SOLAX POWER | BVB 09 PARTNER

POWERING A GREEN FUTURE

SolaX Power Network Technology (Zhejiang) Co., Ltd.



www.solaxpower.com.cn

We Are SolaX

Vision

To be the trusted global leader in smart energy solutions

Mission

To make power smarter, greener, more affordable, more convenient, and more friendly

Core Values

Innovation, Excellence, Ethics, Win-Win



2012
Founded

3000+
Employees

700000+
Running Systems

Year of Listing: Jan.2024, Shanghai, 688717.SS

SolaX ORI

Innovating for Yield & Safety

Utility Scale Liquid Cooling Energy Storage Solution

Premium Solution For Long-Duration & Grid forming Application



Become a trusted global leader in smart energy

ORI—5015kWh Liquid Cooling Battery Container



4.17~5MWh flexible configuration

20 years performance life

20ft container design

Noise level ≤ **75**dBA

AI inside

Specification	
Battery Cell Type	3.2V/314Ah，LFP
Battery Configuration	1P416S*12
Battery Rated Capacity (BOL)	5015.96kWh
Rated Charge/Discharge Rate	0.5P

Specification	
Dimensions (W×H×D)	6058×2896×2438mm
Weight (including battery)	~43T
Protection Level	IP55
Battery Thermal Management Method	Liquid cooling

Information Classification: General

ORI—String PCS & Transformer Station



*Note: This image represents the 7.5MW station

String **PCS** inside, battery cluster level management

2 MW to **7.5**MW flexible configuration

Skid design, transportation friendly

Grid forming available: VSG, black start, etc.

String PCS Air Cooling	
Rated AC Power	215kW
Maximum AC Power	236.5kW*36
PCS Maximum Conversion Efficiency	≥0.99

PCS & Transformer Station:7500KVA (Max.)	
Dimensions (W×H×D)	12192×2896×2438 mm
Weight	~ 34.5T

Information Classification: General

01 ORI—Innovating for Safety

Design Safety Electrical Safety Structure Safety

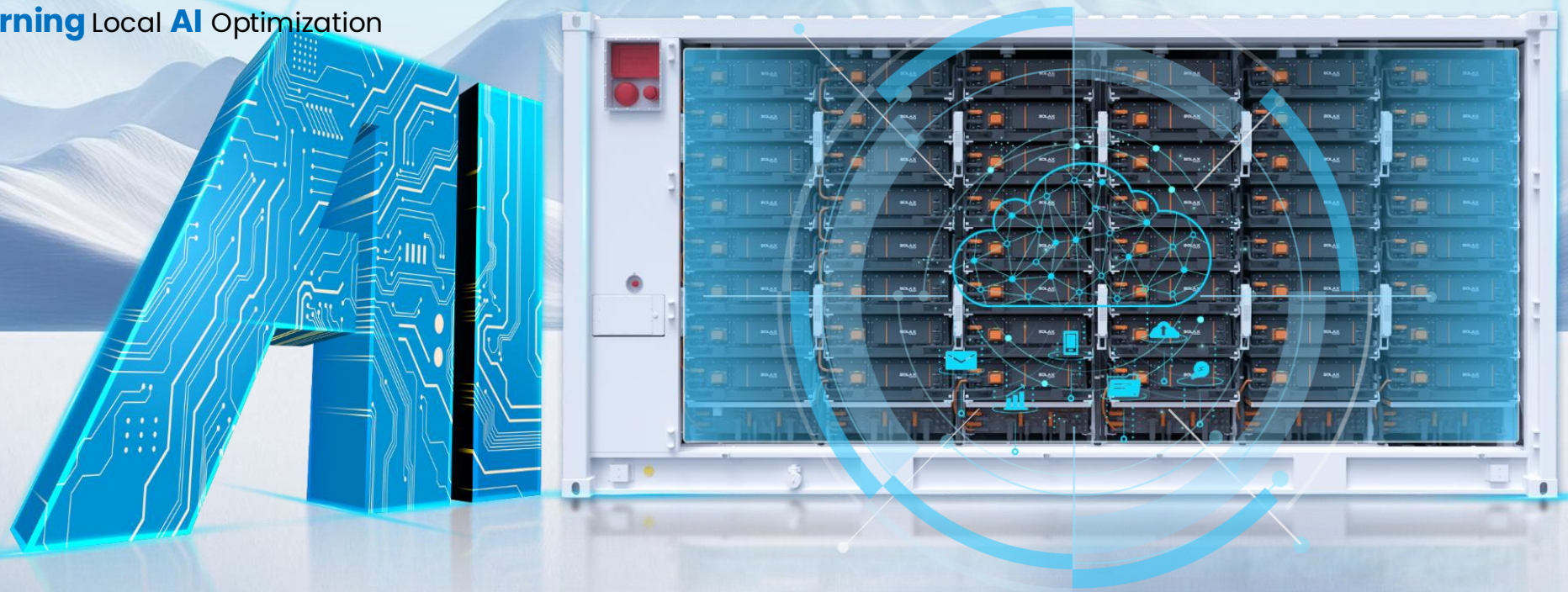


Information Classification: General

ORI—Innovating for Safety

AI-Driven Smart Integration

- **Proactive** Fault Detection
- **10%** longer life
- **Learning** Local **AI** Optimization



Automatic SOC & SOH Calibration

Fault Early Warning Up to 7 days

Intelligent Diagnosis BMS PCS &EMS

Information Classification: General

ORI—Innovating for Safety

Split System Safety Design

Battery Container, PCS and Transformer Station

5MWh High-energy Density Liquid Cooling Container

String PCS with no affect on **Battery Safety**



No Thermal Propagation : Physical isolation between batteries and PCS

Information Classification: General

ORI—Innovating for Safety

Cluster-level Management & Optimization

- Flexible System Configuration & Augmentation
  No need oversizing minimized CAPEX & OPEX
- Mixed Use of Batteries with Different Ages
  20 years spare parts **risk free**
- Cluster Level Insulation and Breaking
  No circulation between battery clusters



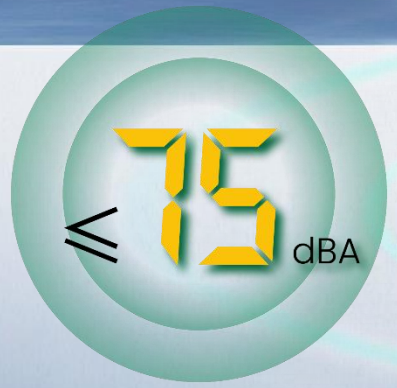
Information Classification: General

ORI—Innovating for Safety

BESS System Ergonomic Safety Design

Low-Noise Eco-Friendly

≤75dBA Noise Level





Information Classification: General

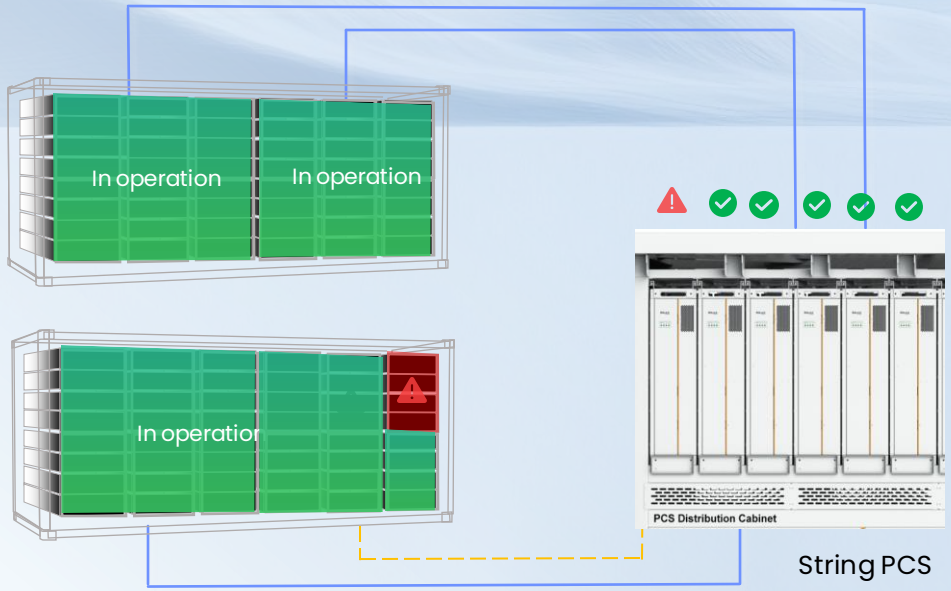
ORI—Innovating for Safety

Cluster-level Management

Availability up to **99%**

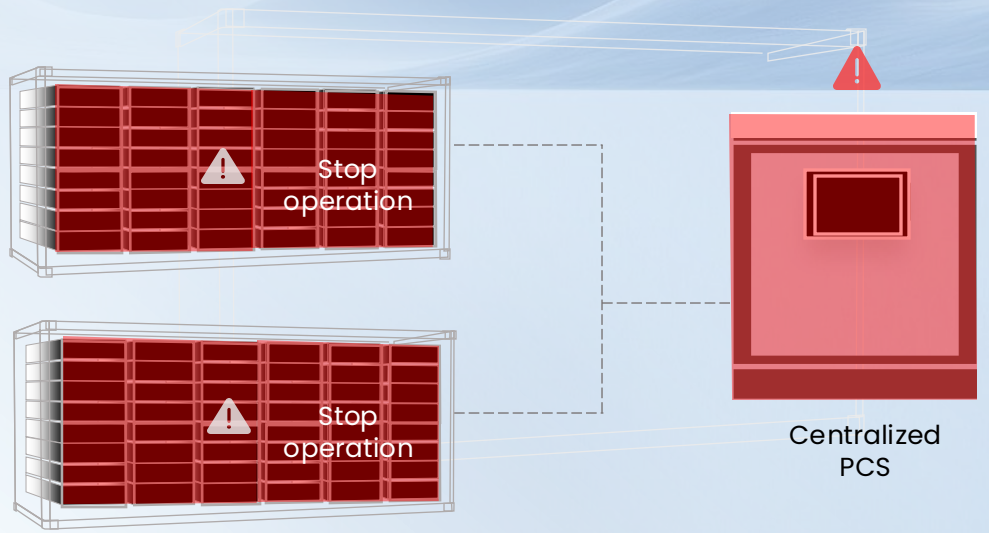
String PCS

One battery failed ,without impact to system operation



Traditional Centralized PCS

One cell failed, one block must be shut down, availability lost



Information Classification: General

ORI—Innovating for Safety

Cluster-level Management

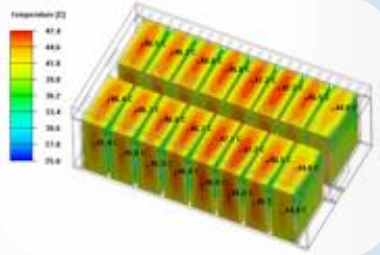
Cluster-level SOC balancing , no circulation, **optimize discharge capacity**

Cask effect due to cell consistency

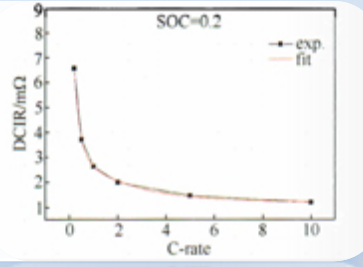
Initial Cell Difference



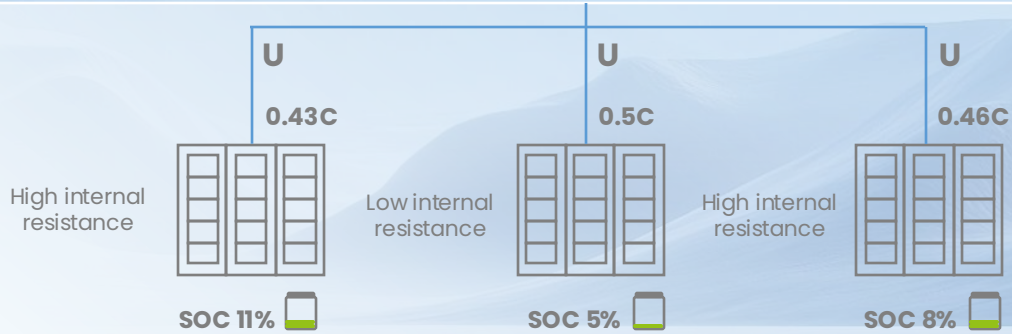
Different Temperature



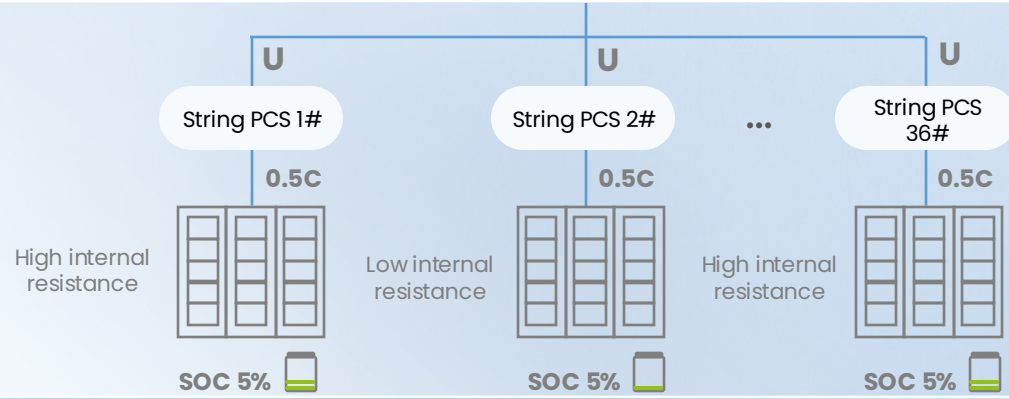
Different Charge & Discharge Rate



Traditional: unbalance between clusters, low performance ,high risk



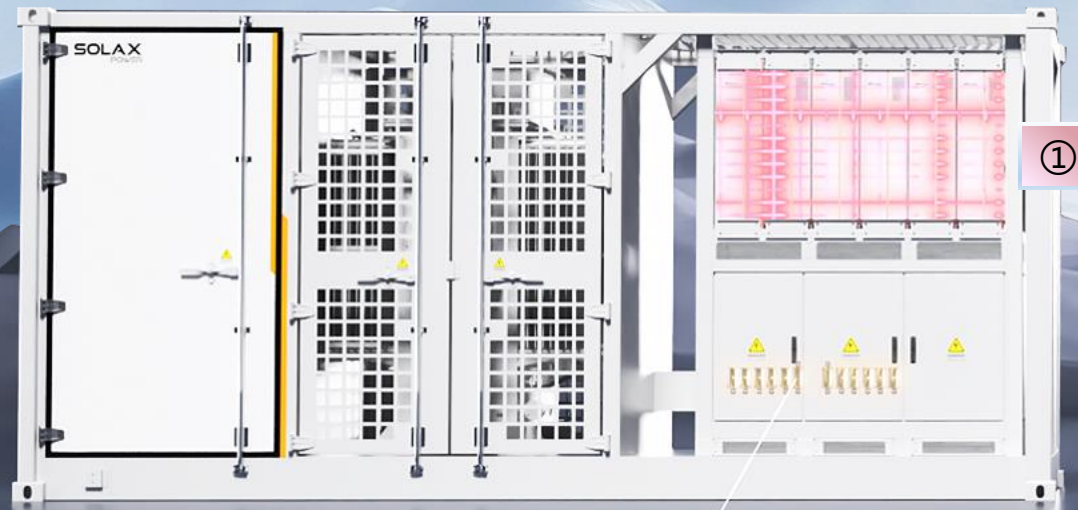
SolaX: Each battery cluster can be fully released



Information Classification: General

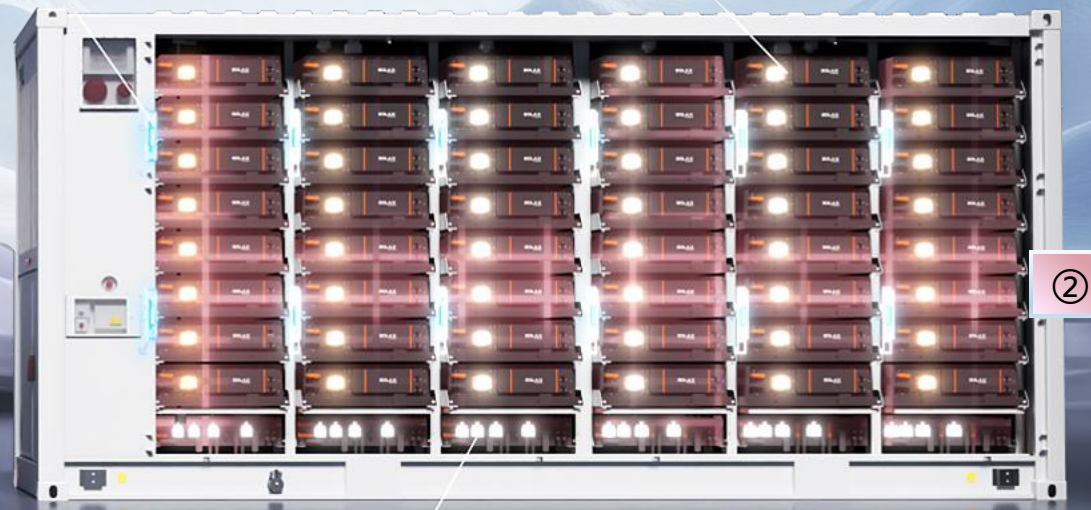
ORI—Innovating for Safety

BESS System Electrical Safety



① Rack Level

② Module Level



①

②

③ PCS Level

④ HV-BOX Level

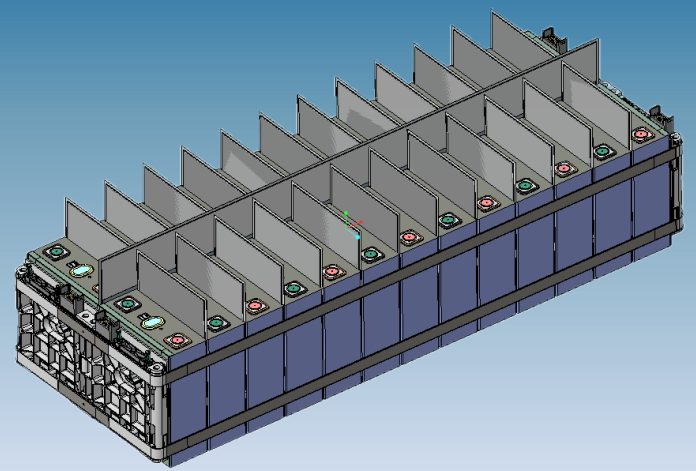
4-Level breaking protection

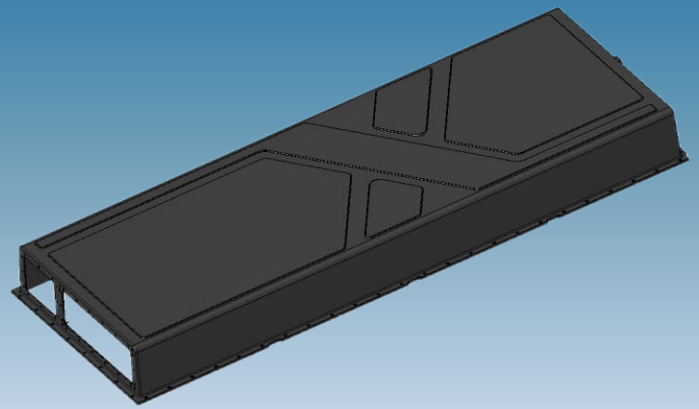
2-Level insulation monitoring by BMS and PCS

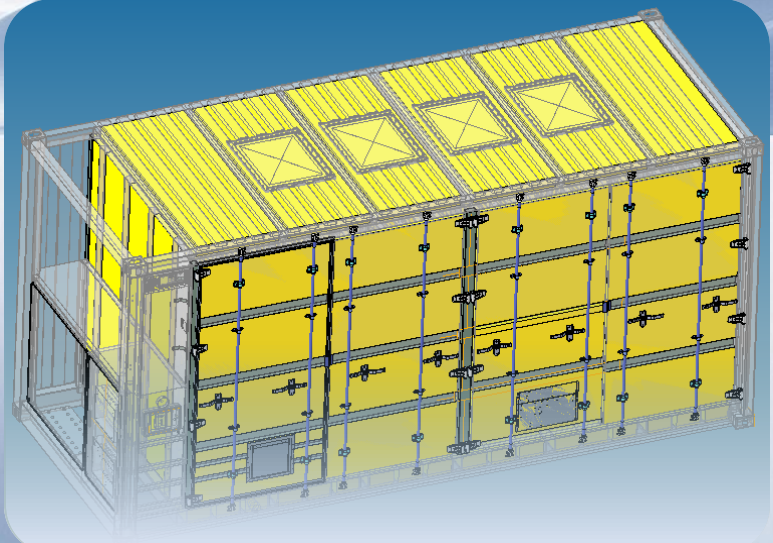
ORI—Innovating for Safety

BESS System Material Safety

CELL	PACK	CONTAINER
Aviation grade aerogel > 650℃ thermal insulation	Self-extinguish module cover 5VA flame-retardant	Bulkhead 2-hour fire resistance @1050℃







Information Classification: General

ORI—Innovating for Safety

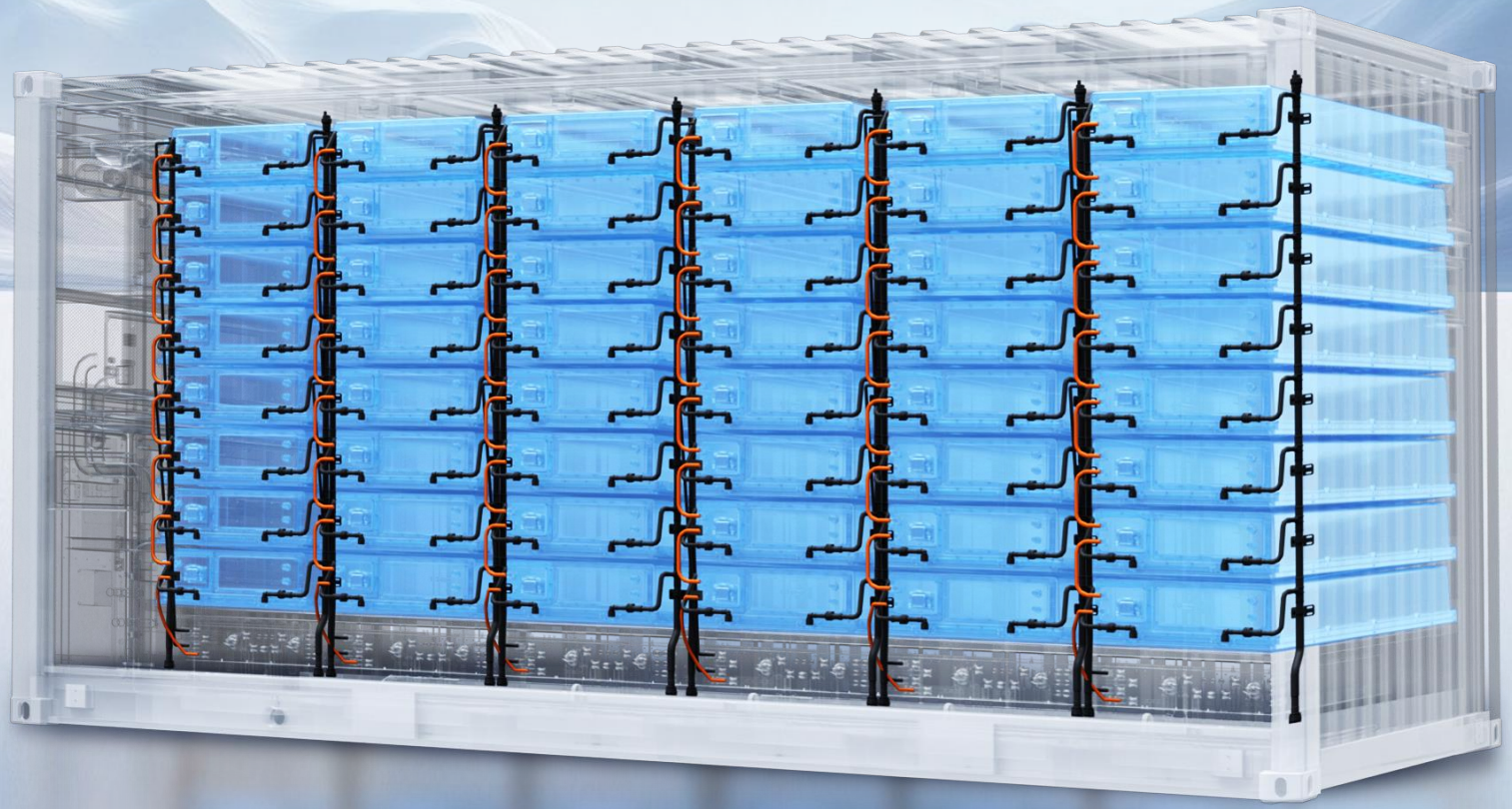
BESS System Operation Safety

Dedication to every detail for ultimate protection

IP67 Protection for Batteries and Connectors

Anti-Condensation Design for Battery Pack and Container

Water-Electric Isolation





Overall IP67 Design

battery module & accessories

Information Classification: General

02 ORI—Innovating for Yield

Grid Friendly Low LCOS High Yield Easy Maintenance

Information Classification: General

ORI—Innovating for Yield

Intelligent Three-Stage Hybrid Cooling System

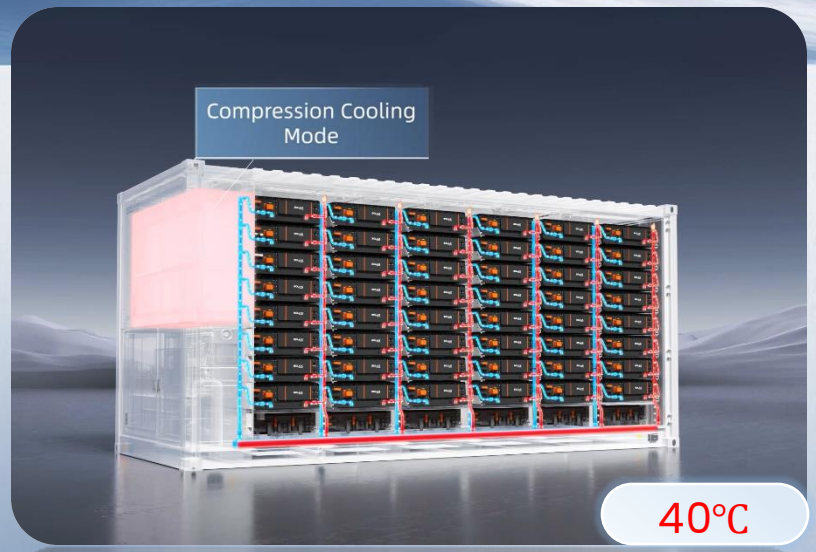
Low Noise

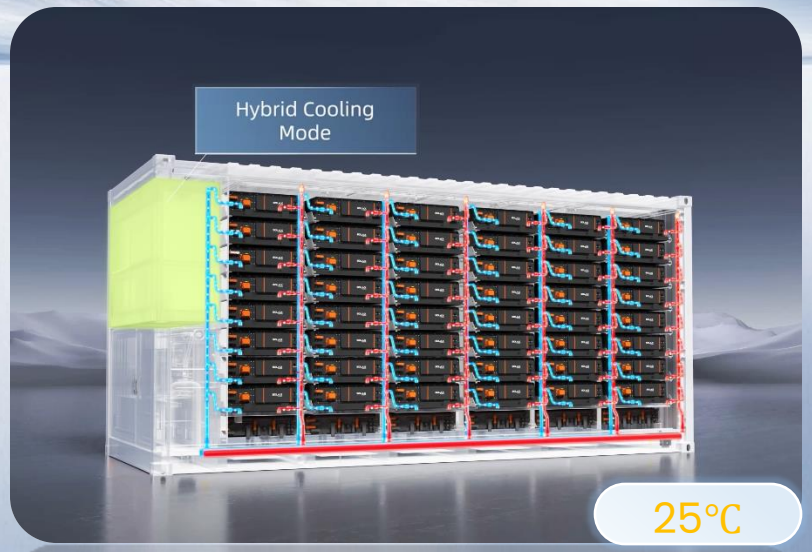
Environmentally **Refrigerant**

Round Trip **Efficiency Up**

Operation **Cost Down**

≥28.1%
Energy Savings







Information Classification: General

ORI—Innovating for Yield

Long Life

Efficient cooling design, system performance

life improve for **3~4** years

Low Flow Resistance Design and Precise Control

Flow speed difference between packs

is **≤1L/min**

Uniform Cooling Distribution

Cell temperature difference **≤ 3℃**



Information Classification: General

ORI—Innovating for Yield

3S Full-Stack Self-developed
Seamless Data Interconnectivity

- **≤200ms** Response Time to Grid
- Smart Controller for **One-Click** System Upgrade
- **Unified** Signal and Data Management
- **2 Hours** Fast Replacement for Battery Pack and PCS





Information Classification: General

ORI—Innovating for Yield

Easy for Maintenance

Standard 20ft container/Skid design, easy for shipment and deployment

2-Hour replacement

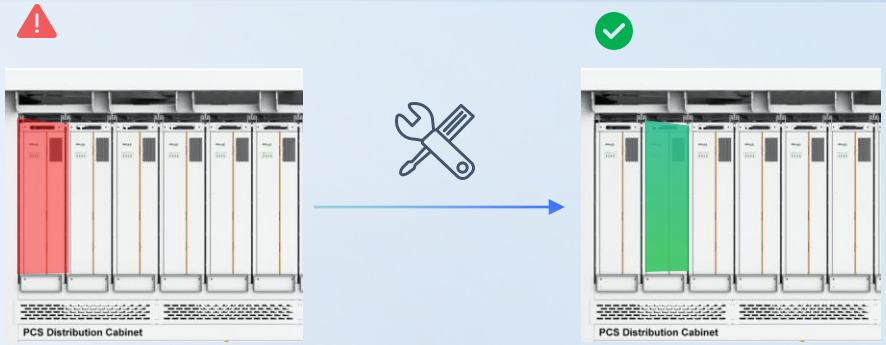
for key components

Plug-and-play, no professional maintenance required



On-site quick spare part replacement

Quick component replacement, reduced from 6 hours to 2 hours



On-site back up unit for quick replacement

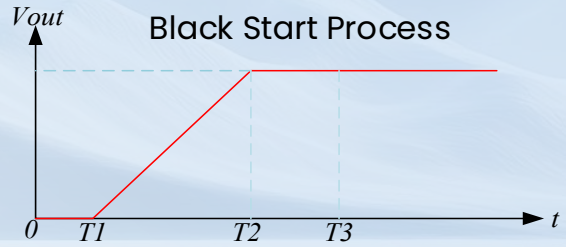
Information Classification: General

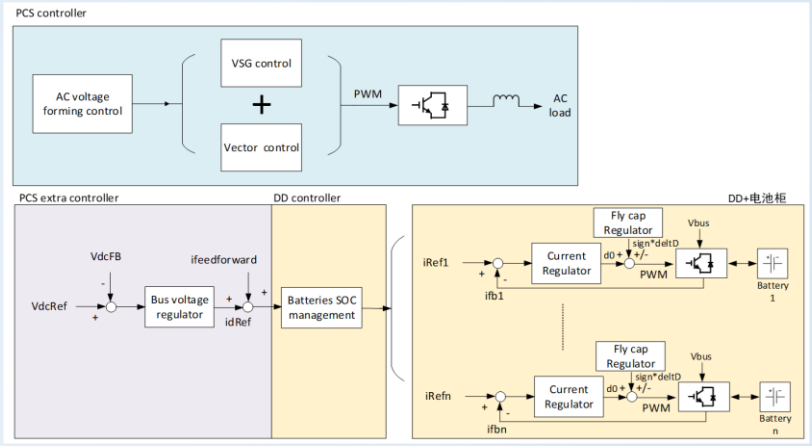
ORI—Innovating for Yield

Grid Forming

Black-start

- Voltage ramp-up function
- Multi-PCS synchronous control
- Dynamic droop current sharing technology

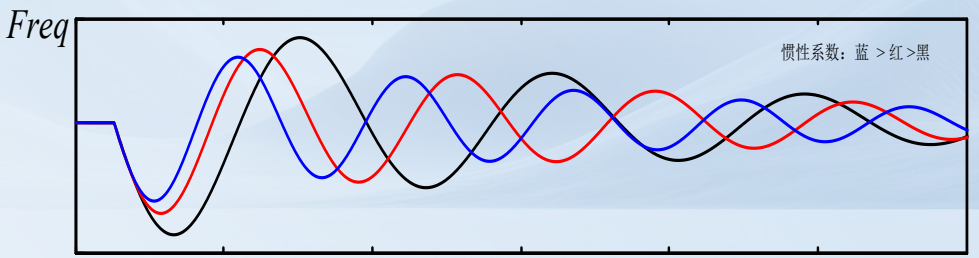




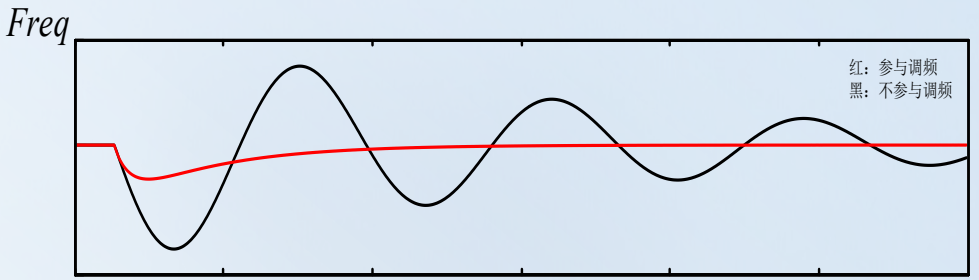
Black Start Control

Flexible Inertia Support

- Wide inertia time constant control
- Millisecond-level fast primary frequency regulation
- 0.3-2.5Hz active oscillation damping control



Inertia Regulation Function

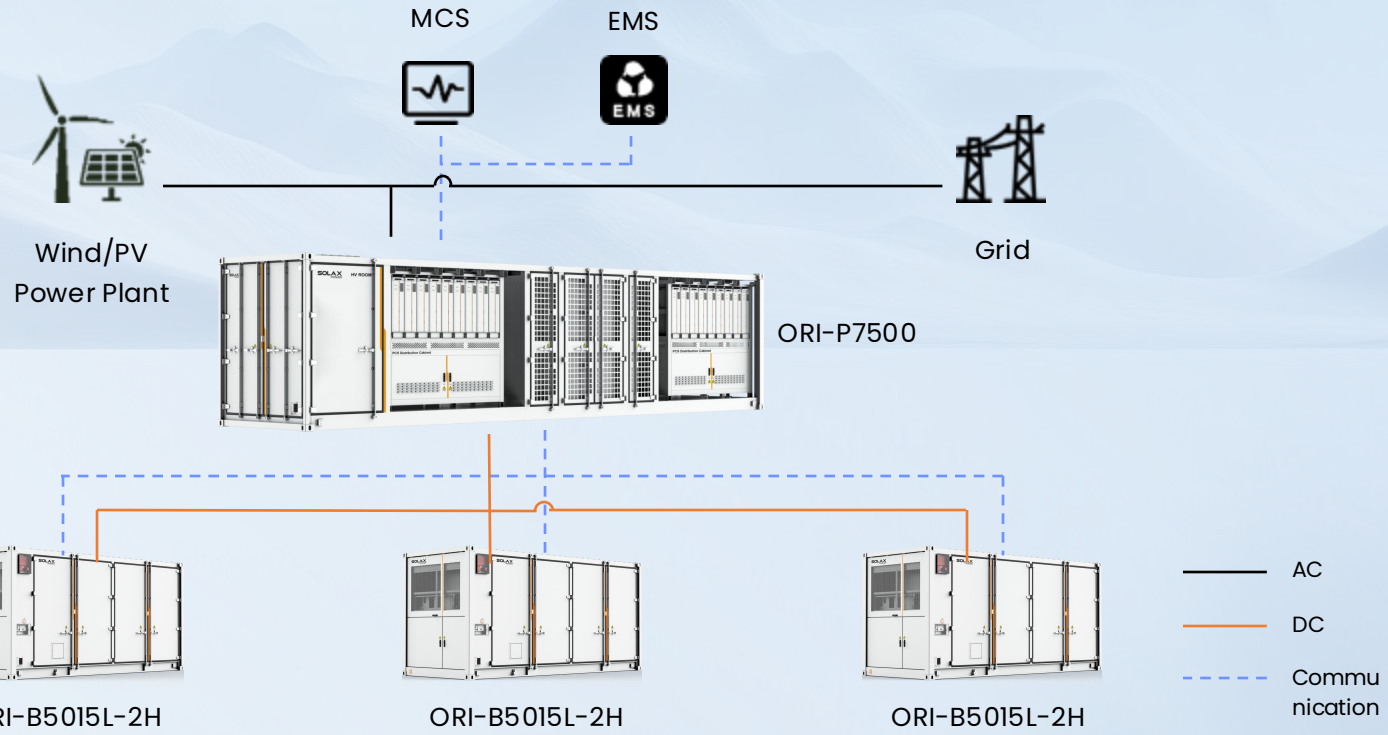


Frequency Regulation Function

Information Classification: General

New Energy String-Type Energy Storage Solution

Grid Forming



Application Scenarios

Mitigating wind/solar curtailment through economic dispatch plan optimization, enhancing renewable energy system stability via power output smoothing, and improving grid-connected power quality by minimizing generation volatility.

Information Classification: General



Information Classification: General