Hyuduo GA25-370

Hyuduo GA25-370 DC Gear Motor with Speed Encoder User Manual

Model: GA25-370 (DC12V 10RPM)

1. Introduction

This manual provides essential information for the safe and effective use of the Hyuduo GA25-370 DC Gear Motor with Speed Encoder. Please read these instructions thoroughly before installation and operation to ensure proper function and longevity of the product.

2. Safety Information

- Ensure the power supply voltage matches the motor's rated voltage (DC12V).
- Disconnect power before performing any installation, wiring, or maintenance.
- Avoid exposing the motor to excessive moisture, dust, or corrosive environments.
- Do not attempt to disassemble the motor or gearbox, as this may void the warranty and cause damage.
- Handle the motor shaft and wires carefully to prevent bending or breaking.

3. Product Overview

The Hyuduo GA25-370 is a DC gear motor equipped with a speed encoder, designed for applications requiring precise speed control and high torque at low RPMs. It features stable gear transmission, high efficiency, and wear resistance.

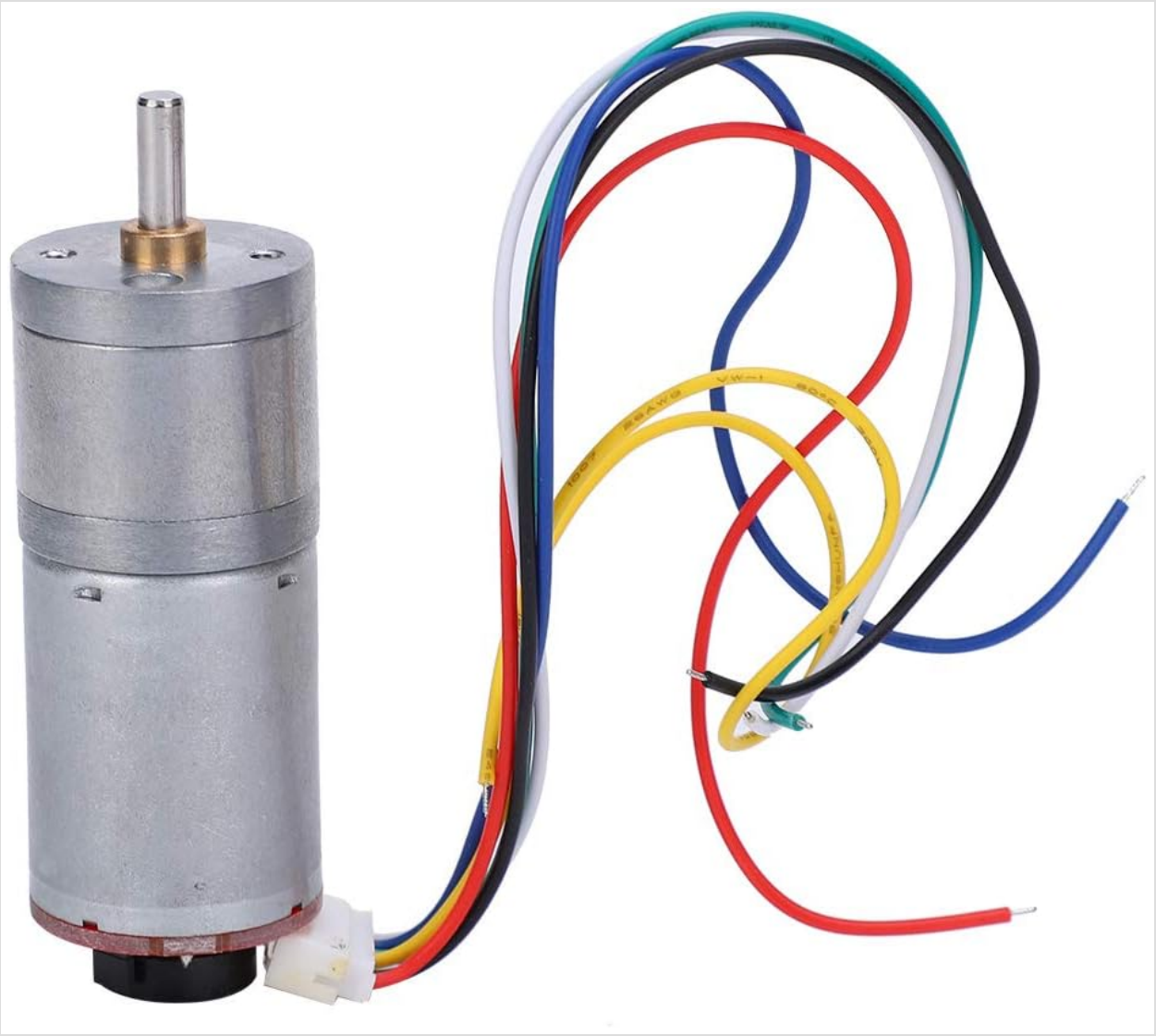

Image 3.1: The Hyuduo GA25-370 DC Gear Motor with its multi-colored wiring harness.

Key Features:

- **Integrated Speed Encoder:** Provides feedback for precise speed and position control.
- **Rotation and Reversal Support:** Allows for bidirectional operation.
- **Stable Gear Transmission:** Ensures smooth and reliable operation.
- **High Efficiency:** Optimized for power conversion.
- **Durable Construction:** Made with stainless steel and copper components for wear resistance and long service life.

Image 3.2: Detailed view of the gear motor, highlighting its robust construction and integrated encoder.

4. Specifications

Parameter	Value
Model	GA25-370
Rated Voltage	DC12V
Rated Speed	10 RPM
Horsepower	10 Watts
Item Weight	0.1 Kilograms (approx. 3.52 ounces)
Part Number	Hyuduoo81fpgtcn4-11
Material	Stainless Steel, Copper

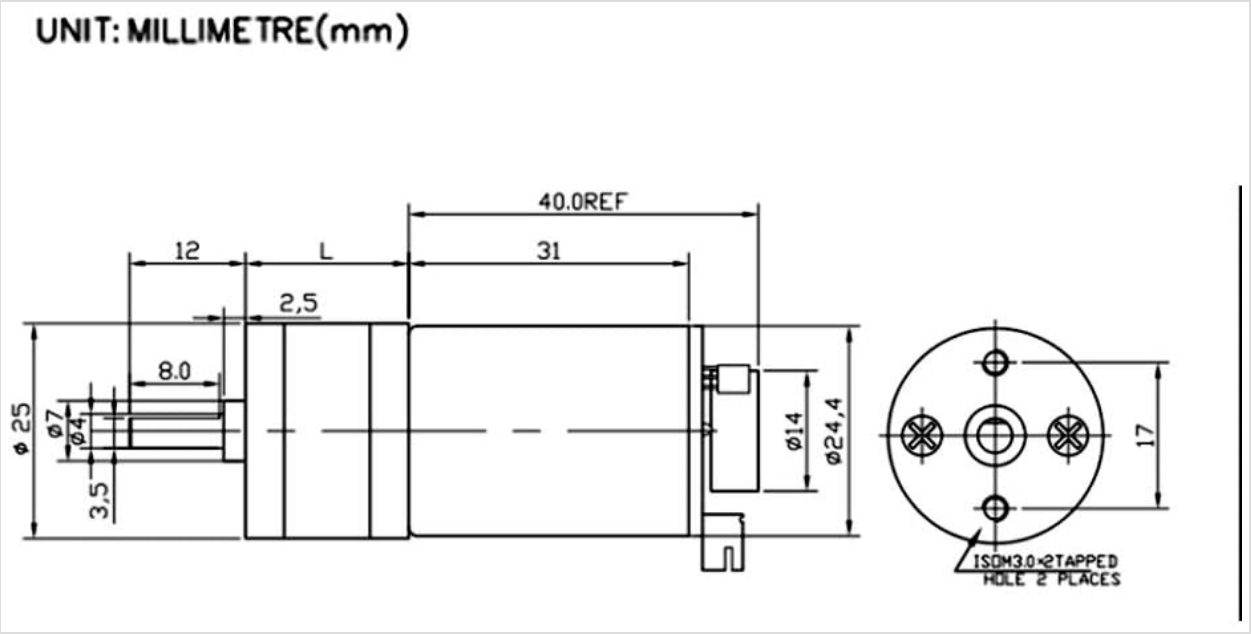

Image 4.1: Dimensional drawing of the GA25-370 motor (dimensions in millimeters).

5. Setup and Wiring

5.1 Wiring Diagram

The GA25-370 motor includes a 6-wire harness for power and encoder feedback. It is crucial to connect these wires correctly to avoid damage to the motor or control circuit. Please refer to the corrected wiring diagram below:

- **Red:** Motor power terminal (+)
- **Black:** Quad encoder Ground
- **Green:** Quad encoder B signal
- **Blue:** Quad encoder +5Vcc (Power for encoder)
- **Yellow:** Quad encoder A signal
- **White:** Motor power terminal (-)

Note: Incorrect wiring can lead to malfunction or permanent damage. Always verify connections before applying power.

Image 5.1: The multi-colored wiring harness for the GA25-370 motor, showing individual wire colors.

5.2 Mounting

The motor can be mounted using appropriate screws through the mounting holes on the front face of the gearbox. Ensure the mounting surface is flat and secure to prevent vibration and misalignment. Do not overtighten mounting screws.

6. Operating Instructions

6.1 Powering On

Once wired correctly, apply DC12V power to the motor's red (+) and white (-) terminals. The motor will begin to rotate. The direction of rotation can be reversed by swapping the polarity of the power supply to the motor terminals (red and white wires).

6.2 Speed and Direction Control

The integrated speed encoder provides feedback signals (Yellow and Green wires) that can be used with a motor controller to achieve precise speed and positional control. The encoder requires a separate 3.3-5V power supply connected to the Blue (+) and Black (-) wires. Consult your motor controller's documentation for specific programming and connection details for encoder feedback.

7. Maintenance

- **Cleaning:** Keep the motor free from dust and debris. Use a soft, dry cloth for cleaning. Avoid using solvents or harsh chemicals.
- **Inspection:** Periodically check wiring connections for looseness or damage. Inspect the motor shaft for any signs of wear or bending.
- **Lubrication:** The gearbox is factory-lubricated and generally does not require additional lubrication under normal operating conditions. If the motor is used in extreme conditions, consult a professional for maintenance.

8. Troubleshooting

Problem	Possible Cause	Solution
Motor does not run	No power, incorrect wiring, faulty power supply.	Check power connections and voltage. Verify wiring against the diagram in Section 5.1. Test power supply.
Motor runs in wrong direction	Motor power polarity reversed.	Reverse the connections of the Red (+) and White (-) motor power wires.
Inaccurate speed/position feedback	Encoder wiring incorrect, encoder power issue, faulty encoder.	Verify encoder wiring (Black, Blue, Yellow, Green) against Section 5.1. Ensure 3.3-5V is supplied to the encoder.
Excessive noise or vibration	Improper mounting, damaged gears, excessive load.	Check mounting for security and alignment. Reduce load if possible. If noise persists, motor may be damaged.

9. Warranty and Support

Hyuduo products undergo quality inspection before leaving the factory. If you encounter any issues or have questions regarding your GA25-370 DC Gear Motor, please contact Hyuduo customer support through your purchase platform or visit the official Hyuduo store for assistance. Please have your model number and purchase details ready when contacting support.
For more information, visit the Hyuduo Store.