SIYI CAN LINK Power Upgrade & Parameter Tuning Module

User Manual

SIYI Technology (Shenzhen) Co., Ltd.

SIYI.biz/en

Thank you for purchasing SIYI Technology products.

The CAN LINK box must be used in conjunction with the UniGCS software. It enables firmware upgrades, real-time online data monitoring, historical data review, fault data analysis, electronic parameter adjustments, and other operations related to SIYI power system products, all on a computer.

To ensure a better user experience, please carefully read the user manual before installation and flight. This manual will help you resolve most of your questions about the product. You can also visit the product pages on SIYI Technology's official website (www.SIYI.biz), contact SIYI Technology's official after-sales service center at 400-838-2918, or email support@SIYI.biz to directly consult SIYI Technology engineers for product-related information or to provide feedback on any issues.

Contact Us: **SIYI Official Website** *(https://SIYI.biz/en)*

SIYI User Group - Facebook	
Facebook	
Linkedln	
YouTube	

Manual Version Update Record

Version Number	Update Date	Update Content
1.0	2024.10	Initial version

Content

Reading Tips

Logo, icon

When reading the user manual, please pay special attention to the relevant contents marked as follows.

⚠ Hazard Operations that are likely to cause personal injury

⚠ Warning Operation warning that may cause personal injury

⚠ Be careful not to cause unnecessary property damage due to illegal operations.

Prohibitions **Must Implement** **Precautions**

Security

CAN LINK box is designed and manufactured for professional application scenarios. Operators need to have certain basic skills. Please use it carefully. Any unnecessary product damage caused by the irregular and irresponsible operation of this product, causing economic losses or even personal injury to users or others, SIYI Technology does not assume any responsibility. Minors use this product must have a professional presence supervision and guidance. The products of SIYI Technology are

designed for commercial scenarios and the use of SIYI products for military purposes is prohibited. Disassembly or modification of this product is prohibited without the permission of SIYI Technology.

Equipment idle, carrying, recycling

When the SIYI products you own are idle, or you want to carry SIYI products out of work, or the products have reached the end of their service life, please pay special attention to the following:

 Danger

SIYI products should be kept away from areas where children can easily touch when they are idle.

Please avoid placing SIYI products in an environment that is too hot (above 60 degrees Celsius) or too cold (below minus 20 degrees Celsius).

 Attention

Please avoid placing SIYI products in wet or dusty environments.

Please avoid vibration or impact and other operations that may damage components when carrying and transporting SIYI products.

Make.

Chapter 1 : Product Introduction

1.1 product characteristics

CAN LINK uses CAN bus protocol and needs to be used with UniGCS software. It can perform firmware upgrade, online real-time data viewing, historical data viewing, fault storage data analysis, electronic adjustment parameters and other operations on the computer.

1.2 Product Overview

1.3 technical parameters

Parameters

Product Name	CAN LINK
Communication mode	CAN, SUB
Appearance size	34.4*25.4*14.95mm
Product Weight	19.3g
Protection level	\

1.4 Items List

1 x CAN LINK upgrade box

1.5 Status Light Definition

The CAN LINK indicator defines different operating states.

Indicator Status	Status Definition
Fast flashing red, green and yellow lights	BOOT Status
Red, green and yellow lights in turn	Initialization
Green light flashing	Normal state

Note

The CAN LINK indicator needs to be powered by USB to work.

Chapter 2: Function operation guide

Watch instructional videos directly

Using CAN LINK for power system parameter adjustment

https://www.bilibili.com/video/BV1xoYke6EhT/?spm_id_from=333.999.0.0&vd_source=d6104a7c61214b123e7d5452cc481486

Use CAN LINK to check the power system fault storage.

https://www.bilibili.com/video/BV1bvebeGEVH/?spm_id_from=333.999.0.0&vd_source=d6104a7c61214b123e7d5452cc481486

Powertrain firmware upgrade using CAN LINK

https://www.bilibili.com/video/BV1cjegekEcY/?spm_id_from=333.999.0.0&vd_source=d6104a7c61214b123e7d5452cc481486

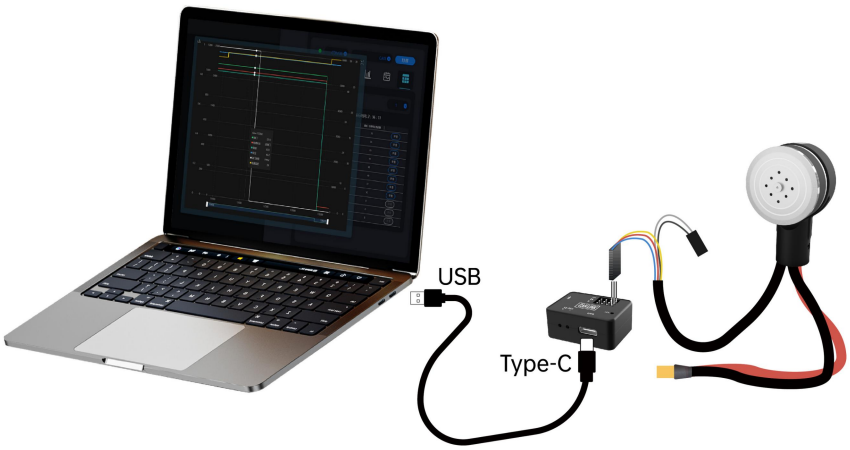
2.1 Wiring Instructions

Use the CAN LINK box and UniGCS software to support the firmware upgrade of the power system; customize the light color, throttle ID and CAN throttle channel settings of the power system; view the real-time data of the power system; analyze the fault information of the power system.

Tool preparation

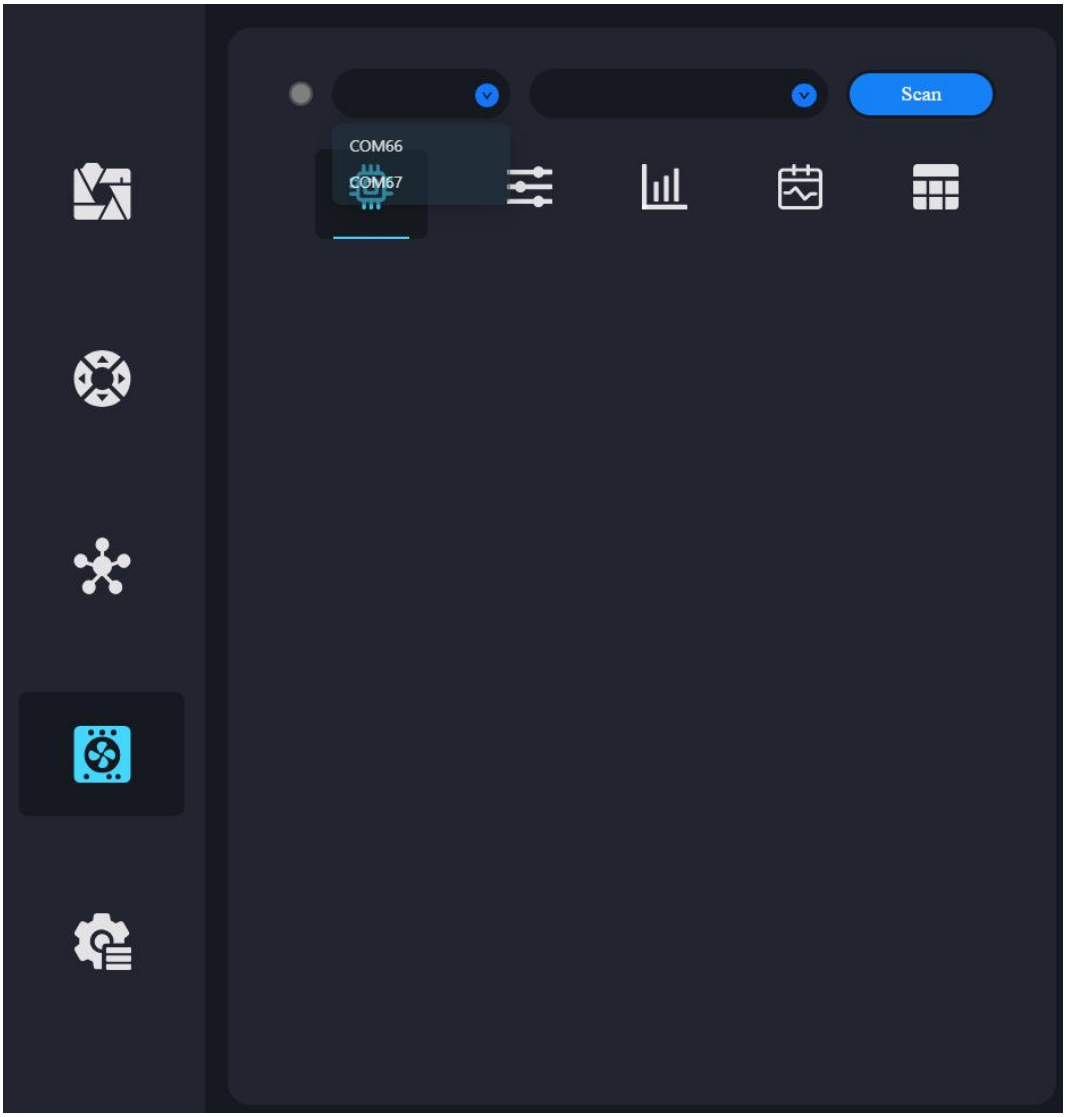
- UniGCS software (Windows version)
- CAN Link module
- Windows equipment

Operation steps

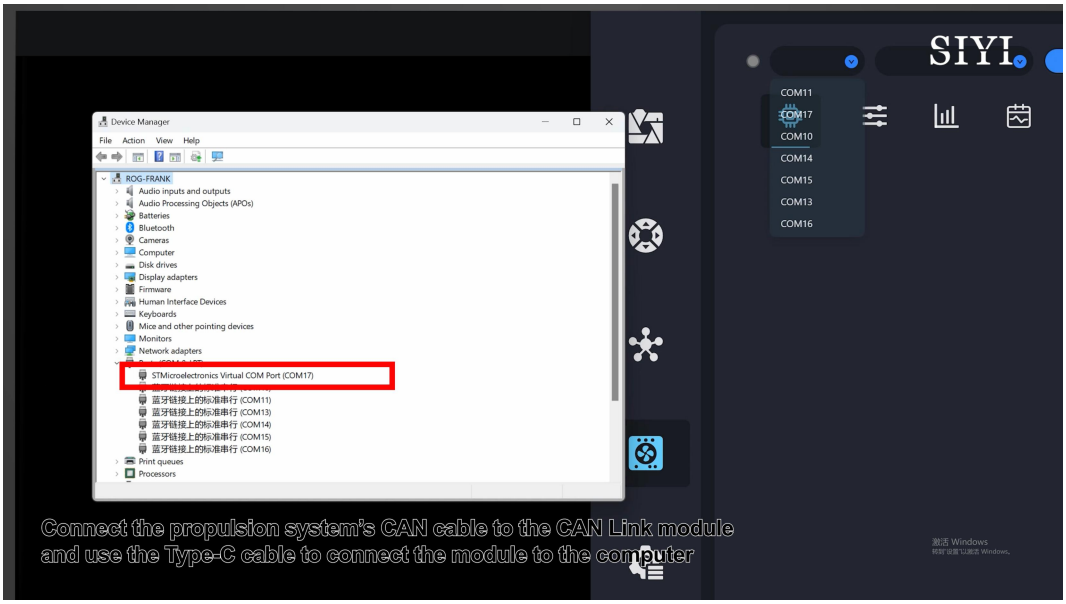


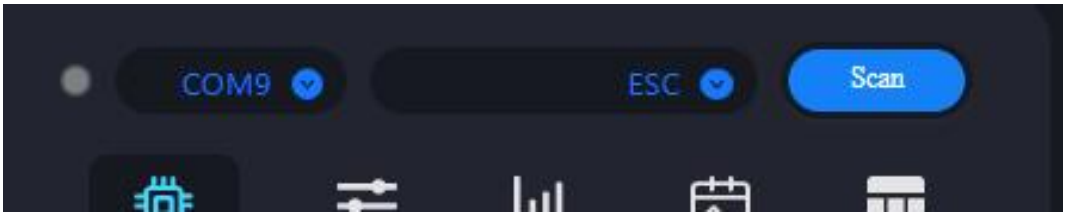
Connect the flight controller that is connected to
the CAN Hub module bus to the computer using a Type-C cable

1. Please refer to the figure above to connect the power system, CAN LINK module and Windows equipment, and supply power to the power system within the normal operating voltage range.
2. Run the UniGCS ground station software to enter the EDC setup menu.

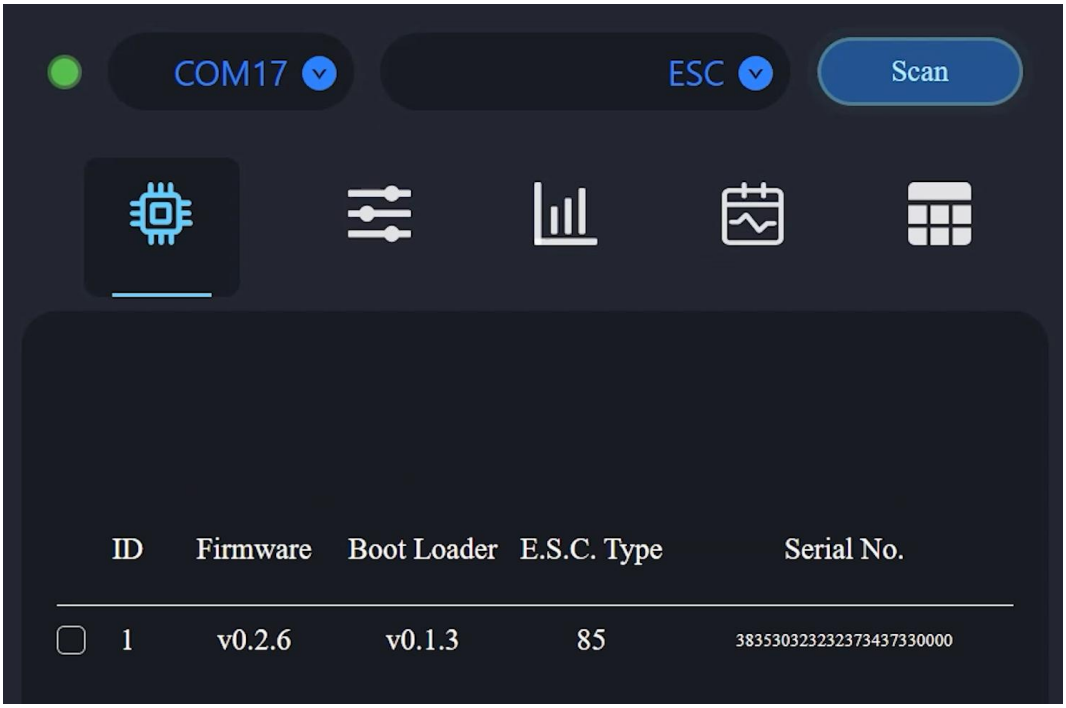


3. Select the corresponding COM port and equipment type (ESC), and then click "Scan".



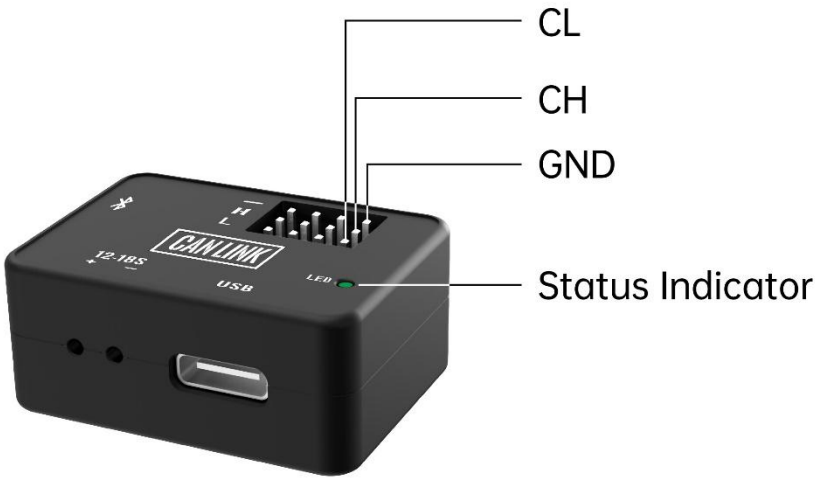


4. If the power system can be identified normally, the connection is successful.



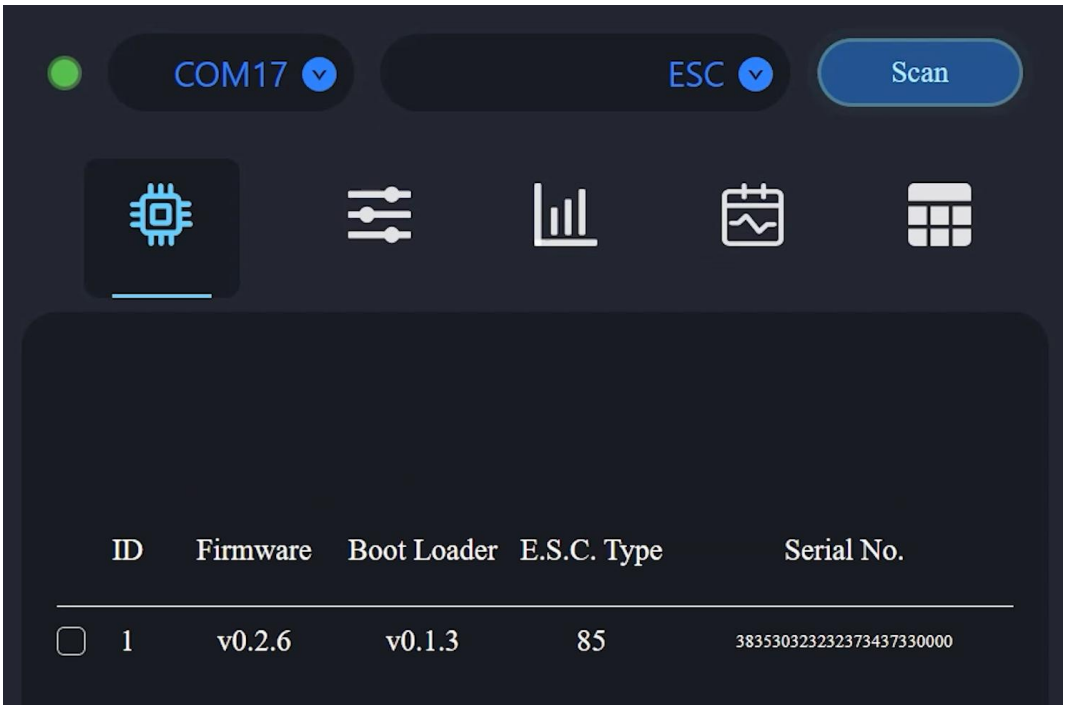
Note

Before setting parameters, please ensure that the power system works normally, and pay special attention to the pin definition of CAN interface to avoid reverse insertion.

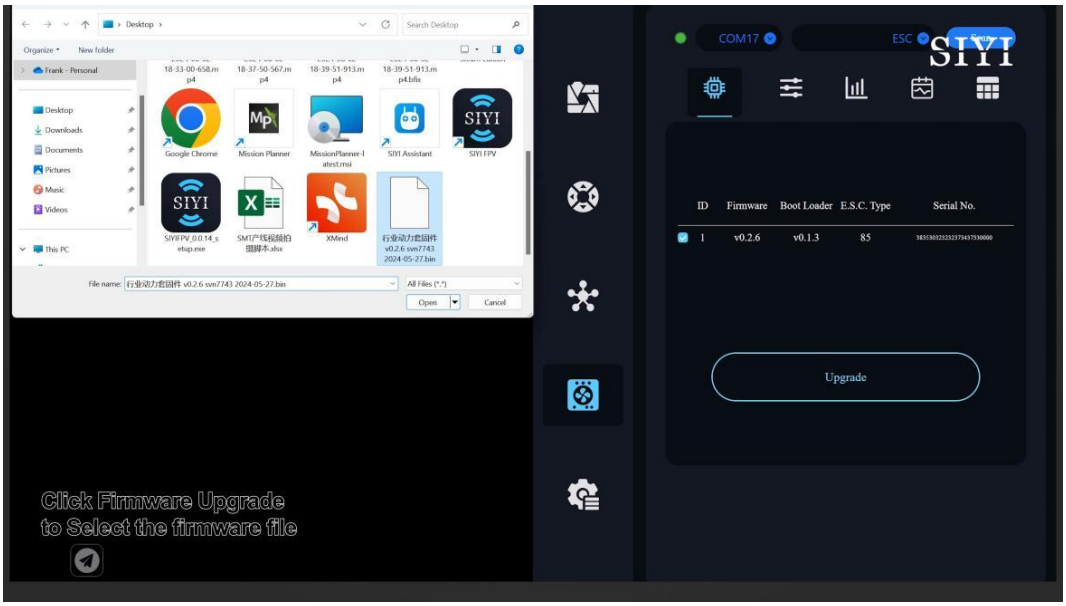


2.1.1 Firmware Upgrade of Power System

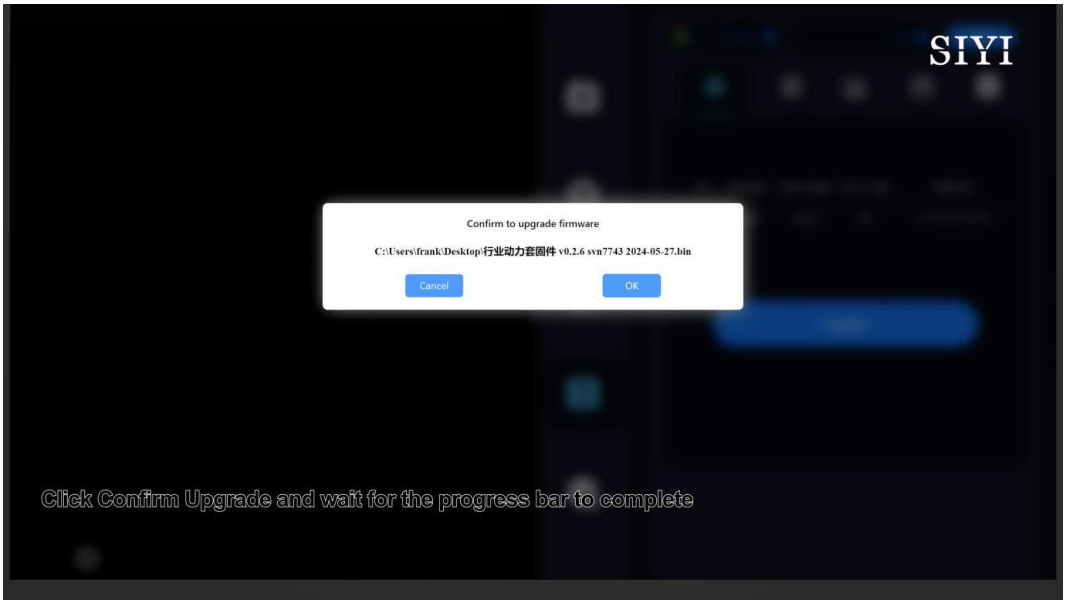
1. Run the UniGCS software, enter the ESC setting menu, and select the firmware upgrade interface.

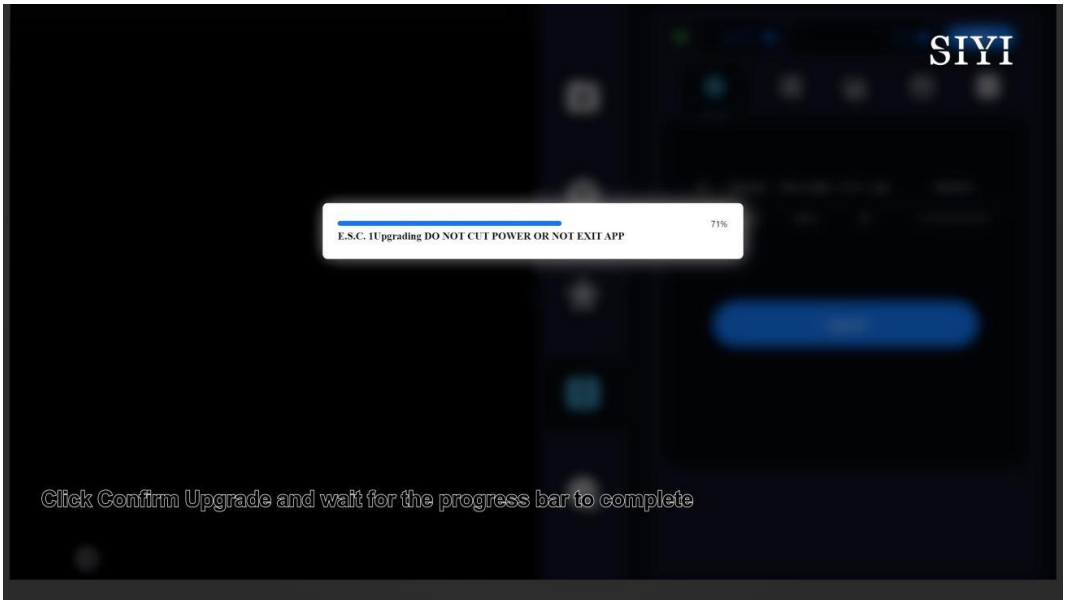


2. Check the power system to be upgraded and click the update upgrade button to select the firmware file.

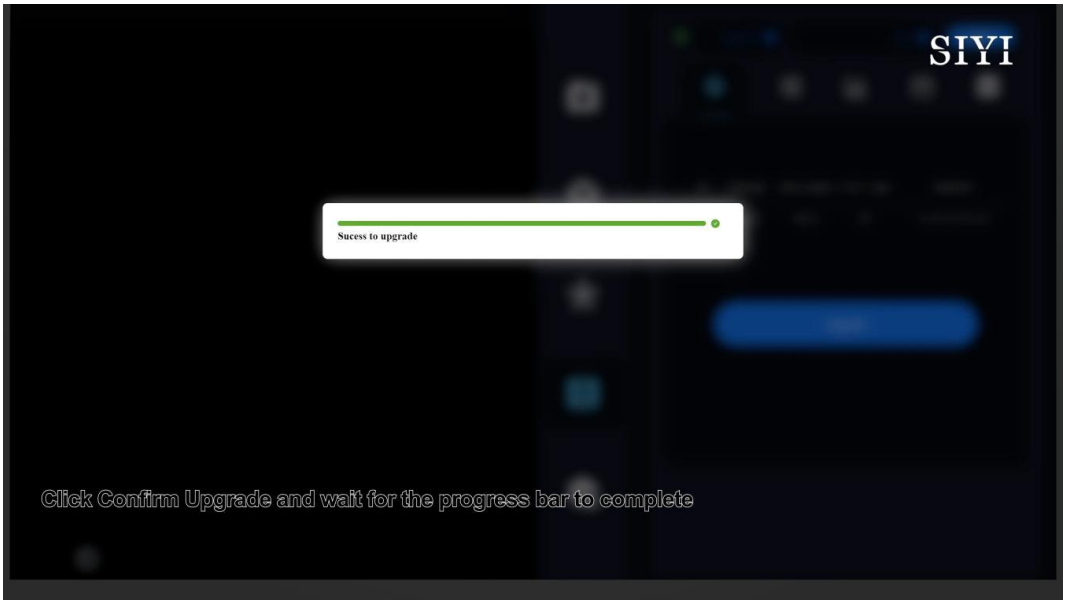


3. Click to confirm the upgrade and wait for the update progress bar to complete.





4. Upgrade succeeded.



Note

Before upgrading the firmware, please ensure that the power system works normally, and pay special attention to the pin definition of the CAN interface to avoid reverse insertion.

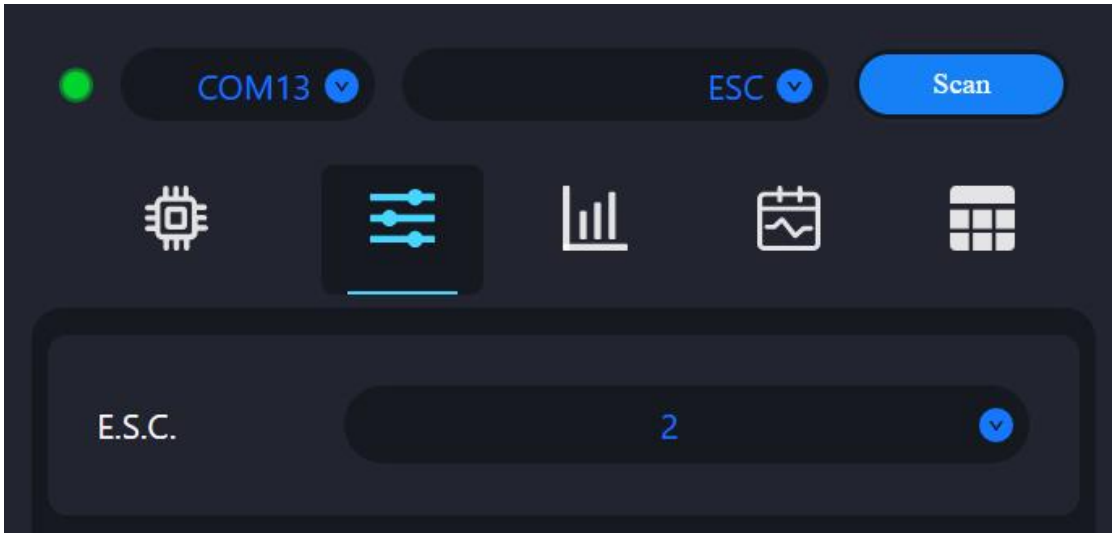
The upgrade status will be displayed through the color change of the power system navigation lights. After the upgrade is completed, a chime will be issued and the navigation lights will return to their original colors.

2.1.2 Power system navigation light setting

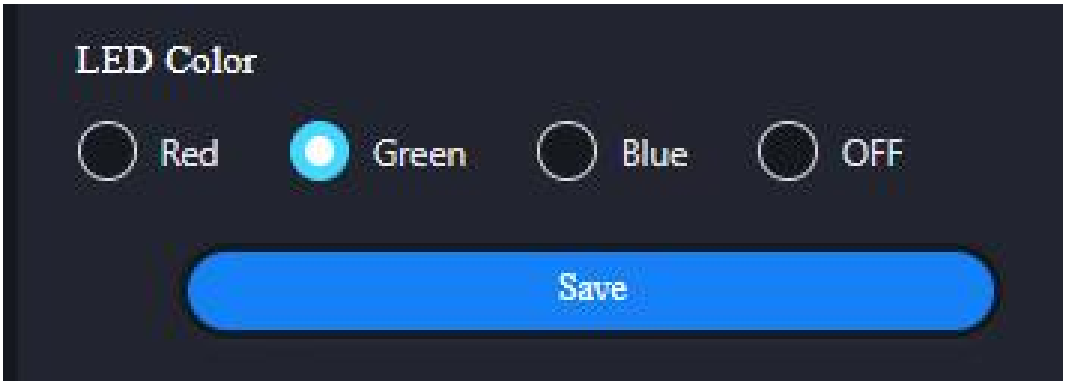
The light color of the power system is an important reference for UAV visual flight.

Operation steps

1. In the parameter adjustment interface, select the target ESC ID.



2. Set the lamp color for this electric tone and save.



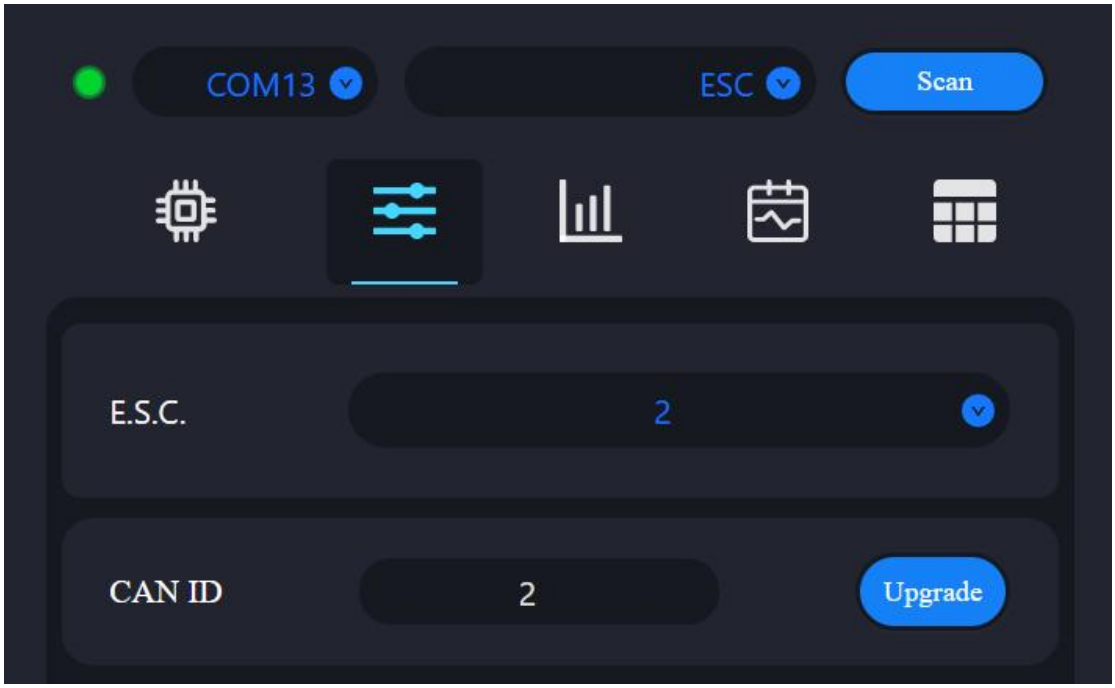
3. If the color of the power system indicator light changes accordingly at this time, the setting is successful.

Note

Before setting the electric adjustment, please close other serial devices to avoid unsuccessful identification of the power system.

2.1.3 Powertrain CAN ID setting

CAN ID setting is mainly used to name each device on the CAN bus. There cannot be the same ID, otherwise conflicts will occur and affect CAN bus data sending and receiving.



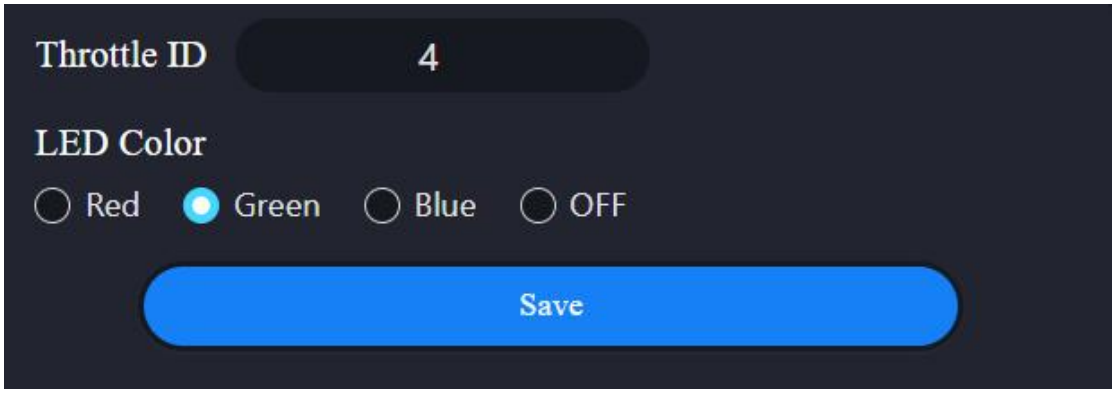
After the CAN ID is set in this interface, click Update on the right side to set it successfully.

Note

The power system will automatically distribute the power ID when leaving the factory, so not setting the power ID will not affect the normal use of the product.

2.1.4 Powertrain CAN throttle ID setting

CAN throttle is a digital throttle, which helps the power system to run more delicate and accurate. The CAN throttle function must be set correctly, otherwise flight safety will be affected.



In the throttle ID setting interface, click the save button below according to the correct throttle channel ID set for flight control.

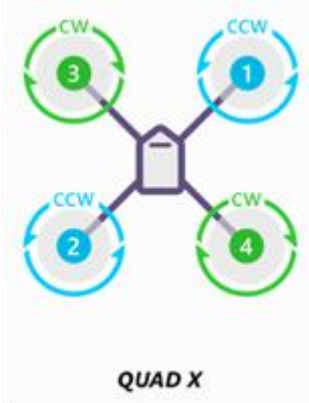
Note

The default value of SIYI power sleeve is PWM throttle priority. CAN throttle will only be used when there is no PWM throttle. If you need CAN throttle priority, please contact SIYI official.

If the CAN throttle is not used, no setting is required.

The mainstream flight control systems on the market generally limit the throttle ID and motor steering of a specific model. When installing the power system, we also need to carefully refer to the flight control system user manual to match the throttle ID and motor steering one by one.

Take N7 flight control system (ArduPilot firmware) and D6 industry power system as an example:



four axis aircraft

six axis aircraft

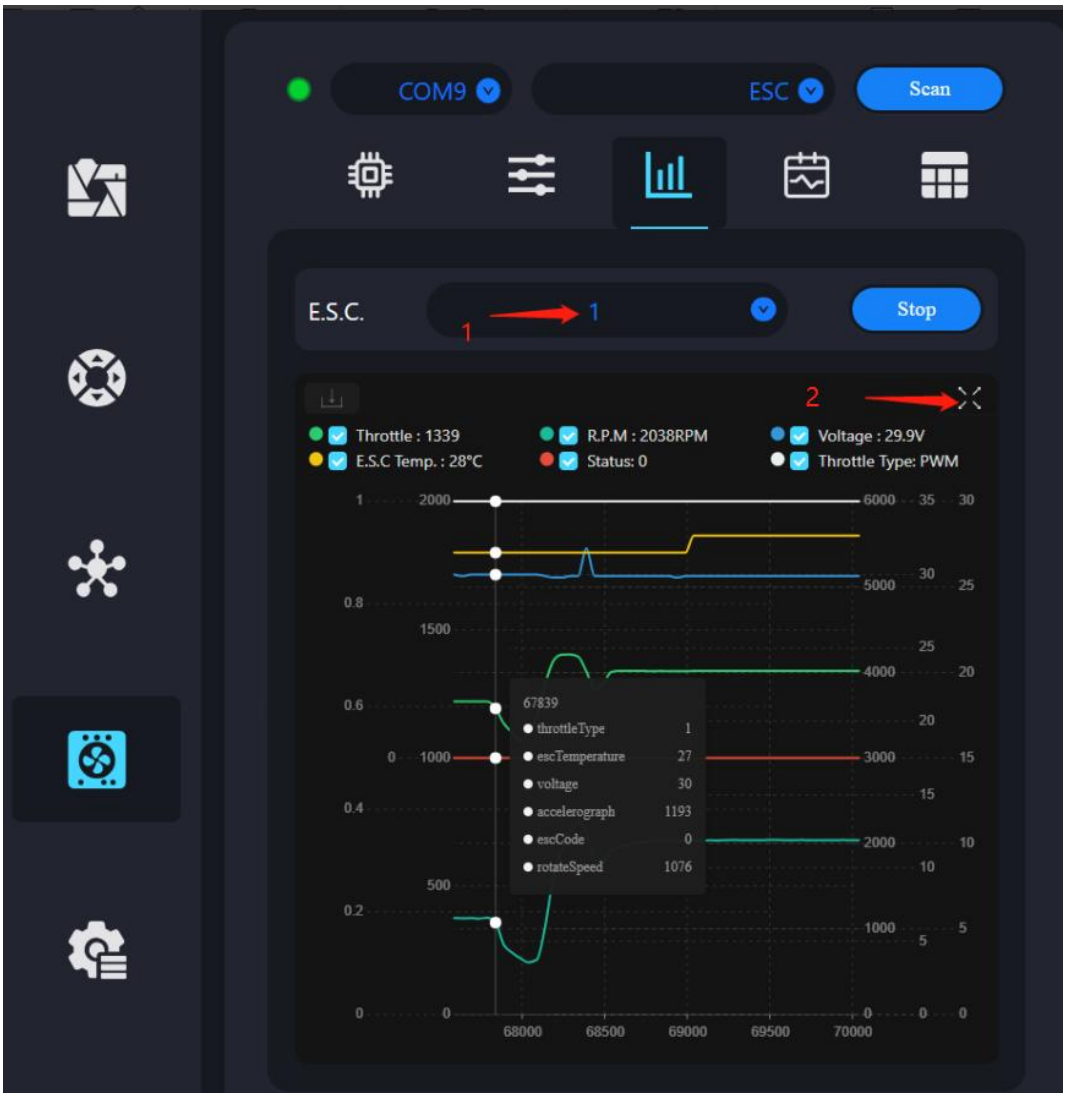
Eight-axis aircraft

Select the corresponding powertrain according to the motor rotation direction (CW or CCW).

Note

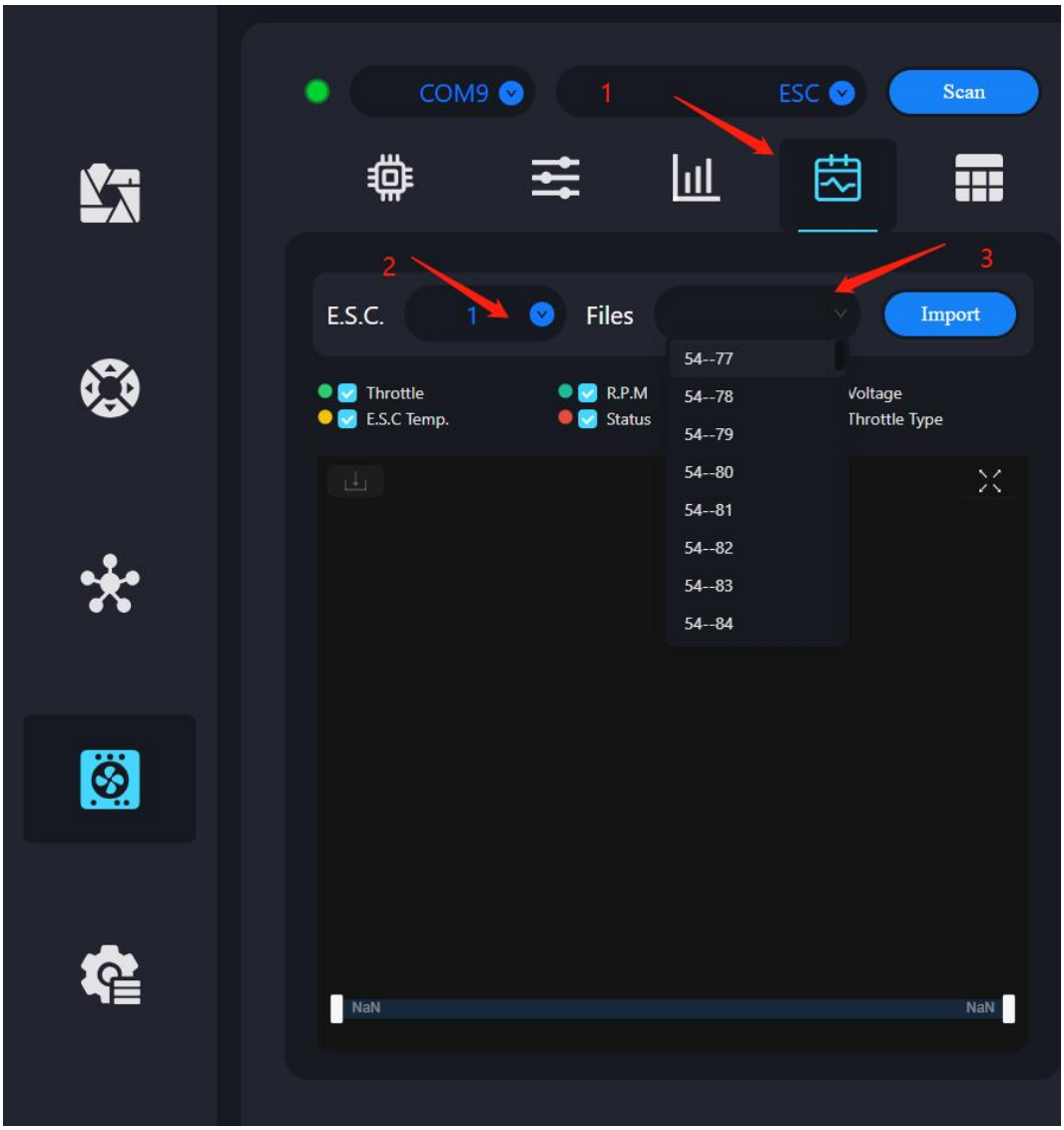
If your SIYI power system will be used with commercial flight control, please be sure to carefully refer to the contents related to throttle ID and motor steering in the flight control system user manual to avoid safety risks caused by improper use. If necessary, consult the original technical support.

2.1.5 View real-time operation data of power system

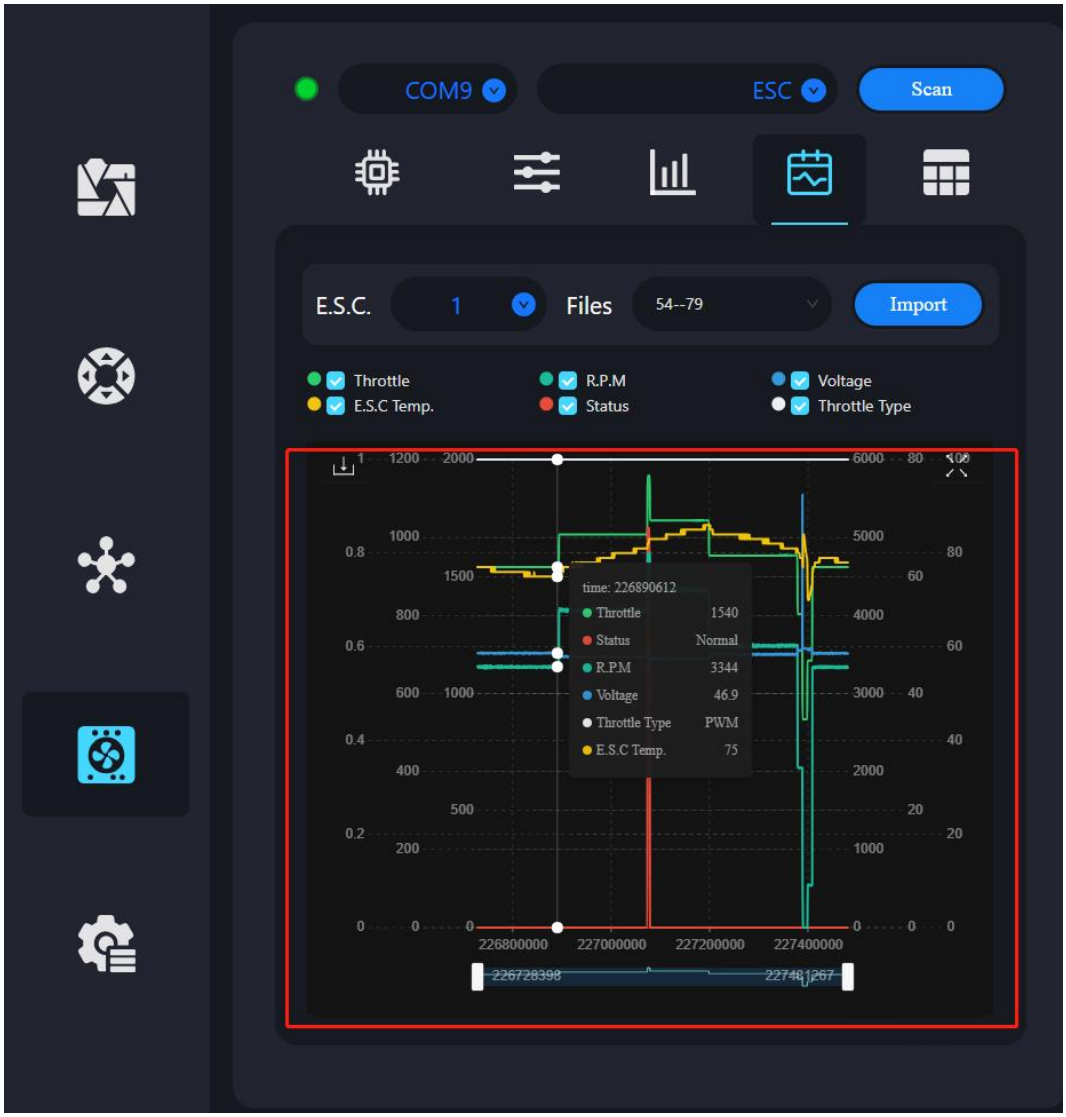


After selecting the corresponding ID, the system will display a series of parameters, including throttle state, speed, voltage, electric temperature, electric state and throttle type. In addition, the corresponding waveform is displayed in real time for monitoring and analysis.

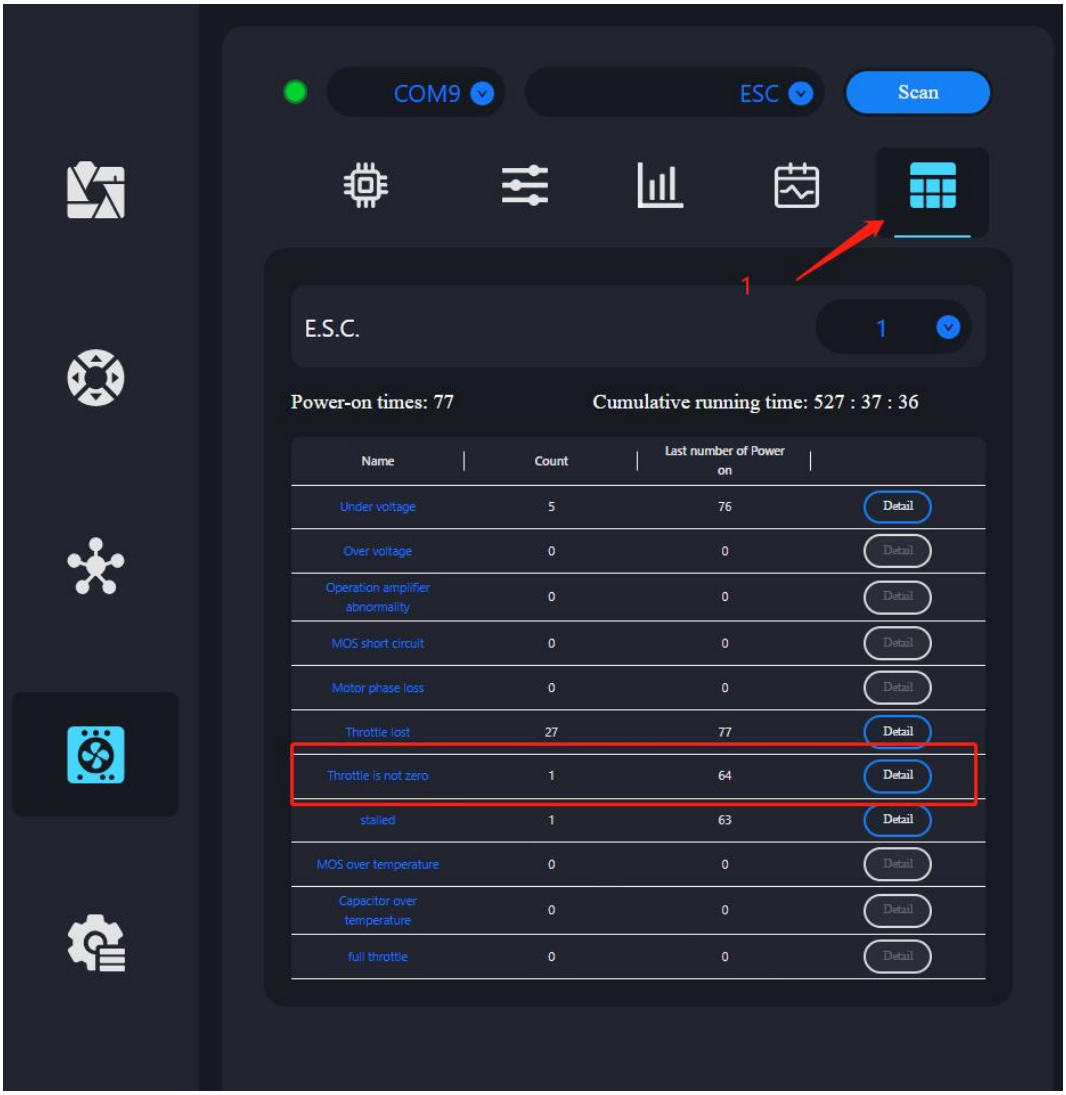
2.1.6 View of historical operation data of power system



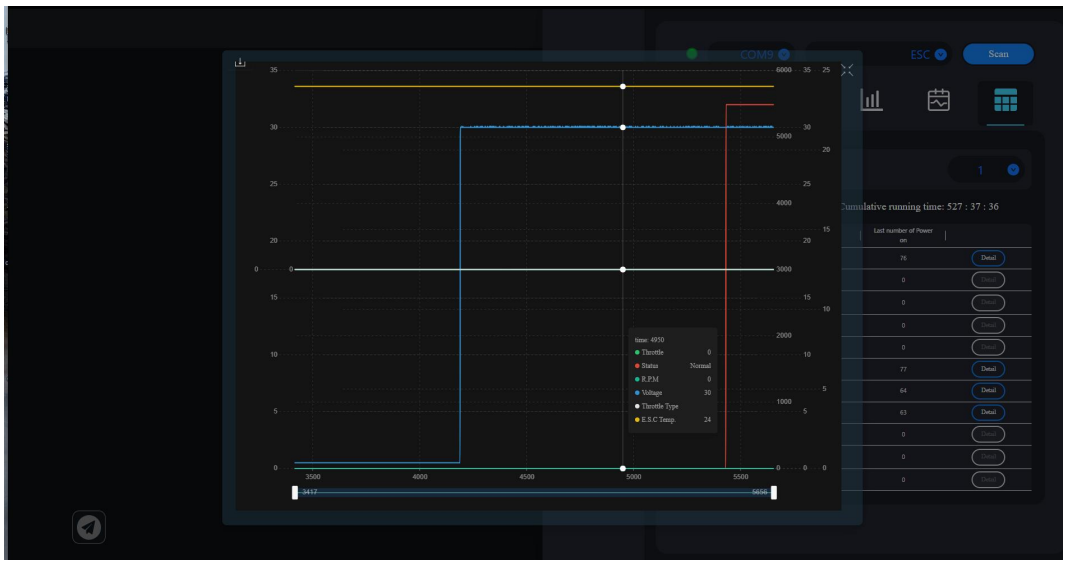
The user can refer to the relevant information through the electronic adjustment ID. The front part represents the corresponding power-on times, and the rear part represents the document serial number. According to this naming rule, the user can read the data content of the corresponding file.


COM9
ESC
Scan
E.S.C.
1
Files
54--79
Import
Throttle
E.S.C Temp.
R.P.M
Status
Voltage
Throttle Type
time: 226890612
Throttle 1540
Status Normal
R.P.M 3344
Voltage 46.9
Throttle Type PWM
E.S.C Temp. 75
226800000
227000000
227200000
227400000
226728398
227481267

2.1.7 View of power system fault storage function



The user needs to select the corresponding electric adjustment ID to view according to actual needs. When the user clicks the details option, the system will display the exception occurrence time and specific exception point information of the file.



Note

The blade shall be removed before the analysis of historical data and fault storage data to avoid the risk to personal safety.

Confirm the flight data to avoid incorrect data analysis and the cause of the problem cannot be analyzed accurately.

Chapter 3: Aftermarket and Warranty

Please visit the SIYI Technology support page at Service and Support - SIYI Technology | Empowering and Building an Intelligent Robot Ecology for the latest after-sales and warranty information.