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Fafeicy JLS-E-2S

Fafeicy JLS-E-2S CNC VFD Single-Phase 220V Variable Frequency Drive Instruction Manual (0.75kW)

Model: JLS-E-2S | Brand: Fafeicy

1. Introduction

This instruction manual provides essential information for the safe and efficient operation of the Fafeicy JLS-E-2S CNC Variable Frequency Drive (VFD). This device is designed to control the speed and torque of AC motors by varying the frequency and voltage of the power supplied to the motor. It features single-phase 220V input/output and utilizes PAM (Pulse Amplitude Modulation) control for stable performance. Please read this manual thoroughly before installation, operation, or maintenance.

2. Safety Information

⚠ **WARNING:** **Read the user manual completely before operation.**

⚠ **RISK OF ELECTRICAL SHOCK:** **Wait at least 10 minutes after removing power before servicing the unit.**

Capacitors inside the VFD can retain dangerous voltage even after power is disconnected.

- Ensure proper grounding of the VFD and the motor.
- All electrical work must be performed by qualified personnel in accordance with local and national electrical codes.
- Do not operate the VFD with damaged cables or if the casing is open.
- Protect the VFD from moisture, dust, and corrosive gases.
- Do not touch internal components while power is applied or shortly after power removal.

3. Product Overview

The Fafeicy JLS-E-2S VFD is a compact and reliable variable frequency drive designed for various industrial applications. It offers precise motor control and energy efficiency.

Key Features:

- Single-phase 220V input and output.
- V/F closed-loop control method for stable operation.
- PAM (Pulse Amplitude Modulation) output voltage regulation.
- Durable ABS material construction.
- Suitable for industrial assembly lines, conveyor belts, spindle motors, drills, CNC machines, lathes, milling machines, pumps, and fans.

Components:

The VFD consists of a main unit with a control panel, cooling vents, and terminal blocks for electrical connections.



Figure 3.1: Front View of the VFD. This image shows the front of the Fafeicy JLS-E-2S VFD, highlighting the control panel with its display and buttons, as well as the terminal block cover below. The warning label regarding electrical shock is clearly visible.



Figure 3.2: Control Panel Detail. A close-up view of the VFD's control panel, featuring the digital display, rotary knob for parameter adjustment, and control buttons including RUN, STOP/RESET, PRG (Program), MF (Multi-Function), and ENTER. Indicator lights for RUN, DIR (Direction), TRIP, and HZ are also visible.

4. Specifications

Parameter	Value
Model	JLS-E-2S
Input Voltage	Single-phase 220V
Output Voltage	Single-phase 220V
Control Method	V/F Closed Loop
Output Voltage Regulation	PAM Control
Power (0.75kW model)	0.75 kW, Current 5 A
Material	ABS
Dimensions (approx.)	21 x 17 x 17 cm (Package)
Weight (approx.)	1.13 kg (Package)
Manufacturer Model Number	Fafeicy2g6nf5c79z-12

Other available power ratings for this series include 0.4 kW (2.5 A), 1.5 kW (7 A), and 2.2 kW (10 A).

5. Installation and Wiring

5.1 Mounting

- Mount the VFD vertically on a stable, non-flammable surface.
- Ensure adequate ventilation space around the unit (at least 10 cm on all sides) to prevent overheating.
- Avoid mounting in direct sunlight, high humidity, excessive dust, or areas with corrosive gases.

5.2 Wiring Connections

Before making any connections, ensure the main power supply is disconnected. Refer to the terminal markings on the unit for correct wiring.



Figure 5.1: Terminal Block Access. This image displays the VFD with its terminal cover opened, revealing the input and output wiring terminals. The terminals are labeled L1, L2 (input), P, PB, U, V, W (output), and a ground screw.

- **Input Power (L1, L2):** Connect the single-phase 220V AC power supply to terminals L1 and L2.
- **Motor Output (U, V, W):** Connect the three-phase motor leads to terminals U, V, and W.
- **Braking Resistor (P, PB):** If a braking resistor is required for applications with high inertia or frequent stopping, connect it between terminals P and PB. Consult the VFD's full manual for specific braking resistor requirements.
- **Ground (⊗):** Connect the protective earth ground to the designated ground terminal. This is critical for safety.

Use appropriate wire gauges for all connections, considering the VFD's power rating and local electrical codes.

6. Operation

The VFD's control panel allows for basic operation and parameter adjustment.



Figure 6.1: VFD Control Panel and Indicators. This image provides an angled view of the VFD, clearly showing the control panel with its buttons and display, as well as the warning label. The indicator lights (RUN, DIR, TRIP, HZ) are visible above the display.

6.1 Control Panel Functions:

- **Display:** Shows operating frequency, output current, voltage, and parameter values.
- **RUN Button (Green):** Starts the motor.
- **STOP/RESET Button (Red):** Stops the motor and resets any fault conditions.
- **PRG (Program) Button:** Enters/exits parameter setting mode.
- **MF (Multi-Function) Button:** Used for various functions depending on the parameter setting.
- **ENTER Button:** Confirms parameter selections or values.
- **Up/Down Arrows (▲ / ▼):** Navigate through menus or adjust parameter values.
- **Rotary Knob:** Provides fine adjustment for frequency or parameter values.

6.2 Basic Operation Steps:

1. **Power On:** Apply single-phase 220V power to the VFD. The display will light up.
2. **Set Frequency:** Use the Up/Down arrows or the rotary knob to set the desired output frequency.
3. **Start Motor:** Press the **RUN** button. The motor should start and accelerate to the set frequency. The RUN indicator will illuminate.
4. **Stop Motor:** Press the **STOP/RESET** button. The motor will decelerate and stop.
5. **Parameter Adjustment:** Press the **PRG** button to enter parameter setting mode. Use the arrow keys and ENTER button to navigate and modify parameters. Refer to the comprehensive user manual for a detailed list of parameters and their functions.

7. Maintenance

Regular maintenance ensures the longevity and reliable operation of your VFD.

- **Power Disconnection:** Always disconnect power and wait at least 10 minutes before performing any maintenance or inspection.
- **Cleaning:** Keep the VFD clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- **Ventilation:** Ensure cooling vents are not obstructed to allow proper airflow. Periodically check and clean the fan (if present) to prevent dust buildup.
- **Terminal Connections:** Periodically check all terminal connections for tightness. Loose connections can cause overheating and malfunction.
- **Environmental Conditions:** Verify that the operating environment remains within the specified temperature and humidity ranges.

8. Troubleshooting

This section provides basic troubleshooting steps for common issues. For complex problems, consult a qualified technician or the full product manual.

Problem	Possible Cause	Solution
VFD does not power on	No input power; Blown fuse; Incorrect wiring	Check power supply; Inspect fuses; Verify wiring connections (L1, L2).
Motor does not start	Incorrect parameter settings; Motor wiring error; Overload	Check motor parameters (e.g., frequency, voltage); Verify U, V, W connections; Reduce load or check motor capacity.
VFD displays a fault code (e.g., "TRIP" indicator on)	Overcurrent; Overvoltage; Undervoltage; Overheat	Note the fault code and refer to the detailed manual for specific meanings and solutions. Press STOP/RESET to clear.
Motor runs erratically or vibrates	Loose motor connections; Incorrect motor parameters; Mechanical issue with motor	Check motor wiring; Review motor parameters in VFD settings; Inspect motor for mechanical faults.

9. Warranty and Support

Specific warranty information for the Fafeicy JLS-E-2S VFD is not provided in this document. Please refer to your purchase documentation or contact your vendor for details regarding warranty coverage and technical support.

For further technical assistance or detailed parameter settings, please consult the comprehensive user manual included with your product or visit the manufacturer's official support channels.

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