FLYING EYE
DRONES - ACCESSOIRES - FORMATIONS

Parachute system and Circuit breaker DJI MATRIX 350 RTK

Before handling the parachute system, read this manual carefully.

PRESENTATION

Flying Eye has been your partner specializing in drone technology since 2009. We have been developing parachute systems since the appearance of drone regulations in 2012. A pyrotechnic system based on aviation technology, you have the most efficient and lightest system on the market.

Flying Eye cannot be held responsible for any malfunction or operation deemed ineffective.

We are at your disposal for any technical or commercial information.

WARNINGS AND PRECAUTIONS FOR USE

The Flying Eye company may suspend the warranty and release itself from any liability to any person who does not respect the basic safety instructions set out below. Flying Eye disclaims all liability for damage or injury related directly or indirectly to the use of pyrotechnic cartridges or through the use of pyrotechnic cartridges that do not meet safety requirements and standards.

• It is forbidden to carry out any manipulation other than those provided for in the manual.

• The device should only be used by (or under the supervision of) a responsible adult. Always keep the device out of the reach of children. Don't let them play with it. • Under any circumstances, you must not dismantle the various elements of the device, except during maintenance planned for this purpose and in accordance with the instructions provided in this manual. • Do not place the device in a damp or wet environment and keep it away from UV rays.

• Do not expose the system to low or high temperatures, severe shaking, risks of shock, contact with chemicals, acids, long-term storage in an environment of high humidity or dust. Improper use may result in the explosion of pyrotechnic cartridges and put your life in danger. The maximum use temperature is 40°C and the minimum use temperature is -15°C.

• The good condition of the parachute system must be checked before each outing. Do not use the device if it is damaged, if it malfunctions. If necessary, contact your reseller.

• The parachute cannot prevent the drone from malfunctioning.

• Any flight with a drone implies the existence of a risk for the equipment and people nearby, with or without a parachute. • Using a parachute should in no way increase your risk.

• The parachute must be triggered manually by the user. Regular training is necessary know to be able to react correctly in the event of an emergency. Therefore, for the safety of the equipment and third parties, dummy triggers of ground exercises regularly.

• The ejection system only works once. It must be returned to your dealer to be recharged.

TECHNICAL DESCRIPTION

DESCRIPTION :

Reliable and lightweight security system for the S2 and S3 approval of the DJI MATRICE 350 RTK. It includes an ultra-fast double parachute, a circuit breaker, an alarm and a secure radio trigger which is attached to the pilot radio control. The parachutes are removable in seconds. The center of gravity of the Matrice 300 RTK is preserved. Parachute redundancy for a completely foolproof system. The MATRICE 300 RTK lands on its feet when the triggers are triggered.

parachutes, to avoid breakage of an arm or landing gear.
Works correctly from a height of 15 meters thanks to pyrotechnic technology borrowed from ULMs.

Very low coefficient of penetration in the air allowing no vibration to be generated at high speed and thus keeping a perfectly stable image.
Reliable, robust and lightweight high-tech materials.
The assembly and disassembly of the system can be done by the customer. The system does not modify the integrity of the DJI MATRICE 350 RTK. The DJI manufacturer's warranty is retained. Fits in the original Matrice 300 RTK case.

TECHNICAL SPECIALIZATIONS:

- Weight of the complete system: 710g
- Impact energy: 64 Joules
- Approval for 8kg
- Redundancy of power cut electronics Double trigger button on
- remote control

• Encrypted frames (256 bits) – checksum to authenticate the frame. Two-way association. • Log logs on micro-SD card in the remote control (user-readable text file and not alterable containing: date/time/min/sec, quality of reception, trigger requested by the user, trigger received by the receiver, acknowledgment of receipt of the remote control, drone battery voltage, voltage and current passing through the 2 cut-off chips circuit, and remote control battery voltage)
• Remote control autonomy of 40 hours (1800mAh lipo battery rechargeable by micro-USB) • Auto power Off (after 30 minutes without connection) • Battery voltage display on the remote control (4 LEDs / or directly on the LCD V1.05) • Emergency power supply allowing the parachutes to be triggered up to 1 minute after a loss of power to the drone • Firmware update via micro-USB • Secure power on and off of the remote control (like a DJI battery) • Possibility of pair up to 4 remote controls per drone

CONTENT :

• 2 parachute containers •
1 left interposer module • 1
right interposer module • 1
cradle (landing gear support) • 2 charging
caps • 2 pyrotechnic
charges • 1 remote control
• 1 micro USB
cable • 1 battery
latch • 1 pin of security

PARACHUTE RADIO CONTROL

Radio control charge level: To find out the charge level, press the “POWER” button once, indicator lights appear.

Getting started:

To turn on the parachute radio control, make a short press then a long press on the “POWER” button.

Triggering: The parachute is triggered by pressing the 2 “FIRE” buttons simultaneously.

The different alerts on the system radio control:

Operational system

Loss of connection with the drone

Safety pin in place

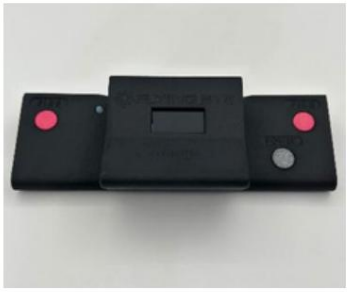
Missing load(s)

System Triggering

PARACHUTE RADIO CONTROL MOUNTING

OPERATING MODE

Take the following 3 pieces (as well as the M30 radio control):



Radio Control Parachute RC Bracket Support Screw

Insert the RC support on the parachute radio control and screw in the 2 small screws using an allen key (supplied with the M30) as below:

Then attach everything to the M30 radio control by inserting the 2 small pins of the RC support into the 2 holes (orange arrows) and then insert the screw of the support into the screw thread of the M30 radio control (green arrow) as follows below:

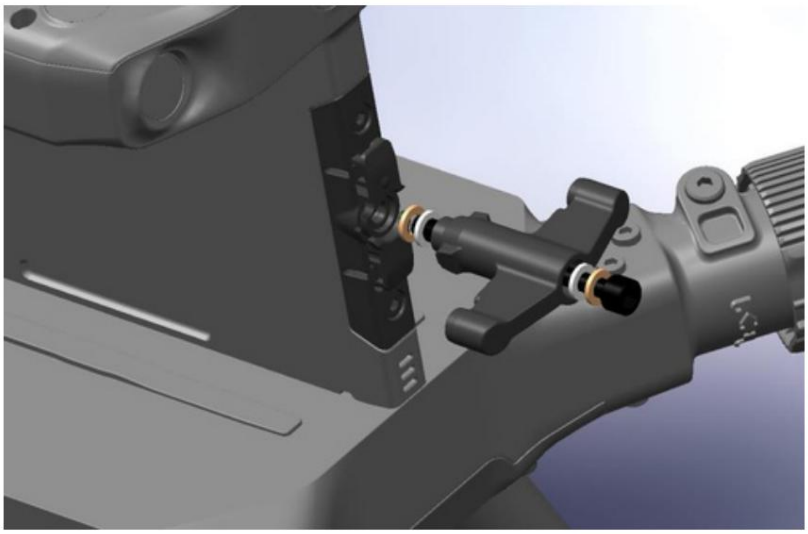
FACILITY

Installation of the parachute cradle:

In order to position the parachutes on the drone you must:

Unscrew the two landing gear supports

Position the cradle in place under the drone cradle. Secure it using the 4 screws on each side (USB connector towards the front)



Installation of the battery butterfly:

In order to be able to lock the batteries with the presence of circuit breakers, it is necessary to change the battery locking butterfly.

Place adhesive tape on each side of the push piece under the butterfly to hold it during disassembly.

Unscrew the central screw of the butterfly:

BE CAREFUL of the washers, remove the screw and the butterfly.

Replace the screw in the new butterfly, the washers then screw.

Remove the tape.

Installation of pyrotechnic charges:

ÿ **Insert the safety pin! (as below)**

Before setting up the “parachute” containers, please place the two pyrotechnic charges on each side of the drone in the locations provided (landing gear base, red connector). Place the load correctly thanks to the two side lugs.

Installation of the circuit breaker modules:

To place the circuit breaker modules on each side in the battery slots, insert them from the rear by sliding them forward.

Slide the modules all the way forward to the stop to ensure a good connection to the connector.
The circuit breaker modules can remain in place for storage in the M350 RTK case.

Installation of the parachute pods:

Install the two “parachute” pods on each side of the drone, covering the pyrotechnic charges and screw in tightly.

Installation of drone batteries:

Install the two TB60 batteries normally by sliding from the rear, then lock using the rotating “butterfly” type fixing.

PROPER FUNCTIONING TEST

Before each flight, you must check all the elements constituting the system and verify its integrity. If an anomaly is noted, do not proceed with the theft and contact your dealer.

Test for proper operation on the ground:

• Make sure the entire drone system is powered off. TB60 battery disengaged. • Remove the “parachute” pods by unscrewing them. • Remove the 2 pyrotechnic charges. • Place the 2 test LEDs in place of the loads • Place the 2 TB60 batteries and lock. • Turn on the drone's radio control. • Turn on the “parachute” radio control. • Turn on the drone, LED 4 of the “parachute” radio control goes out. • Remove the safety pin, LED 1 goes out. • Start the drone's motors. • Activate the “parachute” system by pressing the 2 “FIRE” buttons: • The four motors stop.

The 110dB buzzer sounds.

The four red lights on the “parachute” radio control flash or the symbol appears on version 1.05 (LCD screen).

The two test LEDs light up red or green for 2 seconds.

• The buzzer continues to sound as long as the TB60 batteries are in place (allows you to find your drone). • Unlock and remove the TB60 batteries: The system will remain powered for approximately one minute and the buzzer will stop. • Turn off both radio controls.

Safety pin in place

MAINTENANCE

09/20/2023

ANNUAL MAINTENANCE

Change of pyrotechnic charges.

Ventilation of the sail for 24 hours, canvas, line and folding inspection. For optimal operation of the system, annual maintenance of the sail is essential.

STORAGE AND WARRANTY

SPECIFIC MAINTENANCE:

You must dry the sail immediately after any contact with humidity or water to avoid any damage. Contact with solvent, chemical, or fuel can alter the mechanical properties of the sail.

The parachute and lines must be cleaned only with water without soap, then dried.

WARRANTY:

We guarantee our parachutes for one year from the date of purchase against any faulty workmanship or design defect that may arise during normal use of the product.
Any abusive or incorrect use, any exposure to aggressive factors (high humidity, too high temperature, etc.) which would lead to damage will result in the nullity of this guarantee.

Contact us :

Flying Eye
400 avenue roumanille
Green Side - Bat.
1B 06410
Biot ***Mail :***
info@flyingeye.fr ***Tel:*** 09 72 62 78 50