STASRC Skywalker 30A ESC

Hobbywing Skywalker 30A ESC Electric Speed Controller User Manual

Model: Skywalker 30A ESC

1. Introduction

Thank you for choosing the Hobbywing Skywalker 30A Electric Speed Controller (ESC). This manual provides essential information for the proper installation, operation, and maintenance of your ESC. Designed for fixed-wing aircraft, this ESC offers reliable performance and precise motor control. Please read this manual thoroughly before use to ensure safe and optimal operation.

2. Safety Information

No Warning Applicable: This product does not carry specific safety warnings beyond general electronic device handling. However, always observe the following general safety precautions when working with electronic speed controllers and RC models:

- Ensure all connections are secure and correct before powering on. Incorrect wiring can cause damage to the ESC, motor, or battery.
- Always disconnect the battery from the ESC when not in use to prevent accidental motor startup.
- Keep hands and loose clothing away from propellers when the motor is armed or powered.
- Operate in a well-ventilated area to prevent overheating.
- Do not expose the ESC to water or excessive moisture.
- Use only batteries and motors that are compatible with the ESC's specifications.
- If the ESC becomes excessively hot, disconnect power immediately and allow it to cool before further investigation.

3. Product Overview

The Hobbywing Skywalker 30A ESC is a compact and efficient electronic speed controller designed for various fixed-wing aircraft applications. It features a built-in BEC (Battery Eliminator Circuit) to power your receiver and servos directly from the main flight battery.

Key Features:

- **Peak Current:** 40A (for 10 seconds)
- **Voltage Compatibility:** 3-4S LiPo batteries
- **BEC Output:** 5V/5A, providing stable power for your electronics.
- **Compact Design:** Small footprint for easy integration into aircraft.
- **Lightweight:** Minimizes added weight to your model.



Figure 3.1: Overview of the Hobbywing Skywalker 30A ESC, showing the main unit, battery input wires (red/black), motor output wires (three black), and the receiver signal wire (three-pin connector).



Figure 3.2: Detailed view of the ESC's label, indicating "HOBBYWING SKYWALKER 30A", "2-3S LIPO", "BEC 2A@5V", and compliance marks CE FC RoHS. Note: The product specifications state 3-4S LiPo and BEC 5V/5A, which may differ from the label shown in this generic A+ content image. Always refer to the latest product specifications.

4. Specifications

Parameter	Value
Peak Current	40A (10s)
Voltage Range	3-4S LiPo
BEC Output	5V/5A
Dimensions (L*W*H)	70 x 25 x 8 mm (2.76 x 0.98 x 0.31 inches)
Net Weight	38g
Country of Origin	China
Manufacturer	Hobbywing

5. What's in the Box

Upon opening your package, you should find the following item:

- 1 x Hobbywing Skywalker 30A ESC

Note: Additional accessories such as connectors, heat shrink, or mounting tape may be required for installation and are typically sold separately.

6. Setup and Installation

Proper installation is crucial for the safe and efficient operation of your ESC. Follow these steps carefully:

1. **Connect to Motor:** Connect the three output wires from the ESC (usually black) to the three phase 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. **Connect to Receiver:** Plug the three-pin signal cable from the ESC into the throttle channel (usually channel 3) of your RC receiver. Ensure the polarity is correct (signal, positive, negative).
3. **Connect to Battery:** Connect the main power input wires of the ESC (red for positive, black for negative) to your LiPo battery. Ensure the battery's voltage is within the ESC's specified range (3-4S LiPo). **Always connect the battery last.**
4. **Mounting:** Securely mount the ESC in your aircraft using double-sided tape or zip ties. Ensure it has adequate airflow for cooling, especially during operation. Avoid mounting it directly next to heat-generating components.
5. **Throttle Calibration:** Before first flight, it is highly recommended to calibrate the throttle range of your ESC with your radio transmitter. This ensures the ESC recognizes the full range of throttle stick movement. Refer to your radio transmitter's manual for specific throttle calibration procedures, which typically involve powering on the ESC with the throttle stick at maximum, then moving it to minimum after a specific beep sequence.

7. Operating Instructions

Once the ESC is properly installed and calibrated, you can proceed with operation.

1. **Pre-Flight Check:** Before connecting the battery, ensure your transmitter is on and the throttle stick is at its lowest position.
2. **Power On:** Connect the flight battery to the ESC. The ESC will emit a series of beeps indicating cell count (e.g., three beeps for 3S LiPo) and then a final beep to confirm it's armed and ready.
3. **Motor Control:** Slowly advance the throttle stick on your transmitter. The motor should begin to spin smoothly. Increase throttle to desired speed.
4. **Power Off:** Always reduce the throttle to zero and then disconnect the flight battery from the ESC immediately after use. Never leave the battery connected when the model is unattended.

8. Maintenance

The Hobbywing Skywalker 30A ESC is designed for durability, but proper maintenance can extend its lifespan and ensure consistent performance.

- **Keep Clean:** Regularly inspect the ESC for dirt, dust, or debris. Use a soft brush or compressed air to clean it. Avoid using liquids.
- **Inspect Wires and Connectors:** Periodically check all wires and connectors for signs of wear, fraying, or corrosion. Replace damaged components immediately.
- **Temperature Monitoring:** After flights, gently touch the ESC to check its temperature. If it's excessively hot, investigate potential issues such as propeller size, motor load, or insufficient airflow.
- **Storage:** Store the ESC in a cool, dry place away from direct sunlight and extreme temperatures when not in use.

9. 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 throttle calibration. • Loose motor or receiver connections. • Motor wires connected incorrectly. • Damaged motor or ESC.	• Perform throttle calibration. • Check all wiring for secure connections. • Swap any two motor wires. • Test motor/ESC with known good components.
ESC gets excessively hot.	• Over-propped motor. • Insufficient airflow for cooling. • Battery voltage too high or too low. • Short circuit in motor or wiring.	• Reduce propeller size or use a motor with lower Kv. • Improve ESC mounting location for better airflow. • Ensure battery voltage is within 3-4S LiPo range. • Inspect motor and wiring for damage.
No power to receiver/servos.	• Incorrect BEC connection to receiver. • Damaged BEC circuit in ESC.	• Verify receiver connection polarity and channel. • Test with an external BEC or another ESC to isolate the issue.

10. Warranty and Support

This product is manufactured by Hobbywing. For specific warranty information and technical support, please refer to the official Hobbywing website or contact your local distributor. Keep your purchase receipt as proof of purchase for any warranty claims.
For general inquiries or further assistance, you may also contact the seller, STASRC, through the platform where the product was purchased.

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