Manuals+
Q & A | Deep Search | Upload

SUSWE SU800

SUSWE SU800 VFD Frequency Converter User Manual

Model: SU800 | Brand: SUSWE

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of the SUSWE SU800 series Variable Frequency Drive (VFD). The SU800 VFD is designed to control the speed of AC motors by varying the frequency and voltage of the power supplied to the motor. It features RS485 communication for integration into control systems and is available in various power ratings (4KW, 5.5KW, 7.5KW) and voltage options (220V, 380V).

Please read this manual thoroughly before installation, operation, or maintenance to ensure proper usage and prevent potential hazards.

Figure 1: SUSWE SU800 VFD Frequency Converter. This image displays the front view of the VFD unit, showing the control panel with digital display and buttons.

2. Safety Information

Adherence to safety precautions is critical to prevent personal injury and equipment damage. Always follow local electrical codes and safety regulations.

- **Electrical Hazard:** The VFD contains high voltage components. Do not touch internal components immediately after power-off.
- **Discharge Time:** Wait at least 5 minutes after disconnecting power before performing any maintenance or inspection. The capacitors inside the VFD can retain dangerous voltage for an extended period.
- **Qualified Personnel:** Installation, wiring, and maintenance should only be performed by qualified and trained electrical personnel.
- **Grounding:** Ensure the VFD is properly grounded according to local regulations.
- **Environmental Conditions:** Do not operate the VFD in environments with excessive dust, moisture, corrosive gases, or direct sunlight.

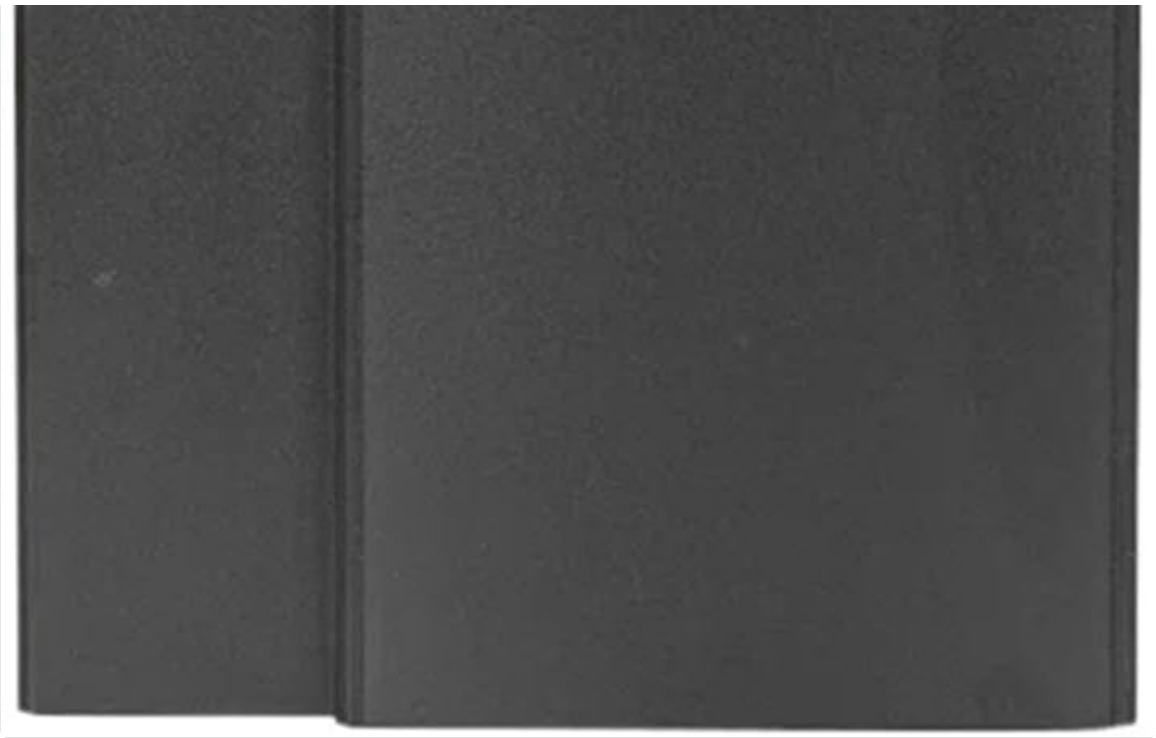

Figure 2: Close-up of the SU800 VFD control panel, highlighting the digital display, control buttons, and important safety warning labels regarding dangerous voltages and discharge time.

3. Product Overview

The SUSWE SU800 VFD is a versatile frequency converter designed for precise motor speed control. Its robust design and advanced features make it suitable for various industrial applications.

Key Features:

- Variable Frequency Drive (VFD) for AC motor speed control.
- Available in 4KW, 5.5KW, and 7.5KW power ratings.
- Supports 220V and 380V input voltages.
- RS485 communication interface for remote control and monitoring.
- 3-phase output for industrial motors.
- Integrated control panel with digital display.

4. Setup and Installation

4.1 Unpacking and Inspection

1. Carefully remove the VFD from its packaging.
2. Inspect the unit for any signs of physical damage during transit. Report any damage to your supplier immediately.
3. Verify that all accessories listed in the packing list are present.

4.2 Mounting

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

4.3 Wiring

All wiring must comply with local and national electrical codes. Use appropriate wire gauges for the VFD's power rating. Ensure all connections are secure.

1. **Power Input (R, S, T):** Connect the main power supply to the R, S, T terminals. Ensure correct voltage (220V or 380V) matches the VFD model.
2. **Motor Output (U, V, W):** Connect the motor's three-phase windings to the U, V, W terminals.
3. **Grounding (PE):** Connect the protective earth (PE) terminal to a reliable ground point.
4. **Control Terminals (PB, P, etc.):** Connect external control signals (e.g., start/stop, speed reference, RS485) to the designated control terminals as per your application requirements. Refer to the detailed wiring diagram in the full technical manual for specific terminal functions.

Figure 3: Internal view of the SU800 VFD showing the main circuit board and clearly labeled wiring terminals for power input (R, S, T), motor output (U, V, W), grounding (PE), and control signals (PB, P).

5. Operating Instructions

5.1 Control Panel Overview

The VFD features an intuitive control panel for local operation and parameter setting.

- **Digital Display:** Shows frequency (Hz), current (A), voltage (V), and other operational parameters.
- **RUN Button:** Starts the motor.
- **STOP/RST Button:** Stops the motor or resets faults.
- **PRG Button:** Enters/exits parameter setting mode.
- **Arrow Buttons (▲ ▼ < >):**Navigate through parameters and adjust values.
- **MFK Button:** Multi-function key, typically used for quick access or specific functions.
- **ENTER Button:** Confirms parameter settings.
- **Potentiometer/Dial:** For analog speed reference adjustment.

Figure 4: The SU800 VFD connected to an external control panel via an Ethernet cable. This illustrates the flexibility of controlling the VFD either directly or remotely.

5.2 Basic Operation

1. **Power On:** Apply main power to the VFD. The display will illuminate.
2. **Start Motor:** Press the **RUN** button. The motor will start and accelerate to the set frequency.
3. **Adjust Speed:** Use the potentiometer dial or the ▲/▼ buttons (in parameter mode) to adjust the output frequency and thus the motor speed.
4. **Stop Motor:** Press the **STOP/RST** button. The motor will decelerate and stop.

5.3 Parameter Settings

The SU800 VFD has numerous parameters for fine-tuning its operation. Refer to the comprehensive parameter list in the full technical manual for detailed descriptions and adjustment procedures. Common parameters include acceleration/deceleration times, maximum/minimum frequencies, motor parameters, and control modes.

1. Press **PRG** to enter parameter setting mode.
2. Use ▲/▼ to navigate through parameter groups and individual parameters.
3. Press **ENTER** to select a parameter.
4. Use ▲/▼ to change the parameter value.
5. Press **ENTER** to save the new value.
6. Press **PRG** to exit parameter setting mode.

6. Maintenance

Regular maintenance ensures the longevity and reliable operation of your VFD. Always disconnect power and wait for the discharge time (at least 5 minutes) before performing any maintenance.

- **Cleaning:** Keep the VFD clean and free from dust and debris. Use a soft, dry cloth. Do not use liquid cleaners.
- **Cooling Fan Inspection:** Periodically check the cooling fan for obstructions or excessive noise. Ensure the fan is operating correctly to prevent overheating.
- **Terminal Connections:** Periodically check all wiring terminals for tightness. Loose connections can cause overheating and malfunction.
- **Environmental Check:** Ensure the operating environment remains within specified temperature and humidity ranges.

Figure 5: Close-up view of the cooling fan located on the side of the SU800 VFD, essential for dissipating heat during operation.

7. Troubleshooting

This section provides solutions to common issues. For complex problems, contact technical support.

Problem	Possible Cause	Solution
VFD does not power on.	No input power; Blown fuse; Internal fault.	Check power supply; Inspect fuses; Contact support.
Motor does not start.	Incorrect wiring; Parameter settings; Emergency stop active.	Verify wiring; Check parameters (e.g., control mode); Release E-stop.
Overcurrent fault.	Motor overload; Short circuit; Rapid acceleration.	Reduce load; Check motor/cables; Increase acceleration time.
Overvoltage fault.	High input voltage; Rapid deceleration; Regenerative load.	Check input voltage; Increase deceleration time; Consider braking resistor.

Problem	Possible Cause	Solution
Overheat fault.	Insufficient ventilation; Clogged fan; High ambient temperature.	Ensure proper airflow; Clean fan/heatsink; Reduce ambient temperature.

8. Specifications

The following table outlines the general specifications for the SUSWE SU800 VFD series. Specific values may vary by model (e.g., 4KW, 5.5KW, 7.5KW, 220V, 380V).

Feature	Description/Value
Model Series	SUSWE SU800
Input Voltage	220V / 380V (depending on model)
Output Phase	3-Phase
Power Rating	4KW, 5.5KW, 7.5KW (depending on model)
Control Method	V/F Control, Vector Control (sensorless)
Output Frequency Range	0.00 Hz to 400.00 Hz
Communication	RS485 (Modbus RTU)
Operating Temperature	-10°C to 40°C (14°F to 104°F)
Humidity	Less than 90% RH (non-condensing)
Dimensions (Approx.)	Varies by power rating. Example: 1.18 x 0.79 x 0.79 inches (for a smaller unit, actual VFDs are larger)
Weight (Approx.)	Varies by power rating. Example: 1.76 ounces (for a smaller unit, actual VFDs are heavier)

Note: The provided product dimensions (1.18 x 0.79 x 0.79 inches) and weight (1.76 ounces) seem unusually small for a 4KW-7.5KW VFD. These values might refer to a small component or packaging. Please refer to the product's full technical datasheet for accurate physical specifications.

9. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your original point of purchase or the manufacturer, MDWXDOFP. Ensure you have your product model number (SU800) and purchase details available when contacting support.

For additional resources and detailed technical documentation, please visit the official MDWXDOFP website or contact their customer service department.

© 2023 MDWXDOFP. All rights reserved. Information in this manual is subject to change without notice.
This manual is for informational purposes only. MDWXDOFP assumes no responsibility for errors or omissions.