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STASRC SKYWING 80A

STASRC Skywing 80A Brushless ESC Electric Speed Controller User Manual

Model: SKYWING 80A

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your STASRC Skywing 80A Brushless Electronic Speed Controller (ESC). Designed for RC fixed-wing airplanes, this ESC offers reliable performance and precise motor control. Please read this manual thoroughly before use to ensure proper setup and safe operation.

Specifications

- **Model:** SKYWING 80A
- **Continuous Current:** 80A
- **Max Burst Current:** 90A
- **Input Voltage:** 6V - 20V
- **Battery Cells:** 2-6S LiPo, 5-18S NiMH/NiCd
- **BEC Output:** 3A / 5V (Linear BEC)
- **Dimensions:** 74mm x 38mm x 16mm (Length x Width x Height)
- **Material:** Plastic
- **Included Components:** 1x 80A ESC



Image: STASRC Skywing 80A Brushless ESC showing its physical dimensions: 74mm length, 38mm width, and 16mm height. This provides a visual reference for the product's size.

Setup and Installation

1. **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 wires.
2. **Battery Connection:** Connect the battery connector from the ESC to your LiPo or NiMH/NiCd battery pack. Ensure correct polarity (red to positive, black to negative) to prevent damage.
3. **Receiver Connection:** Plug the ESC's signal cable (usually a three-wire servo connector) into the throttle channel (typically channel 3) of your RC receiver.
4. **Mounting:** Securely mount the ESC in your aircraft, ensuring adequate airflow for cooling. Avoid mounting it near heat sources or in enclosed spaces without ventilation.
5. **Throttle Range Calibration:**
    - Turn on your transmitter and set the throttle stick to its maximum position.
    - Connect the battery to the ESC. The motor will emit a series of beeps.
    - When the beeps change, move the throttle stick to its minimum position.
    - The ESC will emit a confirmation beep, indicating successful calibration.
    - Disconnect the battery to save the setting.

Important: *Always perform a throttle range calibration before the first flight or if you change your transmitter.*

Operating Instructions

After successful setup and calibration, follow these steps for operation:

1. **Pre-Flight Check:** Ensure all connections are secure and the battery is fully charged. Verify that the motor spins freely and in the correct direction.
2. **Power On:** Turn on your RC transmitter first, then connect the battery to the ESC. The ESC will initialize with a series of beeps.
3. **Arming:** Once initialized, the ESC will arm, indicated by a final beep. The motor is now ready to respond to throttle input.
4. **Throttle Control:** Gradually increase the throttle stick on your transmitter to control motor speed. Decrease the throttle to reduce speed or stop the motor.
5. **Power Off:** Always disconnect the battery from the ESC first, then turn off your RC transmitter. This sequence prevents accidental motor activation.

Safety Note: *Always operate your RC aircraft in a safe environment, away from people and obstacles. Keep hands clear of the propeller when the battery is connected.*

Maintenance

- **Regular Inspection:** Periodically inspect the ESC for any signs of physical damage, frayed wires, or loose connections.
- **Cleaning:** Keep the ESC clean and free from dust, dirt, and moisture. Use a soft, dry brush or compressed air for cleaning.
- **Cooling:** Ensure the ESC has adequate cooling during operation. Overheating can lead to reduced performance and damage.
- **Storage:** Store the ESC in a dry, cool place when not in use. Disconnect it from the battery during storage.

Troubleshooting

Problem	Possible Cause	Solution
Motor does not spin or stutters.	Incorrect motor wire connection. Throttle not calibrated. Low battery voltage. Motor or ESC damage.	Check and swap motor wires if necessary. Perform throttle range calibration. Charge or replace battery. Inspect motor and ESC for damage.
ESC overheats.	Insufficient cooling. Over-propped motor. Excessive load.	Improve airflow around ESC. Use a smaller propeller. Reduce load on the motor/ESC system.
No response from ESC.	Incorrect battery connection. Receiver not powered or connected. Damaged ESC.	Verify battery polarity and connection. Check receiver power and signal cable. Contact support if ESC is damaged.

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