

Rigol DP932A

Rigol DP932A Programmable Linear DC Power Supply User Manual

Model: DP932A | Brand: Rigol

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of the Rigol DP932A Programmable Linear DC Power Supply. The DP932A is a 3-channel, 210W fully isolated programmable linear DC power supply designed for various laboratory and industrial applications, offering high resolution and high-speed arbitrary function capabilities. Please read this manual thoroughly before using the instrument.

2. SAFETY INFORMATION

Observe the following safety precautions to prevent injury and avoid damage to the instrument or connected devices.

- **Power Source:** Ensure the power supply voltage matches the instrument's requirements. The DP932A supports 207-230V AC input.
- **Grounding:** Always connect the instrument to a properly grounded power outlet.
- **Ventilation:** Do not block ventilation openings. Ensure adequate airflow around the instrument to prevent overheating. The cooling method is air-based.
- **Environment:** Operate the instrument in a dry environment. Avoid exposure to moisture, dust, or corrosive gases.
- **Servicing:** Refer all servicing to qualified service personnel. Do not attempt to open the instrument casing, as hazardous voltages are present inside.
- **Fuse:** Use only the specified fuse type and rating for replacement to ensure continued protection against fire.

3. PRODUCT OVERVIEW

3.1 Front Panel



Figure 3.1: Front view of the Rigol DP932A Programmable Linear DC Power Supply, showing the display, control buttons, rotary knob, and output terminals.

The front panel features a high-resolution display for monitoring voltage, current, and power for each of the three channels. It includes dedicated buttons for channel selection, output control (On/Off), numerical input, and function keys for utility, store, and analysis. A rotary knob allows for fine adjustment of parameters. The output terminals for CH1, CH2, and CH3 are clearly labeled, providing 32V/3A for CH1 and CH2, and 6V/3A for CH3.

3.2 Rear Panel



Figure 3.2: Rear view of the Rigol DP932A, displaying the AC power input, fuse holder, AC selector, USB ports, LAN port, and digital I/O.

The rear panel provides the main AC power input, a fuse holder, and an AC selector switch to adapt to different regional power standards. Communication interfaces include USB DEVICE and USB HOST ports, an Ethernet (LAN) port for remote control, and a Digital I/O connector for external triggering and control. Ensure the AC selector is set correctly for your local voltage before connecting power.

4. SETUP

4.1 Unpacking and Inspection

- Carefully remove the instrument from its packaging.
- Inspect the instrument for any signs of damage during transit. If damage is found, contact your supplier immediately.
- Verify that all accessories listed in the packing list are present.

4.2 Power Connection

- Before connecting the power cord, ensure the AC selector switch on the rear panel is set to the correct voltage for your region (e.g., 230V).
- Connect the provided AC power cord to the instrument's AC input receptacle and then to a grounded power outlet.
- Turn on the main power switch located on the front panel. The instrument will perform a self-test and display the startup screen.

4.3 Connecting Loads

- Connect your load to the appropriate output terminals (CH1, CH2, or CH3) on the front panel. Ensure correct polarity.
- For safety, always connect the load before enabling the output.

5. OPERATING INSTRUCTIONS

5.1 Basic Operation

- **Power On/Off:** Use the main power switch on the front panel to turn the unit on or off.
- **Channel Selection:** Press the '1', '2', or '3' buttons to select the desired output channel. The selected channel's parameters will be highlighted on the display.
- **Setting Voltage and Current:**
 1. Select the desired channel.
 2. Press the 'V' button to set voltage or 'A' button to set current.
 3. Use the numeric keypad to enter the desired value, then press 'Enter'. Alternatively, use the rotary knob to adjust the value and press 'Enter' to confirm.
- **Output On/Off:** After setting the desired voltage and current, press the 'On/Off' button for the selected channel to enable or disable its output. The 'All On/Off' button controls all channels simultaneously.

5.2 Advanced Features

- **Arbitrary Waveform Generation:** The DP932A supports arbitrary waveform generation. Refer to the detailed programming guide for instructions on creating and outputting custom waveforms.
- **Computer Control:** The instrument can be controlled remotely via USB or Ethernet. Install the necessary drivers and software (e.g., PyVISA for Python) on your computer. Connect the instrument using a USB cable to the USB DEVICE

port or an Ethernet cable to the LAN port.

- **Store/Recall Settings:** Use the 'Store' button to save instrument settings and the 'Recall' function to load previously saved configurations.

6. MAINTENANCE

6.1 Cleaning

To clean the instrument, disconnect it from all power sources and loads. Use a soft, damp cloth with a mild detergent. Do not use abrasive cleaners or solvents that could damage the casing or display.

6.2 Fuse Replacement

If the instrument fails to power on, the fuse may need replacement. Disconnect the power cord. Locate the fuse holder on the rear panel. Use a small flat-head screwdriver to open the fuse holder, replace the fuse with one of the identical type and rating (e.g., 250V, 3.15A for 230V operation), and close the holder securely.

6.3 Firmware Updates

Rigol periodically releases firmware updates to improve performance and add features. Check the official Rigol website for the latest firmware. Updates are typically performed via a USB stick. Follow the instructions provided with the firmware package carefully.

7. TROUBLESHOOTING

- **Instrument Does Not Power On:**

- Check if the power cord is securely connected.
- Verify the AC selector switch on the rear panel is set correctly.
- Inspect and replace the fuse if necessary (refer to Section 6.2).

- **Output Not Enabled:**

- Ensure the 'On/Off' button for the specific channel or 'All On/Off' button is pressed to enable output.
- Check for any Over Voltage Protection (OVP) or Over Current Protection (OCP) warnings on the display. Adjust settings if necessary.

- **Settings Lost After Power Down:**

- The DP932A may not retain all settings after a complete power cycle. Use the 'Store' function to save frequently used configurations and 'Recall' them upon startup.

- **Communication Timeout Errors (USB/Ethernet):**

- Ensure correct drivers are installed on the PC.
- Verify network settings for Ethernet communication.
- If experiencing periodic timeouts during continuous polling, consider adjusting polling intervals or consulting Rigol support for potential firmware solutions.

8. SPECIFICATIONS

Parameter	Value
Model Number	DP932A

Parameter	Value
Brand	Rigol
Channels	3 (Fully Isolated)
Total Output Power	210 W
Input Voltage	207 - 230 Volts (AC)
Cooling Method	Air
Item Dimensions (L x W x H)	9.41 x 16.5 x 6.18 inches
Item Weight	9.15 Kilograms
Connectivity	USB, Ethernet (LAN), Digital I/O
Features	Programmable, High Resolution, High Speed Arbitrary Function

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Rigol Technologies website or contact your local Rigol distributor. Ensure you have your product model number (DP932A) and serial number available when seeking support.