

DEWIN AT4-2200X

DEWIN VFD Inverter 2.2kW Instruction Manual

Model: AT4-2200X

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your DEWIN VFD Inverter. Please read these instructions carefully before installation, operation, or maintenance. Retain this manual for future reference.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Installation and maintenance should only be performed by qualified personnel.

- Ensure the power supply is disconnected before any wiring or maintenance.
- Verify correct voltage and current ratings before connecting the inverter.
- Ground the inverter properly to prevent electrical hazards.
- Do not operate the inverter with damaged wiring or components.
- Avoid exposing the inverter to moisture, dust, or corrosive environments.
- Allow sufficient cooling time after operation before handling internal components.

3. PRODUCT OVERVIEW

The DEWIN VFD Inverter (Model AT4-2200X) is designed to regulate motor power and speed, offering energy savings and reducing voltage fluctuations. It features a robust design with multiple protection mechanisms.

Key Features:

- **Intelligent Motor Speed Regulation:** Provides precise control over motor speed.
- **Energy Saving:** Optimizes power consumption for connected equipment.
- **Voltage Fluctuation Reduction:** Stabilizes the power supply to the motor.
- **High Performance:** Achieves high torque, high precision, and a wide speed range.

- **Removable Control Panel:** Allows for flexible installation and remote operation.
- **Robust Construction:** Made from high-impact, heat-resistant, flame-retardant ABS plastic.
- **Efficient Cooling:** Features a thickened heatsink and dual high-efficiency fans for superior heat dissipation.
- **Low Noise and EMI:** Optimized PWM control technology minimizes operational noise and electromagnetic interference.

Protection Features:

- Overload Protection
- Overheat Protection
- Overvoltage Protection
- Load Drop Protection
- Low Voltage Protection
- Overcurrent Protection
- Phase Loss Protection
- Ground Fault Protection
- Short Circuit Protection
- Stall Protection

4. SPECIFICATIONS

Parameter	Value
Product Series	AT4-2200X
Rated Input Voltage	Single-phase 220V AC
Rated Output Voltage	Three-phase 380V AC
Rated Current	8A
Rated Power	2.2 kW
Peak Output Power	2500 Watts
Factory Frequency	50/60 Hz
Control Mode	V/F Open Loop
Output Voltage Mode	PWM Control
Output Waveform	Modified Sine Wave
Shell Material	ABS Plastic
Certifications	CE

5. INSTALLATION

5.1 Physical Installation

Mount the VFD inverter in a well-ventilated area, away from direct sunlight, excessive heat, moisture, and corrosive

substances. Ensure adequate clearance around the unit for proper airflow and heat dissipation. The unit features a thickened heatsink and dual fans for efficient cooling.

5.2 Wiring Diagram

Refer to the diagram below for correct wiring connections. Ensure all connections are secure and comply with local electrical codes.



Image: Wiring diagram for the DEWIN VFD Inverter. It illustrates connecting a single-phase 220V power supply to the L and N terminals, and a three-phase 380V motor to the W, V, and U terminals.

- Connect the single-phase 220V input power supply to the L and N terminals.
- Connect the three-phase 380V motor to the W, V, and U terminals.
- Ensure proper grounding of the inverter and the motor.

6. OPERATION

6.1 Control Panel

The inverter features a user-friendly control panel for setting parameters and controlling operation. The panel is removable, allowing for separate installation and remote control.

THE PANEL IS REMOVABLE

Removable and separate installation, remote operation.

Easy to operate



SIMPLE OPERATION PANEL

Image: The DEWIN VFD Inverter with its control panel detached, highlighting its removable design for remote operation. The panel displays current frequency (e.g., 50.0 Hz) and control buttons.

Control Panel Buttons:

- **RUN:** Starts the motor.
- **STOP/RESET:** Stops the motor or resets errors.
- **FWD/REV:** Changes motor direction (Forward/Reverse).
- **DISP:** Toggles display modes.
- **PROG:** Enters programming mode.
- **FUNC/DATA:** Accesses function parameters and data.
- **Up/Down Arrows:** Adjusts parameters or frequency.
- **Rotary Knob:** Fine-tunes frequency or parameter values.

6.2 Basic Operation

1. **Power On:** Connect the inverter to the single-phase 220V power supply. The display will light up.
2. **Set Frequency:** Use the Up/Down arrows or the rotary knob to set the desired output frequency.

3. **Start Motor:** Press the **RUN** button to start the motor.
4. **Stop Motor:** Press the **STOP/RESET** button to stop the motor.
5. **Change Direction:** Press the **FWD/REV** button to switch between forward and reverse rotation.

7. APPLICATIONS

The DEWIN VFD Inverter is suitable for a wide range of industrial and manufacturing applications requiring precise motor speed control and power optimization. It is designed for use with various three-phase 380V equipment.

SELECT THE SAME POWER

Low frequency/high torque, one-button start and stop

 Motor	 Water Pump	 Fan
 Pumps	 Conveyor belts	 Compressors

Image: Visual representation of common applications for the VFD Inverter, including motors, water pumps, fans, conveyor belts, and compressors.

Common Uses Include:

- Fans
- Pumps (Water Pumps, Industrial Pumps)
- CNC Machine Tools
- Ball Mills

- Injection Molding Machines
- Crushers
- Conveyors / Conveyor Belts
- Textile Equipment

8. MAINTENANCE

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

- **Cleaning:** Periodically clean the exterior of the inverter and ensure ventilation openings are free from dust and debris. Use a soft, dry cloth.
- **Fan Inspection:** Check the cooling fans for proper operation and cleanliness. Ensure no obstructions impede airflow.
- **Connection Check:** Regularly inspect all electrical connections for tightness and signs of corrosion or damage.
- **Environmental Conditions:** Ensure the operating environment remains within specified temperature and humidity ranges.
- **Professional Inspection:** For internal components or complex issues, consult a qualified technician.

VISIBLE QUALITY DETAILS

Adhere to quality - casting products with heart

CE certified fan

Large heat sink, better heat dissipation and safer to use.



Shell material design

High impact resistance, high heat resistance, flame retardant, reinforced, good comprehensive performance



Stainless steel bottom design

Corrosion-resistant and extends service life.



Image: Close-up views highlighting the inverter's quality details, including the CE certified cooling fan, the robust ABS plastic shell, and the corrosion-resistant stainless steel bottom.

9. TROUBLESHOOTING

If you encounter issues with your DEWIN VFD Inverter, refer to the following general troubleshooting steps. For complex problems, contact customer support.

- **No Power:** Check the input power supply, circuit breaker, and all wiring connections.
- **Motor Not Starting:** Verify the RUN command is active, check motor connections, and ensure no fault codes are displayed.
- **Overload Error:** Reduce the motor load, check for mechanical issues with the driven equipment, or verify the inverter's current settings.
- **Overheat Error:** Ensure adequate ventilation, clean cooling fins and fans, and check ambient temperature.
- **Abnormal Noise:** Check motor bearings, coupling, and ensure the inverter is securely mounted.
- **Display Errors:** Note any error codes displayed and consult the manual for specific meanings (if available in the full product manual). Try resetting the inverter.

Multiple protection



Overload protection

Overheat protection

Overvoltage protection

Load drop protection

Low voltage protection

Overcurrent protection

Low phase protection

Ground protection

Short circuit protection

Stall protection

2.2KW MOTOR SPEED REGULATOR

Image: The DEWIN VFD Inverter alongside a comprehensive list of its ten protection features, designed to ensure electrical safety and operational stability.

10. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation included with your purchase or contact DEWIN customer service. Keep your purchase receipt and product model number (AT4-2200X) handy when contacting support.