Product description:

1. Use airfoil type heat dissipation, the heat dissipation effect is very good, and the output power is larger (the power can reach about 1800W when inputting 48V and adding a fan).
2. The temperature-controlled fan, combined with the bearing fan, achieves a very good balance in noise and heat dissipation. When the load is light, the fan does not rotate. When the load is heavy, the fan automatically turns on after the temperature reaches about 60 degrees. It can effectively reduce noise and extend life.
3. The main power tube insulation board is made of high-grade alumina, and its thermal conductivity is 10 times that of ordinary insulation pads.
4. Using 100V 210A TO-247 large package power tube, it has large power margin and good dynamic response.
5. Double large-size iron-silicon-aluminum magnetic rings, using 4*1.2 pure copper enameled wires in parallel, with low heat generation and high efficiency.
6. Brand 3296W multi-turn potentiometer, with high adjustment accuracy and small drift.
7. Constantan wire output current sampling, constant current is stable and temperature drift is small.
8. The undervoltage protection is adjustable and can effectively protect various batteries and can also be used for solar cells.
9. With constant current function, it can be used to boost the voltage of battery cars, charge batteries, etc.
10. Input three 20A fuses in parallel, which can protect the risk caused by accidental short circuit of the output.
11. Three indicator lights: undervoltage, overcurrent, power indicator, working status is clear at a glance.
12. Both input and output use high-frequency capacitors, which have low output ripple, low heat generation and long life.
13. MLCC ceramic capacitors are newly added to the input and output, and the output ripple is significantly reduced. When converting 48V to 72V 4A, it is about 100 millivolts.

Precautions:

1. The positive and negative poles of the output cannot be connected reversely or short-circuited.
2. If used as a boost drive power supply for electric vehicles, the input voltage must be above 24V. The power of electric vehicles is less than 500W. Because the electric vehicle motor is an inductive load, the current will be very large at the moment of starting and when going uphill. Sufficient power headroom must be left.
3. When using batteries, switching power supplies, solar panels, generators, etc. as input sources, the battery protection must be lowered, otherwise the battery and power supply will be damaged.
4. When working at full load with high current and power for a long time, pay attention to

ventilation and heat dissipation to extend the service life of this power supply.
5. The power supply can only step up the voltage, not step down, and cannot power electrical equipment that is lower than the input voltage, such as using a 24V battery to charge a 12V battery, or charging a capacitor. Power IEDs below the input voltage.
6. Please do not work at full capacity for a long time. Please leave a 20% margin when working continuously and pay attention to ventilation and heat dissipation.

Parameter:

Module name	1500W boost constant current module
Module nature	Non-isolated boost module (BOOST)
Input voltage	DC10-60V
Constant current range	0.8-20A (+/-0.3A)
Input current	10-30V input voltage, maximum current 30A, 31-60V input voltage, maximum current 25A
Quiescent operating current	15mA (when 12V rises to 20V, the higher the output voltage, the quiescent current will increase)
Output voltage	12-90V continuously adjustable (the default output is adjusted to 19V for shipment. Buyers can adjust it themselves if they have a multimeter) 12-90V fixed output (customized for batch customers)
Output current	20A MAX, if exceeds 15A, please strengthen heat dissipation (related to the input and output voltage difference, the greater the voltage difference, the smaller the output current)
Input anti-reverse connection	Yes (150A power MOS anti-reverse connection)
Low battery protection	Yes (8-50V adjustable) self-recovery type
Working temperature	-40~+85 degrees (please strengthen heat dissipation when the ambient temperature is too high)
Working frequency	150KHz
Installation method	4*3mm copper pillars
Input overcurrent protection	Yes (input exceeds 35A, automatic protection, power supply does not boost)
Short circuit protection	There is (input 30A fuse) dual line protection, safer to use

Input reverse connection protection	There is a 150A power MOS tube to prevent reverse connection. Can be reversed for a long time)
Wiring method	Terminal block (please use high current pure copper wire)
Module size	130x52x84 (mm)
Module unit weight	490 grams
Output power	= Input voltage * 30A, such as input 12V*30A=360W, Maximum power at 12V input is 360W. = Input voltage * 30A, such as input 24V*30A=720W, maximum power at 24V input is 720W.

Voltage regulation:

When the power supply is connected and no load is applied, use a flat-blade screwdriver to adjust the "-ADJ" potentiometer at the output terminal to increase it clockwise and decrease it counterclockwise. Due to the large capacity of the output capacitor, the output voltage will react when the output voltage is adjusted from high voltage to low voltage. It will be slower. It is recommended that the adjustment range be smaller. (The default output voltage is adjusted to 19V)

Current regulation:

Turn the "CCA-ADJ" potentiometer counterclockwise about 30 turns, set the output current to the minimum, connect a load such as an LED battery, and adjust the "CCA-ADJ" potentiometer clockwise to the current you need. For battery charging, after the battery is discharged, connect it to the output and adjust CCA-ADJ to the current you need. When used for charging, be sure to use a discharged battery to adjust accurately, because the remaining power of the battery is longer. The more, the smaller the charging current. The default output ESC is set to 3A for shipment. It is forbidden to adjust the current by short-circuit output. The circuit structure of the boost module cannot be adjusted by short-circuit.

Input low battery protection adjustment:

Low battery protection is mainly used to prevent battery over-discharge and low battery voltage from damaging the power module when the input power supply is a battery. Low-voltage protection must also be set when the battery input is a switching power supply. Method 1: For example, set the low battery protection of 12V battery. Connect a 10V voltage to the input end of the power module and use a flat-blade screwdriver to adjust RV1 (clockwise to increase the protection voltage, counterclockwise to lower the protection voltage) until the UVLO light turns

on. At this time, the low battery protection voltage is 10V. When the battery When the voltage drops to 10V, the power module does not increase (the input voltage is equal to the output voltage). Only when the input voltage is higher than 10V, the power supply automatically recovers and starts to increase the voltage. Method 2: Connect the input to a battery or switching power supply. If the UVLO light on the board is off, adjust the RV1 potentiometer counterclockwise to brighten the UVLO light. After brightening, turn it clockwise twice. If the UVLO light is on, turn the RV1 potentiometer clockwise to turn off the UVLO light. Then turn it two turns. (Adapt to 8V-45V voltage)

Power description:

Since the maximum input current of this power supply is 30A when 10-30V and 25A when 31-60V, the output power is related to the input voltage. The higher the input voltage, the greater the power. (Input voltage * input current equals the power of the whole machine) For example, the input power of 12V * 30A is 360W and the input of 24V * 30A is 720W. When the input voltage is 36V, the maximum input current is 25A and the maximum power of the power supply is 900W.

Application scope:

We designed it for lead-acid batteries, lithium batteries, solar cells or power supply boosting to boost electric vehicles and charge batteries. It has very powerful functions.

1. For example, the original battery of an electric vehicle is 48V, which can be boosted to 60V to supply power to the electric vehicle, which can increase the speed and acceleration of the electric vehicle.
2. Charge your electric bicycle, (1: For example, if you have an idle 12V or 24V battery, you can use this boost power supply to boost the original battery and charge it, which is equivalent to a power bank for electric vehicles. 2: Input at the same time It can also be connected to solar cells, wind energy, generators and other power sources to boost the voltage and charge the original battery to increase the endurance of the electric vehicle.)
3. The battery voltage can be increased to make the electric vehicle run faster. It is recommended not to exceed 10V. 4. Solar panel voltage boosting and stabilizing.

Common problem:

Q1: How efficiently does the module work? I am using it on a battery and it requires high efficiency. Can I use it?

A1: The working efficiency of this module is very high. In our actual test, the highest efficiency can reach 98.1%.

Q2: Does this power module have short circuit protection? Will it burn out if the output is accidentally short-circuited during use?

A2: Our module is equipped with short-circuit protection. When the output is short-circuited, the fuse will blow out and you need to replace the fuse to recover. You need to pay attention when

using it and try not to short-circuit.

Q3: Does this power module have input reverse polarity protection? Will it burn out if I accidentally connect the input power supply backwards during use?

A3: It will not burn out, our module is protected against reverse connection.

Q4: The working voltage of the module is 10-60V, so if I input 12V, can it output 48V?

A4: Yes, this module is a boost module.

Q5: Can this module run at 72V10A for a long time?

A5: This module is designed to have a power of 1800W and can run at 1500W for a long time (a fan is required for forced cooling). 72V*10A=720W, so it can run for a long time.

Q6: I need a current of about 20A. Can this module work in parallel?

A6: When the input power supplies are powered separately, the outputs can be directly connected in parallel to double the power. When the inputs are connected to the same power supply, they cannot be connected in parallel.

Q7: What is the working environment temperature of this module? Can it reach industrial grade?

A7: Yes, but when the ambient temperature exceeds 40 degrees, please reduce the power or enhance heat dissipation.

Q8: There is a potentiometer on the module. Will the output voltage suddenly increase due to damage to the potentiometer?

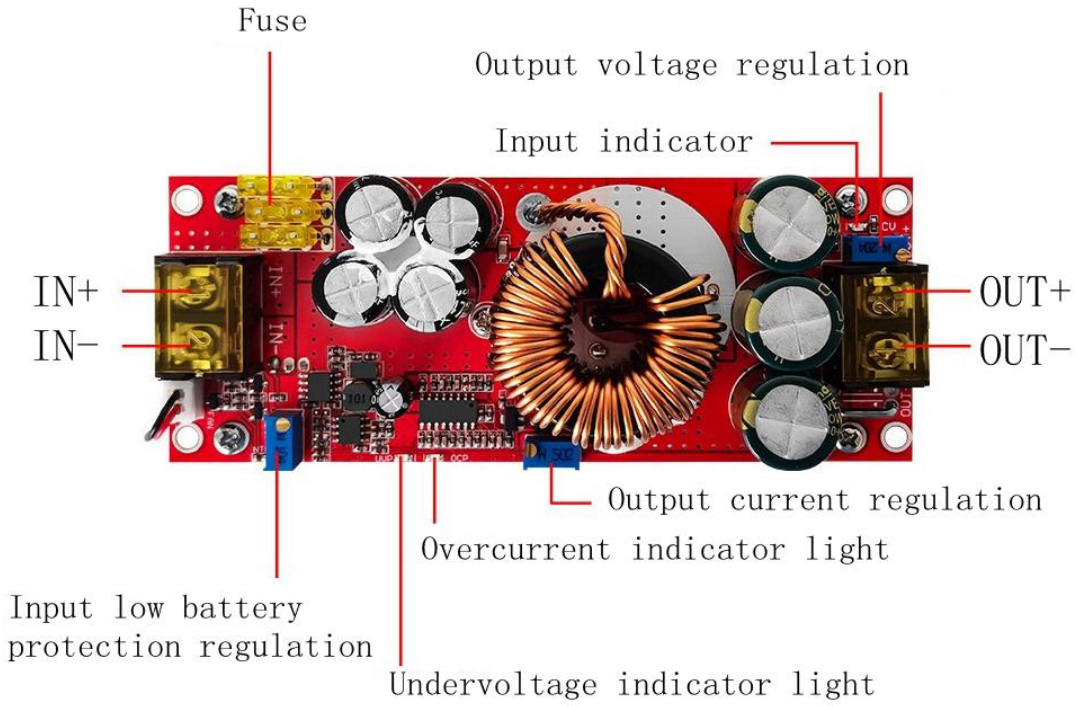
A8: No, the module uses a multi-turn precision potentiometer. The adjustment accuracy and reliability are very high. There will be no sudden increase in output voltage, so you can use it with confidence. If necessary, it is recommended to customize a fixed output voltage (bulk shipment is required).

Q9: The module power is 1800W. If the output voltage is 60V, what should the current be?

A9: This can be calculated from the formula P=U*I, I=P/U. The output voltage is 60V and the current is 30A. Since the maximum output current of the module is about 22A, the maximum output current is 22A.

Q10: The working voltage of the module is 10-60V, so if I input 12V, can it output 97V and 1800W?

A10: No. If you input 12V, you can output 97V, but if you want to output 1800W power, the input voltage must be above 48V.


Fuse
Output voltage regulation
Input indicator
IN+
IN−
OUT+
OUT−
Output current regulation
Overcurrent indicator light
Input low battery
protection regulation
Undervoltage indicator light