use multiple earth electrodes and apply a long-term resistance-reducing liquid or use a special earthing rod.
- If the earth resistance is less than 10 Ω, the lightning protection system can be used for the other earth-termination systems.

B. Earth Electrode Specifications

When the earth electrode is made of hot-dip galvanized steel, the length depends on the needs of the installation. The specifications are as shown as below.

Earth Electrode Type	Specifications
Steel Pipe	Thickness no less than 3.5 mm
Angle Steel	No less than 50 mm × 50 mm × 5 mm
Flat Steel	No less than 40 mm × 4 mm
Round Steel	Diameter no less than 10 mm

Power Supply and Cable Requirements

Power Supply Requirements

When using the dock, an external AC power supply needs to be connected to dock. The power supply requirements are as shown below:

- The electrical connection should comply with local laws and regulations.
- Make sure to use a stable power supply without frequent power outages.
- Make sure the voltage and frequency of the AC power supply meet the dock operation requirements:

Parameters	Specifications
Power Supply	Single-Phase AC
Rated Input Voltage	100-240 VAC
Max. Input Voltage	264 VAC
Frequency	50/60 Hz
Power	Max. 1000 W

- When supplying power to the dock, make sure to install a separate 2P 16A circuit breaker and a 40kA surge protection device in the user distribution box.

Cable Requirements

Make sure to place the cables connecting the dock to the external power supply inside the protective pipelines.

A. Cable Connection Suggestion

The recommended overall connection is shown as below.

Third-Party Security Camera

Protective Fence

Waterproof Distribution Box

Ethernet Cable

Power Cable

Concrete Base

PVC Pipes Under Ground

If the user distribution box is more than 50 m away from the dock, it is recommended to install an additional outdoor waterproof distribution box near the dock for convenient maintenance and other equipment to draw power.

Earth Electrode

B. Power Cable Requirements

- Make sure the ends of the power cables are crimped with wire ferrules before connecting the wires to the power connector.
- If the user distribution box is more than 50 m away from the dock, it is recommended to install an additional outdoor waterproof distribution box near the dock for convenient maintenance and other equipment to draw power.
- Make sure the power cable length and cross-sectional area meet the following requirements:

Power Cable Length	Cross-sectional Area
<100 m	three-core outdoor sheathed copper core cable of 15AWG (1.5 mm^2)
100-200 m	three-core outdoor sheathed copper core cable of 11AWG (4 mm^2)
>200 m	three-core outdoor sheathed copper core cable of 9AWG (6 mm^2)

:☼: • The standard dock power connector is only compatible with a power cable that has a cross-sectional area of 15AWG (1.5 mm²). If the power cable has a cross-sectional area that is larger than 15AWG (1.5 mm²), an additional waterproof distribution box is required for cable conversion.

C. Protection Pipeline Laying Requirements

- Make sure the outdoor cables are within PVC pipes and are installed under the ground. In the situation where the PVC pipes cannot be installed under the ground (such as on the top of a building), it is recommended to use galvanized steel pipes fastened to the ground and to make sure that the pipes are well grounded. The inner diameter of the PVC pipes should be at least 1.5x the outer diameter of the cable, while taking the protective layer into consideration.
- Make sure that there are no joints in the cables within the PVC pipes and the joints of the pipes are waterproofed, and the ends are well sealed with sealant.
- Make sure the power cable and the Ethernet cable are separated into different PVC pipes, and the PVC pipes are not installed near water pipes, heating pipes, or gas pipes with a distance of no less than 30 mm.

Waterproof Distribution Box

A. If necessary, make sure to install an outdoor waterproof distribution box that meet the requirements as shown below:

- Make sure the waterproof distribution box is securely installed and that the bottom of it is at least 500 mm above the ground to avoid flooding.
- Make sure the waterproof distribution box is installed on the side with the incoming power cable that leads from the dock electrical cabinet for a secure cable connection and dock configuration.
- Make sure the waterproof distribution box is more than 1 m away from the dock in order to avoid affecting aircraft takeoff and landing.
- Make sure the lead-in and lead-out cables of the waterproof distribution box are protected using PVC pipes that are installed under the ground, and that the joints between the pipe and the distribution box are properly waterproofed and sealed with sealant.
- Make sure both the earth wires of the outlet in the waterproof distribution box and the lead-out cables of the dock are properly connected to the waterproof distribution box and well grounded.

B. The recommended electrical components in the waterproof distribution box are shown as below:

Component	Usage
Waterproof Distribution Box	Contains various electrical components and provides waterproof protection.
Ground Bus Bar	Connects the earth wires of the lead-in cable, the socket, the lead-out cable, and the enclosure of the waterproof distribution box if the waterproof distribution box is made of metal.
C16 Circuit Breaker	Connects the dock to supply power.
C10 Earth Leakage Circuit Breaker	Connects the socket in the waterproof distribution box to supply power.
DIN Rail Mount Socket of 10A	Provides power for other devices such as the ethernet device, hammer drill, laptop, mobile phone charger for convenient on-site installation and configuration.

Network Requirements

When using the dock, it needs access to the Internet, connect to the internet by using an Ethernet or a 4G wireless network. [1] The dock can also use the 4G wireless network as a backup to the Ethernet connection. When both networks are connected, the Ethernet connection will be used in priority.

[1] 4G network service is not available in some countries or regions. Please consult your local distributor for details.
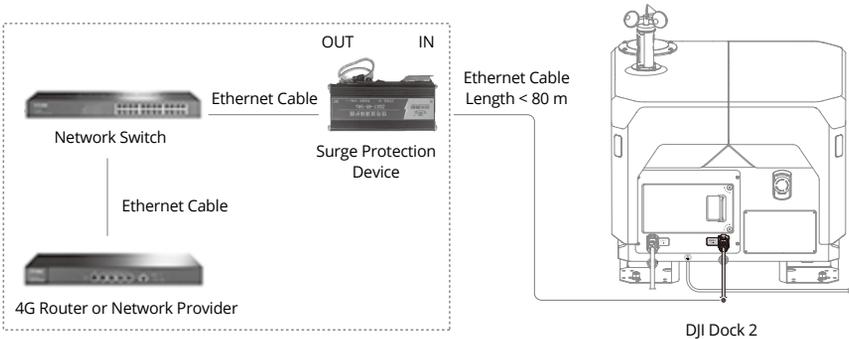
Ethernet Connection

The requirements when connecting to the Ethernet are shown as below:

- The dock only supports IPv4 protocols, make sure the ethernet supports IPv4 protocols.
- It is recommended to use category 6 (Cat 6) or above twisted pair cable as the Ethernet cable.
- Make sure to place the cables connecting the dock to the Ethernet within the protective pipelines.
- Make sure to use and install PVC pipes under the ground for outdoor cables. For situations where PVC pipes cannot be installed under the ground, use galvanized steel pipes that are fastened to the ground and ensure that the pipes are well grounded. Make sure to lay the Ethernet cable during construction to facilitate quick dock installation.
- Make sure the power cable and the Ethernet cable are separated into different PVC pipes, and that the PVC pipes are not installed near water pipes, heating pipes, or gas pipes.
- Select the appropriate connection method according to the distance between the user computer room and the dock.

A. If the distance is less than 80 m:

Make sure to install a data and signal surge protector device to the lead-out cable from the user computer room, in order to protect the network devices from being damaged by lightning strikes and ensure stable data transmission. Follow the instructions as shown below for installation.

    a. Use a category 6 (Cat 6) or above twisted pair cable and crimp a category 6 (Cat 6) pass through connector at one end of the cable.

    b. Install a surge protector device in the grounded rail with reliable contact, and make sure that the earth wire is properly connected to the ground.

    c. Use the Ethernet cable, connect the IN end of the surge protector device to the dock and the OUT end to the network devices such as a network switch and router. Make sure the IN and OUT ends are properly connected, otherwise the surge protector device may be damaged and the surge protection will not work.

Network Switch

OUT   IN

Ethernet Cable

Surge Protection Device

Ethernet Cable

4G Router or Network Provider

User Computer Room

Ethernet Cable Length < 80 m

DJI Dock 2

B. If the distance is more than 80 m:

Use a fiber optic solution and install a fiber optic transceiver. Choose a fiber optic transceiver that meets the transmission distance requirements, in order to avoid the mismatch between the transmission distance and the transceiver, which may result in network instability or even loss of connection.
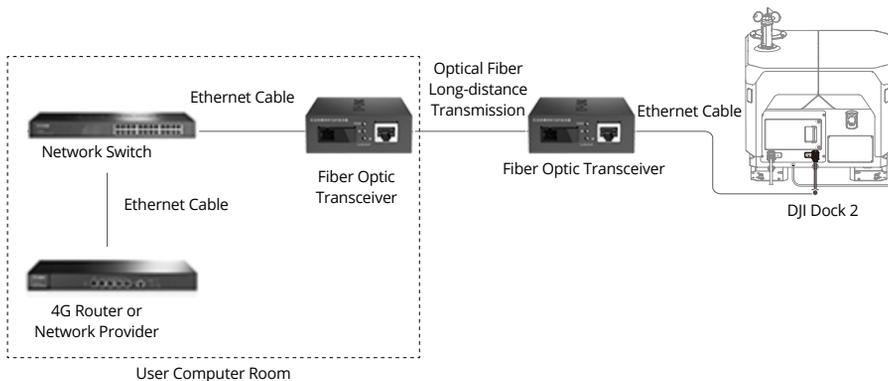
☼ • It is recommended to use a Gigabit network with an upstream and downstream bandwidth greater than 10 Mbps, to ensure a better user experience, it is recommended to be greater than 40 Mbps. Use a laptop to measure the network speed using a speed measurement website when the network port is connected.

Wireless Network Connection

In scenarios where the Ethernet connection is unavailable, a DJI Cellular Dongle 2 can be mounted to the dock to access a 4G network.

· Make sure that the mobile network operator offers a strong network signal at the dock installation site.

· Choose the appropriate data plans according to the future operation requirements and operation frequency.

☼ • The network speed can be tested using a network speed test app. Make sure that the upstream and downstream bandwidth is greater than 10 Mbps. The mobile network operator selected during the survey test needs be the one selected for the dock in the future.


Other

Protective Fence

Make sure to install a protective fence to ensure the safety of pedestrians and prevent theft of the product so that unauthorized personnel or animals cannot enter the area where the dock is installed.

Protective Fence Requirements

⚠ • Operators who enter the protective fence area need to undergo professional training and fully understand the precautions and risks of various operations.
   • Make sure that no flight plan is performed on DJI FlightHub 2 and that the aircraft has landed inside the dock before entering the protective fence area when operating the dock on site. After entering the area, make sure to press the emergency stop button of the dock.

• It is recommended that the protective fence dimensions are not less than 1.8 m × 1.8 m × 1.0 m (Length × width × height).

• Make sure the protective fence is stable after installation, and that a door is installed for personnel to enter for inspection and maintenance. Make sure the door is locked to prevent unauthorized personnel from entering.

• Make sure that a warning sign that states Danger: Risk of Mechanical Equipment Injury is fixed to the outside of the fence clearly.

• Make sure to use fiber-reinforced plastic or non-metallic fencing for minimal impact on the video transmission signal and RTK signal.

☼ • The protective fence needs to be purchased and installed by the user or service provider. DJI does not provide this item.

Top View

Side View
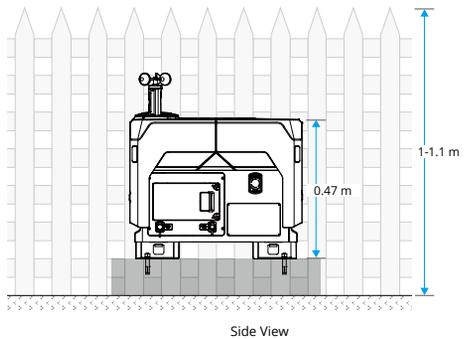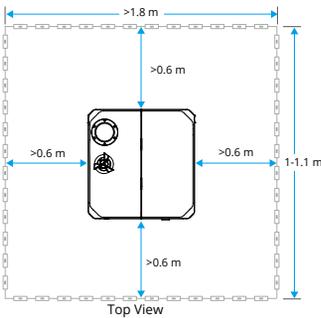
Third-Party Security Camera

An additional third-party security camera can be installed according to security monitoring requirements.

☼ • Third-party security cameras need to be purchased and installed by the user or service provider. DJI does not provide this item.

DJI Dock Installation and Connection

⚠ • Make sure to contact a DJI-authorized service provider for installation. There may be potential safety hazards if the product is installed by the user. Contact DJI Support for more information on DJI-authorized service providers.

Getting Started

DJI Dock 2 In-the-Box

Check that all of the following items are included in the package. If any abnormalities, missing items, or inconsistencies are found, make a record on-site and contact your device carrier and device supplier.

Dock Body (incl. Earth Wire[1]) ×1
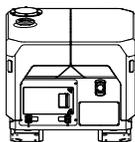
Wind Speed Gauge Module ×1

[1] One end of the 0.5 m earth wire has already been connected to the bottom of the dock, and the other end has a Φ8 mm ring terminal.

Expansion Bolt ×4

Ethernet Cable Connector ×1

Power Cable Connector ×1

Wire Ferrule ×6

Screws and Tools

1.5mm 2.5mm

M2.5

2mm 3mm

Manuals
In the Box & User-Prepared Tools
Safety Guidelines
Quick Installation Guide

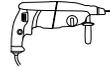## User-Prepared Tools and Items

The tools and items below are used during installation and configuration, prepare them in advance and ensure that the tools are in working order.

Steel Blade Measuring Tape	Hammer Drill		Claw Hammer

Digital Level	Adjustable Wrench	Earthing Resistance Meter	M8 Screw and Nut

Corrugated Tubing	Corrugated Tubing Plug	Twisted Pair Cable [1]	Cat 6 Pass Through Connector

Cable Crimping Pliers	Network Cable Tester	Power Cable [1]	Diagonal Cutting Pliers

Wire Strippers	Wire Ferrule Crimping Pliers	Electrical Tape	Multimeter [2]

Computer	DJI RC Pro Enterprise Remote Controller [3]	USB-C Cable	Cable Reel (optional)

[1] Cables are pre-embedded by the authorized service provider before installation. The power cable requires RVV three-core 1.5 mm^2 (15AWG) outdoor sheathed cable with a cable diameter of 7-12 mm, and the Ethernet cable requires Cat 6 twisted pair cable with a cable diameter of 6-9 mm.

[2] Make sure the length of the multimeter probes is greater than 18 mm in order to facilitate accurate testing of the wire terminals.

[3] Make sure the firmware version of the remote controller has been updated to the latest version. Make sure the remote controller has access to the internet during activation.

Transportation and Temporary Storage

⚠️ • Make sure the dock is transported by a professionally trained operator. Operators should read this manual carefully. If the dock is damaged due to failure to store, transport, install, or use according to the instructions in this manual, it will not be covered by the warranty.

Carrying and Transporting the Dock

⚠️ • When carrying and transporting the dock, make sure to prepare for load bearing to avoid sprains or being crushed by heavy objects and to wear protective gloves to avoid injury.

When carrying and transporting the unpacked dock, move it carefully to avoid scratching the surface. DO NOT impact or drop the dock to avoid damage.

When moving or lifting the dock, carefully lift the dock at the carrying points. DO NOT apply force on other areas of the dock to avoid damage to the dock.
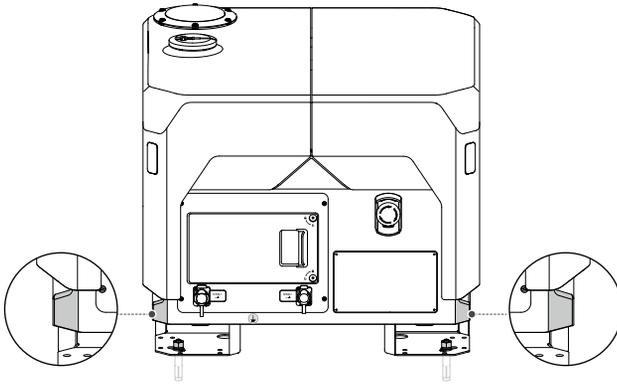
Lifting the Dock

⚠️ • The operator who performs the lifting operation needs to undergo professional training and can only work after obtaining the required qualification.
• Make sure the tools used for lifting the dock meet the standards and service life requirements.
• DO NOT walk under the dock when it is raised. Make sure to keep a safe distance from the dock when it is moved to avoid injury from it from falling, rolling, or swinging.

It is recommended to use a crane cage to lift the unpacked dock (the crane cage needs to be prepared by the lifting company and brought to the lifting site in advance). Otherwise, use the rigging to lift the dock, make sure to select the correct lifting positions, connect the rigging securely, and then try to lift it.

Temporary Storage

If the dock is not to be used immediately, follow the requirements as shown below for temporary storage:
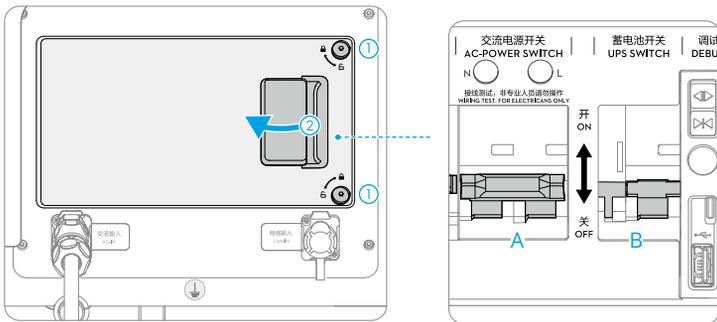
- Store it in a dry, rainproof, and fireproof location with no corrosive materials around.
- Protect it from erosion and damage caused by wildlife.
- Make sure to check that the outer packaging of the dock is in good condition regularly. Make sure to charge the backup battery for at least 6 hours every three months.
- If the dock package is removed from being stored but not used for a period, place it in a waterproof bag sealed with adhesive tape and then put it into its original packaging with a desiccant.
- DO NOT tilt or invert the dock or place items on top of the box when the dock is inside.

Backup Battery Charging Steps

⚠ • Only those who hold the certificates issued by the local department can carry out above safety voltage operations.
  • Make sure to pay attention to safety during operation in order to avoid an electric shock.
  • Make sure that PE, N, and L wires are connected properly.

To charge the backup battery, follow the steps below.

1. Refer to the Connecting and Powering on the Dock section > Connecting the Power Cable section to rebuild the power connector and connect the power connector to the AC-IN port.

2. Use a 2.5mm hex key to loosen the two screws on the electrical cabinet door, then pull the door to open.

3. Turn on the AC power switch (A) to power on the dock. Turn on the backup battery switch (B) to charge the backup battery.


☀ • The backup battery cannot be charged when the temperature is higher than 40° C (104° F) or lower than -25° C (-13° F).

Dock Installation

Confirming the Installation Orientation

Make sure to consider the below factors before installing the dock.

- Make sure the orientation of the security camera on the wind speed gauge module is not facing direct sunlight. Otherwise, the service life of the product and camera view may be affected due to environmental factors.
- Make sure there are no obstacles blocking the dock covers.
- To avoid false detection when the aircraft lands, make sure that there are no light-colored objects similar to the shapes or visual identification markers on the landing pad within 5 m of the dock, such as white rectangles, white triangles, and H patterns.
- If multiple docks are installed at the same location, the distance between each dock should be at least 5 m. The recommended distance is 10 m.
- The length of the earth wire is 0.5 m. Make sure that the distance between the earth electrode and the dock is less than 0.5 m.

Installing the Expansion Bolts

⚠️   • Wear a dust mask and safety goggles when drilling holes to prevent dust from entering the eyes, nose, and throat. Pay attention to personal safety when using any electrical tools.

The following installation instructions use a concrete base as an example.

1. Place the box lid with the installation hole markers facing upward at the location where the dock will be installed, and adjust the orientation and position accordingly.

2. Align the hammer drill (drill diameter Φ12 mm) with the installation hole markers, keep the hammer drill perpendicular to the earth and drill four installation holes with a depth of 60 mm. Remove the box lid after drilling and make sure to clean up surrounding debris to avoid having it fall into the holes.

3. Slightly tighten the nuts of the four expansion bolts provided, place them into the installation holes, and tap the bolts with a claw hammer until the expansion tubes are inserted into the installation holes.

4. After pre-tightening the screw bolt until it cannot be tightened further, unscrew the nut, spring washer, and flat washer.

Mounting the Base Brackets

⚠️ • When aligning the expansion bolt holes with the mounting base brackets, DO NOT put your hands under the mounting base brackets when moving the dock in order to avoid injury.

1. Carefully lift the dock by the carrying points and move it to the installation location. Align the four mounting base bracket holes with the expansion bolts, and then place it down slowly. It is recommended that at least two people carry the dock.

2. Place the digital level on top of one of the dock covers to make sure that the dock is horizontally level. If the dock is not level and the degree of incline exceeds 3 degrees, use metal gaskets or other materials to raise the base brackets accordingly.

3. Install the flat washer, spring washer, and nut of the expansion bolt in sequence, and tighten the nut with an adjustable wrench.
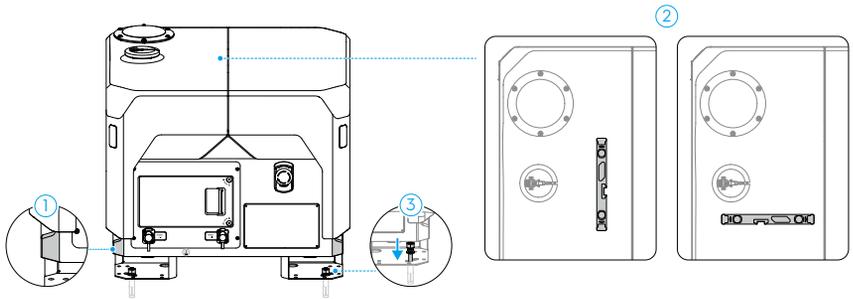
☀️ • Make sure to lift the dock by the carrying points when moving it.
• DO NOT place the digital level across both dock covers when measuring.

## Mounting the Wind Speed Gauge Module

1. Remove the cover of the wind speed gauge module mount on the top of the dock cover. Remove the wind speed gauge module from the box.

2. Use a 2mm hex key to remove the two screws on the wind speed gauge module base and make sure to store them properly. Make sure that the DJI LOGO on the signal cable of the dock is facing correctly, insert the signal cable gently to the port on the wind speed gauge module base, and properly and securely tighten the screws.

3. Align and insert the wind speed gauge module into the mount on the dock cover. Use a 2mm hex key to tighten the four screws and secure the wind speed gauge module.
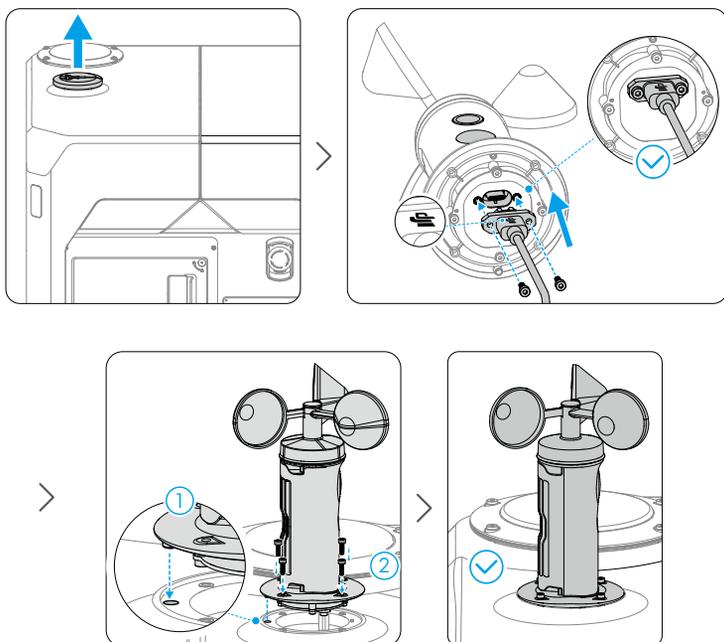
Connecting and Powering on the Dock

Connecting the Earth Wire

⚠ • The dock must be properly grounded by following the below requirements.
   • Check that the design and assembly of the ground-termination system meet the requirements before installation. Make sure that the earth resistance between the earth and the ground-termination system connected to the dock is less than 10 Ω by using an earth resistance meter for measurement.
   • Gently pull the earth wire to avoid damaging the terminal where the earth wire is connected to the dock.

1. Gently pull the earth wire from the bottom of the dock. Make sure to keep the earth wire as straight as possible, and avoid coiling or intertwining with the signal cables.
2. Connect the earth wire to the lead-out pole of the earth electrode, and tighten it with the M8 screw and nut.


0.5 m
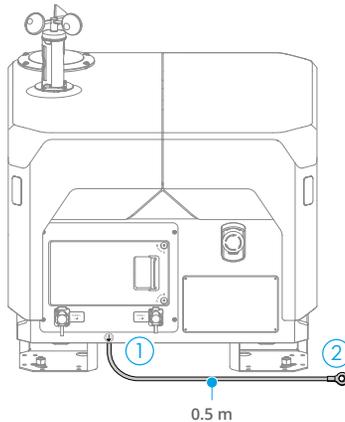
Connecting the Ethernet Cable

⚠ • Make sure to install a data and signal surge protector device in the user computer room and ensure that it is properly grounded. Refer to the Network Requirements section in the Installation and Setup Manual for more information.
   • Make sure to use a Cat 6 twisted pair cable with a cable diameter of 6-9 mm in order to guarantee the seal is secure and that the water-resistant performance is not compromised.
   • Make sure that the inner wire sequence is correct when connecting the pass through connector and the cable by following the T568B wiring standard.

Lead the pre-embedded Ethernet cable to the dock and make sure to reserve the proper length for connection. Cut the corrugated tubing plug at the appropriate position according to the outer diameter of the Ethernet cable. Lead the Ethernet cable through the corrugated tubing and the corrugated tubing plug in sequence. Check that the corrugated tubing is in a contracted state as shown in the diagram to ensure that the Ethernet cable will not be exposed after attaching the Ethernet connector to the dock.
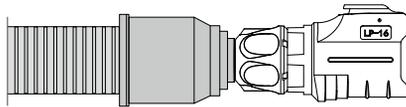
1. Follow the steps below to rebuild the Ethernet connector.

   a. Disassemble the original Ethernet connector and loosen the tail nut.

   b. Lead the Ethernet cable through the Ethernet connector. Crimp it to the pass through connector by following the T568B wiring standards. Make sure that the PVC surface of the cable is effectively inserted into the connector, and that the wire is not exposed. Use a network cable tester to check that the contact with the Ethernet cable has good contact with the pass through connector and the wiring sequence meets the requirements. Insert the pass through connector into the outer casing until a click is heard.

   c. Tighten the tail sleeve and the tail nut in sequence.

2. Open the cover of the LAN-IN port and securely connect the Ethernet connector to the LAN-IN port until a click is heard.
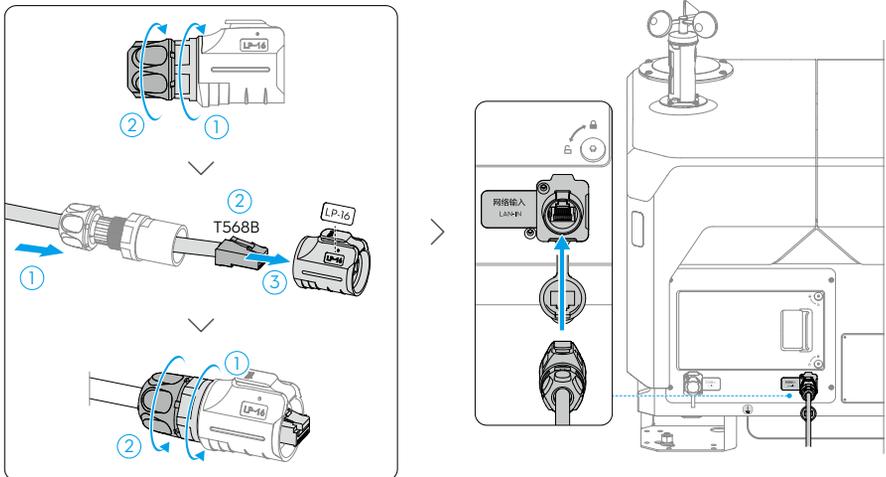

- Make sure the other end of the Ethernet cable is properly and securely connected to the device in the user computer room.
- Make sure the network is able to access the Internet with an upstream and downstream bandwidth greater than 10 Mbps. To ensure a better user experience, it is recommended that the bandwidth be greater than 40 Mbps.
- Refer to the Mounting DJI Cellular Dongle 2 to the Dock section for more information if the dock needs to access a wireless network.
- Make sure to close the LAN-IN port cover when the port is not in use.
- After installation, press the locking tab of the pass through connector using a flathead screwdriver to remove it from the Ethernet connector, if necessary.

Connecting the Power Cable

⚠️ • Only certified electricians can carry out above-safety-voltage operations.
  • Before operation, make sure to turn off the upstream main switch in the user distribution box and place a sign near the switch prohibiting the turning on of the switch.
  • Use a multimeter to measure the electrical current of the power cable. DO NOT operate with an electrical current.
  • Make sure that the diameter of the power cable is 7-12 mm in order to guarantee the seal is secure and that the water-resistant performance is not compromised.

Lead the pre-embedded power cable to the dock and reserve the proper length for connection. Cut the corrugated tubing plug at the appropriate position according to the outer diameter of the power cable. Lead the power cable through the corrugated tubing and the corrugated tubing plug in sequence. Check that the corrugated tubing is in a contracted state as shown in the diagram to ensure that the power cable will not be exposed after attaching the power connector to the dock.
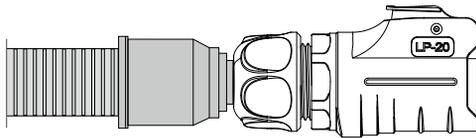

1. Follow the steps below to rebuild the power connector.
   a. Loosen the tail sleeve and tail nut of the original power connector. Press and hold the lock button of the connector to detach the internal component.
   b. Lead the power cable through the power connector. Use the ruler attached to the AC-IN port to measure the length of the cable and wires. Remove 25 mm of the cable insulation layer using the diagonal cutting pliers. Remove 10 mm of the wire insulation layer using the wire strippers. Make sure the three wires have the same length before inserting into the wire ferrules and crimping them with the wire ferrule crimping pliers.
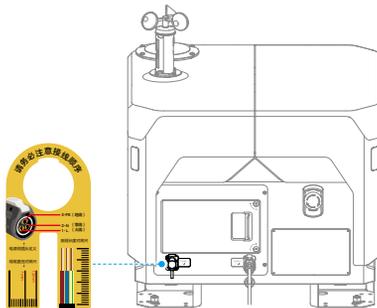
c. Use a 1.5mm hex key to loosen the three screws on the inner component, insert the three wire ferrules into the copper terminals. Make sure   L (live wire), N (neutral wire), and PE (earth wire) wires are corresponding to terminals 1, 2, and 3 before tightening the screws. [1]

d. Make sure the wires are connected properly and securely. Press and hold the lock button on the outer casing to insert the internal component into the outer casing.

e. Tighten the tail sleeve and the tail nut in sequence. Check that the connection between the power connector and the cable is not damaged to guarantee water-resistant performance.

2. Open the cover on the AC-IN port and securely connect the power connector to the AC-IN port until a click is heard.

[1] The naming of the earth, neutral, and live wires may vary by country and region. The color of the earth, neutral and live wires may vary by country and region. Make sure the three wires are properly and securely connected.


☼   • Be careful not to damage the wire insulation layer when stripping the cable insulation layer.
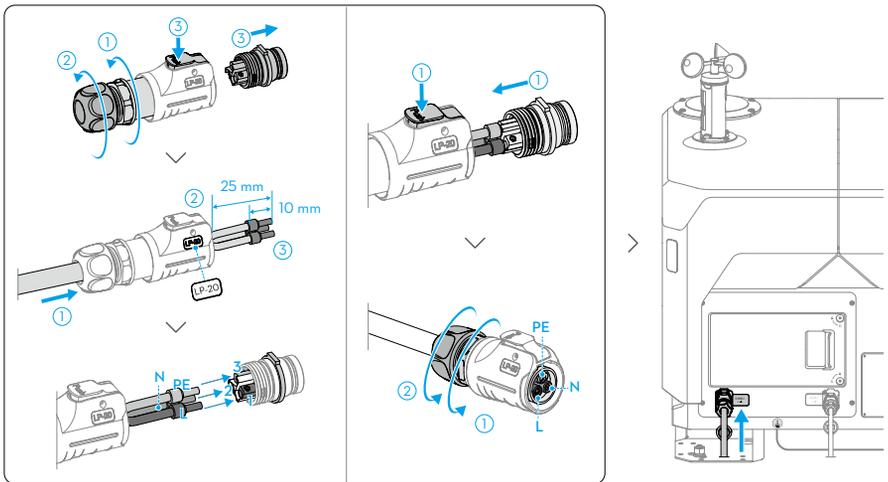
Wiring Connection Test

⚠️ • DO NOT touch the metal parts of the dock or the multimeter lead probes to avoid an electric shock.

1. Use a 2.5mm hex key to loosen the two screws on the electrical cabinet door, then pull the door to open it.
2. Turn on the upstream main switch in the user distribution box. Set the multimeter to the 750V AC voltage mode, then insert the black and red lead probes into the wire testing holes on the electrical cabinet to measure the voltage. Make sure that the test results are as shown in the table. If any measurement result is inconsistent, perform troubleshooting before powering on the dock.
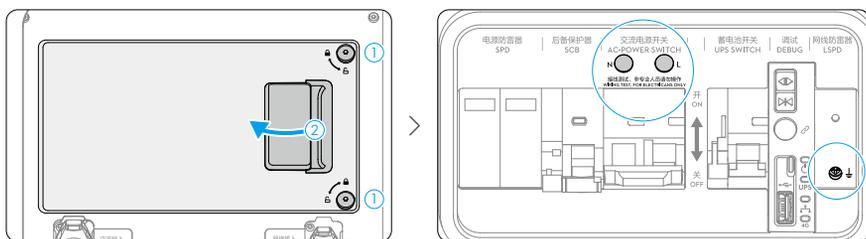

Wire Testing Holes		Voltage
N	⏚	0 V
L	⏚	90-240 V
N	L	90-240 V

Powering on the Dock

Pre-Powering On Checklist

Checklist	Description
Earth Wire	☐ The two ends of the earth wire have been properly connected, and the screws have been tightened securely.
Ethernet Cable	☐ All parts of the Ethernet connector have been tightened securely.
	☐ A corrugated tubing plug has been properly used to seal the gap between the corrugated tubing and the Ethernet connector.
	☐ The Ethernet connector has been inserted to the dock securely.
Power Cable	☐ The wire connection test has been performed and the wire sequence is correct.
	☐ The insulation layer of the power cable has been properly covered by the tail nut.
	☐ All parts of the power connector have been tightened securely.
	☐ A corrugated tubing plug has been properly used to seal the gap between the corrugated tubing and the power connector.
	☐ The power connector has been inserted into the dock securely.
The Dock	☐ The dock has been installed and is stable with a tilt angle of less than 3 degrees.
	☐ The inside of the dock is clean and tidy, without any dust or dirt, or items left inside.
	☐ The emergency stop button of the dock has been properly pulled out and released.
	☐ The landing pad surface is clear of any metal objects.
The Surrounding Environment	☐ The area around the dock has been cleared of packaging materials such as cartons, foam, and plastic.
	☐ No obstacles block the dock covers when they are opened.

Powering On and Checking Operation

1. Make sure the upstream main switch in the user distribution box has been turned on. Turn on the surge protector circuit breaker (A), AC power switch (B), and backup battery switch (C) in the electrical cabinet in sequence.
2. Within 30 seconds, the electrical cabinet status indicators should display as follows. Otherwise, troubleshooting is to be performed.
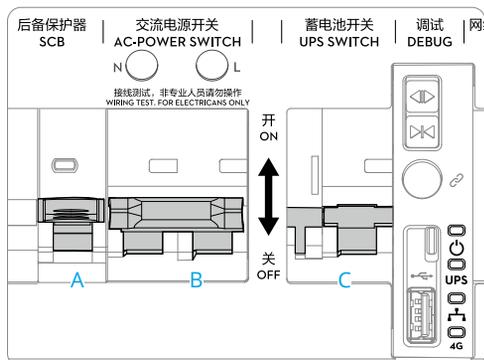
Electrical Cabinet Indicators		Normal States	Description
⏻	Power Indicator	Solid red	AC power supply is normal.
UPS	Backup Battery Indicator	Solid blue	Backup battery is full or is supplying power to the dock.
		Blinks blue slowly	Backup battery is charging.
🖧	Wired Network Indicator	Blinks green quickly	The Ethernet cable is connected and has data transfer with the dock.
4G	4G Network Indicator	Blinks green quickly	4G network is connected and has data transfer with the dock.

⚠ · The surge protection device needs to be repaired or replaced if the indicator turns red or it unexpectedly turns off.

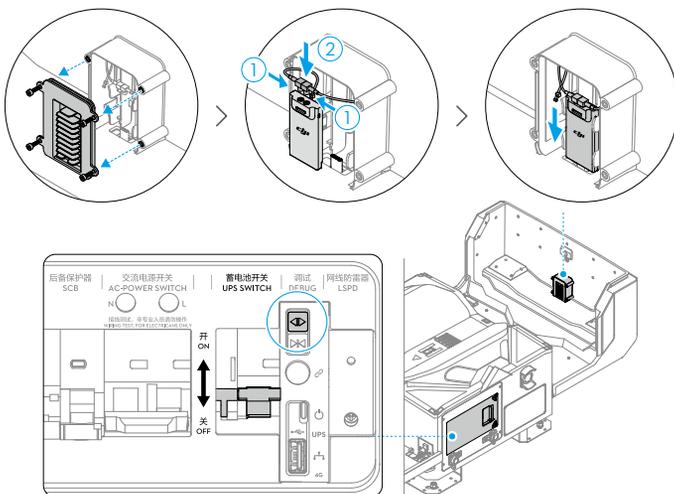☀ · Make sure the AC power switch and backup battery switch are both turned on.

Installing the DJI Cellular Dongle 2 to the Dock (Optional)

DJI Cellular Dongle 2 (sold separately) can be mounted to the dock to access a 4G wireless network according to the on-site network conditions.

1. Install the nano-SIM card that you purchased separately into the dongle.
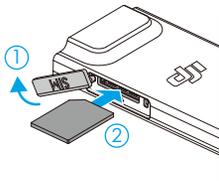
2. Use a 2.5mm hex key to loosen the two screws on the electrical cabinet door, then pull the door to open it. Turn on the backup battery switch, then press and hold the open button to open the dock cover.

3. Make sure that the surface of DJI Cellular Dongle 2 is clear of any objects. Follow the steps below to mount the module.

   a. Use a 2.5mm hex key to remove the four screws on the cover of the dongle compartment.

   b. Connect the antenna cables inside the dongle compartment to the DJI Cellular Dongle 2. Operate with caution to avoid damaging the cables.

   c. Connect the USB-C port on the dongle with the USB-C connector within the dongle compartment, and tidy the antenna cables so they are not damaged by the compartment cover. Make sure that the indicator on the DJI Cellular Dongle 2 is green.

   d. Attach the dongle compartment cover in the correct position and tighten the four screws securely.
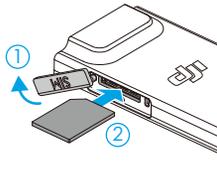
Preparing the Aircraft

Installing the DJI Cellular Dongle 2 to the aircraft (Optional)

DJI Cellular Dongle 2 (sold separately) can be mounted to the aircraft to access a 4G wireless network and enable enhanced transmission.

1. Install the nano-SIM card that you purchased separately into the dongle.

2. Make sure to power off the aircraft when installing or removing the dongle.

3. Use the 1.5mm hex key included in the dock package to remove the screws of the dongle compartment. Store the screws in a safe place and remove the dongle compartment cover.

4. Make sure the dongle surface is clean. Connect the antenna connectors to the dongle with the DJI logo facing up and place the dongle into the compartment.

5. Align the USB-C port to the USB-C connector in the compartment, then push to insert the dongle. DO NOT press down on the dongle when inserting.

6. Reinstall the compartment cover and press the cover down to firmly close it. Make sure the cover is not raised. Align the screw holes on the cover with holes on the aircraft and tighten the screws.
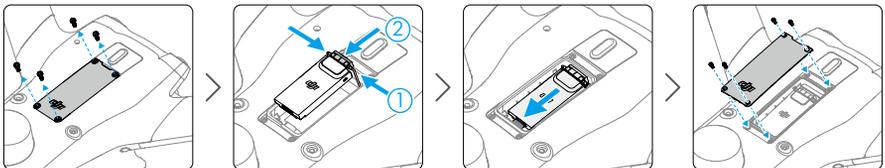

⚠ · DO NOT pull the antennas by force. Otherwise, the antennas may be damaged.

☼ · The antennas in the dongle compartment are already secured with cable clips.
 · Refer to the DJI Dock 2 User Manual for more information on how to enable enhanced transmission.

## Preparing the Aircraft

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⚠️ • Make sure the propellers are securely mounted and not damaged or deformed and that there are no foreign matter in or on the motors or propellers.
 • Make sure the lenses of the vision system, gimbal cameras, the glass of the infrared sensors, and the auxiliary lights are clean and not blocked in any way.
 • Make sure the covers of the microSD card slot, the USB-C assistant port (E-Port Lite), and the E-Port are firmly closed.

---

1. **Inserting the Battery:** Open the battery locking arm and insert the Intelligent Flight Battery into the battery compartment of the aircraft until a click is heard. Close the battery locking arm until the orange mark completely disappears, which indicates the battery locking arm is in the locked position.
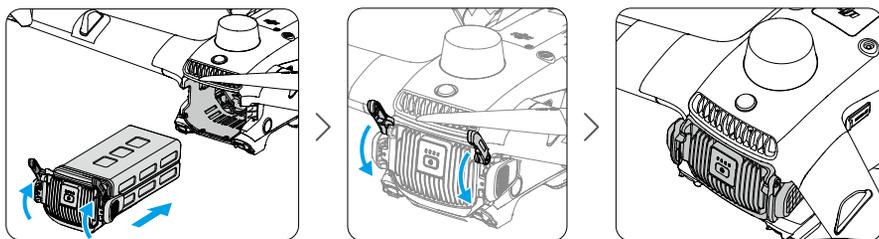
2. **Powering On/Off:** Press, then press and hold.
 Checking the Battery Level: Press once.
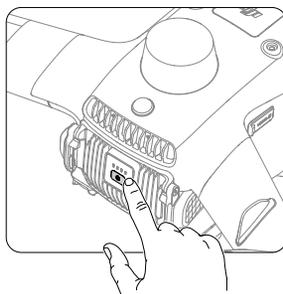
⚠️ • To remove the battery, open the battery locking arms, then press the battery buckles and remove the battery.
 • When transporting an unpacked dock, make sure to remove the aircraft from the dock for separate transportation.
 • If the battery level is too low, charge the aircraft battery by placing the aircraft on the dock or using a charging kit (sold separately).

Linking and Activation

DJI Matrice 3D Series aircraft should be linked with DJI Dock 2 for automated flight operations.

The DJI RC Pro Enterprise remote controller can also be linked to the aircraft and used as controller B for manual control. During on-site flight tests, controller B can take control and manually control the flight.

Refer to the Configuring the Dock Using DJI Pilot 2 section for the linking and activation process.

:¤: • The aircraft requires activation before using for the first time. An internet connection is required for the remote controller during activation.

Configuring the Dock Using DJI Pilot 2

⚠ • DO NOT move a configured dock. If the site changes, the dock needs to be reconfigured.
  • Make sure to keep a safe distance when using the app to open the dock cover in order to avoid injury. Press the emergency stop button on the dock to stop the dock cover from opening, if necessary.
  • When the aircraft is placed in the dock. Make sure to move the two blades of each motor to be at 90° with each other in order to avoid breaking the propellers when closing the dock cover using the close button.
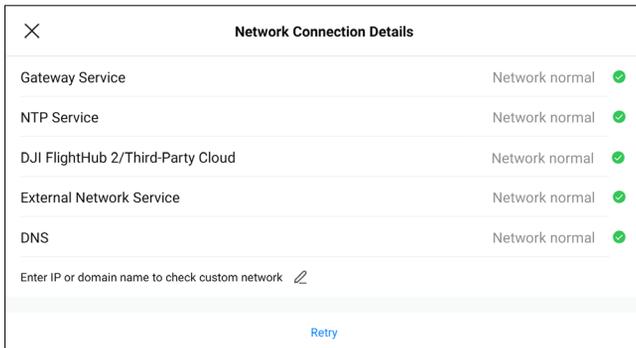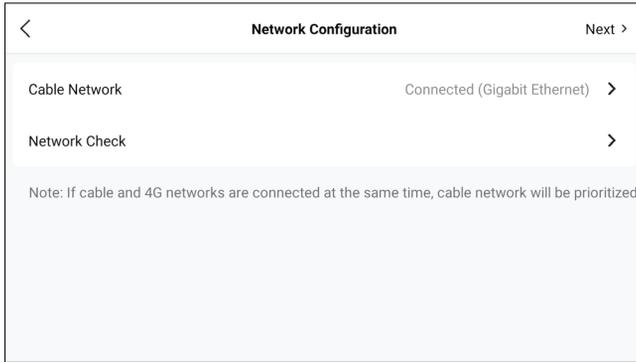 • DO NOT press the dock cover or place heavy objects on it.

Installation Checklist

1. Power on the remote controller, run DJI Pilot 2, and switch the aircraft model to Matrice 3D Series.
2. Use the USB-C cable to connect the USB-C port of the remote controller to the USB-A port of the dock electrical cabinet, follow the installation steps as prompted. Check each step to ensure correct installation and connection.
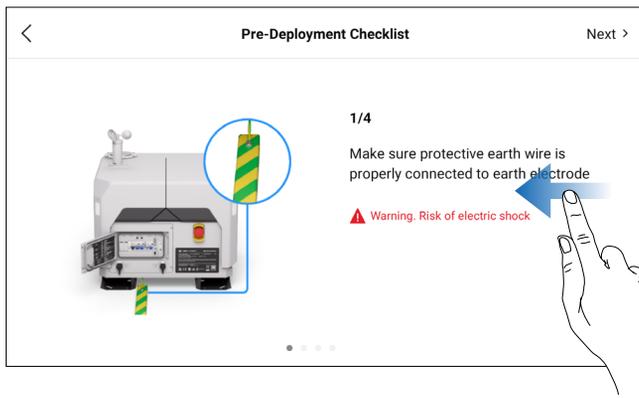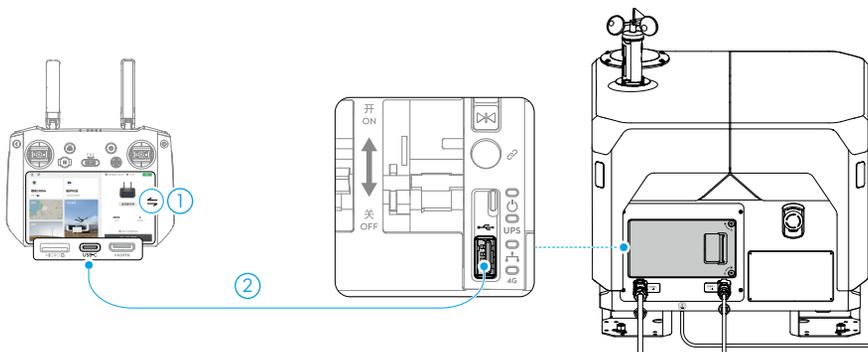
Configuring the Network of the Dock

Perform the network configuration and network detection according to the prompts in the app and the actual network conditions.

<table>
<tr><td><</td><td colspan="2" align="center">**Network Configuration**</td><td align="right">Next ></td></tr>
<tr><td colspan="2">Cable Network</td><td align="right">Connected (Gigabit Ethernet)</td><td>></td></tr>
<tr><td colspan="2">Network Check</td><td></td><td>></td></tr>
<tr><td colspan="4">Note: If cable and 4G networks are connected at the same time, cable network will be prioritized</td></tr>
</table>

<table>
<tr><td>✕</td><td colspan="2" align="center">**Network Connection Details**</td></tr>
<tr><td colspan="2">Gateway Service</td><td align="right">Network normal ✓</td></tr>
<tr><td colspan="2">NTP Service</td><td align="right">Network normal ✓</td></tr>
<tr><td colspan="2">DJI FlightHub 2/Third-Party Cloud</td><td align="right">Network normal ✓</td></tr>
<tr><td colspan="2">External Network Service</td><td align="right">Network normal ✓</td></tr>
<tr><td colspan="2">DNS</td><td align="right">Network normal ✓</td></tr>
<tr><td colspan="3">Enter IP or domain name to check custom network ✎</td></tr>
<tr><td colspan="3" align="center">Retry</td></tr>
</table>

☀ • When configuring the network, DO NOT use the below network segment range to configure the DNS address, IP address, and gateway address.

192.168.41.xxx

192.168.42.xxx

192.168.43.xxx

192.168.50.xxx

192.168.100.xxx

192.168.5.xxx

Connecting the Dock and the Aircraft

The aircraft and the dock need to be linked before using for the first time.

1. Tap the Link button in the app to connect the dock and the aircraft by following the onscreen instructions in the app. During the linking process, the status indicator on the dock covers will blink blue slowly, and the buzzer emits a beeping sound.

2. If the aircraft cannot be linked after powering on due to low battery power, place the aircraft on the landing pad with the aircraft nose pointing towards the arrow , close the dock cover, and then tap the Charge button in the app to charge the aircraft.
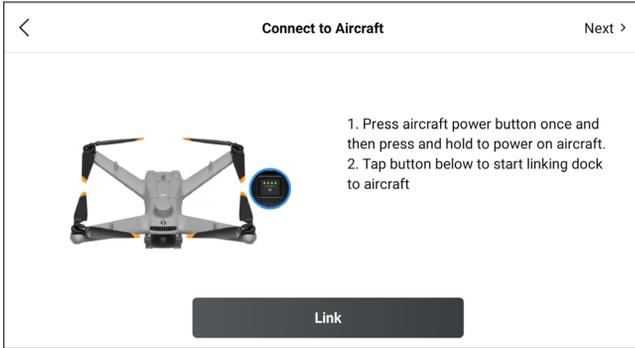
☀ • If the unlinked aircraft cannot be powered on due to low battery power, it is recommended to charge the aircraft battery using the charging kit (sold separately) before powering on.

• If the linked aircraft cannot be powered on due to low battery power, it can be charged using the dock.

• DO NOT power off the aircraft immediately after linking with the dock in order to avoid losing any information.

Activation

Make sure the aircraft is linked to the dock. Activate the dock and the aircraft by following the instructions in the app.

☀️ • The aircraft and the dock require activation before using for the first time. An internet connection is required for the remote controller during activation.

Configuring the Cloud Service

The automatic operation of the dock bundle needs to be performed using the cloud service. Bind the dock and aircraft to DJI FlightHub 2 using DJI Pilot 2.

Getting the Device Binding Code

1. Use a computer to visit https://fh.dji.com, and log in to DJI FlightHub 2 using a DJI account. Click to create an organization, fill in the organization information, and click the created organization name to enter the organization page.
2. Click Devices > Dock > Device Binding as shown in the diagram to obtain the organization ID and device binding code.
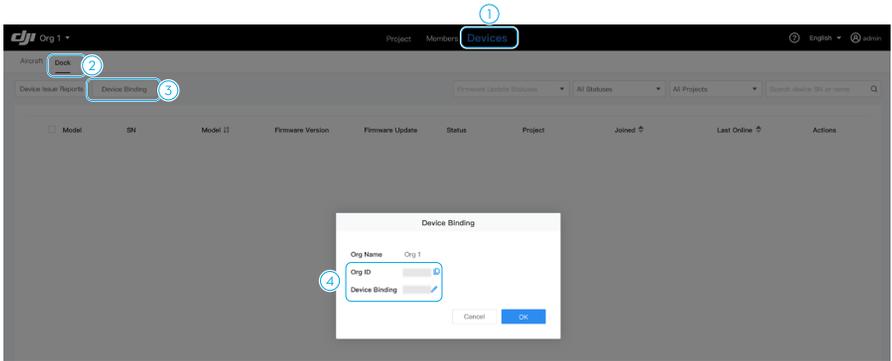
Binding to DJI FlightHub 2

Fill in the information in DJI Pilot 2 with the obtained organization ID and device binding code to bind the dock and aircraft to DJI FlightHub 2.


☼ • They can also be bound to a third-party cloud platform according to actual needs. Click the third-party cloud service in the cloud service drop-down list, and follow the prompts in the app to bind.

Calibrating the Dock Location

Make sure that the built-in RTK module of the dock can obtain accurate coordinates and calibrate the dock location to obtain an accurate absolute position.

1. Before calibration, make sure that the dock covers are opened. Remove any objects from the landing pad of the dock. Make sure the built-in RTK antenna area on the landing pad is not covered. During calibration, stay away from the dock to avoid the RTK antenna being blocked.

2. Custom network RTK calibration and manual calibration are available. Custom network RTK calibration is recommended to obtain better accuracy and simplify the operation. Make sure the remote controller is connected to the Internet during calibration.

3. Wait until the app displays the calibration results as converged and is fixed.
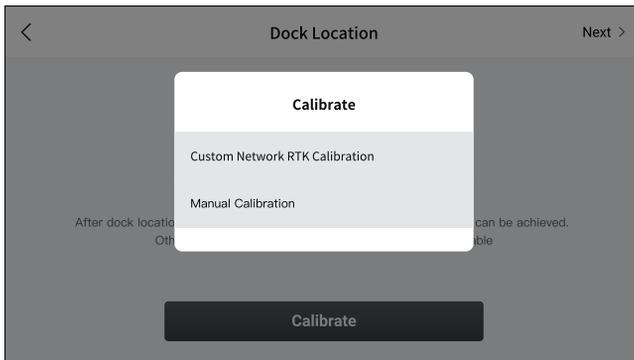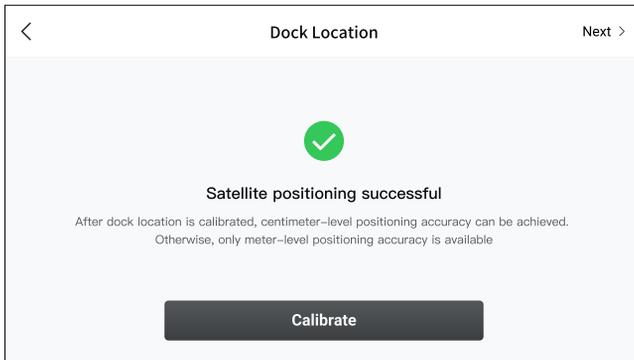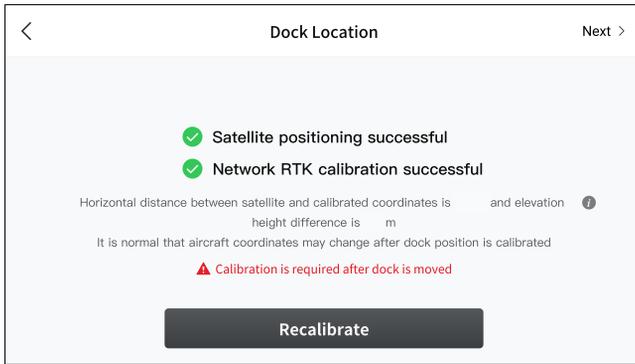
☀ • The dock location calibration data is valid for an extended period. There is no need to calibrate it when the dock is restarted. However, re-calibration is required once the dock is moved.

• After the dock location is calibrated, it is normal that the RTK positioning data of the aircraft may suddenly change. If the RTK positioning data changes suddenly in the app, make sure to restart the aircraft according to the prompts before continuing configuration.

• To ensure the accuracy of flight operations, make sure that the RTK signal source used during flight is consistent with the RTK signal source used during the dock location calibration when importing flight routes using DJI FlightHub 2. Otherwise, the actual flight trajectory of the aircraft may deviate from the planned flight route, which may lead to unsatisfactory operation results or even cause the aircraft to crash.

• When the dock is connecting to the remote controller and the dock covers are opened using DJI Pilot 2, make sure to keep a safe distance from the dock cover movement mechanism to avoid injury. **Press the emergency stop button on the dock to stop the dock cover moving, if necessary.**

Setting the Alternative Landing Site

When the dock or the aircraft fails or is affected by external bad weather, the aircraft cannot land at the dock, however it can fly to and land at an alternate landing site. Follow the prompts in the app to set an alternate landing site, pay attention to the following requirements:

- Tap Set Alternate Landing Site in the app and follow the prompts to operate. Make sure the alternate landing site is not too far away, otherwise it will affect the flight operation endurance.
- Set a reasonable Alternate Route Altitude to ensure that there are no obstacles when the aircraft flies from the dock to the alternate landing site to avoid collisions.
- Make sure to complete the previous step of the dock location calibration before setting the alternate landing site.
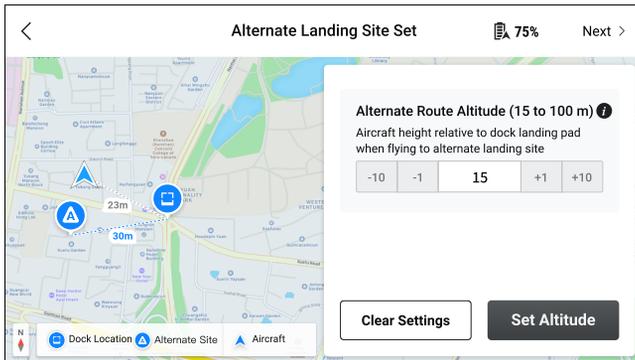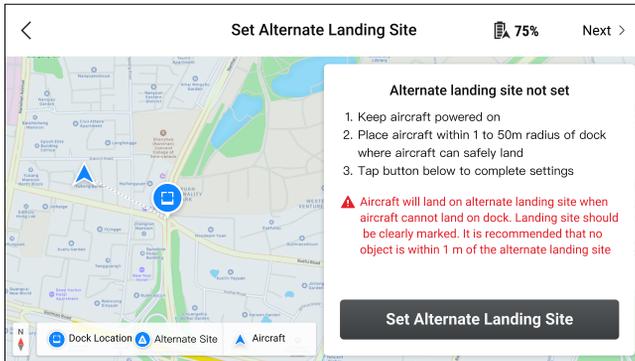
Completing the Configuration

1. Make sure the aircraft orientation is consistent with the arrow mark ▲ on the landing pad, and the aircraft is placed on the landing pad as shown in the diagram to complete the configuration. Dock Onsite Debugging in DJI Pilot 2 provides the dock status, the aircraft status, and operations such as testing air conditioning, controlling the dock cover, and charging the aircraft. [1]

2. Remove the protective sticker on the temperature and humidity sensor.

3. After disconnecting the USB-C cable, close and lock the electrical cabinet door using a 2.5mm hex key.

[1] The aircraft can be charged after it is linked with the dock. Make sure to keep the dock covers closed during charging and the landing pad surface clear of any metal objects.
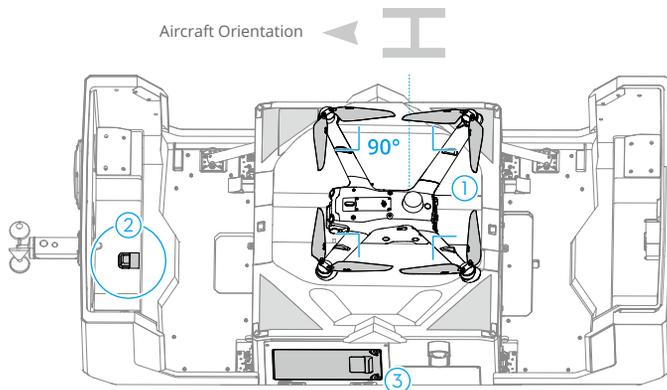
Using Dock Onsite Debugging
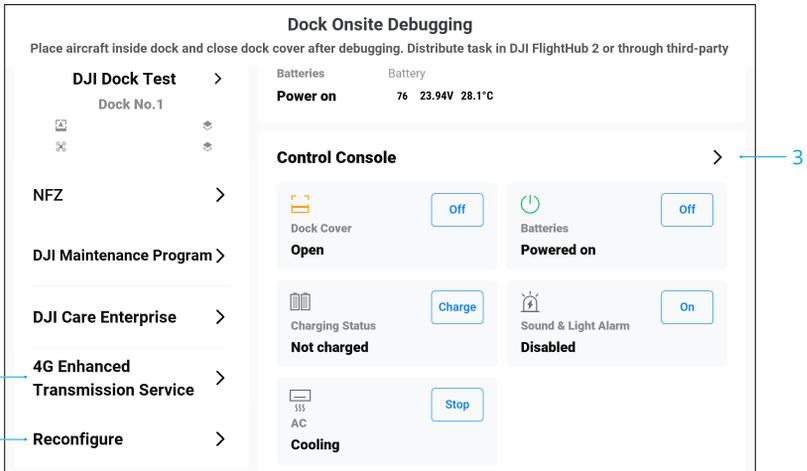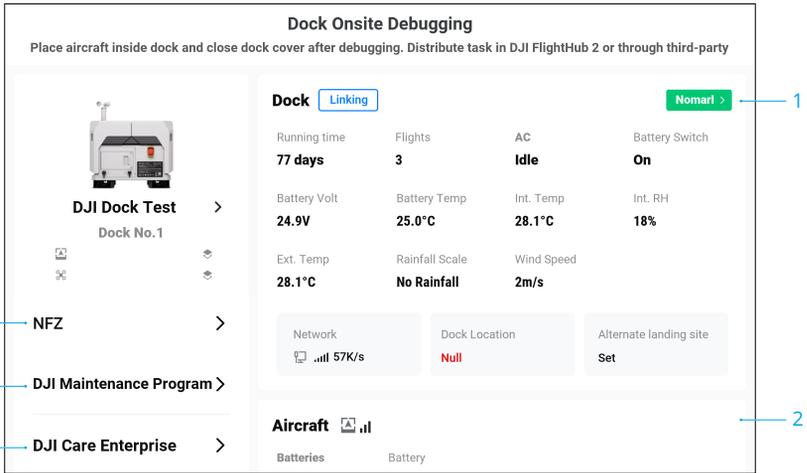
Dock Onsite Debugging in DJI Pilot 2 provides the dock status, the aircraft status, and operations such as linking aircraft, charging aircraft, and controlling dock cover.

1. Dock Status
   Displays information such as the running time, flights, air conditioner status, inside temperature or humidity, outside temperature, rainfall scale, and wind speed. Tap Linking to enter the aircraft and dock linking page.

2. Aircraft Status
   Displays information such as battery temperature, and battery level.

3. Control Console
   Supports the control of the dock covers, dock sound and light alarms, aircraft battery charging

status, and aircraft powering on and off.

4. Flight Restriction Information
   Imports the applied GEO Zone Unlocking License in the app to ensure smooth subsequent operations.

5. Maintenance Service
   Provides historical flight data to help users determine if maintenance is required.

6. DJI Care Enterprise
   Relevant information can be viewed if the device is bound to DJI Care.

7. Reconfiguring the Dock
   Tap to re-configure the dock.

8. Enhanced Transmission Service
   4G Private Deployment is available after installing the DJI Cellular Dongle 2 to the Aircraft.

- ☼: • Make sure the dock is properly functioning before disconnecting the USB-C cable.
  - Make sure to re-import the applied GEO Zone Unlocking License in the app when using a new aircraft.
  - The applied GEO Zone Unlocking License can be imported in DJI FlightHub 2 when the dock is updated to the lastest firmware version. Refer to the DJI FlightHub 2 User Guide for more information.

Connecting the Remote Controller as Controller B

To ensure the safety of the flight test for the dock, the remote controller can be used to take control of the aircraft manually during flight after connecting to the aircraft as controller B.

1. After disconnecting the USB-C cable, restart DJI Pilot 2, tap Controller A on the home screen, and select to switch to Controller B.

Controller A Management
Device Health Management
Switch to Controller B
Link to Aircraft
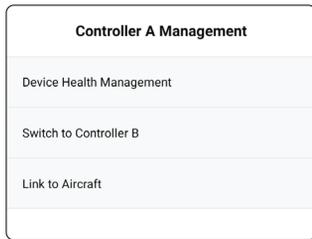
2. Power on the aircraft, press and hold the power button on the aircraft for at least five seconds, and wait for the remote controller to successfully link with the aircraft.

🕐 5s
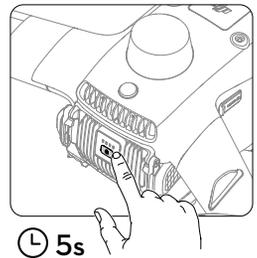
- ☼: • Go to the camera view in DJI Pilot 2, tap ••• to set the parameters for the camera, flight controller, sensing system, remote controller, and battery.

Calibrating the Aircraft Compass

Make sure to calibrate the aircraft compass before using for the first time. Otherwise, the aircraft positioning accuracy may be adversely affected.

Choose an open area for calibration. Place the aircraft 1.5 m away from the dock and 1.5 m above the ground, and then perform the compass calibration according to the prompts in DJI Pilot 2.
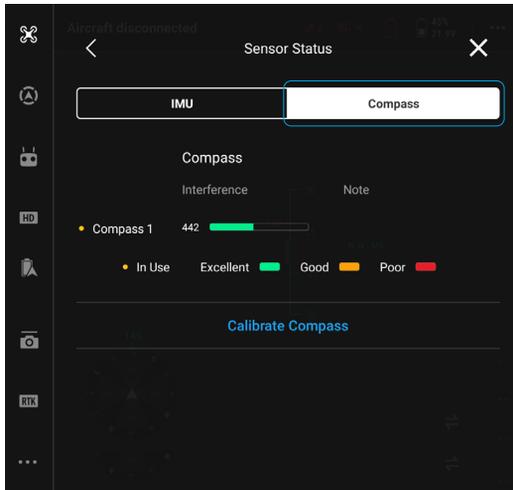
| | • The aircraft compass can be calibrated after remote controller B is linked and can be used to take control of the aircraft manually. |

Automatic Operation Test

To ensure that the dock and aircraft are properly functioning, make sure to create a flight route and plan a flight task in DJI FlightHub 2, and then launch the flight task to allow the dock to perform the automatic operation test after completing the dock configuration in the app.
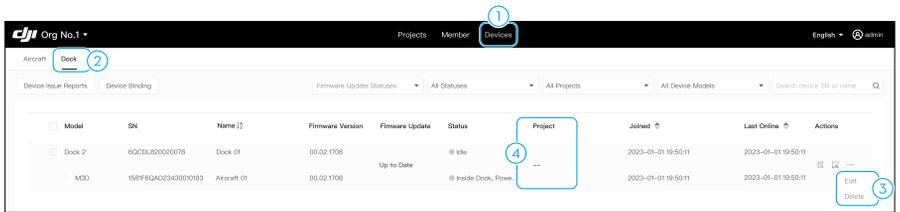
Binding the Dock to a Project

1. Use a computer to visit https://fh.dji.com, and log in to DJI FlightHub 2 using a DJI account.
2. Click Project > + in the project list, and then fill in the information to create a project.
3. Click Devices > Dock > Actions ●●● > Edit as shown in the diagram and add the dock to the specified project in the drop-down box of the project.

💡 • Click Members to add members and fill in the member account (DJI account), organization names, and roles.

Creating the Flight Route and Flight Plan

⚠️ • When planning a flight route in DJI FlightHub 2, make sure to check the flight altitude. Fly with caution.

1. Click Project > 🔁 > ⇆ > + on the flight route list to create a flight route, select Matrice 3D Series from the aircraft and payload list, and then click OK.
2. Right-click the mouse to add a waypoint in the route editor, then add waypoint actions, set route parameters, and finally save and exit.
3. Click 📅 > Create Plan to display the diagram shown. Fill in the flight plan name, select the flight route and dock, set the Plan Timer to Immediate, set the RTH altitude relative to the dock, and the Signal Lost Action during Flight, and click OK to complete the new flight plan.
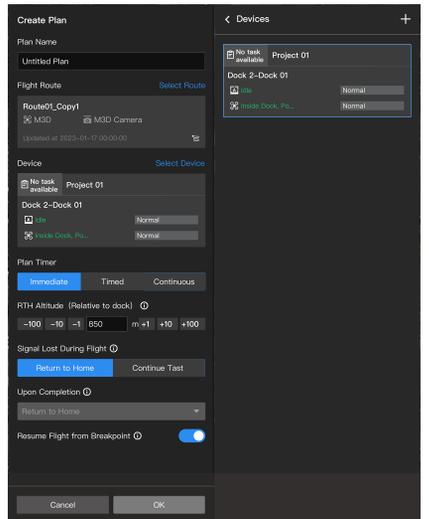
Performing the Flight Task

⚠️   • During the flight test, make sure the remote controller is connected to the aircraft as Controller B.

1. After starting the flight task, the dock cover will open. Once the aircraft takes off, the dock cover will close and the aircraft will begin to perform the flight route.

2. Click Project > Team 🖧 to display the diagram shown, view the flight task status and warning information of the dock and aircraft in the left column. Click 🖥 to open the device status window, and view the realtime status information and live view of the dock and aircraft. Users can view the planned route (in green) and the flight trajectory (in blue) of the aircraft on the map.

3. After completing the flight route, the aircraft flies above the dock, and the dock will automatically open the dock cover to allow the aircraft to land. After the aircraft lands, the dock automatically closes the dock cover.

4. After the flight task is complete, the media files will be automatically uploaded to the cloud. Click 🗂 to open the plan library. Users can view the number of media files in the media upload bar, and click the corresponding number to open the media library to view the media files captured during flight.

☼   • During the flight test, once the remote controller takes control of the aircraft, DO NOT update the Home Point in the app, otherwise the aircraft will not be able to return to the dock.
     • Refer to the DJI Dock 2 User Manual and the DJI FlightHub 2 User Guide for more information.
     • Trial Flight is available when the dock is updated to the latest firmware version. Refer to the DJI FlightHub 2 User Guide for more information.

Alternate Landing Site Test

During the flight task, press the emergency stop button to test if the aircraft can fly to the alternate landing site. Once the emergency stop button is pressed, after completing the flight task, the aircraft will return to and hover above the dock, and then fly to the alternate landing site at the alternate route altitude. During the flight test, make sure the remote controller is connected to the aircraft as Controller B to ensure safety.

Before Leaving Checklist

Before leaving the site, make sure to check the following items.

- ☐ The HMS of DJI FlightHub 2 has no abnormal alarm.
- ☐ The wind speed gauge module is mounted securely.
- ☐ Check the wind speed gauge data displayed in DJI FlightHub 2 by rotating the wind speed gauge.
- ☐ The rainfall gauge surface is clear of dirt and foreign matter.
- ☐ The surge protector circuit breaker, AC power switch, and backup battery switch in the electrical cabinet are turned on.
- ☐ The landing pad surface is clear of dirt and foreign matter.
- ☐ The protective sticker has been removed from the temperature and humidity sensor.
- ☐ The aircraft is placed properly on the landing pad.
- ☐ The port covers are correctly in place and securely sealed.
- ☐ The lenses of the vision systems, gimbal cameras, glass of the infrared sensors, and auxiliary lights are clean.
- ☐ The dock covers are closed.
- ☐ The dock cover surface is clear of dirt and foreign matter.
- ☐ The electrical cabinet door is closed and locked.
- ☐ The aircraft alternate landing site test has been completed.
- ☐ Check whether the GEO Zone Unlocking License (if any) has been imported to DJI Pilot 2.

☼ • If the installed dock is left outdoors for an extended period, make sure to remove the aircraft from the dock and store it separately, and to charge the backup battery regularly.

Appendix

Status Indicators

The status indicators on the dock cover are used to display the current operational status of the dock.

Normal States		
☼······	Blinks white	The dock is working normally and the aircraft is ready to take off.
◉······	Blinks blue	The dock and the aircraft are linking, and the buzzer emits a short beep.
◉······	Blinks green	The aircraft has taken off from the dock and is performing a flight task.
◉──	Solid blue	The dock is updating or debugging (including remote debugging and on-site debugging).
Warning States		
●······	Blinks red	The dock covers are moving or the aircraft is taking off or landing, and the buzzer emits a long beep.
●◉······	Blinks red and yellow alternately	The emergency stop button on the dock is pressed.

Electrical Cabinet Indicators

Electrical cabinet indicators are used to display the current status of dock power input, backup battery, Ethernet and wireless network connection.

Status Indicator		Status		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 to the dock.
		◉······	Blinks blue slowly	Backup battery is charging.
		◉······	Blinks blue quickly	Backup battery has low battery power.
			Off	Backup battery is not installed or the backup battery switch is turned off.
⊹	Wired Network Indicator	◉······	Blinks green quickly	The Ethernet cable is connected and has data transfer with the dock.
			Off	The Ethernet is disconnected.
4G	4G Network Indicator	◉······	Blinks green quickly	4G network is connected and has data transfer with the dock.
			Off	4G network is disconnected or does not have data transfer with the dock.

Using Third-Party Payloads

The aircraft is equipped with an E-Port that allows access to third-party payloads such as loud speakers and spotlights. The E-Port lite can be used to connect parachute payloads when the E-Port is connected to other devices. The dock reserves a space inside the dock cover for storing the third-party payload, which facilitates the expansion of the aircraft operating capabilities.

⚠️ • To ensure flight safety, make sure to follow the Payload Development Criteria when developing PSDK payloads. Visit https://developer.dji.com/payload-sdk/ to view the documentation and the DJI Enterprise Ecosystem Solution Catalogue to learn more about the payload development criteria and the recommended payloads.
  • The E-Port supports high power output and standard PSDK functions, while the E-Port Lite only supports a low power output of 5 V and PSDK parachute payloads.

Third-Party Payload Requirements

- Installing a third-party payload will shorten the fight time and reduce the aircraft wind resistance. Make sure to install the payload as needed.
- The third-party payload should have the protection rating of IP54 or above in order not to reduce the working stability or the service life of the aircraft.
- The port of the third-party payload connecting to the aircraft should have a water-resistant rubber ring.

Installation Requirements

- The size of the reserved storage space inside the dock cover is 150 mm × 150 mm × 100 mm (length×width×height).
- The height of the PSDK payload must not exceed 70 mm.
- After installing the payload, make sure that the third-party payload does not block the aircraft vision system to avoid affecting the obstacle-sensing performance.
- Make sure that the payload is installed securely to avoid risk of falling payload during flight tasks, which will seriously affect flight safety.
- Make sure to seal the ports properly when connecting the payload to the aircraft. Use sealants if necessary. If any of the seals fail and water leaks into the aircraft, it will seriously affect flight safety.
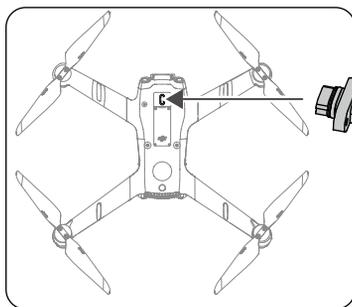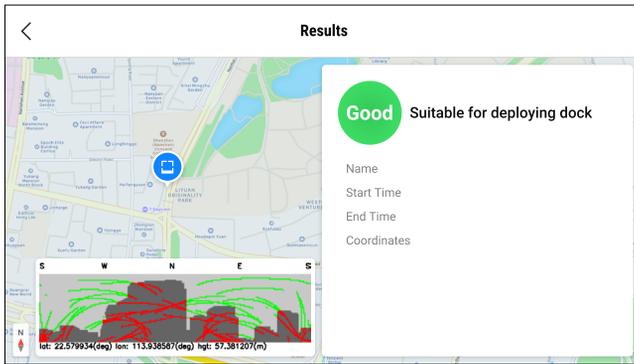
Multi-Dock Task

To perform a multi-dock task, purchase multiple docks as needed. Every dock used to perform a multi-dock task is required to complete an environmental survey, construction preparation, installation, configuration, and flight task testing. Make sure to read the following instructions carefully in order to perform a multi-dock task.

Construction Preparation - Environmental Survey

a. Environmental Requirements: When selecting the installation sites, the distance between each dock that is performing the multi-dock task should be less than 15 kilometers.

b. GNSS Signal Quality Survey: The dock site evaluation result needs to be Good for each dock.

☼ • For the dock that is already in use and needs to add support to the multi-dock task, make sure to use a remote controller that is updated to the latest firmware version to re-perform the dock site evaluation and that the survey result is Good. If the survey result is not shown as Good, it is required to select a new installation site for the dock.

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c. Performing a Flight Task: Select the installation site for the dock according to the actual operation needs. Plan the flight routes between the docks that need to perform a multi-dock task, and then perform the flight task. Make sure that no restricted zones or authorization zones affect the multi-dock task, and that there is no strong interference along the flight route.

Dock Installation

To create a multi-dock task, it is recommended to install the aircraft with DJI Cellular Dongle 2.

Configuring the Dock using DJI Pilot 2

a. Calibrating the Dock Location: For the single-dock that is already in use and needs to add support to the multi-dock task, make sure that the dock is updated to the latest firmware version and to re-calibrate the dock location. DO NOT use manual calibration, and make sure to use the same RTK signal source when calibrating multiple docks.

b. Setting the Alternative Landing Site: It is required to set the alternative landing site for each dock to perform a multi-dock task. It's ok to use the same aircraft or use different aircraft to set all of the alternate landing sites.

c. Connecting a Remote Controller as Remote Controller B: Remote controller B linking and flight control are unavailable during the multi-dock tasks.

Automatic Operation Test

a. Multi-Dock Plans must be selected in the Task Plan Library in DJI FlightHub 2 before performing a multi-dock task. Docks that have performed a multi-dock task can also perform single-dock task simply by selecting Single-Dock Plans in the Task Plan Library.

b. Trial Flight is unavailable when performing multi-dock tasks.

c. During on-site flight tests, the aircraft may disconnect from the dock if remote controller B is linked to the aircraft. Make sure to re-link the aircraft and the dock before leaving the site.

d. If emergency landing or alternate landing is triggered during the flight task test, make sure to re-link the aircraft and the dock before leaving the site.

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