

## FBT E580-4T0110

# FBT E280 E580 Series Vector Inverter User Manual

Model: E580-4T0110

## 1. PRODUCT OVERVIEW

The FBT E280 E580 series vector inverter, specifically model E580-4T0110, is a robust frequency inverter designed for various industrial applications including machine tools, textile machinery, cable machinery, petrochemical processing, construction, and transmission systems. It operates at 380V with a power rating of 11KW, offering precise control and high performance for CNC router and similar applications.

Key features include strong torque at low frequencies (200% start torque at 0Hz under VC control, 180% under SVC control), a standard 5-digit two-line LED panel display, intuitive real-time monitoring of numerous parameters, built-in system and application macros for simplified parameter setting, programmable 16-segment speed running, flexible configuration of frequency/speed setting channels, and comprehensive warning and protection functions.

## 2. SAFETY INFORMATION AND WARNINGS

**WARNING:** Always adhere to safety precautions to prevent injury or damage to equipment.

- Refer to the complete instruction manual before installation and operation.
- Do not connect AC power to the output terminals (UVW).
- Do not remove any cover while power is applied. Wait at least 10 minutes after disconnecting power before accessing internal components to allow capacitors to discharge.
- Securely ground (earth) the equipment to prevent electrical shock.
- Ensure proper ventilation around the inverter to prevent overheating.
- Only qualified personnel should perform installation, wiring, and maintenance.



Figure 2.1: Front panel of the FBT E580-4T0110 Vector Inverter.

This image displays the front panel of the FBT E580-4T0110 Vector Inverter. It features a digital display at the top, showing operational parameters. Below the display are control buttons including ESC, PANEL/REMOTE, MODE, and a central navigation cluster with directional arrows, REV/JOG, STOP/RESET, and FWD buttons. The 'Simphoenix' brand logo is visible in the middle, and the model designation 'E580' and '4T0110' are on the left and right sides respectively. A prominent warning label with safety instructions is located at the bottom.

## 3. INSTALLATION AND SETUP

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### 3.1. Mounting

Mount the inverter vertically on a flat, stable surface in an environment free from excessive dust, moisture, and vibration. Ensure adequate clearance around the unit for proper airflow and heat dissipation. Avoid direct sunlight and heat sources.

### 3.2. Wiring Connections

All wiring must comply with local electrical codes and regulations. Use appropriate wire gauges for input power, motor connections, and control signals.

- **Power Input (R, S, T):** Connect the 380V AC power supply to the designated input terminals.
- **Motor Output (U, V, W):** Connect the motor leads to the output terminals. Ensure correct phase sequence.
- **Grounding (PE):** Connect the protective earth ground to the PE terminal. This is critical for safety.
- **Control Terminals:** Connect external control signals (e.g., start/stop, speed reference, fault reset) to the designated control terminals as per your application requirements. Refer to the detailed wiring diagrams in the full manual.

### 3.3. Initial Power-Up

Before applying power, double-check all wiring connections for correctness and security. Ensure no loose wires or short circuits. Apply power and observe the display. The inverter should power on and display its default status or a prompt for initial setup.

## 4. OPERATING INSTRUCTIONS

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### 4.1. Control Panel Overview

The inverter features a user-friendly control panel for monitoring and parameter adjustment.

- **Display:** Shows operational status, frequency, current, voltage, and parameter values.
- **ESC:** Exits current menu or cancels an operation.
- **MODE:** Switches between different display modes or enters parameter setting mode.
- **Directional Arrows (Up/Down/Left/Right):** Navigate through menus and adjust parameter values.
- **REV/JOG:** Reverses motor direction or initiates jog operation.
- **STOP/RESET:** Stops the motor or resets a fault condition.
- **FWD:** Starts the motor in the forward direction.

### 4.2. Basic Operation

To start the motor, press the **FWD** button. To stop, press the **STOP/RESET** button. Speed can be adjusted using the control panel or external analog/digital inputs, depending on configuration.

### 4.3. Parameter Setting

The inverter allows for extensive customization through its parameter settings. Access the parameter menu using the **MODE** button. Navigate through parameter groups and individual parameters using the directional arrows. Values can be adjusted and saved. The inverter supports built-in system and application macros to simplify common configurations. Refer to the comprehensive parameter list in the full instruction manual for detailed descriptions and adjustment ranges for each parameter, including those for torque, revolution, and 16-segment speed running.

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## 5. MAINTENANCE

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

- **Cleaning:** Periodically clean the inverter's exterior with a soft, dry cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Inspection:** Regularly inspect wiring connections for tightness and signs of wear or damage. Check for any unusual noises or odors during operation.
- **Environmental Conditions:** Ensure the operating environment remains within specified temperature and humidity ranges.
- **Fan Check:** Verify that cooling fans are operating correctly and are not obstructed.

For any internal maintenance or repairs, contact qualified service personnel. Do not attempt to open the unit unless specifically instructed and after ensuring power is disconnected and capacitors are discharged.

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## 6. TROUBLESHOOTING

This section provides guidance for common issues. For complex problems, consult the full manual or contact technical support.

| Problem                     | Possible Cause                                 | Solution                                                                                        |
|-----------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Inverter does not power on. | No input power; faulty wiring; internal fault. | Check power supply and connections. Verify input voltage. If problem persists, contact support. |

| Problem                         | Possible Cause                                              | Solution                                                                                                                |
|---------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Motor does not run.             | Incorrect wiring; parameter settings; fault condition.      | Check motor wiring. Verify run command and frequency settings. Check for fault codes on display and clear if necessary. |
| Overcurrent/Overload fault.     | Motor overload; short circuit; acceleration time too short. | Reduce load. Check motor and wiring for shorts. Increase acceleration time parameter.                                   |
| Overvoltage/Undervoltage fault. | Unstable input voltage; regeneration during deceleration.   | Check input power supply stability. Increase deceleration time or add braking resistor if needed.                       |

The inverter's display provides real-time monitoring and error records, which can assist in diagnosing issues. Consult the full manual for a complete list of error codes and their remedies.

## 7. SPECIFICATIONS

| Attribute            | Value                                                                                                                                                            |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brand                | FBT                                                                                                                                                              |
| Model Number         | E580-4T0110                                                                                                                                                      |
| Input Voltage        | 380 Volts                                                                                                                                                        |
| Output Voltage       | 380 Volts                                                                                                                                                        |
| Power                | 11 KW                                                                                                                                                            |
| Manufacturer         | FBT                                                                                                                                                              |
| Material             | tile <i>(Note: This material specification may refer to internal components or packaging. Please refer to the full product documentation for clarification.)</i> |
| ASIN                 | B08QW5K1V3                                                                                                                                                       |
| First Available Date | December 17, 2020                                                                                                                                                |

## 8. WARRANTY AND SUPPORT

Warranty information for the FBT E280 E580 series vector inverter is typically provided with the product packaging or can be obtained from the point of purchase. Please retain your proof of purchase for warranty claims. For technical support, service, or further inquiries, please contact the manufacturer, FBT, or your authorized distributor. Contact details are usually available on the manufacturer's official website or through your seller.

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

**Name**

Anonymous

**Email**

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

**Question**

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

**Details**

Model number, symptoms, what you tried, or the section of the manual you are using.

**Submit question**