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› RD RD6012PW DC Power Supply Instruction Manual

RD RD6012PW

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Model: RD6012PW

Brand: RD

1. INTRODUCTION

The RD RD6012PW is a 5-digit dual-range DC-to-DC step-down voltage power supply. This adjustable buck converter features a voltmeter and is designed to provide stable output up to 60V and 12A. This manual provides essential information for the safe and effective operation, assembly, and maintenance of your RD6012PW power supply.

2. KEY FEATURES

- 5-digit display with switchable 12A/6A current ranges, offering 0.0001A resolution at 6A and 0.001A resolution at 12A.
- Supports APP control and PC software via USB connection (Windows 7 and above, Android 5.0 and above, iOS 10.0-13.4).
- User-friendly interface with keypad control and customizable display styles.
- Multiple protection features: Over-Voltage Protection (OVP), Over-Current Protection (OCP), and Over-Temperature Protection (OTP).
- Detachable double fuse setting for easy replacement.
- AC to DC power supply capability, accepting 110V AC input for a maximum output of 60V 12A.

3. SETUP AND ASSEMBLY

The RD6012PW unit, case, and 800W PSU are provided unassembled. Assembly is required before use. Please follow the instructions carefully.

3.1 Components Overview

The package includes the RD6012PW module, an S800 metal case, and an 800W Power Supply Unit (PSU). A CR1220 battery is required for the Date-Time Display and is not included.



Figure 3.1: RD6012PW module, 800W PSU, and S800 metal case (unassembled).

3.2 Assembly Instructions

Detailed assembly instructions are available in the provided documentation or through official product videos. Ensure all connections are secure and correct before powering on the device. Pay close attention to wiring, especially for power connections (brown and blue wires instead of white and black in some cases). No power cord or output wires are included.



Video 3.2: Official product video demonstrating the RD6012P actual test, accuracy, ripple, and efficiency. This video can also provide visual guidance for assembly and operation.

4. OPERATING INSTRUCTIONS

4.1 Current Range Switching

The device supports a 12A/6A current range switch. The default range is 12A (0.001A resolution). Switching to the 6A range provides 0.0001A resolution. When switching ranges, the output will automatically cut off, and protection values will reset to low values for safety. If switching from 6A to 12A, the protection values will not automatically increase and must be manually adjusted for higher current output.

4.2 Display Customization

The RD6012PW offers various display styles (Classic, Detailed, Curve) and custom color options. These can be

configured through the system settings interface.

Display Style Switch As You Like

Classic Style | Detailed Style | Curve Style



The system defaults to display the classic style, click to display the classic style/detailed style/curve style in turn.

Add Nixie Tube Display

Enter the setting interface ②, select Digits Style, rotate the encoder potentiometer to [7-Seg V1] [7-Seg V2], you can turn on nixie tube display



Display Color Match As You Want

Match your exclusive display colors



Enter the system setting interface, press to turn pages



Custom Color Display

The following languages are currently supported, and more languages are being updated continuously...

Chinese English French German Russian

The display color supports the above 15 colors to be freely matched and set, and the color customization switch must be turned on to take effect

4.3 PC Software and Mobile APP Control

The power supply can be monitored and controlled using PC software (Windows 7 and above) or a mobile application (Android 5.0 and above, iOS 10.0-13.4). It is recommended to download and test the APP for compatibility with your phone system before purchase. The WiFi communication only supports 2.4G signals.

PC Software Control (Comprehensive Functions | Convenient Control)

The power supply can be monitored and set on the PC software, with a friendly interface and powerful functions

(Only support WIN7 or above)



There may be incompatibilities problems of this software, if you really need it, please install and test the software before buying the product.

Mobile APP Control (Android+IOS)

WiFi connection, easy to view/set



- There are many types of mobile phones and operation systems, so there may be incompatibilities, if you need APP function, please install and test the APP before buying the product.
- Apple APP(IOS10.0 -13.4 iPhone6-iPhone11): please search "RDPower" to download the APP.
- Android APP(Android5.0-10.0): please download the APP in the accessory pack; Samsung mobile phone user needs to install and test the APP before buying.
- The Wi-Fi communication can only supports 2.4G signal, 5G signal unsupported.
- Language setting: Simplified/Traditional Chinese, English, more languages will be added...

4.4 Output Power Limit

The device automatically adjusts to ensure that the output power does not exceed the set output power. The output power setting range is 10-740W. For full-scale output, use the recommended power supply.

5. MAINTENANCE

5.1 Fuse Replacement

A backup fuse is included. If a fuse burns out, you can temporarily insert the backup fuse into the socket next to the burned one. This temporary solution supports usage under 10A. For optimal performance (12A output), replace the burned fuse with a new one of the correct rating.

INFORMATION

Model :	RD6012P RD6012P-W
Input voltage range :	7-70.00V
Output voltage range :	0-60.000V
Output current range :	0-12.000A
Output power range :	0-720.00W
Input voltage measurement resolution :	0.01V
Input voltage measurement resolution :	0.001V
Output current setting measurement resolution :	0.0001A(6A range) /0.001A(12A range)
Battery voltage measurement resolution :	0.01V
Input voltage measurement accuracy :	±(1%+5 digits)
Output voltage accuracy between setting and measurement :	±(0.5%+4 digits)
Output current accuracy between setting and measurement :	±(1%+6 digits)
Battery voltage measurement accuracy :	±(0.5%+3 digits)
Automatic cut off current value when charging :	Set by yourself
Output ripple typical :	20mV VPP ①
Working temperature range :	-10°C~40°C
External sensor Temperature detection range :	-10°C~100°C/0°F~200°F
External sensor Temperature detection accuracy :	±3°C/±6°F
Constant voltage mode response time :	2ms(0.1A-5A load)
Constant voltage mode load regulation :	±(0.1%+2 digits)
Constant current mode load regulation :	±(0.1%+3 digits)
Capacity measurement range :	0-9999.99Ah
Energy measurement range :	0-9999.99Wh
Constant voltage mode response time :	±2%
Max output voltage :	(input voltage÷1.1)-2 ②
Cooling fan start condition :	Output current>4A or System temperature>50°C
Cooling fan shut down condition when working :	Output current<3.9A and System temperature<50°C
Over temperature protection :	System temperature >80°C
Screen brightness setting :	0-5(6 level in total)
Screen :	2.4 inch color HD display
Weight(with package) :	About 0.66Kg
Product dimension :	167*81*65mm

① Ripple measurement method: noise and ripple are measured at X1 range, AC coupling, 20MHz of bandwidth on your oscilloscope with a 0.1uF parallel capacitor at the output terminals.

② For example: input voltage is 24, the max output voltage is 19.8V.

5.2 Date-Time Display Battery

A CR1220 battery is required for the Date-Time Display function. This battery is not included and must be prepared separately.

6. TROUBLESHOOTING AND PROTECTION

6.1 Over-Current Protection (OCP)

The OCP value can be set. If the output current exceeds this set value, the power supply will automatically stop the output to prevent damage to the device. If the OCP value is lower than the I-SET value, the output will shut down. For protection, when OCP value is higher than I-SET value, the output will not shut down but enter constant current mode, which is suitable for high-power LED lamps.

6.2 Over-Voltage Protection (OVP)

The OVP value can be set. If the output voltage exceeds this set value, the power supply will automatically stop the output to prevent damage to the device.

6.3 Over-Temperature Protection (OTP)

The system includes over-temperature protection. If the system temperature exceeds 80°C, the output will automatically shut down.

Multiple Protection (Protect Your Device)

The output over-voltage (OVP)/over-current (OCP) value can be set. When the output voltage/current exceeds the protection value, the power supply will automatically stop the output to prevent damage to the device

Over Voltage
Protection

Over Current
Protection

Over Temperature
Protection



When the OCP value is lower than I-SET value, when you short the output, it will shut down the output for protection, when OCP value is higher than I-SET value, when short the output, it will enter constant current mode, it is suitable for constant current device such as high power LED lamp

Abnormal Status Indication



Normal Status Indication



Over Voltage Status Indication



Over Current Status Indication

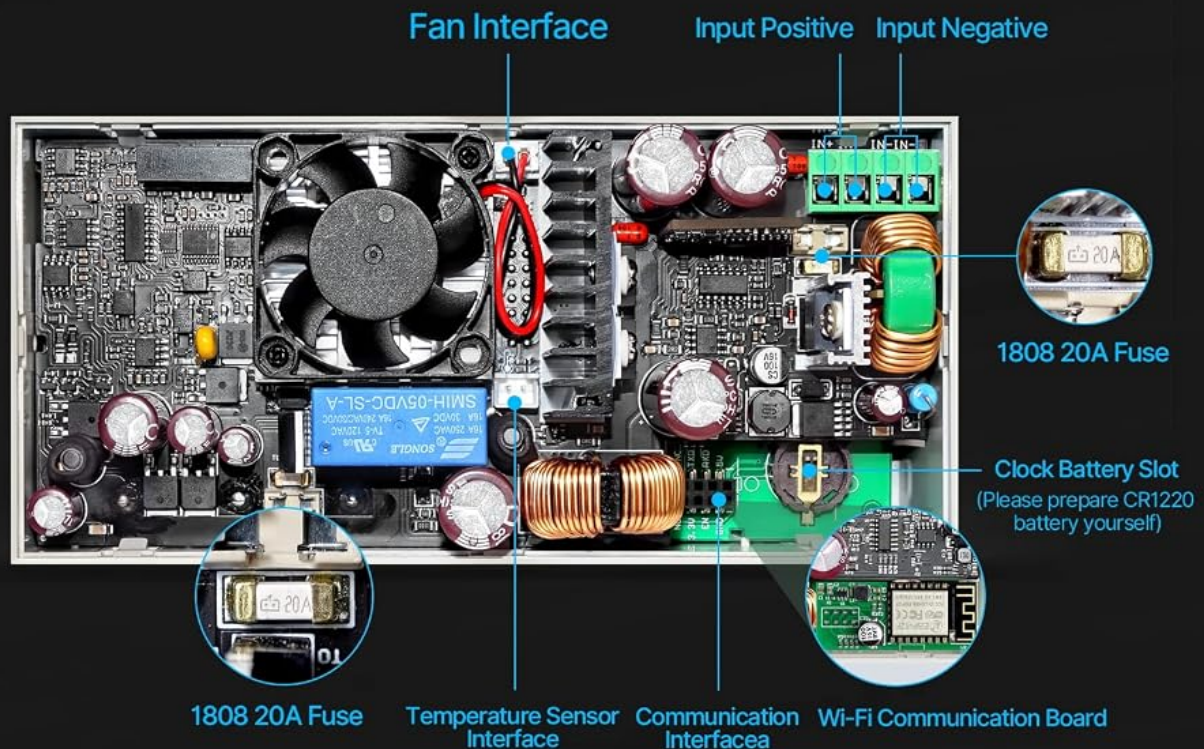


Over Temperature Status Indication

when the temperature exceeds the protection value, the output will be shut down automatically

Double Fuse Setting (Detachable Design, Easy To Replace)

Detachable snap-on fuse for easy replacement



- You cannot connect non-original accessories to the temperature sensor/fan/communication interface on the board, to avoid device burnt.
- We always optimize our products for better performance, so the product you receive may have little difference with the picture, please adhere to the actual product instead.

Figure 6.1: Display indicators for Normal Status, Over Current (OCP), Over Voltage (OVP), and Over Temperature (OTP) protection.

7. TECHNICAL SPECIFICATIONS

Parameter	Value
Model	RD6012P-W
Input Voltage Range	7-70.00V
Output Voltage Range	0-60.000V
Output Current Range	0-12.000A (12A range) / 0-6.0000A (6A range)
Output Power Range	0-720.0W
Output Voltage Accuracy	±(0.5%+4 digits)
Output Current Accuracy	±(1%+6 digits)
Output Ripple Typical	20mV VPP (Note 1)
Working Temperature Range	-10°C~40°C
Constant Voltage Mode Response Time	2ms (0.1A-5A Load)
Capacity and Energy Statistical Error	±2%
Working Mode	Buck mode: (input voltage÷1.1)-2 (Note 2)
Over Temperature Protection	System temperature > 80°C
Product Dimensions	12.2 x 7.09 x 3.54 inches
Item Weight	7.34 pounds
Power Source	Corded Electric
Mounting Type	Chassis Mount
Current Rating	10 Amps, 6 Amps
Specification Met	FCC, UL

Note 1: Ripple measurement method: noise and ripple are measured at X1 range, AC coupling, 20MHz of bandwidth on your oscilloscope with a 0.1uF parallel capacitor at the output terminals.

Note 2: For example: if input voltage is 24V, the maximum output voltage is 19.8V.

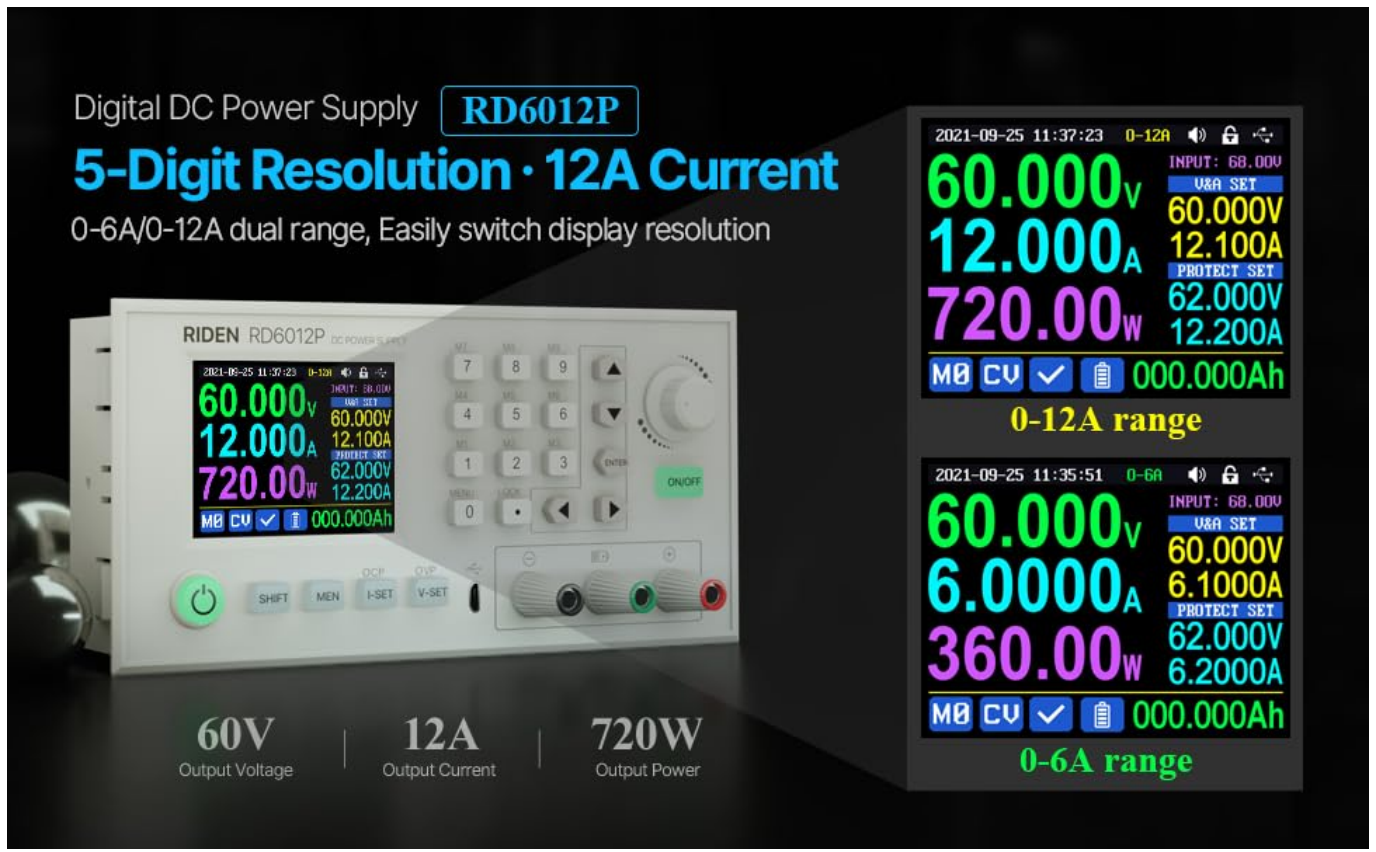


Figure 7.1: Detailed technical parameters of the RD6012PW DC Power Supply.

8. WARRANTY AND SUPPORT

Specific warranty information is not provided in the product details. For any issues or support, please contact the seller directly. It is recommended to check the product listing or contact the manufacturer for detailed warranty terms and conditions.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

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