Hantek HDP135V6

Hantek HDP135V6 DC Power Supply User Manual

Model: HDP135V6

1. Introduction

This manual provides essential information for the safe and effective operation of your Hantek HDP135V6 DC Power Supply. Please read this manual thoroughly before use and retain it for future reference.

1.1 Safety Information

- Ensure the correct AC input voltage (230V or 115V) is selected using the switch on the rear panel before connecting to power. Incorrect voltage selection can damage the unit.
- Do not operate the power supply in wet or damp conditions.
- Do not open the casing; there are no user-serviceable parts inside. Refer servicing to qualified personnel.
- Ensure proper ventilation around the unit to prevent overheating.
- Always connect the ground terminal to a proper earth ground.
- Disconnect power before making or changing connections to the output terminals.

2. Product Features

The Hantek HDP135V6 DC Power Supply offers advanced features for laboratory, production line, and maintenance applications:

- Four-digit display for voltage and current, with resolution up to 10mV/1mA.
- Standard USB quick charge function (5-12V output), supporting various quick charge protocols.
- 10 groups of data storage and retrieval functions for frequently used settings.
- Selectable AC input voltage (230V/115V) for universal compatibility.
- Fully isolated serial port for software control of multiple power supplies.
- Comprehensive protection functions: Over Voltage Protection (OVP), Over Current Protection (OCP), Overload Protection, Overheating Protection, and Short Circuit Protection.
- Low noise temperature-controlled fan for quiet and durable operation.
- Stable and pure 0-35V / 0-6A output.
- Output ON/OFF control and one-button panel lock function to prevent accidental changes.

- Automatic switching between Constant Voltage (CV) and Constant Current (CC) modes.
- Two-stage adjustment topology to prevent impact on the load during power-on.
- Compact and lightweight design.

3. Package Contents

Upon unpacking, please verify that all items are present and undamaged:

- Hantek HDP135V6 DC Power Supply Unit
- Power Cord
- USB Cable (for PC connection)
- Test Leads (Red and Black)
- User Manual (this document)

4. Product Layout

4.1 Front Panel Overview

The front panel features the display, control buttons, adjustment knobs, output terminals, and the USB quick charge port.



Figure 4.1: Front view of the Hantek HDP135V6 DC Power Supply, showing the digital display for voltage and current, control buttons (M1-M10, OVP, OCP, ON/OFF, Shift, Default, Lock), voltage and current adjustment knobs, output terminals (+, -, GND), and a USB Quick Charger port.

- **Digital Display:** Shows output voltage (red) and current (green).
- **M1-M10 Buttons:** Memory buttons for storing and recalling settings.
- **OVP Button:** Over Voltage Protection setting.
- **OCP Button:** Over Current Protection setting.
- **ON/OFF Button:** Toggles the power output.
- **Shift Button:** Used in combination with other buttons for secondary functions.
- **Default Button:** Resets settings to factory defaults.
- **Lock Button:** Locks the panel controls to prevent accidental changes.
- **Voltage Adjustment Knob:** Adjusts the output voltage.
- **Current Adjustment Knob:** Adjusts the output current limit.
- **Output Terminals:** Red (+) for positive, Black (-) for negative, Green (GND) for ground.
- **USB Quick Charger Port:** Provides 5-12V output for quick charging compatible devices.

4.2 Rear Panel Overview

The rear panel includes the AC power input, AC voltage selector, cooling fan, and RS-232 communication port.





Figure 4.2: Rear view of the Hantek HDP135V6 DC Power Supply, showing the cooling fan, AC selector switch (230V/115V), AC power input socket, main power switch, and RS-232 communication port.

- **Cooling Fan:** Ensures proper heat dissipation.
- **AC Selector Switch:** Allows selection between 230V and 115V AC input.
- **AC Power Input:** Socket for connecting the power cord.
- **Main Power Switch:** Turns the unit's main power ON/OFF.
- **RS-232 Port:** For serial communication and software control.

5. Setup

1. **Placement:** Place the power supply on a stable, level surface with adequate ventilation. Ensure no obstructions block the cooling fan on the rear panel.
2. **AC Voltage Selection:** Before connecting the power cord, locate the AC selector switch on the rear panel. Set it to match your local mains voltage (115V or 230V). **Failure to do so may damage the unit.**
3. **Power Connection:** Connect the provided power cord to the AC power input socket on the rear panel, then plug the other end into a grounded AC outlet.
4. **Initial Power On:** Flip the main power switch on the rear panel to the 'ON' position. The front panel display should illuminate.
5. **Output Connections:** Connect your load to the output terminals using the provided test leads. Ensure correct polarity: Red (+) to positive, Black (-) to negative. Connect the green GND terminal to earth ground if required by your application.

6. Operating Instructions

6.1 Basic Operation (Voltage and Current Adjustment)

1. Ensure the power supply is ON and connected to your load.
2. **Adjusting Voltage:** Turn the **Voltage Adjustment Knob** to set the desired output voltage. The red display will show the set voltage.
3. **Adjusting Current Limit:** Turn the **Current Adjustment Knob** to set the desired maximum output current. The green display will show the set current limit. This acts as a safety feature to protect your load.
4. **Enabling Output:** Press the **ON/OFF** button to enable the power output. The display will show the actual output voltage and current being drawn by the load. The 'CV' or 'CC' indicator will light up, indicating Constant Voltage or Constant Current mode.
5. **Disabling Output:** Press the **ON/OFF** button again to disable the power output.

6.2 USB Quick Charge Function

The front panel features a USB quick charge port:

- Connect a compatible USB device to the USB Quick Charger Port.
- The port provides 5-12V output and supports various quick charge protocols (DCP, Apple, Samsung, BC1.2, Qualcomm QC2.0/QC3.0, Huawei Quick Charge Protocol FCP).
- This function operates independently of the main DC output.

6.3 Data Storage and Retrieval (M1-M10)

The power supply allows you to store and recall up to 10 sets of voltage and current settings:

- **To Store:** Set the desired voltage and current. Press and hold the **Shift** button, then press one of the **M1-M10** buttons until the display indicates the setting is saved.
- **To Recall:** Press one of the **M1-M10** buttons briefly. The stored settings will be loaded.

6.4 Protection Functions (OVP, OCP)

The unit includes Over Voltage Protection (OVP) and Over Current Protection (OCP) to safeguard your equipment:

- **Setting OVP:** Press the **OVP** button. Use the voltage knob to set the maximum allowable output voltage. Press **OVP** again to confirm. If the output voltage exceeds this limit, the output will shut down.
- **Setting OCP:** Press the **OCP** button. Use the current knob to set the maximum allowable output current. Press **OCP** again to confirm. If the output current exceeds this limit, the output will shut down.
- Other protections (Overload, Overheating, Short Circuit) are automatically managed by the unit.

6.5 Panel Lock Function

To prevent accidental changes to settings:

- Press the **Lock** button. A lock icon will appear on the display, and most front panel controls will be disabled.
- Press the **Lock** button again to unlock the panel.

6.6 Software Control (RS-232)

The HDP135V6 features a fully isolated RS-232 serial port for remote control via PC software. This allows for advanced measurement, control, and system integration, including controlling multiple power supplies simultaneously.



Figure 6.1: Illustration of multiple Hantek power supplies connected to a computer, demonstrating the capability for software control and data monitoring via the RS-232 interface.

Refer to the separate software manual or Hantek's official website for detailed instructions on software installation and usage.

7. Specifications

The following table details the technical specifications for the Hantek HDP135V6 DC Power Supply:

Model	HDP135V6	HDP135V6S	HDP135V6A	HDP135V6B
Channel	1CH			
Storage	10 Groups of data			
Output voltage/current	35V/6A			
Input voltage	110 Vac ± 10%, 220 Vac ± 10%, 50/60Hz		220 Vac ± 10%, 50/60Hz	110 Vac ± 10%, 50/60Hz
Maximum output power	210W			
Communication interface	None	RS232	None	None
Voltage				
Load regulation	≤0.1% + 5 mv			
Linear regulation	≤0.01% + 5 mv			
Set resolution	10mV			
Set precision	≤0.1% + 1 digits			
Read back resolution	10mV			
Read back accuracy	≤0.1% + 1 digits			
Ripple	10mVrms			
Current				
Load regulation	≤0.2% + 3mA			
Linear regulation	≤0.2% + 3mA			
Set resolution	1mA			
Set precision	≤0.2% + 3mA			
Read back resolution	1mA			
Read back accuracy	≤0.2% + 3 digits			
Ripple	5mArms			
Overvoltage protection (OVP)	0 ~ 35V ± 0.2%FS			
Maximum voltage	35V ± 0.2%			
Overcurrent protection (OCP)	0 ~ 6A ± 0.2%FS			
Maximum current	6A ± 0.2%			
Quick charge				
Output voltage range	5V~12V			
Output power	Maximum: 18 w			
Supported fast charging protocol	DCP (Apple, Samsung and BC1.2), Qualcomm QC2.0/QC3.0, Huawei Quick Charge Protocol FCP, Samsung Quick Charge Protocol AFC			
General features				
Working conitions	Temperature -10 ° C to 40 ° C, relative humidity ≤80%			
Storage conditions	Temperature -20 ° C to 60 ° C, relative humidity ≤80%			
Cooling	Air cooling			
Weight	2.2 Kg			
Size	85 * 150 * 230 (mm)			

Figure 7.1: Detailed specifications table for Hantek HDP135V6, HDP135V6S, HDP135V6A, and HDP135V6B models, covering output, input, regulation, resolution, precision, ripple, protection, quick charge, and general features.

Hantek HDP135V6 Key Specifications

Parameter	Specification
Model	HDP135V6
Output Voltage	0-35V
Output Current	0-6A
Maximum Output Power	210W
Voltage Display Resolution	10mV

Parameter	Specification
Current Display Resolution	1mA
AC Input Voltage	230V/115V switchable (±10%), 50/60Hz
USB Quick Charge Output	5-12V, Max 18W (Supports DCP, Apple, Samsung, BC1.2, QC2.0/3.0, FCP)
Communication Interface	RS-232 (Fully isolated)
Protection Functions	OVP, OCP, Overload, Overheating, Short Circuit
Working Conditions Temperature	-10°C to 40°C
Working Conditions Humidity	Relative humidity <80%
Dimensions (L x W x H)	8.27 x 4.33 x 6.3 inches (210 x 110 x 160 mm)
Item Weight	3.3 pounds (2.2 kg)
Certifications	CE, ISO 9001, RoHS

Note: Specifications are subject to change without prior notice.

8. Maintenance

- **Cleaning:** Disconnect the power supply from the mains before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure the cooling fan and ventilation openings are free from dust and obstructions. Periodically clean dust from the vents using compressed air.
- **Storage:** When not in use for extended periods, store the power supply in a dry, dust-free environment.
- **Calibration:** For precise applications, periodic calibration by qualified personnel may be required.

9. Troubleshooting

Problem	Possible Cause	Solution
No power/display off	Power cord not connected, main power switch off, incorrect AC voltage selection, blown fuse.	Check power cord connection. Ensure main power switch is ON. Verify AC selector switch setting. Check and replace fuse if necessary (refer to rear panel for fuse specifications).
No output voltage/current	Output ON/OFF button is OFF, OVP/OCP triggered, short circuit in load, panel locked.	Press ON/OFF button to enable output. Check OVP/OCP settings and reset if triggered. Disconnect load and check for short circuit. Unlock panel if locked.
Output voltage/current unstable	Poor load connection, excessive load, internal fault.	Check all connections to the load. Ensure the load is within the power supply's specifications. If problem persists, contact support.
Unit overheats	Blocked ventilation, excessive ambient temperature, prolonged high load.	Ensure clear airflow around the unit. Operate within specified temperature range. Reduce load if possible.

For issues not covered here, please contact Hantek customer support.

10. Warranty and Support

Hantek products are designed for reliability and performance. This product is covered by a manufacturer's warranty against defects in materials and workmanship. Please refer to the warranty card included with your product or visit the official Hantek website for detailed warranty terms and conditions.

For technical support, service, or inquiries, please contact Hantek customer service through their official website or the contact information provided in your product packaging.

Hantek Official Website: www.hantek.com.cn

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