

Reland Sun N20 6V 30RPM

Reland Sun Mini DC N20 Gear Motor User Manual

MODEL: 6V 30RPM

1. Introduction

This manual provides essential information for the safe and effective use of your Reland Sun Mini DC N20 Gear Motor. This compact motor features a metal gearbox, offering high torque at low RPM, making it suitable for various small-scale applications such as DIY projects, electronic locks, and robot models. Please read this manual thoroughly before installation and operation.

2. Safety Information

- **Electrical Safety:** Ensure all power connections are correct and within the specified voltage range (3V-12V DC). Incorrect voltage or polarity can damage the motor.
- **Handling:** The motor contains small parts. Handle with care to avoid damage. Keep out of reach of children.
- **Overload Protection:** Avoid applying excessive load to the motor, as this can lead to overheating and premature failure.
- **Environment:** Operate the motor in a dry environment, away from moisture, dust, and corrosive substances.
- **Heat:** The motor may generate heat during operation. Ensure adequate ventilation if operating for extended periods under load.

3. Product Components

The Reland Sun Mini DC N20 Gear Motor consists of the following main components:

- DC Motor Unit
- Integrated Metal Gearbox
- Output Shaft (D-type, 3x8mm)



Figure 3.1: Side view of the Reland Sun Mini DC N20 Gear Motor, showing the motor body, metal gearbox, and output shaft.



Figure 3.2: Angled view of the Reland Sun Mini DC N20 Gear Motor, highlighting the compact design and metal gearbox construction.



Figure 3.3: View of the Reland Sun Mini DC N20 Gear Motor, specifically showing the D-type output shaft for secure coupling.

4. Setup

Follow these steps to set up your Mini DC N20 Gear Motor:

- 1. Mounting:** Securely mount the motor using appropriate fasteners through the mounting holes on the gearbox. Ensure the mounting surface is stable and can withstand any torque generated by the motor.
- 2. Electrical Connection:** Connect the motor to a DC power source. The motor is designed for a voltage range of 3V to 12V DC. For this specific model, the optimal operating voltage is 6V. Observe correct polarity; reversing polarity will reverse the direction of rotation.
- 3. Output Shaft:** Attach your desired component (e.g., wheel, gear, lever) to the D-type output shaft. Ensure a snug fit to prevent slippage. The shaft dimensions are 3mm diameter and 8mm length.
- 4. Power Supply:** Use a stable DC power supply that can provide the necessary current for the motor under load. The torque of the motor is reduced at lower voltages.

5. Operating Instructions

Once the motor is properly set up, follow these guidelines for operation:

- Power On:** Apply the specified DC voltage (6V for this model) to the motor terminals. The motor should begin to rotate at its rated speed of 30 RPM.
- Direction Control:** To reverse the direction of rotation, reverse the polarity of the input voltage.
- Voltage and RPM:** The N20 series motors are available in various RPMs (15 RPM to 1000 RPM) and voltage ranges (3V, 6V, 12V). This specific model operates at 6V and 30 RPM. Applying a lower voltage than rated will result in lower RPM and reduced torque. Applying a higher voltage than rated is not recommended and can damage the motor.
- Load Management:** Avoid stalling the motor or operating it under continuous heavy load, as this can cause excessive heat buildup and reduce motor lifespan.

6. Maintenance

The Reland Sun Mini DC N20 Gear Motor is designed for durability, but proper maintenance can extend its lifespan:

- 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 check electrical connections for looseness or corrosion. Inspect the output shaft for any signs of wear or damage.
- Lubrication:** The gearbox is pre-lubricated and generally does not require additional lubrication under normal operating conditions. If the motor is disassembled for repair, use appropriate gear grease.
- Storage:** When not in use, store the motor in a dry, cool environment, away from direct sunlight and extreme temperatures.

7. Troubleshooting

If you encounter issues with your motor, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Motor does not run	No power, incorrect wiring, power supply failure, motor stalled	Check power connections and polarity. Verify power supply output. Remove any obstructions preventing rotation.
Motor runs slowly or weakly	Insufficient voltage, excessive load, worn brushes (unlikely for new motor)	Ensure correct voltage (6V for this model). Reduce load on the motor.
Motor makes unusual noise	Improper mounting, damaged gears, foreign object in gearbox	Check mounting for vibrations. Inspect gears for damage. Disassemble carefully to check for obstructions if comfortable.
Motor overheats	Continuous heavy load, insufficient ventilation, excessive voltage	Reduce load or operating time. Ensure adequate airflow around the motor. Verify correct voltage.

8. Specifications

Detailed technical specifications for the Reland Sun Mini DC N20 Gear Motor (6V 30RPM):

- **Brand:** Reland Sun
- **Model Name:** N20
- **Operating Voltage:** 6 Volts DC (Range: 3V-12V DC)
- **Rated Speed:** 30 RPM (Revolutions Per Minute)
- **Output Shaft Type:** D-type
- **Output Shaft Dimensions:** 3 mm (Diameter) x 8 mm (Length)
- **Fuselage Length (without shaft):** 27 mm
- **Material:** Metal (High hardness steel for gears)
- **GTIN/UPC:** 707338236735
- **Country of Origin:** China

9. Warranty and Support

Specific warranty details are not provided with this product information. For warranty claims, technical support, or further inquiries, please contact the seller or manufacturer directly through your purchase platform. Ensure you have your purchase details readily available when contacting support.

ASK A QUESTION ABOUT THIS MANUAL

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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.

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