

Motion*New*

Drone Winch DW-5

User Manual



1. Profile

DW-5 is a onboard drone winch designed for emergency rescue and air-dropping for cargo delivery. It has the characteristics of high strength, reasonable structure design, small size, light weight and good toughness. It can be used in many fields such as public security, fire protection, power wiring, material round-trip transportation, disaster relief, and relief material delivery in isolated areas.



This device is used to mount items, pull items up and down through the winding structure, and is suitable for UAVs such as Matrice M600, Matrice M300RTK and other drones (different mounts are required), and the winding line is controlled by remote control to realize the lifting of items. Pulling and lowering, when pulling up close to the device, touch the travel switch to automatically stop the rewinding, and lower it up to about 30 meters. Use the gravity self-locking hook to automatically unlock the item after it touches the ground to realize the automatic lowering of the item.

2. Cautions

1. Power the device with voltage DC 20-26V. Below this range, the winding speed will be affected, and above this range may cause the device burned.
2. The remote control needs 4pcs AA batteries, please pay attention to the positive and negative directions when installing it.
3. Please fully tighten the mounting connector when using it, so as to avoid looseness and falling and lead to flight accidents.
4. This device is detachable design. Please pay attention to the installation direction before use.
5. When using, make sure there are obstacles under the operating position, so as to avoid entanglement and cause flight accidents!
6. Check whether the hook movement and the spring return are normal before use.
7. Please do not bump it during transportation or handling, so as not to affect the normal work due to structural deformation.
8. Please check the drone and equipment frequently for loose screws or damaged accessories, especially for drones with strong vibration. If you find any problems, please contact after-sales support in time.
9. Please keep the lead wire with gravity traction during use, otherwise the lead wire will be easily wound around, resulting in damage to the device by the stuck wire.
10. When using this equipment, the drone should fly smoothly, avoid sudden acceleration, sudden stop, sudden rise and fall, which may affect flight safety.
11. When using, pay attention to avoid the lead wire being too long or pulling without gravity when taking off or landing, so as not to cause the lead wire to be inhaled and wrapped around the propeller due to the strong wind or the wind effect of the propeller, resulting in a flight accident!

3. Assembly

1. In the box:

Drone Winch DW-5 *1pc, RC *1pc, USB cable *1pc (Re. Figure 1)



Figure 1 (Standard version not includes M600 bracket, please purchase separately if need)

2. Loosen the fastening thumbscrews of the M600 mount, open the cover of the mount, mount the quick release mount to the drone, and then align the device quick release seat with the mount, push it in until hear "click" sound, push and pull the device to ensure a secure connection. (Re. Figure 2)



Figure 2

3. Connect the input end of the power cable to the drone, and insert the output end of the cable into the type-c socket at the rear of the device, regardless of the front and back, make sure to plug it tightly to avoid ignition. Open the battery cover on the back of the remote control, insert batteries, close the battery cover, and the installation is complete. (Re. Figure 3)



Figure 3 (Power connection)

4. Usage

1. RC Power on and Usage

Pick up the remote control of DW-5, do not touch the joystick, reset all the toggle switches on the top before turning on the RC, press and hold the 2 power buttons with both thumbs for about 3 seconds, and the remote control will turn on. The shutdown method is the same as the startup method.

After the screen displays a normal screen with no error message, turn on the UAV with the device installed. At this time, the upper right corner of the remote control screen should display the air terminal voltage, indicating that the connection is successful, otherwise, please contact technical support.

Push up the left joystick to pull up the line. After the travel switch is triggered, it cannot be pulled up any further. Push the joystick down to lower the line. After lowering about 25 meters, please slowly or stop lowering. (Re. Figure 4)

Attention: DO NOT lower the cable longer than 30meters in case the winch rollback to damage the device!



Figure 4 (Remote Control)

2. Gravity Hook Usage

Lower the winding line for a certain length to use the gravity hook to mount the item. Lift the item to the vicinity of the gravity hook. Put the annular part of the item into the gravity hook stroke. Manually press the gravity hook to close it, and the hand holding the item can be released slowly. Press the inner side of the gravity hook with gravity, slowly release the hand holding the gravity hook, and let the line bear the gravity.

During the process, once the gravity hook is not pressed by gravity, it may open automatically, please do some practice. (Figure 5)

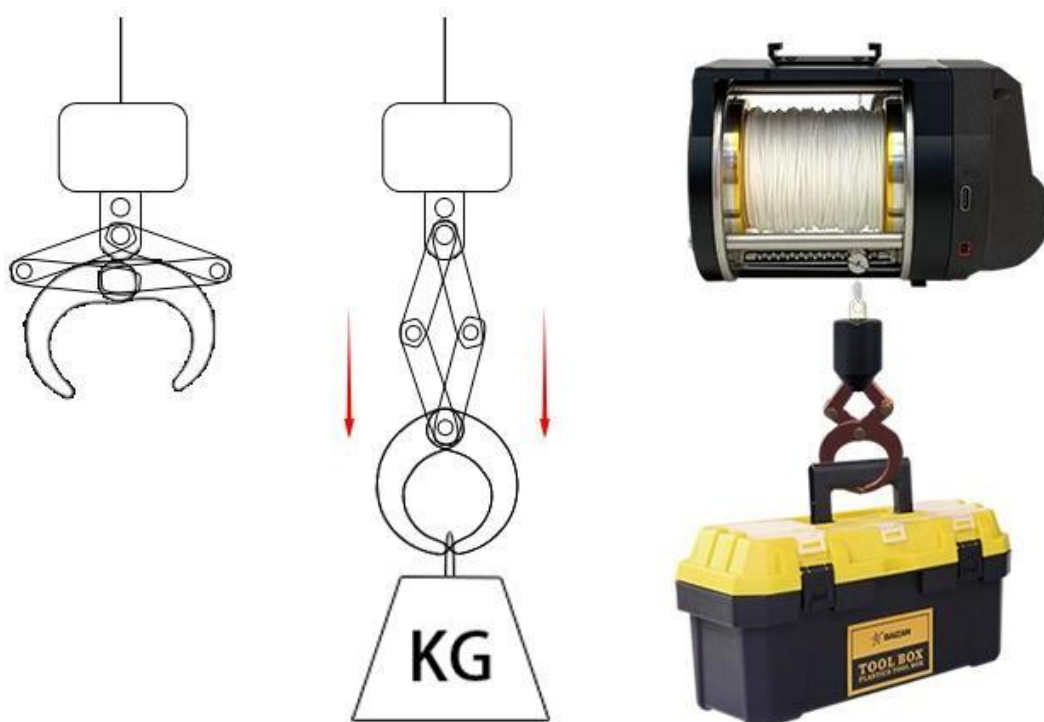


Figure 5 (Hook)

Note: Be familiar with the use methods and precautions. Do not apply sudden pulling force to the device.

5. Maintenance

After using the device, apply a little resistance to the lead wire, control the reel to take up the line that is too long, stop when the gravity hooks on the device about 10 cm long, wipe the dust on the surface of the device and put it in the transport box.

6. Specification

Device Size	200mm*105mm*145mm
Package Size	305mm*269mm*195mm
Device Net Weight	1.05KG
Mount Method	Detachable
Power Method	Power by drone
Working Voltage	24V
Motor Type	Brush DC motor
Motor Power	22W
Motor RPM	6000 RPM
Output RPM	120 RPM
Reduction Ratio	1: 50
Pay-off Speed	10meter/minute
Line length	30M
Max Support Weight	5KG
Control Method	Independent remote control
Signal Mode	PWM
Control Range	800M (LOS)
Expand Channels	Support M600 expand channel(please contact with salesman to have this function)
Adapt Model	DJI M600 Pro and Wind Series (For other drones please contact with salesman)

Remote Control

Device Size	180mm*82mm*161mm
Net Weight	392g
Input Power	1.5AA*4
Data Output	PS2 connector PPM
Frequency Range	2.408 - 2.475GHZ
Band Width	500KHZ
Transmitter Power	≤ 20dBm
Low Voltage Warning	When less than 4.2V
Power Connector	None
Antenna Length	26 mm*2 (built-in dual antenna)
Display Method	STN transfective positive display, 128x64 dot matrix. VA73*39mm LED white backlight