



DC POWER SUPPLY

Instruction Manual

(Please read carefully and thoroughly this instruction manual before operation, and keep it safely.)

一、Summary

RXN.PS.JPS Series DC Power Supply design for scientific study, product development, laboratory, junior college, electronic production line. Output voltage and output current between 0 to rated value are continuously adjustable. They have high precision, high reliability, perfect overload protection circuit. ZHAOXIN products are the best choice of auto industry, electronic industry, communications industry, digital product, research institutions and educational institutions.

二、Parameter specification

2-1 Rated working condition:

Input voltage: AC 110V/220V \pm 10% (switch to choose) 50/60Hz

Working conditions: Temperature: -10℃ to 40℃
relative humidity < 90%

Storage conditions: Temperature: -10℃ to 40℃
relative humidity < 80%

2-2 Constant voltage working condition:

- (1) Output voltage between 0 to rated value is continuously adjustable.
- (2) Voltage stability $\leq 0.01\% + 2\text{mV}$
Load stability $\leq 0.01\% + 2\text{mV}$
- (3) Recovery time $\leq 100\mu\text{s}$
- (4) Ripple and noise $\leq 1\text{mVrms}$ (effective value)
- (5) Temperature coefficient: $\leq 200\text{PPM}/^\circ\text{C}$

2-3 Constant current working condition:

- (1) Output current between 0 to rated value is continuously

adjustable.

(2) Current stability $\leq 0.2\% + 3\text{mA}$

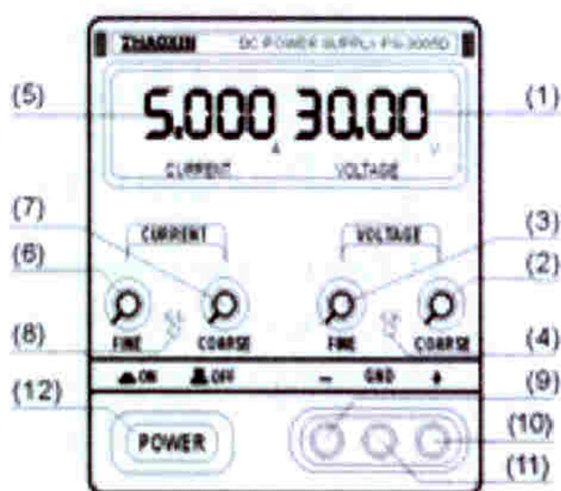
Load stability $\leq 0.2\% + 3\text{mA}$

(3) Ripple and noise $\leq 2\text{mArms}$ (effective value)

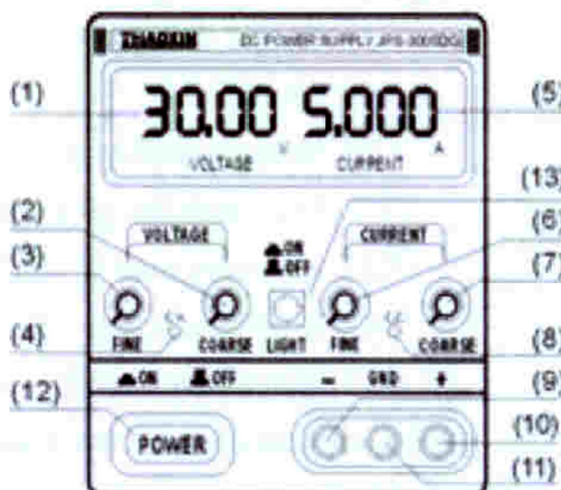
三、Panel features

3-1 Four digit display front panel features (See picture1 and picture2)

- (1) Four digit voltage display
- (2) Output voltage coarse adjustment
- (3) Output voltage fine adjustment
- (4) Constant voltage pilot lamp
- (5) Four digit current display
- (6) Output current fine adjustment
- (7) Output current coarse adjustment
- (8) Constant current pilot light
- (9) Negative terminal of output ("—")
- (10) Positive terminal of output ("+")
- (11) Chassis earth terminal ("GND")
- (12) Power switch
- (13) Backlight select switch



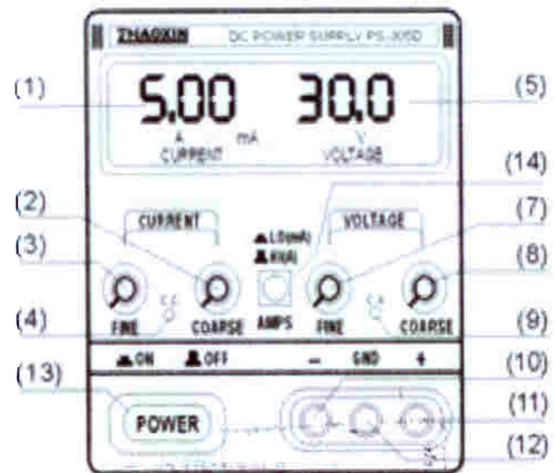
Picture 1PS Series 4 digit LED display



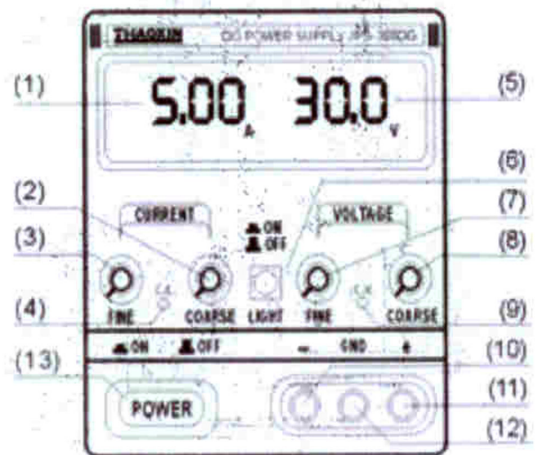
Picture 2 JPS Series 3 digit LCD display

3-2 Three digit display front panel features (See picture 3 and picture 4)

- (1) Three digit current display
- (2) Output current coarse adjustment
- (3) Output current fine adjustment
- (4) Constant current pilot light
- (5) Three digit voltage display
- (6) Backlight select switch
- (7) Output voltage fine adjustment
- (8) Output voltage coarse adjustment
- (9) Constant voltage pilot lamp
- (10) Negative terminal of output ("—")
- (11) Positive terminal of output ("+")
- (12) Chassis earth terminal ("GND")
- (13) Power switch
- (14) A/mA conversion switch



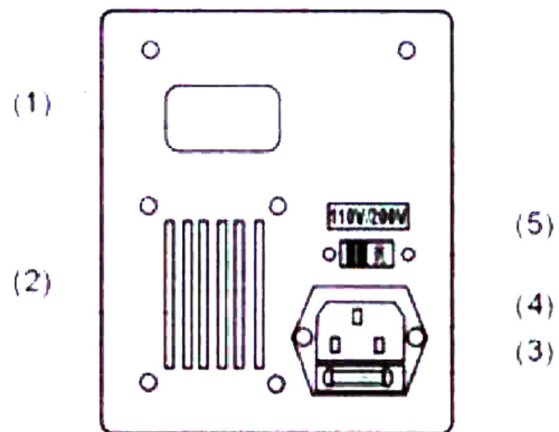
Picture 3 PS Series 3 digit LED display



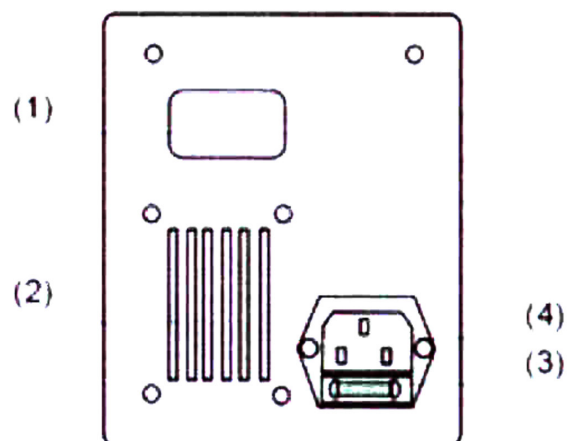
Picture 4 JPS Series 3 digit LCD display

3-3 Rear panel features (See picture 4 and picture 5)

- (1) "Attention" sticker
- (2) Radiator fan
- (3) Fuse
- (4) AC input terminal
- (5) AC input voltage select switch



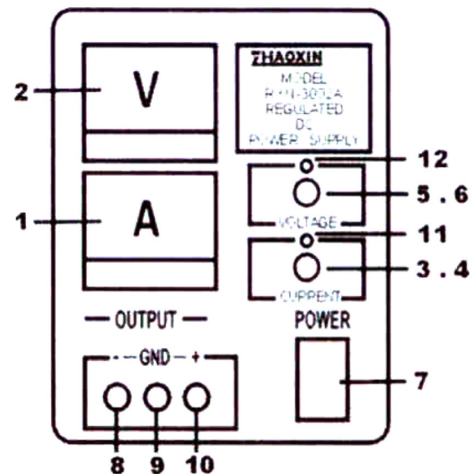
Picture 4 PS Series rear panel



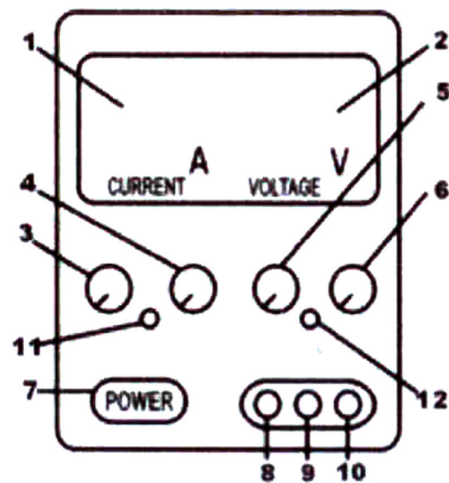
Picture 5 RXN, JPS Series rear panel

3-4 RXN Series penal features

- (1)Current display
- (2)Voltage display
- (3)Output current fine adjustment
- (4) Output current coarse adjustment
- (5)Output voltage fine adjustment
- (6)Output voltage coarse adjustment
- (7)Power switch
- (8)Negative terminal of output(“—”)
- (9)Chassis earth terminal (“GND”)
- (10)Positive terminal of output (“+”)
- (11)Constant current pilot light
(When the light goes on, it is in the constant current condition)
- (12) Constant Voltage pilot light
(When the light goes on, it is in the constant voltage condition)



RXN-3002ASeries



RXN-302ASeries

四、 Operating Instruction

4-1 Notice:

- (1) AC input voltage must be same with select input voltage.(AC 110V/220V)
- (2) Insulation: The radiator in the rear of the machine should have enough space to dissipate heat. PS.JPS Series DC Power Supply have temperature control switch, when inside temperature $\geq 45^{\circ}\text{C}$ radiator fan start to rotate to dissipate heat. Do not use the machine in a place where the temperature is over 45°C .
- (3) Overshoot Limit of Output Voltage: The voltage of the output terminals is not greater than the preset value when turn on/off the power supply.

4-2 Method of operation:

- (1) Connect the machine to the mains supply. AC input voltage must be same with select input voltage.(AC 110V/220V)
- (2) Put power switch to the "ON", and the red pilot lamp will go on. (current coarse adjustment knob and current fine adjustment knob are not zero)
- (3) Adjust voltage coarse and fine adjustment knob to the required value. (current coarse adjustment knob and current fine adjustment knob are not zero)
- (4) Connect the external load to the "+" and "-" output terminal.
- (5) When it is used to meet high requirement, the binding post of output "+" or "-" must be connected with "GND" binding post to reduce the output ripple voltage.

4-3 Constant current setting:

- (1) Adjust the voltage to 2-5V arbitrary value (current coarse

- adjustment knob and current fine adjustment knob are not zero).
- (2) Adjust current coarse adjustment knob and current fine adjustment knob to 0 (turn it to the end anticlockwise).
 - (3) Using the line to connect the output of the positive (“+”) and the negative (“-”) electrodes.
 - (4) Then clockwise adjust the current fine or coarse adjustment knob to the required current value.
 - (5) Remove the short-circuit line, adjust voltage coarse or fine adjustment knob to the required voltage value, and now it is ready to be used.

4-4 Constant voltage / Constant current characteristics:

This series DC Power Supply working characteristic is called constant voltage / constant current automatic switching type. It can switch over continuously between the constant voltage and constant current state along with the variation of the loads. The intersection between the constant voltage state and the constant current state is called transformation point.

For example, if the load makes the power supply work in constant voltage state, the output voltage keeps constant. In other words output voltage will not change with load changes, output current will change with load changes. When the load makes the power supply work in constant current state, the output current keeps constant, output voltage will change with load changes. As load increases voltage dip.

The switchover between constant-voltage and constant-current is indicated by the LED on the front panel. When CV light goes on, it is in constant voltage state. When CC light goes on, it is in constant current state.

五. Technical parameters (3 digit LED/LCD display)

Model Parameters	PS-202D JPS-202D(G)	PS-302D JPS-302D(G)	PS-303D JPS-303D(G)	PS-305D JPS-305D(G)
Voltage output range	0-20V	0-30V	0-30V	0-30V
Current output range	0-2A	0-2A	0-3A	0-5A
Current & Voltage display model	PS series are 3 digit LED display JPS series are 3 digit LCD display, DG means with backlight.			
Display precision	$\pm 1\% \pm 1$ word			

六. Technical parameters (4 digit LED/LCD display)

Model Parameters	PS-2002D JPS-2002D(G)	PS-3002D JPS-3002D(G)	PS-3003D JPS-3003D(G)	PS-3005D JPS-3005D(G)
Voltage output range	0-20V	0-30V	0-30V	0-30V
Current output range	0-2A	0-2A	0-3A	0-5A
Current & Voltage display model	PS series are 4 digit LED display. JPS series are 4 digit LCD display, DG means with backlight.			
Display precision	$\pm 0.1\% \pm 1$ word			

七. Technical parameters(3 digit LED display and pointer display)

Model Parameters	RXN-2002A RXN-202A (D)	RXN-3002A RXN-302A (D)	RXN-3003A RXN-303A (D)	RXN-3005A RXN-305A (D)
Voltage output range	0-20V	0-30V	0-30V	0-30V
Current output range	0-2A	0-3A	0-3A	0-5A
Current & Voltage display mode	A means pointer display, D means LED digital display			
Display precision	Pointer display: $\pm 2.5\%$. Digital display: $\pm 1\% \pm 1$ word			

Model parameters	RXN-602A(D)	RXN-603 A(D)	RXN-605A(D)	RXN-1510 A(D)
Voltage output range	0-60V	0-60V	0-60V	0-15V
Current output range	0-2A	0-3A	0-5A	0-10A
Current & Voltage display mode	A means pointer display, D means LED digital display			
Display precision	Pointer display: $\pm 2.5\%$. Digital display: $\pm 1\% \pm 1$ word			