



Excellence

Innovation

Mission

Responsibility



Service
Creates
Value



Brands
Bring
Life

SOLUTION AND SYSTEM SUPPLIER OF LITHIUM
BATTERY ELECTRICAL PERFORMANCE TESTING

锂电池电性能检测解决方案 及系统供应商

珠海九源电力电子科技有限公司
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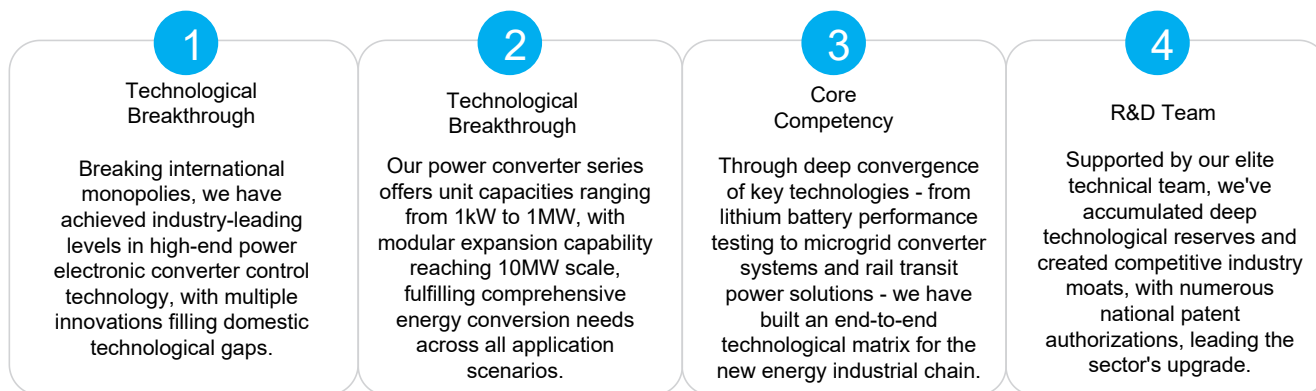
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COMPANY INTRODUCTION 公司简介

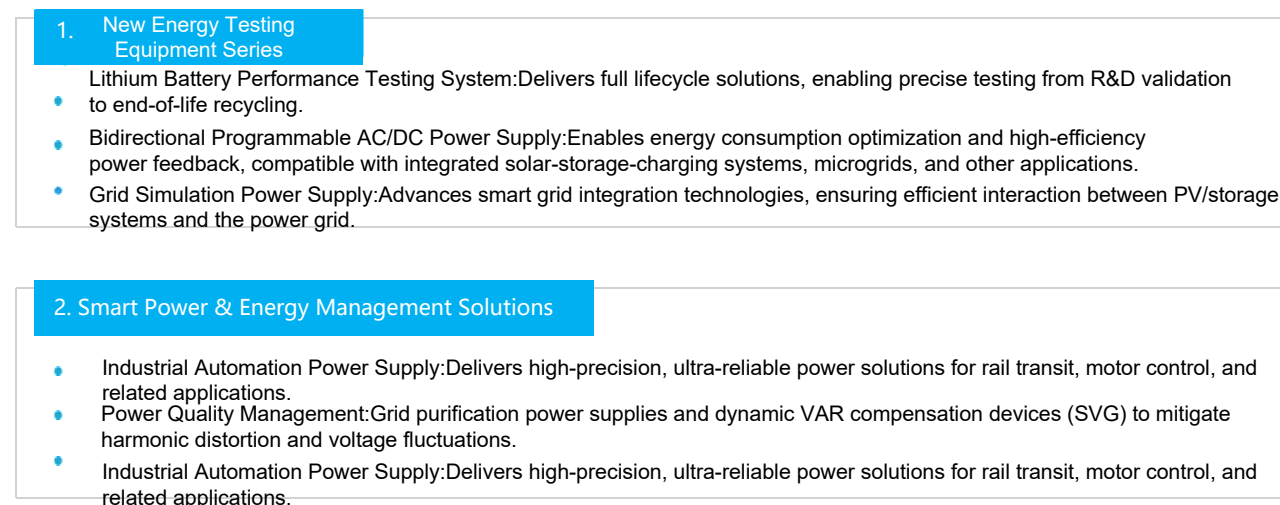
Zhuhai Jiuyuan Power Electronics Technology Co., Ltd., established in March 2013, is headquartered in Zhuhai Hi-Tech Zone—an innovation hub of the Guangdong-Hong Kong-Macao Greater Bay Area. As a national high-tech enterprise, the company specializes in the R&D of industrial-grade converter technology, high-end equipment manufacturing, and smart energy solutions.

Guided by the core philosophy of "Innovation-Driven, Quality-First", Jiuyuan Power is committed to providing global customers with efficient, reliable, and intelligent power conversion and energy management products.

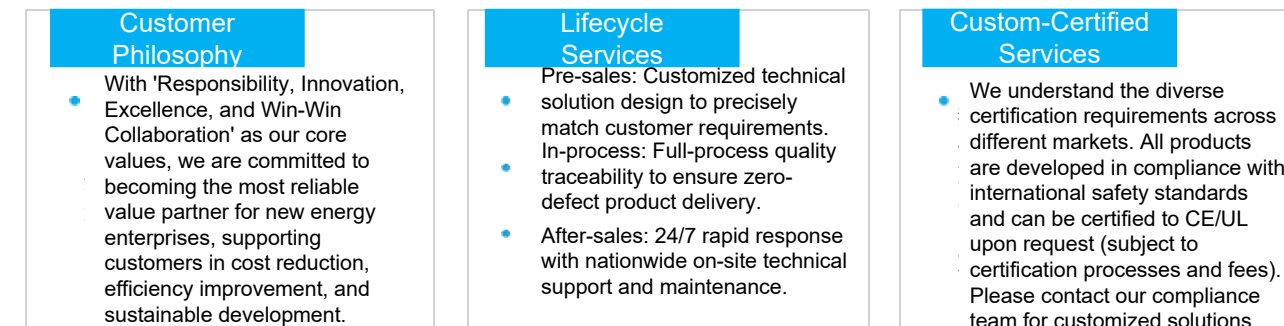
► Capabilities and Market Position



► Core Business and Product Portfolio



► Service Model and Customer Value



► Vision and Mission

With the vision of 'Becoming a Leading Global Supplier of New Energy Testing Equipment,' Juyuan remains steadfast in advancing new energy technologies to drive the energy transition and achieve carbon neutrality goals. Moving forward, we will collaborate with global partners through safer, more energy-efficient benchmark products to jointly chart a new blueprint for green energy!

CORPORATE CULTURE 企业文化



DEVELOPMENT HISTORY 发展历程



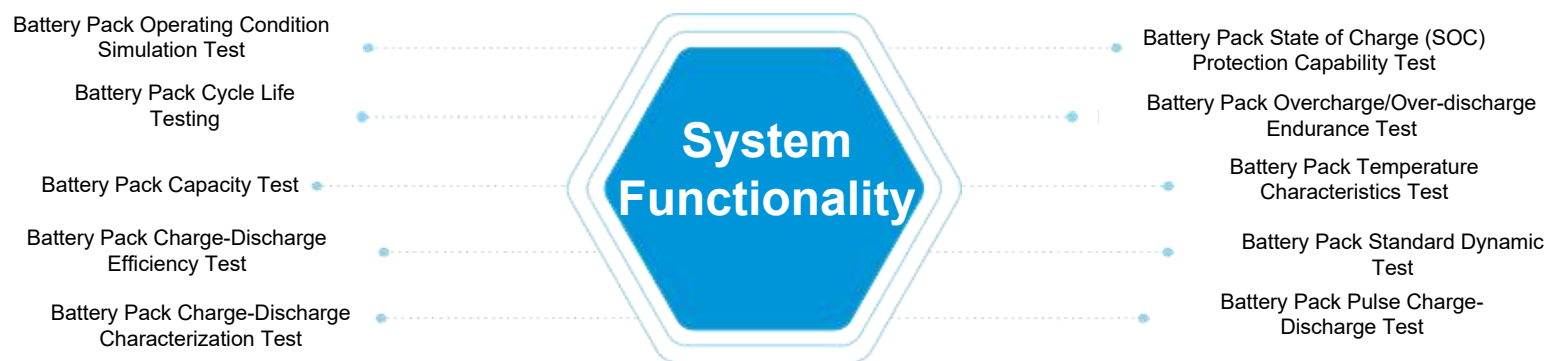
QUALIFICATION AND HONOR 荣誉资质



SDCBUS SERIES PRODUCTS

SDCBUS系列产品

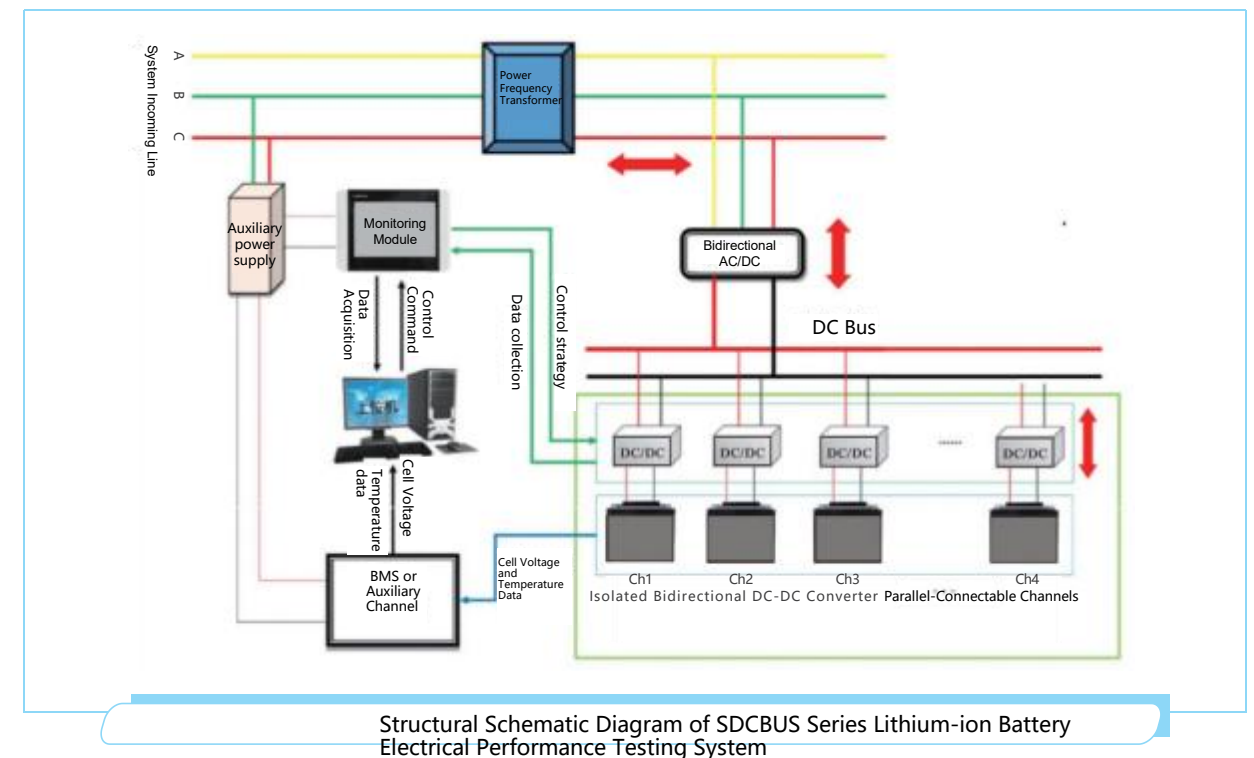
The SDCBUS Series Lithium Battery Pack Performance Testing Equipment is specifically designed for lithium battery-related products. Adopting internationally advanced DC bus power processing technology, it enables high-efficiency, low-harmonic, high-power-factor bidirectional AC-DC energy conversion. The system's power section utilizes a common DC bus architecture, allowing multi-channel energy exchange within the system for superior energy-saving efficiency. By performing charge/discharge cycles on battery packs while real-time monitoring parameter variations during the process, it provides scientific basis for battery performance evaluation. Widely applied across lithium battery manufacturers, electric vehicle companies, charging stations, energy storage plants, battery testing institutions, and battery research organizations.



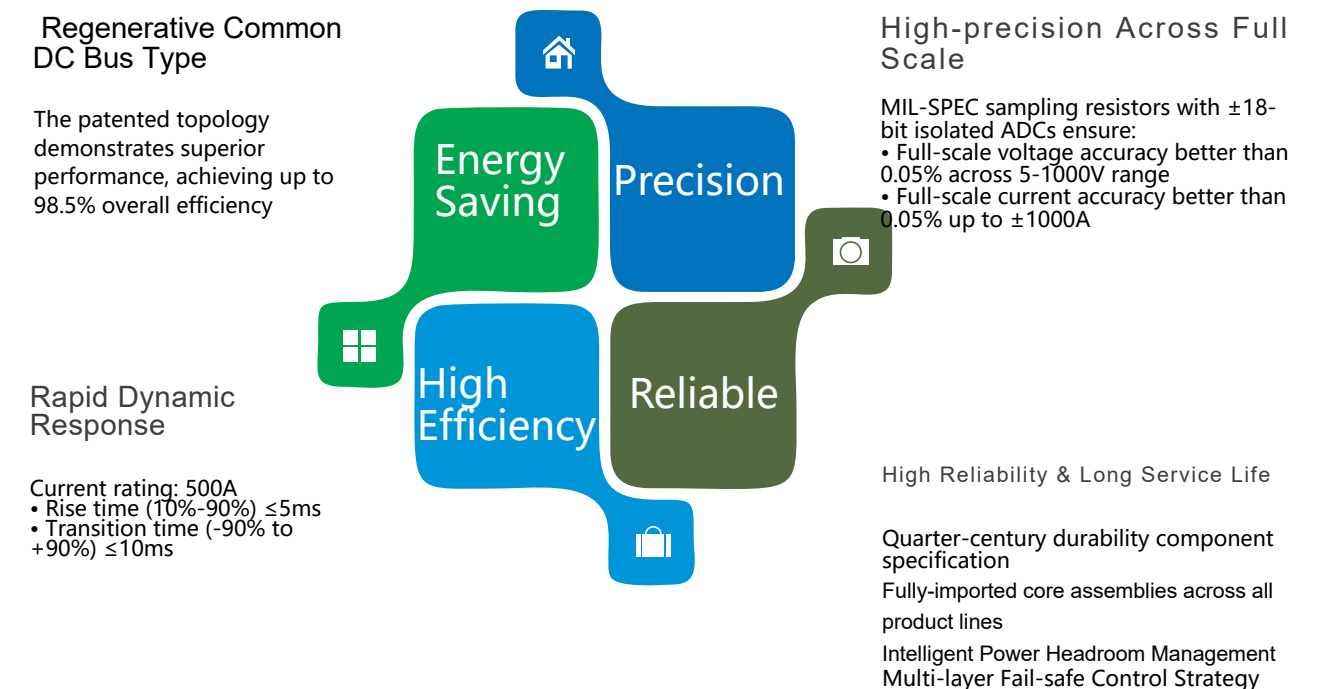
System Features

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 All-Digital Controlled Regenerative (Converter Control System) | 02 Multi-channel common DC bus design, supporting inter-channel DC cycling and parallel DC channel operation, with maximum system efficiency up to 98.5% |
| 03 25-year hardware design lifespan (Full product line utilizes Infineon IGBTs and film capacitors) | 04 Comprehensive AC/DC access protection functions |
| 05 Rapid system response with ≤5ms response time | 06 Adaptive AC connection technology (phase sequence independent) |
| 07 Advanced software phase-locked technology with active rectification and inverter total current harmonic distortion (THD) ≤3% | 08 Power factor ≥0.99 |
| 09 High-precision DC current and voltage control (DC channel current control adopts 18-bit ADC chips, with current control accuracy better than 0.1% across the entire product line) | 10 Independent DC channel control mode, supporting 'plug-and-play' and 'fault auto-disconnect' functions |
| 11 User-friendly graphical test sequence editing mode | 12 Compatible with various battery management systems (BMS and protection boards) |

System Architecture



Core Competitiveness of the Product — Product Value Proposition



TYPICAL PRODUCT
INTRODUCTION

典型产品介绍


5V300A-8Channel





Application
Fields


The main application is for electrical performance testing of power lithium batteries for vehicles, energy storage lithium batteries, and large-capacity secondary batteries.


► System features


- 


High efficiency, low energy consumption, with power feedback to the grid
- 


The system adopts a common DC bus design, enabling automatic circulation of charging/discharging energy between different channels on the DC side
- 


Every channel features an independent CAN communication port, enabling real-time monitoring of BMS data such as cell voltage, temperature, state of charge (SOC), etc
- 

Automatically associates with test procedures via QR code scanning, initiates testing autonomously, and determines test results based on predefined conditions.
- 

The system features DBC file import capability with real-time monitoring of user-defined parameters (including cell voltage, state of charge, etc.) and automated storage of all DBC variable data.
- 

Modular design ensures clear structure and convenient maintenance.
- 

Implements multi-segment multi-point calibration architecture to ensure high-accuracy sampling across the full-scale range.
- 

Seamless CC-CV transition without voltage/current spikes
- 

Advanced driving condition simulation capability with road load profile and standardized duty cycle (e.g., WLTP/NEDC) file import functionality.

► Key Specifications

AC-DC AC-side technical parameters	
Rated voltage (V)	380±10%
Frequency (Hz)	50±2(Other frequencies require customization)
Power factor	≥0.99
Total Harmonic Distortion(THD)	< 5%(At 50% load or above)
AC input	Three-phase five-wire system (grounding resistance ≤5Ω)
AC protection	Undervoltage,Overvoltage,Overcurrent,Phase loss,Overload,Frequency abnormality,Overtemperature,Communication timeout,Anti-islanding protection

DC-DC DC-side technical parameters	
Equipment model	5V300A-8Channel
Number of DC output channels per cabinet	8
Rated power per channel	1.5
Total DC output channel power(kW)	12
Charge/discharge voltage range (V)	1-5
Single-channel current range (A)	±300
Current range of paralleled DC channels (A)	±600 (2 channels in parallel)
Energy feedback efficiency	≥ 80%(Full load)
Output voltage sampling resolution (mV)	1
Single-channel voltage accuracy	±0.05%F.S
Single-channel voltage accuracy	±0.05%F.S
Output current sampling resolution (mA)	1
Continuous sampling rate (ms)	≤10
Power resolution (W)	0.1

TYPICAL PRODUCT INTRODUCTION

典型产品介绍

60V20A-48Channel






100V100A-8Channel







Application Fields

Primarily designed for functional characteristic testing of battery modules in low-speed vehicles, e-bikes, UAVs, and power tools.

System features

-  High efficiency, low energy consumption, with power feedback to the grid
-  The system adopts a common DC bus design, enabling automatic circulation of charging/discharging energy between different channels on the DC side
-  Every channel features an independent CAN communication port, enabling real-time monitoring of BMS data such as cell voltage, temperature, state of charge (SOC), etc.
-  Automatically associates with test procedures via QR code scanning, initiates testing autonomously, and determines test results based on predefined conditions.
-  The system features DBC file import capability with real-time monitoring of user-defined parameters (including cell voltage, state of charge, etc.) and automated storage of all DBC variable data.

-  Modular design ensures clear structure and convenient maintenance.
-  Implements multi-segment multi-point calibration architecture to ensure high-accuracy sampling across the full-scale range.
-  Seamless CC-CV transition without voltage/current spikes
-  Advanced driving condition simulation capability with road load profile and standardized duty cycle (e.g., WLTP/NEDC) file import functionality.

Key Specifications

AC-DC AC-side technical parameters		
Rated voltage (V)	380±10%	
Rated voltage (V)	50±2 (Other frequencies require customization)	
Power facto	≥0.99	
Total Harmonic Distortion (THD)	< 5% (At 50% load or above)	
AC input	Three-phase five-wire system (grounding resistance ≤5Ω)	
AC protection	Undervoltage,Overvoltage,Overcurrent,Phase loss,Overload,Frequency abnormality, Overtemperature,Communication timeout,Anti-islanding protection	

DC-DC直流侧技术参数		
Equipment model	60V20A-48channel	100V100A-8channel
Number of DC output channels per cabinet	48	8
Rated power per channel	1.2	10
Total DC output channel power (kW)	57.6	80
Charge/discharge voltage range (V)	5-60	10-100
Single-channel current range(A)	±20	±100
Current range of paralleled DC channels (A)	±200 (with 10 channels in parallel)	±800 (with 8 channels in parallel)
Energy feedback efficiency	≥ 80%(Full load)	≥ 90%(Full load)
Output voltage sampling resolution (mV)	1	
Single-channel voltage accuracy	±0.05%F.S	
Output current sampling resolution (mA)	1	
Continuous sampling rate (ms)	≤10	
Power resolution (W)	0.1	

TYPICAL PRODUCT INTRODUCTION

典型产品介绍






750V500A-2通道








Application Fields

Primarily used in automotive power lithium battery modules, industrial/commercial energy storage modules, testing & quality centers, and major scientific research institutions.

System features

-  High efficiency, low energy consumption, with power feedback to the grid
-  The system adopts a common DC bus design, enabling automatic circulation of charging/discharging energy between different channels on the DC side
-  Every channel features an independent CAN communication port, enabling real-time monitoring of BMS data such as cell voltage, temperature, state of charge (SOC), etc
-  Seamless CC-CV transition without voltage/current spikes
-  Advanced driving condition simulation capability with road load profile and standardized duty cycle (e.g., WLTP/NEDC) file import functionality.

-  Modular design ensures clear structure and convenient maintenance.
-  Implements multi-segment multi-point calibration architecture to ensure high-accuracy sampling across the full-scale range.
-  Supports channel paralleling, effectively expanding product application scope.
-  Automatically associates with test procedures via QR code scanning, initiates testing autonomously, and determines test results based on predefined conditions.
-  Automatically associates with test procedures via QR code scanning, initiates testing autonomously, and determines test results based on predefined conditions.

Key Specifications

AC-DC AC-side technical parameters	
Rated voltage (V)	380±10%
Frequency (Hz)	50±2 (Other frequencies require customization)
Power factor	≥0.99
Total Harmonic Distortion (THD)	< 5% (At 50% load or above)
AC input	Three-phase five-wire system (grounding resistance ≤5Ω)
AC protection	Undervoltage, Overvoltage, Overcurrent, Phase loss, Overload, Frequency abnormality, Overtemperature, Communication timeout, Anti-islanding protection

DC-DC DC-side technical parameters	
Equipment mode	750V500A-2channel
Number of DC output channels per cabinet	2
Rated power per channel	375
Total DC output channel power (kW)	750
Charge/discharge voltage range (V)	20-750
Single-channel current range	±500
Current range of paralleled DC channels (A)	±1000 (with 2 channels in parallel)
Energy feedback efficiency	≥ 97% (Full load)
Inter-channel cycling comprehensive efficiency	≥ 98.5%
Output voltage sampling resolution (mV)	1
Single-channel voltage accuracy	±0.05% F.S
Output current sampling resolution (mA)	1
Continuous sampling rate (ms)	≤ 10
Power resolution (W)	0.1

TYPICAL PRODUCT INTRODUCTION

典型产品介绍

1000V300A-2通道












Application Fields

Primarily applied in:

- Automotive power lithium battery modules
- Industrial/commercial energy storage modules
- Testing & quality certification centers
- Major scientific research institutions

系统特点

-  High efficiency, low energy consumption, with power feedback to the grid
-  The system adopts a common DC bus design, enabling automatic circulation of charging/discharging energy between different channels on the DC side
-  Every channel features an independent CAN communication port, enabling real-time monitoring of BMS data such as cell voltage, temperature, state of charge (SOC), etc
-  Automatically associates with test procedures via QR code scanning, initiates testing autonomously, and determines test results based on predefined conditions.
-  The system features DBC file import capability with real-time monitoring of user-defined parameters (including cell voltage, state of charge, etc.) and automated storage of all DBC variable data.

-  Modular design ensures clear structure and convenient maintenance.
-  Implements multi-segment multi-point calibration architecture to ensure high-accuracy sampling across the full-scale range.
-  Seamless CC-CV transition without voltage/current spikes
-  Advanced driving condition simulation capability with road load profile and standardized duty cycle (e.g., WLTP/NEDC) file import functionality.

Key Specifications

AC-DC AC-side technical parameters

Rated voltage (V)	380±10%
Frequency (Hz)	50±2(Other frequencies require customization)
Power factor	≥0.99
Total Harmonic Distortion (THD)	< 5%(At 50% load or above)
AC input	Three-phase five-wire system (grounding resistance ≤5Ω)
AC protection	Undervoltage,Overvoltage,Overcurrent,Phase loss,Overload,Frequency abnormality,Overtemperature,Communication timeout,Anti-islanding protection

DC-DC DC-side technical parameters

Equipment mode	1000V300A-2通道
Number of DC output channels per cabinet	2
Rated power per channel	300
Total DC output channel power (kW)	600
Charge/discharge voltage range (V)	100-1000
Single-channel current range	±300
Current range of paralleled DC channels (A)	±600(with 2 channels in parallel)
Energy feedback efficiency	≥ 96%(Full load)
Output voltage sampling resolution (mV)	1
Single-channel voltage accuracy	±0.05%F.S
Output current sampling resolution (mA)	1
Continuous sampling rate (ms)	≤10
Power resolution (W)	0.1

TYPICAL PRODUCT INTRODUCTION

典型产品介绍

SDCBUS-2000/100-450-2CD



Application Fields

Primarily used for centralized testing of battery modules in:

- Low-speed vehicles
- E-bikes
- Drones
- Power tools
- and other applications.

System features



High efficiency, low energy consumption, with power feedback to the grid



The system adopts a common DC bus design, enabling automatic circulation of charging/discharging energy between different channels on the DC side



Every channel features an independent CAN communication port, enabling real-time monitoring of BMS data such as cell voltage, temperature, state of charge (SOC), etc



Seamless CC-CV transition without voltage/current spikes



Advanced driving condition simulation capability with road load profile and standardized duty cycle (e.g., WLTP/NEDC) file import functionality.



Modular design ensures clear structure and convenient maintenance.



Implements multi-segment multi-point calibration architecture to ensure high-accuracy sampling across the full-scale range.



Supports continuous multi-channel paralleling (up to 5 channels), effectively expanding product application scope.



Automatically associates with test procedures via QR code scanning, initiates testing autonomously, and determines test results based on predefined conditions.



The system features DBC file import capability with real-time monitoring of user-defined parameters (including cell voltage, state of charge, etc.) and automated storage of all DBC variable data.

Key Specifications

AC-DC AC-side technical parameters

Rated voltage (V)	380±10%
Frequency (Hz)	50±2(Other frequencies require customization)
Power factor	≥0.99
Total Harmonic Distortion (THD)	< 5%(At 50% load or above)
AC input	Three-phase five-wire system (grounding resistance ≤5Ω)
AC protection	Undervoltage,Overvoltage,Overcurrent,Phase loss,Overload,Frequency abnormality,Overtemperature,Communication timeout,Anti-islanding protection

DC-DC DC-side technical parameters

Equipment mode	2000V450A-2channel
Number of DC output channels per cabinet	2
Rated power per channel	450
Total DC output channel power (kW)	900
Charge/discharge voltage range (V)	100-2000
Single-channel current range	±450
Current range of paralleled DC channels (A)	±800V (8 channels in parallel)
Energy feedback efficiency	≥ 97% (at full load)
Output voltage sampling resolution (mV)	1
Single-channel voltage accuracy	±0.05%F.S
Output current sampling resolution (mA)	1
Continuous sampling rate (ms)	≤10
Power resolution (W)	0.1

TYPICAL PRODUCT INTRODUCTION

典型产品介绍

SDCBUS-2400/100-500-1CD



Application Fields

Primarily used for centralized testing of battery modules in low-speed vehicles, e-bikes, drones, power tools, etc.

System features



High efficiency, low energy consumption, with power feedback to the grid



The system adopts a common DC bus design, enabling automatic circulation of charging/discharging energy between different channels on the DC side



Every channel features an independent CAN communication port, enabling real-time monitoring of BMS data such as cell voltage, temperature, state of charge (SOC), etc



Seamless CC-CV transition without voltage/current spikes



Advanced driving condition simulation capability with road load profile and standardized duty cycle (e.g., WLTP/NEDC) file import functionality.



Modular design ensures clear structure and convenient maintenance.



Implements multi-segment multi-point calibration architecture to ensure high-accuracy sampling across the full-scale range.



Supports continuous multi-channel paralleling (up to 5 channels), effectively expanding product application scope.



Automatically associates with test procedures via QR code scanning, initiates testing autonomously, and determines test results based on predefined conditions.



The system features DBC file import capability with real-time monitoring of user-defined parameters (including cell voltage, state of charge, etc.) and automated storage of all DBC variable data.

Key Specifications

AC-DC AC-side technical parameters

Rated voltage (V)	380±10%
Frequency (Hz)	50±2(Other frequencies require customization)
Power factor	≥0.99
Total Harmonic Distortion (THD)	< 5%(At 50% load or above)
AC input	Three-phase five-wire system (grounding resistance ≤5Ω)
AC protection	Undervoltage,Overvoltage,Overcurrent,Phase loss,Overload,Frequency abnormality,Overtemperature,Communication timeout,Anti-islanding protection

DC-DC直流侧技术参数

Equipment mode	SDCBUS-2400/100-500-1CD
Number of DC output channels per cabinet	1
Rated power per channel	1200
Total DC output channel power (kW)	1200
Charge/discharge voltage range (V)	100-2400
Single-channel current range	±450
Current range of paralleled DC channels (A)	±800V (8 channels in parallel)
Energy feedback efficiency	≥ 96% (at full load)
Output voltage sampling resolution (mV)	0.1
Single-channel voltage accuracy	±0.05%F.S
Output current sampling resolution (mA)	1
Continuous sampling rate (ms)	≤10
Power resolution (W)	0.1

► Technical Specifications

Real-time data refresh	100ms
Data storage interval	Configurable range: 0.01 to 9999 seconds
Battery capacity metering	Unlimited
Battery capacity measurement resolution	0.0001Ah
Electric energy metering	Unlimited
Energy measurement resolution	0.0001kwh
Programmable step quantity	9999
Battery code input	Supports manual and QR code scanning for data entry, and allows automatic test initiation via scanning.
Nested loop	5-level nesting
Minimum step duration	100ms
Step cycle count	9999
Condition response time	100ms
Charging operation mode	Supports multiple charging modes, including Constant Current (CC), Constant Voltage (CV), CC-to-CV Transition, Constant Resistance (CR), Constant Power (CP), and Pulse Charging (seamless switching between CC/CV with no electrical shock).
Discharge operation mode	Supports constant current (CC), constant power (CP), constant resistance (CR), and pulse discharge modes.
Charge/discharge termination criteria	Monitoring parameters include Cycle Testing, Current, Voltage, Power, Step Capacity, Step Energy, Cell Temperature, Cell Voltage, Cell Voltage Difference, Cell Temperature Difference, State of Charge (SOC), Step Duration, and Custom Variables.
Cycling mode	Arbitrary combination of charging, discharging, resting, and pausing steps
Software protection	Automatic shutdown protection upon host computer communication interruption
Programmable parameters	Parameters including Current (I), Voltage (V), Power (P), Duration, Capacity (Ah), and Energy (Wh)
Resume function	The host PC automatically records test progress and supports test resumption after power failure or host restart.
Background software protection & logging	Battery pack protection against charge/discharge voltage anomalies, full-process parameter logging, with manual or barcode scanner input for production batch information.
MES integration capability	Capable of MES system integration with automated test result reporting for each battery pack
Access control	Supports three-tier permission management

SOFTWARE SYSTEM
软件系统

► Key Features

Clear and intuitive interface, easy to operate, with real-time display of critical information.

Supports DCIR testing (single cell & module), operating condition simulation, and multi-channel parallel connection.

Supports tracking modes (current tracking / power tracking)

Supports scan-triggered automatic test initiation, scan-based test procedure auto-binding, and GB code auto-reading.

Supports customizable fail criteria, automated test result judgment, and automatic test report generation.



The system provides:
Real-time step editing capability
User-definable step execution criteria
Advanced logical operations for step conditions

The system features DBC file import capability with real-time monitoring of user-defined parameters (including cell voltage, state of charge, etc.) and automated storage of all DBC variable data.

Supports automatic, batch, and conditional test data export, with automated backup/compression and MES integration capabilities.

Supports automatic synchronization and modification of test process files within LAN, with cross-device data retrieval and status monitoring capabilities.

Features an open-architecture software topology designed for customizable testing requirements.

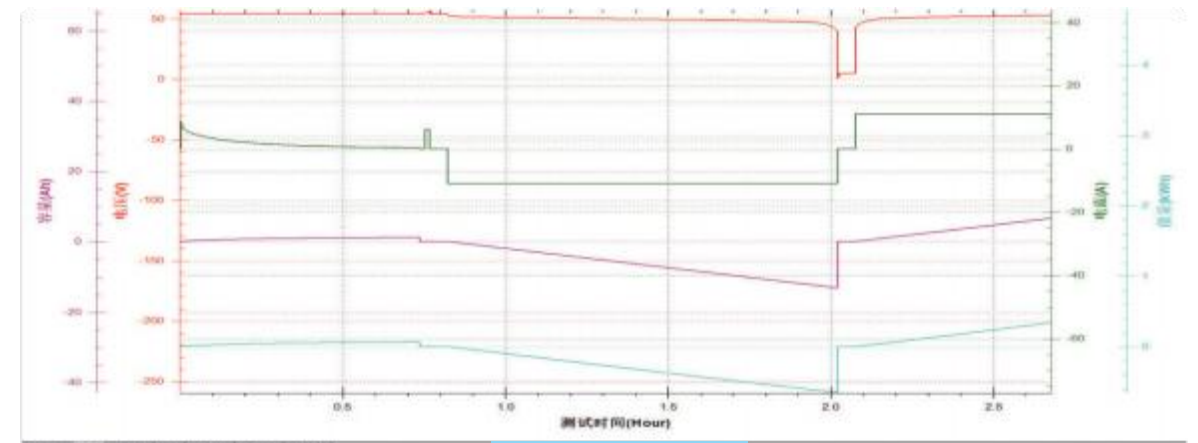
SOFTWARE INTERFACE 软件界面



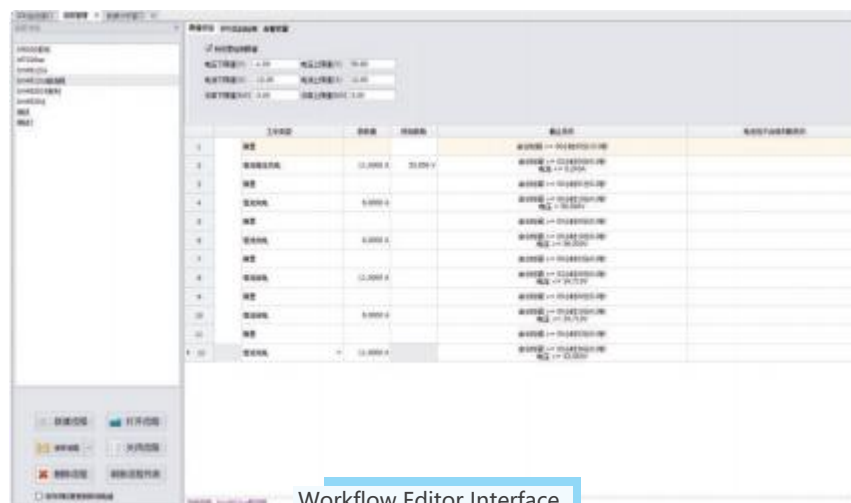
Battery Test Main Interface



System Settings Interface



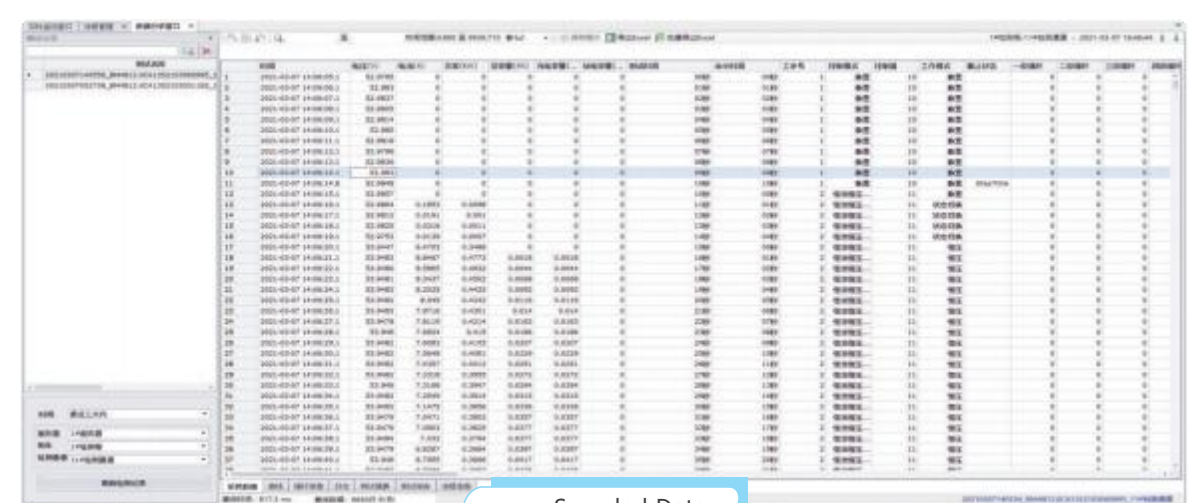
Data & Curve Analysis Interface



Workflow Editor Interface



Auto-Calibration Interface



Sampled Data

TYPICAL APPLICAT SITE 典型应用现场



TYPICAL CUSTOMER DISTRIBUTION 典型客户分布



► 6S Workshop Corner

