

HEXEH SF-2300S

HEXEH SF-2300S Plasma/Flame Cutting Motion Controller System User Manual

Model: SF-2300S

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the HEXEH SF-2300S Plasma/Flame Cutting Motion Controller System. The SF-2300S is an industrial-grade controller designed for precision plasma and flame cutting applications, featuring an ARM processing chip and a 10.4-inch true-color TFT display.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and damage to the equipment:

- Ensure the power supply is disconnected before performing any installation or maintenance.
- The system operates with high voltage. Only qualified personnel should perform electrical connections.
- Protect the controller from dust, moisture, and extreme temperatures.
- Do not operate the system if any part is damaged.
- Refer to local safety regulations for industrial equipment operation.

3. PRODUCT OVERVIEW

3.1 Key Features

- Industrial-grade ARM processing chip for reliable performance.
- 10.4-inch true-color TFT display with 640x480 resolution.
- 16 photoelectric isolation inputs and 14 photoelectric isolation outputs.
- 2-axis linkage (expandable to 4-axis with other models).
- 64MB running memory for large processing programs.
- User program storage space: 32MB to 64MB (SF-2200H) / 2GB to 4GB (SF-2300H).
- High reliability design with anti-plasma interference, anti-lightning, and surge protection.
- Supports practical flame/plasma cutting processes, including automatic corner speed control.
- Slotted compensation function with testing procedures.

- Breakpoint recovery and automatic power outage recovery.
- Arbitrary selection of perforation points and processing skip functions.
- Extension and perforation functions for thick plates, including bridging.
- Contains 24 kinds of graphics in an expandable parts library.

3.2 Dimensions

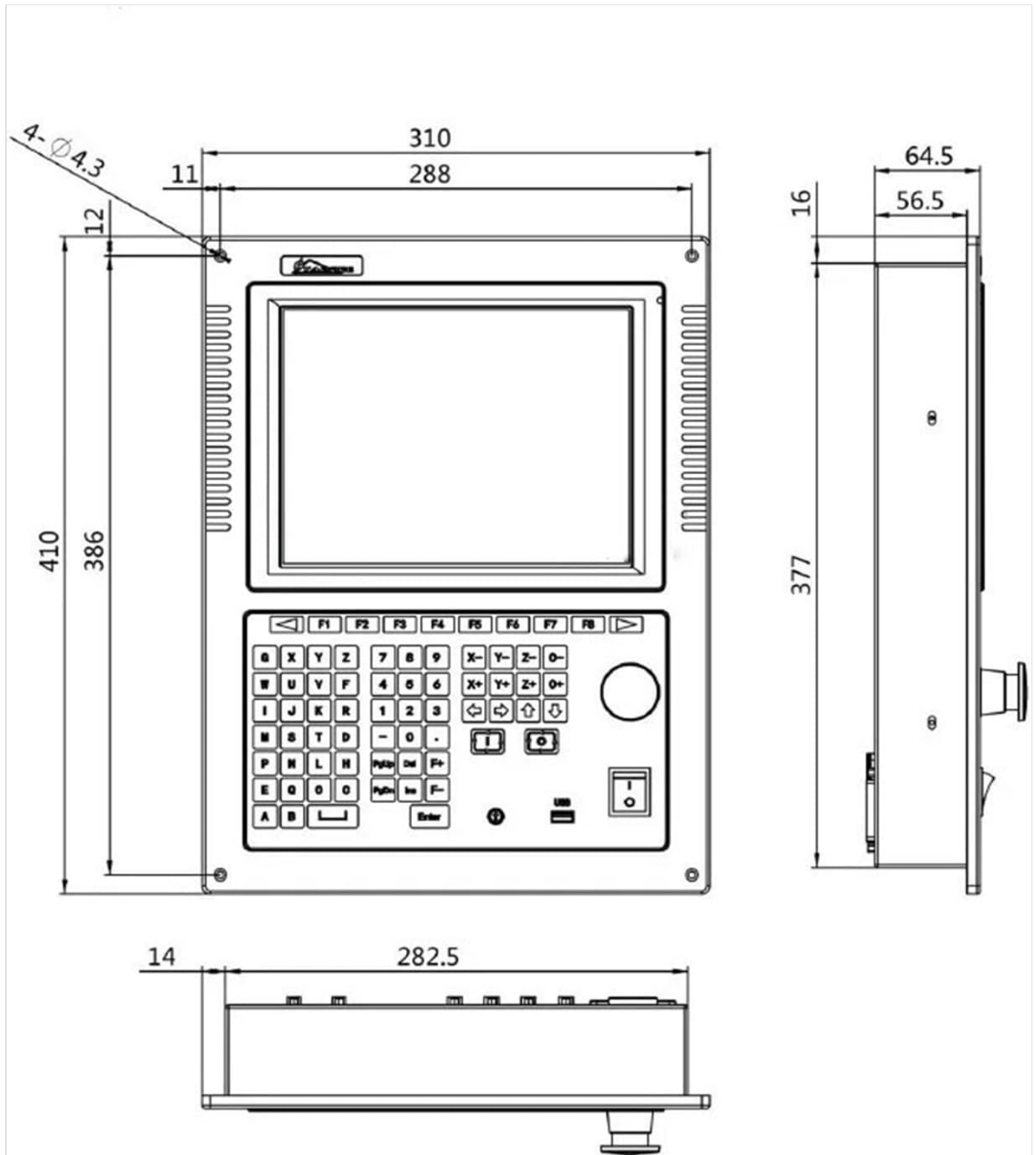


Figure 3.2.1: Front and side dimensions of the HEXEH SF-2300S controller. The front panel measures approximately 410mm in height and 310mm in width. The side profile shows a depth of 64.5mm for the main unit and 56.5mm for the embedded portion.

4. SETUP AND INSTALLATION

4.1 Physical Installation

The controller is designed for panel mounting. Ensure adequate space for ventilation and access to all ports. The case size is 410 x 310 x 119 mm. Refer to the dimension diagram in Section 3.2 for precise cutout requirements.

4.2 Electrical Connections

All electrical connections must be performed by a qualified electrician. Ensure the main power is off before connecting any cables.



Figure 4.2.1: Rear panel of the HEXEH SF-2300S controller showing various connection ports. From left to right: AC220V power input, Motor1, Motor2, RS232, Remote, Output (14-way), and Input (16-way).

Connect the AC220V power supply to the designated input. Connect motor drives to the Motor1 and Motor2 ports. Utilize the RS232 and Remote ports for external communication or control devices as needed. The 16-way input and 14-way output ports provide photoelectric isolation for various sensors and actuators.

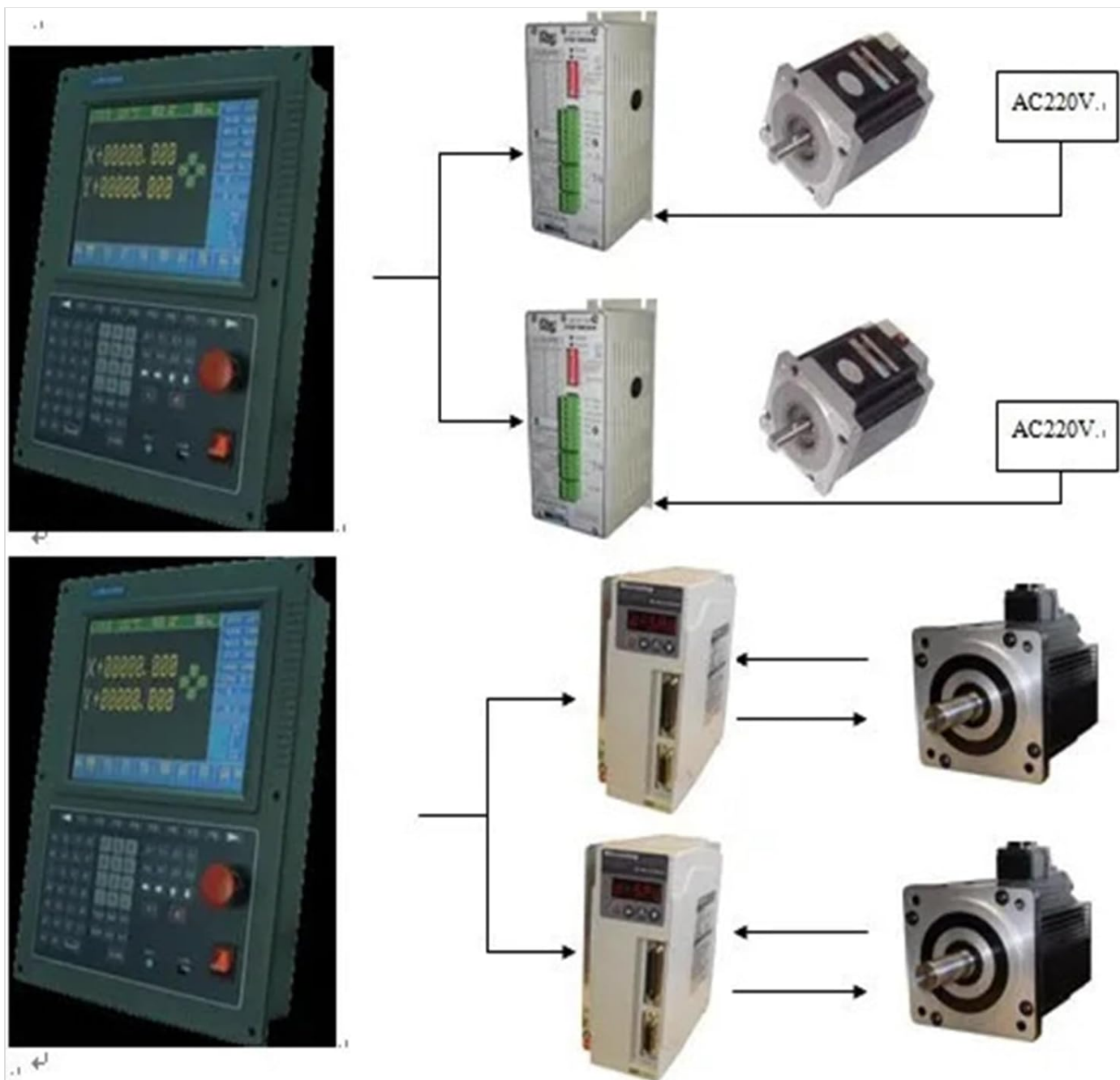


Figure 4.2.2: Schematic diagram illustrating typical connections for the HEXEH SF-2300S controller. The diagram shows the controller connected to motor drivers and motors, indicating power supply requirements for each component.

5. OPERATING INSTRUCTIONS

5.1 Power On/Off

To power on the system, ensure all connections are secure, then switch on the main power supply. The display will illuminate, and the system will initiate its startup sequence. To power off, follow the system's shutdown procedure (if any) and then disconnect the main power.

5.2 Basic Navigation and Program Loading

The 10.4-inch TFT display and integrated keypad allow for navigation through menus and program selection. Use the arrow keys and function buttons to access different modes and settings. Programs can be loaded from the internal storage or external devices via available ports.

5.3 Cutting Operations

The SF-2300S supports both plasma and flame cutting. Key operational features include:

- **Automatic Corner Speed Control:** Optimizes cutting speed around corners for improved accuracy.
- **Slotted Compensation:** Adjusts cutting paths to account for kerf width.
- **Breakpoint Recovery:** Allows resuming operations from a specific point after an interruption.
- **Automatic Power Outage Recovery:** Automatically saves progress and resumes upon power restoration.
- **Graphic Library:** Access 24 pre-defined cutting graphics, which can be expanded.
- **Thick Plate Functions:** Features for extension, perforation, and bridging suitable for thick materials.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your SF-2300S controller.

- **Cleaning:** Keep the display and keypad clean using a soft, dry cloth. Avoid abrasive cleaners or solvents.
- **Environmental Conditions:** Operate the controller within the specified temperature range of 0°C to +40°C. Store between -40°C and +60°C. Ensure the operating environment is free from excessive dust and humidity.
- **Cable Inspection:** Periodically check all cables for wear, damage, or loose connections.

7. TROUBLESHOOTING

This section provides solutions to common issues. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
Controller does not power on.	No power supply; loose power cable.	Check power connection and main power switch. Ensure AC220V supply.
Display is blank or distorted.	Internal fault; environmental interference.	Restart the controller. If issue persists, contact support.
Motors not responding.	Loose motor connections; incorrect program settings.	Verify motor cable connections. Check program parameters and axis settings.

8. SPECIFICATIONS

Parameter	Value
Model	SF-2300S
Display	10.4-inch True-Color TFT, 640x480 resolution
Processor	Industrial Grade ARM Chip
Input/Output	16 Photoelectric Isolation Inputs, 14 Photoelectric Isolation Outputs
Linkage Axis	2-axis (expandable to 4-axis with other models)
Running Memory	64MB
User Program Storage	32MB ~ 64MB (SF-2200H); 2GB ~ 4GB (SF-2300H)
Case Size (L x W x H)	410 x 310 x 119 mm

Parameter	Value
Operating Temperature	0°C to +40°C
Storage Temperature	-40°C to +60°C
Item Weight	3.31 pounds (approx. 1500 Grams)
Material	Metal

9. SUPPORT INFORMATION

For technical assistance, troubleshooting, or inquiries regarding your HEXEH SF-2300S controller, please contact your vendor or HEXEH customer support. Provide your model number (SF-2300S) and a detailed description of the issue for efficient service.

Note: Warranty information is typically provided at the point of purchase or with specific product documentation. Please refer to your purchase records for warranty details.

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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

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Email

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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

