user manual

Power Supply

EvoPower300 & EvoPower500



Hoefer®

1 Product Overview

Designed for a wide range of protein, DNA, and RNA electrophoresis applications, the Hoefer EvoPower300 and EvoPower500 support both routine and demanding laboratory workflows. With three power modes, storage for more than 20 programs, and four output ports, the EvoPower series offers versatile control and streamlined operation for diverse electrophoresis applications.

1.1Specifications

	EvoPower300	**EvoPower500**
Output voltage	5 – 300 V	10 – 500 V
Voltage increment	0.1 V	0.1 V
Output current	1 – 500 mA	5 – 1,500 mA
Current increment	0.1 mA	0.1 mA
Output power	1 – 150 W	1 – 400 W
Power increment	0.1 W	0.1 W
Output ports	4	4
Timer range	1 min – 99 h	1 min – 99 h
Constant voltage mode	Yes	Yes
Constant current mode	Yes	Yes
Constant power mode	Yes	Yes
Programmable operation	Yes	Yes
Universal Voltage Input	100-240 VAC, 50/60 Hz	
Dimensions (L × W × H)	28 × 13 × 34 cm	28 × 13 × 34 cm
Weight	2.0 kg	2.0 kg
Safety certification	CE	CE

1.2 Unpacking

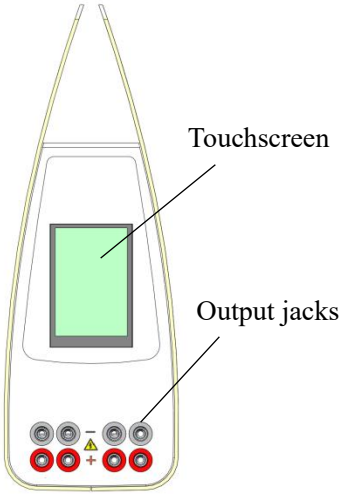
Carefully unpack the unit and check the contents against the packing list to ensure that all items are included.

If any item is missing or damaged during shipping, contact Hoefer or your supplier immediately. Keep all packaging materials in case they are needed for inspection or to support a shipping damage claim.

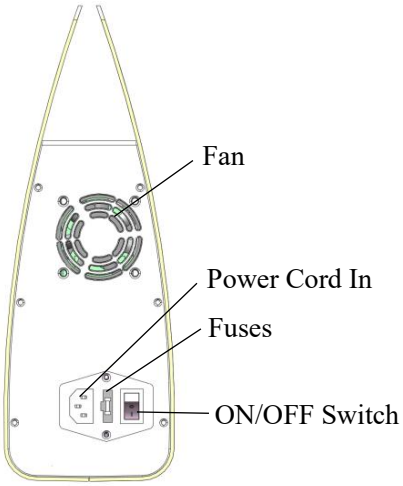
Package Contents:

- Power Supply × 1
- Power Cord × 1
- User Manual × 1

1.3 Product Exterior



Front Panel



Rear Panel

2 Operation

2.1 Connections

- **Connect the power cord**: Plug the power cord into the AC power inlet on the rear panel, then connect it to a properly grounded AC outlet.

  Note: Do not block the rear-panel fan or the ventilation openings on the bottom of the unit.
- **Connect the electrophoresis leads**: Plug the leads into any one pair of output terminals to connect the electrophoresis apparatus to the power supply.

  Note: The output terminals are arranged vertically.

  Connect red to red and black to black.
- **Power on**: Turn on the power switch on the rear panel. The display will illuminate when the unit is receiving power.

2.2 Menu Navigation

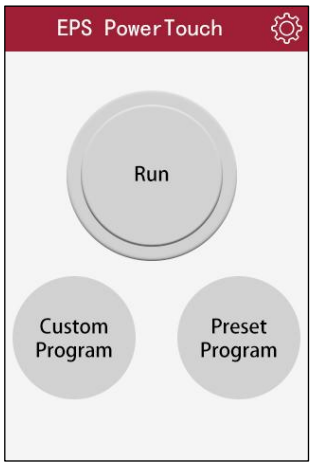
Icon	Description
	**Back arrow**: Return to the previous screen.
	**Up arrow:** Indicates additional content above; tap to display them.

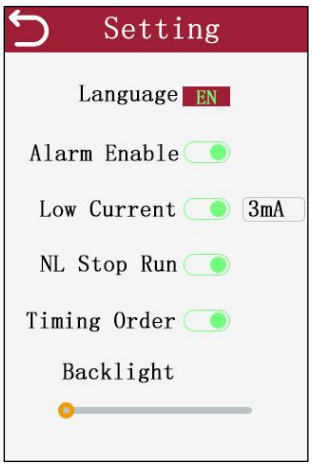
	**Down arrow**: Indicates additional content below; tap to display them.
	**Experimental Conditions**: Tap to view the current conditions.
	**Settings:** Tap to open the Settings screen. This option is available only from the Home screen.
	**Close:** Closes the current screen.

2.3 Settings

Tap the icon  in the upper-right corner of the screen to open the Settings screen. The following settings can be adjusted as needed:

- **Language**: Tap to switch between the Chinese and English interfaces.
- **Alarm Notifications**: Enable or disable the display of alarm notifications.
- **Low-Current Hold**: Enable or disable low-current operation after the run is complete. When enabled, the device continues to operate at the preset low-current value.
- **No-Load Stop**: Automatically stops voltage output when no load is detected.
- **Timer Mode**: Set the run timer to count up or count down.
- **Backlight Brightness**: Adjust the display backlight brightness.





2.4 Parameter Settings

Module 1: Start Run

This module allows users to run a program directly in Constant VoltageConstant Current, or Constant Power mode.

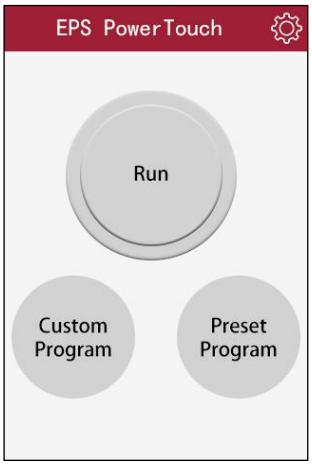
- **Program Setup**: After powering on, tap ‘Run’ and select Constant Voltage,

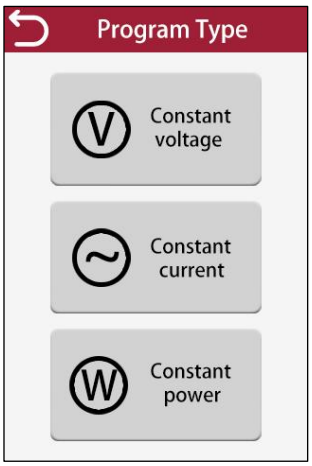
Constant Current, or Constant Power.

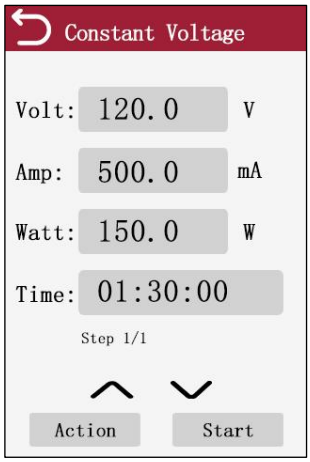
For example, select Constant Voltage to proceed to the next screen. Enter the desired voltage and run time in the corresponding value fields, then tap “Start” to begin the run.

Note: In Constant Voltage mode, the current and power settings do not need to be entered. The device automatically adjusts these parameters based on the actual load and displays the real-time current and power values during the run.

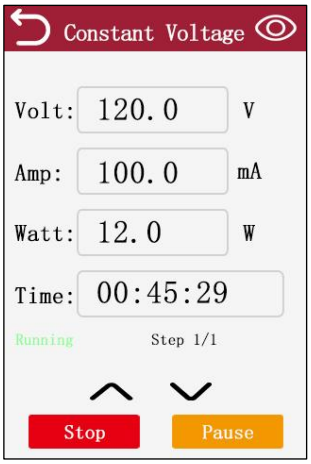
- **Step Adjustment**: Tap ‘Action’ to add or delete steps, or save the program under a new name.
- **Run Control**: Tap ‘Pause’ to pause the run and continue to resume. Tap ‘Stop’ and confirm to terminate the run.
- **Other Modes**: The procedure for Constant Current and Constant Power modes is the same.









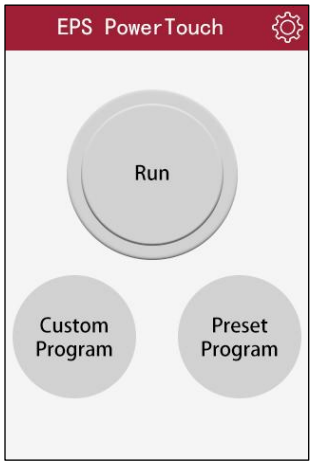


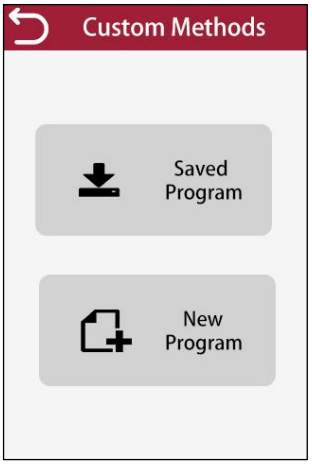


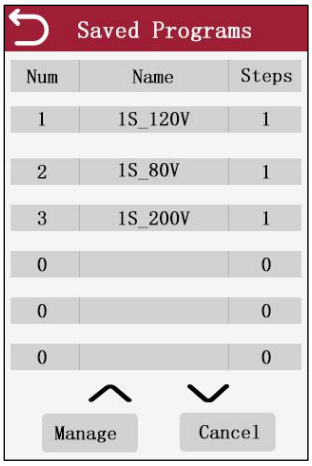
Module 2: Custom Program

This module allows users to create and manage programs, including editing, deleting, and creating new programs.

- **Access**: Tap ‘Custom Program’ to view stored and newly created programs.
- **Stored Programs**: The device includes three preset programs. Newly created programs are also saved here. Double-click a program to run it, or select a program and tap Manage to edit or delete it.
- **Create a New Program**: Select Constant Voltage, Constant Current, or Constant Power, set the desired values and steps, and save the program under a new name.





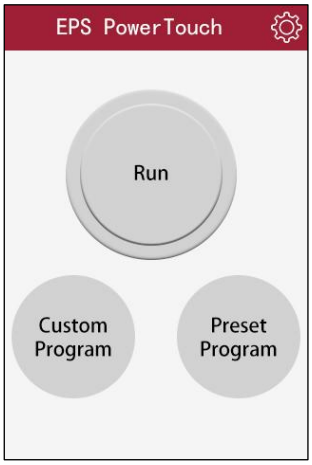


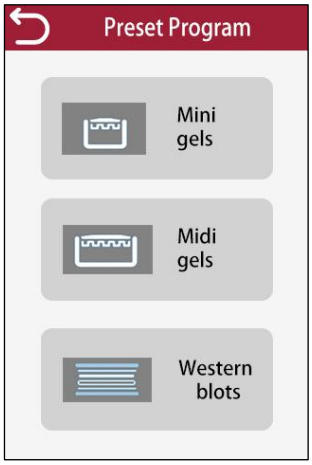
Module 3: Preset Program

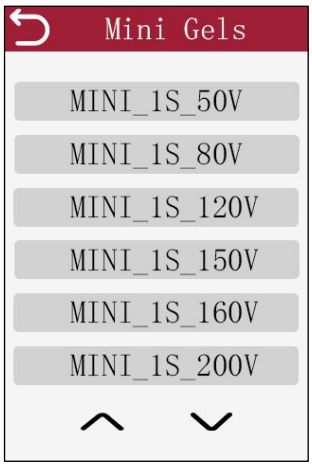
This module provides built-in programs that can be run directly or modified and saved as new programs.

- **Access**: Tap ‘Preset Program’ to view the three modes: Mini Gels, Midi Gels, and Western Blots.
- **Run a Preset Program**: For example, tap ‘Mini Gels’ to view the available preset programs. Select the desired program and tap ‘Start’ to run it.
- **Program Adjustment**: Before starting a run, modify the program parameters as needed, then tap ‘Start’ to begin. To make adjustments during a run, tap ‘Stop’ to return to the program screen. Modify the parameter values as needed, or tap ‘Action’ to add or delete steps. When finished, tap ‘Start’ to run the updated program.

  Note: Modified programs cannot be saved directly. Save as a new program to keep the changes.
- **Other Modes**: The procedure for Midi Gels and Western Blots is the same.







2.5 Program Naming Screen

- **Program Name**: Up to 20 characters can be entered. Additional characters will not be displayed.
- **Upper/Lower Case**: Tap the Up Arrow to switch between uppercase and lowercase letters.
- **Note**: In lowercase mode, numbers 0–9 are available. In uppercase mode, the symbols above the number keys 0–9 are displayed. The corresponding characters are shown below:



Numbers	Symbols	Numbers	Symbols
0	)	5	%
1	!	6	^
2	@	7	&
3	#	8	*
4	$	9	(

3 Maintenance and Care

- Turn off the power switch and unplug the power cord before cleaning.
- Clean the housing and display with a soft cloth dampened with water or a mild cleaning solution.
- If liquid spills onto the circuit board, unplug the power cord and allow the board to dry completely before use.
- Turn off the power when the device will not be used for an extended period.

4 Troubleshooting

4.1 Alarm Codes and Meanings

Alarm Code	Meaning
NL	No-load (open-circuit) alarm
OV	Overvoltage alarm
OC	Overcurrent (overload) alarm
SC	Short-circuit alarm
LK	Leakage alarm
DL	Sudden load change alarm

4.2 Common Problems and Solutions

If the expected stable value cannot be reached, check the following:

- Check that the electrophoresis buffer has been prepared correctly.
- Adjust the corresponding voltage or current setting.

General rule for setting output parameters: First set the parameter that needs to remain constant (voltage or current), then set the other parameter to a safe upper limit.

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