




MADE IN FRANCE 

USER MANUAL & INSTRUCTIONS

MOC2511 EXTERNAL FTS FOR **dji** MATRICE 30

FLIGHT MANUAL (MOC) - FTS-MOC KRONOS MATRICE 30 V1.0

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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 Flight Termination System — is the result of 8 years of research and development, fully complying with EASA requirements for Means of Compliance (MOC) 2511 & 2512 (M2).

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 Matrice 30.

Ludovic Pelletay, Dronavia's CEO.



VERSION NOTE

Version 1.0

- Initial release.

TUTORIAL

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

Dear customer,

Congratulations on your purchase of the new MOC2511 Kronos external FTS for your DJI Matrice 30 drone.

You've chosen the device that we're confident is the best performing system of its kind. Extensive research and testing have gone into making it as safe and effective as possible.

Based in Remiremont, France, DRONAVIA is at your service to advise you on the purchase of your MOC2511 Kronos external FTS for Matrice 30 and to answer any questions of a technical or commercial nature.



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GENERAL presentation

TO BE READ CAREFULLY

These emergency devices do not protect the integrity of the equipment or prevent damage to property or persons; they are a safety feature that complements other safety features. DRONAVIA and its distributors may not be held responsible for any malfunction or operation deemed insufficient or even ineffective.

Any use on a drone other than a DJI Matrice 30 is prohibited. The configuration of the FTS must not be modified so as not to affect its correct operation.

Triggering a drone FTS module is not a harmless, risk-free operation. It should only be carried out in an emergency situation.

COMPLIANCE

with MOC2511

The MOC2511 Kronos external FTS for Matrice 30 has been developed to meet the requirements of MOC 2511 published by EASA:

"A Flight Termination 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."



The aim of these requirements is to enable the remote pilot to intervene in the event of the drone escaping due to a failure of the flight controller or its sensors. In such situations, autonomous FTS can make the difference between a simple scare and a more serious accident. The MOC2511 Kronos external FTS for Matrice 30 can be activated in less than a second.

WARNINGS & precautions for use

TO BE READ CAREFULLY

Dronavia may suspend the warranty and disclaim all liability to any person who fails to observe the basic safety instructions set out below.

Before handling the MOC2511 Kronos external FTS for Matrice 30, you must read this manual carefully. It provides information on how to use the fuse. In addition to the important notes and information given in this manual, the owner of the device must observe all the important instructions given below.

WARNINGS & precautions for use

TO BE READ CAREFULLY

The MOC2511 Kronos external FTS for Matrice 30 is a safety device which, under certain conditions, prevents the drone fitted with it from leaving its regulatory flight envelope by cutting its engines.

Activation of the FTS inevitably results in the drone crashing.

This equipment does not prevent technical problems occurring on the drone. Any flight with a drone implies the existence of a danger for the equipment and people in the vicinity, regardless of the safety equipment used. The use of the MOC 2511 Kronos external FTS for Matrice 30 should in no way increase your risk.

11 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

Under no circumstances should you dismantle the various parts of the device.

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 -15°C.

6

The condition of the MOC2511 Kronos external FTS for Matrice 30 should be checked before each use. Do not use the device if it is damaged or malfunctions. If necessary, contact your dealer.

7

The MOC2511 Kronos external FTS for Matrice 30 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 a MOC2511 Kronos external FTS for Matrice 30.

TO BE READ CAREFULLY

9


The use of a MOC2511 Kronos external FTS for Matrice 30 should in no way increase your risk.

10

The MOC2511 Kronos external FTS for Matrice 30 must be actively triggered by the user. Regular training is necessary to be able to react correctly in an emergency. For the safety of the equipment and third parties, carry out a dummy ground exercise once a day.

11

After switching on the system, if the LED changes to a steady red, the system will not be operational. Contact your reseller for assistance.



TO BE READ CAREFULLY

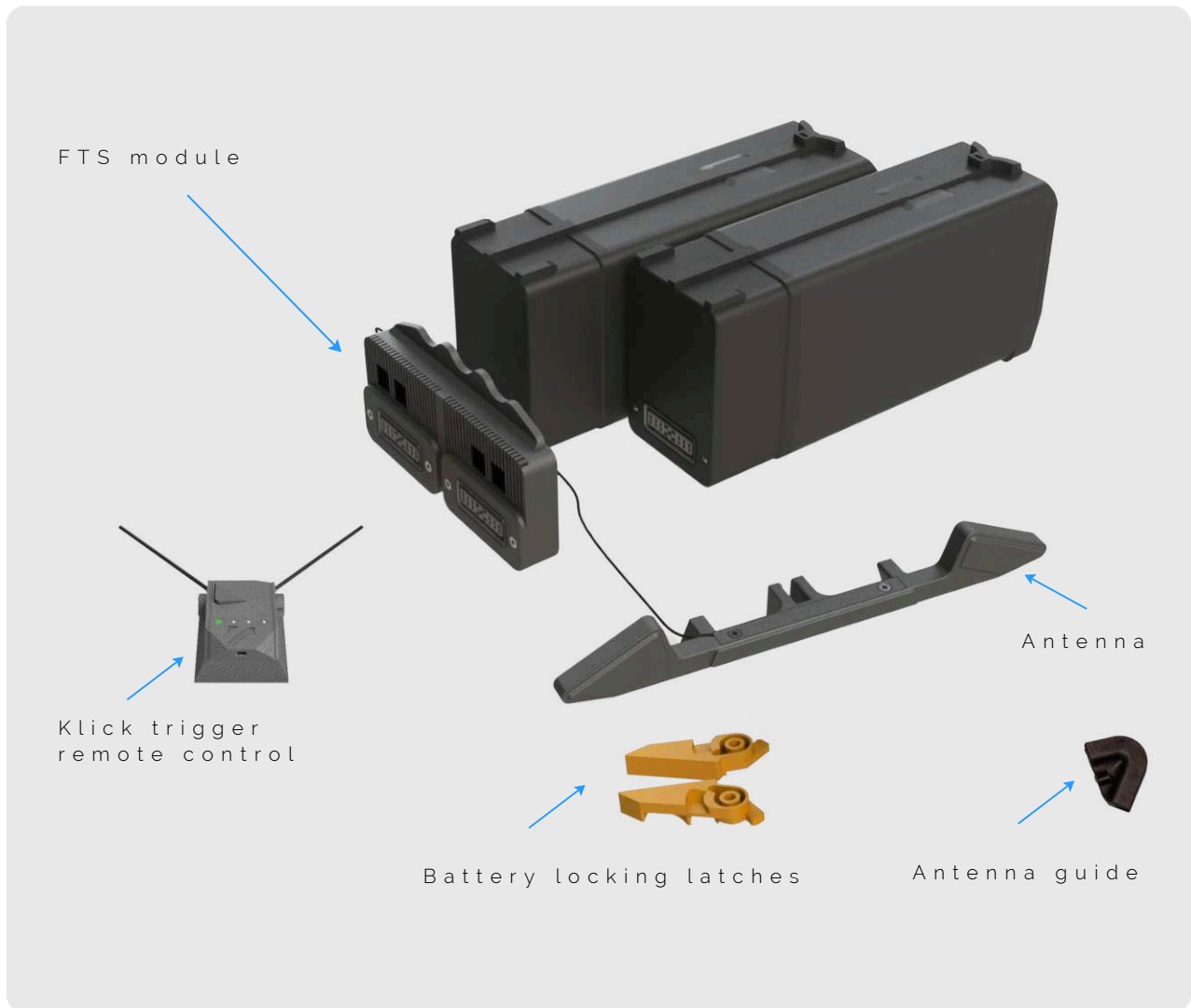
SECTION

KRONOS M30

FLIGHT TERMINATION SYSTEM FOR *dji* MATRICE 30 

COMPONENTS

presentation



KRONOS M30

Technical specifications

TOTAL WEIGHT

70 GRAMS

COMMUNICATION
WIRELESS RADIO

SRD860 WITH
ENCRYPTED KEY
(869 MHz / 100 MW)

RANGE OF THE
REMOTE CONTROL

1500 METERS*

AUTONOMY
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.

KRONOS m30

Minimum Size of the Ground Risk Buffer (GRB)

OPERATING VOLUME LIMIT	30	126	SOIL-RELATED RISK BUFFER ZONE
	40	135	
	50	143	
	60	150	
	70	156	
	80	162	
	90	168	
	100	173	
	110	178	
	120	183	
	130	188	
	140	192	
	150	197	

Custom ground risk buffer can be calculated with different drone parameters and assumptions. Please refer to the dedicated document ground risk buffer, if you need to calculate more precise ground risk buffers in accordance with your application.

INSTALLATION

of Flight Termination System

The Kronos M30 FTS can be installed in just a few minutes. To install the FTS, please follow the instructions below in order:

Instructions

1

Remove the batteries from the DJI Matrice 30. Using a screwdriver, unscrew the locking latches on the batteries installed on the DJI Matrice 30.



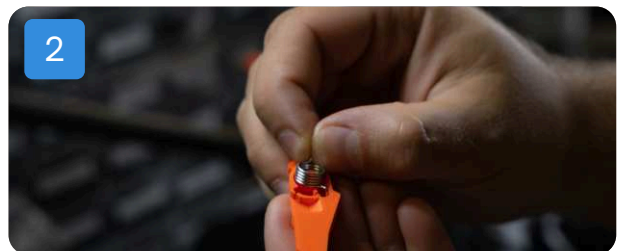
2

Using a screwdriver, replace the original locking catches with the locking latches supplied by Dronavia.

1



2



3



4



INSTALLATION

of Flight Termination System

3

Insert the FTS module into the bottom of the battery compartment of the DJI Matrice 30.



4

Pass the antenna of the FTS through the space on the side of the DJI Matrice 30 drone as shown below.

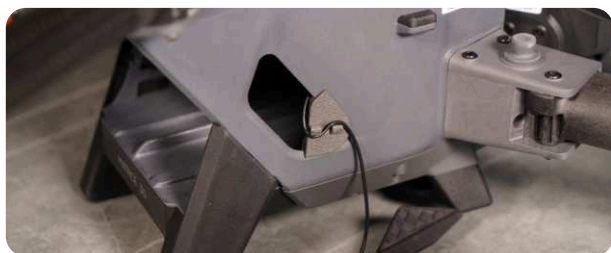


INSTALLATION

of Flight Termination System

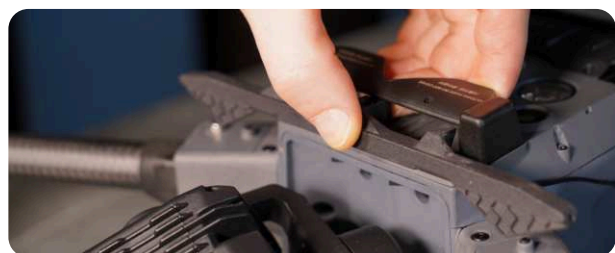
5

To protect the aerial cable, insert your aerial guide into the space on the side of the drone, as shown below. Then insert your aerial cable into the inner socket and the two outer sockets as shown below.



6

Carefully turn the DJI Matrice 30 drone over. Clip the antenna support onto the drone base as shown below.



INSTALLATION

of Flight Termination System

7

Insert the batteries all the way into their slots, then check that the locking catches securely hold the batteries in the DJI Matrice 30 drone.

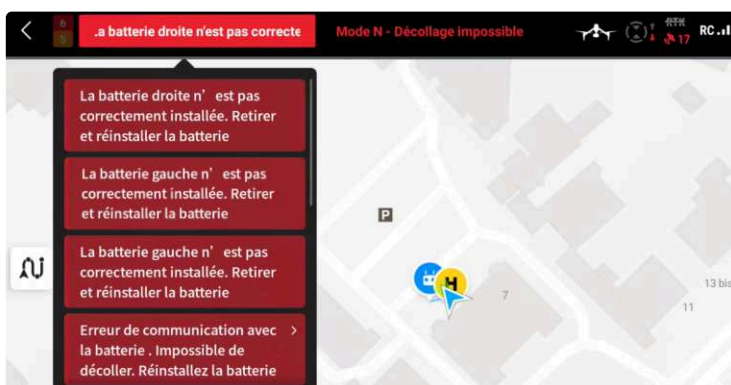


Warning

This step is essential for the correct operation of the drone and the FTS. If you do not push the latches as far as they will go, an error message may appear on your DJI radio control system.

Error notifications

DJI RC Plus remote control screen



8

Your external FTS Kronos M30 is operational. ✓

INITIALIZATION

of Flight Termination System

To switch on the M30 Flight Termination System, follow the instructions below in order:

Instructions

1

Switch on your DJI Matrice 30 drone. The M30 Flight Termination System will switch on automatically.



2

Switch on your Klick remote control. When the Flight Termination System is properly connected, a green LED flashes on the Klick remote control and on the Flight Termination System module.



3

Your external FTS Kronos M30 is initialization started. 🟢

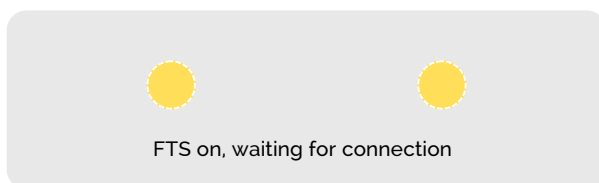
INITIALIZATION

of Flight Termination System

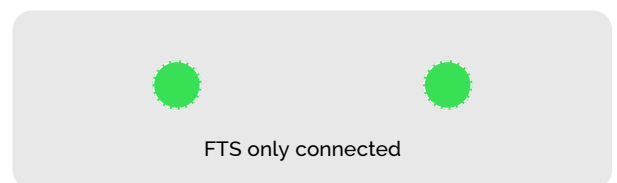
Warning

If your Flight Termination System module is connected to a Kronos parachute system for DJI Matrice 30 a green and turquoise LED flashes on the Klick trigger remote control and on your parachute module.

The different LED states



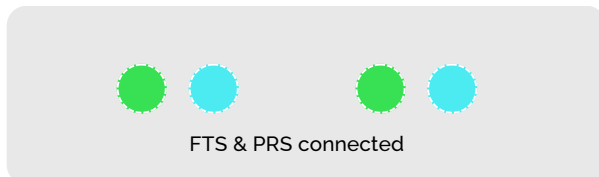
SLOW FLASHING



SLOW FLASHING



AUDIBLE BEEP



SLOW FLASHING



 YOUR FTS IS ACTIVE
AND OPERATIONAL!

MATRICE 30

MANUAL

activation of Flight Termination System

To activate the M30 Flight Termination System, follow the instructions below in order:

Instructions

1

Find out how to activate your Kronos M30 Flight Termination System manually using our user and instruction manual for the Klick trigger remote control.

KLICK

manual activation of the FTS

Consult our Klick user manual



new version

PROCEDURE

of Flight Termination System Test

Before the flight or before the first flight of the day, you can test the M30 Flight Termination System. Follow the instructions below in order:

Instructions

1

Switch on your DJI Matrice 30 drone. Switch on your Klick trigger remote control. Check that the LED on your M30 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 M30 Parachute Recovery System remains connected to the drone via the USB-C cable, it will deploy during the Kronos M30 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 M30 Flight Termination System, follow the instructions below in order:

Instructions

- 1 Switch off your DJI Matrice 30 drone and the M30 Flight Termination System will automatically shut down.



- 2 Switch off your Klick trigger remote control.



- 3 Your external FTS Kronos M30 has been switched off. ✔

DISMANTLING

of Flight Termination System

To dismantle M30 Flight Termination System, follow the instructions below in order:

Instructions

1

To dismantle the system, simply follow the installation instructions in reverse order. The Klick trigger remote control module can remain installed on the DJI Matrice 30 remote controller without affecting its operation.

RESET

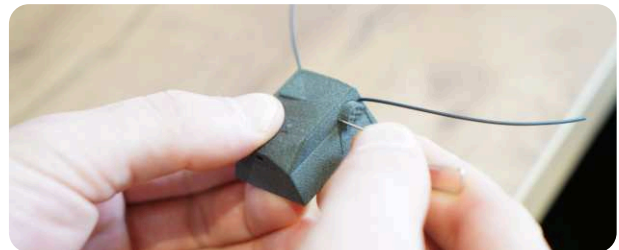
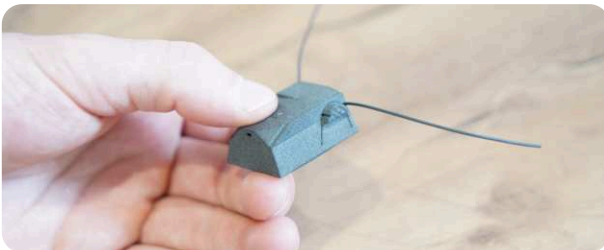
of Flight Termination System

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 the MOC2511 Kronos external FTS system for Matrice 30 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 guarantee our FTS systems 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 MOC 2511
published by EASA :



The IGN map of
restricted areas for
drones



Details of the M2 MOC
published by EASA :



The French Civil Aviation
Authority (DGAC)



European Union Aviation
Safety Agency (EASA)



Ask our sales team your questions



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