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› DROK Boost Buck Converter User Manual

DROK 200446

DROK Boost Buck Converter User Manual

Model: 200446

INTRODUCTION

This user manual provides detailed instructions for the DROK Boost Buck Converter, an adjustable power supply regulator module. It is designed for various applications, including use as a normal boost buck converter with over-current protection, a battery charger, or a high-power LED constant current driver module.

The module features a clear LCD screen that displays input voltage, output voltage, temperature, output current, and output power. It also includes soft start, input reverse connection protection, output anti-backflow protection, short-circuit protection, over-current protection, over-power protection, and over-temperature protection for safe and reliable operation.

PRODUCT OVERVIEW



Figure 1: Assembled DROK Boost Buck Converter with clear acrylic case, displaying output voltage and current.

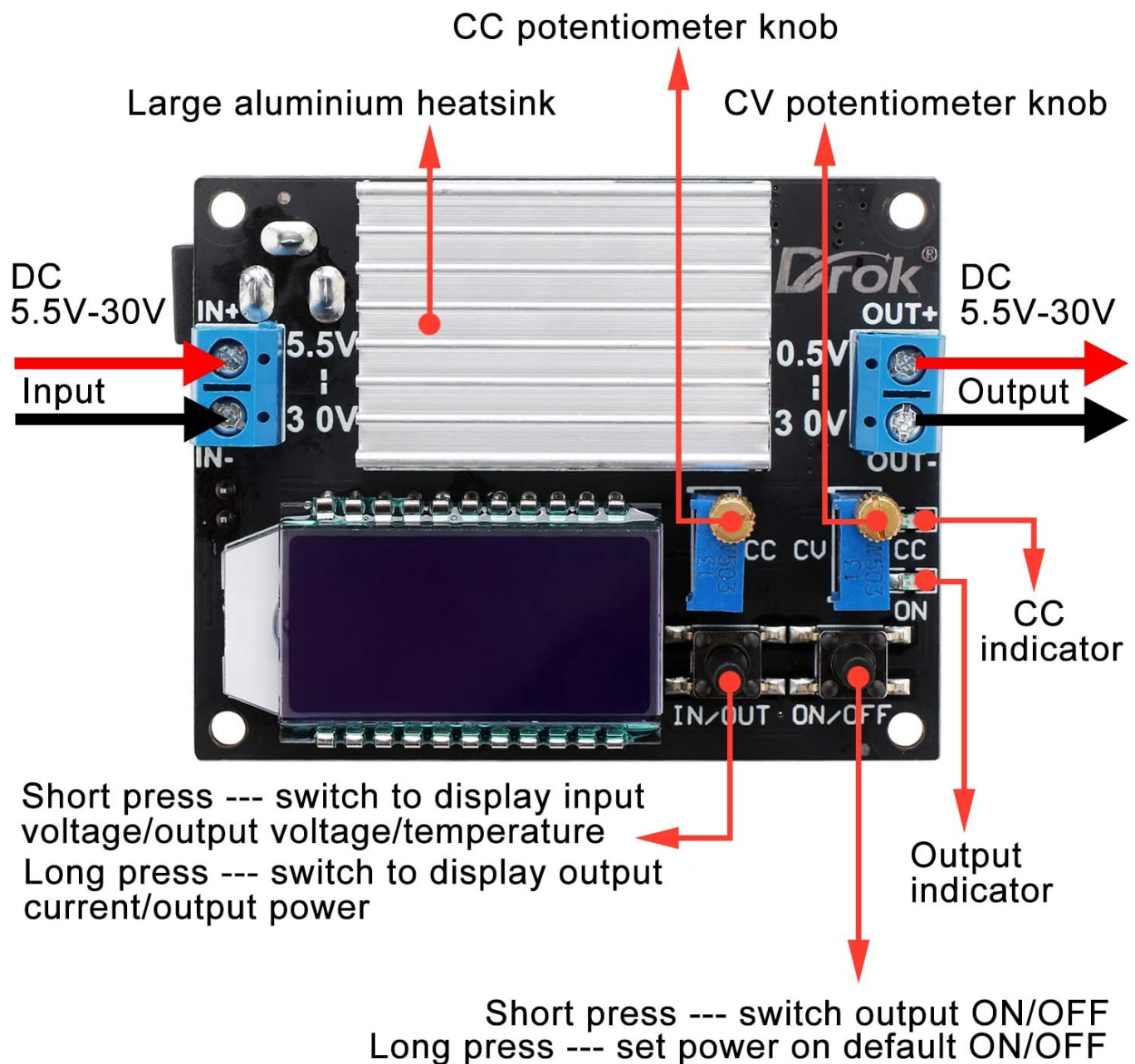


Figure 2: Detailed view of the converter board, highlighting input/output terminals, potentiometers for constant current (CC) and constant voltage (CV) adjustment, and control buttons.

High temperature resistant solid capacitor

DC power jack

Sendust core

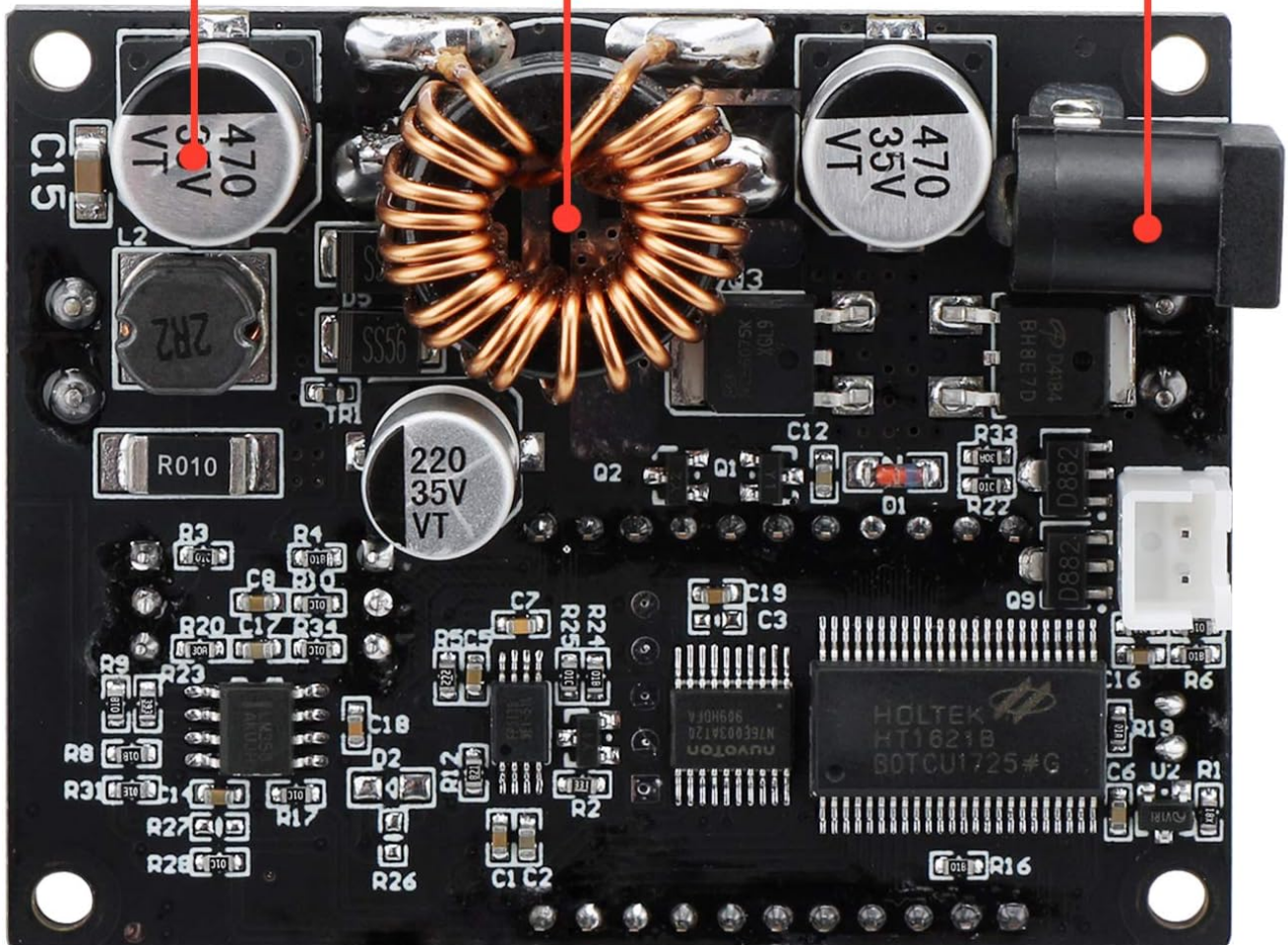


Figure 3: Rear view of the circuit board, showing high-temperature resistant solid capacitors, sendust core, and DC power jack.

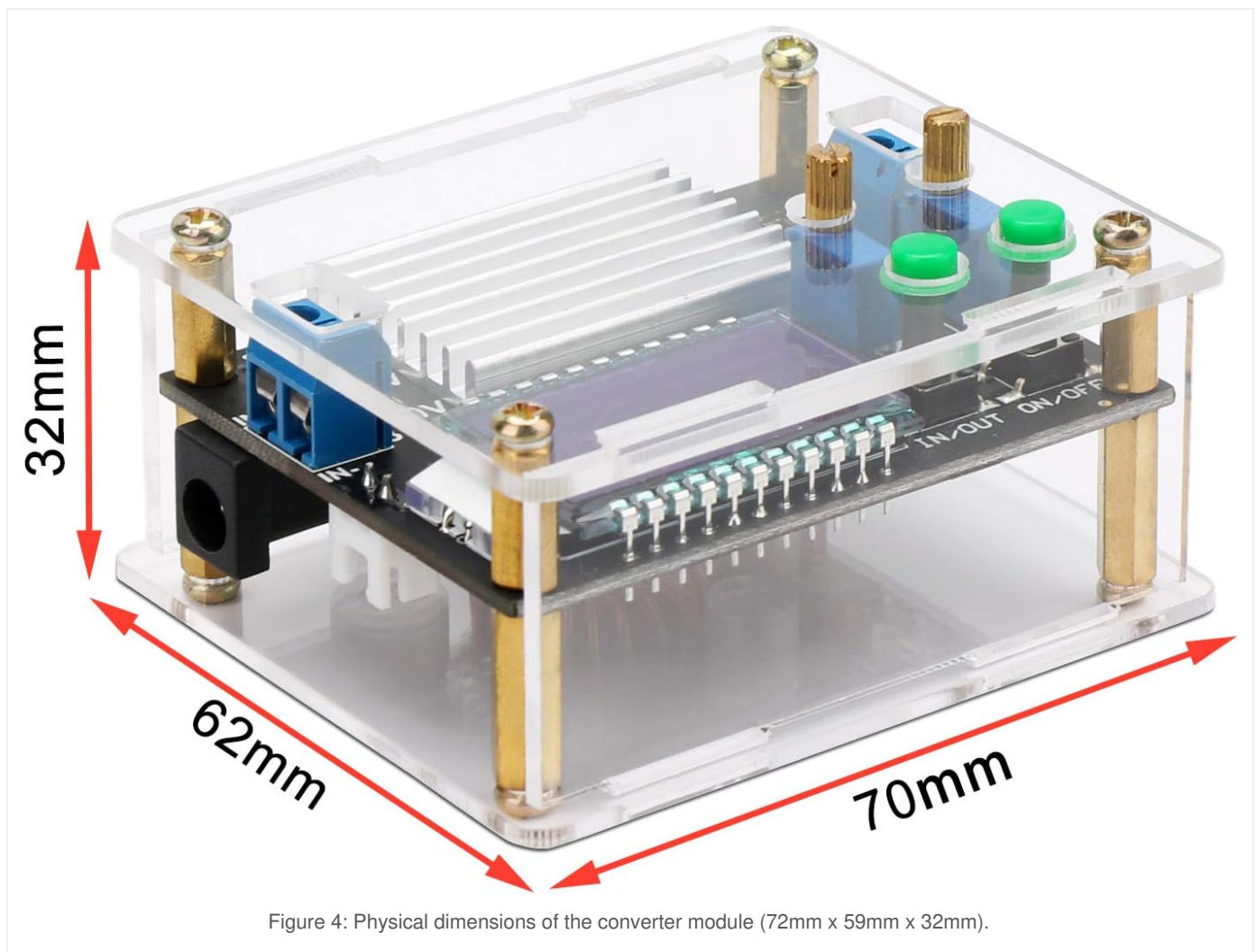


Figure 4: Physical dimensions of the converter module (72mm x 59mm x 32mm).

SETUP

1. Case Assembly

The DROK Boost Buck Converter comes with a protective acrylic case that requires manual assembly. Follow these steps to assemble the case:

1. Carefully remove the protective film from all acrylic panels.
2. Align the circuit board with the bottom acrylic panel, ensuring the screw holes match.
3. Insert the brass standoffs through the screw holes from the bottom panel, securing the board.
4. Place the side panels around the board, fitting them into the slots of the bottom panel.
5. Position the top acrylic panel, aligning its screw holes with the standoffs.
6. Secure the top panel using the provided screws.
7. Attach the green button caps to the physical buttons on the board.

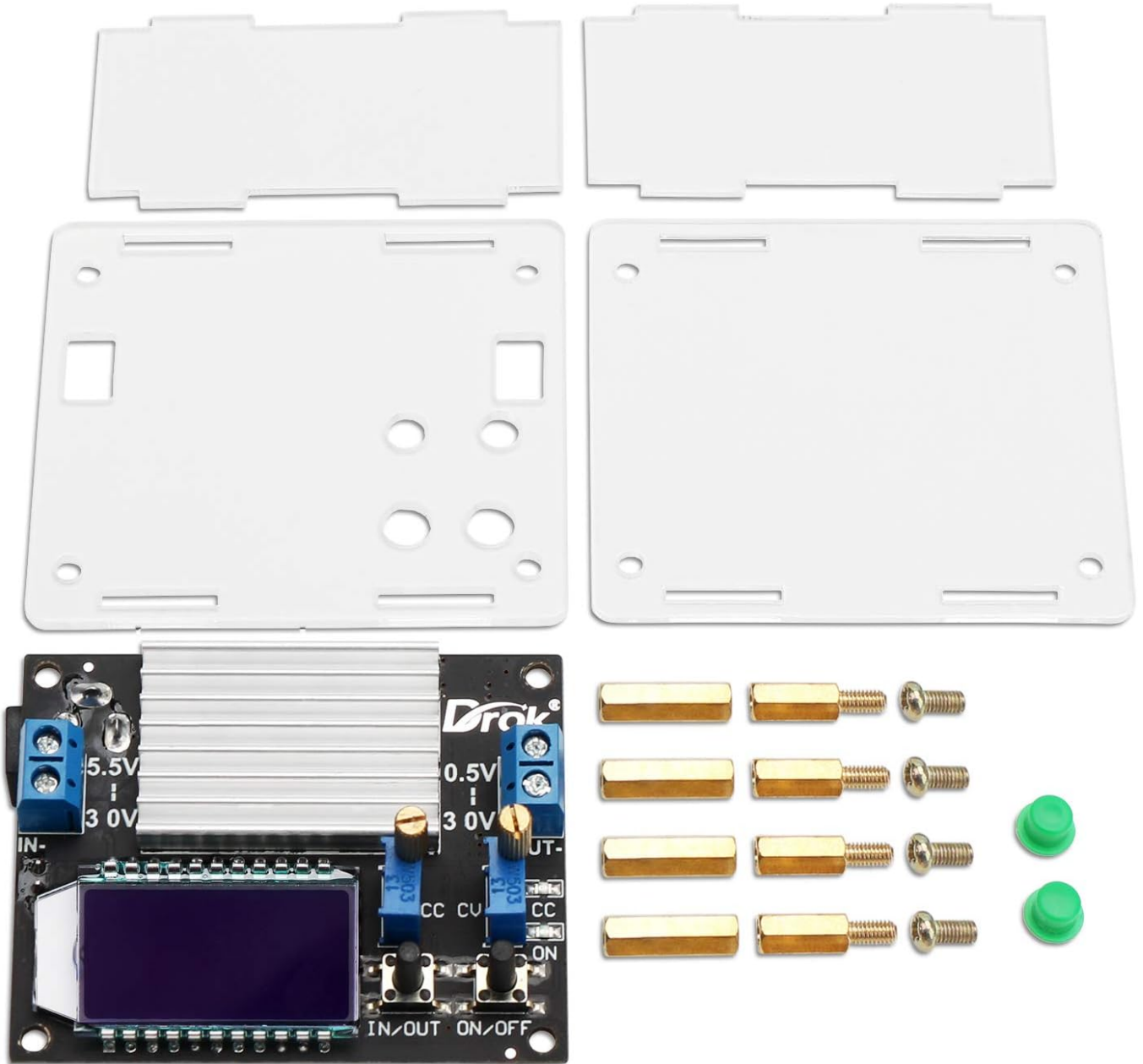


Figure 5: All components included for the case assembly, including acrylic panels, screws, standoffs, and button caps.

2. Electrical Connections

Connect your power source and load to the appropriate terminals on the converter board. Ensure correct polarity to prevent damage.

- **Input (IN+ / IN-):** Connect your DC power source (5.5V to 30V) to these terminals. IN+ is positive, IN- is negative.
- **Output (OUT+ / OUT-):** Connect your load to these terminals. OUT+ is positive, OUT- is negative.



Figure 6: The converter module with red and black wires connected to the input and output terminals, demonstrating proper wiring.

OPERATING INSTRUCTIONS

1. Adjusting Output Voltage and Current

The module features two potentiometers for adjusting the output voltage (CV) and constant current (CC) limits:

- **CV Potentiometer:** Adjust this knob to set the desired output voltage (0.5V to 30V). Turn clockwise to increase voltage, counter-clockwise to decrease.
- **CC Potentiometer:** Adjust this knob to set the maximum output current (up to 4A). This is crucial when using the module as a battery charger or LED driver to prevent overcurrent.

It is recommended to adjust the voltage and current limits with no load connected initially, then connect the load and fine-tune if necessary.

2. LCD Display Functions

The LCD screen provides real-time monitoring of various parameters. Use the two buttons on the board to navigate the display and control the output:

- **Left Button (Short Press):** Cycles through displaying input voltage, output voltage, and temperature.
- **Left Button (Long Press):** Cycles through displaying output current and output power.

- **Right Button (Short Press):** Toggles the output ON or OFF.
- **Right Button (Long Press):** Sets the default ON/OFF state of the output when the module is powered on.

3. Operational Demonstration Video

Your browser does not support the video tag.

Video: This official DROK video demonstrates the assembly of the protective case, connecting the power supply, and adjusting the output voltage and current using the potentiometers. It also shows how to cycle through the display modes and toggle the output ON/OFF.

MAINTENANCE

To ensure the longevity and optimal performance of your DROK Boost Buck Converter, follow these maintenance guidelines:

- **Keep Clean:** Regularly wipe the module with a dry, soft cloth to remove dust and debris. Avoid using liquid cleaners.
- **Avoid Moisture:** Do not expose the module to water or high humidity. Operate and store it in a dry environment.
- **Temperature Control:** Ensure the module operates within its specified temperature range. Adequate ventilation is recommended, especially during high-power operation.
- **Secure Connections:** Periodically check all electrical connections to ensure they are secure and free from corrosion.

TROUBLESHOOTING

If you encounter issues with your DROK Boost Buck Converter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display or power	Incorrect input voltage; loose connections; power supply issue; damaged module.	• Verify input voltage is within 5.5V-30V. • Check all wiring connections for proper polarity and tightness. • Test your power supply to ensure it is providing stable voltage. • If the module is new and still not working, contact support for replacement.
Output voltage is incorrect or unstable	Potentiometer not adjusted correctly; load too high; faulty component.	• Adjust the CV potentiometer slowly to reach the desired output voltage. • Ensure the load current does not exceed 4A and power does not exceed 35W. • Verify your multimeter is accurate if comparing readings.
Output current is lower than expected	CC potentiometer set too low; load resistance too high.	• Adjust the CC potentiometer to increase the current limit. • Ensure your load is drawing the expected current.

Problem	Possible Cause	Solution
Module gets excessively hot	Overload; insufficient ventilation.	• Reduce the load to stay within the 35W power limit. • Ensure adequate airflow around the heatsink. Consider adding a small fan if operating continuously at high power.

SPECIFICATIONS

Parameter	Value
Input Voltage Range	5.5V - 30V DC
Output Voltage Range	0.5V - 30V DC
Working Current	4A (Max)
Power	35W (Max)
Dimensions (L x W x H)	72mm x 59mm x 32mm (approx. 2.83 x 2.32 x 1.26 inches)
Item Weight	3.98 ounces
Model Number	200446
Manufacturer	DROK
Protections	Soft start, Input reverse connection, Output anti-backflow, Short-circuit, Over-current, Over-power, Over-temperature

WARRANTY AND SUPPORT

DROK products are designed for reliability and performance. We offer a one-year service period for quality-related issues. If you experience any manufacturing defects or quality concerns with your Boost Buck Converter, please contact DROK customer support for assistance. You may be eligible for a brand new replacement. For further information, support, or to explore other DROK products, please visit the official DROK store:

[Visit the DROK Store on Amazon](#)

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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.

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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.

Submit question