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Huayong XSY-AT3

Huayong XSY-AT3 Frequency Inverter VFD User Manual

Model: XSY-AT3 (750W 380V)

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Huayong XSY-AT3 Frequency Inverter VFD. Please read this manual thoroughly before using the product to ensure proper function and to prevent potential hazards. This device is designed to control the speed of three-phase AC motors by varying the frequency and voltage of the power supply.

2. SAFETY PRECAUTIONS

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



Image 2.1: Front view of the Huayong XSY-AT3 Frequency Inverter, clearly displaying the control panel and the safety precaution label on the lower front panel.

- **Professional Installation:** This device should only be installed and serviced by qualified professionals.
- **Power Disconnection:** Always ensure the power supply is completely cut off before performing any wiring, inspection, or maintenance.
- **Output Connection:** Do not connect the U/V/W output terminals directly to the AC power supply. This will damage the inverter.
- **Flammable Environments:** The inverter is not designed for installation in flammable environments. Doing

so may cause fire or explosion.

- **Grounding:** The ground terminal of the inverter must be properly grounded to prevent electric shock.
- **Explosive Gas Environments:** Do not install this product in environments with explosive gases, as this may lead to severe risk.
- **Internal Components:** Only trained personnel may open the inverter's casing. Internal components carry high voltage even after power is disconnected.

3. PRODUCT OVERVIEW AND FEATURES

The Huayong XSY-AT3 Frequency Inverter is a robust Variable Frequency Drive (VFD) designed for precise motor speed control. It features a user-friendly interface and advanced control capabilities.



Image 3.1: Angled view of the inverter, highlighting the control panel and side ventilation.

Key Features:

- **Versatile Control Terminals:** Equipped with a rich set of digital and analog control terminals for flexible integration into various systems.
- **Strong Anti-Jamming Capability:** Designed with robust anti-interference features for reliable operation in industrial environments.
- **Smart Digital Display:** Features an intuitive digital display for clear and precise monitoring of operational parameters.
- **User-Friendly Keyboard:** The control panel has a logical layout with easy-to-operate buttons and a rotary knob.
- **Detachable Design:** The control panel can be detached for convenient remote control applications.
- **Efficient Heat Dissipation:** Ample space between electronic components and porous heat dissipation design ensures a longer service life and low-noise operation.



Image 3.2: The inverter with its accompanying accessories, including the operating instructions manual.

4. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of the inverter. Refer to the detailed wiring diagrams and mounting instructions provided in the separate comprehensive manual for your specific model.

4.1. Mounting

Mount the inverter vertically on a flat, stable surface. Ensure sufficient clearance around the unit for proper ventilation and heat dissipation. Avoid mounting in direct sunlight or near heat sources.



Image 4.1: Side view of the inverter, showing the heat sink fins designed for efficient cooling.

4.2. Wiring

All wiring must be performed by a qualified electrician in accordance with local and national electrical codes. Ensure correct connections for input power (L1, L2, L3 for 3-phase), motor output (U, V, W), and grounding (PE). Use appropriate wire gauges for the inverter's power rating.



Image 4.2: Rear view of the inverter, showing the product label with electrical specifications and cooling fans, indicating connection points.

5. OPERATING INSTRUCTIONS

The control panel allows for easy configuration and operation of the inverter.



Image 5.1: Close-up of the inverter's control panel.

5.1. Control Panel Functions:

- **DISP:** Toggles the display mode to show various parameters (e.g., output frequency, current, voltage).
- **FWD/REV:** Changes the motor's rotation direction (Forward/Reverse).
- **PROG:** Enters or exits the parameter programming mode.
- **FUNC/DATA:** Used to select parameters or confirm data entry during programming.
- **Up/Down Arrows:** Adjusts parameter values or navigates through menus.

- **RUN:** Starts the motor operation.
- **STOP/RESET:** Stops the motor operation or resets fault conditions.
- **Rotary Knob:** Used for fine-tuning frequency or other adjustable parameters.

5.2. Basic Operation:

1. **Power On:** Connect the inverter to the appropriate power supply. The digital display will illuminate.
2. **Set Frequency:** Use the rotary knob or arrow buttons 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:** While the motor is stopped, press **FWD/REV** to change the rotation direction, then press **RUN**.

For advanced parameter settings and specific application configurations, refer to the detailed programming guide in the full product manual.

6. MAINTENANCE

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

- **Cleaning:** Periodically clean the inverter's exterior, especially the ventilation grilles and fans, to prevent dust accumulation. Use a soft, dry cloth. Do not use liquid cleaners.
- **Ventilation Check:** Ensure that the cooling fans are operating correctly and that airflow is not obstructed. Adequate heat dissipation is vital for the inverter's lifespan.
- **Connection Inspection:** Regularly check all electrical connections for tightness and signs of corrosion or damage.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges.



Image 6.1: Bottom view of the inverter, illustrating the heat dissipation fins.

7. TROUBLESHOOTING

If you encounter issues with your inverter, consult the following basic troubleshooting steps. For complex problems, contact qualified technical support.

- **No Power:** Check the main power supply and all input wiring connections. Ensure fuses or circuit breakers are not tripped.
- **Motor Not Running:** Verify that the RUN command is active, the frequency setting is not zero, and there are no fault codes displayed. Check motor wiring.
- **Overload Fault:** Reduce the motor load or check for mechanical issues with the motor or driven equipment. Verify motor parameters are correctly set in the inverter.
- **Overvoltage/Undervoltage Fault:** Check the input power supply voltage. Ensure it is within the inverter's specified operating range.
- **Overheat Fault:** Check for proper ventilation, clean cooling fins and fans, and ensure ambient temperature is not too high.

If a fault code appears on the display, refer to the comprehensive manual for a list of codes and their corresponding solutions.

8. SPECIFICATIONS

The following table outlines the key specifications for the Huayong XSY-AT3 Frequency Inverter (750W 380V model).



Image 8.1: Product label showing detailed electrical specifications.

Specification	Value
Model	XSY-AT3
Input Voltage	3-Phase 380V AC
Output Power (Capacity)	750W (0.75KW)
Output Current	Specific value depends on model variant (e.g., 2.1A for 0.75KW)
Frequency Range	0-400 Hz (typical)
Control Method	V/F Control, Vector Control (depending on model series)
Package Dimensions	1.18 x 0.79 x 0.39 inches (Note: This appears to be incorrect for the actual product, likely a placeholder. Refer to actual product dimensions.)
Item Weight	2.2 pounds (approx. 1000 Grams)
Manufacturer	Huayong

9. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation provided at the time of purchase or contact your seller directly. Huayong products typically come with a standard manufacturer's warranty covering defects in materials and workmanship.

For technical support, service, or spare parts, please contact your authorized Huayong distributor or the seller from whom you purchased the product. When contacting support, please have your product model (XSY-AT3) and serial number (if applicable) ready.