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› FoxAlien CNC Offline Controller Instruction Manual

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Model: CNC Offline Controller

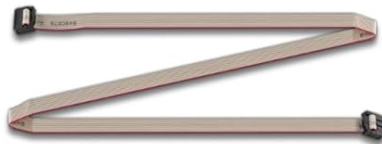
1. INTRODUCTION

This manual provides comprehensive instructions for the FoxAlien CNC Offline Controller. This device allows for direct control of compatible FoxAlien CNC router machines without the need for a connected computer, enhancing operational flexibility.

The controller features a touchscreen LCD for intuitive navigation and is designed for use with FoxAlien Masuter 3S, XE-Ultra, and Vasto V1 & V2 series CNC router machines.

2. PRODUCT OVERVIEW

The FoxAlien CNC Offline Controller is a compact, portable unit designed to streamline your CNC operations. It includes a touchscreen interface, an SD card slot for file transfer, and necessary connection cables.



Compatible with Masuter 3S & Vasto series



(Machine not included)

Figure 2.1: FoxAlien CNC Offline Controller, connection cable, SD card, and manual, shown alongside compatible Masuter 3S and Vasto series CNC machines (machines not included).

Key Features:

- **Compatibility:** Designed for FoxAlien XE-Ultra, Masuter 3S, and Vasto V1 & V2 series CNC router machines.
- **Touchscreen Control:** Intuitive LCD touchscreen for easy operation.
- **SD Card Support:** Includes an SD card with pre-loaded testing files, allowing immediate use upon receipt. Supports up to 4GB SD cards.
- **Standalone Operation:** Functions as a complete control software, eliminating the need for a computer during engraving processes.
- **Portability:** Frees your computer for other tasks during long engraving jobs.

3. SETUP

Follow these steps to set up your FoxAlien CNC Offline Controller:

1. **Insert SD Card:** Locate the SD card slot on the side of the controller. Insert the provided SD card firmly until it clicks into place. Ensure the card is inserted correctly to avoid damage.



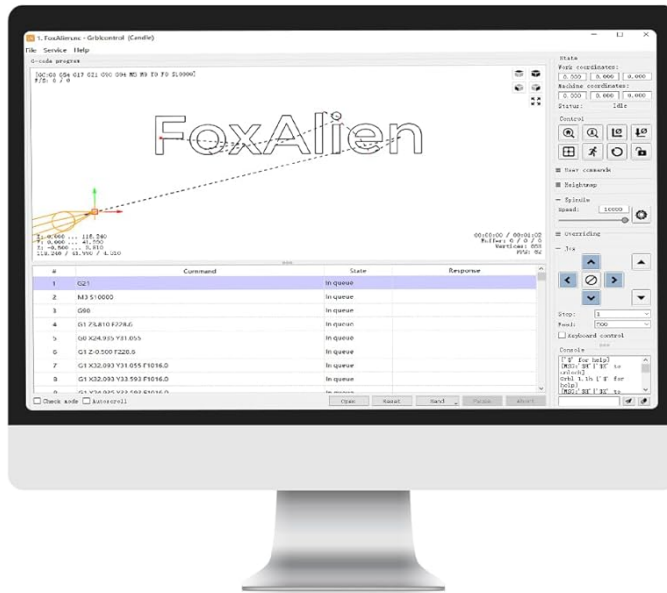
Figure 3.1: SD Card Slot and 8-pin ISP Port on the FoxAlien CNC Offline Controller.

2. **Connect to CNC Machine:** Use the provided cable to connect the offline controller to your compatible FoxAlien CNC router machine. The cable connects to the 8-pin ISP port on the controller and the corresponding port on your CNC machine.
3. **Power On:** Ensure your CNC machine is powered on. The offline controller will typically power on automatically once connected to the CNC machine.
4. **Initial Boot:** The controller's LCD screen will display the startup sequence. Once complete, it will show the main control interface.

Important Note:

The computer control mode and the offline controller mode cannot be used simultaneously. Always disconnect one before operating the other to prevent conflicts and potential damage to the machine or controller.

Easy to Interchange



Computer mode



Offline controller mode

Note:

Computer mode and the offline controller can NOT be used at the same time. Please remove one of them before operating.

Figure 3.2: Switching between Computer Control and Offline Controller Modes.

4. OPERATING INSTRUCTIONS

The touchscreen interface provides intuitive control over your CNC machine. Below are common operations:

4.1. Main Control Screen

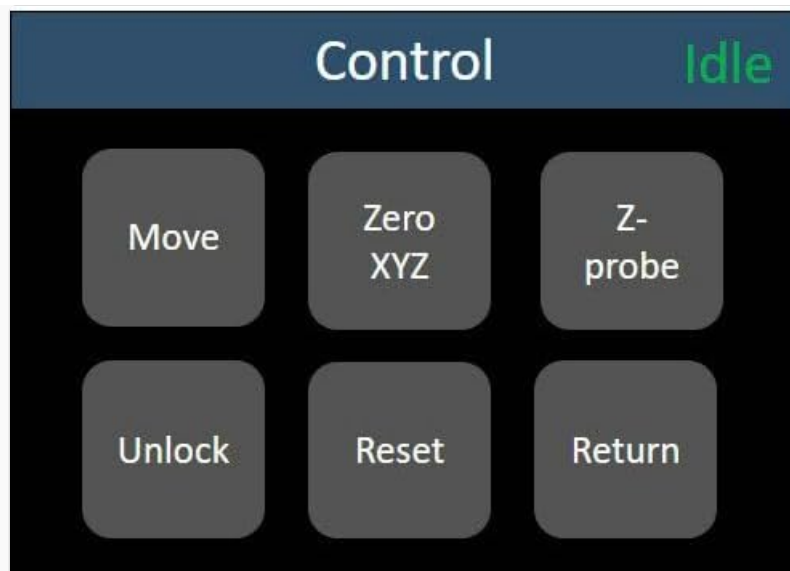


Figure 4.1: Main Control Interface.

- **Move:** Accesses the manual movement controls for X, Y, and Z axes.
- **Zero XYZ:** Sets the current position of the tool as the origin (0,0,0).
- **Z-probe:** Initiates the Z-axis probing sequence for automatic tool height setting.
- **Unlock:** Unlocks the CNC machine motors, allowing manual movement or preparing for operation.
- **Reset:** Resets the GRBL controller, clearing any active commands or errors.
- **Return:** Navigates back to the previous screen or the main menu.

4.2. Manual Movement (Move Screen)

From the main control screen, tap "Move" to access manual axis controls.



Figure 4.2: Manual Movement Screen.

- **X+, X-, Y+, Y-, Z+, Z-:** Move the respective axes in positive or negative directions.
- **Step:** Adjusts the increment for manual movements (e.g., 0.1mm, 1mm, 10mm).
- **Spindle/Laser:** Controls the spindle or laser module (start/stop, power adjustment).
- **Speed:** Adjusts the feed rate for manual movements.
- **Return:** Returns to the main control screen.

4.3. Loading and Running G-Code Files

1. **Prepare G-Code:** Save your G-code files (.nc, .gcode, .txt) onto the provided SD card.
2. **Insert SD Card:** Ensure the SD card with your G-code files is inserted into the controller.
3. **Access File Menu:** From the main screen, navigate to the file management or "Run" option (exact menu

name may vary slightly based on firmware version).

4. **Select File:** Browse the files on the SD card and select the desired G-code file.
5. **Start Job:** Confirm your selection and initiate the carving process. The controller will send the G-code commands to the CNC machine.

5. MAINTENANCE

To ensure the longevity and optimal performance of your FoxAlien CNC Offline Controller, follow these maintenance guidelines:

- **Cleaning:** Gently wipe the touchscreen and controller body with a soft, dry, lint-free cloth. Avoid using abrasive cleaners or solvents.
- **Storage:** Store the controller in a clean, dry environment away from direct sunlight, excessive dust, and extreme temperatures.
- **SD Card Handling:** Always eject the SD card safely from the controller or computer before removing it physically to prevent data corruption.
- **Cable Inspection:** Periodically check the connection cable for any signs of wear, fraying, or damage. Replace if necessary.
- **Firmware Updates:** Check the official FoxAlien website for any available firmware updates for the offline controller. Follow the provided instructions carefully for updating.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with the FoxAlien CNC Offline Controller.

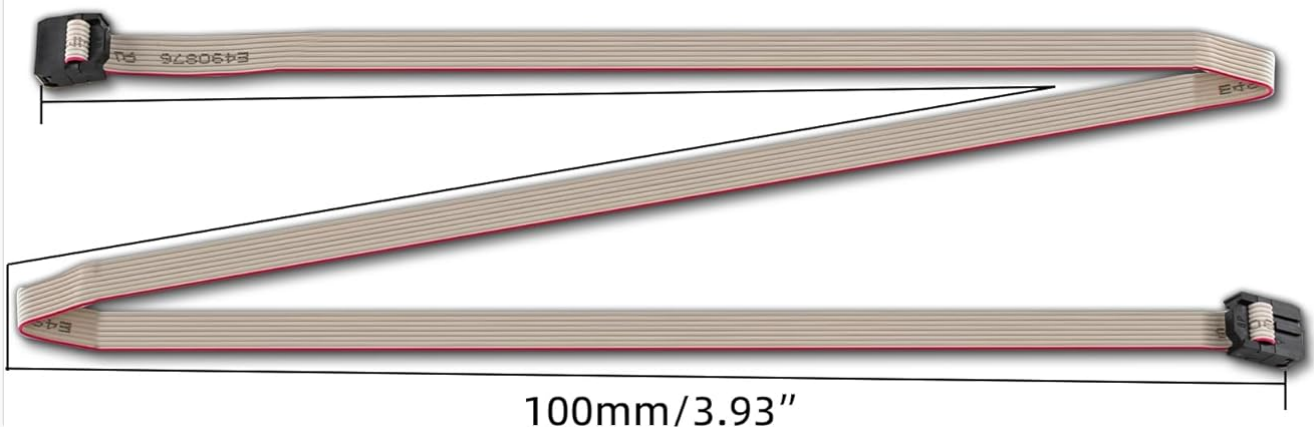
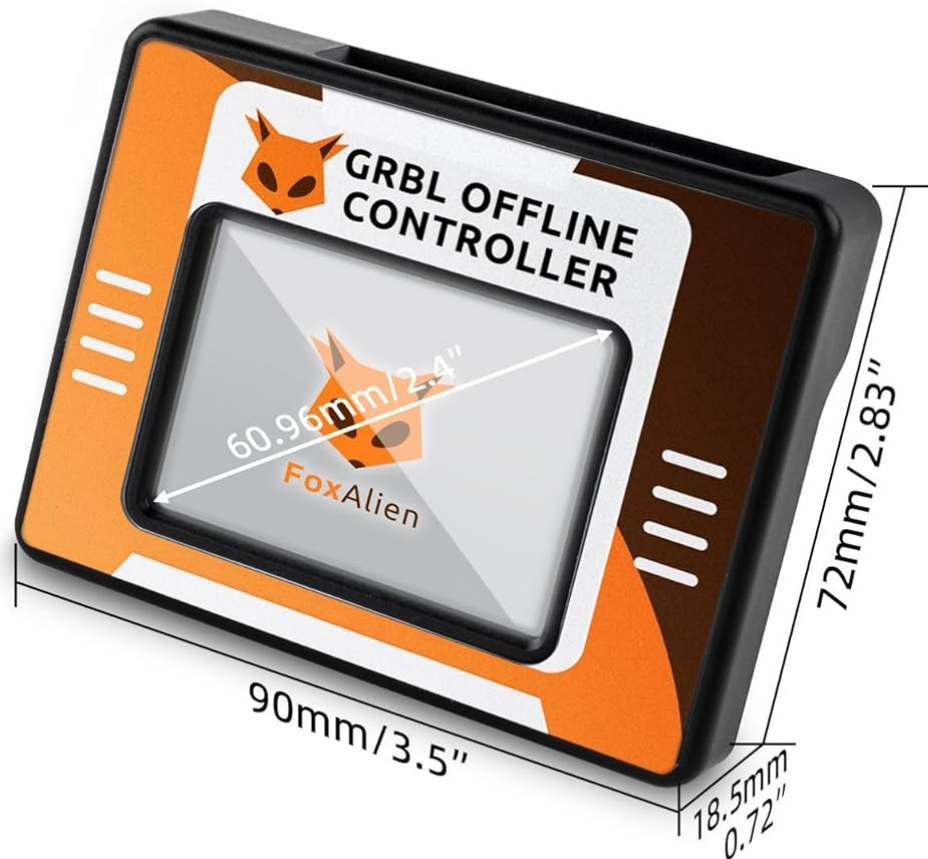
Problem	Possible Cause	Solution
Controller does not power on.	Not properly connected to CNC machine; CNC machine not powered on; faulty cable.	Ensure the cable is securely connected to both the controller and the CNC machine. Verify the CNC machine is powered on. Test with a different cable if available.
SD card not recognized.	SD card not inserted correctly; corrupted SD card; unsupported card size/format.	Re-insert the SD card. Try a different SD card (ensure it's 4GB max and formatted correctly, e.g., FAT32). Reformat the SD card if necessary (backing up data first).
CNC machine does not respond to commands.	Machine is locked; emergency stop engaged; connection issue; GRBL error.	Tap "Unlock" on the controller. Check for any physical emergency stop buttons on the CNC machine. Reset the controller. Verify cable connections.
"Computer mode and offline controller mode cannot be used at the same time" error.	Both computer and offline controller are connected or attempting to control the CNC.	Disconnect the computer from the CNC machine before using the offline controller, or vice-versa.

7. SPECIFICATIONS

Detailed specifications for the FoxAlien CNC Offline Controller:

- **Model:** CNC Offline Controller
- **Brand:** FoxAlien
- **Color:** Orange
- **Material:** Acrylonitrile Butadiene Styrene (ABS)
- **Display Type:** LCD Touchscreen
- **Display Size:** Approximately 2.4 inches (60.96mm x 72mm)
- **Operating Temperature:** 20°C (68°F)
- **SD Card Support:** Up to 4GB maximum
- **Included Components:** 1x FoxAlien offline controller, 1x connection cable, 1x SD card (with testing files)
- **Compatibility:** FoxAlien Masuter 3S, XE-Ultra, Vasto V1, and Vasto V2 series CNC router machines.

2.4" Touchscreen LCD



8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official FoxAlien website or contact their customer service directly. Keep your purchase receipt as proof of purchase for warranty claims.

FoxAlien Official Website: [Visit FoxAlien Store on Amazon](#)

For specific product inquiries or troubleshooting assistance not covered in this manual, please reach out to FoxAlien support.
