

Energy Storage Market Grew Faster Than Ever

Jinko ESS SunGiga G2 Product Series

C&I Liquid-Cooling ESS

- Product Introduction
- Product Value

SunGiga G2 Product Series

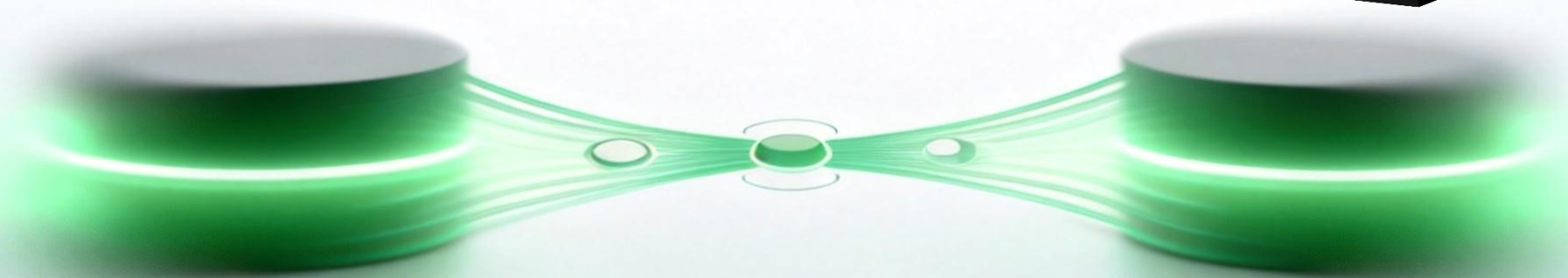
Next Generation Liquid-Cooling C&I ESS

261 kWh
2h



130.5kW

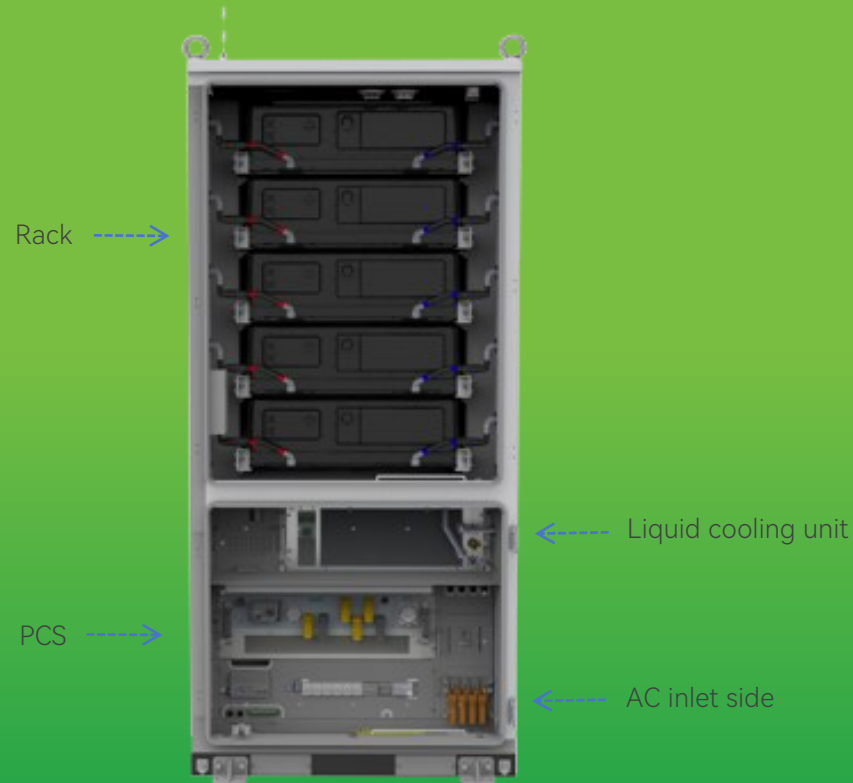
522 kWh
4h



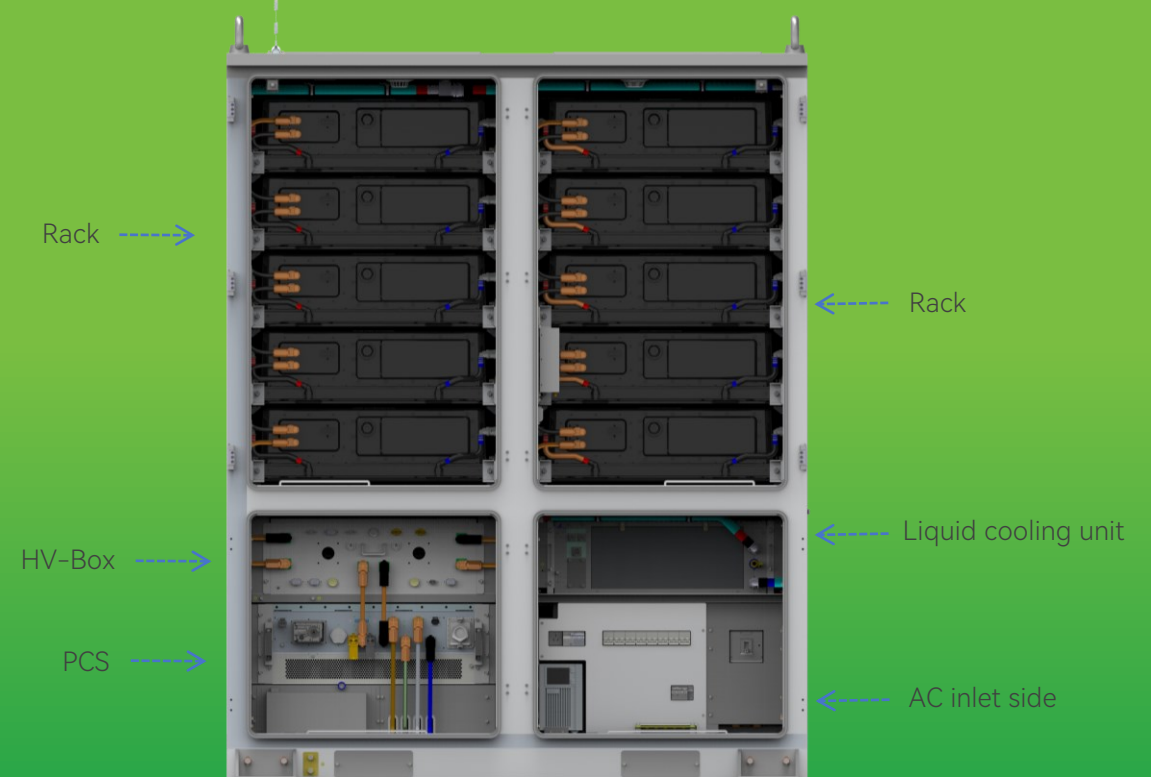
All in one: Integrated BMS/EMS/PCS

High Integration, All-in-one Design

All components are integrated in one machine

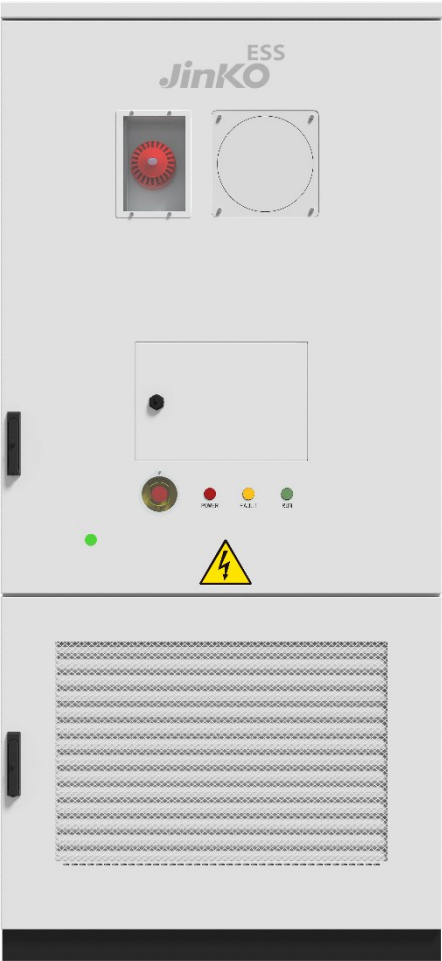


SunGiga G2
261 kWh



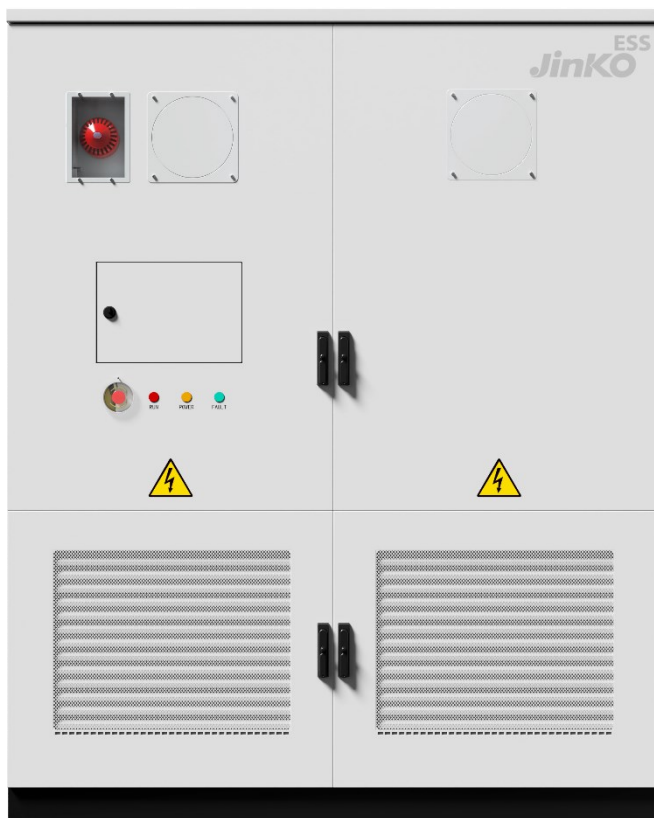
SunGiga G2 Plus
522 kWh

Product Parameters–SunGiga G2



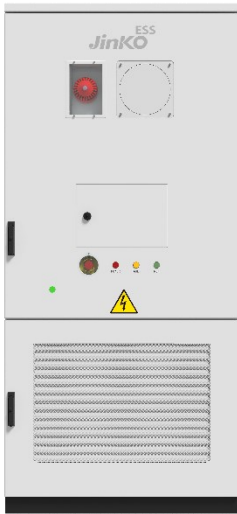
Product Name	SunGiga G2
Cell Type	3.2V/314Ah LFP
Max. charge and discharge power	0.5P
System Configuration	1P260S
Number of Packs	5 PCS
Nominal Energy	261 kWh
Rated Voltage	832V
Nominal Voltage Range	728V~936V
Cooling Concept	Liquid Cooling
Rated AC Power	130.5 kW
Rated Voltage	400±15% Vac
AC Connection	3P4W
Rated Frequency	50/60 HZ
THDi	< 3%
Max Parallel Quantity	12 units in parallel
Operation Temperature	-30℃~55℃, derating > 45℃
Operating Altitude	≤3000m
Ingress Protection	IP55
Fire Suppression System	System Aerosol Gas extinguisher+ smoke detection + temperature sensing + flammable gas detection (optional)
Corrosion Protection Class	C3 (C5 Optional)
Communication	RS485/CAN/Ethernet
Dimensions (W x D x H)	1100 x 1400 x 2400 mm
Weight	2.85t
Certification Standards	IEC 62619, IEC 62477, IEC 60730, IEC 63056, IEC 61000, IEC 62040, IEC 62933, IEC1542, UN 38.3, UL 9540A, UL 9540, UL 1973, UL 1741, NFPA 68

Product Parameters–SunGiga G2 PLUS

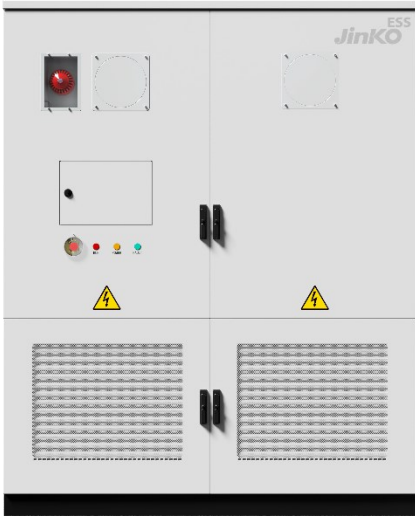


Product Name	SunGiga G2 Plus
Cell Type	3.2V/314Ah LFP
Max. charge and discharge power	0.25P
System Configuration	2*1P260S
Number of Packs	10 PCS
Nominal Energy	522 kWh
Rated Voltage	832V
Nominal Voltage Range	728V~936V
Cooling Concept	Liquid Cooling
Rated AC Power	130.5 kW
Rated Voltage	400±15% Vac
AC Connection	3P4W
Rated Frequency	50/60 HZ
THDi	< 3%
Max Parallel Quantity	12 units in parallel
Operation Temperature	-30°C~55°C, derating > 45°C
Operating Altitude	≤3000m
Ingress Protection	IP55
Fire Suppression System	System Aerosol Gas extinguisher+ smoke detection + temperature sensing + flammable gas detection (optional)
Corrosion Protection Class	C3 (C5 Optional)
Communication	RS485/CAN/Ethernet
Dimensions (W x D x H)	1290 x 1400 x 2400 mm
Weight	5t
Certification Standards	IEC 62619, IEC 62477, IEC 60730, IEC 63056, IEC 61000, IEC 62040, IEC 62933, IEC1542, UN 38.3, UL 9540A, UL 9540, UL 1973, UL 1741, NFPA 68

Difference between SunGiga G2 & SunGiga G2 Plus (Exterior)



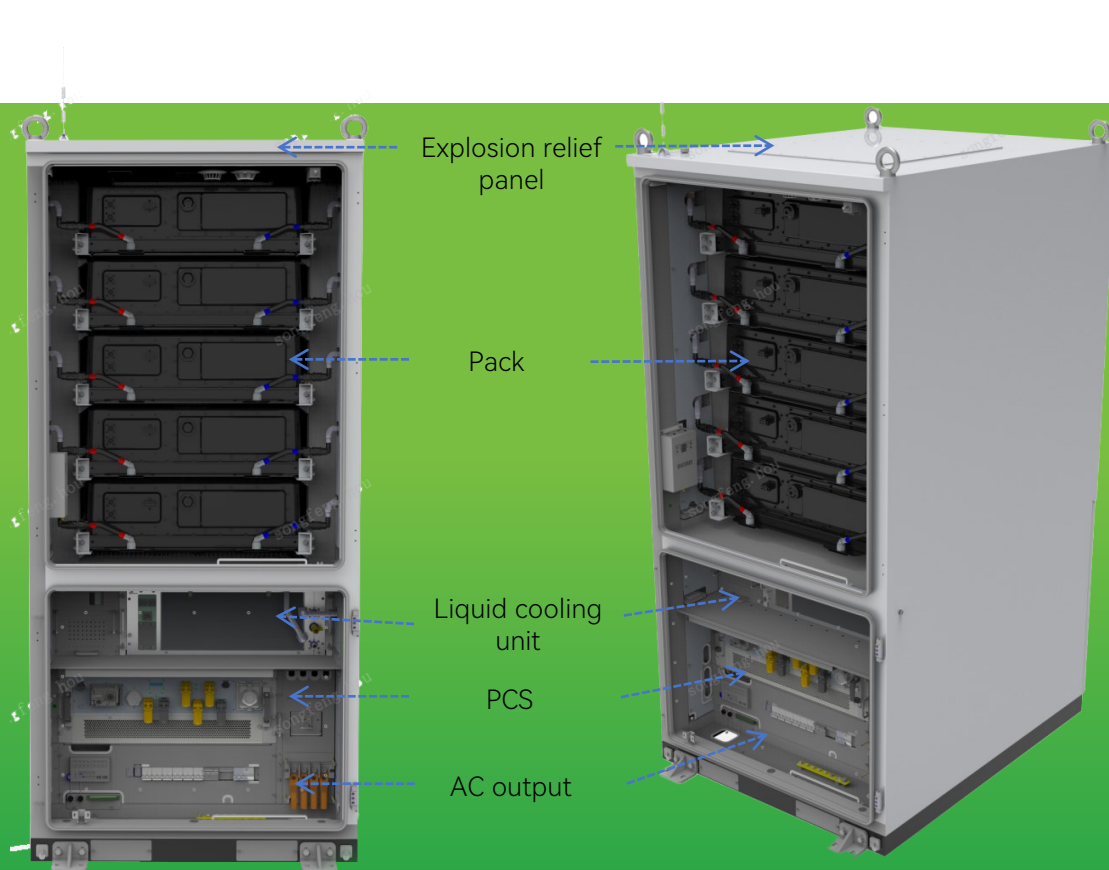
0.5C



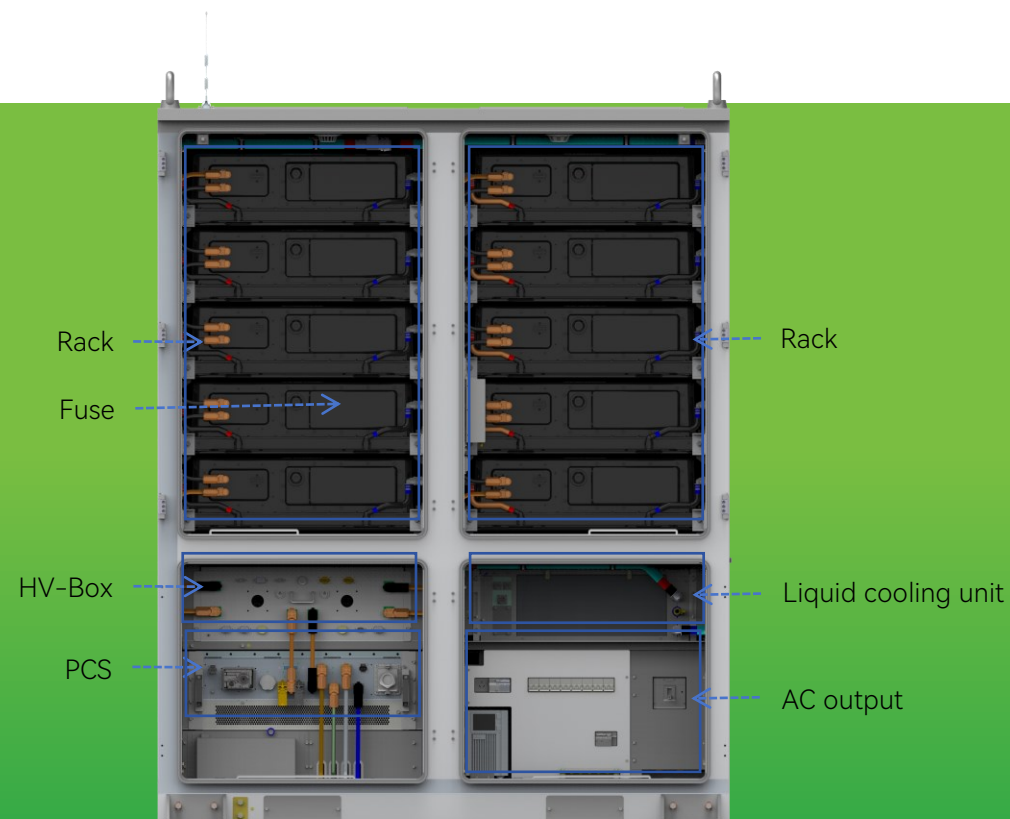
0.25C

Product Name	SunGiga G2	SunGiga G2 Plus
Battery Input	LFP 3.2V/314Ah	LFP 3.2V/314Ah
System Battery Configuration	1P260S	2*1P260S
Number of Battery Packs	5	10
Battery Capacity	261 kWh	522 kWh
Dimension (W x H x D)	1100*1400*2400mm	1920*1400*2400mm
Weight	2.85t	5t
for	2h	4h

Difference between SunGiga G2 & SunGiga G2 Plus (Interior)

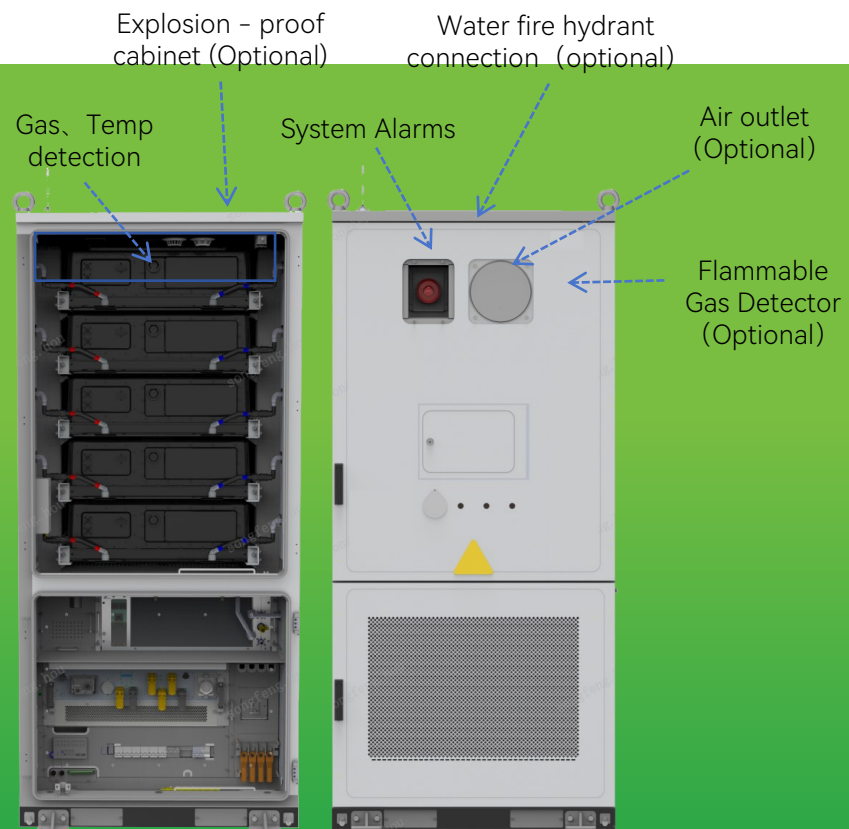


SunGiga G2
261 kWh

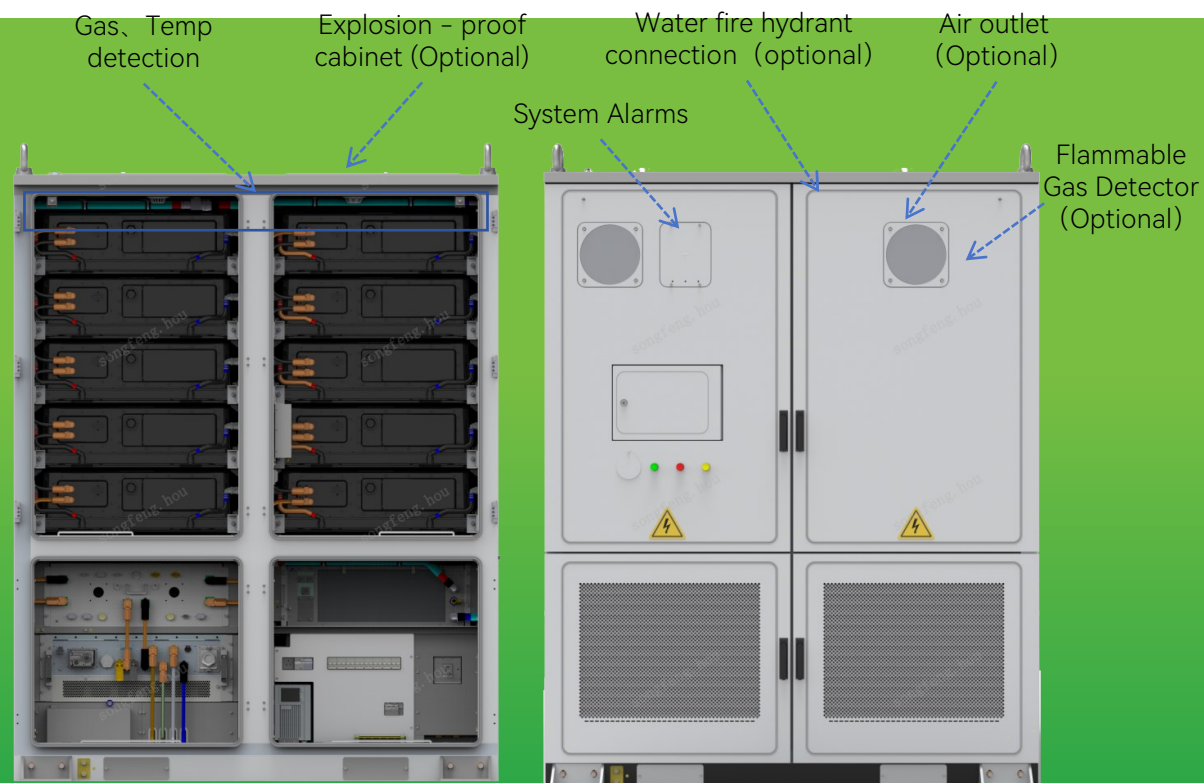


SunGiga G2 Plus
522 kWh

Difference between SunGiga G2 & SunGiga G2 Plus (FSS)

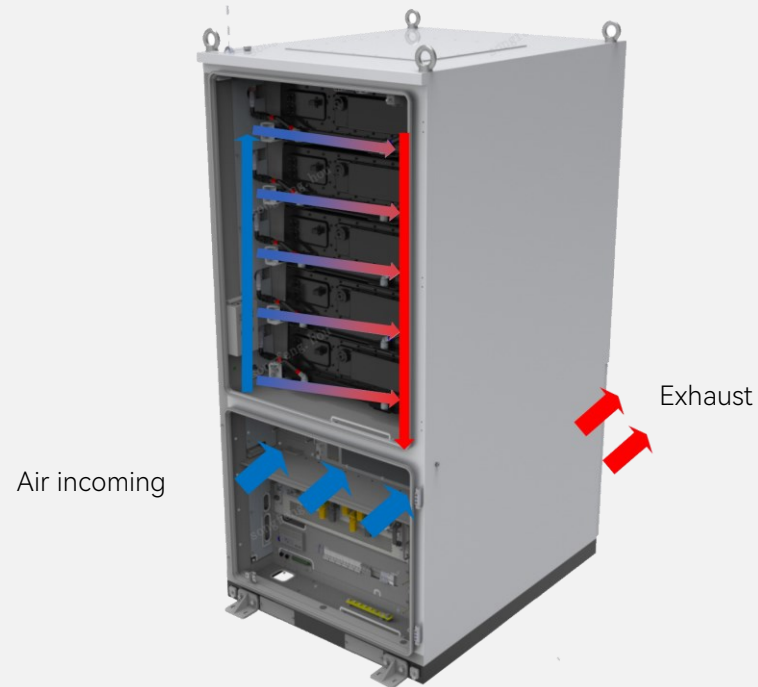


SunGiga G2
261 kWh (FSS)

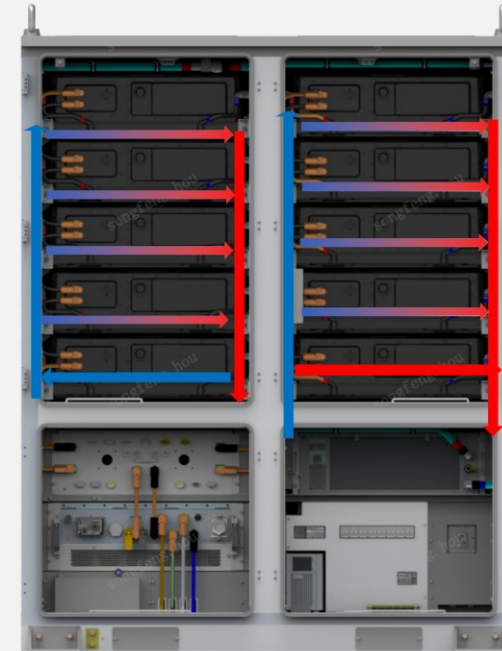


SunGiga G2 Plus
522 kWh (FSS)

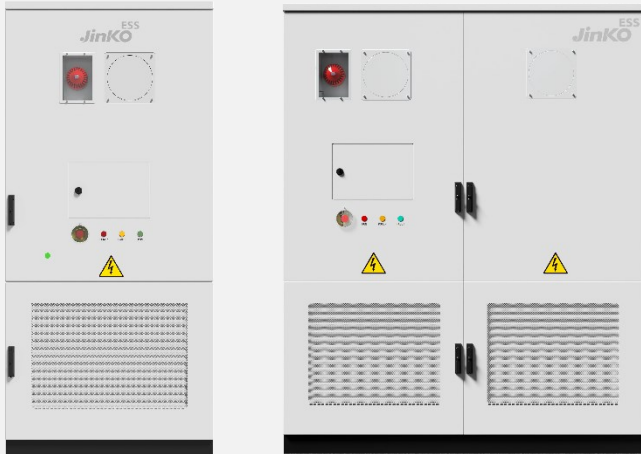
SunGiga G2 Cooling Difference with SunGiga G2 Plus



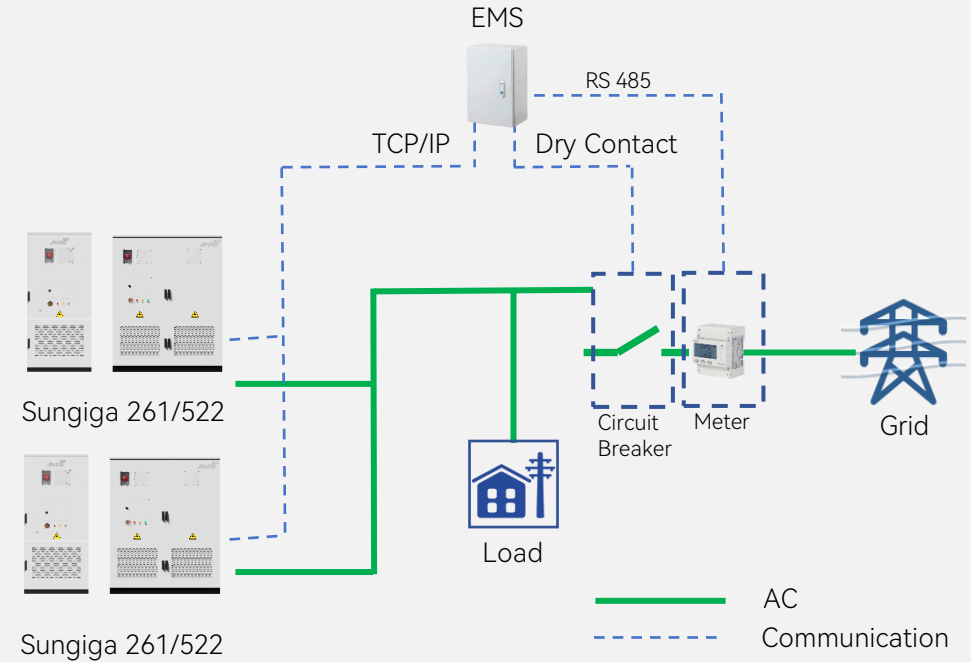
- PCS and liquid cooling system share the same air inlet
- Utilizing excess heat from battery cooling plates and liquid pipes to manage temperature



- The liquid cooling device consists of two racks, the front air inlet and the rear air outlet. Coolant distribution joint to achieve balanced coolant flow between two groups with different inner diameters

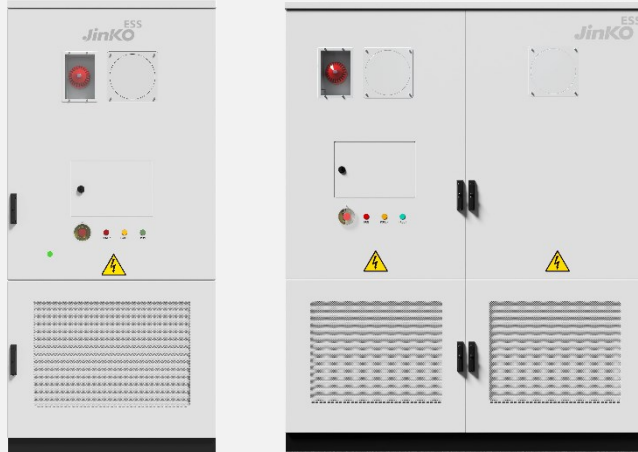


- The system intelligently manages solar power, storage, and grid power to cut costs. Solar energy is used directly when generated. Surplus solar charges the battery instead of being exported at low value. The battery discharges during high-price peak hours or at night to power the facility. The grid is only used as a backup when solar and battery are insufficient.

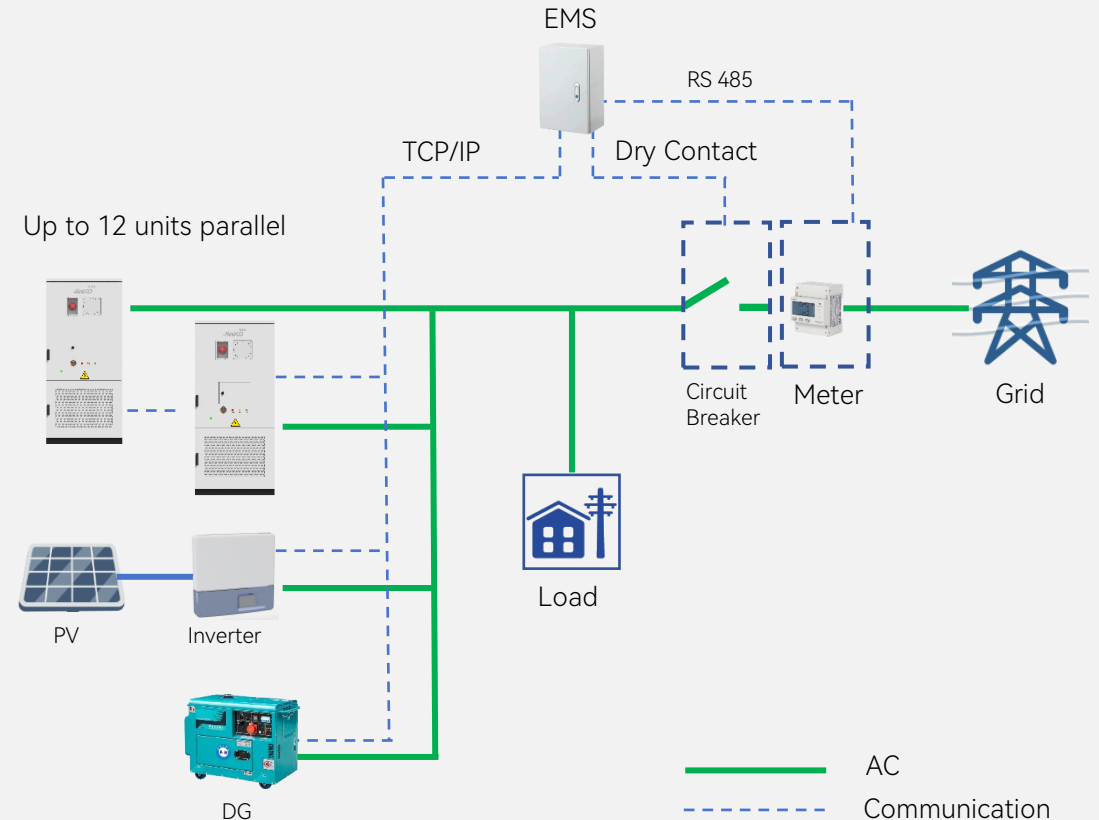


- This logic reduces peak demand charges and overall electricity bills by maximizing the use of low-cost self-generated energy, ensuring reliable and economical power. Our system allows up to 12 units in parallel when on-grid connection.

2/4H Adaptable Solutions: Automatic On/Off-grid System



- The SunGiga G2 series of PCS employs a three-phase four-wire design, eliminating the need for additional isolation transformers.
- When on-grid operation, the grid supplies power directly to critical loads through the grid-tied cabinet. On detection of grid outage, it sends a grid disconnection signal to activate the energy storage emergency power supply, ensure continuous power supply to critical loads in off-grid conditions.



Versatile Applications for Maximum ROI

Multiple Business Scenarios Enable the Economic Value Loop

Energy Time-Shifting Maximize Price Arbitrage:

Intelligently charge during low-tariff periods and discharge during peak pricing windows to significantly reduce operational energy costs.



Grid Ancillary Services (FCAS) System Stability:

Support grid reliability by participating in Frequency Control Ancillary Services, providing rapid response to maintain grid equilibrium.



Critical Backup Power Seamless Resilience:

Ensure business continuity with automatic transition to backup mode during outages, safeguarding your most vital loads.



Demand Management Load Leveling:

Proactively manage and lower peak demand charges by utilizing stored energy, ensuring a more efficient grid connection profile.



Peak Shaving Infrastructure Optimization:

Reduce the strain on the local grid by discharging during peak load events, optimizing the balance between supply and demand.



Virtual Power Plant (VPP) Aggregated Market Participation:

Connect your storage assets to a wider network of source, load, and storage resources to actively participate in energy market trading.



01 Outstanding Performance



1. Higher Efficiency

- Full-Stack self-R&D ESS system Integrator
- PCS Maximum efficiency $\geq 98.5\%$
- System RTE $\geq 90\%$

2. Longer Service Life

- Intelligent liquid-cooling temperature control, designed system life ≥ 15 years
- Higher Environmental Adaption

3. Energy Promotion

- Greater group capacity, up to 12 in parallel, Auxiliary consumption decrease 20%,
- Only 1.5m² footprint, improving footprint energy density by 33%

Full-Stack self-R&D ESS system Integrator



Full-Stack self-R&D ESS system Integrator

BMS



Full coverage
Better compatibility

PCS



Modular&String

Cell



High capacity
Long cyclife

OPS



Globally deployed Intelligent

EMS



Local controller
Station EMS

System RTE $\geq 90\%$, More Efficient Power Supply



More Efficient Energy Supply

PCS Maximum efficiency $\geq 98.5\%$
System RTE $\geq 90\%$

Longer Service Life

Designed life for 15 years

Energy Promotion

Only 1.5m² footprint of 261 kWh product,
improving footprint energy density by 33%

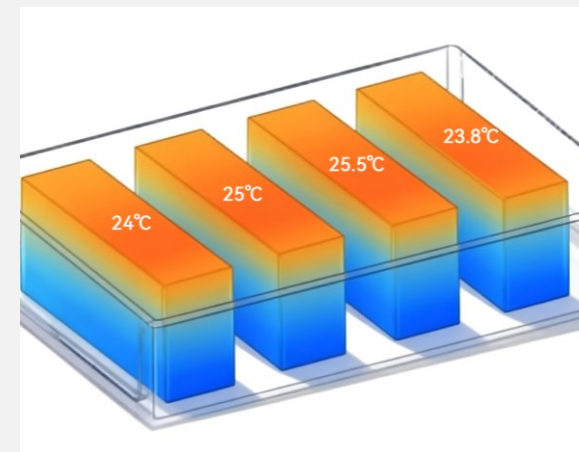


Intelligent Liquid-cooling Temperature Control

With temperature difference between packs within **2 °C**, whole designed system life **≥ 15 years**

SunGiga G2/G2 Pro

Temperature difference $\leq 2^{\circ}\text{C}$



Performance—— Higher Environmental adaptation

JinKO^{ESS}

Highest **C5**
corrosion resistance rating
IP55 protection class



Supports operation at altitudes up to
3000m



Operating environment temperature
-30°C to **55°C**



High group capacity

ESS
JinkO



Support up to **6** units parallel

Auxiliary consumption decrease **20%**

RTE increase **2%**



Easy & Convenient



1. Easy Installation

- Factory pre-installation and pre-commissioning
- Flexible Transfer Installation
- Convenient for Vertical Lifting

2. Flexible Configuration

- Intelligent Integrated ESS Allows More Flexible Configuration

3. Smart Operation

- Smart Energy Panoramic Monitoring to Carefree Operations



Pre-installation & commissioning, Faster Connection



Before Delivery

Factory pre-installation and pre-commissioning

- Factory pre-installation and pre-commissioning
- Full-Stack self-R&D ESS system Integrator
- Only simple on-site external wiring is needed



After Delivery

Flexible Transfer Installation

- The back side bilges of the machine are equipped with forklift holes to conveyance with forklift/crane
- The forklift have a sufficient load capacity at least 6 tons



Convenient for Vertical Lifting

- Four standard hook and loop designs at the top of product
- Easy to install and transport during station construction



Intelligent Integrated ESS Allows More Flexible Configuration



All in one

Integrated system design of EMS/PCS/BMS

Flexible layouts

Support seamless parallel connections between systems

More convenient application

- Support up to 12 units parallel
- Auxiliary consumption decrease 20%
- RTE increase 2%



Remarks (reference)

Face to face: 1500 cm

Side by side: 800 cm

Back to back: 100 cm

Smart Energy Panoramic Monitoring to Carefree Operations



Intelligent Cloud Platform, User-friendly

- Designed and applied for global delivery of energy storage stations
- Multiple products such as WEB, APP with integrated control
- Station-level EPS and OPS cloud-edge collaboration and algorithm iteration
- Intelligent management, smart operation and maintenance, safety warning, and remote control algorithms of the PV & energy storage system

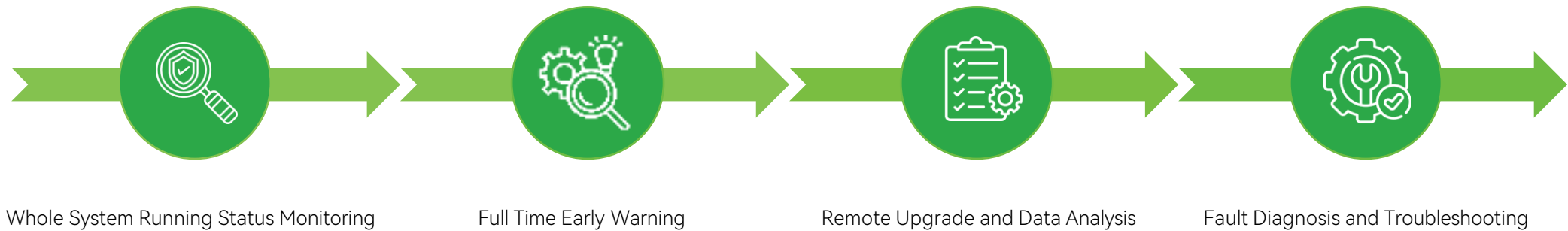


JKOS CLOUD WEB/APP LaunchedJinko CLOUD

Remote Non-inductive O&M, Achieve Project Supervision



Jinko Cloud monitoring & Ticket System



Client

Local Support

Service Partner

COE team

Remote Non-inductive O&M, Achieve Project Supervision

JinkO^{ESS}



60+

Products distribution

1500+

Global Staff

12+

Spare parts warehouse

7

Service Region

12+

Service Center

50+

After sales technician

 China, ShangHai
Global Service Center

 China, Haining
Manufacture and HQ warehouse

Safe & Reliable



1.

Cell & Electrical
Safety

- Five-layer protection, three-dimensional safety structure
- Cell/Pack/Electrical Design level of safety

2.

System
Safety

- Identify Fires Early and Use Multiple Fire Protection Measures

3.

Environmental
Friendly

- Multiple-Scenario applications
- Demand response/Off-grid/PV, storage and charging/Peak shaving

4.

Pre-delivery Test
Assurance

- Jinko's leading testing platform in ESS industry



Ultimate Safety Structure



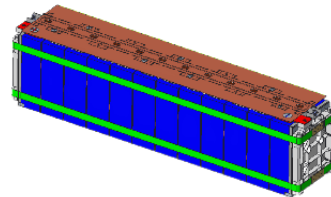
Five-layer protection, three-dimensional safety strategy

Structural Safety

Battery electrical
compartment
design

Cell Level

Abnormal cell early
prediction and warning



Electrical Safety

Three-level fuse
blowing leakage
monitoring

Pack Level

Top insulating layer
Explosion-proof housing
Fire extinguishing medium



Fire Safety

Three-level fire
protection diverse
detection

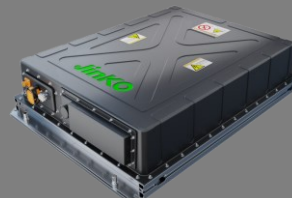
System Level

Fire extinguishing gas
Explosion-proofing
Dehumidifier



Module Level

CCS Component protection plate
Mica flake between battery cell

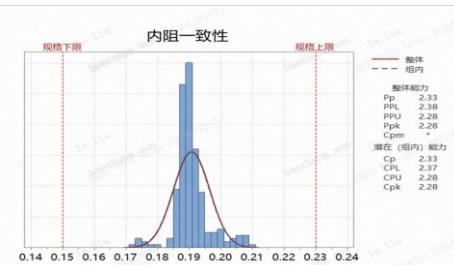
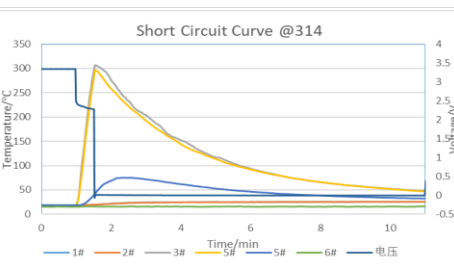
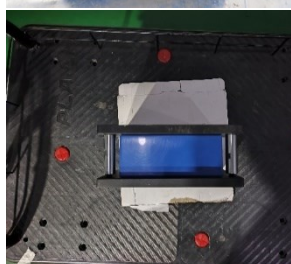
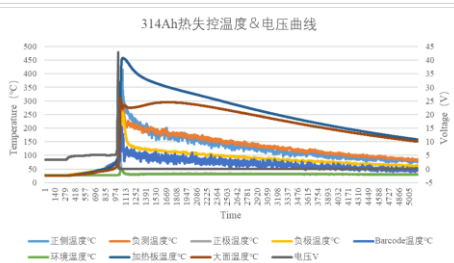
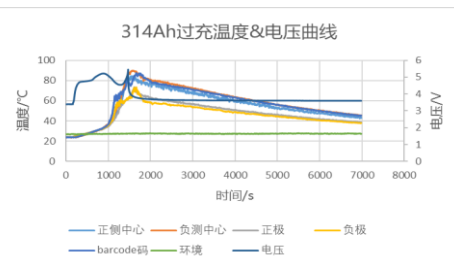


Rack Level

Temperature & smoke detector
Flammable gas detector



Electrical Safety — Cell



Overcharge

At 5.35V overcharge, the battery slightly swelled but didn't rupture or explode.

Thermal Runaway

When heated above 500°C, only surface marks appeared on the battery, with no fire or explosion.

Short-circuit

Within 32s of short - circuiting, the fuse blew. The max temperature hit 307°C, but there was no fire, explosion, or leakage.

Consistency

Tested at room temperature and pressure at 30% SoC, the max capacity difference was 3Ah, and the max internal resistance difference was 0.1mΩ.



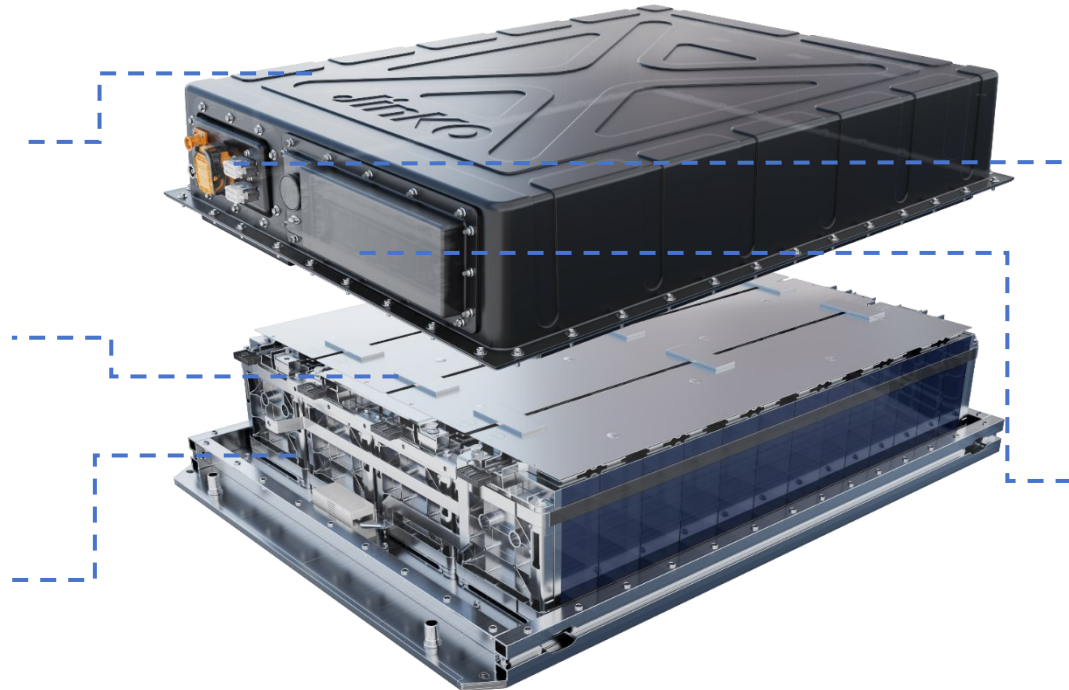
Electrical Safety — Pack

Insulation, Heat Dissipation, Sealing

- Composite-material top cover
Non-conductive and anti-arc flashing

- Mica module cover plate
Prevents the spread of electrolyte spray

- Aerogel insulation
Thermal runaway propagation
between cells



- Explosion-proof valve
Anti-condensation and explosion
proof with heat dissipation

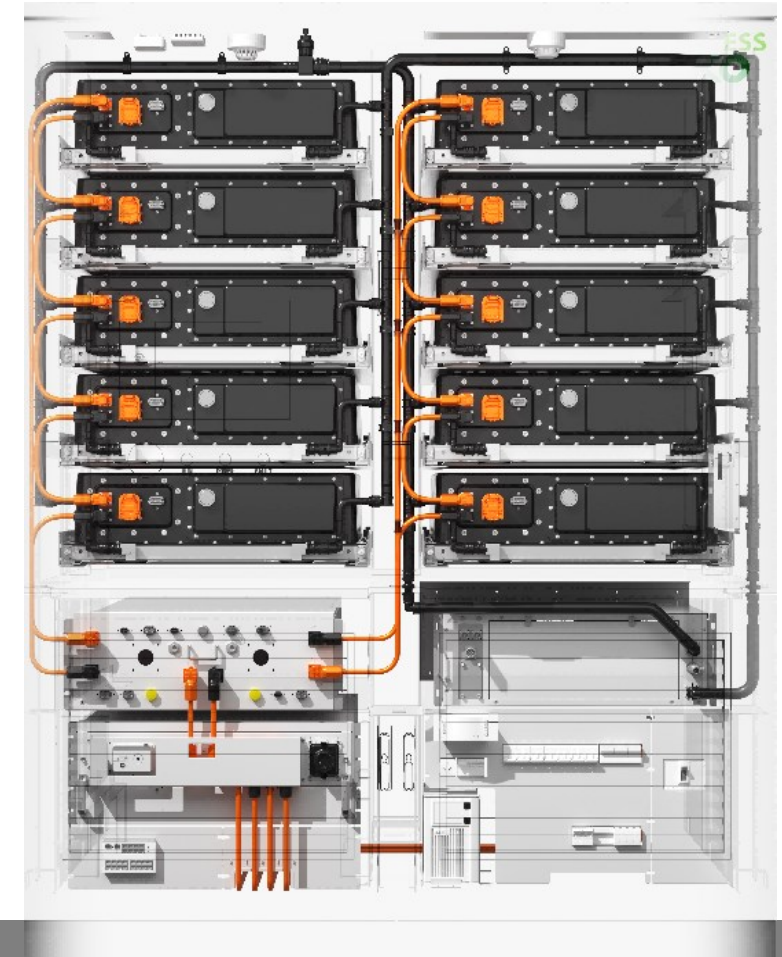
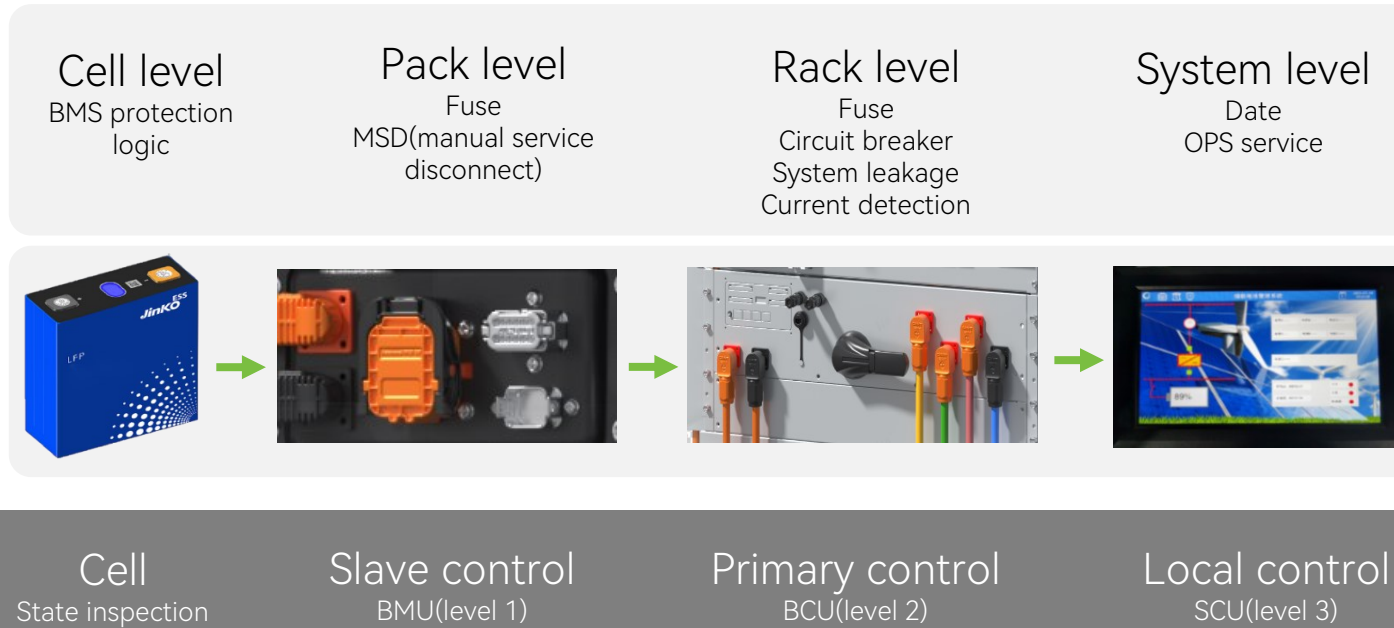
- Fuse
Short circuit safety protection

Electrical Safety — Electrical Design

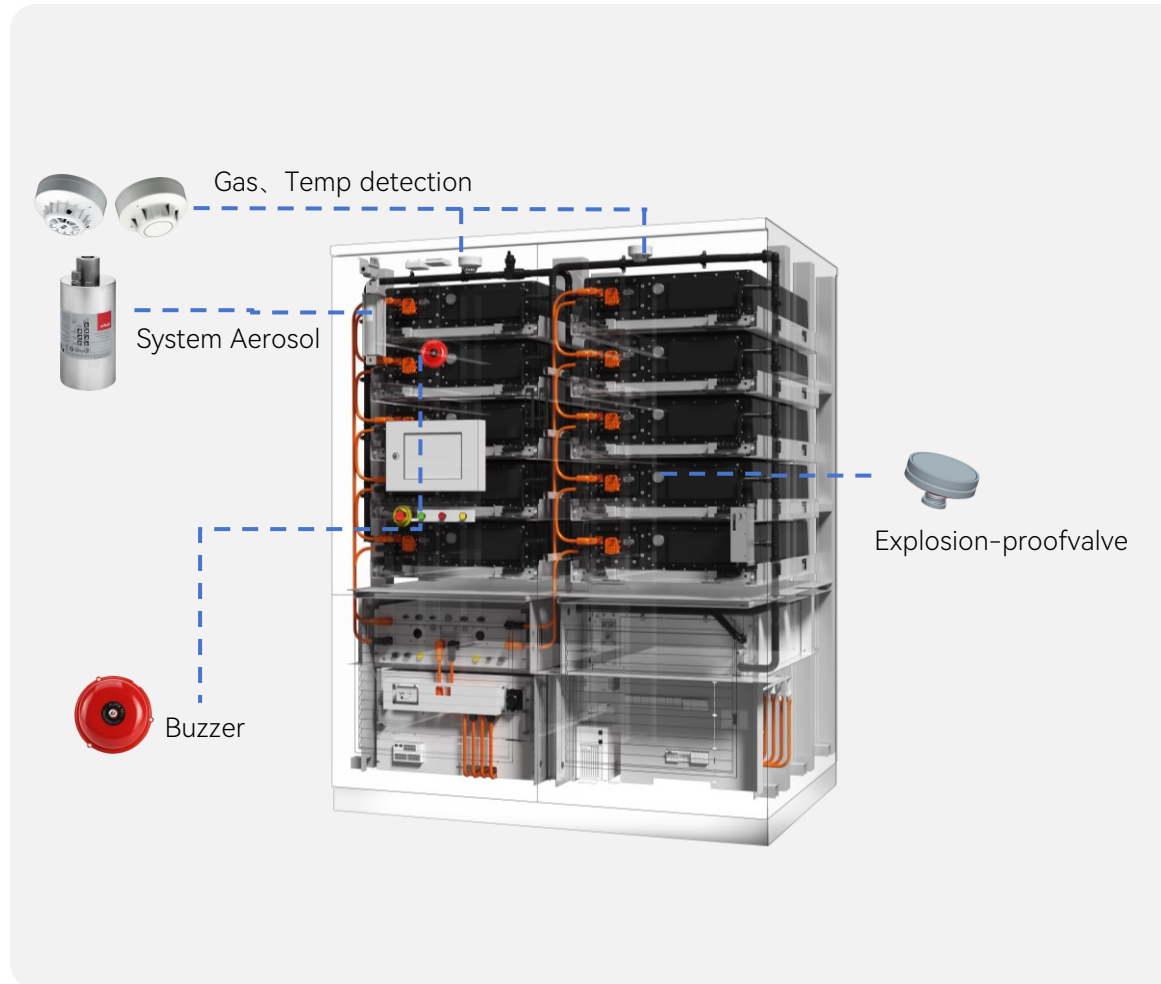


Electrical design:

Multiple protective mechanisms: In the event of abnormalities in current, voltage, or temperature, thus the circuit current can be quickly and accurately interrupted



Identify Fires Early and Use Multiple Fire Protection Measures



Warning

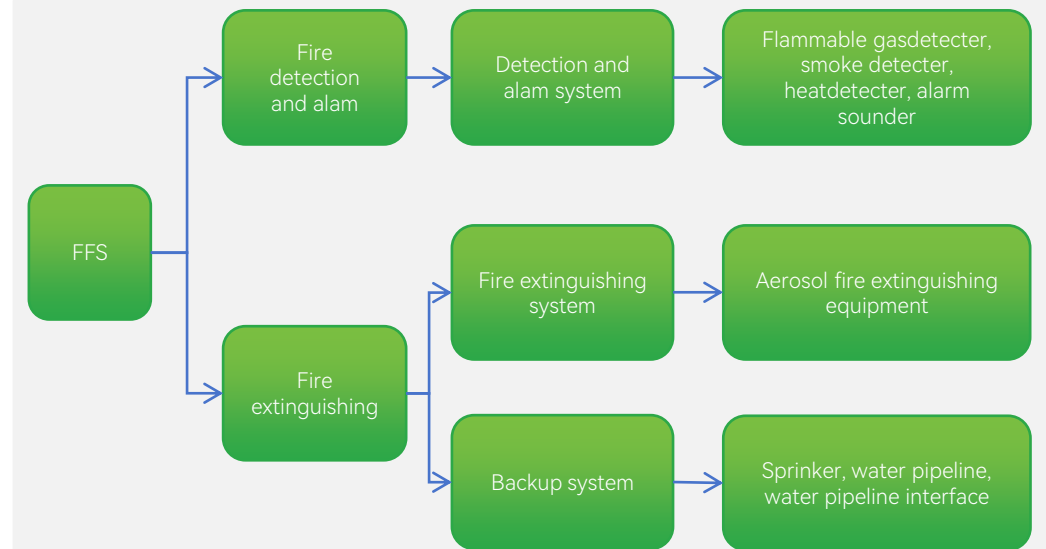
Accurate detection and timely warning

Explosion Venting

Proactive release prevents deflagration (proof cabinet & proofvalve)

Fire Protection

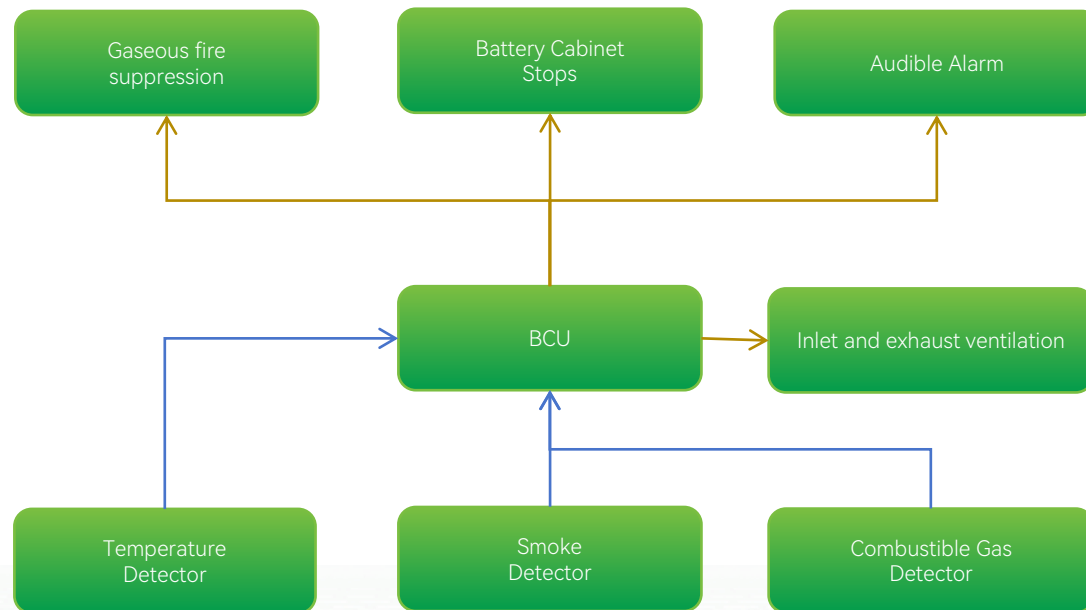
Extinguish fire immediately to reduce damage



Fire Fighting System

Advanced fire-fighting system ensuring rapid detection, automatic suppression, and efficient ventilation

Logic Diagram



Description of fir control logic

- ①. The fire-detection system includes smoke and heat detectors with dry-contact outputs, sending independent signals to the BMS upon activation. An audible/visible alarm is triggered, and a signal is relayed to the BMS.
- ②. If the combustible gas concentration in the protected zone hits the low alarm threshold, the system activates and sends a control signal to the ventilation system, opening explosion-proof intake and exhaust valves.
- ③. When the aerosol nozzle inside the battery cabinet detects a temperature of 93°C, it automatically releases an extinguishing agent and signals the BMS.
- ④. The explosion-relief panel opens instantly during an explosion to vent pressure and protect the cabinet.
- ⑤. Cabinets with water-based fire suppression can connect to external water pipes. In an emergency, the external valve activates the internal water-spray system to control the fire.

Environmental Friendly — Multiple-Scenario Application



Demand response
C&I users



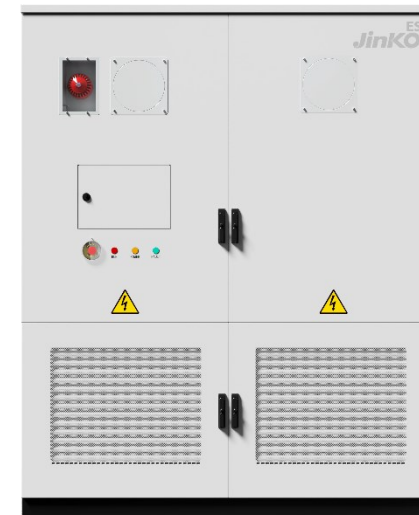
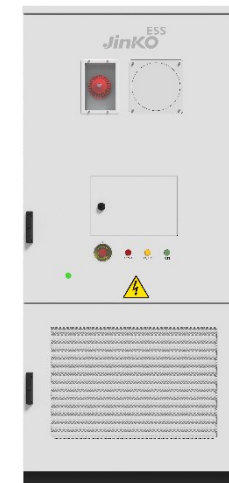
Off-grid/Back-up
Large equipment
Commercial buildings



**Solar、Diesel
charger、ESS**
Zero-carbon plant
Micro-grid



Peaking shaving
Industrial factories



Comprehensive Tests from Cell to System



A Leading Testing Platform in ESS industry

1300

Cell test
channels

16+

Pack test
channels

20

C&I ESS
Testing bench

4

PCS
Testing bench

4

Utility ESS
Testing bench

12

Safety Testing
Equipment



System Testing Platform



Pack Testing Platform



Physics and Chemistry Laboratory



Security Laboratory



Electrical Performance Laboratory



HIL Testing Laboratory



Project Information

0.5MW/1.075MWh

Netherlands

2024.09

Netherlands C&I ESS Project

The project is equipped with five SunGiga and realize the purpose of self-consumption and peak-shaving functions. The project adopts the low-voltage grid connection mode of transformers, which can effectively regulate power supply and demand, store energy during low power consumption periods and release it during peak periods, improving the stability of the power system and energy utilization efficiency.



Project Information

7.74MW/15.48MWh

Miyazaki, Japan

2024.04

Japan DC-coupled system

This project is a DC-coupled system which takes advantage of the abundant light in the Kyushu area. Through giving priority to the PV to connect to the grid during the daytime and storage the excess power to charge the battery which discharges at night, this PV + ESS project allows a 24-hour selling of electricity, maximizes the owner's profit.



Project Information

87MW/209MWh
Dongguan, China
2023.09

Dongguan C&I and Utility Projects

These projects are located in Dongguan, China. The climate is hot and humid. The total amount of the project is 87MW/209MWh, of which the C&I project totals 73.3MW and 157.6MWh, and the Utility project totals 13.8MW/51.6MWh.



Project Information

11.25MW/23.49MWh
Binzhou, China
2025.07



Shandong Binzhou C&I Project

The project deploys 90 units of Jinko SunGiga 261 kWh C&I all-in-one BESS. Working in synergy with on-site solar PV, electrical loads, and EV charging infrastructure, the system forms a fully integrated generation-grid-load-storage solution, enabling participation in demand response programs and electricity spot market trading.

1MW/2.15MWh
Lvliang, China

2023.08



Lvliang Distributed PV ESS Project

This project is for user-side photovoltaic power generation with energy storage which provides economic benefits for the client. This project is equipped with 10 SunGiga energy storage all-in-one machines.



Project Information

1MW/2.15MWh
Queensland, Australia
2025.09

Queensland C&I Project, Australia

The project serves an aged care facility operating within an embedded network. By integrating high-density energy storage, the facility optimizes its energy consumption and creates new revenue streams through sophisticated market participation.