

# **OPERATING MANUAL**

**900W DC-DC  
CNC boost module**

**SKY↑TECH**

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## 1. Contact

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## 2. Inspecting Package Contents

When you get a new 900W boost module, please inspect the instrument as follows:

### 2.1 Check if there is damage due to transportation

If the package is damaged, please retain them until the instrument and accessories are tested.

### 2.2 Check package contents

Contents of the case are as bellows, if the content does not match with the packing list or the instrument is damaged, please contact us.

900W DC-DC CNC buck module

1pc

Accessories: User manual(pdf)

1pc

### 2.3 Check the machine

If the machine was damaged; did not work properly or failed to pass performance tests, please contact your dealer or our company.

## 3. Summary

### 3.1 the instrument Introduction

900W DC-DC boost module is a fully digital display NC boost module, small size, high power, high efficiency, stable. Joined the high-speed microcontroller precision measurement and calculation, it can accurately adjust the output voltage and current size, built-in 10 groups memory location can be stored at any time, call up parameters, convenient to use. Equipped with four eight LED digital tube, it can display the voltage, current, power, capacity and other parameters in real time. At the same time, this machine has an automatic output after power on, auto rotate function parameters can be turned on or off as needed use.

### 3.2 Main function

- 1, the use of advanced microprocessors, can precisely regulated output voltage and current;
- 2, with memory save function, can store 10 groups of parameters, and can be freely stored, transferred out;
- 3, high-quality power devices, with the periphery of precision op amps CV and CC loop configuration, which greatly improves the overall performance of the module;
- 4, with an input voltage protection;
- 5, having a constant voltage, constant current function;
- 6, using 4 high brightness LED, can display the output voltage, current, power and capacity and other parameters in real time;
- 7, automatic / manual switching display voltage, current, power, capacity and other parameters;
- 8, with the output OUT, constant voltage CV, constant current CC indicator, you can view real-time job status;
- 9, can be set whether to automatically output after power;
- 10, can be a key to save the voltage and current values for the current setting.

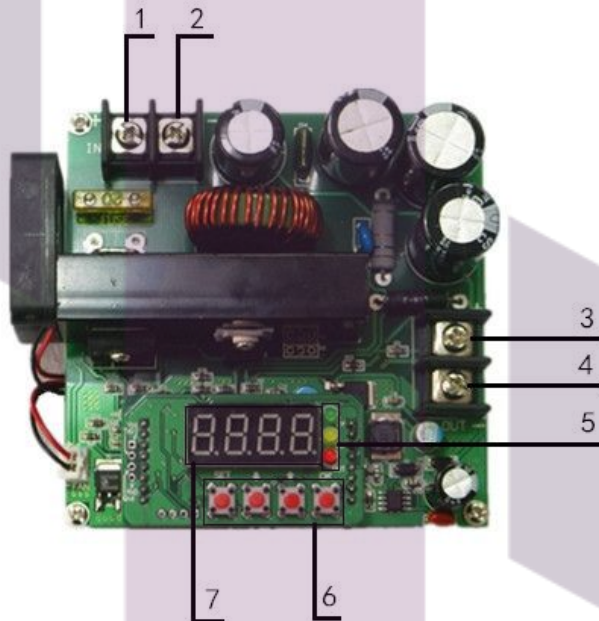
### Third, technical indicators

# 900W DC-DC CNC boost module

Item	Parameter
The modular nature	8V~60V
Input Voltage	0~15A
Output Current	10V~120V
Output voltage	0~15A
Conversion efficiency	85%
Frequency	150KHz
Short circuit protection	Constant Current
Operating Temperature	- 40℃~+85℃
Control method	Digital control + LED display
The voltage regulator / display resolution	<100V / 0.01V; >100V / 0.1V
The minimum resolution of power Display	0.001W
The current regulator / display resolution	<10A / 0.01A; >10A / 0.1A
The minimum resolution of capacity	0.001AH
Output Ripple	≤50mV
Weight	243g
Dimensions(W*H*D)	110×96×46(mm)

## 4.Instrument Introduction

### 4.1 Structure Description



Item	Introduction	Item	Introduction
1	Positive input	5	Indicator of work status
2	Negative input	6	Button
3	Positive output	7	LED
4	Negative output		

## 4.2 Display Introduction

Digital display content	Description
00.00/000.0	Voltage value, 00.00~120.0V
0.00A/00.0A	Current value, 0.00A~15.0A
P.000、P0.00、P00.0、P000.	Power value, unit W, the decimal point position with the power of change and change position. For example: P.123 represents 0.123W, P1.23 represents 1.23W, P12.3 represents 12.3W, P102 represents 102W.
C.000、C0.00、C00.0、C000.	Capacity values, units AH, the decimal point is changed with the change of the capacity position. For example: C.123 represent 0.123AH, C1.23 represents 1.23AH, C12.3 represents 12.3AH, C123 represents 123AH.
--0-	Special features 0
--1-	Special function 1
--2-	Special function 2
--y-	Open Special Function
--n-	Close Special features
SA.* (* represents 0~9)	Save parameters to the storage location of a storage location 0-9
Lo.* (* represents 0~9)	Adjust the position of a given set of parameters stored in the 0 to 9
----	Save parameters
U00.0	Set the input voltage protection threshold

## 5. Operation

The module has two kinds of usage: one is simple mode, another is fully functional mode. The default is simple mode, if you need fully functional mode, you can open it by yourself.

### 5.1 Simple mode

1, Connect the input and output, to ensure that the range of input voltage requirements, the non-reverse. Input voltage must be higher than the minimum input voltage.

Note: Input voltage range: 8V ~ 60V;

Input Current Range: 0A ~ 15A

Output voltage range: 10V ~ 120V;

Output Current Range: 0A ~ 15A.

2, Set the desired voltage and current values. It should be noted that no units display the voltage and current displays last digit decimal point R, the voltage display value in the second or third decimal place (such as 00.00 / 000.0), the current value is displayed in the first or second place (such as 0.00R / 00.0R).

Setting voltage and current values as follows:

After power on the default display format of the voltage setpoint is the voltage value shown is "00.00" and press the "SET" button to switch to the current set value, the current value display format is "0.00R", press the button Increasing the setting, press the button to reduce the set value, the decimal point will move along with the size of the set value, press accurately set, long press can be quickly set. After the voltage or current value is changed, press the "SET" key will display "----", indicating that save the voltage or current value of the current setting, the instrument default storage location for the M0. If there is no change in the voltage or current value, press "SET" button will switch to the current or voltage values.



3. After setting press the "OK" button you can export.
- 4, lower output state when the voltage value is displayed pressing the key to increase the output voltage, the output voltage can be reduced by pressing the button, you can press the button to increase the current set value when displaying the current value, you can press the button Save small current setpoint, a short press accurately set, press can quickly set. Output state short press "OK" button you can switch the display of voltage, current, long press 3 seconds can automatically round display, press again to cancel long wheel significant. In the next round of significant state, press the button invalid.
- 5, the next output state, press "SET" button to turn off the output.

## 5.2 Fully functional mode

This module has three special functions, the default is closed, if necessary, you can open them by yourself.

Function 0: After electricity, it will output automatically.

Function 1: Save and bring up the parameters, display the power and capacity.

Function 2: Take turns to show the parameters after output automatically.

### 5.2.1 Open/close method

Press the "OK" button for a while, then electricity, the LED will take turns to show among "--0-", "--1-" and "--2-". When displaying "--0-", release the "OK" button, it will open or close the function 0. When displaying "--1-", release the "OK" button, it will open or close function 1. When displaying "--2-", release the "OK" button, it will open or close function 2. After releasing the "OK" button, the "--y-" displays in the digital tube indicates that you have already open the current function, the "--n-" means that you have closed the current function.

- 1, the output enable function 0 automatically after power-up.
- 2, enable the function after 1, in the non-output state, press the "SET" button in voltage "00.00", the current "0.00R", call up the parameter "Lo.-0", save the parameters "SA.-0" and set the input voltage switching between  $\nabla$ 00.0 threshold cycle.

(1) Set parameters are stored Recall function:

Such as the need to 10V, 1.5A stored in the memory location 1 and bring up the storage location 1 parameters.

① Press "SET" button to switch to the voltage value, the set voltage value 10.00V, press the "SET" button to save the current set voltage value.

② Press the "SET" button to switch to the current value, the current value is set the tone for 1.500A, press the "SET" button to save the current current value.

③ Press the "SET" button to switch to "SA.-0", press  $\uparrow\downarrow$  the button to select the storage location, where the need to adjust to "SA.-1", press the "OK" button you can set "10V, 1.5A "stored in the storage location 1.

④ Press the "SET" button to adjust to the "Lo.-0", press  $\uparrow\downarrow$  the button to call up the parameters to select the desired storage location, where the need to adjust to "Lo.-1", press the "OK" button brings up the storage location 1 parameters.

⑤ Native 0 to 9 groups of 10 storage locations, each storage location can be arbitrarily set voltage and current values, each storage location are independent of each other.

(2) Set the input voltage protection:

Input voltage protection function is mainly used in solar panels as a power supply circuit, which is set as follows: Start special function 1, press "SET" button to switch to  $\overline{\text{U}}00.0$ , press the arrow keys to set the voltage value, press the "SET" button Save the current set voltage value.

For example, your solar panels working voltage is 34V current 8A, you want to use this power supply the voltage to 48V, 4.5A, to recharge the battery, in bright light panels can certainly meet the power needs (assuming this is the maximum power point) But when the sunlight becomes weak, the solar panel voltage drops, assuming  $\overline{\text{U}}00.0$  at this time is set to 30V, when the input voltage drops to 30V, the power supply will automatically adjust the output voltage to ensure that will not be pulled down to 30V or less (ie, to obtain the

maximum power).

3, enable the function after 2 output will auto rotate voltage, current, power, capacity, and other parameters.

Restore factory settings: the power supply is powered on, press the SET button, power is automatically restored to factory settings

## Precautions

1, the module is boosting module,  $V_{OUT} \geq V_{IN}$ . To the module is powered, in the absence of output voltage output terminal voltage, output voltage equal to the input terminal; if the set output voltage lower than the input voltage, output voltage is also equal to the output of the input voltage, which is a normal phenomenon, When in use the input voltage must be lower than the output voltage or the rated voltage of electrical and electronic equipment.

2, high-power electrical appliances to power, turn off the automatic output function, and then connect the input and output, and then press the "OK" button output, and wait until the voltage rises to a set voltage, and finally opened appliances.

3, to charge the battery, turn off the automatic output function, set up the appropriate charging voltage and current, connect the battery, and then press the "OK" button output, you can charge the battery.

4, the effective power  $P = \text{input voltage } V * 15A$ , 900W nominal refers to the maximum power the module under specific operating conditions, at different input voltage, the maximum output power is limited by the maximum input current limit decline. such as,

The input voltage is 20V: Maximum output power  $P = 20V * 15A = 300W$

The input voltage is 40V: Maximum output power  $P = 40V * 15A = 600W$

The input voltage is 60V: Maximum output power  $P = 60V * 15A = 900W$

5, conversion efficiency: about 85% (input voltage, current and output voltage,

current affect the conversion efficiency)

## 7. Warranty and service

Thank you for purchasing our products. To maximize the use of the new product features, we recommend that you take the following steps:

1. Read safe and efficient use instruction.
2. Read the warranty terms and conditions.

We warrants to the original purchaser that its product and the component parts thereof will be free from defects in workmanship and materials for a period of one year from the data of purchase.

We will repair or replace, at its' option, defective product or component parts. Returned product must be accompanied by proof of the purchase date.

Exclusions: This warranty does not apply in the event of misuse or abuse of product or as a result of unauthorized alternations or reapers. It is void if the serial number is alternated, defaced or removed.