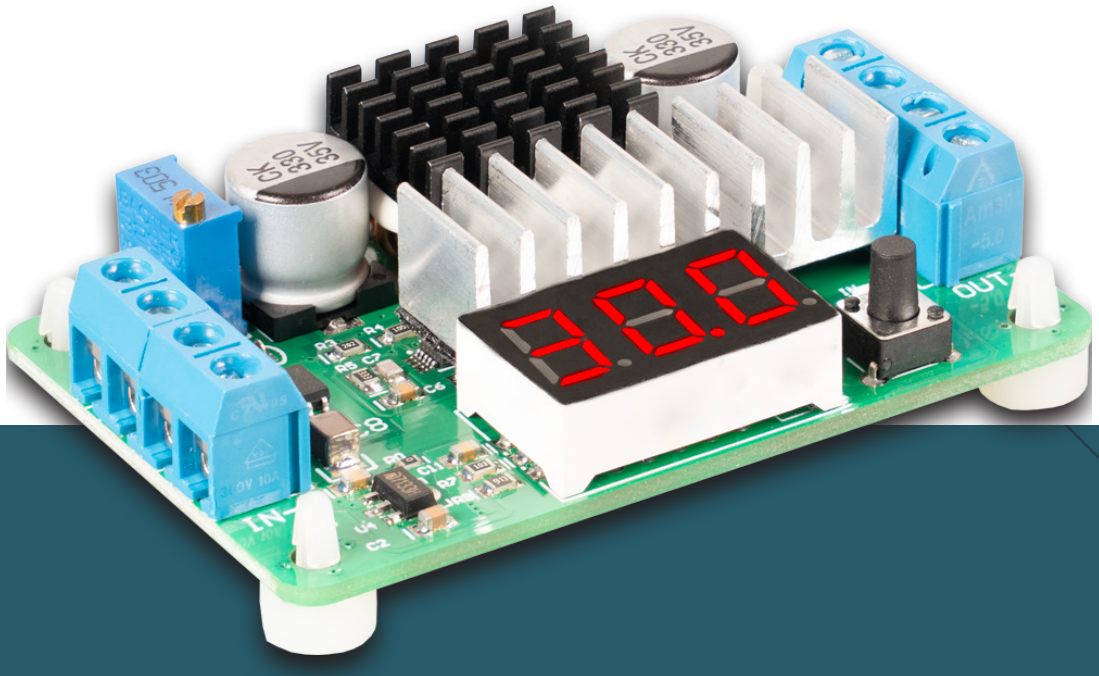


COMPACT DC-DC BOOST CONVERTER

SBC-Boost01

1. GENERAL INFORMATION

Dear Customer,
Thank you for choosing our product. Below, we will show you what you need to bear in mind when commissioning and using the product.

Should you encounter any unexpected problems during use, please do not hesitate to contact us.

The SBC-Boost01 is a compact and efficient DC-DC boost converter designed to increase low DC input voltages to stable, higher output levels. With its wide 4 – 30 V DC input range and up to 30 V DC output (depending on input voltage), it provides an extremely flexible solution for powering electronics, embedded systems, LED projects, communication devices, and mobile equipment.

Delivering up to 100 W output power and supporting load currents up to 5 A, this boost converter ensures reliable performance in both prototyping and permanent installations. High conversion efficiency of up to 95 % (typ. 18–30 V / 2 A) minimizes heat generation and energy loss, making it ideal for battery-powered applications.

The module features a bright 0.36″ red 3-digit LED display that can show either input voltage, output voltage, alternate switching between both values, or be turned off entirely. This allows instant visual feedback without the need for separate test equipment.

Screw terminals provide easy and secure wiring, while the compact form factor (67 × 42 × 20 mm) makes integration into enclosures or device panels straightforward. With a voltage measurement accuracy of ±0.5 % + 1 digit, the integrated meter supports reliable system monitoring during operation.

Whether used in hobby electronics, battery systems, field robotics, DIY power supplies, or renewable-energy test projects — the SBC-Boost01 offers a powerful, robust, and user-friendly step-up power solution.

2. SAFETY INSTRUCTIONS

Please read these safety instructions carefully before using the device. Misuse or improper handling may result in electric shock, component failure, fire, serious injury, or even death. Always verify wiring, load capability, and power supply strength before operation.

Intended Use:
This device is designed for DC voltage conversion in low-voltage applications. It is suitable for integration into electronic circuits, power supplies, embedded systems, and test setups.

Voltage Limits:
Operate the module only within the input and output voltage ranges specified in the datasheet.
Applying a voltage outside these limits may result in permanent damage, breakdown of insulation, or fire hazards.

Input/Output Power Relation:
Boost and buck-boost converters cannot generate more power than what is supplied. To achieve a higher output voltage, the input current must increase accordingly. Ensure your power source can deliver sufficient current to support the required output power.

Polarity and Connections:
- Observe correct polarity at all times.
- Incorrect wiring may damage the module instantly.
- Make all connections only when the system is powered off.
- Use adequately rated wires, connectors, and load components.

Thermal Safety:
These modules may generate heat under load.
- Do not touch heat sinks, coils, or power components during operation.
- Ensure proper ventilation. Do not cover the module or mount it on flammable surfaces.

Operating Environment:
The device is designed for dry indoor use only.
Protect it from moisture, condensation, dust, and direct sunlight.
Do not operate in explosive or corrosive atmospheres.

Overload and Short-Circuit Conditions:
Do not exceed the maximum current or power ratings.
Load overcurrent may cause overheating or damage the device.
Short circuits on the input or output can destroy the converter if it is not protected.

Supervision:
Do not leave the device unattended during testing or prolonged high-load operation. Regularly monitor voltage, current, and temperature.

3. OPERATION

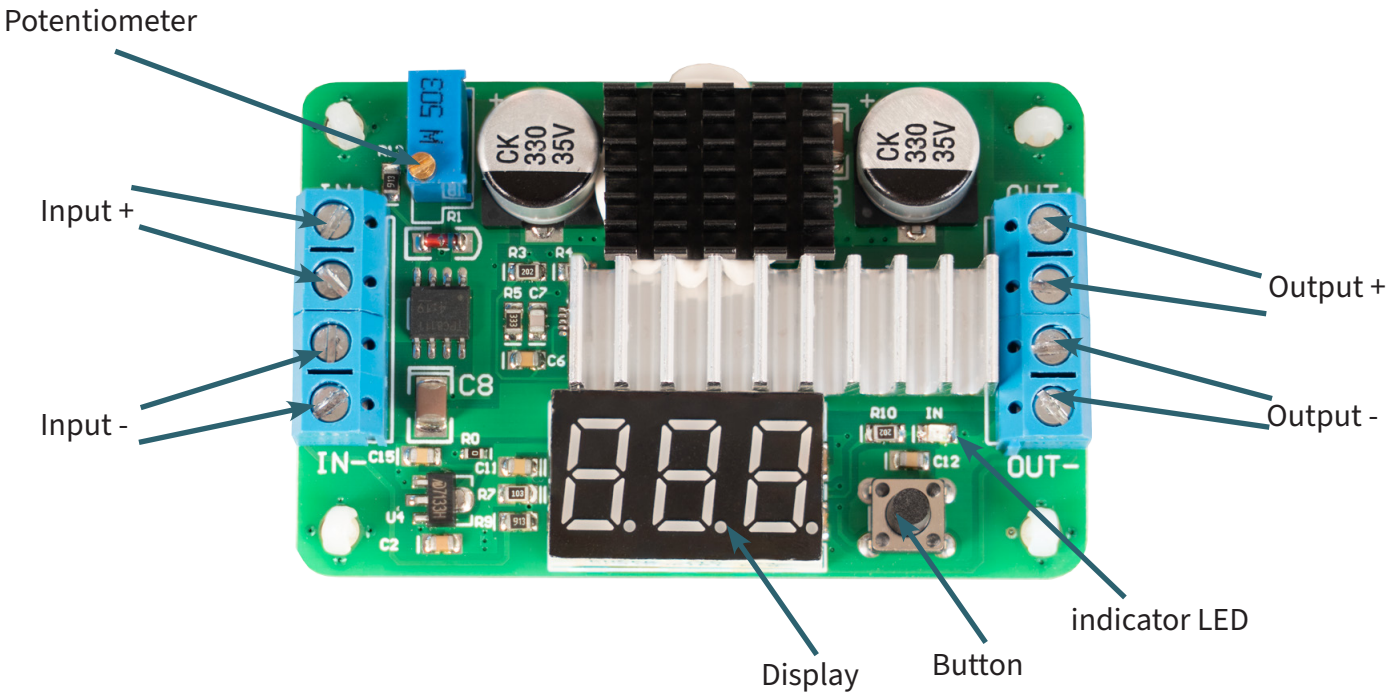
Connect your power supply to the Input terminals of the Board. The set output voltage is present at the output terminals as soon as an input voltage is present.

Turn the potentiometer clockwise to increase the output voltage, or counterclockwise to decrease the output voltage.
Carefully turn the calibration potentiometer with a small, **insulated screwdriver** until the desired output voltage is reached.

The output voltage may slightly drop under load. It may be necessary to fine-tune the voltage again for accurate adjustment and stable operation once a load is connected.

The output shown on the display can be switched by pressing the button.
You can choose to display:
Input voltage, Output voltage, or Both values alternating automatically.
To help distinguish between the two voltage readings, a small indicator LED will light up whenever the input voltage is being displayed.

The currently selected display mode can be saved as the default mode. To do so, press and hold the button. The currently selected mode will then be automatically restored the next time the device is powered on.



When using a boost converter, the output power is limited by the input power. This means you cannot increase a low input voltage (e.g. 5 V) to a higher output voltage (e.g. 10 V) without accepting a proportional reduction in available current. Ensure that your power source can supply sufficient input current to achieve the desired output power.

4. INFORMATION AND TAKE-BACK OBLIGATIONS

Our information and take-back obligations under the German Electrical and Electronic Equipment Act (ElektroG)



Symbol on electrical and electronic equipment:
This crossed-out wheelie bin symbol means that electrical and electronic equipment must not be disposed of with household waste. You must take old appliances to a collection point. Before disposal, you must remove any old batteries and accumulators that are not enclosed in the old appliance.

Return options:
As an end user, when purchasing a new device, you can return your old device (which essentially performs the same function as the new one purchased from us) for disposal free of charge. Small devices with external dimensions not exceeding 25 cm can be handed in in normal household quantities, regardless of whether you purchase a new device.

Option to return items to our company location during opening hours:
SIMAC Electronics GmbH, Pascalstraße 8, D-47506 Neukirchen-Vluyn

Return option near you:
We will send you a parcel label so that you can return the device to us free of charge. To do so, please contact us by e-mail at Service@joy-it.net or by telephone.

Packaging information:
Please pack your old appliance securely for transport. If you do not have suitable packaging material or do not wish to use your own, please contact us and we will send you suitable packaging.

5. SUPPORT

We are also there for you after your purchase. If you still have questions or encounter any problems, we are also available to assist you via email, telephone and our ticket support system.

Email: service@joy-it.net
Ticket system: https://support.joy-it.net
Telephone: +49 (0)2845 9360 – 50

For further information, please visit our website:
www.joy-it.net

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