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FLIGHT MANUAL
KIT C5 KRONOS M4D

Compliance : MOC 2511/2512 & C5
Product Ref. : PRS-FTS-MOC Kronos AD Matrice 4D
Version : 2-0

WE MAKE YOUR DRONE SAFER




Since 2015, Dronavia has been designing and manufacturing innovative safety accessories for professional drones in France. Developed in our facilities, the Kronos product range, including Parachute Recovery Systems (PRS) and Flight Termination Systems (FTS), is the result of 10 years of research and development and complies with the highest standards established by EASA.

Thanks to these solutions, which are fully compliant with European regulations, professional remote pilots benefit from industry-leading levels of safety and risk mitigation for their flight operations.

Thank you for your trust, and fly safely.

Ludovic Pelletey, CEO de Dronavia

VERSION NOTE

Version 1-0

- Initial release.

Version 1-1

- New carbon mounting system – Improved mechanical strength and durability.
- Optimized positioning – Improved RTK signal reception through enhanced system placement
- Enhanced integration – Improved compatibility with payload configurations.

Version 2-0

- Updated buffer zone values (aligned with MoC Light-UAS.2511)
- Added operational procedure in the event of loss of the FTS function
- Added FTS test distances and altitudes.
- Restructuring of the manual (MoC and C5) and separation of the maintenance section into a dedicated manual.

SUMMARY

GLOSSARY

AGL	Above Ground Level – Height measured relative to the ground surface directly below the aircraft.
FTS	Flight Termination System – Safety system designed to terminate the drone's flight in the event of an emergency or loss of control.
GNSS	Global Navigation Satellite System – Generic term for satellite navigation systems such as GPS, Galileo, GLONASS, and BeiDou.
GRB	Ground Risk Buffer – Safety buffer area established to mitigate risks to people and property on the ground.
IP	Ingress Protection – Rating that defines the degree of protection provided by an enclosure against the ingress of solids and liquids.
MTOM	Maximum Take-Off Mass – Maximum authorized mass of the aircraft at takeoff, including payload, batteries, and installed equipment.
PRS	Parachute Recovery System – Emergency parachute system designed to reduce the consequences of a loss-of-control event.
RTK	Real-Time Kinematic – Technology that improves GNSS positioning accuracy by applying real-time corrections to satellite navigation signals, enabling centimeter-level positioning accuracy.

RESOURCES

Additional Documentation

DJI Matrice 4D Drone User Manual

This manual complements, but does not replace, the DJI Matrice 4D drone user manual.

All operating procedures, limitations, safety instructions, and technical specifications provided in the DJI manual remain applicable unless otherwise explicitly stated in this manual.

Where differences exist between the DJI manual and this manual, the information contained in this manual shall prevail for elements modified by the installation of the Kronos M4D C5 kit.

Maintenance Manual

Refer to the Maintenance Manual for procedures related to disassembly, POD replacement, preventive maintenance, return to service after deployment, and maintenance log records.

Klick Remote Controller User Manual

Refer to the Klick manual for procedures related to configuration, operation, and reset of the triggering remote controller.

Flight Termination System (FTS) Test Procedure

Watch the FTS test procedure before putting the safety system into service.

Dronavia Updater

Dronavia has recently launched an innovative software solution specifically designed to simplify Kronos system updates. With this new software, Dronavia customers can manage and update their systems more quickly and easily.

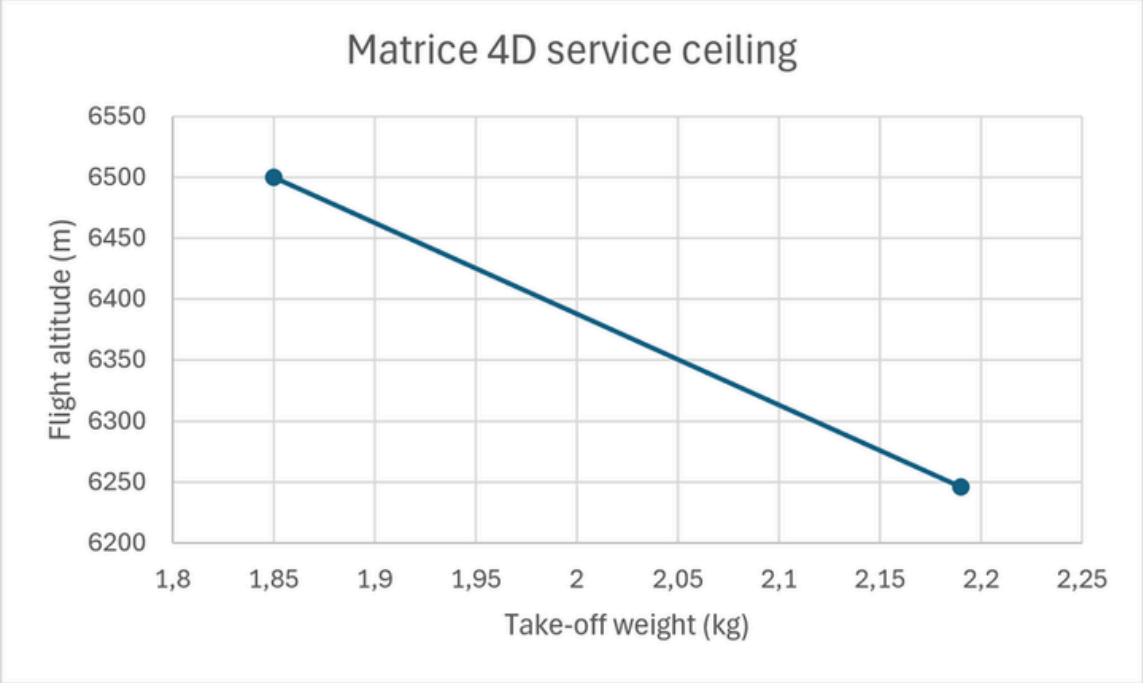
LIMITATIONS

Introduced by the Kronos Kit

The installation of the Kronos M4D C5 kit modifies certain drone characteristics and operational limitations. Where differences exist between the DJI manual and this manual, the information provided in this manual shall prevail for the following items:

- Maximum flight altitude*: 6,246 m
- Maximum operating temperature*: 40°C
- IP rating: IP54
- Flight mode: Normal
- Maximum drone speed: 15 m/s
- Maximum wind speed: 8.5 m/s
- Accessories (tested configuration): DJI AL1 Spotlight and DJI AS1 Speaker
- New MTOM: 2,190 g

**Modifications applicable with a maximum take-off weight configuration of 2.19 kg.*



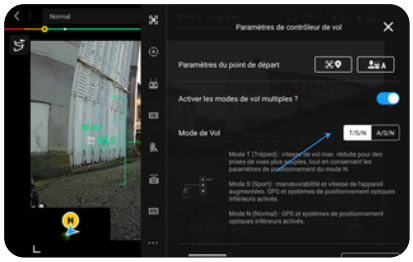
LOW-SPEED
mode

European EASA regulations require the inclusion of a low-speed mode that can be selected on the drone and activated manually by the drone operator. When the low-speed mode is activated, the drone cannot exceed a speed of 5 m/s. To activate the low-speed mode (Mode T), follow the instructions below in order:

Instructions

1 Switch on your DJI remote control.

2 Access the camera view, then click on the menu represented by the 3 dots at the top right of the screen. Check that the T/S/N flight mode is selected.



3 Switch the flight mode selector on the DJI RC Plus radio control from mode N to mode F. Mode F corresponds to mode T.

SPORT mode

The use of mode S (Sport) is prohibited when the C5 conversion kit is installed on the DJI Matrice 4D drone. All validation tests on the Kronos M4D system were carried out exclusively in N (Normal) mode, guaranteeing behaviour that complies with safety requirements.

Warning

In the event that SPORT mode is used, Dronavia shall not be held liable for any non-deployment, partial deployment, or delayed deployment of the parachute system resulting from flight dynamics that are incompatible with the system's deployment parameters.

STATES
of DJI remote controller

Indicators on the DJI remote controller allow you to check the signal status between the DJI Matrice 4D drone and the DJI remote controller during a flight.

Strong signal

Low signal

Lost signal

GENERAL
Overview

The Kronos M4D C5 Kit is a C5 conversion kit specifically developed for the DJI Matrice 4D drone.

It integrates a Parachute Recovery System (PRS) and an autonomous Flight Termination System (FTS), enabling compliance with C5 class requirements as well as the Means of Compliance Light-UAS.2511 and Light-UAS.2512 published by EASA.

Based in Remiremont, France, Dronavia remains at your disposal to support you in the use of your Kronos M4D system and to answer any technical or commercial inquiries.

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GENERAL
Overview

Multirotor drones, even when properly operated and maintained, may encounter emergency situations resulting from technical failures, loss of communication link, or degraded flight conditions.

In such situations, the autonomous Flight Termination System (FTS) and the Parachute Recovery System (PRS) help reduce risks to people and property on the ground.

Kronos M4D systems are designed to be triggered and deployed within the shortest possible time to ensure operational effectiveness.

COMPLIANCE *with MOC 2511 / 2512*

The autonomous Flight Termination System (FTS) meets the objectives of Light-UAS.2511 relating to Flight Termination Systems (FTS).

The parachute system meets the objectives of Light-UAS.2512 relating to means of mitigating ground impact energy (M2).

Excerpts from the relevant EASA reference texts are reproduced below.

“A Flight Termination System (FTS) is a system that, when triggered, terminates the flight. By its nature, it is an emergency measure rather than a preventive measure. Its purpose is to ensure that an out-of-control UAS does not enter adjacent areas on an undefined trajectory but instead, preferably, comes to a stop, with its crash and debris areas strictly contained within the Ground Risk Buffer.”

EASA

“The Light-UAS.2512 standard provides several options for complying with the SORA M2 mitigation requirements. M2 mitigations are intended to reduce the effects of ground impact once control of the operation has been lost. This is achieved by reducing the effects of the UA impact dynamics (i.e. area, energy, momentum, transferred energy, etc.).”

EASA

COMPLIANCE *with C5 Class*

PLEASE READ CAREFULLY.

The Kronos M4D Parachute Recovery System (PRS) and Flight Termination System (FTS) form a conversion kit specifically designed to convert a Class C2 drone into a Class C5 drone, in compliance with the technical and regulatory requirements specified by EASA.

EASA
European Aviation Safety Agency
APPROVED

WARNINGS & Precautions for Use

PLEASE READ CAREFULLY.

The Kronos M4D system combines a Flight Termination System (FTS) and a Parachute Recovery System (PRS), designed to mitigate the consequences of a drone failure or loss of control during flight. The Flight Termination System (FTS) stops the drone's motors to prevent it from continuing an uncontrolled flight, while the Parachute Recovery System (PRS) reduces the consequences of its descent to the ground.

Activation of the Flight Termination System (FTS) and/or the Parachute Recovery System (PRS) results in the interruption of the flight and the fall of the drone.

These safety devices cannot prevent a drone failure from occurring. Any flight involves risks to people and property, regardless of the safety equipment installed. The use of the Kronos M4D system must under no circumstances lead the operator to take greater risks.

Failure to comply with the safety instructions and procedures described in this documentation may void the warranty and release Dronavia from any liability regarding the operation of the system.

Before installing, using, or handling the Kronos M4D system, carefully read this manual. It contains the information necessary for the implementation and operation of the parachute and flight termination systems, as well as the applicable limitations and safety instructions. The user is required to comply with all instructions, warnings, and limitations described in this documentation.

15 Safety
Rules to Follow

PLEASE READ CAREFULLY

1. Read this manual in its entirety before installing, operating, or performing maintenance on the system.

2. Use of the system is restricted to trained and qualified operators in accordance with applicable regulations. The operator remains responsible for the compliance of the mission, the configuration of the aircraft, and adherence to all applicable regulatory requirements.

3. Any unapproved modification to the system, the aircraft, or its configuration may affect the declared performance and invalidate compliance results. Use only components, accessories, and configurations approved by Dronavia.

4. Never disassemble, modify, or repair any system component except as described in Dronavia's procedures.

5. Never handle, arm, or reload the system without following the procedures and using the protective equipment specified in the manuals. Improper handling may result in inadvertent activation and cause serious injury.

6. Comply with the storage, transportation, maintenance, and operating conditions specified by Dronavia. Keep the system protected from moisture, extreme temperatures, chemicals, and impacts that could impair its performance.

7. Before each mission, inspect the overall condition of the system, parachute, suspension lines, and mounting hardware. Any damaged or malfunctioning component must be replaced, and the system must not be used until it has been restored to a compliant condition.

8. Verify before each flight in manual mode that the PRS and FTS systems are functioning correctly and that no system errors are reported. Never take off if a system error is indicated or if a pre-flight test has failed.
For operations in “Dock” mode, the PRS system may be inspected annually in accordance with the Maintenance Manual.

15 Safety
Rules to Follow

PLEASE READ CAREFULLY.

9 Any use outside the operational limitations or configurations validated by Dronavia may affect system performance and invalidate the declared compliance results.

10 The parachute and Flight Termination System may be actively triggered by the operator. Regular training is required to ensure an appropriate response in an emergency situation.

11 The parachute and Flight Termination System cannot prevent all aircraft malfunctions nor guarantee the absence of material damage or personal injury. Their use must never lead to an increase in operational risk-taking.

12 The parachute and Flight Termination System are intended to help reduce ground risk. Their effectiveness depends in particular on flight conditions, aircraft configuration, and the operating environment.

13 Parachute deployment results in an uncontrolled descent of the aircraft toward the ground and may cause drift due to wind. System performance may vary depending on altitude above mean sea level, weather conditions, relative wind, aircraft mass, and aircraft configuration.

14 In the event of a loss of FTS availability or detection of a critical fault, terminate the mission as soon as safety conditions permit.

15 Following any parachute deployment, FTS activation, significant impact, or incident that may have affected the system, perform a complete inspection before returning it to service. If in doubt, contact your reseller or Dronavia.

KRONOS M4D

System Overview

KRONOS M4D

System Overview

COMPONENT
Overview

PARACHUTE MODULE (PRS)

CONNECTOR

POD

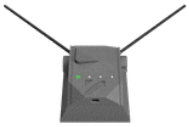
POD USB-C CONNECTOR

PARACHUTE MOUNTING BRACKET

BATTERY MOUNT

PARACHUTE STATUS LED

KIT
Components

PART	QUANTITY	IMAGE	C5 LABEL	DESCRIPTION
PRS and FTS	1		YES	*The Kronos Matrice 4D plug & play Parachute Recovery System for DJI Matrice 4D makes your flights safer by slowing your drone's fall speed and impact energy in the event of a problem. The parachute can be deployed automatically or manually using the Klick trigger remote control.* *The Kronos Matrice 4D Flight Termination System, developed for the DJI Matrice 4D, prevents the drone fitted with it from leaving its regulation flight envelope by cutting (manually or automatically) the drone's power supply in less than a second.*
KLICK	1			*The Klick trigger remote control offers a fast, secure way of remotely deploying your Kronos safety accessories (parachutes and circuit breakers). Totally independent of the drone, this lightweight, ergonomic remote control features LED status indicators and a secure wireless connection.*

PART	SOFTWARE VERSION	VERIFICATION METHOD
PRS and FTS	v1.1.1	*See 'System states'*
KLICK	v1.3	*See 'System states'*

Listing of drones compatible with C5 conversion kit

MODEL	MANUFACTURER	CONFIGURATION	VERSION OF SOFTWARE TESTED	ORIGINAL C2 DECLARATION OF CONFORMITY
Matrice 4D	DJI	*Any payload if the take-off weight is less than 2.09 KG, including conversion kit.*	14.01.00.03	*See appendix*

KRONOS M4D

Technical Specifications

EJECTION MECHANISM	*PRELOADED SPRING*
MANUAL DEPLOYMENT RESPONSE TIME	*0.27 S*
WIRELESS RADIO COMMUNICATION	*SRD860 WITH ENCRYPTED KEY (869 MHZ / 100 MW)*
KLICK REMOTE CONTROLLER RANGE	*2300 METERS**
KLICK REMOTE CONTROLLER BATTERY LIFE	*30 HOURS*
STORAGE TEMPERATURE	10°C TO 40°C
INGRESS PROTECTION RATING	IP54
SUITABLE FOR OPERATION IN RAINY CONDITIONS	YES

* Range may reach up to 2.3 km under optimal conditions and in an environment free of obstacles and radio interference.

KRONOS M4D

Operational Limitations

DRONE FLIGHT MODE	*NORMAL*
MAXIMUM DRONE TILT ANGLE	*25°*
MAXIMUM DRONE SPEED	*15 M/S*
MAXIMUM GROUND WIND SPEED	*8.5 M/S*
AUTONOMOUS DEPLOYMENT ACTIVATION THRESHOLD	*20 M AGL**
MINIMUM PRS EFFECTIVENESS ALTITUDE	*30 M AGL***
OPERATING TEMPERATURES	-5°C TO 40°C
REMOTE CONTROLLER TESTED ALTITUDE RANGE	10M - 120M AGL

* The autonomous deployment system is enabled from 20 m AGL. The declared parachute performance is established from a minimum altitude of 30 m AGL. Below this altitude, the parachute may deploy, but the declared performance is no longer guaranteed.

** Determined at MTOM based on deployment tests performed in hover and at maximum speed, and on the calculation of the worst-case scenario including the maximum authorized ground wind speed.

KRONOS M4D

Dimensions and Weights

Specs / Equipment	**Weight** (g)	**Dimensions** (LxWxH) (cm)
PRS	**164**	**16 x 9 x 6**
FTS	**10**	**4.5 x 1.3 x 2**
System	**174**	
Drone equipped (including propellers*)	**2190 MTOM**	**67 x 67 x 21.2**

Drone diagonal (including propellers*)	**82 cm**

**Propeller reference used for the measurements: DJI 1364F.*

KRONOS M4D

Validated Performance

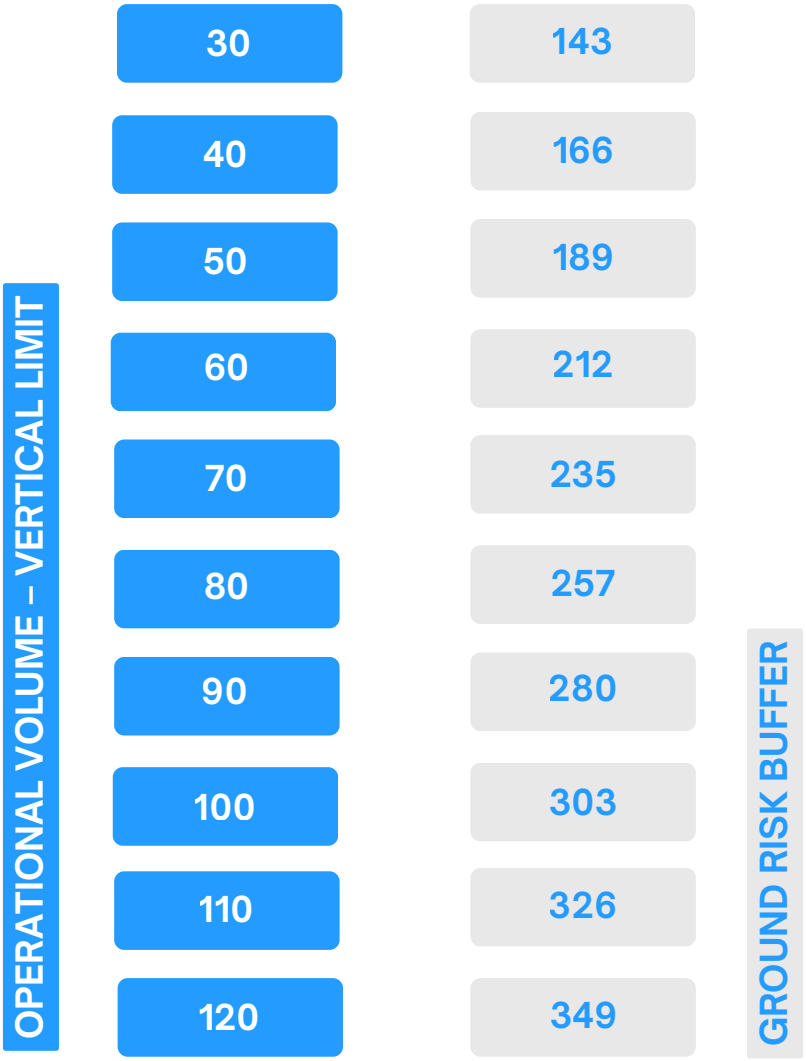
The performance figures and data presented in this manual have been established using aircraft configurations validated by Dronavia. Actual system performance may vary depending on the aircraft configuration, aircraft mass, altitude above mean sea level, weather conditions, relative wind, and flight conditions. Any modification to a validated configuration may affect system performance and invalidate the declared performance figures.

GROUND IMPACT ENERGY (MTOM)	*22.1 J**
PRS OPENING TIME AT MAXIMUM SPEED	*2.53 S**
PRS DESCENT RATE	*4.1 M/S**

**Values obtained during tests conducted at the maximum validated aircraft mass and maximum validated aircraft speed. Actual performance may vary depending on flight conditions and the operating environment.*

KRONOS M4D

Minimum Ground Risk Buffer (GRB)

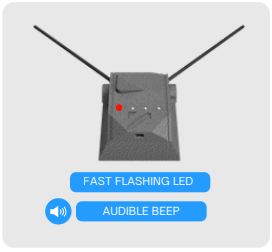


Values established in accordance with MoC Light-UAS.2511 for the validated configuration.

The Ground Risk Buffer (GRB) may be calculated using different aircraft parameters and assumptions. Please refer to the dedicated Ground Risk Buffer calculation document if you require more precise Ground Risk Buffer values for your specific application.

SYSTEM
Status Indicators

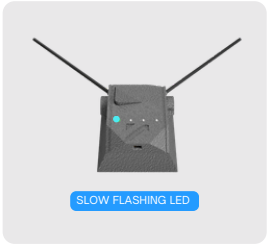
INITIALIZATION



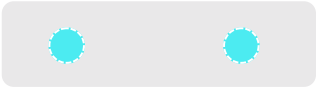
System initialization

Standby mode

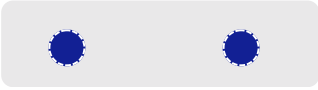
CONNECTION



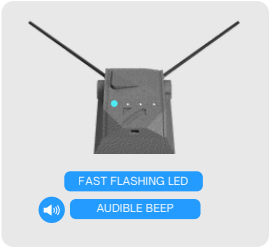
FTS and parachute connected



FTS and parachute connected with autonomous deployment enabled



ACTIVATION AND DEPLOYMENT



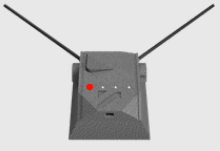
FTS triggered and parachute deployed using Klick

FTS triggered and parachute deployed through autonomous deployment

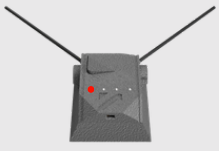
SYSTEM
Status Indicators

SYSTEM AND BATTERY ALERTS

Signal lost with the Klick remote controller



Low battery



System error

Battery charging

Jammed / Interfered radio signal

Battery fully charged

RADIO LINK
Status Indicators

Four LED indicators allow you to monitor the status of the link between the Klick deployment remote controller and your Kronos M4D conversion kit. Signal strength is indicated by the number of illuminated LEDs: the more LEDs that are lit, the stronger and more reliable the connection.

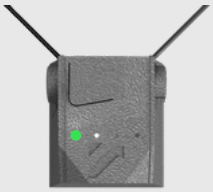
LED Status Indicators

Signal Lost

SOLID LED

LONG AUDIBLE BEEP

Weak Signal



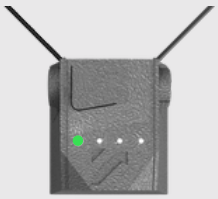
SLOW FLASHING LED

TWO SHORT AUDIBLE BEEPS

Moderate Signal

SLOW FLASHING LED

Strong Signal



SLOW FLASHING LED

Warning

In the event of signal loss, manual activation of the parachute system and the Flight Termination System becomes unavailable. Move the drone closer to the takeoff point in order to restore the link with the Klick deployment remote controller.

DESCRIPTION

of the Flight Termination System (FTS)

DESCRIPTION

The Kronos M4D Flight Termination System (FTS), developed for the DJI Matrice 4D, prevents the aircraft from leaving its regulatory flight envelope by cutting the drone's electrical power, either manually or automatically, in less than one second.

INSTALLATION

The Kronos M4D Flight Termination System connects directly to the drone's battery power port and supplies power to the parachute system. When activated, it instantly interrupts the motor control signal.

INITIALIZATION

To start the Kronos M4D Flight Termination System, power on your DJI Matrice 4D drone. The Flight Termination System will start automatically. Then switch on your Klick deployment remote controller by pressing and holding the power button.

ACTIVATION

To ensure rapid access and the fastest possible response in an emergency, the system can be activated using a simple action. Press and hold the dual-button trigger on the Klick deployment remote controller for at least one second. The activation procedure for the Kronos M4D Flight Termination System is described in detail in the Klick Deployment Remote Controller User Manual.

SYSTEM
installation

The Kronos M4D Parachute Recovery System (PRS) can be installed in just a few minutes. To install the parachute system, follow the instructions below in the order presented.

Required Skills and Tools

Installation of the Parachute Recovery System (PRS) does not require any specific technical skills. A 2.0 mm hex screwdriver (H2.0) is required for installation.

Warning

For operational safety reasons, the autonomous deployment function of the Kronos M4D Parachute Recovery System is enabled only above 20 m AGL. The nominal performance of the parachute system has been established from 30 m AGL. Deployment between 20 m and 30 m AGL remains possible; however, the available altitude may be insufficient for the parachute to fully deploy and stabilize.

Instructions

1 **Remove the battery from the DJI Matrice 4D drone.**

2 Install the battery mount in the battery compartment of the DJI Matrice 4D drone. Secure it using the screws supplied by Dronavia. The screws must be tightened until the screw heads are fully seated at the bottom of the counterbore. Once contact has been established, no additional torque shall be applied (additional torque after seating = 0 N·m).

Without payload

3 Install the spacer at the front of the new mounting bracket, then position the assembly (spacer and bracket) on the DJI Matrice 4D drone. Secure the bracket using the four screws supplied by Dronavia, with the two short screws at the rear and the two long screws at the front.

Warning

Ensure that both mounting brackets are correctly oriented: the curved section of each bracket must face to the left.

With Payload

4 Remove the spacer from the front of the new mounting bracket, then loosen the payload mounting screws. Position the parachute mounting bracket on the DJI Matrice 4D drone, ensuring that it is engaged with the two payload mounting screws. Then install the two screws supplied by Dronavia at the rear of the mounting bracket and tighten them. Finally, retighten the payload mounting screws to securely hold the front of the bracket in place.

SYSTEM
installation

5 Insert the POD module into the loops on the mounting bracket. Then position the parachute module onto the previously installed POD module and slide it from right to left into the dedicated guide rail. Finally, secure the assembly by connecting the parachute module to the POD module via the USB-C connector.

6 Route the parachute system cable underneath the drone's rear left arm, then connect it to the DJI Matrice 4D power port (battery connector).

7 Insert the DJI Matrice 4D drone battery.

8 Your Kronos M4D parachute system is now installed and ready for operation.

9 Each installation must be recorded in the Installation, Removal and Maintenance Operations Log.

SYSTEM
Initialization

To initialize the Kronos M4D Parachute Recovery System, follow the steps below in the order presented.

Warning

For safety reasons, activation of the Kronos M4D Parachute Recovery System is fully automated. No manual action is required or possible to power on or activate the system.

Instructions

1. Power on the DJI Matrice 4D drone. The Kronos M4D parachute system will start automatically. The parachute module LED indicates power-up with a light sequence, while the audible alarm emits three beeps to confirm proper system operation. The LED then indicates the battery charge level.

2. The parachute module LED illuminates solid yellow to indicate the system initialization phase. During this phase, the LED remains solid yellow until initialization is complete. This step may take up to 15 seconds.

Warning

A solid yellow LED remains illuminated until the minimum battery charge level required for initialization has been reached. This step may take up to 15 seconds.

SYSTEM
Initialization

3 Your Kronos M4D parachute system is initialized and ready for operation.

LED Status Indicators

1

System initialization

SLOW FLASHING BIP SONORE

2

Parachute in standby mode

SOLID LED

3

Parachute not connected
to the Klick remote controller

SLOW FLASHING

POD not connected to the parachute module

SOLID LED

Warning

If, after the 15-second parachute system initialization period, the LED remains solid yellow and then turns red after approximately 2 minutes, this indicates that the POD is not properly connected to the parachute module.

SYSTEM
activation

To activate the Kronos M4D Parachute Recovery System, follow the steps below in the order presented.

Warning

For operational safety reasons, the autonomous deployment function of the Kronos M4D Parachute Recovery System is enabled only above 20 m AGL. The nominal performance of the parachute system has been established from 30 m AGL.Deployment between 20 m and 30 m AGL remains possible; however, the available altitude may be insufficient for the parachute to fully deploy and stabilize.

Instructions

1. The Kronos M4D parachute system automatically detects takeoff of your drone. During this phase, the LED indicators on both the parachute module and the Klick remote controller flash purple, and two short audible beeps are emitted.

2. When the drone reaches an altitude of 20 meters AGL, two distinct audible beeps confirm that the minimum altitude required for activation of the autonomous parachute deployment function has been reached. The LED indicators on both the parachute module and the Klick remote controller then flash dark blue.

3. Your Kronos M4D parachute system is now active with the autonomous deployment function enabled.

SYSTEM
activation

Warning

If no audible signal is heard and the LEDs do not flash dark blue, the autonomous deployment function has likely not yet been enabled due to insufficient altitude. A minimum altitude of 20 meters AGL is required for activation of the autonomous deployment function.

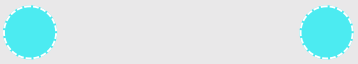
LED Status Indicators

1

Parachute not connected to the Klick remote controller

SLOW FLASHING — AUDIBLE BEEP

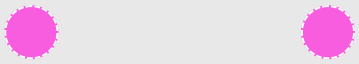
2



Parachute and Flight Termination System connected to the Klick remote controller

SLOW FLASHING — AUDIBLE BEEP

3

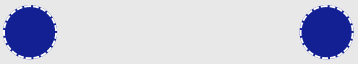


Autonomous deployment activation in progress

CONTINUOUS DOUBLE AUDIBLE BEEP

SLOW FLASHING

4



Autonomous deployment enabled

TWO SHORT, LOUD AUDIBLE BEEPS

SLOW FLASHING

SYSTEM

Deactivation and Shutdown

The Kronos M4D parachute system automatically detects the landing of the DJI Matrice 4D drone. Approximately 5 seconds after landing is detected, the autonomous deployment function is automatically disabled.

Instructions

1. Wait for the autonomous deployment function to be automatically disabled.

2. Power off the DJI Matrice 4D drone.

3. Power off the Klick deployment remote controller.

4. Verify that the system is completely powered down.

SYSTEM

Deactivation and Shutdown

LED Status Indicators

1

Parachute and Flight Termination System connected to the Klick remote controller

SLOW FLASHING

AUDIBLE BEEP

Warning

Do not perform any handling, maintenance, or manipulation of the system while the autonomous deployment function is active or until the parachute system has been completely powered down.

FTS TEST

Procedure

Before flight, or before the first flight of the day, you may perform a test of the M4D Flight Termination System. Follow the instructions below in the order presented.

Instructions

1 Connect the parachute module to the drone's power port. Install the POD and connect it to the parachute module.

Warning

The parachute must be installed and connected to the drone before performing this test. Do not worry: an automatic lockout prevents any parachute deployment below 20 meters AGL, ensuring maximum safety on the ground during the Flight Termination System test.

2 Insert the battery and power on your DJI Matrice 4D drone. Then power on the DJI remote controller. Finally, power on your Klick remote controller. Verify that the LED on the Klick deployment remote controller is flashing cyan blue.

FTS TEST
Procedure

3 Arm the motors and start motor rotation while keeping the DJI Matrice 4D drone on the ground.

4 Stop the motors by pressing the trigger button on the Klick remote controller. Verify that the motors stop correctly and that the cyan-blue LED on the Klick deployment remote controller flashes rapidly.

5 Perform a final in-flight test with the Flight Termination System powered on, without activating it. If the flight proceeds normally and no error messages are displayed, the Flight Termination System is operational.

Warning

This final in-flight test (Step 5) does not involve activating the Flight Termination System during flight. For this step, simply perform a normal flight with the drone and check whether any error messages appear during operation. Any in-flight activation of the Flight Termination System will inevitably result in the drone falling.

PROCEDURE

in the Event of Loss of Connection During Flight

Instructions

In the event of a loss of connection between the Klick deployment remote controller and the Flight Termination System (FTS) module (loss of radio link), the manual triggering function of the Flight Termination System is no longer available. In this situation, the remote pilot shall:

1. Terminate the mission as soon as safety conditions permit.

2. Stabilize the drone, if possible.

3. If GNSS position information and the drone's video downlink remain operational, return the aircraft to a safe location and perform a controlled landing as soon as possible.

Warning

The flight must not be continued until FTS availability has been restored.

SYSTEM
Deployment

To deploy the Kronos M4D Parachute Recovery System, whether through autonomous deployment or manual activation, the following safety instructions must be observed:

Warning

1. Never attempt to deploy the parachute while on the ground.

2. The Kronos M4D parachute is designed to be deployed from a minimum altitude of 30 meters AGL under standard atmospheric conditions.

3. For a fall from 30 meters AGL, the ground impact energy is less than 22.1 Joules with the Kronos M4D parachute system, compared with 599 Joules without any mitigation device.

Warning

The parachute is locked below 20 m AGL and cannot be deployed beneath this altitude.

The nominal performance of the system has been established from 30 m AGL. Deployment between 20 m and 30 m AGL remains possible; however, the available altitude may be insufficient to allow the parachute to fully deploy and stabilize. Actual system performance may vary depending on several external factors, including altitude above mean sea level, relative wind, aircraft speed, payload mass, and environmental conditions.

Dronavia recommends a minimum altitude of 30 m AGL to achieve the nominal performance of the parachute system.

SYSTEM
Deployment

Instructions

1. When autonomous deployment is enabled, the parachute system continuously monitors flight parameters in real time, including altitude, acceleration, attitude, and angular velocity. If an abnormal flight condition indicative of a loss of control is detected, the Kronos M4D Parachute Recovery System is automatically deployed without any action required from the remote pilot.

LED Status Indicators

Parachute and Flight Termination System deployed through autonomous deployment

AUDIBLE BEEP FAST FLASHING

USEFUL *Links*

For France, we recommend consulting the website of the French Ministry for Ecological Transition if you have any doubts or questions. For Europe, we recommend consulting the EASA (European Union Aviation Safety Agency) website. Please remember that you are responsible for your own flight operations.

Website of the French Ministry for Ecological Transition and Territorial Cohesion

Details of the Means of Compliance (MOC) published by EASA

Drone Restricted Areas Map (IGN)

European Union Aviation Safety Agency (EASA)

French Civil Aviation Authority (DGAC)

Ask our sales team your questions

APPENDIX

Declaration of compliance with C2 class

DJI provides an online platform allowing you to generate the Declaration of Conformity corresponding to your drone using its serial number.

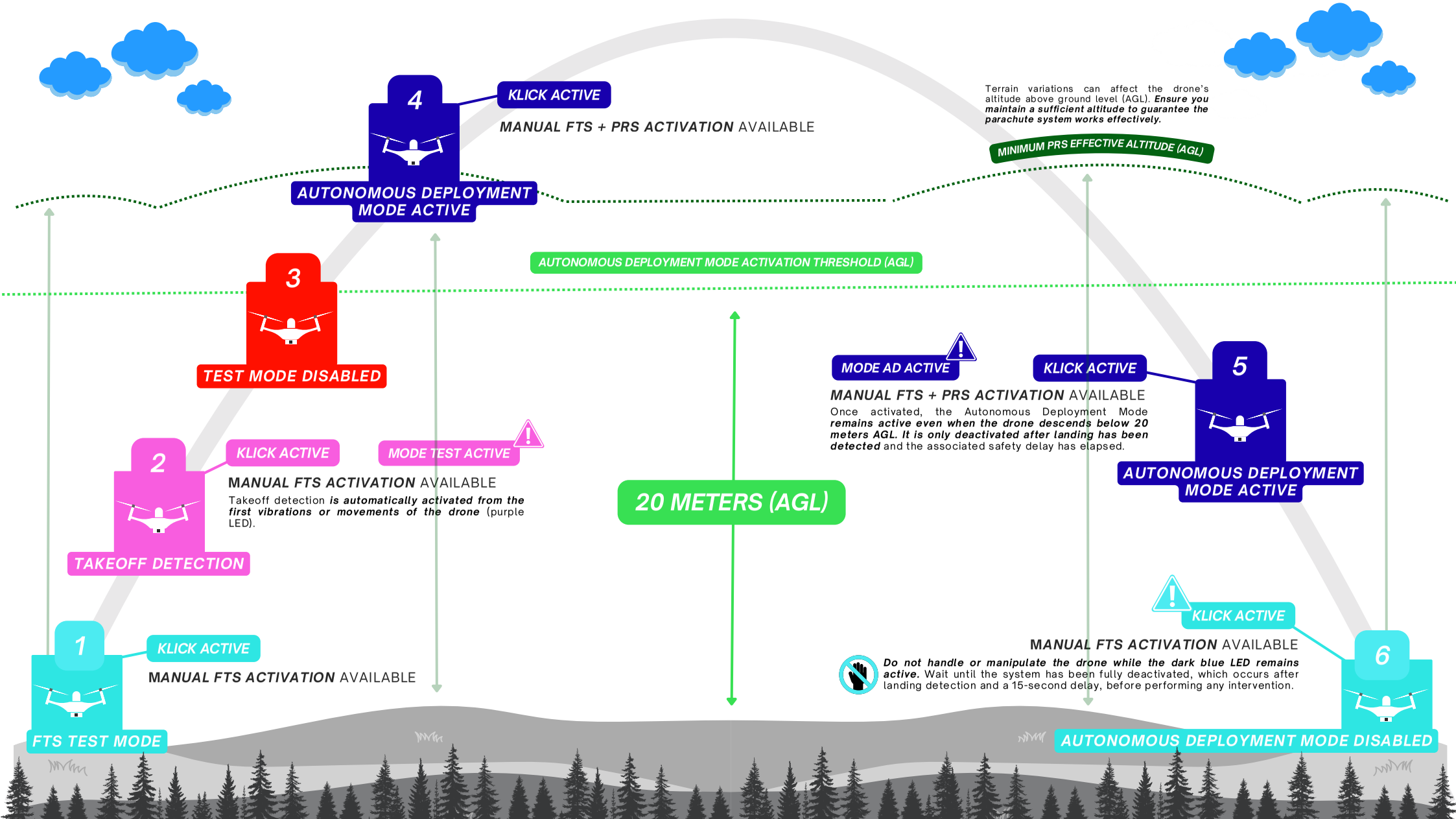
To obtain the C2 Class Declaration of Conformity for your drone, visit:
https://www.dji.com/fr/euro-compliance

Enter your drone's serial number, then download the corresponding Declaration of Conformity.

Note: This Declaration of Conformity is issued by DJI and applies exclusively to the original drone. It is independent of the documentation relating to the Kronos M4D C5 Conversion Kit.

APPENDIX

Activation and Deactivation Sequence Diagram



NEED HELP?

Commercial Inquiries
sales@dronavia.com

Technical Questions / Product Support / Spare Parts and Maintenance
Please visit the Dronavia Support Form.

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