Hobbywing Skywalker 50A V2 UBEC

HOBBYWING Skywalker 50A V2 UBEC User Manual

Model: Skywalker 50A V2 UBEC

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your HOBBYWING Skywalker 50A V2 UBEC Electric Speed Controller (ESC). Please read this manual thoroughly before using the product to ensure safe and efficient operation.

The HOBBYWING Skywalker 50A V2 UBEC is designed for remote-controlled aircraft applications, offering reliable power management and a built-in BEC (Battery Eliminator Circuit) to power your receiver and servos.

2. Specifications

The HOBBYWING Skywalker 50A V2 UBEC features the following technical specifications:

- **BEC Output:** 5V @ 5A (Switch Mode)
- **Unit Dimensions (L x W x H):** 60 x 25 x 8mm
- **Unit Weight:** 36g
- **Programming Method:** Stick / LED Program Box
- **ASIN:** B0BZWZJXWN
- **Manufacturer:** Hobbywing
- **Recommended Age:** 14 months and up (*Note: This is a general Amazon category recommendation. Operation of RC equipment typically requires adult supervision or appropriate age and skill.*)



Figure 2.1: Front view of the HOBBYWING Skywalker 50A V2 UBEC. The black unit displays "HOBBYWING SKYWALKER 50A V2 UBEC" and "3-6S Lipo, SBEC 5V@5A". It has red, yellow, and black input wires on one side, and three black output wires on the other.

3. Setup and Installation

Proper installation is crucial for the safe and reliable operation of your ESC. Always ensure all connections are secure and insulated.

1. **Motor Connection:** Connect the three output wires from the ESC to the three motor wires. 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 red (+) and black (-) input wires of the ESC to your LiPo battery. Ensure correct polarity to prevent damage to the ESC and battery.
3. **Receiver Connection:** Plug the BEC output cable (usually a standard servo connector) from the ESC into the throttle channel (typically channel 3) of your RC receiver. This provides power to the receiver and servos.
4. **Throttle Range Calibration:** It is highly recommended to calibrate the throttle range of the ESC with your transmitter. Refer to your transmitter's manual for specific instructions on throttle calibration. Generally, this involves powering on the transmitter with full throttle, then connecting the battery to the ESC, waiting for beeps, moving throttle to minimum, and waiting for confirmation beeps.
5. **Mounting:** Securely mount the ESC in your aircraft, ensuring adequate airflow for cooling. Avoid mounting it near sensitive electronic components that could be affected by heat.



Figure 3.1: An alternative view of the HOBBYWING Skywalker 50A V2 UBEC, highlighting the wire connections. The three thicker black wires on the right are for motor connection, while the red, yellow, and black wires on the left are for battery input and BEC output.

4. Operating Instructions

Once installed and calibrated, operating the ESC is straightforward. Always perform a pre-flight check before each use.

1. **Power On:** Ensure your transmitter is powered on first. Then, connect the battery to the ESC. The ESC will emit a series of beeps indicating cell count and readiness.
2. **Throttle Control:** Use the throttle stick on your transmitter to control motor speed. Moving the stick up increases motor speed, and moving it down decreases speed.
3. **Safety Precautions:**
    - Always disconnect the battery from the ESC immediately after use.
    - Never touch the spinning propeller or motor.
    - Operate in open areas, away from people, animals, and obstacles.
    - Monitor battery voltage and ESC temperature during operation.
4. **Programming (Optional):** If you wish to change ESC settings (e.g., brake type, timing), use a compatible LED Program Box or the transmitter stick programming method as detailed in the full HOBBYWING manual (not included here).

5. Maintenance

Regular maintenance helps prolong the life and performance of your ESC.

- **Cleaning:** Keep the ESC clean and free from dust, dirt, and moisture. Use a soft brush or compressed air to remove debris.
- **Inspection:** Periodically inspect all wires and connectors for signs of wear, fraying, or corrosion. Replace damaged components immediately.
- **Storage:** Store the ESC in a dry, cool environment when not in use. Disconnect it from the battery.
- **Heat Management:** Ensure the ESC is not consistently overheating during operation. Excessive heat can reduce its lifespan. Improve airflow if necessary.

6. Troubleshooting

If you encounter issues, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Motor does not spin or stutters.	Incorrect motor wire connection, poor battery connection, uncalibrated throttle.	Check motor wire connections, ensure battery is fully charged and connected securely, recalibrate throttle range.
ESC emits continuous beeps.	Low battery voltage, no throttle signal, throttle stick not at minimum.	Charge battery, check receiver connection, ensure transmitter is on and throttle is at minimum.
Motor spins in the wrong direction.	Incorrect motor wire phasing.	Swap any two of the three motor wires connected to the ESC.
ESC gets excessively hot.	Overloading, insufficient cooling, incorrect motor timing.	Reduce load, ensure adequate airflow, check motor timing settings (if programmable).

7. Warranty and Support

This product is manufactured by Hobbywing. For specific warranty information, terms, and conditions, please refer to the documentation provided with your purchase or visit the official Hobbywing website.

For technical support or inquiries, please contact Hobbywing customer service directly. Contact details can typically be found on their official website or product packaging.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

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

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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