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Drfeify 2PCS Brushed ESC Instruction Manual

Model: 2PCS Brushed ESC

1. INTRODUCTION

This manual provides essential information for the safe and effective use of your Drfeify 2PCS Brushed Electronic Speed Controller (ESC). This product is designed for RC model boats and is compatible with 130 and 180 brushed motors. Please read this manual thoroughly before installation and operation.

2. SAFETY INFORMATION

- **Voltage Compatibility:** Ensure your power source (battery) voltage is within the supported range of 6V-14V (2s-3s Lipo). **Do not use a 4s battery** as this will damage the ESC.
- **Current Limits:** The ESC has an output current of 5A x 2. Exceeding this limit with incompatible motors may cause damage.
- **Overheating:** The ESC includes overheat protection. If the temperature exceeds 130°C, the ESC will gradually reduce output power. Allow the unit to cool down before resuming operation.
- **Polarity:** Always ensure correct polarity when connecting the battery and motors to prevent damage to the ESC and other components.
- **Water Exposure:** While the ESC is designed to be splash-proof and dust-proof, avoid full immersion in water or exposure to excessive moisture.

3. PRODUCT FEATURES

- Constructed from premium plastic and electronic components for durability.
- Lightweight and compact design with a built-in capacitor module.
- Features good heat dissipation, strong anti-current capability, and robust anti-interference ability.
- Integrated overheat protection system.
- Includes throttle loss protection: output power is gradually reduced if throttle signal is lost for 1 second, and power is cut off if signal loss persists for another 1 second.
- Supports two adjustable modes: Mixed control for differential rotation of two motors, or independent control for separate

forward/reverse operation of two motors.

- Suitable for RC model boats and compatible with 130 and 180 brushed motors.

4. SPECIFICATIONS

Item Type	RC Brushed ESC
Material	Plastic, Electronic Components
Weight	Approx. 31g / 1.1oz
Support Voltage	6V-14V (2s-3s Lipo)
Output Current	5A x 2
Mode Adjustable	Mixed, Independent
Overheating Protection	ESC > 130°C
Input Signal	PPM
Product Size	40 x 21 x 6.5mm / 1.6 x 0.83 x 0.26in
Applicable Motors	130, 180 Brushed Motors

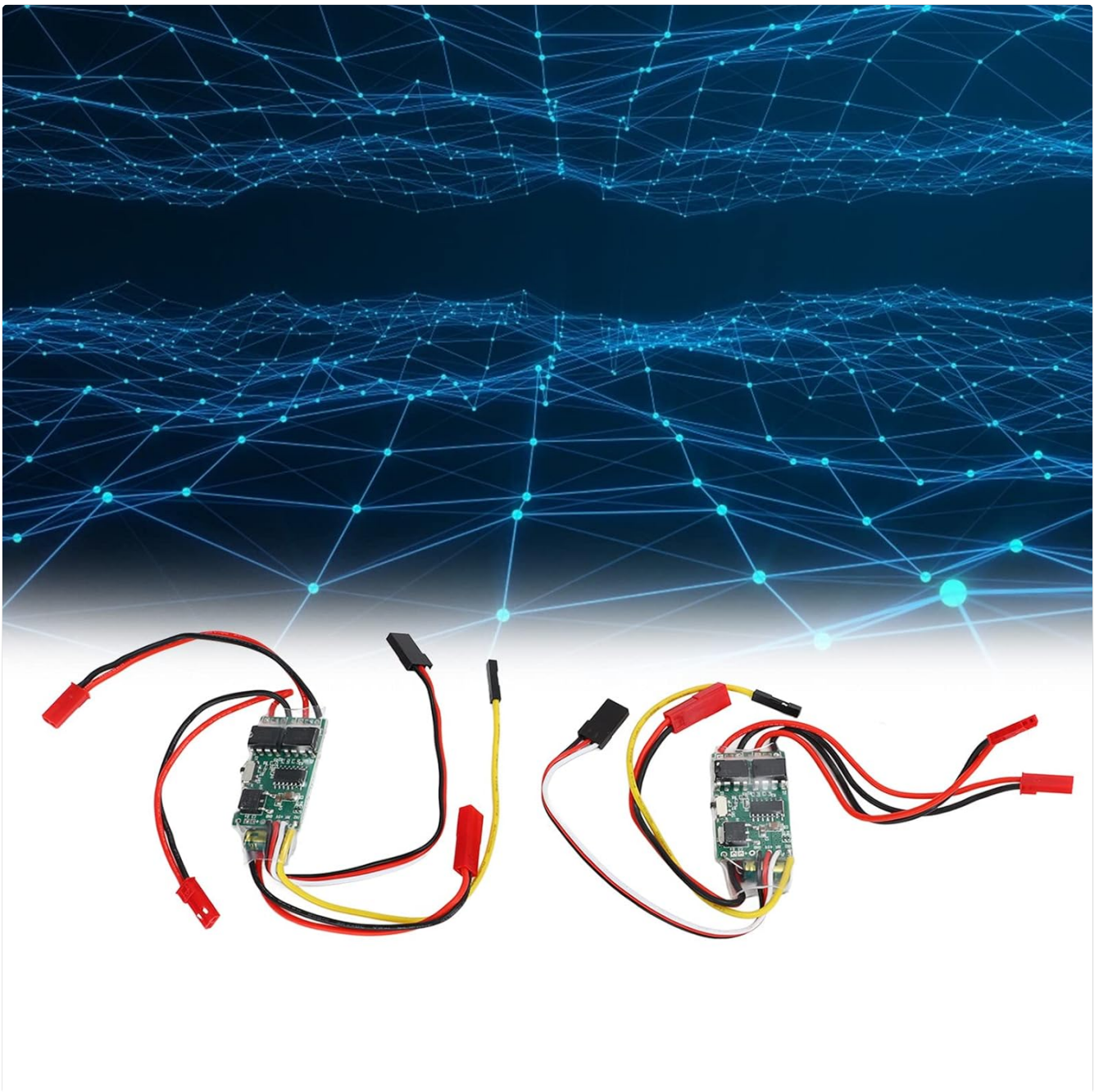


Figure 1: Drfeify Brushed ESC with key dimensions.

5. SETUP AND INSTALLATION

Follow these steps to properly connect your Drfeify Brushed ESC:

1. **Connect to Receiver:** The ESC receives its control signal via a PPM input. Connect the three-wire servo connector (typically black, red, white/yellow) from the ESC to the appropriate channel on your RC receiver. Ensure correct orientation.
2. **Connect Motors:** Connect your 130 or 180 brushed motors to the designated motor output wires on the ESC. Pay attention to polarity for desired motor direction. If the motor spins in the wrong direction, reverse the motor wire connections.
3. **Connect Battery:** Connect your 2s or 3s Lipo battery (6V-14V) to the power input wires of the ESC. Double-check polarity before making the final connection.

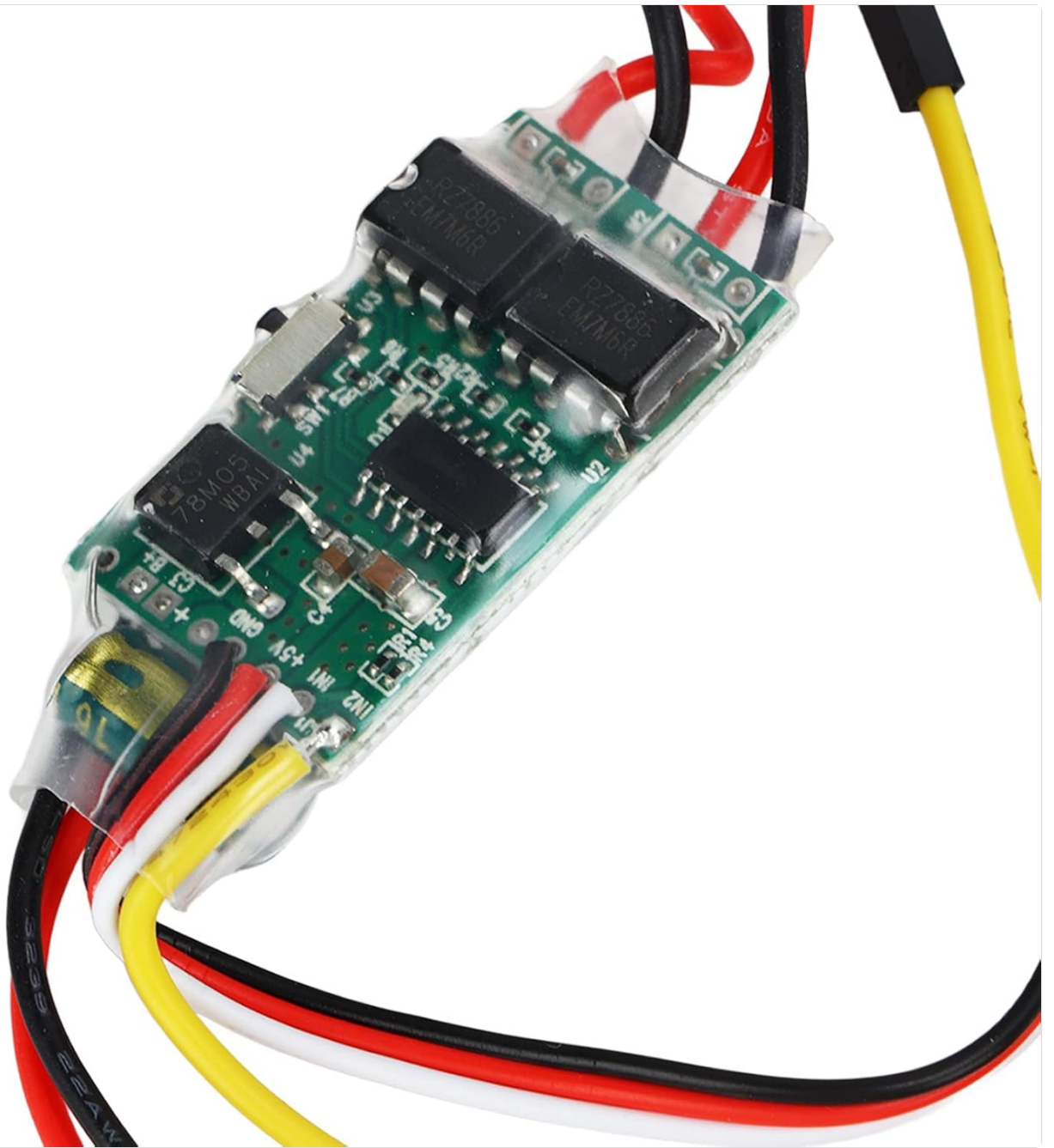


Figure 2: Top view of the ESC, illustrating component layout and connection points.



Figure 3: Detailed view of the ESC connectors for receiver and power input.

6. OPERATING INSTRUCTIONS

The ESC supports two operational modes:

- **Mixed Control Mode:** This mode allows for differential rotation of two motors. It is ideal for applications such as dual-motor differential boats, dump trucks, or crawler trucks, where steering is achieved by varying the speed of each motor.
- **Independent Control Mode:** In this mode, you can control the forward and reverse rotation of two motors independently. This is suitable for applications requiring separate control over each motor's direction and speed.

Refer to your RC transmitter's manual for specific instructions on configuring mixed or independent control channels to interface with the ESC's PPM input.

7. MAINTENANCE

To ensure the longevity and optimal performance of your ESC, follow these maintenance guidelines:

- **Cleaning:** Periodically clean the ESC to remove dust and debris. Use a soft, dry brush or compressed air. Avoid using liquids or solvents.
- **Storage:** Store the ESC in a dry, cool environment away from direct sunlight and extreme temperatures.
- **Inspection:** Regularly inspect all wires and connectors for signs of wear, damage, or loose connections.
- **Environmental Protection:** While the ESC is splash-proof and dust-proof, it is not waterproof. Protect it from heavy rain or submersion.

8. TROUBLESHOOTING

- **ESC Not Functioning:**
 - Verify all connections (battery, motors, receiver) are secure and correctly polarized.
 - Ensure the battery is fully charged and within the 6V-14V (2s-3s Lipo) range.
 - Confirm the input signal from the receiver is PPM. If issues persist, ensure the power supply to the receiver is 5V and the input is PWM.
- **Motor Runs in Wrong Direction:** Reverse the connection of the two motor wires to the ESC.
- **Reduced Power Output:** This may indicate the overheat protection has activated (ESC temperature > 130°C). Allow the ESC to cool down.
- **Intermittent Operation:** Check for loose connections or interference. Ensure the ESC is not exposed to strong electromagnetic fields.
- **Throttle Loss Protection:** If the throttle signal is lost for 1 second, the ESC will gradually reduce power. If the signal remains lost for another 1 second, power will be cut off. Re-establish the signal from your transmitter.

9. WARRANTY AND SUPPORT

For warranty information or technical support, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.