PRE-SITE INSTALLATION GUIDE · SUMMER 2025

Pre-Site Installation Guidelines for Fixed-Location DJI Dock 3

Prepared for DroneDeploy customers deploying autonomous aerial operations.

UVT × DroneDeploy · DJI M4TD / M4D · Dock 3

Co-authored by Unmanned Vehicle Technologies ◆ Published in partnership with DroneDeploy

uvt.us · dronedeploy.com

Overview

In collaboration with DJI Enterprise and DroneDeploy, Unmanned Vehicle Technologies has prepared the following documentation for customers preparing to install a DJI Dock 3. Determining the optimal location is crucial to deployment success.

> IMPORTANT
> The DJI dock must be installed by a DJI-Authorized dock technician. This guide is intended to help the end user identify the site requirements — not to self-install the dock.

Site Selection & Key Install Requirements

Confirm each of the following before scheduling installation. Items marked Critical are non-negotiable for a successful deploy.

01 Installation site altitude no higher than 4,500 m

02 Annual site temperature range between -22°F and 122°F

03 No signal obstructions within **20°** of ground elevation

04 Mounted to a stable, permanent base structure

05 Level within **3 degrees** across the mounting surface

06 Utilities mounted between 2 ft and 6 ft from the dock

07 Multiple docks must not be mounted within 30 ft of each other

08 Alternate landing site available between 4 ft and 164 ft from dock

09 Weatherproof power box mounted with a GFI outlet

10 Cat6E ethernet, no longer than 250 ft

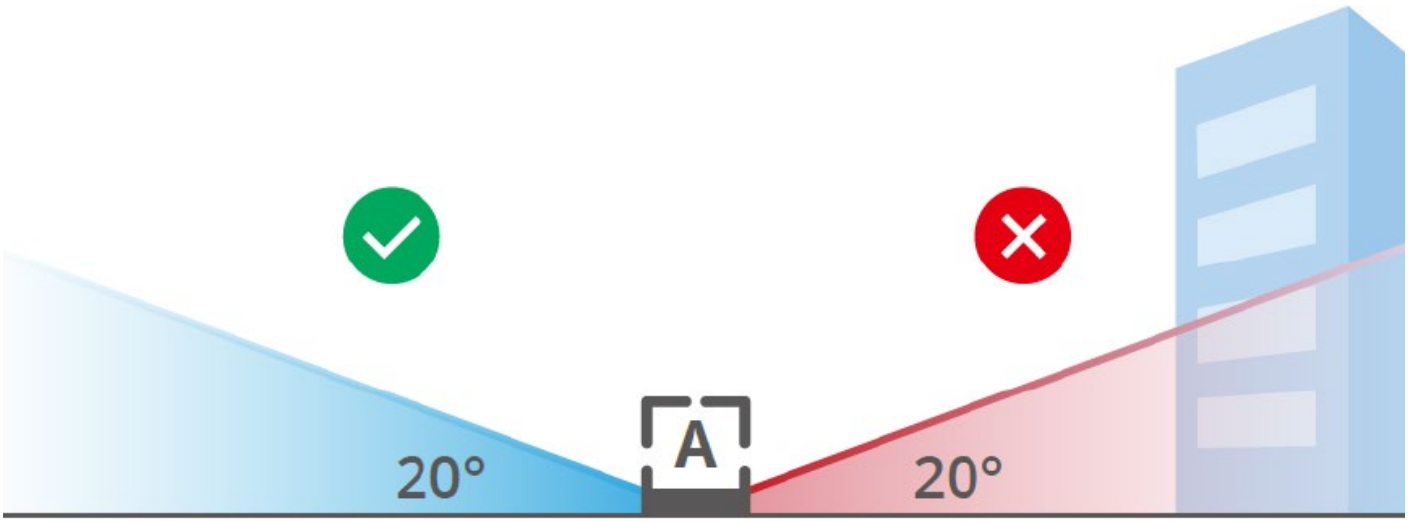
11 Connection speeds greater than 40 Mbps down / 10 Mbps up (verified via speedtest.net)

12 Pre-install photos provided alongside the completed checklist

Site Selection

Install the DJI dock in a place without obvious signal obstruction — for example, an open area or rooftop. There must be no obvious signal obstructions within **20° of the ground elevation angle** to ensure signal quality and stability of the built-in RTK module.

If an obstacle is present, the minimum distance between the dock and the obstacle must satisfy $d > h / 0.36$. Ensure no obvious reflectors are present in the sky around the dock installation location — reflectors include glass curtain walls, tinned roofing, large solar panels, and metal billboards.



Maintain a 20° unobstructed line of sight from the dock in all directions. Reflective surfaces within this cone will degrade GNSS and video transmission.

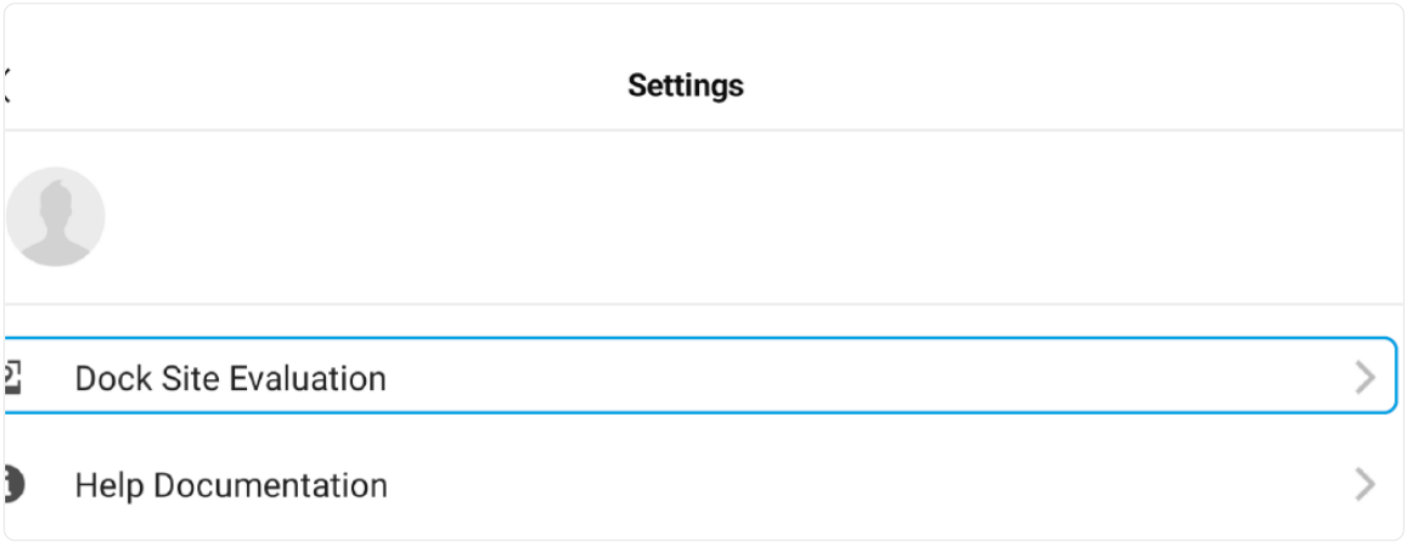
GNSS Signal Quality Survey

Using the Matrice 4E (with RTK module) or the Matrice 4TD/4D, collect the following information at the planned site:

1. Run the DJI Pilot 2 App and select **Dock Site Evaluation** from the account screen.
2. Follow the app instructions to create a new site evaluation task and conduct an environmental survey.
3. Follow the app instructions to place the aircraft at the planned installation location. The app will check the quality of the GNSS signal and complete the data analysis.

DJI Pilot 2 — Dock Site Evaluation

From the DJI Pilot 2 settings screen, select **Dock Site Evaluation** to begin the survey.



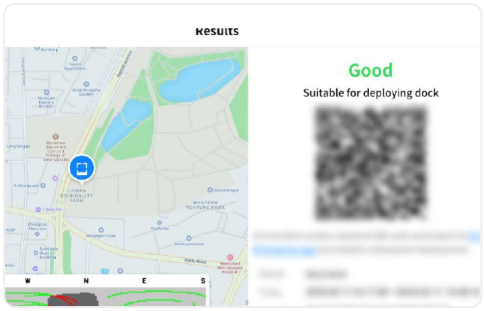
DJI Pilot 2 application — Settings menu showing the Dock Site Evaluation entry point.

Environmental Survey

The dock site evaluation will produce several different responses. Please consult with your UVT point of contact for assistance in interpreting the responses.

> TIP
> Run the survey at the exact installation height. If the result is borderline, repeat the check at 5 m above the planned mounting position before making a final call on the site.

Interpreting Evaluation Results



Sample DJI Pilot 2 evaluation result.

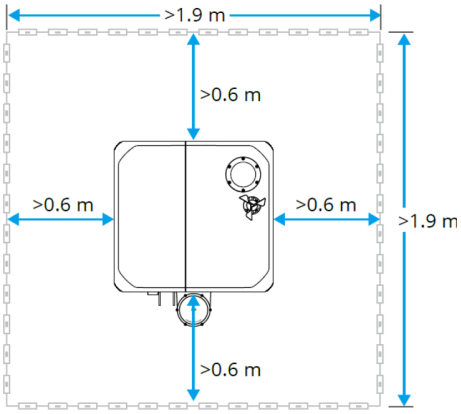
- **Good:** The location is suitable for installing a dock.
- **Poor:** The location is not suitable. A new location must be selected.
- **Average:** If centimeter-level mapping or high-precision aerial tasks are required, reselect the site. Otherwise, run a second check at the same site — adjust the aircraft's altitude to 5 m from the dock installation position and repeat. If still Average, the dock can be installed but only non-high-precision flight tasks are available.

Installation Site Clearance

At the installation site, maintain a minimum of 1.9 m of clearance from each side of the dock (including utilities).

Installation must still follow the obstruction height restrictions on the previous page. The diagram to the right shows the clearance needed around the docking station for maintenance and opening clearance.

≥ 1.9 m	≥ 0.6 m	< 3°
PERIMETER	ALL SIDES	MOUNT TILT



Installation Bases

Several different mounting bases are acceptable for the DJI dock. The following pages provide examples of real-world deployments and their bases.

Concrete Base

A concrete base raises the dock off the ground to avoid issues with localized flooding. Recommended dimensions:

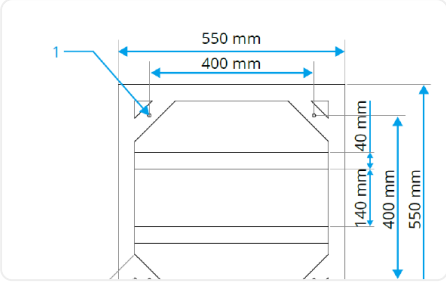
2.3 × 2.3 ft	4 in	< 3°
FOOTPRINT	THICKNESS	SURFACE INCLINE

Anchor the DJI dock to the concrete base using concrete anchors to prevent theft and movement in high winds.

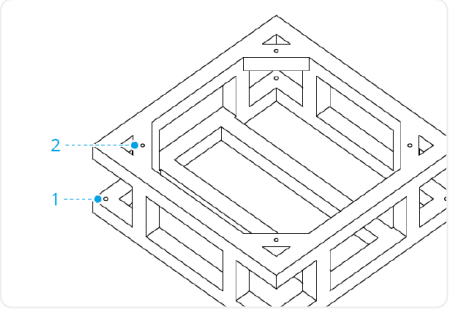
Steel / Aluminum Frame

Applicable use case: If the installation already has hardened ground (such as a building roof) but there may be risk of flooding, signal blocking, or land subsidence, use a steel frame base.

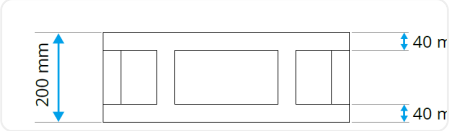
For outdoor environments, use a minimum 40 mm galvanized square tube or **304 stainless steel** square tube. The minimum base height should be 8 inches.



Front-elevation spec (mm).



Isometric assembly view.



Side-elevation spec (mm).

Custom Steel Base — Field Example

The dock can be bolted directly to the base using M8 bolts. The base can be anchored directly to the roof if the deployment environment allows for anchoring.

Custom steel base built for the City of Oswego, NY — Drones as a First Responder docked program.

Sandbag Ballast (When Anchoring Isn't Possible)

If the deployment environment does not allow direct anchoring to the roof or surface, sandbags can be used to weigh the docking station down. The amount of weight needed will depend on the environment.

> CONSULT
>
> Work with your UVT Solutions Engineer to confirm recommended weight for anchoring on rooftops or temporary deployments.

In the example shown, four sandbags were used to weigh down the DJI dock on a rooftop government building.

Photo credit: City of Oswego (NY) Drones as a First Responder docked program.

Rooftop Mounting

For rooftop mounting, find a structurally sound location that can support the 75 lb dock structure. In the example shown, the dock was installed during a proof-of-concept with Enel Green Power in Texas. The dock was not anchored to the roof — the pallet was weighted for temporary deployment.

> PERMANENT INSTALLS
> For permanent rooftop deployments, anchoring is essential to ensure the dock remains stationary in wind events.

Photo credit: Premier Security, Lansing Michigan Deployment.

Platform Mounting

Multiple platform options exist for installation. The example below shows a wood platform with a 4 × 8 ft tabletop sitting approximately 36 in off the ground. A supply list can be provided by your UVT solutions engineering team.

Platform deployments should be considered when environmental conditions require the dock to be elevated, or when easier maintenance access is preferred.

Premier Security, Michigan.

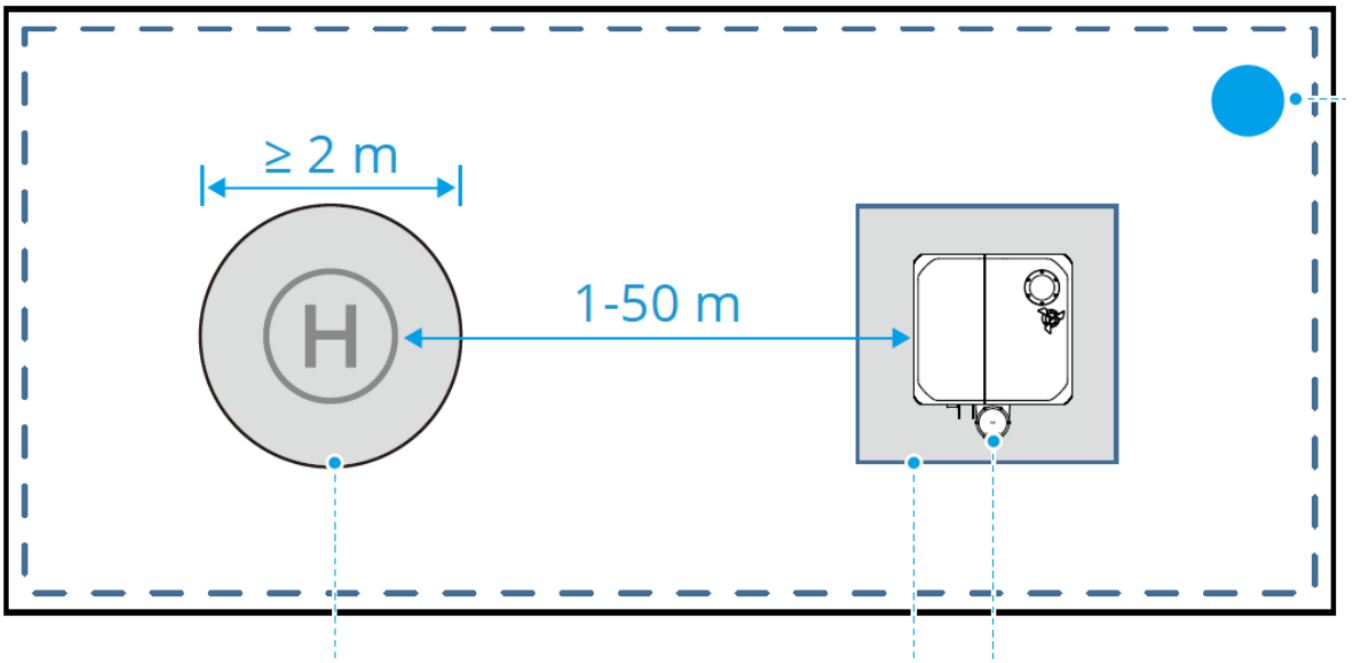
Custom build for Katy Police Department (TX) DFR program.

UVT's original Dock 1 demo platform, Michigan.

Alternate Landing Site Requirements

Set up an alternate landing site near the DJI dock. When there is an issue with the dock — or if the aircraft cannot land due to extreme weather or equipment failure — the aircraft will hover until low battery occurs and then fly to the alternate landing site.

The alternate site must be at the same height as the dock with a straight-line distance of `4 – 164 ft`, and have a `3.5 ft` radius of clearance. Physical security at the remote landing site should be a consideration when selecting the location.



Network

When using the dock, it requires internet access via a hardwired ethernet connection (the LP16 connector is provided in the kit).

- Cat5e or above twisted-pair cable. **DJI recommends Cat6.**
- Maximum Cat5e network run is `262 ft` per manufacturer spec. For longer distances, use a network switch or fiber.
- Use a Gigabit network with upstream/downstream bandwidth greater than `40 Mbps`. The docking station requires a minimum of `20 Mbps`. Performance will be drastically limited with lower network speeds.
- Cellular modems are not recommended for long-term deployment.
- UVT has conducted extensive testing with Starlink yielding successful results.

Network Speed Test

Connect the ethernet cable to your computer and go to speedtest.net. Acceptable performance is total bandwidth ≥ `40 Mbps` with minimum up/downstream of `10 Mbps`.

Power

An external AC power supply must be connected to the dock to provide stable power for operations (the LP20 connector is provided with the dock). When supplying power to the dock, install a separate **2P 16A circuit breaker** and a **40kA surge protection device** in the user distribution box.

Power Requirements

Power Supply	Single-Phase AC
Rated Input Voltage	110 – 240 V AC
Suggested Voltage (USA)	110 V AC
Max Input Voltage	< 264 V AC
Frequency	50 / 60 Hz
Max Power	1,000 W

Wire Sizing by Cable Length

Cable Length	Wire Size
< 328 ft	14 AWG
330 – 655 ft	12 AWG
> 655 ft	10 AWG

SURGE

Install the surge protector in the user distribution box — not at the dock itself.

Earth-Termination System

An earth termination system is required for installation. It is recommended to use an existing outdoor earth-termination system when installing the DJI dock. If none exists, additional systems will be required. If a new earth grounding rod is installed, drive it to a depth of 5 – 8.5 ft.

Physical Security

Access control to the area where the dock is installed is important to ensure the safety of pedestrians and prevent unauthorized personnel from entering. Operators who enter the inner perimeter of the protective fence area must undergo professional training and fully understand the precautions and risks of various operations. Personnel should be trained in the use of the E-Stop on the docking station.

If fencing is selected, use fiber-reinforced or non-metallic fencing for minimal impact on the video transmission and RTK signal. Fencing should be no taller than 5 ft around the docking station.

Third-Party Security Camera

Additional third-party security cameras should be installed for physical security monitoring of the site and to assist in all FAA-required assessments prior to takeoff.

Carrying & Transporting the Dock

1. Manual Lift Points

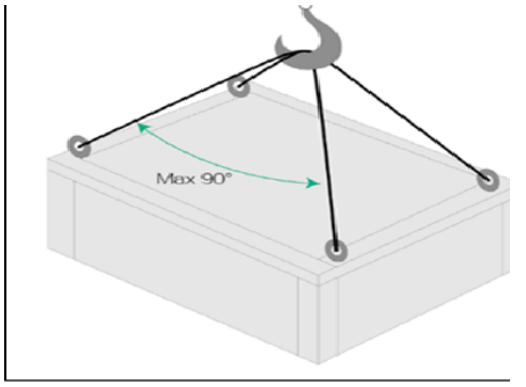
The dock can be lifted manually using two people for a team lift. To lift the dock manually, personnel may pick it up using the base mounting brackets. **Do not** apply force on the dock cover or other areas of the dock.

2. Using a Pallet Jack

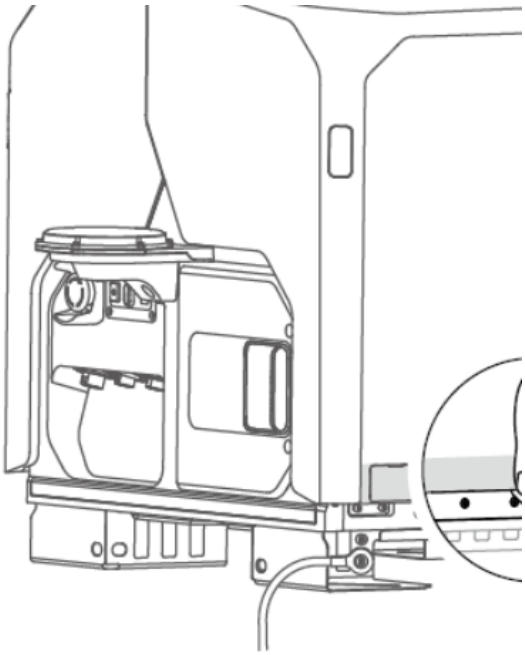
A pallet jack may be used to move the dock on the ground. Make sure the pallet jack is centered underneath the dock to prevent overturning. When moving the dock, ensure a person is at the side to keep it stable.

3. Using a Crane (or Fire Apparatus)

It is recommended to use a crane to lift the unpacked dock. A crane cage or rigging can be used to lift the dock from its secure lifting position (under the dock).



Crane rigging — maintain max 90° between lines.

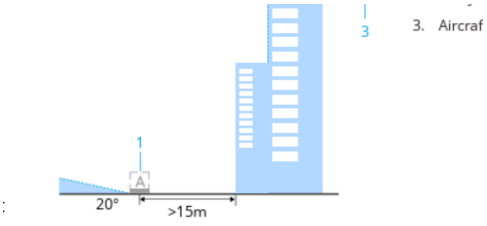


Manual lift — grasp at base mounting brackets only.

D-RTK-3 Base Station

Recommended Installation Location

- Install at the highest position of a building near the dock. On a rooftop, install at the shaft head, ventilation opening, or elevator shaft.
- Direct distance between the relay and dock should be less than 1,000 m, with both within line of sight and no significant blockage.
- To ensure best performance of the video transmission and GNSS systems, ensure no obvious reflectors are on top of or around the device installation location.
- Annual temperature range should be between -22°F and 122°F.
- Avoid installing in lightning strike areas.



1. Dock · 2. Relay · 3. Aircraft

Power Supply Requirements

Connect the product to the dock POE output port, or power the ground station with a POE Power Adapter plugged into a 110V outlet. The POE Power Adapter must be installed in a waterproof junction power distribution box. If connecting to the POE port on the dock, cabling must be less than 150 ft between the dock and the D-RTK-3 ground station. Required: **Cat6 cable**.

14.5 W	≤ 150 ft	≤ 1,000 m
POWER DRAW	POE CABLE	DOCK → RELAY

Lightning Protection System

Ensure the device can be protected by a lightning ground or grounding system. The protected region of the air-termination system can be calculated using the rolling sphere method. A device that remains within the imaginary sphere is said to be protected from a direct lightning flash.

Lightning & Grounding (continued)

If there is no existing lightning rod, a qualified professional should be designated to make and install the lightning protection system.

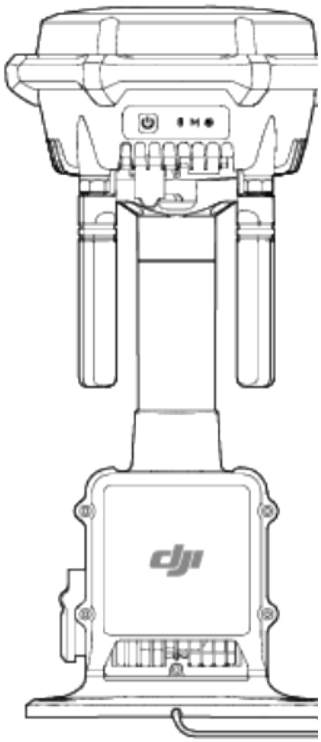
Earth Termination System (Grounding)

This system can be tied to the lightning protection system. Together, the air-termination and earth-termination systems must form a continuous low-impedance path to ground.

> REMINDER
> Verify continuity and resistance of the grounding system after install. A poor ground reference can cause intermittent RTK and video transmission issues that are difficult to diagnose in the field.

D-RTK-3 Reference Image

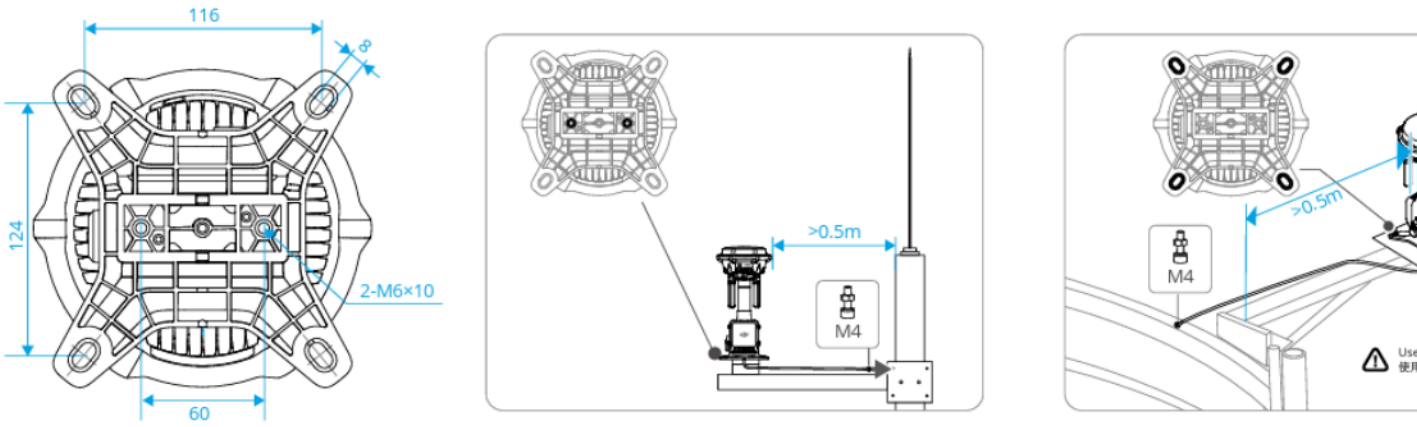
The reference unit (right) is the GNSS antenna and base unit assembly. It must be mounted vertically, plumb, and with clear sky in all directions.



D-RTK-3 reference assembly.

Physical Mounting Footprint

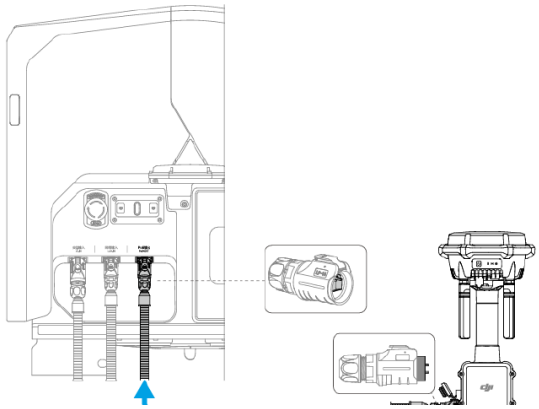
The diagrams below show the mounting hole pattern, M4 base placement, and M6 anti-loosening fastener pattern for installing the D-RTK-3 base on a structurally sound surface.



Left: top-down footprint (mm). Center: M4 base placement. Right: M6 placement — use anti-loosening screws.

Waterproof POE Connection

When using the POE Port on the dock, a Clinko connector can be used to attach to both the docking station and the D-RTK-3 to ensure waterproof termination.



Clinko waterproof connector — dock POE port to D-RTK-3 termination.

Pre-Installation Customer Confirmation & Checklist

Please complete the checklist and sign the form certifying that the pre-installation items are completed. By completing these items, the installation technician will maximize their time delivering the product and providing thorough product training. Expediting the installation will ensure maximum success.

Initial Site Considerations	Completed	Notes
Conduct Site Survey — Dock Survey · RTK Interference	☐	
No obvious signal obstructions within 20° of the top of Dock	☐	
Do not install on top of underground facilities	☐	
No strobe lights in immediate proximity to launch site	☐	
Power supply (note 110v or 220v)	☐	
Minimum 2-pole, 16A leakage protector for power supply	☐	
Network solution (note network type)	☐	
Network cable length less than 260 feet	☐	
Network speed test (note upload/download and latency)	☐	
Establish alternate landing point availability (4 – 164 ft from Dock)	☐	
Provide photo of installation location	☐	
Provide photo of speed test results on live ethernet at install location	☐	
Provide photo of electrical tester showing live 110V GFI outlet	☐	
Pre-Installation Software Verification — If using DroneDeploy, DroneSense, FlytBase, or any third-party cloud software, complete the next three steps.		
Create Flight Hub 2.0 (FH2) Organization (activation code)	☐	
Activate Flight Hub 2.0 (FH2) Subscription	☐	
Create Dock Binding Code for Organization	☐	

CUSTOMER SIGNATURE

DATE