

E-flite EFLA1070

E-flite EFLA1070 70-Amp Switch Mode BEC Brushless ESC Instruction Manual

Model: EFLA1070

INTRODUCTION

This manual provides essential information for the safe and effective use of your E-flite EFLA1070 70-Amp Switch Mode BEC Brushless Electronic Speed Controller (ESC). Please read this manual thoroughly before installation and operation to ensure proper function and to prevent damage to the unit or other components.

SAFETY PRECAUTIONS

Operating an Electronic Speed Controller (ESC) in a remote-controlled aircraft requires adherence to strict safety guidelines. Failure to follow these precautions can result in serious injury or property damage.

- **Battery Safety:** Always handle LiPo batteries with extreme care. Do not overcharge, over-discharge, or short-circuit batteries. Store batteries in a fire-safe container.
- **Motor Connection:** Ensure all motor connections are secure and insulated to prevent short circuits.
- **Propeller Safety:** Always remove the propeller from the motor before performing any setup, testing, or maintenance on the ESC or motor. An unexpected motor start can cause severe injury.
- **Water and Moisture:** Keep the ESC away from water and moisture. Exposure can cause damage and malfunction.
- **Heat Management:** ESCs can generate significant heat during operation. Ensure adequate airflow for cooling. Avoid touching the ESC immediately after use.
- **Correct Polarity:** Always connect the battery to the ESC with correct polarity. Reverse polarity will instantly damage the ESC.
- **Voltage and Current Limits:** Do not exceed the specified voltage and current limits of the ESC.

PRODUCT OVERVIEW

The E-flite EFLA1070 is a 70-Amp Switch Mode BEC Brushless Electronic Speed Controller designed for

remote-controlled aircraft. It features an integrated Switch Mode Battery Eliminator Circuit (BEC) to provide power to your receiver and servos, eliminating the need for a separate receiver battery. It comes equipped with an EC3 connector for battery input.



Image: The E-flite EFLA1070 70-Amp Switch Mode BEC Brushless ESC. This image shows the compact black unit with red and black battery input wires terminating in an EC3 connector, and three black motor output wires. The label on the ESC clearly displays "E-flite EFLA1070 70 Amp Switch Mode BEC Brushless ESC".

SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your aircraft. Follow these steps carefully:

1. **Mounting the ESC:** Securely mount the ESC in a location that allows for adequate airflow to prevent overheating. Use double-sided tape or zip ties.
2. **Motor Connection:** Connect the three motor wires from the ESC to the three wires of your brushless motor. The order of connection may affect motor rotation direction. If the motor spins in the wrong direction, swap any two of the three motor wires.
3. **Battery Connection:** Connect the battery input wires (red and black) of the ESC to your flight battery, ensuring correct polarity. The EFLA1070 is equipped with an EC3 connector.
4. **Receiver Connection:** Plug the throttle lead from the ESC into the throttle channel (typically channel 1 or 3, depending on your radio system) of your receiver.
5. **Throttle Range Calibration:**
 - Turn on your transmitter and set the throttle trim to its lowest position.
 - Move the throttle stick to its maximum (full throttle) position.
 - Connect the flight battery to the ESC. The ESC will emit a series of beeps.
 - Once the beeps indicate it's ready (refer to your motor's manual for specific beep patterns if available), move the throttle stick to its minimum (full brake/off) position.
 - The ESC will emit a confirmation tone, indicating the throttle range is calibrated.
6. **Test Motor Rotation:** With the propeller removed, slowly advance the throttle to confirm correct motor rotation and smooth operation.

OPERATION

Once installed and calibrated, operating the ESC is straightforward:

1. **Power-Up Sequence:** Always turn on your transmitter first, then connect the flight battery to the ESC.
2. **Arming:** After connecting the battery, the ESC will typically arm itself after a few seconds, indicated by a series of tones. Ensure the throttle stick is at its lowest position for arming.
3. **Throttle Control:** Use the throttle stick on your transmitter to control motor speed.
4. **Power-Down Sequence:** Disconnect the flight battery from the ESC first, then turn off your transmitter.
5. **BEC Function:** The integrated Switch Mode BEC provides regulated power to your receiver and servos. Monitor your receiver voltage if your radio system allows.

MAINTENANCE

Regular inspection and basic maintenance will prolong the life of your ESC:

- **Visual Inspection:** Periodically check the ESC for any signs of physical damage, frayed wires, or burnt components.
- **Connector Check:** Ensure all connectors (battery, motor, receiver) are clean and securely attached.
- **Cleanliness:** Keep the ESC free from dirt, dust, and debris. Use a soft brush or compressed air for cleaning.
- **Heat Monitoring:** After flights, check the temperature of the ESC. If it's excessively hot to the touch, investigate potential issues such as propeller size, motor load, or insufficient cooling.

TROUBLESHOOTING

If you encounter issues with your ESC, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Motor does not spin or stutters.	Incorrect motor wire connection, throttle not calibrated, low battery voltage, damaged motor or ESC.	Check motor wire connections, recalibrate throttle range, check battery charge, inspect motor and ESC for damage.
ESC gets excessively hot.	Over-propped motor, insufficient cooling, excessive current draw.	Reduce propeller size, ensure adequate airflow, check for binding in drivetrain.
No power to receiver/servos.	BEC failure, incorrect receiver connection, damaged receiver.	Check receiver connection, test with a separate BEC or receiver battery, inspect receiver.
Motor spins in wrong direction.	Incorrect motor wire phasing.	Swap any two of the three motor wires.

SPECIFICATIONS

- **Model:** EFLA1070
- **Type:** Brushless Electronic Speed Controller (ESC)
- **Current Rating:** 70 Amps
- **BEC Type:** Switch Mode
- **Battery Connector:** EC3

- **Product Dimensions:** 6.6 x 4 x 0.58 inches (16.76 x 10.16 x 1.47 cm)
- **Item Weight:** 1.6 ounces (45.36 grams)
- **Manufacturer:** Horizon Hobby
- **Country of Origin:** China

WARRANTY AND SUPPORT

For warranty information or technical support, please contact Horizon Hobby, the manufacturer of E-flite products. Keep your proof of purchase for any warranty claims. Detailed warranty terms and contact information can typically be found on the official Horizon Hobby website or by referring to the product packaging.

Horizon Hobby Support: www.horizonhobby.com/support