UNLEASH INNOVATION POTENTIALS
CREATE ENDLESS POSSIBILITIES

HEXON ESS

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@2026.10 V3.0

Hexon Energy

COMPANY PROFILE

HEXON ENERGY
The Turnkey Storage-Centric Solution Provider

HEXON ENERGY CO. LTD is a leading provider of energy storage systems and solutions. The company is dedicated to delivering safe, reliable, and high-performance battery energy storage systems (BESS) through technological innovation. Hexon Energy International (HK) Limited is the global investment center of the group.

Hexon Energy specializes in the global development of advanced products, technologies, and integrated services. It has established 3 major service and manufacturing hubs:
Guangzhou : R&D and production base for industrial, commercial, and residential BESS.
Lianyungang : Manufacturing center for utility-scale energy storage systems.
Bordeaux, France : The European operation headquarters, incorporating an after-sales and technical service center.

Hexon Energy has delivered over **3 GWh** of BESS across more than 100 projects, all of which comply with ISO-certified quality management systems. Looking ahead, Hexon Energy continues to strengthen its core competencies through independent innovation, contributing to the global transition towards a low-carbon future. Leveraging industry-leading BESS solutions, the company aims to support the transformation of global energy infrastructure through technology-driven development.

3 GWh+
Cumulative deliveries

12 GWh
Manufacturing

100+
Projects Deployed

Bordeaux, France
European After-Sales and Technical Service Center

Latvia
Marketing Service Branch

Spain
Marketing Service Branch

Morocco
Marketing Service Branch

Pakistan
Marketing ServiceBranch

India
Marketing Service Branch

China

Lianyungang, Jiangsu
Group Production Center

Guangzhou, Guangdong
Group Headquarters and R&D Center

HongKong, China
Global Investment Center

Madagascar
Marketing Service Branch

TECHNICAL STRENGTH

PV and BESS Power Plant Design

We have rich experience in the design of PV and BESS power plants and is able to develop optimal design solutions according to customer needs and project characteristics.
We adopt advanced design concepts and technical tools to ensure the efficient operation of PV power plants and long-term stable power generation.

Construction Capacity

With professional construction team and advanced construction equipment, we have strong construction capacity.
During the construction of the project, we strictly control the quality to ensure that the construction progress and project quality meet the requirements.

O&M Capability

It has established a perfect operation and maintenance management system, equipped with professional operation and maintenance personnel and advanced operation and maintenance equipment.
Through the intelligent management system, it realises real-time monitoring and data analysis of PV power stations, finds and solves problems in time, and guarantees stable operation of power stations.

FINANCE AND SUPPLY CHAIN CAPACITY

Financial Strength

The company is well-funded, with a registered capital of RMB 45 million, and is able to provide adequate financial support for the project.

Supply Chain

We have established a perfect supply chain management system, and have established long-term and stable cooperative relationships with many high-quality suppliers.

Cost Control

Focus on cost control and reduce procurement costs, construction costs and operation and maintenance costs through refined management.

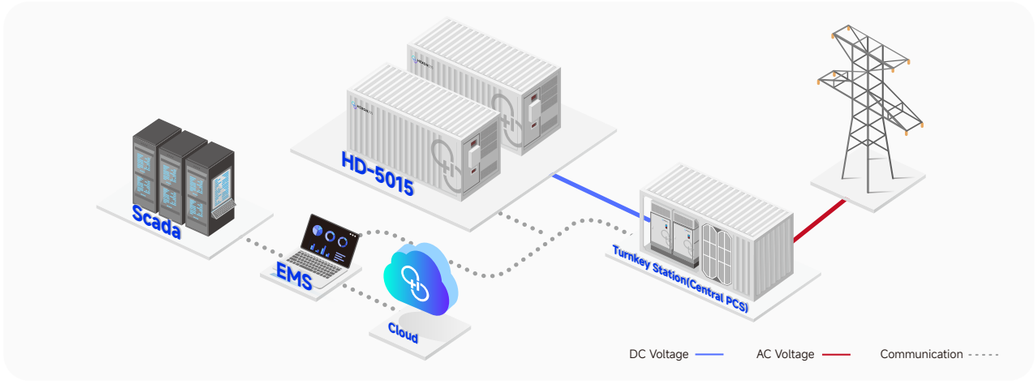
ENTERPRISE QUALIFICATION

- National High-tech Enterprise
- Electricity general contracting Grade II & III
- Electricity installation, repair and testing Grade III
- Foundation Specialized Contractor Grade III
- Specialized Contractor Grade III for Electromechanical Installation

TOTAL SOLUTION

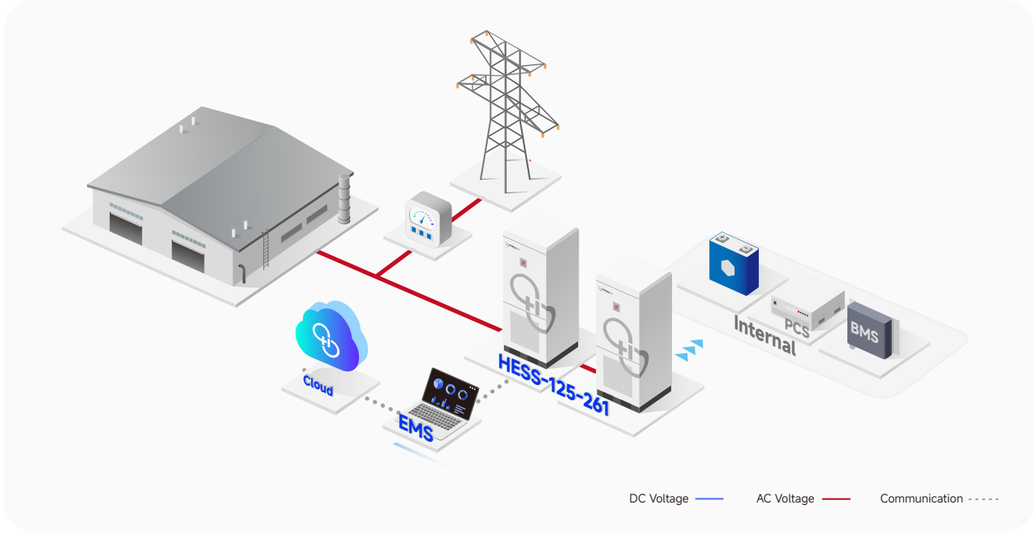
Large-Scale Ground-Mounted ESS Solution (FCR, aFRR)

Our system features fully liquid-cooled thermal management and is directly integrated into the high-voltage AC side. It provides millisecond-level precision response, participating in grid frequency regulation to enhance power quality and improve grid supply stability.



Commercial and Industrial Energy Storage Solution

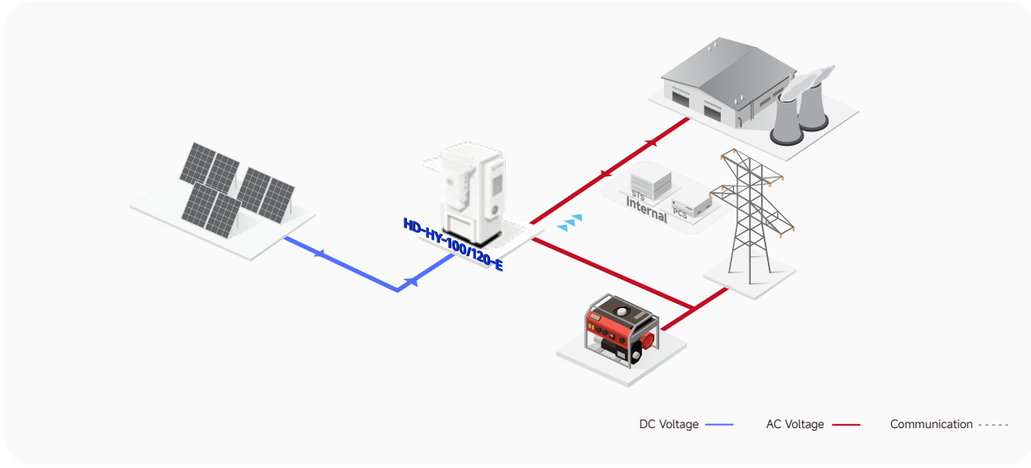
For commercial and industrial facilities with high power demand, our energy storage systems enable optimized energy management, which reduces electricity costs and increases capacity. In the event of a grid failure, the system provides backup power to ensure continuous operation of critical loads.



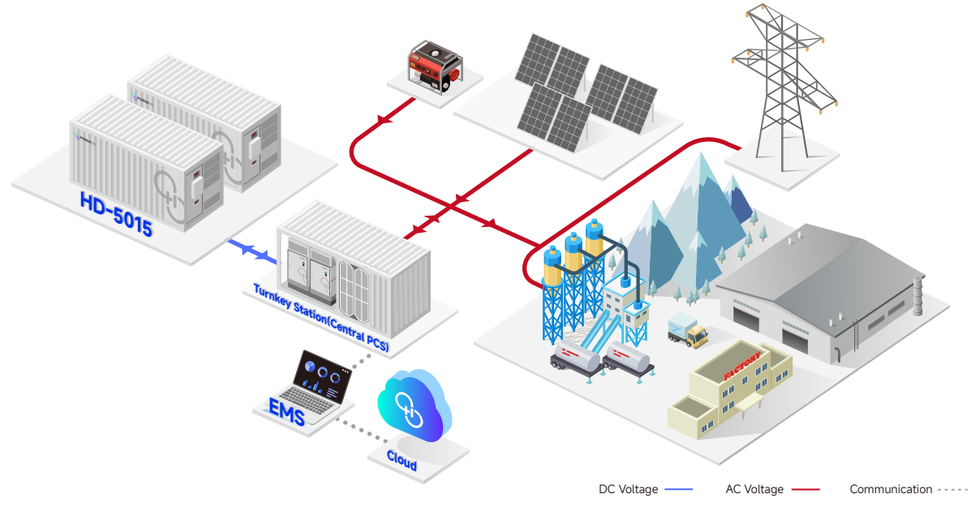
Multi-Energy Integration Solution for Microgrids

In complementary power supply systems that incorporate multiple energy sources such as solar, diesel generators, and the grid—integrated energy storage serves as the cornerstone of microgrids. It balances power output and ensures stable system operation. These solutions are ideal for remote locations like mines, islands, and mountainous areas, or any region with an unstable power supply. They are equally effective for optimizing energy use in new zero-carbon campuses.

Small-Scale Microgrid Solution



Large-Scale Microgrid Solution



100/120kWh Air-cooled Hybrid DC Cabinet

HD-100-E
HD-120-E
(Hybrid Inverter Optional)

HD-100/120-E

Developed with integrated energy storage and digital monitoring technologies, the HEX-HY-100/120kWh series serves as a complete PV-ESS integrated solution.Housed in a single compact cabinet are core modules including lithium battery packs, HVAC thermal control units, fire suppression systems (FSS) and EMS.The streamlined structure shortens on-site installation time and supports flexible capacity expansion to meet varied demand.When coupled with a hybrid inverter, the system features diverse operating modes and fully configurable energy management strategies.

Comprehensive Safety & Heat Resistance

- **High Outdoor Grade** IP55 dustproof & waterproof
- **Balanced Cooling** Optimized ventilation, temp gap ≤6°C
- **Stable Operation** Reliable performance under high temperature

High Efficiency & Cost Saving

- **High Energy Utilization** Up to 90% RTE, 100% DOD
- **Self-developed Integration** LFP 314Ah 3S all-in-one system
- **Wide Compatibility** Supports PV & most hybrid inverters

Simple Dual-mode O&M

- **Cloud Diagnosis** Fast fault detection in real time
- **Dual Control** Local onsite & cloud remote monitoring
- **Low Labor Cost** Reduce frequent field inspection

Compact & Flexible Deployment

- **Small Footprint** Only 0.96m², easy transport & install
- **Wide Compatibility** Fits mainstream 30–50kW hybrid inverters
- **Modular Scalability** Parallel design for on-demand expansion

Model	HD-100-E	HD-120-E
Battery Cabinet		
Cell Type	LFP / 314Ah	LFP / 314Ah
Pack Configuration	20.096 kWh / 1P20S	20.096 kWh / 1P20S
System Configuration	100.48 kWh / 1P100S	120.576 kWh / 1P120S
Rated DC Voltage	320 V	384 V
DC Voltage Range	280 ~ 360 V	336 ~ 432 V
Max. Charge/Discharge Rate	0.5 P	
Max. Depth of Discharge	100% (25 ± 2°C)	
Cycle Life	≥ 8,000 cycles	
PV Input(Hybrid Inverter)		
Max. Input Power	60kW	80kW	100kW
PV Voltage Range	150 ~ 850V	150 ~ 850V	150 ~ 850V
MPPT	3	4	4
Max Input Current	40A*3	40A*4	40A*4
AC Side(Hybrid Inverter)			
Rated Output Power	30kW	40kW	50kW
Rated AC Voltage	400V		
AC Voltage Range	±15%		
Grid Type	3W+N+PE		
Rated Frequency	50Hz/60Hz		
Power Factor	0.99/-0.8~+0.8		
THDi	≤3%		
DC Ratio	< 0.5% Ipn		
System Parameters			
Max. Round Trip Efficiency	90%		
Communication	Modbus TCP/IP		
Fire Suppression System	Aerosol		
IP Rating	IP55		
Cooling Method	Air cooling		
Operating Temperature	-25°C~55°C (Derating after 45°C)		
Anticorrosion Rating	C4 (C5 optional)		
Humidity	0~95% RH (non-condensing)		
Altitude	3000m (Derating above 2000m)		
Dimensions (W×D×H)	800×1200×2100 mm		
Weight	1200 kg		
Safety/EMC	UN38.3, IEC62619, IEC63056, IEC62477-1, IEC61000-6-2/4		
Grid codeE	EN50549-1/-10, EN50549-2/-10, G99, VDE4105, NRS097, C10/11		

125kW/261kWh All-in-one C&I Energy Storage System

HESS-125-261

Comprehensive Safety

Proactive Alert Cell-level monitoring, early warning
Multi-Level Protection Pack, cluster, cabin isolation
Fire & Explosion Prevention Triple fire protection, vent design

High Efficiency

High Conversion System efficiency ≥87%
AI-Powered Scheduling Optimized energy dispatch
Maximized ROI Peak shaving & other revenue streams

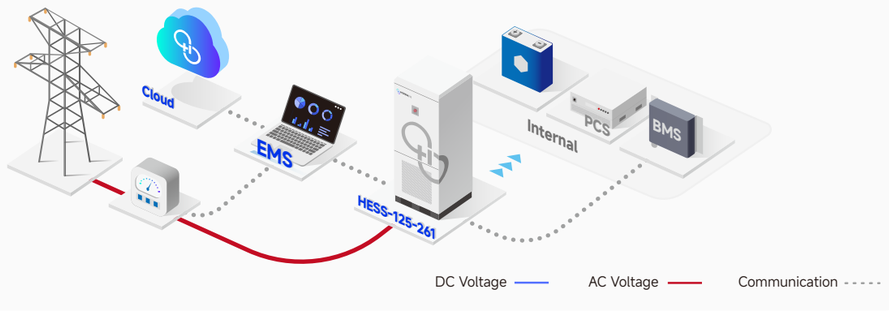
Simple O&M

Cloud Diagnosis Fault identification in seconds
Remote Management Cloud-based monitoring & control
24/7 Guardian Expert team always on watch

Easy Deployment

Plug & Play Pre-installed, powered on arrival
Time Saving Drastically reduces installation time
Scalable Design Modular expansion as needed

System schematic diagram



Model	HESS-125-261
DC Side Parameters	
Battery Capacity	261kWh
System Configuration	1P52S
Battery Pack Configuration	52.25kWh
Cell Type	LFP 314Ah
Battery Voltage Range	754~936V
Ip Rating	IP65
AC Side Parameters	
Ac Rated Power	125kW
Total Current Waveform Distortion Rate	≤3%（at rated power）
Dc Component Of Current	≤0.5%（at rated power）
Rated Grid Voltage	400V
Grid Voltage Deviation	-15%~+15%
Ac Overload Capacity	1.1times long-term
Ac Wiring Method	3P+N+PE
Rated Grid Frequency	50Hz/60Hz±2.5Hz
Power Factor	0.99/-1～1
Ac Protection	Circuit breaker + AC lightning protection
System Parameters	
Maximum System Efficiency	≤90%
Battery Cell Cooling Method	Liquid Cooling
Remote Monitoring	Cloud Platform
Noise	≤75dB@1m
Communication Interface	Ethernet 、RS485
Communication Protocol	MODBUS-TCP/MODBUS-RTU
Maintenance Method	Double-sided maintenance
Installation Location	Outdoor
Outlet Method	Down in and out
Operating Temperature Range	-30°C~55°C
Maximum Operating Altitude	2000m
Operating Humidity Range	5%~95%RH，no condensation
Corrosion Resistance Level	C3-M(standard)/C4/C5
Protection Level	Battery compartment IP55 + electrical compartment IP54
Fire Protection System	PACK -level aerosol + cabin-level aerosol + water firefighting (optional)
Product Dimensions (W×D×H)	1100×1320×2560mm
Equipment Weight	2600kg
Certifications	GB/T 36276，UN38.3，IEC62619，IEC62477，IEC61000

261kWh Liquid cooled Hybrid DC Cabinet

HD-261-2

(Hybrid Inverter Optional)

Comprehensive Safety

- **Multi-layer Protection** Fire + 160% overload resistance
- **Wide Temp Range** -30°C ~ 60°C stable operation

High Efficiency

- **Low Carbon** 130t annual emission cut
- **High Density** +30% capacity per space

Simple O&M

- **AI Scheduling** Millisecond backup switch
- **Cloud Management** Remote parameter tuning

Easy Deployment

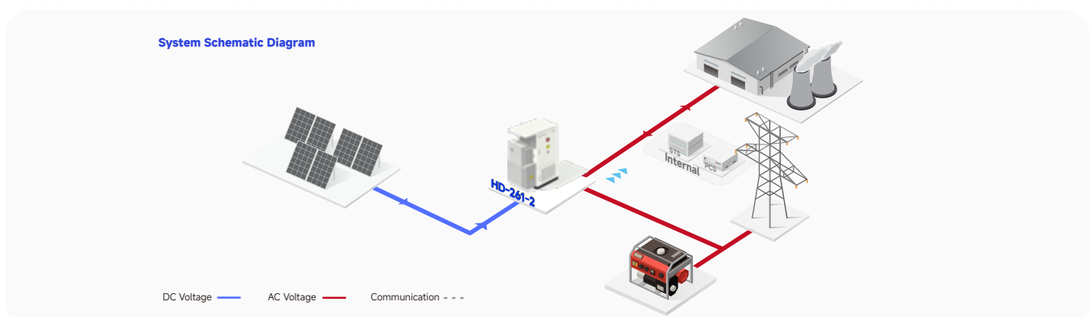
- **Plug & Play** Pre-installed, powered on arrival
- **Time Saving** Drastically reduces installation time
- **Scalable Design** Modular expansion as needed

Peak Shaving

Arbitrage

Backup Power

Grid Services



Model	HD-261-2
Battery Side	
Cell Type	LFP/314Ah
Rated Capacity	314Ah
Configuration	1P260S（System Configuration: 261kWh / 1P260S）
Rated Energy	261kWh
Operating Voltage Range	650~949V
Rated Current	157A
Max. Charge/Discharge Current	200A
Charge/Discharge Rate	0.5C
Balancing Mode	Passive Balancing
PV Side	
Max. PV Input Power	240kW
Max. Input Voltage	1000V
Rated Input Voltage	600V
Startup Voltage	180V
MPPT Voltage Range	150~950V
Max. Input Current	10×42A
Max. Short-circuit Input Current	10×60A
MPPT Quantity / Max. String Quantity	10
Grid-tied AC Side	
Rated Power	125kW
Max. Apparent Power	125kVA
Rated Current	189.9A / 180.4A
Max. Current	250A
Rated Voltage	3/N/PE, 220V/380V; 3/N/PE, 230V/400V
Grid Frequency	50/60Hz
Total Current THDi	< 3%
Power Factor	> 0.99
Off-grid AC Side	
Rated Power	125kW
Max. Apparent Power	1.2×rated for 100s; 1.4×rated for 10s; 1.6×rated for 200ms
Grid-tie/Off-grid Switching Time	< 20ms
Rated Output Voltage	3/N/PE, 220V/380V; 3/N/PE, 230V/400V
Rated Frequency	50/60Hz
Total Voltage THDu	< 2%
System Side	
Fire Protection System	Compartment-level Aerosol + Pack-level Aerosol + Water Fire Suppression
Dimension(W×D×H)/Weight	1105×1325×2350mm / 2600kg (DC side)
Cable Entry	Bottom entry
Ingress Protection	IP55
Cabinet Anti-corrosion Grade	C4 (C5 optional)
Cooling Method	Liquid Cooling
External Communication Interface	RS485+LAN+CAN
Communication Protocol	Modbus-RTU/TCP, CAN

215kW/418kWh Energy Storage System

HA-215-418-2
HA-125-418-4

Supports AC800V direct coupled photovoltaics without the need for transformers

This product is specifically optimized for photovoltaic-storage integrated applications, enabling direct parallel coupling with AC800V-compatible photovoltaic inverters to achieve transformer-free integration, significantly reducing system costs and losses.

Comprehensive Safety

- **Proactive Alert** Cell-level monitoring, early warning
- **Multi-Level Protection** Pack, cluster, cabin isolation
- **Fire & Explosion Prevention** Triple fire protection, vent design

High Efficiency

- **High Conversion** System efficiency ≥87%
- **AI-Powered Scheduling** Optimized energy dispatch
- **Maximized ROI** Peak shaving & other revenue streams

Simple O&M

- **Cloud Diagnosis** Fault identification in seconds
- **Remote Management** Cloud-based monitoring & control
- **24/7 Guardian** Expert team always on watch

Easy Deployment

- **Plug & Play** Pre-installed, powered on arrival
- **Time Saving** Drastically reduces installation time
- **Scalable Design** Modular expansion as needed

Peak Shaving

Arbitrage

Backup Power

Grid Services

Model	HA-125-418-4	HA-215-418-2
Battery Side		
Cell Type	LFP Lithium Iron Phosphate	LFP Lithium Iron Phosphate
Rated Cell Capacity	314Ah	314Ah
Cell Nominal Voltage	3.2V	3.2V
Cell Rated Energy	1004.8Wh	1004.8Wh
Pack Configuration	1P52S	1P52S
System Configuration	1P416S	1P416S
Pack Rated Energy	52.249kWh	52.249kWh
System Rated Energy	417.996kWh	417.996kWh
System Nominal DC Voltage	1331.2VDC	1331.2VDC
Operating Voltage Range	1040–1497VDC	1040–1497VDC
Rated Current	157A	157A
Charge/Discharge Rate	0.5P	0.5P
Balancing Mode	Passive Balancing	Passive Balancing
AC Side		
Rated Voltage	3P+PE (+N), 400 V	690/800 V
Voltage Range	-15%～+10%	-15%～+15%
Wiring Mode	3P+PE (+N)	800Vac, (3W+PE)
Rated Power	125 kW	215kW
Maximum Power	137.5 kW	236.5kW
Rated Current	180 A	155.2A
Maximum Current	198 A	170.7A
Rated Frequency	50/60 Hz	50/60 Hz
Power Factor	0.99 (leading) to 0.99 (lagging)	0.99 (leading) to 0.99 (lagging)
THDi	<3% (at rated power)	<3% (at rated power)
THDu (Off-grid)	<3% (no-load & balanced resistive load)	<3% (no-load & balanced resistive load)
Overload Capacity	1.1× (long-term); 1.2× (10 min)	1.1× (long-term); 1.2× (10 min)
Max. Efficiency	≥98%	≥98%
System Side		
Fire Protection System	Cabin-level aerosol + Pack-level aerosol + Water-based fire suppression	
Cabinet Dimension (W×D×H)	1400×1420×2360mm	
Total Cabinet Weight	3800kg	
IP Rating	IP54	
Corrosion Resistance Rating	C4	
Cooling Method	Liquid Cooling	
External Communication Interface	RS485, LAN, CAN	
Operating Temperature	-30~55°C (Charge:0~55°C; Discharge:-30~55°C)	
Operating Humidity	4% ~ 100% RH, non-condensing environment	
Altitude	≤2000m (power derating required above 2000m)	
Max. DC Units in Parallel	4	
Max. AC Units in Parallel	16 (Non-Master/Slave); 5 (Master/Slave)	
Cycle Count	8000 ~ 10000 cycle	

500kW/1MWh All-in-one On/off-grid Energy Storage System

HEA-500-1044-10FT

HEA-500-1044-10FT

Engineered for commercial and industrial energy demands, the HEA-1044-10FT is a fully integrated 10-ft containerized energy storage system featuring a 400V rated AC output.Integrated static transfer switch (STS) hardware empowers the unit with outstanding off-grid load bearing performance, alongside glitch-free transition between grid-connected and off-grid modes in under 20ms.Specialized connection ports for diesel generators and photovoltaic inverters are pre-installed to realize coordinated power supply from multiple energy sources.Thanks to its versatile modular design, the system can be flexibly configured to match different operating environments and unique project specifications.

Plug&Play Design

- **10-ft Container** Saves installation space
- **Integrated System** Higher capacity with compact footprint
- **Higher Capacity** Delivers more energy in a smaller footprint

Flexible Switching

- **Built-in STS** Enables seamless power transfer
- **20ms Switching** Fast transition between power modes
- **Reliable Backup** Keeps critical loads running

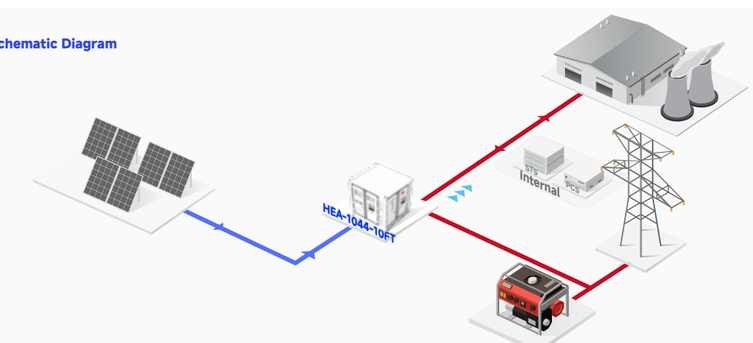
String-Based Architecture

- **Independent Management** Separate management for every battery string
- **Higher Reliability** Reduces fault propagation
- **Better Stability** Ensures smooth system performance

Multiple Power Sources

- **PV Compatible** Works with solar systems
- **Generator Ready** Supports diesel generator integration
- **Flexible Deployment** Adapts to various applications

System Schematic Diagram



Model	HEA-500-1044-10FT
Battery Side	
Cell Type	LFP / 314 Ah
Pack Configuration	52.2 kWh / 1P52S
System Configuration	1044 kWh / 4P260S
Rated DC Voltage	832 V
DC Voltage Range	728 ~ 936 V
Max. Charge/Discharge Rate	0.5 P
Max. Depth Of Discharge	100% (25 ± 2 °C)
Grid Side	
Rated Output Power	500 kW
Max. Apparent Power	550 kVA
Rated AC Voltage	400 V
AC Voltage Range	±15%
Grid Type	3W+N+PE
Rated Frequency	50 Hz / 60 Hz
On/O-Grid Switching Time	<20 ms
Power Factor	0.99/ -1 ~ +1
THDi	≤3%
DC Ratio	< 0.5% Ipn
Backup Side	
Max. PV Inverter Input Current	800 A
Max. Diesel Generator Input Current	800 A
Max. Backup Load Port Current	800 A
Recommended Max. Backup Load Power*	350 kW (70% of Rated Output Power)
General	
Cycle Life	⩾ 8,000 cycles
Communication	Modbus TCP/IP
Fire Suppression System	Aerosol system(pack level and container level), water spray system
IP Rating	IP54
Cooling Method	Liquid cooling+Forced air cooling
Operating Temperature	-25°C~55°C(Derating after 45°C)
Anticorrosion Rating	C4 (C5 optional)
Humidity	5~95% RH (non-condensing)
Noise	⩽ 80 dB
Altitude	3000m (Derating above 2000m)
Dimensions (W×D×H)	2991×2438×2591 mm
Weight	14 t
Certification	UN38 .3, IEC62477-1, CE/EMC, IEC62619, IEC63056, UL9540A, EN50549

*Note: The value indicated herein is a recommended reference based on PF=0.7. When the load involves motors or other types of impact loads, it is recommended to equip the system with a soft starter. Please contact Hexon Energy for further technical support prior to order placement.

PRODUCT INTRODUCTION

5015 | 4180 | 3762 | 3344kWh Battery Storage DC Container

HD-5015/4180/3762/3344-2
(5015/4180/3762/3344kWh)

Comprehensive Safety

- Highly stable LFP battery cells
- Multi-level fire protection and explosion-proof design
- Intelligent monitoring, second-level response

Stable Operation

- Liquid cooling, cell temperature difference < 3°C
- Cluster-level management, eliminating the barrel effect
- Wide voltage adaptation, weak grid support

Ultimate Energy Efficiency

- High energy density, reduced footprint
- DC efficiency ≥ 94%
- AI strategy for maximizing revenue

Easy Deployment

- Flexible configuration, adaptable to multiple scenarios
- Plug and play, deployment cycle shortened by 40%
- Cloud-based O&M, efficiency improved by 50%

Model	HD-5015-2	HD-4180-2	HD-3762-2	HD-3344-2
Battery Parameters				
Cell Type	LFP-3.2V-314Ah			
Nominal Capacity	5015kWh	4180kWh	3762kWh	3344kWh
Nominal DC Voltage	1331.2V			
DC Voltage Range	1165V～1497V			
Charge/Discharge Rate(C-Rate)	≤0.5CP			
Maximum Charge	2500kW			
Operating Temperature	Charging: 0°C～60°C; Discharging: -30°C～60°C			
Recommended Ambient Temperature	25±10			
Cycle Life	≥6000 cycles（25±10°C，100%DOD，80%EOL）			
Cooling Method	liquid cooling			
System Parameters				
Auxiliary Power Parameters	38kW-400V/50Hz，3N+PE			
Fire Protection System	Aerosol + water fire fighting			
Corrosion Protection Level	C4 (C5 optional)			
Lightning Protection Level	Level II			
IP Rating	IP54			
Operating Temperature Range	-20°C to +50°C, derated at >45°C			
Storage Temperature	-20°C～ +35°C, <6 months			
Operating Humidity Range	0~95%RH, no condensation			
Installation Method	outdoor installation			
Operating Conditions	2 charge, 2 discharge			
System Communication Interface	CAN/Ethernet/RS485			
Communication Protocol	Modbus TCP/IEC61850			
Altitude	≤3000m			
Dimensions(W×D×H)	6058×2438×2896mm			
Weight	42T	36T	33T	30T
Certifications	IEC62619/IEC61000/IEC62477/UN38.3			

Medium-sized Hybrid Ess Solution

DC-coupled Hybrid Energy Storage System
Integrated PV-ESS-Diesel Generator Microgrid System
Medium-sized Hybrid Energy Storage Inverter
PV MPPT Controller
Battery Energy Storage System(Outdoor cabinet)
Containerized Battery Energy Storage System

APP Monitoring

Cost Effective

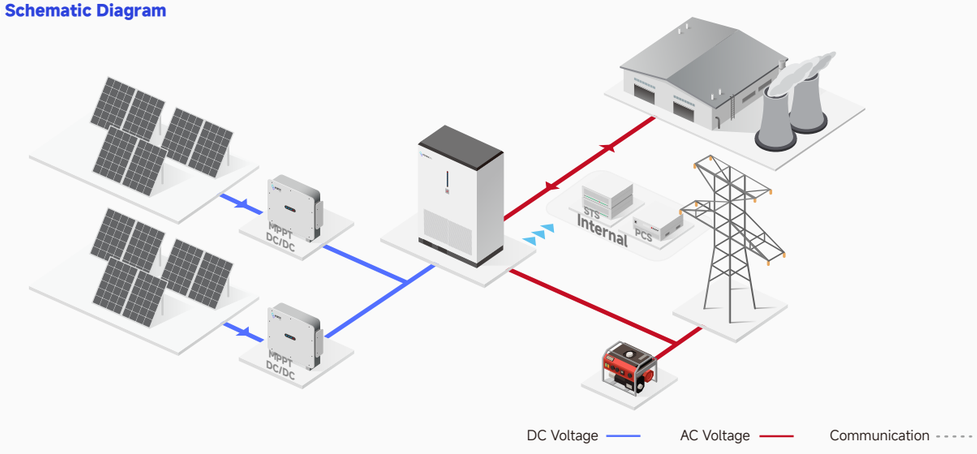
Safe Reliable

Flexible Design

DC-coupled Hybrid Energy Storage System

- Supply continuous power even under power outage condition, realizing the seamless switching between on-grid and off-grid.
- Photovoltaic DC coupling makes higher charging efficiency of energy storage batteries.
- Outdoor PV MPPT controller offers more flexible configuration and simpler installation.

System Schematic Diagram



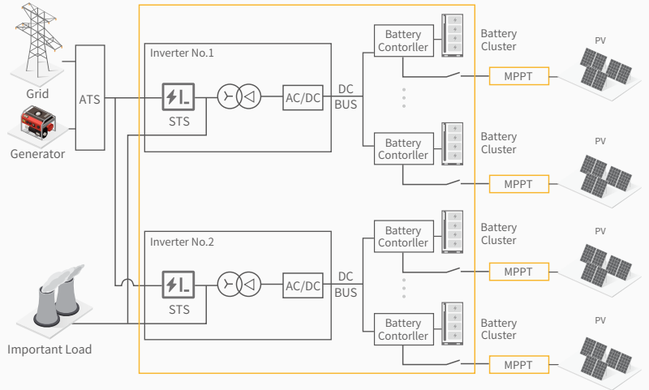
Reference for System Configuration and Selection

Applicable total power range of user's load	Recommended model	Max PV capacity for access	
Load≤30kW	30kW/72kWh Hybrid Energy Storage System (with built-in PV MPPT controller)	38.4kW	Villas, villages, shopping malls, schools, banks, hospitals, sports venues, hotels, restaurants, office buildings
30kW < Load≤60kW	64kW/128kWh Hybrid energy storage system + PV MPPT controller	120kW	
60kW < Load≤120kW	125kW/225kWh Hybrid energy storage system + PV MPPT controller	240kW	
120kW < Load≤200kW	250kW Hybrid energy storage inverter +2~4 sets of 225kWh battery energy storage systems+PV MPPT controller	480~960kW	Small factories, supermarkets, hotels, farms, and livestock farms
200kW < Load≤450kW	500kW Hybrid energy storage inverter+4~6 sets of 225kWh Battery energy storage systems/1543kWh Containerized battery energy storage system+PV MPPT controller	2960~1440kW	
450kW<Load≤1200kW	2~3 sets of 500kW Hybrid energy storage inverters+1~2 units of 2058kWh/2570kWh Containerized batteryenergy storage system + PV MPPT controller	1920~4800kW	Medium-sized factories, mining areas

Medium-sized Hybrid Energy Storage Inverter

- Advantages: Up to 4 units of 250kW/500kW hybrid energy storage inverters can be paralleled; 400V AC output is widely applied in large-scale mining areas and factories.

System block diagram



HEXP250TS-400-A

Model	HEXP250TS-400-A
Rated Output Power	250kW
Max.Output Power	275kW
Output Voltage	400V
Max.Efficiency	97.5%
Operating Temperature	-30~55°C
Cooling Concept	Smart air cooling
Communication	BMS(CAN)/EMS(TCP/IP)
Weight	1600kg
Dimensions(W×D×H)	1200×800×2050(H)mm

Containerized Battery Energy Storage System

- Advantages: Well-known brand battery cells with standard equipped with photovoltaic access ports, which is safe and reliable.

HEX2570-400-A

Model	HEX2570-400-A
Cell Type	LFP314Ah
Total Capacity	2570kWh
Cycle Index	8000cls(0.5P,25+2°C,@70%SOH)
Rated Voltage	819.2V
IP Grade	Container (IP54)
Cooling Concept	Smart air cooling
Operating Temperature	-30~55°C
Weight	<26t
Dimensions(W×D×H)	6058×2438×2896mm

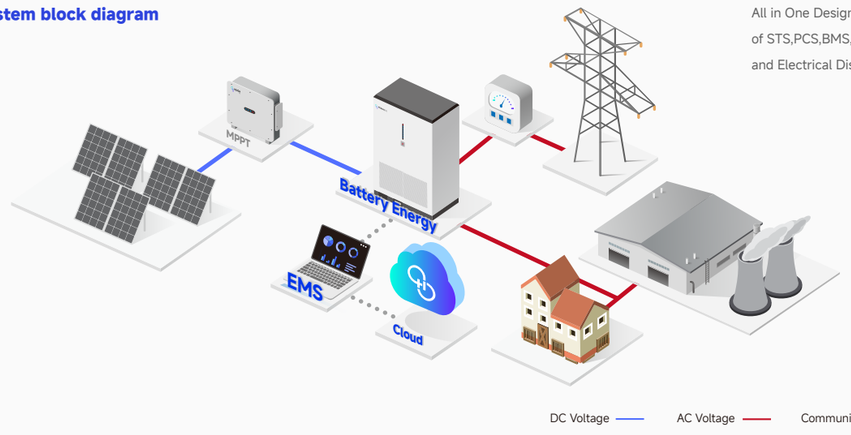
HEXP500TS-400-A

Model	HEXP500TS-400-A
Rated Output Power	500kW
Max.Output Power	550kW
Output Voltage	400V
Max.Efficiency	97.5%
Operating Temperature	-30~55°C
IP Grade	(Integrated machine) IP21
Cooling Concept	Smart air cooling
Communication	BMS(CAN)/EMS(TCP/IP
Weight	2700kg
Dimensions(W×D×H)	1600×1050×2050mm

Integrated PV-ESS-Diesel Generator Microgrid System

- Advantages: High integration of photovoltaic and energy storage designed in one cabinet with DC-coupled. High efficiency and small size, which is easy for installation and maintenance; It has seamless switching between grid-connected and off-grid modes within 20ms and multi-mode operation functions. It also can supports peak shaving and valley filling, bringing strong single-phase load capacity. It can be expanded in 1+1 parallel mode.

System block diagram



All in One Design : Integration of STS,PCS,BMS,EMS, Battery and Electrical Distribution.

PV MPPT Controller

HEXMPPT-6 / HEXMPPT-8/ HEXMPPT-12/ HEXMPPT-24

Smart Power Tracking Technology

Real-Time Dynamic Optimization: Continuously monitors the solar panel's voltage and current, automatically locking onto the Maximum Power Point (MPP) for peak performance.
Adaptive Algorithm: Intelligently adjusts the operating point in response to varying light intensity and temperature, increasing energy harvest by 15-30%.

Precise Charging Management

Charging Precision: Utilizes voltage threshold control and a dynamic MPP tracking algorithm for accuracy.
Battery Protection: Safeguards against overcharge and over-discharge, with an optimized three-stage charging curve (Bulk, Absorption, Float).
Temperature Compensation: Features baseline compensation with adaptive adjustment across the entire operating temperature range.

High-Efficiency DC Coupled System

Direct Charging Architecture: Solar panels charge the battery directly, minimizing AC-DC conversion losses (efficiency loss <3%).
Flexible Array Configuration: Supports hybrid connection of panels with different orientations and tilt angles, ideal for complex installation environments.

Scenario Adaptability & Reliability

Robust Performance in Complex Environments: Rapidly tracks MPP fluctuations on cloudy days and operates reliably across a wide temperature range of -25°C to 60°C.
Scalable System Design: A modular architecture allows for the parallel connection of multiple controllers for expanded capacity.

Model	HEXMPPT-12	HEXMPPT-24
Input		
Maximum Photo Voltaic	No more than 900V and no higher than themaximum tolerance voltage of the rear battery	
MPPT Voltage Range	200V-900V	500V-1460V
Rated MPPT Voltage Range	560V-900V	900V-1266V
Maximum Branch Current	20A	30A
PV Input Strings Number	12	24
Number Of MPPT	4	6
Current Per MPPT	55A	60A
Output		
Voltage Range	600-950V	950-1500V
Rated Voltage	Default 71 6.8v, adjustable	Default 1331.2v, adjustable
Rated Output Current	80A	240A
Rated Output Power	60kW	320kW
Maximum Output Current	120A	278A
System		
European Efficiency	99.4%	99.4%
IP Rating	IP65	IP65
Cooling Method	Air-cooling	Air-cooling
Dimensions (W×D×H)	610×480×257mm	900×340×600mm
Weight	25kg	30kg
Operating Temperature	-30~55°C	
Power Supply Mode	Self-powered (no power consumption atnight)	
Communication Interface	RS485	

225kWh Air-cooled Energy Storage DC Cabinet

HEX-225

- Intelligent Synergistic Energy Management Platform
- High-Precision Battery Management System
- Comprehensive Safety Protection System
- Smart O&M & Reliable Power Supply

Model	HEX-225
DC Battery	
Cell Type LFP	LFP 314Ah
Battery Pack Capacity And Configuration	16.077kWh/1P16S
Battery Capacity And Number Of Packs	225kWh/14
Charge And Discharge Ratio	≤0.5C
Depth Of Discharge	100%
Cycle Index	8000cls（0.5P，25±2°C，@70%SOH）
Temperature Detection Points	112
Inverter DC	
Rated Current	200A
Rated Power	143.4kW
PV DC Side	
Maximum Number Of Input Branches	2-way (optional 2 PV MPPT controllers)
Rated Current Of Each Channel	168Ax2
Rated Power Of Each Channel	120kWx2
System	
Factory-Set SOC Value	30%-50%
Battery Voltage Range	627V~806V
Rated Voltage	716.8V
Operating Temperature	-30~55°C
Relative Humidity	0~95%RH，non-condensing
Dimensions(W×D×H)	1050×1050×2350mm
Weight	2100kG
IP Rating	(Complete machine)IP54
Noise	< 70dB
Cooling Method	Forced air cooling
Related Certificates	CE/UN38.3/MSDS/Sea Transportation Certificate/Land Transportation Certificate/Danger Identification Report

PV-Storage-Genset Microgrid All-in-One Integrated Unit

HEXSTS-64-128

- Outdoor Integrated Design
- Precise DC-Side Monitoring & Control
- Dual-Line Converged Communication
- System-Level Safety Protection

Model	HEXSTS-64-128
DC Battery	
Cell Type	LFP 314 Ah
Battery Pack Capacity And Configuration	16.077kWh/1P16S
Battery Capacity/Pack Quantity	128kWh / 8, optional 112 kWh / 7
Battery Voltage Range	359V～461V
Rated Charge And Discharge Rate And Current	0.5C，157A
Cycle Index	8000cls（0.5P，25±2°C，@70%SOH）
Temperature Monitoring Number	64
Low Voltage Side Voltage Range	150V~1000V
The DC/DC Module	
Low Voltage Side Full Power Minimum Voltage	340V
Rated Current	180A
Rated Power	64kW
Maximum Input Power	100kW
PV DC Side	
Maximum Input Power	160A
Voltage Range/System Bus Voltage	650V～800V
Input Switch	250A/1000Vdc/2P，one PV MPPT controller can be connected
AC Rated Power	64kW
AC Side(Grid-Connected)	
AC Maximum Power	70.4kW
System Voltage Configuration	3W+N+PE
Voltage Range	360VAC~440VAC
Frequency Range	45~55Hz/55~65 Hz
Power Factor	-1~1
Rated Output Power	64kW
AC Side (Off-Grid)	
Maximum Single-Phase Output Power	30kW
Rated Output Voltage	400V
Rated Output Frequency	50/60 Hz
Overload Capability	110% overload for 10 min
Bypass Maintenance Switch	125A/400Vac
Distribution And Switching Time	
Load Switch	125A/400Vac
Grid Switch	50A/400Vac
STS Switch	144A/100kW
Switching Time	<20ms
Maximum System Efficiency	≥90%
System	
Cooling Method	Intelligent air cooling
Operating Temperature	-30~55°C (derating use over 40 °C)
Dimensions(W×D×H)	1050×1050×2050mm
Weight	1450kg
IP Rating	(Complete machine) IP54
Fire Protection	Aerosol
Diesel Generator Connection	
Grid Feedback Input	220Vac
Diesel Engine Drive Outpu	Dry node
Other Parameters	
Related Certificates Of Integrated Machine	CE/UN38.3/MSDS/Sea andLand Transportation Certificate/Dangerous Goods Identification Report

125kW/225kWh|257kWh On/Off-grid All-in-one Energy Storage System

(HEXSTS125kW-225kWh)
(HEXSTS125kW-257kWh)

Comprehensive Safety

- **Active Protection** 128-point temperature monitoring & early warning
- **Multi-Level Safety** Three-level BMS fault protection strategy
- **Fire Prevention** Aerosol fire suppression with IP54 enclosure

High Efficiency

- **8000+ Cycles** Long-life LFP 314Ah battery technology
- **≥90% Efficiency** High-performance energy conversion
- **Maximized ROI** Peak shaving and energy cost optimization

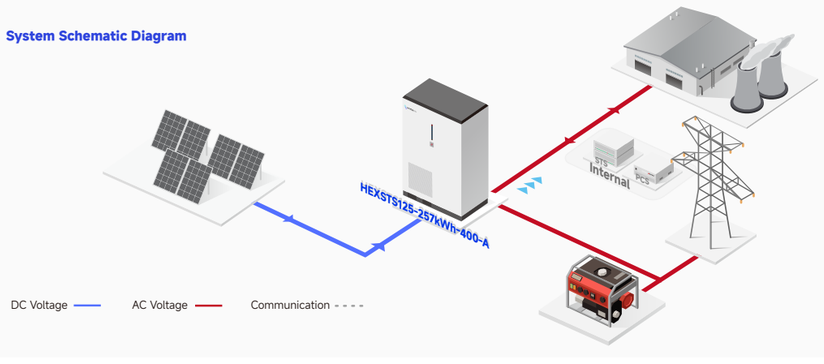
Simple O&M

- **Remote Management** Cloud-based monitoring & control
- **Intelligent Dispatch** EMS-driven energy optimization
- **Real-Time Diagnosis** Instant fault detection and alarm

Easy Deployment

- **All-in-One System** Fully integrated hybrid ESS solution
- **<20ms Switching** Seamless power source transition
- **Flexible Expansion** Modular design for future scalability

System Schematic Diagram



Model	HEXSTS125-225kWh	HEXSTS125-257kWh
DC Battery		
Cell Type	LFP 314Ah	
Battery Pack Capacity And Configuration	16.077kWh/1P16S	
Battery Capacity /Pack Quantity	225kWh/ 14	257kWh/ 16
Battery Voltage Range	627V - 806V	716.8V-921.6V
Rated Charge/Discharge Rate And Current	0.5C, 157A	
Cycle Index	8000cls (0.5P, 25±2 ° C, @70%SOH)	
Number Of Temperature Monitorings	112	128
PV DC Side		
Maximum Input Power	200kW	240kW
Maximum Input Power	320A	
Voltage Range/System Bus Voltage	650V-800V	650V-900V
Input Switch	Two 250A/1000Vdc/2P, one PV MPPT controllers can be connected	
AC Side(Grid-Connected)		
AC Rated Power	125kW	
AC Maximum Power	137.5kW	
Rated Current	180A	
THDi	<3%	
DC Component	< 0.5% LPN	
System Voltage Configuration	3W+N+PE	
Voltage Range	360VAC~440VAC	
Frequency Range	45~55Hz/55~65Hz	
Power Factor	-1~1	
AC Side (Off-Grid)		
Rated Output Power	125kW	
Maximum Single-Phase Output Power	60kW	
Rated Output Voltage	400V	
Rated Output Frequency	50/60 Hz	
THDu	<3%	
Overload Capability	110% overload for 10 min	
Distribution And Switching Time		
Bypass Maintenance Switch	250A/400Vac	
Load Switch	250A/400Vac	
Grid Switch	400A/400Vac	
STS Switch	289A/200kW	
Switching Time	<20ms	
System		
Factory SOC Set Value	30%-50%	
Maximum System Efficiency	≥90%	
Operating Temperature	-30~55°C (Derating use over 40 °C)	
Relative Humidity	0 ~ 95% RH,non-condensing	
Dimensions(W×D×H)	1600×1050×2050mm	1600×1050×2300mm
Weight	2400kG	2700kG
IP Rating	Complete machine（IP54）	
Noise	<70dB	
Networking Methods	4G / Wifi / Ethernet	
Fire Protection	Aerosol	
Display Screen	LCD Touch Screen	
Diesel Generator Connection		
Grid Feedback Input	220Vac	
Diesel Engine Drive Output	Dry contact	
Other Parameters		
Related Certificates Of Integrated Machine	CE/UN38.3/MSDS/Sea and Land Transportation Certificate Dangerous Goods Identification Report	

Large Hybrid ESS SOLUTION

500kW Hybrid Energy Storage Inverter

2058kWh/2570kWh Containerized BESS

2500kW/4000kW Transformer and Power Converter System

500kW/1028kWh Hybrid ESS 500kW/1543kWh Hybrid ESS

1000kW/1543kWh Hybrid ESS 1000kW/2058kWh Hybrid ESS

Advanced Microgrid

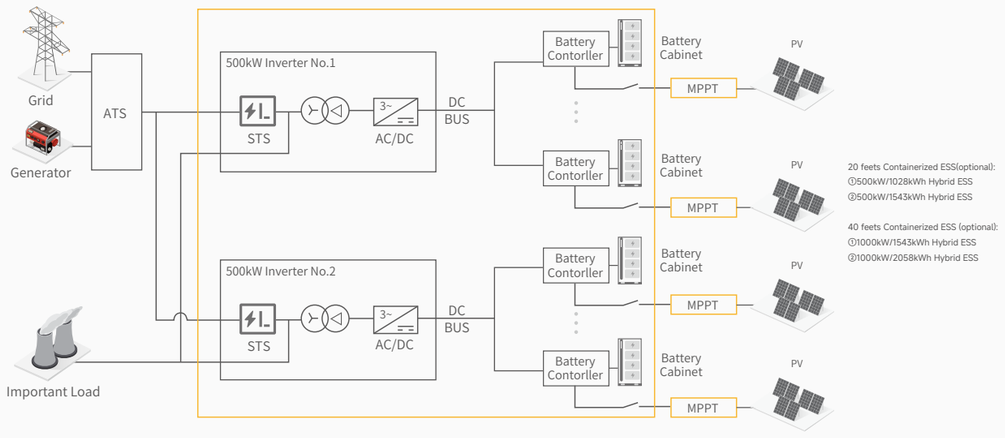
Diesel Replacement

Seamless On/Off-Grid

Direct DC-Coupling

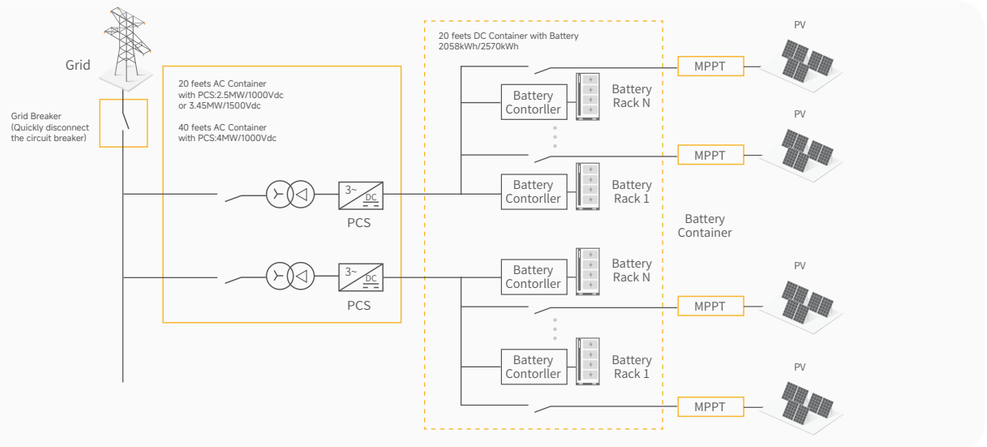
MW Containerized ESS

The containerized hybrid energy storage system is an integrated energy solution that highly integrates the battery system, PCS (power converter), energy management system (EMS), and temperature control and fire protection system into a standard container. It supports dual-mode operation of on-grid and off-grid, and which is suitable for industrial and commercial energy storage, microgrids, and off-grid power supply scenarios. It features the integration of three electrical systems and AC/DC integration, with simple on-site installation and wiring.



Hybrid Energy Storage System(Power station type)

The power station type hybrid energy storage system divides the power station energy storage system into two parts: the AC side transformer and converter system and the DC battery system, namely the AC power source side container and the DC battery side container. The grid and load are connected to the output of the AC power source side container, and the output of the DC battery side is connected to the input of the AC power source side container on site.



500kW
Hybrid Energy Storage Inverter

- The equipment supports multiple units being used in parallel.
- It has the functions of grid-connected charging and discharging, and off-grid independent inverter.
- Standard equipped with STS module, supporting automatic switching between on-grid and off-grid modes.
- Standard isolated transformer is equipped, with strong shock resistance.

	Model	500kW
DC Side	Voltage Range	500-850V
	Max Current	1128A
AC Side	Rated Voltag	400V
	Rated Current	722A
	Rated Frequenc	50/60Hz
	Rated Power	500kW
	Capacity Of Transformel	500kVA
	Connection Method	3W+N+PE
	Hybrid Switching Timee	<20ms
AC Side (On-grid)	THDi	<3%
	Power Factor	>0.99
AC Side (Off-grid)	THDu	<3%(Linear load)
System	Max. Efficiency	97.5%
	Weight	2700kg
	Dimensions(W×D×H)	1600×1050×2050mm
	Operating Temperature	-30~55°C (Derating use over 40°C)
	IP Rating	IP21
	Cooling Concept	BMS(CAN)/EMS(TCP/IP)

2058kWh | 2570kWh Battery Storage DC Container (Battery DC side)

- Refined thermal management results in small temperature differences between battery cells and longer lifespan.
- Adopting photovoltaic DC coupling and external MPPT for higher charging efficiency of battery.
- Integrated design of photovoltaic access ports and high-voltage boxes leads to a superior system.

Model	2058kWh	2570kWh
Cell Type	LFP 314Ah	
Pack Capacity And Configuration	16.077kWh/1P16S	
Battery Capacity Cnd Pack Quantity	2058kWh/ 8x16	2570kWh/10x16
Charge And Discharge C-rate	<0.5C	
Depth Of Discharge	95% DOD	
Cycle Index	>8000	
Rated Voltage	819.2V	
Max. Pv Input Power	16*120kW	20*120kW
Dimensions(W×D×H)	6058×2438×2896mm	
Ip Rating	IP54	
Cooling Method	Smart air cooling	
Weight	<26T	

2500kW | 4000kW Transformer and Power Converter System (Battery AC side)

- Four-quadrant operation, with battery charge and discharge management function and operation modes such as VSG, VF, PQ, etc.
- Parallel operation of hundreds of MW off-grid and independent participation in black start of power grid.
- Interacting with BMS and EMS supports multiple protection of system.
- It is equipped with primary frequency modulation and rapid dispatching functions for power sources, grids and loads, and supports rapid power response.
- Integrated design of converter and transformer, which is easy and convenient to install.

	Model	2500kW	4000kW
DC Side	Input Branches	2	4
	Max. Input Current	2*1935A	4*1935A
	Input Voltage Range	700~950V	
AC Side	Rated Voltage	400V	
	Rated Frequency	50/60Hz	
	Rated Power	2500kW	4000kW
	Rated Current	3609A	5774A
	Transformer Turns Ratio	400/480	
	Vector Groupdesignation	DyN1 1	
AC Side (On-grid)	THDi	<3%	
	Power Factor	>0.99	
AC Side (Off-grid)	THDu	<3%(Linear load)	
System	Dimensions(W×D×H)	6058×2438×2896mm	12192×2438×2896mm
	Weight	<15t	<26t
	Operating Temperature	-30~55°C (Derating use over 40°C)	
	IP Rating	IP54	
	Cooling Method	Smart air cooling	

500kW /1028kWh | 1543kWh On/Off-grid All-in-one Energy Storage System

- Standard 20-feet high-cube container.
- The on-site wiring is simple: integrating the AC side and the DC side, three-electricity integration, intelligent storage in one, and it can be used by simply connecting to the power grid and the load on site.
- Standard configuration with intelligent switch of on-grid and off-grid modes and isolated transformer.
- The integrated PV DC input interface is connected to the external MPPT.

	Model	500kW/1028kWh	500kW/1543kWh
DC Side	Cell Type	LFP314Ah	
	Charge/Discharge C-rate	<0.5C	
	Pack Capacity And Configuration	16.077kWh/1P16S	
	Battery Capacity And Pack Quantity	1028kWh/4*16	1543kWh/6*16
	Max. Pv Input Power	8*120kW	12*120kW
AC Side	Rated Voltage	400V	
	Rated Frequency	50/60HZ	
	Rated Power	500kW	
	Rated Current	722A	
	Hybrid Switching Time	<20ms	
AC Side (On-grid)	THDi	<3%	
	Power Factor	>0.99	
AC Side (Off-grid)	THDu	<3%(Linear load)	
System	Weight	<15t	<20t
	Dimensions(W×D×H)	6058×2438×2896mm	
	Operating Temperature	-30~55°C(Derating use over 40°C)	
	IP Rating	IP54	
	Cooling Method	Smart air cooling	

1000kW /1543kWh | 2058kWh On/Off-grid All-in-one Energy Storage System

- Standard 40-feet high-cube container.
- The on-site wiring is simple: integrating the AC side and the DC side, three-electricity integration, intelligent storage in one, and it can be used by simply connecting to the power grid and the load on site.
- Standard configuration with intelligent switch of on-grid and off-grid modes and isolated transformer.
- The integrated PV DC input interface is connected to the external MPPT.

	Model	1000kW/1543kWh	1000kW/2058kWh
DC Side	Cell Type	LFP314Ah	
	Charge/Discharge C-rate	<0.5C	
	Pack Capacity And Configuration	16.077kWh/1P16S	
	Battery Capacity And Pack Quantity	1543kWh/6*16	2058kWh/8*16
	Max. Pv Input Power	12*120kW	16*120kWV
AC Side	Rated Voltage	400V	
	Rated Frequency	50/60HZ	
	Rated Power	1000kW	
	Rated Current	1444A	
	Hybrid Switching Time	<20ms	
AC Side (On-grid)	THDi	<3%	
	Power Factor	>0.99	
AC Side (Off-grid)	THDu	<3%(Linear load)	
System	Weight	<21t	<26t
	Dimensions(W×D×H)	12192×2438×2896mm	
	Operating Temperature	-30~55°C(Derating use over 40°C)	
	IP Rating	IP54	
	Cooling Method	Smart air cooling	

APPLICATION CASES

Lianyungang Energy Group Independent and Shared New Energy Storage Project
Location: Jiangsu Province, China
Scale: 150MW/300MWh

Shangchu Energy Independent shared Energy Storage PowerStation
Location: Ningxia, China
Scale:100MW/200MWh

Ganyu District 50MW/100MWh Independent New Energy Storage Power Station
Location: Jiangsu Province, China
Scale:50MW/100MWh

Laos 1.25MW/2.61MWh Solar-plus-Storage Project
Location: Laos
Scale: 1.25 MW/2.61 MWh

Madagascar PV & BESS Project
Location: Akamasoa, Madagascar
Scale: 300kWp PV + 450kWh BESS(optional)

125kW/225kWh Energy Storage Project in Guinea
Location: Guinea
Scale：125kW/225kWh

Ziyang Virtual Power Plant Green Demonstration Application Project
Location: Ziyang, Sichuan Province, China
Scale: 25MW/50MWh

China Electric Power Construction Group Jilin Institute invests in the (Ningxia) Chiyang Yanchi County 100MW/200MWh Energy Storage Power Station
Location： Ningxia, China
Scale: 100MW/200MWh

Jurong Huayang 100MW/200MWh Shared Energy Storage Power Station
Location: Jiangsu, China
Scale: 100MW/200MWh

India 0.5~3MWh C&I BESS
Location: India
Scale: 0.5~3MWh

Zhejiang Yiwu Zhuopin Energy Storage System Project
Location: Yiwu City, Zhejiang Province
Scale: 200kW/400kWh

Hangzhou Fuyang Huilong Environmental Technology Co., Ltd. Energy Storage Project
Location: Hangzhou, Zhejiang Province
Scale: 400kW/800kWh

Delong Manufacturing Tech Park Project
Location: Guangdong Province, China
Scale: 480kW/930kW

Dongguan Zhongchuang Zhibang Industrial Park User-Side Energy Storage Power Station Project
Location: Guangdong Province, China
Scale: 1.118MW 2.236MWh

BUSINESS PARTNER