

# DJI FlyCart 100 Tethered Drone System



System Model: FC100XF



#### 1. Core Functions

- ✓ It provides FlyCart 100 with a single continuous power supply capacity of ≥4 hours and supports full-power operation under full-load.
- ✓ Based on the current 40mm diameter fire water pipe, it can achieve fire water spraying at a height of 80m and foam spraying at a height of 150m.
- ✓ The total weight of the tethered system is no more than 80kg. It features a frame structure design (including tethered cables, AC380V power supply cables, and bionic power supply for unmanned aerial vehicles), facilitating rapid deployment.
- ✓ The power of the bionic power supply in the air supports a long-term full load of 25kw and a maximum MTOW of 200kg.
- ✓ The conversion efficiency of the bionic power supply in the air is  $\geq$  96%, and the voltage stability deviation is ±1%.
- ✓ The tensile strength of the cable is  $\geq$ 3000N, it can withstand high temperatures ( $\geq$ 300°C in fire scenarios), and the core of the air bionic power supply is IP68-level waterproof.
- ✓ The system failure rate is ≤1 time per 100 flights, and it supports power-off protection and automatic return.
- ✓ Ground tethered base station, supporting a maximum tethered cable of 240m, 380V AC power supply, rated output of 30kw, full-load output of 40kw, featuring convenience and mobility.
- ✓ The entire system deployment time does not exceed 10 minutes.

## 2. Product Configuration

|    | Name                                         | QTY |
|----|----------------------------------------------|-----|
| 1. | 40kW tethered box (including tethered cable) | 1   |
| 2. | Waterproof on-board power supply             | 1   |
| 3. | 380V AC cable                                | 1   |

## 3. Product Appearance & Introduction





# 4. Parameters of Tethered System

| Project                    |                      | Technical Parameters                                                                                                                                                                                                                                                       |
|----------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tethered<br>station        | Input<br>voltage     | AC 380v±10%, 3-phase system                                                                                                                                                                                                                                                |
|                            | Output<br>voltages   | Rated DC 1000V                                                                                                                                                                                                                                                             |
|                            | Output<br>power      | Rated 30kw max.40kw                                                                                                                                                                                                                                                        |
|                            | Take-up<br>speed     | 0 ~ 3m/s adjustable                                                                                                                                                                                                                                                        |
|                            | Size                 | L×w×h: External dimensions size 68.6x44.8x49.2cm                                                                                                                                                                                                                           |
|                            | Weight               | 60kg(including tethered cables)                                                                                                                                                                                                                                            |
|                            | Material             | Aviation aluminum alloy                                                                                                                                                                                                                                                    |
|                            | Protection           | It features a strong and weak current separation design, and has protection functions such as input under-voltage, input over-voltage, output over-voltage, output over-current, output short circuit, and output over-temperature, as well as Bluetooth control function. |
| Tethered cable             | Operating<br>current | Max.30A                                                                                                                                                                                                                                                                    |
|                            | Tensile<br>strength  | ≥300kg                                                                                                                                                                                                                                                                     |
|                            | Cable length         | Max.240m 4.5kg/100m                                                                                                                                                                                                                                                        |
| Onboard<br>power<br>supply | Input<br>voltage     | DC 1000v                                                                                                                                                                                                                                                                   |
|                            | Output<br>voltages   | DC 14s 58.8v constant regulated output & accuracy ±1%                                                                                                                                                                                                                      |
|                            | Output<br>power      | 25kw (rated long-time power)                                                                                                                                                                                                                                               |
|                            | Size                 | As original battery pack                                                                                                                                                                                                                                                   |
|                            | Weight               | 14.8kg                                                                                                                                                                                                                                                                     |
|                            | Installation         | Replacement of one FC100 drone battery, plug and play                                                                                                                                                                                                                      |
|                            | Protective function  | In tethered power mode, the vehicle can fly and land normally if the power supply is interrupted during flight.                                                                                                                                                            |

# 5. Equipment Operation Procedure

- 1. Check that the equipment is complete: Check that the main body of the drone, the cleaning device, the control system and the guards are intact.
- 2. Install the cleaning device: Install the cleaning device to the main body of the drone and make sure it is firmly connected.
- 3. Connect the power supply: Connect the battery to the remote control and turn on the power switch.



- Control the drone flight: Use the remote control to control the drone flight, adjust the flight height, speed and direction as needed.
- 5. Start cleaning: After determining the cleaning object, switch on the cleaning pump and use the drone to clean the target.

#### 6. Equipment Maintenance

Daily maintenance: after each use, the main body of the drone and the cleaning device should be cleaned to keep the equipment clean and tidy. At the same time, check whether there is any damage or looseness of the parts and deal with them in time.

Regular Maintenance: It is recommended to carry out a comprehensive equipment inspection and maintenance once a month, including replacing worn parts and cleaning the internal circuit boards.

## 7. Principles of use

- 1. When in use, the power supply should maintain good ventilation and heat dissipation; the air passage of the module unit should not be blocked;
- 2. The power supply should be used under the environmental conditions specified in the specification;
- 3. Do not adjust the potentiometer in the power supply at will;
- 4. Do not operate in the presence of volatile gases or flammable environments;
- 5. Do not remove the outer cover or touch the internal parts under any circumstances;
- 6. For safety reasons, do not perform internal warranty or parts replacement alone;
- 7. The power supply must be safely insulated when in use, and any side of it must be at least 8mm away from the outer metal shell; if it is less than 8mm, a PVC sheet with a thickness of more than 1mm must be used to strengthen the insulation;
- 8. If you notice smoke or unpleasant odor during startup or use, turn off the power immediately.

#### 8. Warranty

The warranty period for this product is 1 year. During the warranty period, any natural damage under normal use will be repaired free of charge by our company;

However, if any of the following conditions occur, the warranty will not apply:

- 1. Damage caused by unauthorized repair without the permission of the company;
- 2. Any addition or modification;
- 3. Improper operation or use;
- 4. Abnormal environmental conditions, exceeding specification requirements, causing damage;
- 5. Deliberate human damage;
- 6. Damage caused by force majeure natural disasters.

#### 9. Repair scope

If the power supply fails to operate normally during the warranty period due to errors in materials or manufacturing technology, our company will provide free repair or replacement. The repair service will include various labor services and any necessary adjustments or replacement parts.

#### 10. Restrictions

1. If you fail to pack the product in the same way as when you send it back and it is damaged during





transportation, the warranty will also be void.

- 2. Our company will not be responsible for any of the following:
- Damage caused by fire, earthquake, riot, war, terrorist attack, third party's behavior and other events;
- Damage caused by the customer's intentional or negligent act, misuse, or use under other abnormal conditions;
- Incidental damages arising from the use or performance of this product [interruption of business, loss
  of business profits (including loss of use of equipment, costs of replacing any equipment, devices or
  services, or claims by your customers)];
- Any damage caused by using the method other than that specified in this manual;
- Regardless of any circumstances, such as operation, cleaning or maintenance, please be sure to comply with the safety rules stipulated in Item 7. If you violate them and cause safety concerns beyond the original design and manufacturing, our company will not be responsible.

