



FLYING EYE

DRONES - ACCESSOIRES - FORMATIONS

Parachute system and Circuit breaker DJI MATRICE 300 RTK



Before using the parachute system, please read this manual carefully.

PRESENTATION

Flying Eye has been your partner specialised in drone technology since 2009. We have been developing parachute systems since the drone regulations appeared in 2012. It's a pyrotechnic system based on aviation technology, making it the most efficient and lightest system on the market.

Flying Eye could not be responsible for any malfunction or operation deemed to be inefficient.

Contact us for any technical or commercial information you may require.

WARNINGS

Flying Eye may suspend the guarantee and disclaim all liability to any person who fails to comply with the basic safety instructions set out below. Flying Eye declines all responsibility for damage or injuries directly or indirectly related to the use pyrotechnic cartridges that do not conform to the safety requirements and standards.

- It is forbidden to carry out any operation other than those specified in the manual.
- The device should only be used by (or supervised by) a responsible adult. Always keep the device out of the hands of children. Do not allow children to play with it.
- In any case, you must not dismantle the various elements of the device, except during the maintenance provided for this purpose and in accordance with the indications provided in this manual..
- Do not place the device in a humid or wet environment and keep it away from UV light.
- Do not expose the system to high or low temperatures, strong shocks, risk of shocks, contact with chemicals, acids, long-term storage in high humidity or dust. Inappropriate use can cause the pyrotechnic cartridges to explode and endanger your life. The maximum operating temperature is 40°C and the minimum operating temperature is -15°C.
- The condition of the parachute system must be checked before each use. Do not use the device if it is damaged or malfunctions. If this is the case, contact your retailer.
- The parachute cannot prevent the drone from malfunctioning.
- Any flight with a drone implies the existence of a risk for the equipment and people in the area, with or without a parachute.
- The use of a parachute must not under any circumstances increase your risk.
- The parachute must be triggered manually by the user. Regular training is necessary to be able to react correctly in an emergency. For the safety of the equipment make dummy releases of ground exercises regularly.
- The ejection system only works once. It must be returned to your dealer for recharging.
- After the device has been triggered, it is recommended that each component be carefully inspected to ensure its integrity. If you have any doubts, please contact your dealer.

TECHNICAL DESCRIPTION

DESCRIPTION :



Reliable and lightweight safety system for S2 and S3 approval of the DJI MATRICE 300 RTK. It includes an ultra-fast double parachute, a circuit breaker, an alarm and a secure radio release which is attached to the pilot radio control.

The parachutes can be removed in a few seconds. The centre of gravity of the Matrice 300 RTK is retained. Redundancy of the parachutes for a totally infallible system. The MATRICE 300 RTK returns to its starting position when the parachutes are released, to avoid the breakage of an arm or landing gear.

Works properly from a height of 15 metres thanks to the pyrotechnic technology borrowed from microlight aircraft.

Very low coefficient of penetration in the air so that no vibrations are generated at high speed and thus a perfectly stable image is maintained.

Reliable, robust and lightweight high-tech materials.

Assembly and disassembly of the system is feasible by the customer. The system does not alter the integrity of the DJI MATRICE 300 RTK. The DJI manufacturer's guarantee is retained. Fits in the original case of the MATRICE 300 RTK.

TECHNICAL SPECIALISATIONS :

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



- Encrypted frames (256-bit) - checksum to authenticate the frame. Association in both directions.
- Logs on micro-sd card in the remote control (text file readable by the user and unalterable containing: date/time/min/sec, reception quality, trigger requested by the user, trigger received by the receiver, remote control acknowledgement, drone battery voltage, voltage and current passing through the 2 circuit breaker chips, 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)
- Emergency power supply allowing parachutes to be triggered up to 1 minute after a loss of UAV power
- Firmware update via micro-USB
- Securely turns the remote control on and off (like a DJI battery)
- Possibility to pair up to 4 remote controls per drone

CONTENT :

- 2 parachute containers
- 1 insert module left
- 1 right-hand spacer module
- 1 cradle (landing gear support)
- 2 load plugs
- 2 pyrotechnic charges
- 1 remote control
- 1 micro USB cable
- 1 battery latch



PARACHUTE REMOTE CONTROL



Radio control charge level :

To find out the charge level, press the button once.
«POWER», indicator lights appear.

Switching on :










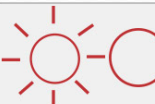


















To switch on the parachute radio control, press and hold the «POWER» button. The left-hand light will light up green, the first right-hand light will light up red and will go out when the radio control is paired with the drone's internal receiver.

Triggering :

The parachute is released by pressing the 2 «FIRE» buttons simultaneously.





Led 1	Led 2	Led 3	Led 4	Signification
				Radio control disconnected
				User-triggered system
				Communication error between the circuit breakers
				Safety pin in place
				System failure: contact Flying Eye
				No pyrotechnic charge
				Good functioning



Lighted



Flashing light



Off

INSTALLATION OF PARACHUTE RADIO CONTROL

MODE OF OPERATION

Open the cover of dongle 4G.
Unscrew the two ring fastening screws (red arrow)



Remove the ring and position it on the parachute remote control, then screw it on.

Position the parachute remote control on the SmartController radio remote control: Attach the ring and aim

Close the cover of dongle 4G.



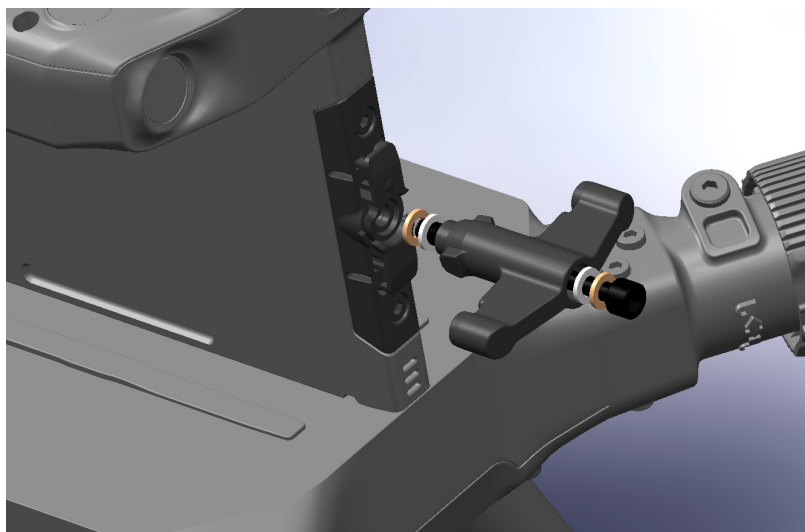
INSTALLATION

Installation of the parachute cradle :

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

Unscrew the two landing gear supports

Position the cradle in place and place the cradle under the drone.
side (USB connector towards the front).



Installing the Battery Butterfly :

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

Place an adhesive tape on each side of the push piece under the throttle valve to hold it in place during disassembly.

Unscrew the central screw of the throttle valve: CAUTION with the washers, remove the screw and the throttle valve.

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

Remove the adhesive tape.



Installation of the pyrotechnic charges :

Before setting up the «parachute» containers, please place the two pyrotechnic charges on each side of the drone on the intended locations (landing gear base, red connector). Place the load correctly thanks to the two lateral 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 forwards.

Slide the modules all the way to the front as far as they will go to ensure a good connection on the connector. The fuse modules can remain in place for storage in the M300 RTK case.

***Installing the Parachute Pods :***

Install the two «parachute» pods on each side of the drone by capping the pyrotechnic charges and screwing them tight.

***Installation of the drone batteries:***

Install the two TB60 batteries normally by sliding them from the rear, then lock them using the «butterfly» type rotating fastener.

FUNCTIONAL TEST

Before each flight, you must check all the components of the system and verify its integrity. If an anomaly is found, do not flight and contact your retailer.

Functionality test on the ground:

- Make sure that the entire drone system is powered down. Battery TB60 disengaged.
- Remove the drone's propellers.
- Remove the «parachute» pods by unscrewing them.
- Remove the 2 pyrotechnic charges.
- Install the 2 TB60 batteries and lock.
- Switch on the drone's radio control.
- Switch on the «parachute» radio control.
- Switch on the drone, the led 4 of the «parachute» radio-control goes out.
- Remove the safety pin, LED 1 goes out.
- Switch on the drone's engines.
- Activate the «parachute» system by pressing the 2 «FIRE» buttons:
 - The four engines stop.
 - The 110dB buzzer sounds.
 - The four red lights on the «parachute» radio control blink.
 - 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 about one minute and the buzzer will stop.
- Switch off both radio controls.



Safety pin in position

MAINTENANCE

ANNUAL MAINTENANCE

Change of pyrotechnic charges.

Ventilation of the canopy for 24 hours, inspection of the canopy, lines and folding. Annual maintenance of the canopy is essential for optimal system operation.

STORAGE AND GUARANTEE

SPECIFIC INTERVIEW:

You must dry the canopy immediately after any contact with moisture or water to avoid any deterioration. Contact with solvents, chemicals, or fuel may alter the mechanical properties of the canopy. The parachute and lines should be cleaned only with soap-free water and then dried

GUARANTEE :

We guarantee our parachutes for one year from the date of purchase against any defect in workmanship or design that may occur under normal use of the product.

Any abusive or incorrect use, any exposure to aggressive factors (high humidity, too high temperature...) which would lead to damage will invalidate this warranty



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