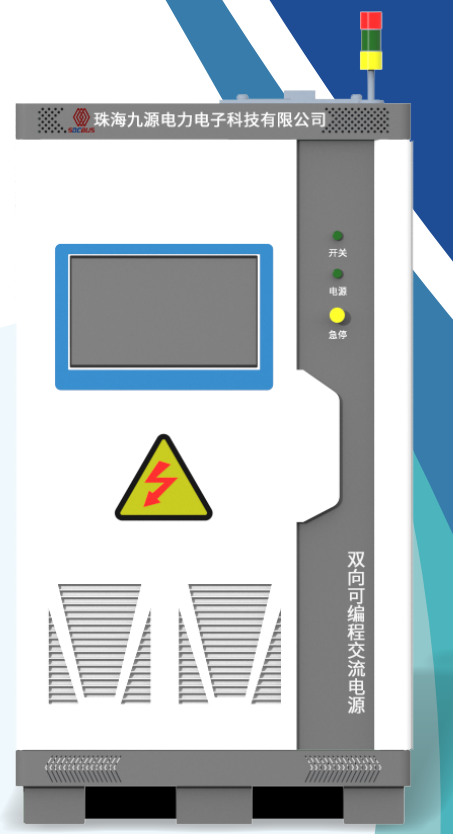
珠海九源电力电子科技有限公司
Zhuhai Jiuyuan Power Electronics Technology Co.,LTD

JHL Series Bidirectional Programmable AC Power Supply (BPAC).

01/Product Overview

The JHL series bidirectional programmable AC power supply is an advanced power electronic device that integrates bidirectional energy flow, high-precision output and intelligent control. It functions not only as a traditional AC power source to deliver stable voltage current output, but also can operate as an "active load" to efficiently feed energy back to the grid or energy storage recycling. The products are widely used in renewable energy R&D, electric vehicle testing, industrial automation, laboratory verification and other fields. It makes an ideal solution for power electronics, energy management and smart manufacturing applications.



02/ Product Features

1.Bi-directional Energy Flow

◎ a) Output mode: Provides pure and stable AC power with programmable adjustment of voltage, frequency and waveform (including sine, square, harmonic waveforms, etc.).

◎ b) Feedback mode: Efficiency returns energy generated by DUTs (such as inverters, batteries and energy storage systems) or storage devices, achieving over 90% energy recovery rate and significantly reducing testing costs.

2.High Precision & Wide Range Adjustment

◎ c) Voltage range:0~300V/0~690V(customizable); Frequency range:0.1Hz~1000Hz (resolution :0.01Hz).

◎ d) Output accuracy: Voltage/current accuracy ≤0.1%, (THD) <1%.

3.Intelligent Programmable Control

◎ e) Built-in function generator capable of producing transient waveforms, voltage sag/swell simulation and harmonic injection.

◎ f) Supports multiple interfaces (LAN/GPIB/USB/RS485) and SCPI commands for seamless integration with automated test systems.

4.Multi-Mode Operation & Safety Protections

◎ g) Operation modes: Constant Voltage (CV), Constant Current (CC), Constant Power (CP).

◎ h) Protection features: Over-voltage, over-current, short circuit and over-temperature protection.

03/ Applications

◎ Renewable Energy: Grid-connected/off-grid testing of PV inverter/energy storage converters (PCS), MPPT efficiency verification.

◎ Electric Vehicles: Charging/discharging tests of on-board chargers (OBC), motor drives, and charging stations.

◎ Industrial Automation: Dynamic performance analysis of Inverters, UPS systems, and power electronics devices.

◎ Lab·R&D: Simulate gird disturbances and voltage fluctuations for reliability and compatibility testing.

04/Technical Specifications

Device model	JHL-60F-4Q	JHL-120F-4Q	JHL-320F-4Q	JHL-630F-4Q
Grid-side parameters				
Rated power(kW)	60	120	320	630
Total current waveform distortion rate	⩽3% (at rated power)			
Rated grid voltage	AC380V±15%			
Rated grid frequency	50Hz±5Hz			
Load-side parameters				
Rated power(kW)	60	120	320	630
Total voltage waveform distortion rate	≤1% (at rated power)			
Total current waveform distortion rate	≤2% (at rated power)			
Output voltage range	323V~552V (Programming)			
Grid frequency	45Hz~65Hz (Programming)			
Dimensions(W*D*H/mm)	600*600*1200	1000*950*1900	1140*950*1900	1840*1200*1900
Weight (kg)	400	600	1300	2800
Highest efficiency	97.00%	97.00%	97.00%	97.00%
Ingress protection	Ip21			
Operating humidity range	0%~100% (no condensation)			
Operating temperature range	-30℃~50℃			
Maximum working altitude	3000m			
Communication	CAN/Ethernet			

Contact us
Zhuhai Jiuyuan Power Electronics Technology Co., Ltd.
Tel: +86-0756-3616108
Website: www.sdcbus.com
Address: No. 45, Huaguan Road, High-tech Zone, Zhuhai City, Guangdong Province, China
We look forward to cooperating with you!
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