

## FGXBBRY ZK-10022

# ZK-10022 CNC Adjustable DC Stabilized Voltage Constant Voltage Constant Current Step-Down Module

User Manual

Model: ZK-10022 | Brand: FGXBBRY

## 1. INTRODUCTION

This manual provides detailed instructions for the ZK-10022 CNC Adjustable DC Stabilized Voltage Constant Voltage Constant Current Step-Down Module. This module is designed to provide stable and adjustable DC voltage and current output from a higher DC input voltage. Please read this manual carefully before installation and operation to ensure safe and efficient use of the device.

## 2. SAFETY INFORMATION

**WARNING: This module operates with high voltage. Exercise extreme caution to avoid electrical shock and high-voltage sparking. Always ensure the power supply is disconnected before making any connections or adjustments.**

The ZK-10022 module is equipped with comprehensive safety protection mechanisms, including:

- Overvoltage Protection
- Overload Protection
- Overcurrent Protection
- Undervoltage Protection
- Overheating Protection
- Short Circuit Protection

Despite these protections, proper handling and adherence to safety guidelines are paramount. Do not operate the module in wet conditions or near flammable materials.

## 3. KEY FEATURES

- **Comprehensive Safety Protection:** Equipped with multiple protection mechanisms such as overvoltage, overload, overcurrent, undervoltage, overheating, and short circuit.
- **Durable Material Body:** Made of sturdy and durable materials, resistant to drops and wear, extending its service life.
- **Efficient Heat Dissipation Design:** Adopting an optimized heat dissipation structure to ensure that the equipment can maintain low-temperature stable operation even under long-term high load operation.
- **Precise Frequency Output:** Achieves precise control and efficient operation.
- **Easy Installation:** The product can be easily installed on the device.

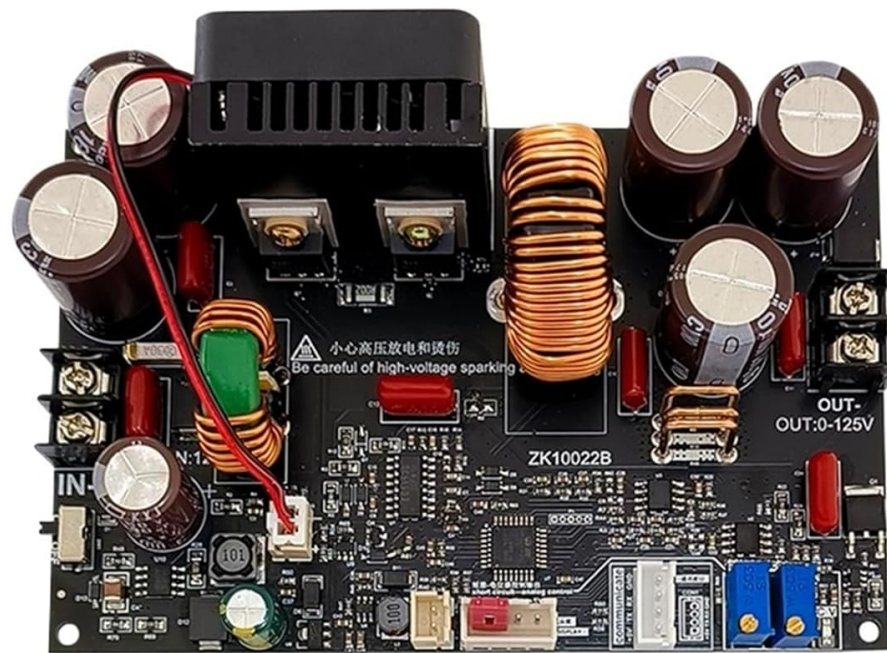
## 4. SPECIFICATIONS

Parameter	Value
Product Type	DC/DC Converter (Step-Down Module)
Model Number	ZK-10022
Brand	FGXBBRY
Input Voltage Range	DC 12-140V
Output Voltage Range	0-125V
Max Current Output	22A
Max Power Output	1500W
Certifications	CE
Item Weight	400 Grams (14.11 ounces)
Package Dimensions	0.39 x 0.39 x 0.39 inches

## 5. SETUP AND INSTALLATION

The ZK-10022 module is designed for easy integration into your existing setup. Follow these steps for proper installation:

1. **Prepare the Environment:** Ensure the installation area is clean, dry, and well-ventilated. Avoid locations with excessive dust, moisture, or extreme temperatures.
2. **Identify Terminals:** Locate the input and output terminals on the module. The module features clearly labeled "IN-" for input negative, "IN+" for input positive, "OUT-" for output negative, and "OUT+" for output positive.



3.

Figure 5.1: ZK-10022 Module Layout. Note the "IN-" and "OUT-" labels, and the "OUT:0-125V" marking indicating the adjustable output voltage range. The module also displays "ZK10022B" and a warning about high-voltage sparking.

4. **Connect Input Power:** Connect your DC power source (12-140V DC) to the "IN+" and "IN-" terminals. Ensure correct polarity.
5. **Connect Load:** Connect your load device to the "OUT+" and "OUT-" terminals. Verify that your load's voltage and current requirements are within the module's specifications (0-125V, up to 22A).
6. **Secure Connections:** Double-check all wiring connections to ensure they are tight and secure. Loose connections can lead to poor performance or safety hazards.
7. **Mounting:** If necessary, mount the module securely using appropriate fasteners. Ensure adequate airflow around the module for optimal heat dissipation.

## 6. OPERATING INSTRUCTIONS

Once the module is properly installed and connected, you can begin operation:

1. **Power On:** Apply power to the input terminals. The module's display (if present, or indicator lights) should illuminate.
2. **Adjust Output Voltage/Current:** Use the onboard controls (e.g., potentiometers or digital interface, if

applicable for CNC control) to set the desired output voltage and current. The output voltage can be adjusted within the 0-125V range.

3. **Monitor Performance:** Observe the module's behavior and the load's operation. Ensure stable voltage and current delivery.
4. **CNC Control:** For CNC applications, integrate the module's control signals with your CNC system as per your system's documentation. The module is designed for precise control.
5. **Power Off:** Before disconnecting the load or input power, it is recommended to reduce the output voltage to minimum or turn off the module if a dedicated power switch is available.

*Note: Always monitor the module's temperature during operation, especially under high load. The efficient heat dissipation design helps maintain stable temperatures, but proper ventilation is still crucial.*

## 7. MAINTENANCE

The ZK-10022 module is built with durable materials for extended service life and requires minimal maintenance. However, periodic checks can help ensure optimal performance:

- **Cleaning:** Periodically clean the module's surface and heat sink to prevent dust accumulation, which can impede heat dissipation. Use a soft, dry cloth or compressed air. Ensure power is disconnected before cleaning.
- **Connection Checks:** Routinely inspect all input and output wiring connections for tightness and signs of wear or corrosion. Re-tighten any loose connections.
- **Environmental Inspection:** Ensure the operating environment remains within recommended conditions (dry, well-ventilated, stable temperature).
- **Visual Inspection:** Look for any signs of physical damage, discoloration, or bulging components. If any issues are observed, discontinue use and contact support.

## 8. TROUBLESHOOTING

If you encounter issues with your ZK-10022 module, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No Output Voltage/Current	<ul style="list-style-type: none"><li>• No input power</li><li>• Incorrect wiring</li><li>• Overload/Short circuit protection activated</li><li>• Module fault</li></ul>	<ul style="list-style-type: none"><li>• Verify input power supply is active.</li><li>• Check all input and output connections for correct polarity and tightness.</li><li>• Reduce load or check for short circuits. Cycle power to reset protection.</li><li>• Contact customer support if other solutions fail.</li></ul>
Unstable Output	<ul style="list-style-type: none"><li>• Fluctuating input voltage</li><li>• Load exceeding module capacity</li><li>• Poor connections</li></ul>	<ul style="list-style-type: none"><li>• Ensure stable input power.</li><li>• Verify load requirements are within specifications.</li><li>• Check and secure all wiring connections.</li></ul>
Module Overheating	<ul style="list-style-type: none"><li>• Insufficient ventilation</li><li>• Excessive load</li><li>• Ambient temperature too high</li></ul>	<ul style="list-style-type: none"><li>• Ensure adequate airflow around the module.</li><li>• Reduce the load on the module.</li><li>• Operate in a cooler environment.</li></ul>

If the problem persists after attempting these solutions, please contact customer support.

## 9. WARRANTY AND SUPPORT

For any technical assistance, warranty inquiries, or support regarding your ZK-10022 module, please contact the manufacturer, FGXBRY, or your authorized reseller. Please have your product model (ZK-10022) and purchase information ready when contacting support.

While specific warranty details are not provided in this manual, standard consumer electronics warranties typically cover manufacturing defects for a limited period from the date of purchase. Please refer to your purchase documentation or the seller's policy for detailed warranty terms.