



INDUSTRIAL AND COMMERCIAL ENERGY STORAGE SYSTEMS (30KW 92KWH/100KW 202KWH)

This product is used for power storage in power energy storage systems. The battery route is an aluminum-shell lithium iron phosphate battery. The modular design of the battery pack makes it easy to transport, install, and maintain. The battery pack can monitor and store battery pack parameters in real time to achieve local protection. Meets applications such as peak shaving, peak shaving and valley filling, and off-grid backup power supply for power energy storage systems.



▶ PRODUCT FEATURES

All-in-One Design: Quick installation and minimum footprint, integrated wiring and cabinets in the skid. Only communication and DC lines need to be connected on-site. Pre-assembly and testing before leaving the factory, making delivery, installation, and maintenance easier.

Optimal System Protection: Reduces the risk of accidents and protects assets. Battery management system (BMS) that can be monitored from the cell and module to system level. Anti-fire propagation and auto-fire suppression systems. Each cabinet is equipped with an HVAC unit, as well as temperature, smoke and flood sensors.

Flexible and Scalable Configuration: Meets both current and future needs. Flexibly fits current needs while allowing for future expansion to reduce the cost of the initial investment. Supports parallel installation for higher power requirements.

▶ TECHNICAL SOLUTION INTRODUCTION

1. 30KW 92KWH

The aluminum shell monomer is **3.2V/120Ah**, and laser spot welding technology is used to form the **PACK**. The battery module is **1P16S/51.2V/120Ah**, and the rated power is **6.144kWh**.

- 15 battery modules are connected in series to form a cluster with an energy of 92kWh and are connected to a set of 30KW PCS.
- 1 battery pack unit contains 1 cluster with a total energy of 92kWh.
- The battery system of this project contains 15 battery pack units.

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|-----------------------------------|--------------------------------------|
| Total energy | 92kWh, 25°C@0.5c rated |
| Rated DC side voltage | 768V |
| DC side working voltage | 672~864V |
| Sustainable charging power | 30KW |
| Sustainable discharge power | 30KW |
| Conversion efficiency | DC side ≥94% (25°C,0.5C) |
| AC maximum discharge current | 45A |
| Weight | Approx 1.6T |
| Operating environment | Below 2000 meters above sea level |
| Thermal management | HVAC 3.5kW forced air cooling |
| On grid/Off-grid mode | Manual/automatic (STS) |
| AC output | 1P+N/3P+PE/3P+N+PE |
| Rated AC voltage | 380V |
| Output harmonics | ≤3% |
| Voltage range | -15%~+15% |
| Frequency range | Rated frequency ±3Hz |
| Unbalanced load carrying capacity | 1 |
| Power factor adjustable range | -1~1 |
| Fire extinguishing method | Aerosol automatic fire extinguishing |
| System protection level | IP54 |

2.BATTERY MODULE

The energy storage module specification is 1P16S/51.2V/120Ah, and the power is 6.144kWh



CELL PERFORMANCE

The battery uses lithium iron phosphate battery - LFP48173170E, capacity 120Ah, nominal voltage 3.2V, working voltage range 2.5~3.65V, monthly self-discharge rate of the battery ≤3%

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| Module size | 475*200*558mm |
| Nominal capacity | 120Ah@0.5C,25°C |
| Nominal voltage | 51.2V(16cells) |
| Working voltage range | 44.8~57.6V |
| Maximum continuous charging rate | 0.5C@25°C |
| Maximum continuous discharge rate | 0.5C@25°C |
| Nominal weight | 55kg |
| Nominal energy | 6.144kWh |
| Insulation standards | Battery box insulation resistance > 1GΩ(1000VDC) |
| Withstand voltage standard | 3110VDC, no breakdown or flashover |
| Maximum charging voltage of single unit | 3.65V |
| Minimum charging voltage of single unit | 2.5V |
| Instantaneous maximum discharge current | 100A@5S |
| Instantaneous maximum charging current | 100A@5S |
| High temperature protection | Charge:≥45°C, Discharge:≥50°C |
| Low temperature protection | Charge:≤0°C, Discharge:≤-20°C |
| Cycle life | ≥4000 |
| Waterproof level | IP21 |
| Temperature range | Work:0°C~40°C,Storage:-30°C~45°C |
| Humidity | Work:5%~95%,Storage:≤85% |
| Work efficiency | ≥94% |

3. 100KW 202KWH



The aluminum shell monomer is 3.2V/120Ah, and laser spot welding technology is used to form the PACK. The battery module is 2P12S/38.4V/240Ah, and the rated power is 9.216kWh.

- 22 battery modules are connected in series to form one cluster, with an energy of 202kWh.
- One battery unit contains one cluster with a total energy of 202KWh and is connected to two 60kW PCSs.
- The battery system of this project includes 1 battery pack unit.

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|-------------------------------|--------------------------|
| Total energy | 202kWh, 25°C@0.5c rated |
| Rated DC side voltage | 844.8V |
| DC side working voltage | 739.2V~937.2V |
| Sustainable charging power | 100KW |
| Sustainable discharge power | 100KW |
| Conversion efficiency | DC side ≥94% (25°C,0.5C) |
| AC maximum discharge current | 120A |
| Single module weight | 85kg |
| Operating altitude | <2000m |
| Battery operating temperature | 0~40°C |

4.BATTERY MODULE



CELL PERFORMANCE

The battery uses lithium iron phosphate battery - LFP48173170E, capacity 120Ah, nominal voltage 3.2V, working voltage range 2.5~3.65V, monthly self-discharge rate of the battery ≤3%

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| Module size | 527*676*202mm |
| Nominal capacity | 240Ah@0.5C,25°C |
| Nominal voltage | 38.4V(24cells) |
| Working voltage range | 30V~43.8V |
| Maximum continuous charging rate | 0.5C@25°C |
| Maximum continuous discharge rate | 0.5C@25°C |
| Nominal weight | 85kg |
| Nominal energy | 9.216kWh |
| Insulation standards | Battery box insulation resistance > 1GΩ(1000VDC) |
| Withstand voltage standard | 3110VDC, no breakdown or flashover |
| Maximum charging voltage of single unit | 3.65V |
| Minimum charging voltage of single unit | 2.5V |
| Instantaneous maximum discharge current | 150A@5S |
| Instantaneous maximum charging current | 150A@5S |
| High temperature protection | Charge:≥45°C, Discharge:≥50°C |
| Low temperature protection | Charge:≤0°C, Discharge:≤-20°C |
| Cycle life | ≥4000 |
| Waterproof level | IP21 |
| Temperature range | Work:0°C~40°C,Storage:-30°C~45°C |
| Humidity | Work:5%~95%,Storage:≤85% |
| Work efficiency | ≥94% |