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Srliya UX-52-100-1.1kW

Srliya 1.1kW Mini Motor Inverter Variable Frequency Drive Converter User Manual

Model: UX-52-100-1.1kW

1. Introduction

This manual provides essential information for the safe and efficient operation of the Srliya 1.1kW Mini Motor Inverter Variable Frequency Drive (VFD) Converter, Model UX-52-100-1.1kW. Please read this manual thoroughly before installation, operation, or maintenance to ensure proper usage and prevent potential hazards.

2. Safety Instructions

WARNING: Improper installation or operation can lead to serious injury or death. Always follow local electrical codes and safety regulations.

- Ensure the power supply is disconnected before any wiring or maintenance.
- Only qualified personnel should install, operate, and maintain this device.
- Verify input voltage matches the device specifications (176-264V).
- Do not touch internal components immediately after power-off, as residual voltage may be present.
- Install the VFD in a dry, well-ventilated area, away from direct sunlight, corrosive gases, and excessive vibration.
- Ensure proper grounding of the unit.

3. Product Overview

The Srliya 1.1kW Mini Motor Inverter is a compact variable frequency drive designed for precise motor speed control. It converts single-phase input power to three-phase output power, offering flexibility for various motor applications.

3.1 Key Features

- **Power Output:** 1.1kW, 6A
- **Input Voltage:** 176-264V AC, 50/60Hz
- **Output Voltage:** 0-220V AC
- **Frequency Range:** 0.1-400Hz

- **Control Modes:** V/F control, vector control, output torque control
- **Display:** External LED digital display panel
- **Construction:** PC flame retardant casing, copper core coils

3.2 Component Identification



Figure 3.2.1: Front view of the Srliya 1.1kW Mini Motor Inverter. This image displays the control panel with a digital display, various buttons (PROG, UP, DOWN, OK, RUN, STOP, FWD/REV), and a rotary knob for frequency adjustment.

The front panel features a digital display for showing operational parameters, control buttons for programming and operation, and a rotary potentiometer for manual frequency adjustment.



Figure 3.2.2: Side view of the VFD showing the input and output wiring terminals. The left side shows terminals for U, V, W (output to motor) and AC, AC (input power). The right side shows a green terminal block for control signals (RS+, RS-, GND, V+, COM, X1, X2, X3, X4).

The side of the unit provides clearly labeled terminals for power input, motor output, and control signals. Refer to the wiring diagram in the Setup section for detailed connections.

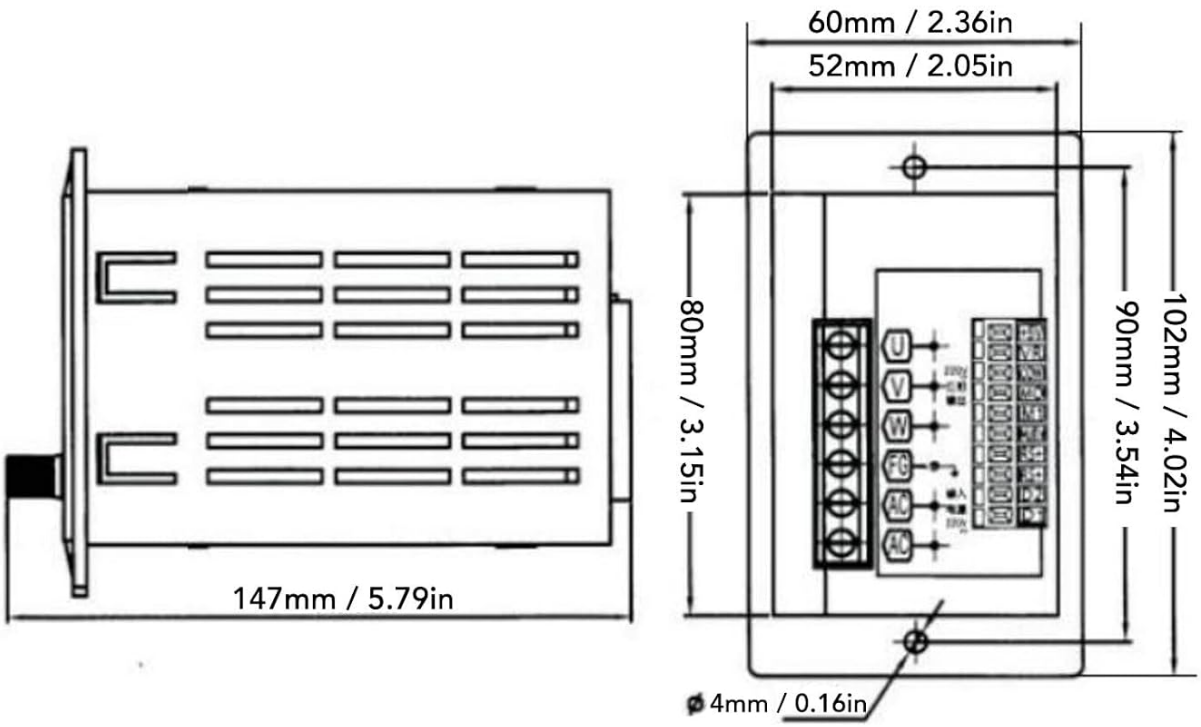


Figure 3.2.3: Dimensional drawing illustrating the physical measurements of the VFD, including front panel dimensions (102mm x 60mm) and overall depth (147mm).

This diagram provides the necessary dimensions for mounting and installation planning.

4. Specifications

Parameter	Value
Model	UX-52-100-1.1kW
Input Voltage	176-264V AC
Input Frequency	50/60Hz
Output Voltage	0-220V AC
Output Power	1.1kW

Parameter	Value
Output Current	6A
Frequency Range	0.1-400Hz
Control Modes	V/F control, vector control, output torque control
Material	PC Flame Retardant
Dimensions (Approx.)	102mm (H) x 60mm (W) x 147mm (D)
Weight (Approx.)	13.76 ounces (390g)

5. Setup and Installation

5.1 Mounting

Mount the VFD vertically on a stable surface, ensuring adequate clearance for ventilation. Refer to Figure 3.2.3 for mounting dimensions. Avoid mounting in areas with excessive heat, dust, or moisture.

5.2 Wiring Connections

CAUTION: Ensure all power is disconnected before performing any wiring. Incorrect wiring can damage the unit or connected equipment.



Figure 5.2.1: Detailed view of the wiring terminals. The left block shows U, V, W for motor output and AC, AC for single-phase input. The right green block is for control signals.

1. **Power Input (AC, AC):** Connect your 176-264V AC single-phase power supply to the terminals labeled "AC" and "AC". Ensure proper polarity if specified by your power source, though for AC, it's typically non-polar.
2. **Motor Output (U, V, W):** Connect the three-phase motor wires to the terminals labeled "U", "V", and "W". The phase sequence may affect motor rotation direction; if incorrect, swap any two output phases.
3. **Ground (FG):** Connect the frame ground (FG) terminal to a reliable earth ground. This is crucial for safety.
4. **Control Terminals (Optional):** The green terminal block provides connections for external control signals (e.g., RS+, RS- for communication, X1-X4 for digital inputs, V+ for analog input, COM for common). Refer to the full product manual for detailed programming and external control options.

After connecting the circuit, double-check all connections for tightness and correctness before applying power.

6. Operating Instructions

The VFD can be operated via its front panel controls. The basic operation involves setting the desired frequency and

starting/stopping the motor.

6.1 Front Panel Controls



Figure 6.1.1: Front panel showing the digital display, control buttons (PROG, UP, DOWN, OK, RUN, STOP), and the rotary potentiometer for frequency adjustment.

- **Digital Display:** Shows current frequency, output voltage, current, or error codes.
- **PROG Button:** Enters/exits parameter setting mode.
- **UP/DOWN Buttons:** Navigate through parameters or adjust values.
- **OK Button:** Confirms parameter selection or value.
- **RUN Button:** Starts the motor.
- **STOP Button:** Stops the motor.
- **FWD/REV Buttons:** Changes motor rotation direction (if configured).
- **Rotary Knob:** Adjusts the output frequency (speed) manually.

6.2 Basic Operation Steps

1. **Power On:** Apply power to the VFD. The digital display will illuminate.
2. **Set Frequency:** Use the rotary knob to set the desired output frequency. The display will show the current frequency setting. Alternatively, use the PROG button to enter parameter mode and set frequency digitally.
3. **Start Motor:** Press the **RUN** button. The motor will accelerate to the set frequency.
4. **Adjust Speed:** While the motor is running, you can adjust the rotary knob to change the motor speed.
5. **Stop Motor:** Press the **STOP** button. The motor will decelerate and stop.
6. **Change Direction:** If configured, press the **FWD** or **REV** buttons to change the motor's rotation direction.

For advanced parameter settings and control modes (V/F control, vector control, output torque control), refer to the comprehensive programming guide typically provided with the full product documentation.

7. Maintenance

WARNING: Disconnect all power before performing any maintenance or cleaning.

- **Cleaning:** Regularly clean the exterior of the VFD with a soft, dry cloth. Do not use liquid cleaners or solvents. Ensure ventilation openings are free from dust and debris.
- **Inspection:** Periodically inspect wiring connections for tightness and signs of wear or damage. Check for any unusual noises or odors during operation.
- **Environment:** Maintain the operating environment within specified temperature and humidity ranges to ensure optimal performance and longevity.

8. Troubleshooting

This section addresses common issues you might encounter. For more complex problems, consult a qualified technician or the manufacturer.

Problem	Possible Cause	Solution
VFD does not power on.	No input power; incorrect wiring; internal fuse blown.	Check power supply and connections. Verify input voltage. Consult a technician for internal issues.
Motor does not run.	VFD not in RUN mode; frequency set to 0; motor wiring incorrect; overload.	Press RUN button. Adjust frequency knob. Check motor wiring (U, V, W). Check for motor overload.
Motor runs in wrong direction.	Incorrect motor phase sequence.	Swap any two of the U, V, W output wires to the motor (after disconnecting power).
VFD displays an error code.	Overcurrent, overvoltage, undervoltage, overheat, etc.	Refer to the full product manual for specific error code meanings and solutions. Address the underlying cause (e.g., reduce load, check ventilation).

9. Warranty and Support

Specific warranty information for the Srliya 1.1kW Mini Motor Inverter (Model UX-52-100-1.1kW) is not provided in this document. Please refer to the product packaging, purchase documentation, or contact the retailer/manufacturer directly for warranty details and technical support.
For further assistance, please visit the official Srliya website or contact their customer service department.

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