

HUIOP 120A

HUIOP 120A Brushless ESC User Manual

Model: 120A

1. INTRODUCTION

This manual provides essential instructions for the proper installation, operation, and maintenance of your HUIOP 120A Brushless Electronic Speed Controller (ESC). This ESC is designed for 1/8 scale RC cars, off-road vehicles, and boats, compatible with 3660, 3670, and 3674 brushless motors. Please read this manual thoroughly before use to ensure safe and optimal performance.

2. SAFETY PRECAUTIONS

Operating high-power model systems can be dangerous. Adhere to the following safety guidelines:

- Always disconnect the battery from the ESC when not in use to prevent accidental motor activation.
- Ensure all connections are secure and properly insulated to avoid short circuits.
- Keep hands and loose clothing away from rotating parts (motor, propeller, wheels) when the system is powered.
- Do not operate the ESC in conditions beyond its specified limits (voltage, current, temperature).
- If using the ESC in water, ensure the cooling fan is uninstalled first. Dry the ESC thoroughly immediately after use to prevent connector corrosion.
- The manufacturer assumes no liability for damages, losses, or costs resulting from improper use, installation, application, or maintenance of this product.

3. PRODUCT FEATURES

- Water-proof and dust-proof design for all-weather racing (refer to safety notes for water use).
- Compatible with sensorless brushless motors.
- Optimized for RC cars with excellent start-up acceleration and linearity characteristics.
- High resistant current capability and efficient heat dissipation.
- Multiple protection features: Low voltage cut-off protection (for lithium or nickel batteries), Over-heat protection,

Throttle signal loss protection, Motor blocked protection.

4. SPECIFICATIONS

Specification	Value
Model	120A
Continuous Current	120A
Burst Current	600A
Motor Type	Sensorless Brushless Motor
Suitable Car Scale	1/8 car
Resistance	0.00035ohm
BEC Output	5.8V/5A
Battery Compatibility	4S Lipo or 12 cells NiMH
Dimensions (L*W*H)	60mm * 50mm * 38mm (2.36in * 1.97in * 1.50in)
Weight	108g (3.81 oz)

Note: The product image indicates 2-4S Lipo compatibility on the label, while the description states 4S Lipo. Please verify the exact Lipo cell compatibility with the manufacturer if this is a concern.

5. SETUP GUIDE

Follow these steps for proper installation of your HUIOP 120A Brushless ESC:

- Mounting the ESC:** Securely mount the ESC in your vehicle using double-sided tape or screws, ensuring good airflow for cooling.
- Motor Connection:** Connect the three motor wires (A, B, C) from the ESC to the corresponding motor phases. For sensorless motors, the order typically does not matter initially; if the motor spins in the wrong direction, swap any two of the three wires.
- Receiver Connection:** Plug the ESC's throttle cable (usually black, red, white/yellow wires) into the throttle channel (CH2 or CH3, depending on your receiver) of your RC receiver.
- Battery Connection:** Connect the battery connector from the ESC to your battery pack. Ensure correct polarity (red to positive, black to negative). **Always connect the battery last.**
- Power Switch:** Connect the power switch if applicable.



Image: The HUIOP 120A Brushless ESC showing the main power wires (red and black), motor wires, and the receiver/switch cables.



Image: Bottom view of the ESC, highlighting the three gold-plated terminals for connecting to the brushless motor (labeled A, B, C).

6. OPERATING INSTRUCTIONS

1. **Transmitter Setup:** Ensure your RC transmitter is turned on and the throttle trim is set to neutral (0).
2. **Power On:** Connect the battery to the ESC. Turn on the ESC's power switch (if present). The ESC will emit a series of tones indicating battery cell count and readiness.
3. **Throttle Calibration (if needed):** If the motor does not respond correctly to throttle input, you may need to calibrate the ESC with your transmitter. Refer to your transmitter's manual for specific calibration procedures, which typically involve holding full throttle, powering on the ESC, then moving to full brake, and finally neutral.
4. **Normal Operation:** Once calibrated, the ESC will respond to your transmitter's throttle input, controlling the motor speed and direction.
5. **Waterproof Usage:** While the ESC is waterproof, it is recommended to remove the cooling fan before submerging or using in wet conditions. After use in water, thoroughly dry the ESC and all connectors to prevent corrosion.



Image: The HUIOP 120A Brushless ESC shown with water splashing, demonstrating its waterproof capability. Remember to remove the cooling fan for water use.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ESC:

- **Cleaning:** Keep the ESC clean and free from dirt, dust, and debris. Use a soft brush or compressed air.
- **Connector Inspection:** Periodically check all connectors (battery, motor, receiver) for signs of wear, corrosion, or loose connections. Replace damaged connectors immediately.
- **Cooling Fan:** Ensure the cooling fan (if installed) is free from obstructions and functioning correctly. If using in water, remove the fan and dry the ESC thoroughly afterwards.
- **Storage:** Store the ESC in a dry, cool place away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

If you encounter issues with your HUIOP 120A Brushless ESC, refer to the following common problems and solutions:

- **Motor Not Spinning:**

- Check all connections: battery, motor, and receiver.
- Ensure the battery is charged and properly connected.
- Verify throttle trim on your transmitter is at neutral.
- Perform throttle calibration if necessary.
- Check for motor blocked protection activation (clear any obstructions).

- **Motor Spins in Wrong Direction:**

- Swap any two of the three motor wires (A, B, C) connected to the ESC.

- **ESC Overheating:**

- Ensure adequate airflow around the ESC.
- Check if the motor is correctly geared for your application (avoid over-gearing).
- Verify the motor is not overloaded or experiencing excessive resistance.
- Ensure the cooling fan is working if installed.

- **Intermittent Operation or Signal Loss:**

- Check for loose receiver connections or damaged throttle cable.
- Ensure your transmitter batteries are fresh.
- Check for throttle signal loss protection activation.

- **Low Voltage Cut-off Activation:**

- Recharge your battery pack.
- Ensure your battery is healthy and capable of delivering the required current.

9. PACKAGE CONTENTS

The HUIOP 120A Brushless ESC package includes:

- 1x HUIOP 120A Brushless ESC

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact the manufacturer, HUIOP, directly through their official channels or the retailer where the product was purchased. Please retain your proof of purchase for any warranty claims.

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.

Submit question