PSB-1000 Series

Programmable Multi-Range D.C. Power Supply

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FEATURES

- LCD Display and User-Friendly Menu-Typed Functional Interface
- Voltage Rating : 40V/160V, Output Power Rating : 400W/800W
- Constant Power Output for Multi-Range(V & I)Operation
- The I/V Control Functions(Adjustable Slew Rate) are Suitable for Diode Characteristic Load & Surge Reducing; C.V/C.C Priority; Sequence Function for Sequential D.C Waveform Output
- Auto Run for Output or Sequence Function
- Master-Slave Operation : 2 Units in Series/4 Units in Parallel
- Synchronized Operation(Voltage Trigger, Trigger In/Trigger Out Signal)
- Standard Interface : USB Host, LAN; Option : GPIB
- Internal Sense Control(Disable/Front Panel/Rear Panel)Function
- LabVIEW Driver

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PSB-1000 is a series of Multi-Range DC Power Supply, whose maximum voltage output of 320V can be realized by placing 2 sets of 160V units in series connection. By connecting 4 sets of PSB-1800L units in parallel, the maximum current output of 320A can be achieved. The PSB-1000 series is a bench-top power supply featuring user friendly interface, which can clearly display setting conditions and measurement results via LCD display and menu-typed functionality selection without referring to the user manual. All settings can be done by functionality keys, numerical keys, and speed dial keys. The 30A output capability from the front output terminal of the PSB-1000 series can better meet the requirements of laboratories and scientific R&D departments.

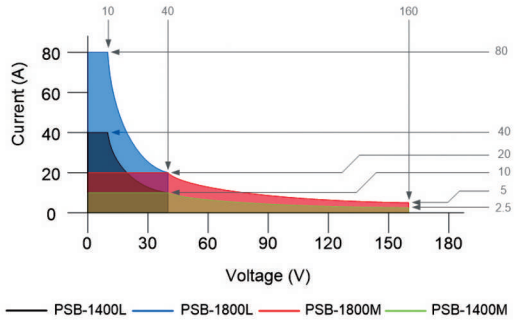
The PSB-1000 series features user friendly menu-typed functionality interface and its built-in functionalities can better meet industry's application requirements. Both front panel and rear panel output terminals of the PSB-1000 series facilitate researchers to access power output conveniently. The display panel adopts menu-typed functionality selection to help users quickly familiarize with settings and operation that is extremely suitable for on-site engineers and R&D engineers who deal with complicated functional setting requirements.

Power On Configuration allows users to select previously set SEQ to carry out automatic execution as soon as power is turned on. For production lines demanding sequential power supply output application requirements, tremendous time can be saved by this function, which exempts users from resetting sequential power supply when power is turned on every single time.
Voltage Trigger allows users to set pulse signals for leading edge threshold and trailing edge threshold. VOLT TRIG can be applied to Automatic test system by providing output time for working voltage via BNC adapter. The Output Delay function facilitates users to respectively set action time for power output on and power output off for multiple sets of PSB-1000 so as to realize sequential power output applications.

The PSB-1000 series is equipped with multi range power output capability providing fourfold rated power output to meet customers' flexible application requirements. The models and operating area of the entire series are as the following chart :

Model Name	Output Voltage	Output Current	Output Power
PSB-1400L	40V	40A	400W
PSB-1400M	160V	10A	400W
PSB-1800L	40V	80A	800W
PSB-1800M	160V	20A	800W

Operating Area: PSB-1000 Series Output Operating Area



PANEL INTRODUCTION

CE | GPIB | USB | LabVIEW Driver | Analog Control | LAN

1. Power Switch
2. LCD Display
3. Function Keys
4. Front Panel Output Terminals
5. Scroll Wheels
6. Output Key
7. Line Input
8. Rear Panel Output Terminals
9. USB
10. Analog Control Interface
11. GPIB Interface (Optional)
12. LAN
13. TRIG IN
14. TRIG OUT
15. VOLT TRIG

A. Parallel/Series Operation

Parallel Connection	1 UNIT	2 UNITS	3 UNITS	4 UNITS
PSB-1400L	40V/40A	40V/80A	40V/120A	40V/160A
PSB-1400M	160V/10A	160V/20A	160V/30A	160V/40A
PSB-1800L	40V/80A	40V/160A	40V/240A	40V/320A
PSB-1800M	160V/20A	160V/40A	160V/60A	160V/80A

Series Connection	1 UNIT	2 UNITS
PSB-1400L	40V/40A	80V/40A
PSB-1400M	160V/10A	320V/10A
PSB-1800L	40V/80A	80V/80A
PSB-1800M	160V/20A	320V/20A

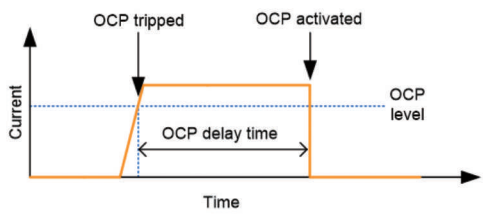
To augment output power so as to meet customers' large voltage and large current requirements, the PSB-1000 series, via placing two same model units in series connection, will be able to produce twofold rated voltage output, and through connecting four same model units in parallel, the PSB-1000 series can produce fourfold rated current output. The maximum voltage output of 320V can be achieved via placing the PSB-1000 series in series connection, and the maximum current of 320A and the maximum power of 3200W can be obtained through parallel connection.

B. Power On Configuration

Power On Configuration Setting Screen

The PSB-1000 series provides different Power On Configurations for different users. Users can also set automatic execution procedures to be carried out as soon as power is turned on. After presetting Power On Configuration, each rebooting will have a short activation display to show present settings of Power On Configuration of the PSB-1000 series. The execution will be conducted by the power on mode.

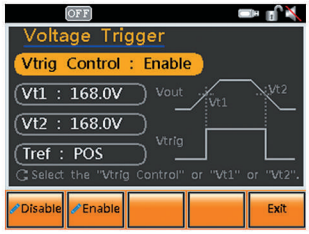
C. OCP Control Function



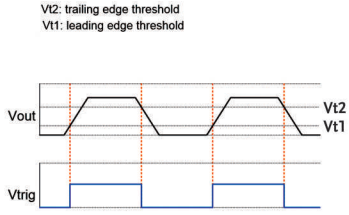
Enable OCP Control

The On/Off of the OCP protection function can be selected from the master display screen and the OCP activation time can delay 0.1~2.0 seconds. This function can protect customers' DUTs from over current to avoid unexpected operations which lead to DUT damage caused by over current.

D. Voltage Trigger



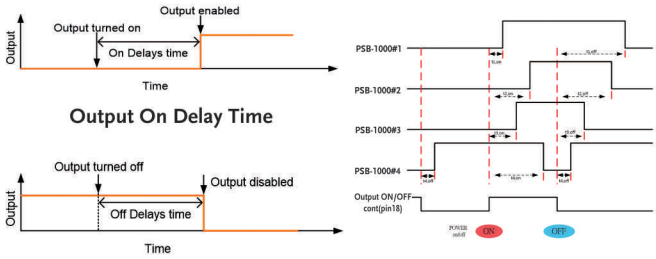
Voltage Trigger Setting



Vrig Timing Chart

Voltage Trigger allows users to set pulse signals for leading edge threshold Vt1 and trailing edge threshold Vt2. VOLT TRIG can be applied to provide output time for working voltage via BNC adapter. Users can determine positive or negative voltage trigger signals by Tref.

E. Output Delay Function

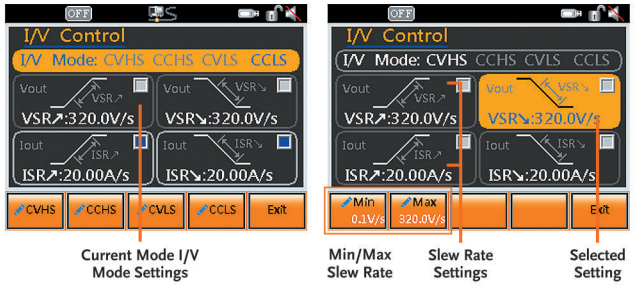


Power output and on/off facilitate flexible planning and setting with respect to time.

* Set output on delays time to delay 0.00 ~ 100.00 seconds
* Set output off delays time to delay 0.00 ~ 100.00 seconds

Multiple power outputs by different time sequence can be realized via synchronizing multiple PSB-1000 series.

F. I/V Control (Adjustable Slew Rate)



CV and CC priority can be set based upon customers' application requirements. The speed of voltage rise (V/s) or voltage fall (V/s), and the speed of current rise (A/s) or current fall (A/s) can be set respectively.

The PSB-1000 series provides customers with the following four modes to meet their requirements.

CVHS - Voltage with maximum speed Slew Rate
CCHS - Current with maximum speed Slew Rate
CVLS - Users set voltage Slew Rate
CCLS - Users set current Slew Rate

SPECIFICATIONS

Model Name		PSB-1400L	PSB-1400M	PSB-1800L	PSB-1800M
OUTPUT RATING					
Output voltage(V)		0~40	0~160	0~40	0~160
Output current(A)		0~40	0~10	0~80	0~20
Output power(W)		400W	400W	800W	800W
REGULATION (CV)					
Load regulation (mV)		25	85	25	85
Line regulation (mV)		23	83	23	83
REGULATION (CC)					
Load regulation (mA)		45	15	85	25
Line regulation (mA)		45	15	85	25
RIPPLE & NOISE (Noise Bandwidth 20MHz ; Ripple Bandwidth = 1MHz)					
CV p-p		60	60	80	80
CV rms		7	12	11	15
CC rms		80	20	160	40
PROGRAMMING ACCURACY					
Voltage (mV)	0.1% +	10	50	10	50
Current (mA)	0.1% +	20	10	40	20
MEASUREMENT ACCURACY					
Voltage (mV)	0.1% +	10	50	10	50
Current (mA)	0.1% +	20	10	40	20
RESPONSE TIME					
Raise Time (ms)		50	100	50	100
Fall Time(Full load) (ms)		50	150	50	150
Fall Time(No load) (ms)		500	1200	500	1200
Load Transient Recover Time(ms) (Load change from 50 to 100%)		1	1	1	1
PROGRAMMING RESOLUTION (By PC Remote Control Mode)					
Voltage (mV)		1	3	1	3
Current (mA)		1	1	2	1
MEASUREMENT RESOLUTION (By PC Remote Control Mode)					
Voltage (mV)		1	3	1	3
Current (mA)		1	1	2	1
SERIES AND PARALLEL CAPABILITY					
Parallel Operation		Up to 4 units including the master unit			
Series Operation		Up to 2 units including the master unit			
PPROTECTION FUNCTION					
OVP (V)		4-44	5-176	4-44	5-176
OCP (A)		4-44	1-11	5-88	2-22
OHP		Turn the output off.	Turn the output off.	Turn the output off.	Turn the output off.
FRONT PANEL DISPLAY ACCURACY (4 Digits)					
Voltage (mV)	0.1% +	20	100	20	100
Current (mA)	0.1% +	20	10	40	20
ENVIRONMENT CONDITION					
Operation Temp		0°C to 40°C			
Storage Temp		-25°C to 70°C			
Operating Humidity		20% to 85% RH; No condensation			
Storage Humidity		90% RH or less; No condensation			
OTHER					
Analog Control		Yes			
Interface		USB/LAN/GPIB(Option)			
Power Source		100Vac to 240Vac, 50Hz to 60Hz, single phase			
Dimension		214(W)×124(H)×350(D) mm			
Weight		Approx. 5.2kg	Approx. 5.2kg	Approx. 6.8kg	Approx. 6.8kg

Specifications subject to change without notice. SB-1000GD1BH

ORDERING INFORMATION

PSB-1400L 40V/40A/400W Programmable Multi-Range D.C. Power Supply
PSB-1400M 160V/10A/400W Programmable Multi-Range D.C. Power Supply
PSB-1800L 40V/80A/800W Programmable Multi-Range D.C. Power Supply
PSB-1800M 160V/20A/800W Programmable Multi-Range D.C. Power Supply

ACCESSORIES

CD ROM (User Manual, Programming Manual) x 1, Power cord for UL/CSA or PSE(Region dependent), Output terminal cover, Type A-B USB cable, PSB-106 Basic accessory kit :
M4 terminal screws and washers x 2, M8 terminal bolts, nuts and washers x 2, analog control protection dummy x 1, analog control lock level x 2, short bar x 1

OPTIONAL ASSESSORIES

PSW-001 Analog remote control connector kit
PSW-002 Simple IDC tool
PSW-003 Contact removal tool
GRA-418-J Rack-mount adapter(JIS)
GRA-418-E Rack-mount adapter(EIA)
GTL-123 Test leads:1x red,1x black
PSB-101 Cable for 2 units of PSB-1000 units in parallel mode connection
PSB-102 Cable for 3 units of PSB-1000 units in parallel mode connection
PSB-103 Cable for 4 units of PSB-1000 units in parallel mode connection
PSB-104 Cable for 2 units of PSB-1000 units in series mode connection
PSB-105 GPIB card
PSB-106 basic accessory kit:
M4 terminal screws and washers x 2, M8 terminal bolts, nuts and washers x 2, analog control protection dummy x 1, analog control lock level x 2, short bar x 1

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