DARWIN HULK Ⅱ
使用说明书

IP67	反乌龟	可挂载 Gopro	CNC	2307.5
IP67 防水等级	反乌龟	可挂载 Gopro	散热耐用	2307.5 电机

哔哩哔哩
达尔文 FPV
UID:3493296856893537

抖音
达尔文 FPV
抖音号：70066625196

淘宝
DarwinFPV 达尔文品牌店

微信
DarwinFPVsupport

注意事项

① 此飞控集成 Pit Switch 模块，可通过遥控器控制飞控 10V 的开启或关闭，默认为已打开状态。具体操作流程可到说明书的第 6 页查看。

② 2307.5-1960KV 电机最高支持 6S 电池。切记不得将电池接反，否则会烧坏飞机。

③ 如果由于各种原因导致飞控参数异常无法正常使用，可以添加达尔文微信联系客服获取官方参数配置。

④ 收到产品后先进入 Betaflight Configurator 查看是否有检测陀螺仪和加速度计，以及陀螺仪姿态是否正常。

⑤ 在 Betaflight 中拉动油门，确保四个电机正常转动包括电机转向正确，再装桨试飞；拉油门时务必卸桨，以免发生重大事故。

确认以上注意事项无任何产品问题即可装桨开始爽飞！

产品概述

DarwinFPV HULK II 是在一代基础上升级的防海水 FPV 电影穿越机，它配备 DJI O3 Air Unit，具备 4K/120 帧录像功能。防海水 2307.5 电机+100A 电调，可支持更重的运动相机并且动力充沛。F7 飞控支持黑羊/ELRS 等各种接收机。

HULK II 的配置、重量和尺寸跟传统的 5 寸穿越机没什么不同，因此你可以获得一模一样的飞行手感。只是它具备 IP67 防水等级，你可以安心的在任何有水的地方进行拍摄（包括海水）。

所以，相比普通的穿越机，为什么不花同样的钱买一个又防水又耐用的呢？

产品特点

1：IP67 防水等级，在 0.5 米水深中浸泡 30 分钟安然无恙

2：2307.5 电机+100A 电调动力系统，同时挂载 O3 和 Gopro 依然暴力

3：自动反乌龟功能，无论任何姿态入水，确保百分百有信号避免丢机风险

4：机身侧边炫酷 RGB 灯

产 品 规 格

型号	达尔文 HULK Ⅱ 模拟版本	达尔文 HULK Ⅱ O3 版本
录像	无（可外挂运动相机）	4K/120 帧
摄像头	达尔文 HULK 防水摄像头	DJI O3 Air Unit
图传	5.8G 1000mW 防水图传	防水高清铠甲
飞控	达尔文"水泥"超耐用 F7 防水飞控	
电调	"水泥"100A 3-6S BLHeli_32 128kHz 4 合 1	
接收机	TBS Nano/ELRS/PNP （预留 4Pin 插头　线序：黑色 GND、5V 红色、黄色 RX6、白色 TX6）	
GPS	无	
图传天线	5.8G MMCX 30mm 天线	DJI O3 原配天线
电机	2307.5 - 1960KV	
螺旋桨	乾丰 51466-3 午夜灰（2 正 2 反）	
机架类型	正 X	
轴距	227mm	
机臂厚度	5.5mm	
水面最大起飞总重量	1098g	
最远飞行距离 （在海边无干扰情况， 采用原装天线测试）	3km	10km
最大水平飞行速度	179km/h	
最大起飞海拔高度	3200m	
最大抗风等级	5 级	
工作环境温度	-10℃-40℃	
续航时间 （使用 6S 1300mAh 120C 电池）	空机平飞巡航	10 分钟	数据仅作为参考，在不同环境、使用方式、固件版本等因素均可能对测试数据产生影响
	搭载 GOPRO8 巡航	7 分 30 秒	
	花飞	2 分 30 秒	
推荐电池	6S 1300-1500mAh	
空机尺寸 (不含螺旋桨)	（长×宽×高）：220mm x 220mm x 98mm	
空机重量 （包含螺旋桨）	477.7g±5g	562.0g±5g
包装尺寸	23mm x 23mm x 10.4mm	
含包装重量	930.0g±5g	1008.5g±5g

使 用 说 明

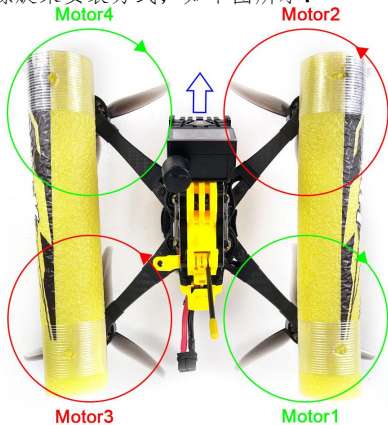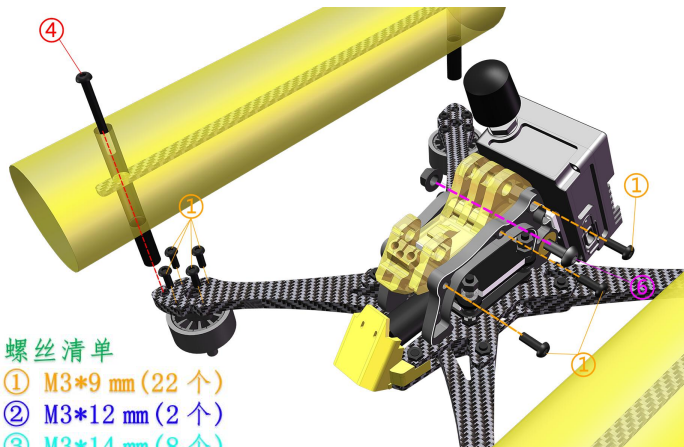DarwinFPV HULK Ⅱ的螺旋桨安装方式！

第一步：将四个螺旋桨上有字的一面朝上放置，如下图所示：

第二步：

将写有 51466 字样的两副螺旋桨分别安装在 2 号和 3 号电机上；
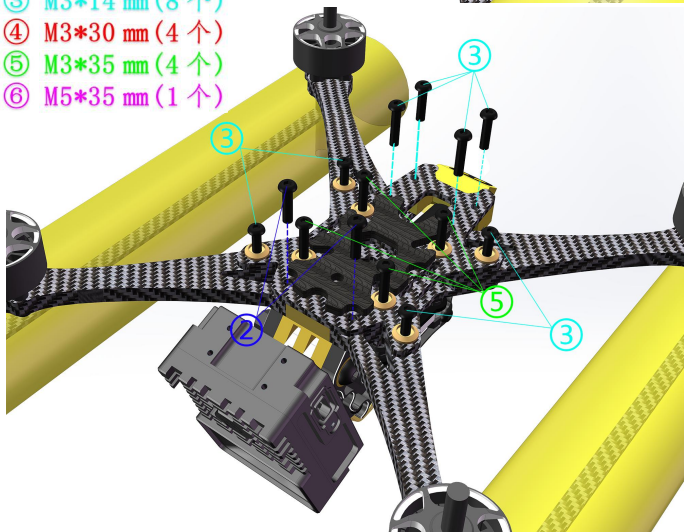
将写有 51466R 字样的两副螺旋桨分别安装在 1 号和 4 号电机上；

正确的螺旋桨安装方式，如下图所示：

螺 丝 规 格

螺丝清单

① M3*9 mm（22 个）
② M3*12 mm（2 个）
③ M3*14 mm（8 个）
④ M3*30 mm（4 个）
⑤ M3*35 mm（4 个）
⑥ M5*35 mm（1 个）

飞控接线图
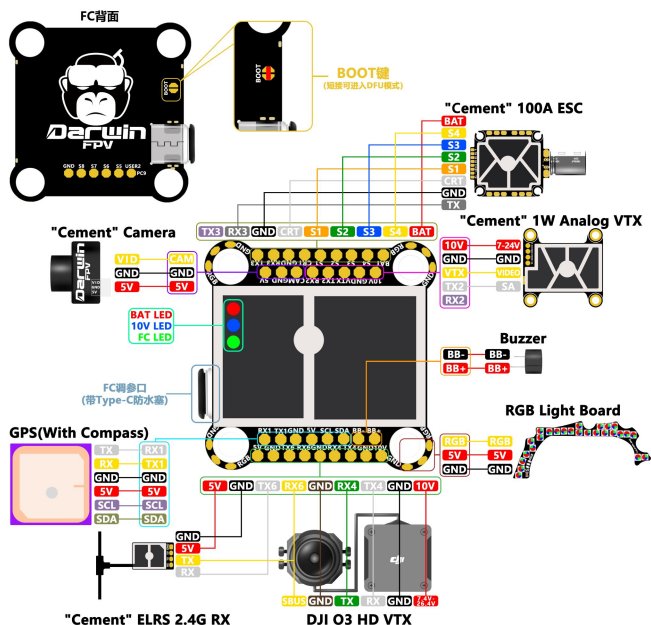
板载 Pit Switch 模块设置方法

　　此飞控已经将板载 Pit Switch 模块的控制脚定义到了 USER1 通道，默认已打开 USER1 通道的滑块。

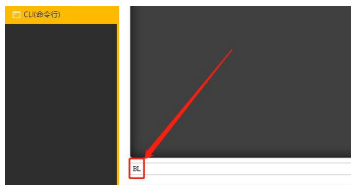　　USER1 通道可通过遥控器控制 10V 电源的开启和关闭，避免图传因长时间通电导致图传过热保护，拨杆通道设置可根据个人习惯以及遥控器设置合适的拨杆和挡位。

如何进入 DFU 模式

① 使用焊锡丝将 FC 背面的 Boot 焊盘短接后，将 Type-C 数据线插入飞控的 Type-C 调参口连接至电脑，即可进入 DFU 模式；连接成功后 Betaflight Configurator 的端口处会显示 DFU。
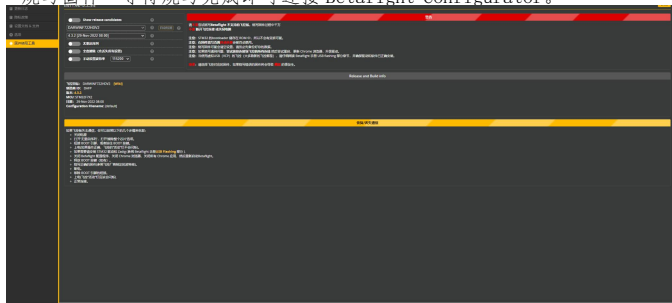

②将飞控连接到 Betaflight Configurator，在"CLI(命令行)"中输入"BL"（大小写均可）也可进入 DFU 模式。

如何烧录固件

进入 DFU 模式后，选择"DARWINF722HDV2"固件和版本后加载固件，然后点击"烧写固件"等待烧写完成即可连接 Betafight Configurator。

烧写成功后飞控的状态指示灯也会重新亮起

包 装 清 单

名称		数量
达尔文 HULK Ⅱ 防水穿越机		x 1
乾丰 51466-3 午夜灰 螺旋桨		x 4（2 正 2 反）
120mmx120mm logo 贴纸		x 1
拆桨工具		x 1
螺丝刀套装		x 1
黑色细吸管 直径 3mm 长度 100mm		x 2
黄色橡胶帽 直径 3mm		x 2
扎带	20*260mm 黑色魔术贴 反贴	x 2
	1.8*100mm 尼龙扎带	x 5
3D 打印件	TPU 电池起落架 黄色	x 1
备用螺丝包	M3*20*D7 尼龙柱无牙黑色	x 4
	M2*6 内六角圆头黑色 316 不锈钢螺丝	x 2
	M3*5内六角圆头黑色 316 不锈钢螺丝	x 2
	M3*9 内六角圆头黑色 316 不锈钢螺丝	x 2
	M3*12 内六角圆头黑色 316 不锈钢螺丝	x 2
	M3*14 内六角圆头黑色 316 不锈钢螺丝	x 2
	M5*35 内六角圆头黑色 316 不锈钢螺丝	x 1
M5 316黑色正螺纹法兰防滑螺母 厚度 6.8mm		x 5
浮筒 直径 43mm 长度 220mm		x 2
整机说明书		x 1

更多有关 AIO、飞塔的固件、CLI、配置文件、最新的说明书等及更详细的配置教程，请到 DARWINFPV

官网支持下获取。

DARWINFPV 官网: https://www.darwinfpv.com

DARWIN HULK Ⅱ
USER MANUAL

IP67	Auto-flip in water	Able to mount Gopro	Heat dissipation durable	2307.5 Powerful
IP67 Water proof				

Instagram: @darwinfpv_official
Facebook: DarwinFPV1
Email: support@darwinfpv.com
Manufacturer：
Room 2209, Building 2, Tonggao Factory, Sanlian Industrial Zone, Songbai Road, Baoan District, Shenzhen , Guangdong

DARWINFPV official website: https://www.darwinfpv.com

CAUTIONS

① This flight controller (FC) includes a Pit Switch module that allows you to control the 10V power supply of the FC remotely. By default, the power supply is turned on. For detailed instructions on how to operate it, please refer to page 6 of the manual.

② 2307.5-1960KV motor max supports 6S battery. Must remember not to reverse the battery, otherwise it will burn the drone.

③ If the FC parameters are abnormal due to various reasons and cannot be used normally, you can go to DarwinFPV official store's support page to obtain the official parameter configuration.

④ After receiving the FC, first connect to computer on Betaflight Configurator software to check whether the gyroscope and accelerometer are detected, and whether the gyroscope attitude is normal.

⑤ Increase the throttle in Betaflight software to ensure the normal rotation and correct rotation direction of the 4 motors, and then install the propellers to test flight; Be sure to remove the propellers when pulling the throttle in Betaflight software to avoid accidents.

After confirming the above precautions, you can install the propellers and start flying.

SUMMARY

DarwinFPV HULK Ⅱ is an upgraded waterproof cinematic fpv drone based on the first generation. It is equipped with DJI O3 Air Unit and boasts a remarkable 4K/120 frame recording capability. It comes with 2307.5 motor and 100A ESC, which provides ample power and enables compatibility with heavier action cameras. Additionally, its F7 flight controller supports a range of receivers, including TBS Crossfire/ELRS.

Remarkably, the dimensions, weight, and configuration of the HULK Ⅱ align seamlessly with those of conventional 5-inch FPV drones, offering an identical flying experience. However, what sets it apart is its exceptional IP67 waterproof rating, allowing users to capture breathtaking moments in watery environments, including seawater, with absolute peace of mind.

So, Considering this, why not invest your money in a waterproof and resilient FPV drone like the HULK Ⅱ, offering unrivaled durability and protection compared to standard fpv drones?

FEATURES

1. Boasting an IP67 waterproof rating, it remains unharmed and fully functional even when immersed in 0.5 meters of water for a duration of 30 minutes.

2. 2307.5 motor + 100A ESC power system, while mounting O3 and Gopro is still extremely powerful.

3. Featuring an auto-flip function, this drone guarantees a 100% signal reception even when submerged in water, eliminating the risk of any signal loss and potential drone loss.

4. Cool RGB lights on the side of the drone.

SPECIFICATIONS

Model	DarwinFPV HULK Ⅱ Analog Version	DarwinFPV HULK Ⅱ O3 Version
Record	Non (can mount action camera)	4K/120 frames
Camera	Darwin "Cement" waterproof camera	DJI O3 Air Unit Waterproof HD Armor
VTX	5.8G 1000mW waterproof VTX	
FC	Darwin "cement" ultra-durable F7 waterproof FC	
ESC	"Cement" 100A 3-6S BLHeli_32 128kHz 4-in-1 ESC	
Receiver	TBS Nano/ELRS/PNP	
GPS	Non	
VTX antenna	5.8G MMCX 30mm	DJI O3 original antenna
Motor	2307.5 - 1960KV	
Propeller	GEMFAN 51466-3 gray (2CW, 2CCW)	
Frame type	Ture-X	
Wheelbase	227mm	
Arm thickness	5.5mm	
Maximum total take-off weight on water	1098g	
Farthest flight distance (No interference at the beach, tested with original antenna)	3km	10km
Maximum horizontal speed	179km/h	
Maximum take-off altitude	3200m	
Maximum wind resistance level	5 levels	
Operating temperature range	-10℃-40℃	

Flight Time (using 6S 1300mAh 120C battery)	parallel cruise no load	10 mins	The data is for reference only, and factors such as different environments, usage methods, and firmware versions may have an impact on the test data
	parallel cruise load GOPRO8	7'30″	
	Freestyle	2'30″	

Recommended battery	6S 1300-1500mAh	
Dimensions (without propeller)	(L*W*H): 220mm * 220mm * 98mm	
Weight (with propeller)	477.7g±5g	562.0g±5g
Package Size	23mm x 23mm x 10.4mm	
Weight (with package)	930.0g±5g	1008.5g±5g

PROPELLER INSTRUCTIONS

DarwinFPV HULK Ⅱ propellers installation！

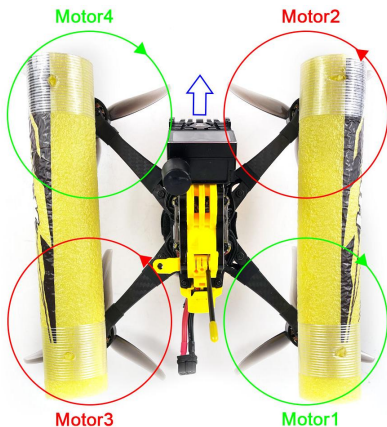**Step 1**：Place the 4 propellers with the words facing up, as shown in the figure below:
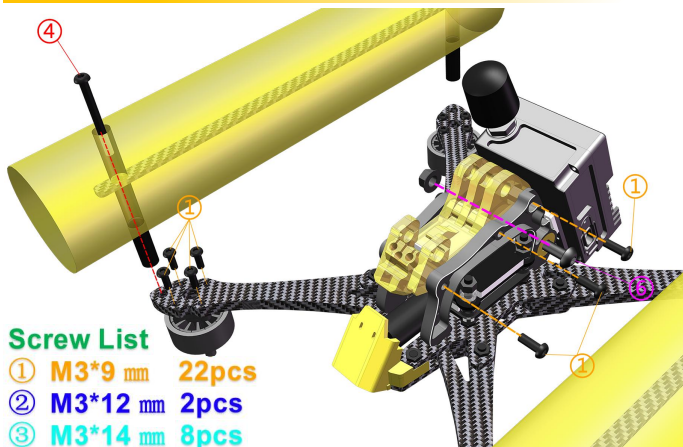

Step 2:

Install the two propellers with the words **51466** on the No. 2 and No. 3 motors respectively;

Install the two propellers with the words **51466R** on the No. 1 and No. 4 motors respectively;

The correct propeller installation method is shown in the following figure:
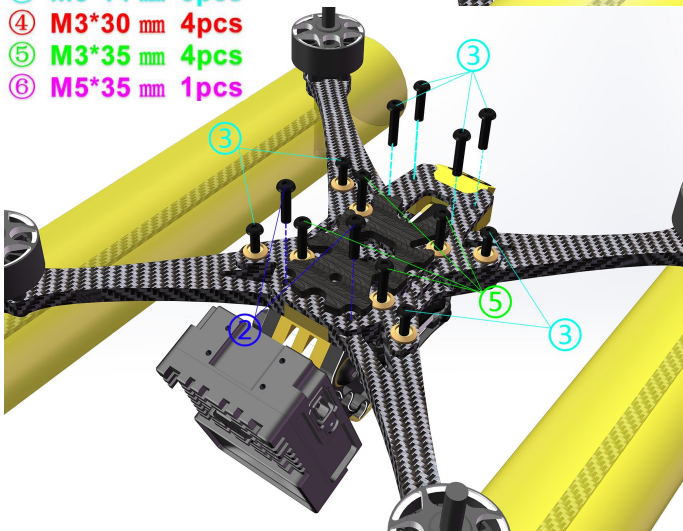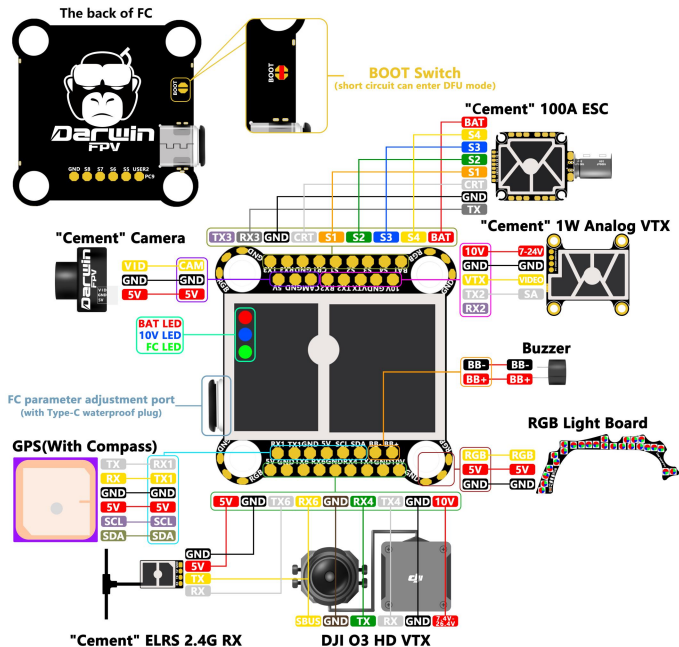
SCREWS BOM

Screw List

① M3*9 ㎜　22pcs
② M3*12 ㎜　2pcs
③ M3*14 ㎜　8pcs
④ M3*30 ㎜　4pcs
⑤ M3*35 ㎜　4pcs
⑥ M5*35 ㎜　1pcs

FC WIRING DIAGRAM

The back of FC

BOOT Switch
(short circuit can enter DFU mode)

GND S3 S4 USER2

PC6

"Cement" 100A ESC

| BAT |
| S4 |
| S3 |
| S2 |
| S1 |
| CRT |
| GND |
| TX |

"Cement" Camera

VID	CAM
GND	GND
5V	5V

TX3 RX3 GND CRT S1 S2 S3 S4 BAT

"Cement" 1W Analog VTX

10V	7-24V
GND	GND
VTX	VIDEO
TX2	
RX2	5A

BAT LED
10V LED
FC LED

10V GND VTX RX2 TX2 CRT S4 S3 S2 S1 GND RX3 TX3

Buzzer

| BB- | BB- |
| BB+ | BB+ |

FC parameter adjustment port
(with Type-C waterproof plug)

RGB Light Board

RGB	RGB
5V	5V
GND	GND

GPS(With Compass)

TX	RX1
RX	TX1
GND	GND
5V	5V
SCL	SCL
SDA	SDA

RX1 TX1 GND 5V SCL SDA BB-
5V GND TX6 RX6 GND RX4 TX4 GND 10V

5V GND TX6 RX6 GND RX4 TX4 10V

| GND |
| 5V |
| TX |
| RX |

SBUS GND TX RX GND

**"Cement" ELRS 2.4G RX**

DJI O3 HD VTX

Pit Switch module settings

The FC has designated the onboard Pit Switch module to the USER1 channel, with the USER1 channel slider defaulting to the "on" position. Use the USER1 channel to control the 10V power supply's on/off function via the controler, preventing VTX overheating protection due to prolonged power-on. Customize the lever channel settings based on personal preference and controler configuration.

USER1
Add Link
Add Range

AUX 1
Min: 1300
Max: 2700

HOW TO ENTER DFU MODE

① After short-circuiting the Boot pads on the back of the FC with solder wire, insert the Type-C data cable into the Type-C interface of the flight controller and connect it to the computer to enter the DFU mode; after the connection is successful, the port of Betaflight Configurator will display DFU.
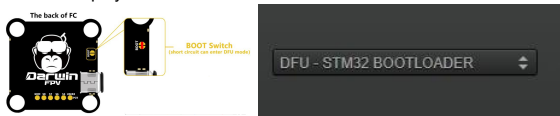

② Connect to computer by USB-C cable, open the Betaflght Configurator software and click connect button - CLI menu, entering "BL" in the menu bar can also enter DFU Mode ("BL"can be uppercase or lowercase).
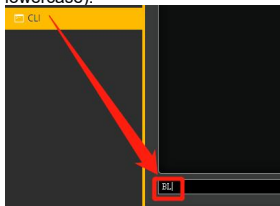
PROGRAMMING FIRMWARE

After entering the DFU mode, select the "DARWINF722HDV2" firmware and version and load the firmware, then click "Program firmware" and wait for the completion of the programming to connect to Betaflght Configurator.
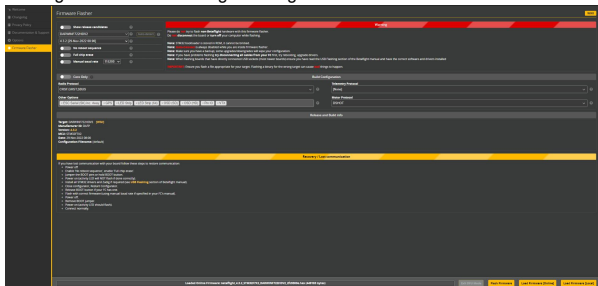
After the programming is successful, the FC status indicator will also light up again.

Programming: SUCCESSFUL

IN THE BOX

Model		Quantity
DarwinFPV HULK Ⅱ Waterproof FPV Drone		x 1
GENFAM 51466-3 propeller		x 4(2CW, 2CCW)
DarwinFPV Sticker(120mm*120mm)		x 1
Propeller removal tool		x 1
Screwdriver set		x 1
Black thin straw (Diameter 3mm, length 100mm)		x 2
Yellow rubber cap (diameter 3mm)		x 2
Battery strap	Black velcro(20*260mm)	x 2
	Nylon tie(1.8*100mm)	x 5
3D accessories	TPU battery landing gear yellow	x 1
Spare screws	M3*20*D7 nylon column	x 4
	M2*6 hexagonal round head black 316 stainless steel screws	x 2
	M3*5 hexagon socket round head black 316 stainless steel screws	x 2
	M3*9 hexagonal round head black 316 stainless steel screws	x 2
	M3*12 hexagonal round head black 316 stainless steel screws	x 2
	M3*14 hexagon socket round head black 316 stainless steel screws	x 2
	M5*35 hexagonal round head black 316 stainless steel screws	x 1
M5 316 black positive thread flange anti-slip nut (thickness 6.8mm)		x 5
Float	Diameter 43mm, length 220mm	x 2
Manual		x 1

For more information about FC firmware, CLI, configuration files, the latest manuals etc., and more detailed configuration tutorials, please refer to DarwinFPV official website support menu.

DARWINFPV official website: https://www.darwinfpv.com

AFTER-SALES SERVICE

About Refunds: New/unopened/unused products purchased directly from DarwinFPV can be returned unconditionally within 20 workdays, and the customer is responsible for the return shipping cost. If the returned product is lost or opened for use, damaged or missing accessories, it will not be unconditional Refund.

About Warranty: If DarwinFPV determines that the problem is not covered by warranty, we will provide a discount for ordering new product replacement, and do not support free replacement.

Cases not supported by warranty:
1. Drone crash or fire damage due to user operation error.
2. Damage caused by incorrect soldering, improper installation and use.
3. Damage caused by unauthorized modification of circuit and mismatch of battery and charger.
4. Damage due to component aging or drone collision.

CONTACT

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