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> Mdxtog High-Power Brushless DC Motor User Manual (60V 1500W 3200 RPM)

## Mdxtog 60V 1500W 3200 RPM

# Mdxtog High-Power Brushless DC Motor User Manual

Model: 60V 1500W 3200 RPM

## 1. PRODUCT OVERVIEW

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This manual provides essential information for the safe and efficient operation of your Mdxtog High-Power Brushless DC Motor. This motor is designed for various applications requiring high efficiency and reliable performance, such as electric tricycles, scooters, and other electric vehicles.



Figure 1: Mdxtog High-Power Brushless DC Motor (60V 1500W 3200 RPM)

#### Key Features:

- **Copper Core:** Ensures low-noise operation and precise speed regulation.
- **High-Precision Rotors:** Constructed with advanced technology for water resistance and high operational efficiency.
- **Aluminum Alloy Shell:** Provides resistance against heat, cold, and corrosion, enhancing durability.
- **Brushless Design:** Offers superior efficiency, energy conservation, reduced noise, and extended lifespan compared to brushed motors.
- **Versatile Application:** Suitable for go-karts, scooters, electric tricycles, e-bikes, ATVs, and mopeds.

## 2. SAFETY INFORMATION

Read all safety instructions before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Always disconnect power before performing any installation, maintenance, or troubleshooting.
- Ensure proper grounding to prevent electrical hazards.

- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Do not operate the motor in wet conditions or expose it to excessive moisture unless specifically designed for such environments.
- Verify that the power supply voltage and current match the motor's specifications.
- Avoid touching moving parts during operation.
- Keep children and unauthorized personnel away from the motor during operation.

### 3. PACKAGE CONTENTS

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Verify that all components are present and undamaged upon unpacking.

- Mdxtog High-Power Brushless DC Motor (1 unit)
- Associated wiring (pre-attached)

### 4. SPECIFICATIONS

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Refer to the table below for detailed technical specifications of the motor.

Specification	Value
Item Weight	22.05 Pounds
Brand	Mdxtog
Speed	3200 RPM
Voltage	60 Volts
Horsepower	1500 Watts
Material	Aluminum, Copper
Manufacturer	Mdxtog

# Motor parameters

Rated power	1500W		2200W		3000W	
Rated voltage	60V	72V	60V	72V	60V	72V
Rated speed	3200RPM 4600RPM	3200RPM 4600RPM	3200RPM 5000RPM	3400RPM 4600RPM	3000RPM 4200RPM	3600RPM 4800RPM
Efficiency	83%	83%	83%	83%	83%	83%
Application range	<b>Micro electric vehicles, scooters, electric tricycles, Four-wheel electric vehicles, express vehicles, modified vehicles, Fully enclosed electric tricycle</b>					

Figure 2: Detailed Motor Parameters and Application Range

## 5. SETUP AND INSTALLATION

Proper installation is crucial for the motor's performance and longevity. Consult a qualified technician if you are unsure about any steps.

### 5.1 Mounting the Motor

1. Select a stable and secure mounting surface capable of supporting the motor's weight and operational forces.
2. Ensure adequate ventilation around the motor to prevent overheating.
3. Use appropriate fasteners (not included) to secure the motor firmly to the mounting structure. Refer to the dimensions diagram for mounting hole spacing.



Figure 3: Motor Dimensions for Mounting (12cm, 17cm)

## 5.2 Electrical Wiring

**Important:** Ensure the motor's power rating matches your controller and battery system. Incorrect power matching can lead to motor burnout.

1. Connect the motor's power cables to the appropriate terminals on your motor controller. Typically, these are three phase wires (often colored yellow, green, blue).
2. Connect the Hall sensor wires (if applicable) from the motor to the controller. If using a non-matching drive, test the motor and adjust the drive or motor Hall line if instability occurs.
3. Ensure all connections are secure and insulated to prevent short circuits.
4. Verify correct polarity for DC power connections.



Figure 4: Motor Internal Components (Copper Core Stator, Control Wire, Iron Core, Efficient Bearings, Thick Tile Magnetic Steel)

# Electric tricycle motor

## High-power high-speed brushless motor



Figure 5: Rotor Assembly Detail with Magnetic Steel

## 6. OPERATING INSTRUCTIONS

- Before initial operation, double-check all electrical connections and mounting security.
- Gradually apply power to the motor using a compatible controller.
- Monitor motor temperature during initial runs. Excessive heat indicates potential overload or insufficient ventilation.
- Avoid sudden starts and stops, especially under heavy loads, to prolong motor life.
- Operate the motor within its specified voltage and current limits.

## 7. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your motor.

- **Cleaning:** Periodically clean the motor's exterior to remove dust and debris, which can impede cooling. Use a dry cloth or compressed air.
- **Inspection:** Regularly inspect wiring for signs of wear, fraying, or loose connections. Check mounting

bolts for tightness.

- **Bearings:** The motor features efficient, sealed bearings designed for long life. No routine lubrication is typically required. Listen for unusual noises that might indicate bearing wear.
- **Ventilation:** Ensure cooling fins are clear of obstructions to maintain proper heat dissipation.

## 8. TROUBLESHOOTING

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This section addresses common issues you might encounter. For problems not listed here, contact customer support.

Problem	Possible Cause	Solution
Motor does not start	No power supply; Loose wiring; Faulty controller; Incorrect Hall sensor connection.	Check power source; Inspect all wiring connections; Test controller; Verify Hall sensor wiring.
Motor runs erratically or with instability	Incorrect Hall sensor phasing; Controller incompatibility.	Adjust Hall line connections between motor and controller; Ensure controller is compatible with brushless motors.
Motor overheats	Overload; Insufficient ventilation; Incorrect voltage/current.	Reduce load; Clear obstructions from cooling fins; Verify power supply matches motor specifications.
Reduced power or speed	Low battery voltage; Controller issue; Partial winding failure.	Charge battery; Test controller; Consult technician for motor inspection.

## 9. APPLICATION EXAMPLES

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The Mdxtog High-Power Brushless DC Motor is versatile and suitable for a range of electric vehicle applications, providing efficient and reliable power.

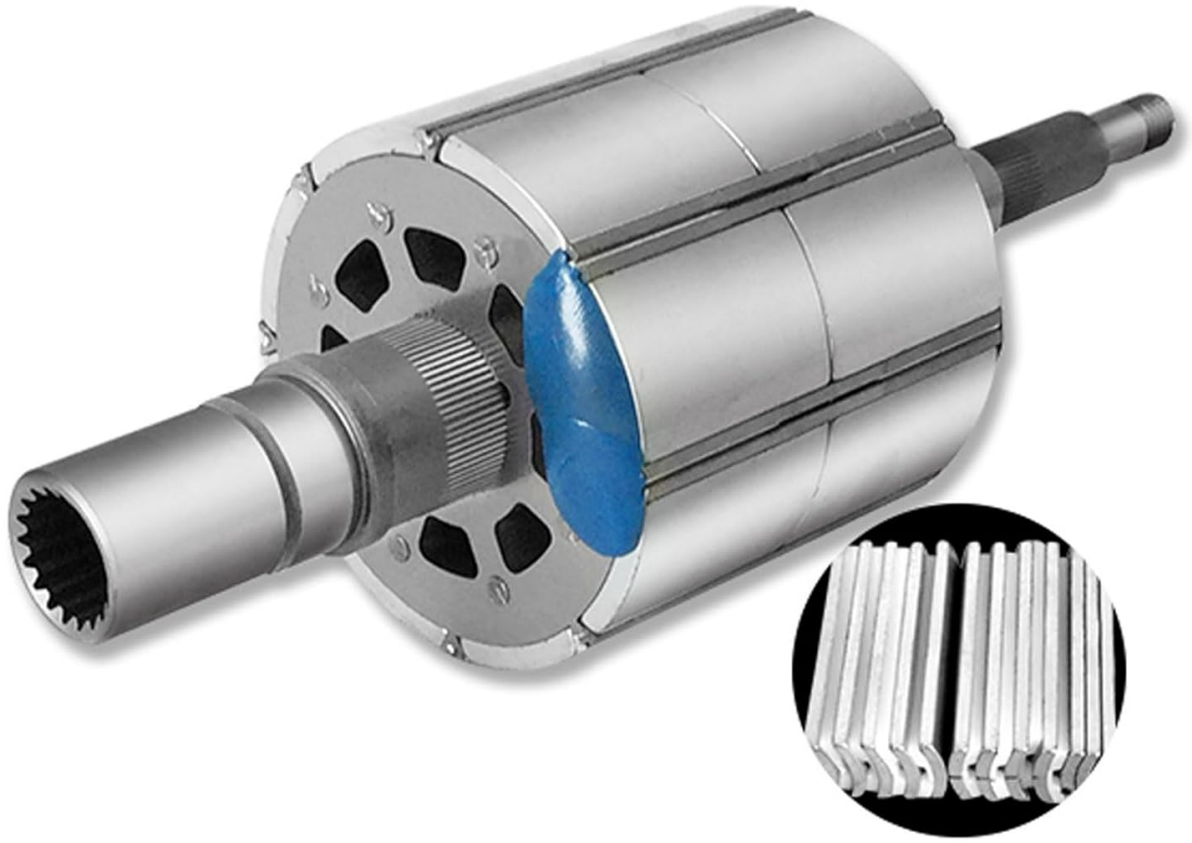


Figure 6: Examples of vehicles compatible with this motor, including electric tricycles and scooters.

## 10. WARRANTY INFORMATION

Mdxtog products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the purchase documentation or contact your retailer. This warranty typically covers defects in materials and workmanship under normal use.

## 11. SUPPORT

If you require further assistance, have questions, or encounter issues not covered in this manual, please contact Mdxtog customer service or your authorized dealer. When contacting support, please have your product model and purchase information available.

