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Bemonoc B0D65Z28WN

AC Electric Motor Speed Controller User Manual

Brand: Bemonoc | Model: B0D65Z28WN

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Bemonoc AC Electric Motor Speed Controller. Please read this manual thoroughly before using the product to ensure safe and efficient operation. This controller is designed to provide accurate and stable speed regulation for AC gear motors, enhancing productivity and control in various industrial applications.

2. Safety Information

Always adhere to the following safety precautions to prevent injury or damage to the equipment.

- **Power Supply:** Ensure the power supply is AC110V 50/60Hz. The voltage fluctuation range must be within +/-10% of the nominal voltage.
- **Initial Setup:** Before connecting or powering on, always turn the speed knob to the "0" position. This prevents momentary high current surges that could damage the speed controller or connected motor.
- **Motor Compatibility:** Verify that the motor's power rating matches the power rating of the speed controller (120W for this model).
- **Electrical Safety:** All wiring and installation should be performed by qualified personnel in accordance with local electrical codes and regulations.
- **Grounding:** Ensure proper grounding of the unit to prevent electrical shock.
- **Environment:** Do not expose the controller to moisture, excessive heat, or corrosive environments.
- **Disassembly:** Do not attempt to disassemble or modify the controller. Refer all servicing to authorized personnel.

3. Product Overview

3.1 Key Features

- **Power Supply:** AC110V 50/60Hz, suitable for a voltage fluctuation range within +/-10% of Ue.
- **Built-in Capacitor:** Effectively suppresses electromagnetic interference (EMI) and improves system stability.
- **Advanced Controlling Technology:** Offers accurate and stable speed regulation for smooth and efficient motor operation.

- **Convenient Installation:** Features dual mounting holes (one on top, one on bottom) and a plug-pin interface for straightforward setup.
- **Enhanced Productivity:** Allows flexible production line layout and scheduling through precise motor speed adjustment.

3.2 Components

The Bemonoc AC Electric Motor Speed Controller consists of the main control unit with a speed adjustment knob and a RUN/STOP switch.



Figure 3.2.1: Front view of the Bemonoc AC Electric Motor Speed Controller, showing the speed control knob and the RUN/STOP switch.

3.3 Dimensions

Understanding the physical dimensions of the controller is crucial for proper installation and integration into your system.



Figure 3.3.1: Detailed dimensions of the speed controller. The unit measures approximately 100mm (height) x 60mm (width) x 88mm (depth), with a front panel width of 52mm and a mounting hole spacing of 90mm.

4. Specifications

Technical specifications of the Bemonoc AC Electric Motor Speed Controller.

Specification	Value
Brand	Bemonoc
Speed	Adjustable (up to 36 RPM for compatible motors)
Voltage	110 Volts AC
Horsepower / Power Rating	120 Watts

Specification	Value
Material	Plastic

5. Setup

5.1 Before Installation

- Ensure all power is disconnected from the motor and the power source before beginning installation.
- Verify that the speed control knob on the controller is set to the "0" (minimum) position.
- Confirm that the motor's specifications (voltage, power) are compatible with the controller.

5.2 Wiring Instructions

Proper wiring is critical for the safe and correct operation of the speed controller. Refer to the diagram below for connection details.

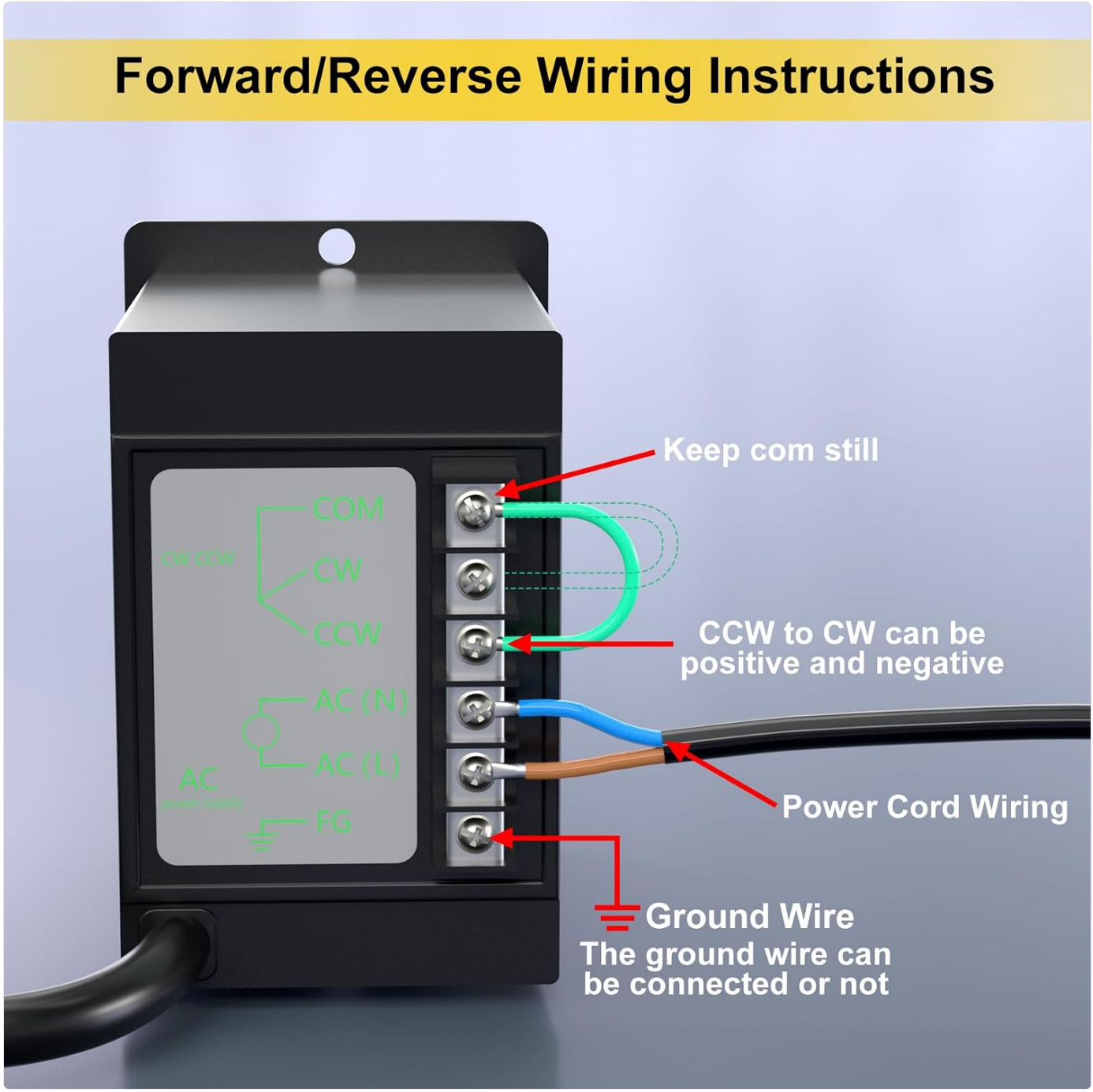


Figure 5.2.1: Forward/Reverse Wiring Instructions. Connect the power cord to AC(N) and AC(L). The ground wire can be connected to FG. For motor direction control, connect COM to CW or CCW. Note that CCW to CW can be positive or negative depending on desired rotation.

- Connect the AC power supply to the AC(N) and AC(L) terminals.
- Connect the motor's common wire to the COM terminal.
- For forward rotation, connect the motor's forward winding to the CW terminal.
- For reverse rotation, connect the motor's reverse winding to the CCW terminal.
- Ensure all connections are secure and insulated.

5.3 Mounting

The controller features convenient dual mounting holes for easy installation. It can be mounted using screws through the holes located on the top and bottom of the unit's front panel.



Figure 5.3.1: The image illustrates the dimensions and also shows the mounting holes on the top and bottom of the control unit's faceplate, facilitating secure installation.

6. Operating Instructions

6.1 Powering On

1. Ensure all wiring is correctly connected as per Section 5.2.
2. Confirm the speed knob is at the "0" (LOW) position.
3. Flip the RUN/STOP switch to the "STOP" position.
4. Connect the power supply to the controller.

6.2 Speed Adjustment

1. Once powered on, flip the RUN/STOP switch to the "RUN" position. The motor should remain stationary if the speed knob is at "0".
2. Slowly rotate the speed control knob clockwise from "LOW" towards "High" to gradually increase the motor speed.
3. Rotate the knob counter-clockwise to decrease the motor speed.
4. To stop the motor, flip the RUN/STOP switch to the "STOP" position.



Figure 6.2.1: The speed control knob allows for precise adjustment of the motor's rotational speed from low to high.

6.3 Reversible Operation

This controller supports reversible motor operation, allowing for flexible control over your application.



Figure 6.3.1: The controller features a wide speed range and reversible design, enabling adjustment of speed and direction for various loads.

Refer to the wiring diagram in Section 5.2 for details on connecting the motor for forward (CW) and reverse (CCW) operation. The direction is controlled by the specific motor windings connected to the CW and CCW terminals, typically requiring a motor designed for reversible operation.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your speed controller.

- **Cleaning:** Periodically clean the exterior of the controller with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the unit is powered off and disconnected before cleaning.
- **Inspection:** Regularly inspect all wiring connections for tightness and signs of wear or damage. Address any loose connections or damaged wires immediately.
- **Ventilation:** Ensure that the controller's ventilation openings are not obstructed to prevent overheating.

- **Storage:** If storing the controller for an extended period, keep it in a dry, dust-free environment away from direct sunlight and extreme temperatures.

8. Troubleshooting

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
Motor does not run	No power supply Speed knob at '0' RUN/STOP switch in 'STOP' Incorrect wiring Motor fault	Check power connection Increase speed knob setting Flip switch to 'RUN' Verify wiring as per Section 5.2 Test motor independently
Motor speed is unstable	Incompatible motor Overload Loose connections	Ensure motor power matches controller Reduce load on motor Check and secure all wiring
Controller gets hot	Overload Poor ventilation	Reduce load Ensure adequate airflow around controller
Motor runs in wrong direction	Incorrect wiring for direction	Refer to wiring diagram (Section 5.2) and adjust CW/CCW connections

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

9. Warranty and Support

Bemonoc products are manufactured to high-quality standards. For warranty information, technical support, or service inquiries, please refer to the warranty card included with your product or visit the official Bemonoc website. Please have your product model number (B0D65Z28WN) and purchase date ready when contacting support.

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