

We are thinking ahead and committed to the best energy storage solutions.



Battery Energy Storage System Solutions

Hoypower Energy Co., Ltd.

ABOUT HOYPOWER

10 Years

In Renewable Energy

66

Patents and software copyrights

500⁺

Global experts

10GWH⁺

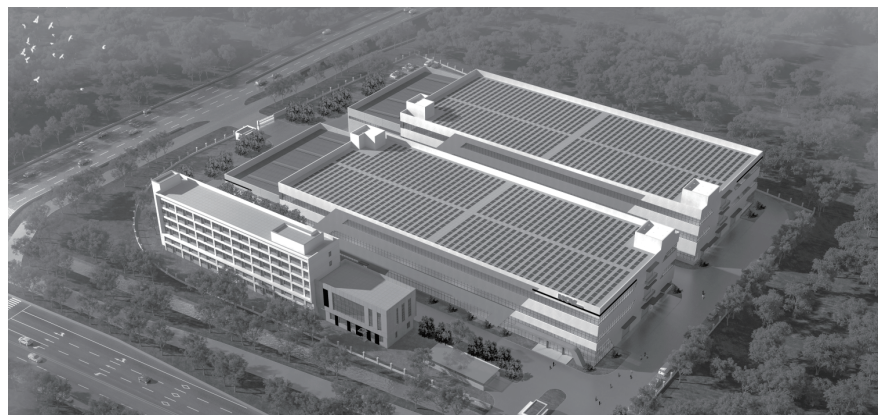
BESS Capacity

Hoypower Energy Co.,Ltd. (hereinafter referred to as "Hoypower") is a leading integrator for energy storage systems. It offers energy storage products, solutions and services around the globe.

Hoypower is committed to the best energy storage solutions with a focus on innovation. It provides a broad variety of products and services to customers to meet different demands including highly efficient battery packs, battery stacks, energy management and comprehensive energy storage solutions. Its products and services combine the latest technology with extremely high quality.

Hoypower is part of Hoymiles, which is a world-leading supplier for microinverters, hybrid inverters and electronic systems. Hoymiles shares are listed on the Science and Technology Innovation Board of the Shanghai Stock Exchange (symbol: 688032) in 2021.

Hoypower is dedicated to driving sustainability guided by core values such as integrity, responsibility, professionalism, and efficiency, we prioritize independent research and development. We innovate for sustainable growth, ensuring our customers always receive top-notch products and services.



hoymiles

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HOY POWER

HoyUltra All-in-One Battery System



Applications: Commercial & Industrial;
Microgrid

Intelligent and Safe

A standalone system with an integrated multi-level BMS ensures exceptional safety, while multi-DC fuse protection guarantees fast-breaking and anti-arc safety

Economical and Efficient

Advanced thermal management ensures cell consistency and extends cycle life, with a one-string-one-management approach for enhanced usable capacity

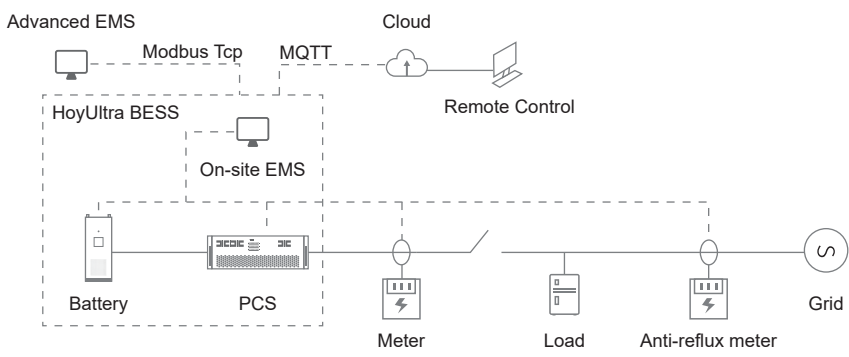
Easily Scalable

Easily transportable, and pre-assembled battery system, eliminating the time to install on site, Supports multi-cabinet parallel connection and offers PQ, VF, black start, and more

Safe and Reliable

Enhanced safety features include a fire suppression system, gas detection, and an emergency shutdown function for added protection

System Diagram



| DC side | | |
|-----------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Battery Type | LFP | |
| Cell Configurations | 1P240S | |
| Rated Capacity (Ah) | 280 | |
| Battery Capacity (BOL) at DC side (KWh) | 215 | |
| Nominal DC Voltage (V) | 768 | |
| Nominal AC Power (KW) | 100KW @45°C | |
| Rated Charge/Discharge Rate | 0.5C | |
| DC Voltage Range (V) | 672 ~ 864 | |
| Standard Charge/Discharge Current (A) | 140/140 | |
| Cooling Mode | Liquid cooling | |
| Coolant | Ethylene glycol: aqueous solution (50%v :50%v) | |
| Fire Extinguisher | NOVEC1230/FM200 (optional) | |
| Fire Safety Equipment | Smoke,heat & flammable gas detectors | |
| AC side | | |
| Nominal AC Power (KVA) | 100 | |
| AC Overload Capacity (KVA) | 110 | |
| AC Connection | Three-Phase Four-Wire System | |
| Nominal Grid Voltage (Vac) | 380/400 | |
| Nominal Grid Frequency (Hz) | 50/60 | |
| Max.THd of Current | <3% (at nominal power) | |
| Power Factor | >0.99 (at nominal power) | |
| Percentage of Voltage Regulation | ±2% | |
| Percentage of Current Regulation | ±5% | |
| Max. Conversion Efficiency | 98.50% | |
| Cooling Mode | Air cooling | |
| Battery System | | |
| Operating Temperatures Range (°C) | -30 ~ 55 (>45°C derating) | |
| Noise (dB) | < 75 | |
| Dimensions(W*D*H)(mm) | 935*1250*2380 | |
| Weight(T) | 2.7±0.1 | |
| Anti-corrosion | C4 / C5 (optional) | |
| IP Rating | Battery compartment:IP65 Electrical compartment:IP55 | |
| Relative Humidity | 0~95% (no condensing) | |
| Standard Altitude (m) | ≤2000 (>2000 derating) | |
| Communication Interface | CAN, Ethernet, RS485 | |
| Communication Protocol | ModbusTCP/RTU, MQTT | |
| Function | Peak load shifting | Yes |
| | Demand control | Yes |
| | Economic operation mode | Yes |
| | Reactive power regulation | Yes |
| | Power grid dispatch connection | Yes |
| | Remote dispatch connection | Yes |
| | Local data storage | Yes |
| Anti-reflux | Optional | |
| Compliance | BMS | GB/T34131-2017; UL60730 |
| | Battery | GB/T36276-2018; IEC62619; UL1973; UL9540A; |
| | PCS | GB/T 34120-2017 GB/T 34133 CE; EN50549-1:2019+AC.2019-04; CEI 0-21; CEI 0-16; NRS097-21-1::2017; EN50549+Deviations of Netherlands; C10/11:2019 |

HoyHome Residential BESS

High-voltage Series

Minimalist Design, Sturdy and Elegant

Active safety by intelligent insulation detection preventing arcing or breakdown

Higher efficiency, Compact Design and Lightweight

Enhanced Fire Protection at PACK Level

IP65 Rating, suitable for outdoor and indoor installation

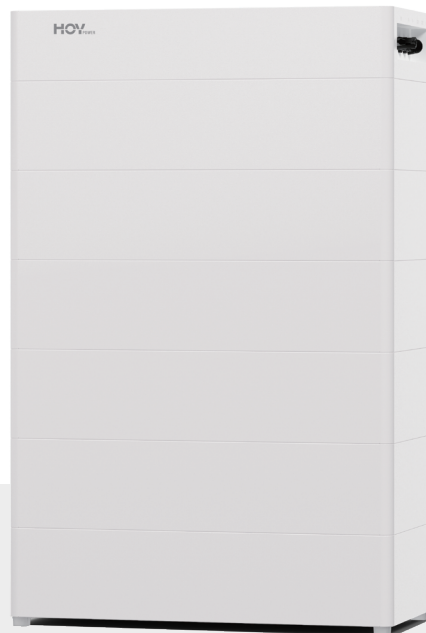
Longer lifetime

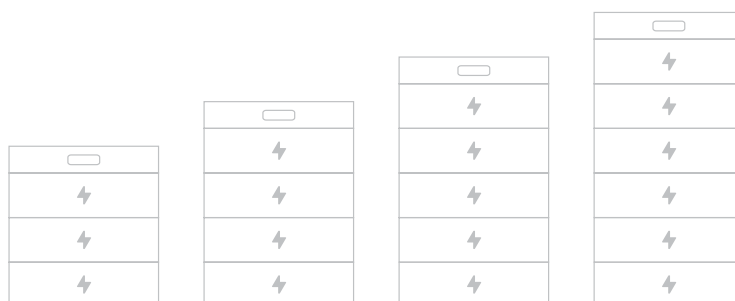
Higher load capacity

Supports wifi, Bluetooth, remote monitoring, diagnosis and upgrade

Wire-Free Design: Effortless Installation and Expandability

Modular design to meet different capacity demands





| Model | HoyHome-HV10 | HoyHome-HV15 | HoyHome-HV19 | HoyHome-HV23 |
|----------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| Battery Type | LFP | LFP | LFP | LFP |
| Configuration | 1P72S | 1P96S | 1P120S | 1P144S |
| Rated Voltage(V) | 230.4 | 307.2 | 384 | 460.8 |
| Rated Energy (KWh) | 11.52 | 15.36 | 19.2 | 23.04 |
| Rated Charging Current (A) | 25 | 25 | 25 | 25 |
| Maximum Charging Current (A) | 30 | 30 | 30 | 30 |
| Rated Discharge Current (A) | 25 | 25 | 25 | 25 |
| Maximum Discharge Current (A) | 30 | 30 | 30 | 30 |
| Operating Voltage Range (V) | 201.6~259.2 | 268.8~345.6 | 336~432 | 403.2~518.4 |
| Dimensions (W*D*H)(mm) | Battery: 635*335*565 PCS: 502*202*486 | Battery: 635*335*710 PCS: 502*202*486 | Battery: 635*335*855 PCS: 502*202*486 | Battery: 635*335*1000 PCS: 502*202*486 |
| Weight(kg) | 158.5 | 198.5 | 238.5 | 278.5 |
| Communication Interface | RS485, WiFi/Ethernet/4G, CAN | | | |
| IP Rating | IP65 | | | |
| Cooling Mode | Natural Cooling | | | |
| Relative Humidity | 10-95% (no condensation) | | | |
| Operating Temperature (°C) | Charge :0 ~ 45 Discharge :-20 ~ 45 | | | |
| Altitude (m) | ≤ 2000 (>2000m derating) | | | |
| Mounting | Floor standing | | | |
| Life Cycle | 6000 cycles (25°C, 0.5C, 90%DOD, EOL70%) | | | |
| Rated Capacity(Ah) | 50 | | | |
| Rated Power(KW) | 5.76 | 7.68 | 9.6 | 11.52 |
| Rated Charge/Discharge Rate | 0.5C | | | |
| Storage Temperature (long term) | -30°C ~ 60°C | | | |
| Noise (dB) | < 40 | | | |
| Anti-corrosion | C4 | | | |
| Protocol | RS485, CAN | | | |
| AC side | | | | |
| Nominal AC Power (KVA) | 6 | 8 | 10 | 12 |
| AC Overload Capacity (KVA) | 6.6 | 8.8 | 11 | 12 |
| AC Connection | Three-Phase Four-Wire System | | | |
| Rated Grid Voltage (Vac) | 380/400 | | | |
| Nominal Grid Frequency (Hz) | 50/60 | | | |
| Max. THD of Current | < 3% | | | |
| Power Factor | 0.8 | | | |
| Percentage of Voltage Regulation | ≤ ±1% | | | |
| Percentage of Current Regulation | ≤ ±1% | | | |
| Max. Conversion Efficiency | 97.6% | | | |
| Cooling Eode | Natural Cooling | | | |
| Compliance | Battery | IEC62619; UN38.3; | | |
| | PCS | EN50549,VDE-AR-N4105,AS/NZS4777.2; IEC62109-1,IEC62109-2; EN61000-6-1,EN61000-6-3; CEI 0-21 | | |

HoyHome Residential BESS

Low-voltage Series

Minimalist Design, Sturdy and Elegant

PACK level fire protection, quick response, safe and reliable

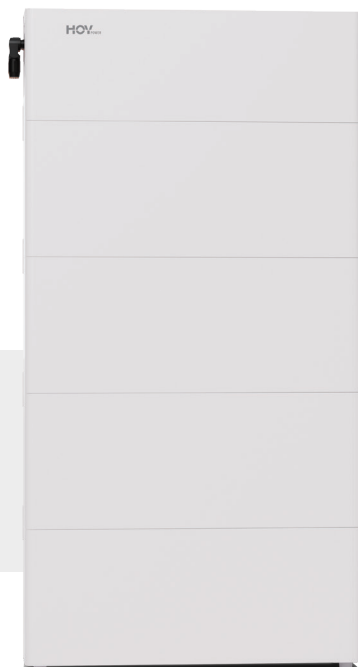
IP65 Rating, suitable for outdoor and indoor installation

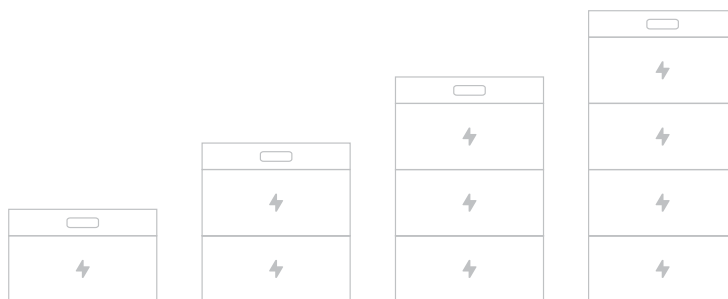
Highly modular design to meet different capacity demands

Supports wifi, Bluetooth, remote monitoring, diagnosis and upgrade

Wiring free design, ultra-convenient for installation and capacity expansion

Integrated self-heating function, suitable for operation at low temperatures





| Model | HoyHome-LV05 | HoyHome-LV10 | HoyHome-LV15 | HoyHome-LV20 |
|--------------------------------------|------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Battery Type | LFP | LFP | LFP | LFP |
| Configuration | 1P16S | 2P16S | 3P16S | 4P16S |
| Rated Voltage(V) | 51.2 | 51.2 | 51.2 | 51.2 |
| Operating Voltage Range (V) | 44.8 ~ 57.6 | | | |
| Rated Energy (KWh) | 5.12 | 10.24 | 15.36 | 20.48 |
| Rated Charge/Discharge Current (A) | 50 | 100 | 150 | 150 |
| Maximum Charge/Discharge Current (A) | 50 | 100 | 150 | 150 |
| Communication Interface | WiFi/Ethernet/4G | RS485,WiFi/Ethernet/4G | | |
| Connection Mode | Quick plug and unplug ports | | | |
| Operating Temperature (°C) | Charging/discharging : -20 ~ 45 | | | |
| Storage Temperature (long term) (°C) | -30 ~ 60 | | | |
| Relative Humidity | 10% ~ 95% (No condensation) | | | |
| Dimensions (W*D*H)(mm) | Battery: 665*200*503 PCS: 502*202*461 | Battery: 665*200*770.7 Inverter: 502*202*461 | Battery: 665*200*1038.4 Inverter: 502*202*461 | Battery: 665*200*1306.1 Inverter: 502*202*461 |
| Weight (kg) | 85.5 | 133.5 | 181.5 | 229.5 |
| IP Rating | IP65 | | | |
| Altitude (m) | ≤ 2000 (>2000m derating) | | | |
| Cooling Mode | Natural Cooling | | | |
| Warranty | 10 years | | | |
| Rated Capacity (Ah) | 100 | 200 | 300 | 400 |
| Rated Power (KW) | 2.56 | 5.12 | 7.68 | 10.24 |
| Rated Charge/Discharge Rate | 0.5C | | | |
| Life Cycle | 6000 cycles (25°C, 0.5C, 90%DOD, EOL70%) | | | |
| System Efficiency | ≥ 95% | | | |
| Communication Protocol | RS485, CAN | | | |
| Anti-corrosion | C4 | | | |
| Noise (dB) | < 40 | | | |
| AC side | | | | |
| Nominal AC Power (KVA) | 3 | 5 | 6 | 12 |
| AC Overload Capacity (KVA) | 3 | 5 | 6 | 13.2 |
| AC Connection | Single Phase | | | |
| Rated Grid Voltage (V) | 230 | | | |
| Rated Voltage Frequency (Hz) | 50/60 | | | |
| Max.TH.D of Current | < 3% | | | |
| Power Factor | 0.8 | | | |
| Percentage of Voltage Regulation | ≤ ±1% | | | |
| Percentage of Current Regulation | ≤ ±1% | | | |
| Max. Conversion Efficiency | 97.6% | | | |
| Cooling Mode | Natural Cooling | | | |
| Compliance | Battery | IEC62619; UN38.3 | | |
| | PCS | EN50549,VDE-AR-N4105,AS/NZS4777.2; IEC62109-1, IEC62109-2; EN61000-6-1,EN61000-6-3 | | |

HoyCore Outdoor Battery System



Applications: Commercial & Industrial;
Solar + Storage; Microgrid

Efficient and Flexible

Utilizing intelligent liquid cooling to minimize power consumption and extend system life. Enhanced scalability with seamless stack additions

Safe and Reliable

Multi-layer insulation for enhanced safety, a three-level short-circuit protection system to minimize risks, and a comprehensive three-level fire protection system for swift suppression of thermal runaway

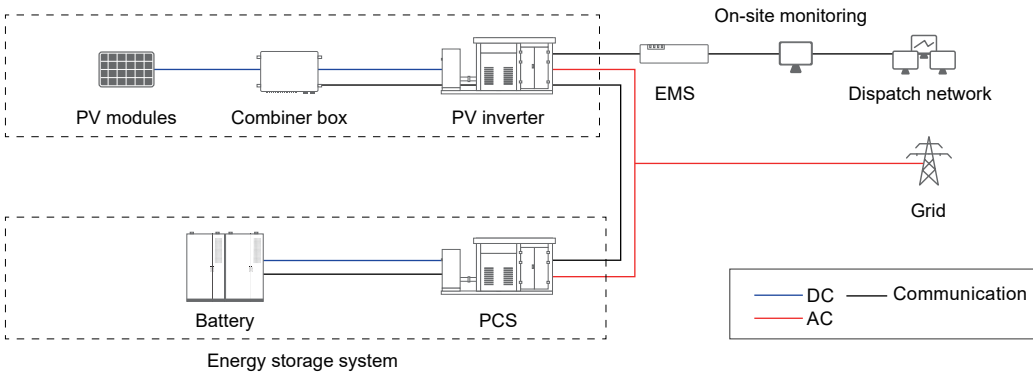
Intelligent and User-friendly

Leveraging big data management, we monitor cell status comprehensively, offering early warnings for potential issues. High-level protection ensures adaptability to diverse extreme environments

Easy Maintenance

Automatic rehydration eliminates manual intervention. Fault reporting and SOC calibration to reduce the need for frequent inspections and operational shutdowns

System Diagram



| DC Side | | |
|-----------------------------------------|---------|--------------------------------------------------|
| Battery Type | | LFP |
| Configuration | | 1P192S |
| Rated Capacity (Ah) | | 280 |
| Battery Capacity (BOL) at DC side (KWh) | | 344 |
| Nominal DC Voltage (V) | | 1228.8 |
| Nominal AC Power (KW) | | 175 |
| Rated Charge/Discharge Rate | | 0.5C |
| Operating Voltage Range (V) | | 1075.2~1382.4 |
| Standard Charge/Discharge Current (A) | | 140/140 |
| Cooling Mode | | Liquid cooling |
| Coolant | | Ethylene glycol: aqueous solution (50% v: 50% v) |
| Fire Extinguisher | | Aerosol/NOVEC1230 (optional) |
| Fire Safety Equipment | | Smoke,heat & flammable gas detectors |
| Battery System | | |
| Operating Temperature Range (°C) | | -20 ~ 50 (>45°C derating) |
| Storage Temperature (long term) (°C) | | -30°C ~ 60°C |
| Noise | | < 80dB |
| Dimensions (W*D*H)(mm) | | 1250x1300x2320 |
| Weight (kg) | | 3450 |
| Anti-corrosion | | C4 |
| IP Rating | | Battery compartment : IP55 |
| Relative Humidity | | 0-95% (no condensation) |
| Standard Altitude (m) | | ≤ 2000 (> 2000 derating) |
| Communication Interface | | RS485, Ethernet |
| Communication Protocol | | ModbusTCP/RTU |
| Compliance | BMS | GB/T34131-2017; UL60730 |
| | Battery | GB/T36276-2018; IEC62619; UL1973; UL9540A |

HoyPrime Battery Container



Applications: Utility-scale BESS;
Solar + Storage

Cost-effective and Efficient

Intelligent liquid-cooling to reduce auxiliary power consumption and extend the lifespan for enhanced economic benefits. The non-walk-in design provides higher energy density in a more compact space

Safe and Reliable

Multi-layer insulation for enhanced safety, a three-level short-circuit protection system to minimize risks, and a comprehensive three-level fire protection system for swift suppression of thermal runaway

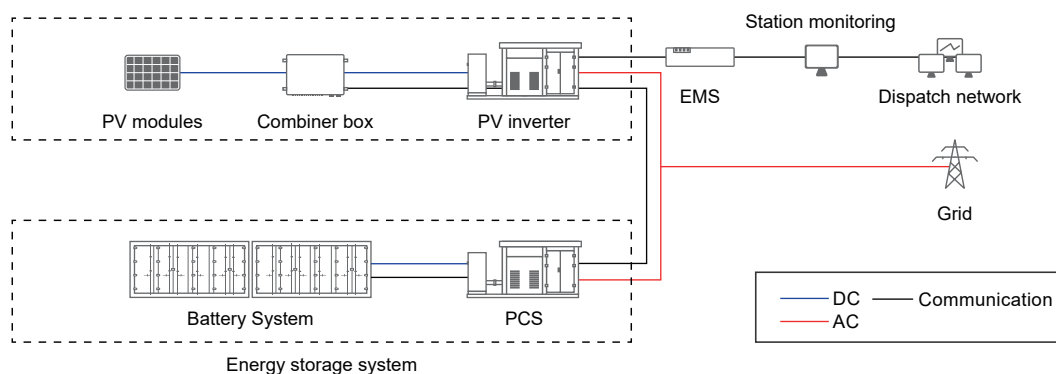
Smart and Friendly

Monitoring cell status comprehensively, offering early warnings for potential issues. High-level protection ensures adaptability to diverse extreme environments. Standardize external interfaces to streamline on-site installation processes.

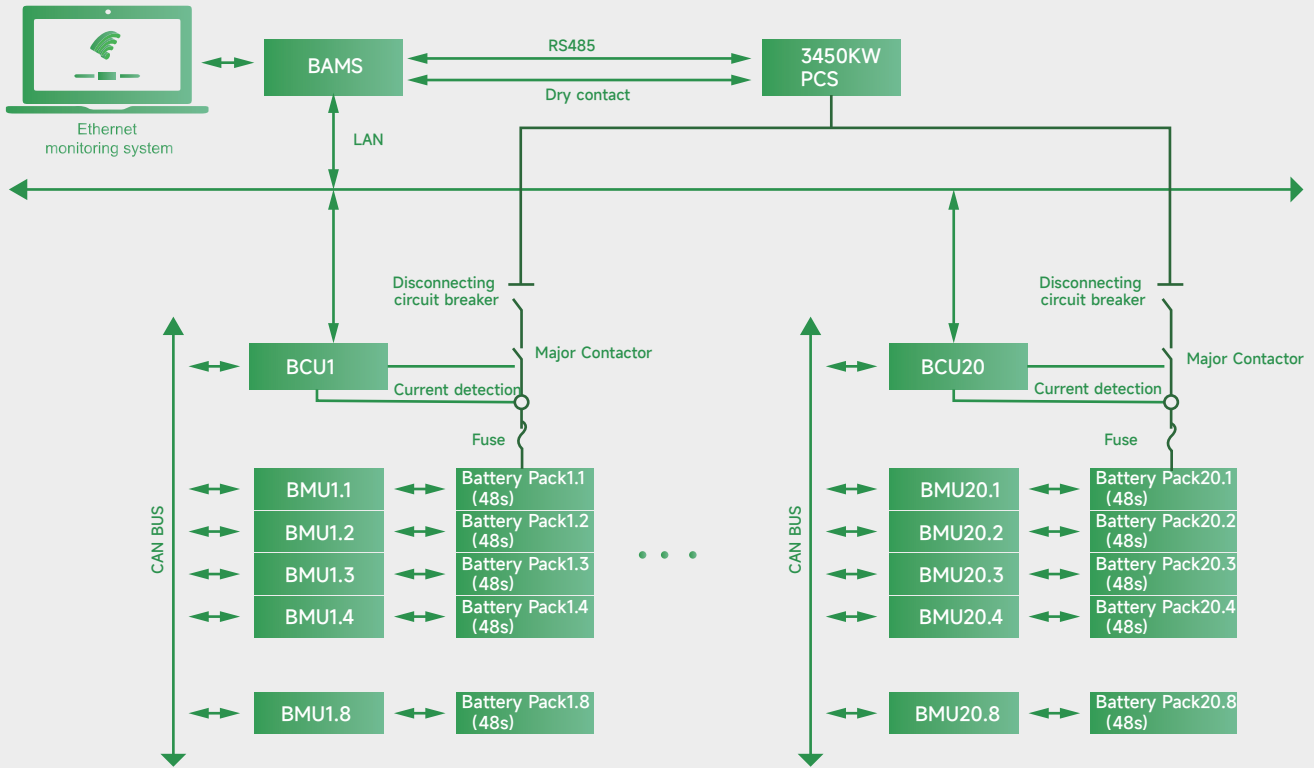
Easy Maintenance

Automatically replenish coolant, report faults, and calibrate SOC without manual intervention or system downtime for maintenance.

System Diagram



| DC Side | | |
|-----------------------------------------|------------------------------------------------------------|-------------------------------------------|
| Battery Type | LFP | |
| Configuration | 10P384S | |
| Rated Capacity (Ah) | 2800 | |
| Battery Capacity (BOL) at DC side (KWh) | 3440 | |
| Nominal DC Voltage (V) | 1228.8 | |
| Nominal AC Power (MW) | 1.72 | |
| Rated Charge/Discharge Rate | 0.5C | |
| Operating Voltage Range (V) | 1075.2~1382.4 | |
| Standard Charge/Discharge Current (A) | 1400/1400 | |
| Cooling Mode | Liquid cooling | |
| Coolant | Ethylene glycol: aqueous solution (50% v: 50% v) | |
| Fire Extinguisher | NOVEC1230/FM200(optional) | |
| Fire Safety Equipment | Smoke,heat & flammable gas detector | |
| Battery System | | |
| Operating Temperature Range (°C) | -20 ~ 50 (>45°C derating) | |
| Storage Temperature (long term) (°C) | -30°C ~ 60°C | |
| Noise (dB) | < 80 | |
| Dimensions (W*D*H)(mm) | 20 [#] (single container) | |
| Weight (T) | 32 | |
| Anti-corrosion | C3/C4/C5 (optional) | |
| IP Rating | Battery compartment : IP55 Electrical compartment: IP54 | |
| Relative Humidity | 0-95% (no condensation) | |
| Standard Altitude (m) | ≤ 2000 (>2000 derating) | |
| Communication Interface | CAN, Ethernet, RS485 | |
| Communication Protocol | ModbusTCP/RTU, IEC61850 , Goose | |
| Compliance | BMS | GB/T34131-2017; UL60730 |
| | Battery | GB/T36276-2018; IEC62619; UL1973; UL9540A |



PATENTED BMS

Hoypower's BMS is the most advanced battery management system in the energy storage industry and installed in every stack module. It gives visibility and predictability into every layer of the battery system and adds an extra level of safety.

High-precision Data Collection

High-precision current and voltage measurement at a remarkable 200KHz parameter sensing frequency, including DC BUS recording. Utilizing automotive-grade chips guarantees a minimal voltage difference of less than 2.8mV and a temperature difference of 1°C per cell.

Simple Architecture

Dual port communication between stacks to simplify the architecture, reduce load pressure, and transmit all cell data in just 500 milliseconds. With a dual CAN-BUS architecture in Stack, Easy plug-and-play without complex address configuration.

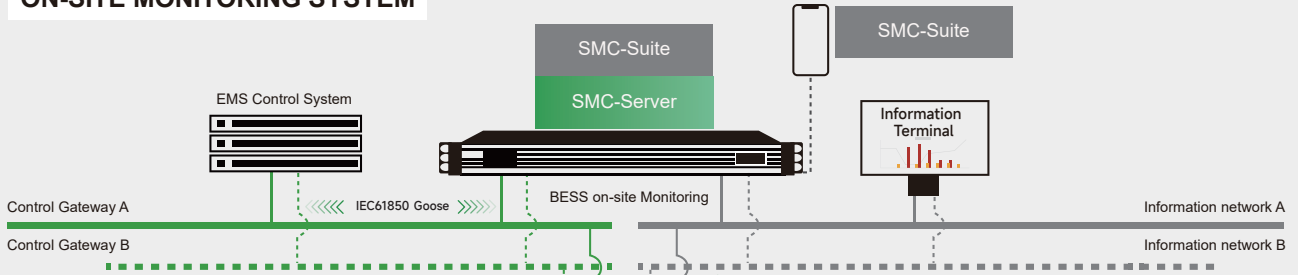
Excellent SOC Model

Our SOC model, utilizing neural network algorithms and thorough cell data analysis, ensures remarkable convergence and robustness. With a cycle difference below 5%, it consistently and accurately predicts the battery state, ensuring precision and reliability.

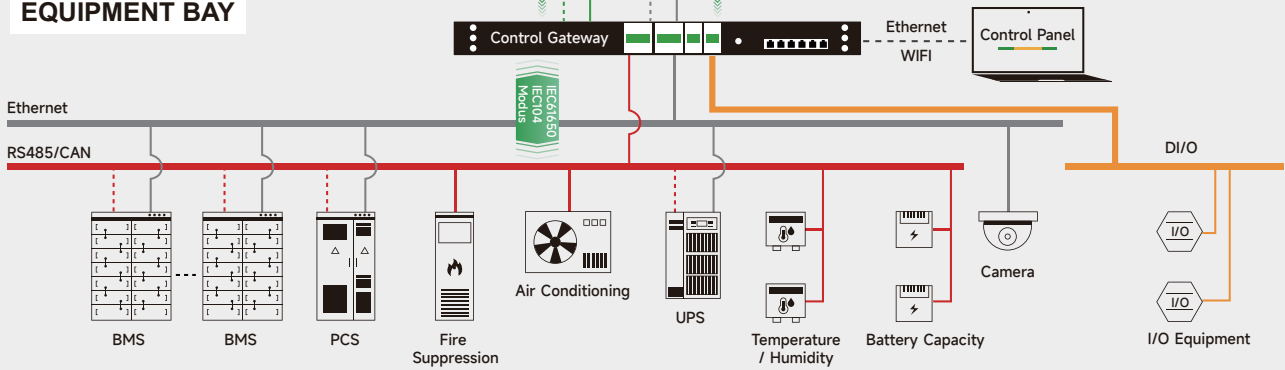
Safety Management

A comprehensive approach includes performance evaluation, battery optimization, and protective features like copper bars and fuses on the PACK, ensuring thorough protection. The BMU, featuring a built-in 5-in-1 fire detection system, monitors gas and pressure, supported by advanced algorithms and early alarms for heightened safety assurance.

ON-SITE MONITORING SYSTEM



EQUIPMENT BAY



EMS

Energy Management System



Intelligent and Flexible

Supports monitoring of multiple complementary systems such as power source, grid, load, and energy storage

Supports fast switching between multiple modes such as solar-charging and storage, grid-connection, and off-grid, and has black-start capability

Integrated with fiber optic switches, enabling multiple networking configurations and flexible convenience

Safe and Reliable

Equipped with intrusion detection, vulnerability scanning, DDOS protection, and virus immunity

System operating logs are traceable

Supports massive data storage

Simple and Efficient

Supports comprehensive management of megawatt-level energy storage systems

Supports seamless integration with power grid dispatching and third-party monitoring systems

Has big data analysis and computing capabilities, with SOC automatic maintenance control

PROJECTS

Capacity: 13.9MW/32MWh
Location: Mexico



Capacity: 1MW/1.376MWh
Location: Mexico



Capacity: 1.86MW/8MWh
Location: Mozambique



Capacity: 20MW/40MWh
Location: Jinchang, China



Capacity: 10MW/20MWh
Location: Zhangye, China



Capacity: 30MW/60MWh
Location: Guangdong, China



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