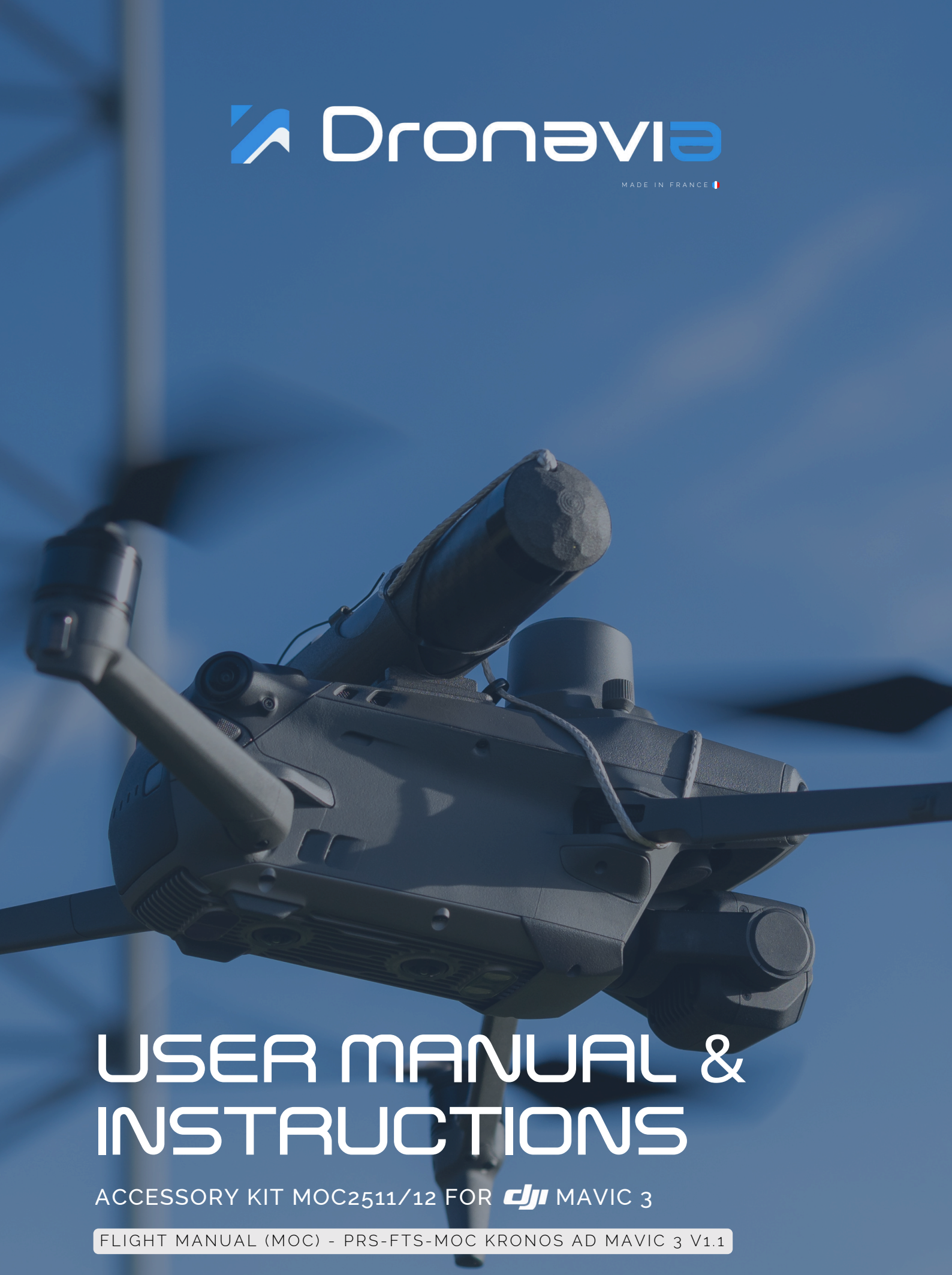
Dronavia

MADE IN FRANCE



USER MANUAL & INSTRUCTIONS

ACCESSORY KIT MOC2511/12 FOR DJI MAVIC 3

FLIGHT MANUAL (MOC) - PRS-FTS-MOC KRONOS AD MAVIC 3 V1.1

SUMMARY

1 INTRODUCTION

2 PARACHUTE SYSTEM

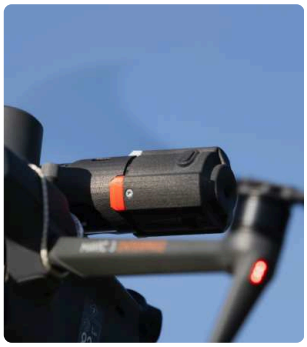
3 ANNUAL MAINTENANCE

4 REARMING

SUMMARY

WE MAKE YOUR DRONE SAFER






Since 2015, Dronavia has been designing innovative accessories in France to enhance the safety of professional drones. Developed and manufactured in our own workshops, the Kronos range — including Parachute Recovery System and internal Flight Termination System — is the result of 8 years of research and development, fully complying with EASA requirements for C5 Class.

Thanks to these certified safety systems, drone pilots benefit from the highest levels of protection and risk management for their flight operations.

Thank you for your trust, and enjoy your flight with the DJI Mavic 3.

Ludovic Pelletey, Dronavia's CEO.

VERSION NOTE

Version 1.0

- Initial release.

Version 1.1 – 05/05/2025

- Implementation of an automatic lockout for the parachute system below 20 meters altitude to prevent ineffective or accidental deployment.

TUTORIAL

Parachute Recovery System Rearming

Flight Termination System Installation

Flight Termination System Testing Procedure

User's manual Klick trigger remote control

DRONAVIA UPDATER

Dronavia has recently launched an innovative software solution specifically designed to simplify the updating of Kronos systems. Thanks to this new software, Dronavia customers can now manage and update their systems more quickly and easily.

Download Dronavia Updater software

GENERAL
presentation

Congratulations on acquiring your Kronos MVC3 MOC2511/12 accessory kit, which includes a Parachute Recovery System & autonomous Flight Termination System, specifically designed for the DJI Matrice 4 drone.

The Kronos MVC3 MOC2511/12 accessory kit meets the technical requirements defined by EASA, and has been developed according to a rigorous research and development process, guaranteeing the highest level of safety for flight operations.

Based in Remiremont, France, Dronavia is here to support you with the use of your Kronos MVC3 MOC2511/12 accessory kit and to answer any technical or commercial questions you may have.

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GENERAL

presentation

The Kronos MVC3 Parachute Recovery System and Flight Termination System have been specifically designed for DJI Mavic 3 drones, with the primary goal of ensuring ultra-fast deployment to optimize deceleration and minimize impact energy in the event of an in-flight issue.

Multirotor drones, even when properly maintained and operated, can sometimes encounter emergency situations—such as severe weather conditions, radio transmission failure, propulsion system malfunction, or GPS signal loss—where immediate activation of a safety system is crucial.

In such critical scenarios, the combined deployment of the Flight Termination System and Parachute Recovery System can mean the difference between a minor incident and a serious accident. Kronos MVC3 systems are engineered to activate and deploy in under one second.

GENERAL presentation

TO BE READ CAREFULLY

These safety devices do not guarantee the integrity of the equipment, nor the absence of damage to property or injury to persons. They are complementary safety features, designed to enhance existing safety measures. Under no circumstances shall Dronavia or its distributors be held liable for any malfunction, perceived performance shortcomings, or failure to deploy.

COMPLIANCE with MOC2511 / 2512

The Kronos Mavic 3 MOC2512 (M2) Parachute Recovery System has been developed to meet the requirements of the Means of Compliance with Light-UAS.2512 published by the EASA:

The Light-UAS.2512 standard offers several options for complying with the SORA's M2 mitigation measures. M2 mitigation measures are designed to reduce the effect of ground impact once control of the operation is lost. This is done by reducing the effect of the UA impact dynamics (i.e. area, energy, impulse, transfer energy, etc). '

The Kronos Mavic 3 MOC2511 Flight Termination System has been developed to meet the requirements of the Means of Compliance with Light-UAS.2511 published by the EASA:

A Flight Stop System (FTS) is a system which, when activated, terminates the flight. By its very nature, it is an emergency measure and not a precautionary one. Its purpose is to ensure that an out-of-control UAS does not enter adjacent areas with an indefinite trajectory but, on the contrary and preferably, that it stops, and that its crash/debris zones are kept strictly within the ground risk buffer zone.

WARNINGS & safety precautions

TO BE READ CAREFULLY

The Kronos MVC3 accessory kit includes two safety accessories designed to, under certain conditions, prevent the equipped drone from exiting its regulatory flight envelope by cutting its motors, and to avoid free fall in the event of a critical failure.

Activating the Flight Termination System and/or the Parachute Recovery System will inevitably result in the drone falling.

These systems do not prevent technical failures from occurring. Any drone operation inherently involves a risk to equipment and nearby individuals, regardless of the safety systems in place. The use of the Kronos MVC3 Flight Termination System and Parachute Recovery System must never lead to increased risk-taking during flight operations.

WARNINGS & safety precautions

TO BE READ CAREFULLY

Dronavia may suspend the warranty and disclaim any responsibility for anyone who fails to adhere to the basic safety instructions outlined below.

Before handling the Kronos MVC3 systems, you must carefully read this manual. It provides information on the deployment of the Parachute Recovery System and the Flight Termination System. In addition to the important notes and information mentioned in this manual, the device owner must comply with all the essential safety instructions outlined below.

15 SAFETY

instructions to follow

1. It is forbidden to carry out any manipulations other than those specified in the manual.

2. 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. Do not let them play with it.

3. Do not under any circumstances dismantle the various parts of the device, except when resetting it in accordance with the instructions in this manual.

4. Do not place the device in a damp or wet environment and keep it out of direct sunlight.

5. Do not expose the system to high temperatures, strong shocks, shock hazards, contact with chemicals or acids, or long-term storage in a high-humidity or dusty environment. The maximum operating temperature is 40˚C and the minimum operating temperature is -5˚C.

6. Check that the Kronos Mavic 3 Parachute Recovery System and Flight Termination System is in good condition before each use. Do not use the device if it is damaged. If necessary, contact your dealer.

7. The Kronos Mavic 3 Parachute Recovery System and Flight Termination System cannot prevent the drone from malfunctioning.

8. Any flight with a drone implies the existence of a risk for equipment and people in the vicinity, with or without Kronos Mavic 3 safety systems.

15 SAFETY

instructions to follow

9 Using a Kronos Mavic 3 Parachute Recovery System and Flight Termination System should in no way increase your risk.

10 The Kronos Mavic 3 Parachute Recovery System and Flight Termination System attempts to prevent a drone experiencing a malfunction from free-falling. However, there are fall situations in which the effectiveness of the Kronos Mavic 3 parachute system may be limited or impeded.

11 The Kronos Mavic 3 Parachute Recovery System and Flight Termination System can be actively deployed by the user. Regular training is necessary to be able to react correctly in an emergency.

12 The spring ejection system only works once. You can recharge the system yourself by following the instructions in this manual. It is your responsibility to ensure that the system is under warranty.

13 When reloading, it is forbidden to do so with people nearby, and especially with the barrel pointing in their direction. You must take the same precautions as when handling a loaded rifle. In the event of accidental firing during this stage or mishandling, the spring could be ejected and cause serious injury. Safety glasses must be worn.

14 After deploying the device, we recommend that you carefully inspect each component to ensure its integrity. If in doubt, contact your reseller.

15 After switching on the system, if the LED changes to a steady red, do not use it and contact your dealer for assistance.

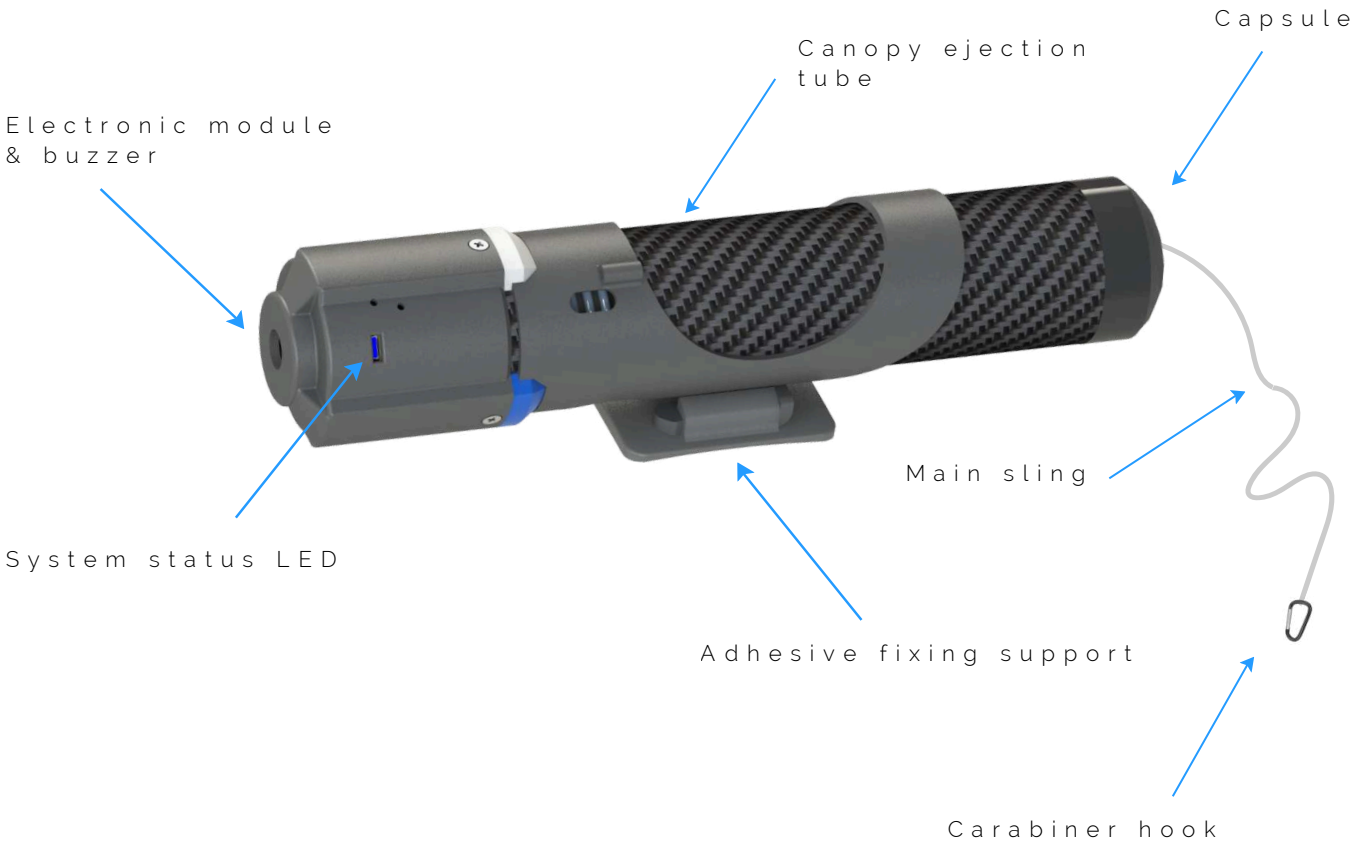
SECTION

KRONOS MVC3

PARACHUTE RECOVERY SYSTEM FOR DJI MAVIC 3

COMPONENTS

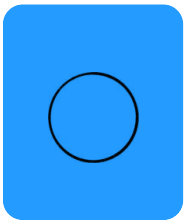
presentation



ADDITIONAL ACCESSORIES SUPPLIED

Micro USB cable

Adhesive fixing support



Fixing elastic

Train extensions

KRONOS MVC3

System Visual Representation

KRONOS MVC3

System Visual Representation

KRONOS MVC3

Overview of Key System Figures

KRONOS MVC3

Technical specifications

TOTAL WEIGHT	130 GRAMMES
EJECTION DEVICE	SPRING PRESTRESSED
MINIMUM HEIGHT EFFICIENCY	FROM 20 METERS
COMMUNICATION WIRELESS RADIO	SRD860 WITH ENCRYPTED KEY (869 MHZ / 100 MW)
RANGE OF THE KLICK REMOTE CONTROL	1500 METERS*
PARACHUTE AUTONOMY	10 HOURS
KLICK REMOTE CONTROL AUTONOMY	30 HOURS
ENERGY GROUND IMPACT	< 4 JOULES
OPERATING TEMPERATURE	-5°C TO 40°C
STORAGE TEMPERATURE	10°C TO 40°C

*can reach up to 1.5 km, under optimum conditions and in an environment free of obstacles and interference.

KRONOS MVC3

Operational limits

MAXIMUM WIND SPEED AT GROUND LEVEL	9,64 m/s
MINIMUM FLIGHT ALTITUDE (AGL)	20 m
OPERATING TEMPERATURES	MIN : -5 °C MAX : 40 °C
USABLE IN RAINY WEATHER	No

KRONOS MVC3

Dimensions and weights

DRONE

22.1 x 9.6 x 9.03 cm

900 g

PARACHUTE

18 x 3.9 x 4.5 cm

130 g

PARACHUTE + DRONE

22.1 x 9.6 x 9.03 cm

1150 g MTOM

KRONOS MVC3

Minimum Size of the Ground Risk Buffer (GRB)

OPERATING VOLUME VERTICAL LIMIT	SOIL-RELATED RISK BUFFER ZONE
20	42
30	78
40	114
50	150
60	186
70	222
80	258
90	294
100	331
110	367
120	403

The ground risk threshold can be calculated as a function of different drone parameters and different assumptions. Please refer to the document dedicated to calculating the ground risk threshold, if you need to calculate more precise ground risk thresholds for your application.

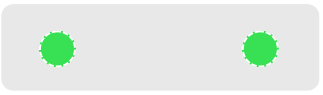
SYSTEM states

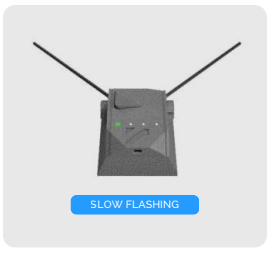
INITIALIZATION

System initialization

CONNECTION

FTS Connected

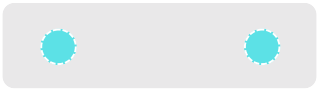




FTS & PRS Connected

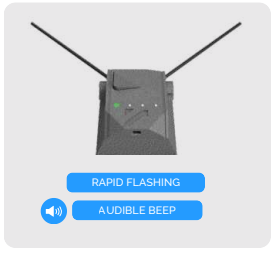
FTS & PRS Connected with Autonomous Deployment

FTS not connected (Only the PRS is connected)



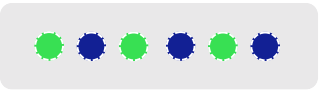
ACTIVATION AND DEPLOYMENT

FTS triggered only



FTS triggered & PRS deployed

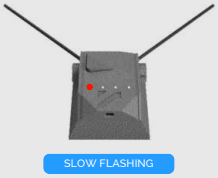
FTS triggered & PRS deployed with Autonomous deployment



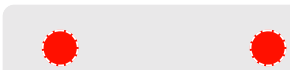
SYSTEM states

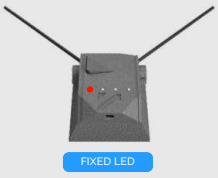
SYSTEM & BATTERY ALERTS

Signal lost with remote control (Klick)



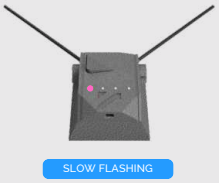
Low battery



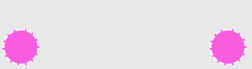


System error

Charging the battery



Signal scrambled



Battery charged

INSTRUCTIONS

adhesive support installation

To install the adhesive support supplied with the Kronos Mavic 3 parachute, follow the instructions below in order:

Instructions

1. Make sure that the support allows the battery to be changed and that no sensor has its field of vision obstructed.

2. Apply adhesive fixings at least 24 hours before use. Adhesive fixings should only be installed on smooth surfaces. Porous or textured surfaces will not provide sufficient adhesion. When applying the fastener, apply sufficient pressure to ensure full contact over the entire surface.

3. Apply adhesive fixings only to clean, dry surfaces. Wax, oil, dirt or other debris will reduce adhesion and may cause the mount and camera to fall off.

4. Install the adhesive fixings at room temperature.

5. The adhesive in the fixings will not adhere properly if applied in cold or damp environments or on cold or damp surfaces.

INSTALLATION
of the parachute system

The Kronos MVC3 parachute system can be installed in just a few minutes. To install it, please follow the instructions below in order:

Skills & tools required

Designed to be quick and easy to use, the parachute system can be installed without any specific technical skills.

Warning

For reasons of operational safety and to prevent inadvertent deployment, the MVC3 Parachute Recovery System incorporates an automatic lock that prevents deployment at altitudes below 20 metres. This limitation ensures that the parachute system can only be activated in conditions that guarantee the minimum effectiveness of the system. However, manual deployment of the parachute via the Klick trigger remote control remains possible. Be cautious when handling the powered-on parachute to avoid any unintentional ground deployment, which could cause physical injury or material damage.

1 Install the adhesive parachute fixing support on the front and centre of the DJI Mavic 3 drone.

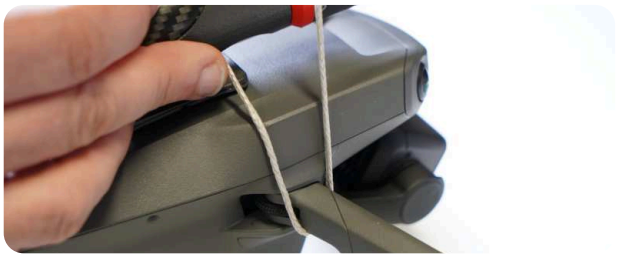
Warning

Make sure that the support allows no sensor to have its field of vision obstructed.

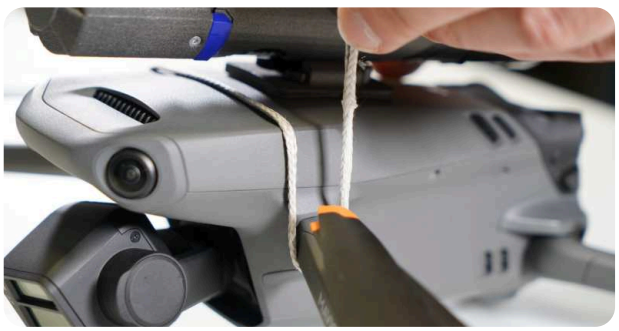
INSTALLATION
of the parachute system

2 Install the parachute assembly on the drone, sliding the parachute fixing clip into the adhesive fixing support installed earlier.

3 Pass the main parachute sling under the front right arm of the drone.



4 Pass the main parachute sling under the front left arm of the drone.



INSTALLATION
of the parachute system

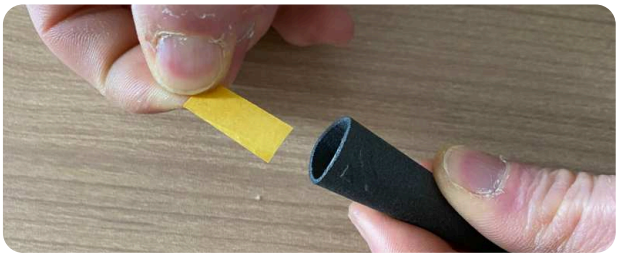
5 Hook the karabiner to the main sling by passing it under the canopy ejection tube. Then pass the elastic around the tube and the main sling. Move the elastic forward until the main sling is taut.

Warning

Make sure that the parachute's main attachment sling is correctly attached to the drone's body and that there is no play that could cause it to come into contact with the propellers.

INSTALLATION
of the parachute system

6 To protect the drone's feet in the event of an emergency landing, 4 DJI Mavic 3 drone landing gear extensions are supplied in the kit. Remove the self-adhesive tab for the two front extensions, then insert them. The two rear extensions clip directly onto the drone's rear landing gear.



7 **Your Kronos MVC3 parachute is now operational.**

8 **Each installation must be entered in the 'List of installations and de-installations and maintenance operations' section on page 56.**

INSTALLATION

of the parachute system with accessory

1 Install the adhesive parachute fixing support horizontally on the back of the DJI Mavic 3 drone.




Warning

Make sure that the support allows no sensor to have its field of vision obstructed.

INSTALLATION

of the parachute system with accessory

2 Install the parachute assembly on the drone, sliding the parachute fixing clip into the adhesive fixing support installed earlier.




3 Pass the main parachute sling under the front right arm of the drone.

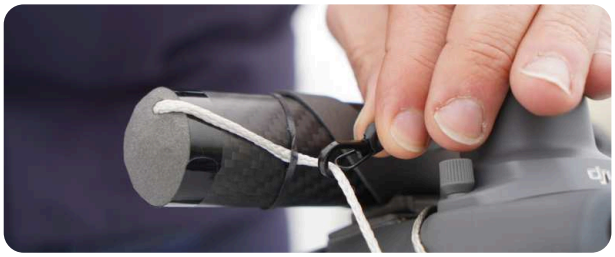



INSTALLATION

of the parachute system with accessory

4 Pass the main parachute sling under the front left arm of the drone.

5 Attach the karabiner to the main sling. Then pass the elastic around the tube and the main sling. Pull the elastic forward until the main sling is taut.



Warning

Make sure that the parachute's main attachment sling is correctly attached to the drone's body and that there is no play that could cause it to come into contact with the propellers.

INSTALLATION

of the parachute system with accessory

7 Your Kronos MVC3 parachute is now operational.

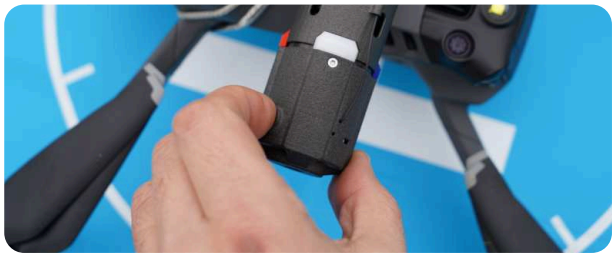
8 Each installation must be entered in the 'List of installations and de-installations and maintenance operations' section on page 56.

INITIALIZATION
of the parachute system

To initialize the Kronos MVC3 parachute system, follow these instructions in order:

Instructions

1 Initialize the parachute by holding down the black initialization button for 1 second. The LED indicates start-up by a sequence of colours and the audible alarm beeps 3 times to indicate that it is operating correctly. The LED then indicates the battery level. The LED then flashes yellow to indicate that the parachute is powered up.



2 **Your Kronos MVC3 parachute is initialization started.**

The different LED states

System initialization

RAPID FLASHING BIP SONORE

Parachute on, waiting to be activated

RAPID FLASHING

ACTIVATION
of the parachute system

To activate the Kronos MVC3 parachute system, follow the instructions below in order:

Warning

For reasons of operational safety and to prevent inadvertent deployment, the MVC3 Parachute Recovery System incorporates an automatic lock that prevents deployment at altitudes below 20 metres. This limitation ensures that the parachute can only be activated in conditions that guarantee the minimum effectiveness of the system.

Instructions

1. The Kronos MVC3 Parachute Recovery System automatically detects when your drone is ready to take off. During this phase, the LEDs on the parachute module and on the Klick remote control flash purple, and double beeps are emitted.

2. When the drone reaches an altitude of 20 metres, two distinct beeps confirm that the minimum threshold required to activate the autonomous parachute deployment function has been reached. The LEDs on the parachute module and on the Klick trigger remote control then flash dark blue.

3. Your Kronos MVC3 parachute system is active with the autonomous deployment function.

Warning

If there is no audible signal or dark blue LED, it is likely that the autonomous deployment function has not yet been activated due to insufficient altitude. To activate the autonomous deployment function, a minimum altitude of 20 metres is required.

ACTIVATION
of the parachute system

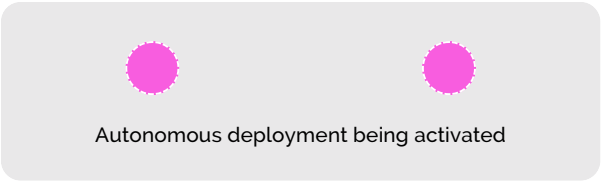
The different LED states

SLOW FLASHING

AUDIBLE BEEP

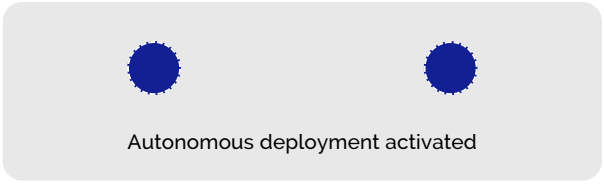
SLOW FLASHING

AUDIBLE BEEP



CONTINUOUS DOUBLE BEEP

SLOW FLASHING



2 SHORT, LOUD BEEPS

SLOW FLASHING

DEACTIVATION
of the parachute system

To deactivate the Kronos MVC3 parachute system, follow the instructions below in order:

Instructions

1 The Kronos MVC3 Parachute Recovery System automatically detects the landing of the DJI Matrice 30 drone. Approximately 5 seconds after detection, a beep is emitted and the LED stops glowing dark blue. The take-off detection module is then automatically deactivated. It will reactivate on the next flight, as soon as the drone reaches a minimum altitude of 20 metres.

Warning

If the dark blue LED on the Kronos MVC3 Parachute Recovery System remains lit, this indicates that the autonomous deployment function is still active. Do not manipulate the drone to avoid any risk of involuntary deployment. Wait a further 5 seconds for the automatic deactivation.

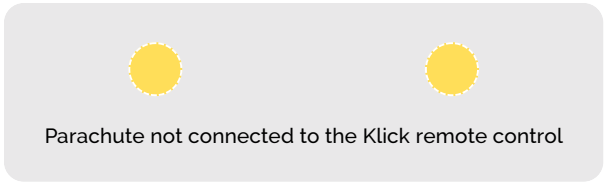
2 The autonomous deployment of the Kronos MVC3 parachute system is deactivated, but your parachute remains active and can be deployed using the Klick trigger remote control.

3 Your Kronos MVC3 parachute system is active without the autonomous deployment function.

4 To completely deactivate your Kronos MVC3 parachute system, if you have connected the parachute system to the drone using the cord supplied, switch off the DJI Matrice 30 drone and the parachute system will switch off automatically. Otherwise, switch off the Kronos MVC3 parachute system by pressing the start button for 2 seconds.

DEACTIVATION
of the parachute system

The different LED states



SLOW FLASHING AUDIBLE BEEP

SLOW FLASHING AUDIBLE BEEP


YOUR PARACHUTE IS
ACTIVE AND
OPERATIONAL!

DEPLOYMENT
of the parachute system

To deploy the Kronos MVC3 parachute System (with autonomous deployment or manually), observe the following safety instructions:

Warning

1. Never attempt to deploy the MVC3 Parachute Recovery System on the ground.

2. The Kronos MVC3 Parachute Recovery System is designed to be deployed at a minimum height of 20 m from the ground in standard atmospheric conditions.

3. For a fall from a height of 20 metres, the impact on the ground is less than 4 joules with the Kronos MVC3 Parachute Recovery System, compared with 226 joules without any device.

Warnings

This data may vary depending on altitude above sea level, relative wind and many other external factors. That's why we recommend a minimum height of 20 m above ground level to deploy the Kronos MVC3 Parachute Recovery System and sufficiently limit the impact of your drone on the ground.

For reasons of operational safety and to prevent inadvertent deployment, the MVC3 Parachute Recovery System incorporates an automatic lock that prevents deployment at altitudes below 20 metres. This limitation ensures that the parachute can only be activated in conditions that guarantee the minimum effectiveness of the system.

AUTONOMOUS

deployment of the parachute system

Instructions

1 When autonomous deployment is activated, the parachute system analyses the flight parameters (altitude, acceleration, inclination, angular velocity) in real time. If any abnormal behaviour is detected, indicating a loss of control, the MVC3 Parachute Recovery System is automatically triggered, without pilot intervention.

The different LED states

Parachute deployed with autonomous deployment function

AUDIBLE BEEP RAPID FLASHING

MANUAL

deployment of the parachute system

To manually deploy the Kronos MVC3 parachute system, follow the instructions below in order:

Instructions

1. Find out how to deploy your Kronos MVC3 Parachute Recovery System manually with the help of our user and instruction manual for the Klick remote activation system.

KLICK

manual deployment of the parachute

Consult our Klick user manual

STOP
of the parachute system

To stop the Kronos MVC3 parachute system, follow the instructions below in order:

Warning

If the dark blue LED on the Kronos MVC3 parachute system remains lit, this indicates that the autonomous deployment function is still active. Do not manipulate the drone to avoid any risk of involuntary deployment. Wait a further 5 seconds for the automatic deactivation.

Instructions

1 Press and hold (3 seconds) the initialization button, the LED indicates the battery level and then goes out. the system is switched off.

2 Switch off your Klick trigger remote control.

STOP
of the parachute system

3 Your Kronos MVC3 parachute system has been shut down.

Warning

Any manipulation of the parachute while it is still switched on (moving the drone on foot or in a car) may result in a false autonomous deployment and deployment of the parachute. If the drone remains stationary for more than 10 minutes, the parachute will automatically switch off.

DISMANTLING
of the parachute system

To dismantle the entire Kronos MVC3 Parachute Recovery System, follow the installation instructions in reverse order.

Instructions

1 **Each de-installation must be entered in the 'List of installations, de-installations and maintenance operations' section on page 56.**

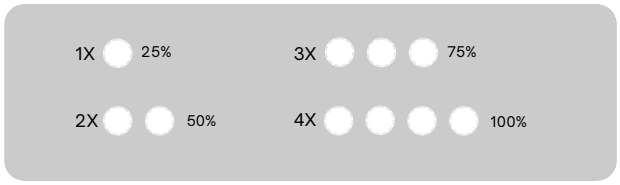
CHECKING
of the parachute system battery

To check the battery status of the MVC3 parachute system, follow the instructions below in order:

Instructions

1 Press the parachute initialization button quickly. The number of flashes indicates the remaining charge level.

The different LED states



RAPID FLASHING

CHARGING
of the parachute system battery

To charge the MVC3 parachute system battery, follow the instructions below in order:

Instructions

1 To recharge the parachute's battery, simply connect the USB-C cable supplied to the parachute's USB-C socket located near the initializationn button. Then plug the USB socket into a computer.

The different LED states

Batterie en charge

FIXED LED

Batterie chargée

FIXED LED

RESETTING
of the parachute system

In the event of a malfunction or any other bug, follow the instructions below in order:

Instructions

1 To reset the parachute system, there is a small hole in the back of the parachute. Slide a paper clip or other thin object through the hole, and a short press will reset the entire parachute system.

Warning

If the malfunction persists, contact Dronavia customer service or your reseller.

ANNUAL maintenance of parachute

TO BE READ CAREFULLY

Like all rescue parachute systems (rescue parachutes for paragliders or parachutists, avalanche airbags, etc.) Dronavia parachutes must undergo preventive maintenance to be kept in optimum working order. The only preventive maintenance operation is to replace the POD. It's a quick and easy operation, which means that pilots never have to leave their drone standing idle.

A use-by date is set for each POD. Dronavia disclaims all liability and cancels the warranty if your POD has exceeded this use-by date.

PROCEDURES

maintenance requirements

To be kept in optimum working order, each parachute system must undergo preventive or post-deployment maintenance. Here is a summary table of the mandatory maintenance operations:

FREQUENCY	OPERATION	CAN BE MADE BY
Every year	Replacement of the canopy	Final user **or** DRONAVIA or any certified partner
Every 5 years	Mandatory manufacturer global maintenance	Manufacturer
After every deployment	Rearming of the parachute system	Final user **or** DRONAVIA or any certified partner
After every deployment	Replacement of the canopy **or** Repackaging of the canopy	Final user **or** DRONAVIA or any certified partner
After 30 deployments	Mandatory manufacturer global maintenance	Dronavia

Warning

If you wish to carry out global maintenance yourself, Dronavia will disengage its responsibility for the system, in addition to cancelling the warranty.

LISTING

parachute deployment failures

If the Kronos MVC3 parachute system deployment fails during flight, record the following:

UAS Concerned with the failed activation	Accumulated Flight Hours at activation failure	Distance between Control Unit and UAS at activation attempt	Location of the operation	Presence of high power emitter in the operational volume

LISTING

voluntary and intensive parachute deployments

If the Kronos MVC3 parachute system is deployed during flight, record the following:

UAS Concerned with the failed activation	Accumulated Flight Hours at activation failure	Distance between Control Unit and UAS at activation attempt	Location of the operation	Was the activation commanded or un-commanded	Presence of high power emitter in the operational volume

Warning

If the probability of failure observed in service is greater than 10-2/FH (taking into account the statistical uncertainty), the operator must inform the competent authority.

LISTING

of installations / de-installations & maintenance operations

To be kept in optimum working order, each parachute system must be monitored for installation, de-installation, firmware updates, preventive or post-deployment maintenance. The following table summarizes the operations to be listed:

Date	Operation	Issues	Operator and signature

USE-BY DATE
for the POD

Each POD has a use-by date to ensure that it remains in optimum working order:

The optimum life of a POD is 1 year. The use-by date is shown on the label on the back of the parachute.

A new expiry date label is supplied inside the POD to replace the original label on the parachute.

Warnings

If a POD is used after its use-by date, Dronavia accepts no liability for partial or slower deployment of the parachute system.

PROCEDURE

of return of the POD for maintenance

There are several options for exchanging your POD that is past (or close to) its use-by date:

Buy 99€

1 Buy a POD in advance from your dealer. You'll be able to continue flying during the annual maintenance of your first POD.

Exchange 49€

2 Return your POD to a reseller and receive a new one at a preferential price.

Warning

Please plan in advance how long it will take to contact your reseller (order, delivery time, etc.) so as not to exceed the use-by date and jeopardise your flight missions.

DISMANTLING
of the POD system for maintenance

To remove the POD from the MVC3 parachute system, follow the instructions below in order:

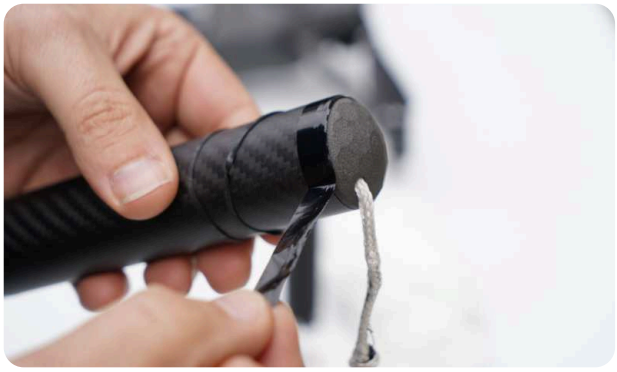
Instructions

1 Switch off your DJI Mavic 3 drone, then remove the parachute from its mounting.

2 Remove the karabiner, then remove the main sling from around the two front arms of the drone.

DISMANTLING
of the POD system for maintenance

3 Remove the adhesive tape from the back of the parachute, then remove the capsule.



4 Remove the canopy from the ejector tube.

5 Send the used POD to Dronavia or your reseller.

REARMING

of the Kronos Parachute Recovery System

TO BE READ CAREFULLY

Once the Parachute Recovery System has been deployed, Kronos systems have been designed to be rearmed quickly, enabling telepilots to resume their missions without undue delay.

Simple reactivation procedures should be followed. As some of them may present risks, it is imperative that you read the instructions in this section carefully.

A use-by date is defined for each POD. Dronavia disclaims all liability and voids the warranty if your POD has exceeded this use-by date.

REARMING
of the parachute system

To rearm your MVC3 parachute system, follow the instructions below in order:

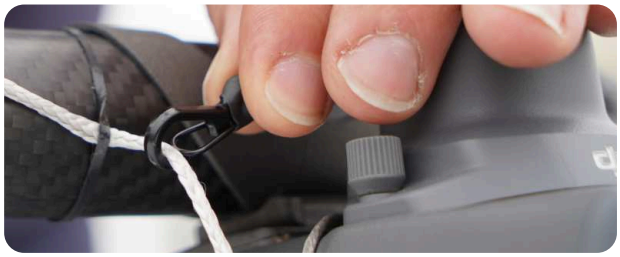
Warning

For reasons of operational safety and to prevent inadvertent deployment, the MVC3 Parachute Recovery System incorporates an automatic lock that prevents deployment at altitudes below 20 metres. This limitation ensures that the parachute system can only be activated in conditions that guarantee the minimum effectiveness of the system. However, manual deployment of the parachute via the Klick trigger remote control remains possible. Be cautious when handling the powered-on parachute to avoid any unintentional ground deployment, which could cause physical injury or material damage.

Instructions

1 Switch off your DJI Mavic 3 drone, then remove the parachute from its fixing support.

2 Remove the karabiner, then remove the main sling from around the two front arms of the drone.



REARMING
of the parachute system

3 Push back the parachute piston using the tool provided.




4 Take your new POD and remove the adhesive tape to gain access to the canopy.


REARMING
of the parachute system

5 Remove the adhesive from the new POD, then pull the canopy out of the new POD.

REARMING
of the parachute system

6 Press the new canopy into the bottom of the tube of your Kronos Mavic 3 parachute.



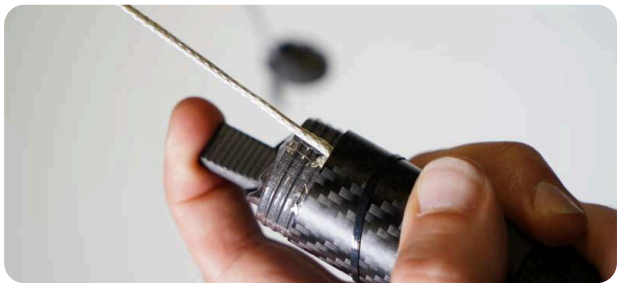

Warning

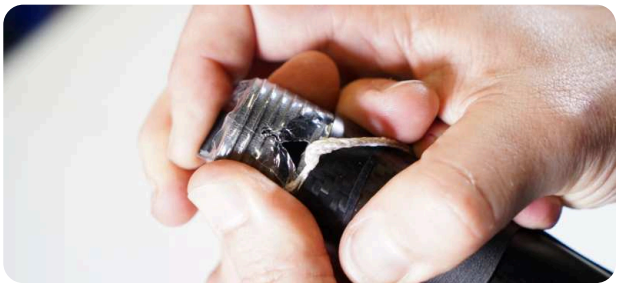
Be sure to keep the main sling in line with the canopy when inserting it.

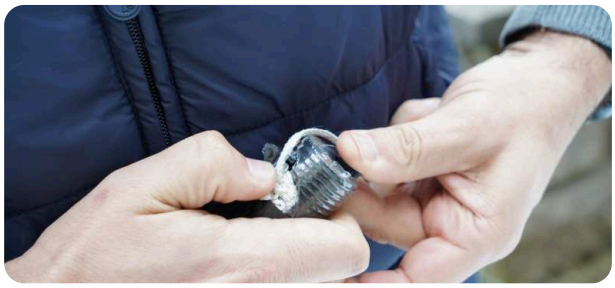
REARMING
of the parachute system

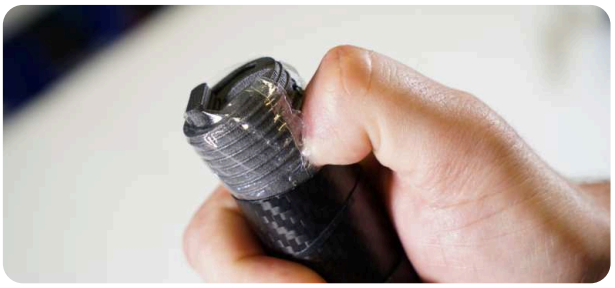
7 Maintain pressure while pulling the main sling out of the parachute.

8 Press down on the top part of the new POD to exert additional pressure and free up space for your thumb.









Warning

Remember to maintain firm pressure throughout.

REARMING
of the parachute system

9 Remove the plastic sleeve surrounding the new fabric by pulling it outwards.

10 While continuing to exert pressure on the inserted cloth, remove the top part of the new POD.

REARMING
of the parachute system

11 Position the capsule and close the parachute with it.

Warning

Check that none of the canopy lines are blocked by the capsule.

12 Stick the adhesive tape provided around the flat edge of the capsule.

Warning

Position the adhesive tape only on the flat edge of the capsule. If the tape supplied covers too much of the capsule, there is a risk that the parachute will not release or will release more slowly.

REARMING
of the parachute system

13 Install the parachute assembly on the drone, sliding the parachute fixing clip into the adhesive fixing support installed earlier.



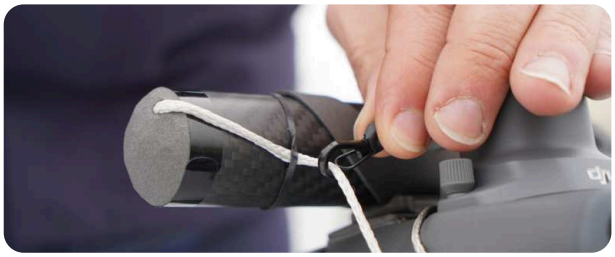

14 Pass the main parachute sling under the front right arm of the drone.




REARMING
of the parachute system

15 Pass the main parachute sling under the front left arm of the drone.

16 Attach the karabiner to the main sling. Then pass the elastic around the tube and the main sling. Pull the elastic forward until the main sling is taut.



REARMING
of the parachute system

Warning

Make sure that the parachute's main attachment sling is correctly attached to the drone's body and that there is no play that could cause it to come into contact with the propellers.

17 Each time the POD system is replaced, the information must be entered in the 'Listing of installations and de-installations and maintenance operations' section on page 56.

18 Your Kronos MVC3 parachute is rearmed.


YOUR PARACHUTE IS REARMED!

PROCEDURE
for returning a used POD

There are several options for returning your used POD:

Buy 99€

1 Buy a POD in advance from your dealer. You'll be able to continue flying during the annual maintenance of your first POD.

Exchange 49€

2 Return your POD to a reseller and receive a new one at a preferential price.

Warning

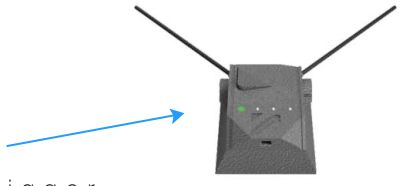
Please plan in advance how long it will take to contact your reseller (order, delivery time, etc.) so as not to exceed the use-by date and jeopardise your flight missions.


SECTION
KRONOS MVC3
FLIGHT TERMINATION SYSTEM FOR DJI MAVIC 3

COMPONENTS

presentation

FTS module
integrated into the
DJI Mavic 3 drone



Klick trigger
remote contol

KRONOS MVC3

Technical specifications

TOTAL WEIGHT	3 GRAMMES
COMMUNICATION WIRELESS RADIO	SRD860 WITH ENCRYPTED KEY (869 MHZ / 100 MW)
RANGE OF THE KLICK REMOTE CONTROL	1500 METERS*
AUTONOMY KLICK REMOTE CONTROL	30 HOURS
OPERATING TEMPERATURE	-5°C À 40°C

*The range can be up to 1.5 km, under optimum conditions and in an environment free of obstacles and interference.

DESCRIPTION
of the Flight Termination System

Description

The Kronos Mavic 3 Flight Termination System, developed for the DJI Mavic 3, prevents the drone equipped with it from leaving its regulation flight envelope by cutting (manually or automatically) the drone's power supply in less than a second.

Installation

The Kronos Mavic 3 Flight Termination System is installed between the autopilot and the drone's ESCs. It activates the cut-off of the motor control signal.

Start-up

To start the Mavic 3 Flight Termination System, switch on your DJI Mavic 3 drone and the FTS system will switch on automatically, then switch on your Klick trigger remote control by pressing and holding the start button on the Klick trigger remote control. When the FTS is properly connected, a green LED flashes on the remote control and on the FTS module. Activation is detailed on page 83.

Activation

In order to keep the possibility of activate at your fingertips and to be as reactive as possible, a simple gesture allows you to cut the motors and deploy your parachute (if your drone is equipped with one). Simply press the triangular button on the Klick trigger remote control for at least 1 second. How to activate the Flight Termination System is described in detail in the Klick trigger remote control user manual.

INITIALIZATION
of the FTS

To initialize the MVC3 Flight Termination System, follow the instructions below in order:

Instructions

1 Switch on your DJI Mavic 3 drone. The FTS will switch on automatically.

2 Switch on your Klick trigger remote control. When the FTS system is properly connected, a green LED flashes on the Klick trigger remote control and on the FTS module.

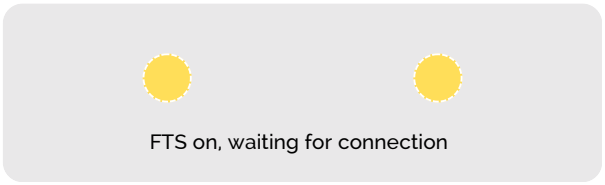
3 **Your internal FTS Kronos MVC3 is initialization started.**

INITIALIZATION
of the FTS

Warning

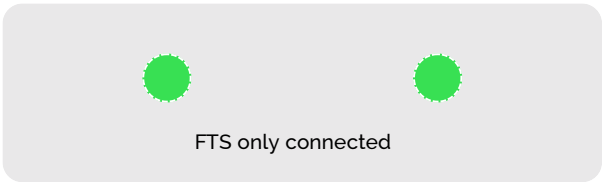
If your Flight Termination System module is connected to a Kronos parachute system for DJI Mavic 3 a green and turquoise LED flashes on the Klick trigger remote control and on your parachute module.

The different LED states



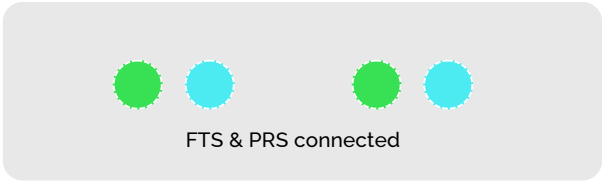
FTS on, waiting for connection

SLOW FLASHING



FTS only connected

SLOW FLASHING AUDIBLE BEEP



FTS & PRS connected

SLOW FLASHING


YOUR FTS IS ACTIVE
AND OPERATIONAL!

MANUAL
activation of FTS

To activate the MVC3 Flight Termination System, follow the instructions below in order:

Instructions

1. Find out how to activate your Kronos MVC3 Flight Termination System manually using our user and instruction manual for the Klick trigger remote control.

KLICK

manual deployment of the parachute

Consult our Klick user manual

AUTONOMOUS
activation of FTS

To automatically activate your MVC3 Flight Termination System, follow these instructions in order

Instructions

1 Switch on your DJI Mavic 3 drone. The FTS will switch on automatically.

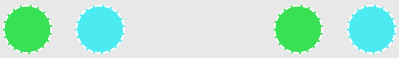
2 Switch on your Klick tirgger remote control. When the FTS is properly connected, a green LED flashes on the Klick trigger remote control and on the FTS module.

3 When the parachute system is deployed, the FTS system is also automatically activates, thanks to a wireless connection and pairing between the two systems by Dronavia's experts.

AUTONOMOUS
activation of FTS

4 Your internal FTS Kronos MVC3 has been triggered.

The different LED states



FTS & PRS connected

RAPID FLASHING AUDIBLE BEEP

FTS triggered & PRS deployed

RAPID FLASHING AUDIBLE BEEP

FTS triggered & PRS deployed with Autonomous deployment

RAPID FLASHING AUDIBLE BEEP

PROCEDURE
of FTS testing

Before the flight or before the first flight of the day, you can test the MVC3 Flight Termination System. Follow the instructions below in order:

Instructions

1 Switch on your DJI Inspire 3 drone. Switch on your Klick trigger remote control. Check that the LED on your MVC3 Flight Termination System and your Klick trigger remote control is flashing green. If your drone is equipped with a parachute, check again that it is disconnected from the DJI Matrice 30 drone.

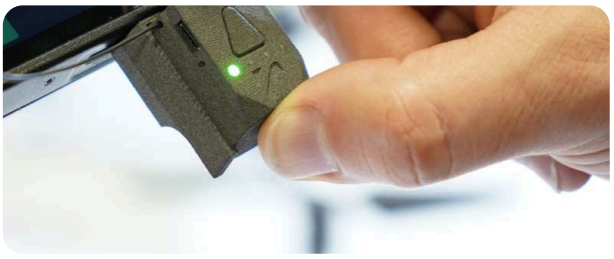
Warning

If the Kronos MVC3 Parachute Recovery System remains connected to the drone via the USB-C cable, it will deploy during the Kronos MVC3 Flight Termination System test procedure. Remember to disconnect the Parachute Recovery System from the DJI Matrice 30 drone.

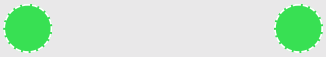
2 Arm the motors and initiate the rotation while keeping the DJI Matrice 30 drone on the ground.

PROCEDURE
of Flight Termination System Test

3 Stop the rotation of the motors by pressing the release button on the Klick trigger remote control. Check that the motors stop correctly and that the green light flashes rapidly, both on the Klick remote control.



The different LED states



FTS only connected

SLOW FLASHING AUDIBLE BEEP

FTS triggered

CLIGNOTEMENT RAPIDE AUDIBLE BEEP

STOP
of Flight Termination System

To stop, switch off and reset the MVC3 Flight Termination System, follow the instructions below in order:

Instructions

1 Switch off your DJI Mavic 3 drone and the FTS system will shut down automatically.

2 Switch off your Klick trigger remote control.

3 **Your internal FTS Kronos MVC3 has been switched off.**

DISMANTLING
of the FTS

To dismantle MVC3 Flight Termination System, follow the instructions below in order:

Instructions

1. Dismantling the FTS requires a visit to the workshop so that our experts can carry out the operation.

Warning

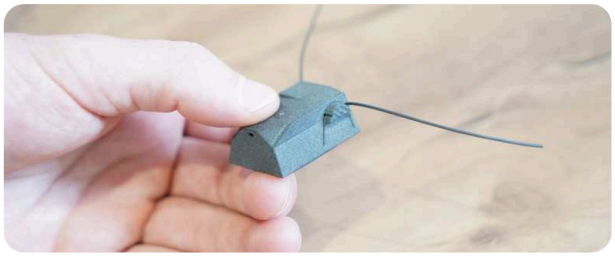
If you dismantle or modify the FTS yourself, Dronavia disclaims all liability and will void the warranty on your system.

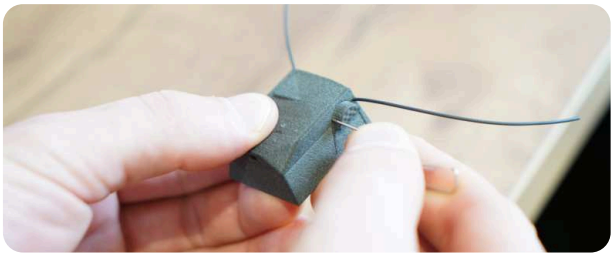
RESET
of Flight Termination System

In the event of a malfunction or bug, follow the instructions below in order:

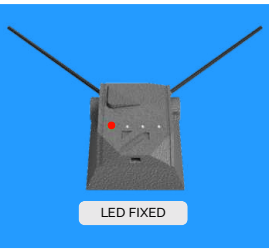
Instructions

1 To reset the Klick trigger remote control, you'll find a small hole on the left-hand side. Insert a paper clip or other thin object into the hole and press it down briefly.





If the malfunction persists



Contact Dronavia customer service or your reseller.

MAINTENANCE & warranty

STORAGE

Store C5 Kronos Mavic 3 accessory kit system for DJI Mavic 3 in a dry place, at a temperature between 10°C and 30°C, clean and protected from UV light.

WARRANTY

Dronavia takes great care in the design and production of its products. We warranty our accessory kit for one year from the date of purchase against any defect or design fault that may arise during normal use of the product. Any abusive or incorrect use, or exposure to aggressive factors (high humidity, excessively high temperatures, etc.) that could lead to damage will invalidate this warranty.

NOTICE OF LIABILITY

Flying a drone, whether manual or automatic, is an activity that requires attention, specific knowledge and good judgement. Be cautious, get trained in appropriate structures, take out insurance and comply with the requirements defined by the DGAC decrees of 11 April 2012 and 17 December 2015 and the EASA.

Ask our sales team your questions

LINKS to know

For France, we recommend that you consult the website of the Ministry of Ecology, Sustainable Development and Energy if you have any doubts or questions. For Europe, we recommend that you consult the EASA website. Remember that you are flying under your own responsibility.

Website of the Ministry of Ecological Transition and Territorial Cohesion

Details of class C5 published by EASA :

The IGn map of restricted areas for drones

European Union Aviation Safety Agency (EASA)

The French Civil Aviation Authority (DGAC)

Ask our sales team your questions

CONTACT US

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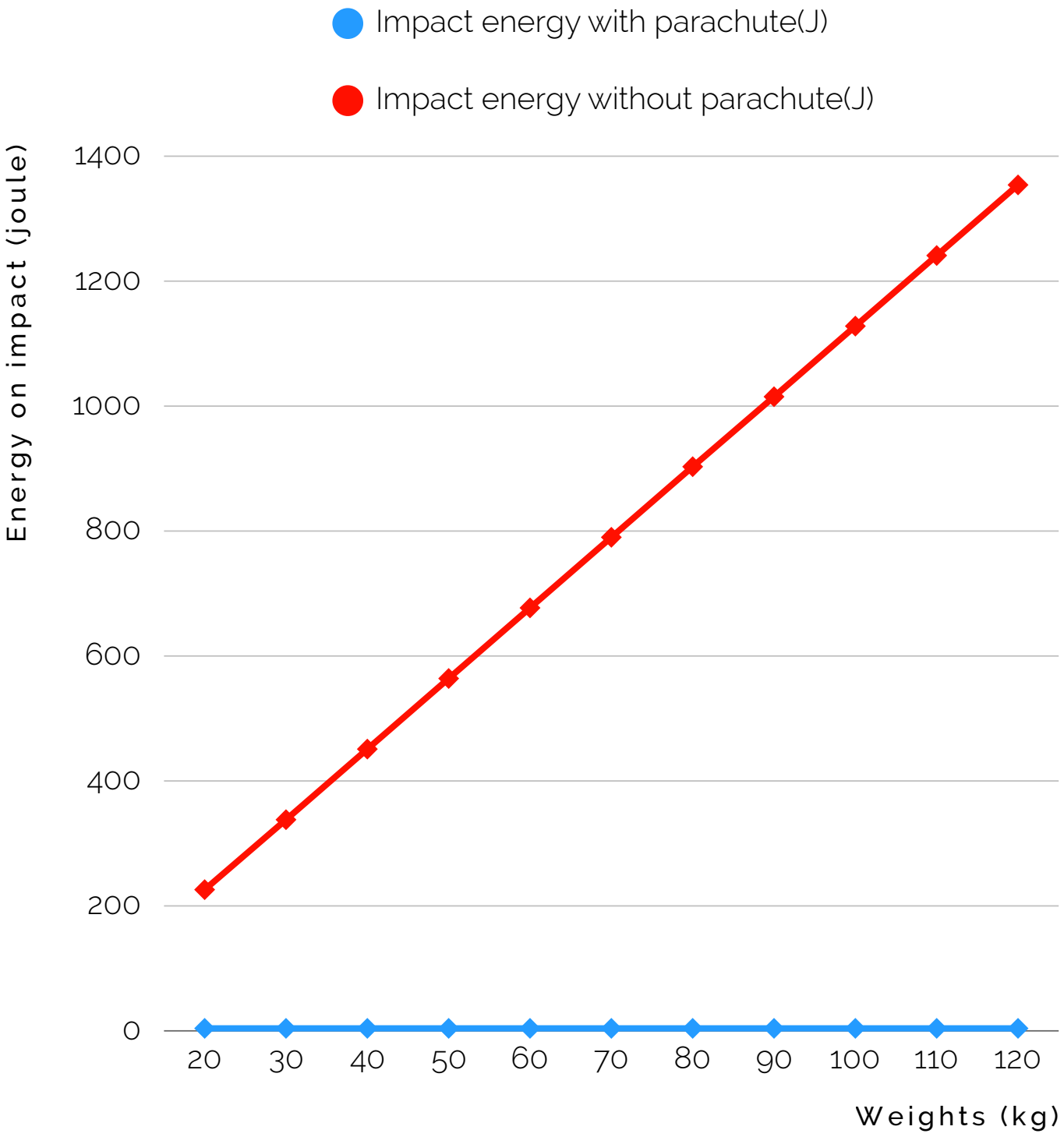
| Dronavia Channel

APPENDICES

Impact energy (joule) X Weight (kg)



APPENDICES

Falling speed (m/s)) X Weight (kg)

Weight (kg)	Falling speed (m/s)	Fall speed without parachute (m/s) *
1.15 kg	2,67 m/s	19,72 m/s

*for a fall from a height of 20 metres

APPENDICES

Deployment height (m) / Minimum extent of buffer zone for ground-related risks (m)

OPERATING VOLUME - VERTICAL LIMIT	SOIL-RELATED RISK BUFFER ZONE
20	42
30	78
40	114
50	150
60	186
70	222
80	258
90	294
100	331
110	367
120	403

The ground risk threshold can be calculated as a function of different drone parameters and different assumptions. Please refer to the document dedicated to calculating the ground risk threshold, if you need to calculate more precise ground risk thresholds for your application.