ETURBEV SU800

SUSWE SU800 VFD User Manual

Model: SU800 | Brand: ETURBEV

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the SUSWE SU800 series Variable Frequency Drive (VFD). The SU800 VFD is a high-performance frequency converter designed for precise speed control of three-phase AC motors, featuring RS485 communication capabilities and available in various power ratings (4KW, 5.5KW, 7.5KW) and voltage inputs (220V, 380V).
Please read this manual thoroughly before installation and operation to ensure safe and efficient use of the product.

2. Safety Information

WARNING! DANGEROUS VOLTAGES PRESENT. DISCHARGE TIME 5 MIN.
Always observe the following safety precautions to prevent personal injury or damage to the equipment:

- Ensure power is disconnected and verified before any installation, wiring, or maintenance work.
- Wait at least 5 minutes after power-off for internal capacitors to discharge before touching any components.
- Only qualified personnel should install, operate, and maintain this VFD.
- Do not operate the VFD with damaged cables or if the enclosure is open.
- Proper grounding is essential to prevent electric shock.
- Protect the VFD from moisture, dust, corrosive gases, and direct sunlight.



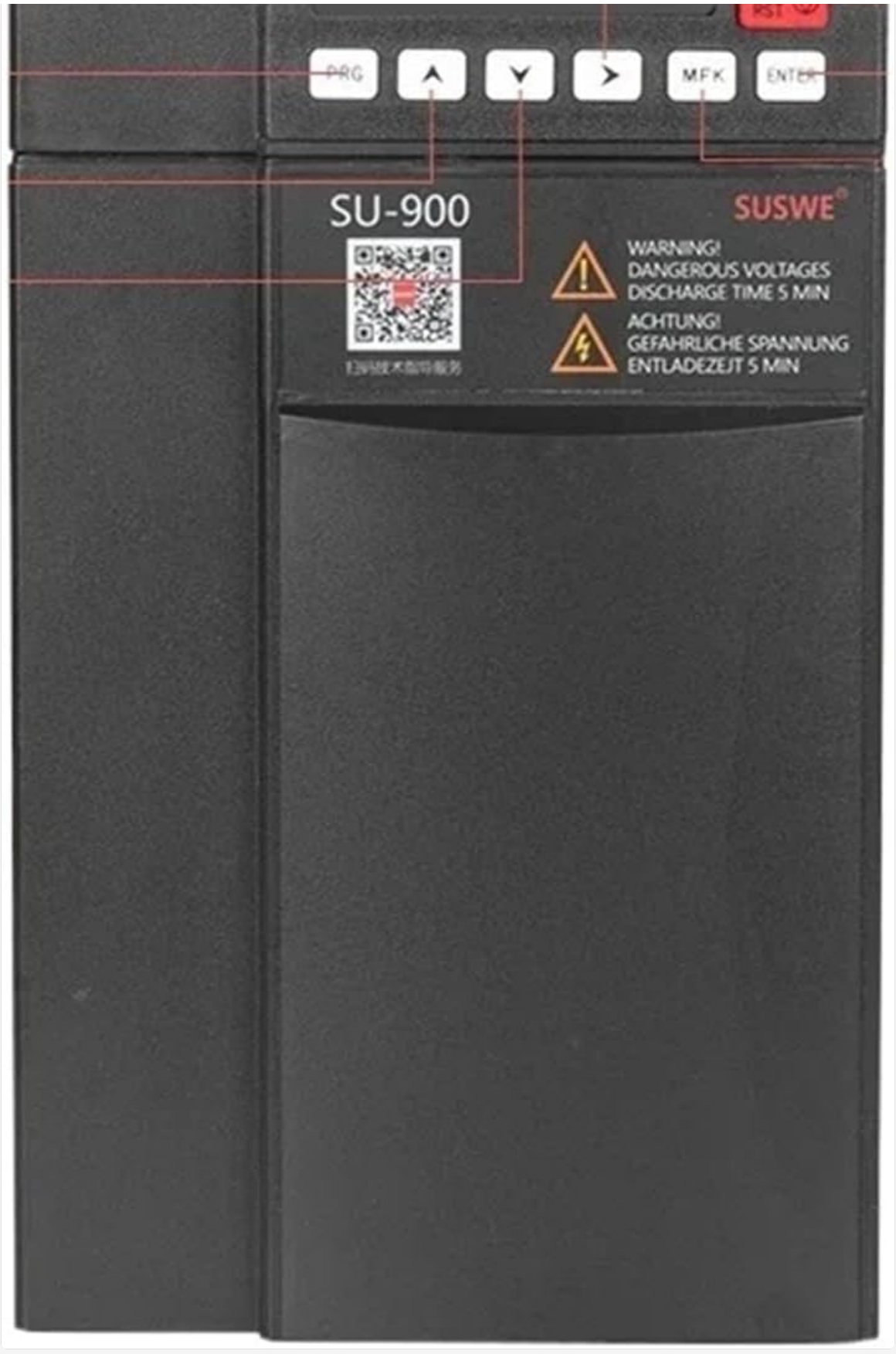


Figure 2.1: Close-up view of the SU800 VFD control panel, highlighting the safety warning regarding dangerous voltages and discharge time.

3. Product Features

The SUSWE SU800 VFD offers a range of features for robust motor control:

- **Universal Compatibility:** Suitable for various industrial applications requiring precise speed control.

- **Wide Voltage Range:** Supports 220V and 380V input options.
- **Multiple Power Ratings:** Available in 4KW, 5.5KW, and 7.5KW configurations.
- **RS485 Communication:** Enables remote control and monitoring via RS485 interface.
- **Three-Phase Output:** Provides stable three-phase power for motor operation.
- **Integrated Control Panel:** User-friendly interface with digital display and control buttons.
- **Efficient Cooling:** Designed with internal cooling fans for optimal thermal management.



Figure 3.1: The SUSWE SU800 VFD series, showing different physical sizes corresponding to various power ratings.

4. Setup and Installation

Proper installation is crucial for the VFD's performance and longevity.

4.1 Unpacking and Inspection

- Carefully unpack the VFD and inspect for any signs of damage during transit.
- Verify that all components are present according to the packing list.

4.2 Mounting

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



Figure 4.1: Front view of the SUSWE SU800 VFD, illustrating its compact design suitable for various mounting configurations.

4.3 Wiring

All wiring must comply with local electrical codes and regulations. Use appropriate wire gauges for the VFD's power

rating.

1. **Power Input (R, S, T):** Connect the incoming three-phase AC power supply to the R, S, and T terminals. Ensure correct voltage (220V or 380V) matches the VFD model.
2. **Motor Output (U, V, W):** Connect the three-phase motor to the U, V, and W terminals.
3. **Grounding (PE):** Connect the protective earth (ground) wire to the PE terminal. This is critical for safety.
4. **Braking Resistor (P+, PB):** If a braking resistor is used, connect it to the P+ and PB terminals.
5. **Control Terminals:** Connect external control signals (e.g., start/stop, speed reference, fault reset) to the designated control terminals. Refer to the detailed wiring diagram in the full manual for specific terminal assignments.
6. **RS485 Communication:** Connect RS485 communication cables to the appropriate terminals for remote control and monitoring.



Figure 4.2: The SU800 VFD with its terminal block visible, showing connections for power input (R, S, T), motor output (U, V, W), braking resistor (P+, PB), and control signals. An external control panel is also shown connected via an Ethernet-style cable.



Figure 4.3: Internal view of the SU800 VFD's circuit board, detailing the layout of components and the robust terminal connections for power and control wiring.

5. Operating Instructions

The SU800 VFD features an intuitive control panel for easy operation.

5.1 Control Panel Overview

The control panel consists of a digital display and several function buttons:

- **Display:** Shows operating parameters such as frequency (Hz), current (A), voltage (V), and various status indicators.
- **RUN Button:** Initiates motor operation.
- **STOP/RST Button:** Stops motor operation or resets fault conditions.
- **PRG Button:** Enters/exits parameter programming mode.
- **Arrow Buttons (▲, ▼, ◀, ▶):** Navigate through menus and adjust parameter values.
- **MFK Button:** Multi-function key, typically used for quick access to common functions or parameter confirmation.
- **ENTER Button:** Confirms parameter settings or enters sub-menus.

5.2 Basic Operation

1. **Power On:** Apply power to the VFD. The display will light up.
2. **Set Frequency:** Use the arrow keys to adjust the desired output frequency (motor speed).
3. **Start Motor:** Press the **RUN** button to start the motor. The display will show the actual output frequency and current.
4. **Stop Motor:** Press the **STOP/RST** button to stop the motor.
5. **Parameter Adjustment:** To access advanced settings, press the **PRG** button. Use arrow keys to navigate and **ENTER** to select/confirm.

6. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your VFD.

- **Cleaning:** Periodically clean the VFD's exterior and cooling fins to prevent dust accumulation. Use a soft, dry cloth. Do not use liquid cleaners.
- **Fan Inspection:** Check the cooling fan for proper operation and ensure it is free from obstructions. Replace if noisy or not functioning correctly.
- **Terminal Tightness:** Annually 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 6.1: Rear view of the SU800 VFD, highlighting the integrated cooling fan which is crucial for maintaining optimal operating temperatures.

7. Troubleshooting

This section provides solutions for 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; Replace fuse; Contact support
Motor does not run	Incorrect wiring; Parameter settings; Overload	Verify wiring (U, V, W); Check frequency setting; Reduce load
Over-current fault (OC)	Motor overload; Short circuit; Acceleration time too short	Reduce load; Check motor/cables; Increase acceleration time
Over-voltage fault (OV)	Input voltage too high; Deceleration time too short	Check input voltage; Increase deceleration time; Install braking resistor
Under-voltage fault (UV)	Input voltage too low; Power dip	Check input voltage; Ensure stable power supply

8. Specifications

Key technical specifications for the SUSWE SU800 VFD (4KW 220V model):

- **Product Dimensions:** 0.39 x 0.39 x 0.39 inches
- **Item Weight:** 1.76 ounces
- **ASIN:** B0F9SQCMJZ
- **Item Model Number:** ETURBEV
- **Date First Available:** May 24, 2025
- **Manufacturer:** ETURBEV
- **Input Voltage:** 220V (for this specific model, other variants available)
- **Output Phase:** 3 Phase
- **Communication:** RS485

9. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your authorized dealer or the manufacturer, ETURBEV. Keep your purchase receipt as proof of purchase for warranty claims.
For the most up-to-date information and additional resources, please visit the official ETURBEV website or contact their customer service department.

Contact Information:

Manufacturer: ETURBEV

Website: www.eturbev.com (Example link, please refer to actual product documentation for correct URL)

Email: support@eturbev.com (Example email, please refer to actual product documentation for correct email)

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Example: How do I reset this device or fix this error?

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