perdnmkg SU300-4R0G2

perdnmkg SU300-4R0G2 Frequency Converter User Manual

Model: SU300-4R0G2 (4KW 220V 1-Phase to 3-Phase)

1. Introduction

This manual provides essential information for the safe and efficient operation of your perdnmkg SU300-4R0G2 Frequency Converter. This device is designed to convert single-phase 220V input power into three-phase 220V output power, allowing for precise speed control of 4KW (4Hp) three-phase motors. Please read this manual thoroughly before installation, operation, or maintenance.

2. Safety Information

Warning: Improper installation or operation can lead to serious injury or equipment damage. Always observe the following safety precautions:

- Ensure all power is disconnected before performing any wiring or maintenance.
- Only qualified personnel should install, operate, and maintain this equipment.
- Do not touch electrical components when the power is on.
- Verify correct voltage and current ratings before connecting the device.
- Ground the equipment properly to prevent electrical shock.
- Do not operate the VFD in environments with excessive dust, moisture, corrosive gases, or direct sunlight.

3. Product Overview

The perdnmkg SU300-4R0G2 is a compact and robust variable frequency drive (VFD) designed for industrial applications requiring precise motor speed control. It features a clear digital display and intuitive control buttons for easy programming and operation.

3.1. Front Panel and Dimensions

The front panel includes the digital display, control buttons, and a potentiometer for frequency adjustment. The unit's compact design allows for efficient use of space.

Figure 1: Front view of the perdnmkg SU300-4R0G2 Frequency Converter, highlighting the control panel and display.

The following image provides detailed dimensions and key parameters for the SU300-4R0G2 model.

Figure 2: Product parameters and physical dimensions of the SU300-4R0G2 model.

Another view showing the dimensions in centimeters for reference.

Figure 3: Side view with dimensions in centimeters.

4. Setup

4.1. Mounting

The frequency converter supports guide rail installation for quick and secure mounting. Ensure adequate ventilation around the unit to prevent overheating.

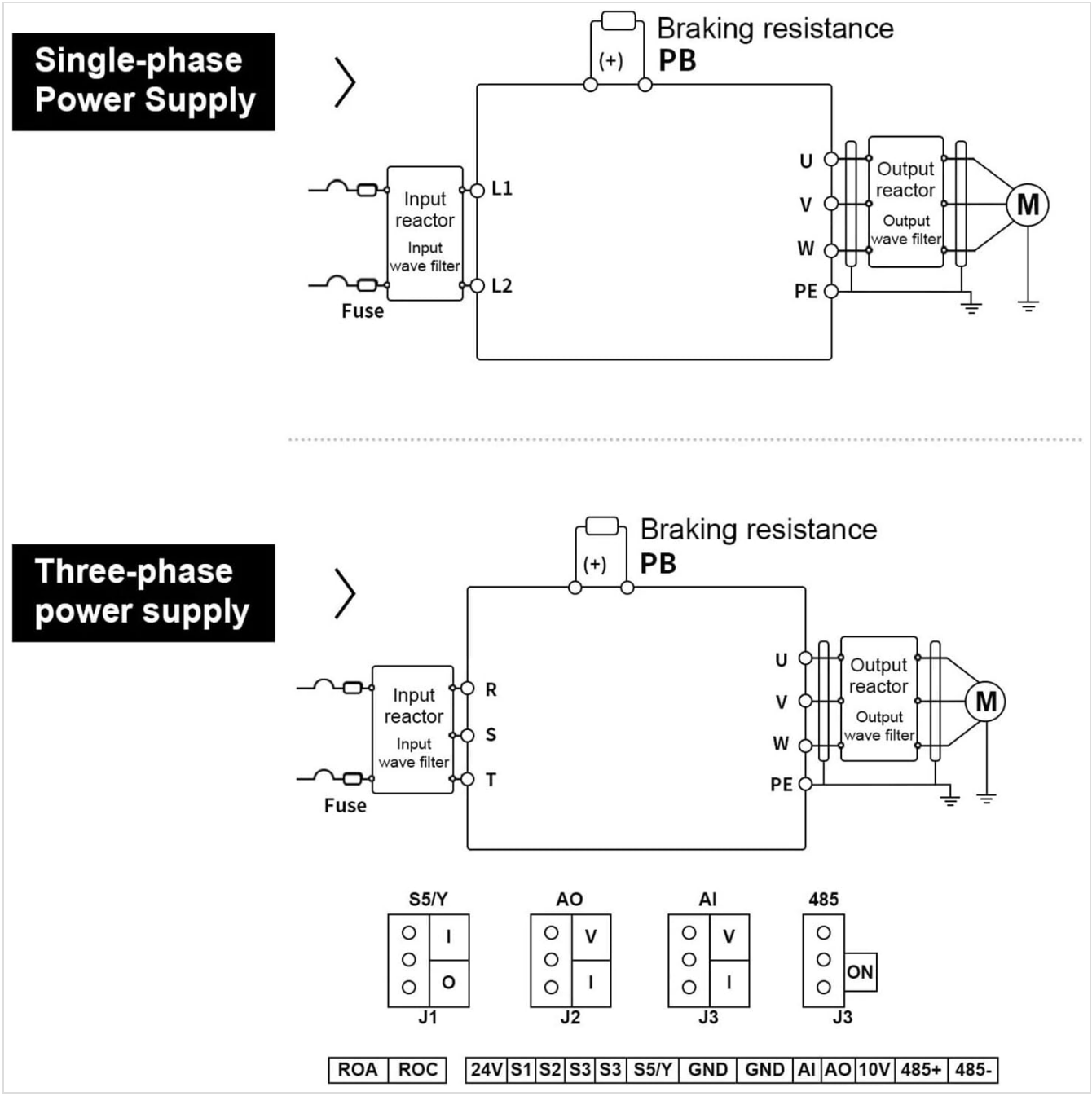

Figure 4: Guide rail one-button installation.

4.2. Wiring

Proper wiring is critical for safe and correct operation. Refer to the wiring diagrams below for single-phase input power supply connections. Ensure all connections are tight and insulated.

Figure 5: Wiring diagrams for single-phase and three-phase power supplies. For this model (1PH-3PH), refer to the 'Single-phase Power Supply' section of the diagram.

Input Terminals:

- **L1, L2:** Single-phase 220V AC input.
- **PE:** Ground connection.

Output Terminals:

- **U, V, W:** Three-phase 220V AC output to the motor.

Control Terminals:
The diagram also shows control terminals (J1, J2, J3) for external control signals such as analog input (AI), analog output (AO), digital inputs (S1-S5), and RS485 communication. Consult the full product manual for detailed programming of these terminals.

5. Operating Instructions

5.1. Basic Operation

1. **Power On:** After verifying all connections, apply single-phase 220V power to the L1 and L2 terminals. The digital display will illuminate.
2. **Start Motor:** Press the **RUN** button to start the motor. The display will show the current output frequency.

3. **Adjust Frequency:** Rotate the potentiometer knob on the front panel to adjust the output frequency, thereby controlling the motor speed.
4. **Stop Motor:** Press the **STOP/RESET** button to stop the motor.

5.2. Control Panel Functions

- **PRG:** Program button, used to enter and exit parameter setting mode.
- **SHIFT (>>):** Shift button, used to move the cursor during parameter editing or view different parameters.
- **M-FUN (Up/Down Arrows):** Multi-function buttons, used to increase or decrease parameter values.
- **ENTER:** Confirm button, used to save parameter settings.
- **RUN:** Starts the motor.
- **STOP/RESET:** Stops the motor and clears fault indications.

For advanced programming and parameter settings, refer to the detailed programming guide provided with the full product documentation.

6. Maintenance

Regular maintenance ensures the longevity and reliable operation of your frequency converter.

- **Cleaning:** Periodically clean the exterior of the unit with a soft, dry cloth. Do not use liquid cleaners or solvents. Ensure ventilation openings are free from dust and debris.
- **Inspection:** Regularly check all wiring connections for tightness and signs of wear or damage. Inspect the cooling fan for proper operation and cleanliness.
- **Environment:** Maintain the operating environment within specified temperature and humidity ranges. Avoid exposure to direct sunlight, excessive vibration, or corrosive substances.

7. Troubleshooting

If you encounter issues with your frequency converter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No power to the unit	Input power disconnected; Blown fuse; Incorrect wiring	Check power supply; Replace fuse; Verify wiring connections (L1, L2, PE)
Motor does not run	Motor not connected; Incorrect output wiring; VFD in stop mode; Fault condition	Check motor connections (U, V, W); Verify output wiring; Press RUN; Check for fault codes on display and refer to full manual
Motor runs erratically	Incorrect frequency setting; Motor parameters not set correctly	Adjust frequency knob; Consult full manual for motor parameter settings (e.g., P00.03, P00.04)
Overcurrent/Overvoltage fault	Motor overload; Sudden load change; Input voltage fluctuation	Reduce motor load; Check input voltage stability; Consult full manual for fault code interpretation and reset procedures

For specific fault codes and advanced troubleshooting, please refer to the comprehensive troubleshooting section in the complete product manual.

8. Specifications

Key technical specifications for the perdnmkg SU300-4R0G2 Frequency Converter:

Parameter	Value
Model	SU300-4R0G2
Input Voltage	Single-phase 220V
Output Voltage	Three-phase 220V
Rated Output Power	4KW
Adapted Motor Power	4KW (4Hp)
Rated Output Current	17A
Output Frequency Range	0.1 - 400 Hz
External Dimensions (L x W x H)	180mm x 95.5mm x 120.14mm (approx. 18.0cm x 9.5cm x 12.0cm)
Gross Weight	1.2 Kg
Cooling Method	Forced air cooling
Operating Temperature	0°C to 40°C (32°F to 104°F)
Operating Humidity	Less than 90% RH (non-condensing)

9. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.