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ETURBEV MD310T0.4B

ETURBEV MD310 Series Frequency Inverter Converter VFD MD310T0.4B User Manual

1. Introduction

This manual provides essential instructions for the safe and efficient operation, installation, and maintenance of the ETURBEV MD310 Series Frequency Inverter Converter VFD, specifically model MD310T0.4B. Please read this manual thoroughly before using the device to ensure proper functionality and to prevent potential hazards.

2. Safety Information

WARNING: Risk of Electric Shock

- Before servicing, always remove all power and wait at least 10 minutes for residual voltage to dissipate.
- Read this manual completely and follow all safety instructions before operating the device.
- Only qualified personnel should perform installation, wiring, and maintenance.
- Ensure proper grounding to prevent electric shock.



Figure 2.1: Front view of the MD310 Series VFD, highlighting the control panel and safety warnings. The warning label clearly states "Risk of electric shock" and advises to remove power and wait 10 minutes before servicing, and to read the manual before use.

3. Product Overview and Components

The MD310 Series Frequency Inverter Converter is designed for precise motor speed control. Key components include:

- **Control Panel:** Features a digital display and buttons for operation and parameter setting.
- **Heat Sink:** Located on the side, designed for efficient heat dissipation.
- **Wiring Terminals:** (Refer to Setup section for details) For power input, motor output, and control signals.



Figure 3.1: Detail of the MD310 Series VFD control panel. Visible elements include the "INOVANCE" brand logo, a digital display, and buttons labeled "PRG", "ENTER", "MF.K", "RUN", and "STOP/RES", along with directional arrows.

4. Setup and Installation

4.1 Mounting

Mount the VFD vertically on a flat, non-flammable surface in an environment free from excessive dust, moisture, and corrosive gases. Ensure adequate ventilation around the unit for proper heat dissipation.

4.2 Wiring

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

- **Power Input (R, S, T):** Connect the main power supply to these terminals.
- **Motor Output (U, V, W):** Connect the motor leads to these terminals.
- **Ground (PE):** Ensure a secure ground connection to the VFD chassis and the motor frame.
- **Control Terminals:** Connect external control signals (e.g., start/stop, speed reference) as per your application requirements. Refer to the detailed wiring diagram in the full product manual for specific terminal assignments.

5. Operating Instructions

5.1 Control Panel Overview

The control panel allows for local operation and parameter adjustment.

- **Display:** Shows operational status, frequency, current, voltage, and parameter values.
- **PRG (Program) Button:** Enters/exits parameter setting mode.
- **ENTER Button:** Confirms parameter settings or menu selections.
- **Up/Down Arrow Buttons:** Navigate through menus and adjust parameter values.
- **Left/Right Arrow Buttons:** Shift cursor or change digits during parameter editing.
- **MF.K (Multi-Function Key):** Function varies depending on context, often used for quick access or specific operations.
- **RUN Button:** Starts the motor.
- **STOP/RES (Stop/Reset) Button:** Stops the motor or resets fault conditions.

5.2 Basic Operation

1. **Power On:** Apply power to the VFD. The display will illuminate.
2. **Parameter Setting (if needed):** Press **PRG** to enter parameter mode. Use arrow keys to navigate and **ENTER** to select/confirm.
3. **Start Motor:** Press the green **RUN** button. The motor will accelerate to the set frequency.
4. **Stop Motor:** Press the red **STOP/RES** button. The motor will decelerate and stop.
5. **Fault Reset:** If a fault occurs, address the cause, then press **STOP/RES** to clear the fault.

6. Maintenance

Regular maintenance ensures the longevity and reliable operation of your VFD.

- **Cleaning:** Periodically clean the VFD's exterior, especially the heat sink fins, to prevent dust accumulation. Use a soft, dry cloth. Do not use liquid cleaners.
- **Inspection:** Regularly inspect wiring connections for tightness and signs of damage or corrosion. Check for any unusual noises or odors during operation.
- **Ventilation:** Ensure that the ventilation openings are not obstructed.
- **Capacitor Life:** Electrolytic capacitors have a finite lifespan. Consider professional inspection or replacement after several years of continuous operation.

WARNING: Disconnect all power and wait 10 minutes before performing any maintenance.

7. Troubleshooting

This section outlines common issues and their potential solutions.

Problem	Possible Cause	Solution
VFD does not power on	No input power; Blown fuse; Incorrect wiring	Check power supply; Inspect fuses; Verify wiring connections.
Motor does not run	Fault condition; Incorrect parameter settings; Motor wiring issue	Check display for fault codes and reset; Verify motor parameters (frequency, voltage); Inspect motor wiring.

Problem	Possible Cause	Solution
Overcurrent fault	Motor overload; Short circuit in motor or wiring; Acceleration time too short	Reduce motor load; Check motor and wiring for shorts; Increase acceleration time parameter.
Overvoltage fault	Input voltage too high; Deceleration time too short; Regenerative load	Check input voltage; Increase deceleration time parameter; Consider adding a braking resistor for regenerative loads.

For detailed fault codes and advanced troubleshooting, refer to the complete product manual.

8. Specifications (MD310T0.4B)

Feature	Detail
Model Number	MD310T0.4B
Product Dimensions	1.18 x 0.79 x 0.79 inches
Item Weight	1.76 ounces
Manufacturer	ETURBEV
ASIN	B0DBD9ZRXG
Input Voltage	*(Typically 3-phase 380V-480V for 'T' series, but not specified in provided data. Please refer to product label.)*
Output Power	*(0.4kW for 0.4B model, but not explicitly in data. Please refer to product label.)*

Note: Specific electrical ratings (e.g., input voltage, output power, current) should be verified from the product label or full technical datasheet. The provided data is limited to physical dimensions and general product identification.

9. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your vendor or the manufacturer directly. Keep your purchase receipt as proof of purchase.

Manufacturer: ETURBEV

For further assistance, please visit the official ETURBEV website or contact their customer service department.

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