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OX32 ESC Configurator

User Manual

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Parameter Introduction

General

i. **Motor Timing**: Motor timing determines the point when current switches to the next coil. This parameter directly impacts motor efficiency and stability. Increasing motor timing increases torque but reduces efficiency and generates more heat. Keep the default value, increase it if desynchronizat--ion occurs.

ii. **Minimum PWM Frequency**: ESC's driving frequency for the motor. Higher PWM frequencies increase efficiency and flight smoothness but reduce motor power.

iii. **Maximum PWM Frequency**: When the maximum and minimum PWM frequencies differ, the PWM frequency will vary between the set range based on throttle input.When the highest PWM frequency is set to BY RPM, the PWM frequency changes with the motor speed. As the speed increases, the PWM frequency rises for smoother flight; as the speed decreases, the PWM frequency decreases to enhance motor control.

iv. **Demag Compensation**: Demag compensation is a protective feature that prevents the motor from stopping or desynchronizing due to demagnetization, especially during rapid throttle increase.Keep the default setting, and increase compensation if desynchronization occurs.

Rampup Setting

i. **Rampup Power**: The initial power provided to the motor during startup. This setting primarily affects the motor's startup behavior, ensuring smooth startup and operation.Default settings are suitable for most cases; increase this setting if using large motors or propellers.

ii. **Soft Rampup**: Used to enable or disable the soft rampup function. When enabled, upon arming the motor, the RPM will gradually increase from the Soft Rampup Throttle value at a slower rate until it reaches the idle speed. This process limits the motor's acceleration rate to ensure a smooth startup, reducing unexpected risks. Once the idle speed is reached, the acceleration limit is removed, and the motor responds normally until it is disarmed again.

iii. **Acceleration Rate**: Defines motor acceleration speed. Higher values increase throttle response. If desynchronization occurs, consider reducing this setting.

iv. **Deceleration Rate**: Defines motor deceleration speed. Higher values increase throttle response. If desynchronization occurs, consider reducing this setting.

v. **Safe Rampup**: Enables or disables the safe start function. When the battery is connected and the motor is unlocked for the first time, if the ESC detects a motor collision, it will automatically stop that motor. This function automatically deactivates when the throttle exceeds a certain value. To prevent interference with the [Turtle Mode] function, this feature will not reactivate even if the motor is locked and unlocked again, unless the battery is reconnected.

Braking Setting

i. **Brake on Stop**: Stops the motor when the throttle is at zero, commonly used for fixed-wing aircraft to reduce drag and protect the propeller. If idle speed is enabled, the motor will maintain rotation at idle throttle, and the brake function will not be effective.

ii. **Brake Strength on Stop**: Adjusts the braking strength when the brake on stop function is enabled.

Buzzer Setting

i. **Beacon Delay**: After powering on, the ESC emits a beacon sound. This setting adjusts the delay for the beacon sound.

ii. **Startup Beep Volume**: Adjusts the volume of the startup self-check sound. Note: Excessive volume may damage the motor.

iii. **Beacon/Signal Beep Volume**: Adjusts the volume of motor beeps other than the startup sound. Note: Excessive volume may damage the motor.

Protection

i. **Stall protection (Sensitivity)**: Detects abnormal motor speed and takes appropriate protective measures.Higher sensitivity makes it easier to detect stalling and protect the motor in time.Lower sensitivity increases the risk of motor or ESC damage during crashes or stuttering.Default settings are recommended.

ii. **Stall protection (Duration)**: Defines how long the motor stops and restarts upon detecting a stall. Longer durations provide better protection but may cause greater attitude changes. Shorter durations increase the risk of motor or ESC damage during crashes or stuttering.It is generally recommended to keep the default setting, which protects the motor while allowing the attitude to recover quickly.

iii. **Low RPM Power Protection**: For low-KV motors with large propellers, select [On Adaptive]. For high-KV motors, enable this setting. Otherwise, try disabling this setting.

iv. **Over-temperature Protection**: When the MCU temperature exceeds the protection limit, motor output power is reduced to prevent ESC from overheating.

v. **Low Voltage Protection**: When the voltage drops below the limit, motor output power is reduced to prevent crashes caused by low voltage.

Telemetry & Device Info

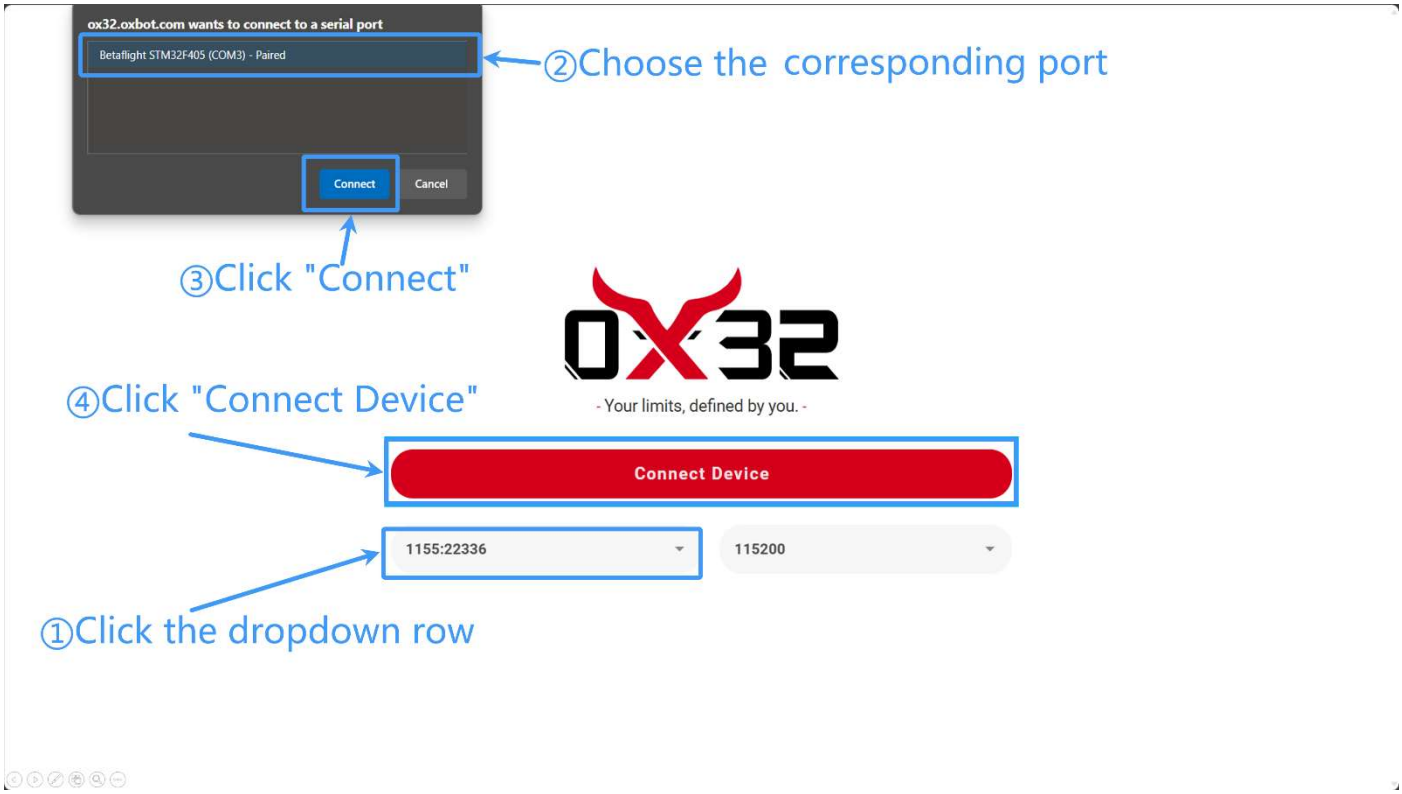
i. **Auto Telemetry Switch**: When enabled, the ESC automatically sends telemetry feedback (not bidirectional DSHOT).

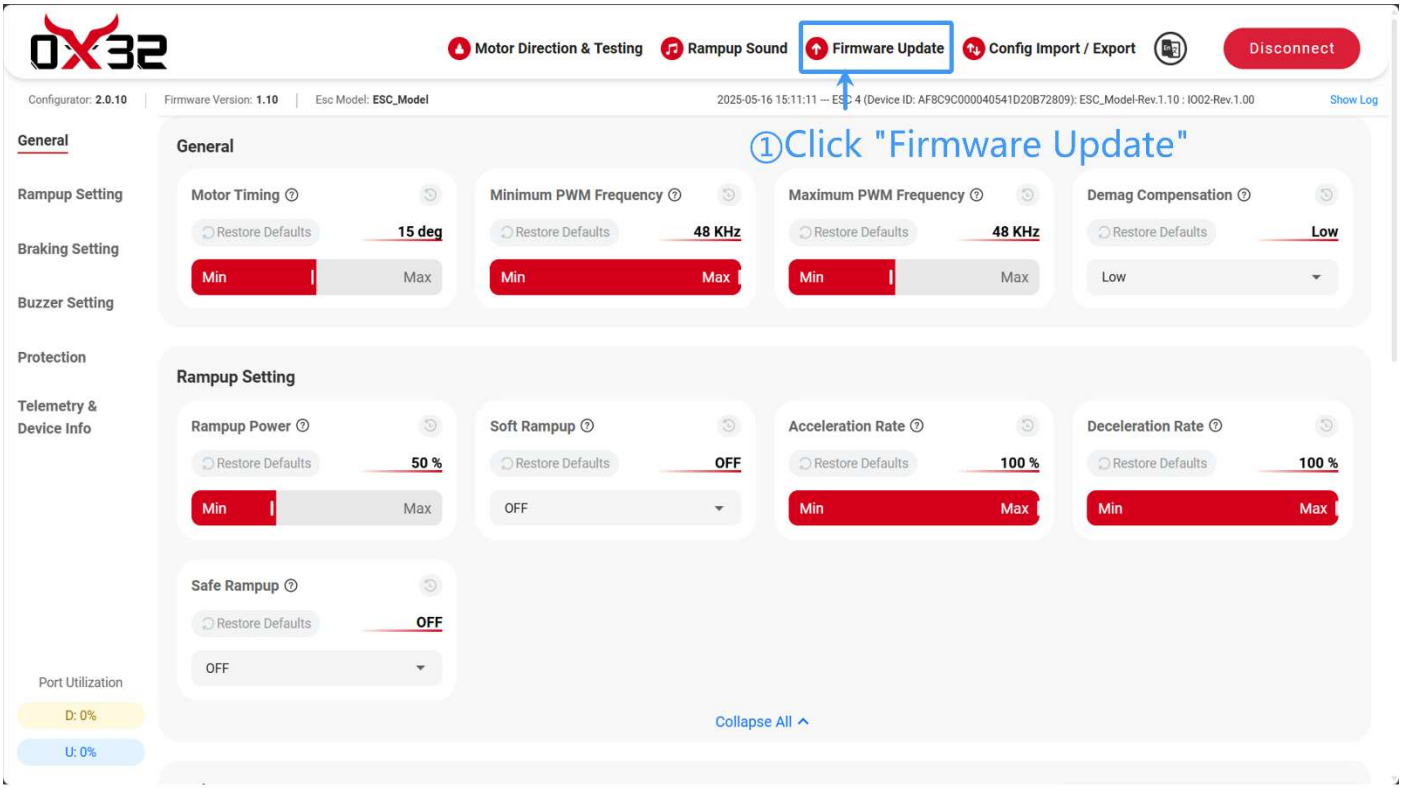
ii. **Auto Telemetry Interval**: Set the time interval for telemetry feedback.

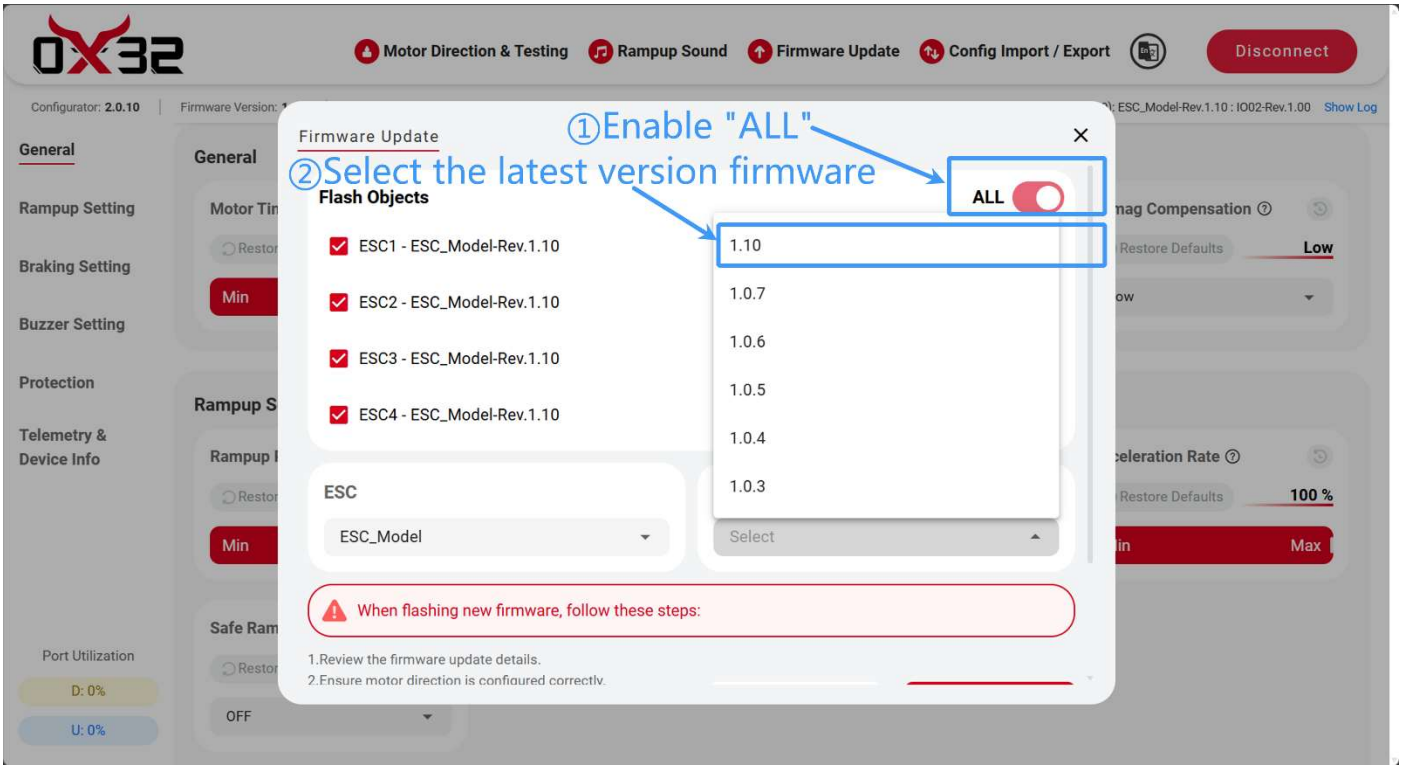
iii. **ESC Name**: Set the custom name for the ESC.

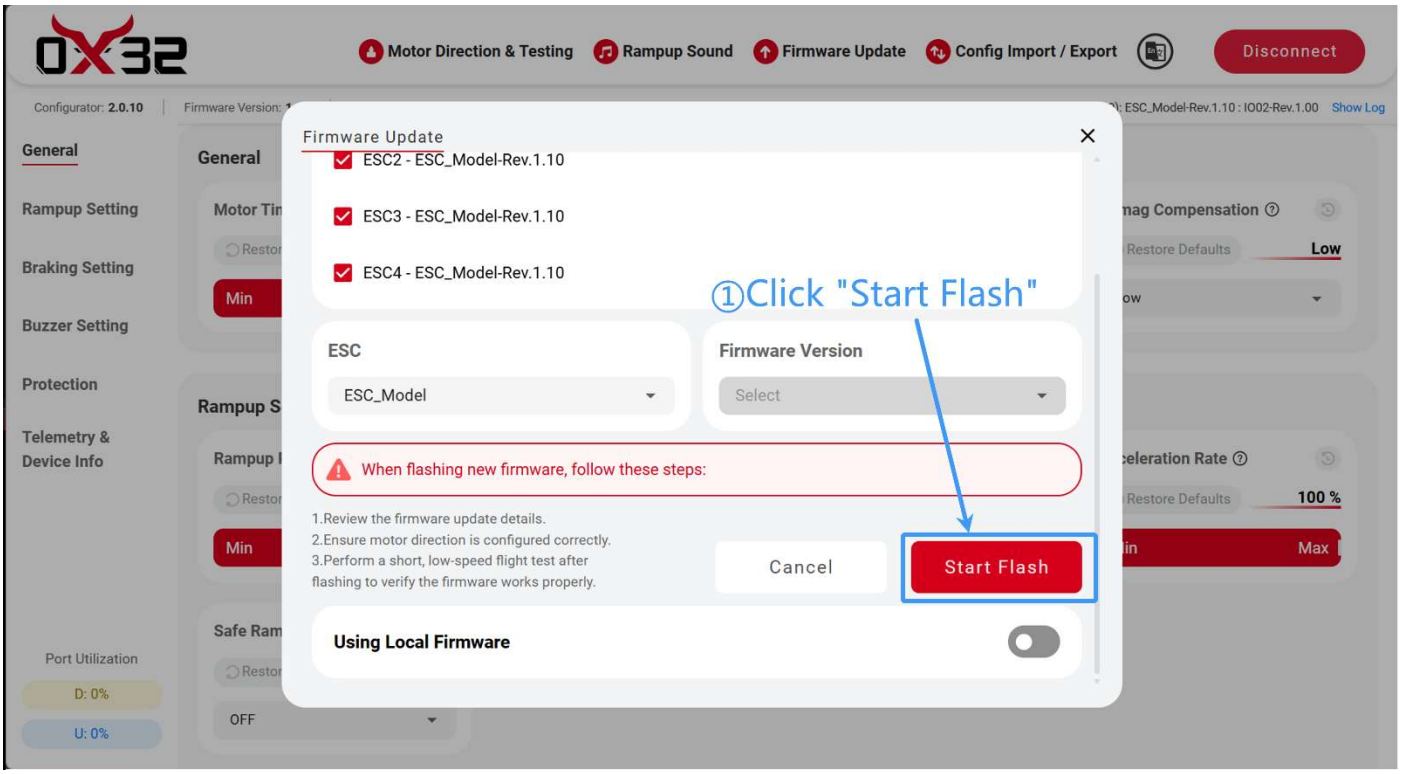
Firmware Upgrade

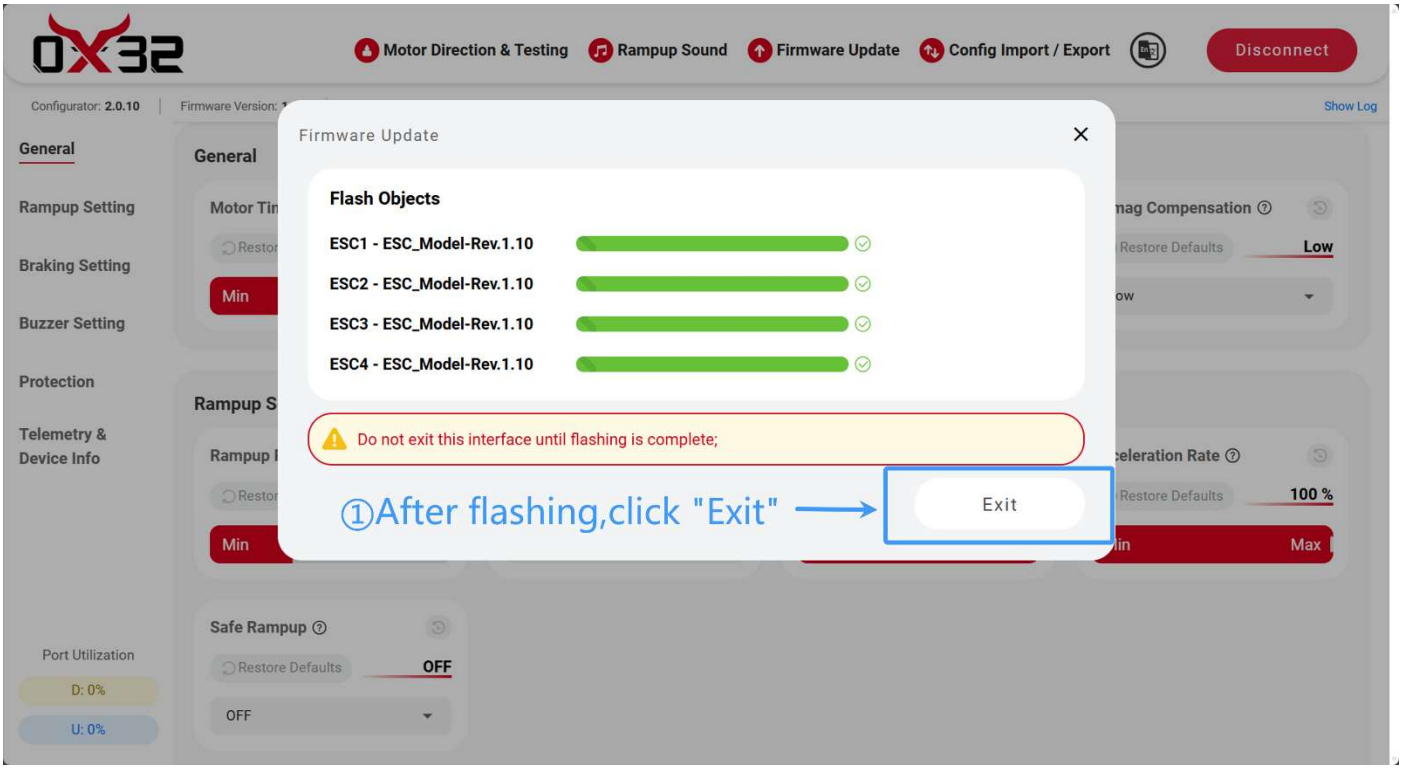
Supports both online and local firmware flashing. Please use a battery to power the ESC during the configuration process.



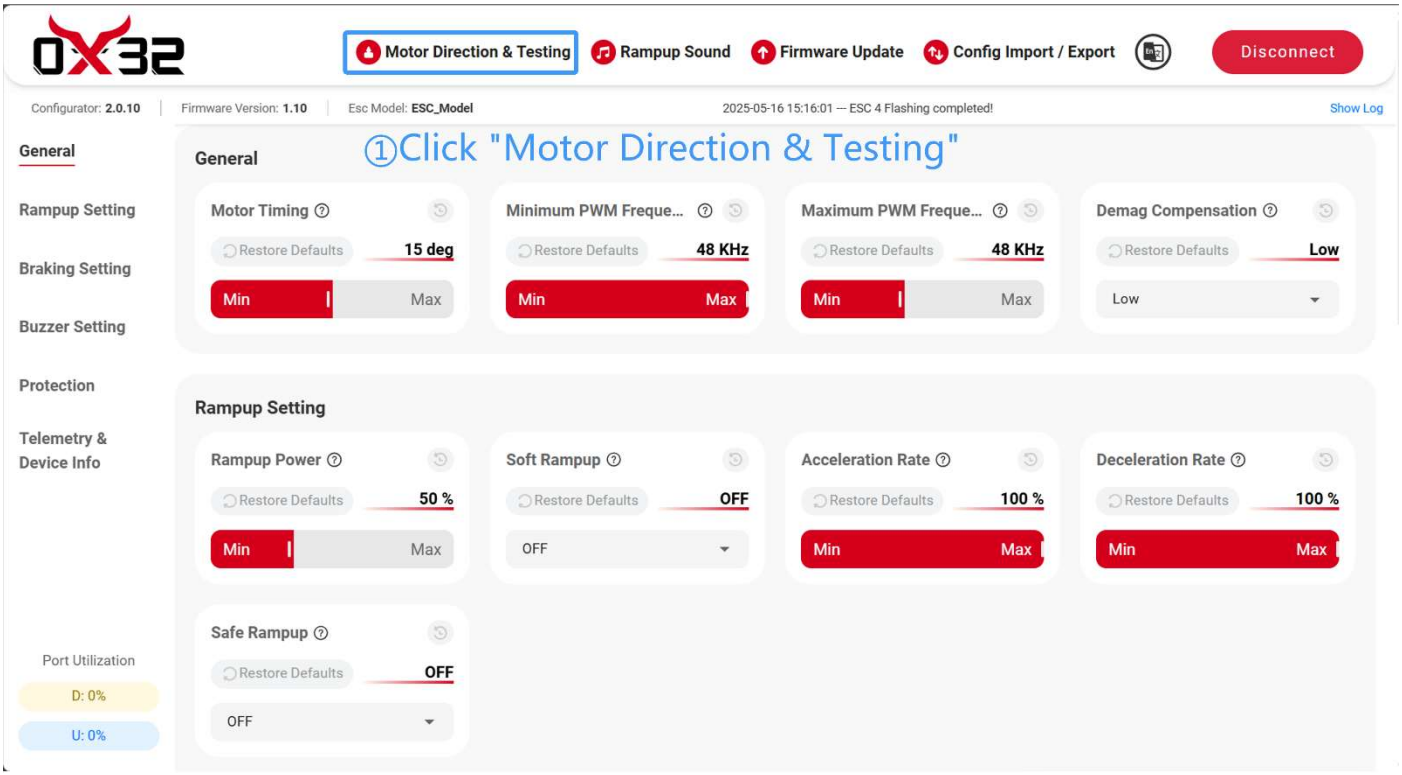


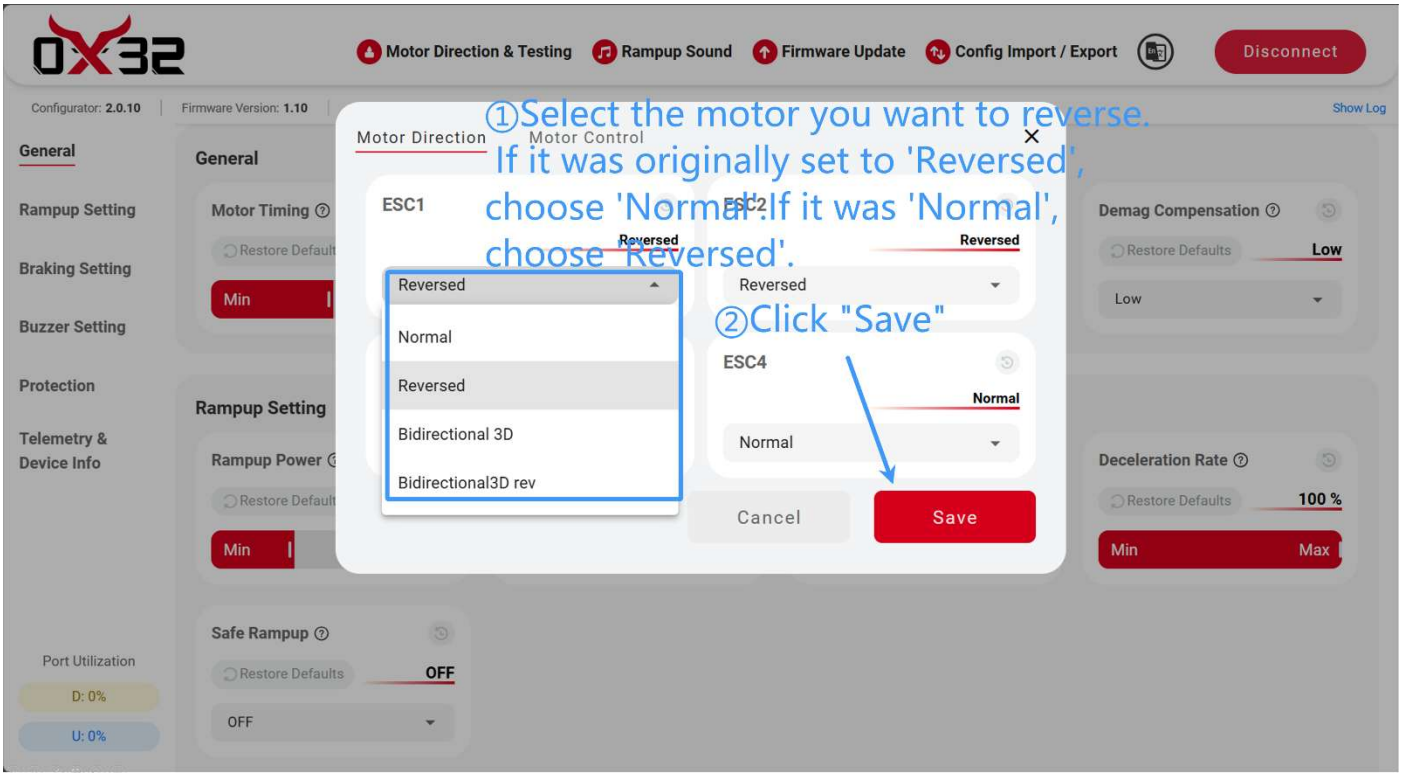

Motor Direction & Testing
Rampup Sound
Firmware Update
Config Import / Export
Disconnect
①Enable "ALL"
②Select the latest version firmware
Firmware Update
Flash Objects
ALL
ESC1 - ESC_Model-Rev.1.10
ESC2 - ESC_Model-Rev.1.10
ESC3 - ESC_Model-Rev.1.10
ESC4 - ESC_Model-Rev.1.10
1.10
1.0.7
1.0.6
1.0.5
1.0.4
1.0.3
ESC
ESC_Model
Select
When flashing new firmware, follow these steps:
1.Review the firmware update details.


Motor Direction & Testing
Rampup Sound
Firmware Update
Config Import / Export
Disconnect
Firmware Update
ESC2 - ESC_Model-Rev.1.10
ESC3 - ESC_Model-Rev.1.10
ESC4 - ESC_Model-Rev.1.10
①Click "Start Flash"
ESC
ESC_Model
Firmware Version
Select
When flashing new firmware, follow these steps:
1.Review the firmware update details.
2.Ensure motor direction is configured correctly.
3.Perform a short, low-speed flight test after flashing to verify the firmware works properly.
Cancel
Start Flash
Using Local Firmware

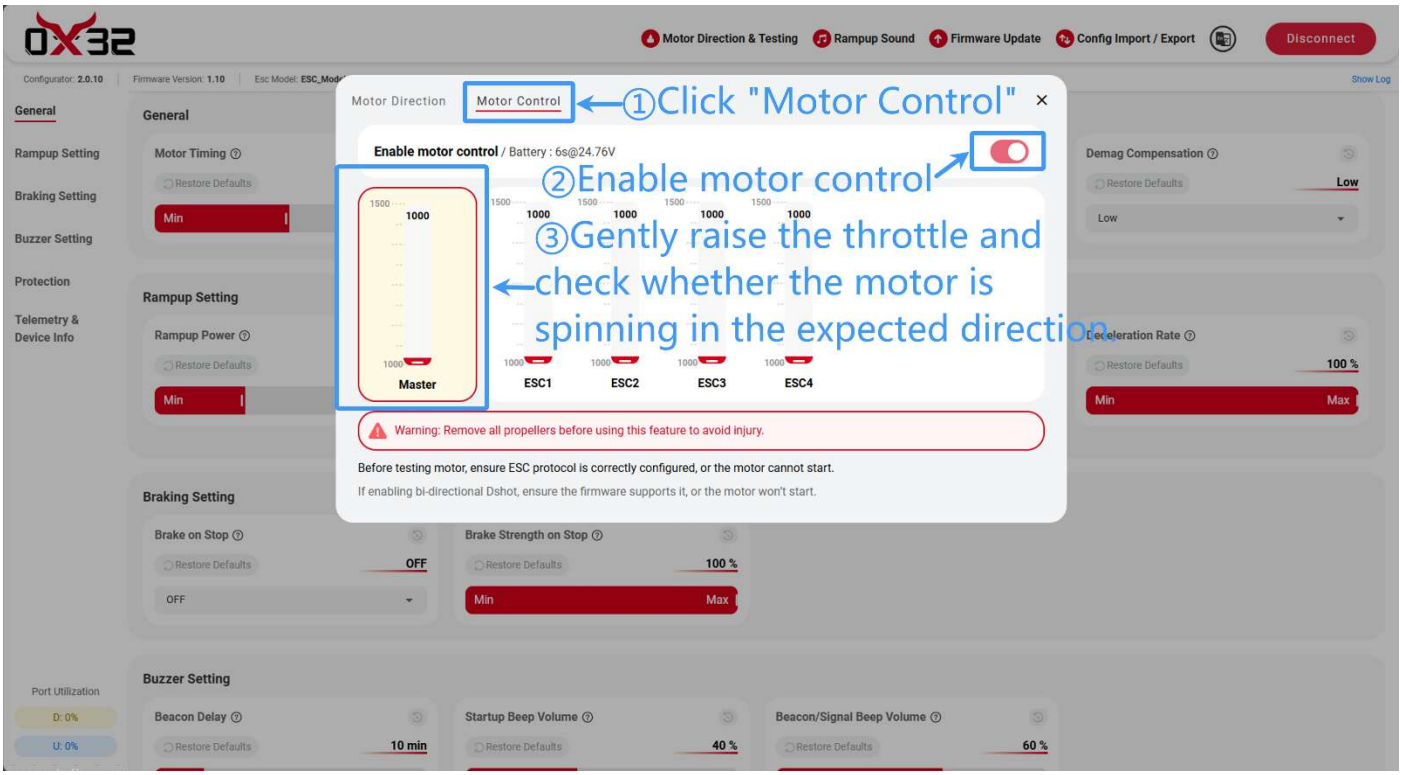

Motor Direction & Testing
Rampup Sound
Firmware Update
Config Import / Export
Disconnect
Configurator: 2.0.10
Firmware Version:
Show Log
General
Rampup Setting
Braking Setting
Buzzer Setting
Protection
Telemetry & Device Info
Port Utilization
D: 0%
U: 0%
Firmware Update
Flash Objects
ESC1 - ESC_Model-Rev.1.10
ESC2 - ESC_Model-Rev.1.10
ESC3 - ESC_Model-Rev.1.10
ESC4 - ESC_Model-Rev.1.10
Do not exit this interface until flashing is complete;
①After flashing,click "Exit"
Exit
Restore Defaults
Low
100 %
Min
Max
Safe Rampup
OFF

Modify Motor Direction

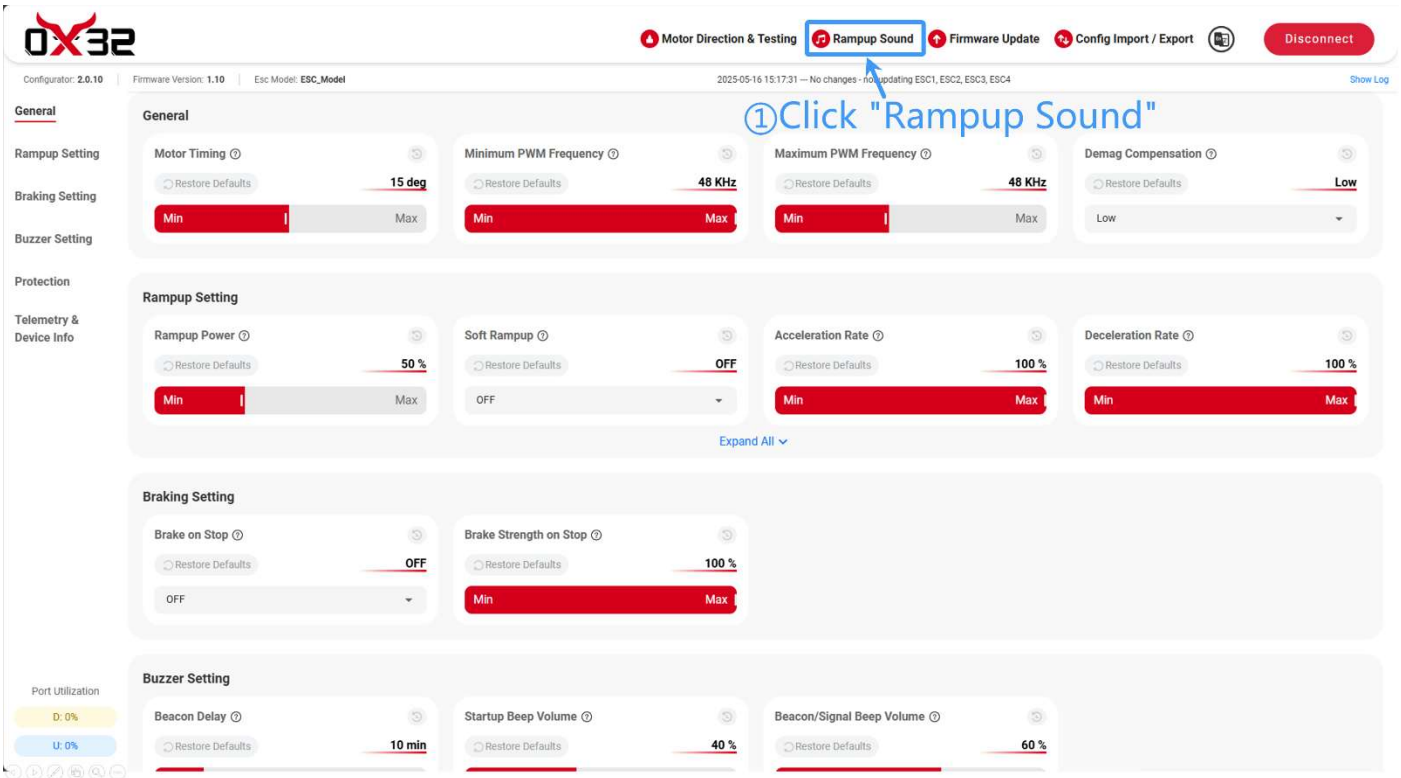


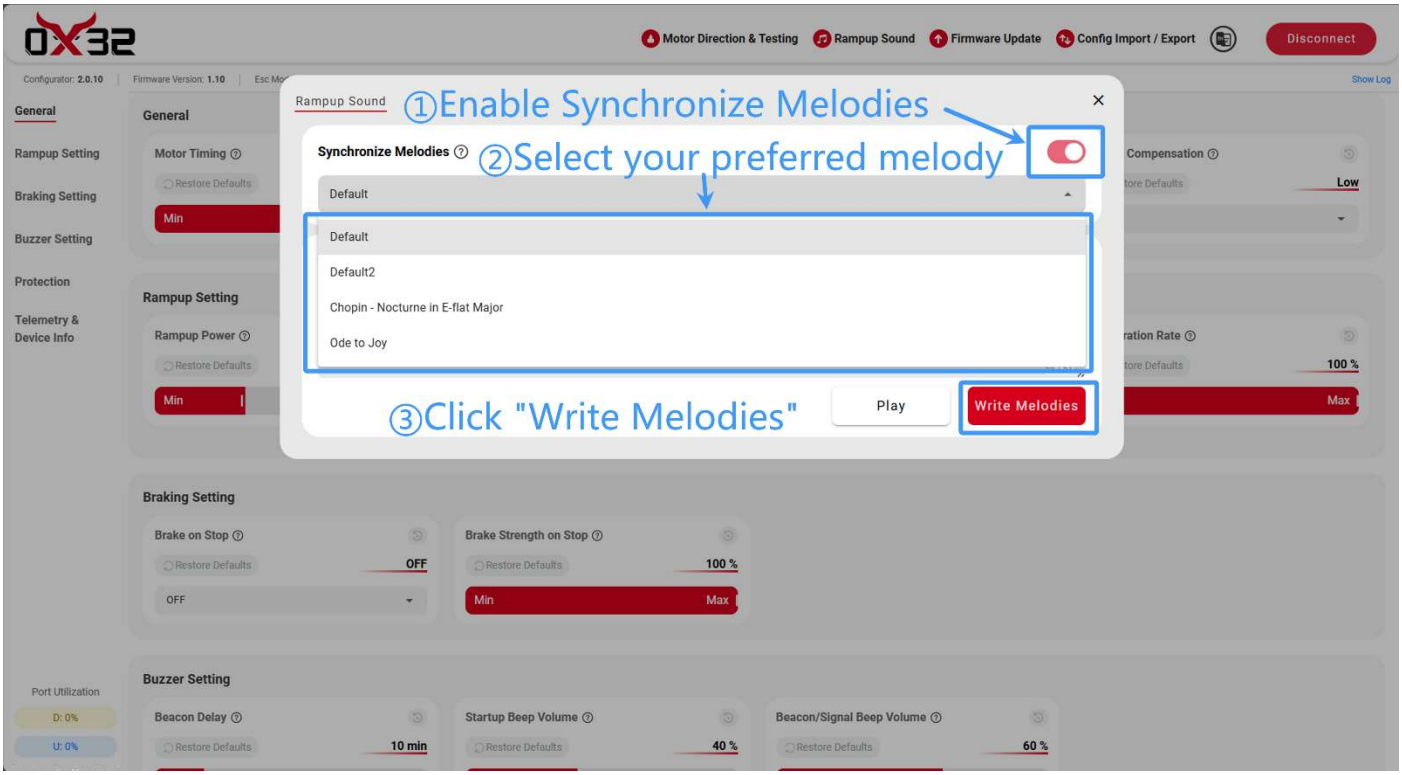


There is a chance the modification may fail. If it does, please reconnect the configurator and repeat the modification process until it succeeds.

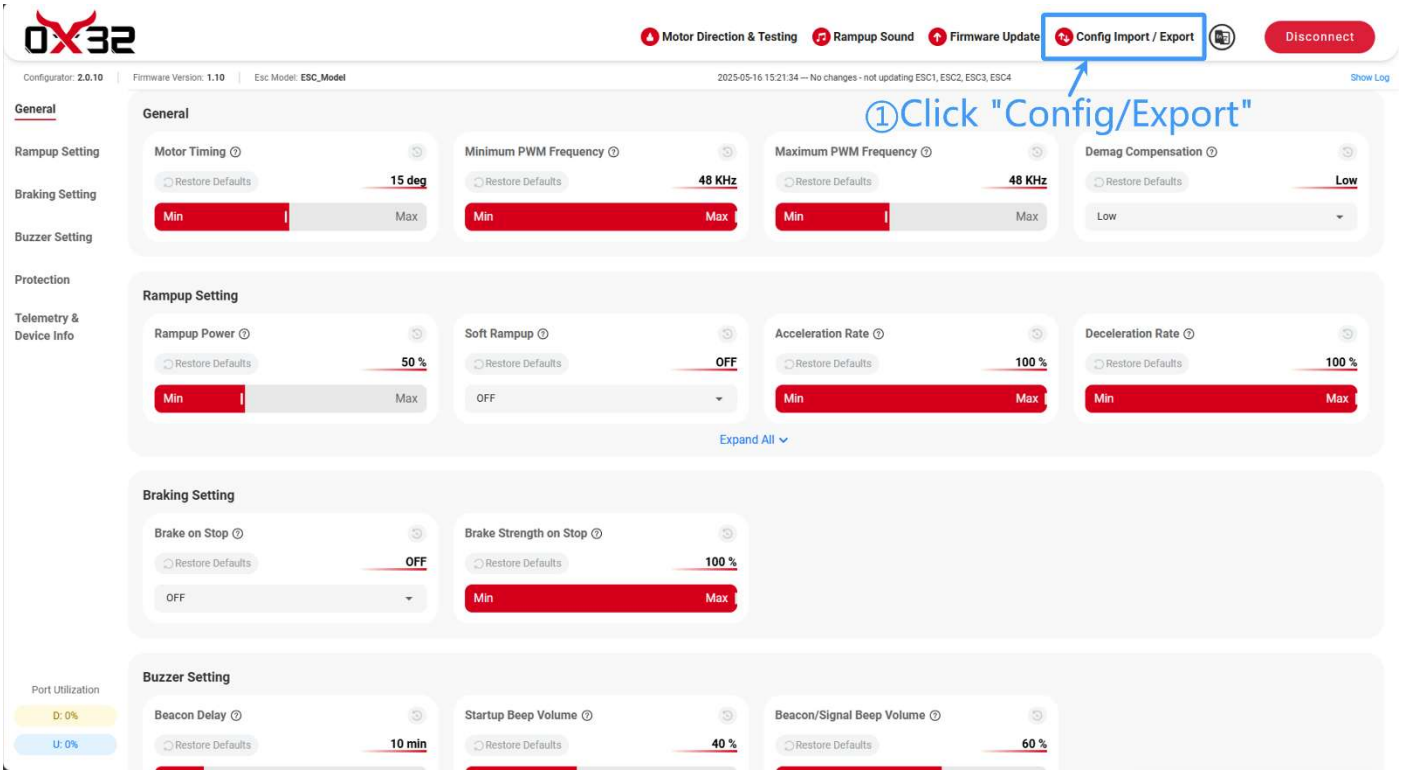

Motor Direction & Testing
Rampup Sound
Firmware Update
Config Import / Export
Disconnect
Motor Direction
Motor Control
①Click "Motor Control"
Enable motor control / Battery : 6s@24.76V
②Enable motor control
③Gently raise the throttle and check whether the motor is spinning in the expected direction.
Master
ESC1
ESC2
ESC3
ESC4
Warning: Remove all propellers before using this feature to avoid injury.
Before testing motor, ensure ESC protocol is correctly configured, or the motor cannot start.
If enabling bi-directional Dshot, ensure the firmware supports it, or the motor won't start.
General
Rampup Setting
Braking Setting
Buzzer Setting
Protection
Telemetry & Device Info
Motor Timing
Demag Compensation
Rampup Power
Brake on Stop
Brake Strength on Stop
Beacon Delay
Startup Beep Volume
Beacon/Signal Beep Volume
Port Utilization

Modify ESC Rampup Melody

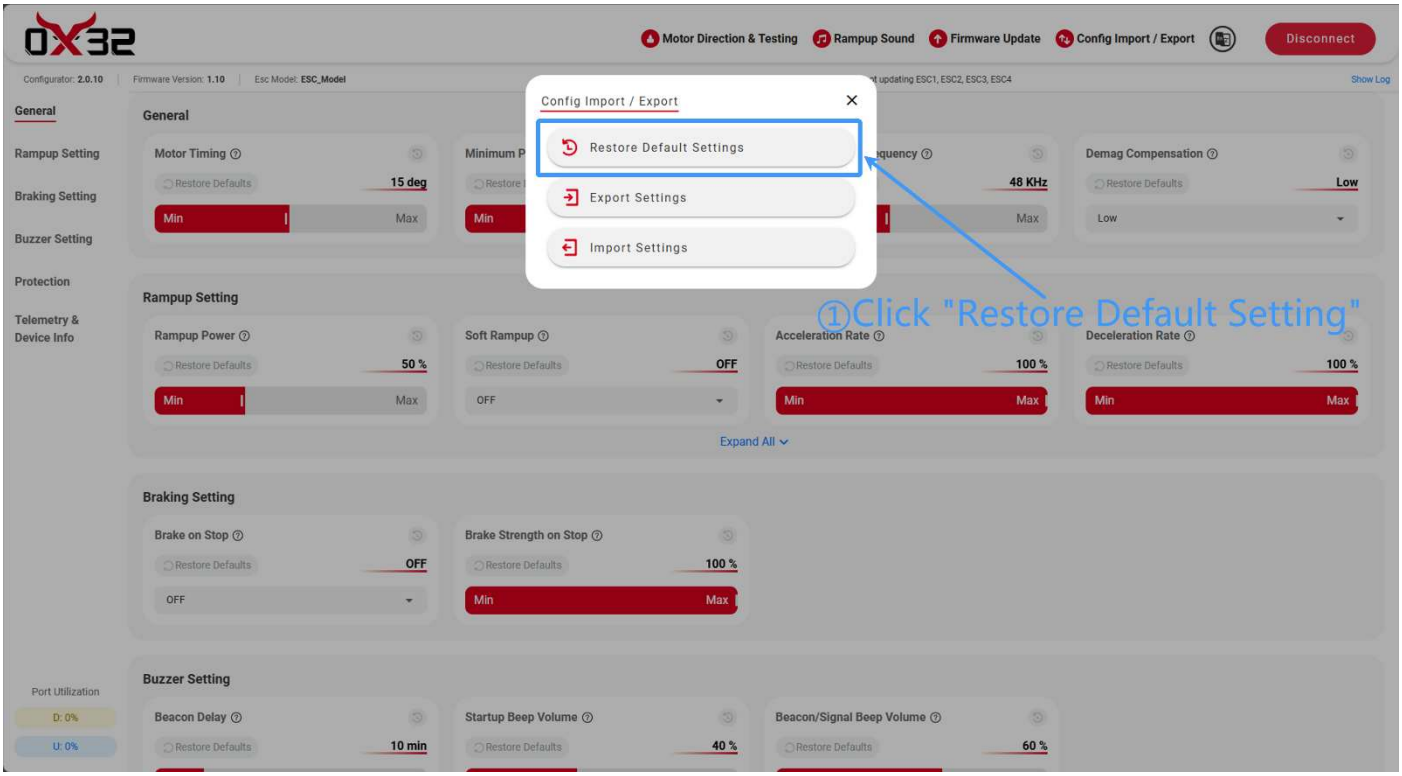




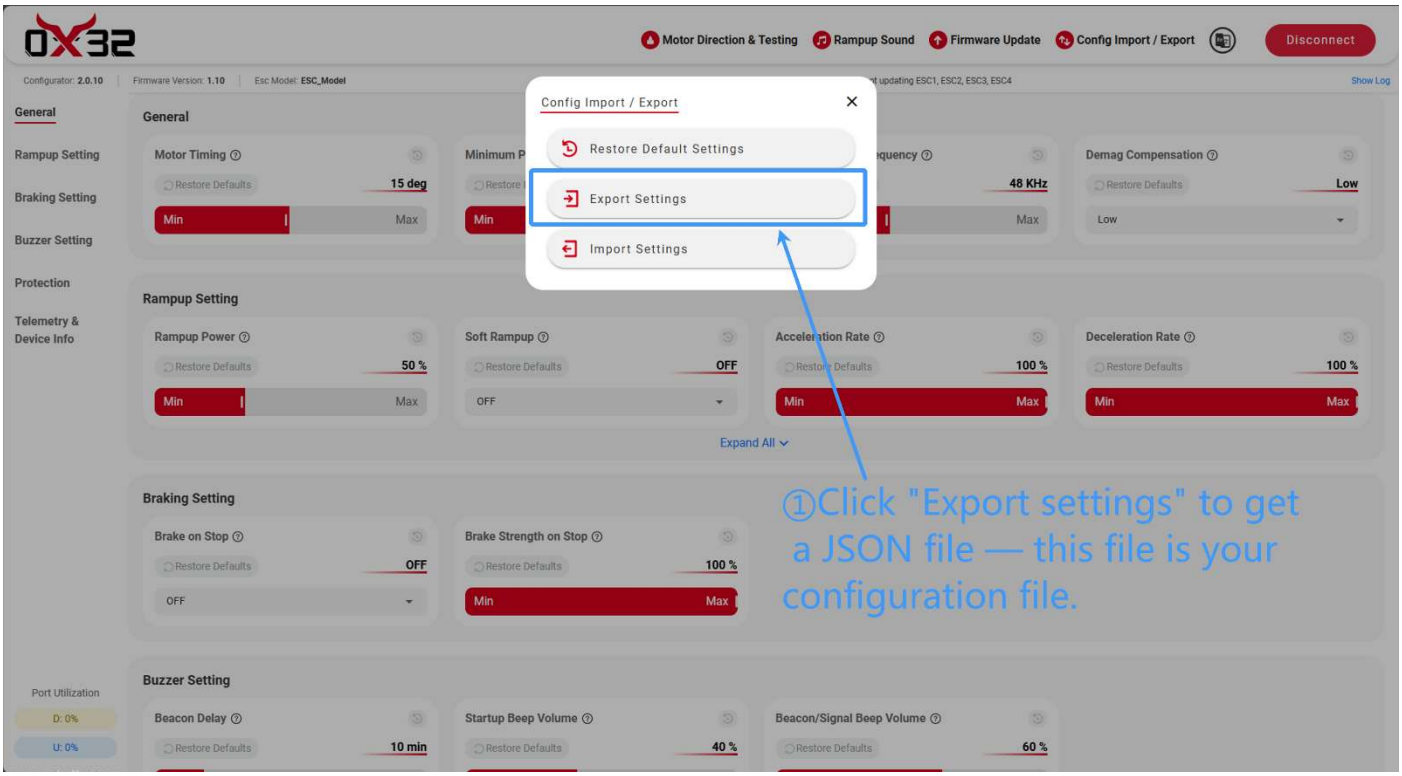
Config Import/Export



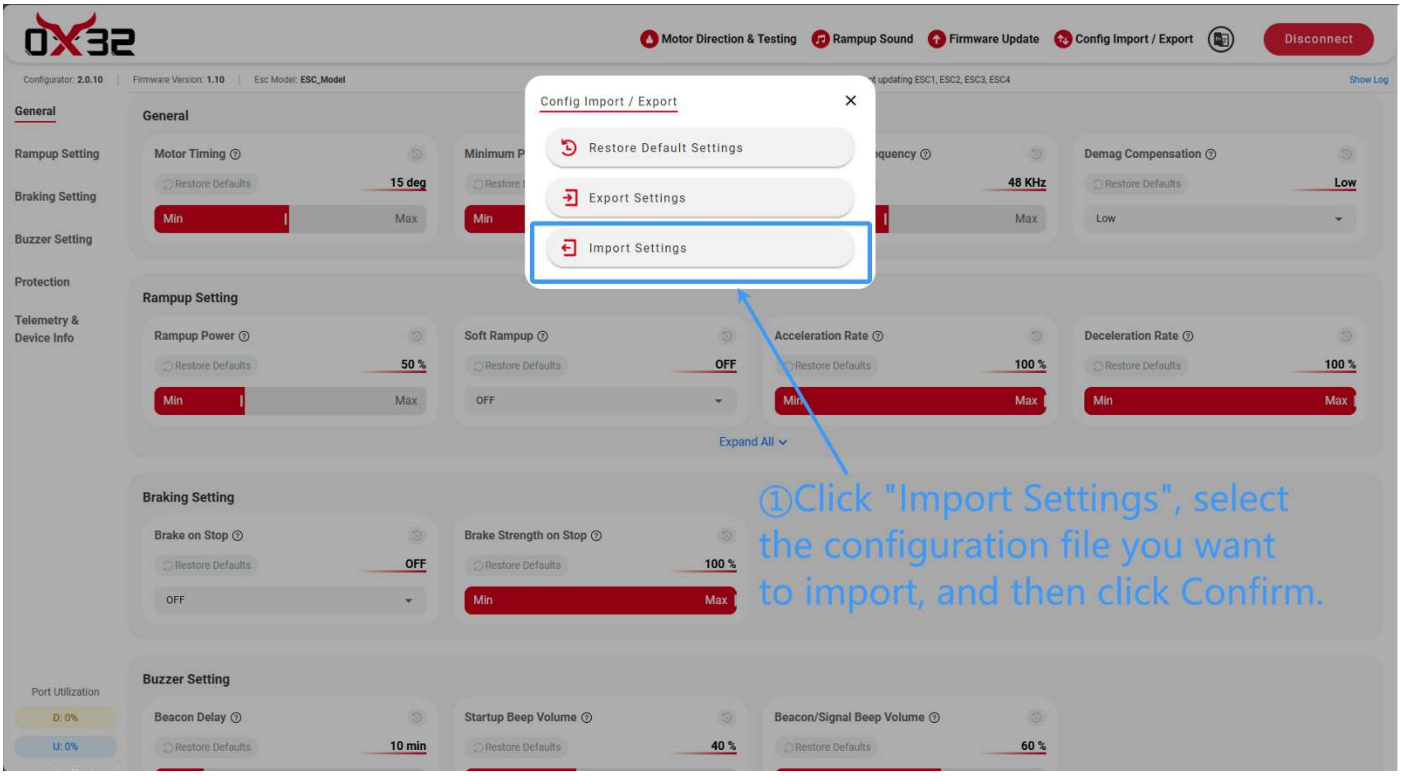
Restore Defualt Settings

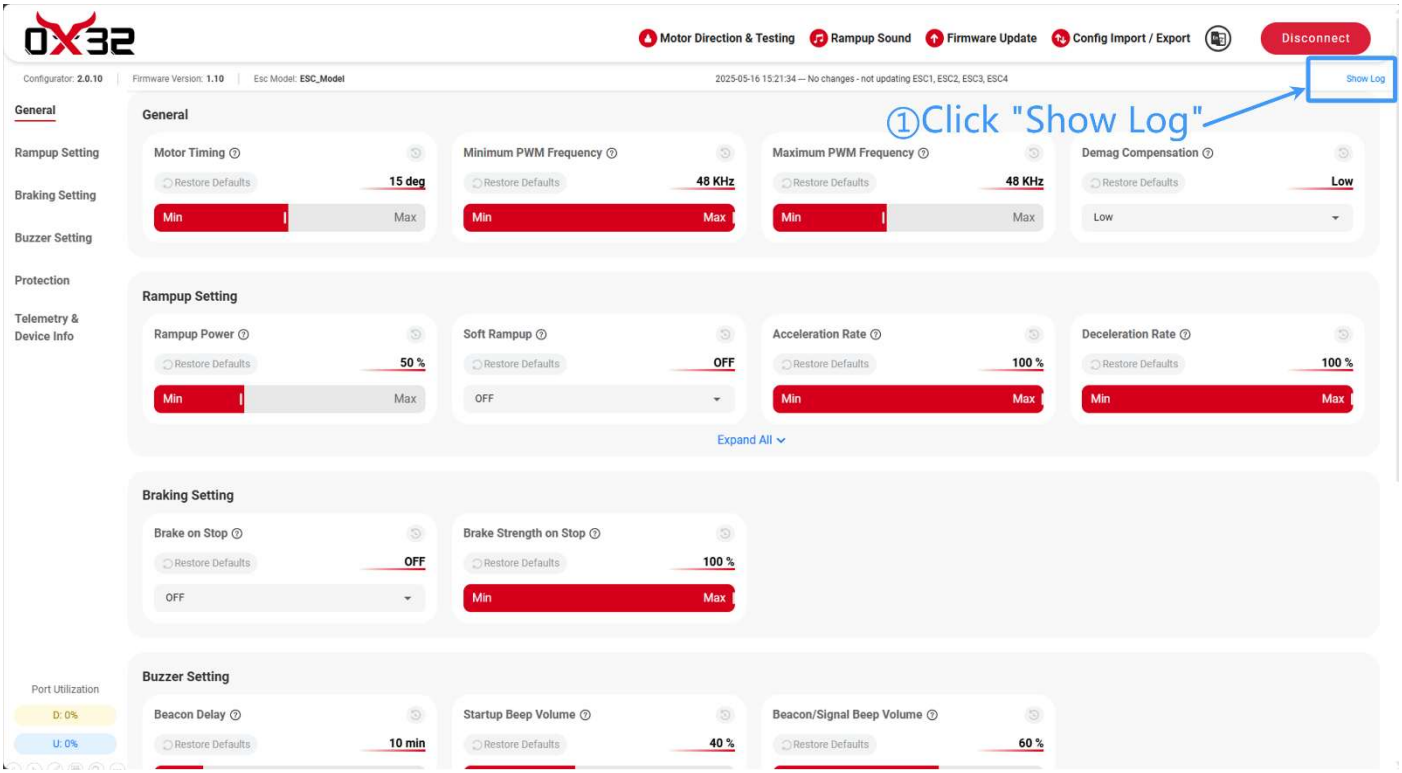
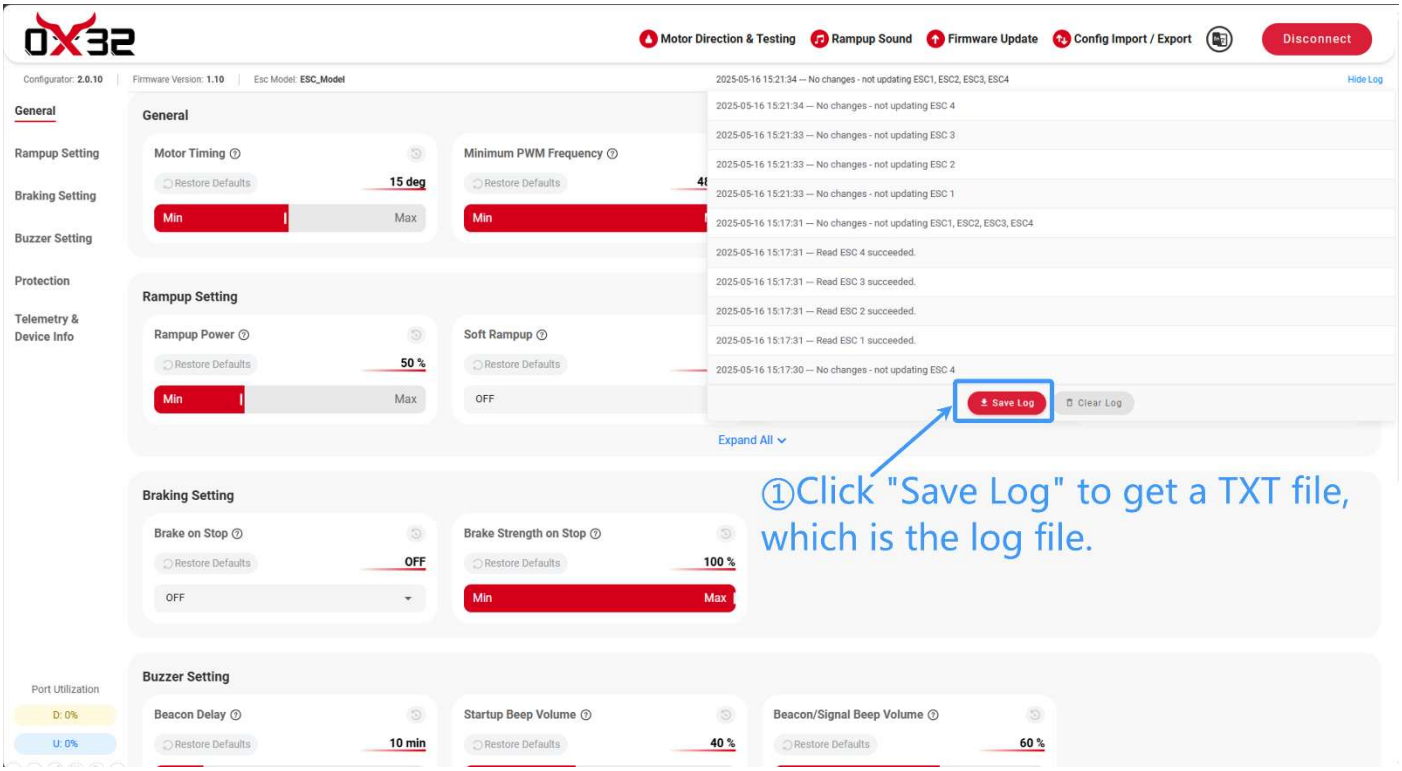


Export Settings



Import Settings



Save Log

The log file can help us identify issues encountered during firmware flashing, including the status of the program's operation. If you experience problems while configuring the ESC, you can save the log file and send it to us so we can help you analyze and resolve the issue.