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**ETURBEV SU800/900 5.5KW-380V**

# ETURBEV VFD Inverter SU800/900 5.5KW-380V Instruction Manual

Model: SU800/900 5.5KW-380V

## 1. Introduction

This manual provides comprehensive instructions for the installation, operation, maintenance, and troubleshooting of the ETURBEV VFD Inverter SU800/900 5.5KW-380V. This Variable Frequency Drive (VFD) is designed to control the speed of three-phase AC motors by varying the frequency and voltage of the power supplied to the motor. Please read this manual thoroughly before installation and operation to ensure safe and efficient use of the device.

## 2. Safety Information

**Warning:** Improper installation or operation can lead to serious injury or equipment damage. Always follow safety guidelines.

- **Electrical Hazard:** This device operates with high voltage. Ensure power is disconnected before any installation, wiring, or maintenance. Only qualified personnel should perform electrical work.
- **Grounding:** The VFD must be properly grounded to prevent electric shock.
- **Capacitor Discharge:** After disconnecting power, wait at least 5 minutes for internal capacitors to discharge before touching any components. Verify voltage with a multimeter.
- **Environment:** Install the VFD in a clean, dry, well-ventilated area, away from direct sunlight, corrosive gases, flammable materials, and excessive vibration.
- **Overload Protection:** Ensure the motor and VFD are correctly sized and protected against overcurrent and overload.

## 3. Product Overview

The ETURBEV VFD Inverter SU800/900 series offers reliable motor speed control. This model, the 5.5KW-380V, is designed for three-phase 380V input and output. It features a user-friendly control panel and a robust design for industrial applications.

### 3.1. Main Unit and Remote Panel



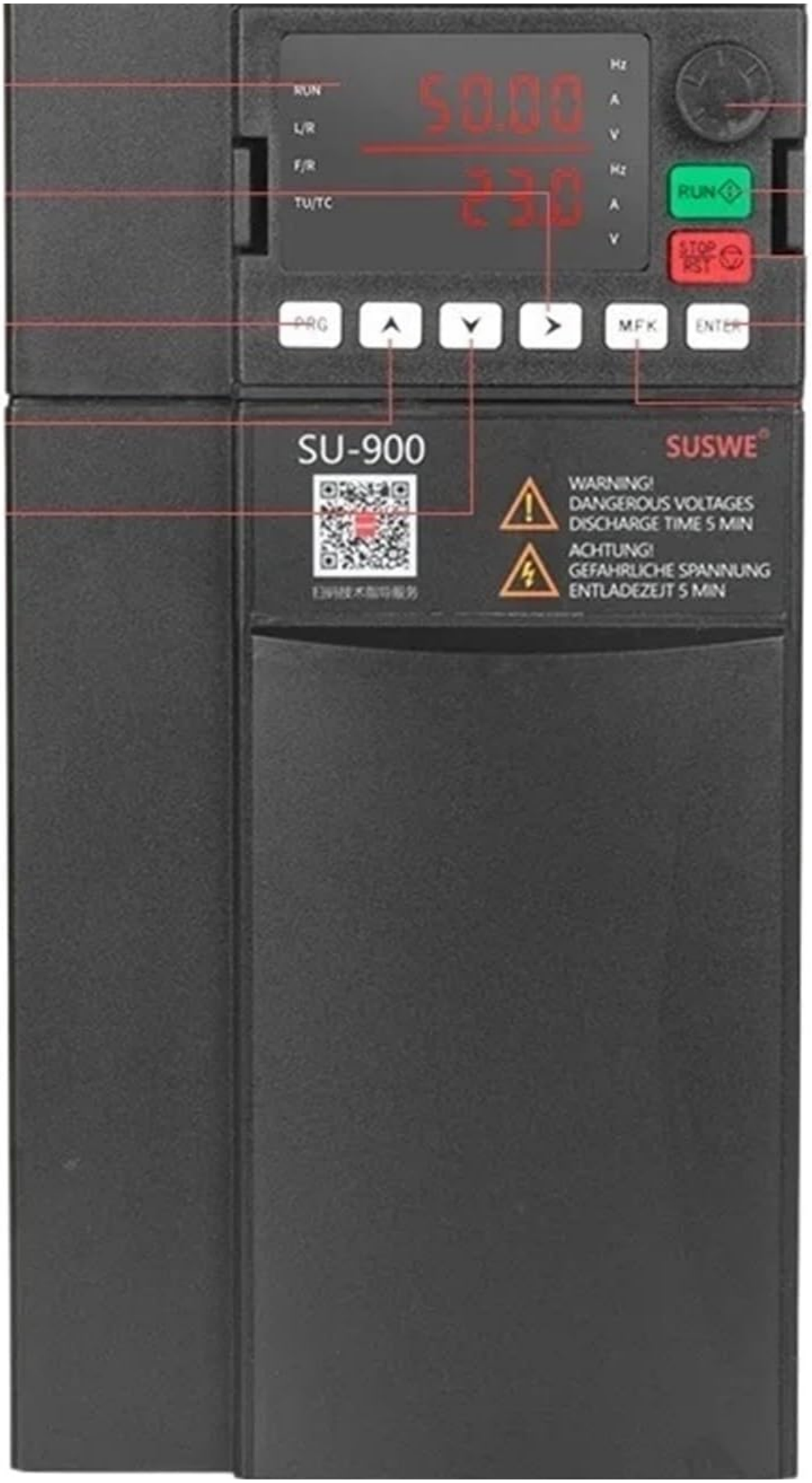
RUN
L/R
F/R
TU/TC
50.00
230
Hz
A
V
Hz
A
V
RUN
STOP
RST
PRG
M.F.K
ENTER
SU-900
SUSWE
WARNING!
DANGEROUS VOLTAGES
DISCHARGE TIME 5 MIN
ACHTUNG!
GEFAHRLICHE SPANNUNG
ENTLADEZEJT 5 MIN

**Figure 3.1:** The VFD main unit shown with its detachable remote control panel. The remote panel connects to the main unit via a standard Ethernet cable, allowing for flexible mounting and operation.

The VFD consists of a main power unit and a detachable control panel. The control panel can be mounted remotely for convenience, connected via an Ethernet cable. Both the main unit and the remote panel feature a digital display and control buttons for setting parameters and monitoring operation.

## 3.2. Control Panel Layout




**Figure 3.2:** Detailed view of the VFD's control panel. It includes a digital display showing frequency (Hz), current (A), and voltage (V),

along with buttons for program (PRG), up/down arrows, multifunction key (MFK), and enter. Dedicated RUN and STOP/RST buttons are also present.

The control panel features a clear digital display that shows operational parameters such as output frequency (Hz), current (A), and voltage (V). Key buttons include:

- **RUN:** Starts the motor.
- **STOP/RST:** Stops the motor or resets errors.
- **PRG (Program):** Enters or exits parameter setting mode.
- **Up/Down Arrows:** Navigate through parameters or adjust values.
- **MFK (Multifunction Key):** Used for specific functions depending on the mode.
- **ENTER:** Confirms parameter selections or values.

## 3.3. Cooling System




**Figure 3.3:** The VFD unit's side view, highlighting the integrated cooling fan. This fan is essential for dissipating heat generated during operation, ensuring optimal performance and longevity of the inverter.

The VFD is equipped with an internal cooling fan to manage heat dissipation, which is crucial for maintaining optimal operating temperatures and extending the lifespan of the unit. Ensure that the fan vents are not obstructed during installation and operation.

# 4. Setup

## 4.1. Installation Environment

- **Temperature:** 0°C to 40°C (32°F to 104°F).
- **Humidity:** Less than 90% RH, non-condensing.
- **Vibration:** Below 0.5G.
- **Altitude:** Below 1000m (3300ft). Derate output current by 1% for every 100m above 1000m.
- **Mounting:** Mount vertically on a non-flammable surface, ensuring adequate space for ventilation around the unit (at least 10cm top/bottom, 5cm sides).

## 4.2. Wiring

**Caution:** All wiring must be performed by a qualified electrician. Ensure all power is disconnected and locked out before wiring.

- **Power Input (R, S, T):** Connect the three-phase 380V AC power supply to terminals R, S, and T. Ensure correct phase sequence.
- **Motor Output (U, V, W):** Connect the three-phase motor to terminals U, V, and W.
- **Grounding (PE):** Connect the protective earth (ground) wire to the PE terminal. This is critical for safety.
- **Control Terminals:** For external control (e.g., start/stop buttons, potentiometers, analog signals), refer to the detailed wiring diagram in the full product manual.
- **Cable Selection:** Use appropriate gauge shielded cables for power and control wiring to minimize electromagnetic interference (EMI).

# 5. Operating Instructions

## 5.1. Initial Power-Up

1. After completing all wiring and safety checks, apply power to the VFD.
2. The display will light up, typically showing the default output frequency (e.g., 0.00 Hz).

## 5.2. Basic Operation

- **Starting the Motor:** Press the **RUN** button. The VFD will accelerate the motor to the set frequency.
- **Stopping the Motor:** Press the **STOP/RST** button. The VFD will decelerate the motor to a stop.

## 5.3. Frequency Setting

The output frequency can be adjusted using the control panel:

1. In operation mode, use the **Up** and **Down** arrow buttons to directly adjust the target frequency.
2. For more precise control or to set a specific frequency via parameters, enter parameter setting mode by pressing**PRG**.

## 5.4. Parameter Adjustment

The VFD has numerous parameters to configure its operation. Common parameters include:

- **P001:** Maximum output frequency.

- **P002:** Base frequency.
- **P003:** Acceleration time.
- **P004:** Deceleration time.
- **P005:** Motor rated current.

To adjust parameters:

1. Press **PRG** to enter parameter setting mode.
2. Use **Up**/**Down** arrows to navigate to the desired parameter group (e.g., P00).
3. Press **ENTER** to select the group, then use **Up**/**Down** to select the specific parameter (e.g., P003).
4. Press **ENTER** again to view the current value. Use **Up**/**Down** to change the 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.

- **Cleaning:** Periodically clean the VFD's exterior and cooling fins to prevent dust accumulation. Use a soft, dry cloth. For internal cleaning (if necessary), disconnect power and use compressed air to remove dust from heat sinks and circuit boards.
- **Inspection:** Regularly inspect wiring connections for tightness and signs of corrosion or damage. Check the cooling fan for proper operation and obstructions.
- **Environmental Check:** Ensure the operating environment remains within specified temperature and humidity ranges.
- **Capacitor Life:** Electrolytic capacitors have a finite lifespan. If the VFD is used continuously in high-temperature environments, consider professional inspection after 5-7 years.

## 7. Troubleshooting

This section outlines common issues and their potential solutions. For complex problems, contact technical support.

| Problem/Error Code | Possible Cause | Solution |
|---|---|---|
| Motor does not run | No RUN command; incorrect frequency setting; motor wiring error; VFD in fault state. | Press RUN; check frequency setting; verify motor wiring (U, V, W); check for error codes and reset. |
| OC (Overcurrent) | Sudden load change; short circuit in motor/cables; acceleration time too short; motor rated current parameter incorrect. | Check motor and cables; increase acceleration time (P003); verify motor rated current (P005); reduce load. |
| OV (Overvoltage) | Input voltage too high; deceleration time too short; regenerative load. | Check input voltage; increase deceleration time (P004); consider adding a braking resistor for high inertia loads. |
| UV (Undervoltage) | Input voltage too low; momentary power loss. | Check input power supply voltage; ensure stable power. |
| OH (Overheat) | Ambient temperature too high; cooling fan blocked or faulty; VFD overloaded. | Improve ventilation; clean fan/vents; reduce load; check fan operation. |

## 8. Specifications

Key specifications for the ETURBEV VFD Inverter SU800/900 5.5KW-380V:

- **Model:** SU800/900 5.5KW-380V
- **Input Voltage:** Three-phase 380V
- **Output Power:** 5.5KW
- **Item Weight:** Approximately 50 Grams (Note: This weight seems unusually low for a 5.5KW VFD and may refer to a component or packaging. Refer to product packaging for actual unit weight.)
- **Number of Pieces:** 1
- **Assembly Required:** No (for the VFD unit itself)
- **Manufacturer:** ETURBEV
- **ASIN:** B0F9STQYYY

## 9. Warranty and Support

For warranty information, please refer to the terms and conditions provided at the time of purchase or contact your vendor. For technical support, assistance with installation, or troubleshooting beyond the scope of this manual, please contact ETURBEV customer service or your authorized distributor. Always provide your product model number (SU800/900 5.5KW-380V) and ASIN (B0F9STQYYY) when seeking support.


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