Lenze E82EV222K4C000

Lenze E82EV222K4C000 Frequency Inverter User Manual

Model: E82EV222K4C000

1. Introduction

This manual provides essential information for the safe and efficient operation of the Lenze E82EV222K4C000 Frequency Inverter. This device is designed to control the speed and torque of three-phase AC motors, offering precise control for various industrial applications. Please read this manual thoroughly before installation, operation, or maintenance to ensure proper usage and prevent potential hazards.

Figure 1.1: The Lenze E82EV222K4C000 Frequency Inverter shown with its original packaging and accompanying documentation.

2. Safety Information

WARNING: Improper installation or operation of this frequency inverter can result in serious injury or death. Always adhere to local electrical codes and safety regulations. Only qualified personnel should install, operate, or service this equipment.

- **Electrical Hazard:** This device operates with high voltages. Ensure all power sources are disconnected and locked out before performing any work on the inverter or connected equipment.
- **Residual Voltage:** Capacitors inside the inverter can retain a dangerous charge for up to 180 seconds after power is removed. Wait for the specified discharge time before touching any components.
- **Grounding:** Ensure the inverter is properly grounded according to applicable standards.
- **Environmental Conditions:** Do not expose the inverter to moisture, dust, corrosive gases, or extreme

temperatures outside its specified operating range.

Figure 2.1: A close-up view of the warning label on the inverter, indicating electrical hazards and residual voltage warnings. It states that the device is live for up to 180 seconds after removing mains voltage and that contact can cause shock, burns, or death.

3. Setup and Installation

3.1 Unpacking and Inspection

Carefully remove the inverter from its packaging. Inspect the unit for any signs of physical damage during transit. Report any damage to the carrier and supplier immediately.

3.2 Mounting

The Lenze E82EV222K4C000 is designed for vertical mounting. Ensure adequate ventilation space around the unit to allow for proper heat dissipation. The inverter dimensions are approximately 10 inches (height) x 6 inches (width) x 3 inches (depth), and it weighs approximately 11 lbs. Mount the unit on a stable, non-flammable surface.

Figure 3.1: Side view of the inverter, highlighting the integrated heat sink fins designed for thermal management. Proper airflow around these fins is crucial for cooling.

3.3 Wiring

All wiring must be performed by a qualified electrician. Refer to the detailed wiring diagrams provided in the full product manual (not included in this general overview). Key connections include:

- **Input Power:** Connect the 3-phase AC 400/500V input power supply to the designated terminals.
- **Motor Output:** Connect the motor to the inverter's output terminals.

- **Control Terminals:** Connect control signals (e.g., start/stop, speed reference, fault outputs) as required by your application.
- **Grounding:** Ensure a secure protective earth (PE) connection.

4. Operating Instructions

The Lenze 8200 vector series inverters are designed for precise motor control. Operation typically involves setting parameters for the motor, application, and desired control mode. These parameters are usually configured via a keypad on the inverter, a remote control panel, or through communication interfaces.

4.1 Basic Operation Sequence

1. **Power On:** Apply input power to the inverter. The display (if present) should illuminate.
2. **Parameter Setup:** Configure necessary motor and application parameters. This includes motor nominal voltage, current, frequency, speed, and control mode (e.g., V/f control, vector control).
3. **Start Command:** Initiate motor operation via the start button on the keypad, a digital input, or a fieldbus command.
4. **Speed Reference:** Adjust the motor speed using the potentiometer, analog input, or digital reference.
5. **Stop Command:** Stop motor operation via the stop button, digital input, or fieldbus command.

For detailed parameter settings and advanced control functions, refer to the comprehensive programming manual specific to the Lenze 8200 vector series.

5. Maintenance

Regular maintenance ensures the longevity and reliable operation of your Lenze Frequency Inverter. Always disconnect and lock out all power sources before performing any maintenance.

- **Cleaning:** Periodically clean the inverter's exterior, especially the heat sink fins, to prevent dust and debris buildup that can impede cooling. Use a soft, dry cloth or compressed air.
- **Ventilation:** Ensure that the ventilation openings are clear and unobstructed. Maintain proper airflow around the unit.
- **Connections:** Periodically check all electrical connections for tightness. Loose connections can lead to overheating or intermittent operation.
- **Environmental Check:** Verify that the operating environment remains within the specified temperature and humidity ranges.

6. Troubleshooting

This section provides general guidance for common issues. For specific error codes and advanced diagnostics, consult the detailed troubleshooting guide in the full product manual.

Problem	Possible Cause	Solution
Inverter does not power on.	No input power; Blown fuse; Internal fault.	Check power supply and circuit breaker. Inspect fuses. Contact qualified service personnel if power is present but unit remains off.

Problem	Possible Cause	Solution
Motor does not run.	No start command; Incorrect parameters; Motor wiring issue; Overload.	Verify start command signal. Check motor parameters and wiring. Reduce load or check for mechanical issues with the motor.
Inverter displays an error code.	Various (e.g., overcurrent, overvoltage, undervoltage, overheat).	Note the error code and consult the comprehensive manual for specific definitions and corrective actions. Address the underlying cause (e.g., check load, input voltage, cooling).
Motor runs erratically or at incorrect speed.	Incorrect speed reference; Poor tuning; Motor parameter mismatch.	Verify speed reference signal. Review and adjust motor and control parameters. Perform auto-tuning if available.

7. Specifications

Key technical specifications for the Lenze E82EV222K4C000 Frequency Inverter:

Figure 7.1: Detailed view of the inverter's product label, displaying critical specifications such as input/output voltage, current, power, and frequency range.

Parameter	Value
Model Number	E82EV222K4C000

Parameter	Value
Manufacturer	Lenze
Input Voltage	3/PE AC 400/500V
Input Current	7.3A / 5.8A
Input Frequency	50/60Hz
Output Voltage	3/PE AC 400/500V
Output Current	5.6A / 4.5A
Output Power	2.2kW / 3.0 HP
Output Frequency Range	0-650Hz
Dimensions (H x W x D)	Approx. 10" x 6" x 3" (25.4 cm x 15.24 cm x 7.62 cm)
Weight	Approx. 11 lbs (5 kg)
ID No.	13142447
Prod No.	01609325

8. Warranty and Support

For information regarding warranty coverage, technical support, or service, please contact your authorized Lenze distributor or visit the official Lenze website. Ensure you have your product model number (E82EV222K4C000) and serial number (if applicable) ready when contacting support.

Official Lenze Website: www.lenze.com