



全球领先的清洁能源服务商

To Be The World's Leading Clean Energy Service Provider

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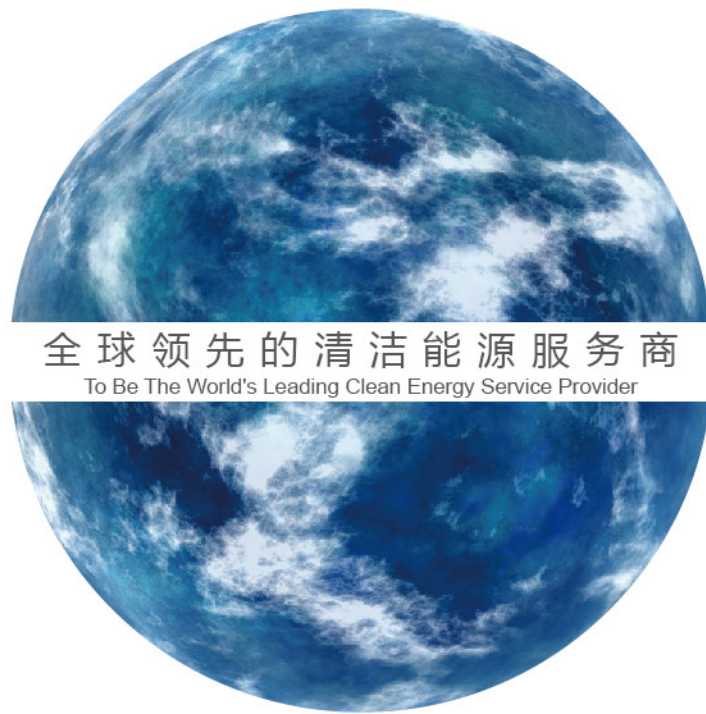


# 储能系统

ENERGY  
STORAGE  
SYSTEM  
INTEGRATED  
SOLUTIONS

## 一站式解决方案

全球领先的清洁能源服务商  
To Be The World's Leading Clean Energy Service Provider



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# 企业文化

## Corporate Culture



### 使命 Mission

提供绿色能源，发展循环经济，不断创造人类美好生活

Provide green energy, develop a circular economy, and continuously create a better life for mankind



### 愿景 Vision

创百年企业，做全球领先的能源服务商

Create a century-old enterprise and become the world's leading energy service provider



### 核心价值观 Core Value

诚实本分、做事认真、永远思考、不断创新

Be honest, work hard, think forever, and innovate constantly

# 关于骆驼

## About Camel

骆驼能源科技有限公司隶属于骆驼集团股份有限公司(SH601311)，是一家以锂电储能系统集成及应用技术为核心，专注于电网储能、工商业储能、户用储能、便携式储能以及综合能源服务业务的高新技术企业，公司深耕零碳清洁能源系统应用，致力于成为全球领先的清洁能源解决方案提供商。

骆驼能源科技在储能专用电芯、电池模组、电池管理系统(BMS)、储能变流器(PCS)、能量管理系统(EMS)、储能消防系统、储能云监控平台等技术领域掌握多项核心专利技术，具备储能全产业链的技术研发、生产到应用的实力，产品覆盖电力辅助服务、可再生能源发电、工业用户、大中型社区、工商业楼宇、绿色节能家庭、便携式能源、边防海岛、数据中心、综合园区等多种应用场景。

提供绿色动力，发展循环经济，不断创造人类美好生活，是骆驼能源的伟大使命。骆驼能源通过聚集行业优秀人才，和高校与科研机构进行产学研合作，将最前沿的研究成果转化为行业应用，打通科技与低碳生活的互联。给客户提供更安全、更高效、更环保的清洁能源产品，构筑“全球领先的清洁能源服务商”的愿景，是我们深化技术研发和产品创新的初心。骆驼能源始终与客户共同成长，以成就客户为最高荣誉，从而实现人类低碳美好生活。

Camel Energy Technology Co., Ltd., as a subsidiary of Camel Group Co., Ltd. (SH 601311), is specialized in Li-ion battery integration and application technology. Camel Energy Technology is a high-tech enterprise in energy service industry, focusing on grid energy storage, industrial and commercial energy storage, household energy storage, portable energy storage and integrated energy services. The company is deeply involved in the application of zero-carbon clean energy systems and is committed to becoming the world's leading provider of clean energy solutions.

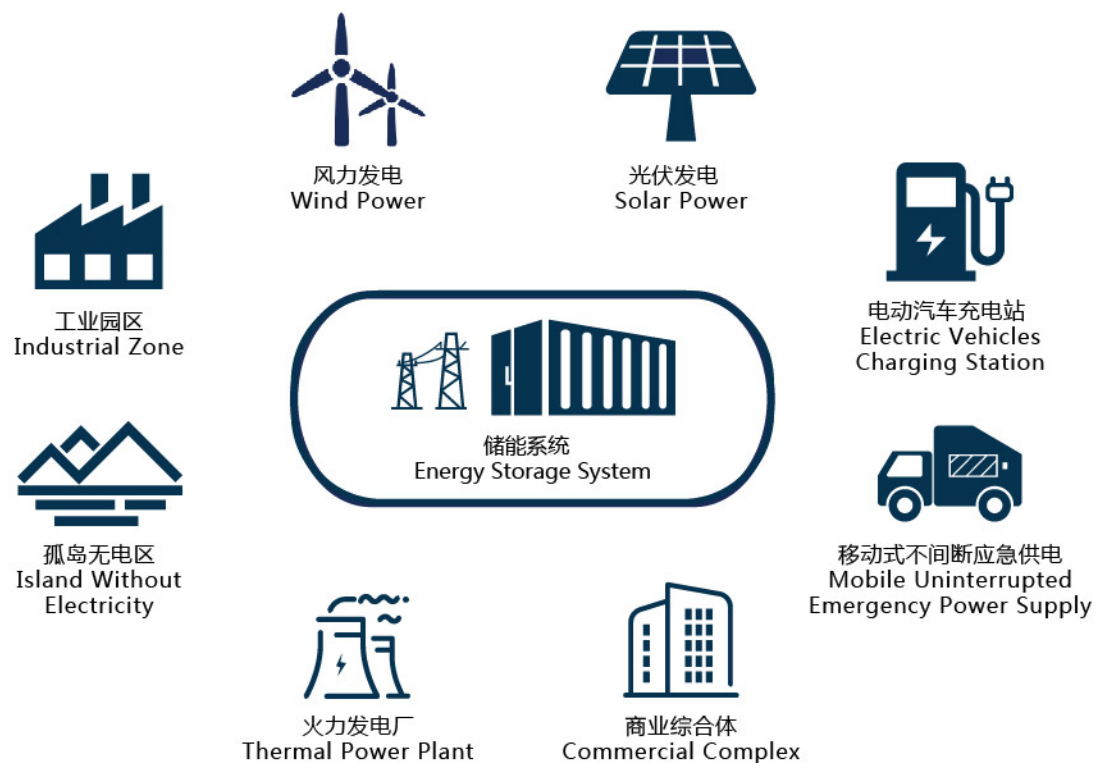
Camel Energy Technology owns a number of core patented technologies concerning energy storage cell, battery modules, battery management systems (BMS), power conversion systems (PCS), energy management systems (EMS), energy storage fire-fighting systems, energy storage cloud monitoring platforms, etc. The company also has the strength of R&D, production and application of the entire energy storage industry chain. Products can be applied to various scenarios such as power auxiliary services, renewable energy power generation, industrial users, large and medium-sized communities, industrial and commercial buildings, green energy-saving houses, portable energy sources, border islands, data centers and comprehensive parks.

The mission of Camel Energy is to provide green power, develop a circular economy, and continuously create a better life for mankind. By gathering outstanding talents in the industry, Camel Energy cooperates with universities and science & technology research institutions to transform cutting-edge research results into industry applications and open up the interconnection between technology and low-carbon life. To provide customers with safer, more efficient and more environmentally friendly clean energy products, and to build the vision of "the world's leading clean energy service provider" is our original intention to deepen technology research and development and product innovation. Camel Energy always grows together with customers, taking customer service as the highest honor, so as to realize the low-carbon and beautiful life of mankind.



# 应用场景 Applications

# 价值体现 Values



## 工业园区 Industrial Zone

- 削峰填谷；
- 降低需量电费；
- 平滑负荷；
- 应急供电。
- ⊙ Peak load cutting;
- ⊙ Reduce electricity demand & cost;
- ⊙ Smooth load;
- ⊙ Emergency power supply.

## 商业综合体 Commercial Complex

- 交流组网方案，系统方便接入；
- 降低需量电费；
- 提高电能质量；
- 应急供电。
- ⊙ AC networking scheme, convenient system access;
- ⊙ Reduce electricity demand & cost;
- ⊙ Improve power quality;
- ⊙ Emergency power supply.

## 电动汽车充电站 Electric Vehicles Charging Station

- 充电高峰时段电力扩容，消减最大容量电费；
- 光伏发电功率平滑，能量智能调度，提升光伏发电经济效益；
- 峰谷差价套利。
- ⊙ Power capacity increasing during peak load, maximum capacity electricity cost reduction;
- ⊙ PV power generation smooth, intelligent energy dispatch, improve the economic benefits of PV power generation;
- ⊙ Peak-valley arbitrage.

## 火力发电厂 Thermal Power Plant

- DCS匹配控制；
- 电网调峰、调频；
- 电网备用容量；
- 电网电压支撑。
- ⊙ DCS Matching control;
- ⊙ power grid peak and frequency modulation;
- ⊙ Increase Grid reserve capacity;
- ⊙ Grid voltage support.

## 光伏、风力发电站 Solar & Wind Power Station

- 新能源电能时移；
- 新能源波动平滑；
- 新能源稳定接入；
- 新能源发电调峰、调频服务。
- ⊙ Renewable energy time-shifting;
- ⊙ Renewable energy fluctuates smoothly;
- ⊙ Stabilize renewable energy output;
- ⊙ Peak and frequency modulation.

## 移动式不间断应急供电 Mobile Uninterrupted Emergency Power Supply

- 可适用于电动汽车应急补电、备用电源、调峰储能等多种应用场景；
- 台区变压器动态扩容；
- 车载运输，快速灵活布置。
- ⊙ It can be applied to electric vehicle emergency power supply, standby power supply, peak regulation and energy storage and other application scenarios;
- ⊙ Dynamic capacity increase of transformer in remote area;
- ⊙ Vehicle-mounted transportation, quick and flexible layout.

削峰填谷 Peak Load Cutting	负荷调节 Load Regulation	电力扩容 Power Capacity Expansion	需量管理 Demand Management
调峰/调频 Peak Shaving/ Frequency Modulation	并/离网供电 ON/ OFF-grid Power Supply	电能质量治理 Power Quality Management	新能源消纳 Renewable Energy Consumption

# 工业园区 分布式储能 一体化解决方案

Industrial Zone  
Distributed ESS  
Integrated Solutions



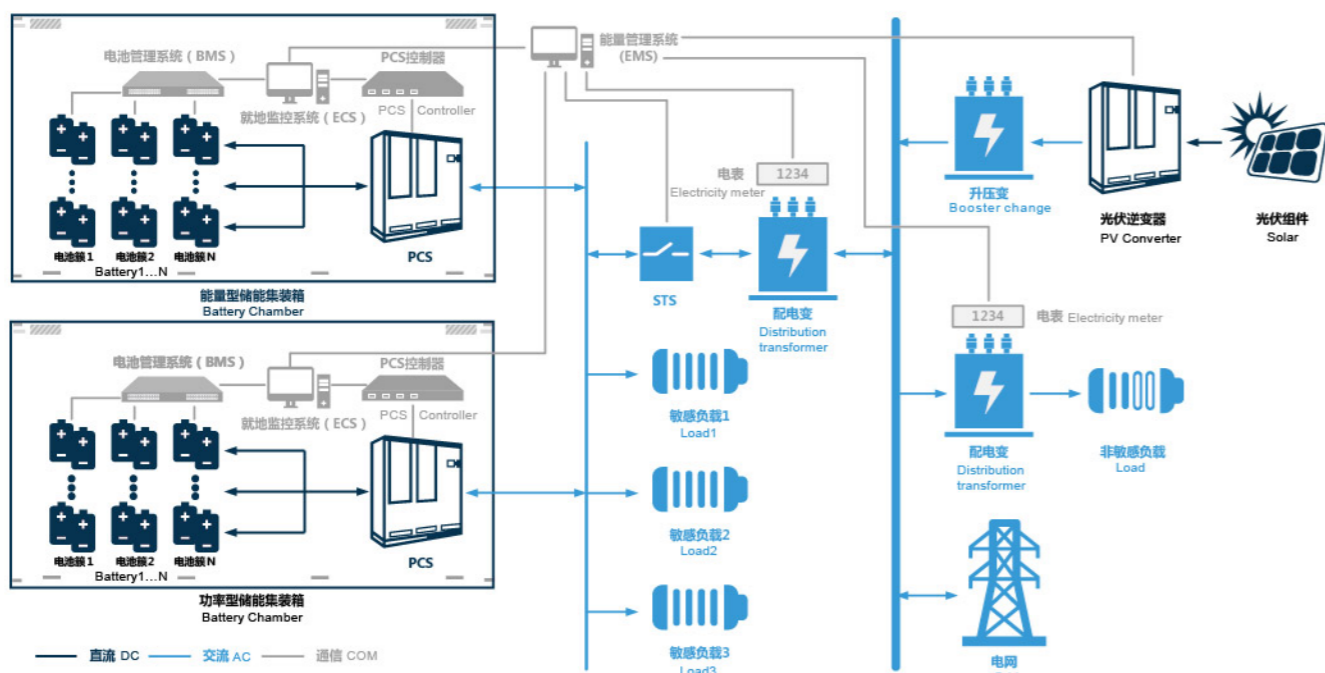
### 方案特点：

Features :

- 削峰填谷；
- 降低需量电费；
- 平滑负荷；
- 应急供电。
- ◎ Peak load cutting;
- ◎ Reduce electricity demand & cost;
- ◎ Smooth load;
- ◎ Emergency power supply.

### 方案拓扑：

Topology :



# 商业综合体 智慧能源 一体化解决方案

Commercial Complex  
Smart Energy  
Integrated Solutions



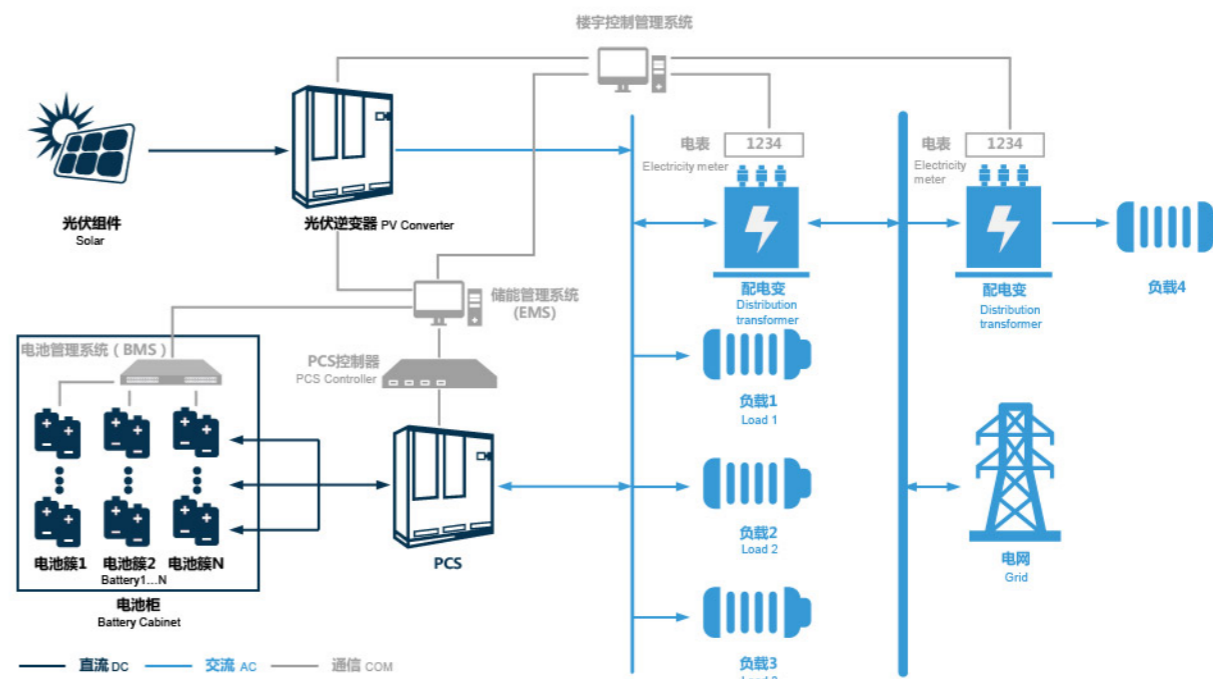
### 方案特点：

Features :

- 交流组网方案，系统方便接入；
- 模块化产品，灵活配置，空间适应性强；
- 削峰填谷；
- 降低需量电费；
- 提高电能质量；
- 应急供电。
- ◎ AC networking scheme, convenient system access;
- ◎ Modular products, flexible configuration and strong space adaptability;
- ◎ Peak load cutting;
- ◎ Reduce electricity demand & cost;
- ◎ Improve power quality;
- ◎ Emergency power supply.

### 方案拓扑：

Topology :



# 电动汽车充电站 充电站+储能 一体化解决方案

Electric Vehicles Charging Station  
Charge+Energy Storage  
Integrated Solutions



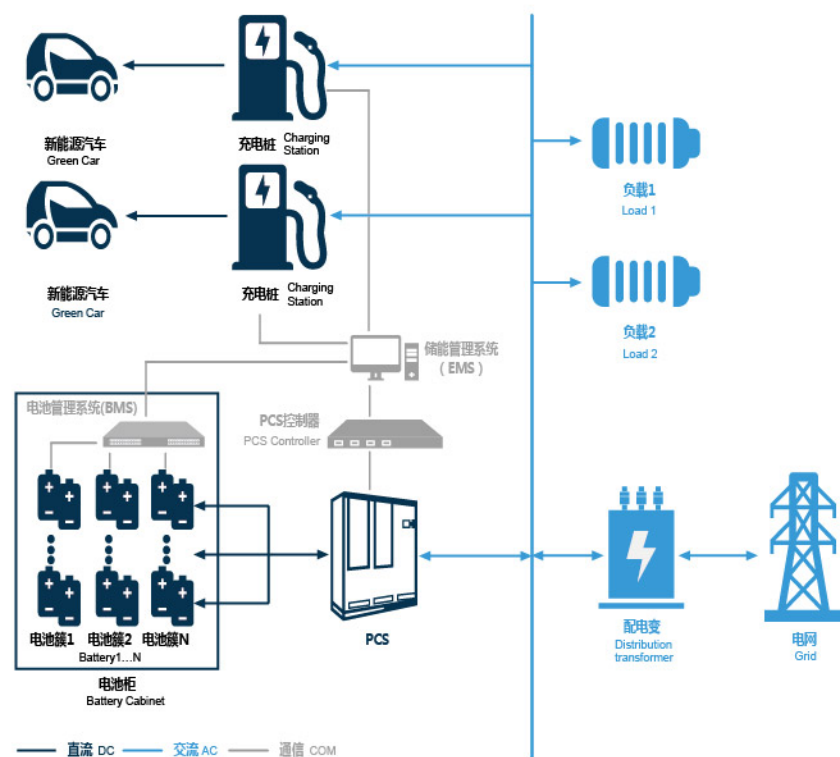
### 方案特点：

Features :

- 延缓用户接入大量充电桩时的配电系统扩容需求；
  - 削峰填谷；
  - 平滑快速充电时的电流尖峰，保障供电安全；
  - 负荷控制策略，储能电量低时优先保证站内重要负荷供电；
  - 集成储能服务+充电服务+电动汽车检测服务一体化的智能平台，优化控制策略对电池充放电进行精准控制。
- Delay the capacity expansion demand of distribution system when users access a large number of charging piles;
  - Peak load cutting;
  - Smooth the current spike during fast charging to ensure the safety of power supply;
  - Load control strategy to ensure primary load power supply when energy storage is low;
  - Energy storage + charge + EV test service all-in-one intelligent platform to optimize battery charging and discharging accurate control strategy.

### 方案拓扑：

Topology :



# 火力发电厂 储能调频系统 一体化解决方案

Thermal Power Plant  
Energy Storage and Frequency  
Modulation System Integrated Solutions



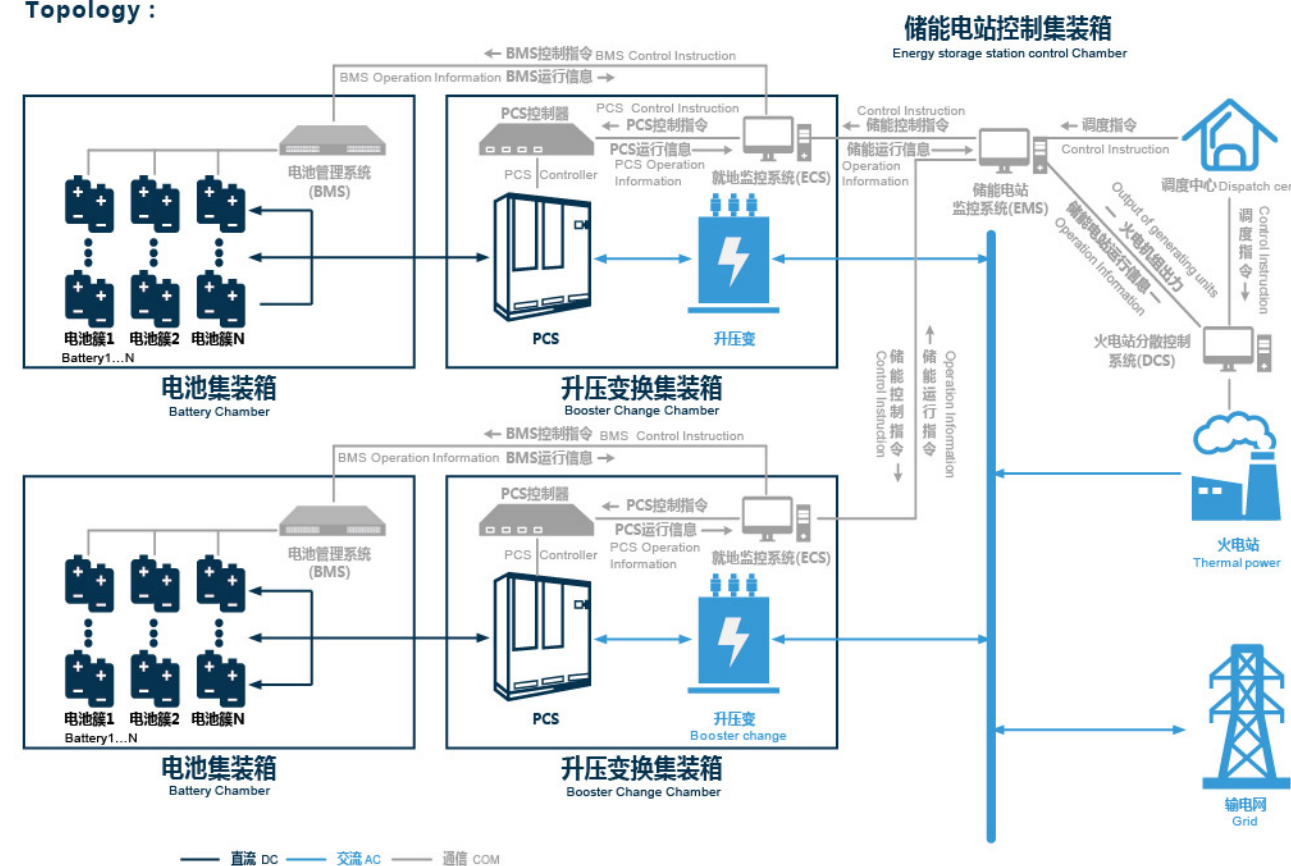
### 方案特点：

Features :

- DCS匹配控制；
  - 电网调峰、调频；
  - 电网备用容量；
  - 电网电压支撑。
- DCS Matching control;
  - Power grid peak and frequency modulation;
  - Increase Grid reserve capacity;
  - Grid voltage support.

### 方案拓扑：

Topology :



# 光伏、风力发电站 储能系统 一体化解决方案

Solar & Wind Power Station  
Energy Storage System  
Integrated Solutions



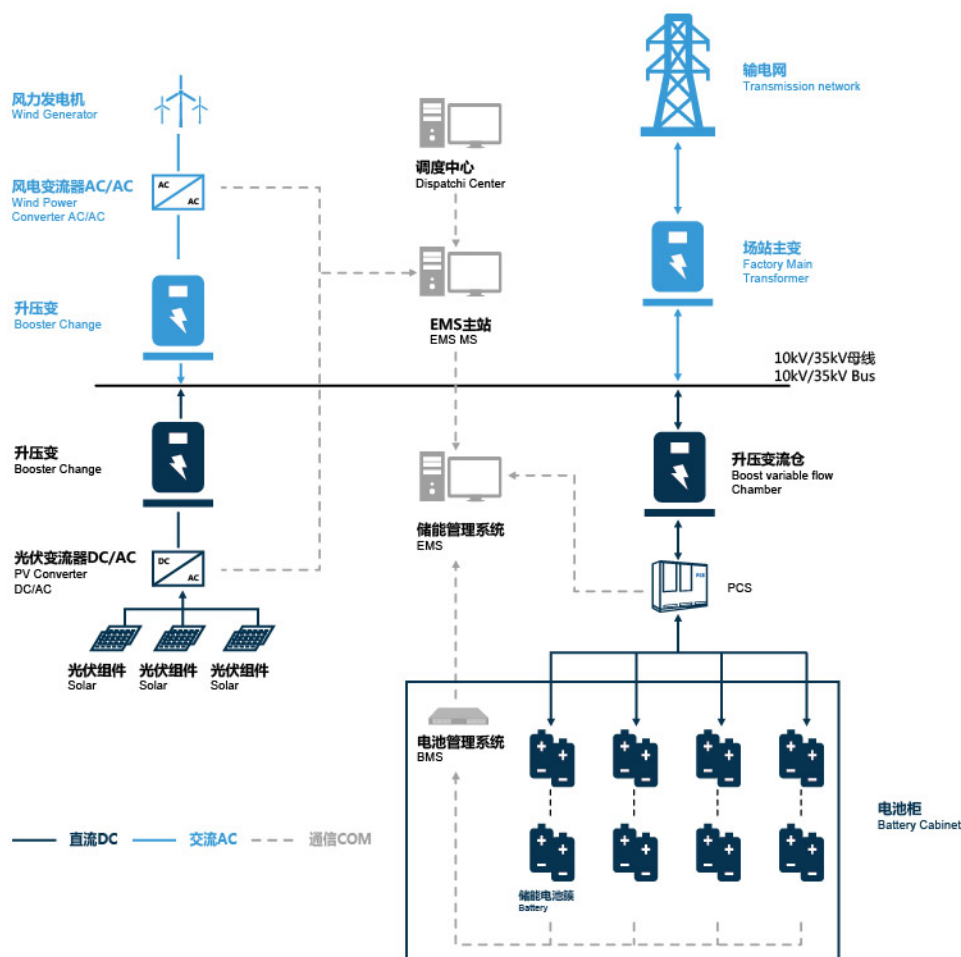
## 方案特点：

Features :

- 新能源电能时移；
  - 新能源波动平滑；
  - 新能源稳定接入；
  - 新能源发电调峰、调频服务。
- Delay the capacity expansion demand of distribution system
  - Renewable energy time-shifting;
  - Renewable energy fluctuates smoothly;
  - Stabilize renewable energy output;
  - Peak and frequency modulation.

## 方案拓扑：

Topology :



# 应急供电 移动式储能 解决方案

Emergency Power Supply  
Mobile Energy Storage  
Solutions



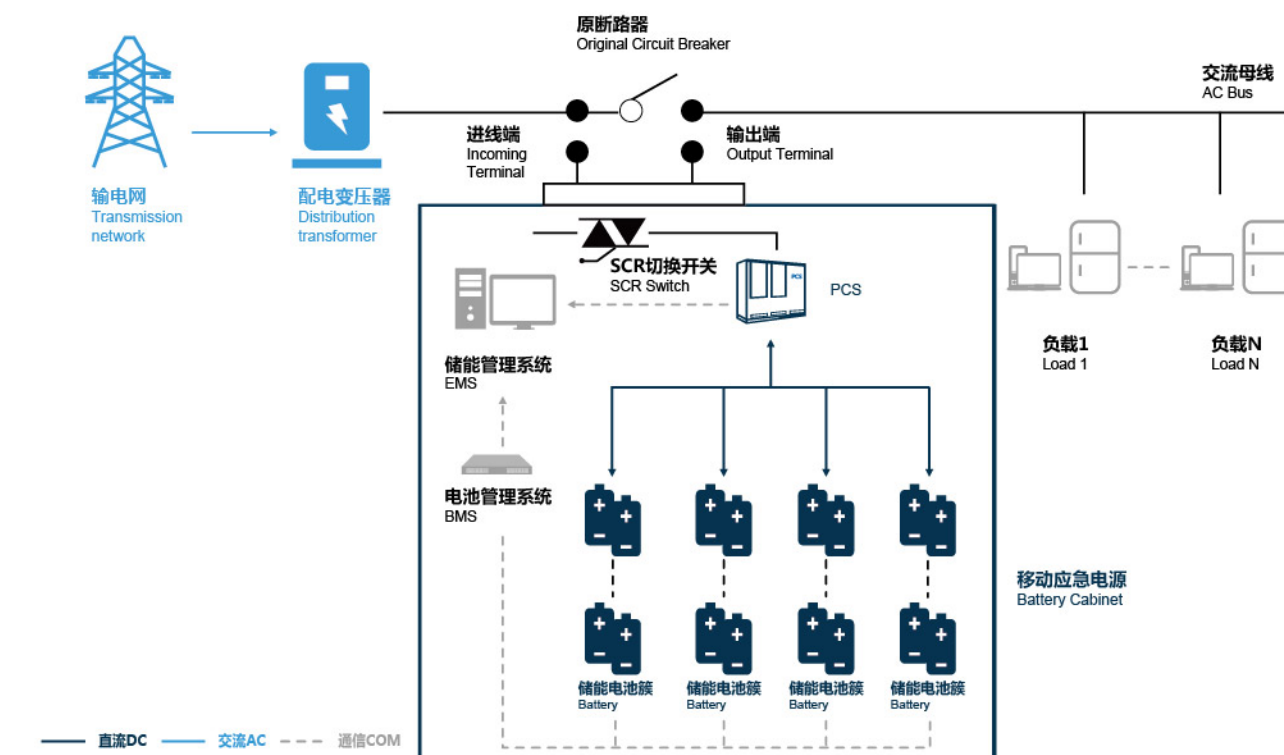
## 方案特点：

Features :

- 移动应急供电，当市电停电时，移动式储能系统10ms内切换为电池供电，提供重要负荷保电，可替代传统柴油发电系统；
  - 电动汽车快速补电救援，重要集会场所临时供电；
  - 系统与运载车辆可结合一体，实现一机多用，使设备利用率最大化；
  - 实现电力供应的无缝对接，系统具有绿色环保消防系统功能，高质量、高可靠供电；
  - 运行低噪音，低碳环保。
- Mobile emergency power supply, when city power supply fails, the mobile energy storage system will be switched to battery power supply within 10ms to provide important load power protection and can replace the traditional diesel power generation backup system;
  - Electric vehicle quick power supply rescue and temporary power supply for important public places;
  - The system and the carrying vehicle can be integrated to realize multiple functions in one machine and maximize the utilization of equipment;
  - Realize the seamless connection of power supply, which is high quality and reliable with function of green environmental protection and firefighting system;
  - Operation with low noise, low carbon and environmental protection.

## 方案拓扑：

Topology :



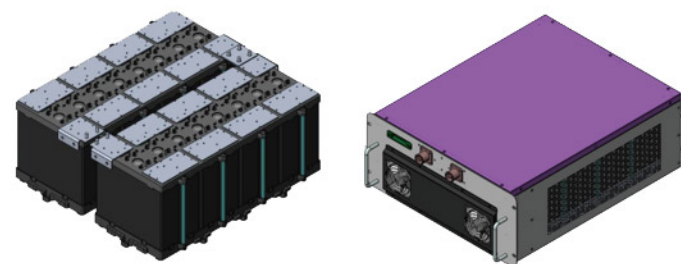
# 骆驼产品—改进型储能专用电芯&PACK

Products—ESS Battery&Pack



## 储能专用电芯特点： Energy Storage Cell：

- 材料体系选用磷酸铁锂，比三元安全系数高；
- 全穿刺&大面挤压断裂不燃烧不爆炸的安全性。
- ◎ The material uses LFP system, which is safer than NCM system;
- ◎ Full penetration & large area crush fracture, no burning and no explosion.



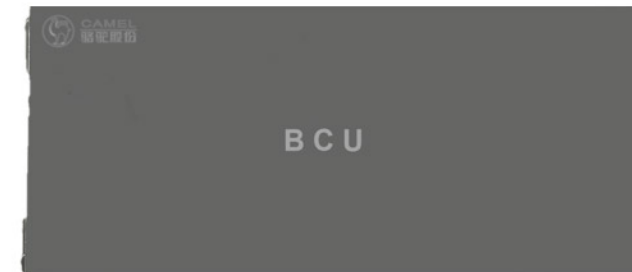
## 储能专用PACK特点： Energy Storage Pack：

- 自动化储能PACK生产线，生产质量稳定可靠；
- PACK级主动优化，避免电池模组差异造成容量损失；
- 更换即插即用，快速维护，充放电容量提升6%；
- PACK具备主动或被动容量均衡、压差均衡优化功能，支持电芯内阻检测和电芯内短检测。
- ◎ Automated energy storage PACK production line, stable and reliable production quality;
- ◎ PACK active optimization, Avoid capacity loss due to battery module differences;
- ◎ Replacement plug and play, fast maintenance, charge and discharge capacity increased by 6%;
- ◎ PACK has active or passive capacity balancing, differential pressure balancing and optimization functions, supporting battery resistance detection and short battery detection.

项目 Items	参数 Parameter
额定电压 Nominal Voltage	40~58.4V (温度T=25°C) 40~58.4V (Temperature T=25°C)
工作温度范围 Operating temperature range	-20°C ~ 60°C 放电, 0°C ~ 60°C 充电 -20°C ~ 60°C discharge, 0°C ~ 60°C charge
电芯保护 Battery protection	内置采集模块 (温度、电压、电流、超限保护) Built-in acquisition module (Temperature, voltage, current, over-limit protection)
尺寸(W×D×H) Size (W×D×H)	640mm×618mm×210mm
重量 Weight	36.5kg±1kg
阻燃等级 Flame retardant rating	UL 94-V0
电芯循环 Cell cycle	> 8000次 > 8000 cycles

# 骆驼产品—电池管理系统 (BMS)

Products—Battery Management System (BMS)



## 功能特点： Features：

- 单体采集掉线、温度采集掉线检测功能；
- 高精度单体电压、电流、温度采集；
- 300mA大电流被动/主动均衡，提高均衡速度；
- 高可靠性均衡策略，解决电池一致性问题；
- 模组均衡机制，保证模组级一致性。
- ◎ Possesses the function of detecting disconnection of monomer collection and disconnection of temperature collection;
- ◎ The collection of voltage, temperature and current is more accurate;
- ◎ Passive/Active balance with 300mA, quickly implementation battery level balance;
- ◎ High reliability balancing strategy to solve the battery consistency problem;
- ◎ Advanced module balancing strategy to ensure module level consistency.

项目 Items	参数 Parameter		
型号 Model	Elite2000 BMS		
单体电压检测 Voltage Testing for Single Battery	检测范围 Testing Range	0 ~ 5V	
	检测精度 Testing Accuracy	±3mV	-40~85°C
	采集周期 Sampling Period	100 ms	
单体温度检测 Temperature Testing for Single Battery	检测范围 Testing Range	-40 ~ 120°C	
	检测精度 Testing Accuracy	±1°C	
	采集周期 Sampling Period	100 ms	量程根据分流器型号确定 Range based on rectifier model
组端电压检测 Voltage Testing for Group	检测范围 Testing Range	900~1500Vdc	与分流器精度有关 Related to rectifier accuracy
	检测精度 Testing Accuracy	± ( 0.5FS+0.1%RD )	
组电流检测 Current Testing for Group	电流检测范围 Current Testing Range	±300A ( 0.02% )	
	电流检测精度 Current Testing Accuracy	± ( 0.5FS+0.5%RD )	
绝缘电阻检测 Insulation Resistance Testing	绝缘电阻测量范围 Insulation Resistance Testing Rang	0 ~ 5MΩ	
	绝缘电阻测量精度 Insulation Resistance Testing Accuracy	±10%	
均衡功能 Equalization Function	均衡电流 Equalized Current	300mA	被动/主动均衡 Passive/Active balance
SOC检测 SOC Testing	检测精度 Testing Accuracy	5%	



# 骆驼产品—能量管理系统 (EMS)

Products—Energy Management System (EMS)

储能云基于互联网技术、物联网技术、大数据技术，实现电池性能大数据分析。

储能站运营精细化管理、远程协助、无人值守、安全运行、智慧运维。

Energy Storage Cloud realizes battery performance big data analysis based on internet technology, IoT technology and big data technology.

Energy storage station is operated under fine management, remote assistance, unattended operation, safe operation and intelligent operation & maintenance.

### 监控云

Monitoring Cloud

实现储能系统的实时监控、告警、统计分析、收益计算、大数据分析

Realize real-time monitoring, warning, statistical analysis, revenue calculation and big data analysis of the energy storage system

### 运维云

Operation and Maintenance Cloud

自动生成运维工单、日志、知识库，指导运维人员准确、高效完成运维工作

Automatically generate operation and maintenance manuals, logs, and knowledge bases, and guide operation and maintenance personnel to complete operation and maintenance tasks accurately and efficiently

### 运营云

Operation Cloud

汇集各储能站收益、运维数据，生成投资收益模型，为储能站投资提供决策支持

Collect income data and operation and maintenance data of all energy storage stations, generate investment income model, and provide decision support for investment of energy storage stations

# 骆驼产品—20英尺集装箱储能系统

Products—20ft Container ESS



- 智能友好**  
Artificial Intelligence
- 安全可靠**  
Safety, Reliability
- 并离网切换 (选配)**  
On-off and Off-grid Switching (Optional)
- 灵活便捷**  
Flexible Convenient
- 经济实用**  
Economic Practically
- 无缝快速切换**  
Fast Switch

**储能电站监控管理系统**  
Energy Storage Power Station Monitoring and Management System

**光伏电站监控管理系统**  
PV Power Station Monitoring And Management System

**变配电集中监控管理系统**  
Transformation and Distribution Centralized Monitoring and Management System

**微网监控管理系统**  
Micro Grid Monitoring and Management System

**空调监控管理系统**  
Air Conditioner Monitoring and Management System

**电网调度管理系统**  
Grid Dispatching System

**消防监控管理系统**  
Fire Suppression Monitoring and Management System

**通讯管理系统**  
Communication Management System

**大数据分析**  
Big Data Analysis

**运行数据统计**  
Energy Storage Station Operating Data Statistics

**运行状态实时监测**  
Energy Storage Station Operating Status Real-time Monitoring

**历史数据分析**  
Historical Data Analysis

项目 Items	参数 Parameter
型号 Model	CES2.26-A01
功率范围 Max Power	0.4~1.2MW
最大储能容量 Max Capacity	2.26MWh
防护等级 Protection Rating	IP54
输出电压 Output voltage	380V
倍率 Rate	0.25C/0.5C
消防系统 Fire Fighting System	七氟丙烷管网式灭火系统 HFC-227ea Extinguishing System with Pipe Network
散热系统 Cooling System	智能风冷散热系统 Intelligent air cooling system
外形尺寸 Dimension	6.350m (长) x 2.438m (宽) x 2.896m (高) 6.350m (L) x 2.438m (W) x 2.896m (H)

# 骆驼产品—40英尺集装箱储能系统

Products—40ft Container ESS



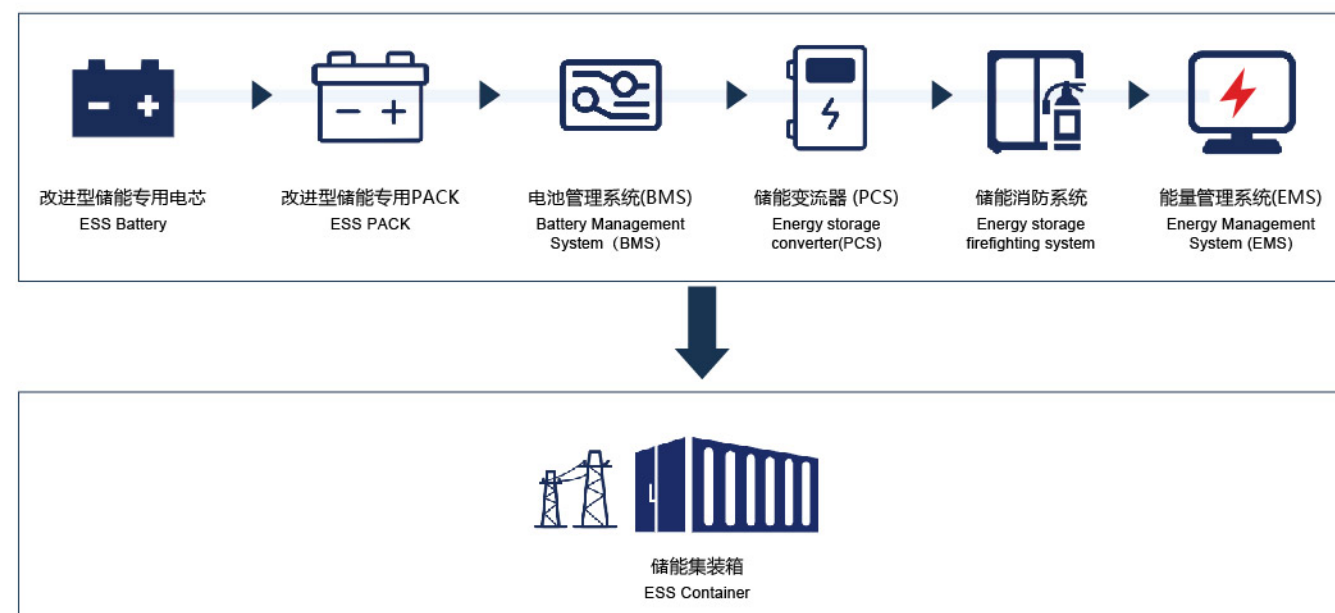
- 智能友好**  
Artificial Intelligence
- 安全可靠**  
Safety, Reliability
- 并离网切换 (选配)**  
On-off and Off-grid Switching (Optional)
- 灵活便捷**  
Flexible Convenient
- 经济实用**  
Economic Practically
- 无缝快速切换**  
Fast Switch

项目 Items	参数 Parameter
型号 Model	CES4.52-A01
功率范围 Max Power	0.8~2.4MW
最大储能容量 Max Capacity	4.8MWh
防护等级 Protection Rating	IP54
输出电压 Output voltage	380V
倍率 Rate	0.25C/0.5C
消防系统 Fire Fighting System	七氟丙烷管网式灭火系统 HFC-227ea Extinguishing System with Pipe Network
散热系统 Cooling System	智能风冷散热系统 Intelligent air cooling system
外形尺寸 Dimension	12.192m (长) x 2.438m (宽) x 2.896m (高) 12.192m (L) x 2.438m (W) x 2.896m (H)

# 创新技术优势—产品优势

Technology Advantages - Product Advantages

骆驼储能全产业链示意图：  
Ess Whole Industry Chain Sketch Map :



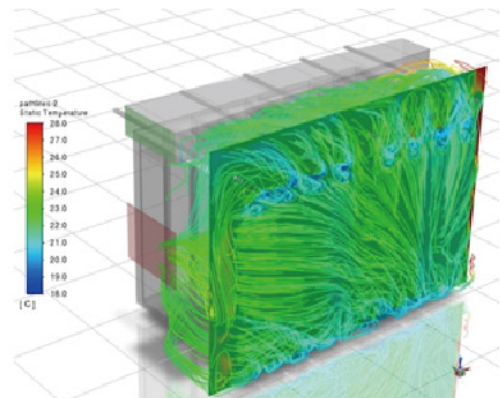
- 全产业链**  
The Whole Industrial Chain  
 具备从电池、PACK、BMS、PCS、EMS、消防、系统集成等全产业链技术的研究、生产到应用的实力。  
 It has the strength of research, production and application of the whole industry chain technology from battery, PACK, BMS, PCS, EMS, firefighting and system integration.
- 全系统超长寿命**  
Long Life Of The Whole System  
 改进型储能专用电池：8000次超长寿命，使用寿命达10年；  
 储能系统：元器件选型、设计、生产加工全过程按10年周期。  
 Improved energy storage battery: 8000 times long life, service life up to 10 years;  
 Energy storage system: the whole process of component selection, design, production and processing is conducted on a 10-year cycle.
- 高安全性**  
High Security  
 5重主动消防：电池、BMS、簇、PCS、EMS；  
 2重被动消防：特殊气体消防、水路消防。  
 Five-fold active fire fighting: battery, BMS, rack, PCS, EMS;  
 Two-fold passive firefighting: special gas firefighting, waterway firefighting.
- 全周期高性价比**  
High Cost Performance Throughout The Cycle  
 全系统系列产品自主研发，系统升级维护便捷；  
 整系统效率达到89%。  
 The whole system series products are independently researched and developed, and the system upgrade and maintenance is convenient.  
 The efficiency of the whole system reached 89%.
- 高可靠性**  
High Reliability  
 智能高效型PCS：智能化运行、精细化管理、系统可用率达到99.9%；  
 专利风道技术：系统电芯均温效果±3℃，提升电芯一致性，延长电芯使用寿命；  
 EMS云：秒级大数据快速采集，具备黑匣子追溯功能，AI大数据分析，智能维护。  
 Intelligent and efficient PCS: intelligent operation, fine management, system availability up to 99.9%;  
 Patented air duct technology: system cell temperature uniformity effect ±3℃, improve the consistency of the cell, prolong the service life of the cell;  
 EMS cloud: Second-level big data fast collection, with black box traceability function, AI big data analysis, intelligent maintenance.

# 创新技术优势-全方位热安全管理仿真技术

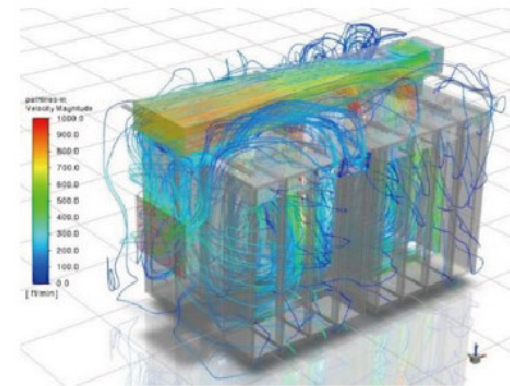
Technology Advantages  
-Comprehensive Thermal Safety Management Simulation Technology

# 创新技术优势-储能电站消防整体解决方案

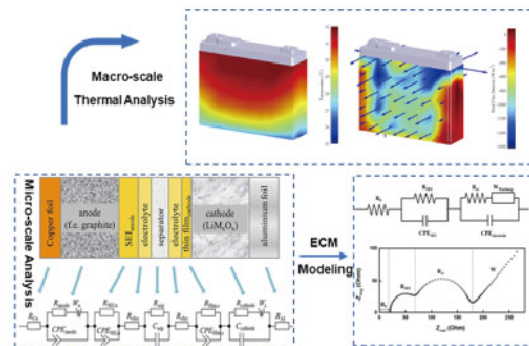
Technology Advantages  
-Firefighting Solution For Energy Storage Power Station



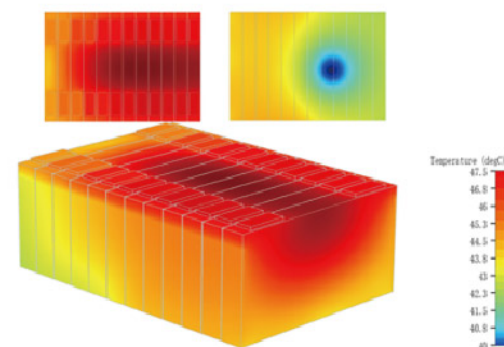
产品级：储能箱内  
温度场分布云图（环境）  
Product level: Inside the energy storage box  
Temperature field distribution nephogram (Environment)



产品级：储能箱内  
气体流线云图  
Product level: Inside the energy storage box  
Gas streamline nephogram

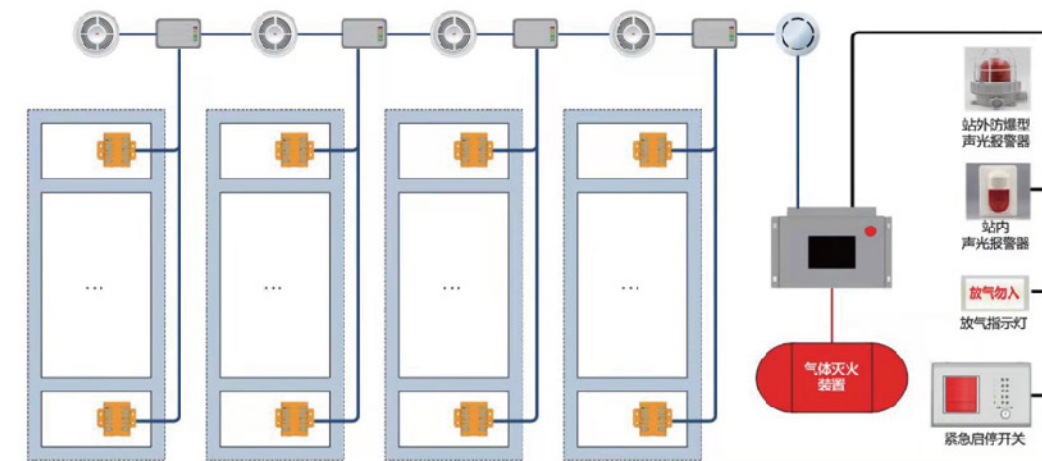


电芯级：微观热机理研究  
电芯温度场仿真云图  
Cell level: Micro-scale thermal mechanism study  
Cell temperature field nephogram



模组级：散热方式研究  
液冷温度场分布云图  
Module level: Study on heat dissipation methods  
Liquid cooling temperature field distribution nephogram

## 精细化簇消防管控： Refined Rack Fire Control :



- 内部热失控探测器预警及时，实现精确定位。
- 预警信息与 BMS 联动策略，内部断电。
- 模组箱体配置的灭火装置喷头，通过管道输送到电池包内

- ◎ The internal thermal runaway detector gives early warning in time to realize accurate positioning.
- ◎ Early warning information and BMS linkage strategy, internal power failure.
- ◎ The sprinkler of the fire extinguishing device configured in the module box is transported to the battery pack through pipeline

## 技术特点：

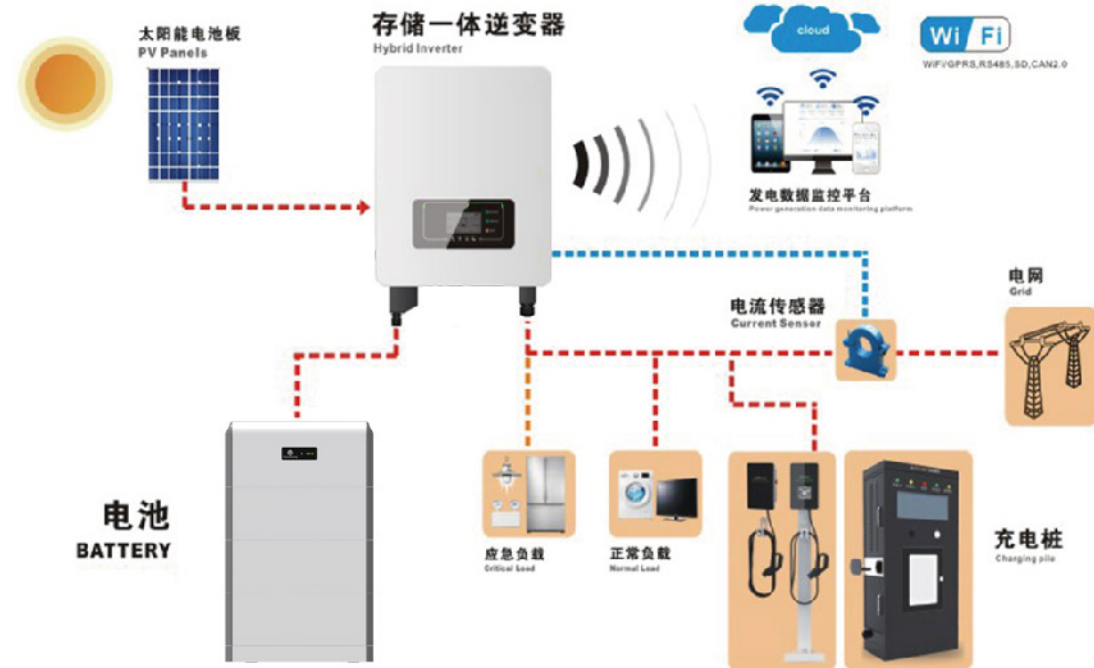
### Features :

- 从微观级材料产热机理研究到电芯级部件设计，再到模组级均温性，最后到产品级系统热安全，全方位热仿真技术确保储能箱的设计安全可靠。
- 采用安全高效的风冷散热专利技术；
- 空调制冷与模组液冷相结合，严格控制调控电芯的均温性 ( $\pm 2^{\circ}\text{C}$ ) 和最低、最高温度，确保电芯的一致性，从而提高储能系统的循环寿命；
- 采用自主知识产权的BMS电池管理系统联动空调消防系统，智能调整空调工作状态，最大程度上节省空调能耗和防止热失控发生。
- ◎ From micro-level material heat generation mechanism study to cell-level component design, to module-level temperature uniformity, and finally to product-level system thermal safety, comprehensive thermal simulation technology ensures that the design safety and reliability of the energy storage box.
- ◎ Adopt safe and efficient air cooling patented technology;
- ◎ The combination of air-conditioning cooling and module liquid cooling strictly controls and regulates the temperature uniformity ( $\pm 2^{\circ}\text{C}$ ), minimum and maximum temperatures of the cells to ensure the consistency of the cells, thereby improving the cycle life of the ESS;
- ◎ The BMS is in conjunction with the air-conditioning system and fire-fighting system to intelligently adjust the working status of the cooling system, which with independent intellectual property rights, saves energy consumption of the air-conditioning to the greatest extent and prevents thermal runaway.

成分 Composition	七氟丙烷灭火剂 HFC-227ea protection fire extinguishing agent
活性成分 Active ingredient	$\geq 99.9\text{mole}\%$
酸性 Acidic	$\leq 3\text{ppm}$ (以 HCl 等重计算/By equal weight of HCl)
水含量 Water content	$\leq 0.001\%$ (以重量计算/By weight)
非挥发性残留物 Non volatile residue	$\leq 0.05\text{g}/100\text{ml}$

# 家庭储能应用场景

Household Energy Storage Application Scenarios



## 方案特点：

### Features :

- 提升自发自用比例，节约用户电费花销
- 削峰填谷、平滑用电负荷
- ◎ Increase the proportion of spontaneous self-use, save users' electricity bills
- ◎ Peak load cutting, smooth of electricity load



## 方案特点：

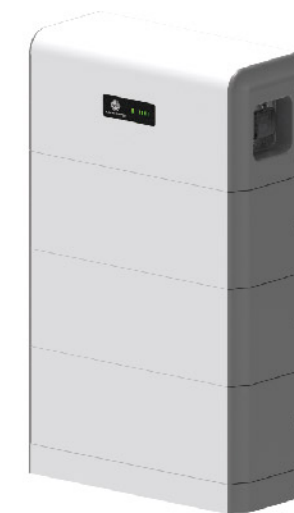
### Features :

- 解决新能源消纳问题，缓解电网调节压力
- 应急电源，在停电的情况下使用
- ◎ Solve the problem of new energy consumption and ease the pressure on grid regulation
- ◎ Emergency power supply, used in case of power failure



# 家庭储能产品特点

Household Energy Storage Products Features



## 灵活投资

Flexible Investment



模块化设计  
灵活配置

Modular design  
Flexible configuration

## 安装简单

Easy Installation



堆叠安装，单人操作  
节省安装时间和成本

Stacked installation, single-person operation  
Saves installation time and cost

## 安全可靠

Safe and Reliable



全球一线品牌  
磷酸铁锂电芯

Global first-tier brand LFP cell

## 完美兼容

Perfectly Compatible

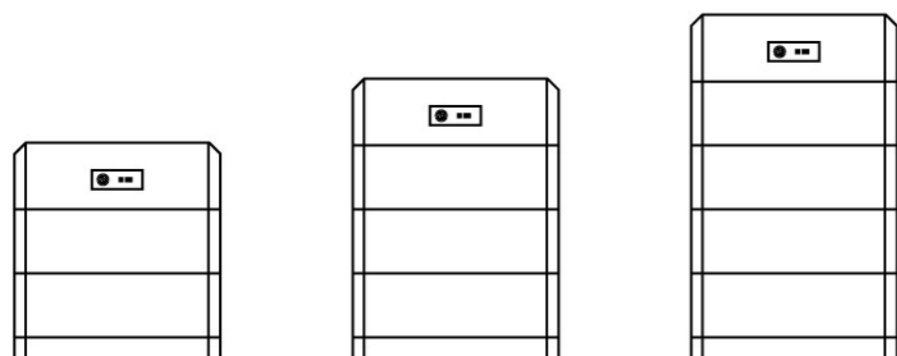


兼容主流品牌逆变器

Compatible with mainstream brand inverters

# 家庭储能产品介绍

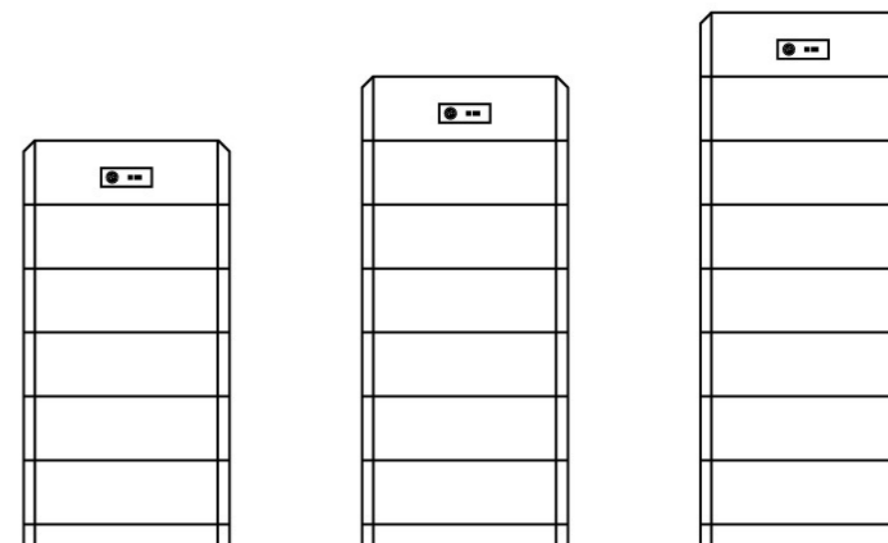
Household Energy Storage Application Scenarios



项目 Items	参数 Parameter		
型号 Model	HES5.32-A01	HES7.98-A01	HES10.649-A01
额定电量 Rated Power	5.32kWh	7.98kWh	10.649kWh
可用电量 Available Electricity	4.79kWh	7.19kWh	9.58kWh
电池模块数量 Battery Modules	2(1P32S)	3(1P48S)	4(1P64S)
通讯 Communication	RS485/CAN		
尺寸 (宽x高x厚) Size (W x H x T)	620 x 755 x 150mm	620 x 955 x 150mm	620 x 1155 x 150mm
重量 Weight	80kg	105kg	130kg
电池模块尺寸 Module Size	620 x 200 x 150 (mm)		
电池模块重量 Module Weight	25kg		
安装方式 Installation	室内/室外 Indoor/Outdoor		
工作温度 Working Temperature	-20°C ~ + 50°C		
最高工作海拔 Max. Working Altitude	2000 m		

# 家庭储能产品介绍

Household Energy Storage Application Scenarios



项目 Items	参数 Parameter		
型号 Model	HES13.312-A01	HES15.97-A01	HES18.63-A0
额定电量 Rated Power	13.312kWh	15.97kWh	18.63kWh
可用电量 Available Electricity	11.98kWh	14.37kWh	16.77kWh
电池模块数量 Battery Modules	5(1P80S)	6(1P96S)	7(1P112S)
通讯 Communication	RS485/CAN		
尺寸 (宽x高x厚) Size (W x H x T)	620 x 1355 x 150mm	620 x 1555 x 150mm	620 x 1755 x 150mm
重量 Weight	155kg	180kg	205kg
电池模块尺寸 Module Size	620 x 200 x 150 (mm)		
电池模块重量 Module Weight	25kg		
安装方式 Installation	室内/室外 Indoor/Outdoor		
工作温度 Working Temperature	-20°C ~ + 50°C		
最高工作海拔 Max. Working Altitude	2000 m		

# 便携式储能应用场景

Portable Energy Storage Application Scenarios

## 应用场景：

### Application Scenarios：

- 演出直播，户外勘测，摄影采访，移动办公，野外露营，房车旅行，工程施工，工具供电，医疗和消防救援。
- ◎ Live-streaming, outdoor exploration, photography interviews, mobile office, outdoor camping, RV travel, engineering construction, tool power supply, medical treatment, fire rescue and so on.



# PES200-A01 便携式储能产品

PES200-A01 Portable Energy Storage Product

## 产品特点：

### Product Advantages：

- 防火材质外壳，耐磨抗摔
- 智能温控散热，安静运行
- 过充过放保护，有效地保护电池安全
- 电芯设计，延长产品使用寿命
- 产品体积小,便于携带
- ◎ Non inflammable material for housing, robust resistance to fall and wear
- ◎ Intelligent temperature control and effectively heat dissipation, quiet operation
- ◎ Overcharging and over discharging protection, better guarantee the safety of product
- ◎ Better design for cell to extend the lifetime of product
- ◎ Smaller volume, product is easy to take



四种颜色可供选择  
Four colors are available

PES200-A01 产品参数 PES200-A01 Product parameter		
额定能量 Total Capacity		230.88Wh
电芯容量 Cell Capacity		2600mAh
电芯数量 Total Battery Cells		24pcs
逆变器 Inverter	模拟/纯正弦波 Simulated/Pure sine wave	纯正弦波 Pure sine wave
	最大输出功率 Max Out Power	200W
	电压 Voltage	110V
输出口 Output Port	AC	*1
	USB -A	3*(5V/6A)
	USB -C	60W Max
	12V 车载端口 12V Car Port	10A Max
	12V DC (5.5mm)	Adaptor 适配
输入口 Input Port	DC(5.5mm)	18V 2A PSU
	12V car charge 12V 车载充电口	2A
	太阳能充电 Solar charge	12V~24V(min10W)
	USB -C	PD

# PES500-A01便携式储能产品

PES500-A01 Portable Energy Storage Product

## 产品特点：

### Product Advantages：

- 多输出端口，适用多种场景
  - 防火材质外壳，耐磨抗摔
  - 智能温控散热，安静运行
  - 过充过放保护，有效地保护电池安全
  - 电芯设计，延长产品使用寿命
- ⊙ Multiple output port , applicable to a variety of scenarios
  - ⊙ Non inflammable material for housing , robust resistance to fall and wear
  - ⊙ Intelligent temperature control and effectively heat dissipation, quiet operation
  - ⊙ Overcharging and over discharging protection Better guarantee the safety of product
  - ⊙ Better design for cell to extend the lifetime of product



# PES1000-A01便携式储能产品

PES1000-A01 Portable Energy Storage Product

## 产品特点：

### Product Advantages：

- 输出功率高达1500W，可满足大功率电器运行
  - 防火材质外壳，耐磨抗摔
  - 智能温控散热，安静运行
  - 过充过放保护，有效地保护电池安全
  - 电芯设计，延长产品使用寿命
- ⊙ Max output power could be 1500W , can meet the operation of high-power electrical appliances.
  - ⊙ Non inflammable material for housing , robust resistance to fall and wear
  - ⊙ Intelligent temperature control and effectively heat dissipation, quiet operation
  - ⊙ Overcharging and over discharging protection Better guarantee the safety of product
  - ⊙ Better design for cell to extend the lifetime of product



PES500-A01 产品参数 PES500-A01 Product parameter		
额定能量 Total Capacity		512Wh
电芯容量 Cell Capacity		4000mAh
电芯数量 Total Battery Cells		40pcs
逆变器 Inverter	模拟/纯正弦波 Simulated/Pure sine wave	纯正弦波 Pure sine wave
	最大输出功率 Max Out Power	500W
	电压 Voltage	120V 60Hz
输出口 Output Port	AC	*2
	USB -A	2*(5V/2.4A)
	USB -C	2*PD 60W&5V3A
	12V 车载端口 12V Car Port	10A Max
输入口 Input Port	DC(8mm)	12~30V 3.5A

PES1000-A01 产品参数 PES1000-A01 Product parameter		
额定能量 Total Capacity		1024Wh
电芯容量 Cell Capacity		4000mAh
电芯数量 Total Battery Cells		80pcs
逆变器 Inverter	模拟/纯正弦波 Simulated/Pure sine wave	纯正弦波 Pure sine wave
	最大输出功率 Max Out Power	1500W
	电压 Voltage	120V 60Hz
输出口 Output Port	AC	*4
	USB -A	3*(5V/2.4A)
	USB -C	3*PD 60W
	12V 车载端口 12V Car Port	9V~12.6V 10A
输入口 Input Port	DC(8mm)	12~30V 10A
	太阳能充电 Solar charge	13V~30V/30A 400W

# 汽车应急电源

Car Emergency Power Supply Product

## 汽车应急电源44.4wh/1000a Peak

Car Emergency Power Supply Product 44.4wh/1000a Peak

EP1000-A01 产品参数 EP1000-A01 Product parameter	
尺寸 Dimension	L170*W90*H37.5mm
包装箱重量 Weight of packing box	9.3Kg
容量 Capacity	12000mAh/锂离子电池 12000mAh/Li-ion battery
最大输出电流 Max output current	500A/1S
瞬间最大输出电流 Instantaneous max output current	1000A/0.3S
输入 Input	5V 3A 5V2A
输出 Output	5V 3A 5V2.4A QC3.0 12V 汽车点火 Jump start output
闪光灯LED灯 Flash LED lights	频闪SOS Strobe SOS
电池寿命周期 Battery life cycle	1000次 1000 times
工作温度 Working temperature	-20~60 °C
湿度 Humidity	10~90%



## 汽车应急电源66.6wh /2000a Peak

Car Emergency Power Supply Product  
66.6wh /2000a Peak



EP2000-A01 产品参数 EP2000-A01 Product parameter	
尺寸 Dimension	L231*W241*H93mm
包装箱重量 Weight of packing box	8.7Kg
容量 Capacity	18000mAh/锂离子电池 18000mAh/Li-ion battery
最大输出电流 Max output current	1000A/1S
瞬间最大输出电流 Instantaneous max output current	2000A/0.1S
输入 Input	15V 1A
输出 Output	5V 2.4A*2 12V 汽车点火 Jump start output
闪光灯LED灯 Flash LED lights	频闪 SOS Strobe SOS
电池寿命周期 Battery life cycle	1000 次 1000 times
工作温度 Working temperature	-20~60°C
湿度 Humidity	10~90%

# 实施典型案例

Application Projects



### 襄阳蓄电池有限公司 | 调峰储能系统

Xiangyang Storage Battery Co., Ltd. | peak Shaving Ess

项目容量：30MWh  
安装形式：户外集装箱  
应用场景：储能电站

Capacity: 30MWh  
Installation: Outdoor container  
Applications: Energy storage power station

### 襄阳蓄电池有限公司 | 光储充一体化储能系统

Xiangyang Storage Battery Co., Ltd. | photovoltaic Energy Storage And Charging Integrated Energy Storage System

项目容量：100MWh  
安装形式：储能柜  
应用场景：停车场

Capacity: 100MWh  
Installation: Energy storage cabinet  
Applications: Parking area



### 骆驼新能源 | 峰谷套利，智能备电储能系统

Camel New Energy | peak-valley Arbitrage, Smart Backup Energy Storage System

项目容量：1MWh  
安装形式：户外集装箱  
应用场景：工商业园区

Capacity: 1MWh  
Installation: Outdoor container  
Applications: Commercial and industrial park

### 襄阳 | 调峰储能系统

Xiangyang | peak Shaving Ess

项目容量：20MWh  
安装形式：户外集装箱  
应用场景：工商业园区

Capacity: 20MWh  
Installation: Outdoor container  
Applications: Commercial and industrial park



### 武汉 | 工商业储能系统

Wuhan | industrial And Commercial Energy Storage System

项目容量：645kWh  
安装形式：户外机柜式  
应用场景：应急保电

Capacity: 645kWh  
Installation: Outdoor cabinet type  
Applications: Emergency power supply



# 储能全球服务网络

Global Service Network



## Camel Energy

骆驼能源

骆驼能源科技专注全球化发展，紧随科技和时代发展之步伐，布局全球锂电储能市场，致力于成为全球领先的清洁能源系统解决方案供应商。储能产品远销北美、欧洲、澳洲、东南亚等多个国家和地区。

Camel Energy Technology focuses on the development of globalization, follows the pace of the development of science and technology, deploys the global lithium battery energy storage market, and is committed to becoming the world's leading supplier of clean energy system solutions. Energy storage products are exported to North America, Europe, Australia, Southeast Asia and other countries and regions.