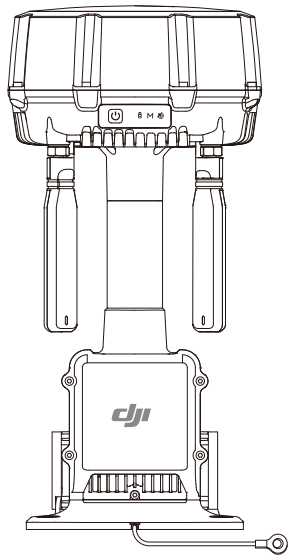
O4 GROUND STATION

User Manual

v1.0 2026.06



Searching for Keywords

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

Navigating to a Topic

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

Printing this Document

This document supports high resolution printing.

Using this Manual

Legend

⚠ Important Hints and Tips Reference

Read Before Use

Watch all the tutorial videos first, then read the documentation included in the package and this user manual.

If you have any questions or issues during installation and use of this product, contact the official support or an authorized dealer.

Video Tutorials

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

https://enterprise.dji.com/o4-ground-station/video

Download DJI Enterprise App

Scan the QR code to download the latest version.

- To check the operating system versions supported by the app, visit https://www.dji.com/downloads/djiapp/dji-enterprise.
- The interface and functions of the app may vary as the software version is updated. Actual user experience is based on the software version used.

Download DJI Assistant 2

Download DJI ASSISTANT™ 2 (Enterprise Series) at:

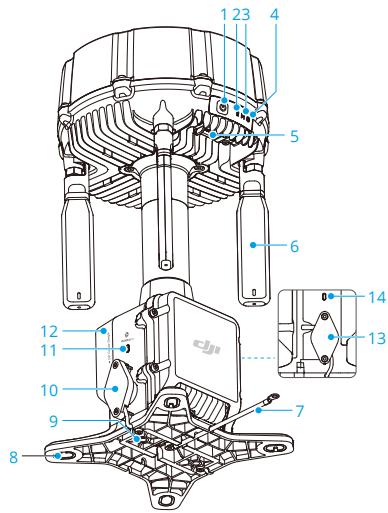
https://www.dji.com/downloads/softwares/assistant-dji-2-for-matrice

Contents

Product Overview

1 Product Overview

1.1 Parts of the Product

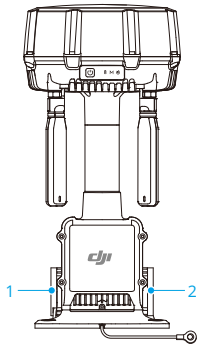


1. Power Button
2. Power Indicator
3. Mode Indicator
4. GNSS Signal Indicator
5. USB-C Port[1]
6. OcuSync™ Pro Orientation Antennas
7. Earth Wire
8. Slotted Holes
9. M6 Threaded Holes
10. WAN Port[1]
11. WAN Port Indicator
12. Cellular Dongle Compartment
13. LAN Port[1]
14. LAN Port Indicator

[1] When not in use, make sure to tighten the protective cover screws to protect the product from moisture and dust. The IP67 rating is achieved when the screws are tightened or an Ethernet cable connector is inserted.

1.2 WAN/LAN Port Description

The WAN port and LAN port differ in network types, use scenarios, and power supply requirements.



Port	1. WAN Port	2. LAN Port
Port Type	Ethernet	
Network Type	External Network	Local Area Network (LAN)
IP Address	DHCP / Static IP Address	Static IP Address: 192.168.50.10 (Subnet Mask: 255.255.255.0)
Accessible Devices	Upstream network devices	Devices with static IP addresses on the same subnet (192.168.50.x)
Internet Access	Supported	Not supported
PoE	PoE-in supported; PoE-out not supported[1]	

[1] When two PoE power sources are connected simultaneously, the device will automatically select the port with the higher output power for power supply.

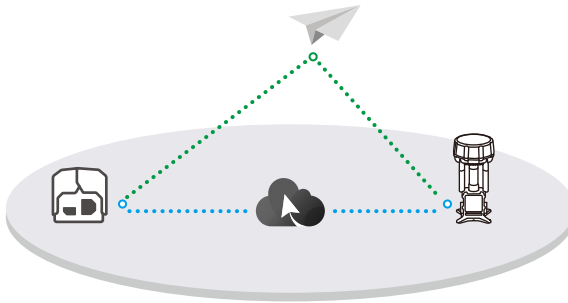
1.3 Operating Modes

Before using this product, select the appropriate operating mode based on your operational needs and environment. Each operating mode significantly affects how the product is deployed, the signal coverage, and the overall workflow.

- Gateway Mode
- Relay Mode

Gateway Mode

Gateway Mode is the primary operating mode for DJI O4 Ground Station to access cloud services. In this mode, DJI O4 Ground Station connects to DJI FlightHub 2 via Ethernet or DJI Cellular Dongle, enabling remote video transmission and aircraft control.



In Gateway Mode, only one aircraft can be connected and in use at a time. Multiple DJI Dock 3 units and aircrafts within the same organization can take turns connecting to the same DJI O4 Ground Station at different times.

Roaming

In Gateway Mode, the Roaming feature enables communication handover between devices for the aircraft. During flight, DJI FlightHub 2 automatically switches the aircraft's communication link to the device with better signal based on real-time link quality.

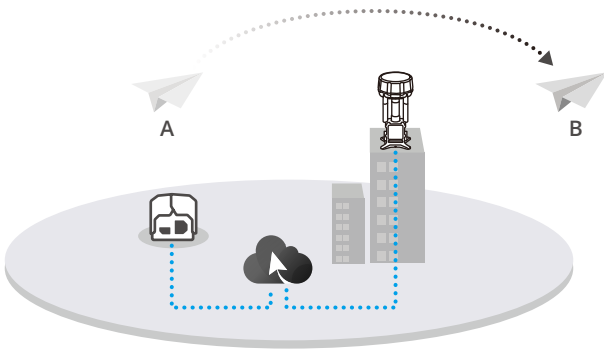
The Roaming feature requires the following:

- DJI O4 Ground Station is online and connected to DJI FlightHub 2 via Ethernet or DJI Cellular Dongle.
- All DJI O4 Ground Station units involved in Roaming are bound to the same DJI FlightHub 2 organization as DJI Dock 3 and are online.

Typical Scenario

The aircraft takes off from the dock (Position A) and establishes a communication link. As the aircraft flies away from the dock and approaches the edge of its video transmission range (Position B), the system automatically selects a ground station with better signal conditions to take over communication, ensuring stable connectivity and uninterrupted video transmission during long-range flights.

Before takeoff, select the ground station at Position B in DJI FlightHub 2.



⚠ Actual Roaming performance may be affected by ground station deployment location, network quality, and environmental conditions.

Third-Party Device Integration

In Gateway Mode, DJI O4 Ground Station supports integrating and managing third-party devices through DJI FlightHub 2.

Supported device types:

- IP cameras (must support ONVIF Protocol or GB/T 28181 Protocol)
- Devices developed based on ESDK 2.0 (e.g., ADS-B and Remote ID receivers). For more information, visit the DJI Edge SDK Developer Page.

IP Cameras

Once connected, IP cameras provide a live view of the surrounding environment and device status at the deployment site.

The activation process, stream configuration, and platform operations vary by camera manufacturer. For connection and configuration instructions, refer to the IP Camera Connection and Configuration Guide on the product's official website.

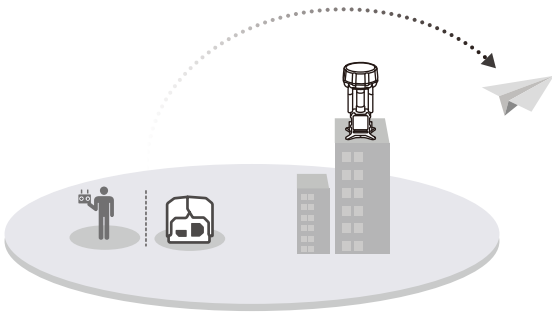
ADS-B and Remote ID Receivers

Once connected, ADS-B and Remote ID receivers collect and report UAS identification information in real time to meet local regulatory requirements for aircraft operations.

Relay Mode

In Relay Mode, DJI O4 Ground Station is mounted at an elevated position to relay communication signals for the aircraft. This mode does not require network connectivity

and is suitable for environments with no network coverage or severe signal obstruction. With proper placement, the ground station extends the overall video transmission range.



Only one aircraft can be connected at a time in Relay Mode.

Construction Safety

2 Construction Safety

2.1 Notices

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

- Installation, configuration, maintenance, troubleshooting, and repair of the product must be performed by authorized technicians in compliance with local regulations.
- The person who installs and maintains the product must have undergone training to understand the various safety precautions and be familiar with the correct operations. They must also be familiar with network configuration and device deployment, understand the various potential dangers during installation, configuration, and maintenance, and be familiar with the solution.
- 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 above-safety-voltage operation.
- Make sure to have the permission from the client and local regulations before installing on a communication tower.
- Make sure to perform the operation such as installation, configuration and maintenance in accordance with the steps in the manual.

- When operating at heights, always wear protective gear and safety ropes. Pay attention to personal safety.

- Make sure to wear protective equipment during installation, configuration, and maintenance, such as a safety helmet, goggles, insulated gloves, and insulated shoes.

- Wear a dust mask and goggles when drilling holes to prevent dust from entering the throat or falling into the eyes.
- Pay attention to personal safety when using any electrical tools.

- The product must be properly grounded. DO NOT damage the ground wire installed.

2.2 Warning

	• DO NOT install, configure, or maintain the product (including but not limited to installing the product, connecting the cables, or performing operations at a height) in severe weather such as thunderstorms, snowfall, or winds of 8 m/s or above.
	• When dealing with high-voltage operations, pay attention to safety. DO NOT perform live (energized) operations.
	• In the event of a fire, immediately evacuate the building or the product installation area, activate the fire alarm, and call the fire department. DO NOT re-enter a burning building or product installation area under any circumstances.

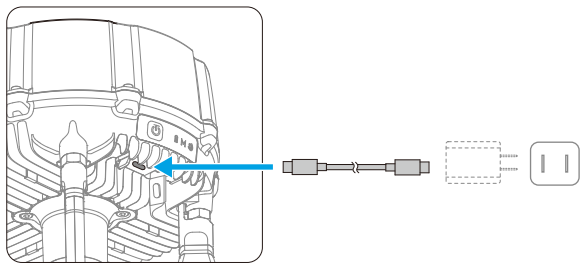
Pre-Deployment Preparation

3 Pre-Deployment Preparation

3.1 Battery Activation

Before using the product for the first time, charge it to activate the internal battery. Use a USB PD 3.0 charger (9-12 V recommended) or a PoE power supply for charging.

1. Connect the charger to the USB-C Port. The power indicator lights up, indicating that the device has been successfully activated.
2. Press, and then press and hold the power button to power on/off the product.



3.2 Device Activation

1. Connect the device to the smartphone using a USB-C to USB-C cable.
2. Open the DJI Enterprise App and follow the on-screen instructions to activate the device.

3.3 Selecting an Installation Site

Before installing the device, complete an environmental assessment followed by a site evaluation to confirm that the installation area meets the basic operational, safety, and signal coverage requirements.

Environmental Requirements

- The site altitude should not be higher than 6000 m.
- The annual temperature of the installation site should be between -40° to 55° C (-40°F to 131°F).

- Make sure there are no obvious biological destructive factors such as rodent infestation and termites at the installation site.
- DO NOT install the product near dangerous sources without permission, such as gas stations, oil depots, and dangerous chemical warehouses.
- Avoid installing the product in lightning strike areas.
- Avoid installing in downwind areas of chemical plants and septic tanks to prevent pollutants from corroding the equipment; if deploying near a coastline, avoid installation in areas where seawater may submerge or waves may splash, to prevent seawater corrosion of the equipment and metal parts.
- Keep a distance of at least 200 m from sources of strong electromagnetic interference, such as radar stations, microwave stations, and aircraft jamming equipment.
- Keep a distance of more than 0.5 m from metal objects that may interfere with the product.
- Consider future environmental changes at the installation site, avoiding areas with large-scale construction plans or significant environmental changes. If changes occur, re-surveying is required.

Site Evaluation

In addition to meeting the environmental requirements, the specific installation site must also satisfy the following conditions:

- The device should be installed in an open, elevated, and unobstructed location, free from nearby communication interference and metal obstructions.
- The cable routing distance between the installation site and the power supply equipment must not exceed 100 m.
- Use a level to measure two diagonal directions across the installation surface. Ensure the slope in any direction does not exceed 3°.
- The device must be deployed in an environment with physical access control measures to prevent unauthorized personnel from operating the device interfaces.

After meeting the above general conditions, a further site assessment is required based on the operating mode of the ground station.

Site Selection for Gateway Mode

In Gateway Mode, DJI O4 Ground Station acts as a video transmission relay point for the aircraft and should be deployed at the edge of or in the dead zones of the dock's signal

coverage, allowing the aircraft to promptly connect to this device when the dock's signal weakens, maintaining continuous communication.

Signal Map

The signal map records the real-time video transmission signal at each location during flight and displays it on a map for analyzing video transmission coverage of the operating area. Enable the Signal Map feature in DJI FlightHub 2 to identify areas with weak signal as candidate deployment locations.

1. Open DJI FlightHub 2 and enable the **Signal Map** feature on the map interface. During flight, the system automatically records the video transmission signal along the flight path.
2. After the flight task is complete, DJI FlightHub 2 generates a signal map based on the flight data, highlighting areas with weak signal coverage. Use the map to determine the installation location.

Site Selection for Relay Mode

In Relay Mode, DJI O4 Ground Station acts as a signal relay point and must be deployed at an elevated position with a clear line of sight to the dock, at a recommended straight-line distance of no more than 1 km, while also covering the target work area.

Matrice 4 Series and Matrice 4D Series aircraft support site evaluation using the relay site evaluation function in DJI Pilot 2. Before installation, follow the app instructions to complete video transmission quality and GNSS signal detection.

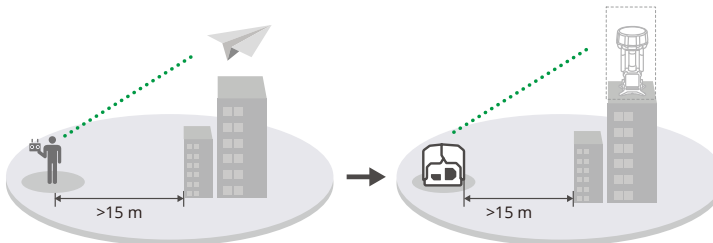
- It is recommended to install the device at the highest position of a building near the dock. For rooftop installations, it is recommended to mount the device on top of ventilation shafts, elevator shafts, or stairwells.

- Under unobstructed and interference-free conditions, the theoretical maximum access distance can reach 3 km. To ensure reliable connection performance, the recommended operating distance is within 1 km.
- Make sure there are no significant reflective objects above or around the device installation location to avoid affecting the video transmission system and GNSS positioning.

Checking the Signal Quality

Matrice 4 Series or Matrice 4D Series aircraft and a DJI RC Plus 2 Enterprise remote controller can be used for signal checking. If using a Matrice 4D Series aircraft paired with the dock for the evaluation, power off the dock first.

Signal check evaluates signal quality by simulating the actual communication between the dock and the ground station. In this test, the remote controller acts as the dock and the aircraft acts as the ground station.



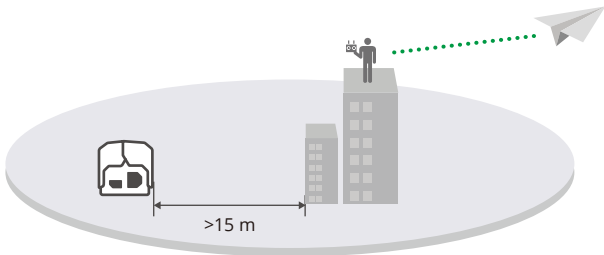
1. Power on the aircraft and remote controller, and ensure they are linked.
2. Open the DJI Pilot 2 App, tap the icon on the homepage, select **Relay Site Evaluation**, and create a new site evaluation task following the app instructions.
3. Hold the remote controller and move to the deployment position of the dock, keeping the remote controller at the same height as the dock cover.
4. Fly the aircraft to the planned installation position of the ground station and hover. The system will automatically complete video transmission quality and GNSS signal detection.
5. Once detection is complete, view the signal evaluation results for the current candidate location. Tap **Return** to view the evaluation summary and coordinate information of all candidate locations.

Test multiple candidate locations and compare results before finalizing the installation site. Prioritize locations rated "Excellent." A "Fair" result indicates reduced video transmission quality and slower firmware upgrades and log transfers.

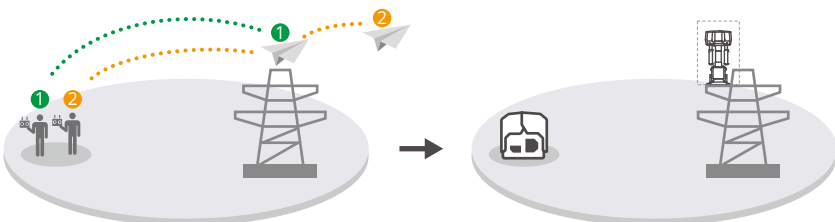
Performing a Flight Route Test

After signal detection is complete, it is recommended to conduct a flight test at the candidate site to verify communication coverage of the target work area. The test flight should cover the entire intended work area.

- If the site is accessible, go to the planned installation location and hold the remote controller at the intended installation height. Take off and fly to the farthest point of the intended work area, observing video transmission and GNSS signal changes throughout the flight.



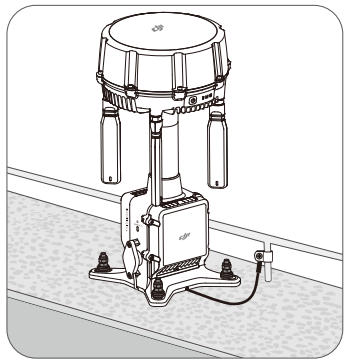
- For planned installation sites that are difficult to approach for the pilot, such as a rooftop or tower, use the Airborne Relay function of the Matrice 4D Series aircraft. Hover the relay aircraft at the planned installation altitude, and conduct the flight test with the main aircraft to evaluate communication coverage.



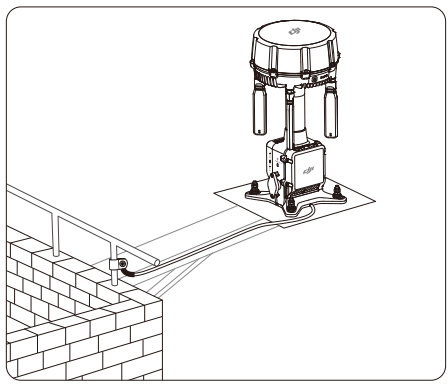
On-site Evaluation

Fill out the information such as the installation location, installation method, installation orientation, and the list of required materials. It is recommended to mark the planned installation location of the product using paint.

Based on the actual situation, choose to install the device by drilling holes directly or by using a support bracket.



Installation on Wall



Installation on Support Bracket

- When installing on the rooftop of a building, the building must not be a hazardous structure (i.e., classified as Grade D dangerous building). The equipment must be installed at the highest point of the rooftop; use an adapter bracket to elevate it if necessary.
- In areas with heavy snowfall, the equipment must be elevated to prevent it from being buried by snow.
- When installed on a communication tower, it is recommended to choose the first platform level and place it behind the base station antenna to avoid antenna radiation interference.

- The mounting surface must be a load-bearing concrete or solid clay brick wall, and must not be lightweight brick or an insulation panel.
- Wind load at the installation location must be assessed in advance to identify any risk of the device falling.
- Before drilling, make sure there are no cables or pipes inside the hole location to avoid damage.
- When the wall cannot be drilled into directly, use an L-shaped mounting bracket to install the device on the side of the wall, ensuring a secure installation with no wobbling.
- Keep as far away as possible from heat sources, such as air conditioner outdoor units.

3.4 Power Supply and Wiring

DJI O4 Ground Station is powered via PoE. Select an upstream power supply solution based on site conditions:

- Mains Power Supply Solution
- Solar Power Solution
- Dock PoE Power Supply

The PoE device used for power supply must meet the following requirements:

Standard	Output Voltage	Max Power per Port	Applicable Ambient Temperature
IEEE 802.3bt Type 4 (PoE++)	52 V - 57 V	99.9 W	-40° to 55° C (-40° to 131° F)
IEEE 802.3bt Type 3 (PoE++)	50 V - 57 V	60 W	-30° to 55° C (-22° to 131° F)
(Gateway Mode only) IEEE 802.3at Type 2 (PoE+)	50 V - 57 V	30 W	-20° to 55° C (-4° to 131° F)

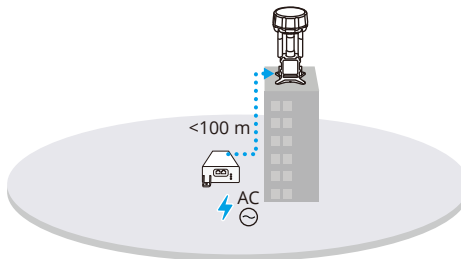
- A Gigabit PoE switch is recommended. The PoE output power must meet the requirements for the ambient temperature at the deployment site. Refer to the table above for details.
- If third-party devices are connected to the same PoE switch, ensure that the total output power of the switch meets the power supply requirements of all connected devices.

Mains Power Supply Solution

This solution applies to deployment scenarios with access to mains power, such as equipment rooms and rooftops. A PoE power supply device converts mains power for use by the DJI O4 Ground Station.

A typical power supply chain is as follows:

Mains Power → PoE Power Supply Device (e.g., PoE switch, PoE adapter) → DJI O4 Ground Station (LAN port)



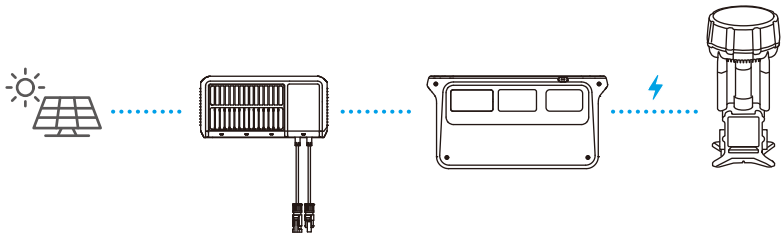
Solar Power Solution

For sites where mains power is unavailable or difficult to access, such as power transmission towers, desert areas, or remote forest sites, a solar power solution can be used.

A typical power supply chain is as follows:

Solar Panel → MPPT Module → Outdoor Power Station → DC-to-PoE Power Module → DJI O4 Ground Station (LAN port)

An MPPT module (Maximum Power Point Tracking) improves the conversion efficiency of solar panels. Some outdoor power stations have a built-in MPPT module; others require a separately purchased external MPPT module. Refer to the documentation of the selected equipment for configuration details.



Power Consumption Requirements

Parameter	Gateway Mode	Relay Mode
Max Power Consumption[1]	65 W	65 W
Typical Power Consumption[2]	17.1 W	31.7 W
Power Consumption in Low Power Mode	7 W	29.7 W[3]
Daily Flights	8	8
Daily Energy Consumption	209 Wh	721 Wh

[1] When the ambient temperature drops below -20°C, the device automatically activates low-temperature heating, and power consumption reaches its maximum.

[2] Refers to typical power consumption when used with DJI Dock 3.

[3] Refers to power consumption in Relay Mode when no aircraft is connected. Low Power Mode is not supported in Relay Mode.

Each flight task is assumed to last 30 minutes. Daily energy consumption assumes 8 flights per day, with active periods calculated at typical power consumption and idle periods (20 h) at low power mode consumption:

Gateway Mode: 17.1 W × 8 × 0.5 h + 7 W × 20 h ≈ 209 Wh

Relay Mode: 31.7 W × 8 × 0.5 h + 29.7 W × 20 h ≈ 721 Wh

Recommended Solar Panel Power

Operating Mode	Recommended Power
Gateway Mode	200 W
Relay Mode	600 W

- Adjust the solar panel power appropriately based on the daily energy consumption and the effective daily sunlight hours at the deployment location.
- Adjust the installation orientation and tilt angle according to the requirements of the actual deployment site. The recommended orientation is toward the local solar azimuth at noon (typically southeast), and the tilt angle should be determined based on the local latitude.

Recommended Battery Capacity

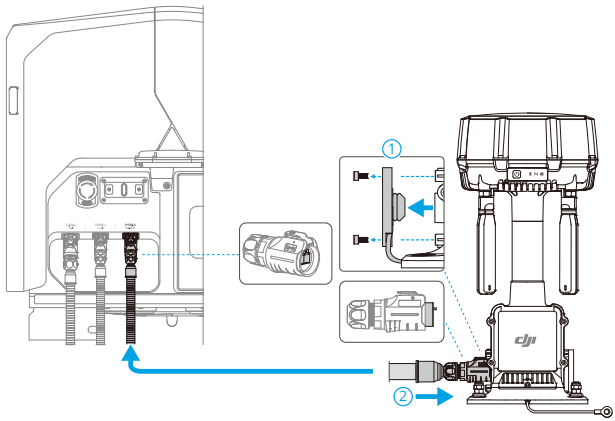
Operating Mode	Recommended Capacity
Gateway Mode	> 1000 Wh
Relay Mode	> 3000 Wh

- The power consumption figures above do not account for additional peripheral devices. If other devices are connected, increase the battery capacity accordingly.
- If sunlight conditions at the deployment location are poor, it is recommended to increase the battery capacity appropriately.

⚠
- The power generation and energy storage capacity of the solar system must be evaluated based on the actual solar irradiance conditions at the deployment area and the expected daily operating hours of the ground station.
- The outdoor power station and DC-to-PoE power module must be capable of stable operation in long-term outdoor environments.
- It is recommended to use a solar system that supports remote control, enabling status observation and management when the site cannot be physically accessed.
- When using solar power, it is recommended to enable the device's low power mode to reduce power consumption. For more information, refer to Low Power Mode.
- The power supply system must include a certain amount of energy storage redundancy to handle situations where power generation is insufficient due to prolonged cloudy or rainy weather.

Dock PoE Power Supply

When connecting to a DJI dock, refer to the dock user manual to assemble the network cable connector and use the dock for PoE power supply.



⚠ The Ethernet cable connector on the DJI O4 Ground Station end and the dock end are different. Do not mix them up.

Cable Requirements

- Use Cat 6 or higher outdoor waterproof twisted-pair cables with an outer diameter of 5.5–6.5 mm. The cable length between the ground station and the power supply equipment must not exceed 100 m.
- Lay outdoor cables in PVC pipes and buried underground. If burial is not feasible (e.g., on a rooftop), lay the cables in galvanized steel pipes fastened to the ground with proper grounding. The inner diameter of the conduit must be at least 1.5 times the outer diameter of the cable.
- Cables inside protective conduits must not have joints. Conduit joints must be waterproofed, and the ends must be sealed with sealing compound.
- Make sure the cables are not routed near water pipes, heating pipes, or gas pipes.

The upstream and downstream network bandwidth should be no less than 40 Mbps. If IP cameras are deployed on the same network, use a dedicated network to reduce the impact of network latency on video transmission quality.

3.5 Lightning Protection and Grounding Requirements

Lightning Protection System

DJI O4 Ground Station has built-in surge protection on both the WAN and LAN ports, with a total impulse current rating of 10 kA, meeting the EN/IEC 61643-21 Category C protection level. This protection is designed for induced lightning and conducted line surges, and cannot replace an external direct lightning strike protection device.

During deployment, ensure that the device is protected by a lightning rod. The protected region of the air-termination system can be calculated using the rolling sphere method. A device located within the protected zone of the rolling sphere is protected from a direct lightning flash.

If the existing lightning rod cannot cover the device installation location, a qualified professional must be engaged to redesign and install a lightning protection system.

Earth-termination System

Select the appropriate earth-termination system based on the conditions of the installation site.

- When installed on the rooftop, it can be directly connected to the lightning protection belt.
- The device requires the earthing resistance to be less than 10 Ω. If there is no existing earth-termination system, designate qualified personnel to make and install the earth electrode.

Deployment and Installation

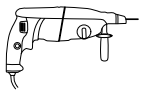
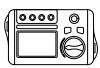
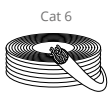
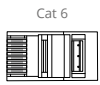
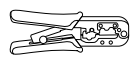
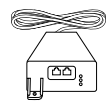
4 Deployment and Installation

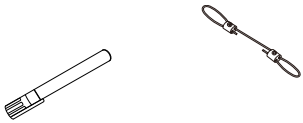
4.1 Deployment Operations

After completing the preparations, install and secure the device, connect the cables, and then configure the device in order.

⚠ Before starting work, personnel should wear appropriate personal protective equipment (PPE), including a safety helmet, goggles, insulating gloves, and insulating shoes. A safety rope should be used when working at height.

4.2 User-Prepared Tools and Materials

Digital Level	Hammer Drill (Φ10 mm)	Claw Hammer	Wrench (10 mm)
			
Earthing Resistance Meter	Screws and Nuts (M4)	Corrugated Tubing	Corrugated Tubing Plug
			
Category 6 outdoor waterproof twisted-pair cable	Waterproof RJ45 Connector	Cable Crimping Pliers	PoE Power Adapter (Optional)
			
Paint Marker	Anti-fall Steel Wire Ropes		

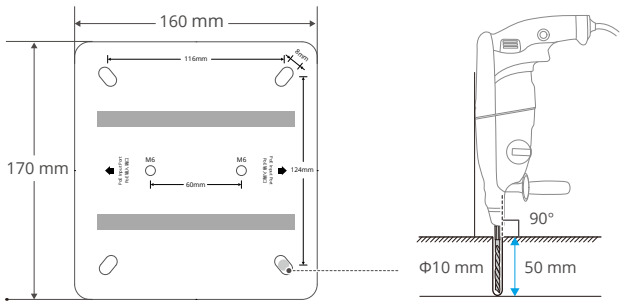


4.3 Mounting

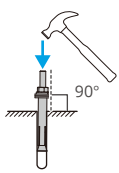
Installing on a Wall

1. Use the drilling template to locate and drill holes, then mount the expansion bolts.
2. Mount the device onto the expansion bolts and tighten the nuts. Securely connect the earth wire to the earth electrode. It is recommended to use the lightning belt from the parapet walls as the earth electrode.

a.



b.



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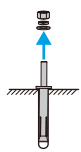
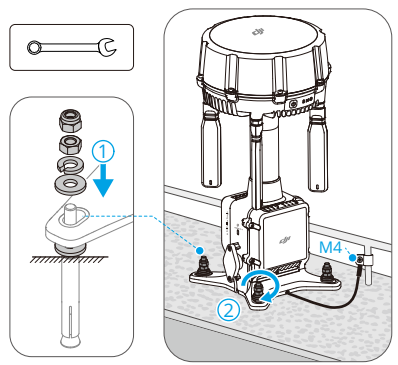
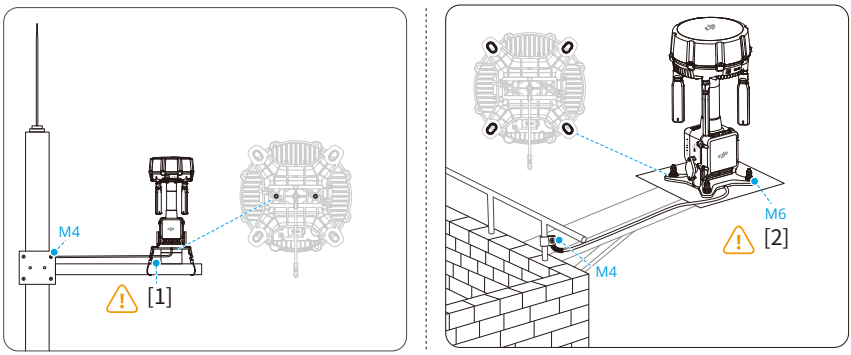


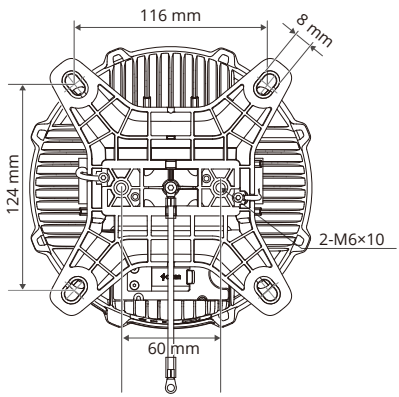
d.



Installing on a Support Bracket

Install the device on a suitable support bracket using the slotted holes or M6 threaded holes as required. Securely connect the earth wire to the earth electrode. The installation diagrams are provided for reference only.





[1] It is recommended to use anti-fall steel wire ropes to secure the device through the slotted hole.

[2] Lock nuts are recommended.

4.4 Cabling and Configuration

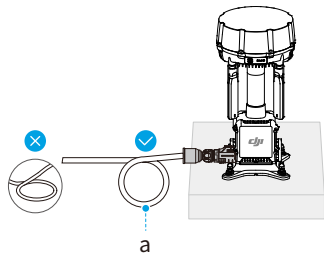
Ethernet Connector Fabrication and Connection

1. Route the reserved Ethernet cable to the device installation position. The cable must be a Category 6 outdoor waterproof twisted-pair cable or higher, with an outer diameter of 5.5–6.5 mm. Cut the corrugated tubing plug to a suitable opening

according to the outer diameter of the Ethernet cable, and then slide the corrugated tubing and corrugated tubing plug onto the Ethernet cable in sequence.

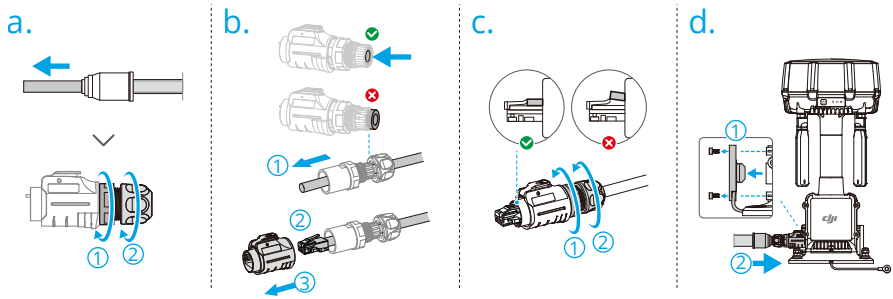
- It is recommended to create a drip loop before the cable enters the device port.

  Bend the Ethernet cable into an inverted Ω shape to form the lowest point of the cable. This allows rainwater to flow along the cable to the lowest point and drip off, instead of flowing into the port and causing damage.



a. Drip Loop

2. Follow the steps below to fabricate the Ethernet connector.
   a. Unscrew the Ethernet connector to separate the housing from the rear sleeve, and loosen the rear nut.
   b. Insert the Ethernet cable, crimp the pass-through connector according to the T568B wiring standard, and check that the cable's PVC jacket is firmly seated inside the connector. Insert the connector into the housing until it clicks.
   c. Tighten the rear sleeve first. Make sure that the silicone part of the Ethernet cable is fully inserted into the sleeve, and then tighten the rear nut.
3. Open the waterproof rubber cover on the port. Insert the Ethernet connector until a click is heard, and make sure it is securely installed.



4. Connect the other end of the Ethernet cable to the PoE power supply device. When external power is supplied, the power indicator turns blue.
    - When connecting to a dock, crimp and connect the Ethernet connector according to the dock manual.
    - When connecting to a PoE power adapter, crimp the pass-through connector according to the T568B wiring standard.

Configuration

Gateway Mode

1. Ensure that the power supply device is powered on and that the WAN port indicator is green.
2. Ensure that the dock has been bound to DJI FlightHub 2.
3. Connect the device to the smartphone using a USB-C to USB-C cable.
4. Open the DJI Enterprise App and follow the on-screen instructions to bind the device to the same organization in DJI FlightHub 2 as the dock.

- To view the device binding code of the current organization, log in to DJI FlightHub 2, go to **Device Management**→**Dock/Ground Station**, and click **Device Binding** to view the organization ID and binding code.

Relay Mode

After the device is deployed at the selected location, you can use DJI FlightHub 2 or the remote controller to search for nearby ground stations for remote access and operation. For details, see Remote Access in Relay Mode.

4.5 Pre-Departure Checklist

After construction is completed and before leaving the site, check the following items one by one.

1. The USB-C port waterproof plug is securely inserted.
2. Waterproof caps have been installed on unused network ports, and the fixing screws have been tightened.
3. The waterproof nut of the Ethernet connector is tightened, and the corrugated tubing plug is sealed in place.
4. The earth wire is firmly connected, and the ground resistance meets the requirements.

5. Lock nuts have been installed on the expansion bolts.
6. When the device is installed on a support bracket, anti-fall steel wire ropes have been added.
7. The antenna rubber sleeve is correctly installed, with no damage or loosening.
8. The device is displayed as online in DJI FlightHub 2.
9. Device location calibration has been completed.
10. The indicators show normal status: the power indicator, mode indicator, and GNSS signal indicator are all normal.

Using the Product

5 Using the Product

5.1 Notices

- Only use the product in the corresponding frequency band and in accordance with local laws and regulations.
- Make sure none of the antennas of the product are obstructed during use.
- Only use genuine parts or officially authorized parts. Unauthorized parts may cause the system to malfunction and compromise safety.
- Make sure there is no foreign matter such as water, oil, soil, or sand inside the product.
- The product contains precision parts. Make sure to avoid collision to avoid damage to precision parts.
- When using the device in rainy or snowy weather, make sure to take necessary water-resistant measures. Use with caution and pay attention to lightning protection.

5.2 Power Button

When powered through the PoE input port, the device automatically powers on and cannot be powered off using the power button. When powered only by the internal battery, press once, and then press and hold the power button for about 2 seconds to power the device on or off.

- If a button operation has just been triggered, wait at least 5 seconds before powering the product on or off. Otherwise, the product may not respond.

Press and hold the power button for 5 seconds to enter the linking status. Keep the product powered on during linking.

Repeatedly pressing the power button will not cancel the link.

In Relay Mode, press and hold the power button for 8 seconds to restore the remote access password to the initial password (123456).

5.3 Switching the Operating Mode

The following methods are supported for switching the operating mode:

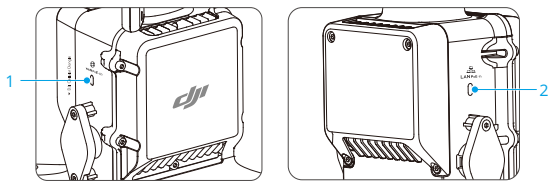
- Press the power button 3 times in quick succession.

- Use a USB-C to USB-C cable to connect the device to a smartphone, and switch the mode in the DJI Enterprise App.
- Use a USB-C to USB-A cable to connect the device to a computer, and switch the mode using DJI Assistant 2.

Before deployment, select the operating mode based on your operational requirements. After the operating mode is switched, the device automatically restarts and enters the new mode. The device must then be reconfigured accordingly.

5.4 Indicators

WAN/LAN Port Indicators



1. WAN Port Indicator

●	Solid green	PoE power connected, network connection normal
●	Solid blue	PoE power connected, network not connected
● ·····	Blinking red quickly (lasts for 10 seconds)	Insufficient power from the connected PoE power supply[1]
● —	Solid red	Power not connected, and network not connected[2]

[1] Check whether the output power of the PoE power supply device meets the requirements. The red light turns solid after 10 seconds.

[2] Check whether the PoE power supply connection is normal. If the red light changes from blinking quickly to solid, replace the PoE power supply device with one that meets the power requirements.

2. LAN Port Indicator

●	Solid green	PoE power connected, external device network connection normal

	Solid blue	PoE power connected, no external device connection detected[1]
·····	Blinking red quickly (lasts for 10 seconds)	Insufficient power from the connected PoE power supply
—	Solid red	Power not connected, no external device connection detected[2]

[1] Check whether the LAN port Ethernet cable and external device connection are normal.

[2] Check whether the PoE power supply connection is normal. If the red light changes from blinking quickly to solid, replace the PoE power supply device with one that meets the power requirements.

Power Indicator

When powered by an external power supply (PoE), the power indicator turns blue. When powered only by the internal battery, the power indicator is as follows.

	> 60% (Green)
	20%–60% (Yellow)
	< 20% (Red)

- When powered through the PoE input port, the battery voltage of the device remains at 7.4 V.
- When the battery level is low, the buzzer emits continuous beeps.
- When charging via the USB-C port, the power indicator blinks quickly when the charging power is sufficient, and blinks slowly when it is insufficient.

Mode Indicator

M	Operating Mode
M	**Gateway Mode (Purple)** • Solid: Connected to aircraft. • Blinks: Aircraft not connected.
M	**Relay Mode (Blue)** • Solid: Connected to both remote controller and aircraft. • Blinks: Unlinked or connected to one device only.

GNSS Signal Indicator

	Satellites Found (R600BS)	Satellites Found (R600BS-BD)
	> 30	> 15
	10-30	5-15
[1]	< 10	< 5

[1] Blinks Slowly: Device not activated.

Others

Status LED	Buzzer	Device Status
	/	Switching operating mode / Firmware updating
	Beeps continuously	Linking
	Beeps continuously	Power supply abnormal. The PoE power supply currently in use is not supported.

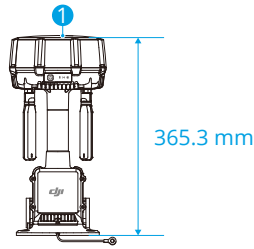
5.5 Calibrating the Device Location

Notices

- To ensure the device can obtain accurate coordinates, it is necessary to calibrate the device location to acquire an accurate absolute position.
- During calibration, stay away from the device to avoid the antenna being blocked.
- During calibration, use a USB-C to USB-C cable to connect the device to a smartphone.
- Use the DJI Enterprise App for calibration. Make sure the smartphone is connected to the Internet during calibration. Wait until the app displays converged and calibrated.

Calibration Method

- **Network RTK Calibration**: It is recommended to use a free Network RTK account for calibration to achieve better accuracy and simplify operation.
- **Custom Network RTK Calibration**: Ensure that the settings for the Network RTK service provider, mount point, and port are consistent.
- **Manual Calibration**: Enter the antenna phase center position ① in the app. At the installation point, the elevation must be increased by 365.3 mm. Since manual calibration and Network RTK calibration do not use the same RTK signal source, it is recommended to use manual calibration only when Network RTK is unavailable.



- The device location calibration data is valid for a long time. There is no need to calibrate it when the device is restarted. However, re-calibration is required once the device is moved.
- After the device location is calibrated, the RTK positioning data of the aircraft may suddenly change. This is normal.
- To ensure flight operation precision, when importing flight routes via DJI FlightHub 2, make sure that the RTK signal source used to generate the flight route is consistent with the one used for device location calibration. Otherwise, the actual flight path may deviate from the planned route, leading to unsatisfactory results or even a collision.
- This device and the dock used with it must be calibrated using the same RTK signal source.
- After calibration, it is normal for certain aircraft to display a message indicating that a restart is required.

5.6 Remote Access in Relay Mode

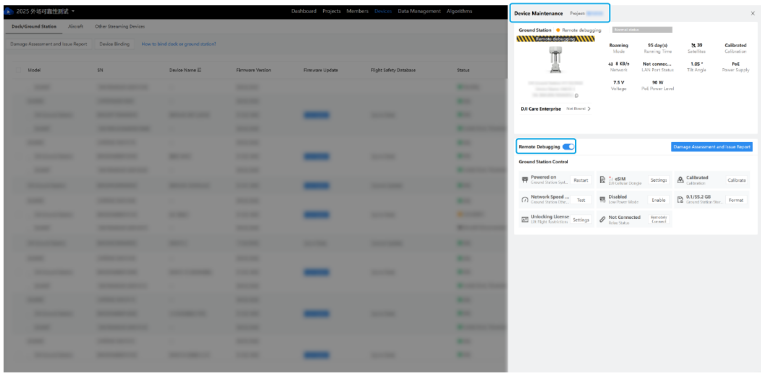
In Relay Mode, after the DJI O4 Ground Station is deployed in hard-to-reach locations such as rooftops or towers, the remote access feature allows a dock or remote controller to wirelessly search for and connect to the DJI O4 Ground Station within a 1 km range, enabling access and management without requiring personnel to physically reach the device.

Before using the remote access feature, upgrade the firmware of all devices to the latest version.

Remote Access to Dock

Use DJI FlightHub 2 to remotely connect a DJI Dock 3 to a nearby DJI O4 Ground Station.

1. Open DJI FlightHub 2, click **Devices**, go to the **Dock/Ground Station** page, locate the target dock, and click to enter **Device Maintenance**.
2. On the Device Management page, enable **Remote Debugging** to enter the ground station control interface.
3. The system will automatically search for DJI O4 Ground Station relay access signals within 1 km of the dock. Select the target device from the search results, enter the connection password (default password: 123456), and complete the connection.
4. Once connected, the current aircraft can obtain video transmission relay and high-precision positioning services through this ground station.



- After the first connection, change the password immediately and keep a record of it. The new password must be at least 8 characters long.
- DJI O4 Ground Station supports connecting to only one device at a time. To switch to another dock, disconnect the current connection first, or enable the **Allow Takeover** feature.

After connecting, the following settings can be configured in the ground station control interface:

- **Allow Takeover**: When enabled, the current device will be automatically disconnected when another device connects. The system only allows takeover when the current device is in a safe state (not in operation).
- **Hide Access Signal**: When enabled, the ground station stops broadcasting its access signal, making it undiscoverable by other devices. The current connection remains unaffected.

Remote Access via Remote Controller

Using the DJI RC Plus 2 remote controller with the DJI Pilot 2 app, you can remotely search for and connect to a DJI O4 Ground Station within 1 km.

1. Power on the DJI RC Plus 2.
2. Open the DJI Pilot 2 app, tap the **Relay Pairing** icon on the home screen, and select **Search for Relay**.
3. The remote controller will automatically search for ground stations within 1 km. Select the target DJI O4 Ground Station from the search results.
4. Enter the connection password (default password: 123456) and tap **OK**. The relay station connection status will be displayed on the remote controller's main screen.

- After the first connection, change the password immediately and keep a record of it. The new password must be at least 8 characters long.
- If the remote controller and DJI Dock 3 share this ground station, it is recommended to inform the corresponding dock administrator of the new password after changing it.

After connecting, tap **Relay Station Settings** on the remote controller's main screen to perform the following operations:

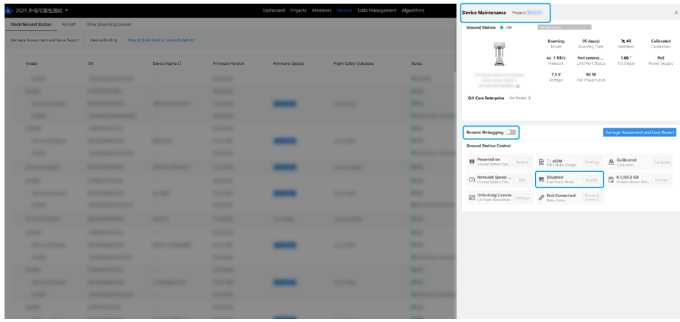
- **Modify Signal Name**: Customize the remote search signal name of the ground station.
- **Hide Access Signal**: Prevent other devices from discovering this ground station.
- **Allow Other Devices to Connect**: Control whether other devices are allowed to take over the current connection.
- **View Password**: View the current password if it has been forgotten.
- **Re-search Relay**: Initiate a new search to connect to a different ground station.
- **Disconnect Relay**: Disconnect the remote controller from the current ground station. If the ground station was connected to a dock before being taken over, it will automatically restore the connection to its originally paired dock after disconnection.

5.7 Low Power Mode

In Gateway Mode, low power mode can be enabled for limited power supply scenarios, such as solar power. After this mode is enabled, the video transmission module automatically enters low power consumption mode when the device is idle, extending the standby time of the power supply device.

- In low power mode, device responses to features such as One-Click Takeoff and remote debugging will be delayed by 5 to 10 seconds. This mode is not recommended for emergency operation scenarios.
- When the ambient temperature is below -20°C, it is not recommended to enable low power mode to ensure normal operation of the device.

1. Open DJI FlightHub 2, click **Device**, go to the **Dock/Ground Station**, find the target ground station, and click to enter **Device Maintenance**.
2. Enable **Low Power Mode** on this page.



5.8 Remote Debugging

After device deployment and calibration are completed, you can use DJI FlightHub 2 to remotely debug the ground station.

- In DJI FlightHub 2, click **Devices**, go to **Dock/Ground Station**, find the target ground station, click **Device Maintenance**, and operate the device under **Remote Debugging**.
- Before leaving the site, make sure that the protective cover of the USB-C port on the DJI O4 Ground Station is securely closed to prevent water ingress.

- When the dock is connected to the ground station, connecting the remote controller as Controller B to control the aircraft and multi-dock tasks are not supported.
- Once the dock is connected to the ground station, regardless of whether the ground station is online or offline, if a multi-dock task needs to be performed, use the DJI Enterprise App to connect to the dock and clear the linking information between the dock and the ground station.

Maintenance

6 Maintenance

6.1 Routine Maintenance

It is recommended to inspect and patrol the device once every 6 months.

- Check whether foreign objects, such as branches or bird nests, are blocking the device. If any obstructions are found, remove them promptly to avoid affecting device heat dissipation and signal transmission and reception.
- Check whether the expansion bolts and nuts are loose, corroded, or detached. If any abnormalities are found, replace them promptly.
- Check whether the anti-fall steel wire ropes are corroded or loose at the connections. If any abnormalities are found, replace them promptly.
- It is recommended to use an aircraft to inspect the device, observe the signal coverage around the device, and confirm whether the signal quality is normal.

6.2 Firmware Update

Use DJI FlightHub 2 or DJI Assistant 2 to update the firmware.

Updating Firmware Using DJI FlightHub 2

Log in to DJI FlightHub 2, click **Device Management**, go to **Dock/Ground Station**, find DJI O4 Ground Station and update the firmware.

Updating Firmware Using DJI Assistant 2

Use a USB-C to USB-A cable to connect the USB-C port of DJI O4 Ground Station to a computer. Open DJI Assistant 2 (Enterprise Series) and follow the software prompts to complete the firmware update.

Download DJI Assistant 2 (Enterprise Series): https://enterprise.dji.com/o4-ground-station/downloads

6.3 Log Export

Export logs using DJI FlightHub 2 or DJI Assistant 2.

Use DJI FlightHub 2

Log in to DJI FlightHub 2, click **Device**, go to **Dock/Ground Station**, find DJI O4 Ground Station, and export logs in **Device Maintenance**. If the device is abnormal and the issue cannot be resolved through remote debugging, feedback on the device abnormality can

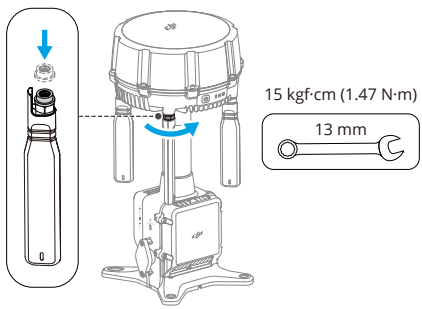
be submitted on the device maintenance page. The feedback can be sent to technical support.

Use DJI Assistant 2

Use a USB-C to USB-A cable to connect the device to a computer. Open DJI Assistant 2 (Enterprise Series) and follow the software prompts to export logs.

6.4 Part Replacement

Make sure to replace the damaged antenna promptly. When replacing the antenna, make sure to put the rubber sleeve on the antenna connector before installing the antenna onto the product. It is recommended to use the tool that meets the requirements for disassembly and assembly. Tighten to the specified torque during installation.



Appendix

7 Appendix

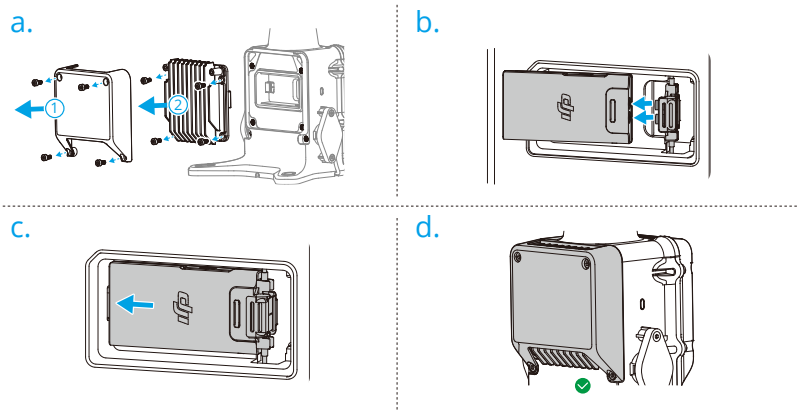
7.1 Specifications

Visit the following website for specifications:

https://enterprise.dji.com/o4-ground-station/specs

7.2 Installing the Cellular Dongle (Optional)

In Gateway Mode, users can optionally install a cellular dongle to connect to a 4G wireless network as the primary network link. Alternatively, the 4G wireless network can serve as a backup link for the wired Ethernet connection, improving overall network reliability. DJI Cellular Dongle is used as an example. Operate with caution to avoid damaging the cables.



7.3 Troubleshooting

DJI O4 Ground Station Cannot Access DJI FlightHub 2 in Gateway Mode

1. Check whether the PoE power supply type meets the requirements. Non-standard PoE or Type 1 cannot power the DJI O4 Ground Station. When used at temperatures below -20°C, a Type 4 (PoE++) power supply is required. Make sure that the single-port power output meets the requirements. See Power Supply and Wiring.
2. Check whether the ground station is in Gateway Mode (mode indicator is purple). In Relay Mode (mode indicator is blue), the device cannot connect to the network

directly. Press the power button 3 times in quick succession to switch to Gateway Mode before deployment.

3. Check whether the network is connected. When deploying using the DJI Enterprise App, you can perform a network test.
4. Check whether the network bandwidth meets the requirements. A bandwidth of at least 40 Mbps is recommended. If IP cameras are also deployed, a bandwidth of 100 Mbps or higher is recommended.
5. Check whether the Ethernet connectors at both ends of the cable are crimped according to the T568B wiring standard. A cable tester can be used for verification.

DJI O4 Ground Station Cannot Access DJI FlightHub 2 in Relay Mode

1. Check whether the PoE power supply is normal. Fly the aircraft to the device installation location and check whether the power indicator lights up normally. If the power indicator lights up but both WAN/LAN indicators are red, replace the PoE power supply with a Type 3 or higher model.
2. Check whether DJI O4 Ground Station is operating in Relay Mode (mode indicator is blue). If the device is in Gateway Mode, go to the site and press the power button 3 times in quick succession to switch it back to Relay Mode.
3. Check whether DJI O4 Ground Station has been previously connected and occupied by another remote controller or a dock from a different organization. Use the remote connection function in DJI FlightHub 2 to scan for nearby ground stations and reconnect.
4. If DJI O4 Ground Station is online but cannot be connected, check whether another dock within the same organization has occupied control. After the other dock releases control, initiate the connection again.

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https://enterprise.dji.com/o4-ground-station/downloads

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DocSupport@dji.com