



MADE IN FRANCE 

USER MANUAL & INSTRUCTIONS

OF THE AUTONOMOUS FTS FOR DJI MATRICE 300 RTK :
THE ZÉPHYR CC M300 EXTERNAL

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Summary

PRESENTATION OF THE FTS ZÉPHYR CC M300 EXTERNAL

- 01 [CEO's words](#)
- 02 [Presentation of the FTS
Zéphyr CC M300](#)
- 04 [Warning and cautions for
use](#)
- 05 [The 11 rules to respect](#)

ZÉPHYR CC M300 EXTERNAL FTS USAGE

- 08 [Introduction](#)
- 09 [Presentation of
components](#)
- 11 [The parts of the system](#)
- 10 [FTS Zéphyr CC M300 installation](#)
- 16 [Activation of the FTS
Zéphyr CC M300](#)
- 18 [System status](#)

ZÉPHYR CC M300 EXTERNAL FTS USAGE

- 19 [Triggering the FTS](#)
- 20 [Shutdown and system
reset](#)
- 22 [Charging the battery of the
remote control](#)
- 23 [Installation of the safety
button \(optional\)](#)
- 26 [System release with safety
button \(optional\)](#)
- 27 [Remote control reset](#)

STORAGE AND WARRANTY

- 28 [FTS storage](#)
- 28 [Specific maintenance](#)

STORAGE AND WARRANTY


- 28 [Warranty](#)
- 28 [Liability notice](#)

USEFUL LINKS

- 29 [Useful links](#)

MORE INFORMATION ABOUT DRONAVIA

- 30 [More information about
Dronavia](#)



WE CONGRATULATE
YOU ON THE PURCHASE
OF YOUR NEW DJI
MATRICE 300 RTK DRONE
FTS: ZÉPHYR CC M300
EXTERNAL.

At Dronavia, we have been developing since 2015 a wide range of innovative accessories to secure your professional drones. Based in the east of France, we manufacture all our products in our workshop, according to the DGAC standard, ensuring an unmatched quality. The Zéphyr CC M300 External model is the most reliable, fastest system in the world. You will fly with your DJI Matrice 300 RTK in complete safety.

Thank you for your trust & enjoy the flight!

LUDOVIC PELLETEY, DRONAVIA CEO

PRESENTATION OF THE ZÉPHYR CC M300 FTS

Dear customer,

Thank you for purchasing the new FTS for **DJI M300 Series drone : Zéphyr CC M300**. You have chosen the device which we are sure is the most efficient system of its kind.

A lot of research and testing has been done on this system to make it as safe and effective as possible. However, we would like to inform you that, as there is no testing or certification centre for drone FTS, we cannot claim that it works to any operating standard.

Based in Remiremont, France, DRONAVIA is at your service to advise you on the purchase of your Zéphyr CC M300 FTS and to answer any technical or commercial questions.

The Zéphyr CC M300 FTS has been designed for the DJI M300 RTK series aircraft.

It has been developed with the objective of meeting the requirement of paragraph 2.6.c) of Annex III of the "Aircraft" Order of 17 December 2015, which came into force on 1 January 2017, for design certificates in scenario S2.

Indeed, paragraph 2.5.1.c) states:

"The remote pilot may at any time force an emergency landing by stopping propulsion in flight and the control of this function may be tested on the ground by the remote pilot prior to flight."

Paragraph 2.6.c) adds:

"The emergency landing function required in paragraph 2.5.1.c) is independent of the aircraft's automatic trajectory control systems."

The purpose of this requirement is to allow the remote pilot to intervene in the event of a drone escape caused by 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 Zéphyr CC M300 FTS can be activated in less than a second.

This emergency device does not preserve the integrity of the equipment, nor damage to property or people, it is a safety element that complements other safety elements. DRONAVIA and its distributors cannot be blamed for any malfunction, or for operation that is deemed insufficient or even ineffective.

WARNINGS AND PRECAUTIONS FOR USE

DRONAVIA may suspend the warranty and disclaim any liability to any person who fails to comply with the basic safety instructions set out below.

Before using the Zéphyr CC M300, you must read this manual carefully. It provides information on how to use the FTS. In addition to the important notes and information in this manual, the owner of the device must follow all the important instructions listed below.

The Zéphyr CC M300 FTS is a safety device which, under certain conditions, prevents the drone equipped with it from leaving its regulatory flight envelope by cutting its engines.

The activation of the FTS inevitably implies the crash of the drone.

This equipment does not prevent technical problems from occurring on the drone. Any flight with a drone implies the existence of a danger for the equipment and the people in the vicinity, independently of the equipment used. The use of the Zéphyr FTS for DJI M300 should not increase your risk.

THE 11 RULES TO BE RESPECTED



1. DO NOT 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 LOW OR HIGH TEMPERATURES, STRONG SHOCKS, CONTACT WITH CHEMICALS, ACIDS, LONG TERM STORAGE IN HIGH HUMIDITY OR DUST. THE MAXIMUM OPERATING TEMPERATURE IS 40°C AND THE MINIMUM OPERATING TEMPERATURE IS -15°C.
6. THE CONDITION OF THE ZÉPHYR CC M300 FTS SYSTEM SHOULD BE CHECKED BEFORE EACH USE. DO NOT USE THE DEVICE IF IT IS DAMAGED OR MALFUNCTIONING. IF NECESSARY, CONTACT YOUR DEALER.
7. THE ZÉPHYR CC M300 FTS CANNOT PREVENT THE DRONE FROM MALFUNCTIONING.
8. ANY FLIGHT WITH A DRONE IMPLIES THE EXISTENCE OF A RISK FOR THE EQUIPMENT AND PEOPLE IN THE VICINITY, WITH OR WITHOUT A ZÉPHYR CC M300 FTS.
9. THE USE OF A ZÉPHYR CC M300 FTS SHOULD NOT INCREASE YOUR RISK.
10. THE ZÉPHYR CC M300 FTS MUST BE ACTIVELY TRIGGERED BY THE USER. REGULAR TRAINING IS NECESSARY TO BE ABLE TO REACT CORRECTLY IN AN EMERGENCY. THEREFORE, 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 SOLID RED STATE, THE SYSTEM WILL NOT BE IN WORKING ORDER. CONTACT YOUR DEALER FOR ASSISTANCE.

USES OF THE FTS ZÉPHYR M300

INTRODUCTION

The FTS module contains the electronics for the motor cut-off system and the wireless communication module. A drone equipped with a Zéphyr CC M300 FTS is not distinguishable from the exterior of a DJI M300.

Triggering a drone FTS Module it should only be done in an emergency situation. We remind you that switching off the engines does not guarantee the preservation of the aircraft, nor the absence of damage to the ground or injury to persons.

Any use on a drone other than a DJI M300 is prohibited. The configuration of the FTS system must not be changed in order to ensure proper operation.

PRESENTATION OF THE COMPONENTS

LEFT FTS MODULE



RIGHT FTS MODULE



BATTERY SPACER



REMOTE CONTROL MODULE

ADDITIONAL ACCESSORIES PROVIDED :

- 1 x screw + spacer kit (battery lock extension)
- 1 x USB-C to USB-C cable
- 1 x Allen key



PRESENTATION OF THE ELEMENTS

CHARACTERISTICS OF THE FTS ZÉPHYR CC M300

MODULE WEIGHT
FTS

200 G (100 G
PER MODULE)

COMMUNICATION
WIRELESS RADIO

SRD860 WITH
ENCRYPTED KEY

RADIO RANGE

UP TO 1500
METRES

RADIO AUTONOMY

30 HOURS

OPERATING
TEMPERATURE

-15°C À 40°C

THE MOST RELIABLE, FASTEST
AND LIGHTEST IN THE WORLD



THE PARTS OF THE SYSTEM

The Zéphyr FTS module contains the electronics dedicated to the motor cut-off system, the wireless communication module, an audible alarm and an indicator LED (figure 1).

The remote control module consists of a red adhesive base, an oval ignition button on the back, a triangular motor cut-off button, an indication LED, three white battery level LEDs, an extension port on the left side and a USB port on the right side for recharging (figures 2, 3 & 4).

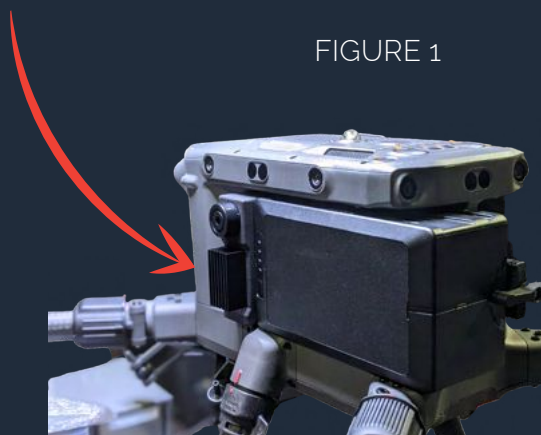


FIGURE 1



FIGURE 2



FIGURE 3



FIGURE 4

FTS ZÉPHYR CC M300 INSTALLATION

1

DISMANTLE THE BATTERY LOCKING SYSTEM USING THE KEY PROVIDED (FIGURE 5 & 6). WHEN DISMANTLING, TAKE CARE TO RETAIN THE 4 WASHERS FITTED TO THE ORIGINAL SCREW AND THE 2 SPRINGS.

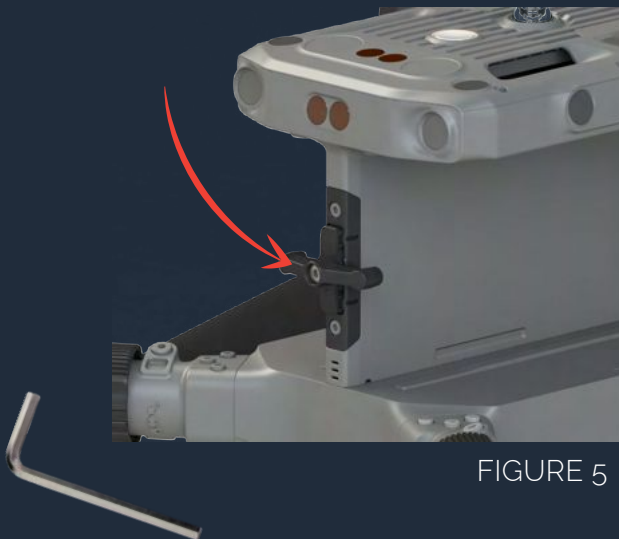


FIGURE 5



FIGURE 6

2

REMOVE THE SPRING-MOUNTED SPACER (TAKING CARE NOT TO LOSE THE 2 SPRINGS BEHIND IT) (FIGURE 7).



FIGURE 7

FTS ZÉPHYR CC M300 INSTALLATION

3

REPLACE THE SPACER WITH THE ONE SUPPLIED, MAKING SURE THAT THE 2 SPRINGS ARE REPOSITIONED AS ORIGINALLY FITTED TO THE DRONE (FIGURE 8).



FIGURE 8

4

REPLACE THE LOCKING CATCH WITH ITS 3 WASHERS PLUS THE SPACER SUPPLIED IN THE CORRECT ORDER (FIGURES 9 & 10).



FIGURE 9

FTS ZÉPHYR CC M300 INSTALLATION



FIGURE 10

6

PLACE THE RIGHT FTS BY SLIDING IT FROM THE BACK IN THE SAME WAY AS A BATTERY, WITH THE LED POINTING TO THE FRONT AND THE USB-C CONNECTOR AT THE BOTTOM (FIGURE 11).



FIGURE 11

FTS ZÉPHYR CC M300 INSTALLATION

7

PLACE THE LEFT-HAND FTS WITH THE USB-C CONNECTOR ON THE BOTTOM AND THE BUZZER ON THE TOP (FIGURE 12).



FIGURE 12

8

CONNECT THE TWO MODULES TOGETHER WITH THE SUPPLIED USB-C CABLE BY ROUTING IT THROUGH THE FRONT OF THE DRONE (FIGURES 13 & 14). MAKE SURE THE CABLE DOES NOT OBSTRUCT THE FRONT OBSTACLE SENSORS.



FIGURE 13



FIGURE 14

FTS ZÉPHYR CC M300 INSTALLATION

9

INSTALL THE RED ZÉPHYR REMOTE CONTROL CRADLE ONTO THE DJI M300 REMOTE CONTROL USING THE ADHESIVE PROVIDED (FIGURE 15).

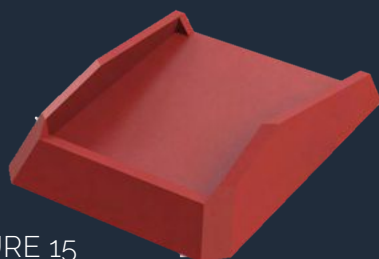


FIGURE 15

10

INSERT THE ZÉPHYR REMOTE CONTROL INTO ITS CRADLE BY SLIDING IT IN FROM THE BACK (FIGURE 16).

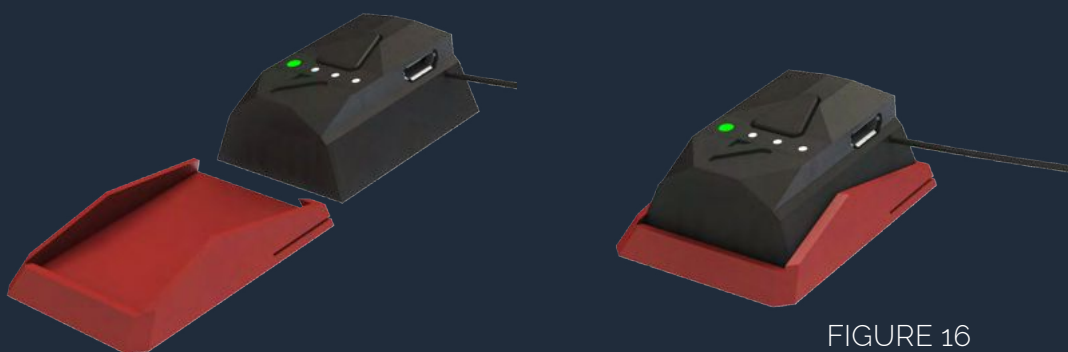


FIGURE 16

YOUR ZÉPHYR CC M300 FTS IS OPERATIONAL !

FTS ZÉPHYR CC M300 INSTALLATION

11

THE ZÉPHYR REMOTE CONTROL CAN BE POSITIONED IN DIFFERENT PLACES ON THE DJI M300 RTK REMOTE CONTROL (FIGURE 17).



FIGURE 17

12

TO DISMANTLE THE SYSTEM, SIMPLY FOLLOW THE INSTALLATION INSTRUCTIONS IN REVERSE ORDER.

ACTIVATION OF THE FTS ZÉPHYR CC M300

TO ACTIVATE THE FTS, FOLLOW THESE STEPS IN ORDER:

- 1 TURN ON THE REMOTE CONTROL MODULE BY HOLDING DOWN THE OVAL IGNITION BUTTON (LOCATED ON THE BACK) FOR 1 SECOND.
- 2 TURN ON THE DRONE
- 3 YOUR ZÉPHYR CC M300 FTS IS ACTIVE !



FIGURE 18

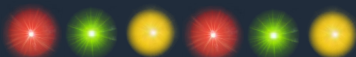
A close-up, low-angle shot of a black FTS Zéphyr CC M300 camera mounted on a tripod. The camera is the central focus, with its various ports and mounting brackets visible. The background is a blurred workshop or factory floor, with shelves and equipment visible in the distance. The lighting is soft and even, highlighting the camera's form.

 YOUR FTS ZÉPHYR
CC M300 IS ACTIVE &
OPERATIONAL!

SYSTEM STATUS

AN LED INDICATOR ON THE REMOTE CONTROL HELPS YOU CHECK THE SYSTEM STATUS IN REAL TIME. HERE IS A SUMMARY OF THE DIFFERENT STATES:

1 NORMAL OPERATION



INITALISATION OF THE SYSTEM



OPERATIONAL SYSTEM



FTS ONLY OR PARACHUTE ONLY TRIGGERED



OPERATIONAL SYSTEM (FTS & PARACHUTE)



FTS & PARACHUTE TRIGGERED (FIXED LIGHT)

2 SYSTEM ALERTS



NO RADIO SIGNAL

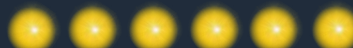


LOW
BATTERY



SYSTEM ERROR (FIXED LIGHT)

3 CHARGING THE BATTERY



BATTERY CHARGING
(STEADY LIGHT)



BATTERY CHARGED
(STEADY LIGHT)

TRIGGERING THE FTS

IN ORDER TO KEEP THE FTS AT YOUR FINGERTIPS AND TO BE AS RESPONSIVE AS POSSIBLE, THERE IS A SIMPLE GESTURE THAT ALLOWS YOU TO TRIGGER THE SYSTEM TO SHUT DOWN THE DJI M300'S MOTORS.

SIMPLY PRESS THE TRIANGULAR BUTTON ON THE REMOTE CONTROL. FOR SAFETY REASONS, IT IS NECESSARY TO HOLD THE POSITION FOR AT LEAST 1 SECOND UNTIL THE LED FLASHES GREEN RAPIDLY AND TO ENSURE THAT THE CONTACT IS MADE CORRECTLY (FIGURE 19).



FIGURE 19

ONCE THE LED FLASHES GREEN RAPIDLY, THE MOTORS HAVE BEEN CORRECTLY SWITCHED OFF.

SHUTDOWN AND SYSTEM RESET

TO STOP, TURN OFF AND RESET THE FTS, FOLLOW THESE STEPS IN ORDER:

- 1 TURN OFF THE REMOTE CONTROL MODULE OF THE FTS BY HOLDING DOWN THE IGNITION BUTTON FOR 5 SECONDS.
- 2 TURN OFF THE DRONE.
- 3 THE ENGINE CUT-OFF IS DEACTIVATED AND RESET EACH TIME THE SYSTEM IS RESTARTED.



FIGURE 20

PARACHUTE BATTERY CHARGING

FOUR INDICATOR LIGHTS ALLOW YOU TO CHECK THE BATTERY LEVEL OF THE ZÉPHYR REMOTE CONTROL. A SHORT PRESS ON THE REMOTE CONTROL'S POWER BUTTON INDICATES THE REMAINING BATTERY LEVEL ACCORDING TO THE NUMBER OF INDICATORS LIT (FIGURE 21).



FIGURE 21

CHARGING THE BATTERY OF THE REMOTE CONTROL

TO CHARGE THE REMOTE CONTROL BATTERY, SIMPLY CONNECT A MICRO USB CABLE TO THE MICRO USB SOCKET ON THE RIGHT AND CONNECT THE CABLE TO A COMPUTER (FIGURE 22). THE STATUS LED WILL TURN SOLID YELLOW TO INDICATE CHARGING AND SOLID GREEN ONCE THE BATTERY IS FULLY CHARGED.



FIGURE 22

INSTALLATION OF THE SAFETY BUTTON (OPTIONAL)

YOU HAVE THE OPTION TO PURCHASE AND INSTALL AN OPTIONAL SAFETY BUTTON. THE SAFETY BUTTON ADDS A SECOND RELEASE BUTTON TO THE SYSTEM TO PREVENT UNWANTED TRIGGERS FROM INADVERTENTLY PRESSING THE RELEASE BUTTON ON THE ZÉPHYR REMOTE. THE SECURITY BUTTON COMES WITH A CONNECTION CABLE, TO CONNECT IT TO YOUR ZÉPHYR REMOTE CONTROL, SIMPLY CONNECT THE CABLE BETWEEN THE SECURITY BUTTON AND THE REMOTE CONTROL (FIGURES 23, 24, 25 & 26).

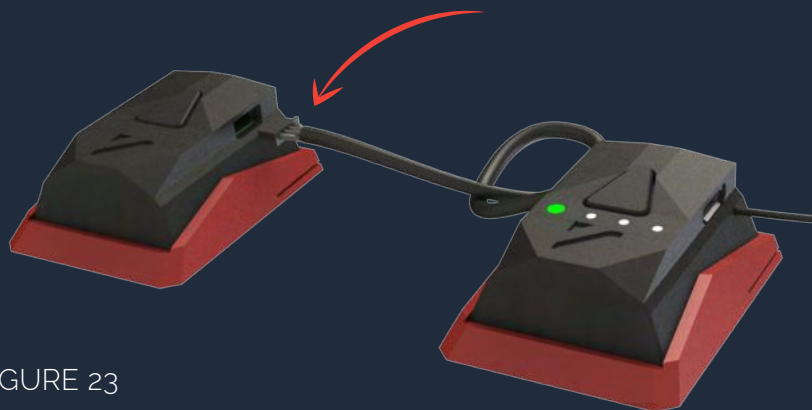


FIGURE 23



FIGURE 24

INSTALLATION OF THE SAFETY BUTTON (OPTIONAL)

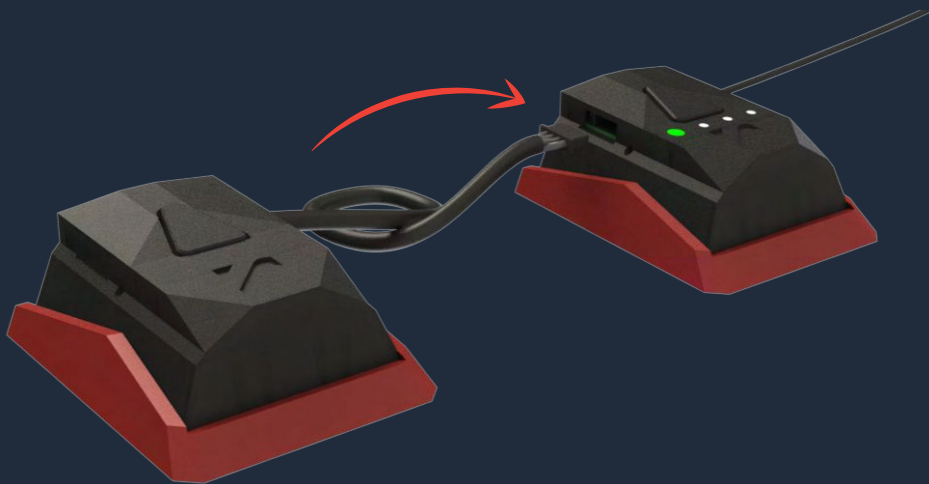


FIGURE 25



FIGURE 26



Check before each take-off that the safety button is correctly connected to the Zéphyr remote control.

INSTALLATION OF THE SAFETY BUTTON (OPTIONAL)

THE ZÉPHYR REMOTE CONTROL AND THE SAFETY BUTTON CAN BE POSITIONED ON THE MATRICE 300 RTK REMOTE CONTROL AS SHOWN IN FIGURE 15 BELOW. (FIGURE 27)



FIGURE 27

SYSTEM RELEASE WITH SAFETY BUTTON (OPTIONAL)

IF YOUR ZÉPHYR REMOTE CONTROL IS EQUIPPED WITH AN OPTIONAL SECURITY BUTTON, SIMPLY PRESS THE TWO TRIANGULAR BUTTONS ON THE REMOTE AND THE SECURITY BUTTON SIMULTANEOUSLY.

FOR SAFETY REASONS, IT IS NECESSARY TO HOLD THE POSITION FOR AT LEAST 1/2 SECOND UNTIL THE LED FLASHES GREEN RAPIDLY AND TO ENSURE THAT THE CONTACTS ARE MADE CORRECTLY (FIGURE 28). ONCE THE LED FLASHES GREEN RAPIDLY, THE MOTORS HAVE BEEN CORRECTLY SWITCHED OFF.



FIGURE 28

REMOTE CONTROL RESET

TO RESET YOUR REMOTE CONTROL, FOLLOW THESE STEPS :

IN CASE OF A MALFUNCTION, A BUG OR IF THE SYSTEM DOES NOT RESPOND ANYMORE, A RESET MANOEUVRE ON THE REMOTE CONTROL CAN SOLVE YOUR PROBLEM.

TO RESET THE REMOTE CONTROL, YOU WILL FIND A SMALL HOLE ON THE LEFT SIDE (FIGURE 29).



FIGURE 29

SLIP IN A PAPER CLIP OR OTHER THIN OBJECT, A SHORT PRESS WILL RESET THE RADIO.

The background of the page features a dark, moody photograph of a drone and its remote control. The drone is positioned on the left side, with its propellers and camera visible. The remote control is on the right side, showing its screen and various buttons. The overall tone is professional and technical.

STORAGE AND WARRANTY

STORAGE OF THE FTS

STORE THE ZÉPHYR CC M300 FTS 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 FOR ONE YEAR FROM THE DATE OF PURCHASE AGAINST ANY DEFECTS IN DESIGN OR WORKMANSHIP THAT MAY OCCUR DURING NORMAL USE OF THE PRODUCT. ANY MISUSE OR INCORRECT USE, ANY EXPOSURE TO AGGRESSIVE FACTORS (HIGH HUMIDITY, HIGH TEMPERATURE, ETC.) THAT WOULD LEAD TO DAMAGE WILL INVALIDATE THIS WARRANTY.

LIABILITY NOTICE

THE TECHNICIAN PERFORMING THE INSTALLATION OF THE FTS IS RESPONSIBLE FOR THE COMPANY FOR WHICH HE/SHE PERFORMS THE INSTALLATION. DRONAVIA SHALL NOT BE HELD RESPONSIBLE IN THE EVENT OF INCORRECT INSTALLATION OF THE FTS ON THE DRONE. IN CASE OF DOUBT, WE CAN TRAIN AND EMPOWER PEOPLE, PREVIOUSLY QUALIFIED IN ELECTRONICS, TO ASSEMBLE THE FTS IN OUR WORKSHOPS.

USEFUL LINKS



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.

WEBSITE OF THE MINISTRY OF ECOLOGY & SUSTAINABLE DEVELOPMENT AND ENERGY

<http://www.developpement-durable.gouv.fr/quelle-place-drones-dans-ciel-francais>

DETAILS OF THE ORDER OF 11/04/2012 :

<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000025834986>

DETAILS OF THE ORDER OF 17/12/2015:

<https://www.legifrance.gouv.fr/eli/arrete/2015/12/17/DEVA1528469A/jo>

MAP OF DRONE RESTRICTION AREAS BY THE IGN

<https://www.geoportail.gouv.fr>

THE DIRECTORATE GENERAL OF CIVIL AVIATION (DGCA)

<https://www.ecologie.gouv.fr/direction-generale-laviation-civile-dgac>



Remember that you are flying under your own responsibility!

MORE ABOUT DRONAVIA

AT DRONAVIA, WE HAVE BEEN DEVELOPING A WIDE RANGE OF INNOVATIVE ACCESSORIES TO SECURE YOUR PROFESSIONAL DRONES SINCE 2015. BASED IN THE EAST OF FRANCE, WE MANUFACTURE ALL OUR PRODUCTS IN OUR WORKSHOP, IN ACCORDANCE WITH THE DGAC STANDARDS, ENSURING AN UNRIVALLED QUALITY.

FROM PARACHUTES, FTS, IDENTIFICATION BEACONS, APPROVALS FOR S1, S2, S3 SCENARIOS, WE COVER ALL THE NEEDS OF PROFESSIONAL DRONE PILOTS. CURRENTLY THE LEADER IN THE FRENCH MARKET WITH A GROWTH RATE OF 45% PER YEAR & ALWAYS AT THE LEADING END OF INNOVATION IN ITS SECTOR, DRONAVIA ANTICIPATED THE FUTURE EUROPEAN REGULATIONS EN-4709 AND WILL OFFER A NEW RANGE OF PRODUCTS MEETING THIS NEW CERTIFICATION AS OF 2023.

WE HAVE ALREADY EQUIPPED & CERTIFIED NEARLY 5000 DRONES.

JOIN US ON



Approved by



www.dronavia.com +33 (0) 354 400 078