PRODUCT MANUAL

http://www.rw-relay.com

RE-SERIES C&I intelligent string type ESS

Intelligent string scheme
Support photovoltaics
Stable sine wave output
Support for multiple communication interfaces and protocols

Comply with IEC/GBT standards
Provided customized manufacture
Whole solutions for design, assembly, test...
Accountable solution for safety and reliability
Wide range offering, easy business and ready to use out of the box

About us / contact us 1
Summary 2
Main Function Introduction 3
Product structure 4
Main technical parameters 5
After-sales service 7

Zhejiang Rockwill Energy Technology Co., Ltd. is a technology enterprise specializing in providing complete solutions for power automation system and related automation system supporting equipment.

The company has a long-term strategic cooperation with internationally renowned middle and high voltage electrical equipment R & D and manufacturing companies and research institutes, and has jointly developed a series of high-quality automation products,. The company has also married with the provincial intelligent high-voltage switch laboratory to jointly develop a new generation of intelligent synchronous switch measurement and control devices, electronic transformers, voltage sensor processing units, etc., and has achieved some fruitful technical achievements and accumulated a large number of industry professional and technical elites with excellent experience. Solid talent base, advanced production equipment, perfect quality system, strict testing means, is a strong guarantee for the company's product quality alone.

In addition to providing a rich choice of products, we can provide you with technical solution support services, you only need to tell us your needs, our technical staff will be tailored for you to design a complete set of product solutions

The company is renowned at home and abroad for providing high-quality products and services. In addition to the domestic market, the products are currently exported to South America, Central Asia, the Middle East, Central Europe, Southeast Asia, Africa and other places. We always adhere to the belief of growing together with customers, and strive to provide safer, more reliable, more advanced and more humane automation system solutions and equipment.

ROCKWILL®, China. Provide with best support.

If you have any question please consult below:

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ROCKWILL® Energy strives to bring our customers the latest technology and competitive pricing and best service for distribution automatic.

The RE series string energy storage system adopts the cutting-edge technical solutions of new energy storage at present, adopts a modular design concept, and takes the intelligent string energy storage integrated cabinet as the core equipment. In the system architecture, the Pack batteries are connected in series to form battery clusters. Each battery cluster is connected to an energy storage converter (PCS) integrated in the energy storage integrated cabinet to convert direct current into alternating current. Meanwhile, the energy storage inverter can also be directly connected to the output busbar of the photovoltaic system for inverter. After multiple energy storage integrated cabinets are connected in parallel, they are combined through alternating current and then stepped up by a transformer to be connected to the power grid.

In terms of safety performance, the single-cluster breaking and multi-layer segmented protection mechanism, combined with battery management system (BMS) and energy management system (EMS) technologies, significantly reduces the risk of safety accidents, and the downtime due to faults is shortened by 76% compared to centralized systems. In addition, string energy storage systems support flexible expansion and power replenishment, and can be freely configured according to actual needs. They can play a significant role in various scenarios such as industrial and commercial energy storage, distributed energy systems, microgrids, and household energy storage. In industrial and commercial scenarios, arbitrage between peak and off-peak electricity prices can be achieved, reducing electricity costs.

Service environment

Air temperature: Ambient temperature: -10℃ ~ +40℃

Humidity: 0% ~ 95% (Non-congealing cream)

Above sea level: -100~2000m

About customization

Support interface styles and power supply standards for AC output

1.Flexible regulation and intelligent management

Its modular design enables users to flexibly configure capacity according to actual needs, and it can be adapted to projects ranging from kilowatt-level household energy storage to megawatt-level industrial and commercial energy storage. Each battery cluster is independently connected to the energy storage converter to achieve refined management, and the charging and discharging strategies can be adjusted in real time according to changes in light and load. In distributed energy systems, in the face of the intermittency of renewable energy generation, string energy storage systems can respond quickly, smooth power output, and ensure the stability of power supply.

2.High efficiency and energy saving

String energy storage systems enhance overall efficiency by reducing energy transmission losses. Its distributed architecture avoids the complex convergence links of traditional centralized systems, reduces parallel losses, and the independent cluster management mode ensures that the failure of some equipment does not affect the overall operation, further reducing operation and maintenance costs and energy consumption.

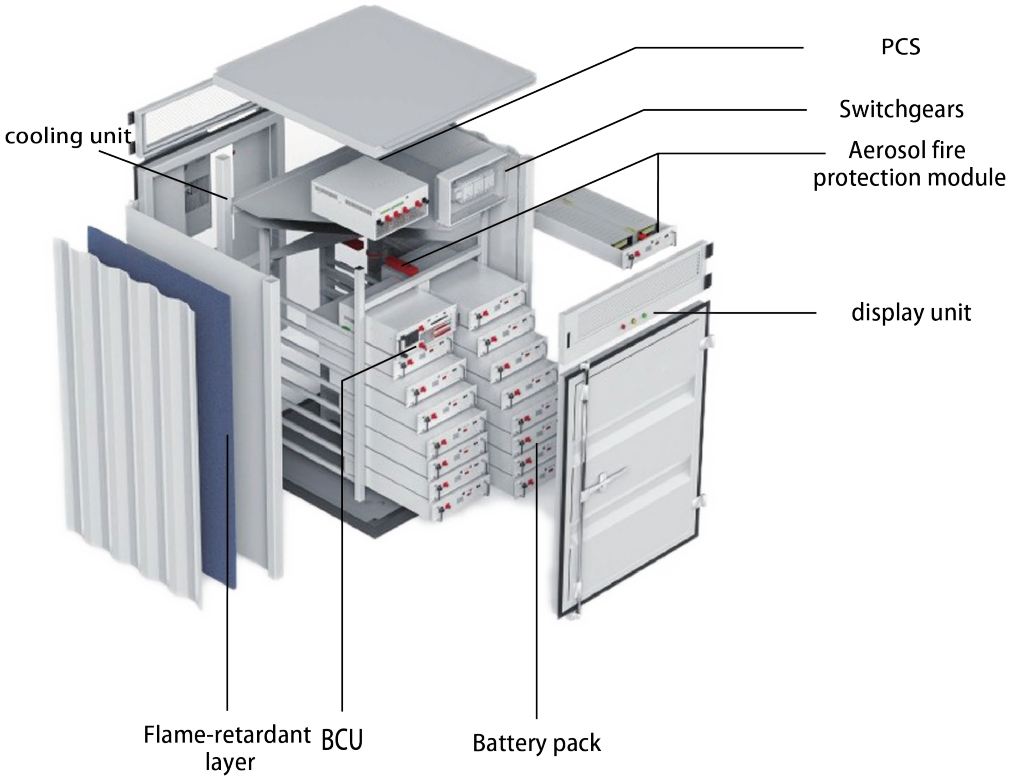
3.Safe and reliable performance

The system adopts a single-cluster breaking and multi-layer segmented protection mechanism. When an abnormality occurs in a certain battery cluster, the faulty unit can be quickly isolated to prevent the spread of risks. In conjunction with the Battery Management System (BMS) and energy management system (EMS), the battery status is monitored in real time, and potential risks are warned in advance. The downtime due to faults is compressed to 24% of that of centralized systems, significantly reducing the probability of safety accidents such as thermal runaway.

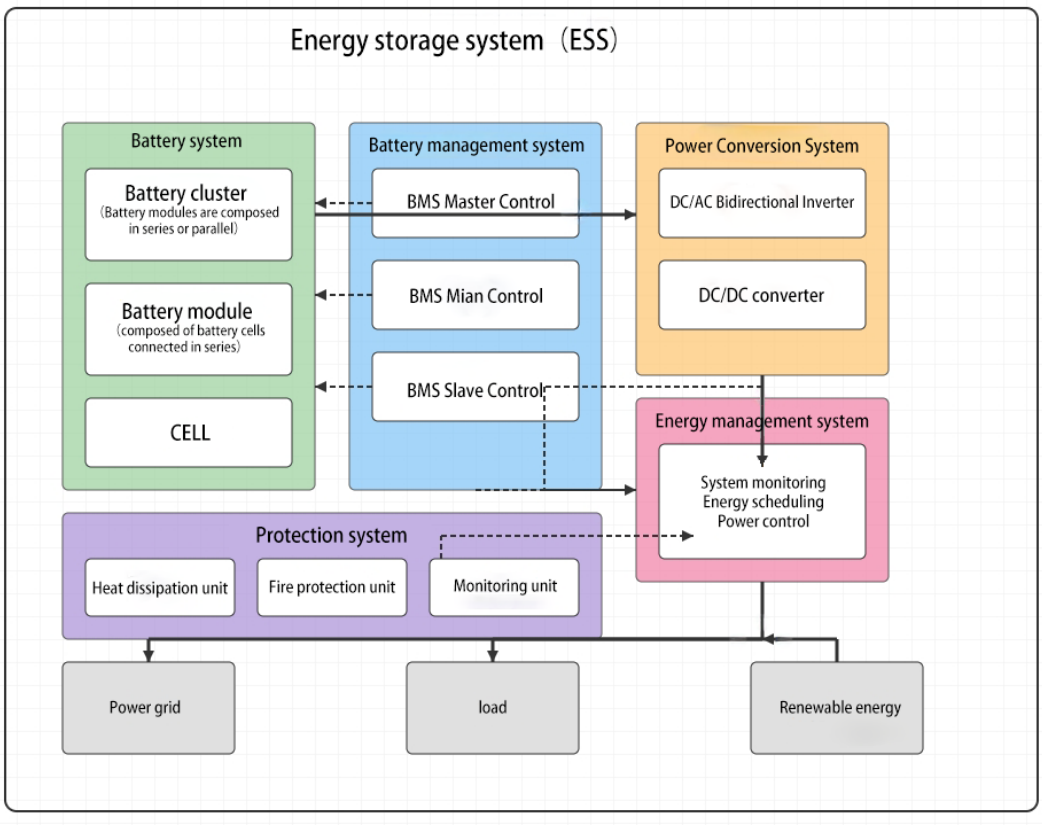
4.Power grid support capacity

During the peak and off-peak periods of the power grid, the peak shaving and valley filling can be achieved through the peak and off-peak electricity price strategy to relieve the pressure on the power grid. When there are fluctuations or faults in the power grid, it can quickly switch to the backup power mode to provide continuous power for critical loads, ensuring the safety of electricity usage for enterprise production and residents' lives. It plays a significant role in enhancing the stability and reliability of the power grid.

Product assembly



system structure:



Product module		RE-PVSS-20-50K	RE-PVSS-30-62K	RE-PVSS-50-107K
Battery capacity		51.2kWH	61.44kWH	107kWH
Standard battery unit voltage		512V	614V	716V
Maximum DC charging voltage		576V	690V	806V
Battery configuration of pack		102.4V100Ah/ 10.24kW	102.4V100Ah/ 10.24kW	102.4V100Ah/ 10.24kW
Battery pack Discharge rate		0.5C	0.5C	0.5C
Battery pack configuration of system		5PCS	6PCS	7PCS
Rated PCS Power		20kW	30kW	50kW
Rated PV power		26kW	39kW	65kW
AC access mode		3*L+N+PE		
Inverter	Rated output voltage	3*230V+N		
	Rated output frequency	48~52HZ (58~62HZ)		
	System efficiency	86~94%		
Grid following	Rated output voltage	Follow the grid		
	Rated output frequency	Follow the grid		
	System efficiency	99%		
Battery no load loss		≤1%		
Power grid no load loss		≤0.5%		
Cooling mode		Forced air cooling		
Operating environment		Temperature: -10~40℃ Humidity: 20~95RH%		
Maximum working altitude		2000m(> 2000m load reduction required)		
Protection		Battery under (over) voltage protection/overload protection/over temperature protection/short circuit protection		
Class of protection		IP54		
Operation mode		On-grid/Off-grid		
Picture				

Product module		RE-JASS-100-215K	Maximum system configuration
Battery capacity		215kWH	2.5MW/5MWh
Standard battery unit voltage		512V	1331.2V
Maximum DC charging voltage		576V	1500V
Battery configuration of pack		102.4V100Ah/10.24kW	332V314Ah/1042kWh
Battery pack configuration of system		15PCS	48PCS
Battery pack Discharge rate		0.5C	0.5C
Rated PCS Power		100kW	5*500kW
Maximum photovoltaic access power		110kW	5*110kW
Rated PV input Voltage		620VDC	
AC access mode		3*L+N+PE	
Inverter	Rated output voltage	3*230V+N	
	Rated output frequency	48~52HZ (58~62HZ)	
	System efficiency	86~94%	
Grid following	Rated output voltage	Follow the grid	
	Rated output frequency	Follow the grid	
	System efficiency	99%	
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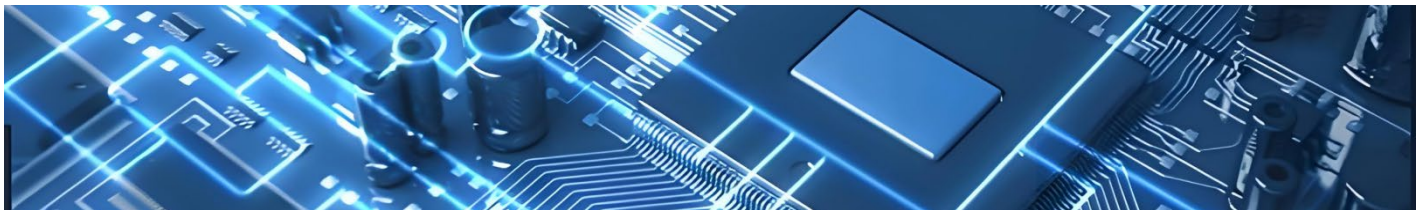

Field service operation and warranty issues:

ROCKWILL® can provide competent, well trained field service representatives to provide technical guidance and advisory assistance for the installation, overhaul, repair and maintenance of ROCKWILL® equipment, processes and systems.

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