Sparkleiot B0B3RN7C64

Sparkleiot 360 Degree Continuous Rotation Motor (Model B0B3RN7C64) User Manual

For Arduino, Microbit, Raspberry Pi, Geekservo, kittenblock, makecode Compatible with Standard Building Blocks

1. INTRODUCTION

This manual provides essential information for the proper setup, operation, and maintenance of your Sparkleiot 360 Degree Continuous Rotation Motor. This motor is designed for use in various DIY electronics projects, offering compatibility with platforms such as Arduino, Microbit, and Raspberry Pi, and integrates seamlessly with standard building blocks.

The package includes four red continuous rotation motors.

Image 1.1: Four Sparkleiot 360 Degree Continuous Rotation Motors.

2. SETUP

Follow these steps to correctly set up your Sparkleiot 360 Degree Continuous Rotation Motor:

1. **Connection:** The red motor features a 2-pin connection cable. The red wire is for 3.3-5V power supply, and the black wire is for Ground (GND). Ensure correct polarity when connecting to your control board (e.g., Arduino, Microbit, Raspberry Pi).

Connection Way

Red motors

2-pin connection

Red for 3.3-5V

Black for GND

Gray servos

3-pin connection

Brown = GND

Red = VCC

Yellow = Signal

Image 2.1: Connection diagram for red motor (2-pin) and gray servo (3-pin).

2. **Mounting:** The motor is designed to be compatible with standard building blocks, allowing for flexible integration into various mechanical structures. It features axle mounting holes for attaching gears, wheels, or other compatible parts.

Image 2.2: Example of attaching a wheel to a compatible servo/motor using axle mounting holes.

3. **Assembly Example:** The motor can be integrated into complex designs, such as robotic structures, using its building block compatibility.

Image 2.3: Application example showing red motors used in a building block robot.

3. OPERATING INSTRUCTIONS

The Sparkleiot 360 Degree Continuous Rotation Motor operates with a 3V power supply and provides continuous rotation, making it suitable for applications requiring constant movement, such as driving wheels or propellers.

- **Power On:** Connect the motor to a 3V power source via its 2-pin connector.
- **Control:** The motor is controlled by voltage. Applying voltage will initiate rotation. The direction of rotation is clockwise.
- **Programmability:** This motor is programmable, allowing for integration with microcontrollers like Arduino, Microbit, and Raspberry Pi for precise control over its operation.

Observe the motor in operation:

Your browser does not support the video tag.

Video 3.1: Demonstration of the Sparkleiot 360 Degree Continuous Rotation Motor in action, showing its continuous rotation capability when connected to a control board.

4. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your motor:

- **Cleaning:** Keep the motor free from dust and debris. Use a soft, dry cloth for cleaning. Avoid using liquids or abrasive materials.
- **Storage:** Store the motor in a dry environment within the recommended storage temperature range of -20°C to 60°C.
- **Handling:** Avoid excessive force or impact, as this can damage the internal components or the eco-friendly ABS shell and POM gears.

5. TROUBLESHOOTING

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

- **Motor Not Rotating:**

  - Check power supply: Ensure the motor is receiving the correct operating voltage (3V) and that the power source is functional.
  - Verify connections: Confirm that the red and black wires are correctly connected to the power and ground terminals, respectively.
  - Inspect for obstructions: Ensure there are no physical obstructions preventing the motor shaft from rotating.

- **Erratic Rotation:**

  - Check power stability: Unstable power can lead to inconsistent operation. Ensure a stable 3V power supply.
  - Review control code: If using a microcontroller, verify your code for any errors in voltage control signals.

- **Unusual Noise:**

  - Check for foreign objects: Small debris might be caught in the gears.
  - Ensure proper mounting: Loose mounting can cause vibrations and noise.

If problems persist after following these steps, please contact customer support.

6. SPECIFICATIONS

Detailed technical specifications for the Sparkleiot 360 Degree Continuous Rotation Motor:

Feature	Specification
Storage Temperature Range	-20°C to 60°C
Operating Temperature Range	-10°C to 50°C
Operating Voltage Range	3V
Operating Speed (no load)	70 ± 5 r/min
Running Current (no load)	70 ± 20mA
Stall Torque (locked)	0.5 ± 0.1 kg-cm
Stall Current (locked)	0.8 ± 0.1A

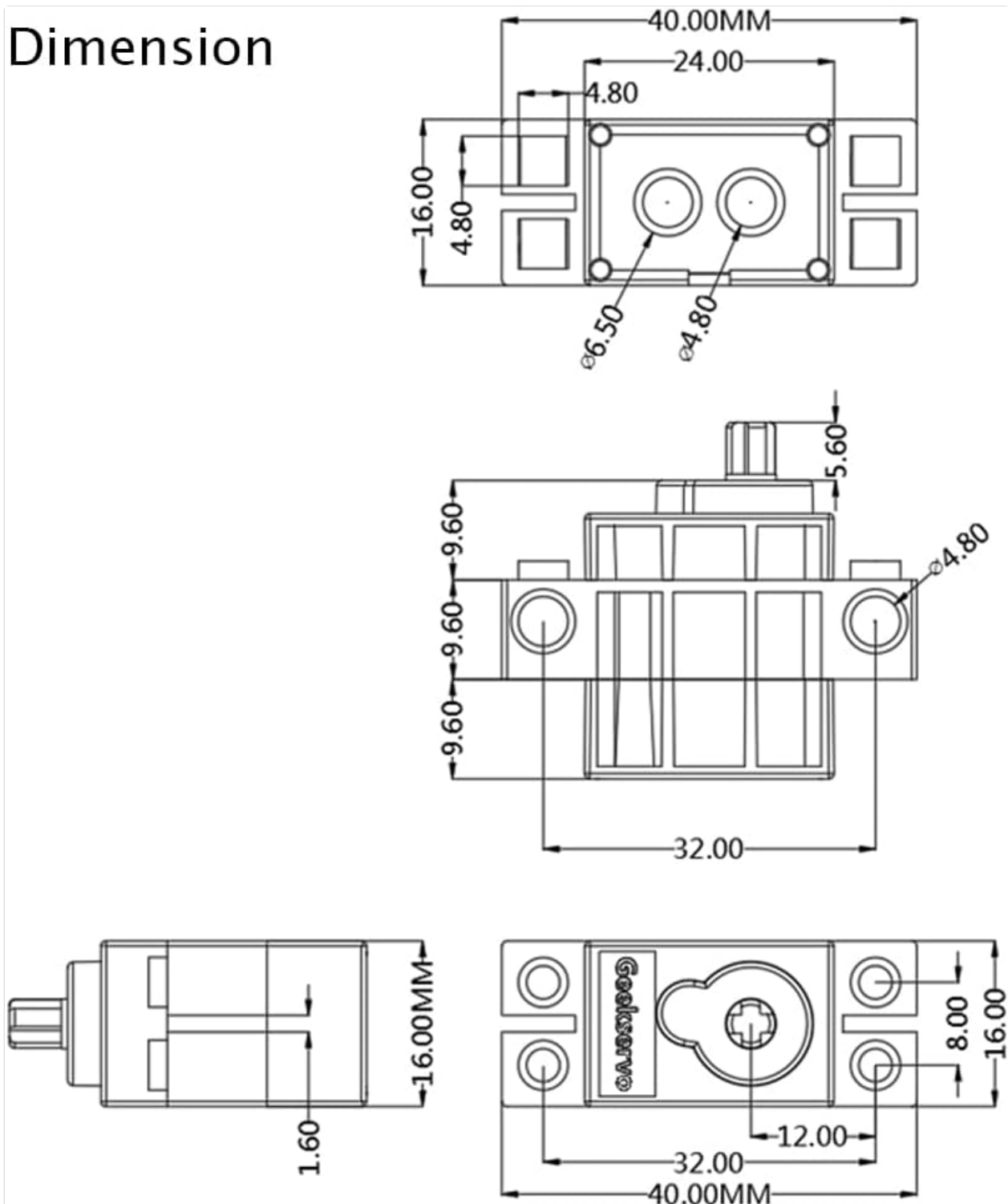| Feature	Specification
Idle Current (stopped)	7 ± 1mA
Running Life (no load)	>200 hours
Limit Angle	360°
Weight	9 ± 1g
Reduction Ratio	1/266
Excessive Play	≤1°
Control System	Voltage control
Operating Travel	360°
Rotating Direction	Clockwise
Maximum Travel	360°
Shock Resistance	200 ± 30g
Product Dimensions	3.94 x 3.94 x 3.94 inches
Item Weight	1.76 ounces

Dimension

Image 6.1: Dimensional drawing of the motor.

7. WARRANTY AND SUPPORT

Sparkleiot products are manufactured to high-quality standards. For warranty information or technical support, please refer to the product packaging or the seller's official channels.

To contact Sparkleiot customer support, please navigate to the product page on Amazon, locate the "Sold by Sparkleiot" section (usually under the "Buy Now" button), and click on "Ask a question" to send an email directly to our support team. Please provide your product model number (B0B3RN7C64) and a detailed description of your issue for prompt assistance.