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> [Hobby King Turnigy Marine ESC 50A Instruction Manual](#)

Hobby King A-SW050006

Hobby King Turnigy Marine ESC 50A Instruction Manual

Model: A-SW050006

INTRODUCTION

This manual provides essential instructions for the proper setup, operation, and maintenance of your Hobby King Turnigy Marine ESC 50A. Please read this manual thoroughly before using the product to ensure safe and optimal performance.



Figure 1: The Turnigy Marine ESC 50A, showing its compact design and connection points.

FEATURES

- High-performance Microcontroller Unit (MCU) for efficient operation.
- Strong anti-interference capabilities ensure stable signal reception.
- Waterproof design for reliable use in marine environments.
- Fast throttle response and smooth linear speed control.
- Compatible with both scale boats and racing boats.
- Adjustable low-voltage protection threshold to safeguard batteries.
- Built-in 5.5V/5A Switch BEC (Battery Eliminator Circuit) for powering servos.
- Multiple protection functions: low-voltage, over-thermal, and throttle signal loss.
- High power safety performance.
- Simple cycle menu for programming via radio or optional program card.

SPECIFICATIONS

Parameter	Value
Model	A-SW050006
Continuous Current	50A
Burst Current	300A
LiPo Cells	2-6S
BEC Type	Switch BEC
BEC Output	5.5V/5A
Weight	90g
Dimensions (LxWxH)	57x49x18mm (excludes water pipe)
Recommended Boat Length	<55cm

SETUP AND INSTALLATION

- Motor Connection:** Connect the three motor wires from the ESC to your brushless motor. Ensure proper phase matching if applicable, or test and swap two wires if the motor spins in the wrong direction.
- Battery Connection:** Connect the battery input wires of the ESC to your LiPo battery pack (2-6S). Ensure correct polarity.
- Receiver Connection:** Plug the BEC output cable from the ESC into the throttle channel of your RC receiver.
- Initial Calibration:**
 - Turn on your radio transmitter and set the throttle trim to neutral.
 - Connect the battery to the ESC. The ESC will emit a series of beeps.
 - Follow your radio's instructions for throttle range calibration, typically involving moving the throttle stick to full, then neutral, then full reverse (if applicable).
- Water Management:** If the ESC comes into contact with water, ensure to dry all connectors thoroughly before further use or storage to prevent corrosion and damage.

OPERATING INSTRUCTIONS

Once installed and calibrated, the ESC is ready for operation. Always perform a range check before operating your RC boat to ensure proper function and signal integrity.

Programming Features

The Turnigy Marine ESC 50A offers several programmable parameters to fine-tune its performance. Programming can be done through your radio's intuitive cycle menu or by using the optional Program Card (Part No. 9261000059-0).

Adjustable parameters include:

- **Running Mode:** Select between Forward only, or Forward and Reverse operation.
- **Motor Direction:** Adjust the motor's rotation direction if needed.
- **Low Voltage Protection:** Set the voltage threshold at which the ESC will reduce or cut power to protect the battery.
- **Start Mode (Punch):** Configure the initial acceleration response of the motor.
- **Motor Timing:** Optimize motor efficiency and performance by adjusting the timing.

Refer to the specific instructions provided with your radio transmitter or the optional Program Card for detailed steps on accessing and modifying these settings.

MAINTENANCE

Regular maintenance ensures the longevity and reliable performance of your ESC.

- **Cleaning:** After each use, especially in marine environments, gently clean the ESC and its connectors to remove any salt, dirt, or debris. Use a soft brush or cloth.
- **Drying:** As noted in setup, if the ESC gets wet, ensure all connectors are completely dry before storage or next use. Moisture can lead to corrosion and electrical issues.
- **Inspection:** Periodically inspect all wires, connectors, and the ESC casing for any signs of damage, wear, or loose connections.
- **Storage:** Store the ESC in a dry, cool place away from direct sunlight and extreme temperatures.

TROUBLESHOOTING

The ESC is equipped with multiple protection functions to prevent damage. Understanding these can help in diagnosing issues.

- **Low Voltage Cutoff:** If the battery voltage drops below the set threshold, the ESC will reduce or cut power to protect the battery from over-discharge. Recharge or replace the battery.
- **Thermal Overload Protection:** If the ESC's internal temperature reaches 100°C, the output power will automatically reduce to prevent overheating. Once the temperature drops below 80°C, full power will be restored. Allow the ESC to cool down. Ensure adequate ventilation.
- **Throttle Signal Loss:** If the ESC loses the throttle signal from the receiver, it will enter a safe mode (typically cutting power) to prevent runaway. Check receiver and transmitter connections, battery levels, and range.
- **Motor Not Spinning/Incorrect Direction:** Verify motor connections and ensure proper calibration. If the motor spins in the wrong direction, swap any two of the three motor wires.

If issues persist after checking these points, consult the Hobby King support resources or a qualified technician.

WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or service, please refer to the official Hobby King website or contact their customer service directly. Keep your purchase receipt as proof of purchase.

Hobby King Official Website: [hobbyking.com](https://www.hobbyking.com)

