



FLYING EYE

# FLYSAFE KIT DJI Flycart 30

Optional circuit breaker + Geofencing

## User manual



*Made in France*



[www.flyingeye.fr](http://www.flyingeye.fr)

Version 2.1 (18/04/2025)

# Summary

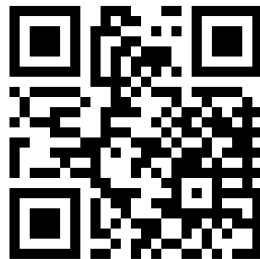
About us	3
Warnings and precautions	5
Technical description	7
Equipment	9
Installation	10
Flysafe radio control	15
Using the geofence	19
Editing a geofence	20
Pre-flight test	23
Preparing for flights	24
Operating conditions	25
Ground Risk Buffer	26
Emergency procedures	28
Maintenance	29
Support and Warranty	30
Tracking tool (Appendix 1)	31
Incident form (Appendix 2)	32

## About us

Flying Eye has been your specialist partner in drone technology since 2009. We have been developing parachute arresters since the introduction of drone regulations in 2012. With its pyrotechnic system derived from aviation technology, you have the most effective and lightest system on the market.

We would be delighted to provide you with any technical or commercial information you may require.

[www.flyingeye.fr](http://www.flyingeye.fr)



Green Side 1B, 400 Av. Roumanille Biot – Sophia Antipolis 06410

09 72 62 78 50

[info@flyingeye.fr](mailto:info@flyingeye.fr)

**Read this manual carefully before handling the  
Flysafe system.**

# Warnings and precautions

Flying Eye reserves the right to suspend the warranty of any person who fails to comply with the basic safety instructions set out below.

It is forbidden to carry out any manipulations other than those provided for in the manual.

The device must only be used by (or under the supervision of) a responsible adult. Always keep the device out of the reach of children.

- Do not expose the system to high or low temperatures, strong shocks, risks of impact, 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.

## Warnings and precautions

Do not use the device if it is damaged or if the test procedure is inconclusive. If necessary, contact your dealer.

The Flysafe system in no way alters the operation of the drone.

Any flight with a drone implies the existence of a risk for the equipment and people in the vicinity.

Under no circumstances should the use of a Flysafe system increase your risk.

The Flysafe system must be triggered manually by the user. Regular training is necessary to be able to react correctly in an emergency. To ensure the safety of your equipment and of third parties, you should therefore carry out dummy ground drills on a regular basis.

# Technical specifications

## Description

- The circuit-breaker module is internal to the drone
- Compatible with the DJI Flycart 30
- Conformity matrix: MoC2511
- Declaration of conformity MoC2511
- Geofencing option

Even if drones are used and maintained correctly, they can sometimes find themselves in severe weather conditions or encounter problems such as a loss of GPS signal, technical failure of the engines or radio control failure.

In this kind of critical and emergency situation, it is crucial to have a safety device activated immediately.

# Technical specifications

## Technical specifications

Range	2700 m
Trigger	<ul style="list-style-type: none"> <li>• Manual triggering by simultaneous double-pressing</li> <li>• Automatic triggering on leaving the flight zone (Geofencing optional)</li> </ul>
Autonomy	Plus 30 hours of radio control (1800mAh li-po battery rechargeable via USB-C)
Remote control	Automatic power-down after 30 minutes without connection Safe switching on and off (short press then long press)
Communication	Bi-directional link FTS transmission frequency: 868MHz Encrypted (256-bit) and authenticated frames
Security	Redundant power supply for Flysafe kit



After interrupting the flight via the Flysafe system, the DJI parachute will deploy automatically if the Flysafe system is switched on.

See parachute specifications (Manual page 42).

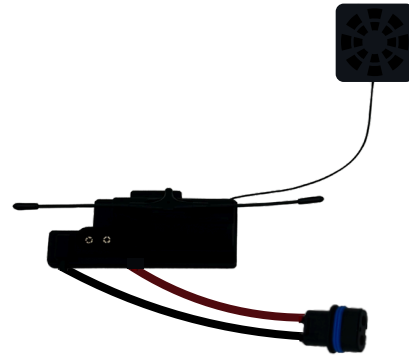


# Hardware

## Supplied



Flysafe remote control



Flysafe module

## Declaration of conformity

## Not supplied



Drone



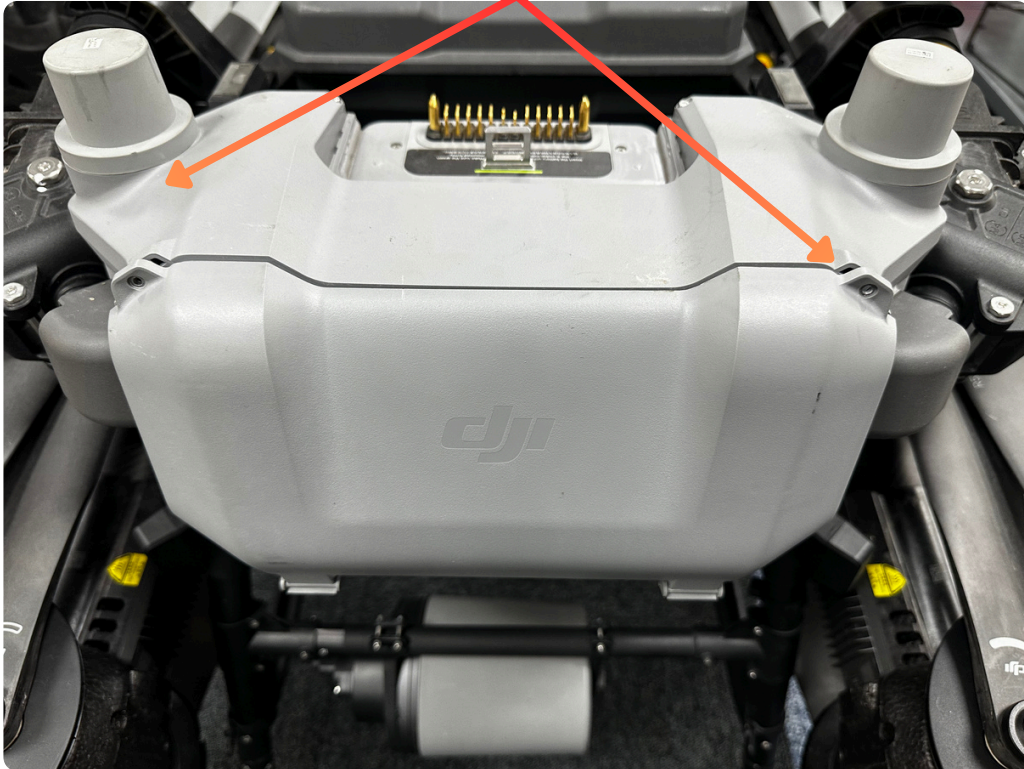
Remote control

*Using the radio control with this system is easier with a harness.*

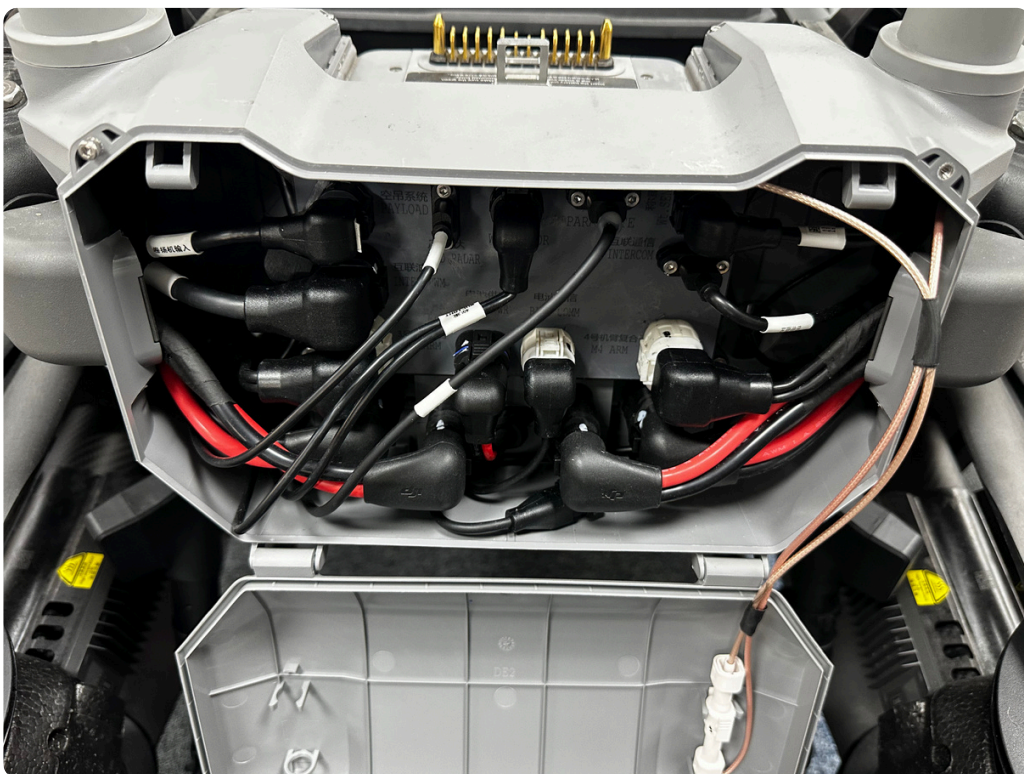
# Installation

Step 1:

Unscrew the 2 top screws on the rear cover of the Flycart 30



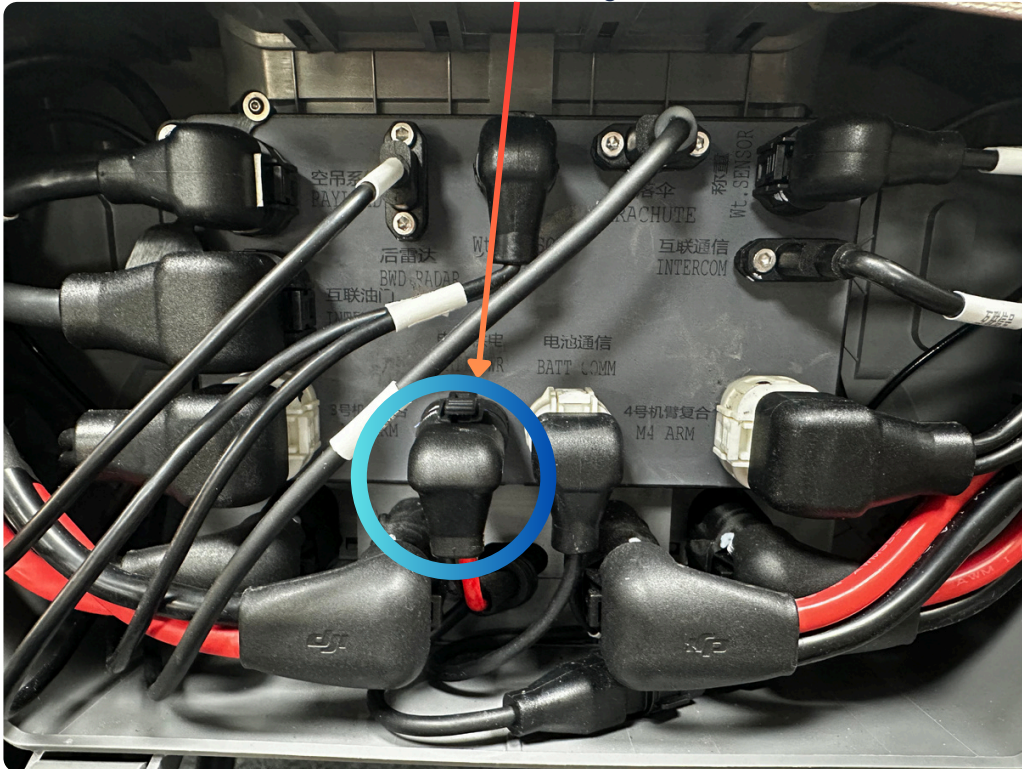
All the connections are shown below



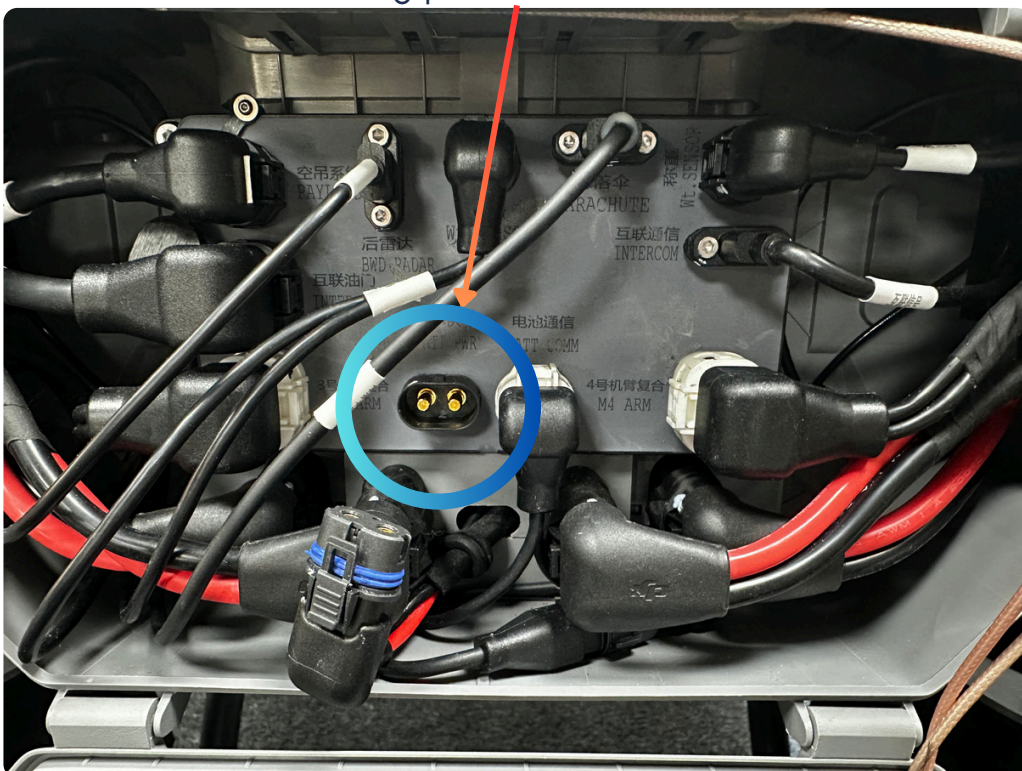


# Installation

Step 2:  
Disconnect the following connectors



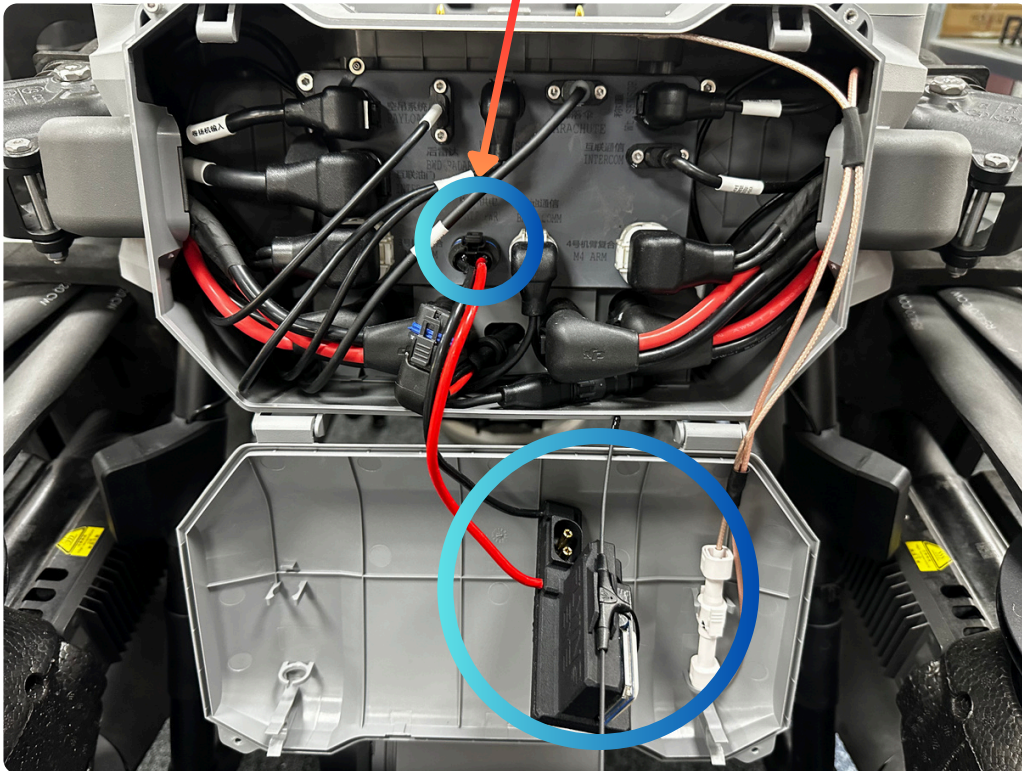
The following port will then be released



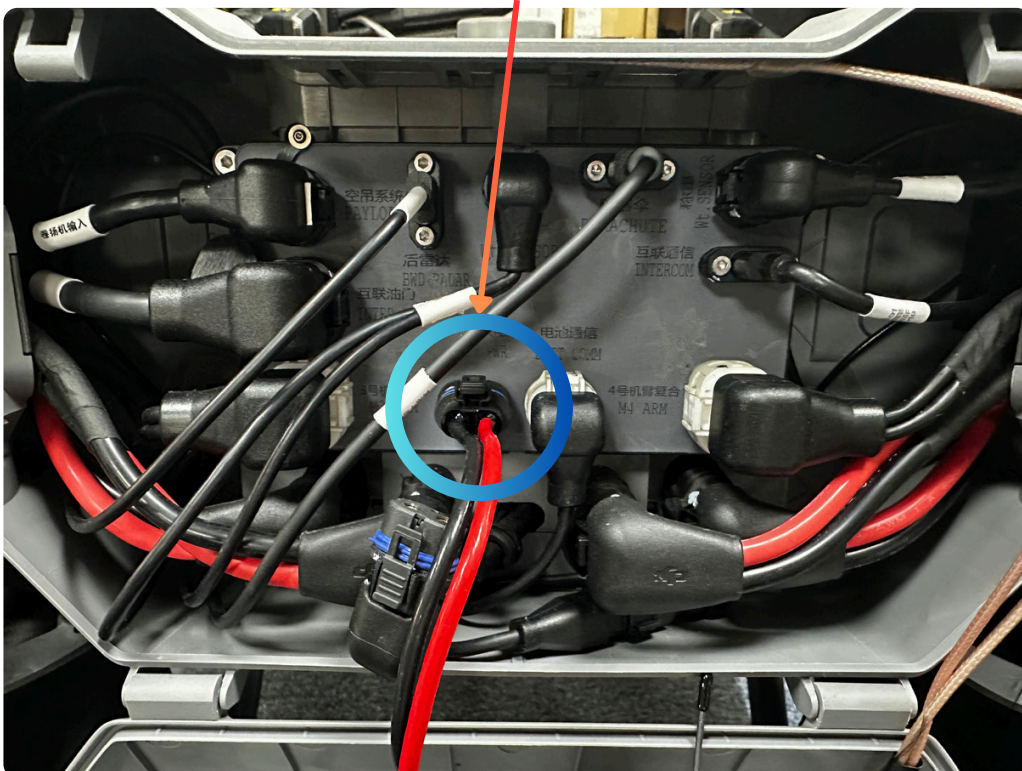


# Installation

Step 3:  
Connect the Flysafe kit cable to this port



Close-up of the connection below

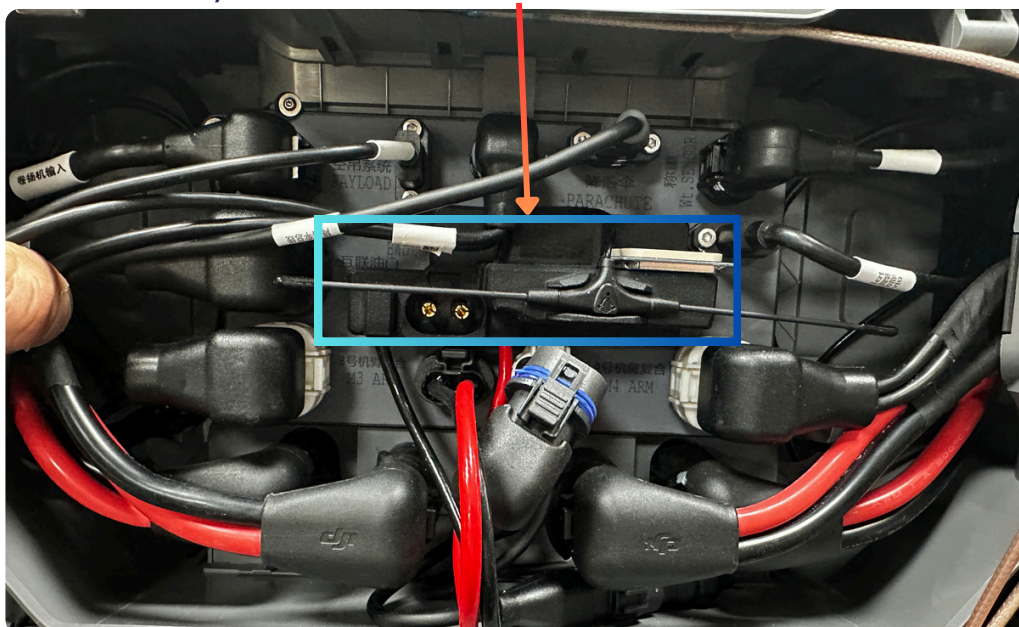




# Installation

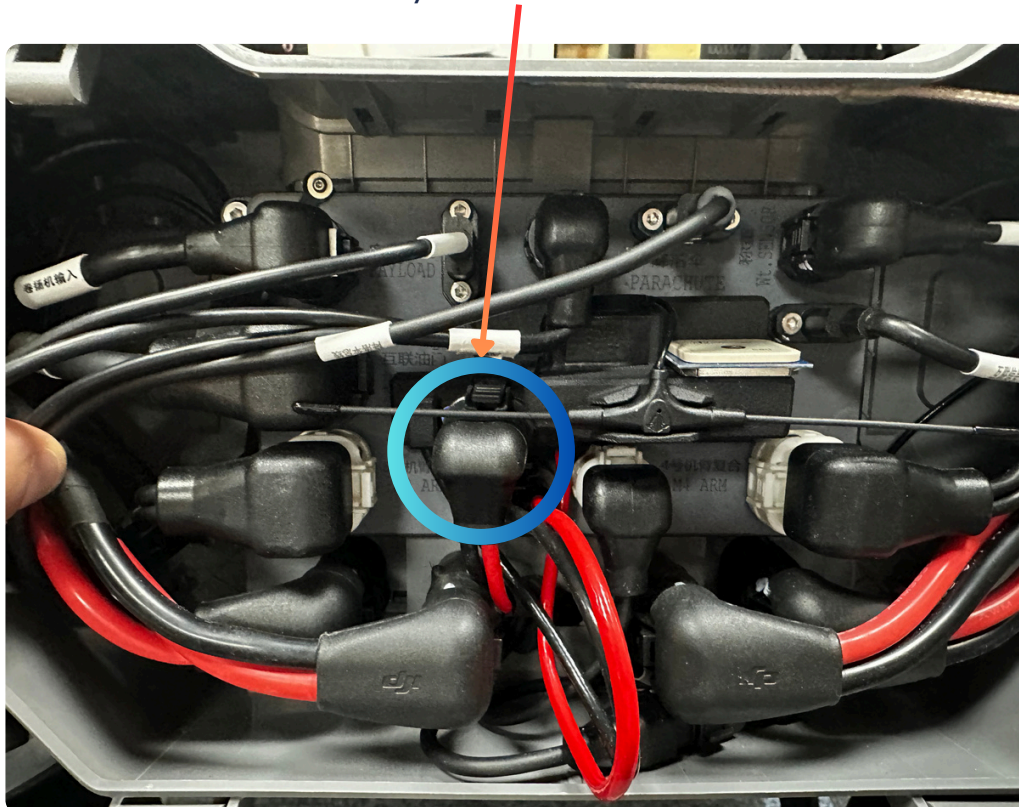
## Step 4:

Insert the Flysafe kit between the connectors as shown below



## Step 5:

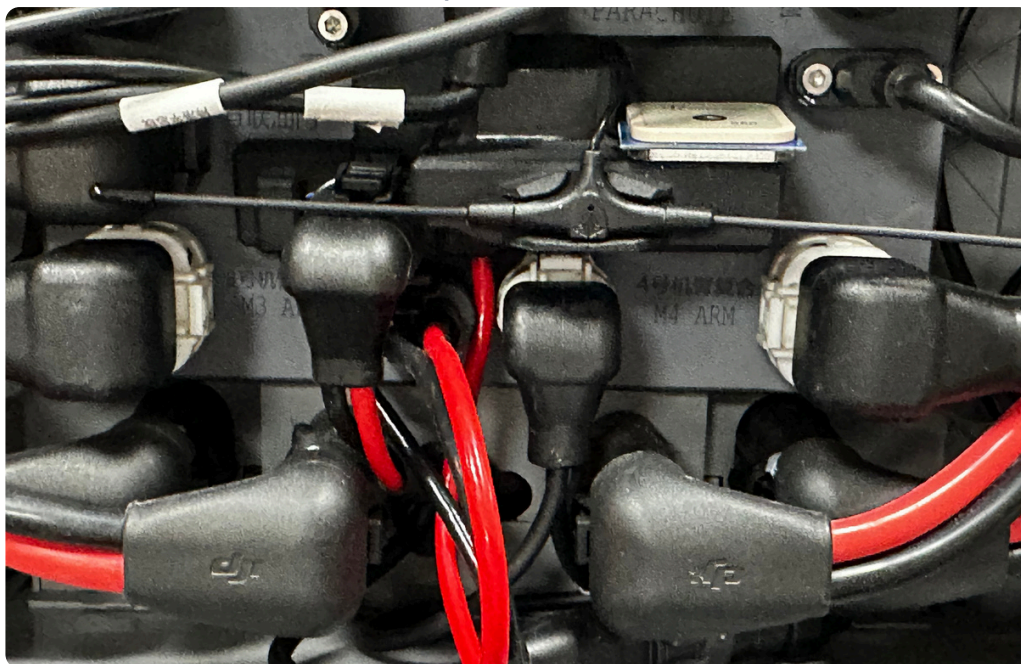
Reconnect the connectors previously disconnected in step 2 to the Flysafe kit as follows





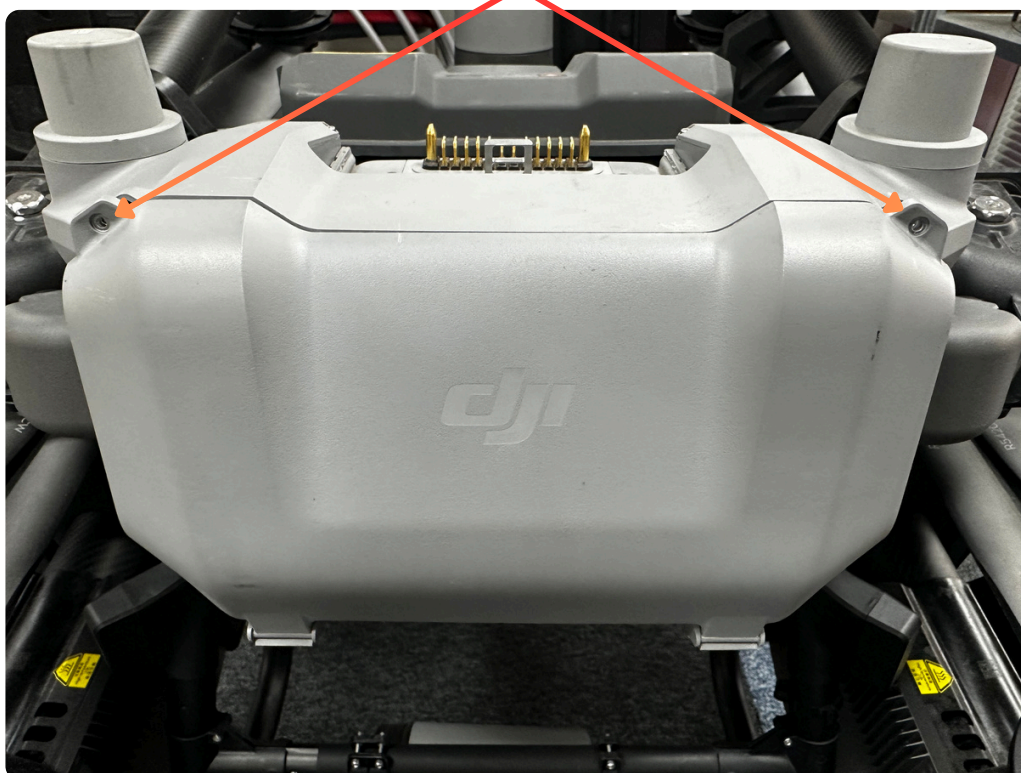
# Installation

If the Flysafe kit is correctly installed, you should have an assembly as shown below

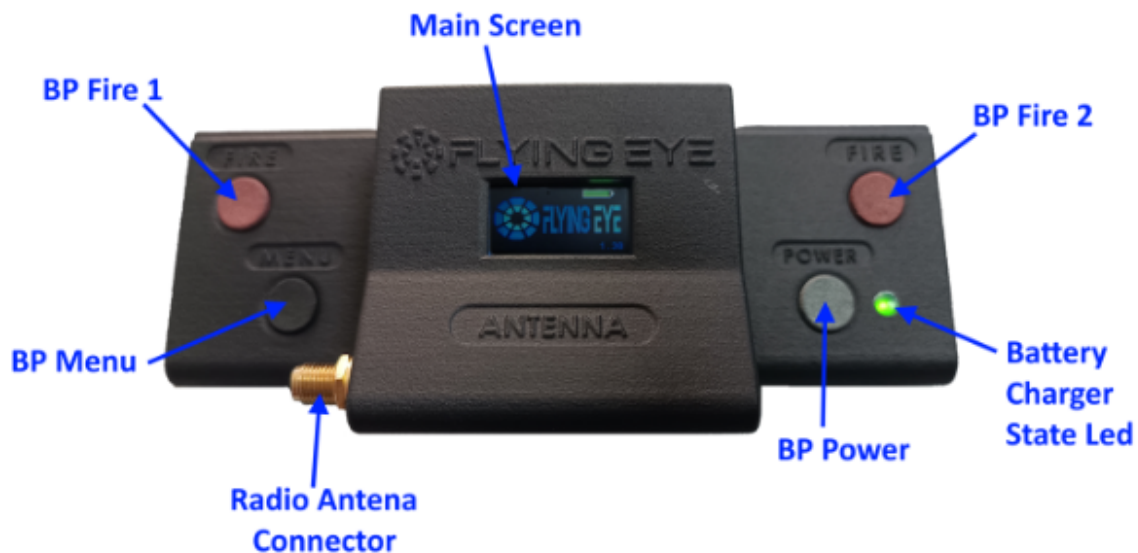


Step 6:

Close the cover and tighten the 2 top screws on the rear cover of the Flycart 30.



# Flysafe remote control



## START-UP

To switch on the Flysafe radio control, press and hold the power button (black).

The charge level is indicated on the screen.

## TRIGGER

The Flysafe system is triggered by pressing the 2 'FIRE' (red) buttons simultaneously.

## USB TRANSFER MODE

To switch on the Flysafe radio control in USB transfer mode, connect it to a computer and switch it on while holding down the menu button. To exit USB mode, restart the radio control.



# Flysafe remote control

The main display provides telemetric feedback to the receiver and continuous status information. It is divided into four separate sections:

- The strength of the radio link with the receiver
- The level of the radio control battery
- The status of the FTS cut-off system on board the machine (detailed in the next section).
- The status of the Geofencing system on board the receiver (detailed in the next section).

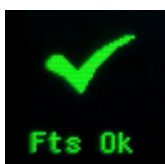




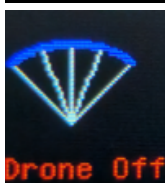
# Flysafe remote control

## FTS status

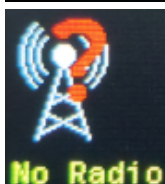
The status of the FTS, i.e. the cut-off system, is displayed on the left-hand side of the main screen. The following icons may be displayed and correspond to a particular status :



The cut-off system is fully operational. The user can initiate manual disconnection.



The system has been switched off, either manually by the user or by the geofencing system.



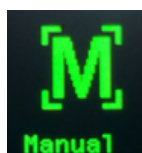
The radio link with the receiver is broken. The drone is powered down or out of range.

# Flysafe remote control

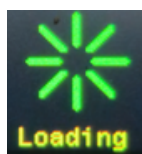
## GeoFence status

N.B : The geofence functions are only available as an option. Without it, the manual mode icon will always be displayed.

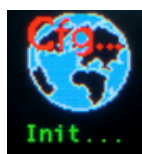
The status of geofencing is displayed on the right-hand side of the main screen. The following icons can be displayed and correspond to a particular status:



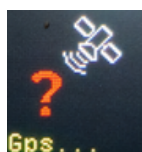
Manual mode only (geofencing not available)



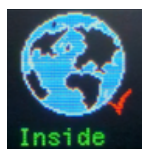
Loading or checking the fence in progress can take some time for large fences.



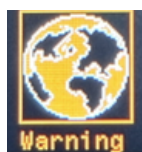
Initialising the geofence system



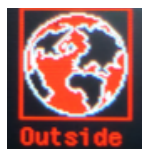
Searching for an adequate GPS signal



Geofence activated and drone inside the fence



Geofence activated and drone inside a warning zone



Drone outside the fence, flight aborted in 0.2s

# Using geofence

(Optional)

## Start-up procedure

Geofencing works as follows. The radio control must be switched on first, in order to have the active fence. The drone is then switched on so that a new fence can be loaded or to confirm that the fence on board the receiver matches that on the radio control. Once the fence has been validated, the GPS signal confirmed and the icon indicating that the drone is inside the fence, the user can take off and carry out their mission.

## Fence update

- Create your own fence using the editing tool.
- Save the fence as 'fences.json'.
- Connect the remote control to the USB port and start it up in USB transfer mode.
- Copy the fence file fences.json to the root (be careful to respect the file name).
- Restart the remote control (in normal mode).
- Restart the machine and wait for the fence to load.
- Once loaded, the status of the geofence confirms that it has been activated.
- The user can proceed with the flight.

N.B : If the fence is invalid (incorrect structure or format, see next section), the system will automatically switch to manual mode, so the fence must be corrected using the tool.

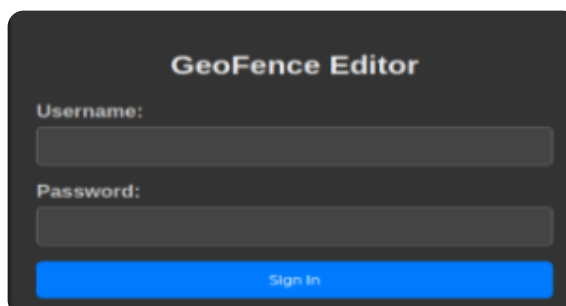
# Editing a geofence

(Optional)

## User access

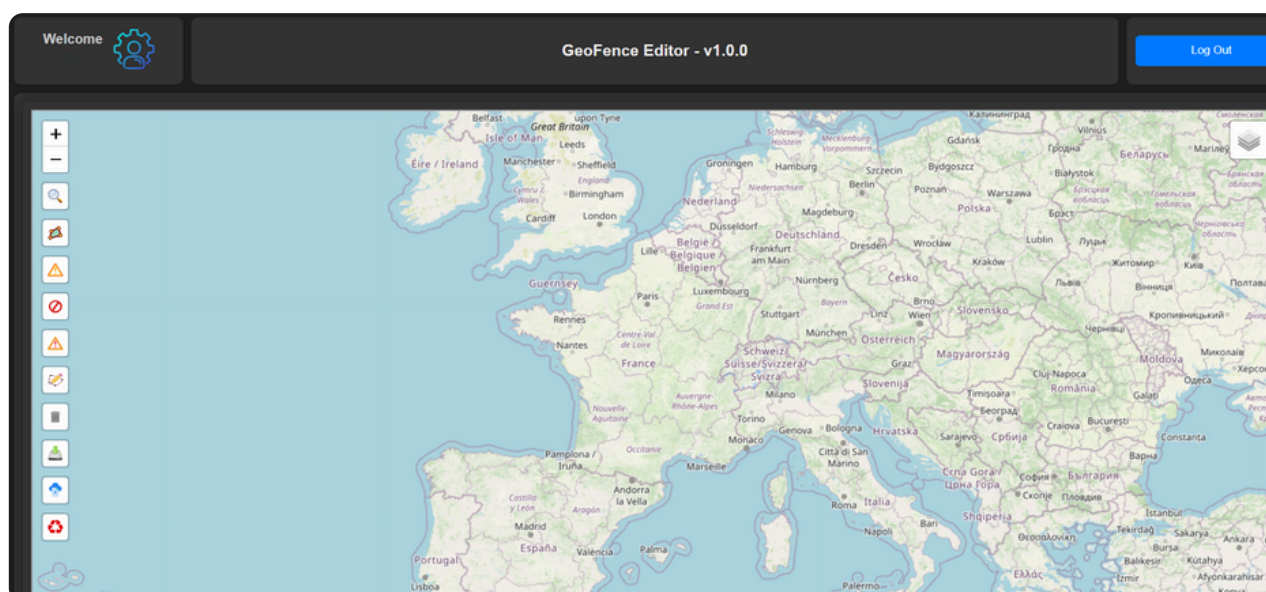
Access GeoFence Editor :

<https://geofence-editor.flyingeye.fr/>



The login form is titled "GeoFence Editor". It contains two input fields: "Username:" and "Password:". Below these fields is a blue button labeled "Sign In".

Log in using the login details you received beforehand



Choose a new password and change it by clicking on 'setting' :



Get to know the interface and discover the different functions







# Editing a geofence

(Optional)

## Creating your flight zone





The editing procedure is as follows:

- Use the search engine to find the location of your operation.
- Draw the main fence and confirm.
- Draw the warning fence and confirm.
- Add the No Fly Zone (NFZ) and validate (optional step).
- Add the NFZ warnings and validate them (optional step).

	The search engine makes it easy for users to find a specific location by entering the name of a town or address. A dialogue box is displayed in which the user can type the name into a text field and confirm by clicking the 'Search' button.
	Editing the main fence. Used to draw the Fence polygon (orange with a red border); One click to enter edit mode, the user clicks on the map to draw, then validates the outline by selecting the first point or by clicking this button again.
	Editing the warning fence. Used to draw the warning polygon associated with the fence (green with orange border).
	No Fly Zone (NFZ) edition. Used to draw NFZ polygons (red with a red border).
	Warning NFZ editing. Used to draw Warning polygons associated with NFZs (orange with an orange border).
	Enables the user to correct polygons that have already been drawn, and to add and/or delete points.

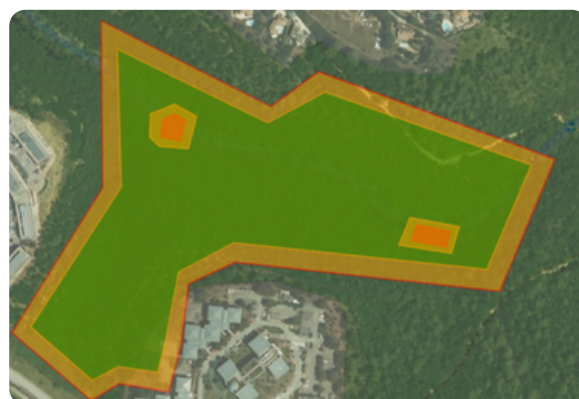
# Editing a geofence

(Optional)

	Deleting polygons. Allows the user to delete a targeted polygon.
	Backup. Saves the current Fence in the json format expected by the Standalone remote control (standard geojson with properties).
	Fence loading. Allows the user to reload a fence that they have previously edited.
	Cleaning. Allows the user to delete all the fences currently being edited (reset editing to zero).

The criteria for invalidating a fence relate to the integrity of each element. There can only be one fence associated with a single warning fence. By definition, each fence perimeter drawn must correspond to a single, closed, uncrossed polygon. Similarly, there can only be a maximum of five NFZs associated with five Warning NFZs. It is necessary to define a warning fence internal to the main fence, and similarly, it is necessary to define a Warning NFZ external to its associated NFZ.

It is the user's responsibility to define a valid fence and to ensure that it is loaded. Similarly, they must ensure that they take off within the active fence, otherwise the geofence will not be activated on start-up but only when the drone enters it.



*Example complete fence valid with NFZ.*

# Pre-Flight Test

Before the first flight of the day at a given operating site, check all the components of the system and verify its integrity. If any anomaly is found, do not proceed with the flight and contact your dealer.

## Ground test:

1	Make sure that the entire drone system is switched off. Battery disengaged, automatic module switched off
4	Fitting the battery
5	Switching on the drone's remote control
6	Switching on the Flysafe remote control
7	Switching on the drone
8	Start up the drone's engines
9	Activate the Flysafe system by pressing the 2 red 'FIRE' buttons: The four motors stop.
10	Switching off the drone
11	Switch off both radio controls

# Flight preparation

## Simplified memo for preparing flights in specific categories :

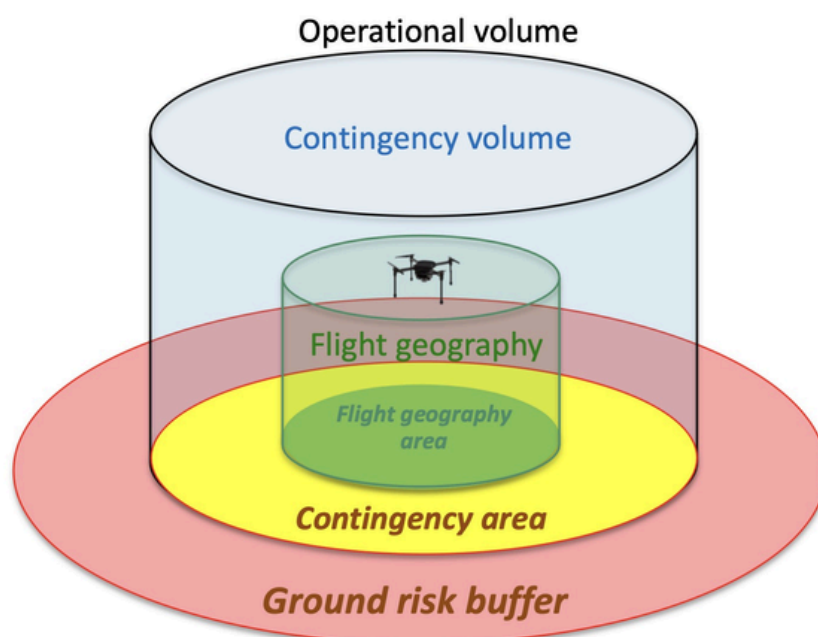
Volumes, Limits and Zones to be defined for your operations using the automatic FTS:

**Flight Geography:** Volume of flight programmed for automatic flight or planned for your trajectory in manual mode.

**Contingency volume:** Flight volume in which you can trigger contingency procedures to return to the programmed or planned flight zone

**Contingency volume limit:** Emergency procedures must be triggered if this limit is exceeded. This is particularly the case for the automatic FTS Flying Eye Flysafe

**Ground Risk Buffer:** Zone projected on the ground where no third party should be present in the event of a crash of the aircraft, also known as the Third Party Exclusion Zone (ZET).





# Operating conditions

Maximum transmission distance: **2700 m** (on flat, open ground with no interference)

Maximum wind speed: **43km/h**

Operating temperature : - **20 to 45°C**

Frequency used: 868MHz

LORA 869 MHz is shared with other users and devices using the same frequency band, such as remote controls for home automation, energy networks (Linky), IoT home networks, industrial communication systems, etc. These devices can interfere with the FTS system, causing interference in transmissions between the radio control and the receiver, resulting in transmission delays, loss of data or even complete interruption of communication.

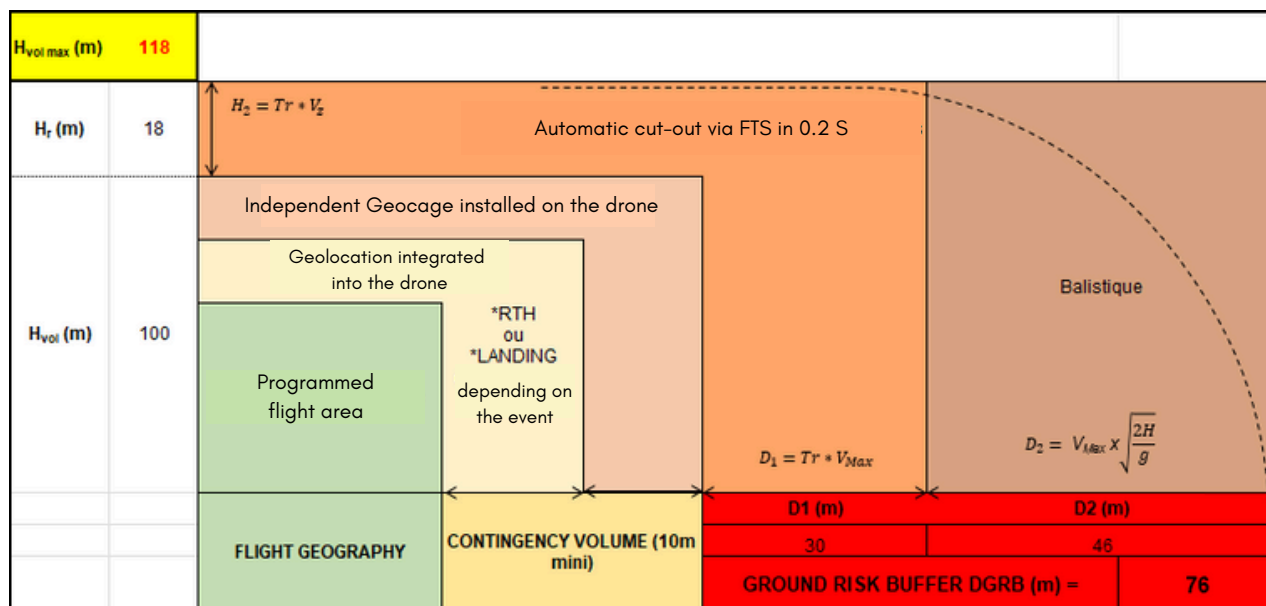
It is therefore necessary to check the signal strength before the flight and to monitor it throughout the flight.

You should also avoid flying near high-power radio frequency transmitters or electrical installations.

# Dimension of the Ground Risk Buffer

## Under licence :

EEvaluation of the crash zone when using the Flysafe kit in manual mode, assuming a system reaction time of 3s and a ground speed of 10m/s.



Height of operational volume (m)	Corresponding ground risk buffer (m)
10	45
20	51
30	55
40	59
50	62
60	65
70	68
80	71
90	73
100	76
110	78
120	80
130	82
140	84
150	86

Example with the following data:

Max vertical speed  $V_z = 6\text{m/s}$

Reaction time  $Tr = 3\text{s}$

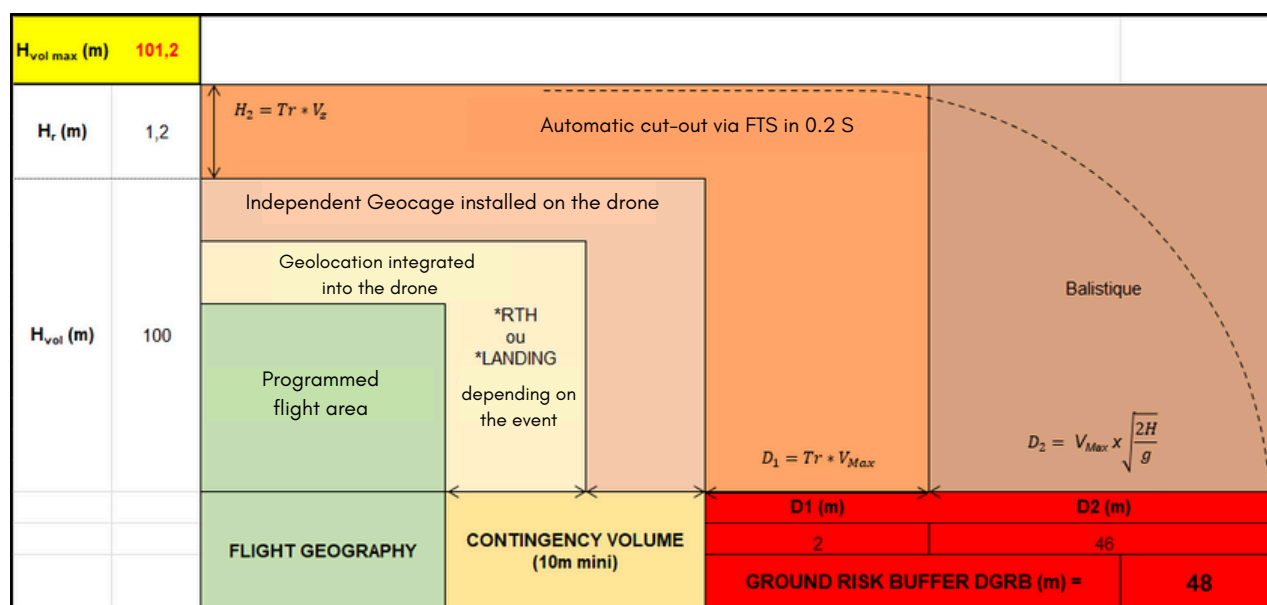
Max drone speed  $V_{sol} = 10\text{m/s}$

This method is an example. The operator can refine the GRB calculation by referring to Appendix 1 of [the SORA implementation guide](#).

# Dimension of the Ground Risk Buffer

## Under licence :

Evaluation of the crash zone when using the Flysafe kit in automatic mode, assuming a system reaction time of 0.2s and a ground speed of 10m/s.



Height of operational volume (m)	Corresponding ground risk buffer (m)
10	17
20	23
30	27
40	31
50	34
60	37
70	40
80	43
90	45
100	48
110	50
120	52
130	54
140	56
150	58

Example with the following data:

Max vertical speed  $V_z = 6m/s$

Reaction time  $Tr = 0.2s$

Max drone speed  $V_{sol} = 10m/s$

This method is an example. The operator can refine the GRB calculation by referring to Appendix 1 of [the SORA implementation guide.](#)

# Emergency procedures

**Important note:**

The procedures below do not exhaustively describe the actions to be taken by the remote pilot in response to all possible types of anomaly.

They assume that the telepilot has first attempted to return to a normal flight situation and are limited to describing the ultimate safeguard measures when :

- The aircraft cannot be maintained within the flight limits provided;
- In the event of flight out of sight, the telepilot no longer has sufficient information to pilot the aircraft or ensure that it remains within the flight limits provided.

Flying out of sight: if the remote pilot no longer has the aircraft's altitude or location information, or if there is any doubt about the validity of this information, he must abort the mission by activating a failsafe device, either manually or, if necessary, by shutting down the engines.

If the aircraft cannot be kept within the flight limits, the remote pilot must abort the flight by shutting down the engines using the Flysafe radio control system.

If the Flysafe radio control loses contact, as indicated by the corresponding light, the mission must be aborted immediately and an RTH procedure initiated.

**Visual flight :** In the event of a malfunction causing the aircraft to crash or preventing it from being maintained within the flight limits set, the remote pilot must immediately activate the FTS

In the event of a loss of connection to the Flysafe radio control system, indicated by the corresponding warning light lighting up. The mission must be aborted immediately and an RTH procedure initiated.

# Maintenance

## **Monitoring the drone**

Each day of flight, the operator completes the flight monitoring file provided (see appendix 1) or any other monitoring tool. In the event of a malfunction, he fills in the 'incident sheet' (see appendix 2) and sends it back to Flying Eye.

## **Maintenance after 700 activations** (including pre-flight test)

After 700 activations of the Flysafe system, the drone must be sent to our premises for servicing.

## **Cleaning**

No special cleaning is required. The Flysafe system is fully protected by the structure of the drone.

# Assistance and Warranty

## Technical Support

If you encounter any difficulties during installation or have any further questions about using the Flysafe kit, please contact Flying Eye technical support.

## Warranty


The Flysafe system for DJI Flycart 30 comes with a 12-month warranty according to the conditions of purchase. The warranty covers manufacturing defects, but does not apply to damage caused by incorrect installation, accident or improper use.



## Monitoring tool (Appendix 1)

[illegible]

# Incident form (Appendix 2)

 <b>FLYING EYE</b> <small>DRONES - ACCESSOIRES - FORMATIONS</small>	Circuit-breaker and parachute system log sheet	Version : 01 Date d'application : 23/06/2023
---	--	--

1. UAS identification	
Date	
UAV serial number	
UAS number	
Number of UAS flight hours	

2. Circuit-breaker activation failure during pre-flight	
Number of UAS flight hours	

3. Failed to activate circuit breaker during		
Number of UAS flight hours		
Distance between remote control circuit breaker and drone		
Place of operation		
Presence of high-power transmitters in the operational volume	Yes	No

4. Activating the circuit breaker during flight		
Number of UAS flight hours		
Controlled activation	Yes	No
Distance between remote control circuit breaker and drone		
Place of operation		
Presence of high-power transmitters in the operational volume	Yes	No



Detailed information on using the aircraft can be found in the manual, which can be downloaded from this page:

[https://dl.djicdn.com/downloads/DJI\\_FlyCart\\_30/20250409UM/DJI\\_FlyCart\\_30\\_User\\_Manual\\_v1.1\\_2.pdf](https://dl.djicdn.com/downloads/DJI_FlyCart_30/20250409UM/DJI_FlyCart_30_User_Manual_v1.1_2.pdf)



FLYING EYE

WWW.FLYINGEYE.FR

INFO@FLYINGEYE.FR

09.72.62.78.50

400 AVENUE ROUMANILLE  
GREEN SIDE - BATIMENT IB  
06410 BIOT / SOPHIA ANTIPOLIS