FBT V350-4T0075

FBT SIMPHOENIX V350 Series Closed Loop Vector Inverter

Model: V350-4T0075 | Brand: FBT

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of the FBT SIMPHOENIX V350 Series Closed Loop Vector Inverter, model V350-4T0075. This frequency inverter is designed for precise motor control in various industrial applications, offering robust performance and advanced features. Please read this manual thoroughly before installation and operation.

2. Key Features

- **High Torque Performance:** Achieves up to 200% start torque at zero speed in closed-loop vector mode, and up to 180% in open-loop vector mode, ensuring powerful low-frequency operation.
- **Advanced Display Options:** Features a standard 5-digit two-line LED panel display, with an optional LCD keypad for enhanced user interaction.
- **Real-time Monitoring:** Provides vivid real-time monitoring capabilities, allowing users to track power consumption, running time, input/output current, voltage, and failure records.
- **High Frequency Operation:** Supports a high frequency running mode up to 1000Hz for specialized applications.
- **Simplified Parameter Setting:** Includes built-in system and application macros to simplify parameter configuration through micro parameter calling.
- **Flexible Speed Control:** Offers programmable 16-stage speed running, with adjustable running time, acceleration/deceleration time, and running direction for each stage.
- **Configurable I/O:** Features a software virtual I/O function for flexible configuration, reducing external interference and simplifying wiring.
- **Comprehensive Protection:** Equipped with abundant warning and protection functions to ensure

operational safety and equipment longevity.

3. Typical Applications

The SIMPHOENIX V350 Series Inverter is suitable for a wide range of industrial applications requiring precise motor control and high performance. Typical uses include:

- Machine tools
- Textile machinery
- Road construction machinery
- Cable machinery
- Petrochemical processing equipment
- CNC Routers

4. Setup and Installation

Installation of the V350-4T0075 inverter should only be performed by qualified personnel. Ensure all local and national electrical codes are followed. Proper grounding is critical for safety and performance.

4.1 Unpacking and Inspection

Upon receiving the inverter, carefully unpack it and inspect for any signs of damage during transit. Report any damage to the carrier immediately. Verify that all components listed in the packing list are present.

4.2 Mounting

Mount the inverter in a clean, dry, and well-ventilated area, away from direct sunlight, excessive dust, corrosive gases, or vibrations. Ensure adequate clearance around the unit for proper heat dissipation. Use appropriate fasteners to secure the unit firmly.

Figure 1: Front view of the SIMPHOENIX V350 Series Inverter, showing the display and control panel. This image illustrates the compact design and user interface of the device.

4.3 Electrical Connections

Connect the input power supply (380V AC) to the designated terminals. Connect the motor to the output terminals. Ensure all wiring is correctly sized for the current requirements and properly insulated. Refer to the wiring diagram provided in the full product manual for detailed connection instructions. Incorrect wiring can lead to severe damage or injury.

5. Operation

After successful installation and power-up, the inverter is ready for operation. The 5-digit two-line LED display provides real-time status and parameter information. The control panel allows for parameter adjustment and operational commands.

5.1 Initial Power-Up

Upon initial power-up, the display will show the default operating status. Verify that there are no error codes or warnings. If an optional LCD keypad is used, refer to its specific instructions for navigation.

5.2 Parameter Setting

Access the parameter menu to configure settings such as motor parameters, acceleration/deceleration times, frequency limits, and control modes (e.g., closed-loop vector, open-loop vector). Utilize the built-in system and application macros to simplify common configurations. Detailed parameter descriptions are available in the comprehensive product manual.

5.3 Running the Motor

Use the control panel or external control signals to start, stop, and adjust the motor speed. The inverter supports programmable 16-stage speed running, allowing for complex motion profiles. Monitor the display for operational feedback, including current, voltage, and frequency.

6. Maintenance

Regular maintenance is crucial for ensuring the long-term reliability and performance of the V350-4T0075 inverter.

- **Regular Cleaning:** Keep the inverter clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- **Ventilation Check:** Ensure that the cooling fans and ventilation openings are not obstructed. Clean fan grilles periodically to maintain proper airflow.
- **Connection Inspection:** Periodically check all electrical connections for tightness. Loose connections can cause overheating and malfunction.
- **Environmental Conditions:** Verify that the operating environment remains within the specified temperature and humidity ranges.

7. Troubleshooting

This section provides general guidance for common issues. For detailed troubleshooting, refer to the full product manual.

7.1 Common Issues and Solutions

- **No Power/Display Off:** Check the input power supply and circuit breaker. Ensure all power connections are secure.
- **Motor Not Running:** Verify motor connections, check for error codes on the display, and ensure parameters are correctly set for the motor. Check if the run command is active.
- **Overcurrent/Overvoltage Fault:** These faults often indicate issues with motor loading, acceleration/deceleration times, or power supply fluctuations. Review motor parameters and application requirements.
- **Overheat Warning:** Check for proper ventilation, clean cooling fins, and ensure ambient temperature is within limits.

The inverter's abundant warning and protection functions will display specific error codes. Consult the comprehensive manual for the meaning of each code and recommended corrective actions.

8. Technical Specifications

Specification	Value
Brand	FBT
Model Number	V350-4T0075
Input Voltage	380 Volts
Output Voltage	380 Volts
Power	7.5 KW
Frequency Mode	Up to 1000Hz
Control Type	Closed Loop Vector, Open Loop Vector

9. Warranty and Support

The FBT SIMPHOENIX V350 Series Inverter is covered by the manufacturer's standard warranty. Please refer to the warranty card included with your product or contact your supplier for specific terms and conditions. For technical support, service, or spare parts, please contact your authorized FBT distributor or customer service representative. Provide the model number (V350-4T0075) and serial number when requesting support.