BIOBASE®

Electrophoresis Power Supply
BPS-1/2/3
User Manual

BIOBASE GROUP

Version 2020.07

Content

I. Safety

Caution/Warning

Electrophoresis power supplies use high output voltages that are electrically isolated from earth ground through a protective impedance to minimize the risk of electrical shock to the user. The following guidelines should be observed and followed when using a power supply.

Electrophoresis power supplies have passed test for operation at temperatures between0° and 40°C, with relative humidity between 0 and 95% non-condensing.
Operating the power supply outside these conditions is not recommended by our company and will void the warranty.

1. To ensure adequate cooling of the power supply, be sure that there is at least 6 cm clearance around the power supply. Do not block the fan vents at the rear of the unit.
2. Always connect the power supply to a 3-prong, grounded AC outlet, using the3-prong AC power cord provided with the power supply.
3. Do not operate the power supply in extreme humidity (95%) or where condensation can short the internal electrical circuits of the power supply.
4. When taking the power supply into a cold room, the unit can be operated immediately. However, when removing the power supply from the cold room, let the unit equilibrate to room temperature for a minimum of 2 hours before using it.
5. Never connect a high voltage output lead to earth ground. This defeats the floating electrical isolation of the power supply and exposes the user to potentially lethal high voltages.

Important

This instrument is intended for laboratory use only.
This product conforms to the class A standards for Electromagnetic Emissions, intended for laboratory equipment applications. It is possible that emissions from this product may interfere with some sensitive appliances when placed nearby or on the same circuit as those appliances. The user should be aware of this potential and take appropriate measures to avoid interference.

II. User Instructions

2.1 BPS-1 Power supply

2.1.1 Introduction

BPS-1 Power supply has the following Technical specifications and Characteristic features:

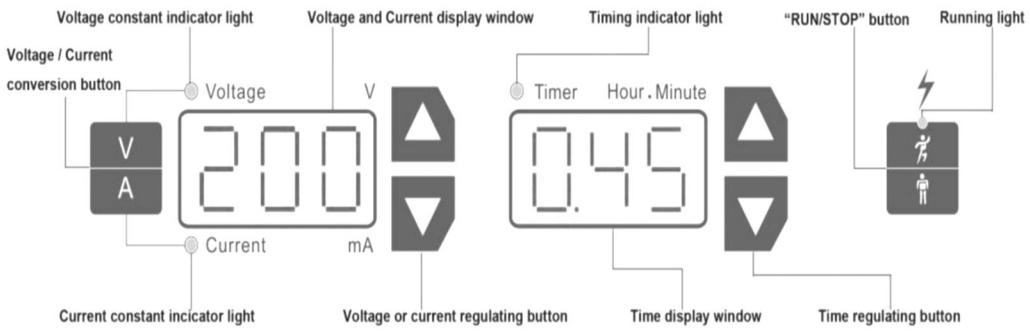
Technical Specifications

- Type of Output: Constant-Voltage, Current
- Output range for BPS-1: 5~300V、1~300mA、maximum 90W
- Increment: 1V, 1mA
- Timer Range: 1min~9hr, 59min
- Display: LED
- Output jacks: Two sets of output jacks

Characteristic features

- Molding shell, touch keys, microprocessor intelligent control;
- With automatic memory function;
- With standard, timing operation function;
- Automatic detection of no-load, over-load.

2.1.2 Setup and Operation



(1)Turn on the switch after connecting with electrophoresis cell(s), the power supply will enter into the setting state. The present values of Voltage/Current and Time are the ones that left last time.

(2)The Voltage/Current Display flashes. Press the "V/A" button to select constant voltage set or constant current set. If select to set constant voltage, the Voltage indicator lamp will light. If select to set constant current set, the Current indicator lamp will light.

(3)The constant voltage range can be set from 5 to 300V or 600V. The constant current range can be set from 1 to 300mA or 200mA. By pressing "▲"or"▼"button to get the value you need.

NOTE:

When the Voltage indicator lamp light, the current value will be automatically limited to the maximum.

When the Current indicator lamp light, the voltage value will be automatically limited to the maximum.

(4)The Time Display will flash when press “▲”or “▼” button on the right. If the timer has been set with any value, the Timer indicator lamp will light.
(5)Press “▲”or “▼” button to set operating time. The range of the timer can be set from 1mins to 9hs and 59mins.Set the time to “0.00” when there is no need for Timing.
(6)Press “RUN/STOP” button to start high voltage output with the Running lamp lighting.
(7)It shows the constant output value and operating time automatically.
(8)It will shut down automatically when the timer gets to set-value and display “--- End ”with the warning tone “Do...Do...”

NOTE:
Under the constant-voltage state: If the output current has reached the maximum allowable limits, the voltage value will unable to meet the pre-set constant output, and then the power supply will automatically switch to the constant-current set and display the maximum current value.

Under the constant-current state: If the output voltage has reached the maximum allowable limits, the current value will unable to meet the pre-set constant output, and then the power supply will automatically switch to the constant-voltage set and display the maximum voltage value.

(9)Press “STOP” button to stop the output.
(10)Shut down the power.

2.1.3 Example
An experimental conditions for electrophoresis:
“Constant voltage output 100V, Timing time 1 hour and 45minutes”
Operation steps:
(1) Turn on the Power Supply.
(2) Press “V/A” button, the Voltage indicator lamp will light.
(3) Press“▲”or“▼”button to set the voltage value to “100”.
(4) Press“▲”or“▼”button to set the time value to “1.45”.
(5) Press “RUN” button to start the high voltage output.

(6) 1 hour and 45mins later, the Power Supply will stop automatically and it displays“--- End” with the warning tone “Do...Do...”
(7) Shut down the power.

2.1.4 Error Alarm

(1)If the power supply run with No-load, It will stop automatically with the warning tone “Do…Do…”, then display “Err--1”. Turn off the switch immediately.
(2)If the power supply run with Over-load, It will stop automatically with the warning tone “Do…Do…”, then display “Err--2”. Turn off the switch immediately.
(3)If there is something wrong with the internal circuit of power supply, It will stop automatically

with the warning tone “Do…Do…”, then display “Err--3”. Then need to check or request for repair.

2.2 BPS-2 & BPS-3 Power supply

2.2.1 Introduction

BPS-2 & BPS-3 Power supply has the following Technical specifications and Characteristic features:

Technical specifications

- Type of Output: Constant-Voltage, Current or Power
- Increment: 1V, 1mA, 1W
- Timer Range: 1min~99hr, 59min
- Display: LCD display with backlight
- Output jacks: Four sets of output jacks

Characteristic features

- Molding shell, touch keys, dual core microprocessor intelligent control;
- Indicate the preset value and the actual output value at the same time;
- It can store 10 electrophoresis methods;
- With automatic memory function;
- With standard, timing operation function;
- With constant voltage, constant current, constant power, misoperation, fault intelligent prompt functions;
- Automatic detection of no-load, over-load, short circuit, rapid resistance change, ground leak and system overheating.

2.2.2 Setup and Operation

(1)Turn on the power switch, enter into Setting State.

EDIT[0]	
U= 100V	0V
I= 500mA	0mA
P= 300W	0W

(2)The cursor will flash at “U=□□□V”. Set the value of constant voltage by pressing “▲”or“▼”button.

(3)The cursor will flash at “I = □□□mA” when press “ENT” button. Set the value of constant current by pressing “▲”or“▼”button.

(4)The cursor will flash at “P = □□□W” when press “ENT” button. Set the value of constant power by pressing “▲”or“▼”button. The range of power can be set from 1 to 300W.

(5)The cursor will return and flash at “U = □□□V” when you press “ENT” button. Set the value of constant voltage again by pressing “▲”or“▼”button.

(6)Power supply in Setting State now:

Press “RUN/STOP” button, it will enter into Operating State.

EDIT[0]		RUN! 00:01
U= 100V	►	100V
I= 500mA		350mA
P= 300W		35W

(7)Power supply in Operating State now:
Press “RUN/STOP” button, it will stop output and return to Setting State.
(8)In Setting State, continue to press “EDIT” button, it will enter into Editing State and display:
“SAVE [□]” → “LOAD [□]” → “T= □□:□□” → “QUIT” → “SAVE [□]”…

EDIT[0]	
U= 100V	0V
I= 500mA	0mA
P= 300W	0W

(9)At “SAVE □”, press “▲”or “▼” button to select number of memory program. The range of number is from 1 to 9. Then press “ENT” button to save current method into this program.
(10)At “LOAD [□]”, press “▲” or “▼” button to select number that needed. The range of number is from 1 to 9. Then press “ENT” button to load the current method from program.
(11)At “T= □□:□□”, press “▲”or “▼” button to set operating time.
(12)The range of timer is from 1minto 99hs and 59mins. Then press “ENT” button to save it.

EDIT[0]	
U= 100V	0V
I= 500mA	0mA
P= 300W	0W

(13)At “QUIT”, press “ENT” button to quit Editing state, and return to Setting State.

2.2.3 Error Alarm

(1) When the power supply run with Over-load, it will stop automatically and alarm with buzzer, then display “ERROR1!”.Turn off the switch immediately.
(2) When the power supply run with No-load, It will stop automatically and alarm with buzzer, then display “ERROR 2!”.Turn off the switch immediately.

III. Warranty

The Power Supply is warranted for 1 year against defects in materials and workman ship. If any defects should occur during this warranty period, we will replace the defective parts without charge. However, the following defects are specifically excluded:

1. Defects caused by improper operation.
2. Repair or modification done by anyone other than our company or their authorized agent.
3. Use with cables or connectors not specified by our company for this power supply.
4. Deliberate or accidental misuse.
5. Damage caused by disaster.

BIOBASE GROUP
2# building, No.9 Gangxing Road, High-tech Zone, Jinan City, Shandong Province, China
Tel: +86-531-81219803/01
Fax: +86-531-81219804
Inquiry: export@biobase.com
Complaints: customer_support@biobase.cc
After-sales service: service_sd@biobase.cc; service_ivd@biobase.cc
Web: www.biobase.cc/www.meihuatrade.com / www.biobase.com