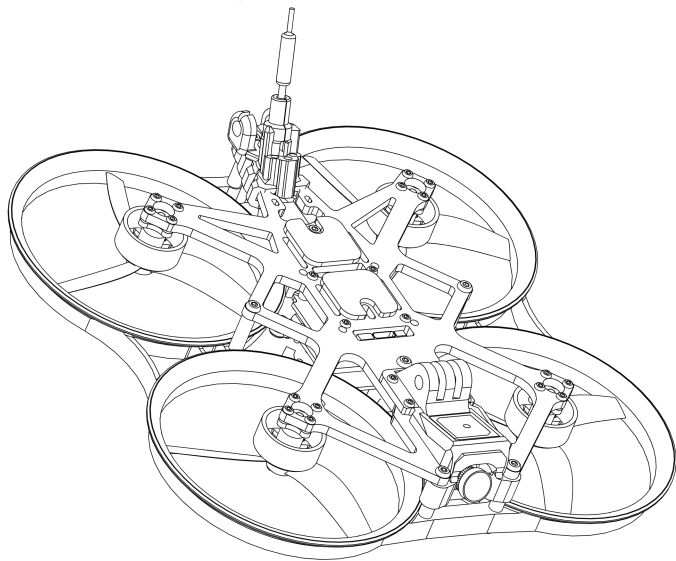# CineApe35
使用说明书

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 AIO 板载 SPI ELRS 2.4G 接收机，默认出厂固件为 Betafight4.4.2 版本，支持 ELRS_V3.0 及以上的高频头。

② 2006-2030KV 电机最高支持 6S 电池；2006-3400KV 电机最高支持 4S 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门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！

快速入门指南

板载 SPI ELRS 接收机对频

将 AIO 接入电脑连接 Betaflight，进入接收机配置页面，在页面右下角点击"接收机对频"，此时 AIO 的接收机绿色指示灯会从慢闪变成双闪，代表已进入接收机对频模式。等待指示灯变为常亮后，则说明对频成功；对频成功后接收机会记住对频信息，以后重启会自动连接，无需重新对频。

建议对频前检查高频头与接收机固件是否一致，如不一致请更新高频头或 AIO 的固件；Betafight4.4 版本及以上支持 ELRS_V3.0。

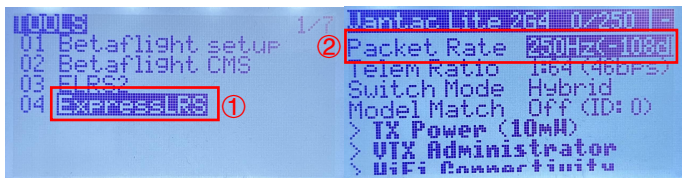| 指示灯状态	含义
绿灯常亮	连接成功
绿灯双闪	已进入对频模式
绿灯慢闪	无 TX 模块信号连接

可能遇到的问题

当接收机与遥控器绑定完之后，接收机灯一直处于慢闪状态，无法正常连接遥控器，导致的原因是遥控器与接收机的刷新率不一致，可以通过遥控器更改刷新率或连接 Betaflight 修改 SPI ELRS 接收机的刷新率。

SPI ELRS 接收机默认使用 250Hz，可通过以下两种方法解决

方法一：修改高频头刷新率：

① 进入 ExpressLRS lua 脚本

② 将高频头的刷新率修改为 250Hz

方法二：修改 SPI ELRS 接收机刷新率：

需要进入 Betaflight CLI 并使用以下命令：

set expresslrs_rate_index = [索引]

其中 [索引] 对应以下内容：

500Hz = 0

250Hz = 1

150Hz = 2

50Hz = 3

例如，如果想将刷新率切换到 150Hz，需要在 Betaflight CLI 中执行以下命令：

set expresslrs_rate_index = 2

save

遥控器拨杆开关确认

对频成功后，连接 Betaflight 地面站，进入模式选项，尝试拨动遥控器各功能开关，黄色光标移动到设定的范围就会开启相应的通道设置（购买 RTF 版本无需对频，出厂时已经对频完成）。

解锁	ARM	AUX 1 最小: 1300 最大: 2100
自稳模式	ANGLE	AUX 4 最小: 1300 最大: 2100
GPS救援模式	GPS RESCUE	AUX 3 最小: 1700 最大: 2100
蜂鸣器	BEEPER	AUX 2 最小: 1700 最大: 2100
Airmode	AIR MODE	AUX 3 最小: 900 最大: 1300
反乌龟模式	FLIP OVER AFTER CRASH	AUX 2 最小: 1300 最大: 1700

检查电机转向
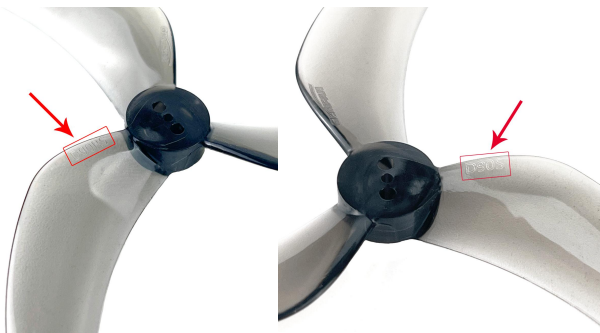
进入"电机"页面，打开"我已了解风险"选项开关，逐个转动电机检查旋转的方向是否符合电机转向图所指示的方向。

注：转动电机前一定要拆卸所有桨叶，避免安全事故发生！

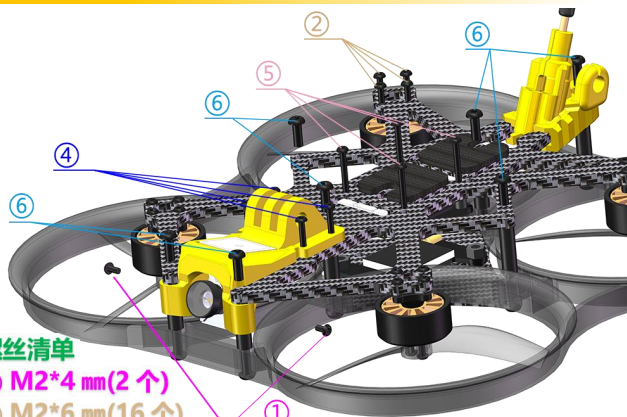

电机转向图

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 D90S 字样的两副螺旋桨分别安装在 2 号和 3 号电机上；
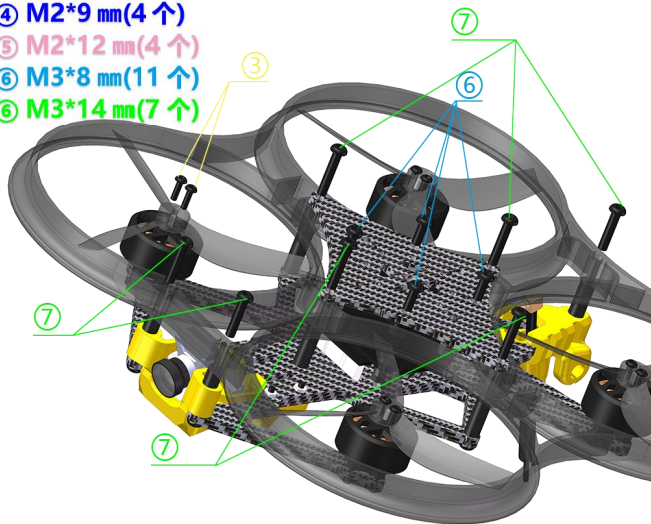
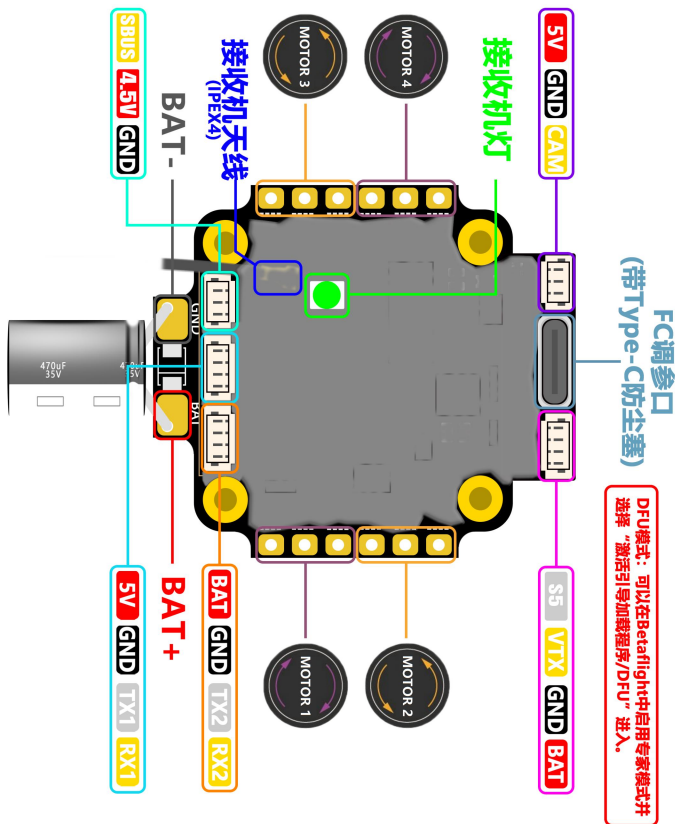将写有 D90RS 字样的两副螺旋桨分别安装在 1 号和 4 号电机上；

正确的螺旋桨安装方式，如下图所示：

螺丝规格

螺丝清单
① M2*4 ㎜(2 个)
② M2*6 ㎜(16 个)
③ M2*7 ㎜(8 个)
④ M2*9 ㎜(4 个)
⑤ M2*12 ㎜(4 个)
⑥ M3*8 ㎜(11 个)
⑥ M3*14 ㎜(7 个)

飞控接线图

SBUS
4.5V
GND

接收机天线
(IPEX4)

MOTOR 3

MOTOR 4

接收机灯

5V
GND
CAM

BAT-

FC调参口
(带Type-C防尘塞)

GND

470μF
35V

BAT

DFU模式：可以在Betaflight中启用专家模式并选择"激活引导加载程序/DFU"进入。

5V
GND
TX1
RX1

BAT+
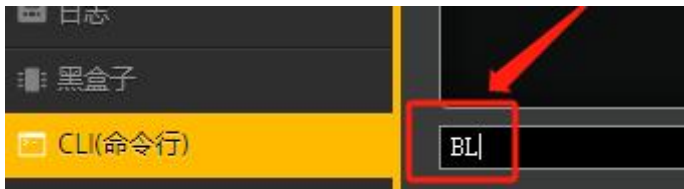
BAT
GND
TX2
RX2

MOTOR 1

MOTOR 2

S5
VTX
GND
BAT

如何进入 DFU 模式

① 手动连接：点击连接，页面顶部开启专家模式，然后断开连接后重新连接，点击设置-激活启动引导程序/DFU，你现在已进入 DFU 模式。

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"DARWINF4SX1280HD"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

1 x CineApe35

1 x EVA注塑圈
防撞条

1 x Logo贴纸
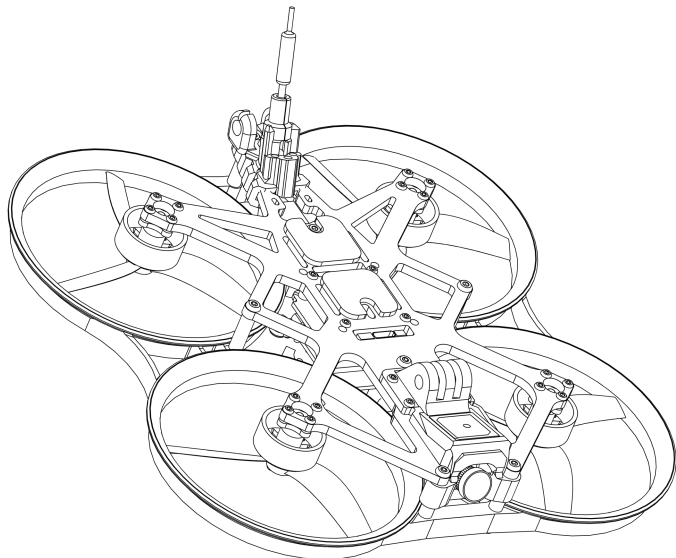(120x120mm)

1 x 备用配件包

1 x 整机说明书

1 x 备用螺丝包

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

CineApe35
USER MANUAL

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 AIO has an onboard SPI ELRS 2.4G receiver, and the default factory firmware is Betafight version 4.4.2 supports TX module of ELRS_V3.0 and above.

② 2006-3400KV motor max supports 4S battery, 2006-2030KV 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.

QUICK START GUIDE

Onboard SPI ELRS receiver binding

Connect the AIO to the computer and connect to Betaflight, enter the receiver configuration page, on page Click "Receiver Binding" in the lower right corner of the screen. At this time, the green indicator light of the AIO receiver will from slowly flashing to double flashing. After waiting for the indicator light to turn solid, indicates that the binding is successful; after the binding is successful, the receiver will remember the binding information and will automatically connect , no need to re-bind.

We recommend checking whether the firmware of the TX module and the receiver are consistent before binding. If they are inconsistent, please update the firmware of the TX Module or AIO; Betafight version 4.4 and above support ELRS V3.0.

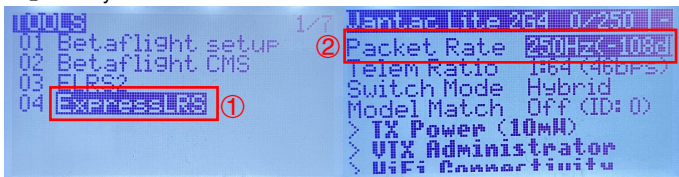|	RC LED Status	Receiver Mode
Bind Receiver　**Refresh**　**Save**	Green Light Stays On	Paired
	Green Light Flashes Twice	In Pairing Mode
	Green Light Slow Flashing	Not Paired

Possible problems

After the receiver is bound to the transmitter, the receiver light keeps flashing slowly and the receiver cannot connect to the transmitter normally. The reason is that the packet rate of the transmitter and the receiver are inconsistent. At this time, we can change the packet rate of the transmitter or connect Betaflight modifies the packet rate of the SPI ELRS receiver to solve this problem.

The SPI ELRS receiver uses 250Hz by default, which can be solved by the following two methods

1: Modify the TX module packet rate:

① Enter the ExpressLRS lua script

② Modify the refresh rate of TX module to 250Hz

2: Modify SPI ELRS receiver packet rate:

You need to enter the Betaflight CLI and use the following command:

set expresslrs_rate_index = [index]

where [index] corresponds to the following:

500Hz = 0

250Hz = 1
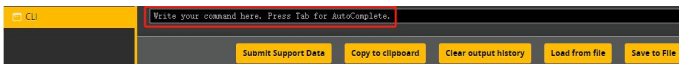
150Hz = 2

50Hz = 3

For example, if you want to switch the packet rate to 150Hz, you need to execute the following command in Betaflight CLI:
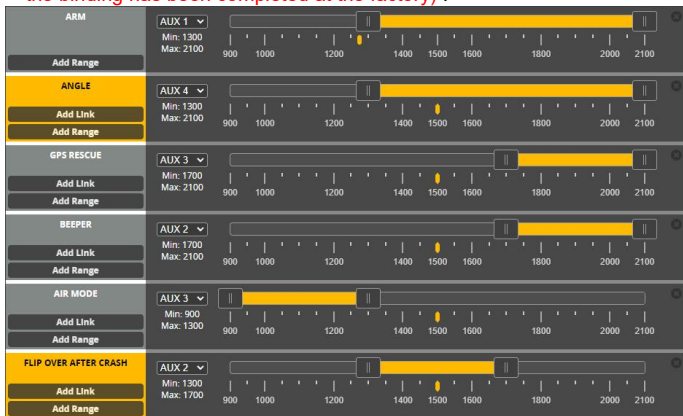
set expresslrs_rate_index = 2

save

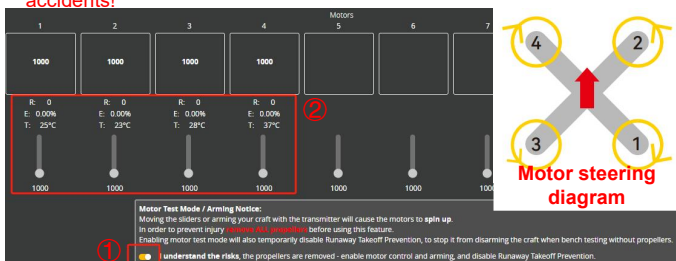## Transmitter lever switch confirmation

After successful binding, connect Betaflight, enter the mode option, and try to toggle the function switches of the transmitter. When the yellow cursor moves to the set range, the corresponding channel settings will be opened (If you order the RTF version, there is no need for binding, as the binding has been completed at the factory) .
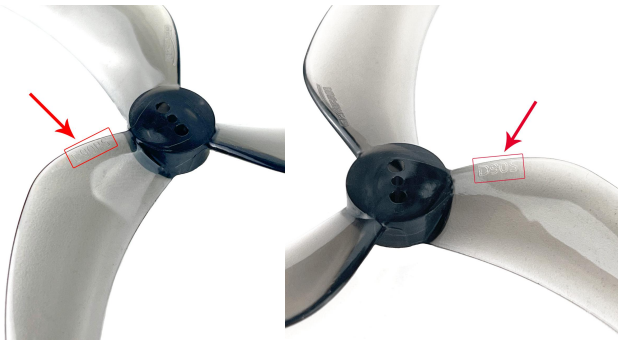

Check motor steering

Enter the "Motor" page, turn on the "I understand the risks" option switch, and turn the motors one by one to check whether the direction of rotation is in line with the direction indicated by the motor steering diagram.

Note: Be sure to remove all propellers before turning the motor to avoid accidents!

Motor steering diagram

Propeller installation steps

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

Step 2:
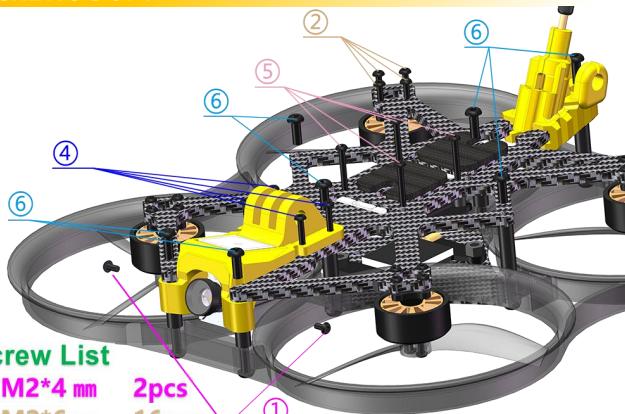
Install the two propellers with the words D90S on the No. 2 and No. 3 motors respectively;

Install the two propellers with the words D90RS on the No. 1 and No. 4 motors respectively;

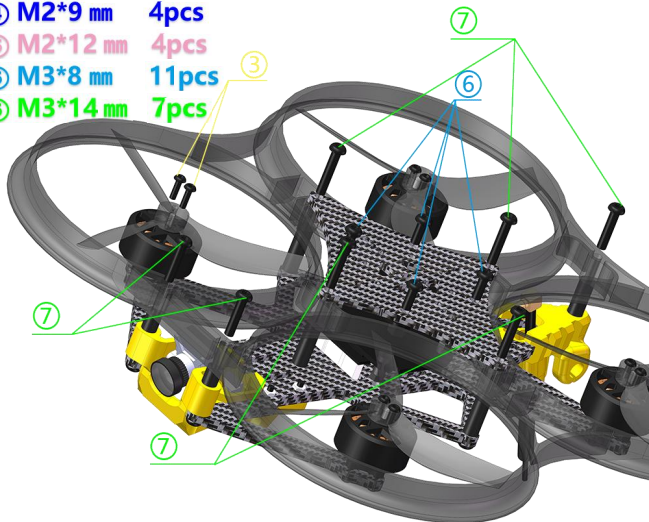The correct propeller installation method is shown in the following figure:
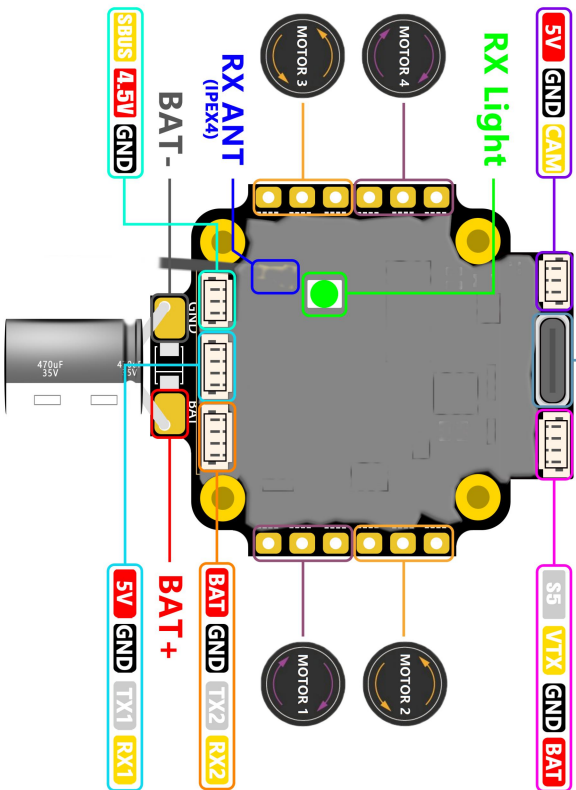
SCREWS BOM

Screw List

① M2*4 ㎜   2pcs
② M2*6 ㎜   16pcs
③ M2*7 ㎜   8pcs
④ M2*9 ㎜   4pcs
⑤ M2*12 ㎜   4pcs
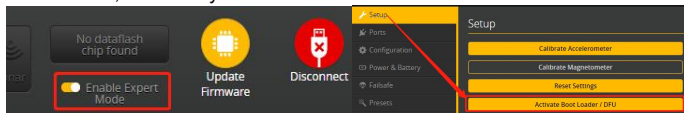⑥ M3*8 ㎜   11pcs
⑥ M3*14 ㎜   7pcs

FC WIRING DIAGRAM

SBUS
4.5V
GND

BAT-

RX ANT
(IPEX4)

MOTOR 3

MOTOR 4

RX Light

5V
GND
CAM

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

GND

IIC

BAT

470uF
35V

5V
GND
TX1
RX1

BAT+

BAT
GND
TX2
RX2

MOTOR 1

MOTOR 2

S5
VTX
GND
BAT

HOW TO ENTER DFU MODE

① Manual connection: Click Connect, "Enable Expert Mode" at the top of the page, then disconnect and reconnect, click Settings - Activate Boot Loader/DFU, and then you have entered DFU mode.
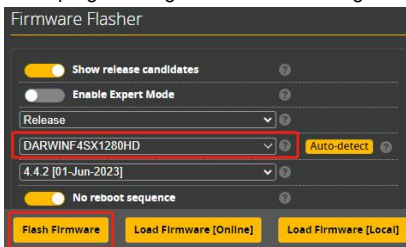

② Connect to computer by USB-C cable, open the Betafight Configurator software and click connect button - CLI menu, entering "BL" in the menu bar can also enter DFU Mode ("BL"can be uppercase or lowercase).
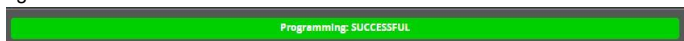

PROGRAMMING FIRMWARE

After entering the DFU mode, select the "DARWINF4SX1280HD" firmware and version and load the firmware, then click "Program firmware" and wait for the completion of the programming to connect to Betafight Configurator.

After the programming is successful, the FC status indicator will also light up again.

IN THE BOX

1 x CineApe35 FPV Drone

1 x CineApe35 Injection Molding Guard EVA Bumper Strip

1 x 120x120mm Logo Sticker

1 x Accessories Pack

1 x Manual

1 x Spare Screw Pack

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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@DarwinFPV1