EQBVZZRD L3N-20D

EQBVZZRD L3N-20D Synchronous AC Servo Motor Set Instruction Manual

Model: L3N-20D

1. Product Overview

The EQBVZZRD L3N-20D Synchronous AC Servo Motor Set is designed for precision control in various industrial applications. This motor set combines high performance with robust construction to ensure reliable operation.

- **Application:** Widely applicable in industrial manipulators, engraving and carving equipment, semiconductor manufacturing equipment, measuring instruments, medical devices, industrial robots, and other automated systems.
- **Powerful Motor:** This motor offers high torque, no lost steps, low noise, fast response, compact size, and high controllability, making it suitable for demanding tasks.
- **Driver Functions:** The integrated driver utilizes advanced algorithms for stable low-speed operation. A high-performance encoder ensures precise motor positioning and control accuracy.



Figure 1: Front and side view of the EQBVZZRD L3N-20D Synchronous AC Servo Motor, showing the motor body, shaft, and electrical connectors.

2. Safety Information

Please read and understand all safety instructions before installation, operation, or maintenance. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- **Electrical Safety:** Ensure all power is disconnected before making any electrical connections or performing maintenance. Only qualified personnel should perform electrical work.
- **Mechanical Safety:** The motor shaft may rotate at high speeds. Keep hands, clothing, and tools clear of moving parts. Ensure the motor is securely mounted to prevent unexpected movement.
- **Thermal Safety:** The motor and driver can become hot during operation. Allow sufficient cooling time before handling.
- **Environment:** Operate the motor in a clean, dry environment, free from excessive dust, moisture, corrosive gases, or flammable materials.



Figure 2: Rear view of the EQBVZZRD L3N-20D Synchronous AC Servo Motor, highlighting electrical connections and safety warning labels for high temperature and electrical hazard.

3. Package Contents

Upon opening the package, verify that all components are present and undamaged. If any items are missing or damaged, contact customer support immediately.

- EQBVZZRD L3N-20D Synchronous AC Servo Motor
- Associated Servo Driver
- Connection Cables (Power, Encoder, Control)
- Instruction Manual (this document)

4. Setup

Proper setup is crucial for optimal performance and safety. Follow these general steps for installation:

1. **Mounting the Motor:** Securely mount the servo motor to a stable, vibration-free surface using appropriate fasteners. Ensure proper alignment with the driven load.
2. **Electrical Connections:**
    - Connect the motor power cable to the servo driver's motor output terminals.
    - Connect the encoder feedback cable from the motor to the designated encoder input on the servo driver.
    - Connect the main power supply to the servo driver, ensuring correct voltage and current ratings.
    - Connect control signals (e.g., pulse/direction, analog command, communication bus) from your control system to the servo driver's input terminals.
3. **Grounding:** Ensure both the motor and driver are properly grounded to prevent electrical hazards and reduce electromagnetic interference.
4. **Parameter Configuration:** Refer to the servo driver's specific manual for detailed instructions on configuring parameters such as motor type, encoder resolution, current limits, and control gains.

5. Operating Instructions

Once the motor and driver are correctly installed and configured, you can begin operation:

1. **Initial Power-Up:** Apply power to the servo driver. Observe any indicator lights or display messages to confirm proper initialization.
2. **Enable Motor:** Send an enable signal from your control system to the servo driver. The motor should become active and hold its position (if in position control mode).
3. **Test Movement:** Start with low-speed, short-distance movements to verify correct operation and direction. Gradually increase speed and distance as confidence grows.
4. **Monitoring:** During operation, monitor motor temperature, current draw, and any error indicators on the driver.

6. Maintenance

Regular maintenance helps ensure the longevity and reliable performance of your servo motor set.

- **Cleaning:** Periodically clean the motor and driver surfaces to remove dust and debris. Ensure cooling fins are clear for effective heat dissipation. Use a soft, dry cloth; avoid solvents.
- **Connection Inspection:** Regularly check all electrical connections for tightness and signs of wear or corrosion. Re-tighten as necessary.
- **Cable Integrity:** Inspect cables for any damage, fraying, or kinks. Replace damaged cables immediately.
- **Mounting Security:** Verify that the motor and any connected mechanical components remain securely mounted.

7. Troubleshooting

If you encounter issues, refer to the following common troubleshooting steps:

- **Motor Not Responding:**
  - Check power supply to the driver.
  - Verify control signals (enable, pulse/direction) are correctly connected and active.
  - Inspect motor and encoder cable connections.
  - Check for error codes on the servo driver display (refer to driver manual).
- **Motor Overheating:**
  - Ensure adequate ventilation and clear cooling fins.
  - Check if the motor load exceeds its rated capacity.
  - Verify driver current limits are set correctly.
- **Inaccurate Positioning/Vibration:**
  - Check encoder feedback cable for damage or loose connections.
  - Review servo driver tuning parameters (e.g., P, I, D gains).
  - Ensure mechanical coupling between motor and load is secure and free of backlash.

For persistent issues, consult the detailed servo driver manual or contact technical support.

8. Specifications

Specification	Value
Model	L3N-20D (80-3330)

Specification	Value
Manufacturer	EQBVZZRD
Item Weight	1000 g
Number of Pieces	1 (Motor)
ASIN	B0F6T5FGXQ
Date First Available	April 29, 2025

Note: Specific electrical and performance parameters (e.g., voltage, current, torque, speed, power) are dependent on the exact variant and should be referenced from the product's technical datasheet or the servo driver manual.

9. Warranty Information

This EQBVZZRD product is covered by a limited warranty against defects in materials and workmanship from the date of purchase. The warranty period and terms may vary. Please retain your proof of purchase. This warranty does not cover damage caused by improper installation, misuse, unauthorized modification, or normal wear and tear. For detailed warranty terms, please refer to the official EQBVZZRD warranty policy or contact customer support.

10. Support

For technical assistance, troubleshooting guidance, or warranty claims, please contact EQBVZZRD customer support through the retailer's platform or the official brand website. When contacting support, please have your product model (L3N-20D) and purchase information readily available.
Online Resources: Visit the EQBVZZRD official website for additional documentation, FAQs, and software updates (if applicable).

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