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Changde Cospowers New Energy Technology Co., Ltd.

(Graphene Industrial Park) No.4 Songlin Road, Sujiadu community, Zhangmuqiao Street, Economic and Technological Development Zone, Changde City, Hunan Province, PRC

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COSPOWERS

**HANDBOOK OF
COMMUNICATION 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 m²

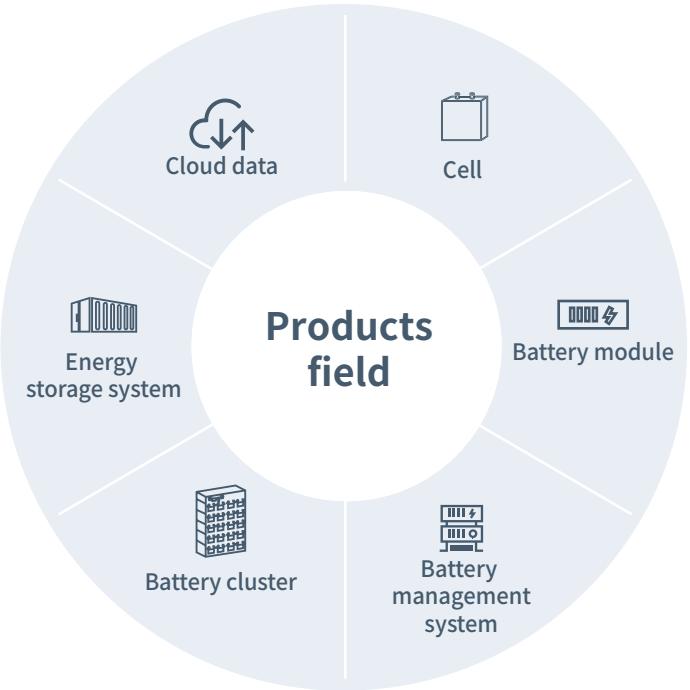
Factory area

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

29

Domestic and overseas subsidiaries and service outlets

3

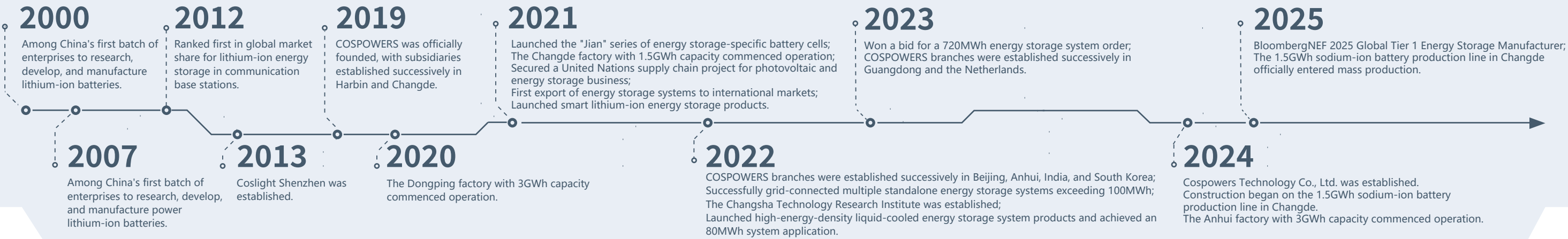
Production Base

4

R&D Centers



DEVELOPMENT HISTORY



Lithium-ion Cell

150Ah			314Ah		
Product Model			Product Model		
Rated Capacity			Rated Capacity		
Nominal Voltage			Nominal Voltage		
Voltage Range			Voltage Range		
Maximum Charge/Discharge Rate			Maximum Charge/Discharge Rate		
No.	Model	Rated Capacity	Nominal Voltage	Voltage Range	Maximum Charge/Discharge Rate
Lithium-ion Battery Cells – High-Power Series					
1	FP31136170A	50Ah	3.2V	2.5-3.65V	2C/6C
2	FP31136155A	60Ah	3.2V	2.5-3.65V	1C/4C
Lithium-ion Battery Cells – Power & Energy Series					
1	FP20106255A	40Ah	3.2V	2.5-3.65V	1C/3C
2	FP20106300A	50Ah	3.2V	2.5-3.65V	1C/3C
3	FP31136227A	80Ah	3.2V	2.5-3.65V	1C/3C
4	FP26122341A	100Ah	3.2V	2.5-3.65V	1C/3C
5	FP31136255A	100Ah	3.2V	2.5-3.65V	1C/3C
6	FP50160119A	100Ah	3.2V	2.5-3.65V	1C/1C
7	FP27122430A	150Ah	3.2V	2.5-3.65V	1C/3C
8	FP45173209A	150Ah	3.2V	2.5-3.65V	1C/3C
Lithium-ion Battery Cells – Energy Series					
1	FP71173207A	314Ah	3.2V	2.5-3.65V	0.5P



EMBEDDED SERIES-2U

CF4850T / CF48100T

Application Fields:
Urban base stations,
remote area base
stations, emergency
communication base
stations, mobile base
stations, critical
industry base stations,
high-load base stations,
and newly constructed
base stations.





Excellent high and low temperature performance
Operates with natural cooling at ambient temperatures below 38°C, saving energy.



Intelligent protection
Equipped with intelligent voltage, current, and temperature protection functions.



Long service life
3000 cycles @ 0.5C, 80% DOD, at 25°C.



Easy maintenance
Integrated BMS design, supports battery self-management, remaining energy, battery health management, and other functions.



Anti-theft functionality
Compatible with various optional anti-theft features.

Parameters/Model	CF4850T		CF48100T
Connection Method	1P15S	1P16S	1P15S
Rated Energy	2400Wh	2560Wh	4800Wh
Rated Capacity	50Ah	50Ah	100Ah
Rated Voltage	48V	51.2V	48V
Voltage Range	42~52.5V	43.2~56.8V	42~52.5V
Charging Current	25A	25A	50A
Discharging Current	50A	50A	100A
Operating Temperature	Charging: 0~50°C; Discharging: -20~55°C; Storage: -30~45°C		
Self-Discharge Rate	≤3% (at 0~30°C for 3 months)		
Dimensions (W*D*H)	440*390*88mm		440*530*88mm(19 inch)/ 492*525*88mm(21inch)
Weight	24Kg	25Kg	42Kg(19 inch)/42.5Kg(21 inch)
Communication Interface	RS485/RS232/CAN		
Charging Current Limiting Function	Automatically activates current-limited charging when detecting cell conditions such as low voltage, high voltage, low temperature, high temperature, poor consistency, or overcurrent protection during charging.		
Voltage Measurement Accuracy	0~5V measurement range with accuracy ≤10mV; 0~60V measurement range with accuracy ≤0.5%		
Current Measurement Accuracy	Measurement accuracy ≤1% (at 0.5C charge/discharge)		
Anti-Theft Function	May support software-based anti-theft, communication-based anti-theft, gyroscope-based anti-theft, and other functionalities.		
Certifications	IEC62619、UN38.3、TLC、ROHS		IEC62619、IEC62620、UL1973、 UL9540A、UN38.3

Embedded series-3U

CF48100T / CF48150T NEW

Application Fields:
Urban base stations,
remote area base
stations, emergency
communication base
stations, mobile base
stations, critical
industry base stations,
high-load base
stations, and newly
constructed base
stations.



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Excellent high and low temperature performance
Operates with natural cooling at ambient temperatures below 38°C, saving energy.
- 

Intelligent protection
Equipped with intelligent voltage, current, and temperature protection functions.
- 

Long service life
3000 cycles @ 0.5C, 80% DOD, at 25°C.
- 

Easy maintenance
Integrated BMS design, supports battery self-management, remaining energy, battery health management, and other functions.
- 

Anti-theft functionality
Compatible with various optional anti-theft features.

Parameters/Model	CF48100T		CF48150T	
Connection Method	1P15S	1P16S	1P15S	1P16S
Rated Energy	4800Wh	5120Wh	7200Wh	7680Wh
Rated Capacity	100Ah	100Ah	150Ah	150Ah
Rated Voltage	48V	51.2V	48V	48V
Voltage Range	42~52.5V	43.2~56.8V	42~52.5V	43.2~56.8V
Charging Current	50A	50A	75A	75A
Discharging Current	100A	100A	150A	150A
Operating Temperature	Charging: 0~50°C; Discharging: -20~55°C; Storage: -30~45°C			
Self-Discharge Rate	≤3% (at 0~30°C for 3 months)			
Dimensions (W*D*H)	440*420*130mm		440*525*130mm	440*525*130mm
Weight	41Kg	43Kg	56Kg	60Kg
Communication Interface	RS485/RS232/CAN			
Charging Current Limiting Function	Automatically activates current-limited charging when detecting cell conditions such as low voltage, high voltage, low temperature, high temperature, poor consistency, or overcurrent protection during charging.			
Voltage Measurement Accuracy	0~5V measurement range with accuracy ≤10mV; 0~60V measurement range with accuracy ≤0.5%			
Current Measurement Accuracy	Measurement accuracy ≤1% (at 0.5C charge/discharge)			
Anti-Theft Function	May support software-based anti-theft, communication-based anti-theft, gyroscope-based anti-theft, and other functionalities.			
Certifications	IEC62619、IEC62620、UL1973、UL9540A、UN38.3、ROHS、TLC、EMC		IEC62619、IEC62620、UL1973、UN38.3、ROHS、EMC	

Embedded series-5U

CF48300T

Application Fields:
Urban base stations,
remote area base
stations, emergency
communication base
stations, mobile base
stations, critical industry
base stations, high-load
base stations, and newly
constructed base
stations.



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Excellent high and low temperature performance
Operates with natural cooling at ambient temperatures below 38°C, saving energy.
- 

Intelligent protection
Equipped with intelligent voltage, current, and temperature protection functions.
- 

Long service life
3000 cycles @ 0.5C, 80% DOD, at 25°C.
- 

Easy maintenance
Integrated BMS design, supports battery self-management, remaining energy, battery health management, and other functions.
- 

Anti-theft functionality
Compatible with various optional anti-theft features.

Parameters/Model	CF48300T	
Connection Method	1P15S	1P5S BMS (7S) +BMU (8S)
Rated Energy	15072Wh	15072Wh
Rated Capacity	314Ah	314Ah
Rated Voltage	48V	48V
Voltage Range	42~52.5V	42~57V
Charging Current	150A	150A
Discharging Current	150A	150A
Operating Temperature	Charging: 0~50°C; Discharging: -20~55°C; Storage: -30~45°C	
Self-Discharge Rate	≤3% (at 0~30°C for 3 months)	
Dimensions (W*D*H)	542*480*222mm/442*545*222mm	CF48300T(module A): 442(±2)*460(±2)*222(±2)mm CF48300T(module B):442(±2)*460(±2)*222(±2)mm
Weight	105Kg	51Kg+54Kg
Communication Interface	RS485/RS232/CAN	
Charging Current Limiting Function	Automatically activates current-limited charging when detecting cell conditions such as low voltage, high voltage, lowtemperature, high temperature, poor consistency, or overcurrent protection during charging.	
Voltage Measurement Accuracy	0~5V measurement range with accuracy ≤10mV; 0~60V measurement range with accuracy ≤0.5%	
Current Measurement Accuracy	Measurement accuracy ≤1% (at 0.5C charge/discharge)	
Anti-Theft Function	May support software-based anti-theft, communication-based anti-theft, gyroscope-based anti-theft, and other functionalities.	
Certifications	IEC62619、IEC62620、UN38.3	IEC62619、IEC62620、UN38.3

Smart lithium battery series-2U

CS48100T

Application Fields:
Urban base stations,
remote area base
stations, emergency
communication base
stations, mobile base
stations, critical
industry base stations,
high-load base
stations, and newly
constructed base
stations.





Excellent high and low temperature performance
Operates with natural cooling at ambient temperatures below 38°C, saving energy.



Intelligent protection
Equipped with intelligent voltage, current, and temperature protection functions.



Long service life
3000 cycles @ 0.5C, 80% DOD, at 25°C.



Easy maintenance
Integrated BMS design, supports battery self-management, remaining energy, battery health management, and other functions.



Operating modes
Multi-mode intelligent switching, compatible with multiple battery types, high-rate discharge, suitable for high-reliability scenarios such as communication base stations.

BMS Introduction

	Introduction
Communication interface	RS485/RS232/CAN
Information sampling function	With each series-connected single cell voltage, external busbar voltage, total battery pack voltage, charging and discharging current, cell surface temperature, BMS single-board temperature sampling function
Battery Cell equalization function	The battery has a passive equalization function, which can be activated when the cell pressure difference exceeds a certain value during charging.
Charging current Limit function	With the function of automatically entering the current-limiting charging mode when detecting the battery cell:low voltage, high voltage, low temperature, high temperature, poor consistency, charging over-current protection
Voltage acquisition accuracy	0~5V, Detection accuracys10mV; 0~60V Detection accuracys0.5%
Current acquisition accuracy	Detection accuracys1% (0.5C charging/discharging)
Anti-theft function	Software anti-theft, communication anti-theft, gyroscope anti-theft and other functions
System component failure alarm	It has failure detection and alarm function for key components of BMS board. Whileit is detected with temperature sensor failure, voltage detection failures, charge and discharge MOS failure, an alarm will be generated and the charge and discharge loops will be disconnected (if the charge and discharge loop is damaged, it is not required to disconnect), the battery cannot recover automatically, and all the indicators flash to prompt.
History logs	500 historical records, 10000 historical records and life-cycle storage are optional;Independent storage space; BMS has power failure preservation capability; Historical data records include battery voltage, current, ambient temperature, SOC, SOH, cycle times, cumulative discharge capacity and other data

Module Specification and Parameters

Model	CS48100T
Connection Method	1P15S
Rated Energy	4800Wh
Rated Capacity	100Ah
Rated Voltage	48V
Voltage Range	42~58V
Charging Current	50A
Discharging Current	100A
Operating Temperature	Charging: 0~50°C; Discharging: -20~55°C; Storage: -30~45°C
Self-Discharge Rate	≤3% (0~30°C / 3 months)
Dimensions (W*D*H)	440*580*88mm
Weight	42Kg
Certifications	IEC62619、IEC62620、UL1973、UN38.3、ROHS、TLC、EMC

Smart lithium battery series-3U

CS48100T / CS48150T

Application Fields:
Urban base stations,
remote area base
stations, emergency
communication base
stations, mobile base
stations, critical industry
base stations, high-load
base stations, and newly
constructed base
stations.





Excellent high and low temperature performance
Operates with natural cooling at ambient temperatures below 38°C, saving energy.



Intelligent protection
Equipped with intelligent voltage, current, and temperature protection functions.



Long service life
3000 cycles @ 0.5C, 80% DOD, at 25°C.



Easy maintenance
Integrated BMS design, supports battery self-management, remaining energy, battery health management, and other functions.



Operating modes
Multi-mode intelligent switching, compatible with multiple battery types, high-rate discharge, suitable for high-reliability scenarios such as communication base stations.

BMS Introduction

	Introduction
Communication interface	RS485/RS232/CAN
Information sampling function	With each series-connected single cell voltage, external busbar voltage, total battery pack voltage, charging and discharging current, cell surface temperature, BMS single-board temperature sampling function
Battery Cell equalization function	The battery has a passive equalization function, which can be activated when the cell pressure difference exceeds a certain value during charging.
Charging current Limit function	With the function of automatically entering the current-limiting charging mode when detecting the battery cell:low voltage, high voltage, low temperature, high temperature, poor consistency, charging over-current protection
Voltage acquisition accuracy	0~5V, Detection accuracys10mV; 0~60V Detection accuracys0.5%
Current acquisition accuracy	Detection accuracys1% (0.5C charging/discharging)
Anti-theft function	Software anti-theft, communication anti-theft, gyroscope anti-theft and other functions
System component failure alarm	It has failure detection and alarm function for key components of BMS board. Whileit is detected with temperature sensor failure, voltage detection failures, charge and discharge MOS failure, an alarm will be generated and the charge and discharge loops will be disconnected (if the charge and discharge loop is damaged, it is not required to disconnect), the battery cannot recover automatically, and all the indicators flash to prompt.
History logs	500 historical records, 10000 historical records and life-cycle storage are optional;Independent storage space; BMS has power failure preservation capability; Historical data records include battery voltage, current, ambient temperature, SOC, SOH, cycle times, cumulative discharge capacity and other data

Module Specification and Parameters

Model	CS48100T	CS48150T
Connection Method	1P15S	1P15S
Rated Energy	4800Wh	7200Wh
Rated Capacity	100Ah	150Ah
Rated Voltage	48V	48V
Voltage Range	42~58V	42~58V
Charging Current	50A	50A
Discharging Current	100A	100A
Operating Temperature	charge:0~50°C; discharge:-20~55°C; Storage:-30~45°C	
Self-Discharge Rate	≤3% (0~30°C/3 months)	≤3% (0~30°C/3 months)
Dimensions (W*D*H)	440*420*130mm	440*525*130mm
Weight	42Kg	59Kg
Certifications	IEC62619、IEC62620、UL1973、UN38.3、ROHS、TLC、EMC	IEC62619、IEC62620、UL1973、UN38.3、ROHS、TLC

Smart lithium battery series-5U

CS48200T

Application Fields:
Urban base stations,
remote area base
stations, emergency
communication base
stations, mobile base
stations, critical industry
base stations, high-load
base stations, and newly
constructed base
stations.



Excellent high and low temperature performance

Operates with natural cooling at ambient temperatures below 38°C, saving energy.



Intelligent protection

Equipped with intelligent voltage, current, and temperature protection functions.



Long service life

Achieves up to 6000 cycles at 0.5C rate and 80% depth of discharge under 25°C ambient temperature.



Easy maintenance

Integrated BMS design, supports battery self-management, remaining energy, battery health management, and other functions.



Operating modes

Equipped with multiple discharge modes including DC-DC self-regulated constant voltage, power-managed constant voltage, and battery-adaptive constant power. It enables hybrid use of old/new batteries and lead-acid batteries, and features multi-layer anti-theft protection.

BMS Introduction

	Introduction
Communication interface	RS485/RS232/CAN
Information sampling function	With each series-connected single cell voltage, external busbar voltage, total battery pack voltage, charging and discharging current, cell surface temperature, BMS single-board temperature sampling function
Battery Cell equalization function	The battery has a passive equalization function, which can be activated when the cell pressure difference exceeds a certain value during charging.
Charging current Limit function	With the function of automatically entering the current-limiting charging mode when detecting the battery cell: low voltage, high voltage, low temperature, high temperature, poor consistency, charging over-current protection
Voltage acquisition accuracy	0~5V, Detection accuracys10mV; 0~60V Detection accuracys0.5%
Current acquisition accuracy	Detection accuracys1% (0.5C charging/discharging)
Anti-theft function	Software anti-theft, communication anti-theft, gyroscope anti-theft and other functions
System component failure alarm	It has failure detection and alarm function for key components of BMS board. Whileit is detected with temperature sensor failure, voltage detection failures, charge and discharge MOS failure, an alarm will be generated and the charge and discharge loops will be disconnected (if the charge and discharge loop is damaged, it is not required to disconnect), the battery cannot recover automatically, and all the indicators flash to prompt.
History logs	500 historical records, 10000 historical records and life-cycle storage are optional;Independent storage space; BMS has power failure preservation capability; Historical data records include battery voltage, current, ambient temperature, SOC, SOH, cycle times, cumulative discharge capacity and other data

Module Specification and Parameters

Model	CS48200T
Connection Method	1P10S
Rated Energy	10048Wh
Rated Capacity	32V 314Ah
Rated Voltage	48V
Voltage Range	42~58V
Charging Current	100A
Discharging Current	200A
Operating Temperature	charge:0~50°C; discharge:-20~55°C; Storage:-30~45°C
Self-Discharge Rate	≤3% (0~30°C/3 months)
Dimensions (W*D*H)	440*495*222mm
Weight	70Kg
Certifications	/

Smart lithium battery series-5U

CS48300T

Application Fields:
Urban base stations,
remote area base
stations, emergency
communication base
stations, mobile base
stations, critical industry
base stations, high-load
base stations, and newly
constructed base
stations.



Excellent high and low temperature performance

Operates with natural cooling at ambient temperatures below 38°C, saving energy.



Intelligent protection

Equipped with intelligent voltage, current, and temperature protection functions.



Long service life

3000 cycles @ 0.5C, 80% DOD, at 25°C.



Easy maintenance

Integrated BMS design, supports battery self-management, remaining energy, battery health management, and other functions.



Operating modes

Multi-mode intelligent switching, compatible with multiple battery types, high-rate discharge, suitable for high-reliability scenarios such as communication base stations.

BMS Introduction

	Introduction
Communication interface	RS485/RS232/CAN
Information sampling function	With each series-connected single cell voltage, external busbar voltage, total battery pack voltage, charging and discharging current, cell surface temperature, BMS single-board temperature sampling function
Battery Cell equalization function	The battery has a passive equalization function, which can be activated when the cell pressure difference exceeds a certain value during charging.
Charging current Limit function	With the function of automatically entering the current-limiting charging mode when detecting the battery cell: low voltage, high voltage, low temperature, high temperature, poor consistency, charging over-current protection
Voltage acquisition accuracy	0~5V, Detection accuracys10mV; 0~60V Detection accuracys0.5%
Current acquisition accuracy	Detection accuracys1% (0.5C charging/discharging)
Anti-theft function	Software anti-theft, communication anti-theft, gyroscope anti-theft and other functions
System component failure alarm	It has failure detection and alarm function for key components of BMS board. Whileit is detected with temperature sensor failure, voltage detection failures, charge and discharge MOS failure, an alarm will be generated and the charge and discharge loops will be disconnected (if the charge and discharge loop is damaged, it is not required to disconnect), the battery cannot recover automatically, and all the indicators flash to prompt.
History logs	500 historical records, 10000 historical records and life-cycle storage are optional;Independent storage space; BMS has power failure preservation capability; Historical data records include battery voltage, current, ambient temperature, SOC, SOH, cycle times, cumulative discharge capacity and other data

Module Specification and Parameters

Model	CS48300T
Connection Method	1P15S
Rated Energy	15072Wh
Rated Capacity	314Ah
Rated Voltage	48V
Voltage Range	42~58V
Charging Current	100A
Discharging Current	100A
Operating Temperature	charge:0~50°C; discharge:-20~55°C; Storage:-30~45°C
Self-Discharge Rate	≤3% (0~30°C/3 months)
Dimensions (W*D*H)	442*545*222mm
Weight	105Kg
Certifications	IEC62619、UL1973、UL9540A

Immersio Intelligent Lithium Battery Series

CLSS48100T

Application Field:
Communication base stations, macro station retrofits, power supply for shelters/outdoor cabinets, grid peak shaving and valley filling, and other scenarios, compatible with various energy storage system requirements.





Excellent high and low temperature performance
Supports operation across a wide temperature range from -40°C to 60°C.



Intelligent protection
Features smart voltage, current, and temperature protection functions.



High Safety
The product features fully and continuously immersed cells in safety fluid, ensuring no fire or explosion even under overcharge or nail penetration tests, with zero risk of thermal runaway.



Long service life
1000/3000/6000 cycles @ 0.5C, 80% DOD, at 25°C.



Easy maintenance
Integrated BMS design supports battery self-management, remaining capacity, battery health monitoring, and other functions.



Operating modes
Includes self-managed constant voltage discharge, power-managed constant voltage discharge, and battery-characteristic discharge modes such as constant power discharge, enabling hybrid use of different battery types.

BMS Introduction

	Introduction
Communication interface	RS485/RS232/CAN
Information sampling function	With each series-connected single cell voltage, external busbar voltage, total battery pack voltage, charging and discharging current, cell surface temperature, BMS single-board temperature sampling function
Battery Cell equalization function	The battery has a passive equalization function, which can be activated when the cell pressure difference exceeds a certain value during charging.
Charging current Limit function	With the function of automatically entering the current-limiting charging mode when detecting the battery cell:low voltage, high voltage, low temperature, high temperature, poor consistency, charging over-current protection
Voltage acquisition accuracy	0~5V, Detection accuracys10mV; 0~60V Detection accuracys0.5%
Current acquisition accuracy	Detection accuracys1% (0.5C charging/discharging)
Anti-theft function	Software anti-theft, communication anti-theft, gyroscope anti-theft and other functions
System component failure alarm	It has failure detection and alarm function for key components of BMS board. Whileit is detected with temperature sensor failure, voltage detection failures, charge and discharge MOS failure, an alarm will be generated and the charge and discharge loops will be disconnected (if the charge and discharge loop is damaged, it is not required to disconnect), the battery cannot recover automatically, and all the indicators flash to prompt.
History logs	500 historical records, 10000 historical records and life-cycle storage are optional;Independent storage space; BMS has power failure preservation capability; Historical data records include battery voltage, current, ambient temperature, SOC, SOH, cycle times, cumulative discharge capacity and other data

Module Specification and Parameters

Model	CLSS48100T	
Connection Method	1P15S	1P16S
Rated Energy	4800Wh	5120Wh
Rated Capacity	100Ah	
Rated Voltage	48V	
Voltage Range	42~58V	
Charging Current	50A	
Discharging Current	100A	
Operating Temperature	charge:0~50°C; discharge:-20~55°C; Storage:-30~45°C	
Self-Discharge Rate	≤3% (at 0~30°C for 3 months)	
Dimensions (W*D*H)	440*555*180mm	
Weight	60Kg	
Certifications	UL9540A、RoHS	

Immersio Intelligent Lithium Battery Series

CLSS48100T Wide-Temperature Range

Application Field:
Communication base stations, macro station retrofits, power supply for shelters/outdoor cabinets, grid peak shaving and valley filling, and other scenarios, compatible with various energy storage system requirements.





Excellent high and low temperature performance
Supports operation across a wide temperature range from -40°C to 60°C.



Intelligent protection
Features smart voltage, current, and temperature protection functions.



High Safety
The product features fully and continuously immersed cells in safety fluid, ensuring no fire or explosion even under overcharge or nail penetration tests, with zero risk of thermal runaway.



Long service life
1000/3000/6000 cycles @ 0.5C, 80% DOD, at 25°C.



Easy maintenance
Integrated BMS design supports battery self-management, remaining capacity, battery health monitoring, and other functions.



Operating modes
Includes self-managed constant voltage discharge, power-managed constant voltage discharge, and battery-characteristic discharge modes such as constant power discharge, enabling hybrid use of different battery types.



Autonomous Temperature Control
It features built-in heating components and a circulation system, enabling autonomous temperature control under both high and low-temperature conditions.

BMS Introduction

	Introduction
Communication interface	RS485/RS232/CAN
Information sampling function	With each series-connected single cell voltage, external busbar voltage, total battery pack voltage, charging and discharging current, cell surface temperature, BMS single-board temperature sampling function
Battery Cell equalization function	The battery has a passive equalization function, which can be activated when the cell pressure difference exceeds a certain value during charging.
Charging current Limit function	With the function of automatically entering the current-limiting charging mode when detecting the battery cell:low voltage, high voltage, low temperature, high temperature, poor consistency, charging over-current protection
Voltage acquisition accuracy	0~5V, Detection accuracys10mV; 0~60V Detection accuracys0.5%
Current acquisition accuracy	Detection accuracys1% (0.5C charging/discharging)
Anti-theft function	Software anti-theft, communication anti-theft, gyroscope anti-theft and other functions
System component failure alarm	It has failure detection and alarm function for key components of BMS board. Whileit is detected with temperature sensor failure, voltage detection failures, charge and discharge MOS failure, an alarm will be generated and the charge and discharge loops will be disconnected (if the charge and discharge loop is damaged, it is not required to disconnect), the battery cannot recover automatically, and all the indicators flash to prompt.
History logs	500 historical records, 10000 historical records and life-cycle storage are optional;Independent storage space; BMS has power failure preservation capability; Historical data records include battery voltage, current, ambient temperature, SOC, SOH, cycle times, cumulative discharge capacity and other data

Module Specification and Parameters

Model	CLSS48100T
Connection Method	1P16S
Rated Energy	5120Wh
Rated Capacity	100Ah
Rated Voltage	48V
Voltage Range	42~58V
Charging Current	50A
Discharging Current	100A
Operating Temperature	Charging: -20~50°C (with heating); Discharging: -20~55°C; Storage: -30~45°C
Self-Discharge Rate	≤3% (at 0~30°C for 3 months)
Dimensions (W*D*H)	440*555*180mm
Weight	60Kg
Certifications	UL9540A、RoHS

Immersio Intelligent Lithium Battery Series

CLSS48300T

Application Field:
Communication base stations, macro station retrofits, power supply for shelters/outdoor cabinets, grid peak shaving and valley filling, and other scenarios, compatible with various energy storage system requirements.





Intelligent Protection
Features intelligent voltage, current, and temperature protection.



High Safety
The battery cells are fully and continuously immersed in dielectric fluid, ensuring no fire or explosion even under overcharge or nail penetration tests, preventing thermal runaway. The full immersion design guarantees absolute safety, with no risk of fire or explosion.



Long Service Life
1000/3000/6000 cycles @ 0.5C, 80% DOD, at 25°C.



Easy Maintenance
Integrated BMS design supports battery self-management, including state of charge and battery health management.



Operating Modes
Includes self-managed constant voltage discharge, power-managed constant voltage discharge, constant power discharge based on battery characteristics, and more. Enables mixed use of different battery types and peak shaving/valley filling.

BMS Introduction

	Introduction
Communication interface	RS485/RS232/CAN
Information sampling function	With each series-connected single cell voltage, external busbar voltage, total battery pack voltage, charging and discharging current, cell surface temperature, BMS single-board temperature sampling function
Battery Cell equalization function	The battery has a passive equalization function, which can be activated when the cell pressure difference exceeds a certain value during charging.
Charging current Limit function	With the function of automatically entering the current-limiting charging mode when detecting the battery cell:low voltage, high voltage, low temperature, high temperature, poor consistency, charging over-current protection
Voltage acquisition accuracy	0~5V, Detection accuracys10mV; 0~60V Detection accuracys0.5%
Current acquisition accuracy	Detection accuracys1% (0.5C charging/discharging)
Anti-theft function	Software anti-theft, communication anti-theft, gyroscope anti-theft and other functions
System component failure alarm	It has failure detection and alarm function for key components of BMS board. Whileit is detected with temperature sensor failure, voltage detection failures, charge and discharge MOS failure, an alarm will be generated and the charge and discharge loops will be disconnected (if the charge and discharge loop is damaged, it is not required to disconnect), the battery cannot recover automatically, and all the indicators flash to prompt.
History logs	500 historical records, 10000 historical records and life-cycle storage are optional;Independent storage space; BMS has power failure preservation capability; Historical data records include battery voltage, current, ambient temperature, SOC, SOH, cycle times, cumulative discharge capacity and other data

Module Specification and Parameters

Model	CLSS48300T
Connection Method	1P15S
Rated Energy	15072Wh
Rated Capacity	314Ah
Rated Voltage	48V
Voltage Range	42~58V
Charging Current	50A
Discharging Current	100A
Operating Temperature	charge:0~50°C; discharge:-20~55°C; Storage:-30~45°C
Self-Discharge Rate	≤3% (0~30°C/3 months)
Dimensions (W*D*H)	440*700*267mm
Weight	120±2Kg
Certifications	Under Certification

Outdoor Integrated Series

CF4850Y

Application Field:Urban base stations, remote area base stations, emergency communication base stations, mobile base stations, critical industry base stations, high-load base stations, and newly constructed base stations.





Zero footprint
Versatile installation options (pole-mounted, wall-mounted, tower-mounted) save space and rental costs



Rapid deployment
Quick installation within 1 hour, reducing installation time by 80%



High Safety
IP65 dustproof and waterproof rating, integrated outdoor-grade lightning protection



Maintenance-free
anless design with natural cooling, adaptable to outdoor environments, no routine maintenance required throughout its lifecycle



Wide temperature range
Operates in environments from -40°C to 55°C

Parameters/Model	CF4850Y	
Connection Method	1P15S	1P16S
Rated Energy	2400Wh	2560Wh
Rated Capacity	50Ah	50Ah
Rated Voltage	48V	51.2V
Voltage Range	42~52.5V	43.2~56.8V
Charging Current	50A	50A
Discharging Current	50A	50A
Operating Temperature	Charging: 0~50°C; Discharging: -20~55°C; Storage: -30~45°C	
Self-Discharge Rate	≤3% (at 0~30°C for 3 months)	
Dimensions(W*D*H)	420*300*190mm/420*310*120mm	
Weight	29Kg	30Kg
Communication Interface	RS485/RS232/CAN	
Charging Current Limiting Function	Automatically activates current-limited charging when detecting cell conditions such as low voltage, high voltage, low temperature, high temperature, poor consistency, or overcurrent protection during charging.	
Voltage Sampling Accuracy	0~5V measurement range with accuracy ≤10mV; 0~60V measurement range with accuracy ≤0.5%	
Current Sampling Accuracy	Measurement accuracy ≤1% (at 0.5C charge/discharge)	
Anti-Theft Function	May support software-based anti-theft, communication-based anti-theft, gyroscope-based anti-theft, and other functionalities.	
Certifications	IEC62619、UL1973、UL9540A、UN38.8、ROHS、TLC	

Portable Energy Storage Module

CF48100T

Application Field : Suitable for emergency power backup in communication base stations, and can also be applied to home use for emergency backup (such as insufficient power, power outages, and natural disasters like typhoons and earthquakes), house renovations, lawn mowing, aerial photography backup, small outdoor music parties, self-driving travel, emergency rescue, and on-site power supply for construction projects.



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Excellent high and low temperature performance
Typically requires no air conditioning for cooling at ambient temperatures below 38°C, saving energy.
- 

Intelligent protection
Features smart protection functions for voltage, current, and temperature.
- 

Long Service Life
3500 cycles @0.5C, 80% DOD, at 35°C.
- 

Easy Operation and Maintenance
Integrated BMS design with battery self-management capabilities, displaying remaining capacity and battery health.
- 

Multi-Source Compatibility
Supports AC input/output, DC 48V input/output, and PV input functions.
- 

Remote Visibility
Can be connected to a platform for management, displaying power generation and backup power duration.

Parameters/Model	CF48100T
Cathode Material	LFP
Nominal Voltage	-51.2V(1P16S)
Rated charging voltage	-56.8V
Maximum Charge/Discharge Current	100/100A
Cycle Life	3500 cycles
Standard Capacity	100Ah
Weight	55Kg
Dimensions (W*D*H)	560*510*205mm
Self-Discharge Rate @25°C	<3% (after 90 days of storage)
Communication Interface	RS485,CAN.
Maximum Parallel Connection Quantity	15
Maximum Parallel Connection Power	38.4kW
Terminal Type	Anderson
Protection Rating	IP54
Protection Functions	Over-temperature protection, over-current protection, short-circuit protection, over-charge protection, over-discharge protection, etc.
Certifications	UL,CE,IEC,UN
Design Lifespan	15 years
Rated Input Voltage	220/110Vac
Voltage Range	90~280Vac
Battery Inverter Output Power	6200W
Output Voltage	220/110Vac
MPPT Input Voltage Range	60~500Vdc
Maximum PV Input Current	27A
Display	LCD display

EMS



- 

Easy Maintenance
Integrated EMS design, supporting local control via the display and remote control through the cloud platform
- 

Intelligent Monitoring
Real-time Remote Intelligent Monitoring
- 

Peak shaving and valley filling
Support peak shaving and valley filling settings.

Parameters/Model	EMS
Communication Interface	Equipped with RS232, CAN, and RS485 communication capabilities.
Communication with Lithium Batteries	Collects data from smart lithium batteries, including total battery voltage, cell voltage, cell temperature, charge/discharge current, State of Charge (SOC), State of Health (SOH), etc.; collects alarm information from smart lithium batteries, including cell voltage alarms and protection, cell temperature alarms and protection, battery current alarms and protection, etc.
HMI Display	Displays system information, charge/discharge status, and individual battery status in real-time; supports configuration of SBMS parameters via the HMI.
Battery Charge Calculation Function	Built-in energy meter function, receiving current, total energy consumption, and other information collected by the meter for electricity cost calculation.
Entry detection	EMS provides reserved digital input interfaces for external use, enabling the reception of external control signals, fire protection signals, etc., with customizable functions. (Reserved)
Open detection	EMS controls external devices such as air conditioners and fans via relays, with customizable control logic. (Reserved)
Monitoring Platform	Connects to servers via Ethernet to enable remote monitoring of the equipment.
History Storage Function	EMS features built-in SDNAND data storage, allowing revenue data to be read via an external USB interface for review. The storage period is configurable, and stored data includes forward/reverse energy, electricity prices, and peak/valley revenue at different time intervals.
Peak shaving and valley filling control function	Intelligently identifies peak and valley periods, combined with varying electricity prices at different times, to intelligently control active battery charging and discharging, maximizing electricity cost savings and revenue.

Stacked Light Hybrid Power Supply System Cabinet

Application Field: Energy Storage for Peak Shaving and Valley Filling in Communication Base Stations



Model	Stacked Light Hybrid Power Supply System Cabinet	
Solar Input	Maximum DC Power	15000W
	Optimal Operating Voltage	120Vdc
	Maximum Input Current	200A
	MPPT Voltage Range	60~150Vdc
	Number of MPPT Tracking Channels	5
AC Input	Rated Input Voltage	220Vac
	Input Voltage Range	85~300Vac
	Input Frequency	50/60Hz
	Maximum Input Current Limit	≤55A (single-phase)
	Power Factor	>99%
Battery Configuration	Battery Voltage Range	43.2~56Vdc
	Rated Battery Voltage	51.2Vdc
	Battery Charge/Discharge Power	5120W (charging) / 10240W (discharging)
	Maximum Charge/Discharge Current	100A (charging) / 200A (discharging)
	Communication Method	RS485
DC Output (3 channels)	Output DC Voltage Range	42~58Vdc
	Output DC Voltage	54.0Vdc
	Output DC Current	0~200A
	Output Efficiency	Efficiency: ≥96% in pure electric mode, ≥95% in pure solar mode
Inverter AC Output (1 channel)	Output AC Voltage	220Vac±2%
	Output Frequency	50/60Hz±1
	Output Maximum Power	4500W
Application Environment	Operating Temperature	-10~50°C
	Operating Altitude	<2000m
	Storage Temperature	-20~60°C
	Relative Humidity	5~90%RH
Mechanical Appearance	Noise Level	<30dB
	Dimensions(W*H*D)	750*750*1671.5mm
	Protection Rating	IP43
	Cooling Method	Temperature-controlled cooling
	Installation Method	Floor-mounted installation
	Communication Interface	WIFI,RS485

Integrated Energy Cabinet

CR5000W-300-1

Application Field: Domestic photovoltaic storage and charging stations, microgrids, and office buildings



Compact & Versatile
Flexible configuration, compact size, suitable for multiple scenarios

Modular & Service-friendly
PACK modular design, free combination, easy operation and maintenance

Comprehensive Safety
Safety protection includes firefighting, water leakage, and thermal management

Smart Display & PV Connectivity
LCD screen for intuitive display, supports photovoltaic integration

Parameters/Model		CR5000W-300-1
Inverter Output Parameters	Rated Output Power	5500W (Expandable)
	Maximum Output Current	21.8A
	Rated Output Voltage	230Vac Single Phase
	Frequency	50/60±0.3Hz
	Efficiency	96.70%
PV Input Parameters	PV Power	6500W
	PV Voltage	500V
	Start-up Voltage	125V
	MPPT Voltage Range	150~425Vdc
	Rated PV Input Voltage	150~425V
Grid/Generator Input Parameters	Number of MPP Trackers	2/1
	Input Voltage Range	90~280Vac
	Input Frequency Range	50/60Hz
Battery Parameters	Maximum Input Current	22.8A
	Battery Type	LFP
	Battery Rated Voltage	51.2V
	Voltage Range	46.4~58.4V
	Battery Capacity	5.12~133.12kWh
Operating Conditions	Maximum Charge/Discharge Rate	0.5C/1C
	Charging Temperature Range	5~55°C
	Discharging Temperature Range	-15~60°C
	Humidity	5~95%
	Cooling Method	Intelligent Air Cooling + Heat Sink
	Weight	243Kg (Expandable)
	Dimensions (W*D*H)	600*600*1000mm (Expandable)
	Communication Method	WIFI/RS485

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.

Communication Energy Storage Application Cases



China Tower Zhejiang Smart Lithium Project

Project Time: 2023

Project Location: Zhejiang, China



China Mobile Hunan 5G Micro-Station Integrated Project

Project Time: 2022

Project Location: Hunan, China

Communication Energy Storage Application Cases



South Korea KT Telecom Base Station Project

Project Time: 2022

Project Location: South Korea



Cambodia Metfone Base Station Project

Project Time: 2022

Project Location: Cambodia

Communication Energy Storage Application Cases



China Mobile Base Station Backup Power Project

Project Time: 2022

Project Location: Heilongjiang, Hubei, Hunan, etc.



India Reliance AG3 Base Station Project

Project Time: 2013

Project Location: India

Four Core Pillars of the Energy Storage Cloud Platform



Multi-Model Analytics



Establishes various models based on heat generation and charge/discharge data to conduct multi-dimensional analysis on each individual battery cell, followed by a comprehensive evaluation.

High Identification Accuracy



Collects data every 500 milliseconds and applies dynamic compensation and correction to the battery data to ensure high identification accuracy.

Data Real-Time Performance



Performs data analysis for the energy storage power station based on each complete charge/-discharge cycle, significantly improving the battery assessment frequency.

Proactive Early Warning

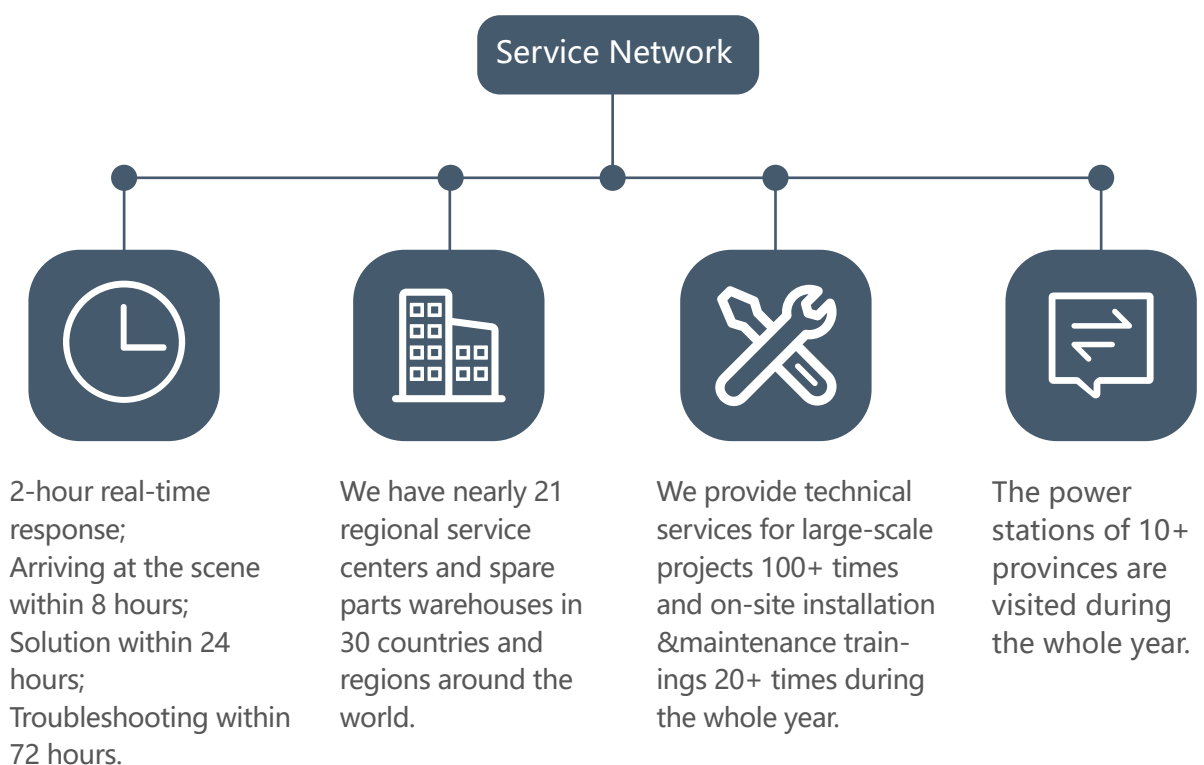


Analyzes battery data to enable the screening of potentially faulty batteries up to 7 days in advance, providing specific maintenance recommendations.

After-Sales Service



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



Cooperatice Customers

