DEWIN AT2

DEWIN AT2 2.2KW 220V Single-Phase Variable Frequency Drive User Manual

Model: AT2-2200X

1. Product Overview

The DEWIN AT2-2200X is a general-purpose Variable Frequency Drive (VFD) designed for single-phase motor applications. This VFD operates with a single-phase 220V AC input and provides a single-phase 220V AC output, suitable for motors up to 2.2KW. It features a unique control method for high torque, precision, and a wide speed control range, ensuring stable performance even in challenging environments.
Key features include:

- **High Performance:** Achieves high torque, precision, and a broad speed control range.
- **Robust Design:** Excellent anti-tripping performance and adaptability to power interference, temperature, humidity, and dust.
- **Optimized Compatibility:** Utilizes PWM control technology and electromagnetic compatibility for low noise and minimal electromagnetic interference.
- **User-Friendly:** Quick start/stop response, high torque at low speeds, and easy wiring via screw terminals.
- **Comprehensive Protection:** Includes overcurrent, overvoltage, overheating, undervoltage, and short-circuit protection. Equipped with large heat sinks for efficient long-term operation.

2. Safety Precautions

Failure to follow these safety instructions may result in death, severe injury, or serious property damage.

- Always ensure the power supply is disconnected before performing any wiring or maintenance.
- Wiring must be performed by qualified electrical engineers to prevent damage to the inverter.
- Do not install the inverter in areas with flammable materials or oil, as this poses a fire hazard.
- The ground terminal of the inverter must be properly grounded.
- Avoid installing the inverter in environments with explosive gases to prevent explosion risks.
- Do not open the inverter cover while the unit is powered, as internal components may retain high voltage.



Figure 2.1: Front view of the DEWIN AT2 VFD, showing the control panel and a safety precautions label.

3. Setup and Installation

This section provides general guidelines for installing and connecting your DEWIN AT2 VFD. Refer to the detailed wiring diagrams in the included physical manual for specific connections.

3.1 Unpacking

Upon receiving the package, verify its contents. The package should include:

- 1 x DEWIN AT2 Variable Frequency Drive
- 1 x English User Manual (physical copy)

3.2 Mounting

Mount the VFD in a location that is clean, dry, well-ventilated, and free from excessive vibration, direct sunlight, and corrosive gases. Ensure adequate clearance around the unit for proper heat dissipation.



Figure 3.1: Dimensions of the DEWIN AT2 VFD, measuring 125mm (width) x 175mm (height) x 125mm (depth).

3.3 Wiring

Connect the power input and motor output using appropriate gauge wires and screw terminals. Ensure all connections are secure and comply with local electrical codes.

- **Input Power:** Connect the single-phase 220V AC 50/60Hz power supply to the designated input terminals.
- **Motor Output:** Connect the single-phase motor to the output terminals.
- **Grounding:** Ensure the VFD is properly grounded to prevent electrical hazards.

4. Operating Instructions

The DEWIN AT2 VFD features an intuitive control panel for easy operation. The main functions are controlled via buttons and a rotary knob.



Figure 4.1: Close-up view of the VFD's control panel, highlighting the display, function buttons, and rotary knob for speed adjustment.

4.1 Control Panel Overview

- **Display:** Shows operational status, frequency, and parameter values.
- **PROG/FUNC/DATA Buttons:** Used for programming parameters and accessing data.
- **RUN Button:** Initiates motor operation.
- **STOP/RESET Button:** Stops motor operation and resets errors.
- **FWD/REV Buttons:** Controls forward and reverse direction.
- **Rotary Knob:** Adjusts output frequency/speed.

4.2 Basic Operation

1. **Power On:** After ensuring all connections are correct and secure, apply power to the VFD. The display will illuminate.
2. **Set Frequency:** Use the rotary knob to set the desired output frequency.
3. **Start Motor:** Press the **RUN** button to start the motor.
4. **Change Direction:** Use the **FWD** or **REV** buttons to change the motor's rotation direction.

5. **Stop Motor:** Press the **STOP/RESET** button to stop the motor.

For advanced parameter settings and detailed programming instructions, please consult the comprehensive physical user manual provided with the product.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your DEWIN AT2 VFD.

5.1 Cleaning

Periodically clean the exterior of the VFD to prevent dust accumulation, especially around the ventilation openings and cooling fins. Use a soft, dry cloth. Do not use liquid cleaners or solvents.



Figure 5.1: Internal view of the DEWIN AT2 VFD, illustrating the large heatsink designed for efficient heat dissipation.

5.2 Inspection

- Check for any loose connections or damaged wiring.

- Ensure the cooling fans (if present) are operating correctly and are not obstructed.
- Monitor the VFD for unusual noises or excessive heat during operation.

6. Troubleshooting

This section addresses common issues you might encounter with the DEWIN AT2 VFD. For more complex problems, consult a qualified technician.

6.1 Common Issues

- **VFD Not Powering On:** Check the input power supply and ensure all power connections are secure. Verify the circuit breaker or fuse is not tripped.
- **Motor Not Running:** Ensure the RUN button has been pressed. Check motor wiring and verify that the VFD is not displaying any error codes. Confirm the motor is suitable for single-phase operation.
- **Motor Running Erratically:** Check for stable input power. Verify motor parameters are correctly set in the VFD. Inspect motor and VFD for signs of overheating.
- **Overload Protection Triggered:** Reduce the motor load or check for mechanical issues with the motor or driven equipment. Ensure the motor's rated current is within the VFD's capacity.

6.2 Error Codes

The VFD display may show specific error codes in case of a fault. Refer to the physical user manual for a complete list of error codes and their corresponding troubleshooting steps.

7. Specifications

Feature	Specification
Model	AT2-2200X
Applications	Single-phase motors
Power Phase Number	Single-phase
Input Method	Single-phase 220V AC
Output Mode	Single-phase 220V AC
Supply Voltage	220V AC 50/60Hz
Adapted Motor Power	2.2 kW
Filter	Built-in filter
Control Mode	V/F closed loop
Output Voltage Regulation	PWM control
Rated Current	12 A
Dimensions (L x H x D)	125 mm x 175 mm x 125 mm
Product Weight	1.5 kg

8. Warranty and Support

Information regarding product warranty and customer support is typically provided with the purchase documentation or within the physical user manual. Please refer to those resources for details on warranty coverage, technical assistance, and service options.
For further inquiries, please contact your vendor or DEWIN customer service.

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