FrSky Neuron 60S

FrSky Neuron 60S ESC User Manual

Model: Neuron 60S

Introduction

This manual provides essential information for the safe and effective use of the FrSky Neuron 60S Electronic Speed Controller (ESC). It covers product features, setup procedures, operational guidelines, maintenance tips, troubleshooting, and technical specifications. Please read this manual thoroughly before operating the device.

Features

- Compact size with performance equivalent to Neuron 40 and 60 series ESCs.
- Includes a protective jumper cap for enabling or disabling the integrated BEC (Battery Eliminator Circuit) function.
- Adjustable SBEC (Switching BEC) output voltage, configurable via LUA script on compatible FrSky transmitters or through the FreeLink App when used with an Airlink S wireless module.

Product Overview

The FrSky Neuron 60S ESC is designed for various RC applications, providing precise motor control. Below are visual representations of the unit with accompanying descriptions.



Figure 1: Top view of the FrSky Neuron 60S ESC. This image displays the main body of the ESC, clearly showing the input power wires (red and black), the three motor output wires (blue), and the BEC jumper pins on the side. The branding "FrSky Neuron 60S" and "32bit BLHeli INPUT 3-6S" are visible.

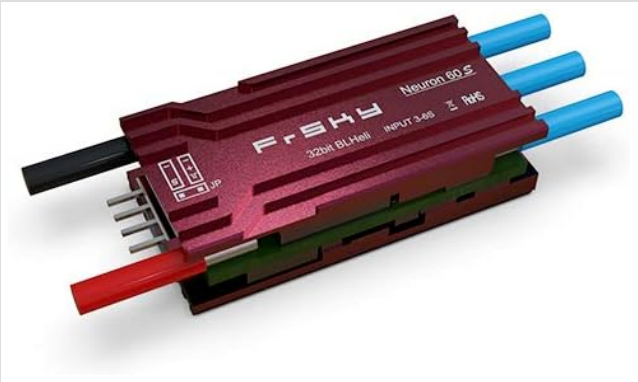


Figure 2: Angled view of the FrSky Neuron 60S ESC. This perspective highlights the compact and slim design of the unit, showing the arrangement of the power and motor wires, as well as the signal/BEC pins on the side.

Setup

1. **Power Connection:** Connect the red and black power wires of the ESC to your battery's positive and negative terminals, respectively. Ensure correct polarity to prevent damage. The ESC supports 3-6S LiPo input voltage.
2. **Motor Connection:** Connect the three blue motor wires from the ESC to your brushless motor's three wires. The order of connection may affect motor rotation direction; this can be adjusted in software if needed.
3. **Signal Connection:** Connect the signal wire(s) from the ESC to the appropriate motor output pins on your flight controller or receiver. Refer to your flight controller's manual for specific wiring diagrams.
4. **BEC Function:** The Neuron 60S features an integrated BEC. To enable the BEC, ensure the protective jumper cap is correctly placed on the designated pins. If your flight controller or receiver has its own BEC, or if you are using an external BEC, ensure the ESC's BEC is disabled by removing the jumper cap to avoid power conflicts.
5. **SBEC Voltage Adjustment:** The SBEC output voltage can be adjusted. This is typically done using a LUA script on compatible FrSky transmitters or through the FreeLink App when connected via an Airlink S wireless module. Consult the FrSky documentation for detailed instructions on using these tools.
6. **Calibration:** Perform ESC calibration according to your flight controller's or motor's instructions to ensure proper throttle range and synchronization.

Operating

Once properly set up and calibrated, the FrSky Neuron 60S ESC will control the speed and direction of your brushless motor based on the signals received from your flight controller. Ensure all connections are secure before powering on your system.

- Always power on your transmitter first, then your model. Power off your model first, then your transmitter.
- Monitor battery voltage during operation to prevent over-discharge, which can damage the battery and affect ESC performance.
- Avoid operating the ESC beyond its specified current limits to prevent overheating and potential damage.

Maintenance

Regular maintenance helps ensure the longevity and reliable performance of your ESC.

- **Inspection:** Periodically inspect the ESC for any signs of physical damage, such as cracked casing, frayed wires, or burnt components.
- **Cleaning:** Keep the ESC clean and free from dust, dirt, and moisture. Use a soft, dry brush or compressed air for

cleaning. Avoid using liquid cleaners.

- **Connections:** Ensure all wire connections remain secure and free from corrosion.
- **Storage:** Store the ESC in a dry, cool environment away from direct sunlight and extreme temperatures.

Troubleshooting

If you encounter issues with your FrSky Neuron 60S ESC, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
Motor not spinning or erratic behavior	Incorrect wiring, improper calibration, signal interference, damaged motor/ESC.	Verify all connections. Re-calibrate the ESC. Check for signal issues. Inspect motor and ESC for damage.
ESC overheating	Overcurrent, insufficient airflow, short circuit in motor/wiring.	Ensure motor/propeller combination is within ESC limits. Improve ventilation. Check for shorts.
No power to flight controller/receiver (if using BEC)	BEC jumper cap missing/incorrectly placed, damaged BEC, power short.	Verify BEC jumper cap position. Check BEC output voltage. Inspect for shorts.

If issues persist after attempting these steps, contact FrSky customer support for further assistance.

Specifications

Parameter	Value
Model	Neuron 60S
Manufacturer	FrSky
Input Voltage	3-6S LiPo
Processor	32bit BLHeli
BEC Function	Adjustable SBEC (via LUA script/FreeLink App)
ASIN	B07Z3KKDC2
Recommended Age	14 years and up

Warranty and Support

FrSky products are manufactured to high quality standards. For warranty information, technical support, or service inquiries, please visit the official FrSky website or contact their authorized distributors. Keep your proof of purchase for any warranty claims.

FrSky Official Website: www.frsky-rc.com

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Example: How do I reset this device or fix this error?

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