

JinkoSolar Supplies 25 Sets SunGiga C&I Energy Storage System in Guangdong

JinkoSolar, the global leading solar PV and ESS solution supplier, announced that it has delivered 25 sets of its liquid cooling C&I energy storage systems (JKS-215KLAA-100PLAA) to Xiaodong Renewable Energy Co. Ltd., endowing a total capacity of 5.375 MWh, in Dongguan, China's Guangdong province.

JinkoSolar's SunGiga C&I ESS is a portfolio with a battery capacity ranging from 200kWh to 2MWh, available for two- to four-hour applications. The solution combines lithium-ion batteries, a power conversion system (PCS), an energy management system (EMS), and a fire suppression system (FSS), streamlining the transportation, installation, and operation and maintenance (O&M).

“Safety, Smart and Easy” is the design philosophy of SunGiga the new generation liquid cooling C&I ESS. As a result of advanced technologies, the SunGiga boasts an advanced liquid cooling battery system, enabling precise temperature control and temperature differences between cells that are no greater than 2°C, extending the lifetime of batteries and significantly improving the charging and discharging efficiency. It offers an all-round comprehensive safety design from the cell to system level. AI-assisted cell monitoring technology performs high-precision online computing of cell status and provides early-stage warnings to prevent thermal runaway. Five layers of monitoring and controlling mechanisms to detect any abnormalities. The perfluoro fire protection system is normally equipped within this product. As a result, it ensures system safety across multiple aspects.

Furthermore, the automatic state of charge (SoC) calibration and the automated coolant refilling system considerably reduce operation and maintenance (O&M) costs.



Figure 1: Project Photos

Located in 5 industrial parks, the 25 sets of JinkoSolar's SunGiga liquid cooling storage system (ESS) coupled with renewable energy contribute to grid stability. In addition, the high price of electricity during peak period in Guangdong Province brings a considerable amount of electricity expenses to enterprises, so these 5.375 MWh products play a key role in peak shaving and valley filling.

SUNGIGA

JKS-215KLAA-100PLAA

Liquid cooling outdoor all-in-one cabinet

Jinko 215 KWh liquid cooling all-in-one product integrates packs, BMS, PCS and fire fighting equipments to provide customer with 1000V ESS solution. The system has a battery capacity of 215kWh and the rated power is up to 100 KW. It is characterized by flexible expansion, safety and reliability, intelligent liquid cooling and convenience. The modular design meets the needs of various application scenarios.



Flexible expansion

- All-in-one design with integrated PCS, reducing shipping and installation costs
- Flexible multi-cabinet expansion: Modular design, support multi-cabinet parallel connection

Reliable and safe

- Intelligent monitoring and linkage to ensure system security
- Temperature, smoke, and combustible gas sensors to apply rapid suppression of thermal runaway

Intelligent liquid cooling

- Non-uniform flow channel design to control cell temperature difference $\leq 2^{\circ}\text{C}$
- Multiple liquid cooling control modes to reduce system power consumption

Smart and convenience

- Multiple operating modes to choose from and remote upgrade support
- Cloud-based monitoring and operating platform supporting multiple device access

Application Scenarios



Peak shaving

Peak & valley arbitrage



Energy backup

Supply power to facilities when the grid is down, or apply in areas without power.



Improve the stability of the electricity system

Enhance the stability, continuity and controllability of new energy generation



Optimizing the use of renewable energy

Maximizing the use of PV to store spare power and discharge the power at night



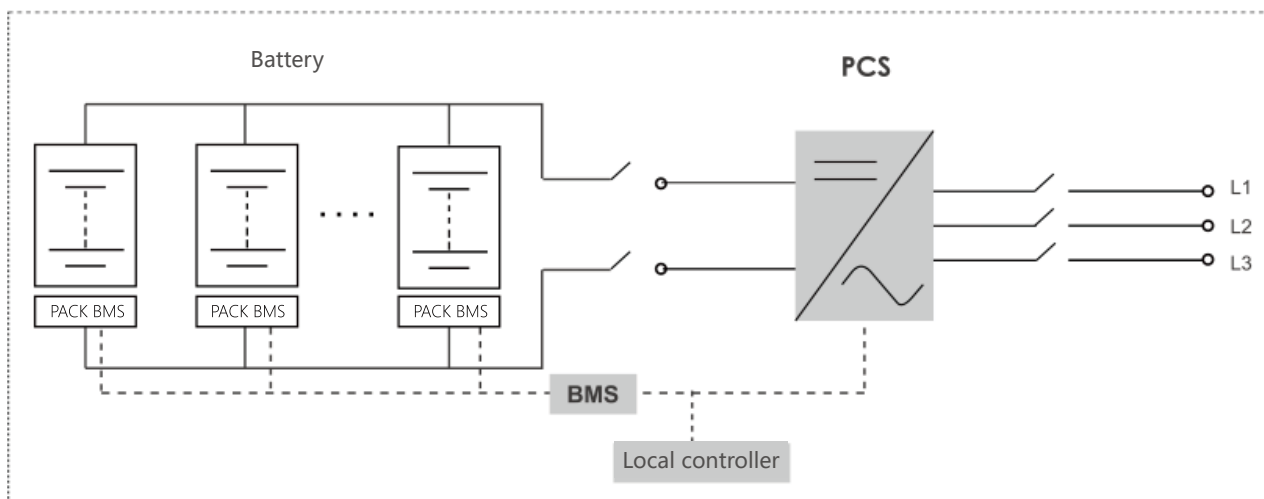
Arbitrage

Arbitrage by using peak and valley tariffs for different time periods.



Cost reduction

Discharge during peak electricity demand to reduce expensive electricity bills



Battery Parameter

Cell type	LFP 3.2V/280Ah
Max. charging/discharging rate	0.5P
Cell combination method	1P240S
PACK number	5 pcs
Rated power	215 kWh
Rated voltage	768V
Voltage range	672V~864V
Cooling method	Liquid cooling

AC parameter

Rated AC power	100 kW
Rated voltage	400 Vac
AC side wiring method	Three-phase, three-wire
Rated frequency	50 Hz
Total current waveform distortion rate	< 3%
Cooling method	Intelligent forced air cooling

System parameter

Ambient temperature	-20°C~50°C, reduce frequency over 45°C
Humidity	≤95%RH, no condensation
Altitude	≤2000m
Protection level	IP54
Firefighting method	Aerosol/Perfluorohexanone
Anti-corrosion grade	C3
Communication	RS485/CAN/Ethernet
Dimension(WidthxDepthxHeight)	1300x1300x2300 mm
Weight	~2200 kg