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› Vikye AT1-2200X Variable Frequency Drive User Manual

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Model: AT1-2200X

1. SAFETY PRECAUTIONS

Before operating this Variable Frequency Drive (VFD), please read and understand all safety instructions to prevent injury or damage. Improper installation or operation can lead to severe consequences.



Image 1: Safety precautions label visible on the VFD unit.

- **Do not operate** the VFD if it shows signs of damage.
- **Before wiring**, ensure the main power supply is disconnected to prevent electric shock.
- **Ensure correct voltage**: Connect the VFD to a 220VAC single-phase power supply. Incorrect voltage can damage the unit.
- **Grounding**: The ground terminal of the VFD must be properly grounded.
- **Environment**: Do not install the VFD in environments with flammable or explosive gases.
- **Professional installation**: Only qualified professionals should perform wiring and maintenance. Opening the converter's internal casing is strictly prohibited for unauthorized personnel.

2. PRODUCT OVERVIEW

The Vikye AT1-2200X is a 2.2kW single-phase to three-phase Variable Frequency Drive (VFD) designed to control the speed of 2.2kW three-phase AC motors. It features a robust design with excellent anti-trip performance and adaptability

to various power conditions, temperature, humidity, and dust interference, enhancing overall stability. This VFD employs a unique control method to achieve high torque, high precision, and a wide speed regulation range, ensuring high efficiency in motor control.



Image 2: Front view of the Vikye AT1-2200X Variable Frequency Drive, showcasing its compact design and integrated control panel.



Image 3: Side and top view of the Vikye AT1-2200X VFD, illustrating its physical dimensions: approximately 18cm (7.08 inches) in length and 12.5cm (4.92 inches) in width/height.

3. SPECIFICATIONS

Feature	Specification
Model	AT1-2200X
Power Phase	Single-phase input
Rated Voltage	Single-phase / Three-phase AC220V
Suitable Motor Power	2.2 kW
Filter	Built-in Filter

Feature	Specification
DC Power Supply Type	Voltage Type
Control Method	V/F Closed Loop
Output Voltage Adjustment Method	PWM Control
Rated Current	12A
Protection	Overcurrent, Overvoltage, Overheat, Undervoltage, Short Circuit
Max. Output Frequency	400Hz
Dimensions (L*W*H)	18cm * 12.5cm * 12.5cm (7.1in * 4.9in * 4.9in)
Weight	Approx. 1.3 kg



Image 4: Rear view of the VFD, showing the large aluminum heat sink designed for efficient thermal dissipation, crucial for maintaining

4. INSTALLATION AND WIRING

Proper installation and wiring are critical for the safe and efficient operation of the VFD. Ensure all connections are secure and comply with local electrical codes.

4.1 Terminal Instructions

The VFD features various terminals for power input, motor output, and control signals. Refer to the following table for terminal descriptions:

Terminal	Description	Function
COM	Common Terminal	Reference for control signals
VI1	External Analog Voltage Input	0-5V / 10V analog voltage input
CI	External Current Signal Input	4-20mA current signal input
SP1	Open Collector Output 1	Programmable digital output
SP2	Open Collector Output 2	Programmable digital output
5V / 10V	Power Output	5V / 10V 20mA power supply for external devices
TC	Relay Output	250VAC 5A / 30VDC 3A (TA & TB are NC, TA & TC are NO)
TA	Relay Output	Normally Open (NO) contact of relay
TB	Relay Output	Normally Closed (NC) contact of relay



Image 5: Rear view of the VFD, displaying the product label with model number XSY-AT1, input voltage (220VAC), frequency (50/60Hz), and output current (12A). The bottom section shows ventilation grilles and fan openings.

5. CONTROL PANEL AND OPERATION

The VFD features an intuitive control panel for easy parameter adjustment and operation. Familiarize yourself with the buttons and their functions.

Panel Control Buttons

5 digits Led display

Movement key:

switch the monitoring parameters in the monitoring state, move the data frame to edit bit in the second level menu

Programme key:

Exit the current state, switch to the other state, mainly used to switch to the monitoring state

Function/Save key:

Enter the menu step by step, save the setted parameters

Minus key:

Short/Long press can realize the decrease of data and function code

Plus key:

Short/Long press can realize the increase of data and function code

CW/CCW key:

1.Press the button to run, release the button to stop ,2.CCW operation

Stop/Reset key:

1.Stop the operation of VFD ,2.Recover the previous wrong interface

Operation key:Start to operate



Image 6: Detailed view of the VFD's control panel, highlighting the 5-digit LED display and various function buttons along with their operational descriptions.

5.1 Button Functions

- **5 Digits LED Display:** Shows current operating parameters and settings.
- **Movement Key (← →):** Switches monitoring parameters in monitoring state; moves the data frame to edit bits in the second-level menu.
- **PROG (Programme Key):** Exits the current state, switches to other states, mainly used to switch to the monitoring state.
- **FUNC/DATA (Function/Save Key):** Enters the menu step by step, saves the set parameters.
- **Minus Key (▼):** Short press decreases data; long press continuously decreases data and function code.
- **Plus Key (▲):** Short press increases data; long press continuously increases data and function code.
- **FWD/REV (CW/CCW Key):** Press to run in forward/reverse, release to stop.
- **STOP/RESET Key:** Stops the operation of the VFD; recovers the previous interface if an error occurred.

- **RUN Key:** Starts operation.

Note: When adjusting parameters, the VFD must be stopped. Otherwise, the parameter settings may not be saved correctly.

6. MAINTENANCE

Regular maintenance ensures the longevity and reliable performance of your VFD. Always disconnect power before performing any maintenance.

- **Cleaning:** Periodically clean the VFD's exterior and ventilation openings to prevent dust accumulation, which can hinder heat dissipation. Use a soft, dry cloth.
- **Inspection:** Regularly inspect wiring connections for tightness and signs of wear or damage. Check for any unusual noises or odors during operation.
- **Environment:** Ensure the operating environment remains within specified temperature and humidity ranges. Avoid exposure to corrosive gases or excessive vibration.
- **Fan Check:** Verify that cooling fans (if present) are operating correctly and are free from obstructions.

7. TROUBLESHOOTING

This section provides guidance on common issues you might encounter with the VFD. For complex problems, contact technical support.

Problem	Possible Cause	Solution
VFD does not power on	No power supply; incorrect wiring; blown fuse	Check power input, verify wiring, replace fuse if necessary.
Motor does not run	Incorrect motor wiring; VFD in stop mode; parameter settings incorrect	Verify motor connections (U, V, W); press RUN; check frequency and control parameters.
Overcurrent fault	Motor overload; short circuit in motor wiring; acceleration time too short	Reduce motor load; check motor wiring for shorts; increase acceleration time parameter.
Overvoltage fault	Input voltage too high; deceleration time too short	Check input voltage; increase deceleration time parameter.
Overheat fault	Insufficient ventilation; ambient temperature too high; cooling fan failure	Ensure proper ventilation; reduce ambient temperature; check cooling fan operation.

8. WARRANTY AND SUPPORT

This Vikye AT1-2200X Variable Frequency Drive is covered by a standard manufacturer's warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to your purchase documentation or contact the seller.

For technical assistance, troubleshooting, or any questions regarding the operation and maintenance of your VFD, please contact Vikye customer support or your authorized distributor. When contacting support, please have your product model (AT1-2200X) and purchase details ready.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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