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› VEVOR Frequency Inverter 4kW 18A D100-4.0S2B-S User Manual

VEVOR D100-4.0S2B-S

VEVOR Frequency Inverter User Manual

Model: D100-4.0S2B-S

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the VEVOR Frequency Inverter, Model D100-4.0S2B-S. This Variable Frequency Drive (VFD) is designed to control the speed of three-phase motors, commonly used in applications such as CNC spindle motors, milling machines, drills, compressors, pumps, grinders, and centrifuges. The VFD features a robust design with comprehensive protection systems, efficient heat dissipation, and an intuitive user interface for ease of use.



Front view of the VEVOR Frequency Inverter, showcasing its compact design and control panel.

2. SAFETY INSTRUCTIONS

Please read and understand all safety warnings and instructions before installing, operating, or maintaining the VFD. Failure to comply with these instructions may result in electric shock, fire, serious injury, or death.

- **Risk of Electric Shock:** Always ensure the power supply is disconnected before performing any wiring or maintenance.
- **Capacitor Discharge:** Wait at least 5 minutes after disconnecting power supply for capacitors to discharge completely before touching any internal components.
- **Qualified Personnel:** Installation and maintenance should only be performed by qualified electricians or trained personnel.
- **Proper Grounding:** Ensure the VFD is properly grounded according to local electrical codes.
- **Environmental Conditions:** Do not expose the VFD to moisture, excessive dust, corrosive gases, or extreme temperatures.
- **Overload Protection:** The VFD features a comprehensive protection system against overcurrent, overload, overvoltage, and phase loss. Do not bypass these safety features.

10-LEVEL MULTIPLE PROTECTION SYSTEM

Resistant to overload failures for sturdy use



- Overcurrent Protection
- Overvoltage Protection
- Overheat Protection
- Reverse Power Protection
- Ground Short Circuit Protection
- Input Phase-Loss Protection
- Output Phase-Loss Protection
- Load Overload 100% Protection
- Load Overload 150% Protection
- Inverter Overload 150% Protection

The VFD is equipped with a 10-level multiple protection system, including overcurrent, overvoltage, overheat, reverse power, ground short circuit, input phase-loss, output phase-loss, and various load overload protections.

3. PRODUCT FEATURES

The VEVOR Frequency Inverter offers a range of features designed for reliable and efficient motor control:

- **High Power Output:** 4kW (5HP) power with 18A input current, suitable for demanding industrial applications.
- **Flexible Input/Output:** Supports single-phase AC 220V or three-phase AC 220V input, providing three-phase AC 0-220V output.
- **Wide Frequency Range:** Input frequency of 50/60Hz and an adjustable output frequency range of 0-2000Hz for precise speed control.
- **Intuitive Control Panel:** Features a 4-digit LED display, speed adjustment knob, and easy-to-use buttons for quick setup and operation. The panel is removable for remote control interface connection.
- **Comprehensive Protection:** Built-in 10-level multiple protection system guards against overcurrent, overload, overvoltage, phase loss, and more, enhancing safety and extending VFD lifespan.

- **Efficient Heat Dissipation:** Equipped with a powerful cooling fan and multi-hole design for effective heat dissipation, ensuring stable and durable performance with reduced noise.
- **High-Quality Components:** Utilizes a high-quality circuit control board and high-temperature resistant plastic casing for robust and reliable operation.
- **Wide Versatility:** Ideal for controlling three-phase motors in various machinery, offering soft start and stop capabilities for reduced energy consumption.

HIGH PERFORMANCE OPERATION

Up to 10 hours stable longtime use

Support Remote Operation

Large Fan for Fast Cooling

High-Quality Circuit Control Board

High-Temperature Resistant Plastic Casing

Key features contributing to high performance operation: support for remote operation, large fan for fast cooling, high-quality circuit control board, and high-temperature resistant plastic casing.

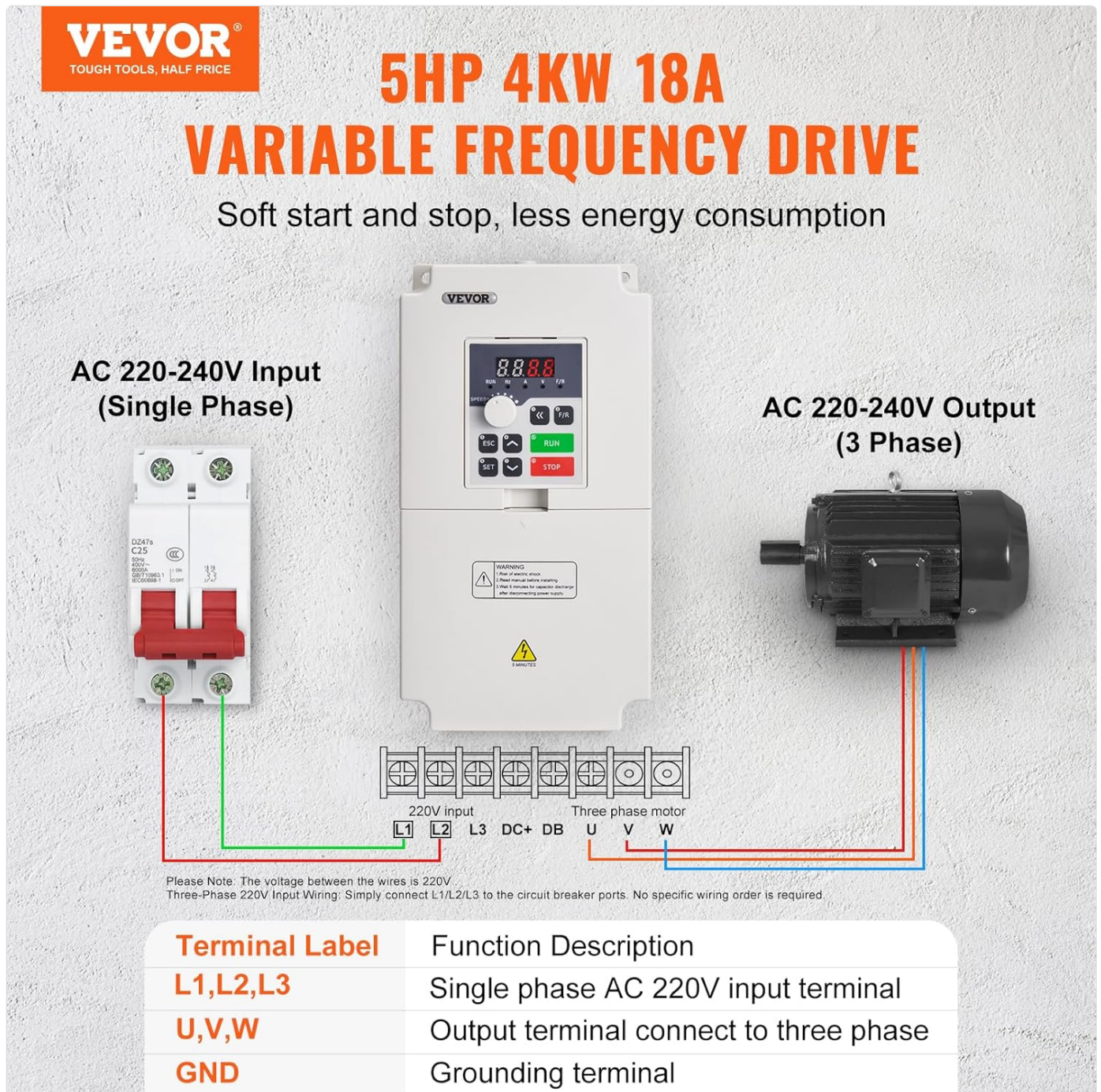
4. SETUP

4.1 Mounting

The VFD is designed for wall mounting. Ensure a stable and secure surface is chosen, allowing adequate space around the unit for ventilation and access.

4.2 Wiring Diagram

Refer to the diagram below for proper wiring connections. Ensure all connections are secure and comply with local electrical standards.



Wiring diagram for the VEVOR Frequency Inverter, showing connections for single-phase AC 220-240V input and three-phase AC 220-240V output to a motor. Note: The voltage between wires is 220V. For three-phase 220V input, simply connect L1/L2/L3 to the circuit breaker ports. No specific wiring order is required.

4.3 Terminal Labels and Functions

Terminal Label	Function Description
L1, L2, L3	Single phase AC 220V input terminal (for single phase input, connect to L1 and L2 or L1 and L3) or Three phase AC 220V input terminal.
U, V, W	Output terminals to connect to the three-phase motor.

Terminal Label	Function Description
GND	Grounding terminal.

5. OPERATING

5.1 Control Panel Overview

The VFD features an intuitive control panel for easy operation:



Detailed view of the VEVOR Frequency Inverter's control panel, highlighting the 4-digit LED display, speed adjustment knob, and various control buttons.

- **4-Digit LED Display Screen:** Shows current operating parameters such as frequency, current, voltage, and status.
- **Status Indicator:** Displays the current operational status (e.g., RUN, STOP, Fault).
- **Speed Adjustment Knob:** Used to precisely adjust the output frequency and motor speed.

- **RUN Button:** Initiates the inverter output and starts the motor.
- **STOP Button:** Stops the inverter output and the motor.
- **ESC Button:** Used to quit the current menu mode or cancel an operation.
- **SET Button:** Used to enter menu mode or confirm settings.
- **Up/Down Buttons:** Used to navigate through menu options or adjust parameter values.
- **Break Down Fault Resetting Button (F/R):** Used to reset fault conditions.

5.2 Basic Operation Steps

1. Ensure all wiring is correctly connected and secured.
2. Apply power to the VFD. The LED display will illuminate.
3. Use the Speed Adjustment Knob to set the desired output frequency.
4. Press the **RUN** button to start the motor.
5. To stop the motor, press the **STOP** button.
6. For advanced settings and parameter adjustments, use the **SET** and **ESC** buttons to navigate the menu, and the Up/Down buttons to change values.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your VEVOR Frequency Inverter.

- **Cleaning:** Periodically clean the exterior of the VFD with a soft, dry cloth. Do not use liquid cleaners or solvents. Ensure ventilation openings are free from dust and debris to maintain effective heat dissipation.
- **Ventilation:** Ensure the VFD's cooling fan and multi-hole design are not obstructed. Proper airflow is crucial for preventing overheating.
- **Connections:** Regularly check all wiring connections for tightness and signs of wear or corrosion. Loose connections can lead to poor performance or safety hazards.
- **Environmental Check:** Verify that the operating environment remains within specified temperature and humidity ranges, and free from excessive dust or corrosive substances.

7. TROUBLESHOOTING

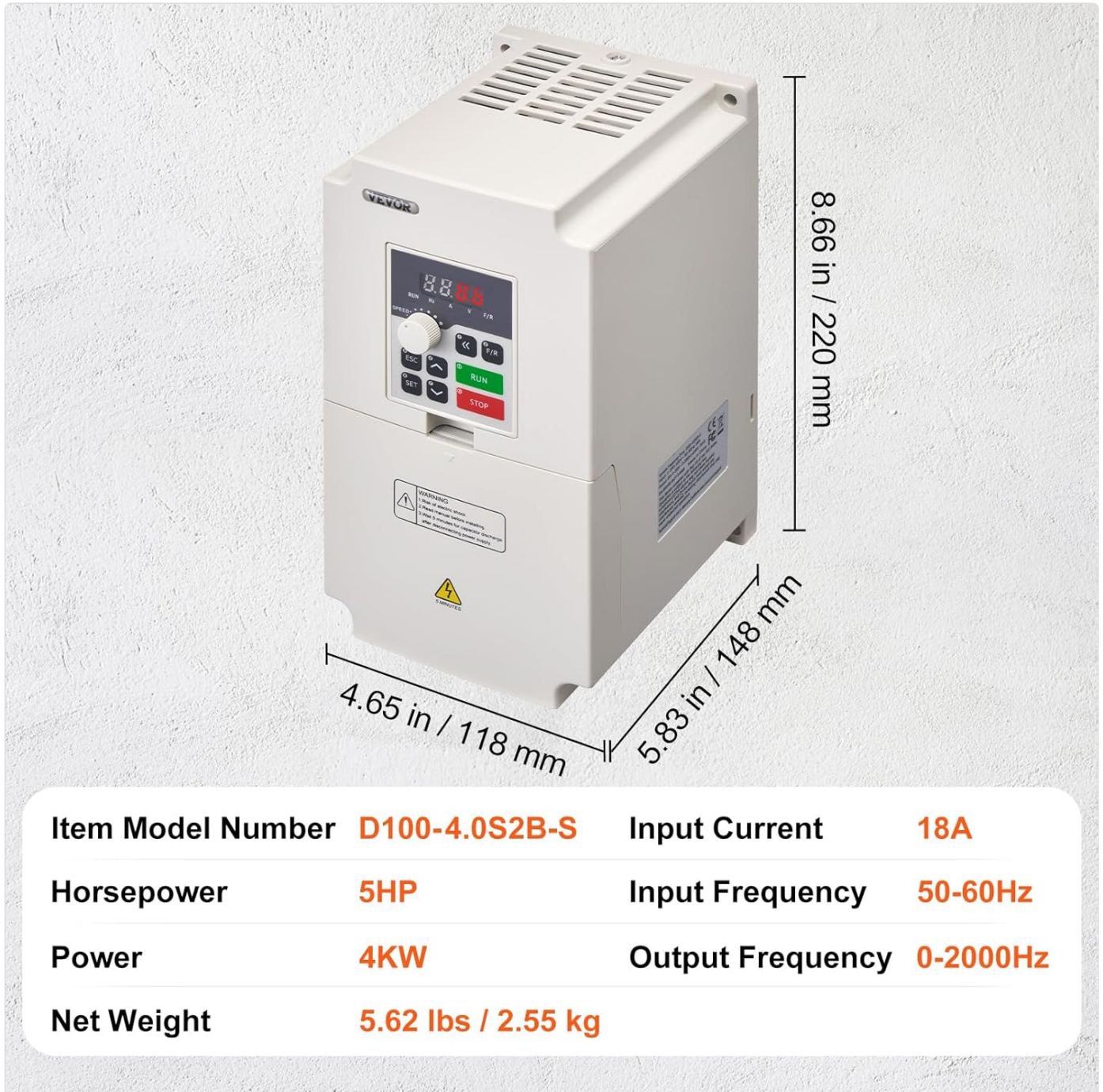
This section provides guidance on common issues you might encounter with your VFD. The VFD's 10-level multiple protection system is designed to prevent damage by triggering safety modes under certain conditions.

Problem	Possible Cause	Solution
VFD goes into safety mode / trips frequently.	High inrush current from the motor, motor overload, overvoltage, or overcurrent.	Check motor load; ensure it does not exceed VFD capacity. Verify input voltage is stable and within range. Adjust acceleration/deceleration times to reduce inrush current. Press the F/R button to reset after addressing the cause. For heavier engine loads, consider a VFD with higher power.
Motor does not start or runs erratically.	Incorrect wiring, parameter settings, or motor fault.	Verify all wiring connections are correct and secure as per the diagram. Check VFD parameter settings (e.g., output frequency, motor parameters). Inspect the motor for any faults.
Overheat warning.	Insufficient ventilation, blocked fan, or high ambient temperature.	Ensure adequate space around the VFD for airflow. Clean any dust or debris from the cooling fan and ventilation holes. Reduce ambient temperature if possible.

Problem	Possible Cause	Solution
Display shows error code.	Specific fault detected by the VFD's protection system.	Refer to the VFD's detailed error code list (if available in a separate manual) to identify the specific fault and its corresponding solution. Address the underlying issue and then reset the VFD.

8. SPECIFICATIONS

Key technical specifications for the VEVOR Frequency Inverter, Model D100-4.0S2B-S:



Physical dimensions and key electrical specifications of the VEVOR Frequency Inverter.

Parameter	Value
Model Number	D100-4.0S2B-S

Parameter	Value
Power	4kW
Horsepower	5HP
Input Current	18 Amps
Input Phase	Single Phase AC 220V or 3-Phase AC 220V
Output Phase	3-Phase AC 0~220V
Input Frequency	50/60Hz
Output Frequency	0-2000Hz
Product Dimensions (L x W x H)	220 x 118 x 148 mm (8.66 x 4.65 x 5.83 inches)
Item Weight	2.55 kg (5.62 lbs)
Mounting Type	Wall Mounting
Power Source	Corded Electric
UPC	197988997016

9. WARRANTY AND SUPPORT

For information regarding product warranty, please refer to the warranty card included with your purchase or contact VEVOR customer support directly. Details on warranty periods and terms of service can typically be found on the official VEVOR website or by contacting the seller from whom the product was purchased.

For technical support, troubleshooting assistance beyond this manual, or spare parts inquiries, please reach out to VEVOR customer service through their official channels. Always provide your product model number (D100-4.0S2B-S) and purchase details when seeking support.