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Aramox MS500-2S-2.2G

Aramox MS500-2S-2.2G Single-Phase to Three-Phase VFD Inverter 2.2KW User Manual

1. Introduction

This user manual provides essential information for the safe and efficient operation of the Aramox MS500-2S-2.2G Variable Frequency Drive (VFD) Inverter. This device converts single-phase AC power to three-phase AC power, suitable for various industrial applications. Please read this manual thoroughly before installation, operation, or maintenance.

2. Safety Information

WARNING: Risk of electrical shock.
Always read the user manual before operation. Wait at least 10 minutes after removing power before servicing to allow capacitors to discharge. Do not connect AC power to output terminals U/T1, V/T2, or W/T3.



Image 2.1: Close-up of the warning label on the VFD inverter, indicating electrical shock risk and safety precautions.

- Ensure proper grounding of the unit.
- Only qualified personnel should perform installation and maintenance.
- Verify input and output voltage specifications before connecting.
- Avoid operating the VFD in environments with excessive dust, moisture, or corrosive gases.

3. Product Overview

The Aramox MS500-2S-2.2G VFD Inverter is designed for precise speed regulation in various industrial machinery. Key features include:

- **Intelligent Digital Display:** Provides clear and intuitive control and adjustment.

- **Extra-Large Heat Sink:** Ensures efficient heat dissipation and low noise operation, approximately three times larger than standard designs.
- **Humanized Keypad Design:** Features a reasonable layout for simple and convenient operation.
- **Durable Construction:** Made from high-quality ABS and PC materials for robustness and long service life.



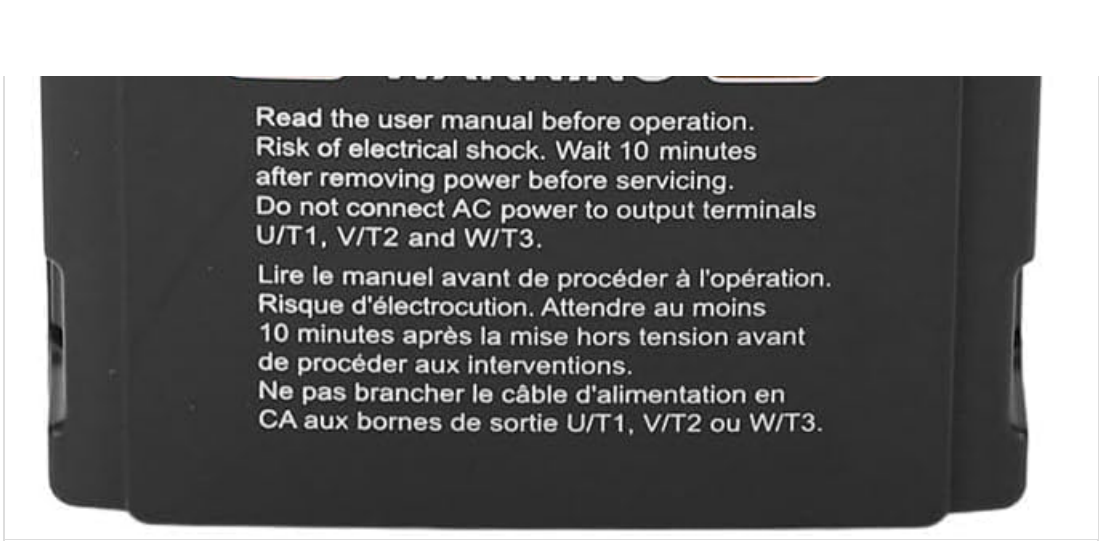


Image 3.1: Front view of the Aramox MS500-2S-2.2G VFD inverter, showing the digital display and control buttons.



Image 3.2: Angled view of the VFD inverter, highlighting its compact design and cooling fan.

4. Setup

4.1. Unpacking and Inspection

1. Carefully remove the VFD inverter from its packaging.
2. Inspect the unit for any signs of physical damage during transit. If damage is found, contact your supplier immediately.
3. Verify that all components listed in the package contents are present.

4.2. Mounting

- Mount the VFD inverter vertically on a stable, non-flammable surface.
- Ensure adequate clearance around the unit for proper ventilation, especially for the heat sink and fan.
- Avoid mounting in direct sunlight or near heat sources.

4.3. Wiring

All wiring must be performed by a qualified electrician in accordance with local and national electrical codes.

1. **Input Power (L, N):** Connect the single-phase AC 220V input power to the designated input terminals.
2. **Output Power (U/T1, V/T2, W/T3):** Connect the three-phase motor to the output terminals. Ensure correct phase sequence.
3. **Grounding:** Connect the ground terminal to a reliable earth ground.
4. **Control Terminals:** Refer to the detailed wiring diagram in the full manual for connecting external control signals (e.g., start/stop, speed reference).

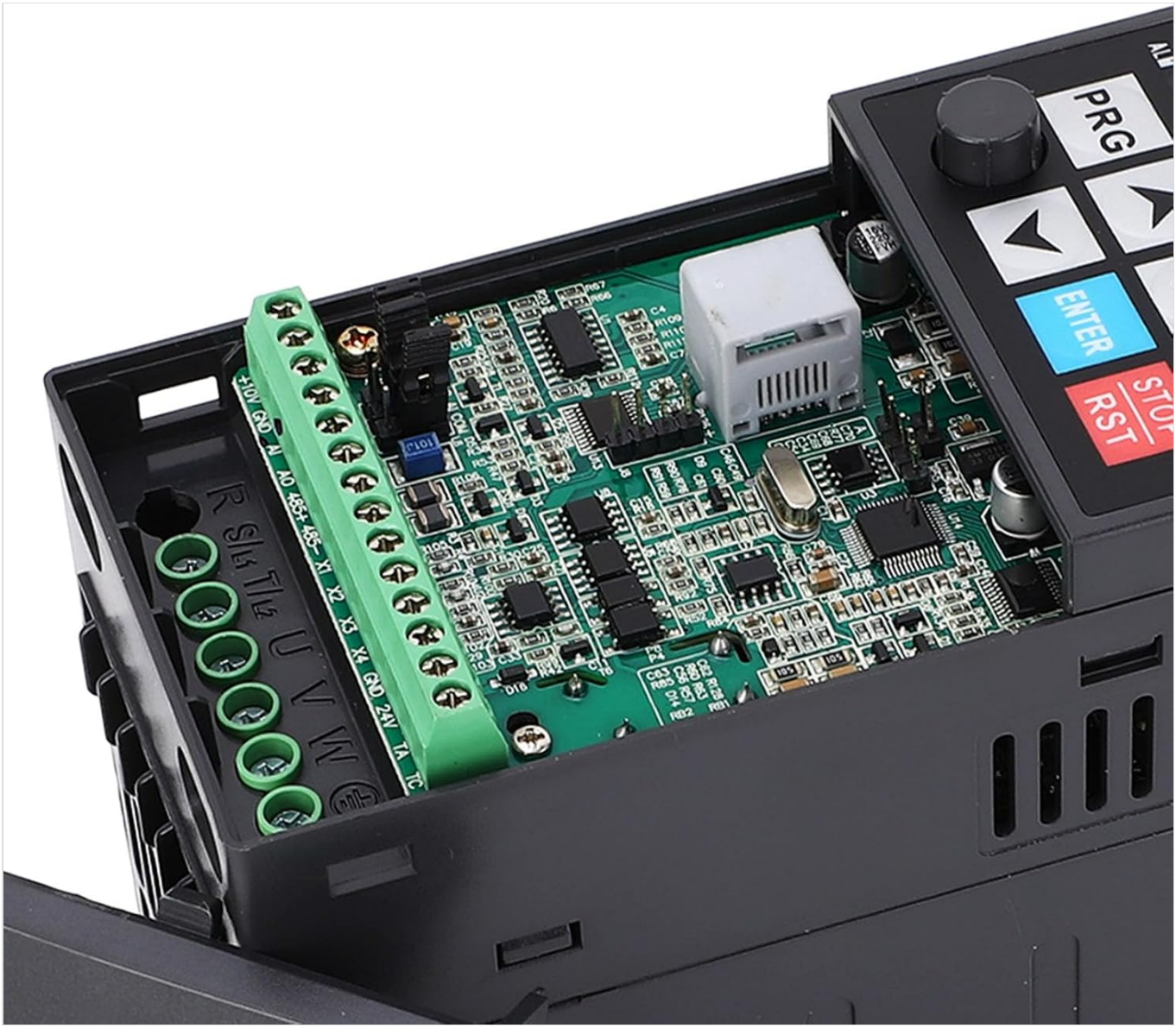


Image 4.1: Internal view of the VFD inverter showing the wiring terminals for input, output, and control signals.

5. Operating Instructions

5.1. Keypad Functions



Image 5.1: Close-up of the VFD inverter's control panel, showing the digital display, PRG, arrow keys, ENTER, RUN, STOP/RST buttons, and a rotary knob.

Table 5.1: Keypad Button Descriptions

Button	Function
PRG	Program/Exit: Enters or exits parameter setting mode.
▲ / ▼	Up/Down: Navigates through parameters or adjusts values.
>>	Shift: Moves cursor during parameter editing.
ENTER	Confirm: Confirms parameter settings or enters sub-menus.
RUN	Start: Initiates motor operation.
STOP/RST	Stop/Reset: Stops motor operation or resets fault alarms.
Rotary Knob	Frequency/Speed Adjustment: Adjusts output frequency or motor speed.

5.2. Basic Operation Sequence

1. **Power On:** Connect the VFD to the single-phase AC 220V power supply. The digital display will illuminate.
2. **Parameter Setting (if needed):** Press **PRG** to enter parameter setting mode. Use ▲ / ▼ to navigate, **>>** to shift, and **ENTER** to confirm. Refer to the full manual for detailed parameter descriptions.
3. **Start Motor:** Press the **RUN** button. The motor will start and accelerate to the set frequency.
4. **Adjust Speed:** Use the **Rotary Knob** to adjust the output frequency and motor speed during operation.
5. **Stop Motor:** Press the **STOP/RST** button. The motor will decelerate and stop.
6. **Reset Fault:** If a fault occurs, the display will show an error code. After addressing the cause, press **STOP/RST** to clear the fault.

6. Maintenance

- **Regular Cleaning:** Keep the VFD inverter clean and free from dust and debris. Use a soft, dry cloth. Do not use liquid cleaners.
- **Fan Inspection:** Periodically check the cooling fan for obstructions and ensure it operates smoothly. Clean any accumulated dust from the fan blades and heat sink fins.
- **Terminal Tightness:** Annually check all wiring terminals for tightness. Loose connections can cause overheating and malfunction.
- **Environmental Conditions:** Ensure the operating environment remains within specified temperature and humidity ranges.



Image 6.1: Side view of the VFD inverter, illustrating the ventilation grilles for heat dissipation.

7. Troubleshooting

This section provides basic troubleshooting steps for common issues. For complex problems or issues not listed here, contact technical support.

Table 7.1: Common Troubleshooting Guide

Problem	Possible Cause	Solution
No display after power on	No input power; incorrect wiring; internal fault.	Check power supply and wiring. Ensure power is connected. If problem persists, contact support.

Problem	Possible Cause	Solution
Motor does not run	STOP/RST pressed; fault condition; incorrect parameters; motor wiring issue.	Press RUN. Check for fault codes and clear. Verify motor wiring and parameter settings.
Overcurrent/Overload fault	Motor overload; short circuit in motor wiring; acceleration time too short.	Reduce motor load. Check motor wiring for shorts. Increase acceleration time parameter.
Overvoltage/Undervoltage fault	Input voltage fluctuation; deceleration time too short.	Check input power supply stability. Increase deceleration time parameter.

8. Specifications

Table 8.1: Technical Specifications

Parameter	Value
Model	MS500-2S-2.2G
Input Voltage	1PH AC220V 50/60 Hz
Output Voltage	3PH AC220V 0-320 Hz
Output Current	10 A
Power	2.2 kW
Material	ABS, PC
Recommended Use	Industrial machines and professional tools (CNC routers, milling machines, drills, mixers, extruders, compressors, fans, pumps, conveyors, etc.)

9. Warranty and Support

The Aramox MS500-2S-2.2G VFD Inverter comes with a manufacturer's warranty. Please refer to the warranty card included with your product for specific terms and conditions.

- **Manufacturer Warranty:** 2 years.
- **Spare Parts Availability:** Information unavailable.
- **Software Updates:** Information unavailable.

For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact your authorized Aramox dealer or customer support.

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