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Harbin Coslight New Energy Co., Ltd.
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On both sides of Jing 19 Road,South of Tiankang Avenue, Tianchang City, Anhui Province, PRC

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No.2,Guangtian Road, No.3 Industrial Zone, Luotian Community, Yanluo Street, Baoan District, Shenzhen, PRC

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COSPOWERS

HANDBOOK OF DATA CENTER ENERGY STORAGE PRODUCTS

Cospowers Technology Co., Ltd.

ABOUT COSPOWERS

Cospowers Technology Co., Ltd.is a high-tech enterprise specializing in the field of new energy storage. With a technical team boasting over 30 years of deep expertise in the energy storage battery industry, the company possesses comprehensive capabilities in R&D, manufacturing, sales, and service across materials, cells, battery management systems, energy management systems, and system integration. It has provided diversified products and systematic solutions for more than 70 countries and regions worldwide in sectors such as utility-scale energy storage, commercial and industrial energy storage, data center energy storage, telecommunications energy storage, residential energy storage, sodium-ion battery energy storage, and consumer batteries.

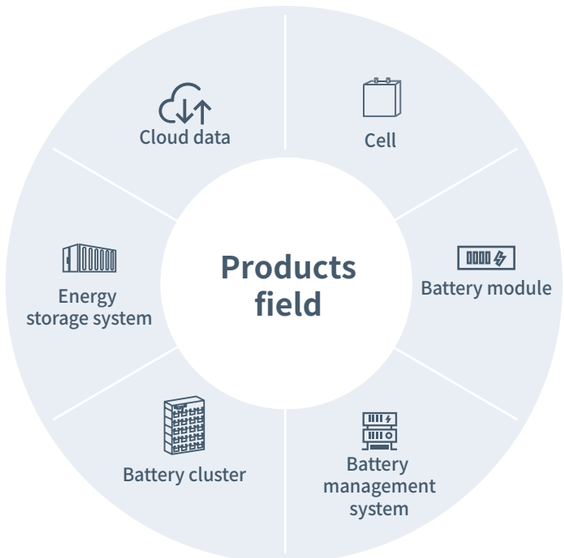
23GWh+
Global Cumulative Shipments

Tier1
BloombergNEF Energy Storage Manufacturer

860K ㎡
Factory area

530+
Patents and Software Copyrights

30+
Participation in Standard Formulation



GLOBAL LAYOUT

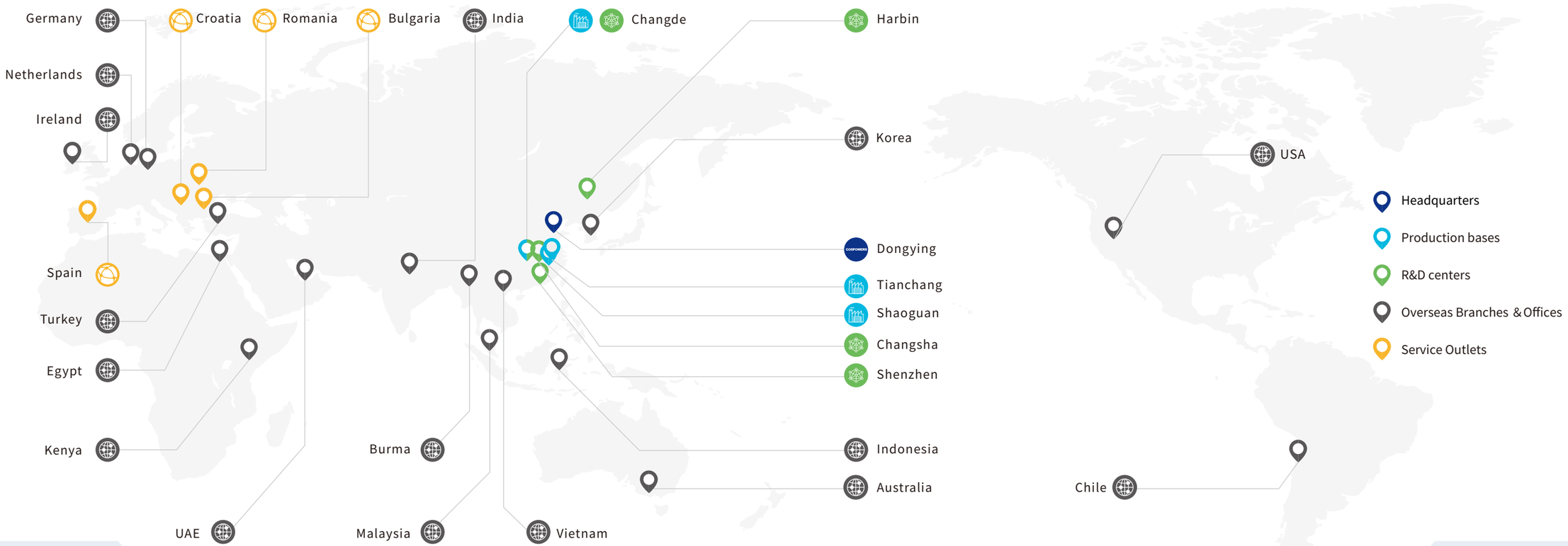
COSPOWERS has in-depth expertise in power and energy storage systems, has witnessed and chronicled the evolution of lithium-ion energy storage, and is driving the advancement of the industry.

70+ Service Coverage

28 Domestic and foreign subsidiary companies

3 Production Base

4 R&D Centers



DEVELOPMENT HISTORY

2000
Among China's first batch of enterprises to research, develop, and manufacture lithium-ion batteries.

2007
Among China's first batch of enterprises to research, develop, and manufacture power lithium-ion batteries.

2012
Ranked first in global market share for lithium-ion energy storage in communication base stations.

2013
Coslight Shenzhen was established.

2019
COSPOWERS was officially founded, with subsidiaries established successively in Harbin and Changde.

2020
The Dongping factory with 3GWh capacity commenced operation.

2021
Launched the "Jian" series of energy storage-specific battery cells;
The Changde factory with 1.5GWh capacity commenced operation;
Secured a United Nations supply chain project for photovoltaic and energy storage business;
First export of energy storage systems to international markets;
Launched smart lithium-ion energy storage products.

2022
COSPOWERS branches were established successively in Beijing, Anhui, India, and South Korea;
Successfully grid-connected multiple standalone energy storage systems exceeding 100MWh;
The Changsha Technology Research Institute was established;
Launched high-energy-density liquid-cooled energy storage system products and achieved an 80MWh system application.

2023
Won a bid for a 720MWh energy storage system order;
COSPOWERS branches were established successively in Guangdong and the Netherlands.

2024
Cospowers Technology Co., Ltd. was established.
Construction began on the 1.5GWh sodium-ion battery production line in Changde.
The Anhui factory with 3GWh capacity commenced operation.

2025
BloombergNEF 2025 Global Tier 1 Energy Storage Manufacturer;
The 1.5GWh sodium-ion battery production line in Changde officially entered mass production.

Lithium-ion Cell

50Ah

Product Model	FP31136170A
Rated Capacity	50Ah
Nominal Voltage	3.2V
Voltage Range	2.5~3.65V
Maximum Charge/Discharge Rate	2C/6C
Product Certification	

UN38.3 RoHS IEC62133 IEC62619 IEC62620 UL1642 UL1973 UL9540A IS16046

60Ah

Product Model	FP31136160A
Rated Capacity	60Ah
Nominal Voltage	3.2V
Voltage Range	2.5~3.65V
Maximum Charge/Discharge Rate	1C/4C
Product Certification	

UN38.3 RoHS IEC62133 IEC62619 IEC62620 UL1642 UL1973 UL9540A IS16046

100Ah

Product Model	FP26122341A
Rated Capacity	100Ah
Nominal Voltage	3.2V
Voltage Range	2.5~3.65V
Maximum Charge/Discharge Rate	1C/3C
Product Certification	

UN38.3 RoHS IEC62133 IEC62619 IEC62620 UL1642 UL1973 UL9540A IS16046

Short Duration Power Backup Series

CFS512120U HOT NEW

Immersion-Cooled Lithium Battery System

1. **High Safety:** Fully immersion technology completely isolates oxygen,providing protection against fire, explosion, and smoke.
2. **Temperature Uniformity:** Immersion battery cells offer excellent temperature uniformity.
3. **Cost-Effectiveness:** Precise temperature control with a temperature difference ⩽2°C ensures high consistency and ultra-long cycle life.
4. **Flexibility:** Space-saving, modular design supports compact layouts,reducing the required footprint.
5. **Compatibility:** The system is compatible with two/three-line configurations, meeting the requirements of various UPS models.
6. **Efficient Thermal Management:** Full-time, full-area immersion of battery cells enables efficient thermal management, increasing system efficiency by 3%.

Product parameters

Product model	CFS512120U
Cell Material	LFP
Nominal Voltage	512Vdc
Rated Charging Voltage	560Vdc
Nominal Capacity	120Ah/61.44kWh
Self-Discharge Rate	⩽3% (0~30°C/3 months)
Standard Discharge Current	120A Continuous discharge(1C)
Maximum Discharge Current	600A Continuous discharge(5C)
Standard Charging Current	60A(0.5C)
Maximum Charging Current	120A(1C)
Cycle Life	3000 cycles @80%DOD，0.5C/0.5C
Communication Interface	CAN；RS485；Dry contact
Protection Functions	Over-temperature, over-current, short circuit, over-charging, over-discharging, etc.
Dimensions（W*D*H)	600*1200*2300mm
Environment	
Storage Temperature	-20~45°C
Transportation Temperature	-20~60°C
Operating Ambient Temperature	0~45°C
Relative Humidity	5~95%
Altitude	⩽2000m

Specifications			
Item	Cell	Battery Module	Battery Rack
Model Specification		CF512120U	
Configuration	Single cell	2P20S	2P160S
Nominal Capacity (1C)	60Ah	120Ah	120Ah
Nominal Voltage	3.2Vdc	64Vdc	215Vdc
Operating Voltage Range	2.5~3.6Vdc	56~72Vdc	448~560Vdc
Weight	1.71Kg	92Kg	1100Kg
Single Rack Performance Data			
Time	12-minute	15-minute	20-minute
Power	275kW	222kW	167kW
Energy	600A	480A	360A

5-15mins

Data Center Energy Storage System

1. Good high-temperature performance, no need for air conditioning cooling below 40°C, saves energy.
2. The PACK module is designed with a modular standard, allowing for flexible combinations and easy maintenance.
3. It has a long cycle life, with 3000 cycles at 0.5C/0.5C, 80% DOD, at 25°C.
4. The touch LCD provides an intuitive display of various parameters, records, status, and alarms.
5. It supports parallel operation of multiple units and cabinet-level fire protection.
6. It supports two-line design to meet the requirements of UPS models.
7. It features a three-level BMS management system, ensuring the safe and reliable operation of the system from the cell level to the system level.
8. It has a high energy density, saving 70% of the floor space compared to lead-acid batteries.

Product parameters

Product model	CF24050U	CF48050U	CF486100U	CF512100U
Cell Material	LFP			
Nominal Voltage	240Vdc	480Vdc	486.4Vdc	512Vdc
Rated Charging Voltage	262.5Vdc	525Vdc	532Vdc	560Vdc
Nominal Capacity	50Ah/12kWh	50Ah/24kWh	100Ah/48.64kWh	100Ah/51.2kWh
Self-Discharge Rate	⩽3% (0~30°C/3 months)			
Standard Discharge Current	50AContinuous discharge(1C)	50AContinuous discharge(1C)	100AContinuous discharge(1C)	100AContinuous discharge(1C)
Maximum Discharge Current	300AContinuous discharge(6C)	300AContinuous discharge(6C)	600AContinuous discharge(6C)	600AContinuous discharge(6C)
Standard Charging Current	25A(0.5C)	25A(0.5C)	50A(0.5C)	50A(0.5C)
Maximum Charging Current	50A(1C)	50A(1C)	100A(1C)	100A(1C)
Cycle Life	3000 cycles @80%DOD，0.5C/0.5C			
Communication Interface	CAN；RS485；Dry contact			
Protection Functions	Over-temperature, over-current, short circuit, over-charging, over-discharging, etc.			
Dimensions（W*D*H)	600*800*1400mm	600*800*2000mm	600*800*2200mm	600*800*2200mm
Certifications	UN			
Environment				
Storage Temperature	0~40°C			
Operating Temperature	15~45°C（Recommended operating temperature: 20-25°C)			
Relative Humidity	5~95%			
Altitude	⩽2000m			
Cell Specifications				
Nominal Capacity	50Ah	50Ah	50Ah	50Ah
Nominal Voltage	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc
Operating Voltage Range	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc
Battery Module Specifications				
Configuration	1P15S	1P15S	2P20S/2P18S	2P20S
Nominal Voltage	48Vdc	48Vdc	64/57.6Vdc	64Vdc
Operating Voltage Range	42~52.5Vdc	42~52.5Vdc	56~70Vdc/50.4~63Vdc	56~70Vdc
Battery Pack Specifications				
Configuration	1P75S	1P150S	2P152S	2P160S
Nominal Capacity	50Ah	50Ah	100Ah	100Ah
Nominal Voltage	240Vdc	480Vdc	486.4Vdc	512Vdc
Operating Voltage Range	210~262.5Vdc	420~525Vdc	425.6~532Vdc	448~560Vdc
Weight	290Kg	430Kg	790Kg	810Kg

Short Duration Power Backup Series

CFC512300U HOT NEW

Containerized Lithium Battery System

1. Excellent Environmental Adaptability: The cabin utilizes special designs and materials, offering superior protective performance.
2. Highly Integrated: Incorporates the UPS host, battery pack, distribution cabinet, monitoring and security systems, reducing on-site installation and debugging workload.
3. Flexible Configuration and Expandability: Allows configuration of UPS capacity and battery pack endurance based on different user needs and load requirements.
4. Convenient Transportation and Installation: Compact overall structure facilitates transportation and hoisting.
5. Safe and Reliable: The integrated cabin includes comprehensive safety protection measures.
6. Intelligent Monitoring and Management: Equipped with an intelligent monitoring system to track the operational status of the UPS system, battery pack power, health condition, and other information in real time.

Product parameters

Parameters/Model		CFC512300U
Battery Cabinet Parameters	Model	CFC64100U
	Rated Voltage	64Vdc
	Voltage Range	56~70Vdc
	Rated Capacity	100Ah
	Standard Charging Current	50A
	Standard Discharging Current	100A
	Maximum Continuous Discharging Current	600A
	Dimensions(W*D*H)	440*630*182mm
	Weight	110kg
Control Cabinet Parameters	Model	CB5-600S03
	Capacity	600A
	Dimensions(W*D*H)	440*600*310mm
	Weight	50Kg
Battery Cluster Parameters	Model	CFC512100U
	Nominal Voltage	512Vdc
	Operating Voltage Range	448~560Vdc
	Rated Capacity	100Ah
	Rated Energy	51.2kWh
	Standard Charging Current	50A
	Standard Discharging Current	100A
	Maximum Continuous Discharging Current	600A
	HMI (Human-Machine Interface)	7-inch LCD Touch Screen
	Operating Temperature	0~45°C
	Cycle Life	3000 cycles @80%DOD，0.5C/0.5C
	Communication Interface	CAN; RS485; Dry Contact
	Protection Functions	Over-temperature, Over-current, Short Circuit, Overcharge, Over-discharge, etc.
	Dimensions(W*D*H)	600*800*2200mm
	Weight	810Kg
System Parameters	Model	CFC512300U
	Nominal Voltage	512Vdc
	Operating Voltage Range	448~560Vdc
	Rated Capacity	300Ah
	Rated Energy	153.6kWh
	Standard Charging Current	150A
	Standard Discharging Current	300A
	Maximum Continuous Discharging Current	1500A
	HMI (Human-Machine Interface)	10-inch LCD Touch Screen
	Communication Interface	CAN; RS485; Dry Contact
	Safety and Security	Four-level Safety Protection
	Dimensions(W*D*H)	2991*2438*2896mm
	Weight	7t

Extended Duration Power Backup Series

30-60mins

Data Center Energy Storage System

1. Good high-temperature performance, no need for air conditioning cooling below 40°C, saves energy.
2. The PACK module is designed with a modular standard, allowing for flexible combinations and easy maintenance.
3. It has a long cycle life, with 3000 cycles at 0.5C/0.5C, 80% DOD, at 25°C.
4. The touch LCD provides an intuitive display of various parameters, records, status, and alarms.
5. It supports parallel operation of multiple units and cabinet-level fire protection.
6. It supports two-line design to meet the requirements of UPS models.
7. It features a three-level BMS management system, ensuring the safe and reliable operation of the system from the cell level to the system level.
8. It has a high energy density, saving 70% of the floor space compared to lead-acid batteries.

Product parameters

Product model	CF22450U	CF192100U	CF224100U	CF384100U	CF480100U	CF512100U
Cell Material	LFP					
Nominal Voltage	224Vdc	192Vdc	224Vdc	384Vdc	480Vdc	512Vdc
Rated Charging Voltage	245Vdc	210Vdc	245Vdc	420Vdc	525Vdc	560Vdc
Nominal Capacity	50Ah/11.2kWh	100Ah/19.2kWh	100Ah/22.4kWh	100Ah/38.4kWh	100Ah/48kWh	100Ah/51.2kWh
Self-Discharge Rate	≤3% (0-30°C/3 months)					
Standard Discharge Current	25AContinuous discharge(0.5C)	50AContinuous discharge(0.5C)				
Maximum Discharge Current	50AContinuous discharge(1C)	200AContinuous discharge(2C)				
Standard Charging Current	12.5A（0.25C）	25A（0.25C）	25A（0.25C）	25A（0.25C）	25A（0.25C）	25A（0.25C）
Maximum Charging Current	25A（0.5C）	50A（0.5C）	50A（0.5C）	50A（0.5C）	50A（0.5C）	50A（0.5C）
Cycle Life	3000 cycles @80%DOD，0.5C/0.5C					
Communication Interface	CAN；RS485；Dry contact					
Protection Functions	Over-temperature, over-current, short circuit, over-charging, over-discharging, etc.					
Dimensions (W*D*H)	600*800*1200mm	600*800*1200mm	600*800*1400mm	600*800*2000mm	600*800*2000mm	600*800*2000mm
Certifications	UN					
Environment						
Storage Temperature	0~40°C					
Operating Temperature	15~45°C（Recommended operating temperature: 20~25°C）					
Relative Humidity	5~95%					
Altitude	≤2000m					
Cell Specifications						
Nominal Capacity	50Ah	100Ah	100Ah	100Ah	100Ah	100Ah
Nominal Voltage	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc
Operating Voltage Range	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc
Battery Module Specifications						
Configuration	1P14S	1P15S	1P14S	1P15S	1P15S	1P16S
Nominal Voltage	44.8Vdc	48Vdc	44.8Vdc	48Vdc	48Vdc	51.2Vdc
Operating Voltage Range	39.2~49Vdc	42~53.5Vdc	39.2~49Vdc	42~53.5Vdc	42~52.5Vdc	44.8~56Vdc
Battery Pack Specifications						
Configuration	1P70S	1P60S	1P70S	1P120S	1P150S	1P160S
Nominal Capacity	50Ah	100Ah	100Ah	100Ah	100Ah	100Ah
Nominal Voltage	224Vdc	192Vdc	224Vdc	384Vdc	480Vdc	512Vdc
Operating Voltage Range	196~245Vdc	168~210Vdc	196~245Vdc	336~420Vdc	420~525Vdc	448~560Vdc
Weight	225Kg	300Kg	310Kg	490Kg	590Kg	610Kg

COSPOWERS AI Smart Cloud Platform

AI Monitoring

Real-time monitoring of battery performance and operating status, enabling lifespan prediction and proactive protection through AI simulation and fault identification.

AI Dispatch

Leveraging multi-source data and intelligent algorithms to collaboratively participate in the electricity market, enhancing system flexibility and accommodation capacity to achieve optimal strategies.

Data Management

High-availability clusters and remote backup ensure data security, while a comprehensive indicator and reporting system supports investment and market decision-making.

Smart Operation and Maintenance

Electrical equipment inspection, diagnostic battery system maintenance strategy push, offline operation and maintenance work order management, and evaluation.

The new platform is built on a microservices architecture, supporting high-availability clusters and multi-tenant management, enabling a fully closed-loop data flow for solar, storage, and charging. By integrating intelligent forecasting and optimized dispatch, it establishes a source-grid-load-storage coordination model, helping comprehensive energy systems achieve economical, low-carbon, and multi-objective optimal operation.

COSPOWERS Energy Management System

Intelligent Control & Efficiency Enhancement

Real-time monitoring of key parameters in energy storage systems, intelligently optimizing charging and discharging strategies to enhance economic benefits through peak-valley arbitrage.

Smart Assessment

Utilizing algorithms to assess battery capacity and state of health, providing a basis for optimizing charging and discharging strategies.

Safety Management

Equipped with multiple safety protections and battery balancing management, enabling fault prediction and diagnosis to facilitate quick maintenance.

Energy Forecasting

Based on historical data and weather forecasts, predicting load and power generation to plan energy storage strategies in response to energy fluctuations.

The platform integrates monitoring, analysis, control, reporting, and optimization functions, providing panoramic monitoring and centralized management with a user-friendly visual interface. Through cloud-edge integration, it enables bidirectional data interaction and dynamically adjusts strategies based on factors such as electricity prices and load, achieving peak shaving, valley filling, and demand control.

COSPOWERS Battery Management System

Real-time Monitoring

Continuously collects key parameters such as battery voltage, current, and temperature, providing an accurate data foundation for the management system.

Precision Estimation

Accurately estimates the battery's State of Charge (SOC), offering a core basis for battery protection and lifespan management.

Intelligent Control

Intelligently controls the charging and discharging processes based on battery status and voltage parameters, ensuring the proper operation and optimal performance of the battery pack.

Temperature Management

Monitors the temperature of the battery, BMS board, and environment, activating protective measures in case of abnormal temperatures to ensure safety and longevity.

COSPOWERS BMS provides real-time monitoring of base station battery parameters, performs fault diagnosis, SOC, and lifespan estimation, and offers protection against short circuits and leakage. Through communication interfaces, it interacts with controllers to intelligently manage charging and discharging, ensuring the safe and stable operation of base station backup power systems.

Data Center Energy Storage Application Cases

China Mobile Ningxia Company Data Center Distributed Photovoltaic Project

Project Time: 2025

Project Location: Ningxia, China

Shanghai Mobile Lingang IDC Data Center UPS Project

Project Time: 2025

Project Location: Shanghai, China

Data Center Energy Storage Application Cases

China Unicom Shanxi Data Center Project

Project Time: 2022

Project Location: Shanxi, China

South Korea Cheongju Data Center UPS Backup Lithium Batteries

Project Time: 2021

Project Location: South Korea

Data Center Energy Storage Application Cases

South Korea IDC Data Center Project

Project Time: 2015

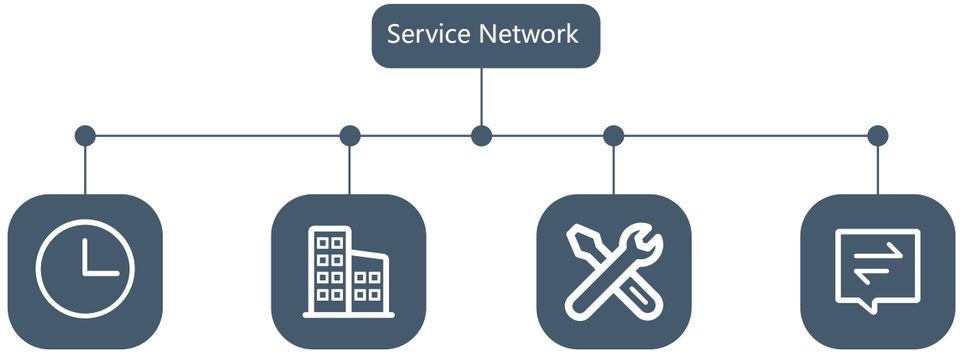
Project Location: South Korea

India Reliance Data Center Project

Project Time: 2013

Project Location: India

The guidance of Cospower is to improve customer satisfaction, to provide high quality, efficient and professional technical services for customers.



2-hour real-time response;
Arriving at the scene within 8 hours;
Solution within 24 hours;
Troubleshooting within 72 hours.

We have nearly 21 regional service centers and spare parts warehouses in 30 countries and regions around the world.

We provide technical services for large-scale projects 100+ times and on-site installation &maintenance trainings 20+ times during the whole year.

The power stations of 10+ provinces are visited during the whole year.

Cooperatice Customers

70+
Global service coverage

500+
Global partner