Wisoqu AT5-1500X

Wisoqu VFD Variable Frequency Drive User Manual

Model: AT5-1500X

Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Wisoqu AT5-1500X Variable Frequency Drive (VFD). This VFD is designed to adjust the speed of a motor, offering high torsion and wide speed regulation capabilities. It features a digital display for clear readings and convenient parameter setting, and is constructed from high-quality plastic for impact resistance and safety. The device includes multiple protection features such as over current, over voltage, under voltage, module failure, over heat, and short circuit protection, ensuring low electromagnetic interference. It is suitable for 3-phase motor speed regulation, lighting adjustment, and power cooling applications.

Safety Precautions

Always observe the following safety precautions to prevent injury or damage to the equipment. Failure to comply may result in severe injury or death.

- Ensure the input power supply matches the specifications of the VFD. Do not connect to AC power supplies other than those specified.
- Installation and wiring should only be performed by qualified personnel.
- Always disconnect power before performing any maintenance or wiring.
- Do not operate the VFD in environments with explosive gases or flammable materials.
- Ensure proper grounding to prevent electric shock.
- The VFD contains high voltage components even after power is disconnected. Allow sufficient time for capacitors to discharge before handling.



Image: Front view of the VFD showing the safety precautions label on the lower left side.

Product Features and Advantages

- **Premium Performance:** Adjusts motor speed with high torsion and wide speed regulation.
- **Digital Display:** Equipped with a clear digital display for easy parameter setting and monitoring.
- **Durable Construction:** Made of high-quality plastic material, offering impact resistance and good safety.
- **Comprehensive Protection:** Features protection against over current, over voltage, under voltage, module failure, over heat, and short circuit.
- **Low Electromagnetic Interference:** Designed to minimize electromagnetic interference.
- **Versatile Usage:** Suitable for 3-phase motor speed regulation, lighting adjustment, and power cooling.



Image: Visual representation of the VFD's protective features and operational advantages.

Components and Control Panel

The VFD features a user-friendly control panel for easy operation and parameter adjustment.



Image: Front view of the VFD, highlighting the digital display and control buttons.

Control Panel Functions:

DISP (Shift key): Used to shift programming mode or tap in normal mode.

FWD/REV (Forward/Reverse key): Toggles between forward and reverse operation.

PROG (Programming key): Selects normal mode or programming mode.

FUNC/DATA (Function key): Press to display inverter status information.

▲ (Increment key): Increases parameter number or parameter value.

▼ (Decrement key): Decreases parameter number or parameter value.

RUN (Start key): Initiates operation in keyboard operation mode.

STOP/RESET (Stop/Reset key): Stops operation or resets faults.

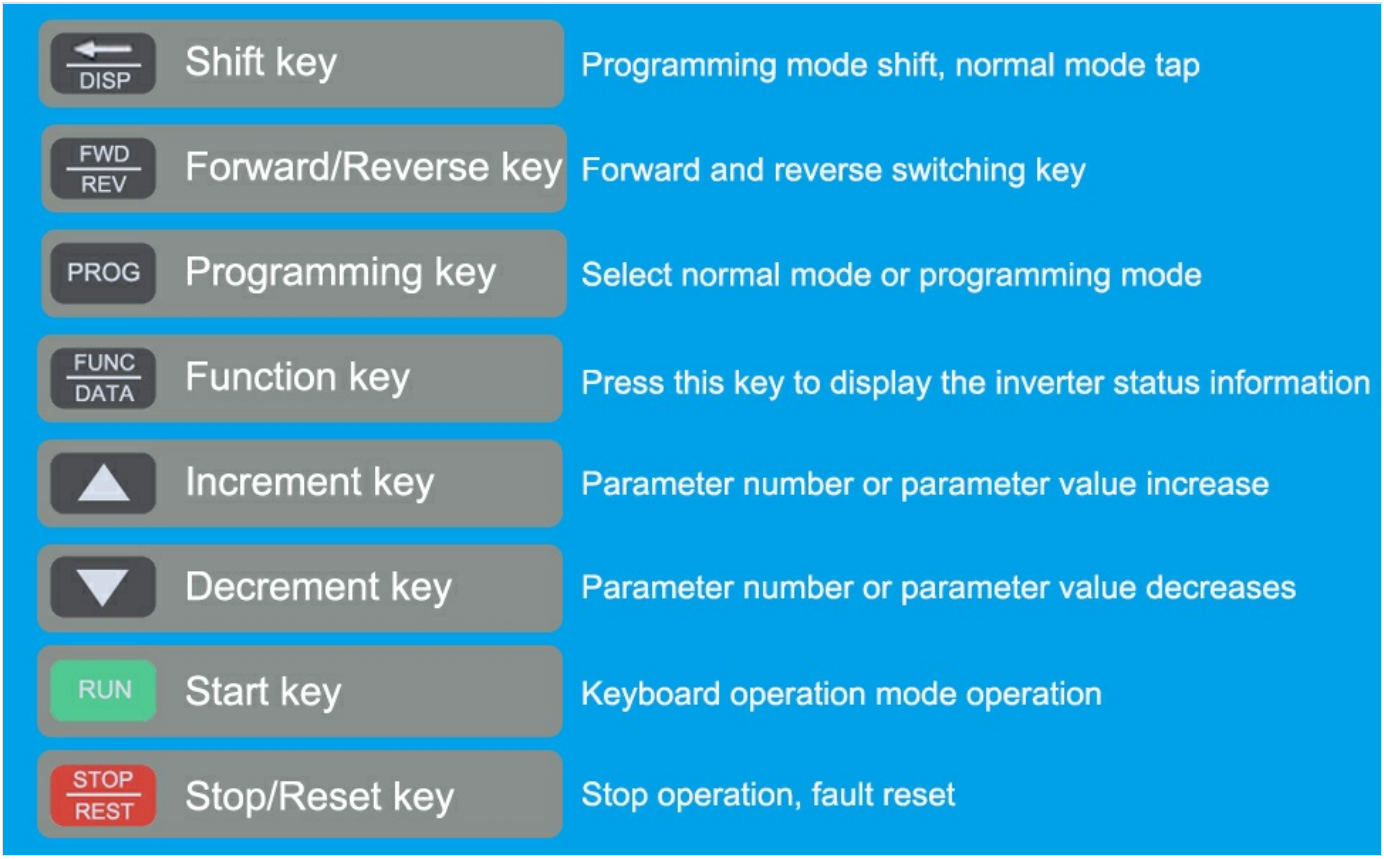


Image: Detailed explanation of each button on the VFD control panel.

Setup and Installation

Proper setup and installation are crucial for the safe and efficient operation of your VFD. Refer to the wiring diagram for correct connections.

Wiring Instructions:

1. **Input Power (L, N):** Connect the single-phase 110VAC input to the designated terminals. Ensure the power source is stable and within the specified voltage range.
2. **Output Power (U, V, W):** Connect the three-phase 220VAC output terminals to your 3-phase motor. Verify correct phase sequence for desired motor rotation.
3. **Grounding (GND):** Connect the VFD to a reliable earth ground. This is essential for safety and to prevent electromagnetic interference.
4. **Control Terminals:** If external control (e.g., potentiometer, external start/stop buttons) is desired, refer to the detailed wiring diagram in the full manual for specific terminal connections.



Image: Internal view of the VFD, showing the heat sink and terminal block for wiring connections.

Note: While the product description states 110VAC input and 220VAC 3-phase output, some user reviews indicate that the 110VAC input may result in 110VAC 3-phase output. Always verify the actual output voltage with a multimeter before connecting sensitive equipment. Consult a qualified electrician if unsure about wiring.

Operating Instructions

Basic Operation:

1. **Power On:** Connect the VFD to the appropriate power supply. The digital display will illuminate.
2. **Parameter Setting:**
    - Press the **PROG** key to enter programming mode.
    - Use the ▲ and ▼ keys to navigate through parameters.
    - Press **FUNC/DATA** to select a parameter and view its value.
    - Use ▲ and ▼ to adjust the parameter value.
    - Press **FUNC/DATA** again to save the new value.

- Press **PROG** to exit programming mode.

3. **Start Motor:** Press the **RUN** key to start the motor.
4. **Adjust Speed:** Use the rotary knob on the control panel to adjust the motor speed.
5. **Stop Motor:** Press the **STOP/RESET** key to stop the motor.
6. **Reverse Direction:** Press the **FWD/REV** key to change the motor's rotation direction.

Advanced Functions:

For detailed information on advanced functions such as acceleration/deceleration times, frequency limits, and external control modes, please refer to the complete technical manual provided with the product or available from the manufacturer's website. Proper parameter configuration is essential for optimal performance and motor protection.

Applications and Usage Scenarios

The Wisoqu AT5-1500X VFD is versatile and suitable for a wide range of applications requiring precise motor speed control.



Image: Examples of light to medium loads suitable for this VFD, including fans, pumps, compressors, and sewage treatment systems.



Image: Examples of heavy loads that can be controlled by this VFD, such as winches, crushers, and injection molding machines.

Common applications include:

- **Fan Type Loads:** For controlling the speed of industrial fans and blowers.
- **Pump Type Loads:** Ideal for water pumps, sewage treatment pumps, and other fluid transfer systems.
- **Compressor Loads:** Regulating the speed of air compressors for energy efficiency.
- **Heavy Machinery:** Suitable for applications like crushers, ball mills, rolling mills, winches, and injection molding

machines.

- **General Motor Speed Control:** Any application requiring precise and variable speed control for 3-phase motors.

Maintenance

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

- **Cleaning:** Periodically clean the exterior of the VFD with a soft, dry cloth. Ensure ventilation openings are free from dust and debris to prevent overheating. Do not use liquid cleaners.
- **Inspection:** Regularly inspect wiring connections for tightness and signs of wear or damage. Check for any unusual noises or smells during operation.
- **Environment:** Ensure the VFD is operated within its specified environmental conditions (temperature, humidity, dust level) to prevent premature failure.
- **Cooling Fan:** Check the cooling fan for proper operation and ensure it is not obstructed. Clean fan blades if necessary.

Troubleshooting

This section provides solutions to common issues you might encounter. For complex problems, contact technical support.

Problem	Possible Cause	Solution
VFD does not power on.	No input power; incorrect wiring; internal fuse blown.	Check power supply and connections. Verify wiring according to diagram. Consult a technician if fuse is suspected.
Motor does not start.	Incorrect parameters; motor wiring error; VFD in fault state.	Check motor wiring (U, V, W). Verify operating parameters. Check for fault codes on display and reset if necessary.
Motor speed is unstable.	Improper parameter settings; motor overload; poor grounding.	Adjust acceleration/deceleration times. Reduce motor load. Ensure proper grounding.
VFD displays an error code (e.g., "Error 01").	Specific fault detected (e.g., overcurrent, overheat).	Refer to the full manual for specific error code meanings. Address the underlying cause (e.g., reduce load, improve ventilation) and press **STOP/RESET** to clear.
Unexpected output voltage (e.g., 110VAC 3-phase instead of 220VAC).	Product specification misunderstanding; specific model variant.	Verify the exact model specifications and output capabilities. Contact manufacturer support for clarification if needed.

Specifications

Attribute	Value
Brand	Wisoqu
Model Name	AT5-1500X

Attribute	Value
Input Voltage	Single-Phase 110VAC
Output Voltage	3-Phase 220VAC
Wattage	1500 watts
Item Weight	2.7 pounds
Package Dimensions	8.54 x 7.72 x 6.38 inches
Power Source	Mains Powered

Warranty and Support

For warranty information, technical support, or service inquiries, please contact Wisoqu customer service. Keep your purchase receipt as proof of purchase.

Online Resources: For additional resources, FAQs, and updated manuals, please visit the official Wisoqu website or the product page on Amazon.com.

Amazon Product Link: Wisoqu VFD on Amazon.com

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.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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.

Submit question