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# BESS

## Solutions and Products

# Who We Are

AEMEnergy is a leading provider of advanced power system equipment and green energy solutions. With over 20 years of experience in the electronics and energy storage industry, we drive innovation through comprehensive R&D, manufacturing, sales, and service of BESS.

We offer a full portfolio of commercial and industrial (C&I) BESS, PCS, MW-scale energy storage systems, microgrid solutions, and virtual power plant platforms. Leveraging our core technologies and product portfolio, we deliver end-to-end solutions that enable continuous scenario-based innovation and provide smart, green energy solutions to partners worldwide.

**20+** Years  
of Expertise in Power  
Electronics Industry

**300+**  
Core Technology Intellectual  
Property Rights

**95,000** m<sup>2</sup>  
Intelligent  
Manufacturing Center

**900,000+** Hours  
Safe Operations for Core Products

**7.3+** Million tons  
Carbon Emissions Reduced

**80+**  
Invention Patents

**TIER1**  
SMM  
Innovation Star

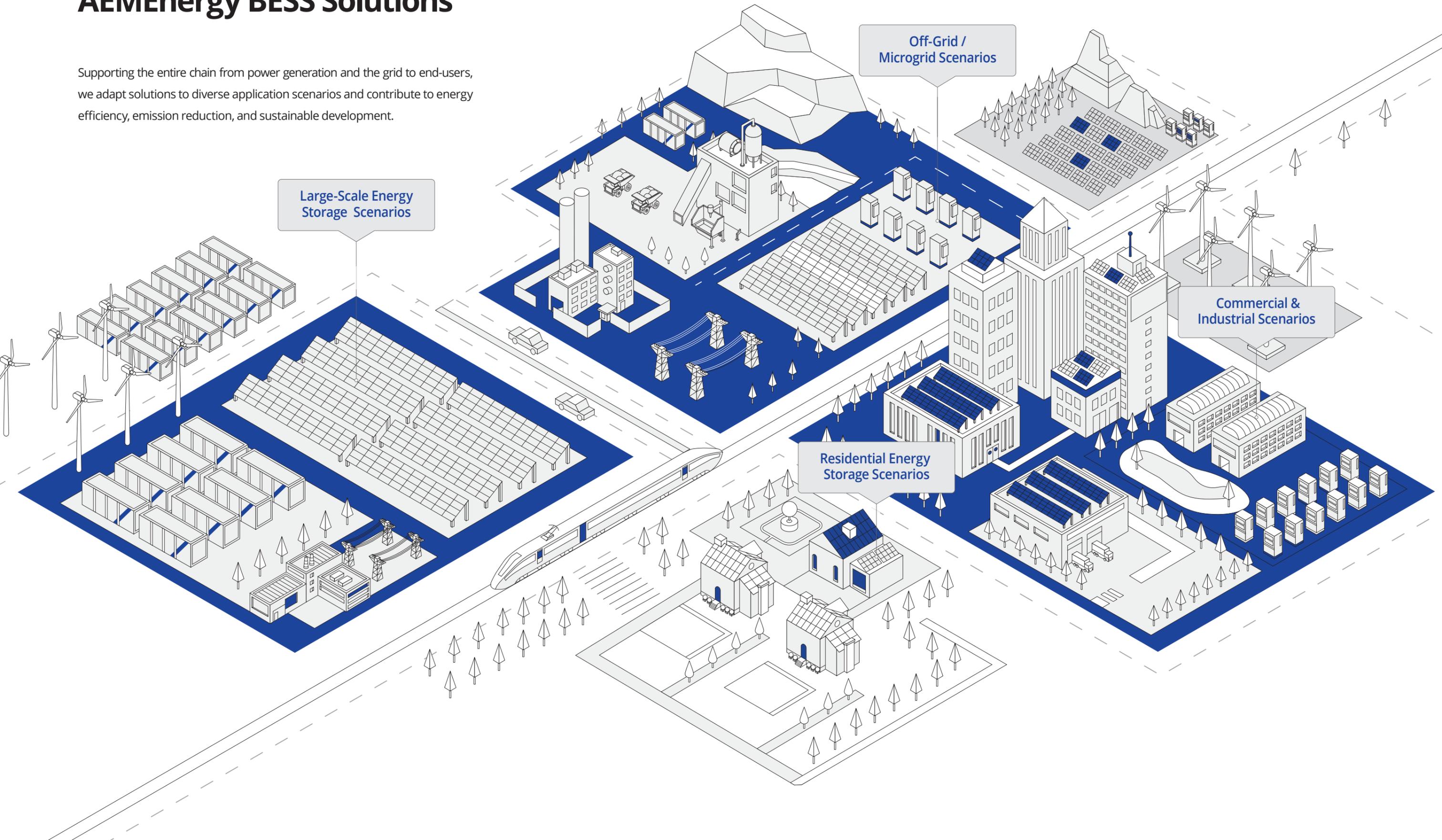
**TIER1**  
BESS Excellence  
Performance

**TOP 20**  
BESS Companies  
in China



# 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 95,000m<sup>2</sup> 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** m<sup>2</sup>  
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 m<sup>2</sup> 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



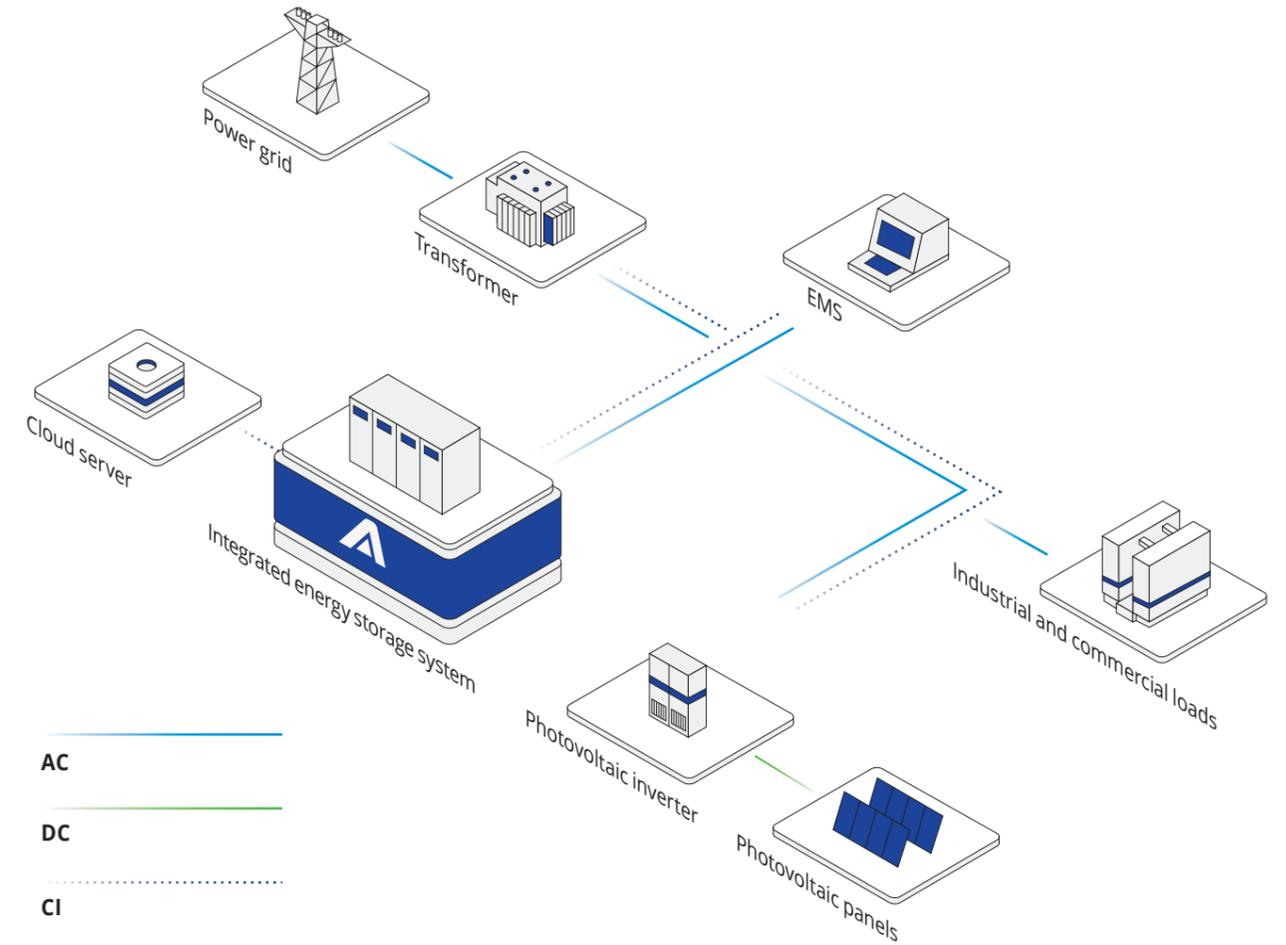
Schools



Hospitals and Healthcare Facilities

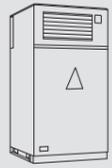


Hotels and Resorts



# 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



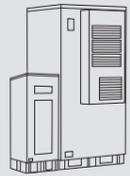
Ultra-quiet PCS with built-in noise reduction.

## Specifications

Product Model	ESS-SYS-68/241-Y	ESS-SYS-100/241-Y	ESS-SYS-125/261L-Y
	Air Cooled		Liquid Cooled
Battery Type	LiFePO <sub>4</sub>		
Cycle Life	≥6000 cycles (95% DOD charge / discharge, 25±2°C, EOL 80%)		
Depth of Discharge	0.95 DOD		
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	728–949 V
Cell Type	LFP 3.2 V / 314 Ah		
Battery Configuration	1P24S × 10	1P24S × 10	1P52S × 5
<b>AC Side</b>			
Rated Power	68 kW	100 kW	125 kW
Maximum Power	75 kW	110 kW	137.5 kW
Maximum Output Current	196 A	158 A	198 A
Rated Frequency	50/60 Hz		
Harmonic Current	<3 % (at rated power)		
DC Component	<0.5 % (at rated power)		
Rated AC Voltage	AC 220 V	AC 400 V	AC 400 V
Power Factor	>0.99 (at rated power)		
Power Factor Adjustment Range	1 (leading) ~ 1 (lagging)		
Isolation Method	Transformerless		
Wiring Method	3P+PE	3P+N+PE	3P+N+PE
<b>System Data</b>			
Overall System Efficiency	>86 %		
Noise Level	75dB (1 meter from the equipment)		
SOE Estimation Accuracy	<5 %		
Protection Level	IP55		
Operating Temperature	-20°C ~ 55 °C		
Operating Humidity	≤95 % (non-condensing)		
Operating Altitude	4000m (derated above 2000 m)		
Fire Protection System	Composite detection + Gas fire suppression + Water-based fire protection		
Early Detection	Four-in-one detector (smoke, temperature, CO, VOC)		
Thermal Management System	Industrial-grade Air Conditioner, intelligent air cooling	Intelligent liquid cooling unit	
Gaseous Fire Suppression	Aerosol		FK-5-1-12
System Dimensions (W×H×D)	1200×2350×1300 mm	1200×2350×1300 mm	1200 × 2350 × 1400 mm
Weight	2550 kg		2940 kg
Communication Interfaces	CAN, RS485, Ethernet, 4G		
Communication Protocols	CAN, Modbus RTU, Modbus TCP, MQTT		

# SyncPower

## C&I BESS Battery Cabinet+PCS



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.

#### Charging and Discharging



0.5P charge and discharge.

#### Advanced Protection



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

#### High Energy Density



Compact footprint with minimal space requirement.

#### Enhanced Safety

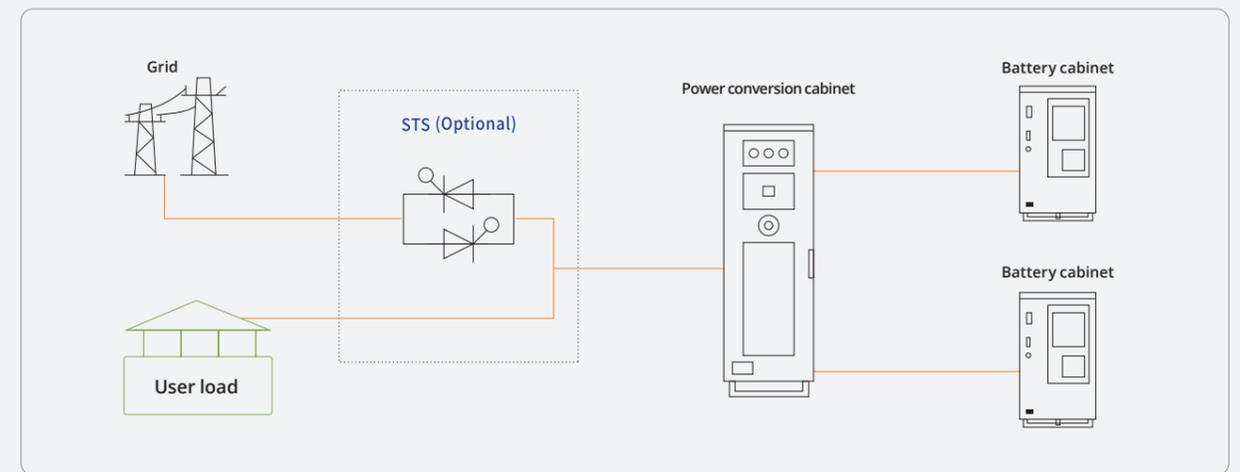


Safe LiFePO<sub>4</sub> cathode material, ensuring reliable and secure operation.

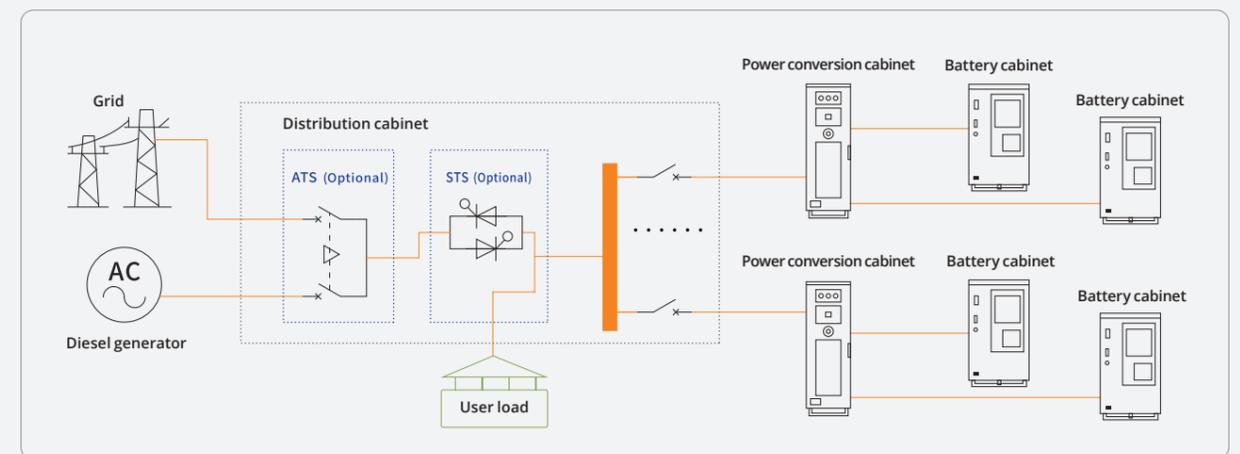
With excellent safety performance, wide environmental adaptability, and flexible operation, the system complies with international standards and certifications, supporting the global transition toward a low-carbon and sustainable energy future.

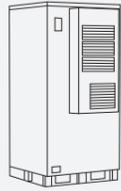
### System Diagram

#### Single-Unit Operation



#### Multi-Unit Parallel Operation





## C&I Battery Cabinet

### Specifications

Product Model	ESS-SYS-DC-128 /257-F	ESS-SYS-DC-64 /129-F	ESS-SYS-DC-56 /113-F	ESS-SYS-DC-48 /96-F	ESS-SYS-DC-40 /80-F
Battery Type	LiFePO <sub>4</sub>				
Cycle Life	≥ 6000 cycles (100% DOD charge/discharge, 25 ± 2 °C, EOL 80%)				
C/D-Rate	0.5C / P@25°C				
Discharge Depth	90 % DOD				
Rated Energy	257.228 kWh (0.5P,25 ± 2°C)	129 kWh (0.5P,25 ± 2°C)	113 kWh (0.5P,25 ± 2°C)	96 kWh (0.5P,25 ± 2°C)	80 kWh (0.5P,25 ± 2°C)
Nominal Voltage	819.2 V	409.6 V	358.4 V	307.2 V	256 V
Voltage Range	716.8 - 908.8 V	358.4 - 454.4 V	313.6 - 397.6 V	268.8 - 340.8 V	224-284 V
Battery Cell Type	LFP3.2 V / 314 Ah				
Battery Connection Mode	1P256S	1P128S	1P112S	1P96S	1P80S
PACK Connection Mode	1P16S				
SOE Estimation Accuracy	<5 %				
Battery Cluster Efficiency	95 %				
Noise	<75 dB				
Protection Level	IP55				
Environment Temperature	-20°C ~ +55°C				
Operation Humidity	0 ~ 95 % (non-condensing)				
Altitude	4000 m (derating above 2000 m)				
Fire Protection	Aerosol				
Temperature Control System	Intelligent air cooling				
Dimensions	1150*1100*2400 mm				
Weight	2400 kg	1522 kg	1408 kg	1294 kg	1220 kg
Anti-Corrosion Grade	C3				
Safety Design	Explosion-proof design, explosion-relief design				
Communication Interface	RS485- CAN- Ethernet				
Communication Protocol	CAN- Modbus RTU- Modbus TCP				



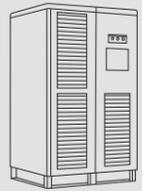
## Power Conversion System

### Specifications

Product Model	ESS-SYS-ACDC-135
<b>AC (Grid-connected)</b>	
Rated Power	135 kW
Rated Voltage	AC 400 V
Rated Current	195 A
Voltage Range	-15 % ~ +15 %
Rated Frequency	50 / 60 Hz
THDi	< 3 %
Power Factor	1.0 leading ~ 1.0 lagging
AC Type	3W+N+PE
<b>AC (Off-grid)</b>	
Rated Capacity	135 kVA
Rated Voltage	AC 400 V
Rated Current	195 A
THDu	≤ 3%
Rated Frequency	50 / 60 Hz (±0.2)
<b>DC Input (Battery Connection)</b>	
Voltage Range	716.8 - 908.8 Vdc
Rated Current	176 A
<b>Other</b>	
Noise	≤ 75 dB
Operating Temperature	-20 °C ~ +45 °C
Cooling Method	Intelligent air cooling
Relative Humidity	95 % (non-condensing)
Maximum Altitude	4000 m (derating above 2000 m)
System Dimensions (WxDxH)	450*900*1800 mm
Grid-Connection Switching	< 10 ms(STS)
<b>Communication</b>	
Display	Touch screen
Communication Interface	RS 485 / LAN
Reserved	DO / DI

# PV-Storage-Diesel

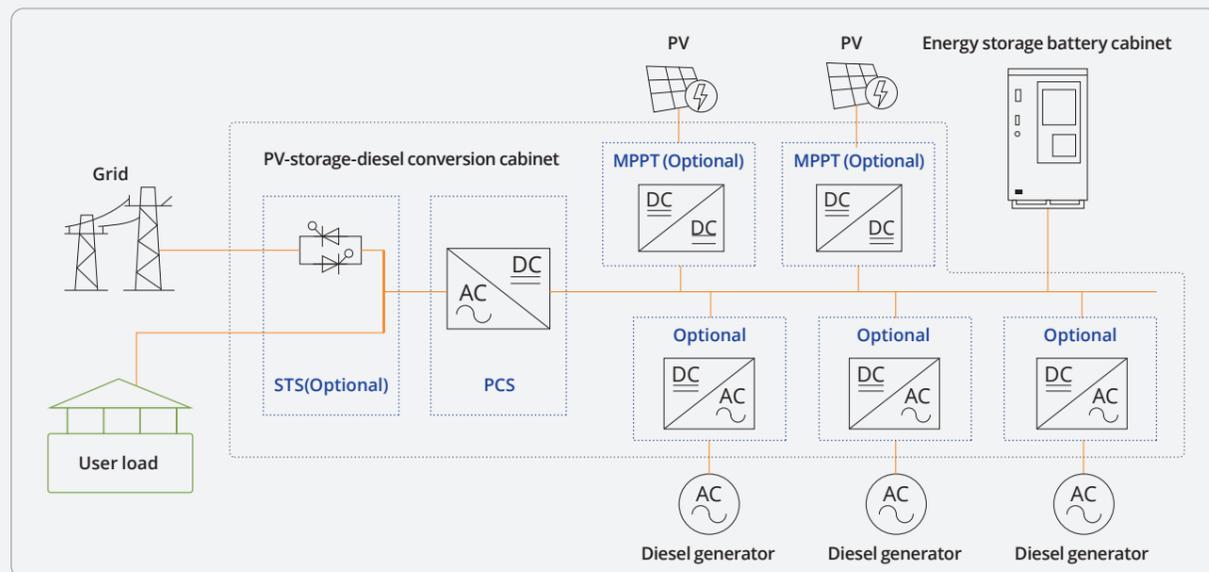
## Power Conversion Cabinet



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-PED-SI
<b>AC (grid-connected)</b>	
Apparent Power	110 kVA
Rated Power	100 kW
Rated Voltage	400 V
Harmonic Current	<3 %
Voltage Range	360 V - 440 V
Rated Frequency	50/60 Hz
THDi	<3 %
Power Factor	0.9 (leading) - 0.9 (lagging)
Alternating Current Format	3W+N+PE
<b>AC (off-grid)</b>	
Voltage Range	400 V ± 5 %
Output Current	152 A
THDu	≤5 %
Rated Frequency	50/60 Hz
Overload Capacity	110 % 10min / 120 % 1min
<b>DC Input (battery connection)</b>	
Rated Voltage Range	680 V - 900 V
Rated Current	150 A
<b>Other Parameters</b>	
Noise	≤75dB (A)@1m
Working Temperature	-20°C ~ +45°C
Cooling Method	Intelligent air cooling
Relative Humidity	95 % (no condensation)
Highest Altitude	Derated above 2,000m
Grid-connected/Off-grid Switching	<10ms (STS)
<b>Diesel Generator Access (optional)</b>	
Ac Input Voltage Range	260 Vac - 530 Vac 3L + PE
Input Voltage Frequency Range	45 Hz - 65 Hz
Input Power Factor	≥0.99
Efficiency (full load)	>95 %
Input THD	<5 %
Power	40 kW / 80 kW
Recommended Access Power	>40 kW / >80 kW
<b>Photovoltaic Access (optional)</b>	
Maximum Photovoltaic Open-Circuit Voltage	950 VDC
PV MPPT Voltage Range	200 V ~ 900 VDC
Number of PV MPPT (optional)	1 or 4
PV Power (optional)	60 kW / 120 kW / 240 kW
Maximum PV Module Power (reference)	1.1 to 1.4
<b>STS (optional)</b>	
Rated Power	200 kW
AC Voltage Range	400 V / 230 V (-20 % ~ 15 %)
Frequency Range	50 Hz / 60 Hz (±5Hz)
Maximum AC Power	220 kVA
Maximum Alternating Current	330 A
<b>Communication</b>	
Display	Touch screen
Communication Interface	RS485 / LAN
Reserve	DO / DI

# 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
<b>DC Side</b>				
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	100 A	200 A	186 A	AC400 V : 201 A AC440 V : 182 A
<b>AC Side</b>				
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 <sub>pn</sub> )			
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
<b>System Data</b>				
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	≤60 dB			
System Dimensions (W×H×D)	580×200×640 mm	580×280×640 mm	580×280×640 mm	580×280×640 mm
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

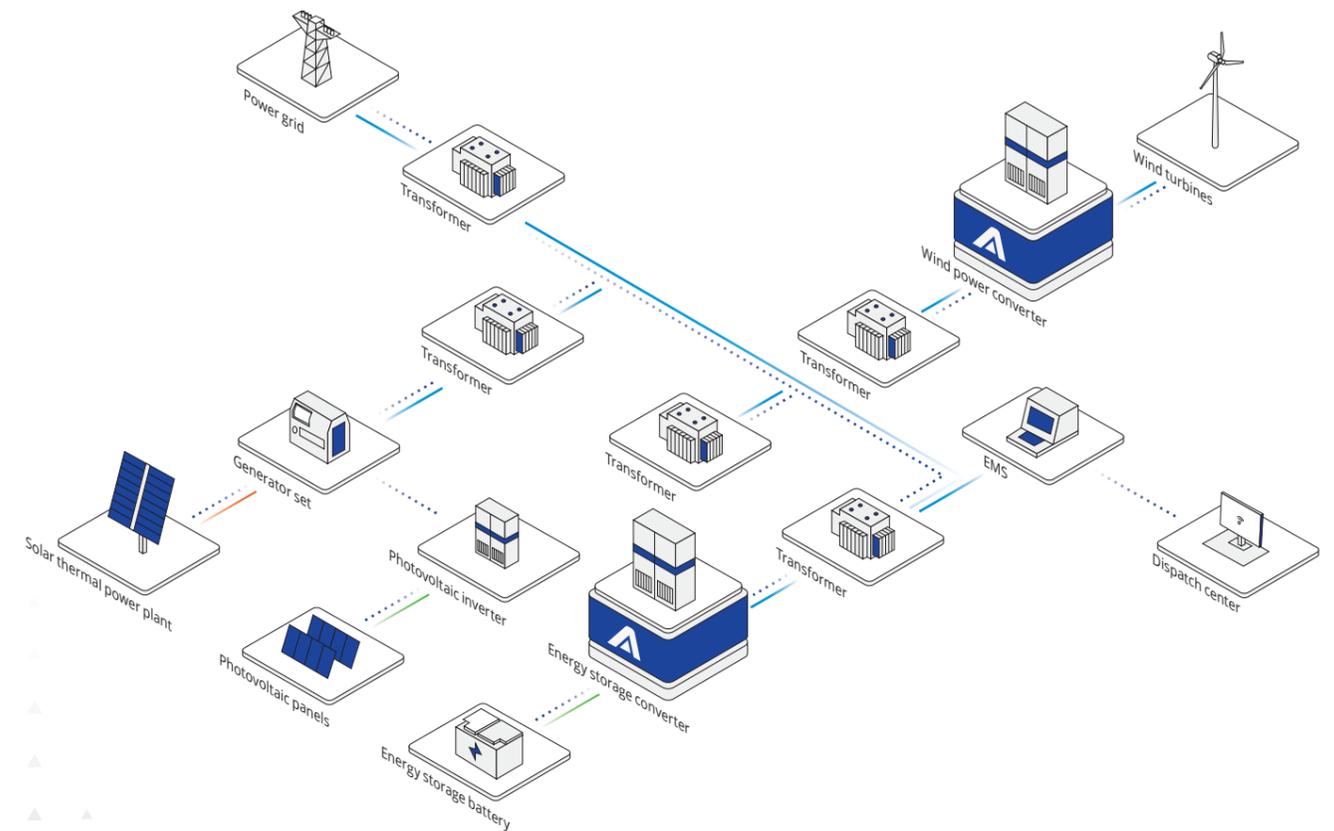


Renewable Energy Power Plant



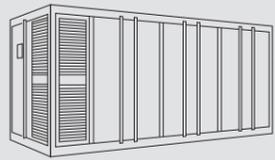
Grid-Constrained Region

- AC
- DC
- CI
- HF



# 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-Y	ESS-DC-1250/ 2500-F	ESS-DC-3000/ 3000-F	ESS-DC-2500/ 2500-Y	ESS-DC-1677/ 3354-Y
Cell Capacity	314 Ah	280 Ah	220 Ah	280 Ah	280 Ah
Combination Mode	2*6P416S	4*3P240S	2*5P416S	2*4P350S	9P416S
Rated Energy	5015.96 kWh	2580.48 kWh	2928.64 kWh	2508.8 kWh	3354.624 kWh
Nominal Voltage	1331.2 V	768 V	1331.2 V	1120 V	1331.2 V
Operating Voltage	1164.8 V - 1497.6 V	672 V - 864 V	1164.8 V - 1497.6 V	980 V - 1260 V	1164.8 V - 1497.6 V
Charge and Discharge Rate	0.5 C	0.5 C	1 C	1 C	0.5 C
Container Size	20 ft	40 ft	45 ft	20 ft	20 ft
Weight	≤42 T	≤45 T	≤50 T	≤35 T	≤40 T
Operating Temperature	-40°C ~ 55°C				
Operating Altitude	≤5000 m				
Temperature Control Mode	liquid cooling	Air conditioning+intelligent air cooling		liquid cooling	
Fire Fighting System	Automatic fire warning + gas fire extinguishing system + water fire fighting system				
Protection Level	IP54				
Communication Protocol	ModbusRTU/ModbusTCP/IEC 104/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

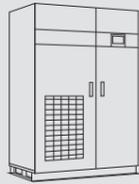


Supports high and low voltage ride-through, ensuring strong grid compatibility.

## Specifications

Product Model	ESS-AC-5000	ESS-AC-3450	ESS-AC-3150	ESS-AC-2750	ESS-AC-1250
<b>DC Side</b>					
Maximum DC Voltage	1500 V	1500 V	1500 V	1500 V	1000 V
Maximum DC Current	2×2806 A	2×1936 A	2×1936 A	2×1936 A	2×1167 A
Battery Voltage Range	1000–1500 V	1000–1500 V	915–1500 V	800–1500 V	600–900 V
<b>AC Side</b>					
Rated Grid Voltage	10–35 kV				
Rated Power	5000 kW	3450 kW	3150 kW	2750 kW	1250 kW
Rated Grid Frequency	50 Hz				
THDi (at Rated Power)	< 3 %				
Power Factor	-1 ~ +1				
<b>System Data</b>					
Transformer	Dry / Oil-immersed				
Maximum Efficiency	98 %				97.80 %
Protection Level	IP54				
Cooling Method	Intelligent Air Cooling				
Communication Protocols	Modbus-RTU/TCP/IEC61850/IEC104/CAN2.0				
Service Life	20 Years				
Dimensions (L×H×D)	9000×2896×2438 mm (approx.)		6058×2896×2438 mm (approx.)		
Weight	<24 T	<15 T	<15 T	<14 T	<12 T
<b>Environmental Conditions</b>					
Operating Temperature	-30°C + 60°C (derating above 45°C)				
Relative Humidity	≤95 % (non-condensing)				
Operating Altitude	≤4000 m (derating above 2000m)				

# Grid-Following 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 -30°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

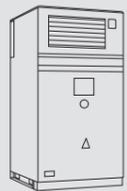


Operates reliably at altitudes up to 4000 meters.

## Specifications

Product Model	ESS-PCS-1250	ESS-PCS-1725
Rated Power	1250 kW	1725 kW
Maximum Apparent Power	1375 kVA	1870 kVA
<b>DC Side</b>		
Maximum DC Voltage	1500 V	
Maximum DC Current	1936 A	
Battery Voltage Range	1000 ~ 1500 V	
<b>Grid-Connected AC Side</b>		
Rated Grid Voltage	690 V, 3W+PE	
Grid Voltage Range	-15 % ~ +10 %	
Maximum AC Output Current	1588 A	
Rated Grid Frequency	50 Hz	
THDi (at rated power)	< 3 % (I <sub>pn</sub> )	
Power Factor Adjustment Range	1 (leading) ~ 1 (lagging)	
<b>Off-Grid AC Side</b>		
Rated Off-grid Voltage	630 V, 3W+PE	
Rated Frequency	50 Hz	
Voltage Waveform THD	< 3 % (linear load)	
<b>Environmental Conditions</b>		
Operating Temperature	-30°C ~ 60°C (derating above 45°C)	
Operating Humidity	≤95 % (non-condensing)	
Operating Altitude	≤4000 m (derating above 2000m)	
<b>System Data</b>		
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	1491 kg	

# Grid-Following Energy Storage Power Conversion Cabinet (Outdoor)



## 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



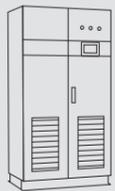
Enables rapid power dispatch and supports both high-voltage and low-voltage ride-through capabilities.

## Specifications

Product Model	ESS-PCS-1250H	ESS-PCS-1725H	ESS-PCS-2500H
Rated Power	1250 kW	1725 kW	2500 kW
Maximum Apparent Power	1375 kVA	1897 kVA	2750 kVA
<b>DC Side</b>			
Maximum DC Voltage	1500 V		
Maximum DC Current	1403 A	1936 A	2×1403 A
Battery Voltage Range	1000~1500 V		
<b>Grid-Connected AC Side</b>			
Rated Grid Voltage	690 V, 3W+PE		
Grid Voltage Range	-15 % ~ 10 %		
Max. AC Current	1151 A	1588 A	2092 A
Rated Grid Frequency	50 Hz		
THDi (at rated power)	< 3 % (I <sub>pn</sub> )		
Power Factor Range	1 (leading) ~ 1 (lagging)		
<b>Off-Grid AC Side</b>			
Off-grid Rated Voltage	630 V, 3W+PE		
Rated Frequency	50 Hz		
Voltage Waveform THD	< 3 % (linear load)		
<b>Environmental Conditions</b>			
Operating Temperature	-30°C ~ 60°C (derating above 45°C)		
Operating Humidity	≤95 % (non-condensing)		
Operating Altitude	≤4000 m (derating above 2000m)		
<b>System Data</b>			
Isolation Method	Transformerless		
Max. Efficiency	99 %		
Protection Rating	IP65	IP55	IP55
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
Weight	<1500 kg	<1500 kg	<2800 kg

# Energy Storage

## 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-630	ESS-PCS-500
<b>Power Level</b>		
Rated Power	630 kW	500 kW
Maximum Capacity	693 kVA	550 kVA
<b>DC Side</b>		
Maximum DC Voltage	1000 V	
Maximum DC Current	1167 A	1111 A
Battery Voltage Range	600-900 V	500-900 V
<b>Grid-Connected AC Side</b>		
Rated Grid Voltage	400 V , 3W+N+PE	315 V , 3W+PE
Grid Voltage Range	-15% ~ 10%	
Maximum AC Current	1000 A	1008 A
Rated Grid Frequency	50 Hz	
THDi(Rated Power)	<3 %	
Adjustable Range Of Power Factor	-1 ~ +1	
<b>Off-Grid AC Side</b>		
Off-grid Rated Voltage	400 V , 3W+N+PE	315 V , 3W+PE
Rated Frequency	50 Hz	
Voltage Waveform THD	<3 % (linear load)	
<b>Environmental Conditions</b>		
Operating Temperature	-30°C ~ 60°C (over 45°C derating)	
Relative Humidity	≤95 % (no condensation)	
Operating Altitude	5000 m (> 3000m derating)	
<b>System Data</b>		
Isolation Mode	Transformerless	
Maximum Efficiency	99.03 %	99.01 %
Protection Level	IP20	
Communication Protocol	Modbus-RTU / Modbus-TCP / IEC61850	
Communication interface	RS485 / CAN / Ethernet	
Cooling Method	Intelligent Air Cooling	
Service Life	20 Years	
Noise	<80 dB	
Dimensions ( W*H*D)	1100*1950*700 mm	
Weight	700 kg	

# 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



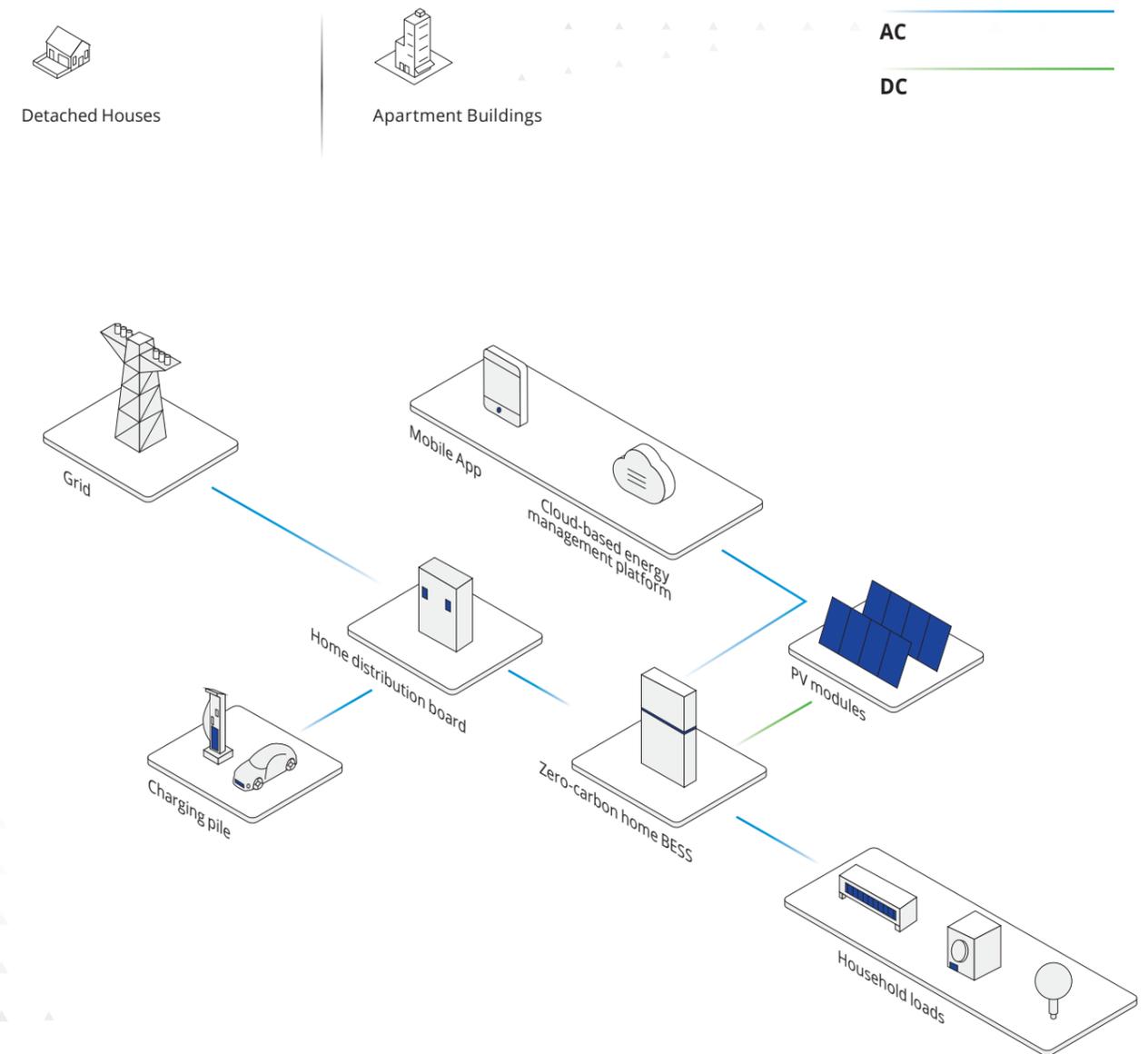
Comprehensive safety protection with real-time cloud monitoring.

### Fast Installation



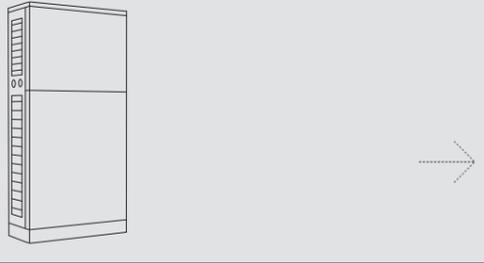
Quick and easy installation, reducing labor and deployment costs.

## 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)
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
<b>Inverter</b>	
Rated Power	30 kW
Max. Output Current	50 A
Rated Voltage	400 V / 300 V
Grid Support	LVRT, HVRT, SVG
Max. Efficiency	> 97.8 %
<b>PV Input</b>	
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
<b>Protection</b>	
Anti-islanding Protection	Yes
Reverse Polarity Protection	Yes
Insulation Resistance Detection	Yes
<b>Battery</b>	
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
<b>Grid-Connected Output</b>	
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 %
<b>Off-Grid Output</b>	
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
<b>Protection</b>	
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

