

## DATA LINK V2 USER MANUAL

Thanks for purchasing T-MOTOR product. Please read this manual carefully before use, and abide by its rules.

### **一、 Introduction**

DATA LINK V2 is a communication facility of ALPHA ESC for data collection, storage and transmission. Together with FC, DATA LINK is capable of real-time monitoring and logging of propulsion system for purposes as to failure data analysis and operation conditions, which elevates the safety of aircraft. DATA LINK V2 can also be used to change settings of ALPHA ESCs to match various motors.

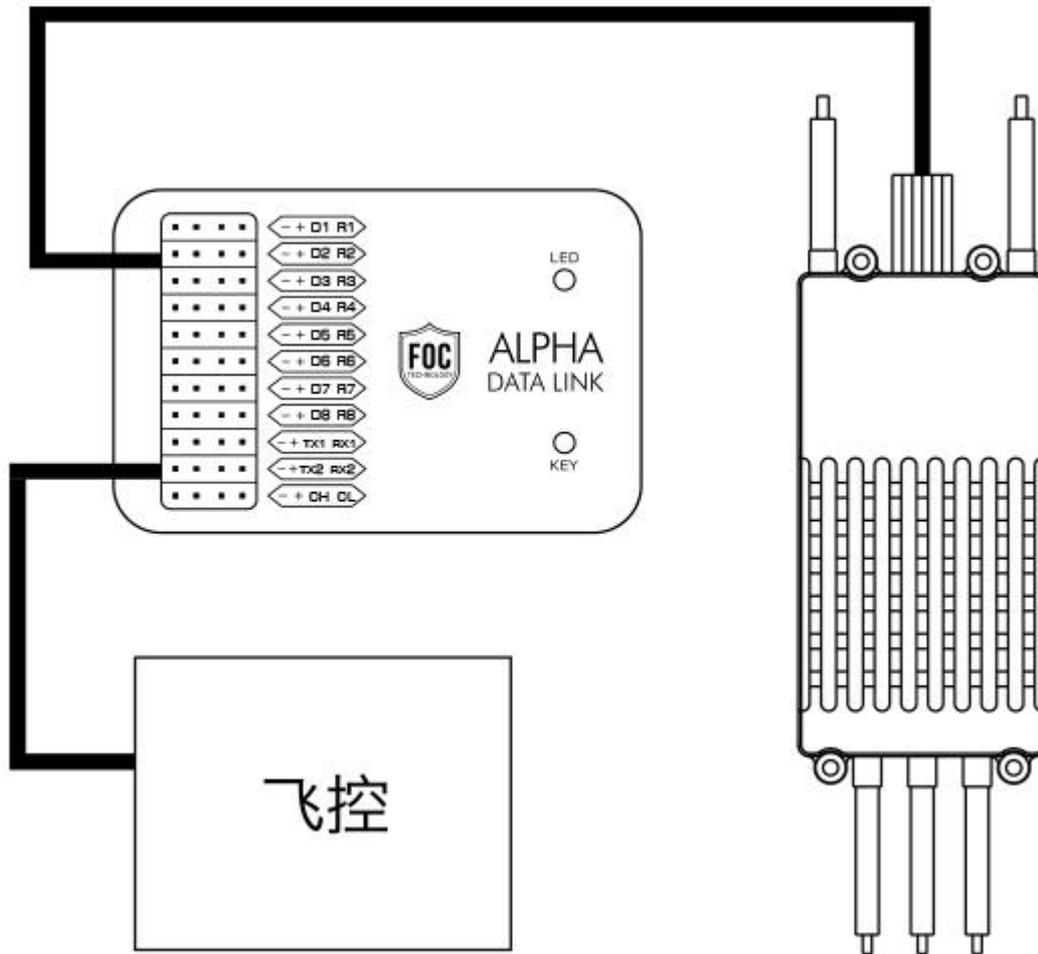
### **二、 Note**

When using DATA LINK V2, please make sure ESC, DATA LINK V2 and other devices are connected to common ground.

### **三、 Size**

55.3\*36.3\*12.8mm

### **四、 Ports and Connection Methods**



## Flight Controller

### 1. Data Wires

D1-D8 for ESC Upgrade. "+" for red wire; "D1" for white wire; "-" for black wire; "R1-R8" for yellow wire.

### 2. ESC Upgrade Wire Connection to D1-D8 Port for Data Transmission

TX1 RX1 are 115200 BPS data transmission serial ports of ESC slow serial port integration data. It can be connected to PC end via TTL-USB for real time data from DATA LINK V2 in form of graphs on APP of PC end.

TX2 RX2 are 1MBPS data transmission serial ports of real time data transmission for 8 ESCs which includes serial port data and RPM. It can be connected to other devices like FC.

### 3. Key

Please press "KEY" when DATA LINK V2 is connected to PC end for the first time, and it cannot be recognized.

### 4. Power Supply

Support 2-12S LIPO

### 5. USB Interface

Connection to PC end for adjustment of matching motor or data transmission.

### 6. LED Light

Mode	DATA LINK	LED Light
Data Collection	SD NG at DATA LINK V2 startup	Blue light-slow flash once
	SD OK at DATA LINK V2 startup	Green light-slow flash once
	SD NG when DATA LINK V2 is in operation	Red light-slow flash once
Upgrade	DATA LNK V2 firmware upgrade	Purple light-flash twice
	Serial port ESC firmware upgrade	Cyan light-flash twice
	CAN ESC firmware upgrade	Yellow light-flash twice
U disk	Connect to PC to enter U disk mode	Green light-slow flash once

## 五、Instructions

### 1. Data Transmission and Storage Mode

When DATA LINK V2 is powered on (and USB end stays unconnected), it enters into data collection and transmission mode.

### 2. USB Flash Disk Mode

DATA LINK V2 is connected to PC end via USB (TM-LINK in PC end remains unopened).

### 3. ESC Programming

1. Open TM LINK on PC end and switch to ESC mode;
2. Connect DATA LINK V2 to PC end via USB;
3. Connect ESC upgrading wires to any ports of D1-D8;
4. Power the ESC on
5. Enter program mode to check the current version of ESC software or program the ESC for the corresponding motor type.

Notice: When programming ESC, please power the ESC on and make sure all are well connected.

### 4. DATA LINK V2 Upgrade

1. Open TM LINK on PC end and swift to DATA LINK V2 mode.
2. Upgrade DATA LINK V2 after connecting it to PC end.

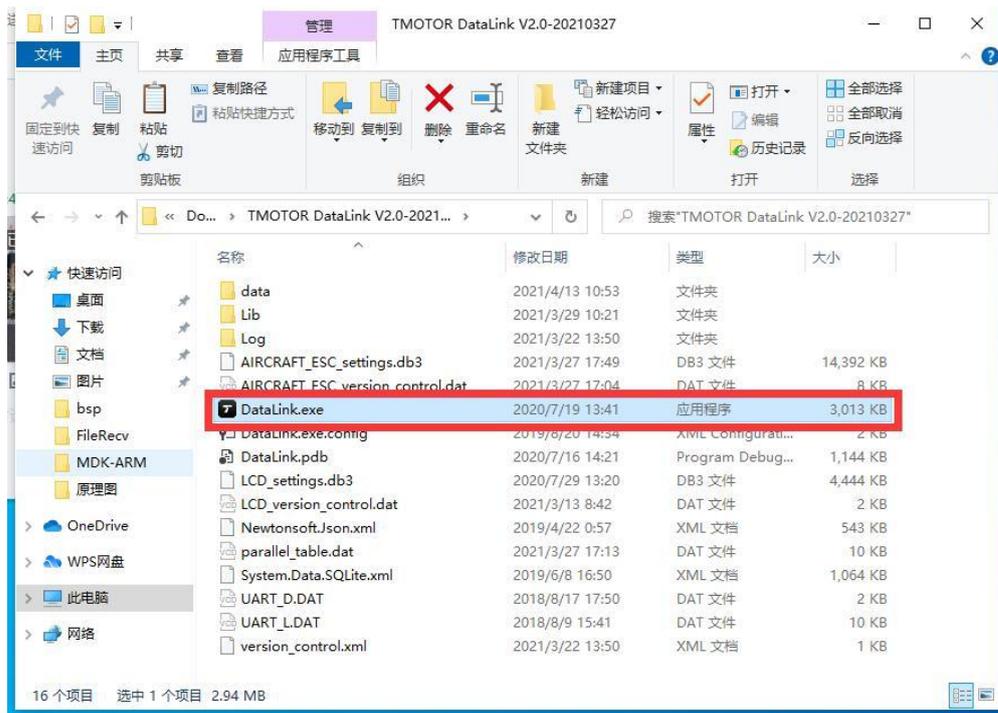
Notice: Please keep USB connected when upgrading DATA LINK V2!

Attention: Please press "KEY" to turn on DATA LINK V2 when it' s connected via USB to PC end, and cannot be recognized. LED light flashing red, green and blue alternatively signals that USB HID driver is ready for installation. For USB HID driver installation, please set DATA LINK V2 as "USB input device driver " in device manager. Re-operate DATA LINK V2 after installation.

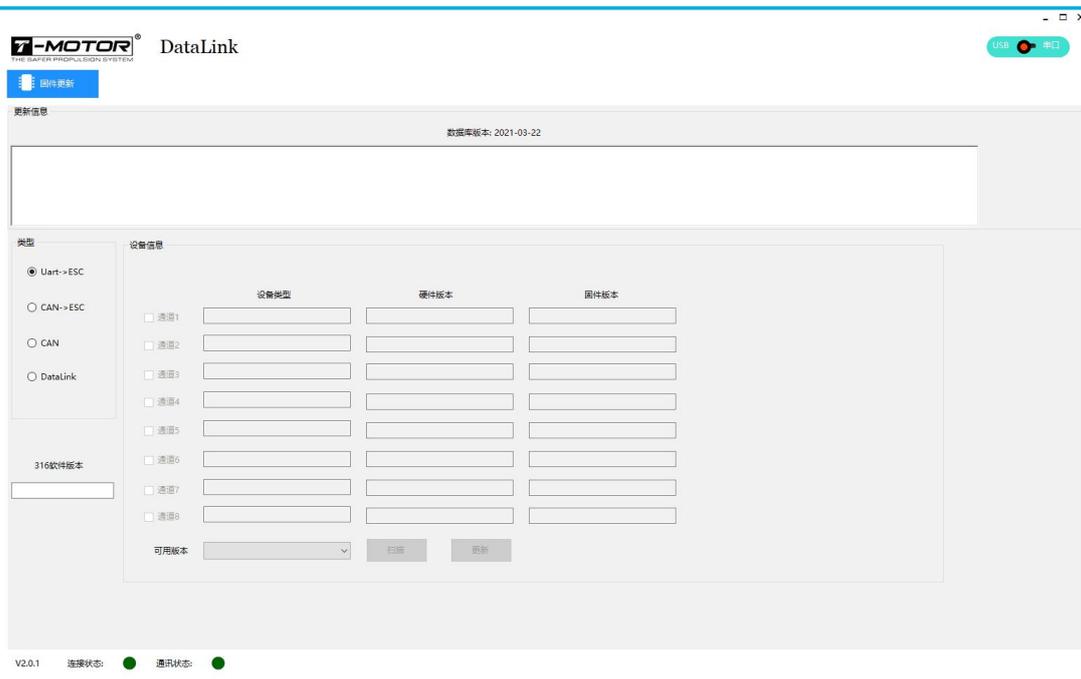
## **六、 DATA LINK V2 Upper Computer Instructions**

### **How to use upper computer to download firmware**

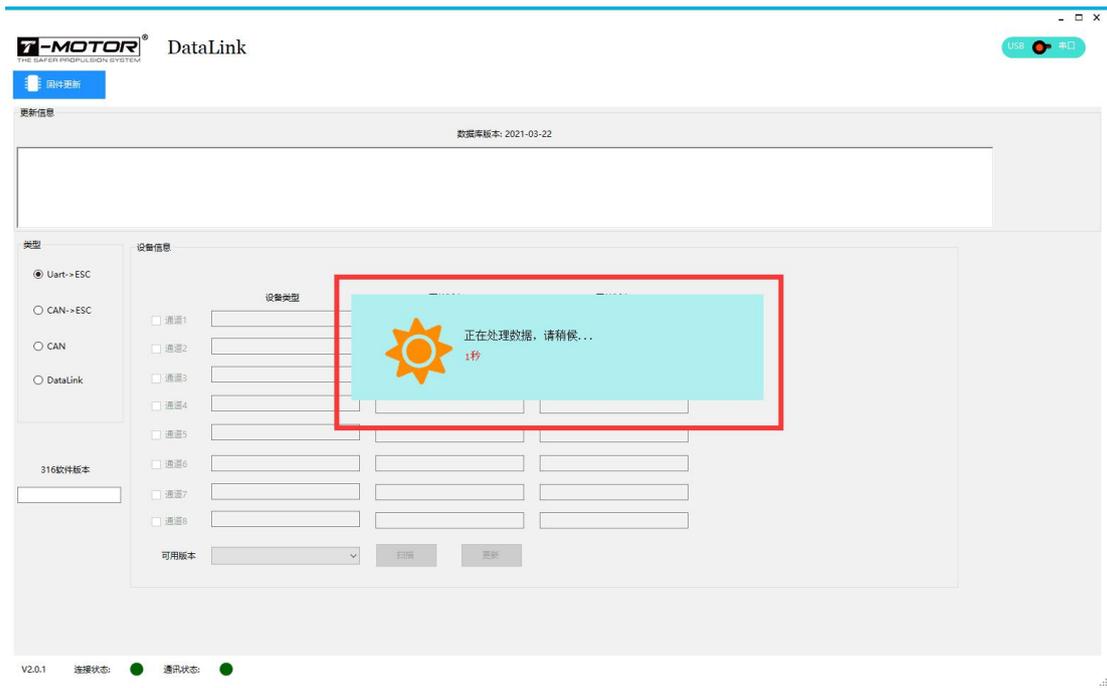
- 1、 Open Data Link V2 folder and find .exe file as below:



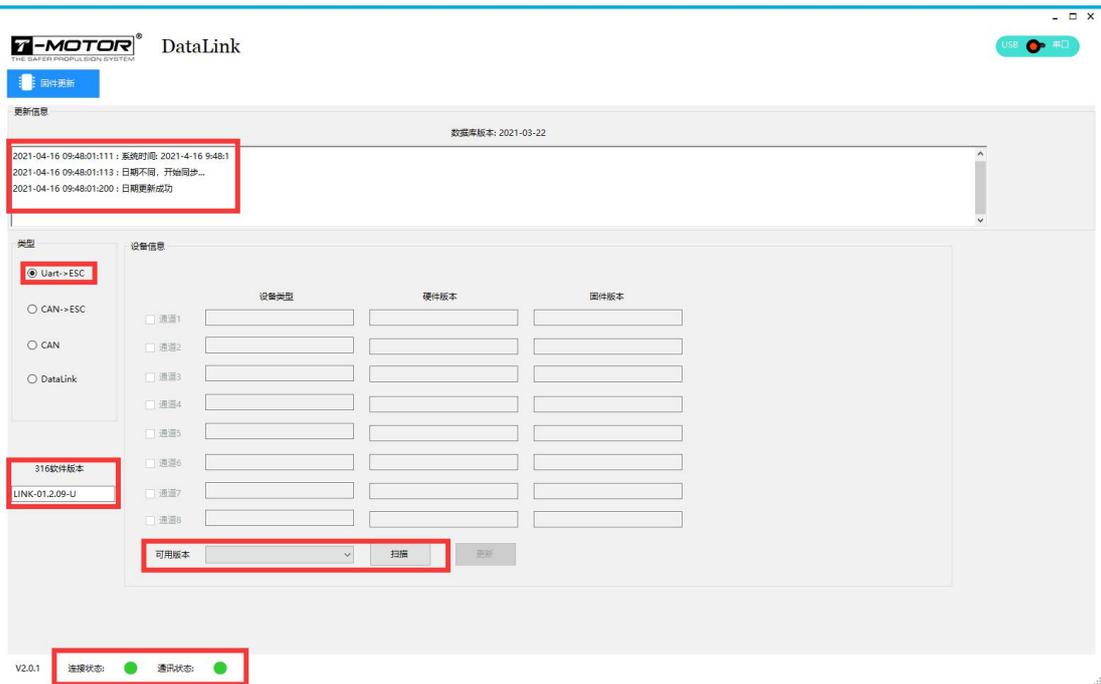
2、 Find the upper computer software in the exe file, see below:



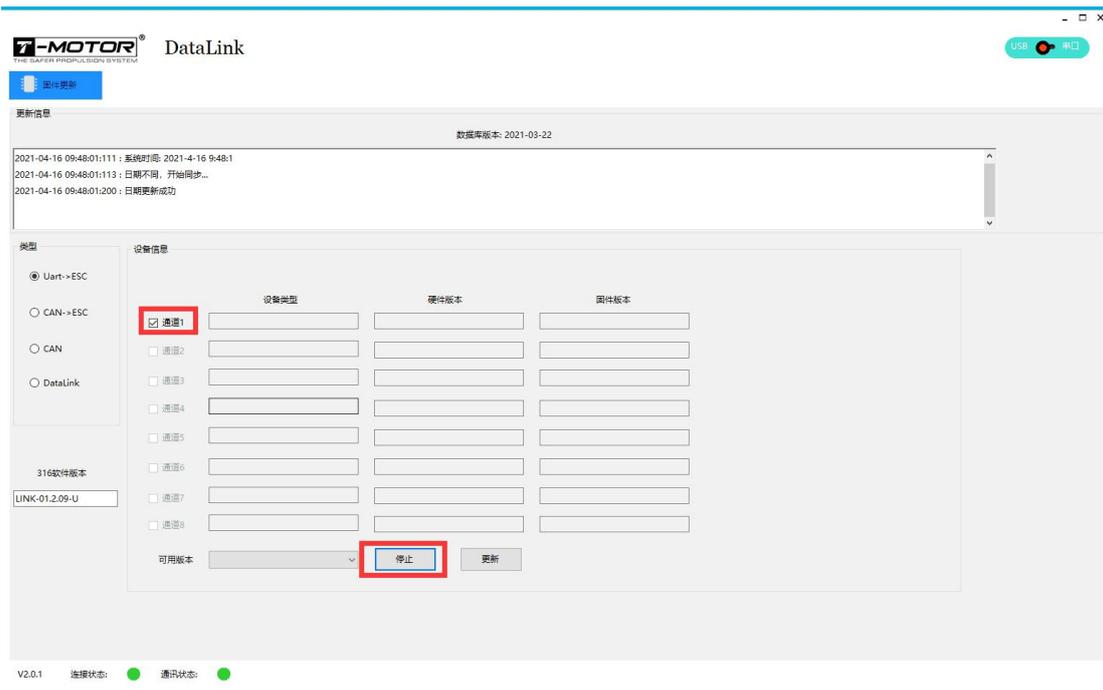
3、 Connect the USB to the PC and you' ll see "Connecting..." pop up (If not, please check the USB connection again and make sure there is USD driver in your PC.)



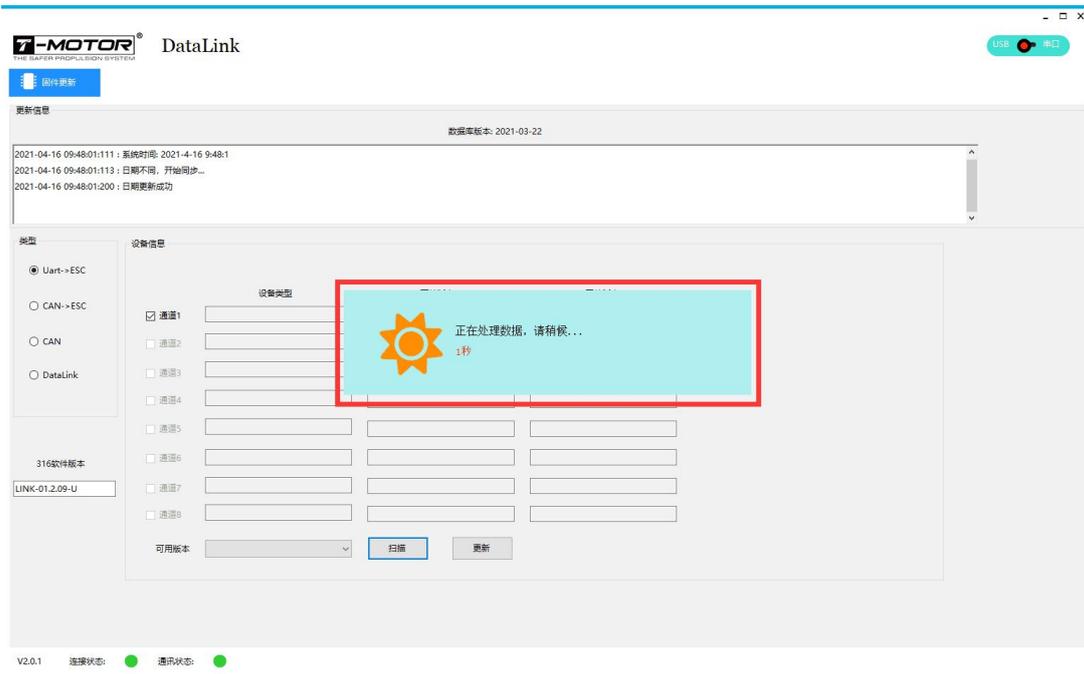
#### 4、 When it shows as below, it is connected successfully



5、 Click "Scan". When the ESC is powered on (connect the red-black-white wires from the ESC to DATA LINK V2), it will show channels as below:

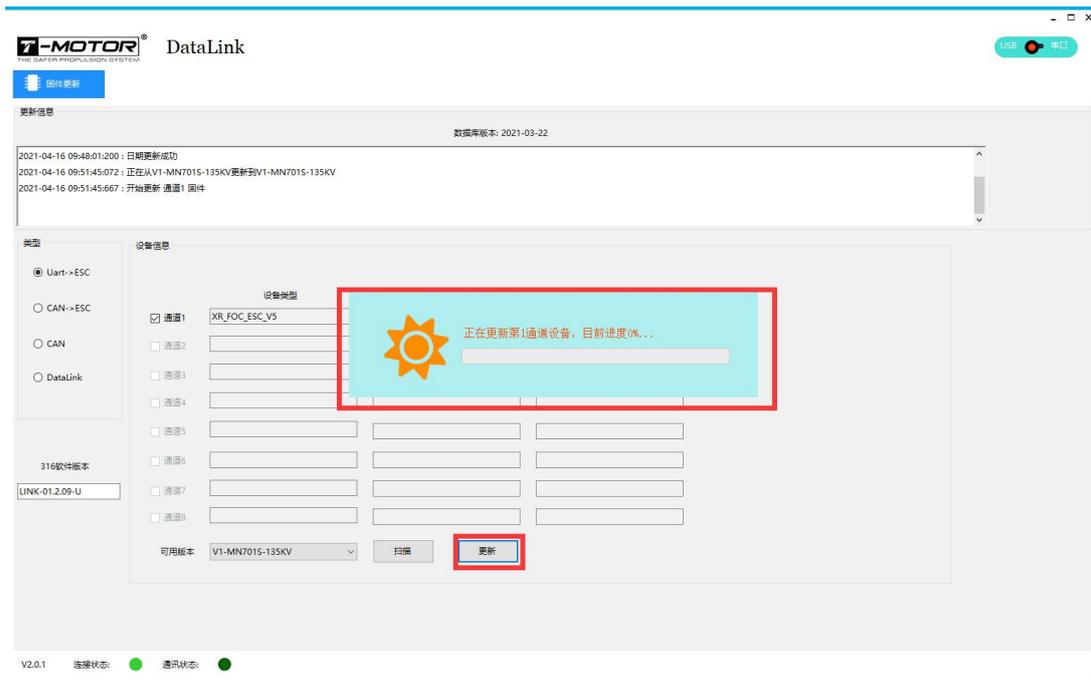


6、 When the ESC is powered on, click “Stop” and wait for the firmware to show up.

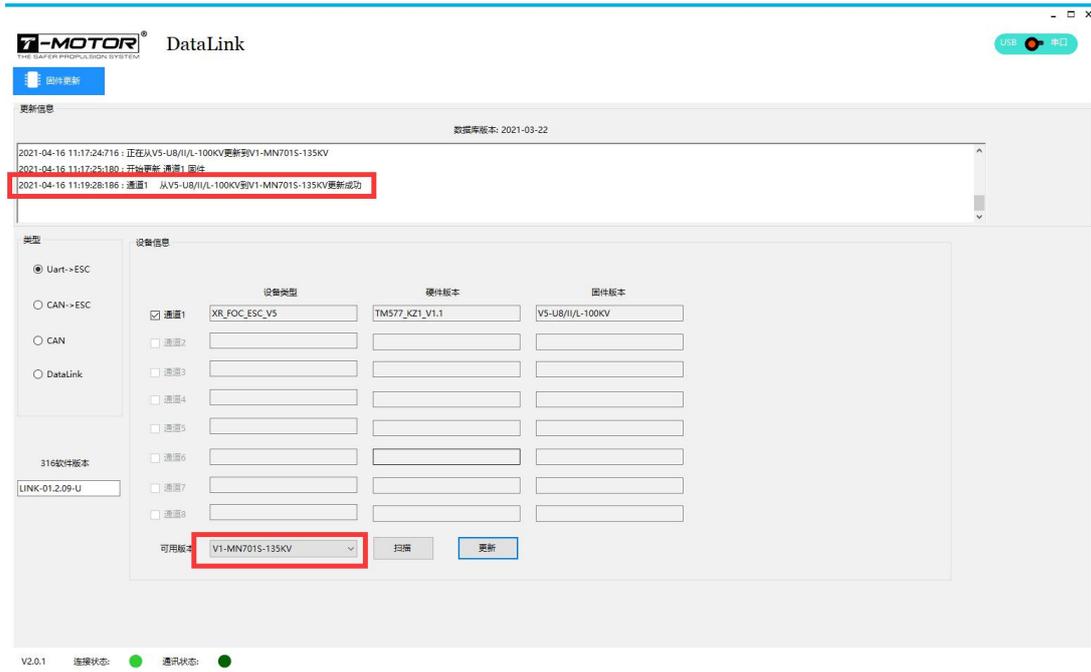


7、 It will show the software version of the ESC and the firmware.



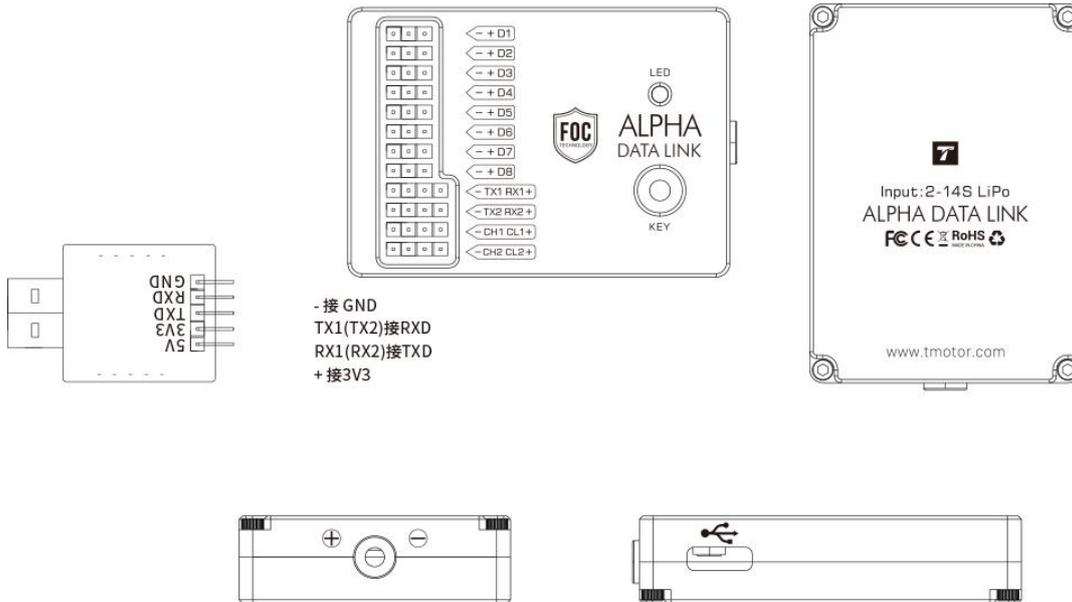


## 10、Flash successfully

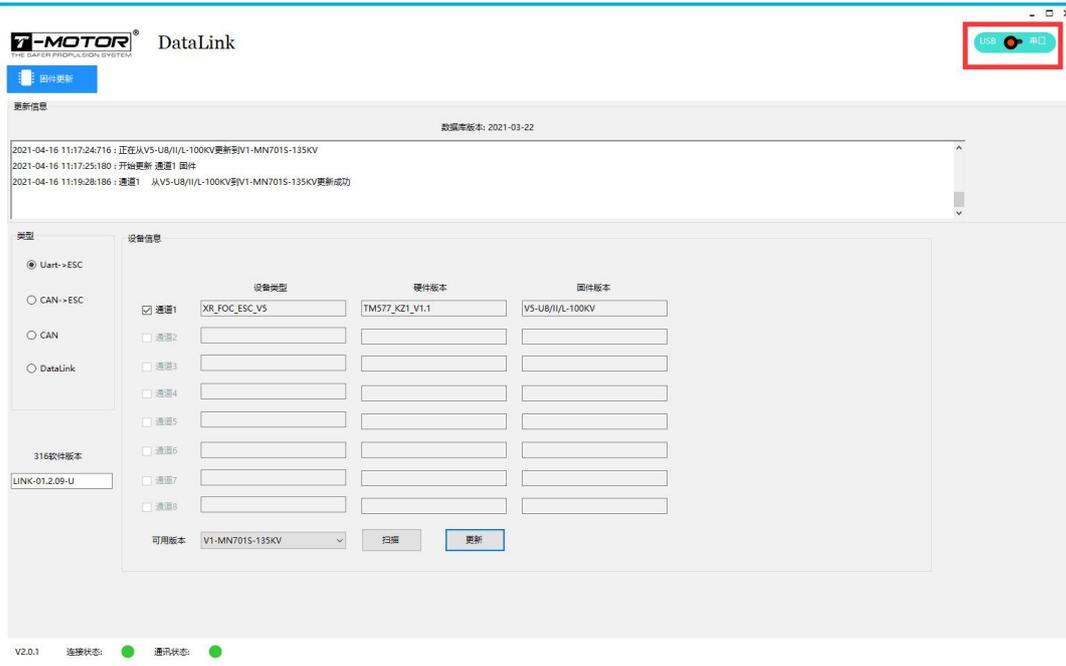


## Real-time DATA Observation

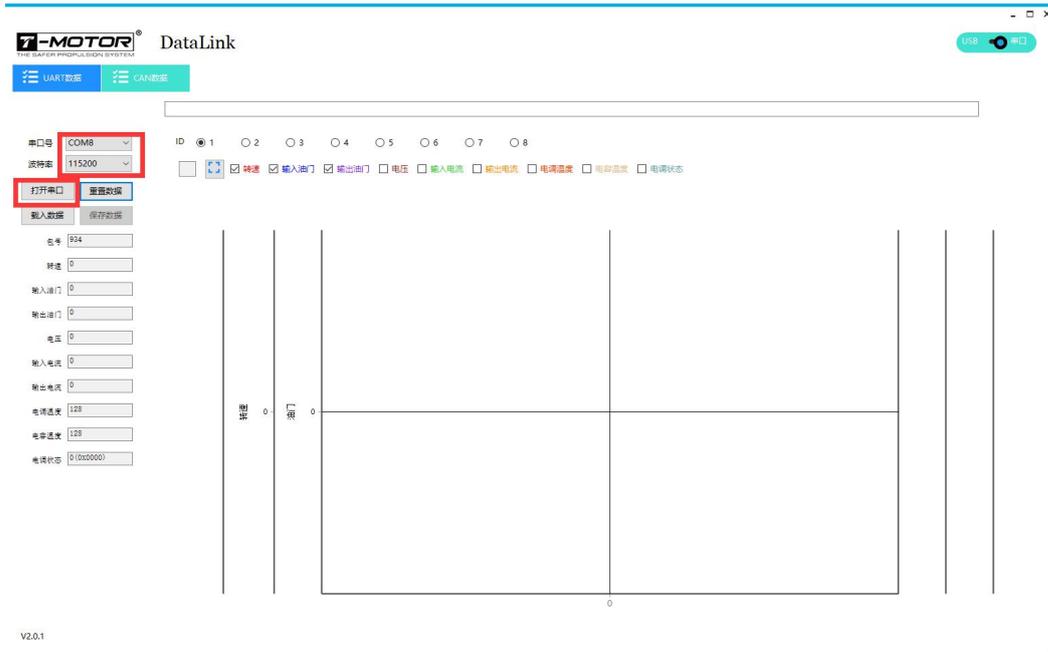
1、 To view the data, please connect the port signal first as below:



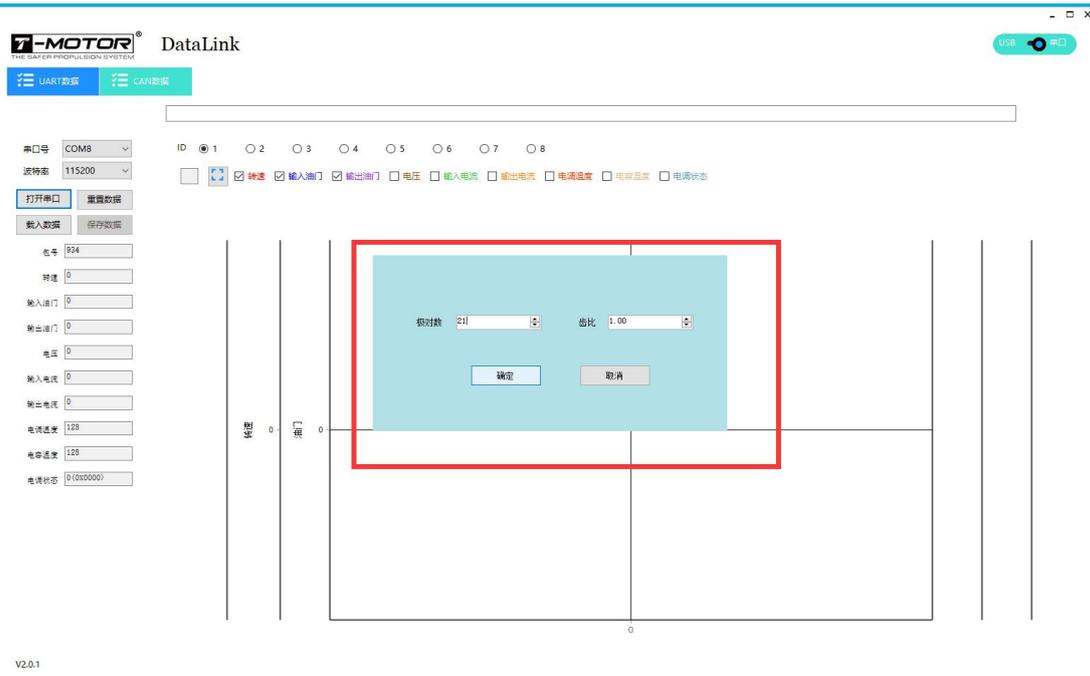
## 2、Click “Port” on the upper computer after connection



## 3、Port number shows



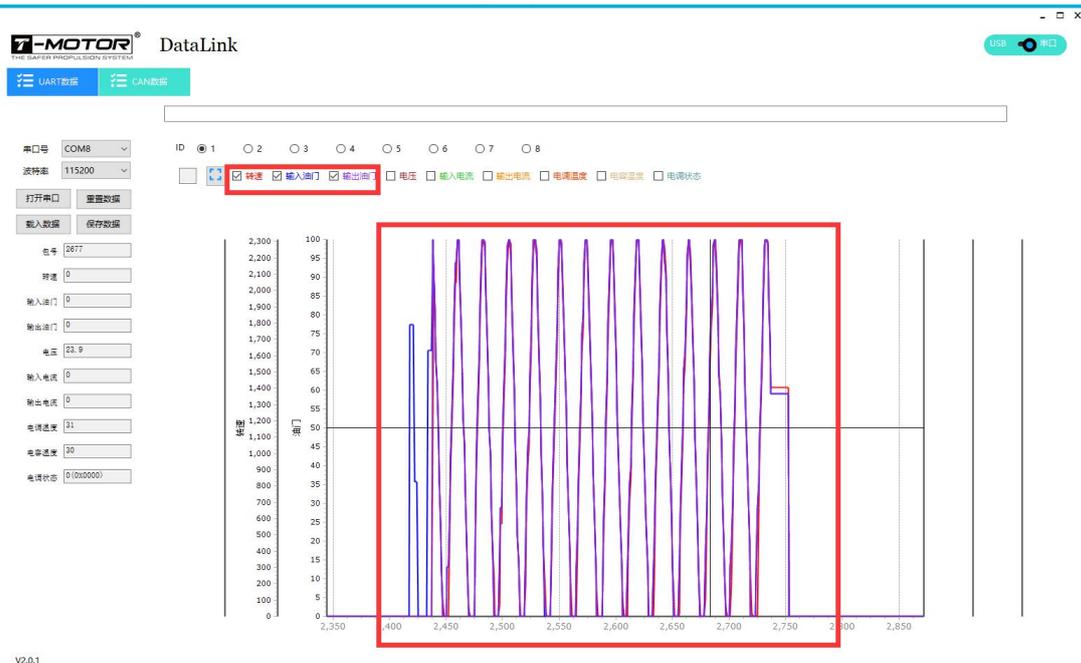
#### 4、 Fill in the pole number of the motor (leave the other as it is)



#### 5、 The graph shows up when the port is connected



## 6、 Example: Throttle and RPM graph

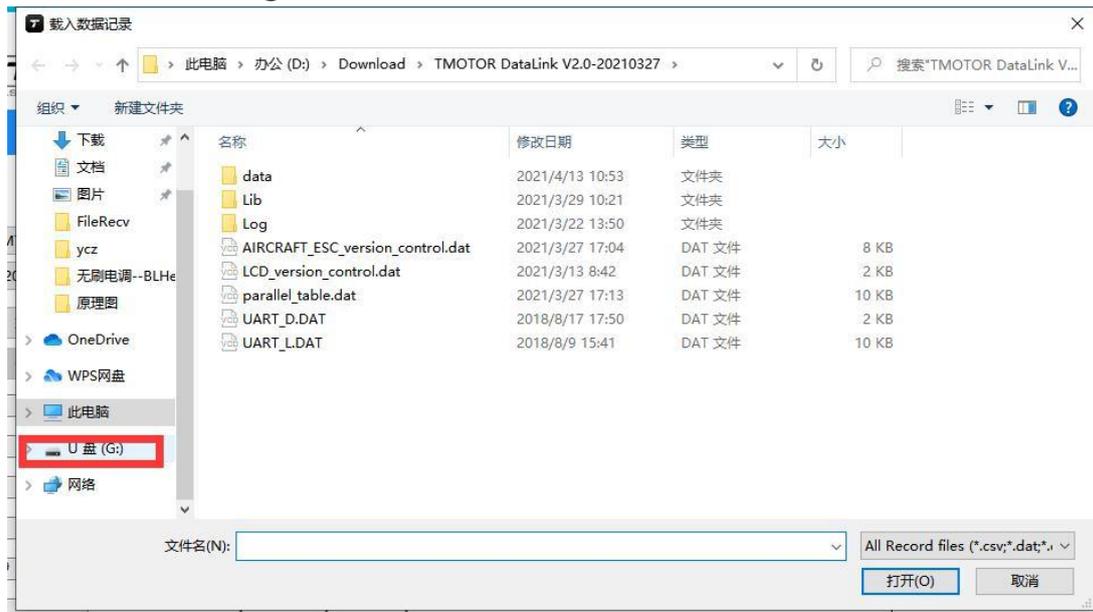


### Read Data from the DATA LINK V2

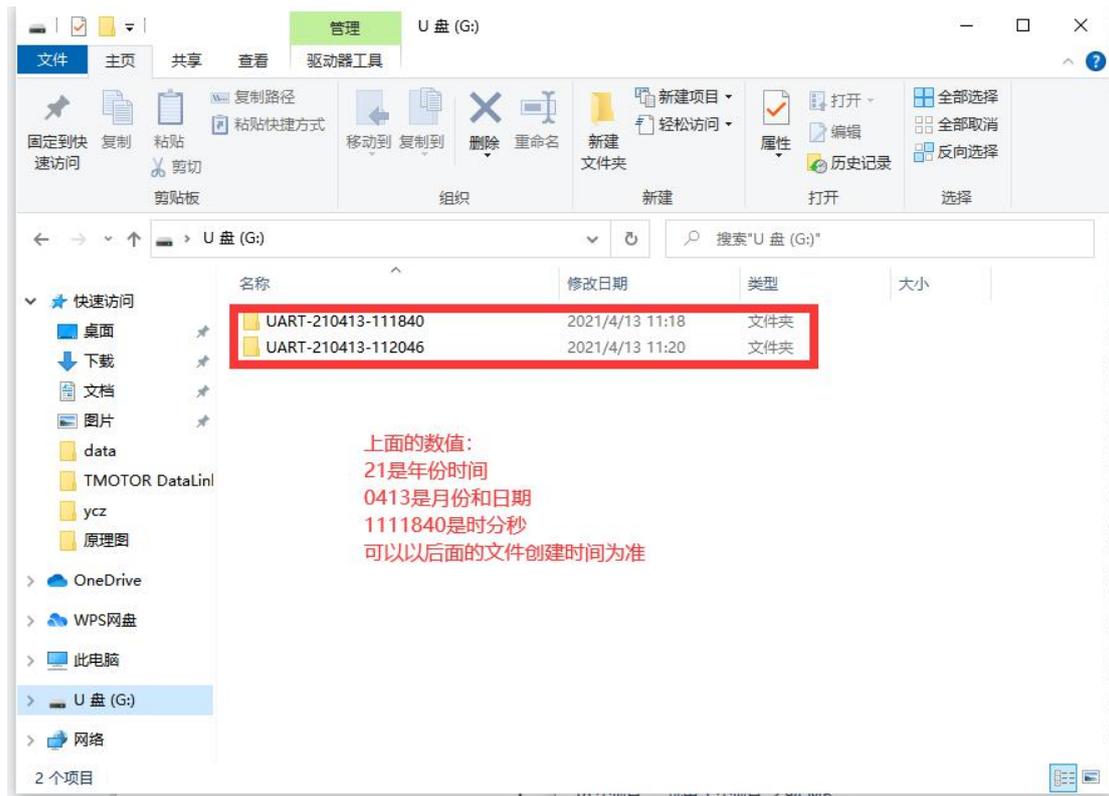
Open DATA LINK V2 software after connecting the DATA LINK V2 to PC. Select "Port" on the top right to read the port data under "UART" and load, read CAN data under CAN and load. Enter pole number of the motor, gear ratio remains unchanged. Data available are rpm, input throttle, output throttle, voltage, input current, output current, MOS.

temperature and cap. temperature. If data has been copied from DATA LINK V2, then just open the software and load it to view the data. There is no need to connect to the DATA LINK V2.

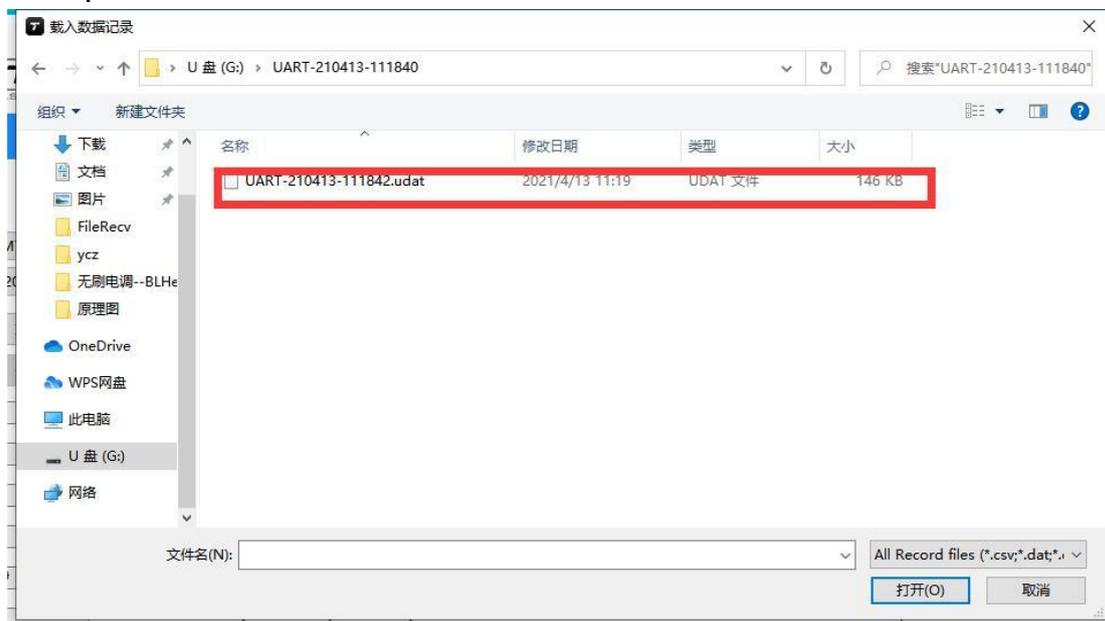
1、 Load data, open DATA LINK V2 in the U disk. (When saving the data, please make sure that USB is not connected to PC. Or else, DATA LINK V2 will be on reading status.)



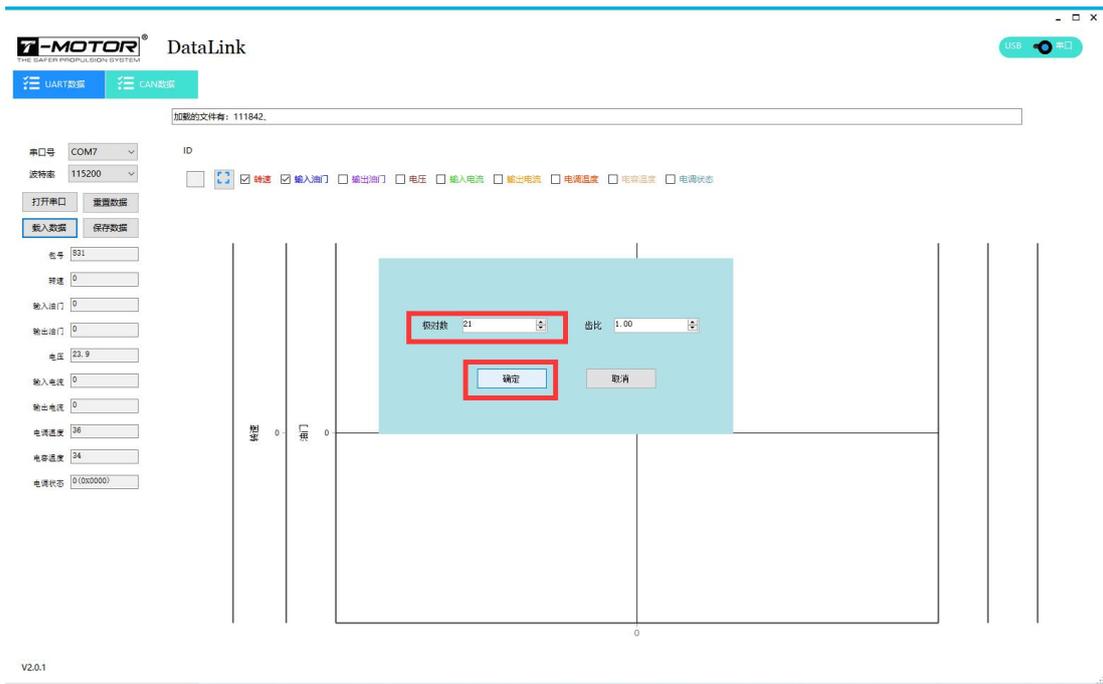
2、 Find the data you want



### 3、Open the file



### 4、Fill in the pole number of the motor



## 5、Data will show up



Note: Comparison of the data from different channel is available. If the data has been extracted, then there is no need to connect DATA LINK V2.  
**If you have any question in use, please contact us.**