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

SDCBUS Series Power Battery Performance Testing System

01/Product Overview

The SDCBUS Series Power Battery Performance Testing System, independently developed by Zhuhai Jiuyuan, the SDCBUS Series is a high-precision AC/DC power processing system featuring bidirectional power flow for both unidirectional and bidirectional load testing. By replacing traditional resistive loads, it minimizes energy loss while enabling grid-connected power control.. By eliminating resistive load power consumption, the system significantly reduces energy loss. It is widely applicable for electrical performance test of lithium-ion, lead-acid, and specialty liquid batteries as well as the aging test of electronic loads.

SDCBUS-100/010-100-12CD

02/ Key Features

- ◎ Patented Energy-Saving Control Technology
- ◎ Wireless Core Converter Module Design-Stable, reliable, and maintenance-free.
- ◎ Long Design Life- Long-life accessory options with a system design life of over 15 years
- ◎ Phase-Independent Operation-Intelligent phase -locking for flexible and efficient performance.
- ◎ Pure Sine Wave Grid Integration-Zero grid pollution.
- ◎ Automated Testing & Management-User-friendly efficiency enhancement solutions.

SDCBUS-750/030-100-4CD

03/ Applications

1.Battery Electrical Performance Testing

- ◎ Capacity Testing
- ◎ Charge/Discharge Efficiency
- ◎ Cycle Life Testing
- ◎ DC Internal Resistance
- ◎ Operating Condition Simulation
- ◎ Charge/Discharge Characteristics
- ◎ Charge Retention & Recovery
- ◎ Temperature-Dependent Performance
- ◎ Pulse Charge/Discharge Capability
- ◎ Overcharge/Overdischarge Tolerance

SDCBUS-1500/050-300-2CD

2.Electronic Load Function

◎ Energy Feedback for DC Aging Tests

Converts DC power to AC and feeds it back to the grid, minimizing heat loss. Simulates aging conditions to enable low-energy, high-precision lifespan testing and energy recycling.

3.Battery Simulation Function

◎ High-Fidelity Charge/ Discharge Simulation

High-precision reproduction of battery charge and discharge curves, support dynamic working conditions and fault simulation; The energy feedback > 96%, reducing the energy consumption of the test, and simultaneously verifying the performance and safety.

SDCBUS-2400/100-500-1CD

04/Technical Specifications

The name of the project	Typical device model parameters					remark
Model	SDCBUS-100/010-100-12CD	SDCBUS-750/030-100-4CD	SDCBUS-1000/050-300-2CD	SDCBUS-1500/050-300-2CD	SDCBUS-2400/100-500-1CD	
Dimension (L*W*H/MM)	1140*950*1900	1140*950*1900	2280*1200*1900	2840*1200*1900	4280*1200*1900	
Weight (kg)	1000	1300	2660	4200	5400	
Channels per Unit	12	4	2	2	1	The number of channels can be customized
Single-Channel power (kW)	10	75	300	450	1200	Full power output is supported
Rated power per device (kW)	120	300	600	900	1200	Full power output is supported
Output Voltage Range (V)	10 ~ 100	30 ~ 750	50 ~ 1000	80 ~ 1500	100 ~ 2400	Support 0V charging
Output Current / Voltage Accuracy	± (0.05%FS+0.05%RD)					Other high-precision requirements can be customized
Energy feedback	The device adopts the patented technology of common DC bus, and the energy is preferentially recycled between the DC side channels.					
Energy return efficiency	≥92%	≥97%	≥96%	≥97%	≥96%	Charge or discharge at full load
Highest efficiency of internal circulation	≥94.5%	≥98%	≥97.5%	≥98%		Charging and discharging between channels
Grid Parameters						
Voltage	AC 380 V ±15% (three-phase five-wire system) with a ground resistance value of ≤5 Ω					The input voltage can be customized
Frequency	50/60±5Hz					
Powe Factor	≥0.99					More than half a load
THD	≤3%					fully loaded
Input protection	Overvoltage, undervoltage, overload protection, phase loss protection, lightning protection, islanding effect, etc					
Battery-side output						
Parallel Configuration	Up to 10 channels per group					
Current Response Time	≤5ms					10%~90% (battery load)
Charge/Discharge Switching Time	≤10ms					+90%~-90% (Battery Load)
Continuous Sampling Interval	≤10ms					Including current and voltage measurement
Output Voltage Resolution	0.1mV					
Output Current Resolution	0.1mA					
Output Power Resolution	0.1W					
Protection	Undervoltage, overvoltage, short circuit, overcurrent, abnormal communication, power failure, emergency stop, etc					

Contact us

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We look forward to cooperating with you!

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