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> Yaskawa SGMJV-04A3A6C AC Servo Motor User Manual

## Yaskawa SGMJV-04A3A6C

# Yaskawa SGMJV-04A3A6C AC Servo Motor User Manual

Model: SGMJV-04A3A6C

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## 1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the Yaskawa SGMJV-04A3A6C AC Servo Motor. Please read this manual thoroughly before using the product and keep it for future reference. This servo motor is designed for industrial applications requiring precise motion control.

## 2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury to personnel and damage to equipment.

- **Electrical Hazard:** Ensure all power is disconnected before performing any installation, wiring, or maintenance. Only qualified personnel should perform electrical work.
- **Moving Parts:** The motor shaft can rotate at high speeds. Keep hands, clothing, and tools clear of moving parts during operation.
- **Hot Surfaces:** The motor surface may become hot during operation. Allow sufficient time for cooling before handling.
- **Proper Grounding:** Always ensure the motor is properly grounded to prevent electrical shock.
- **Environmental Conditions:** Operate the motor within specified environmental conditions (temperature, humidity, vibration) to ensure safe and reliable performance.

## 3. PRODUCT OVERVIEW

The Yaskawa SGMJV-04A3A6C is a high-performance AC servo motor designed for precise and dynamic motion control applications. It features a 3-phase power input, 400W output, and operates at 200V. This motor is commonly used in robotics, machine tools, and automation systems.



Figure 3.1: Front view of the Yaskawa SGMJV-04A3A6C AC Servo Motor. This image displays the motor's front face, including the output shaft and the mounting bolt holes.



Figure 3.2: Side view of the Yaskawa SGMJV-04A3A6C AC Servo Motor, highlighting the product label. The label provides critical information such as the model number (SGMJV-04A3A6C), power (400W), voltage (200V), and other technical specifications.

## 4. SETUP

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Proper installation is crucial for the motor's performance and longevity. It is recommended that installation be performed by a qualified technician.

### 4.1 Mounting

1. Ensure the mounting surface is flat, rigid, and free from vibrations.
2. Align the motor shaft with the driven load carefully to avoid excessive radial or axial loads.
3. Secure the motor using appropriate bolts and torque specifications as per the detailed installation guide (refer to the full Yaskawa SGMJV series manual for specific torque values).

### 4.2 Electrical Connections

1. Connect the motor power cables (U, V, W) to the compatible servo drive output terminals. Ensure correct phase sequence.
2. Connect the encoder feedback cable to the servo drive's feedback input. Verify pin assignments.
3. Connect the motor's ground terminal to the system's protective earth ground.
4. Double-check all wiring for correct polarity and secure connections before applying power.

## 5. OPERATING INSTRUCTIONS

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The SGMJV-04A3A6C servo motor operates in conjunction with a compatible Yaskawa servo drive. Refer to the servo drive's manual for detailed programming and operation procedures.

- **Power On:** Apply power to the servo drive and motor system.
- **Parameter Settings:** Configure the servo drive parameters according to the motor specifications and application requirements. This includes motor type, encoder resolution, and control gains.
- **Test Run:** Perform a low-speed test run to verify correct motor rotation and feedback.
- **Normal Operation:** Once verified, the motor can be integrated into the machine's control system for normal operation. Monitor motor temperature and performance during initial runs.

## 6. MAINTENANCE

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Regular maintenance ensures optimal performance and extends the lifespan of your servo motor.

- **Periodic Inspection:** Regularly inspect the motor for any signs of damage, loose connections, or unusual noise/vibration.
- **Cleaning:** Keep the motor free from dust, dirt, and debris. Use a soft, dry cloth for cleaning. Avoid using solvents that may damage the motor's finish or seals.
- **Cable Integrity:** Check all power and feedback cables for wear, fraying, or damage. Replace damaged cables immediately.
- **Bearing Life:** Servo motor bearings have a finite lifespan. If unusual noise or vibration persists, bearing replacement may be necessary by a qualified service technician.

## 7. TROUBLESHOOTING

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This section provides basic troubleshooting steps for common issues. For complex problems, consult the servo drive manual or contact Yaskawa technical support.

Problem	Possible Cause	Solution
Motor does not rotate.	No power, incorrect wiring, servo drive alarm.	Check power supply, verify wiring connections, check servo drive status and error codes.
Motor vibrates excessively.	Improper mounting, misaligned load, incorrect gain settings.	Re-check mounting, ensure proper load alignment, adjust servo drive gain parameters.
Motor overheats.	Overload, insufficient cooling, high ambient temperature.	Reduce load, ensure proper ventilation, check ambient temperature.
Inaccurate positioning.	Encoder issue, mechanical backlash, incorrect tuning.	Check encoder cable and connections, inspect mechanical system for play, re-tune servo drive.

## 8. SPECIFICATIONS

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Key technical specifications for the Yaskawa SGMJV-04A3A6C AC Servo Motor:

- **Model Number:** SGMJV-04A3A6C
- **Type:** AC Servo Motor

- **Power Output:** 400 W
- **Voltage:** 200 V
- **Phase:** 3 Phase
- **Manufacturer:** Yaskawa
- **Item Weight:** Approximately 16 Pounds (7.26 kg)
- **Part Number:** SGMJV-04A3A6C
- **ASIN:** B07X2TDTYK

## 9. WARRANTY AND SUPPORT

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For warranty information, technical support, or service inquiries regarding your Yaskawa SGMJV-04A3A6C AC Servo Motor, please contact Yaskawa customer service or your authorized Yaskawa distributor. Ensure you have your model number and any relevant purchase details available when seeking support.

Official Yaskawa resources can provide the most accurate and up-to-date information for your product.

