DNSJB ASD-B2-0421-B

ASD-B2-0421-B Servo Drive 400W

User Manual

Model: ASD-B2-0421-B | Brand: DNSJB

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the DNSJB ASD-B2-0421-B Servo Drive. This 400W servo drive is designed for precise motion control applications in industrial environments. Please read this manual thoroughly before using the product to ensure proper functionality and to prevent damage or injury.

2. Safety Information

Safety is paramount when working with electrical equipment. Adhere to all local and national electrical codes and regulations. Only qualified personnel should perform installation, wiring, and maintenance procedures.

- **Electrical Shock Hazard:** Always disconnect all power to the servo drive and wait at least 10 minutes before servicing. Residual voltage may be present even after power is disconnected. Failure to do so may result in severe injury or death.
- **Burn Hazard:** Do not touch the heatsink or other internal components when the power is on or immediately after power-off, as they may be extremely hot and cause burns.
- **Proper Grounding:** Ensure the servo drive is properly grounded according to electrical standards to prevent electrical shock and ensure stable operation. Refer to the wiring diagrams for correct grounding techniques.
- **Environmental Conditions:** Do not expose the servo drive to moisture, excessive dust, corrosive gases, or extreme temperatures. Operate within specified environmental limits.
- **Wiring:** Use appropriate wire gauges and insulation for all connections. Ensure all connections are secure and properly insulated to prevent short circuits or loose connections.

Figure 2.1: Product label with electrical specifications and safety warnings. Note the warnings regarding disconnecting power before servicing and avoiding contact with the heatsink.

3. Product Overview and Features

The DNSJB ASD-B2-0421-B is a high-performance 400W AC servo drive designed for precise and dynamic control of servo motors. It offers robust performance and reliability for various industrial automation tasks.

Key Features:

- Model: ASD-B2-0421-B
- Type: Servo Drive
- Power Rating: 400W
- Compact and robust design for industrial applications.
- Equipped with control buttons (MODE, UP, DOWN, SHIFT, SET) for basic configuration and monitoring.

Figure 3.1: Front and side view of the ASD-B2-0421-B Servo Drive. Visible are the control buttons, various connection ports (CN2, CN3), and warning labels.

4. Specifications

The following table details the technical specifications of the ASD-B2-0421-B Servo Drive:

Parameter	Value
Model	ASD-B2-0421-B
Type	AC Servo Drive
Power	400W
Input Voltage (3-Phase)	200-230V AC, 50/60Hz, 1.86A
Input Voltage (1-Phase)	200-230V AC, 50/60Hz, 4.5A
Output Voltage	110V AC, 0-250Hz, 2.6A
Item Weight	4.41 pounds (2.0 kg)
Manufacturer	DNSJB
ASIN	B0C9BQFTSQ

Figure 4.1: Product label displaying model number and international certifications.

5. Setup and Installation

Proper installation is crucial for the performance and longevity of the servo drive. It is recommended that installation be performed by a certified electrician or qualified technician.

5.1 Mounting

- Mount the servo drive in a vertical position to ensure adequate heat dissipation.
- Ensure sufficient clearance around the unit for ventilation and access.
- Mount on a stable, vibration-free surface.

5.2 Wiring

All wiring must comply with local and national electrical codes. Incorrect wiring can lead to equipment damage or personal injury.

- **Power Connections:** Connect the main power supply to the designated input terminals. Ensure the voltage matches the specifications (200-230V AC, single or three-phase).
- **Motor Connections:** Connect the servo motor to the output terminals. Verify correct phase sequence.
- **Encoder/Feedback Connections:** Connect the motor's encoder or feedback device to the appropriate input port (e.g., CN2).
- **Control Signal Connections:** Connect control signals (e.g., pulse, direction, enable) to the control input terminals (e.g., CN3).
- **Grounding:** Establish a solid ground connection to the designated ground terminal. This is critical for safety and noise reduction.

Figure 5.1: Servo drive with visible connection ports and a wiring diagram. Pay close attention to the "Correct" and "Wrong" wiring examples provided on

the device label for the ASDA-B2/B2L series.

Refer to the detailed wiring diagrams provided with the full product documentation for specific terminal assignments and recommended cable types.

6. Operation

Once installed and wired correctly, the servo drive can be powered on and configured. Initial setup typically involves parameter configuration to match the connected servo motor and application requirements.

6.1 Basic Control Panel Functions

The front panel features several buttons for basic operation and parameter viewing:

- **MODE:** Used to switch between different display modes or menus.
- **UP (▲):** Used to increment values or navigate upwards in menus.
- **DOWN (▼):** Used to decrement values or navigate downwards in menus.
- **SHIFT:** Used to move the cursor or select digits for parameter editing.
- **SET:** Used to confirm selections or save parameter changes.

6.2 Parameter Setting and Tuning

Detailed parameter settings and tuning procedures are beyond the scope of this basic manual. Refer to the comprehensive programming manual for the ASD-B2 series servo drives for information on:

- Motor parameter configuration
- Gain tuning (P, I, D gains)
- Input/output signal mapping
- Operating modes (position, speed, torque control)
- Error code interpretation and handling

7. Maintenance

Regular maintenance helps ensure the long-term reliability and performance of the servo drive. Always disconnect power and wait 10 minutes before performing any maintenance.

- **Cleaning:** Periodically clean the exterior of the drive, especially the heatsink fins, to ensure proper heat dissipation. Use a soft, dry cloth. Do not use liquid cleaners or solvents.
- **Inspection:** Regularly inspect all wiring connections for tightness and signs of wear or damage. Check for any unusual noises or odors during operation.
- **Environmental Check:** Ensure the operating environment remains within specified temperature, humidity, and dust limits.

8. Troubleshooting

This section provides general troubleshooting tips. For detailed error codes and advanced diagnostics, refer to the comprehensive product manual.

Problem	Possible Cause	Solution
Drive does not power on	No input power; Incorrect wiring; Blown fuse	Check power supply; Verify wiring connections; Inspect and replace fuses if necessary (after disconnecting power).
Motor not moving/responding	Incorrect motor wiring; Encoder not connected; Drive not enabled; Parameter mismatch	Verify motor and encoder connections; Check enable signal; Review drive parameters for correct motor type and control mode.
Overheat warning/shutdown	Insufficient ventilation; Excessive ambient temperature; Overload condition	Ensure proper airflow around the drive; Reduce ambient temperature; Check motor load and application requirements.
Unusual noise or vibration	Loose mounting; Motor/load imbalance; Incorrect tuning parameters	Check mounting screws; Inspect motor and load for mechanical issues; Re-tune servo gains.

9. Warranty and Support

For warranty information, technical support, or service inquiries regarding your DNSJB ASD-B2-0421-B Servo Drive, please contact your original point of purchase or the manufacturer directly. Ensure you have your product model number (ASD-B2-0421-B) and serial number ready when contacting support.
Manufacturer: DNSJB