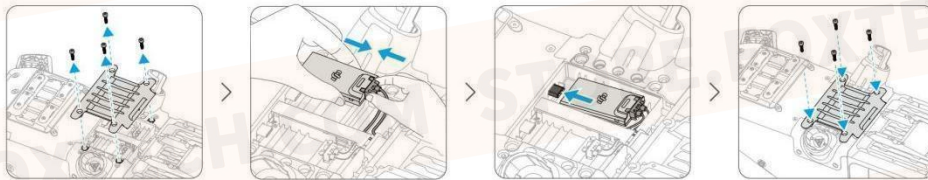# T-3000L Tethered Power & Lighting System
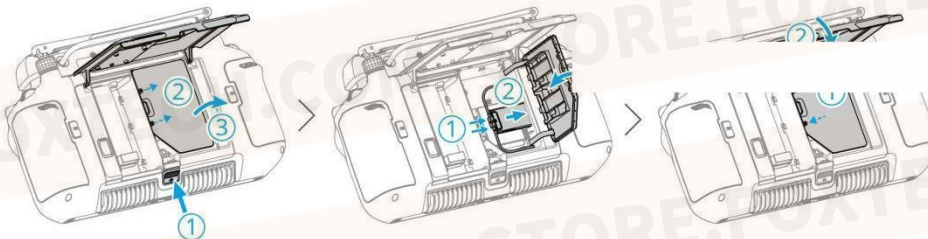# For DJI M400 Drone
Quick Start Guide

1. Drone Preparation

1.1.Install the drone's video transmission module. (Refer to DJI manual for details)

Install DJI Enhanced Video Transmission Module

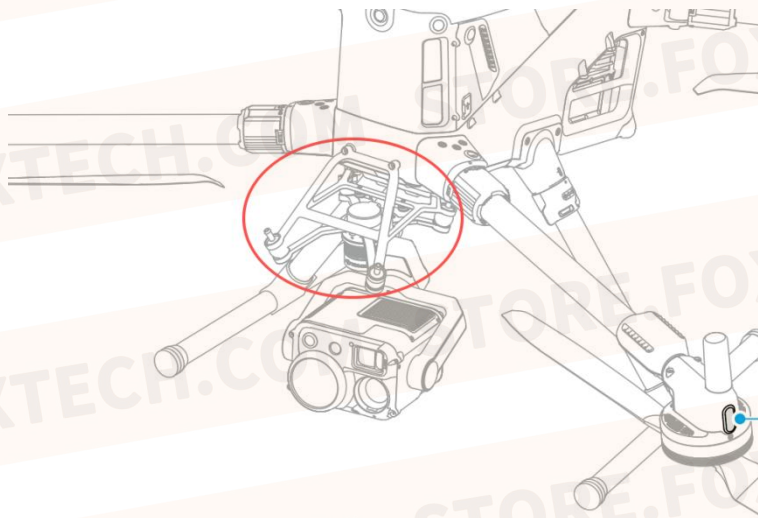1. Install the DJI Enhanced Video Transmission module onto the aircraft.

2. Install the DJI Enhanced Video Transmission module onto the remote controller.

Check the icon in the top right corner of the system desktop. If the 4G symbol appears, it indicates that the DJI Enhanced Video Transmission feature is functioning properly.

1.2.Remove the Gimbal Mount.

1.3 Power on the drone and related devices, activate the drone and remote controller, update all equipment to the latest firmware, complete real-name registration, and ensure the drone is fully functional.

1.4 After completing the firmware update, enter the flight interface and enable the RTK function. Go to the RTK Service Center and activate the Network RTK service (this service is included with the device).
Important: You must use the local RTK service to ensure precise positioning . If RTK is not used, any resulting issues will not be covered by after-sales service.

2.Tethering Lighting System Preparation

2.1 Install the Airborne Power Supply Module

 a. Screw in 4 M3 screws into the screw holes at the indicated positions.
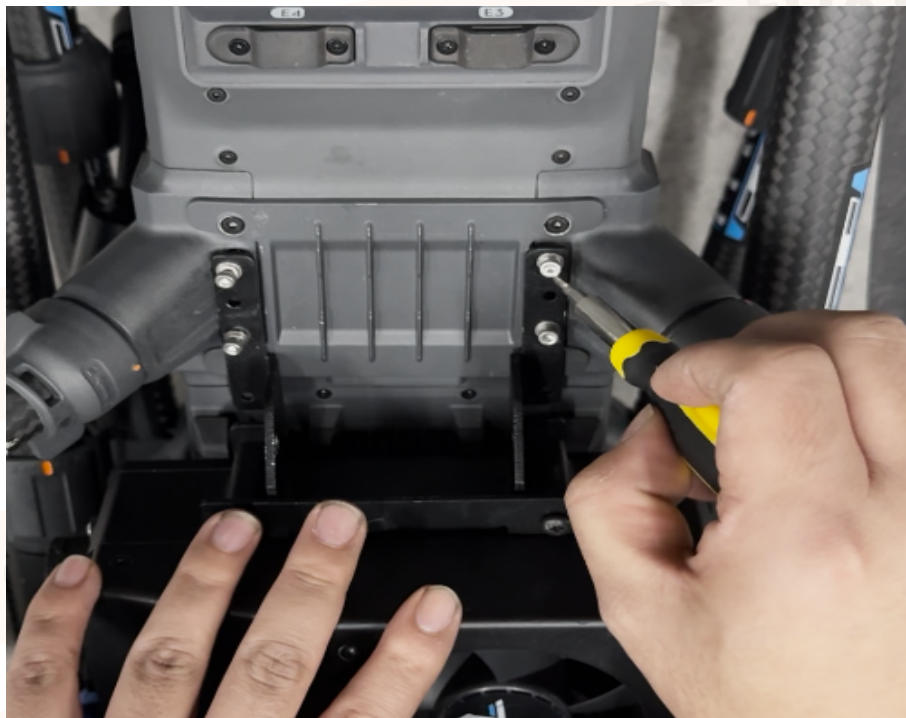
M3×18 screws, 4 pcs

b. Here, the tethered power module will be secured in place.Connect the tethered battery to the airborne power module.

3. Tethering Power Supply System Preparation

3.1 Connect the 220VAC/16A circuit breaker power supply. Be sure to use a cable reel rated for at least 16A.

Important: Do NOT turn on the main power yet. Only switch it on after all subsequent steps are completed.

3.2 Insert the quick-connect plug into the power input port of the tethering base station and ensure the connection is locked.

3.3 First switch on the 220V main power breaker. After the cable reel is powered, turn on the air switch on the tethered base station and wait for the system to start its self-check.
(If the air switch cannot be turned on, press the reset button on the breaker. If the system still does not start, press the blue button on the smart meter on the left to enable power.)

3.4 Pull out the tether cable, connect it to the onboard tethered power module, and tighten the blue power connector. Then connect it to the dedicated DJI M400 tethered battery power plug.

3.5 Attach the tether cable to the center mounting hole on the underside of the drone, and secure the cable using the fastening buckle.

3.6 Install the lighting units and connect the lighting power cables to the tethered airborne power output port.

4. Pre-flight Preparation

4.1 Power on the remote controller and then the drone. Wait for the remote controller to connect to the aircraft.

a. Check all obstacle-avoidance sensors and ensure they are enabled.

b. Confirm that the drone power source is set to tethered mode.
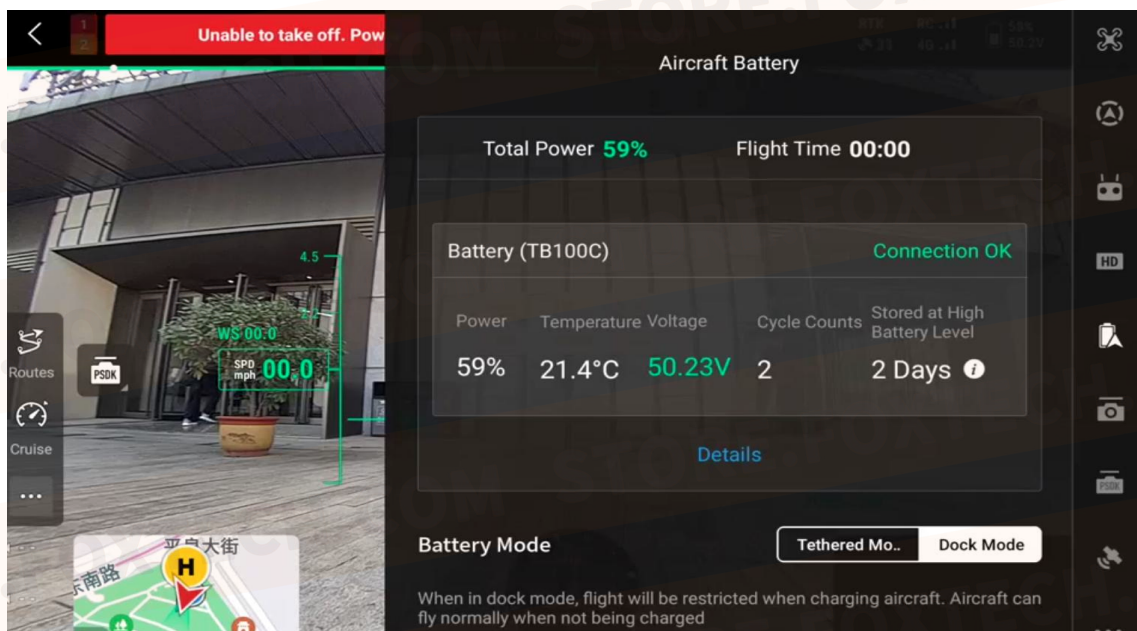
c. Set the downward obstacle-avoidance distance to 0.5 m, and the warning threshold to 0.6 m.

Ensure both GPS and RTK signals are stable. If necessary, you may purchase a D-RTK Ground Station for enhanced RTK performance.

Preflight Check

| Warning	HMS >	✂ N mode	🔋 60% 50.3V		🔋🔋 81%	🔋🔋 38%	👥 Controller A
		📍 Unset	RTK Not Connected		💾 --		

⚠ Note: Make sure that aircraft arms and propellers are unfolded, and frame arm sleeves and landing gear sleeves are secured in place

Min RTH Altitude	(64～4921ft)	-100	-10	98	+10	+100	Signal Lost Action		Hover ⌄
Max Altitude	(64～4921ft)	-100	-10	394	+10	+100	Max Flight Distance	(48~26248ft) 🔵	656
Home Point		✂📍	👥A				Control Stick Mode		Mode 2 ⌄
Obstacle Avoidance		Brake	Avoid	Off			Terrain Data		• Converging altitude data...

Horizontal Sensing	🔵				Brake: 6.6ft	Alert: 6.9ft	⫿⫿
Upward Sensing	🔵				Brake: 6.6ft	Alert: 6.9ft	⫿⫿
Downward Sensing	🔵				Brake: 1.6ft	Alert: 2.0ft	⫿⫿
Customize Battery Warning					Critically Low: 10%	Low: 38%	⫿

4.2 Press and hold the button below for 3 seconds to power the drone.
The tethered base station will display the message "Please confirm the drone status."
Wait until the red warning at the upper-left corner of the drone remote controller disappears and the status shows N-Mode – Standby.
At this point, the aircraft is ready for takeoff, and the prompt on the tethered base station will disappear automatically.
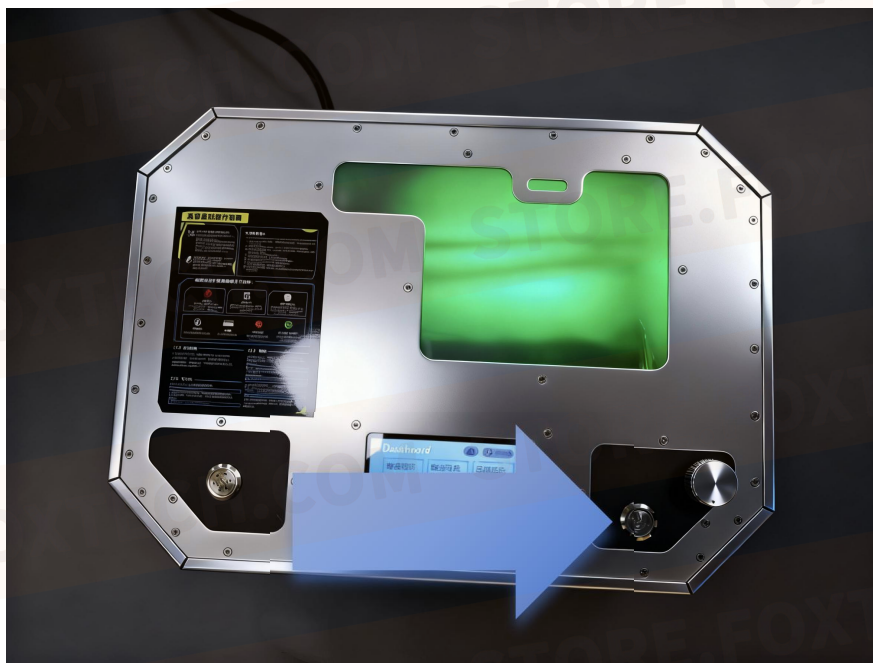
Currently, it shows " unable to take off."
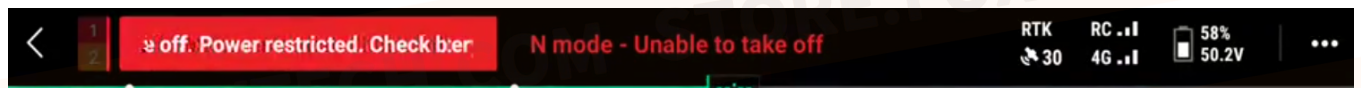
It is ready for takeoff.
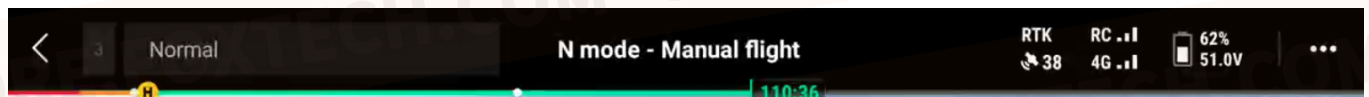
4.3 After takeoff, the battery level will drop to approximately 65%, and the tethered system will fully take over the drone's power supply. At this point, the drone's displayed flight time will extend to several hundred minutes (the exact value may vary depending on conditions).

M400 Tethered Power Usage Requirements:
- When the battery is above 60%, the drone will automatically switch to tethered power after the tether is activated.
- At 58% battery (49.9 V), a manual power switchover is required before takeoff (please consult us for detailed instructions).
- When the battery is below 58%, it must be charged back to above 60% before using the tethered system.
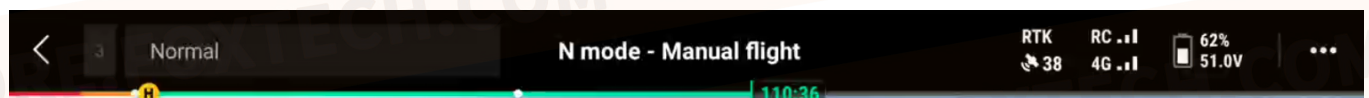
4.4 At this point, operations can begin. It is recommended to turn the knob arrow to the left.

Note: The tethering base station status is indicated by the following three-color lights:

Green —Normal operating status

Orange —Drone power is on, do not touch the tether cable

Red —Error alarm, check the display for status

5. Start Operation

Manual Flight:

Turn off the downward infrared obstacle avoidance for lighting operations. Before landing, re-enable the downward infrared obstacle avoidance. Pull the landing joystick, and the drone will automatically land and stop the propellers.

Operation Tips:

●   The tether cable is lightweight; it can be extended diagonally, ensuring the tether station faces the drone.

6. Landing Procedure

Turn on the downward infrared obstacle avoidance, then pull the landing joystick. The drone will automatically land and stop the propellers.

a. Set the winch to the upper gear to lower the drone synchronously.For faster cable retraction, adjust to the rightmost gear.

b. When the drone is approximately 3 meters above the ground, set the winch to the lower position (0 position) and land the drone.

c. Disconnect the tether cable and adjust the winch to retract the remaining cable.

Landing

Maximum Torque Cable Retraction

Hover

Position 0
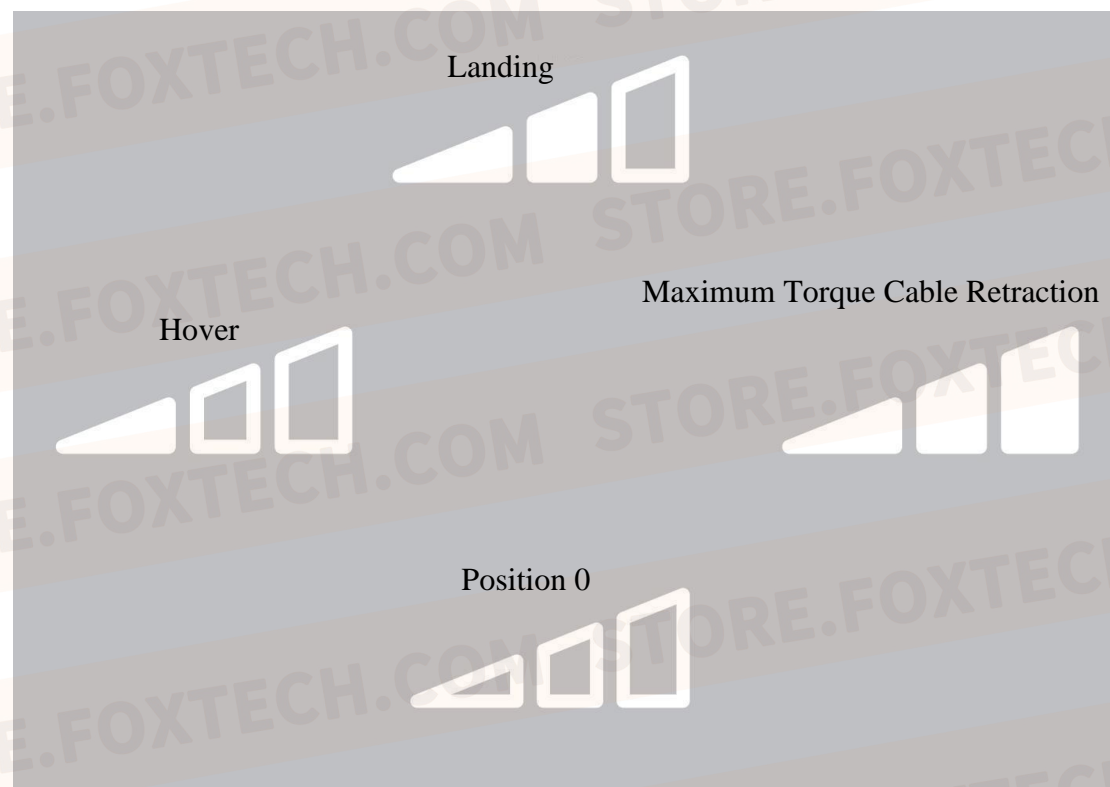
Important Safety Notice!

The following are important safety instructions regarding 220V electrical usage. These apply to commercial or high-voltage environments. Please ensure strict compliance:

Ⅰ. Basic Safety Principles

1. Certified Operation

-220V is considered high voltage (according to Chinese standards). Only qualified personnel with an electrician certification are permitted to install, maintain, or operate the equipment. Unauthorized operation by non-professionals is strictly prohibited.

2. Power Off Before Operation

- Before inspecting or maintaining equipment, the power supply must be completely turned off. Use a voltage tester or multimeter to confirm that there is no electricity. If necessary, apply lockout/tagout (LOTO) procedures.

3. Insulation Protection

-Wear insulated gloves, insulated shoes, and use insulated tools while operating. Ensure the work area is dry, and avoid working with wet hands or in damp environments.

4. Proper Wiring

-Ensure that neutral and ground wires are securely connected. Unauthorized or improper wiring is prohibited.

II. Emergency Handling

1. Electric Shock First Aid

-If someone is electrocuted, immediately cut off the power supply (do not pull the victim directly with your hands). Use an insulated object (such as a dry wooden stick) to move the electrical wire and call the local emergency number.

2. Electrical Fire

-After cutting off the power, use a dry powder or CO_2 fire extinguisher to extinguish the fire. Do not use water! If the power cannot be cut off, use specialized insulated fire-fighting equipment.

III. Warning Signs and Environment

1. Clear Markings

- Place warning signs such as "High Voltage Danger" and "Keep Away" in high-voltage areas. Keep the distribution box closed to prevent unauthorized personnel from coming into contact with it.

2. Maintain Safe Distance

-Keep a safe distance (≥0.7 meters) between the human body and live electrical equipment.

IV. Other Precautions

-Avoid operating outdoor high-voltage equipment during thunderstorms.

-Before moving or modifying wiring, ensure the power is turned off and there are no residual charges.

Maintenance Important Notice!

The following is a dimensional maintenance guide:

I. Routine Maintenance of Core Flight Components

(1) Airframe and Structural System

Daily Cleaning and Inspection:

After each operation, wipe the drone's body surface with a dry microfiber cloth to remove dust, . Focus on checking the airframe and landing gear for cracks, deformation, or loose screws. Inspect carbon fiber components for delamination. If any damage is found, immediately cease use and repair the unit.

Regular Deep Maintenance:

Every 10 hours of flight or weekly, use a compressed air can to blow out dust from the airframe gaps, motor cooling holes, and connectors. This helps prevent the buildup of impurities that could affect heat dissipation.

(2) Power and Propeller System

Propeller Maintenance:

Before each flight, check the propeller blades for cracks, chips, or deformation. Ensure they are fully locked during installation to avoid detachment during flight. Replace the propellers every 20 hours of flight or when the edges show signs of wear. After replacement, confirm that the propeller's rotation direction matches the motor's.

Motor Maintenance:

Every week, manually rotate the motor shaft to check if it runs smoothly and to listen for any unusual noises or jerks. Once a month, clean the inside of the motor and the wiring terminals with an alcohol wipe (without water), removing grease and dust. After cleaning, ensure the motor is completely dry before powering it on. If the motor overheats during operation (exceeding 60°C), immediately land the drone and inspect the bearings and windings.

(3) Flight Control and Sensor System

Sensor Calibration:

Each time the operating environment changes, after a collision, or on a monthly basis, calibrate the IMU (Inertial Measurement Unit), compass, and GPS module according to the manual. After cleaning operations, focus on wiping the lenses of the visual positioning sensors with a dedicated lens cloth to avoid scratches, ensuring no stains or obstructions.

Firmware and Software Maintenance:

Monthly, connect to the official client to check if the flight control firmware and remote controller software are up to date. Before updating, ensure the battery is ≥50% to avoid interruptions during the update that may damage the system. After updating, conduct a ground test flight to verify flight stability and control responsiveness.

For further details, refer to the DJI M400 drone manual and maintenance handbook.

II. Maintenance Schedule

Maintenance Cycle	Core Flight Component Inspection	
Before Each Flight	1. Check the tightness and integrity of screws 2. Inspect the battery appearance and charge level. 3. Check the remote controller signal and button sensitivity. 4. Clean and calibrate sensors.	
After Each Flight	1. Dust off the airframe and motor. 2. Check the remaining battery charge and proper storage. 3. Clean any dirt on the propellers. 4. Wipe the surface of the sensors.	

III. Maintenance for Special Environments and Storage

Response to Harsh Environments:

After operating in dusty, high-humidity, or corrosive gas environments, wipe the drone's body with a neutral cleaner, then thoroughly blow dry the electronic components compartment with compressed air to prevent chemical residue from corroding the parts.

Rainy Weather Operations:

After operating in rainy conditions, immediately remove the battery and store the equipment in a dry box for at least 24 hours. Ensure it is completely dry before reusing it.

Long-Term Storage Guidelines:

If the equipment will be unused for more than one month, complete the following steps:

Charge the battery to 60% and

store it separately. Remove the propellers and spray nozzles, and store them together with the drone body in a dedicated moisture-proof box.Every 3 months, power on the system for 10 minutes to activate the components and prevent aging.

IV. Safety and Emergency Maintenance Tips

If the battery is swollen or leaking, immediately move it away from any fire source and place it in an explosion-proof box. Contact a professional for handling. Do not attempt to disassemble it yourself. For complex faults (such as flight control errors contact official after-sales support. Do not allow untrained personnel to disassemble core components (such as the flight control board. It is recommended to establish an equipment maintenance log, recording each maintenance session, including the date, tasks performed, and any abnormalities. This will provide a basis for managing the equipment throughout its lifecycle.