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BESS

Solutions and Products

Who We Are

AEMEnergy is a leading provider of advanced power equipment and sustainable energy solutions. With over two decades of expertise in power electronics and energy storage, we drive industry innovation through integrated R&D, manufacturing, and global service.

Our comprehensive portfolio ranges from C&I BESS and PCS to MW-scale systems, microgrid solutions and VPP platforms. By leveraging our core technologies, we deliver smart, scenario-driven solutions that empower our partners worldwide to achieve energy resilience and sustainability.

20+ Years

of Expertise in Power Electronics Industry

300+

Core Technology Intellectual Property Rights

95,000 m²

Intelligent Manufacturing Center

900,000+ Hours

Safe Operations for Core Products

7.3+ Million tons

Carbon Emissions Reduced

120+

Invention Patents

TIER1

SMM Innovation Star

TIER1

BESS Excellence Performance

TOP 20

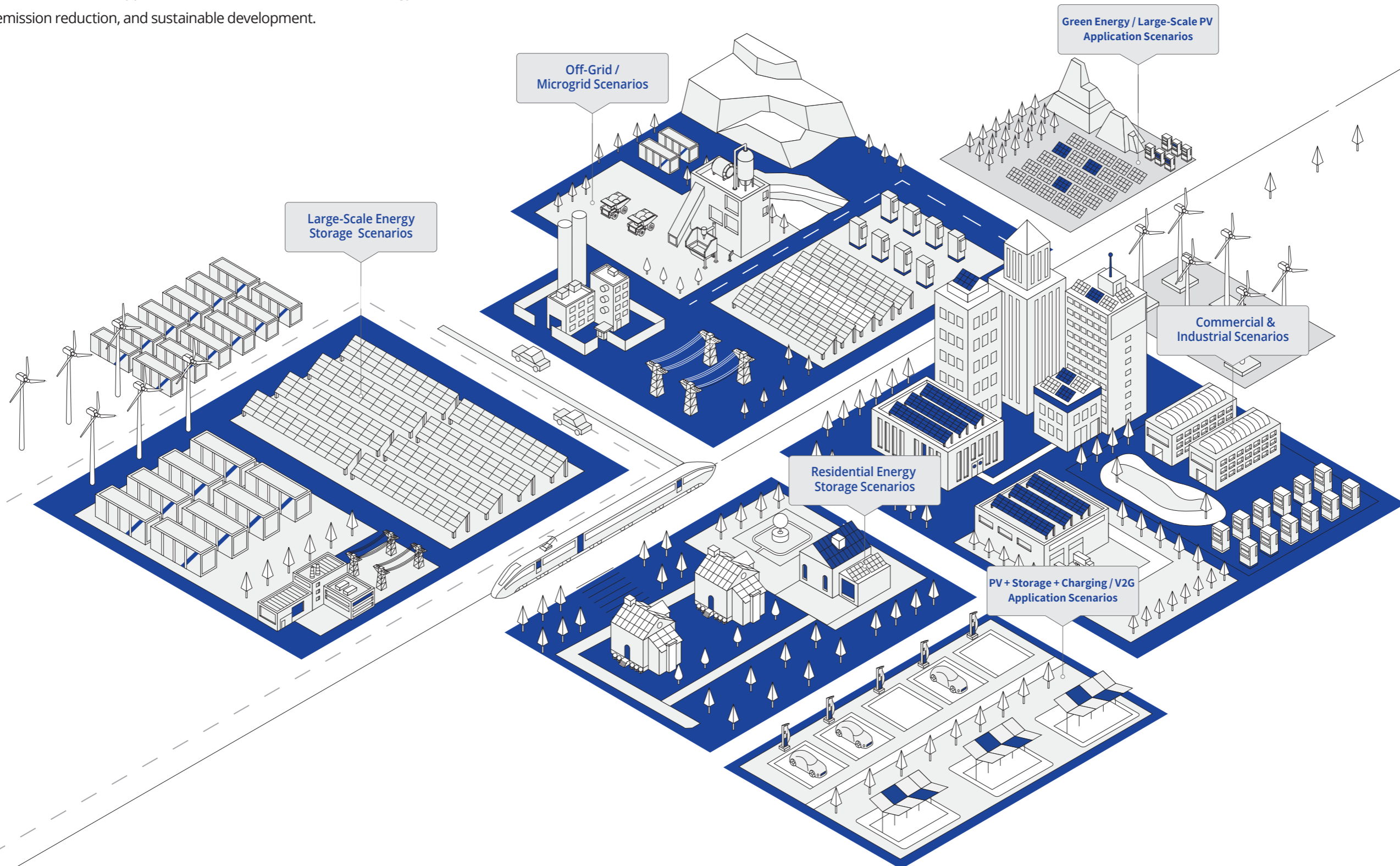
BESS Companies in China

AEME 航微能源



AEMEnergy BESS Solutions

Supporting the entire chain from power generation and the grid to end-users, we adapt solutions to diverse application scenarios and contribute to energy efficiency, emission reduction, and sustainable development.



Why AEMEnergy

Manufacturing Capability

AEMEnergy's 95,000m² headquarters houses intelligent, flexible, and digital production lines, enabling efficient operations and the consistent supply of high-quality products and services.

- In-house teams for R&D
- Intelligent manufacturing
- Rigorous quality control
- Comprehensive end-to-end service

Rooted in power electronics and empowered by advanced energy digitalization technologies, AEMEnergy unites dedicated in-house teams across R&D, production, sales, and service to provide reliable, high-performance energy solutions.

95,000 m²
Intelligent
Manufacturing Center



Core Strengths

Technical Innovation



The company has a top-tier R&D team with expertise in algorithms, electrical engineering, hardware, software, structural design, and AI. Equipped with a complete suite of power electronics and digital control technologies, the team delivers highly customized solutions across diverse applications.

Customer Support



We deliver integrated solutions with established capabilities in R&D, manufacturing, quality control, and project implementation, providing support throughout the entire process from design to installation and commissioning.

Quality Control



AEMEnergy operates nearly 100,000 m² of R&D and manufacturing facilities, covering PACK, power modules, PCBA, and flexible automated harness production, supported by pilot testing platforms. We hold ISO 9001, ISO 14001, and ISO 45001 certifications, ensuring our products meet high standards of quality, safety, and reliability.

Delivery Capability



AEMEnergy's diverse and innovative products are delivered at scale. The company has established an integrated online and offline service network that shortens project delivery cycles, efficiently meets customer needs, and maximizes value for clients.

C&I BESS Solution

Solution Overview

This solution is specifically designed for the commercial and industrial (C&I) sector. By leveraging local time-of-use electricity pricing, it stores electricity during off-peak periods and supplies it during peak hours, achieving effective peak shaving and valley filling. The system integrates photovoltaics, charging piles, and other C&I equipment. Components are unified through the energy management system, enabling the development of an integrated, smart, and low-carbon C&I park.

Solution Advantages

Optimized Energy Utilization



Maximizes the efficiency of power generation and consumption through intelligent scheduling and integration of photovoltaics and C&I loads.

Cost Reduction



Reduces electricity expenses by storing off-peak electricity and using it during peak periods, achieving effective peak shaving and valley filling.

Sustainable and Low-Carbon Operations



Integrates renewable energy and energy storage to minimize carbon emissions and support green, sustainable operations.

Scalable and Flexible



Allows adaptation to diverse commercial and industrial scenarios, supporting future expansion and upgrades.

Key Application Scenarios



Retail Stores and Shopping Centers



Industrial Parks and Buildings



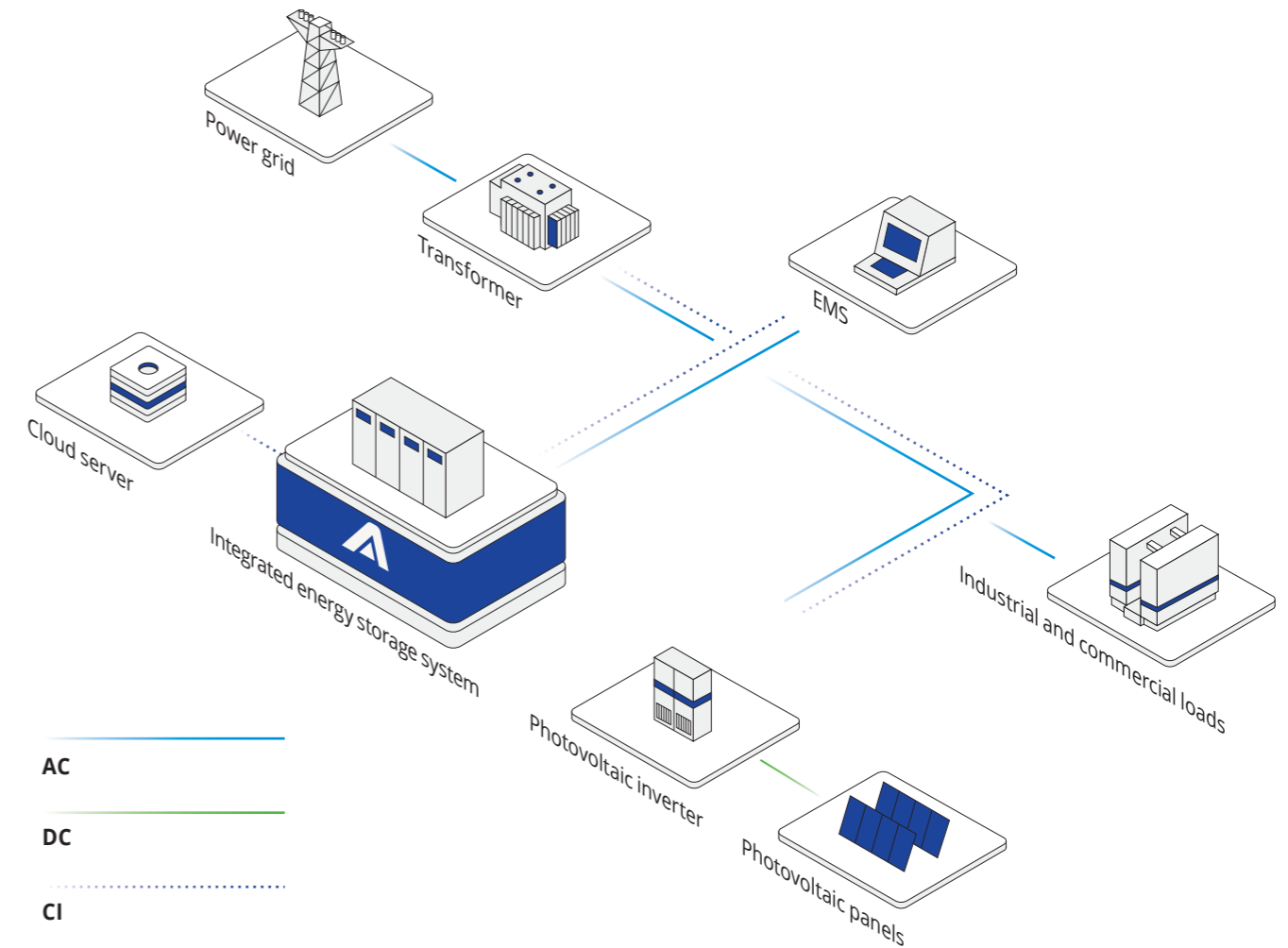
Schools



Hospitals and Healthcare Facilities

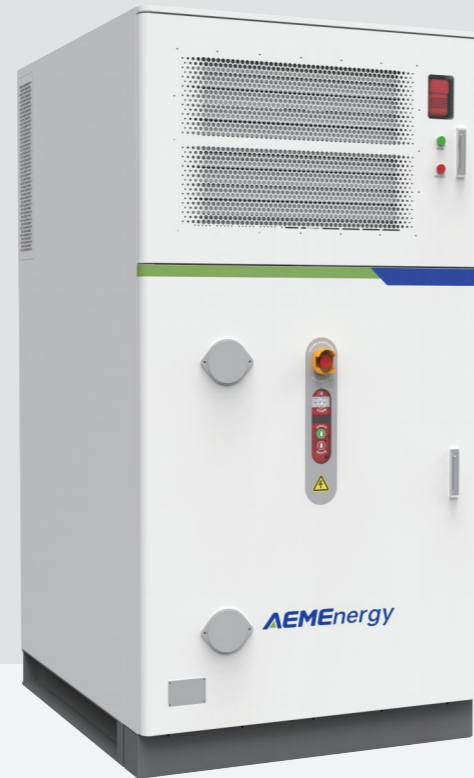
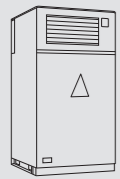


Hotels and Resorts



UniPower

C&I All-in-One BESS
Air Cooled/Liquid Cooled



Features

High Energy Density



With a compact footprint, the system offers flexible installation options.

Enhanced Safety



Enhanced protection through BMS and PCS monitoring, emergency stop, remote shutdown, active fire suppression, water-based firefighting, and explosion-proof design.

Flexible Installation



The all-in-one design supports both side-by-side and back-to-back installation configurations.

High Efficiency



With a maximum system efficiency of over 88%, the solution features rigorous thermal insulation and a highly efficient PCS for greater overall performance and returns.

Digitalized Management



The integrated BMS, PCS, and EMS—combined with cloud-based supervision—enable end-to-end digital management throughout the system's entire life cycle.

Low Noise



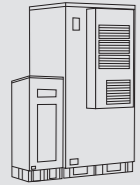
Ultra-quiet PCS with built-in noise reduction.

Specifications

Product Model	ESS-AC-68/241-A	ESS-AC-100/241-A	ESS-AC-125/261-L
	Air Cooled		Liquid Cooled
Battery Type	LFP 3.2V/314Ah		
Cycle Life	≥6000 cycles @80%SOH (95%DOD, 25±2°C)		
Rated Energy	241.15 kWh (0.5P, 25±2°C)	241.15 kWh (0.5P, 25±2°C)	261.25 kWh (0.5P, 25±2°C)
Nominal Voltage	768 V	768 V	832 V
Voltage Range	672-864 V	672 - 864 V	728-936 V
AC Side			
Rated Power	68 kW	100 kW	125 kW
Rated Frequency	50/60 Hz		
THDi	<3 % (at rated power)		
Isolation Method	Transformerless		
Wiring Method	3P+PE	3P+N+PE	3P+N+PE
System Data			
Maximum system efficiency	>88 %		
Noise Level	≤75dB		
Protection Level	IP55		
Operating Temperature	-30°C ~ 55 °C (derating <15°C or >45°C)		
Operating Humidity	≤5-95 % (non-condensing)		
Operating Altitude	4000m (derated above 2000 m)		
Early Detection	Four-in-one detector (smoke, temperature, CO, VOC)		
Cooling System	Air Conditioner(Battery) intelligent air cooling(PCS)		Intelligent liquid cooling unit(Battery) /Air cooling(PCS)
Fire Protection System	Aerosol+Fire Hydrant Connection		FK-5-1-12+Hydrant Connection
System Dimensions (W×H×D)	1200×2350×1300 mm	1200×2350×1300 mm	1200 × 2350 × 1400 mm
Weight	2550 kg		2600 kg
Communication Methods	CAN, RS485, Ethernet, 4G WIFI		
Communication Protocols	CAN, Modbus RTU, Modbus TCP, MQTT		

SyncPower

C&I BESS Battery Cabinet+Converter Cabinet



Designed with a modular architecture to meet international market requirements, the C&I BESS integrates LFP battery cabinet with high-efficiency power conversion systems.

The C&I battery system adopts high-capacity battery cells, advanced BMS, intelligent thermal management, and comprehensive safety protection, delivering high efficiency and reliable power for commercial, industrial and renewable energy storage applications.

The power conversion cabinet features high conversion efficiency, high energy density, and multi-unit parallel operation capability. A single PCS cabinet supports connection to multiple battery cabinets, enabling flexible deployment through scalable and adaptable system configurations.

Features

Flexible Installation



Integrated design supporting shoulder-to-shoulder installation.

Advanced Protection



The energy storage cabinet features intelligent protection design for safer use.

Enhanced Safety

Safe LiFePO₄ cathode material, ensuring reliable and secure operation.

System Configuration



One PCS supports multiple battery cabinets for flexible charge/discharge durations.

High Energy Density



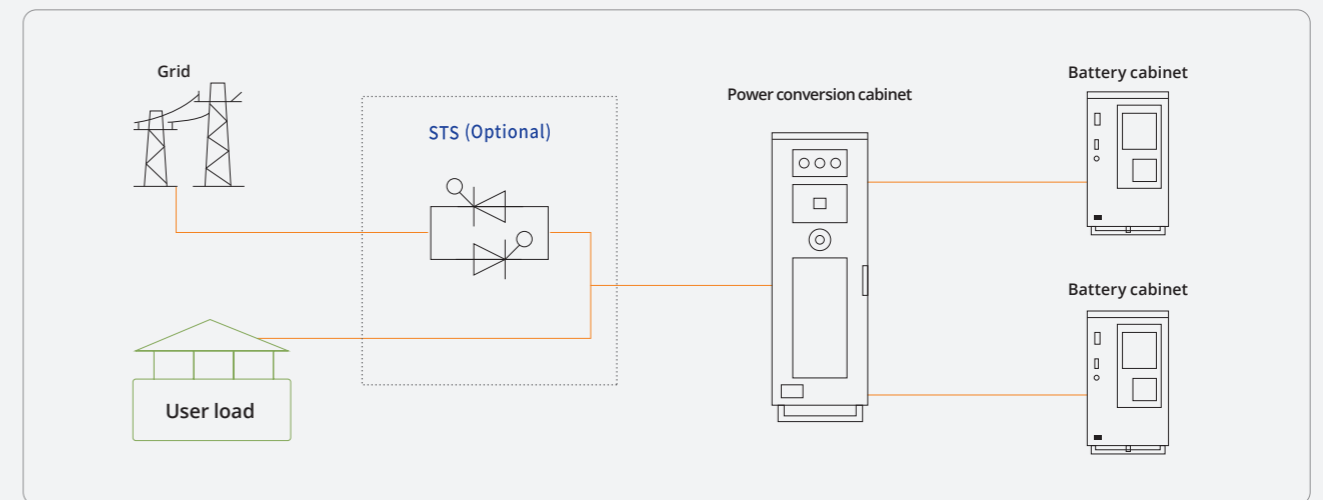
Compact footprint with minimal space requirement.



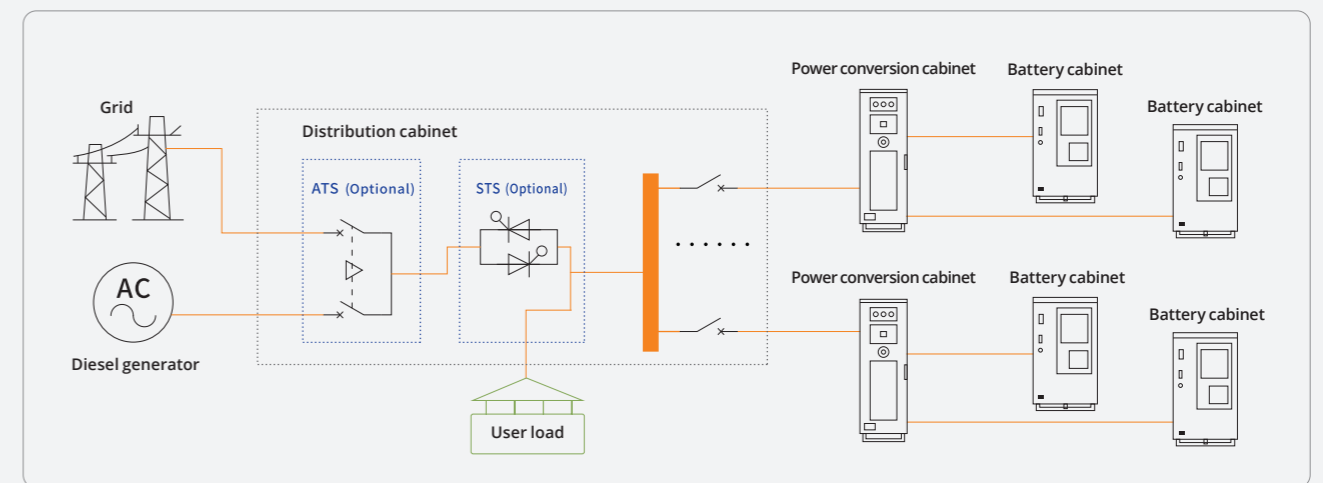
With excellent safety performance, wide environmental adaptability, and flexible operation, the system complies with international standards and certifications, supporting the global transition toward a low-carbon and sustainable energy future.

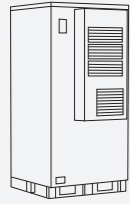
System Diagram

Single-Unit Operation



Multi-Unit Parallel Operation





C&I Battery Cabinet

Specifications

Product Model	ESS-DC-128/257-F	ESS-DC-120/241-A	ESS-DC-112/225-A	ESS-DC-104/208-A	ESS-DC-130/261-L
System Data					
Cell Type	LFP 3.2 V/314 Ah				
Cycle Life	≥6000 cycles @80% SOH (95% DOD, 25±2°C)				
System Configuration	1P256S	1P240S	1P224S	1P208S	1P260S
Nominal Energy	257.229 kWh (0.5P, 25±2°C)	241.152 kWh (0.5P, 25±2°C)	225.075 kWh (0.5P, 25±2°C)	208.998 kWh (0.5P, 25±2°C)	261.25 kWh (0.5P, 25±2°C)
Rated Voltage	819.2 V	768 V	716.8 V	665.2 V	832 V
Operating Voltage Range	640–934.4 V	600–876 V	560–817.6 V	520–759.2 V	728–936 V
Charge/Discharge Rate	0.5P				
Cooling Method	Air Conditioning			Liquid Cooling	
Fire Protection System	Aerosol			Perfluorohexanone + Water Fire Interface	
Dimensions (W×D×H)	1150×1100×2450 mm (without AC) / 1150×1325×2450 mm (with AC)				1050×1400×2200 mm
Weight	<2450 kg	<2340 kg	<2230 kg	<2110 kg	<2600 kg
Noise	<75 dB				
Ingress Protection	IP55 (AC IPX5)			IP55	
Corrosion Protection	C4 standard, C5 optional			C3 standard, C4/C5 optional	
Operating Altitude	4000 m (derating above 2000 m)				
Working Environment Temperature	-20°C ~ +50°C			-30°C ~ +55°C (derated below -15°C or above 45°C)	
Operating Humidity Range	5–95% (Non-condensing)				
Communication Method	RS485, CAN				
Communication Protocol	Modbus RTU, CAN2.0				
Compliance Standards	IEC62477-1, IEC62619, IEC61000-6-2/4, IEC60529, Regulation (EU) 2023/1542, ROHS, UN38.3			GB/T 36276, GB/T 34131	



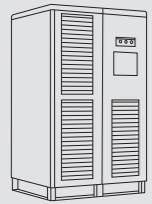
Power Conversion System

Specifications

Product Model	ESS-ACDC-135	ESS-ACDC-125	ESS-ACDC-74
DC Parameters			
DC Voltage Range	740–950 V @ AC440 V 670–950 V @ AC400 V	670–950 V	370–950 V
Max. DC Current	204A @ AC440 V 226 A @ AC400 V	209 A	224 A
AC (Grid-Connected) Parameters			
Rated Power	135 kW	125 kW	74 kW
Rated Grid Voltage	440 V, 400 V	400 V, 380 V	220 V
Grid Voltage Range	-15% ~ +10%		
Rated Grid Frequency	50 Hz / 60 Hz		
Power Factor	>0.99 (-1 to 1 adjustable)		
THDi	<3% @ rated power		
AC (Off-Grid) Parameters			
Rated Power	135 kW	125 kW	74 kW
Rated Output Voltage	440 V, 400 V	400 V, 380 V	220 V
Rated Output Frequency	50 Hz / 60 Hz		
THDu	<3%		
System Parameters			
Cooling Method	Air Cooling		
Dimensions (W×D×H)	500×950×1850 mm		
Weight	<350 kg		
Noise	≤75 dB		
Ingress Protection	IP55		
Corrosion Protection	C4 standard, C5 optional		
Max. Efficiency	97%@AC440V 98%@AC400V	98%	
Operating Altitude	≤4000 m (derating above 2000 m)		
Ambient Temperature	-20°C to +55°C (>45°C derating)		
Humidity Range	5–95% (non-condensing)		
Connection Method	3P+N+PE		3P+PE
Communication	RS485, CAN, Ethernet		
Communication Protocol	Modbus RTU, CAN 2.0, Modbus TCP		
Standards	IEC 62477-1, IEC 61000-6-2/4, IEC 60529, RoHS		

PV-Storage-Diesel

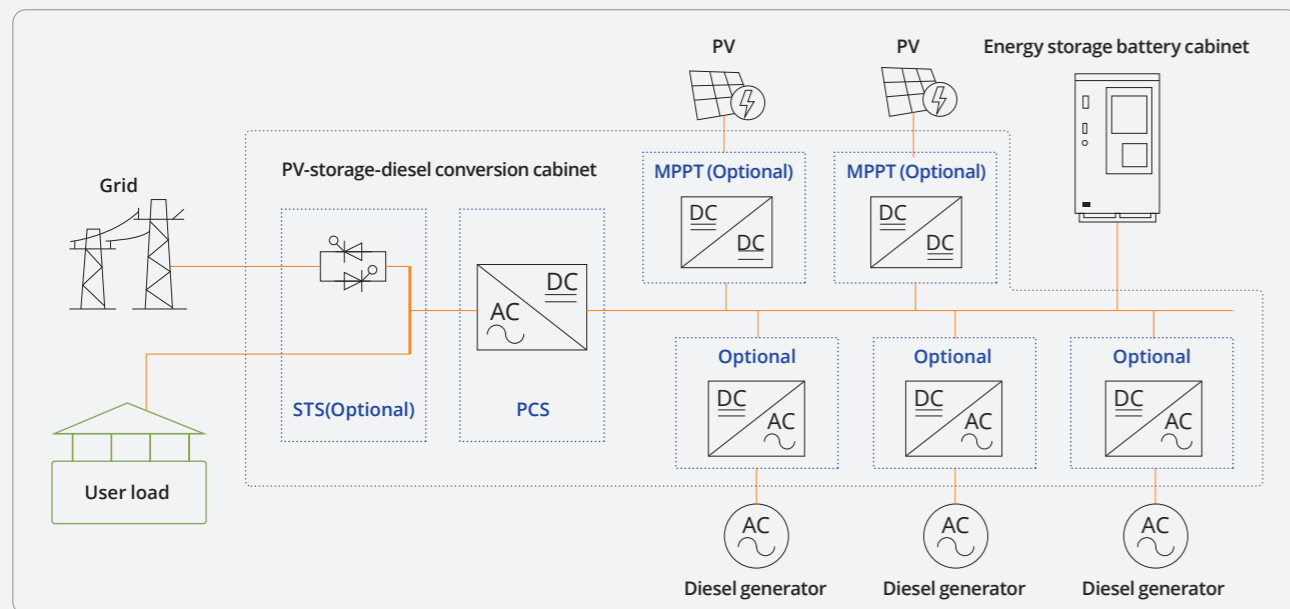
Power Conversion Cabinet



Designed for off-grid scenarios, this system supports the integration of BESS, solar PV and diesel generators to ensure reliable power supply under diverse operating conditions. It brings together intelligent multi-port energy management, PV-priority utilization, peak shaving, hybrid diesel-storage supply, and provide backup power. The diesel generator accommodates wide voltage and frequency inputs, while intelligent off-grid switching ensures uninterrupted power for critical loads. Suitable for commercial, industrial, island, and remote applications.

System Diagram

Typical Application



Specifications

Product Model	ESS-ACDC-125-WPG
Battery	
Voltage Range	680-900 V
Max Battery Current	200 A
PV Side(Optional)	
PV Power	120 kW (60 kW optional)
Max PV Voltage	950 V
Min PV Voltage	200 V
MPPT Voltage Range	600-900 V
Max PV Input Current	200 A
Diesel Access(Optional)	
Max Diesel Generator Input Power	120 kW (40 kW / 80 kW optional)
(Optional)	228 A
AC Load	
Rated Power	125 kW
Max Load Current	200 A
DC Load(Optional)	
Max Current	200 A
DC Load Rated Power	100 kW (60 kW optional)
DC Load Max Current	200 A
AC Side(Grid-Tied)	
Rated Power	200 kW
Overload Capability	1.1× 10 min, 1.2× 60 s @ 35°C
Grid Voltage	400 V
Voltage Range	-15% ~ +10%
Power Factor	>0.99 (adjustable -1 ~ 1)
THDi	<3% @ rated power
AC Side(Off-Grid)	
Off-Grid AC Rated Power	125 kW
Off-Grid Overload Capability	1.1× long-term, 1.2× 60 s @ 35°C
Off-Grid Output Voltage	400 V
THDu	<3%
Unbalance Capability	100%
STS(Optional)	
Rated Power	200 kW
Rated Voltage	400 V
Rated Frequency	50/60 Hz
Max STS Current	330 A
STS Switch Time	<20 ms
System Data	
Cooling Method	Air cooling
Dimensions (W×D×H)	1250 × 1100 × 2100 mm
Weight	<850 kg
Noise	≤75 dB
Protection Level	IP55
Corrosion Class	C3 standard, optional C4/C5
Max Efficiency	97.5%
Operating Altitude	4000 m (>2000 m derating)
Operating Temperature	-30°C ~ +60°C (>45°C derating)
Humidity Range	5-95% (non-condensing)
Wiring Method	3P+N+PE
Communication Interfaces	RS485, CAN, Ethernet
Communication Protocols	Modbus RTU, CAN2.0, Modbus TCP

Modular PCS

SiC



AEMEnergy has introduced the world's first quasi-resonant soft-switching SiC modular PCS. Leveraging proprietary technology, it enables soft switching with zero-current turn-on and zero-voltage turn-off for power switches, as well as zero-current and zero-voltage turn-off for diodes. This significantly reduces switching losses, overcomes frequency limitations of high-power PCS, and enhances both power density and efficiency across the full operating range.

Features

Integrated Design



Combines EMS, BMS, and PCS functionalities.

Unbalanced Load Support



Supports 100% unbalanced load.

SiC Soft-Switching Technology



Using SiC semiconductor devices for high conversion efficiency.

Multi-Unit Operation



Virtual synchronous control enables parallel operation of multiple voltage sources. Modular design allows easy installation and maintenance.

Specifications

Product Model	ESS-PCS-67-SiC	ESS-PCS-74-SiC	ESS-PCS-125-SiC	ESS-PCS-135-SiC
DC Side				
DC Voltage Range	670-950 V	370-950 V	670-950 V	AC400 V : 670-950 V AC440 V : 740-950 V
Maximum DC Current	112 A	224 A	209 A	AC400 V : 226 A AC440 V : 204 A
AC Side				
Rated AC Power	67 kW	74 kW	125 kW	135 kW
Maximum Output Current	106 A	213 A	198 A	AC400 V : 214 A AC440 V : 194 A
THDi (at rated power)	<3 % (I _{pn})			
DC Component	<0.5 % (at rated power)			
Rated Grid Voltage	400 V	220 V	400/380 V	440/400 V
Power Factor Adjustment Range	1 (leading) - 1 (lagging)			
Rated Grid Frequency	50/60 Hz			
Isolation Method	Transformerless			
Wiring Method	3W+N+PE	3W+PE	3W+N+PE	3W+N+PE
System Data				
Charge/Discharge Switching Time	<25 ms			
Communication Protocol	RS485 / TCP / CAN2.0			
Protection Level	IP20			
Cooling Method	Intelligent Air Cooling			
Operating Temperature	-20°C ~ +45°C			
Operating Humidity	≤95 % (non-condensing)			
Operating Altitude	≤4000 m (derated above 2000 m)			
Noise Level	≤70 dB			
System Dimensions (W×H×D)	580×200×630 mm	580×300×655mm		
Weight	≤50 kg	≤80 kg	≤80 kg	≤80 kg
Communication Protocols	Modbus RTU / TCP / CAN2.0			
Certification	EN62477-1:2022, IEC62477-1:2022, EN62109-1:2011, EN62109-2:2011			

Large-scale Energy Storage Solution

Solution Overview

Large-scale energy storage solution enables the efficient integration of storage systems, providing strong support for the stable operation of power networks. It offers excellent adaptability and operational flexibility, effectively balance loads, ensure reliable power supply, and compensate for generation fluctuations. The solution plays a vital role in improving energy efficiency and reducing carbon emissions.

Solution Advantages

Reliable Power Supply



Deploying energy storage systems on the generation side smooths power output and ensures maximum utilization of renewable energy.

Supporting Power System Operation



Supports peak shaving and frequency regulation to enhance the flexibility of power system operations.

Enhancing Renewable Energy Utilization



Excess electricity generated from renewable sources such as wind and solar can be stored and released during peak demand periods, enabling the effective integration and utilization of renewable energy.

Key Application Scenarios



Renewable Energy Power Plant

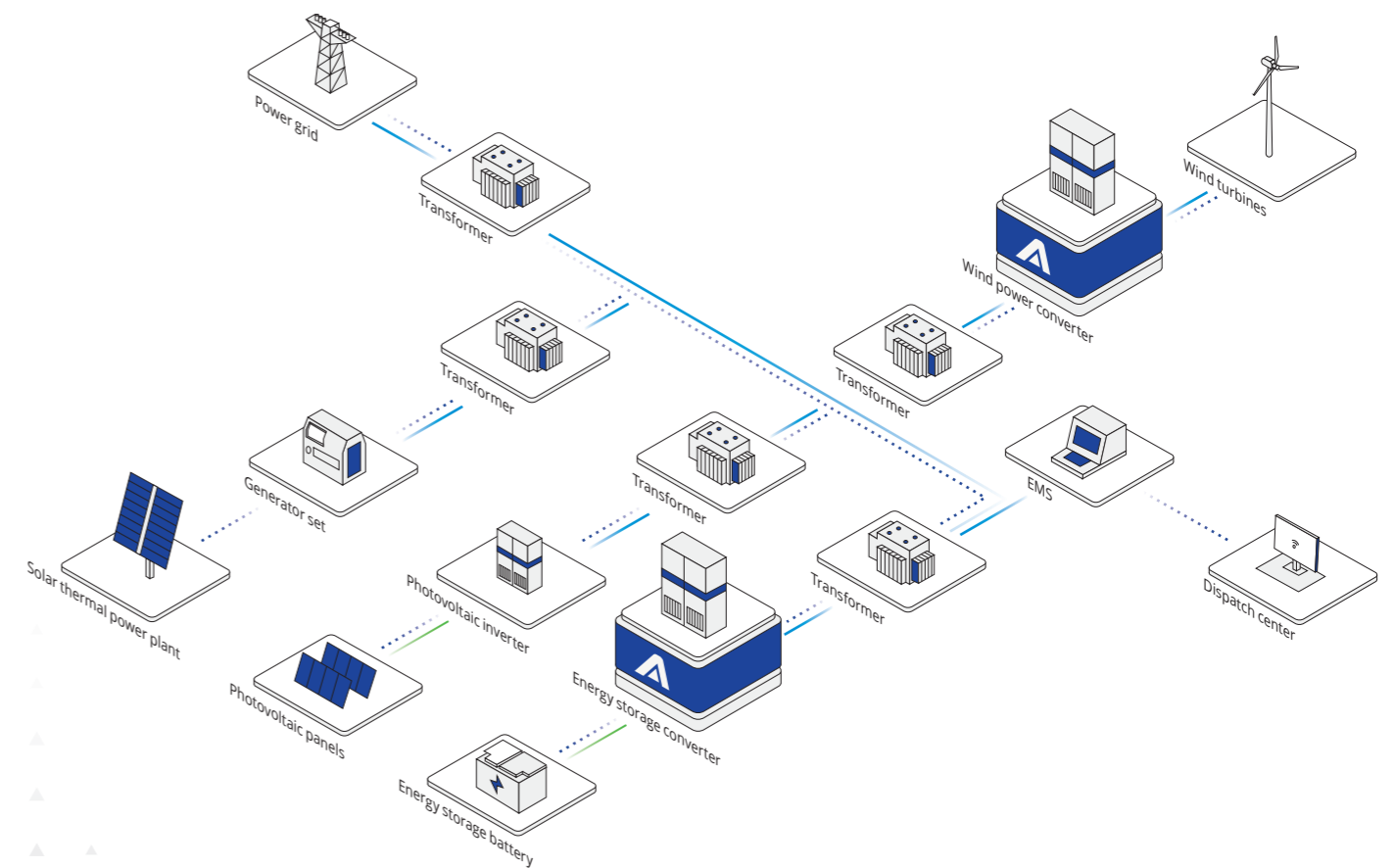


Grid-Constrained Region

AC

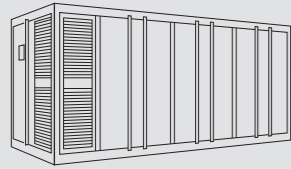
DC

CI



MassPower

Container BESS (DC Cabin)



Features

Comprehensive Protection



Three-level BMS system management provides comprehensive protection for the battery.

Security Assurance



Equipped with automatic fire early warning, as well as gas and water fire extinguishing systems, ensuring reliable safety protection.

Convenient Maintenance



The cabin adopts a non-walk-in design, simplifying maintenance procedures.

Versatile Functionality



When paired with a voltage booster cabin, the system can achieve peak shaving and valley filling, frequency regulation, load balancing, demand-side response, and microgrid applications.

High-Altitude Operation

Supports maximum operating altitudes up to 5,000 m, with proven experience in high-altitude applications.

Integrated Design



The battery system features an integrated design for rapid deployment and configuration.

Safe and Stable



High quality battery cells ensure long service life, with up to 6,000 charge-discharge cycles and a natural lifespan of 10 years.

Thermal Management System



A specialized thermal management system effectively extends the service life of battery cells.

Enhanced Container Protection



Equipped with auxiliary systems such as video surveillance, access control, water leakage detection, and environmental monitoring to enhance the safety and protection of the cabin.



Specifications

Product Model	ESS-DC-2500/5000-L	ESS-DC-3125/6250-L
Cell Capacity	314 Ah	587 Ah
Combination Mode	12P416S	8P240S
Rated Energy	5015.96 kWh	6251.3 kWh
Nominal Voltage	1331.2 V	1331.2 V
Operating Voltage	1164.8 V - 1497.6 V	1164.8 V - 1497.6 V
Charge and Discharge Rate	0.5 P	0.5 P
Container Size	20 ft	20 ft
Weight	≤42 T	≤48 T
Operating Temperature	-30°C ~ 55°C(derating below -15°C or above 45°C)	
Operating Altitude	4000(derating>2000m)	
Temperature Control Mode	liquid cooling	
Fire Fighting System	Automatic fire warning + gas fire extinguishing system + water fire fighting system	
Protection Level	IP55	
Communication Protocol	Modbus RTU ,CAN2.0,Modbus TCP,IEC61850	

Energy Storage Boosting System



Features

High-efficiency Integration



Integrated design of PCS, step-up transformer, and medium-voltage switchgear.

Parallel Operation



Supports multi-unit parallel operation, featuring VSG, PQ, VF, black start, and other functions.

Application Scenarios



Suitable for multiple energy storage applications on the generation side, grid side, and user side.

Multiple Communication Protocols



Supports independent communication via multiple network ports and is compatible with IEC61850, IEC104, Modbus TCP, and other protocols.

Safe and Reliable



Overcurrent and non-electrical protections, with five-level interlock design.

Flexible Matching



Designed with a wide DC voltage range for flexible integration with DC-side systems.

Strong Adaptability

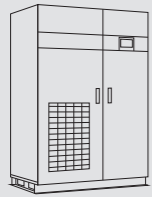


Supports high and low voltage ride-through, ensuring strong grid compatibility.

Specifications

Product Model	ESS-ACDC-6250-VB	ESS-ACDC-5000-VB	ESS-ACDC-3150-VB	ESS-ACDC-2500-VB
DC Side				
Maximum DC Voltage	1000-1500 V			
Maximum DC Current	4 × 1767 A	4 × 1403 A	2 × 1767 A	2 × 1403 A
AC Side Parameters				
Rated Power	6250 kW	5000 kW	3150 kW	2500 kW
Rated Grid Voltage	10 kV / 35 kV (optional)			
Rated Grid Frequency	50 Hz			
Power Factor	>0.99 (adjustable from -1 to 1)			
THDi	<3% @ rated power			
System Parameters				
Cooling Method	Air-liquid cooling			
Dimensions (W × D × H)	7700 × 3200 × 3000 mm (Customizable dimensions)	7500 × 3000 × 3000 mm (Customizable dimensions)		
Weight	<26 t		<21 t	
Noise	≤85 dB			
Protection Level	IP54			
Max Efficiency (PCS)	99% (PCS)			
Operating Altitude	4000 m (>2000 m derating)			
Ambient Temperature	-30°C ~ +60°C (>45°C derating)			
Humidity Range	5-95% (non-condensing)			
Communication Interfaces	RS485, CAN, Ethernet			
Communication Protocols	Modbus RTU, CAN2.0, Modbus TCP, IEC 61850			

Energy Storage Power Conversion Cabinet (Indoor)



Features

High Efficiency



Three-level topology with a maximum efficiency exceeding 99%.

Easy Expansion



Supports multi-unit parallel operation for scalable deployment.

Intelligent Air Cooling



Suitable for ambient temperatures from -35°C to 60°C, with no derating at 45°C.

Quick Response



Fast dynamic response with millisecond-level charge-discharge conversion time.

Multiple Communication Protocols & Interfaces



Compatible with IEC61850, IEC104, Modbus, CAN2.0, and other protocols. Equipped with Ethernet, RS485, CAN, and other communication interfaces.

High Altitude Operation

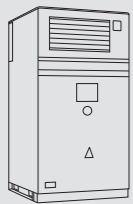


Operates reliably at altitudes up to 4000 meters.

Specifications

Product Model	ESS-PCS-1250	ESS-PCS-1725
Rated Power	1250 kW	1725 kW
Maximum Apparent Power	1375 kVA	1897 kVA
DC Side		
Maximum DC Voltage	1500 V	
Maximum DC Current	1403 A	1936 A
Battery Voltage Range	1000 ~ 1500 V	
Grid-Connected AC Side		
Rated Grid Voltage	690 V, 3W+PE	
Grid Voltage Range	690VAC (-15%~10%)	
Maximum AC Output Current	1151 A	1588 A
Rated Grid Frequency	50 Hz	
THDi (at rated power)	< 3 % (I _{pn})	
Power Factor Adjustment Range	-1 (leading) ~ 1 (lagging)	
Off-Grid AC Side		
Rated Off-grid Voltage	630 V, 3W+PE	
Rated Frequency	50 Hz	
Voltage Waveform THD	< 3 % (linear load)	
Environmental Conditions		
Operating Temperature	-35°C ~ 60°C (derating above 45°C)	
Operating Humidity	≤95 % (non-condensing)	
Operating Altitude	≤4000 m (derating above 2000m)	
System Data		
Isolation Method	Transformerless	
Maximum Efficiency	99 %	
Protection Rating	IP20	
Cooling Method	Intelligent Air Cooling	
Communication Interfaces	RS485 / CAN / Ethernet	
Communication Protocols	Modbus-RTU / Modbus-TCP / IEC61850 / IEC104	
Noise	<80 dB	
System Dimensions (W×H×D)	1400 × 2000 × 800 mm	
Weight	<1500 kg	

Energy Storage Power Conversion Cabinet



Features

High Efficiency



Three-level topology with a maximum efficiency exceeding 99%.

Quick Response



Fast dynamic response with millisecond-level charge-discharge conversion time.

Easy Expansion



Supports multi-machine parallel operation for scalable deployment.

Strong Grid Adaptability

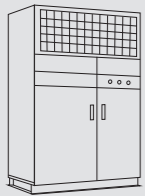


Enables rapid power dispatch and supports both high-voltage and low-voltage ride-through capabilities.

Specifications

Product Model	ESS-PCS-1250H	ESS-PCS-1725H	ESS-PCS-2500H	ESS-PCS-3450H
Rated Power	1250 kW	1725 kW	2500 kW	3450 kW
Maximum Apparent Power	1375 kVA	1897 kVA	2750 kVA	3975 kVA
DC Side				
Maximum DC Voltage	1500 V			
Maximum DC Current	1403 A	1936 A	2×1403 A	3872 A
Battery Voltage Range	1000~1500 V			
Grid-Connected AC Side				
Rated Grid Voltage	690 V, 3W+PE			
Grid Voltage Range	80%-110%			
Max. AC Current	1151 A	1588 A	2301 A	3176 A
Rated Grid Frequency	50 Hz			
THDi (at rated power)	< 3 % (I _{pn})			
Power Factor Range	-1 (leading) ~ 1 (lagging)			
Off-Grid AC Side				
Off-grid Rated Voltage	630 V, 3W+PE			
Rated Frequency	50 Hz			
Voltage Waveform THD	< 3 % (linear load)			
Environmental Conditions				
Operating Temperature	-35°C ~ 60°C (derating above 45°C)			
Operating Humidity	≤95 % (non-condensing)			
Operating Altitude	≤4000 m (derating above 2000m)	≤5000 m (derating above 2000m)		≤5000 m (derating above 2000m)
System Data				
Isolation Method	Transformerless			
Max. Efficiency	99 %			
Protection Rating	IP65	IP55	IP65	
Cooling Method	Air/Liquid Cooling			
Communication Interface	RS485 / CAN / Ethernet			
Communication Protocol	Modbus-RTU / Modbus-TCP / IEC61850 / IEC104			
Noise	<80 dB			
Dimensions (W×H×D)	850×2500×1200 mm	1100×2350×1050 mm	1450×2500×1200 mm	1700×2500×1200 mm
Weight	<1500 kg	<1500 kg	<2100 kg	<2100 kg

Grid-Forming Power Conversion System



Features

High Efficiency



Three-level topology with a maximum efficiency exceeding 99%.

Easy Expansion



Supports multi-machine parallel operation for scalable deployment.

Multiple Communication Protocols



Compatible with various protocols such as IEC 61850, Modbus, and CAN2.0.

Quick Response



Fast dynamic response with millisecond-level charge-discharge conversion time.

Intelligent Air Cooling



Suitable for ambient temperatures from -30°C to 60°C, with no derating at 45°C.

High Altitude Operation



Operates at altitudes up to 5000 meters.

Specifications

Product Model	ESS-PCS-1250-HN	ESS-PCS-1725-HN
DC Side		
DC Voltage Range	1000-1500 V	
Maximum DC Current	1594 A	2200 A
AC Side		
Rated AC Power	1250 kW	1725 kW
Maximum Output Power	3750 kVA	5175 kVA
Rated Grid Voltage	690 V	
Grid Voltage Operating Range	80%~110%	
Power Factor Adjustable Range	-1 (leading) ~ 1 (lagging)	
Rated Grid Frequency	50Hz	
Connection Method	3W+PE	
Off-Grid		
Rated Output Voltage	690 V	
Rated Output Frequency	50 Hz	
Rated Power	1250 kW	1725 kW
System Data		
Communication Protocol	Modbus-RTU/Modbus-TCP/IEC61850	
Protection Level	IP65	
Cooling Method	Air and Liquid Cooling	
Operating Temperature	-35 - +60 °C	
Relative Humidity	≤ 95% (non-condensing)	
Operating Altitude	≤ 5000m (derating above 2000m)	
System Dimensions	1450*2500*1200 mm	1700*2500*1200 mm
Grid Connection		
Overload Capability	1.1 times for continuous operation, 1.25 times for more than 10 minutes, 3 times for more than 10 seconds (@40°C)	
Short Circuit Ratio	1.1~10	
Grid Connection/Disconnection	Available	
Black Start	Available	

Smart Residential BESS Solution

Solution Overview

Aligned with market demand and the global trend toward green, low-carbon energy, AEMEnergy has developed a smart residential energy storage solution designed for households, based on renewable energy integration and battery energy storage systems.

Centered on the energy storage system and an intelligent energy management system, the solution supports renewable energy access and enables the seamless integration, efficient utilization, and flexible management of energy through smart control and dispatching, delivering 24/7 uninterrupted green power for homes.

Solution Advantages

Green & Low-Carbon



Supplies household loads with clean, renewable energy.

Modular Design



Flexible capacity expansion to meet different energy demands.

Versatile Applications



Applicable to various residential settings, including single-detached dwellings and apartment buildings.

Intelligent Protection



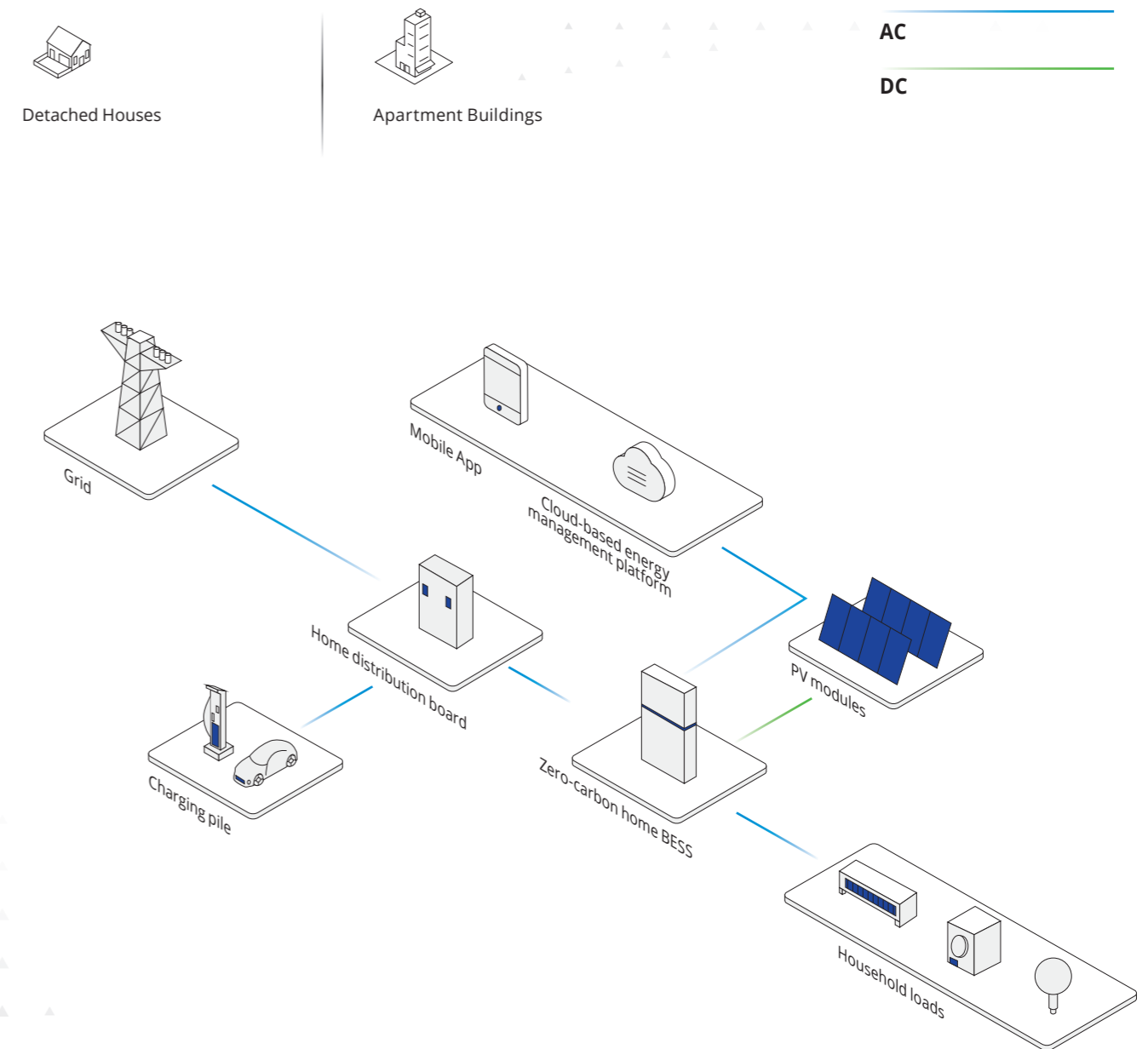
Comprehensive safety protection with real-time cloud monitoring.

Fast Installation



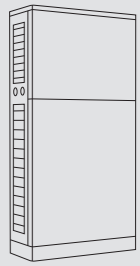
Quick and easy installation, reducing labor and deployment costs.

Key Application Scenarios



Lumi

Residential BESS



Features

A Green Power Plant at Home



The AEMEnergy Zero-Carbon residential BESS is designed to deliver a convenient, integrated photovoltaic and energy storage solution for residential users.

Flexible Energy Dispatch



Easy to install and operate, with multiple intelligent operating modes that enable flexible power dispatching, energy storage, and household load management.

Modular All-in-One Design



Featuring an advanced modular architecture, the system integrates key components such as a three-phase energy storage inverter, high-voltage battery cabinet, and battery modules into a single compact unit.

Multi-Scenario Application



With a compact and elegant design that blends seamlessly into modern homes, the system offers an IP54 protection rating, making it suitable for both indoor and outdoor installations.

Specifications

Product Model	PSS-BS-38-30
Operating Temperature	-20 °C ~ 45 °C
Weight	approx. 410 kg
Protection Rating	IP54
Dimensions	350 × 900 × 1750 mm
Humidity Range	0 ~ 95 %
Operating Altitude	2000 m (derating above 2000 m)
Cooling Method	Forced air cooling
HMI	Touch screen / Mobile app
Monitoring	WiFi / 4G
Standby Power Consumption	< 15 W
Topology	Non-isolated
Noise Level	< 65 dB
Inverter	
Rated Power	30 kW
Max. Output Current	50 A
Rated Voltage	400 V / 300 V
Grid Support	LVRT, HVRT, SVG
Max. Efficiency	> 97.8 %
PV Input	
Max. PV Power	38.4 kW
Max. Output Current	32 A + 32 A
Max. Voltage	850 V
Start-up Voltage	250 V
MPPT Voltage Range	200 ~ 830 V
Protection	
Anti-islanding Protection	Yes
Reverse Polarity Protection	Yes
Insulation Resistance Detection	Yes
Battery	
Battery Type	Semi-solid-state
Rated Energy Capacity	32 kWh
Rated Voltage	DC 614.4 V
Cell Configuration	6 × 1P32S
Temperature Measurement Accuracy	≤ 1 °C
SOE Calculation Accuracy	≤ 5 %
Cycle Life	≥ 4000 cycles
Grid-Connected Output	
Output Power	30 kVA
Max. Output Current	50 A
Rated Voltage	400 V
Voltage Range	-20 % ~ +15 %
Frequency Range	50 / 60 Hz
Total Harmonic Distortion (THD)	< 3 % (at > 30 % load)
Power Factor	-100 % ~ +100 %
Off-Grid Output	
Rated Power	30 kVA
Max. Power	33 kVA
Max. Output Current	43.5 A
Rated Voltage	400 V / 230 V
Output Voltage THD	< 2 %
Unbalance Capability	100%
Frequency Range	50 / 60 Hz
Overcurrent Capability	65 A / 100 ms
Protection	
AC Overcurrent Protection	Yes
AC Short-circuit Protection	Yes
AC Overvoltage Protection	Yes

AEMEnergy C&I BESS Applications



AEMEnergy C&I BESS Applications



Chengdu, Sichuan C&I BESS 1.2MW/2.58MWh



Yibin, Sichuan C&I BESS 1MW/2MWh



Nantong, Jiangsu C&I BESS 1.4MW/3MWh



Suzhou, Jiangsu C&I BESS 250kW/500kWh



Liyang, Jiangsu C&I BESS 2MW/4.3MWh



Daqing, Heilongjiang 125kW/241kWh (BESS) Wind-PV-Methanol-Storage Project



Dazhou, Sichuan User-Side BESS 1.5MW/3.13MWh



Yantai, Shandong 500kW/1500kWh Zero-Carbon Smart Tech Park



Afghanistan Home Solar PV + BESS



AEMEnergy Large-Scale BESS Applications



Naqu, Tibet PV Power Station BESS EPC 4.5MW/9MWh



Quzhou, Zhejiang PV power station BESS 6.8MW/6.8MWh



Wuyi, Zhejiang 60MW Solar power generation supporting BESS 6MW/12MWh



Zhangjiakou, Hebei 500MW PV power station BESS 100MW/200MWh

AEMEnergy Large-Scale BESS Applications



Yunwu Mountain 50MW Wind Power Supporting Project 7.5MW/15MWh



Dunhuang, Gansu 40MW PV supporting BESS PC project 6MW/24MWh



Shijiazhuang, Hebei BESS 3MW/6MWh



Dezhou, Shandong Independent BESS Station 200MW/400MWh