TP-Matrice M300/350 Tethered Power Supply System



1. Project Overview

The TP-Matrice M300/M350 drone tethering system is designed for the DJI M300/M350 rotorcraft drone platform. This system consists of a sky-side module and a ground-based tethered power supply unit. Using tension-resistant, high-temperature resistant cables, electrical energy is transmitted from the ground to the drone's sky-side module, where it is converted into the DC voltage required by the drone to provide continuous power supply. The system can be directly connected to a generator, 220 V mains power supply, or an energy storage system, enabling the drone to perform extended-duration aerial operations with enhanced safety.

TP-Matrice M300/350 tethering system – overcoming the operational limitations of the DJI M350

1. Flight Time – Upon deployment of the tethering system, the UAV is no longer constrained by battery capacity, enabling it to meet extended flight duration requirements.
2. Operation – Confirm site authorization, aircraft operating limits and the complete tethered power installation before flight. The tethered system does not establish approval for flight in restricted areas or explosive atmospheres.

Main Technical Specifications

DJI M350 Drone

	project	technical parameter
	Diagonal wheelbase	895mm
	Unfolded dimensions	810mm*670mm*430 mm
	Folded dimensions	430mm*420mm*430 mm
	weight	6.47 kg (including battery)
	maximum take-off weight	9.2kg

	Maximum flight time	55 minutes
	Maximum wind resistance rating	Level 6
Matrice M350	operating ambient temperature	-20℃ ~ +50℃
	Continuous flight duration	When paired with the TP-Matrice M350 tethering system, it enables uninterrupted long-duration aerial operations.

TP-M350 Tethered Power System

M300/350 Air Power Supply Module

	project	technical parameter
	size	145 mm × 91 mm × 93 mm (Length × Width × Height)
	weight	500±10g
	output power	2500W
	input voltage	380-410Vdc
	output voltage	48Vdc
TP-P-M300/M350	output	MAX 55A
	Shell material	Aviation aluminum alloy

M300/350 Ground Power Supply Equipment

	project	technical parameter
	System Box Dimensions	420 mm × 345 mm × 225 mm (length × width × height)
	Single-cable length	110m
	weight	13.5kg ±0.5kg
	External power supply	AC220V
	Maximum closing speed	≤ 2m/S

TP-T-M350	work pattern	Passive unwinding/Active winding
	Power supply output voltage	400Vdc

2. TP-M300/350 Tethered System Installation and Usage Guide

2.1 Obtain the DJI M300/350 drones and the aerial power supply module. The DJI M300/350 drones each come equipped with two batteries; prepare to install these batteries on the right side of the drones and secure them by plugging them into the aerial power supply module.

		
DJI M300/350 – Right Battery	M300/350 Air Power Supply Module	Battery and power module are plugged in and secured.

2.2 Insert the installed battery and power module card into the drone's right-side battery compartment along the limit slot; the left-side drone battery should be installed as usual. Use a screwdriver to remove the original knob fastener and replace it with the fastener provided by the tethering equipment; then secure the assembly.
Connect the ground-based power supply device plug to the airborne power source; secure the cable to the drone tripod as a load-bearing point.

		
Install the right-side battery compartment	Replace the knob buckle	tethered power supply plug installation

2.3 Schematic diagram of the M300/350 Ground Power Supply Equipment Operation Panel



Button Instructions	**Main power switch**	**High-voltage output start/stop**
	Torque switch	**Cable winding/Stop**

System Operation Interface	**Turn on the main power switch (air circuit breaker).** 1. When the system operation interface is active, rotate the torque switch knob clockwise to initiate automatic thread retraction; in the automatic thread retraction mode, rotate the torque switch knob counterclockwise to deactivate automatic thread retraction. 2. After powering on the device, press the main power switch to turn on the power supply; the warning light will then turn green.

2.4 Turn on the M300/350 drone remote controller; press and hold the button to activate the tethered battery for the M300/350 drone, then activate the ground tethered box to initiate high-voltage power supply. The remote controller will display "Drone Ready for Unlocked Takeoff." During drone landing, the tethered box will open to retract the tether; when the drone descends to approximately 5 meters above the ground, the tethered box will deactivate the high voltage, allowing the remote-controlled drone to land safely on the ground.

3. Important Notes

1）The M300/350 matrix requires the tethered battery to be fully charged before each use.

2）Before use, please level the device and place it on a flat surface to ensure it is in a relatively balanced position.

3) Operators must wear insulated gloves to prevent accidental electric shock.

4) When adjusting the speed control knob on the Matrice M300/350 ground power supply equipment, turn it slowly from the smallest position to the largest position; do not abruptly set it to the maximum position.

4) After completing the charging or discharging process, coil the power cord neatly and store it inside the box; do not drag it across the floor.

5) During use, do not drag the tethered cable across the ground to prevent it from fraying; also, check the ground for any stones or other sharp objects that could cut the cable.

4. Product Maintenance & Warranty After-Sales Service

4.1 Storage and Transportation

When transporting a fixed-connection power supply box, shock absorption measures must be taken; otherwise, it is normal for internal screws to become loose.

4.2 Maintenance

1) Perform an inspection and maintenance of the tethered power supply every 50 takeoffs/landings or every 20 hours to ensure its proper operation.
2) Check whether any components of the tethered power supply have been subjected to any severe impact, and verify that all moving parts continue to operate smoothly.

4.3 Inspection:

1) Cable inspection: Carefully check the entire length of the tether cable for any damage to the outer sheath, exposure of the armor layer, excessive bending, or bending/corrosion of the connector pins. This is the most critical step.
2) Interface Cleaning: Disconnect all electrical connectors; inspect and clean any dust or moisture from the interfaces to ensure they are dry and clean.
3) Proper storage: Wind cables neatly and avoid sharp bends; store them in a cool, dry place.