

Hantek HDP4424

Hantek HDP4424 Programmable DC Power Supply User Manual

Model: HDP4424

INTRODUCTION

The Hantek HDP4424 is a four-channel programmable linear DC regulated power supply designed for various applications requiring precise and stable power. It features a 4.3-inch color display for real-time monitoring of voltage, current, and power, along with waveform display. This manual provides essential information for the safe and efficient operation, setup, maintenance, and troubleshooting of your HDP4424 power supply.

Included in the Box

- Hantek HDP4424 Programmable DC Power Supply
- USB Cable
- Power Cable
- Documentation (e.g., Quick Start Guide, Calibration Certificate)
- LAN Cable (Ethernet)
- Digital Port Connector



Image: Hantek HDP4424 power supply shown with its standard accessories, including cables and documentation.

SETUP

1. Unpacking and Inspection

Carefully remove the power supply and all accessories from the packaging. Inspect the unit for any signs of damage during transit. If any damage is found, contact your supplier immediately.

2. Power Connection

1. Ensure the power supply's AC selector switch (located on the rear panel) is set to the correct voltage for your region (120V AC or 240V AC).
2. Connect the provided power cable to the AC input socket on the rear panel of the HDP4424.
3. Plug the other end of the power cable into a grounded AC power outlet.

3. Connecting to Devices

The HDP4424 offers various connectivity options for remote control and data logging:

- **USB:** Connect the provided USB cable from the power supply's USB port to your computer for software control.
- **LAN:** Use an Ethernet cable to connect the LAN port to a network for remote access.
- **GPIB (Optional):** For systems requiring GPIB communication, connect a GPIB cable to the dedicated port.
- **RS-232/485:** Utilize the RS-232/485 port for serial communication with compatible devices.
- **Digital Port:** Connect external control signals using the digital port connector.



Image: The rear panel of the Hantek HDP4424, highlighting the USB, LAN, GPIB, RS-232/485, and Digital Port connections, along with the AC power input and fan.

4. Initial Power On

Press the power button located on the front panel. The 4.3-inch color display will illuminate, and the system will initiate its startup sequence.

OPERATING INSTRUCTIONS

1. Front Panel Overview



Image: The front panel of the Hantek HDP4424, showing the 4.3-inch color display, channel output terminals, control knobs, and keypad.

The front panel features a color display, navigation buttons, a numeric keypad, control knobs for voltage and current adjustment, and four independent output channels (CH1, CH2, CH3, CH4) with dedicated On/Off buttons and output terminals. Color and numeric identifiers assist in distinguishing channel information.

2. Setting Voltage and Current

1. Select the desired channel (CH1-CH4) using the corresponding channel button or navigation keys.
2. Use the voltage and current control knobs to adjust the output parameters. The display will show the set values in real-time.
3. Alternatively, use the numeric keypad to directly input precise voltage and current values. Press 'Enter' to confirm.
4. Press the 'On/Off' button for the selected channel to enable or disable its output.

3. Output Modes

The HDP4424 supports four working modes:

- **Independent:** Each channel operates autonomously.
- **Series:** Channels can be connected in series to achieve higher voltage output (e.g., CH1 and CH2 in series for 64V, 3.2A).
- **Parallel:** Channels can be connected in parallel for higher current output (e.g., CH1 and CH2 in parallel for 32V, 6.4A).
- **Tracking:** Allows one channel's output to track another, simplifying synchronized adjustments.

Refer to the on-screen menu or the full manual for detailed instructions on configuring these modes.

4. Protection Functions

The unit includes comprehensive protection features:

- **Over Voltage Protection (OVP):** Prevents output voltage from exceeding a set limit.

- **Over Current Protection (OCP):** Prevents output current from exceeding a set limit.
- **Over Temperature Protection (OTP):** Shuts down the unit if internal temperature becomes excessive.
- **Short Circuit Protection:** Protects the unit and load from damage due to short circuits.

OVP and OCP parameters can be adjusted to provide effective load protection. Access these settings through the 'Output Settings' menu on the display.

5. List Function

The list function allows users to generate complex output sequences by editing single-step voltage, current, and time parameters. This is useful for automated testing and specific application requirements. Up to 10 groups of storage are available for sequence, delay, record, and panel condition settings.

6. Store/Recall

The HDP4424 allows you to save and recall frequently used settings. Use the 'Store/Recall' button to access these functions. This feature is useful for quickly switching between different test configurations.

MAINTENANCE

1. Cleaning

To maintain the performance and longevity of your power supply, keep it clean. Use a soft, dry cloth to wipe the exterior. For stubborn dirt, a slightly damp cloth with mild detergent can be used, ensuring no liquid enters the unit. Do not use abrasive cleaners or solvents.

2. Fan Maintenance

The HDP4424 features an intelligent temperature control fan that automatically adjusts its speed. Periodically inspect the fan vents on the rear panel for dust accumulation. Use a soft brush or compressed air to gently clear any obstructions. Ensure adequate ventilation around the unit during operation to prevent overheating.

3. General Care

- Avoid operating the unit in environments with excessive dust, humidity, or extreme temperatures.
- Do not block the ventilation openings.
- Handle the unit with care to prevent physical damage.

TROUBLESHOOTING

This section addresses common issues you might encounter with your HDP4424 power supply. For problems not listed here, please contact Hantek support.

Problem	Possible Cause	Solution
Unit does not power on.	No power, faulty power cable, incorrect AC selector setting.	Check power cable connection, ensure outlet is live, verify AC selector switch position, try a different power cable.
No output voltage/current.	Channel output is off, OVP/OCP triggered, short circuit in load.	Press the channel's 'On/Off' button, check OVP/OCP settings and reset if tripped, inspect load for short circuits.

Problem	Possible Cause	Solution
Output voltage/current is unstable.	Poor load connection, external interference, unit overheating.	Ensure secure load connections, move unit away from strong electromagnetic fields, check fan operation and ventilation.
Remote control not working.	Incorrect cable, driver issues, software configuration.	Verify correct USB/LAN cable, install necessary drivers, check software communication settings.
Fan is excessively loud.	Dust accumulation, unit overheating.	Clean fan vents, ensure proper ventilation. If noise persists, contact support.

SPECIFICATIONS

The following table details the technical specifications of the Hantek HDP4424 Programmable DC Power Supply:

Feature	Specification
Model	HDP4424
Output Channels	4 (electrically isolated)
Output Power	245 W
Channel 1 (CH1)	32V, 3.2A
Channel 2 (CH2)	32V, 3.2A
Channel 3 (CH3)	8V, 2A
Channel 4 (CH4)	16V, 1.5A
Series CH1+CH2	64V, 3.2A
Parallel CH1+CH2	32V, 6.4A
Display	4.3-inch Color Display
Resolution	1 mV, 1 mA
Ripple Noise (20Hz ~ 20MHz)	< 350 μ Vrms / 2 mVpp
Transient Response Time	$\leq 50\mu$ s
Load Regulation (Voltage)	< 0.01% + 2 mV
Load Regulation (Current)	< 0.01% + 250 μ A
Linear Regulation (Voltage)	< 0.01% + 2 mV
Linear Regulation (Current)	< 0.01% + 250 μ A
Protection Functions	OVP, OCP, OTP, Short Circuit
Cooling Method	Air (Intelligent Temperature Control Fan)
Input Voltage	120V AC / 240V AC (selectable)

Feature	Specification
Interfaces	USB, LAN, GPIB, RS-232/485, Digital Port
Operating Temperature	0°C ~ 40°C
Dimensions	232 x 153 x 392 mm
Weight	9.45 Kg

WARRANTY INFORMATION

Hantek products are designed for reliability and performance. For specific warranty terms and conditions, please refer to the official warranty documentation included with your product or visit the official Hantek website. Typically, a limited warranty covers defects in materials and workmanship for a specified period from the date of purchase. Keep your proof of purchase for warranty claims.

Please note that the Amazon return policy allows for returns within 30 days of receipt for most new, unopened items.

CUSTOMER SUPPORT

If you require technical assistance, have questions about your Hantek HDP4424 power supply, or need to report a problem, please contact Hantek customer support through their official website. Ensure you have your product model number (HDP4424) and serial number ready when contacting support.

For additional resources, including software updates, drivers, and detailed manuals, please visit the [Hantek Store on Amazon](#) or the official Hantek website.