

241KWH Battery Energy Storage System



OUTDOOR COMMERCIAL & INDUSTRIAL ENERGY STORAGE SYSTEM

The 241kWh Immersion Cooling BESS is an outdoor energy storage system designed for commercial and industrial applications.

The system integrates LFP battery modules, a High-Voltage Box, Battery Management System (BMS), Immersion Cooling System, fire protection system, and communication and control unit within a compact industrial-grade cabinet. It provides high energy density, effective thermal management, and reliable operation under demanding outdoor conditions.



**OUTDOOR
INSTALLATION**



**241kWh
RATED CAPACITY**



**IMMERSION LIQUID
COOLING**



**MODULAR
ARCHITECTURE**



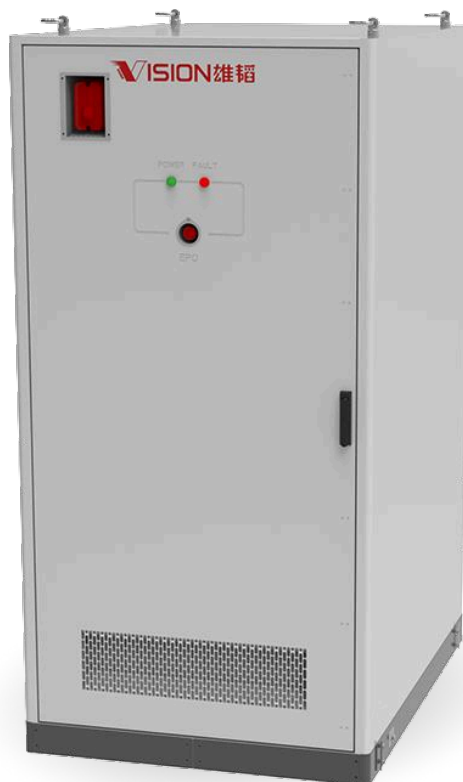
KEY ADVANTAGES

✦ 241kWh Rated Energy & LFP Battery Technology

Rated energy capacity of 241kWh. The 1P240S configuration uses Lithium Iron Phosphate (LFP) cells with rated specifications of 3.2V/314Ah.

✦ Immersion Cooling Technology

Immersion Cooling technology enables the battery modules to be cooled directly within a specially designed insulating coolant, ensuring a uniform operating temperature and effective thermal management.



✦ Advanced Battery Management System

The Battery Management System monitors critical operating parameters, including voltage, temperature, current, SOC, and SOH, and supports automatic SOC calibration.

✦ Outdoor Modular Cabinet Design

Industrial-grade cabinet with an IP54 protection rating, designed for outdoor operation. The modular arrangement of the battery modules and clusters facilitates maintenance work.

✦ Integrated Fire Protection

Cabinet-level fire protection system combining perfluorohexanone and water-based fire suppression.

✦ Real-Time Monitoring & Communication

Ethernet and Modbus TCP/IP communication support enables continuous operating-status monitoring and integration with energy management systems.



TECHNOLOGY

The 241kWh Immersion Cooling BESS Cabinet is based on an integrated energy storage architecture comprising:

- **LFP Battery Modules**
- **High-Voltage Box**
- **Battery Management System**
- **Immersion Liquid Cooling System**
- **Cabinet-Level Fire Protection System**
- **Communication & Control Unit**

Immersion Cooling technology provides direct and uniform cooling of the battery modules within a specially designed insulating coolant. This reduces temperature variations and thermal stress on the cells, supporting the system's thermal stability and safe operation.

The Battery Management System monitors battery voltage, temperature, current, SOC, and SOH. It supports automatic SOC calibration, while Ethernet and Modbus TCP/IP communication enable integration with energy management systems and monitoring platforms.

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With a rated voltage of 768V and an operating range of 673–864V, the system supports a maximum charge and discharge rate of 0.5C at 25°C and a rated DC current of 180A. The LFP batteries provide at least 6,000 operating cycles at 25°C and 80% EOL.



APPLICATIONS



Commercial Buildings



Industrial Facilities



Renewable Energy Storage Systems



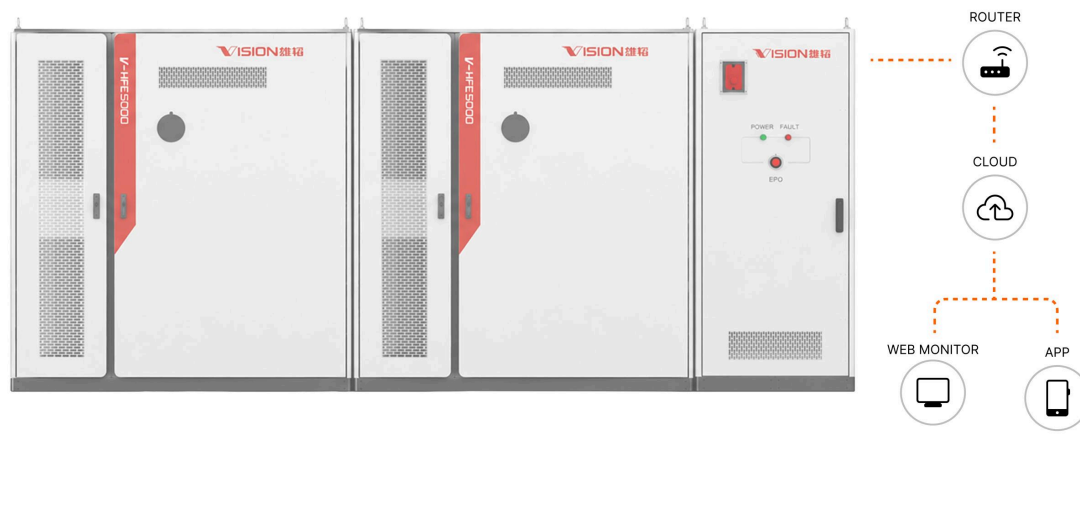
Distributed Energy Systems



Microgrids



Commercial & Industrial Energy Storage Projects



TECHNICAL SPECIFICATIONS

System Parameters	
Model	241kWh Immersion Cooling BESS Cabinet
Cell Type	LFP 3,2V / 314Ah
Rated Energy Capacity	241 kWh
Maximum cycle rate	≥ 6000 cycles @25°C, 80% EOL
Size (Width*Depth*Height)	1050 × 1500 × 2200 mm
Weight	≈ 3 metric tons
Operation Temperature range	-20°C to 50°C
Operating Relative Humidity	0~95%
Maximum operating altitude	≤ 2000 m without derate
Cooling Method	Immersion Liquid Cooling
SOC calibration mode	Automatic
Fire Protection System	Cabinet-level Perfluorohexanone + Water-based Fire Suppression
Power consumption standby	≤ 3%/ Monthly
Communication Interface	Ethernet
Communication Protocol	Modbus TCP/IP
Operation Mode	On Grid, Off Grid etc.
Protection degree	IP54
Noise (rated operating condition)	≤ 75 dB(A)
Protection mode	insulation resistance detection, AC overcurrent protection, low insulation protection, over-voltage/under-voltage protection, etc
Standards	GB/T 36276, IEC 62619, IEC/EN 62477-1, IEC/EN 61000-2/4, IEC/EN 62109-1/2, EN 50549-1/-10, EN 50549-2/-10 etc
Battery Parameters	
Cell material	LFP
Rated battery module capacity	314 Ah
System battery configuration	1P240S
Operating voltage range	673 V to 864 V
Max. Charge/Discharge Rate	0,5 C @ 25°C
Rated DC current	180 A



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