

DCTODCSTEPUP

This 20W adjustable DC-DC boost converter with a digital display is based on the professional boost chip and supports 3~32V power input, 5~35V output, and an accuracy of $\pm 0.05V$. The switching frequency is 400KHz, the conversion efficiency can reach 94%, it has the functions of overheating protection and short-circuit protection, and the performance is very powerful. can complete the power supply of small voltage to large voltage equipment by this module.

The module is equipped with terminals, which can be easily used without a soldering iron, and retains the soldering wire connection points. The two methods of use are very convenient. It can be used in boosting fields where the input voltage is lower than the output voltage, such as batteries, power transformers, DIY adjustable regulated power supplies, 24V car notebook power supplies, and industrial equipment boosting.

The on-board voltmeter supports self-calibration mode. You can get accurate voltage values on the entire voltage range with only one calibration. The specific methods are as follows:

1. When the on-board voltmeter displays the output voltage, press and hold the button on the right side for 4 seconds and then release it. The voltmeter and the output voltage indicator "OUT" will flash simultaneously, and the output voltage adjustment mode will be entered. In the same way, when the voltmeter displays the input voltage, press and hold the button on the right side for 4 seconds and then release it. The voltmeter and the input voltage indicator "IN" will flash simultaneously, and the input voltage adjustment mode will be entered at this time.
2. Tap the button on the right to increase or decrease the voltage by one unit, the adjustment range is -5 to 5. Since the voltage value of a unit is less than 0.1V, you need to press 1-5 times to see that the voltmeter has changed by 0.1V. The specific number of consecutive presses depends on the voltage value currently displayed. The higher the current display voltage, the fewer the number of presses.
3. After the voltage adjustment is completed, press and hold the right button for 4 seconds and then release it. At this time, you can exit the voltage calibration mode, and all parameter settings will be automatically saved after power-off.

Notes:

1. To ensure the accuracy of the voltmeter display, please ensure that the input voltage is above 4.5V.
2. The boost voltage below 5V works normally, but the digital display does not work.
3. The output current is 4A, it is recommended to use it within 2A, the high current requires more heat dissipation; the output power is 20W, if it exceeds 15W, please increase the heat dissipation with a heatsink.
4. The input voltage needs to be lower than the output voltage, otherwise, the module may be damaged.
5. Make sure the polarity is correct when connecting to the power supply to avoid damage to the module.
6. This unit uses a multi-turn pot to set its output voltage. You may need to turn it several times to see a change, so give this a go if your unit seems unresponsive

Features

- Self-calibration mode
- With overheating protection and short-circuit protection

Specifications

- Input Voltage: 3V-32V (under 5V, the digital display does not work), the best working voltage is 5V-32V
- Output Voltage: 5V-35V
- Switching Frequency: 400khz
- Rectification Method: non-synchronous rectification
- Input Current: 4A (peak)
- Conversion Efficiency: 94% (the greater the voltage difference, the lower the efficiency)
- Output Ripple: 50mv (the higher the voltage, the greater the current, the greater the ripple)
- Load Regulation Rate: $\pm 0.5\%$
- Voltage Adjustment Rate: $\pm 0.5\%$
- Working Temperature: $-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$