JADPES 6384

JADPES 6384 120KV Outrunner Brushless Sensored Motor User Manual

Model: 6384 | Brand: JADPES

1. Introduction

Welcome to the user manual for the JADPES 6384 120KV Outrunner Brushless Sensored Motor. This motor is engineered for high-performance electric applications, including electric balancing scooters, electric skateboards, and electric surfboards. This manual provides essential information for safe installation, operation, and maintenance to ensure optimal performance and longevity of your motor.

2. Safety Information

Please read and understand all safety warnings before installing or operating the motor. Failure to follow these instructions may result in injury or damage to the product.

- **Disconnect Power:** Always disconnect power from the battery before performing any installation, maintenance, or inspection.
- **Electrical Hazard:** This motor operates with electrical current. Improper wiring or handling can cause electric shock. Ensure all connections are secure and insulated.
- **Rotating Parts:** The motor shaft rotates at high speeds. Keep fingers, hair, loose clothing, and other objects clear of the motor during operation.
- **Heat:** The motor can become hot during operation. Avoid touching the motor immediately after use to prevent burns.
- **Ventilation:** Ensure adequate ventilation around the motor to prevent overheating.
- **Water and Moisture:** Do not expose the motor to water or excessive moisture, as this can cause short circuits and damage.
- **Protective Gear:** Wear appropriate protective gear, such as safety glasses and gloves, when working with electrical components.

3. Product Overview

The JADPES 6384 motor is a high-quality sensored brushless outrunner motor designed for demanding applications. It features a smooth start, high efficiency, and high torque output, making it ideal for electric propulsion systems.

3.1 Components

The motor package typically includes the main motor unit, three power phase wires with gold-plated bullet connectors, and a multi-pin Hall sensor cable for precise control.



Figure 3.1: This image shows the JADPES 6384 120KV brushless motor, highlighting its main body, the three power phase wires with gold-plated bullet connectors, and the multi-pin Hall sensor cable.



Figure 3.2: This diagram provides the key dimensions of the JADPES 6384 motor, including its diameter (63mm), length (80mm), shaft diameter (10mm), and mounting hole patterns, crucial for proper integration.

4. Setup and Installation

4.1 Mounting the Motor

Securely mount the motor to your device's motor mount using appropriate M4 screws. Ensure proper alignment of the motor shaft with any driven components (e.g., pulley, gear) and verify there is adequate clearance around the motor for ventilation and to prevent any rubbing.



Figure 4.1: This image illustrates the physical dimensions of the motor, showing its overall length of 80mm (3.1 inches) and diameter of 63mm (2.5 inches), important for fitment.

4.2 Electrical Connections

Ensure all power is disconnected before making any electrical connections.

1. **Power Wires:** Connect the three main power wires (typically blue, red, black) from the motor to the corresponding phase outputs of your Electronic Speed Controller (ESC). While the order of these wires determines the motor's rotation direction, ensure they are securely connected. If the motor spins in the wrong direction, swap any two of the three phase wires.
2. **Hall Sensor Cable:** Connect the Hall sensor cable from the motor to the corresponding port on your sensored ESC. Ensure the connector is fully seated and correctly oriented. This cable provides critical feedback for smooth low-speed operation and precise control.
3. **ESC to Battery/Controller:** Connect the ESC to your battery pack and receiver/controller as per your ESC's specific instructions.



Figure 4.2: A detailed view of the three gold-plated bullet connectors attached to the motor's power wires, designed for efficient current transfer and secure connection to the ESC.



Figure 4.3: This image shows the multi-pin white connector for the Hall sensor cable, which provides feedback to the ESC for smoother motor operation, especially at low RPMs.

5. Operation

Once the motor is correctly installed and all electrical connections are made, the motor's operation is controlled by your ESC and input device (e.g., remote control, throttle). The sensored design of this motor provides a smooth start and precise control, particularly beneficial at low speeds.

- **Pre-Operation Check:** Before powering on, double-check all connections to ensure they are secure and correctly oriented.
- **Initial Test:** Start with low throttle inputs to verify correct motor direction and response. If the motor spins in the wrong direction, power off and swap any two of the three main power wires.
- **Temperature Monitoring:** During initial runs and under load, monitor the motor's temperature. Excessive heat can indicate an issue with load, ESC settings, or ventilation.
- **Smooth Control:** The sensored feedback system ensures a linear and responsive throttle feel across the entire RPM range.

6. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your JADPES 6384 motor.

- **Cleanliness:** Keep the motor clean and free from dust, dirt, sand, and debris. Use compressed air or a soft brush to remove foreign particles.
- **Wiring Inspection:** Regularly inspect all wiring and connectors for signs of wear, fraying, cuts, or corrosion. Replace damaged wires immediately.
- **Mounting Security:** Periodically check that all motor mounting screws are tight and secure. Vibrations can loosen fasteners over time.
- **Environmental Protection:** Avoid exposing the motor to excessive moisture, corrosive chemicals, or extreme temperatures.
- **Ventilation:** Ensure that the motor always has adequate airflow during operation to prevent overheating. Clear any obstructions that might block cooling.

7. Troubleshooting

This section addresses common issues you might encounter with your motor.

7.1 Motor Not Spinning

- **Battery:** Check if the battery is charged and properly connected to the ESC.
- **Electrical Connections:** Verify all power and Hall sensor cable connections between the motor and ESC are secure and correct.
- **ESC Functionality:** Ensure the ESC is powered on, properly configured, and receiving signals from your controller.
- **Physical Obstruction:** Inspect the motor and driven components for any physical obstructions preventing rotation.

7.2 Motor Runs Roughly or Inconsistently

- **Hall Sensor:** Check the Hall sensor cable connection and ensure the cable itself is not damaged. A faulty sensor signal can cause rough operation.
- **ESC Settings:** Verify ESC settings such as motor timing, sensor mode (sensored/sensorless), and other motor-specific parameters. Consult your ESC manual.
- **Phase Wires:** Ensure all three phase wires are making good contact and none are loose or damaged.

7.3 Motor Overheats

- **Load:** The motor may be under excessive load. Reduce the load or consider a different gear ratio.
- **Ventilation:** Ensure there is adequate airflow around the motor. Clear any debris blocking cooling fins or air circulation.
- **ESC Settings:** Incorrect ESC timing or other settings can cause the motor to run inefficiently and generate excess heat.
- **Short Circuit:** Check for any internal or external short circuits in the motor or wiring.

8. Specifications

Technical specifications for the JADPES 6384 120KV Outrunner Brushless Sensored Motor:

Feature	Value
Model	6384

Feature	Value
Motor KV	120KV
Voltage Range	24-36V
Max Speed	45 km/h
Power	4600W
Unloaded Speed	3600 rpm/24V
Unloaded Current	2.5A/12V
Efficiency	85%
Load Bearing Capacity	150 kg
Axle Diameter	10 mm
Motor Size (Diameter x Length)	Approx. 63 x 80 mm (2.5 x 3.1 inches)
Weight	Approx. 1052 g
Material	Alloy (Metal)
Motor Type	Outrunner Brushless Sensored

9. Support

For further assistance, technical support, or warranty inquiries, please contact JADPES customer service through your original point of purchase. Please have your product model number and purchase details available when contacting support.

© 2023 JADPES. All rights reserved.

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.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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