WPS-S Series

Wide range constant power DC power supply

Features

- Equipped with active PFC, with a power factor of up to 0.99
- The speed of the rising and falling edges of the output is adjustable
- Wide range output capability, expanding the output range to three times that of the same power level "matrix" power supply
- Adopting high-frequency LLC multi resonant inverter, the overall efficiency of the machine can reach up to 93%
- The master-slave mode supports parallel connection, active current sharing, and can connect up to 10 products of the same model in parallel
- Support OVP, OCP, OPP, OTP protection, support SENSE terminal reverse connection protection
- Equipped with lead voltage drop compensation terminals, it can achieve output lead voltage drop compensation during high current operation
- Built in function generator
- Equipped with discharge circuit (Uout<10V within 1 second)
- Built in multiple interfaces, including communication interfaces such as RS232/RS485/USB/LAN
- Built in remote analog control interface
- Support for SCPI instruction language
- High brightness color LCD display screen, beautiful appearance, simple and intuitive operation
- Built in voltage reverse protection module, suitable for various inductive loads such as transformers and motors (optional)

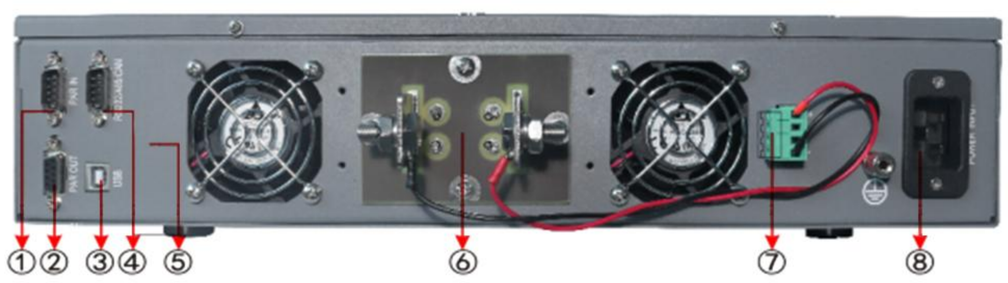
1 Portable panel operation

No.	Function introduction	No.	Function introduction
1	Power switch button	5	Rotate the button to
2	LCD screen	6	Start, stop output key
3	Function soft keyboard	7	Numeric keys and escape
4	Status indicator		

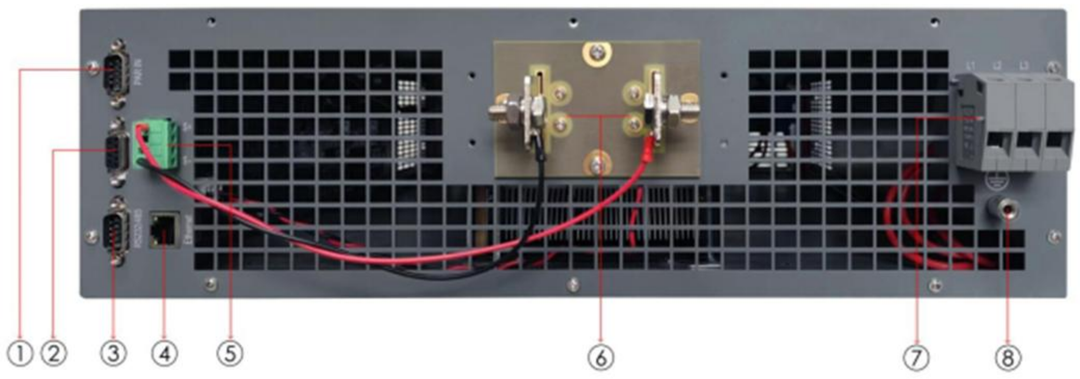
No.	Function introduction	No.	Function introduction
1	Left handle	2	Right handle
3	Power switch	4	LCD screen
5	Function soft keyboard	6	Numeric keys and escape
7	Functional Settings Area	8	Voltage and current
9	Status indicator		

This series of products adopts a 2U standard chassis, which is suitable for workbench operation and convenient to be built-in in industrial standard cabinets. It is equipped with a high brightness 4.0 inch color LCD display screen, comfortable silicone buttons, simple and convenient knobs for operation, and four intuitive LED status indicator lights.

2 Rich built-in interfaces



No.	Function introduction	No.	Function introduction
1	Parallel input interface:	5	Remote Analog Control
2	Parallel output interface:	6	Power supply output terminal
3	USB interface	7	Remote S Compensation
4	RS232/RS485/CAN	8	Power input



No.	Function introduction	No.	Function introduction
1	Parallel input interface: as a	5	Remote S Compensation
2	Parallel output interface: as	6	Power output terminal
3	RS232/RS485	7	Power input terminal port
4	LAN	8	Power supply chassis

3 DC output

This series of power supplies includes three basic models: 750W, 1.5kW, and 3kW.The output voltage ranges from 0-35V to 0-1000V, and the output current ranges from 0-2.5A to 0-200A, corresponding to various different models. Whether it is manual control or remote control (analog or digital), voltage, current, and power can be continuously adjusted between 0% and 100%.

4 Power absorption function

The BSC66000 series power supply has a power absorption function: the power supply comes with a motor type load. When the power supply stops outputting, the motor type inductive load will not immediately disappear. At this time, the motor becomes an energy source and charges the power supply in reverse. The BSC66000 series power supply has a power absorption module inside, which can absorb such energy in a timely manner to prevent overvoltage damage to the filtering part of the power supply.

5 Parallel function

All products come standard with a digital master-slave bus. Through it, up to 10 products of the same model can be connected in parallel, summarizing the actual voltage, current, and power to form a larger system. This operation can be completed through the control panel on the product or remote control through any digital communication interface to complete all configurations of the master-slave system.

6 Remote compensation function

To avoid voltage drop caused by excessively long wires connecting the load, remote testing allows for direct measurement of output voltage at the terminals of the tested object to improve measurement accuracy. S+and S - are remote compensation terminals. When using remote compensation testing, connect S+and S - to the positive and negative terminals of the tested object.

7 Discharge circuit

All power devices in this series are equipped with discharge circuits inside. When unloaded or with small loads, it can ensure that the dangerous voltage drops below 10VDC within 1 second after the DC output is turned off, ensuring human safety.

8 Analog control interface (optional)

There is an isolated analog interface terminal installed on the rear panel of the product. Connect a voltage of 0-10V or 0-5V to the analog input pin, and set the output voltage, current, and power to 0-100%. Simulate the output pin to output 0-10V or 0-5V voltage corresponding to 0-100% of the output voltage and current, achieving the monitoring function of output voltage and current. In addition, there are several input pins and output pins that can be used to control and monitor product status.

9 Protection function

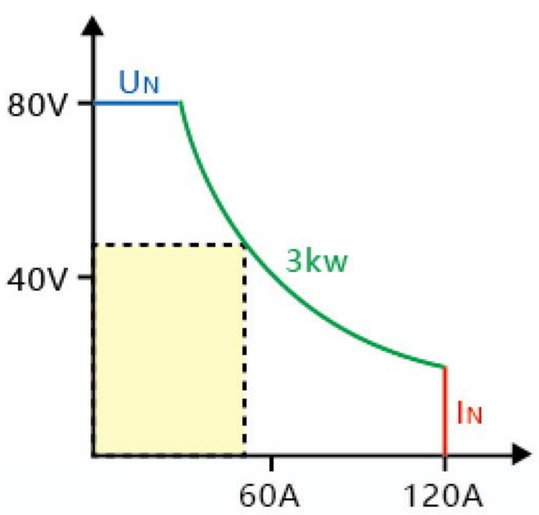
To protect the customer's connected equipment, a overvoltage protection limit value (OVP), as well as overcurrent (0CP) and overpower (OPP) protection limits can be set for the product. Once one of these three values is exceeded for some reason, the DC output will be immediately cut off and a status signal will be sent out at the display and interface ends. This product also has over temperature protection. If the product overheats, it will turn off the DC output, ensuring the safety of the tested object and power supply.

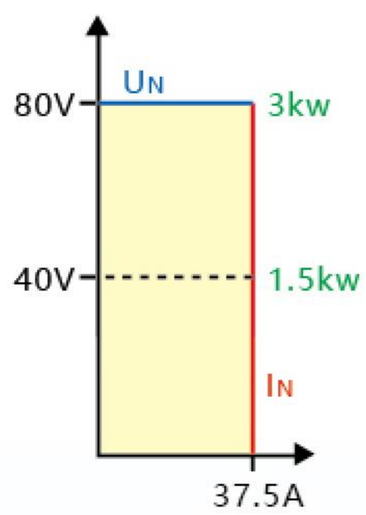
10 Output end backpressure protection (optional)

Due to the fact that inductive loads generate back electromotive force voltage at the moment of connecting or disconnecting the power supply, the peak value of this voltage is much greater than the voltage that the load power supply can withstand, which can easily cause power failure. Traditional solutions involve customers paralleling diodes at the output end of the power supply, which is complex to connect, difficult to select, and extremely low in practicality. The 66000 series DC power supply can integrate a voltage reverse protection module internally to absorb the back voltage generated by inductive loads. No need for customers to parallel diodes outside the power supply, simplifying the difficulty of wiring and diode selection.

11 Wide range output

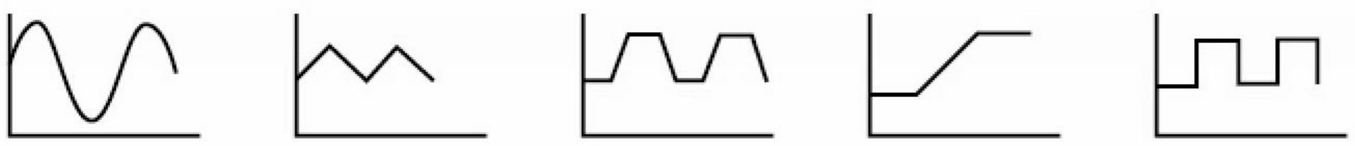
Compared to ordinary power supplies, constant power supplies have a wider range of output voltage and current, and a single model of power supply can meet the testing needs of customers for various specifications of products. The voltage and current output of a power supply are limited by the maximum power output. Reducing the output current can result in higher voltage or larger output current, making it more flexible than traditional "matrix" power supplies. As shown in the following figure:





12 Function generator

All models in this series have a real function generator that can form the following typical functions and can be applied to output voltage or output current. The generator can be set through the front panel or remotely configured through a certain digital interface. The preset function will provide users with all necessary parameters, such as Y deviation value, time, frequency or amplitude, and a complete set of configuration parameters.

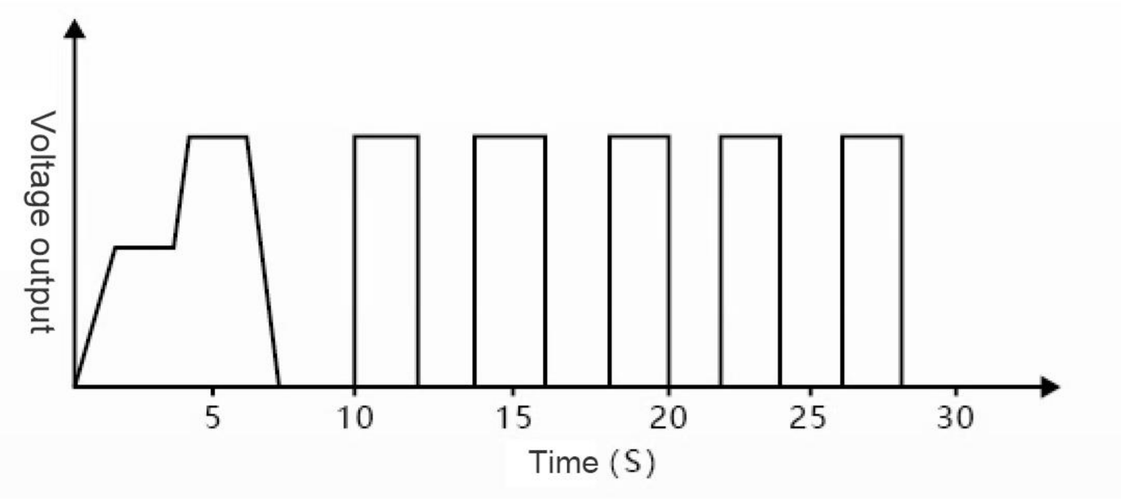


13 Sequence testing

In addition to standard functions generated based on function generators, it can also form certain complex functions. The sequence testing function consists of 50 sequences stored in non-volatile storage, each containing 20 testing steps. Users can edit the function of each step according to actual needs, so that the power supply can output in a sequential manner in constant voltage, constant current, or constant power mode to meet specific testing requirements.

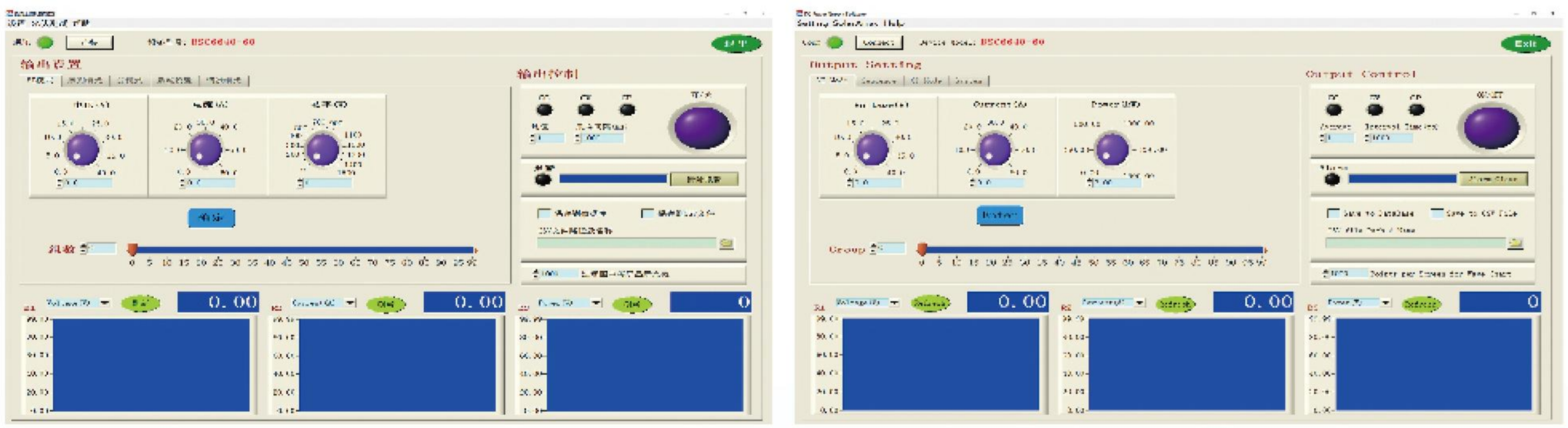
Example of sequence testing

A typical aging test process is as follows: first, input voltage to the tested object at a certain slope for a period of time, then suddenly rise to another voltage for a period of time, then rise the voltage again for a period of time... Finally, the voltage is dropped to zero in a slope manner. In some cases, a voltage switch cycle test sequence is also required, as shown in the following figure, which shows a voltage waveform for aging testing.



14 Industrial computer software

This product is also equipped with control software suitable for operating under the Windows system, which can remotely control multiple products of the same model. It has a clear main interface that displays all set values and actual values. And it has functions such as remote start, device stop, data saving, and sequence testing programming.



Technical parameter

1.5KW Series

(Weight:10.8kg Size:482*455*88mm)

Model	Voltage	Current	Power	Ripple
WPS-1500S-35-100	0-35V	0-100A	1500W	10mVrms
WPS-1500S-40-60	0-40V	0-60A	1500W	10mVrms
WPS-1500S-60-75	0-60V	0-75A	1500W	10mVrms
WPS-1500S-80-60	0-80V	0-60A	1500W	10mVrms
WPS-1500S-100-50	0-100V	0-50A	1500W	20mVrms
WPS-1500S-200-25	0-200V	0-25A	1500W	20mVrms
WPS-1500S-360-15	0-360V	0-15A	1500W	40mVrms
WPS-1500S-500-10	0-500V	0-10A	1500W	50mVrms
WPS-1500S-750-7	0-750V	0-7A	1500W	50mVrms
WPS-1500S-1000-5	0-1000V	0-5A	1500W	100mVrms

3KW Series

(Weight:13.5kg Size:482*455*88mm)

Model	Voltage	Current	Power	Ripple
WPS-3000S-35-200	0-35V	0-200A	3000W	10mVrms
WPS-3000S-40-120	0-40V	0-120A	3000W	10mVrms
WPS-3000S-60-150	0-60V	0-150A	3000W	10mVrms
WPS-3000S-80-120	0-80V	0-120A	3000W	10mVrms
WPS-3000S-100-100	0-100V	0-100A	3000W	20mVrms
WPS-3000S-200-50	0-200V	0-50A	3000W	20mVrms
WPS-3000S-360-30	0-360V	0-30A	3000W	40mVrms
WPS-3000S-500-20	0-500V	0-20A	3000W	50mVrms
WPS-3000S-750-14	0-750V	0-14A	3000W	50mVrms
WPS-3000S-1000-10	0-1000V	0-10A	3000W	100mVrms

Model		WPS-S Series
Rated input		Single phase 220VAC±10% 45-66Hz
DC output	Voltage	0V~rated value
	Current	0A~rated value
	Power	0W~rated value
	Efficiency	≤92%
Setting value accuracy	Voltage	≤ ± (0.05%+0.04% FS)
	Current	≤ ± (0.15%+0.1% FS)
	Power	≤ ± 0.8% FS
Readback value accuracy	Voltage	≤ ± (0.05%+0.04% FS)
	Current	≤ ± (0.15%+0.1% FS)
	Power	≤ ± 0.8% FS
Source effect	Voltage	≤ 0.02% FS (± 10% △ UAC input)
	Current	≤ 0.05% FS (± 10% △ UAC input)
Load effect	Voltage	≤ 0.05% FS (0-100% load adjustment rate)
	Current	0.15% FS (load adjustment rate of 0-100% △ UDC)
	Specifications	Built in 15-pin D-Sub female plug, electrically isolated
Analog interface	Signal range	0~5V or 0~10V (switchable)
	U/I/P accuracy	0~10V: ≤ 0.2% FS 0~5V: ≤ 0.4% FS
Dynamic response time(10% -90% load)	Load adjustment time	≤ 2ms (load adjusted from 10 to 100%)
	Output voltage rise time	30ms
Functional protection		OTP, OVP, 0CP, 0PP, PF
Interface		RS232/RS485/USB/LAN and other communication interfaces
Parallel operation		Realizable, can connect up to 10 products (via shared bus) through real master-slave operation
Operating environment		Working temperature: 0-50 ℃, humidity:<80%, storage temperature: -20~70 ℃, altitude:<2000m

5-6KW Series

(Weight:25kg Size:482*660*132mm)

Model	Voltage	Current	Power	Ripple
WPS-5000S-80-170	0-80V	0-170A	5000W	15mVrms
WPS-6000S-300-75	0-300V	0-75A	6000W	40mVrms
WPS-6000S-500-40	0-500V	0-40A	6000W	50mVrms
WPS-6000S-800-25	0-800V	0-25A	6000W	75mVrms
WPS-6000S-1000-15	0-1000V	0-15A	6000W	100mVrms

10-12KW Series

(Weight:35kg Size:482*660*132mm)

Model	Voltage	Current	Power	Ripple
WPS-10000S-80-340	0-80V	0-340A	10000W	15mVrms
WPS-12000S-300-150	0-300V	0-150A	12000W	40mVrms
WPS-12000S-500-80	0-500V	0-80A	12000W	50mVrms
WPS-12000S-800-50	0-800V	0-50A	12000W	75mVrms
WPS-12000S-1000-30	0-1000V	0-30A	12000W	100mVrms
WPS-12000S-1500-25	0-1500V	0-25A	12000W	150mVrms

15-18KW Series

(Weight:45kg Size:482*660*132mm)

Model	Voltage	Current	Power	Ripple
WPS-15000S-80-510	0-80V	0-510A	15000W	15mVrms
WPS-18000S-300-225	0-300V	0-225A	18000W	40mVrms
WPS-18000S-500-120	0-500V	0-120A	18000W	50mVrms
WPS-18000S-800-75	0-800V	0-75A	18000W	75mVrms
WPS-18000S-1000-45	0-1000V	0-45A	18000W	100mVrms
WPS-18000S-1500-40	0-1500V	0-40A	18000W	150mVrms
WPS-18000S-2250-25	0-2250V	0-25A	18000W	225mVrms

Model		WPS-S Series
Rated input		Three phase 380VAC ± 10% 47-63Hz
DC output	Voltage	0V~rated value
	Current	0A~rated value
	Power	0W~rated value
	Efficiency	≤92%
Setting value accuracy	Voltage	≤ ± (0.05%+0.04% FS)
	Current	≤ ± (0.15%+0.1% FS)
	Power	≤ ± 0.8% FS
Readback value accuracy	Voltage	≤ ± (0.05%+0.04% FS)
	Current	≤ ± (0.15%+0.1% FS)
	Power	≤ ± 0.8% FS
Source effect	Voltage	≤ 0.02% FS (± 10% △ UAC input)
	Current	≤ 0.05% FS (± 10% △ UAC input)
Load effect	Voltage	≤ 0.05% FS (0-100% load adjustment rate)
	Current	0.15% FS (load adjustment rate of 0-100% △ UDC)
	Specifications	Built in 15-pin D-Sub female plug, electrically isolated
Analog interface	Signal range	0~5V or 0~10V (switchable)
	U/I/P accuracy	0~10V: ≤ 0.2% FS 0~5V: ≤ 0.4% FS
Dynamic response time(10% -90% load)	Load adjustment time	≤ 2ms (load adjusted from 10 to 100%)
	Output voltage rise time	Maximum 50ms (10~90% full scale)
Functional protection		OTP, OVP, 0CP, 0PP, PF
Interface		RS232/RS485/USB/LAN and other communication interfaces
Parallel operation		Realizable, can connect up to 10 products (via shared bus) through real master-slave operation
Operating environment		Working temperature: 0-50 ℃, humidity:<80%, storage temperature: -20~70 ℃, altitude:<2000m