TE400

Tethered Power Supply System

USER MANUAL

V1.0 2025.3

Disclaimer and Safe Operation Guide

Warnings and Disclaimers

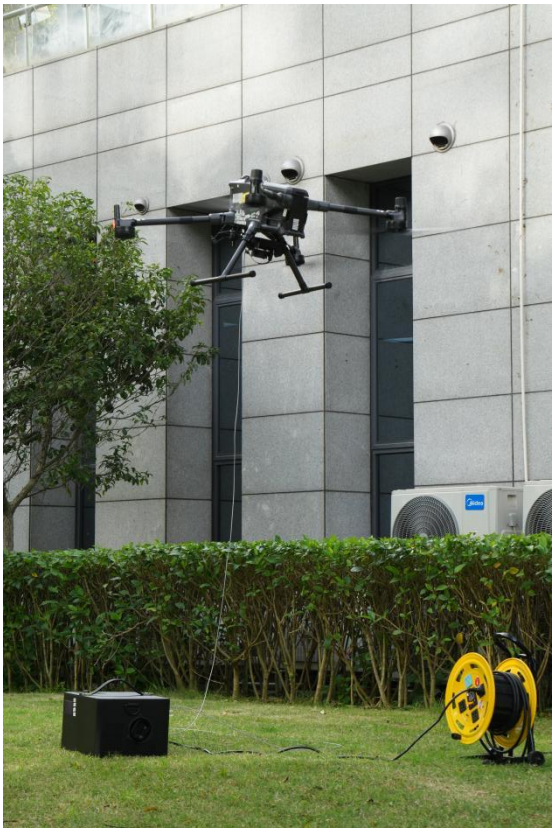
Please read the entire user manual and familiarize yourself with the product's features before operating. If not operated correctly, this product may cause serious harm to oneself or others, or result in product damage and property damage. There are certain safety risks associated with using this product, and it requires a period of familiarization before safe use, as well as basic knowledge before operation. Without a strong sense of safety, improper operation may result in product damage and property damage, and even cause serious harm to oneself or others. This product is not suitable for children to use. Do not use components that are not provided or recommended by our company, and strictly follow our company's guidelines for installing and using the product. Before assembling, setting up, and using, be sure to carefully read all instructions and warnings in the user manual.

1. Power Supply System

1.1 Introduction

TE400 power supply lighting system can be adapted to DJI M400 series, converting single-phase AC power into DC high voltage and transmitting it to the airborne power supply through high-performance nickel alloy power cables, continuously supplying power to the aircraft. Combined with the use of backup batteries, it can achieve 12 hours of continuous operation with an extnded endurance while ensuring safe flight.Simultaneously equipped with an ultra miniature high-power lighting system.
TE400 sky-ground power supply lighting system consists of three main parts: Airborne power supply ,Manual and automatic integrated cable retracting&releasing equipment and Ground lighting system,the manual and automatic integrated cable retracting&releasing equipment integrates ground power supply, high-performance power supply cables, and automatic cable retracting&releasing device.Two ways of carrying: backpack and handheld,The highly integrated ground power supply system not only provides portability, but also ensures the fast execution of automatic cale retract and release functions for 110 meter cables, while reducing cable impact and bending, making it an effective device for protecting cables.

In special applications, TE400 can support M400 as a relay for relay tasks up to 150 meters.



2. Specification of Airborne Power Supply

Item	Technical Parameter
Overall dimension	≤280mm×100mm×80mm
Shell material	Aviation aluminum alloy hybrid material
Weight	≤700g
Power	Rated 3600W
Rated input voltage	380-450 VDC
Rated output voltage	13S
Main rated output current	70A
Efficiency	98%
Circuit protection	Output current greater than 75A, automatic protection of onboard power supply, 450V overvoltage protection
Short Circuit Protection	Output short circuit automatic protection, automatically restored to normal after troubleshooting
Over temperature protection function	Start temperature protection after 80 ℃ and turn off output
Lighting function	White light control interface
Control and Interface	EPORT、LP12、XT60/XT30 interface supports DJIPSDK, WIFI and Bluetooth

3. Ground Power Supply System Specifications

Items	Technical Parameters
Overall dimension	370mmx265mmx245mm
Shell color	black
Flame retardant grade	V1
Weight	<9Kg (Including cables)
Power	Rated 4KW
Cable	110 meter cable, relay mode supports up to 160 meters, Cable diameter less than 3mm, The overcurrent capability is greater than 2A, Weight less than 1200g per hundred meters, The tensile strength is greater than 50kg, Voltage withstand 800V, Internal resistance less than 10 Ω/ 100m@20 ℃
Rated input voltage	110-220 VAC±10%
Rated working frequency	50/60 Hz
Output voltage	350-460 VDC
Function	Equipped with automatic wire collection and automatic stop function, with overcurrent, overvoltage, undervoltage and other protection functions, and with red and blue flashing warning light function

4. Lighting System Specifications

Items	Technical Parameters
Weight of airborne lighting	≤500g (one side)
Airborne lighting dimensions	≤300×120×40mm (one side)
Airborne lighting function mode	The lights can be connected to DJI Pilot2. It is possible to control the brightness of white light on the drone remote control, White light switch with optional red and blue flashing lights.
Adjustable rotation range of airborne lights	Pitch 0° - 45°
Airborne lighting protection function	The lighting has intelligent overheating protection function, which can flexibly adjust the power according to the temperature. It has internal automatic shutdown for ultra-high temperature and automatic frequency reduction for high temperature.
Ground lighting power	≥400W
Ground lighting electrical interface	LFB interface
Weight of ground lighting	≤300g
Ground lighting installation method	Quick installation, compatible with tripod installation; Equipped with a telescopic tripod; The lighting has both near and far illumination, with white light flashing.
Ground lighting control method	Mobile WeChat mini program, APP control, can control the switch, brightness, and combat mode. Convenient and practical.

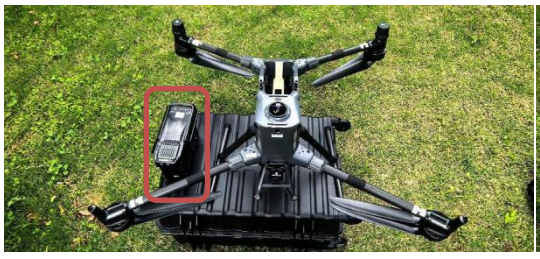
5. Environmental Requirements For Use

Itmes	Min	Max	Units	Remarks
Working temperature (environment)	-20	50	℃	
Working temperature (shell temperature)	-20	80	℃	Forced-air cooling
Storage temperature	-40	80	℃	
Relative humidity	5	95	%	
Storage Humidity	5	95	%	No condensation
Atmospheric pressure	54	106	kPa	No condensation
Above sea level	/	3000	m	

6. Method of Use

6.1.Installation of airborne power supply

1.Open the drone safety box, take out the drone, prepare the dedicated tethered battery, install the dedicated tethered battery into the M400 series drone and prepare accordingly.



2. Remove the M400 airborne power supply from the safety box and install it on the tripod as shown in the diagram. The device is a quick installation structure, first press the switch to pop open, and then press from bottom to top to quickly install.

3. Connect the PSDK cable to the EPORT interface at the bottom of the M400, and connect the LP24 interface of the tethered battery to the TE400 airborne battery interface. At this point, the TE400 airborne power supply has been installed.

6.2. Install and use airborne lighting

1. Get ready to remove the airborne lights from the box.

2. Press the light switch to open the quick release claw.

3. Insert the tripod and complete the installation in 1 second.

The lighting angle can be adjusted from 0 to 45 degrees.

After completion, the lighting is as follows.

6.3.Ground lighting installation

1. Turn on the ground lighting and adjust the height as needed, 1-2 meters adjustable.

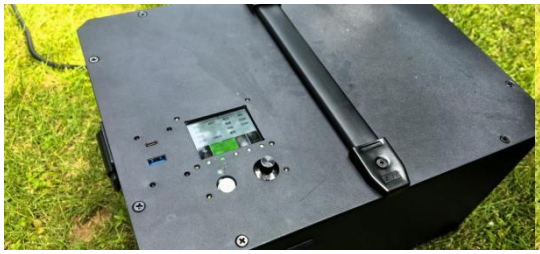
2. Use ground power supply. Open the cover of the ground integrated machine, keep the ground integrated machine turned off, and connect the power supply line connector of the ground integrated machine to both the ground integrated machine and the mains or generator plug;

3. Turn on the ground power switch, press the red button, observe if the control system starts normally, and then enter standby mode.

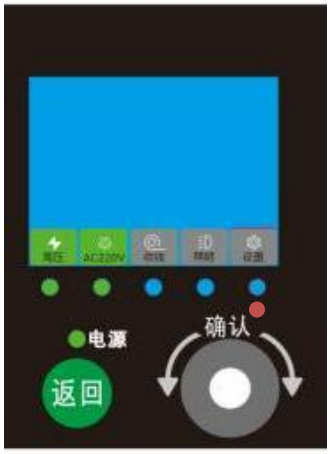
4. Pull out the high-voltage line of the ground power supply, connect it to the airborne power supply as shown in the diagram, and at the same time hook the anti fall hook on the cable into the middle hook of the anti fall steel wire rope.

6.4.Open the control panel

1. Short press first, then long press the green return button.



2. When the tethered plug is connected to the mains or generator, turn on the ground source and control panel , and AC220V will be constantly on.



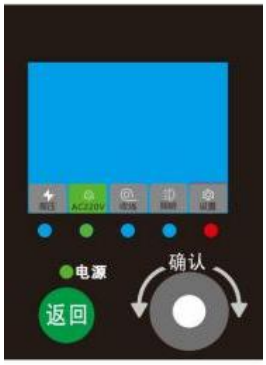
3. Turn the knob to the high pressure position, press OK, turn on the high pressure, and start working.

4. At this time, the drone can take off, please control the ascent speed at 1m/s

5. After reaching the designated height, the drone hovers.

6. When the drone lands, turn the knob to the wire collection position, press the knob to start automatic wire collection, and the drone begins to descend at a speed of 1m/s. The drone is about 2 meters off the ground, press the knob to stop automatic wire collection, and the drone lands. This operation can be completed on the remote control.

7. Turn the knob to the high voltage icon, press the knob to turn off the high voltage, turn off the light bulb, and enter standby mode.



Disconnect the ground integrated aircraft LP12 aviation plug from the unmanned aerial vehicle onboard power LP12 aviation socket module. The drone lands, turn the knob to the wire collection function, press the knob to start automatic wire collection, and recycle excess cables. Short press and then long press the return button to control the panel's optical machine, then long press the protector switch, and finally turn off the air switch to complete the power shutdown. Fold the drone and store it.

7.Points For Attention

If foreign objects enter the equipment, the power should be immediately turned off and the operation can only continue after the foreign objects are removed.

Attention: Manual winding reel usage method
Pull the handle outwards with force and then push it upwards; Do not use brute force to push the handle.