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CHUNYE GL60

CHUNYE GL60 Precision Hollow Shaft Out-Running Gimbal Brushless Motor User Manual

Model: GL60

1. Introduction

This user manual provides essential information for the proper installation, operation, and maintenance of your CHUNYE GL60 Precision Hollow Shaft Out-Running Gimbal Brushless Motor. Please read this manual thoroughly before using the product to ensure safe and efficient operation.

2. Product Overview

The CHUNYE GL60 is a precision out-running gimbal brushless motor designed for applications requiring precise control and high torque density within a compact form factor. Its hollow shaft design facilitates easy integration of signal and power cables, making it suitable for advanced gimbal systems.

Key Features:

- **High Sensitivity:** Designed for precise control and positioning, enabling fine incremental movements.
- **High Torque Density:** Delivers significant torque despite its compact size, suitable for demanding tasks.
- **Flexibility:** Rotatable and pivotable design allows for multi-axis movement, ideal for complex robotic or gimbal applications.
- **Efficiency:** Advanced design and materials contribute to improved energy efficiency and reduced power consumption.
- **Ease of Control:** Precisely controllable via computers or microcontrollers, facilitating integration with other systems and complex motion execution.
- **Hollow Shaft Design:** Allows for convenient routing of signal and power cables through the motor's center.
- **AlexMos Gimbal Controller Compatible:** Designed to work seamlessly with AlexMos gimbal controllers.



Figure 2.1: Top view of the CHUNYE GL60 motor, highlighting the model and KV rating.

3. Safety Information

Please observe the following safety precautions to prevent injury or damage to the motor and associated equipment:

- Always disconnect power before performing any installation, maintenance, or troubleshooting.
- Ensure proper ventilation to prevent overheating during operation.
- Do not exceed the specified voltage and current ratings for the motor and controller.
- Avoid exposing the motor to moisture, dust, or extreme temperatures.
- Handle the motor with care to avoid damaging the delicate internal components or wiring.
- Ensure all connections are secure and correctly polarized before applying power.

4. Setup and Installation

4.1 Package Contents

- CHUNYE GL60 Precision Hollow Shaft Out-Running Gimbal Brushless Motor (1 unit)
- *Note: Additional mounting hardware or cables may be required and are sold separately.*

4.2 Mounting the Motor

The GL60 motor features multiple mounting points for secure attachment to your gimbal frame or custom setup.

1. Identify the appropriate mounting holes on your gimbal structure.
2. Align the motor with the mounting points.
3. Secure the motor using suitable screws (not included) that match the thread size of the motor's mounting holes. Do not overtighten.



Figure 4.1: Bottom view of the GL60 motor, illustrating the mounting points.

4.3 Electrical Connections

Connect the motor to a compatible brushless gimbal controller (e.g., AlexMos).

1. Route the motor's phase wires through the hollow shaft if necessary, or connect them directly to the controller's motor output terminals.
2. Ensure correct phase wire order as specified by your gimbal controller's manual. Incorrect wiring can damage the motor or controller.
3. Connect any sensor wires (if applicable and present on your specific motor variant) to the corresponding sensor input on your controller.
4. Verify all connections are secure before applying power.



Figure 4.2: Side view of the GL60 motor, showing the hollow shaft.

5. Operating Instructions

The CHUNYE GL60 motor operates under the control of a brushless gimbal controller. Refer to your specific gimbal controller's manual for detailed operating procedures and software configuration.

1. **Initial Power-Up:** After ensuring all connections are correct, apply power to your gimbal controller. The motor should initialize.
2. **Controller Configuration:** Use the software provided by your gimbal controller manufacturer to configure motor parameters such as poles, KV value, and PID settings. The GL60 KV55 variant has a KV rating of 55.

3. **Calibration:** Perform motor calibration as instructed by your gimbal controller's software to optimize performance and stability.
4. **Testing:** Carefully test the motor's movement and responsiveness. Ensure smooth operation without excessive vibration or unusual noises.



Figure 5.1: Angled view of the GL60 motor, ready for integration.

6. Maintenance

The CHUNYE GL60 motor is designed for durability and requires minimal maintenance.

- **Cleaning:** Keep the motor free from dust and debris. Use a soft, dry cloth to wipe the exterior. Avoid using liquids or solvents.

- **Inspection:** Periodically inspect the motor for any signs of physical damage, loose connections, or unusual wear on the bearings.
- **Storage:** When not in use, store the motor in a dry, cool environment away from direct sunlight and corrosive materials.

7. Troubleshooting

If you encounter issues with your CHUNYE GL60 motor, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
Motor not responding	No power; incorrect wiring; controller issue.	Check power supply; verify all electrical connections; consult gimbal controller manual.
Motor vibrates or twitches	Incorrect controller settings (PID, poles); unbalanced load; loose mounting.	Recalibrate motor in controller software; ensure load is balanced; check mounting screws.
Motor overheats	Excessive load; insufficient ventilation; incorrect current settings.	Reduce load; ensure adequate airflow; adjust current limits in controller software.
Unusual noise during operation	Damaged bearings; foreign object; loose components.	Inspect for foreign objects; check for bearing play; if noise persists, motor may require replacement.

If the problem persists after attempting these solutions, contact CHUNYE customer support or a qualified technician.

8. Specifications

Attribute	Value
Model	GL60
Brand	CHUNYE
Type	Out-Running Gimbal Brushless Motor
KV Rating (for KV55 variant)	55
Hollow Shaft	Yes
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	1.1 pounds
Assembly Required	No (Motor unit is pre-assembled)
Number of Pieces	1

9. Warranty and Support

For warranty information and technical support, please refer to the official CHUNYE website or contact your retailer. Keep your purchase receipt as proof of purchase.
Manufacturer: CHUNYE

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