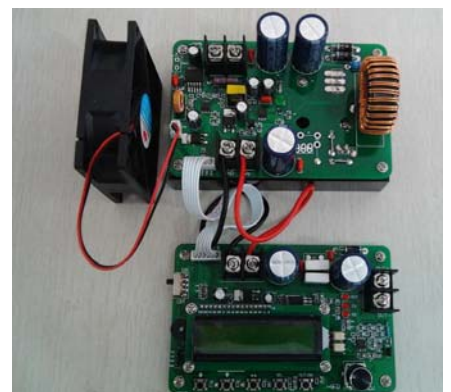


USER'S GUIDE

Highpowered and programmable Switching Power supply

Model: ZXY6020A



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Warranty and Introduction

Warranty service

This product needs to warranty service or repair, please send the product back to us, send us the warranty products. The customer must pay send our single freight, we will be responsible for the return to pay the freight.

Introduction

ZXY6020A is a one-single output, high powered and programmable switching power supply. Its specification is 60V, 20A, 1200W. This model has a very small size and ultrathin body. Besides, it has equipped with TTL serial interface. It can provide you with multiple proposal to meet your test demands. The main special function and advantages are as follows:

- based on the BUCK framework of switch power supply technology, work frequency 150KHz
- DC input range: DC13V to DC62V suitable for a variety of previous input power
- digital key operation and multi-function encoder switch operation
- high resolution and accuracy
- low noise and ripple, to be on a par with linear power supply
- high resolution: 10mV/10mA
- intelligent air cooling control
- support parallel connection and series connection
- Voltage and current adjustment: coarse control and fine control
- support measurement shows that the output voltage, current, power, AH, time
- minimum differential pressure 2 v can still work stability
- power board control board fission design
- output shutoff button key flexible open or closed output
- M0 to M9 common 10 group parameter set

Chapter1 Inspection and Installation

1.1 Inspection

The following steps help you verify that the power supply is ready for use.

1. check the appearance

If you find any damage of panel or outline border, please contact with us.

2. check the accessories

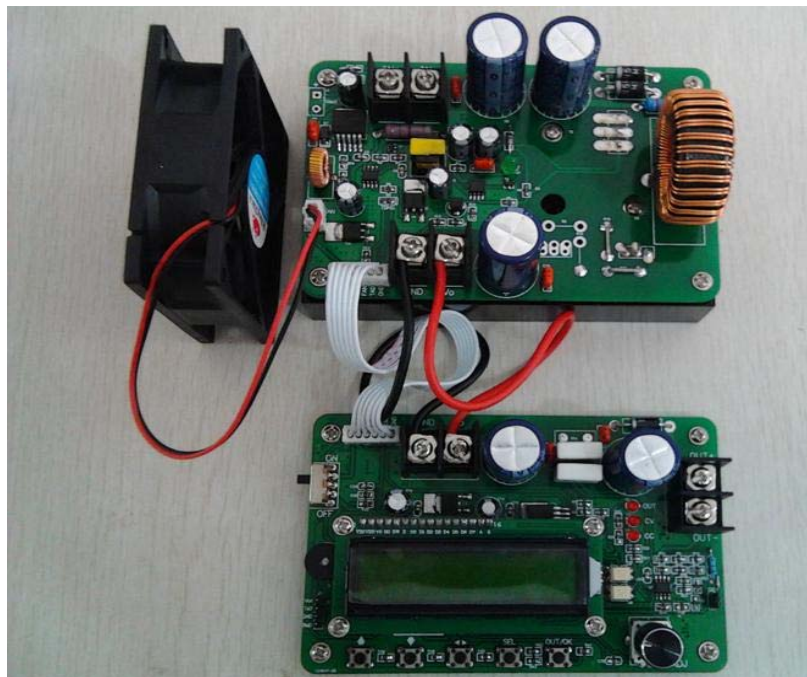
To verify that you have received the following items along with your power supply. If something is missing, please contact with us.

- ✧ one 7PIN connecting
- ✧ one 80*80 fan
- ✧ one user's manual
- ✧ one power board
- ✧ one control board
- ✧ power board connection control board connection line

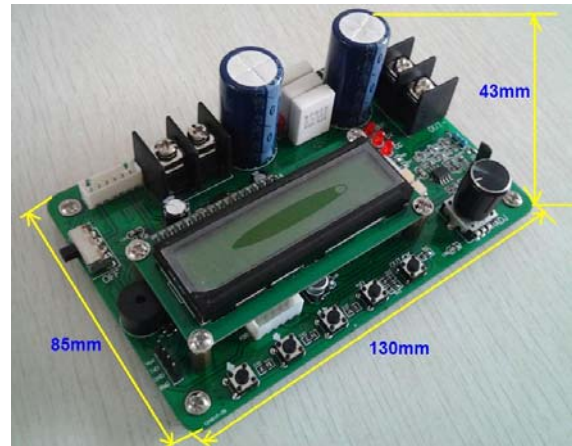
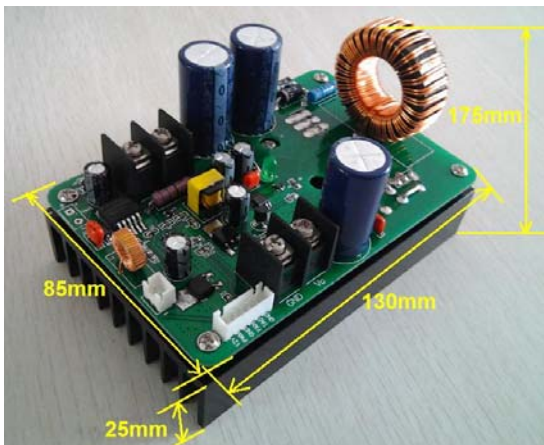
3. DC input

Support DC input range:DC 13V to DC 62V.

1.2 Dimension



Power board: 85mmWx175mmHx130mmD Control board: 85mmWx43mmHx130mmD

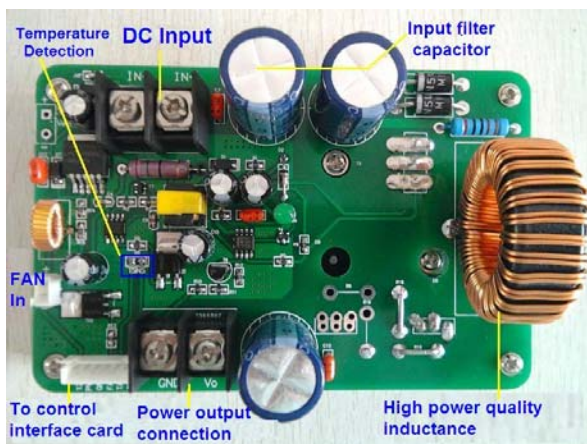


Chapter2 Quick start

This chapter will introduce power module part. To ensure you have a quick understanding of this product before you using it.

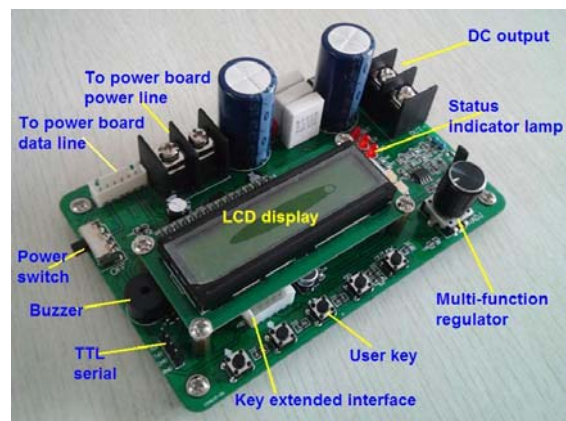
2.1 Module described

Power board:



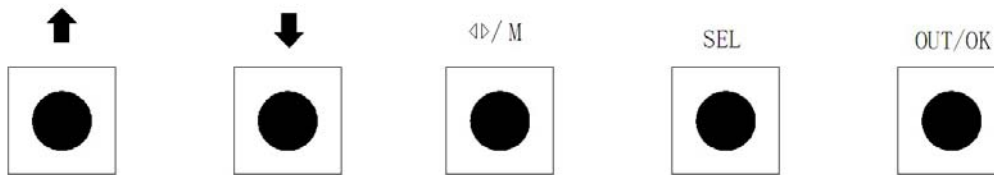
1. DC Input
2. Input filter capacitor
3. Quality inductance
4. Control board connecting
5. Data line
6. Fan outlet
7. Temperature detector

Control board:



1. Data line
2. Power board connecting
3. DC output
4. Led lamp
5. Coding switch regulator
6. User key
7. LCD display
8. User and coding switch regulator interface
9. TTL serial
10. Buzzer
11. Power supply switch

2.2 keyboard introduction



Keyboard instruction as follows:

keys	Name and functions
↑	Up key
↓	Down key
<D>/M	Storage call and cursor move around key
SEL	Select key, setting parameter selection
OUT/OK	Output on/off button,confirm key

Chapter3 power-on inspection

This chapter will introduce the power-on check procedure to ensure the unit is ready for use. It includes two parts: pre-check and output check.

3.1 power-on pre-examination

Power on preexamination check to ensure the correct connection.

1. Power on

Use the following steps to help solve problems you might encounter when turning on the instrument. If the unit can not be started normally, please check according to following guidance.

First verify power board to control board connecting, control board switch is it is turned on.

3.2 Output checkout

The following procedures help to check and ensure that the power supply develops its rated outputs and properly responds to operations on the key board.

1. Voltage Output Checkout

The following steps verify basic voltage functions without load.

- 1) Turn on the power supply
- 2) Set the output current ($\geq 0.1A$)
- 3) Open the output

LED lamp "OUT", "CV" will be lit, LCD screen most the right side above row display "CV", below

row display"ON".

4) Press  key, check working time and current power board module temperature

5) Set output current

Set different voltage and check whether LCD display voltage is approximate to the setting voltage.

6) Ensure the output voltage can be adjusted from 0V to full rate value.

2. Output current checkout

The following steps check basic current functions with a short across the power supply's output

1) Turn on the power supply.

2) Disable the output ensure that the output is disabled.

3) Connect a short across (+) and (-) output terminals with an insulated test lead. Use a wire size sufficient to handle the maximum current.

4) Set the output voltage(1V).

5) Enable the output .

LED lamp "OUT","CC"bright, LCD screen most right side above row display"CC", below row display"ON".

6) Adjust the current

Set different current values and check whether the voltage display approximate to 0V, the display current value is approximate to the setting value.

7) Ensure that the current can be adjusted from zero to full rated value.

8) Turn off the power supply and remove the short wire from the output terminals.

Chapter4 Specification

This chapter will introduce the rated voltage,current,power and many other main parameters of ZXY6020A.

4.1 Main Specification

parameters		ZXY6020A
Rated value (0℃-40℃)	voltage	0 ~ 60V
	current	0 ~ 20A
	power	0 ~ 1200W
DC voltage value input		13V ~ 62V
Voltage setting resolution		10mV
Current setting resolution		10mA
Power effect		CV < 0.5%+10mV CC < 1%+5mA
Load effect		CV < 0.5%+10mV CC < 1%+5mA

Output ripple	< 50mVpp
100Hz wave transmission ratio	< 1/10000
Typical efficiency	Vi= 54V, Vo= 26V, Cur.= 20A, efficiency=88%
Setting accuracy	10mV,10mA
Voltage readback accuracy	±0.5%+20mV
Current readback accuracy	±1%+5mA
State storage capacity	M0~M9 common 10 group
Cooling style	Fans
Operation temperature	0 ~ 40℃
Storage temperature	-20 ~ 70℃
Environmental conditions	Designed for indoor use and operated at maximum relative humidity of 95%

Chapter5 Basic Operations

This chapter describes in detail the use of the key board and show they are used to accomplish power supply operation.

This chapter is divided into the following sections:

- Setting voltage
- Setting current
- On/off
- Function set

5.1 Setting voltage

Correct connection board and power board, When power board DC input , LED lamp will lit, if it not light, please check the connecting line. Open the control board switch, LCD default display preset voltage and current, are shown in the following figure:

SET U=16.00V NOR
M0 I=12.00A OFF

In the picture M0 means current after power on default has call stored in M0 position setting parameters."U=16.00V" means setting voltage value at 16.00V, "I=12.00A" means setting current value at 12.00A, NOR means normal, "OFF"means output disable.

Press "SEL" key , M0 disappear, cursor will appear in the voltage value below. Display such

SET U=16.00V NOR
I=12.00A OFF

SET U=12.50V NOR
I=12.00A OFF

as above left.

Rotating code switch change voltage value, "<>/M" key change cursor position, display such as above right.

5.2 Setting current

After setting voltage, press "SEL" key, cursor at current value, display such as below figure.

SET U=12.50V NOR
I=12.00A OFF

SET U=12.50V NOR
I=18.25A OFF

Rotating code switch change current value, "<>/M" key change cursor position, display such as above right.

5.3 on/off

After set voltage and current, press "OUT/OK" key, LED indicator lamp will be lit, output terminal voltage output, LCD display such as below figure:

12.52V 0.00A CV
0.00W 0.00AH ON

Work status display if real-time voltage, current, power, capacity. Voltage practical value is 12.52V, the actual display value and preset voltage value have a small amount of differences, output terminal no load, current value is 0A, power value is 0W

, capacity is 0AH, when current value change, this value is increase. power supply works in CV mode, ON means output terminal has voltage, LED indicator CV and OOU lamp will be lit.

In this status, press "SEL" key adjust voltage and current, output terminal work normal, display such as below figure:

12.52V 0.00A CV
0.00W 0.00AH ON

12.52V 0.00A CV
0.00W 0.00AH ON

Note: In regulating encoder 0.5 seconds, LCD screen display is set value, after 0.5 second this value and into actual value.

In the output terminal connected to the load, the current display current value, actual current value is 8.25A, power are 103.2W, capacity 0.25AH will increasing, when the screen

12.52V 8.25A CV
103.2W 0.25AH ON

12.52V 8.25A CV
TIME 00:01:25 ON

when there isn't any cursor, press ⬇ key, may reset AH value to accumulated. display such as above figure. when the screen when there isn't any cursor, press ⬆ key, may switch to time display, display such as above figure right. display time format is (H:M:S)

Time to show only the power in the output enable, output disable time is not work, in this status press ⬇ key may reset time display. Press ⬆ key again, LCD screen below row display the current module temperature value. this value 48 means temperature is 25 °C. Press ⬆ key

12.52V 8.25A CV
T-SNS 48 ON

again go back default display mode.

When change load parameters, power supply in CV mode, voltage constant, but current value increase to 18.25A, power supply in CC mode.

12.52V 8.25A CV
103.2W 0.25AH ON

11.56V 18.24A CC
210.8W 0.83AH ON

In the picture can be seen in power supply work in CC mode, LED indicator CC and OUT lamp will be lit.

5.4 Function set

When output disable and cursor disappear. Rotational coding switch or press  key and  key, able to cycle decruitment each specific functions,

Press "OUT/OK" key ensure. following introduce every function:

- (1)SET U-CAL: Setting calibration voltage measurement value.
- (2)SET I-CAL: Setting Calibration current measurement value.
- (3)SET OTP: Setting temperature protection value.
- (4)SET OVP: Setting OVP value.
- (5)SET OCP: Setting OCP value.
- (6)SET OPP: Setting OPP value.
- (7)SET OAH: Setting OAH value.
- (8)SET OFFTIME: Setting timeout value.
- (9)---SAVE DATA! ---: Save.
- (10)Start up: OFF Setting whether output enable startup, default disable.
- (11)System Recover System initialization.
- (12)Sound Enable: ON Sound setting. Default sound are prompt is open.
- (13)Save Parameter Save parameter in M0 ~ M9 common 10 position.

1. Setting OTP, when LCD screen display such as following figure, press "OUT/OK" key change OTP value.

SET OTP
PRESS <OK> ENTER

T-SNS VALUE 48
OTP = 0

Default "OTP = 0" means no using OTP function. When environment temperature is 25 °C value is 48, temperature every rise 8 °C, this value will be decrease 1, for example "OTP = 40", Press "OUT/OK" key ensure. temperature above $25 + (48 - 40) * 8 = 89$ °C, power output shut off.

2. Setting OVP, when LCD screen display such as following figure, press "OUT/OK" key change OVP value.

SET OVP
PRESS <OK> ENTER

SET OVP VALUE
OVP= 0.00V

Default "OVP = 0.00V" means no using OVP function,regulation encoder, Maximum voltage value 64.00V Minimum voltage value 0.00V, when "OVP = 30.00V" press "OUT/OK" key, regulation encoder change voltage value can't more than 30.00V.

3. Automatically shut off. This introduce OPP shut off, other the same to this. The following figure press "OUT/OK" key setting value.

SET OPP
PRESS <OK> ENTER

SET OPP VALUE
OPP= 0.00W

Default "OPP = 0.00W" means no using OPP function, use "<>/M" key adjustment cursor position. For example "OPP = 200.00W", when power more than 200W power output shut off.

4. Power-on output enable, default output disable.Press "OUT/OK" key to change,"Start up: ON" Power-on output enable.For below figure left:

Start up: OFF
Press <OK> Change

Sound Enable:ON
Press <OK> Change

5. Sound enable, default press key BUZZER chirping, if want to cancel sound , press "OUT/OK" key ,such as figure for right above.

6. Recovery factory value, for bellow figure press"OUT/OK"key ensure.

System Recover
Press <OK> Enter

SAVE PARAMETER
—M0—

7. Save parameters such as above figure right, press "<>/M" key change position M0 ~ M9 common 10 group, press "OUT/OK" key after save data.Such as this figure.

SAVE PARAMETER
Successful!

Notice:

M0 parameter are default automatic load, when power-on load M0 parameter.

5.5 List

1. ZXY6020A Power board	1PCS
2. ZXY6020A Main control board	1PCS
3. 6P wire (20cm)	1PCS
4. Power line (20cm)	2PCS
5. User Manual	1PCS