

## KOLLMORGEN B-604-C-A3

# Kollmorgen B-604-C-A3 Servo Motor Instruction Manual

Model: B-604-C-A3

## 1. INTRODUCTION

---

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the Kollmorgen B-604-C-A3 Goldline Brushless Permanent Magnet Servo Motor. Please read this manual thoroughly before attempting to install or operate the motor. Proper adherence to these instructions will ensure optimal performance and longevity of the product.

## 2. SAFETY INFORMATION

---

**WARNING: Improper installation, operation, or maintenance can result in severe personal injury or equipment damage. Always follow safety precautions.**

- Ensure all power is disconnected before performing any installation, maintenance, or inspection tasks.
- Only qualified personnel should install, operate, or service this equipment.
- Protect against electrical shock. Do not touch electrical connections when power is applied.
- The motor surface may become hot during operation. Allow adequate cooling time before handling.
- Securely mount the motor to prevent unexpected movement or vibration.
- Use appropriate personal protective equipment (PPE) such as safety glasses and gloves.

## 3. PRODUCT OVERVIEW

---

The Kollmorgen B-604-C-A3 is a high-performance Goldline Brushless Permanent Magnet Servo Motor designed for demanding industrial applications. It features a robust construction and is engineered for precise motion control, high torque output, and efficient operation. This motor is suitable for applications requiring high speed and dynamic response.



Figure 3.1: Full view of the Kollmorgen B-604-C-A3 Servo Motor, showing its robust industrial design.

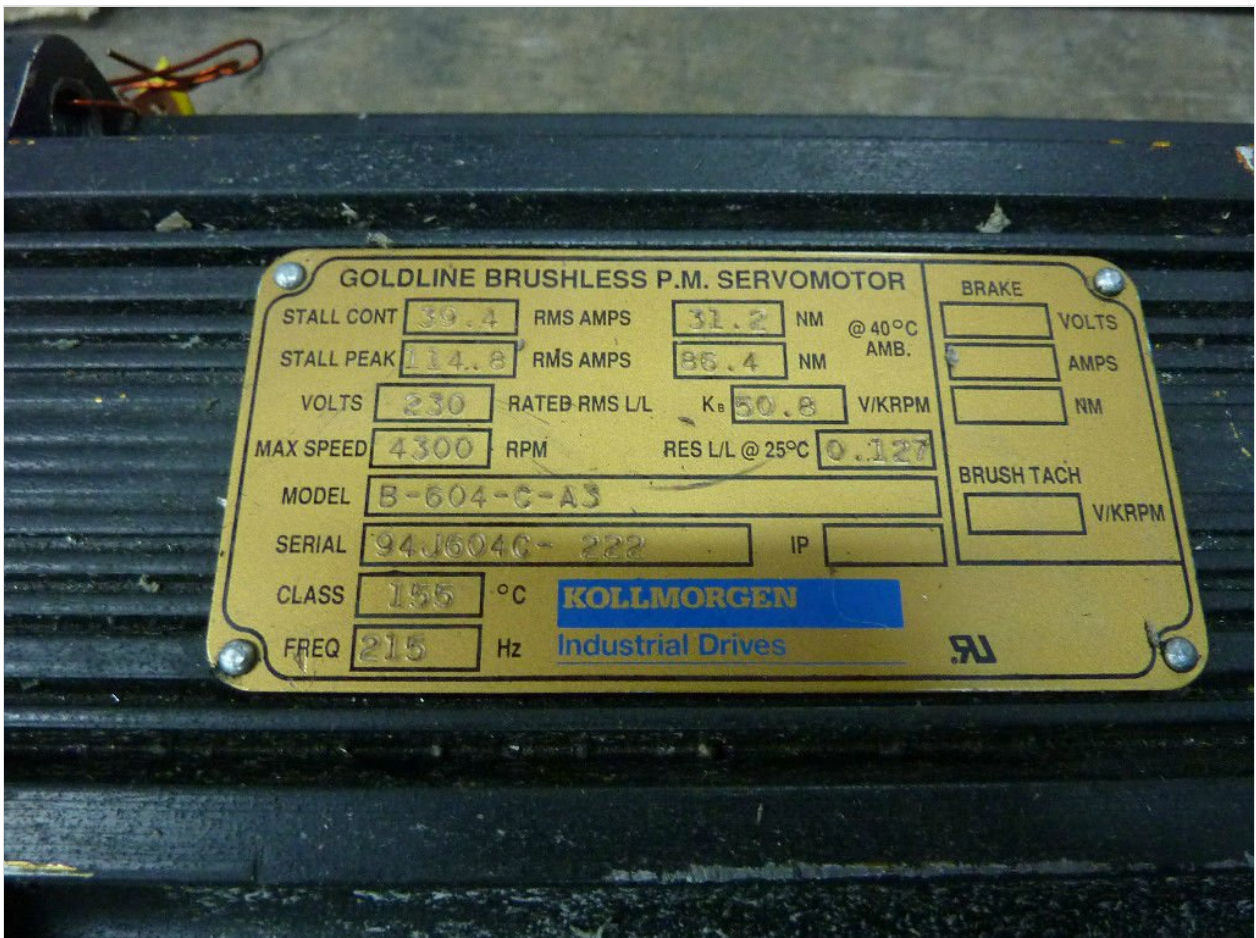


Figure 3.2: Close-up of the motor's nameplate, displaying key operational specifications and model number.

## 4. SPECIFICATIONS

---

The following table details the technical specifications for the Kollmorgen B-604-C-A3 Servo Motor:

Parameter	Value
Model	B-604-C-A3
Brand	Kollmorgen
Type	Goldline Brushless P.M. Servomotor
Stall Continuous RMS Amps	39.4 A
Stall Peak RMS Amps	86.4 A
Volts	230 V
Max Speed	4300 RPM
Rated RMS Torque L/L	31.2 Nm @ 40°C Ambient
$K_E$ (Back EMF Constant)	50.8 V/KRPM
Resistance L/L @ 25°C	0.127 ohm
Insulation Class	155 °C
Frequency	215 Hz
Product Dimensions	20 x 14 x 14 inches
Item Weight	44 pounds

## 5. SETUP

---

Proper setup is crucial for the safe and effective operation of the servo motor. It is recommended that installation be performed by a certified technician.

### 5.1 Mounting

- Mount the motor securely to a rigid, flat surface capable of supporting its weight and resisting operational forces.
- Ensure proper alignment with the driven load to prevent excessive stress on the motor shaft and bearings.
- Allow adequate space around the motor for ventilation and future maintenance access.

### 5.2 Electrical Connections

- Refer to the motor's nameplate and your system's wiring diagrams for correct electrical connections.
- Connect the motor to a compatible servo drive that matches its voltage and current requirements.
- Ensure all wiring is correctly sized, insulated, and protected according to local electrical codes and safety standards.
- Verify proper grounding of the motor and associated equipment.

## 6. OPERATING INSTRUCTIONS

---

Once the motor is properly installed and connected, follow these general guidelines for operation:

- Before initial startup, perform a thorough check of all connections and mounting hardware.
- Start the motor at a low speed or with a light load to confirm correct operation and absence of unusual noises or vibrations.
- Monitor motor temperature during operation. If the motor becomes excessively hot, reduce the load or speed, or investigate potential issues.
- Operate the motor within its specified voltage, current, speed, and torque limits as detailed in the specifications section.
- Implement appropriate control strategies through the servo drive for precise motion and positioning.

## 7. MAINTENANCE

---

Regular maintenance helps ensure the long-term reliability and performance of your Kollmorgen servo motor.

### 7.1 Routine Inspection

- Periodically inspect the motor for any signs of physical damage, corrosion, or loose connections.
- Check mounting bolts for tightness.
- Inspect cables for wear, fraying, or damage.

### 7.2 Cleaning

- Keep the motor's exterior clean and free from dust, dirt, and debris to ensure proper heat dissipation.
- Use a soft, dry cloth for cleaning. Avoid using harsh chemicals or solvents that could damage the motor's finish or seals.

### 7.3 Bearing Lubrication

This brushless servo motor typically features sealed bearings that are lubricated for life and do not require routine re-lubrication. Consult the official Kollmorgen documentation or contact support if you suspect bearing issues.

## 8. TROUBLESHOOTING

---

This section provides general guidance for common issues. For complex problems, consult a qualified technician or Kollmorgen support.

### 8.1 Motor Not Running

- **Check Power Supply:** Ensure the motor and servo drive are receiving the correct voltage and current.
- **Verify Connections:** Inspect all electrical connections for looseness or incorrect wiring.
- **Servo Drive Status:** Check the servo drive for error codes or fault indicators.

### 8.2 Excessive Noise or Vibration

- **Check Mounting:** Ensure the motor is securely mounted and properly aligned with the load.
- **Inspect Load:** Disconnect the motor from the load (if safe to do so) to determine if the noise originates from the motor or the driven equipment.

- **Bearing Condition:** Unusual grinding or squealing may indicate bearing wear.

### 8.3 Overheating

- **Reduce Load:** Operating the motor beyond its rated torque can cause overheating.
- **Improve Ventilation:** Ensure adequate airflow around the motor.
- **Check Ambient Temperature:** Operating in high ambient temperatures can contribute to overheating.

## 9. WARRANTY AND SUPPORT

---

For specific warranty terms and conditions, please refer to the original purchase documentation or contact your Kollmorgen distributor or the manufacturer directly. Kollmorgen provides technical support and resources for their products.

For further assistance, visit the official Kollmorgen website: [www.kollmorgen.com](http://www.kollmorgen.com)