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Dancing Wings Hobby AEO E-Power 20A ESC

Dancing Wings Hobby AEO E-Power Brushless ESC 20A Instruction Manual

Model: AEO E-Power 20A ESC

Introduction

This manual provides essential instructions for the safe and efficient use of your Dancing Wings Hobby AEO E-Power 20A Brushless Electric Speed Controller (ESC). This ESC is designed for use with RC fixed-wing airplanes. Please read this manual thoroughly before installation and operation to ensure proper functionality and longevity of your product.

Features

- Brushless Electric Speed Controller for RC fixed-wing airplanes.
- Supports various control signals including PWM, Oneshot42, Oneshot125, and Multoshot for transmitter and drone flight control.
- Designed for high working efficiency and stable control chip performance through rational arrangement for heating unit.
- Offers linear throttle response with a resolution up to 1024 DPI.
- Efficient temperature control for improved performance.
- Compatible with a wide range of motors.

Specifications (AEO 20A ESC)



Image: The AEO E-Power 20A Brushless ESC, showing its compact size and various connectors including an XT60 female plug and 3.5mm female banana plugs for motor connection.

AEO 20A ESC Technical Data

Feature	Value
Weight	12g
Size	18*36mm
Servo Wire Length	250mm
BEC Output	5V-2A
Max. Voltage	3S 12.6V
Max. Power	15V 30-45s
Material Type	Plastic

Setup

1. **Motor Connection:** Connect the three 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 wires.
2. **Receiver Connection:** Connect the signal cable from the ESC (usually a three-wire servo plug) to the throttle channel of your RC receiver. Ensure correct polarity.

3. **Battery Connection:** Connect the battery connector (e.g., XT60) from the ESC to your LiPo battery. Ensure correct polarity.
4. **ESC Calibration (Recommended):**
    - Turn on your transmitter and set the throttle stick to its maximum position.
    - Connect the battery to the ESC.
    - Listen for a series of beeps from the motor, indicating the ESC has detected the maximum throttle.
    - Move the throttle stick to its minimum position.
    - Another series of beeps will confirm the minimum throttle has been set. The ESC is now calibrated.
5. **Initial Test:** After calibration, slowly advance the throttle to ensure the motor spins smoothly and in the correct direction.



Image: A diagram illustrating key features of the E-Power ESC, such as efficient heating unit arrangement, linear throttle, and compatibility with various control signals like PWM and Multoshot.

Operating Instructions

- **Pre-Flight Check:** Always perform a thorough pre-flight check, ensuring all connections are secure and the motor responds correctly to throttle inputs.
- **Battery Management:** Use only compatible LiPo batteries within the specified voltage range (up to 3S 12.6V for the 20A ESC). Monitor battery voltage during operation to avoid over-discharge.
- **Throttle Control:** Operate the throttle smoothly. Rapid changes can stress the ESC and motor.
- **Temperature Monitoring:** While the ESC has efficient temperature control, avoid prolonged high-current operation in enclosed spaces without adequate airflow, which can lead to overheating.
- **Disconnection:** Always disconnect the battery from the ESC immediately after use to prevent accidental motor activation

and battery discharge.

Maintenance

- **Cleaning:** Keep the ESC clean and free from dust, dirt, and moisture. Use a soft brush or compressed air for cleaning.
- **Inspection:** Regularly inspect all wires and connectors for signs of wear, damage, or corrosion. Replace damaged components immediately.
- **Storage:** Store the ESC in a cool, dry place away from direct sunlight and extreme temperatures.
- **Firmware:** Check the manufacturer's website periodically for any firmware updates, though this specific model may not support user-updatable firmware.

Troubleshooting

Problem	Possible Cause	Solution
Motor does not spin or stutters.	Incorrect motor wiring, uncalibrated throttle, low battery, damaged motor/ESC.	Check motor connections, recalibrate ESC, charge/replace battery, inspect components for damage.
ESC gets excessively hot.	Overloading, insufficient airflow, incorrect propeller size, short circuit.	Reduce load, ensure proper ventilation, use appropriate propeller, check for shorts.
No response from ESC.	No power, incorrect receiver connection, damaged ESC.	Check battery connection, verify receiver wiring and power, inspect ESC for physical damage.
Motor spins in the wrong direction.	Incorrect motor wire connection.	Swap any two of the three motor wires.

Warranty and Support

For warranty information or technical support regarding your Dancing Wings Hobby AEO E-Power Brushless ESC, please contact the seller or manufacturer directly. Keep your proof of purchase for any warranty claims.
Manufacturer: AEO
Brand: Dancing Wings Hobby

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