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UNGMUQDD RF-320CA-07820

Instruction Manual

UNGMUQDD RF-320CA-07820 Micro DC Motor

1. Introduction and Product Overview

This manual provides essential information for the safe and effective use of your UNGMUQDD RF-320CA-07820 Micro DC Motor. This compact and efficient motor is designed for a wide range of applications, including small home appliances, robotic projects, toy cars, and boats. Please read this manual thoroughly before installation and operation.



Figure 1: General view of the RF-320CA-07820 Micro DC Motor.

2. Specifications

The following table details the technical specifications of the RF-320CA-07820 Micro DC Motor:

Feature	Value
Model	RF-320CA-07820
Motor Diameter	24.2 mm
Motor Height	18 mm
Output Shaft Diameter	2 mm
Output Shaft Length	11 mm
Weight	Approximately 30 g
Construction	Permanent Magnet
Type	Micro Motor
Protect Feature	Drip-proof
Commutation	Brush
Efficiency	IE 1
Origin	Mainland China

2.1. Test Data (No-Load)

Voltage	Speed (RPM)	Current (mA)
6V	2150	10
12V	4450	11
18V	6750	12
24V	9000	23



Figure 2: Dimensions of the RF-320CA-07820 Micro DC Motor (24.2mm diameter, 18mm height, 11mm shaft length).

3. Setup and Installation

Proper setup is crucial for the motor's performance and longevity. Follow these guidelines:

1. **Power Supply:** Connect the motor to a DC power supply within the recommended voltage range (6V-24V). Ensure the power supply can provide sufficient current for the motor's operation, especially under load.
2. **Polarity:** The motor will rotate in one direction when connected with a specific polarity. Reversing the polarity will reverse the direction of rotation. There are no specific positive/negative terminals marked, so test connections to achieve desired rotation.
3. **Mounting:** Securely mount the motor using appropriate fasteners or adhesives to prevent vibration and ensure stable operation. Ensure adequate ventilation around the motor.
4. **Shaft Connection:** When attaching components to the output shaft, ensure a secure fit without excessive force that could bend or damage the shaft or internal components.
5. **Wiring:** Use appropriate gauge wires for connections. Ensure all connections are secure and insulated to prevent short

circuits.

3.1. Safety Precautions

- Do not exceed the maximum recommended voltage (24V) to prevent motor damage.
- Avoid operating the motor under excessive load, which can lead to overheating and reduced lifespan.
- Keep the motor away from water or excessive moisture, despite its drip-proof feature, to prevent electrical hazards.
- Ensure no foreign objects obstruct the motor's rotation.
- Disconnect power before performing any maintenance or adjustments.

4. Operating Instructions

Once properly set up, operating the RF-320CA-07820 motor is straightforward:

1. **Power On:** Apply the desired DC voltage within the specified range (6V-24V) to the motor terminals. The motor will begin to rotate.
2. **Speed Control:** The motor's speed is directly proportional to the applied voltage. Higher voltage results in higher RPM, as indicated in the test data.
3. **Direction Control:** Reverse the polarity of the input voltage to change the direction of rotation.
4. **Load Application:** Apply the intended mechanical load to the output shaft. Monitor the motor for signs of strain or excessive heat, which may indicate an overload condition.



Figure 3: Frontal view of the RF-320CA-07820 Micro DC Motor, showing the output shaft.

5. Maintenance

The RF-320CA-07820 motor is designed for low maintenance. However, following these simple steps can help ensure its longevity:

- **Keep Clean:** Periodically clean the exterior of the motor to prevent dust and debris buildup, which can impede cooling. Use a soft, dry cloth.
- **Avoid Obstructions:** Ensure the motor's ventilation holes (if any) are not blocked.
- **Inspect Connections:** Regularly check electrical connections for looseness or corrosion.
- **Monitor for Noise/Vibration:** Unusual noises or excessive vibration during operation may indicate an issue. Investigate and address promptly.
- **Lubrication:** This motor typically features sealed bearings that do not require external lubrication. Do not attempt to lubricate internal components unless specifically instructed by the manufacturer.

6. Troubleshooting

If you encounter issues with your motor, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Motor does not spin	No power supply Incorrect wiring/polarity Motor jammed/obstructed Faulty motor	Check power source and connections Verify wiring and polarity Remove any obstructions Replace motor if faulty
Motor spins slowly or weakly	Insufficient voltage/current Excessive load Internal friction/wear	Ensure adequate power supply Reduce mechanical load Motor may be at end of life, consider replacement
Motor overheats	Excessive load Overvoltage Poor ventilation	Reduce mechanical load Verify input voltage is within range Ensure adequate airflow around motor
Unusual noise or vibration	Loose mounting Damaged shaft/bearings Foreign object inside motor	Securely mount the motor Inspect shaft for bends; motor may need replacement Disassemble carefully if possible, or replace motor

If the problem persists after attempting these solutions, please contact customer support.

7. Warranty and Support

For information regarding warranty coverage, returns, or technical support for your UNGMUQDD RF-320CA-07820 Micro DC Motor, please refer to the product's purchase documentation or visit the manufacturer's official website. Keep your proof of purchase for warranty claims.

For further assistance, you may contact the seller directly through the platform where the product was purchased.

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