

高性价比数控可调升降压电源模块

(**DIY** 台式数控小电源 自己轻松搞定)

1. 宝贝亮点：

1.1 液晶可显示输入/输出电压，输出电流/输出功率/输出容量/输出时间；

1.2. 数控调节，精准快捷，可升压可降压，输出电压**0.5-30V** 任意调节，限制电流 **0-4A** 任意调节；

1.3. 输入端防反接保护，反接不会烧毁；

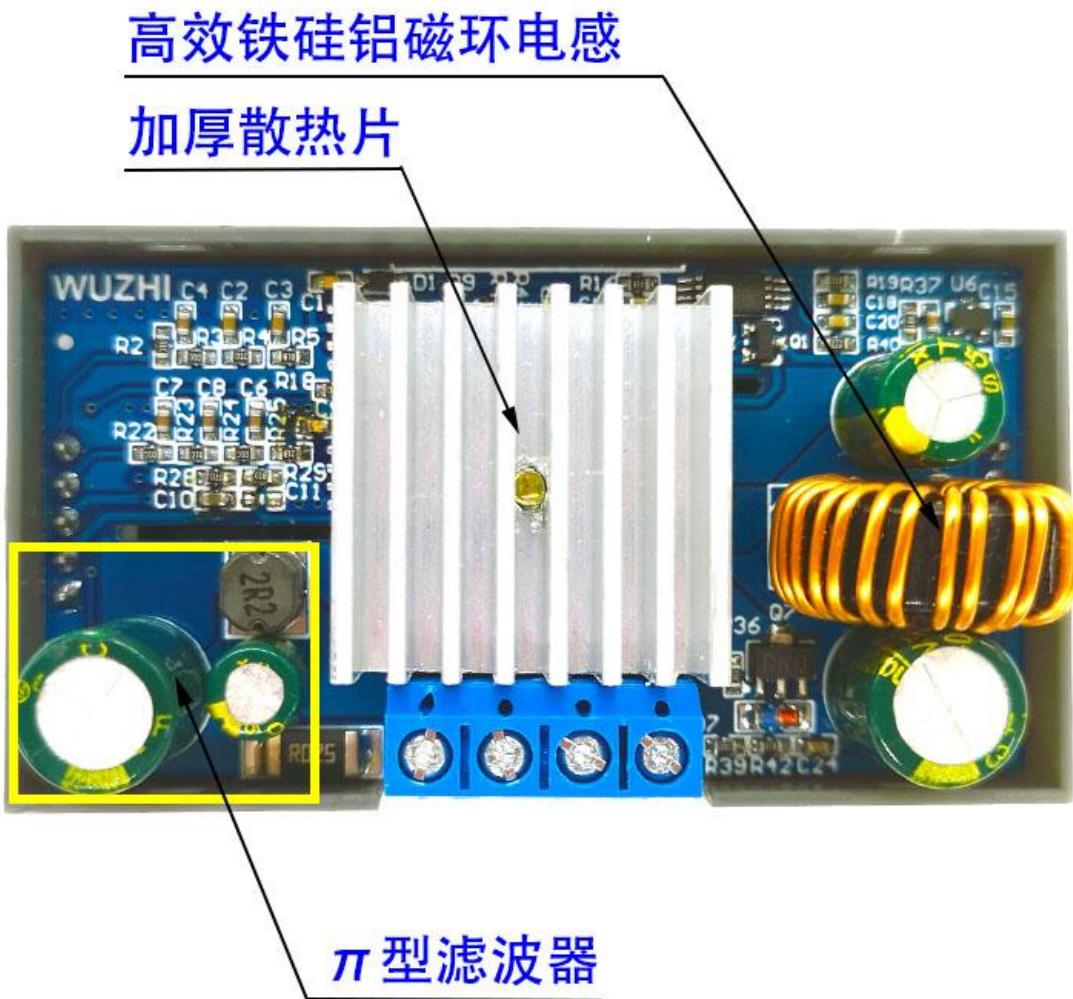
1.4. 输出端防倒灌，给电池充电时不用另外加防倒灌二极管；

1.5. 可设置模块默认开启/关闭；

1.6. 拥有多种软件保护机制，并且保护阈值可调。模块工作参数超过保护阈值后，自动关闭输出。

1.6. 输出纹波小，有 **T** 型滤波；

1.8. 加厚散热片。



2. 产品参数

输入电压：5.0-30V

输出电压： 0.5-30V

输出电流： 能长期稳定工作在 3A , 加强散热下可达到 4A

输出功率： 自然散热 35W, 加强散热 50W

电压显示分辨率： 0.01V

电流显示分辨率： 0.001A

转换效率： 88%左右

软启动： 有（很大功率带负载模块启动时有可能失效）

保护机制：

输入防反接；

输出防倒灌；

输入欠压保护 （4.8-30V 可调， 默认 4.8V）

输出过压保护 （0.5-31V 可调， 默认 31V）

输出过流保护 （0 -4.1A 可调， 默认 4.1A）

输出过功率保护 （0 -50W 可调， 默认 50W）

过温保护 (80-110°C 可调, 默认 110°C)

超时保护 (0 -100h 可调, 默认关闭)

超容量保护 (0 -60Ah 可调, 默认关闭)

工作频率: 180KHZ

尺寸: 长*宽*高 79mm*43mm*26mm

重量: 92g (含包装)

重量： 69g



3. 按键说明:



界面 按键	正常界面	调节电压恒流	设置参数
SW	短按：液晶下行切换电流A 功率W 容量Ah 时间h的显示 长按：液晶上行切换输入电压 输出电压的显示	无	短按：切换需要设置的参数 长按：无
U/I	短按：进入调节电压恒流界面 长按：进入设置参数界面	短按：在调节电压值、调节恒流值和退出调节界面之间切换 长按：无	短按：无 长按：退出设置参数界面 返回正常界面
旋转 编码 器	短按：切换输出开启 关闭状态 长按：无 左旋：输出电压减小 右旋：输出电压增大	短按：相应调节参数移位 长按：无 左旋：调节参数相应位减小 右旋：调节参数相应位增大	短按：调节参数移位 长按：如果参数允许开启关断，切换参数开启关断状态 左旋：调节参数相应位减小 右旋：调节参数相应位增大

注意：产品触发保护机制后，输出自动关断，液晶屏显示保护代码，按任意键退出保护界面。

4、界面说明

正常界面

输出电压 OUT 23.84 V 0.985 A	输出电压 OUT 23.84 V 0.233 W	输入电压 IN 23.87 V 0.002 Ah	输入电压 IN 23.91 V 0.113 h
输出电流	输出功率	输出容量	输出时间

设置电压恒流界面

OUT 12.00 V SET 4.000 A	← 设置输出电压
SET 4.000 A	← 设置限制电流

设置参数界面

输出常开 OPEN SET ON	输出常闭 OPEN SET OFF	欠压保护 OLP SET LUP	过压保护 OVP SET OUP	过流保护 OCP SET 4.100 A
过功率保护 OPP SET 5.000 W	过温保护 OTP SET OTP	超容量关闭 ORP SET OFF	超容量开启 ORP SET 6.000 Ah	超时关闭 ORP SET OFF
超时开启 ORP SET 99.59 h	校准输出电压 CAL SET CAL	校准输入电压 CAL SET CAL	校准输出电流 CAL SET 4.000 A	

保护界面

欠压保护 LUP	过压保护 OUP	过流保护 OCP	过功率保护 OPP	超容量保护 ORP
超时保护 ORP	过温保护 OTP			

5. 使用方法：

5.1. 切换显示参数——在正常界面下，短按 **SW**，切换显示屏下行的显示，显示内容在电流 **A** 功率 **W** 容量 **Ah** 时间 **h** 之间切换。长按 **SW** 按键，切换显示屏上行的显示，显示内容在输入电压 **IN** 输出电压 **OUT** 之间切换。

5.2. 设置输出电压值——在正常界面下短按 **U/I** 按键，进入设置电压恒流界面。可以看见设置输出电压值的某一位数在闪烁，左右转动旋转编码器，可调大调小。短按旋转编码器可以选择设置输出电压的哪一位。设置完成后，短按 **2** 下 **U/I** 按键，返回正常界面。或者停止操作 **10s** 后，自动回到正常界面。

5.3. 设置恒流值（即模块允许输出的最大电流值）——在正常界面下短按 **U/I** 按键，进入设置电压恒流界面。再短按 **U/I** 按键，切换到设置恒流值，可以看见设置恒流值的某一位在闪烁，左右转动旋转编码器，可调大调小。短按旋转编码器可以选择设置恒流值的哪一位。设置完成后，短按 **U/I** 按键，退出设置电压

恒流界面，返回正常界面。或者停止操作 10s 后，自动回到正常界面。

5.4. 设置模块上电默认开启/关闭状态——在正常界面下长按 U/I 按键进入参数设置界面。可以看到显示 OPEN OFF 或者 OPEN ON. OPEN OFF 代表上电默认关闭输出，OPEN ON 代表上电默认开启输出。长按旋转编码器可以切换两种状态。设置完成后，长按 U/I 按键，返回正常界面。

5.5. 设置保护参数开启状态和阈值——在正常界面下长按 U/I 按键进入参数设置界面。短按 SW 按键，直到出现自己想要设置的保护参数。LUP——欠压保护阈值；OUP——过压保护阈值；OCP——过流保护阈值；OPP——过功率保护阈值；OAP——超容量保护阈值；OHP 超时保护阈值；OTP——过温保护阈值。短按旋转编码器可以选择想要设置保护参数的哪一位。长按旋转编码器可以设置保护参数开启还是关闭（只有超时保护和超容量保护可以设置开启/关闭，其他保护参数默认开启。）。左右旋转编码器可以让参数变大变小。设置完成后，长按 U/I 按键，返回正常界面。

5.6. 校准电压电流——在正常界面下长按 U/I 按键进入参数设置界面。短按 SW 按键，直到出现带有 CAL

的参数界面。带有 **CAL+IN+V** 符号的是校准输入电压界面；带有 **CAL+OUT+V** 符号的是校准输出电压界面；带有 **CAL+OUT+A** 符号的是校准输出电流界面。左右旋转编码器可以调节参数大小。调节完成，长按旋转编码器确认调节完成，此时参数值不在闪烁。长按 **U/I** 按键，返回正常界面。

注意：为了确保校准的准确度，校准电压——**12V** 以上电压才能开始校准；校准电流——**1A** 以上电流才能开始校准。

6. 包装形式

纸壳独立包装

重量：92g



7. 注意事项：

7.1.模块输入 **IN**-禁止与输出 **OUT**-短接，否则恒流功能失效。

7.2.请确保供电电源的功率时刻大于输出负载所需功率！

7.3.模块若想满载输出，输入电压要 **8V** 以上，当输入电压为 **5V** 时，输出功率约为 **15W**。模块电流值最大 **4A**，前提受限于最大输出功率，比如输出 **17V**，电流应不大于 **2A**。

7.4.本模块在超过 **3A、35W** 使用时，请加强散热！！！

7.5.模块有输入欠压保护功能，默认是 **4.8V** 左右（可以设置），低于这个值后，会自动断开输出（注意是模块端口处的电压低于欠压保护阈值，当输入电流比较大时，不要忽略输入导线上的分压）。

8.服务声明

8.1 所有产品质保一年，七天无理由退货；**30** 天以内的产品质量问题（人为损坏或使用不当导致损坏除外），我们包退换并承担运费；超过 **30** 天的，买家承担来回运费，我们免费维修，客户导致的损坏收取维修费。

8.2.责任不明确的，我们查明问题后再做补偿。模块过载短路等不正当使用引起的炸机、芯片烧毁等不作补偿。

8.3.电子模块类产品，需要您拥有一定的电子基础，使用之前认真阅读产品说明；产品并非设计用于医疗、救生、维生等用途，不能用于煤矿油库等危险场所，凡此类责任我们均不作担保；产品利润低，用户的操作能力和使用场合千差万别，如果本店产品与您自己的贵重仪器设备或数码产品兼容使用，导致的任何损坏我们均不作担保，我们仅有能力赔付模块及运费。

8.4.退货说明：退货拒收到付件，请您务必附一张纸写明： **1.购买店铺名称 2.故障原因 3.联系方式。**

**High cost performance
programmable CNC adjustable
step-down power supply
module**

**(DIY desktop CNC small power
supply, you can easily do it
yourself)**

1. Baby highlights:

1. 1 LCD can display input/output voltage, output current/output power/output capacity/output time;
1. 2. CNC adjustment, accurate and fast, can boost and lower voltage, output voltage can be adjusted at

vill from 0.5–30v, limit current 0–4a can be adjusted at will;

1. 3. Anti-reverse connection protection of input end, which will not burn out;

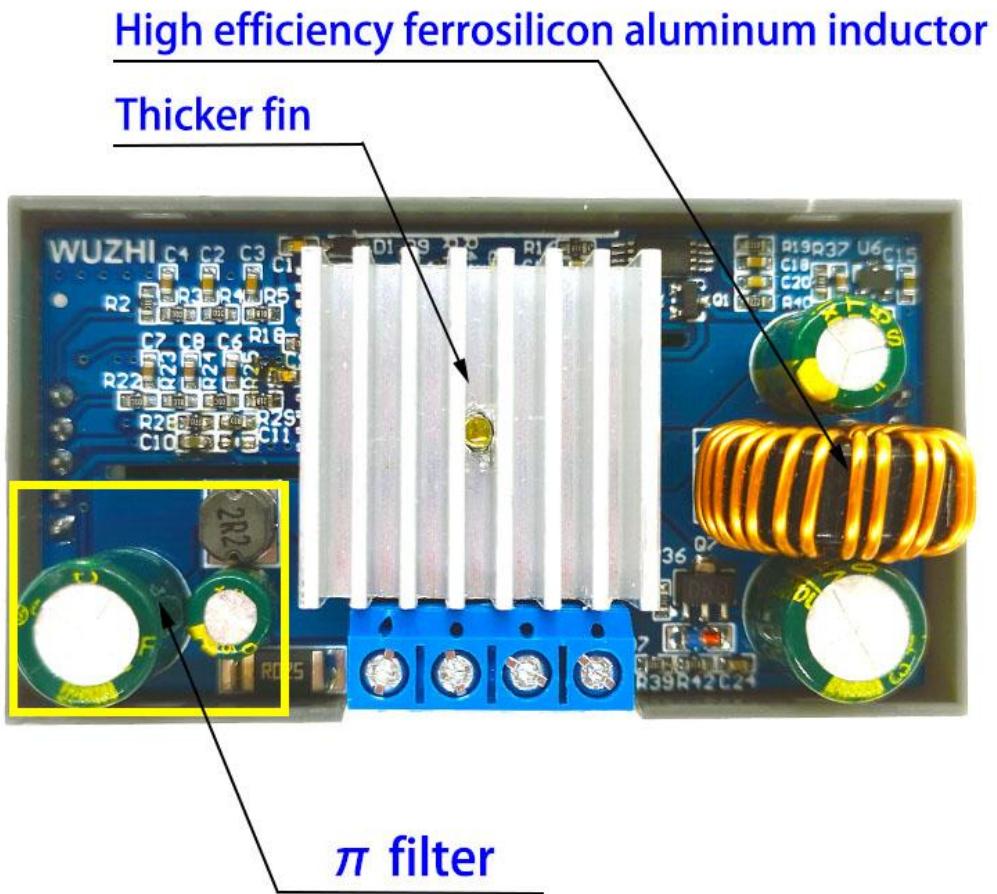
1. 4. Anti-reverse irrigation at the output end, no additional anti-reverse irrigation diode is needed to charge the battery;

1. 5. The module can be set to open/close by default;

1. 6. Multiple software protection mechanisms are available, and the protection threshold is adjustable. When the working parameters of the module exceed the protection threshold, the output will be automatically closed.

1. 6. Output ripple is small and PI filter is available;

1. 8. Thicken radiator fins.



2. Product parameters

Input voltage: 5.0-30v

Output voltage: 0.5-30v

Output current: can work stably at 3A for a long time,
and can reach 4A under enhanced heat dissipation

Output power: natural heat dissipation 35W, strengthen heat dissipation 50W

Voltage display resolution: 0.01V

Current display resolution: 0.001A

Conversion efficiency: about 88%

Soft start: yes (with high power and load module may fail when starting)

Protection mechanism:

Input anti-reverse connection;

Output anti-reverse irrigation;

Input undervoltage protection (4.8-30v adjustable, default 4.8v)

Output overvoltage protection (0.5-31v adjustable, default 31V)

Output overcurrent protection 0-4.1a (adjustable, default 4.1a)

Overpower protection (0-50w adjustable, default 50W)

Overtemperature protection (80-110°C adjustable, default 110°C)

Timeout protection (0-100h adjustable, off by default)

Super capacity protection (0-60ah adjustable, off by default)

Operating frequency: 180KHZ

Dimensions: length * width * height

79mm*43mm*26mm

Weight: 92g (including package)

Weight: 69g



3. Key description



Interface KEY	normal interface	regulating voltage and constant current	Set the parameters
SW	Short press: switching current A power W capacity Ah time h display Long press: switching input voltage output voltage display	NULL	Short press: toggle the parameters to be set Long press: null
U/I	Short press: enter the interface of regulating voltage constant current Long press: enter the interface of setting parameters	Short press: switch between regulating voltage value, regulating constant current value and exiting regulating Long press: null	Short press: null Long press: exit the setting parameters interface and return to the normal interface
Rotary encoder	Short press: toggle output to turn on and off Long press: null Left rotation: output voltage decreases Right rotation: output voltage increases	Short press: adjust the parameter shift accordingly Long press: null Left-rotation: the corresponding bit of adjustment parameter decreases Right-rotation: the corresponding bit of adjustment parameter increase	Short press: adjust the parameter shift accordingly Long press: turn off if parameters allow Left-rotation: the corresponding bit of adjustment parameter decreases Right-rotation: the corresponding bit of adjustment parameter increase

Note: after the product triggers the protection mechanism, the output will automatically turn off, the LCD will display the protection code, and press any key to exit the protection interface.

4. Interface description

Normal Interface

output voltage OUT 2384 V	output voltage OUT 23.84 V	input voltage IN 2387 V	input voltage IN 2391 V
output current 0.986 A	output power 0233 W	output capacity 0.002 Ah	output time 0:13 h

Interface for setting voltage and constant current

OUT 12.00 V ← Set output voltage
SET 4.000 A ← Set limiting current

Interface to set parameters

Normally open OPEN	Normally open OPEN	Under voltage 0480 V	Over voltage 3.00 V	Over current OCP
SET ON	SET OFF	SET LUP	SET DUP	SET 4.100 A
Over power DPP	Over temperature 0110 °C	Overcapacity off ORP	Overcapacity ORP	Timeout OFF OHP
SET 5.000 W	SET 0110 °C	SET OFF	SET 6.000 Ah	SET OFF
Timeout OHP	Calibration IN voltage IN 17.08 V	Calibration OUT voltage OUT 12.00 V	Calibration OUT current OUT 4.000 A	
SET 99:59 h	SET CRL	SET CRL	SET CRL	

Protection Interface

Under voltage Protection LUP	Over voltage Protection DUP	Over current Protection OCP	Over power Protection DPP	Over capacity Protection ORP
Timeout Protection OHP	Over temperature Protection ORP			

5. Method of use

5.1. Switch display parameters -- in the normal interface, press SW to switch the display below the display screen, and switch the display content between current A power W capacity Ah time h.Long press SW button to switch the uplink display on the display screen and switch the display content between input voltage IN output voltage OUT.

5.2. Set output voltage -- press U/I button in the normal interface to enter the interface of setting voltage constant current.It can be seen that a certain digit of the output voltage value is flashing. Rotate the encoder left and right to adjust the major and minor.Short press the rotary encoder to choose which bit of output voltage to set.After setting, press U/I button 2 times to return to the normal interface.Or automatically return to the normal interface after stopping operation for 10s.

5.3. Set constant current value (that is, the maximum current value allowed to output by the

module) -- press U/I button in the normal interface to enter the setting voltage constant current interface. Then press U/I button and switch to setting constant current value. You can see a bit of the setting constant current value flashing. Rotate the rotary encoder left and right to adjust the major and minor. Short press the rotary encoder to choose which bit to set the constant current value. After setting, press U/I to exit the setting voltage constant current interface and return to the normal interface. Or automatically return to the normal interface after stopping operation for 10s.

5.4. Set the default on/off state of module

power-on -- long press U/I in the normal interface to enter the parameter setting interface. You can see that it shows "OPEN OFF" or "OPEN ON". "OPEN OFF" means the output is turned OFF by default when power is ON, and "OPEN ON" means the output is turned ON by default when power is ON. Long press rotate encoder to switch two states. After setting, long press U/I to return to the normal interface.

5.5. Setting of protection parameters on state and threshold -- long press U/I to enter the parameter setting interface in the normal interface.Press SW until the protection you want appears.LUP -- undervoltage protection threshold;OUP -- overvoltage protection threshold;OCP -- overcurrent protection threshold;OPP -- over power protection threshold;OAP -- ultra-capacity protection threshold;OHP timeout protection threshold;OTP -- overtemperature protection threshold.Short press rotate encoder to select which bit you want to set the protection parameter.Long press the rotary encoder to set the protection parameters on or off (only timeout protection and supercapacity protection can be set to turn on/off, and other protection parameters are turned on by default.).Rotate the encoder left and right to make the parameters bigger and smaller.After setting, long press U/I to return to the normal interface.

5.6. Calibration voltage and current -- press U/I button to enter the parameter setting interface

under normal interface.Press SW until a parameter interface with CAL appears.The calibration input voltage interface with the symbol CAL+IN+V;The calibration output voltage interface with the symbol CAL+OUT+V;The calibration output current interface with the symbol CAL+OUT+A.Rotate the encoder left and right to adjust the size of parameters.After the adjustment is completed, long press the rotary encoder to confirm the adjustment is completed, and the parameter value is no longer flashing.Long press U/I to return to the normal interface.

Note: in order to ensure the accuracy of calibration, calibration voltage -- above 12V can only be started;Calibration current - start calibration only when the current is above 1A.

6. Packing form

Paper packaging

Weight: 92g



7. *Cautions*

- 7.1. Short connection between input IN and output OUT of the module is forbidden, or the constant current function will fail.
- 7.2. Please ensure that the power moment of the power supply exceeds the required power of the output load!

7.3. If the module wants to output with full load, the input voltage should be above 8V. When the input voltage is 5V, the output power is about 15W. The maximum module current value is 4A, subject to the maximum output power, such as 17V, the current should not be greater than 2A.

7.4. When this module is used over 3A and 35W, please strengthen heat dissipation!!!

7.5. The module has input undervoltage protection function, which is about 4.8v by default (it can be set), and the output will be automatically disconnected after the value is lower than this value (note that the voltage at the module port is lower than the undervoltage protection threshold, and when the input current is relatively large, do not ignore the partial voltage on the input wire).

8. Service statement

8.1 all products are guaranteed for one year and returned without reason for seven days; For product quality problems within 30 days (except those caused by artificial damage or improper use), we

guarantee to return or replace the products and bear the freight. For more than 30 days, the buyer will bear the back and forth freight, and we will repair the damage caused by the customer for free.

8.2 if the responsibility is not clear, we will make compensation after identifying the problem. Module overload short circuit and other improper use caused by the explosion of aircraft, chip burning will not make compensation.

8.3. Electronic module products require you to have a certain electronic foundation, and read the product description carefully before using; The product is not designed to be used for medical treatment, life saving and livelihood, and cannot be used in dangerous places such as coal mine and oil depot. The product profit is low, the user's operation ability and the use occasion varies greatly, if this shop product and your own valuable instrument equipment or digital products compatible use, cause any damage we do not guarantee, we only have the ability to compensate the module and freight.

8.4. Instructions for returning goods: if you refuse to

receive the goods upon receipt of the goods, please attach a piece of paper indicating: 1.Purchase store name. 2. Cause of failure.3. Contact information.