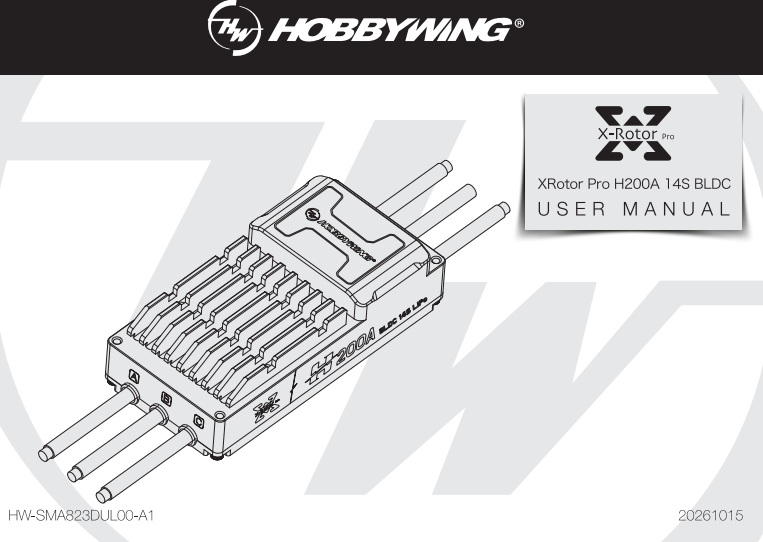




01 Precaution

- Before connecting ESC to the related components, please ensure that all contact terminals are well insulated to prevent short circuit from damaging the ESC.
- Ensure proper connection for the aircraft to operate normally and prevent unpredictable damage to the equipment.
- Before using this ESC, please review the manual to ensure that the power system is correctly matched to avoid damage to the ESC due to wrong connectivity.
- Use only hi-power soldering station that is reliable for soldering work on the ESC.
- Do not use it when the external ambient temperature exceeds 65°C. The high temperature will destroy the ESC and may cause damage to the motor, and cause the machine to explode
- If you need to change the direction of rotation of the motor, you can change the sequence of any two-phase wires.
- The ESC is equipped with CAN function. When using the CAN function, the ESC ID and the throttle channel of the same aircraft cannot be the same, otherwise, the multiple ESCs will be recognized as the same.

02 Feature of product

- Multi-rotor dedicated core program, the throttle response speed is greatly improved.
- Built-in memory chip, real-time recording of ESC operation data, with the black box function.
- This ESC is equipped with nano-coating technology with a protection level of IP55, and IP67 can be customized.
- The microprocessor is powered by an independent voltage regulator IC, which has better anti-interference ability and greatly reduces the possibility of control loss.
- Uses shielded wires to improve anti-interference, shield external and self-interference, and improves signal quality.
- BLDC square wave drive technology, good compatibility, a program can be compatible with a variety of motors.
- Using CAN communication, the input and output throttle, motor speed, bus current, bus voltage, capacitor temperature, MOS temperature, ESC status and other data can be monitored in real time. The communication protocol can be obtained by contacting Hobbywing.
- The factory default settings can meet the requirements of most applications with automatically adjustable timing, and is highly intelligent.
- Compatible with various flight controllers and throttle signals with a refresh rate of 50~500Hz.
- Using DEO (Driving Efficiency Optimization) drive technology, it has better throttle linearity and higher drive efficiency.
- You can use DataLink (optional) to upgrade the ESC program. For details, refer to the Datalink instruction manual or contact the manufacturer.
- Support flight controller upgrade ESC firmware. (Requires the use of flight controller)
- Throttle pulse width 1100-1940μs, solidified pulse width, not calibrated.

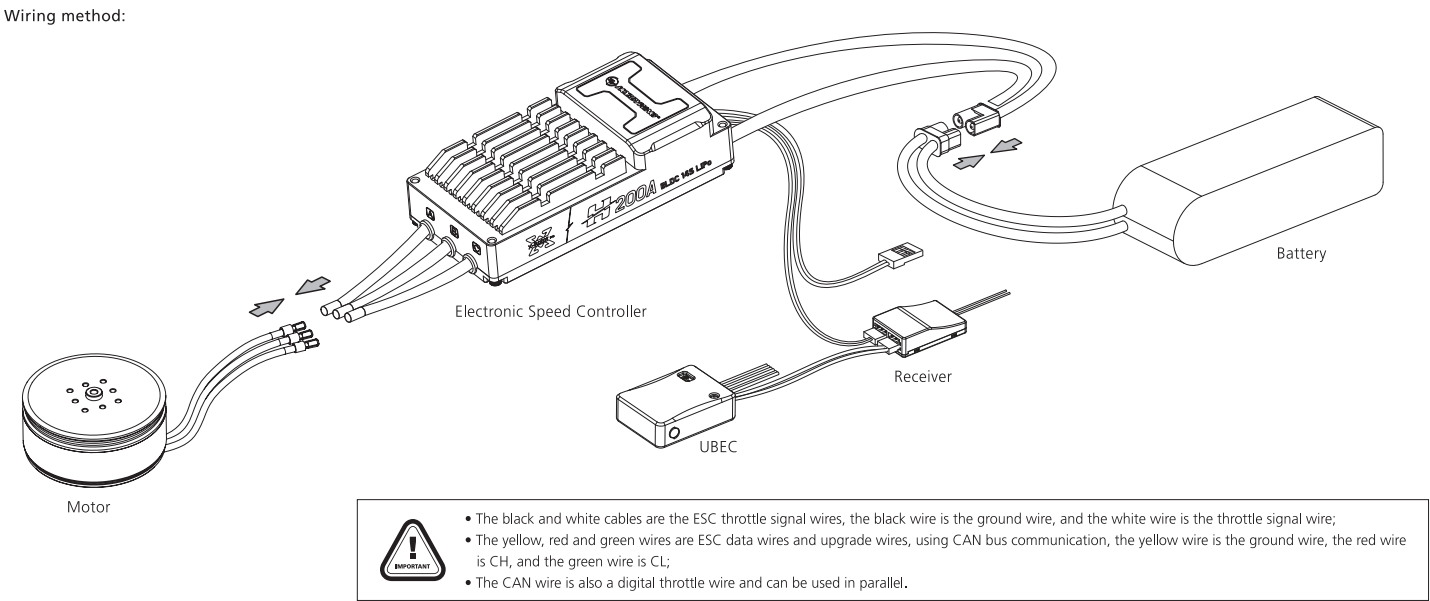
03 Product Specifications

Model	Continuous current Cooling wind speed 7m/s	Specification	BEC	Number of lithium battery cells(3.7V)	parameter options	Weight (no wire)	Physical dimension (mm)
XRotor Pro H200A 14S BLDC	100A	200A	None	6-14S	DEO (on/off)	391g	116 x 56 x 31.5

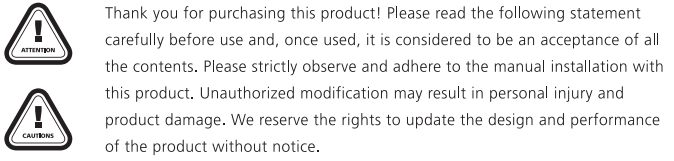
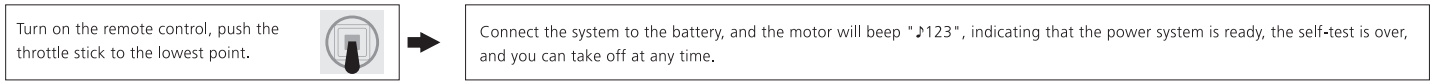
Description of heat dissipation conditions:
During the outdoor test, the ambient temperature was 35°C with the ESC placed at the bottom of the motor base, and the heat sink of the ESC was exposed. The measured wind speed next to the ESC was about 7m/s, and the ESC could be used continuously at 80A. The temperature no longer rises after 83°C.

04 User Guide

Warning! The DEO function of is default turned on, and closing the throttle has a braking effect and reverse-series voltage. Please do not use a power supply device that cannot absorb reverse-series voltage for ESC testing, otherwise the ESC and power supply will be damaged.



05 Normal start-up process



Thank you for purchasing this product! Please read the following statement carefully before use and, once used, it is considered to be an acceptance of all the contents. Please strictly observe and adhere to the manual installation with this product. Unauthorized modification may result in personal injury and product damage. We reserve the rights to update the design and performance of the product without notice.

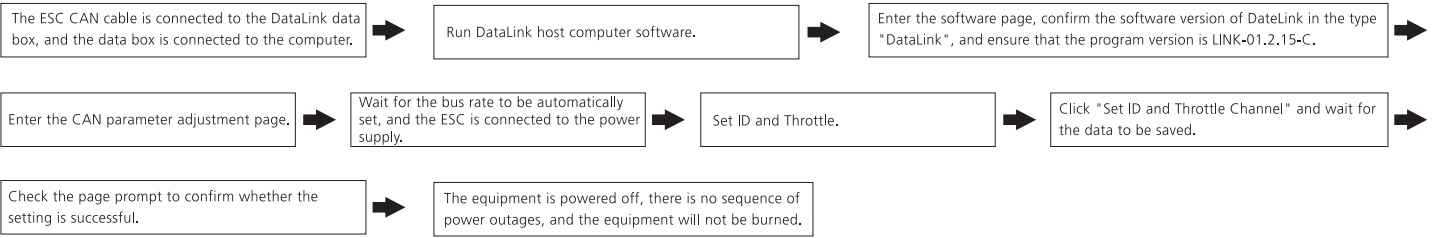


06 Protection function description

- This ESC is specially designed for industrial drones without low-voltage protection and over-heat protection.
- 1) Start protection:**
When the motor fails to start normally within two seconds after pushing the accelerator, the ESC will shut down and the throttle stick must be placed at the lowest point again before it can be restarted. (The reason for this may be poor connection between the ESC and the motor or disconnected individual output wires, motor stalled, propeller blocked, etc.).
 - 2) Stall protection:**
When the ESC detects that the motor is locked, the ESC will completely turn off the output and repeatedly try to restart the motor. Please land the aircraft as soon as possible if the motor is unable to be restarted. The power output can only be resumed after the power is turned off and restarted, and the fault is eliminated.
 - 3) Current protection:**
When the instantaneous phase current abnormality reaches 660A, the ESC will turn off the output and keep trying to restart the motor. If the motor does not restart, it will return to normal after power on again.
 - 4) Over-heat warning:**
This ESC has no over-temperature protection, and only prompts that the temperature is too high. When the MOS temperature is higher than 110°C or the capacitor temperature is higher than 100°C, it will send an over-temperature fault message through the data interface. When the ESC reports an over-temperature fault, if the temperature continues to rise, electronic components may be damaged. Please land the aircraft in time or reduce the throttle output.
 - 5) Low voltage protection:**
This ESC has no low-voltage protection. Some electronic components of the ESC will work abnormally when the voltage falls below 24V. Please land the aircraft immediately.
 - 6) Throttle signal loss protection:**
When the ESC detects that the throttle signal is lost, the output will be turned off immediately to avoid greater losses caused by the continued high-speed rotation of the propeller. After the signal is restored, the ESC will resume normal operation immediately.

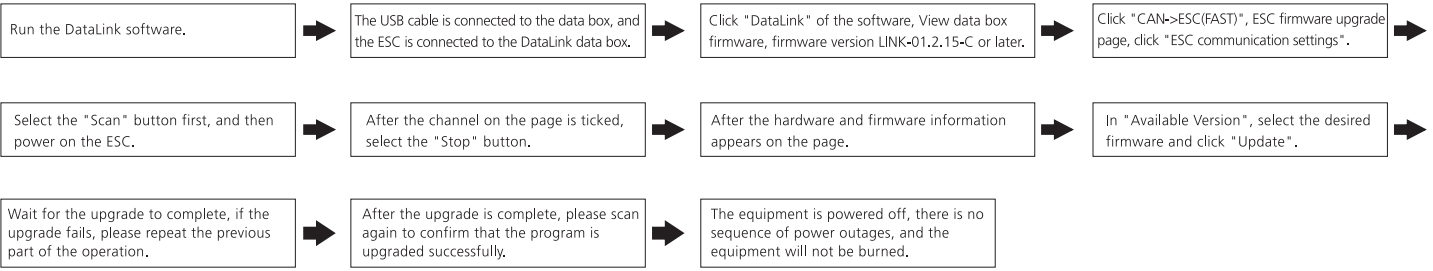
07 ID Setup

- If there is no requirement, the default factory ID of the ESC is 1, the throttle channel is 1, and the bus speed is 500KHz. This function requires the additional purchase of DataLink data box. Before using this function, ensure that the computer system has installed Microsoft Visual C++ 2013 software in advance, otherwise it cannot operate normally.
- 1) Connection**
ESC---->DataLink data box "yellow red green"---->"—CH1 CL1".
Connect the data box to the computer via USB.
When changing the ID, please remove the paddle to avoid danger.
For the same aircraft, different ESC IDs and throttles cannot be the same to avoid same ID recognizing as one ESC when using CAN function.
 - 2) Operation**



08 Firmware upgrade

- Firmware upgrade is divided into two ways: computer online upgrade and flight controller remote upgrade. It supports online upgrade of multiple ESCs at the same time, and the upgrade port is CAN-ESC (Fast). The flight control upgrade requires the use of flight control, and is not explained here. This function needs to use DataLink data box, special DataLink software for upgrade package, and USB data cable. DataLink data box version requirements, LINK-01.2.15-C or later; DataLink software can be obtained from Hobbywing official website, distributors, Hobbywing sales, and Hobbywing after-sales. Note: Before using this function, please ensure that the computer has installed Microsoft Visual C++ 2013 software, otherwise it cannot be used. An upgrade package usually only contains one program for one ESC. For other ESCs, please obtain a new upgrade package. For details, please refer to the DataLink user manual.
- 1) Connection**
Connect the computer and the DataLink data box with the USB data cable.
ESC---->DataLink data box "yellow red green"---->"—CH1 CL1".
 - 2) Firmware acquisition**
It can be obtained at the place of purchase, Hobbywing official website, dealers, Hobbywing sales and Hobbywing after-sales offices.
Note: It can only be upgraded from the existing program, and software and hardware cannot be upgraded together.
 - 3) Operating diagram**



09 Common failures and workaround

SYMPTOM	TONE	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
Motor fails to start after power on	"Beep beep beep..." rapid monophonic	Throttle not reset to zero	Push the throttle to the lowest point or recalibrate the throttle point
Motor fails to start after power on	"Beep, beep, beep,..."(1 second for each interval)	Receiver throttle channel has no throttle signal output	Check whether the transmitter and receiver operates normally Check whether the throttle control channel wiring is normal
The power-on voltage is lower than 24V	"Beep, beep" (interval 1 second)	Battery voltage is too low	Replace with a suitable fully charged battery
The power-on voltage is higher than 63V	"Beep, beep" (interval 1 second)	Battery voltage too high	Replace with a suitable fully charged battery
The motor stops or restarts		The motor is not compatible with the ESC	Replace the motor, or replace the propeller
There is no sound during the self-test of the motor, but the motor can rotate	There is no prompt sound during self-test, and the motor rotates	Driver exception	1. Replace ESC; 2. Return to factory for repair.
The motor cannot start normally, accompanied by "click" "click" jitter	There is no prompt sound during the self-test, and the motor is unable to rotate	Motor phase loss	1. Check phase connection; 2. Check motor; 3. If there is no problem with the motor and connection, return the ESC to the factory for repair.



01 注意事项

- 电调与相关部件连接前，请确保所有接触端绝缘良好，短路会毁坏电调。
- 请务必仔细连接好各部件，若接触不良，您可能无法正常控制飞行器，或出现设备损坏等其他不可预知的情况。
- 使用此电调前，请认真查看电调以及电机说明书，确保动力系统搭配合理，避免错误的搭配导致损害电调。
- 若需对电调的输入、输出线插头做相关焊接，请保证焊接牢靠，并使用足功率的焊接设备。
- 勿使电调外部环境温度超过65℃，高温将会毁坏电调并且可能导致电机损害造成炸机。
- 若需改变电机工作时的转向，可更改任意两根相线次序。
- 本电调拥有CAN功能，在使用CAN功能时，同一架飞机，电调ID和油门通道不能相同，否则多电调会被识别为同一个。

02 产品特点

- 多旋翼专用核心程序，油门响应速度大幅提升。
- 内置存储芯片，实时记录电调运行数据，具备黑匣子功能。
- 本电调采用纳米镀膜工艺，防护等级IP55，可定制IP67。
- 微处理器采用独立的稳压IC供电，具有更好的抗干扰能力，大幅度降低失控的可能性。
- 使用屏蔽线，提升抗干扰能力，屏蔽外界和自身干扰，保证信号质量。
- BLDC方波驱动技术，兼容性好，一个程序可兼容多款电机。
- 采用CAN通信，输入与输出油门、电机转速、母线电流、母线电压、电容温度、MOS温度、电调状态等数据实时掌握，通信协议可联系好盈官方获得。
- 自动调节进角，高度智能化，使用出厂默认设置即可满足绝大多数应用要求。
- 兼容刷新频率为50~500Hz的油门信号，兼容多种飞控。
- 使用DEO（Driving Efficiency Optimization）驱动技术，具备更好的油门线性及更高的驱动效率。
- 可使用DataLink（选购）升级电调程序，具体参考Datalink使用说明书或联系厂家。
- 支持飞控升级电调固件。（此功能需飞控配合）
- 油门脉宽1100-1940 μ s，固化脉宽，不可校准。

03 产品规格

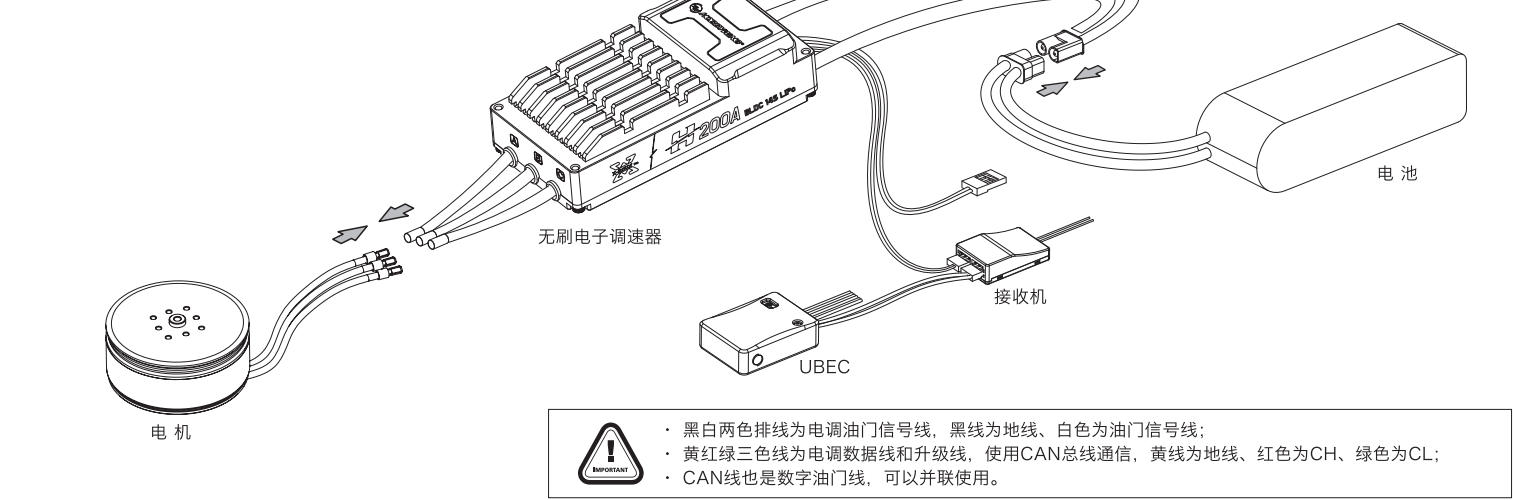
型 号	持续电流 散热风速7m/s	规 格	BEC	锂电节数 (标压3.7V)	参数选项	重量 (不含线)	外观尺寸 (mm)
XRotor Pro H200A 14S BLDC	100A	200A	无	6-14S	DEO（开/关）	391g	116 x 56 x 31.5

散热条件说明：
户外测试时环境温度35℃，电调放置在电机座底部，电调散热片外露，测得电调旁边风速为7m/s左右,电调可持续80 A一直使用，电调温度达83℃不再上升。

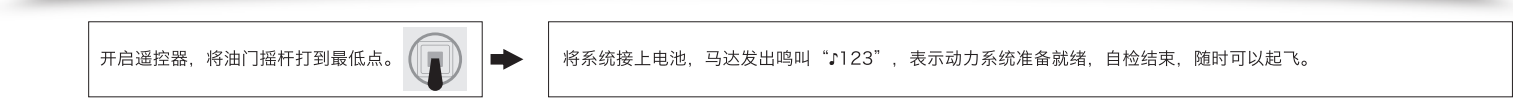
04 使用向导

警告！电调默认开启DEO功能时收油门具有刹车效果和反串电压，请勿使用不能吸收反串电压的电源设备进行电调测试，否则会损坏电调和电源。

接线方法：



05 正常开机过程



06 保护功能说明

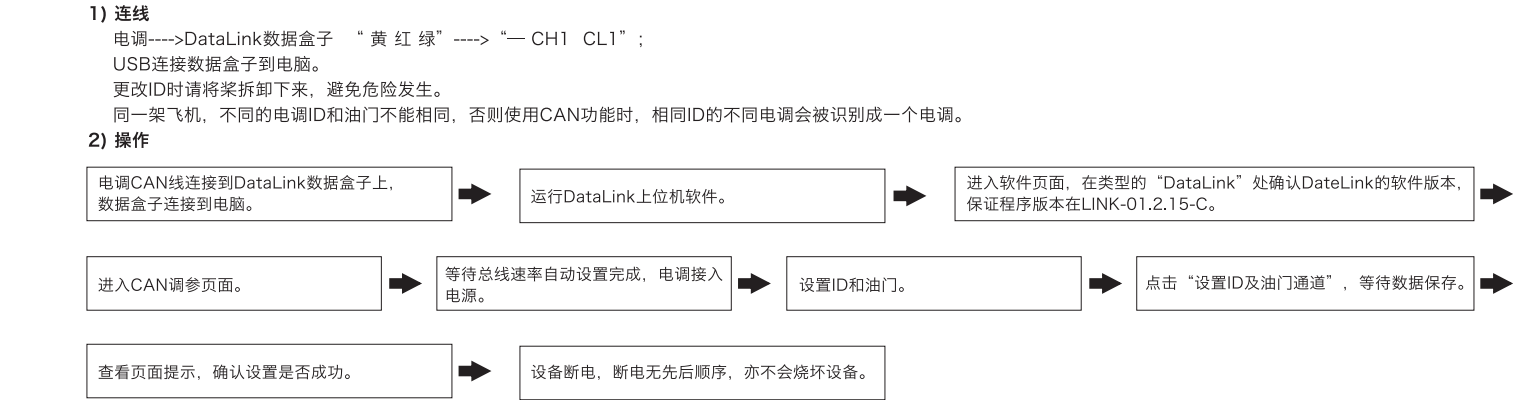
本电调专为行业无人机设计，无低压保护、无过温保护。

1) 启动保护：
当加大油门后两秒内未能正常启动马达，电调将关闭动力输出，油门摇杆需再次置于最低点后才能重新启动。（出现这种情况的原因可能有：电调和马达连线接触不良或有个别输出线断开、电机堵转、螺旋桨被阻挡等）。

- 堵转保护：**
当电调检测到电机发生堵转时，电调会彻底关闭输出并重复尝试重启电机，如果电机仍无法启动，请尽快降落飞机。需要断电重启，排除故障后，才能恢复动力输出。
- 电流保护：**
当瞬间电流异常达到660A时，接近短路电流时，电调会关闭输出并一直尝试重启电机，若使电机不再重启，重新上电后可恢复正常。
- 过温警告：**
当MOS温度高于110℃或者电容温度大于100℃时，会通过数据接口向外发送过温故障信息。当电调报过温故障时，如果温度继续上升，可能导致电子元器件损坏，请及时降落飞行器或者减少油门输出。
- 低压保护：**
电调无低压保护，当电压低于24V后，电调部分电子元器件会工作异常，请及时降落飞行器。
- 油门信号丢失保护：**
当电调检测到油门信号丢失将立即关闭输出，以免因螺旋桨继续高速转动而造成更大的损失。信号恢复后，电调也随即恢复正常工作。

07 ID设置

在无要求的情况下，电调默认出厂ID为1，油门通道为1，总线速率为500KHz。
此功能需要另购DataLink数据盒子才能使用。
在使用此功能前，保证电脑系统提前安装了Micosoft Visual C++ 2013 软件，否则无法正常工作。

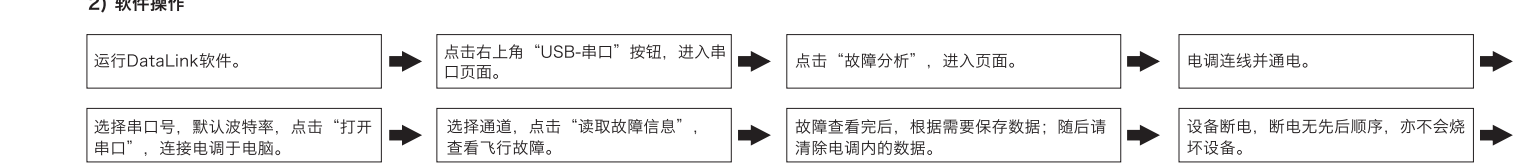


08 故障数据读取

电调自带故障存储功能，可存储上电次数、飞行时间、故障次数信息，方便飞行故障分析。此功能需使用DataLink数据盒子，串口助手，DataLink上位机软件。
注：DataLink软件可在好盈官网、经销商、好盈销售、好盈售后获取。
DataLink数据盒子固件版本要求：LINK-01.2.15-C或更高版本； 串口助手要求：USB转TTL协议； DataLink上位机软件要求：故障存储版。可在官网、微信公众号或者售后获取。
DataLink盒子有三种供电方式（+5V），USB数据线、串口助手、外置供电线，任选一种即可供电方式即可，无需重复供电。
注：详细使用步骤请参考DataLink使用手册。

1) 连线
串口助手---->DataLink数据盒子 “GND 5V TX RX” ----> “- + RX2 TX2”（请按此对应线序）；
电调---->DataLink数据盒子 “黄 红 绿” ----> “- CH1 CL1”，多个电调可以并联使用。

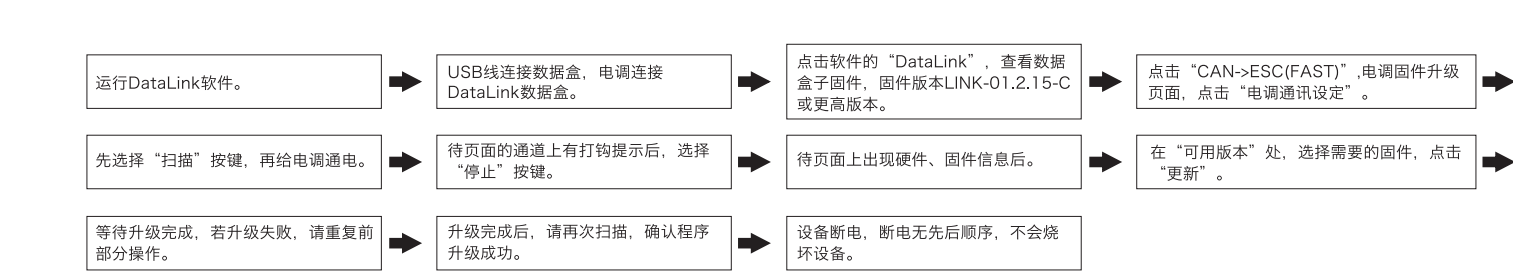
2) 软件操作



09 固件升级

固件升级分为电脑在线升级和飞控远程升级两种方式，支持同时多个电调在线升级，升级口为CAN-ESC(Fast)。飞控升级需飞控配合，此处不做说明。
此功能需使用DataLink数据盒子，升级包专用DataLink软件，USB数据线。DataLink数据盒子版本要求，LINK-01.2.15-C或更高版本；DataLink软件可在好盈官网、经销商、好盈销售、好盈售后获取。
注：使用此功能前请保证电脑已安装Micosoft Visual C++ 2013 软件，未安装无法使用。一个升级包只会通常只含有1款电调的一个程序，其它电调，请重新获取新的升级包。详情请参考DataLink使用手册。

- 连线**
USB线连接电脑和DataLink数据盒子；
电调---->DataLink数据盒子 “黄 红 绿” ----> “— CH1 CL1”；
- 软件获取**
可在购买处获取，好盈官网、好盈销售、好盈售后获取。
注：只能从已有的程序里升级，不能软件和硬件一起升级。
- 操作**



10 常见故障及提示音说明

故障现象	警报音	可能原因	解决办法
上电后电机无法启动	“哔哔哔...”的急促单音	油门未归零	将油门打至最低点或重新校准油门行程
上电后电机无法启动	“哔、哔、哔、.....”（每个间隔1秒）	接收机油门通道无油门信号输出	1. 检查发射机与接收机配合是否正常 2. 检查油门控制通道接线是否正常
上电电压低于24V	“哔哔、哔哔”（间隔1秒）	电池电压过低	更换合适的满电电池
上电电压高于63V	“哔哔、哔哔”（间隔1秒）	电池电压过高	更换合适的满电电池
空中电机停转或者重启		电机与电调不兼容	更换电机。或者更换桨叶
电机自检时没有声音，电机能转动	自检无提示音，电机能旋转	驱动异常	1. 更换电调 2. 返厂维修
电机无法正常启动，伴随“咔咔”的抖动	自检无提示音，电机不能旋转	电机缺相	1. 检查相线连接 2. 检查电机 3. 若电机、连线无问题，电调返厂维修