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› DROK Buck Boost Voltage Regulator User Manual

DROK B08RBXCJCF

DROK Buck Boost Voltage Regulator User Manual

Model: **B08RBXCJCF** | Brand: **DROK**

1. PRODUCT OVERVIEW

The DROK Buck Boost Voltage Regulator is a versatile DC-DC adjustable voltage converter designed for various electronic applications. It features a clear LCD display for simultaneous voltage and current monitoring, offering both step-up and step-down capabilities. This module is suitable for use as a power supply, battery charger, or high-power LED constant current driver.



Figure 1: DROK Buck Boost Voltage Regulator with protective case.

Key Features:

- **Wide Input/Output Range:** Input DC 6-30V, Output DC 0.5-30V adjustable.
- **High Current/Power:** Max 4A output current (recommended within 3A), Max 60W output power (recommended within 50W).
- **LCD Display:** Large, clear digital LCD shows both voltage and current simultaneously.
- **Versatile Application:** Functions as a normal buck-boost converter, battery charger, or LED driver.
- **Integrated Protections:** Includes short circuit protection, over-temperature protection, input reverse polarity protection, and output anti-backflow.
- **USB Output:** Features a USB port for convenient power supply to USB devices.
- **Adjustable Constant Current/Voltage:** Allows for precise control over output parameters.
- **Protective Case:** Comes with a clear acrylic case for protection (requires assembly).

2. SPECIFICATIONS

Parameter	Value
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Input Voltage	DC 6-30V
Output Voltage	DC 0.5-30V (adjustable)
Output Current	4A (max), recommended within 3A
Output Power	60W (max), recommended within 50W
Operating Temperature	-20°C to +70°C
Wiring	Terminals or solder terminals (VIN: input, VOUT: output)
Short Circuit Protection	Yes (constant current value)
Over Temperature Protection	Yes (automatic shutdown if over-temperature)
Input Reverse Polarity Protection	Yes
Output Anti-Backflow	Yes
Product Dimensions	1.71 x 2.74 x 1.05 inches (approx. 43.5 x 69.8 x 26.8 mm)
Item Weight	2.39 ounces

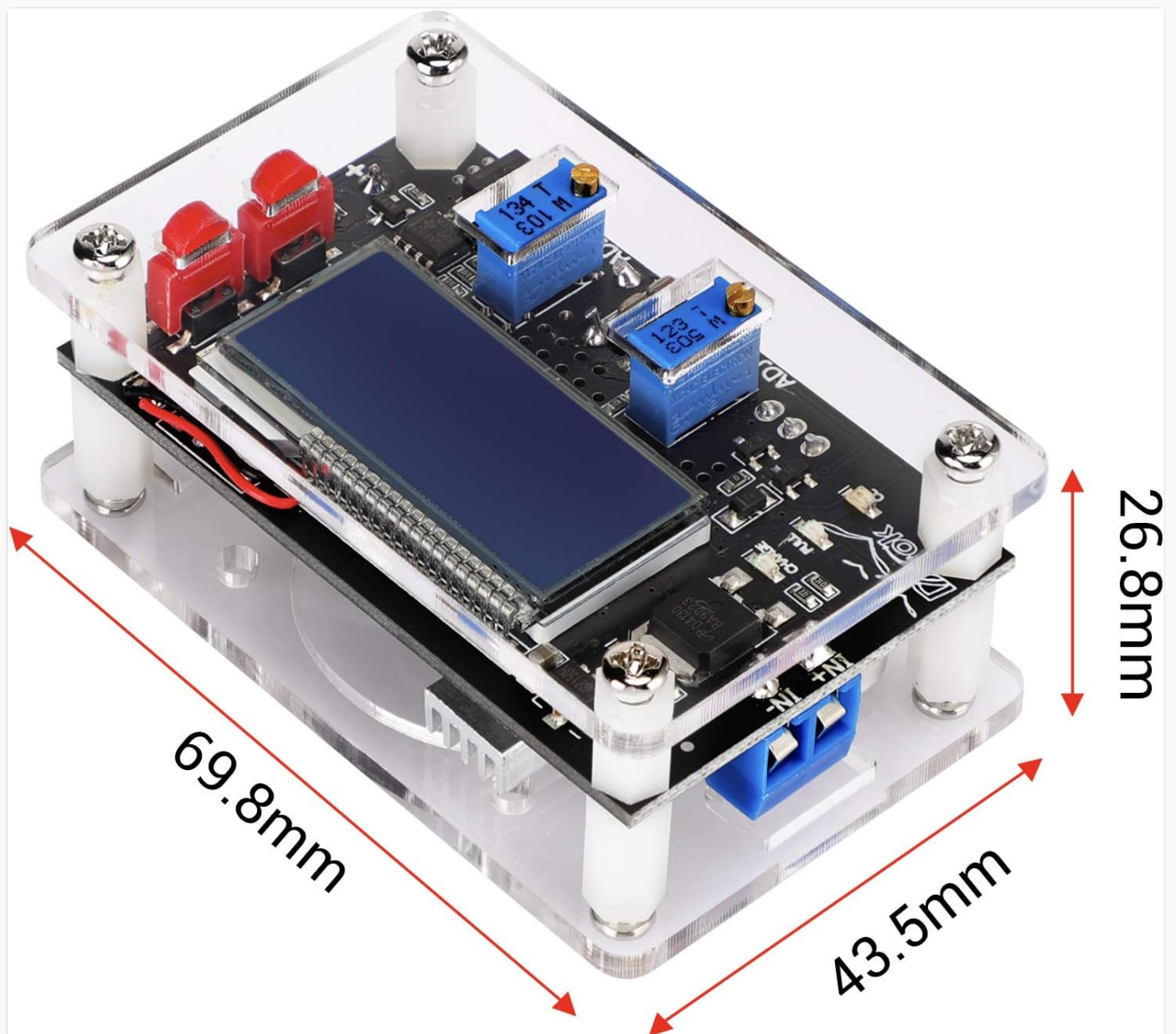


Figure 2: Product dimensions in millimeters.

3. SETUP

The DROK Buck Boost Voltage Regulator comes with a disassembled acrylic case for protection during transit. Follow these steps to assemble the case and prepare the module for use.

Case Assembly:

1. Identify the main circuit board, two acrylic plates, eight nylon posts, and eight screws.
2. Attach the small heatsink to the power supply chip on the underside of the circuit board.
3. Carefully align the bottom acrylic plate with the circuit board, ensuring the screw holes match.
4. Insert the nylon posts into the corner holes of the bottom acrylic plate and through the circuit board.
5. Place the top acrylic plate over the circuit board, aligning it with the nylon posts.
6. Secure the assembly by screwing the provided screws into the nylon posts from both the top and bottom plates. Do not overtighten to avoid damaging the board.



Figure 3: Disassembled components including the circuit board, acrylic plates, and fasteners.

Wiring Connections:

Connect your input power source to the VIN terminals and your load to the VOUT terminals. Ensure correct polarity (VIN+ to positive input, VIN- to negative input, VOUT+ to positive load, VOUT- to negative load). The module includes input reverse polarity protection.

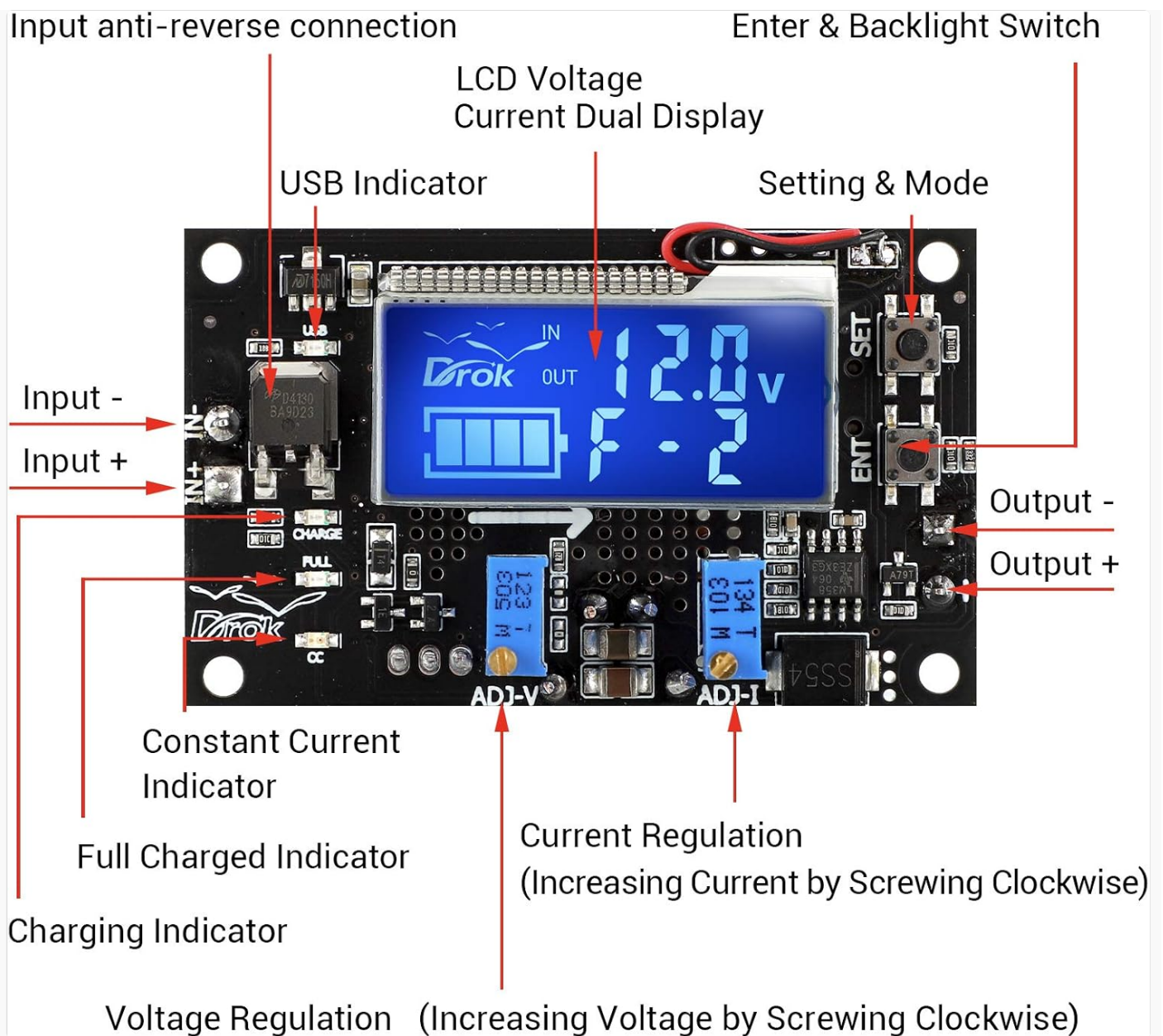


Figure 4: Component layout and connection points.

For a visual guide on assembly and initial operation, please refer to the official product video below:

Your browser does not support the video tag.

Video 1: Official Preview & Operation Video demonstrating assembly and basic functions.

4. OPERATING INSTRUCTIONS

Adjusting Voltage and Current:

- **Voltage Adjustment:** Use the **ADJ-V** potentiometer (labeled on the board) to adjust the output voltage. Turn clockwise to increase voltage, counter-clockwise to decrease.
- **Current Adjustment:** Use the **ADJ-I** potentiometer to adjust the output current limit. Turn clockwise to increase current, counter-clockwise to decrease.
- **Constant Current Mode:** The constant current (CC) mode activates only when the actual load current exceeds the set limit. If the load draws less current than the set limit, the module operates in constant voltage (CV) mode. To set a very small CC value, turn ADJ-I counter-clockwise multiple times.

LCD Display Modes:

The module's LCD display can cycle through different information modes using the buttons:

- **F0: Display Output Voltage**
- **F1: Display Input Voltage**
- **F2: Alternately Display Output/Input Voltage**
- **USB: Display USB Output Voltage & Turn ON/OFF USB Output**

Press the "SET" button to cycle through these display modes. The "ENT" button can be used for specific functions like turning the USB output on/off when in USB display mode.

5. MAINTENANCE

To ensure optimal performance and longevity of your DROK Buck Boost Voltage Regulator, consider the following maintenance guidelines:

- **Heat Dissipation:** If the output current or power exceeds 2.5A or 35W, or if the module's temperature exceeds 70°C, it is recommended to enhance heat dissipation. The module shell has an additional fan opening on the bottom, allowing for the addition of a cooling fan.
- **Environmental Conditions:** Operate the module within the specified temperature range of -20°C to +70°C. Avoid exposing the module to excessive dust, moisture, or corrosive environments.
- **Cleaning:** Keep the module clean and free from dust buildup. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.

6. TROUBLESHOOTING

Voltage Calibration:

If you find that the measured voltage values on the LCD display are inaccurate, you can recalibrate the module:

1. Ensure the module is powered off.
2. Press and hold the **"SET"** button.
3. While holding "SET", power on the module. The LCD screen will start to flash, indicating entry into voltage calibration mode.
4. Release the "SET" button.
5. Press the "SET" button to increase the displayed voltage value, or press the **"ENT"** button to reduce it. Adjust until the displayed voltage matches the actual input voltage (e.g., measured with a multimeter).
6. The calibrated value will be automatically saved after 2 seconds. Power off the module to exit calibration mode.

Output Current/Power Limitations:

If the module is not providing the expected output current or power, consider the following:

- **Heat Dissipation:** As noted in specifications, if output current or power exceeds 2.5A or 35W, or if the temperature exceeds 70°C, heat dissipation must be enhanced. The module may automatically shut off due to over-temperature protection.
- **Voltage Difference:** Reduce the output power if there is a large difference between the input and output voltage.
- **Constant Current Setting:** Remember that constant current mode only engages when the load demands current greater than the set limit. Ensure your ADJ-I setting is appropriate for your application.

7. WARRANTY AND SUPPORT

DROK products are designed for reliability and performance. We offer a comprehensive warranty and support for your peace of mind.

Warranty Information:

Each product purchased from DROK comes with a one-year service period. In the event of any quality issues with your item, you are eligible for a brand new replacement.

Additional Support:

For further assistance, detailed diagrams, or additional information, please refer to the official User Manual PDF available online:

[Download User Manual \(PDF\)](#)

If you have any problems or require more information, please do not hesitate to contact DROK customer support.

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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.

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