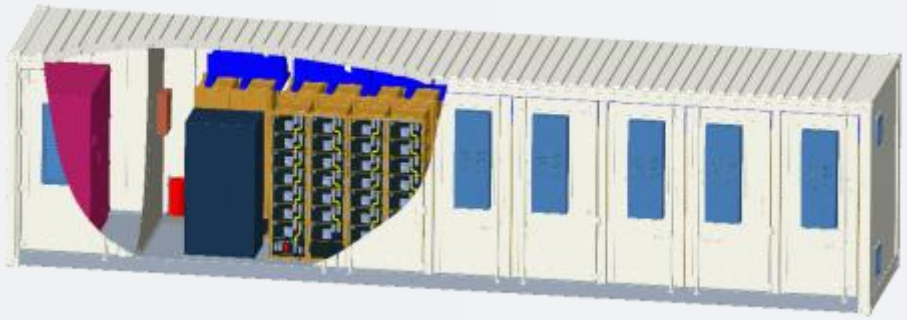
厦门启汉新能源科技有限公司

Xiamen Qihan New Energy Technology Co., Ltd

2023年7月

New energy storage system



集装箱储能系统
Container energy storage system

锂电池簇
Lithium battery cluster

堆叠式家庭储能系统
Stacked Home Energy Storage System

壁挂式家庭储能系统
Wall mounted home energy storage system

应用领域

工商业需量管理、削峰填谷
Industrial and commercial demand management, peak shaving and valley filling

用户侧后备电源
User side backup power supply

ESS

风光储调峰、调频
Peak shaving and frequency modulation of wind and solar energy storage

微电网系统
Microgrid system

New energy batteries

机架式储能电池
Rack mounted energy storage battery

智能动力叉车电池
Intelligent power forklift battery

太阳能电池
solar cell

应用领域

Domestic and foreign partners (some brands)

航天控股（代码HK00031）

科士达（代码SZ002518）

青鸟消防（代码SZ002960）

理士电池（代码HK00842）

雄韬股份 (代码SZ002733）

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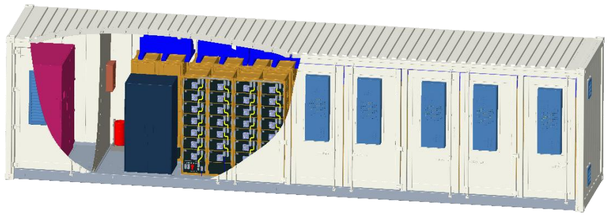
New energy storage system

New energy storage system



Container Energy Storage System

Lithium Battery Cluster

Stacked Home Energy Storage System

Wall-mounted home energy storage system

Application Fields

Commercial and industrial energy storage, peak-shaving and valley-filling

User-side backup power

Wind and light storage peaking and frequency regulation

Microgrid Systems

Stacked Storage Lithium Battery

HZF-51.2-100-SD

Inverter(optional)

Battery Module

System Base

【Intelligent】

- Each module is equipped with an independent BMS system
- LCD screen displays various battery status: SOC, Current,Temperature and Voltage

【Safe】

- The system uses high quality ithium iron phosphate power cell to bring better product erformance and reliability
- Professional pack R&D design and production team

【Intelligent management】

- HZF-51.2-100-SD is equipped with intelligent BMS for each battery module to effectively manage the normal and stable operation of the module.
- Compared with traditional modules, HZF-51.2-100-SD can meet the requirements of large storage capacity and greatly increase the cycle life.

【Features】

- Battery Module:
  Modular stacked design, the number of modules can be selected as required, rapid expansion, easy installation
- System Base:
  Mobile base.Equipped with heavy universal brake wheel and directional adjustment wheel.It can move flexibly. Universal brake wheel brake can be fixed temporarily, directional adjusting wheel adjusting screw can be better fixed positioning
- Inverter:
  Optional parts. You can configure them as requiredl.This equipment integrates inverter, MPPT solar charger,Battery charger function in one multifunctional inverter/ The charger.With a wide PV input range, when the energy is enough, can not be connected to the battery load, with high power density, small volume, simple operation, high fficiency of the whole machine, small no-load loss and other advantages.

【Application】

- HZF-51.2-100-SD is widely used in residential energy storage systems, stores, offices and other application scenarios;

SPECIFICATION

Battery Module	Model:HZF-51.2-100-SD
Battery Type	LiFePO4
Nominal Battery Energy	5.12KWh
Nominal Capacity	100Ah
Nominal Voltage	51.2V
Operating Voltage Range	44.8V~58.4V
Max continuous charge current	50A
Max continuous discharge current	100A
Net Weight	53.5Kg
imension[L*W*H](mm)	560*508*186
Operating Temperature Range	Charge:0~45℃; Discharge:-20~50℃
Cycle Life[1]	6000 Cycles
Communication	CAN/RS485
Warranty	5 Years

System Base	Model:HZF-51.2-100-DZ
Net Weight	11.8Kg
Dimension[L*W*H](mm)	560*508*150

Inverter(optional)		MODEL：HZPV18-5248 PRO	
INVERTER OUTPUT	Rated Power	5200VA/5200W	
	Surge Power	10400W	
AC INPUT	Voltage	230VAC±5%	
	Selectable Voltage Range	170~280VAC(UPS) /90~280VAC(APL)/ 184~253VAC(VED4105)	
	Frequency Range	50Hz/60Hz(Auto sensing)	
SOLAR CHARGER & AC HARGR	Maximum PV Array Open Circuit Voltage	450VDC	
	Charging Algorithm	3-Step (Flooded Battery, AGM / GEL / LEAD Battery), 4-Step (Li)	
	Maximum PV Array Power	5000W	6000W
	PV Array MPPT Voltage Range	150~430 VDC	
	Maximum Solar Charge Current	80A	100A
	Maximum AC Charge Current	60A	80A
	Maximum Charge Current	80A	100A
Net Weight		24Kg	
Dimension[L*W*H](mm)		560*508*186	

[1]Test conditions:0.2C Charging/Discharging,@25℃， 60%DOC

LiFePO4 Battery System for Households

HZF51.2V Series(5KWh-15KWh)

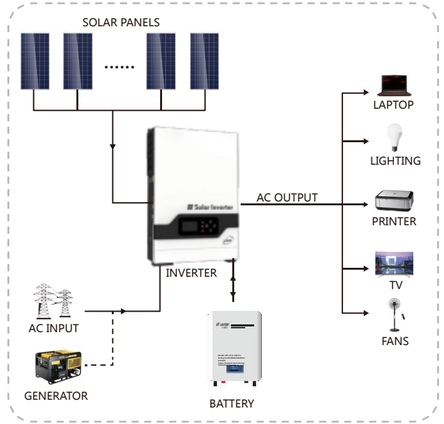
Introductio

The baerv svstem is mainlv used in the home solar power svstem.At the same time. itis convenient to contro the baterv and protect ourhome applications in time.Its comprehensive LCD display offers user-configurable and easy-accessible button operation such as batteryoperating current

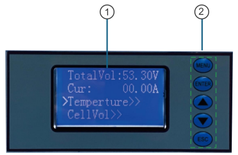
Features

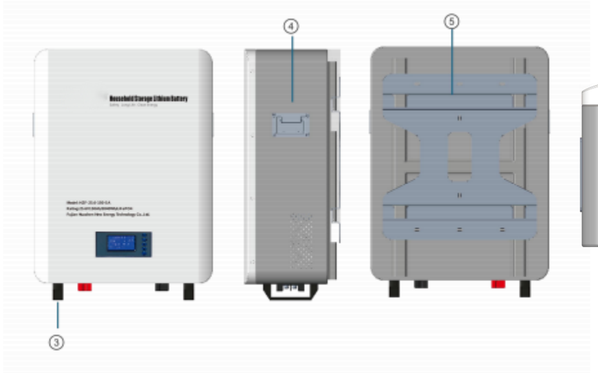
- Iron phosphate-lithium power battery
- Each module is equipped with an independent BMS system
- The LCD screen displays various battery states
- Support connected in parallel mode for expansion
- Safe lithium iron phosphate battery
- Compact size ultralight module
- Widely used in energy storage and power products , home energy storage systems

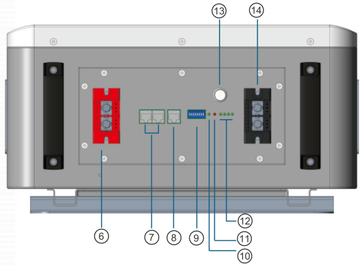
Solar system connection



Function Description







1. LCD Display
2. Function Buttons
3. Handle Model1
4. Handle Model2
5. Wall mounted fixing
6. Battery Positive +
7. Communication port RS485
8. Communication port CAN
9. Set the battery address
10. the operating status of the equipment
11. FaultIndicator
12. Indicate battery capacity status
13. Power on/off switch
14. Battery Negative -

Specification

产品型号	HZF -51.2-100-SC	HZF -51.2-200-SD	HZF-51.2-300-SE
Battery Type	LiFePO4		
Nominal Voltage	51.2V		
Rated Power	5.12KWh	10.24KWh	15.36KWh
Nominal Capacity	100Ah	200Ah	300Ah
Charging Cut-off Vol	58.4V		
Discharging End-off Vol	42V		
Max continuous charge current	50A		
Max continuous discharge current	100A		
Net Weight	about 65Kg	about 121Kg	about 182Kg
Dimension(mm)[W*T*H]	W450*T212*H591	W450*T212*H850	W645*T212*H850
Charging Temp.Range	0~45℃		
Discharging Temp.Range	-20~50℃		
Cycle Life [1]	6000 Cycles		
Protection Level	IP50		
Communication	CAN/RS 485		
Warranty	5 Years		

[1]Test conditions:0.2C Charging/Discharging,@25C，60%DOD

Lithium iron phosphate battery rack energy storage module
HZF-51.2-100-SA

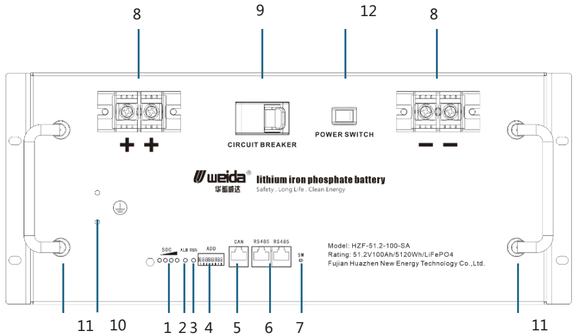
Introductio

The battery system provides power storage for solar energy systems in homes, stores and offices. At the same time, the battery system can optimize the use of electricity and ensure the efficient operation of the entire energy storage system.

Features

- The system uses high-quality lithium iron phosphate power cell, bringing better product performance and reliability
- Each battery module unit is equipped with a separate high-performance BMS system for scientific cell management
- Battery module units can be connected in parallel for expansion
- Supports communication matching of multiple inverters
- The battery energy storage module has a standard 19-inch rack design for easy installation
- Widely used in various application scenarios, such as home, store, and office

Function Description



No.	Name	Description
1	SOC	Indicate battery capacity status
2	ALM	Indicate the fault state, indicated by a red light, when there is a fault, it will be on.
3	RUN	Indicates the operating status of the equipment
4	ADD	Set the battery address
5	CAN	CAN communication interface
6	RS-485	RS-485 communication interface
7	Restart switch	Sleep and wake-up function
8	Battery Output	51.2V power connector + and -
9	Protection switch	Circuit Breaker
10	Grounding point	Grounding point
11	Handle	Handle for handling and installation of equipment
12	Power switch	BMS Power switch

SPECIFICATION

No.	Item	Specification	Remarks
1	Typical capacity	100.0Ah	Rated discharge (1) capacity after rated charge (2)
2	Minimum capacity	98.0Ah	
3	Nominal voltage	51.2V	Configuration: 16 cells in series. Voltage of single cell is 3.2V.
4	Voltage at end of discharge	42.0V	
5	Charge voltage	58.4V	At 25±3℃
7	Maximum Continuous charge current	50A	At 25 ± 3℃
8	Maximum Continuous discharge Current	100A	At 25 ± 3℃
9	Operation Allowable Temperature Range	Charge 0～50°C	
		Discharge -20～60°C	
10	Humidity	10% ～85% RH	Operation
		5% ～ 85% RH	Storage
11	Storage temperature range	0～50°C	Max. 6 month
12	Weight	≤58kg	
13	Dimension(mm)[W*T*H]	482*420*197	
14	Cycle life	≥6000	@0.2C 80%DOD

(1) Rated discharge : Constant current discharge(0.2CA) till the discharge end Voltage (42.0V) at 25±3℃.
(2) Rated charge : After 20A (0.2C) constant current charging to battery voltage 58.4V, turn to constant voltage 58.4V charging, when the charging current is less than 5A (0.05C), stop charging.

Pure Sine wave High Frequency solar Inverter(450V)

HZPV1800 PRO Series (3KW-5.5KW)

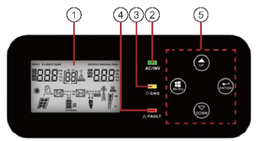
Features

- Pure sine wave output
- Smart LCD setting (Working modes, Charge Current, Charge Voltage, etc).
- Built-in MPPT solar charge controller
- MAX PV Array Open Circuit Voltage: 450V
- Can provide the power to the load without battery
- Combining solar system, AC utility, and battery power source to supply continuous power
- Overload, short circuit and Deep discharge protection
- Cold start function
- Support USB, RS485 monitoring function
- Parallel operation with up to 3 units
- WIFI remote monitoring (optional)

Introductio

HZPV1800 PRO is a multi-function inverter/charger, combining functions of inverter, MPPT solar charger and battery charger to offer uninterruptible power support in portable size. PV1800 PRO Series can run without battery. The Maximum PV array open circuit voltage can reach 450V and MPPT voltage is 150~430Vdc, which Can help customers make full use of solar energy. Widely used in household systems, communication base stations, monitoring systems, pastoral areas, 5G auxiliary power supply, etc.

Function Description

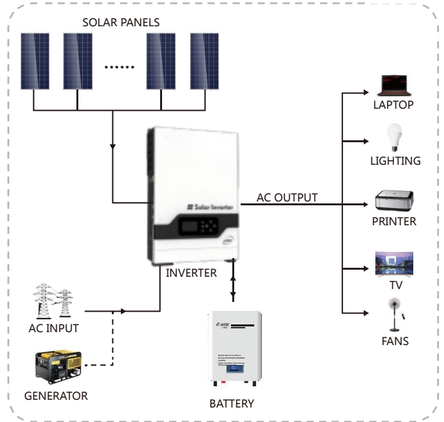


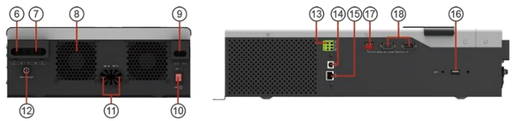
1. LCD Display
2. Status Indicator
3. Charging Indicator
4. Fault Indicator
5. Function Buttons

6. AC Input
7. AC Output
8. FAN
9. PV Input
10. Power On/Off Switch
11. Battery Input
12. Circuit breaker

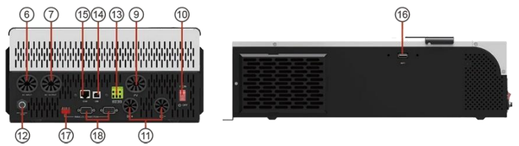
13. Dry Contact
14. USB
15. RS-485/CAN Communication port
16. USB WiFi
17. Parallel switch
18. Parallel communication port

Solar system connection





[PV1800 PRO 3K]



[PV1800 PRO 5K]

Specification

MODEL		HZPVPV18-3024 PRO		HZPVPV18-3524 PRO	HZPVPV18-5248 PRO		HZPVPV18-5548 PRO
Nominal Battery System Voltage		24VDC			48VDC		
INVERTER OUTPUT	Rated Power	3000VA / 3000W		3500VA / 3500W	5200VA / 5200W		5500VA / 5500W
	Surge Power	6000W		7000W	10400W		11000W
	Waveform	Pure sine wave					
	AC Voltage Regulation (Batt.Mode)	230VAC±5%(Setting)					
	Inverter Efficiency(Peak)	90%					
	Transfer Time	10ms (UPS / VDE4105) / 20ms (APL)					
AC INPUT	Voltage	230VAC±5%					
	Selectable Voltage Range	170~280VAC(UPS) / 90~280VAC(APL) / 184~253VAC(VED4105)					
	Frequency Range	50Hz / 60Hz(Auto sensing)					
BATTERY	Normal voltage	24VDC			48VDC		
	Floating Charge Voltage	27.4VDC			54.8VDC		
	Overcharge Protection	30VDC			60VDC		
SOLAR CHARGER & AC HARGR	Maximum PV Array Open Circuit Voltage	450VDC					
	Charging Algorithm	3-Step (Flooded Battery, AGM / GEL / LEAD Battery), 4-Step (Li)					
	Maximum PV Array Power	4000W		4000W	5000W	6000W	6000W
	PV Array MPPT Voltage Range	150~430 VDC					
	Maximum Solar Charge Current	80A	100A	100A	80A	100A	120A
	Maximum AC Charge Current	60A	80A	80A	60A	80A	100A
	Maximum Charge Current	80A	100A	100A	80A	100A	120A
MECHANICAL SPECIFICATIONS	Machine Dimensions (W*H*D)(mm)	322*486*134		322*486*134	309*505*147		309*505*147
	Package Dimensions (W*H*D)(mm)	426*560*260.5		426*560*260.5	375*655*269		375*655*269
	Net Weight(kg)	8		10	14		14.4
	Gross Weight(kg)	9.5		11.5	16.4		16.8
OTHER	Humidity	5% to 95% Relative humidity (Non-condensing)					
	Operating Temperature	0°C~50°C					
	Storage Temperature	-15°C ~60°C					

Lithium Battery Cluster

Introductio

Lithium battery system is mainly composed of battery, energy storage inverter(PCS), energy management system (EMS), battery management system (BMS) and other electrical equipment. Secondary BMS design, multiple monitoring of system status, hierarchical linkage. Relays, fuses, circuit breakers, and BMS constitute a comprehensive protection system integrating electrical safety and functional safety. Battery clusters are divided into energy E series, norm N series and power P series according to different application scenarios.

Characteristic Parameters Of Battery Cluster

Battery Cluster Model	BESS-768-150E	BESS-768-280E	BESS-768-120N	BESS-768-200N	EFS-768-100P	BESS-768-200P
Nominal Voltage	768V					
Operating Voltage Range	672V ~ 876V					
Nominal Battery Energy	150Ah	280Ah	120Ah	200Ah	100Ah	200Ah
Nominal Battery Energy	115.2kWh	215kWh	92.2kWh	153.6kWh	76.8kWh	153.6kWh
Max Continuous Charge Current	75A（0.5C)	140A（0.5C)	60A（0.5C)	100A（0.5C)	100A（1C)	200A（1C)
Max Continuous Discharge Current	75A（0.5C)	140A（0.5C)	120A（1C)	200A（1C)	200A（2C)	400A（2C)
Dimension (W*D*H)mm	1000*700*2000	1000*900*2050	1100*700*2000	1000*1100*1900	1000*750*1900	1000*1150*1900
Weigh ≤	1150Kg	2000Kg	1100Kg	1700Kg	950Kg	1560Kg

Battery Cluster Performance Parameters

Operating Temperature Range	Charge：0℃～ 50℃；Discharge：-20℃～ 55℃
Optimum Operating Temperature Range	15℃ ~ 35℃
Storage Temperature	-40℃ ~ 60℃ Within 1 month:-40℃～45℃ Within 6 month:-20℃～35℃
Work Environment	Altitude: < 2500m；Relative humidity: <95% (no condensation)
Heat Management	Intelligent air cooling
Insulation Resistance	> 500MΩ@1500VDC
Isolation Withstand Pressure	2500VDC/1min
Internal Power Supply Mode	24VDC(Built-in DC/DC)
Quiescent Dissipation	35W (Typical value, the module fan is not started)
Data Display	7" TN true color LCD screen(Scale:5:3, resolution:800×480)
Level of Protection	IP21
Cycle Life	2500 times (1C@25℃ charge-discharge@100%DOD，EOL80%)

Battery Management System Parameters

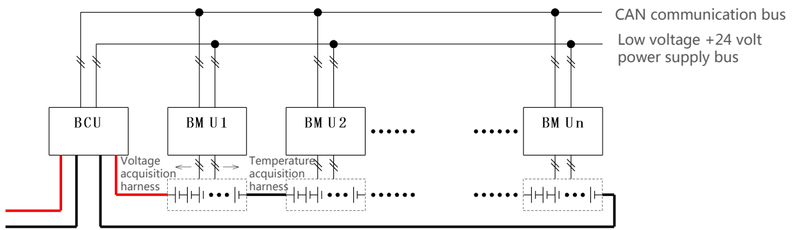
Voltage Acquisition Range	1-5V
Single Cell Voltage Acquisition Accuracy	≤10mV
Total Voltage Acquisition Accuracy	±1V or ±1%
Current Acquisition Range	Dc 0~±500A（Rated Dc±400A）
Current Acquisition Accuracy	≤ ±1%
Temperature Acquisition Range	-20 ~ 125℃
Temperature Acquisition Accuracy	>1C，10s；>1.2C，5s；>1.5C，1s
Accuracy of SOC Estimation	≤ ±1℃
Accuracy of SOH Estimation	>1C，10s；>1.2C，5s；>1.5C，1s
Over-temperature Protection	Discharge > 55℃ (20s) Charge > 50℃ (20s)
Low temperature Protection	Discharge < -20℃ (1s) Charge < 0℃ (1s)
Communication Mode	CAN, RS485, dry contact

BESS768-150E-A1 (Energy)

Introductio

Lithium battery system is mainly composed of battery, energy storage inverter(PCS), energy management system (EMS), battery management system (BMS) and other electrical equipment. Secondary BMS design, multiple monitoring of system status, hierarchical linkage. Relays, fuses, circuit breakers, and BMS constitute a comprehensive protection system integrating electrical safety and functional safety.

System Topology



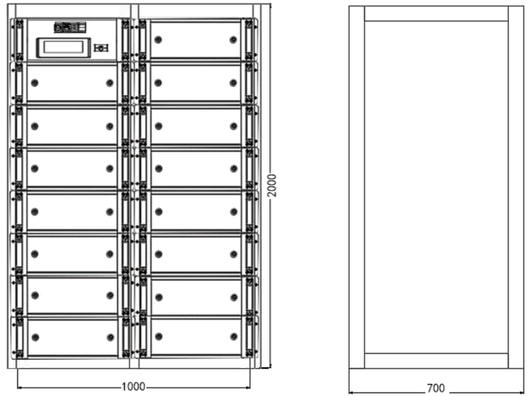
System Composition

Lithium Battery Module
The system is mainly composed of safe, efficient and long-life lithium iron phosphate cells in series and parallel to form battery modules, and multiple modules in series to form battery clusters.

Battery Management System
The core component of the system effectively protects the battery from overcharge, overdischarge and overcurrent, and manages the battery cell in a balanced way to ensure the safe, reliable and efficient operation of the whole system.

Monitoring System
System operation data monitoring, operation policy management, historical data recording, system status recording, etc.

Dimensions Of The System



System Specification

Lithium ion Battery		
Nominal Capacity	150AH	
Nominal Voltage	768V	
Nominal Battery Energy	115.2kWh	
Operating Voltage Range	672V～876V	Single cell core 2.8 ～ 3.65
Max Continuous Charge Current	75A（0.5C）	
Max Continuous Discharge Current	75A （0.5C）	
Operating Temperature Range	Charge：0℃～45℃ Discharge：-20℃～60℃	
Optimum Working Temperature	15℃～35℃	
Storage Temperature	-40℃～60℃	System SOC: 20%~40% condition
Work Environment	Altitude： ＜2500m Relative humidity: <95% (no condensation)	
Heat Management	Intelligent air cooling	
Insulation Resistance	＞500MΩ@1500VDC	
Isolation Withstand Pressure	2500VDC/1min	
Internal Power Supply Mode	24VDC	Built-in DC/DC
Quiescent Dissipation	35W	Typical value, the module fan is not started
Data Display	7* TN true color LCD screen	Scale:5:3, resolution:800×480
Level of Protection	IP21	
Dimension（W*D*H）	≤1000mm*700mm*2000mm	
Weigh	≤1150kg	
Cycle Life	4000	0.5C@25℃ charge-discharge@80%DOD，EOL80%

Battery Management Section (BMS)		
Voltage Acquisition Range	1-5V	
Single Cell Voltage Acquisition Accuracy	≤10mV	
Total Voltage Acquisition Accuracy	±1V or ±1%	
Current Acquisition Range	0～±500ADC	Rated ±400ADC
Current Acquisition Accuracy	≤1%	
Temperature Acquisition Range	-20～125℃	
Temperature Acquisition Accuracy	≤±1℃	
Accuracy of SOC Estimation	≤8%	Typical values, with self-calibration
Accuracy of SOH Estimation	≤8%	
Charge Overcurrent Protection	＞1C，10S；	
Discharge Overcurrent Protection	＞1C，10S；	
Over-temperature Protection	Discharge＞60℃（20S） Charge＞45℃（20S）	The default value of the return difference is 15℃, which can be set
Low temperature Protection	Discharge＜-20℃（1S） Charge＜0℃（1S）	The default value of the return difference is 15℃, which can be set
Communication Mode	CAN,RS485，dry contact	

System Features

| Safe and Reliable |

- First-line manufacturers lithium iron phosphate cell.
- Intelligent air cooling design, long system life, smooth operation.
- Module and battery cluster two-stage BMS design, multiple state monitoring, hierarchical linkage, fully ensure the safety of the battery system.
- Relay, fuse, circuit breaker three electrical protection system.

| Efficient and Convenient |

- High energy system has high energy density, stable and reliable performance and long service life.
- Modular design facilitates maintenance, management and expansion.

| Active Equalization |

- 3A BMS actively equalizes current to overcome the influence of single cell capacity on system capacity;
- The balancing accuracy is less than 2%, and the balancing capacity reaches 10% of the rated output;

| Cost Optimization |

- Small size, light weight, save space and installation cost;
- Long cycle life, low failure rate, reduce operation and maintenance investment

System Application

Industrial and commercial demand management, peak cutting and valley filling

User side backup power supply

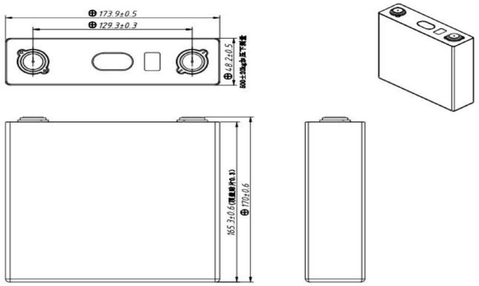
Wind and photovoltaic energy storage adjust peak and frequency

Microgrid system

Cell

The lithium battery system adopts 3.2V 150Ah high energy lithium iron phosphate cell with square aluminum shell design, which reduces the possibility of internal damage caused by mechanical damage to the surface of the cell and improves the safety performance of the product. The battery is equipped with a thin-film explosion-proof valve to ensure that in any extreme circumstances (such as internal short circuit, battery overcharge and overdischarge, etc.), a large amount of gas rapidly gathered in the battery can be discharged through the anti-riot valve to improve safety.

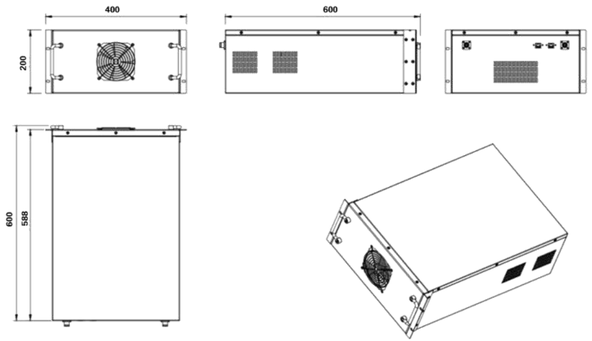
Parameter List		
Battery Type	LiFePO4	
Nominal Battery Energy☆	150.0Ah	0.5C @ 25℃
Nominal Voltage☆	3.20V	
Operating Voltage Range	2.5～3.65V	
Ac Internal Resistance☆	≤0.3mΩ	
Net Weight	≤3000g	
Max Charge Current	0.5C	continuous
	1C	50%SOC, 30s
Max Discharge Current	0.5C	continuous
	2C	50%SOC, 30s
Max Operating Temperature Range	-20℃/ + 60℃	
Charge	0℃～45℃	
Discharge	-20℃～60℃	
Optimum Operating Temperature Range	15℃～35℃	
Storage Temperature	-40℃/ + 60℃	Within 1 month:-40℃～45℃ Within 6 month:-20℃～35℃



Module

The battery module consists of 16 3.2V 150Ah monomer lithium iron phosphate cells, 1 parallel connection and 16 strings (16S1P) to form 51.2V 150Ah battery module. The built-in BMU system collects voltage and temperature of individual cells and manages cell balance, ensuring the normal operation of the entire module in a safe and efficient manner.

Parameter List	
Nominal Capacity	150Ah
Configuration	1P16S
Nominal Voltage	51.2V
Nominal Battery Energy	7.68kWh
Max Continuous Charge Current	75A (0.5C)
Max Continuous Discharge Current	75A (0.5C)
Operating Voltage Range	44.8～58.4V
Operating Ambient Temperature	-20℃～55℃
Weight	≤65kg
Dimension （W*D*H)	≤400mm*600mm*200mm
Communication	CAN
Type of Cooling	Intelligent Air Cooling



System Specification

Lithium ion Battery		
Nominal Capacity	200AH	
Nominal Voltage	768V	
Nominal Battery Energy	153.6kWh	
Operating Voltage Range	672V～876V	Single cell core 2.8 ～ 3.65
Max Continuous Charge Current	200A（1C）	
Max Continuous Discharge Current	400A（2C）	
Operating Temperature Range	Charge：0℃～45℃ Discharge：-20℃～60℃	
Optimum Working Temperature	15℃～35℃	
Storage Temperature	-40℃～60℃	System SOC: 20%~40% condition
Work Environment	Altitude： ＜2500m Relative humidity: <95% (no condensation)	
Heat Management	Intelligent air cooling	
Insulation Resistance	＞500MΩ@1500VDC	
Isolation Withstand Pressure	2500VDC/1min	
Internal Power Supply Mode	24VDC	Built-in DC/DC
Quiescent Dissipation	35W	Typical value, the module fan is not started
Data Display	7" TN true color LCD screen	Scale:5:3, resolution:800×480
Level of Protection	IP21	
Dimension（W*D*H）	1000mm*1150mm*1900mm	
Weigh	1560kg	
Cycle Life	2500	0.5C@25℃ charge-discharge@80%DOD，EOL80%

Battery Management Section (BMS)		
Voltage Acquisition Range	1-5V	
Single Cell Voltage Acquisition Accuracy	≤10mV	
Total Voltage Acquisition Accuracy	±1V or ±1%	
Current Acquisition Range	0～±500ADC	Rated ±400ADC
Current Acquisition Accuracy	≤1%	
Temperature Acquisition Range	-20～125℃	
Temperature Acquisition Accuracy	≤±1℃	
Accuracy of SOC Estimation	≤8%	Typical values, with self-calibration
Accuracy of SOH Estimation	≤8%	
Charge Overcurrent Protection	＞1C，10S；	
Discharge Overcurrent Protection	＞2.2C，10S；	
Over-temperature Protection	Discharge＞60℃（20S） Charge＞45℃（20S）	The default value of the return difference is 15℃, which can be set
Low temperature Protection	Discharge＜-20℃（1S） Charge＜0℃（1S）	The default value of the return difference is 15℃, which can be set
Communication Mode	CAN,RS485，dry contact	

System Features

| Safe and Reliable |

- First-line manufacturers lithium iron phosphate cell.
- Intelligent air cooling design, long system life, smooth operation.
- Module and battery cluster two-stage BMS design, multiple state monitoring, hierarchical linkage, fully ensure the safety of the battery system.
- Relay, fuse, circuit breaker three electrical protection system.

| Efficient and Convenient |

- The rate type system has outstanding performance, supporting a maximum of 1C charge, 2C discharge
- Modular design facilitates maintenance, management and expansion.

| Active Equalization |

- 3A BMS actively equalizes current to overcome the influence of single cell capacity on system capacity;
- The balancing accuracy is less than 2%, and the balancing capacity reaches 10% of the rated output;

| Cost Optimization |

- Small size, light weight, save space and installation cost;
- Long cycle life, low failure rate, reduce operation and maintenance investment

System Application

Industrial and commercial demand management, peak cutting and valley filling

User side backup power supply

Wind and photovoltaic energy storage adjust peak and frequency

Microgrid system

CESS400kW-860kWh～600kW-2.58MWh

Introductio

The integrated container energy storage system consists of battery cluster, energy storage bidirectional converter (PCS), battery management system (BMS), energy management system (EMS), fire control system, lighting system, dynamic ring control system, access control system, isolation transformer (optional), etc 。 System state multiple monitoring, hierarchical linkage, constitute a set of electrical safety and functional safety as one of the comprehensive protection system. Container systems, 1.2MW-2.58MWh energy storage system can be configured, standardized and prefabricated design, reduce user customization time and construction costs, and reduce safety risks caused by local installation differences and management risks.It can meet the application requirements of regional power grid such as peak regulation, frequency regulation, voltage regulation, emergency response and new energy consumption, and ensure the normal operation of the power system. 645kWh~2.58MWh can be designed and produced.

System Composition

Lithium Battery Cluster
The system is mainly composed of a safe, efficient and long-life lithium iron phosphate cell through series and parallel to form a battery module, several modules in series to form a battery cluster.

Battery Management System
The core components of the system can effectively protect the overcharge, overdischarge and overcurrent of the battery, and balance the management of the battery cell to ensure the safe, reliable and efficient operation of the whole system.

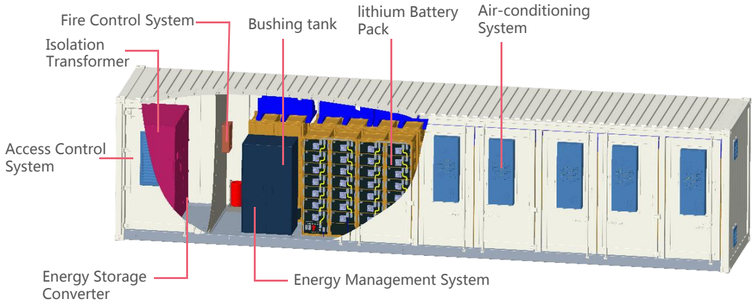
Monitoring System
System operation data monitoring, operation strategy management, historical data record, system status record, etc.

PCS Energy Storage Converter
The bidirectional AC/DC converter can realize the bidirectional conversion from DC to AC and from AC to DC. It can convert alternating current into direct current to charge batteries, and convert direct current into alternating current to supply power to loads or feed back to the grid.

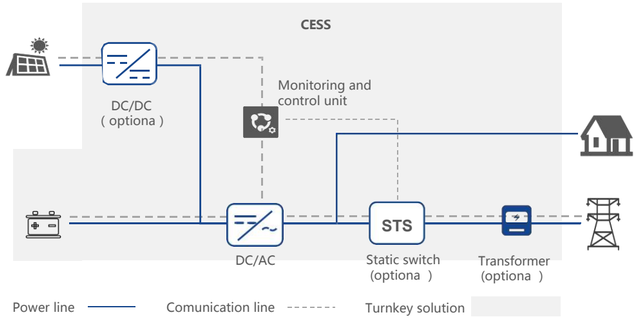
Air-conditioning System
The battery compartment is integrated with 1200W industrial air conditioning to meet the stable operation of the system in different environments and extend the service life of the system

IP54
The whole system adopts IP54 design.

System Diagram



System Topology



System Parameter

Type		CESS400kW-860kWh	CESS600kW-2580kWh
Energy Storage Parameter			
Energy Storage Capacity		860KWh	2.58MWh
Energy Storage Configuration		4 768V280AH lithium battery energy storage systems	12 768V280AH lithium battery energy storage system
System Voltage		768V	
Operating Voltage Range		DC672V ~ DC876V (2.8V ~ 3.65V)	
Type of Battery		LFP	
PCS Parameter			
Dc Side Parameter	Voltage Range	DC672V ~ DC876V	DC672V ~ DC876V
	DC Channel	4 (Max)	6 (Max)
	Single Channel Rated Current	130A	130A
AC Grid-connection Parameters	Output Line System	3W+N+PE/3W+PE	
	Rated Power	400KW	600KW
	Nominal Voltage	AC 380V/400V	
	Rated Current	606A	909A
	Voltage Range	-15% ~ +10%	
	Rated Frequency	50Hz/60Hz	
	Frequency Domain	±2Hz	
	Power Factor	1	
	Output Harmonic	≤ 3%	
AC Off-network Parameters	Output Line System	3W+N+PE/3W+PE	
	Rated Power	250KW	600KW
	Nominal Voltage	AC 380V/400V	
	Rated Frequency	50Hz/60Hz	
	Rated Current	606A	909A
	Voltage Accuracy	1%	
	Frequency Accuracy	±0.2Hz	
	Output Voltage Harmonics	3% linear full load	
	Unbalanced Load Capacity	100%	
	Overload Capacity	105%] : Continuous operation; (105%-120%) : 10min; 120%) : Stop running	
Underlying Parameter			
Ambient	Operating Temperature	-20℃ ~ 55℃(derated above 45 ℃)	
	Storage Temperature	-20℃ ~ 60℃	
	Relative Humidity	0% RH to 95% RH, no condensation	
	Working Altitude	At 45℃, 2000m; 2000m to 4000m derated usage	
	Noise	< 75dB	
Other	Communication Mode	CAN/RS485	
	Isolation Mode	Isolation transformer	Non-isolation
	Level of Protection	IP54	
	Heat Management	Air cooling (air conditioner + fan)	
	Max Efficiency	97.50%	98.50%
	Fire Protection	Heptafluoropropane	
	Dimension W*D*H (mm)	6096*2438*2896	12196*2438*2896

System Features

Safe and Reliable

- Preferred LFP route, strict safety test
- From cell to container, hierarchical temperature control strategy, industrial temperature control system
- Full electrical protection: high and low voltage separation, insulation detection, grounding protection, lightning protection design
- Design of 6mm thermal isolation and insulation support between cells
- Module built-in aerosol fire protection measures, container intelligent warehouse level fire protection, hierarchical linkage, multi-layer protection
- Battery pack is connected to PCS in series to eliminate circulation and ensure higher safety

Intelligent and Efficient

- High efficiency, digital, intelligent EMS system architecture design
- 0.5C charging and discharging ratio
- Fault prediction, identification and rapid location

Multi-dimensional Integration

- Easy to transport, install and maintain
- Modular design, convenient maintenance, management and expansion

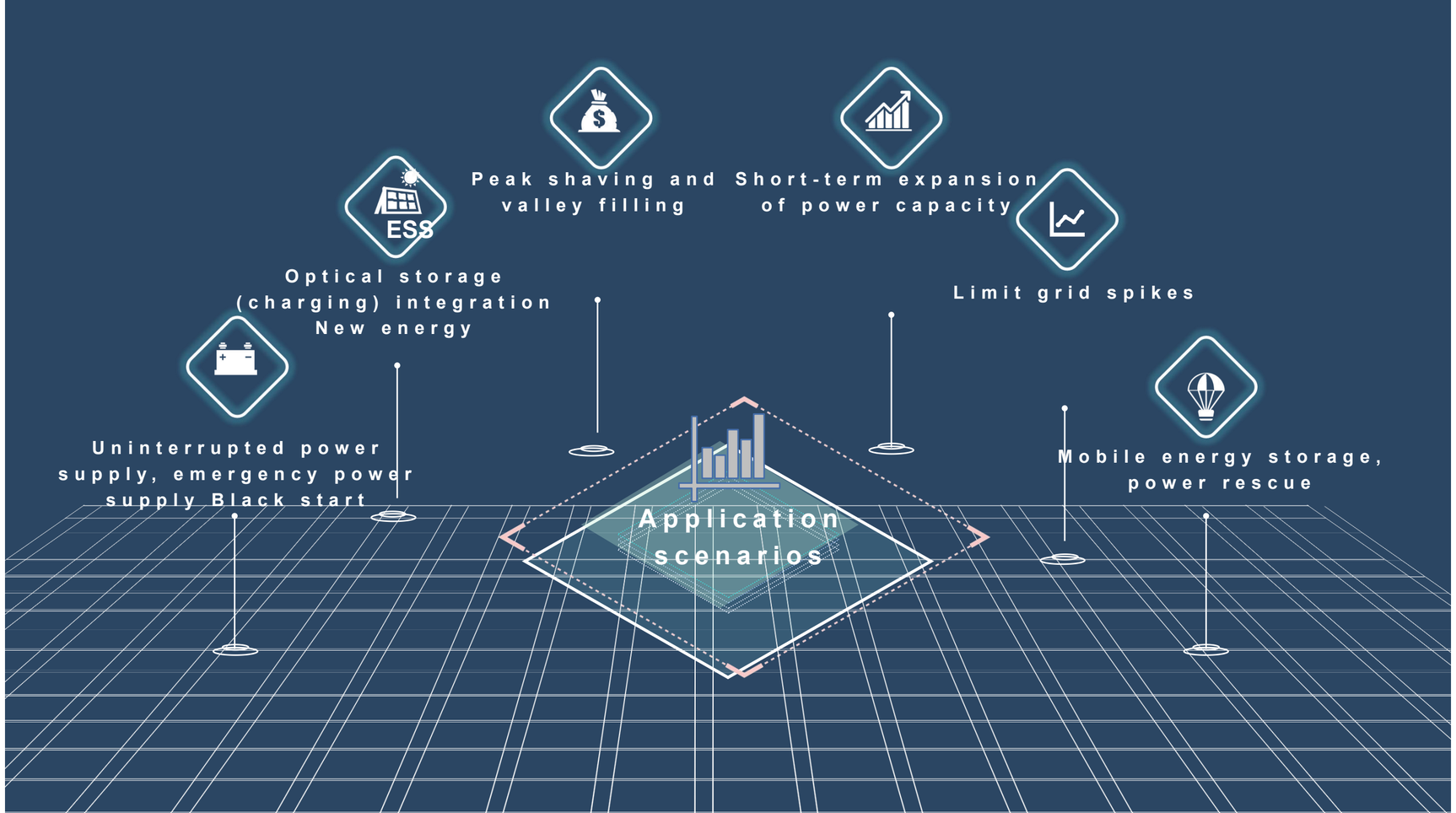
System Application

Industrial and commercial demand management, peak cutting and valley filling

User side backup power supply

Wind and photovoltaic energy storage adjust peak and frequency

Microgrid system


Peak shaving and valley filling
Short-term expansion of power capacity
ESS
Optical storage (charging) integration New energy
Limit grid spikes
Uninterrupted power supply, emergency power supply Black start
Mobile energy storage, power rescue
Application scenarios

Household Energy Storage

Connecting Applications

Diversification of linking scenes to realize one-stop power supply for whole house appliances

POSCO project in Korea
Put into operation: July 2021

POSCO Group, the largest steel company in South Korea, will need to replace lead-acid batteries with lithium iron phosphate for UPS in more than 3 POSCO plants in the second half of 2021. the first batch of sample orders will be purchased in the first half of 2021 115V 100Ah high energy lithium iron phosphate system with existing rectifiers, 230V 40Ah high rate lithium iron phosphate system for UPS, the system up to 4C high rate discharge, backup time of 15 minutes, compared to lead-acid batteries, has a small size, long life, fast charge and discharge and many other advantages, low overall cost. At present, the sample order has been delivered and tested, and the subsequent orders are being delivered in batches.

Case

GRES

Bulgaria Light Storage Project
Commissioning date: February 2022

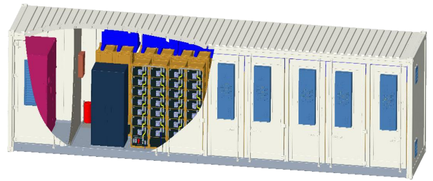
The Bulgarian photovoltaic storage project is a customer-side photovoltaic storage project. The customer builds its own 1.2M PV system and needs to configure energy storage to improve PV consumption and reduce electricity costs, while the energy storage needs to be used as emergency power supply to meet the load's electricity demand for 2-3 hours.

The project adopts the container method, 40 feet container configuration 1.84kWh lithium battery system and 600KW energy storage converter. Both the battery and the energy storage converter use modular design, which is easy to install, manage and maintain later. The three-level BMS management system, with hierarchical linkage, monitors and manages the whole system operation in all aspects, and the EMS monitors the data and status of each system in the management system and uploads it to the cloud, which is convenient for users to monitor and manage remotely.

The box is equipped with cooling and heating air conditioning to guarantee the best working temperature range for lithium batteries, improve the operational stability of the system and increase the cycle life of the system.

In terms of safety, the box is equipped with smoke sensor, temperature sensor and perfluorocaprolactone fire extinguishing device to achieve automatic fire extinguishing in case of emergency, in addition, each module is equipped with built-in fire protection measures, which can intervene earlier to effectively reduce the spread of thermal runaway. At the same time, when the aerosol action occurs, the BMS system will synchronize the linkage operation, forcing to disconnect the battery charging and discharging circuit, triggering the fire alarm and fire response action, which can ensure that the battery end failure is controlled within the minimum scope.

Project configuration.
Li-ion battery system 1.84kWh
PCS 600KW
Fire Fighting System
Air conditioning system



Off-grid power supply

U.S. Farm Light Storage Project
Commissioning date: March 2022

The project utilizes the integrated light and storage machine, lithium junction and the user's own photovoltaic modules to build an off-grid system to achieve new energy self-generation and self-consumption and solve the daily power consumption problem of the farm.
Project configuration.
Lithium battery energy storage system 100kWh
Light storage machine 50KW (100KW photovoltaic control module)

Israel commercial and industrial peak-to-valley arbitrage
Commissioning date: March 2022

The main use of this project is peak-valley arbitrage, using the energy storage system to charge the battery from the grid during the low price of electricity, and the load is powered by the battery during the peak price of electricity, so as to reduce the cost of electricity for customers. At the same time, the energy storage system can also be used as a backup power source to ensure normal operation of the load in case of grid failure.

The customer purchased 8 sets of energy storage systems, each containing three 768V200Ah battery systems and one 200KW PCS.

Project configuration.
Total configuration 1.6MW/3.6MWh energy storage system

Case

GRES

Ethiopia Charging Station Project
Commissioning date: December 2021

The project is located in an African highway charging station in Ethiopia, where there is a shortage of power resources but sufficient solar energy. The project adopts a standard integrated optical storage system, integrating lithium, PCS and PV control modules. The customer's own PV system can be directly connected to the GRES system to build an off-grid power supply system to meet the power demand of the charging piles.

The electricity generated by PV is converted to AC through DC/AC module for direct use by the load. The charging pile is an intermittent load, and when there is no demand for electricity, the electricity generated by PV can be directly stored in the lithium battery system for backup. Each GRES is equipped with 150kWh Li-ion system, 150KWh AC/DC and 100KW PV control module to supply power to two 60KW charging piles.

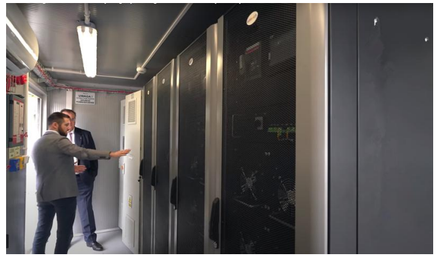
The whole power station is equipped with 4 GRES systems and 8 60KW charging piles.

Project configuration.
4 sets of integrated light storage charging system
(Li-ion battery system 150KWh PCS 150KW
Photovoltaic control module 100KW)

Poland Light Storage and Charging Project
Commissioning date: August 2021

Poland light storage and charging project configuration energy storage system 250KW/200KWh energy storage system, to achieve PV self-generation, surplus power storage, combined with energy storage peak and valley arbitrage, maximize the use of peak and valley electricity prices, to maximize economic benefits. At the same time, the system solves the problem of local distribution network and alleviates the impact of charging pile power consumption on the grid.

(Set Composition)



Project Configuration.

Carport PV 90kWp

PCS system 250KW

Battery storage system 200kWh

Charging pile 60kw*3 units 120KW*2 units

Case

Off-grid power supply

Africa Mobile Optical Storage Project
Commissioning date: March 2022

The project uses an integrated light and storage system, which can be carried on the vehicle, making it convenient to travel between the charging station and the low electricity consumption. The system is equipped with a photovoltaic control module, which gives priority to charging the battery with photovoltaic, improving the economy while also solving the problem of uncertainty of power replenishment caused by the instability of the local power grid.

Project configuration.
Integrated light storage charging system 2 sets
(Li-ion battery system 150KWh*2, PCS 150KW*2, PV control module 100KW*2)

传统能源电池
Traditional energy batteries

APPLICATIONS
应用领域

通讯设备 COMMUNICATION EQUIPMENT

船舶设备 MARINE EQUIPMENT

医疗设备 MEDICAL EQUIPMENT

电动工具 ELECTRIC TOOLS

发动机起动 ENGINE STARTER

太阳能 SOLAR SYSTEM

发电站 POWER STATION

计算机备用电源 COMPUTER BACKUP POWER

- 控制系统 CONTROL SYSTEM
- 核电站 NUCLEAR POWER PLANT
- 电信设备 TELECOM SYSTEM
- 电动玩具 ELECTRIC TOYS
- 峰值负载补偿储能装置 PEAK LOAD COMPENSATION ENERGY STORAGE DEVICE
- 警报系统 FIRE & SECURITY & ALARM SYSTEM
- 电力系统 ELECTRIC POWER SYSTEM
- 备用电力电源 BACKUP & STANDBY POWER
- 应急照明系统 EMERGENCY LIGHTENING SYSTEM
- 消防和安全防卫系统 GENERATING STATION
- 有线电视 CABLE TV
- 风能发电系统 WIND SYSTEM
- UPS不间断电源 UNINTERRUPTED POWER SUPPLY (UPS)

STAR PRODUCT
明星产品

小密系列
SMALL SIZE SERIES

型号	电压	容量	外形尺寸 (mm±2)	端子类型	参考重量 (Kg±5%)
HX12-4	12V	4Ah	90*70*107mm	F1/F2	1.36kg
HX12-7	12V	7Ah	151*65*100mm	F1/F2	2.08kg

产品特点 Features

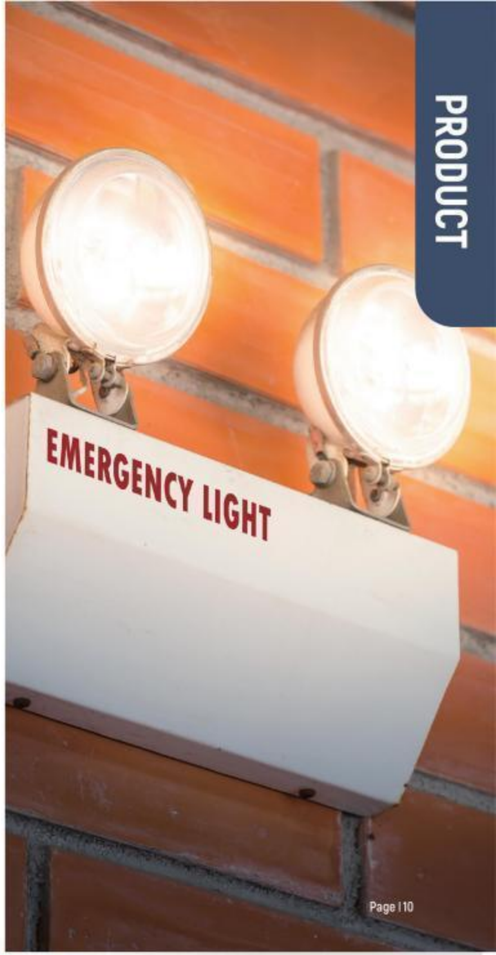
高品质的原材料

内阻小、自放电小

输出功率高

应用领域 Applications

- 仪器
- 报警
- 有线电视
- 儿童玩具
- UPS/EPS电源
- 安防系统
- 仪表
- 电子秤
- 电动工具
- 儿童电动
- 应急照明系统



EV系列
2V SERIES

序号	名称	参数
1	额定电压	12V
2	容量	70Ah
3	外形尺寸	259*168*210mm
4	参考重量	约21.5kg
5	端子类型	F14

产品特点 Features

独特合金配方　紧装配设计　电池循环寿命长　能量高，可快速充电

应用领域 Applications

◊ 高尔夫球车　◊ 电动汽车　◊ 电动自行车　◊ 电动叉车　◊ 电动列车

干荷电蓄电池
DRY-CHARGED BATTERY

型号	电压	容量	外形尺寸 (mm±2)	质保期	干重	带液
YTX4L-BS	12V	3Ah	113*70*85mm	一年	1.02kg	1.28kg
YTX12-BS	12V	10Ah	152*88*130mm	一年	2.9kg	3.69kg

产品特点 Features

长寿命　高CCA，起动性能好　充电接受及耐振动性能优越

应用领域 Applications

◊ 各类摩托车电池

大密系列
MAX SIZE SERIES

型号	电压	容量	外形尺寸 (mm±2)	端子类型	参考重量 (Kg±5%)
HX12-100	12V	100Ah	330*171*220mm	F14	30.3kg
HX12-200	12V	200Ah	522*238*221mm	F13	59.5kg

产品特点 Features

独特的ABS材料

不易产生变形、热失控

重量、体积比能高

应用领域 Applications

◊ 通讯设备 ◊ 太阳能 ◊ 风能系统 ◊ 发电厂 ◊ 电力设备

摩托车系列
MOTORBIKE SERIES

型号	电压	容量	外形尺寸 (mm±2)	端子类型	参考重量 (Kg±5%)
HXM12-4	12V	4Ah	114*70*87mm	铅	1.47kg
HXM12-7A	12V	7Ah	119*85*93mm	铅	2.5kg
HXM12-7B	12V	7Ah	148*60*128mm	铅	2.25kg

产品特点 Features

在寒冷恶劣环境下具有极佳的大电流启动性能能力

CCA值高

抗腐蚀、抗油、气侵蚀

应用领域 Applications

◊ 各类摩托车电池

OPZs系列
OPZS SERIES

型号	电压 (V)	容量 (Ah)	外形尺寸 (mm±2)	重量 (Kg±5%)	
				干重	带液
OPZs-200	2V	200Ah	103*206*410mm	13kg	17.5kg
OPZs-420	2V	420Ah	145*206*526mm	23kg	32kg

产品特点 Features

- 独特的极板结构设计
- 耐腐能力强、内阻极低

应用领域 Applications

- ◊ 通讯设备
- ◊ 电子仪器
- ◊ UPS不间断电源
- ◊ 风能发电系统
- ◊ 太阳能发电系统
- ◊ 火警与安全警报系统

FT系列
FRONT TERMINAL SERIES

型号	电压	容量	外形尺寸 (mm±2)	端子类型	参考重量 (Kg±4%)
HX12-50FT	12V	50Ah	291*106*231mm	F14	16.2kg
HX12-120FT	12V	120Ah	551*110*239mm	F13	36kg

产品特点 Features

- 本产品抗深放电性能好，有着较强的恢复能力
- 电池充电接受能力强
- 可靠性高、使用寿命长

应用领域 Applications

- ◊ UPS不间断电源
- ◊ 通讯设备

OPZV系列
OPZV SERIES

序号	名称	参数
1	额定电压	2V
2	容量	1000Ah
3	外形尺寸	233*210*681mm
4	参考重量	约80kg
5	端子类型	F12

产品特点 Features

- 胶体电解质 无液体分层，无泄漏
- 特殊的微孔 PVC-SiO2隔板
- 低自放电率
- 符合DIN43539-T5标准

应用领域 Applications

- 通讯设备
- 风能发电系统
- 太阳能发电系统
- 电子仪器
- UPS不间断电源
- 火警与安全警报系统

GENERAL PRODUCTS
常规产品

摩托车

公司型号	配比	外形尺寸 (mm±2)	容量 (Ah)	重量 (kg)
DIO2.5	2:3	115*39*87	2.3	0.86
DIO3	3:3	115*39*87	3	1.1
12N2.5	2:2	80*71*104	2.5	1.1
12N3	2:3	98*57*108	3	1.2
12V4-1	3:4	113*69*83	4	1.45
12N5-3	3:4	119*60*129	5	1.9
12V5-1	3:4	113*69*105	4.5	1.8
12N6.5	3:4	138*66*101	6.5	2
仿古7	3:4	113*69*130	6	2.2
12N7-4	3:4	136*76*123	7	2.5
12N7-3	4:4	147*59*130	6.5	2.2
12V7-1	4:5	149*85*93	7	2.5
YT7B-4	4:4	150*65*93	6	2.1
YTZ7V	3:4	113*69*119	6	2.2

MOTORCYCLE BATTERY

摩托车

公司型号	配比	外形尺寸 (mm±2)	容量 (Ah)	重量 (kg)
12N9-2	3:4	136*76*134	8	2.8
12V9-1	4:5	150*86*107	7	2.55
12N12	4:5	150*88*131	12	3.5
12N14	4:5	135*91*167	12	3.6
YTX14	4:5	150*88*147	12	3.6
12N32	3:3	186*123*165	20	6.6
12V4-1	3:4	113*69*83	3	1.38
12V5-3	3:4	119*60*129	5	1.9
12V7-1	4:5	149*85*93	7	2.5
12N6.5	3:4	138*66*101	6	1.9

EV系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
EV-50	12	50	8	197	165	175	175	F14	3	15.7
EV-34	12	65	6.5	258	169	175	180	F14	3	20
EVU1	12	35	9	195	130	161	155	F14	6	11
EV22	12	55	7	229	138	205	210	F19	6	18
EV-24	12	70	6.5	259	169	206	211	F14	6	21.5
EV-24-85A	12	70	6.5	259	169	206	226	AT	6	24
EVGC-170A	8	170	6.5	260	180	253	274	AT	6	32
EVGC-220A	6	220	2.5	260	180	254	274	AT	5	31.2
EVL16-400A	6	400	6.5	295	180	405	426	AT	5	55.5
EV8D-330A	12	330	3	528	282	229	250	AT	2	85.6
EV-155A	12	140	4.5	327	176	254	274	AT	6	39
EV6-200	6	190	2.5	260	180	254	274	AT	5	27
EV6-210	6	200	2.5	260	180	254	274	AT	5	28
CR-220	6	190	2.5	260	180	247	252	F13	6	27.3
EV27-100A	12	100	4.5	323	172	206	226	AT	6	29.5

小密系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX6-5	6	5	17	70	47	101	107	F1	4	0.8
HX6-6.5	6	6.5	21	151	35	94	100	F1/F2	6	1.05
HX6-7	6	7	18	151	35	94	100	F1/F2	6	1.1
HX6-7.2	6	7.2	16	151	35	94	100	F1/F2	6	1.15
HX6-7.5	6	7.5	14	151	35	94	100	F1/F2	6	1.18
HX6-9	6	9	12	151	35	94	100	F1/F2	6	1.3
HX6-8	6	8		99	58	117	113	F1		1.3
HX6-10	6	10	15	151	50	94	100	F1/F2	6	1.55
HX6-12	6	12	12	151	50	94	100	F1/F2	6	1.75
HX6-20	6	20	8	157	83	125	130	F17	6	3
HX12-1.2	12	1.2	95	97	43	52	58	F1	2	0.55
HX12-2	12	2	60	178	35	61	67	F1	6	0.8
HX12-2.3	12	2.3	60	178	35	61	67	F1	6	0.9
HX12-2.6A	12	2.6	40	70	48	98	104	F1		0.85
HX12-2.8	12	2.8	50	67	675	974	103	F1	6	1

小密系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX12-2.9	12	2.9	45	79	56	99	105	F1	3	1.05
HX12-3.2	12	3.2	55	134	67	61	67	F1	2	1.25
HX12-4	12	4	55	90	70	101	107	F1/F2	6	1.36
HX12-4.5	12	4.5	45	90	70	101	107	F1/F2	6	1.45
HX12-5	12	5	26	90	70	101	107	F1/F2	6	1.6
HX12-5.5S	12	5.5		151	65	94	100	F1/F2		1.88
HX12-6.5	12	6.5	32	151	65	94	100	F1/F2	1	2.02
HX12-7	12	7		151	65	94	100	F1/F2	1	2.1
HX12-7.2	12	7.2		151	65	94	100	F1/F2	1	2.2
HX12-7.5	12	7.5		151	65	94	100	F1/F2	1	2.3
HX12-8.5	12	8.5	23	151	65	94	100	F1/F2	1	2.5
HX12-9	12	9	20	151	65	94	100	F1/F2	1	2.7
HX12-10	12	10	32	151	98	95	101	F2/F1	1	3.05
HX12-12	12	12	20	151	98	95	101	F2/F1	1	3.45
HX12-15	12	15	20	181	77	167	167	F17/F18	3	4.8

小密系列

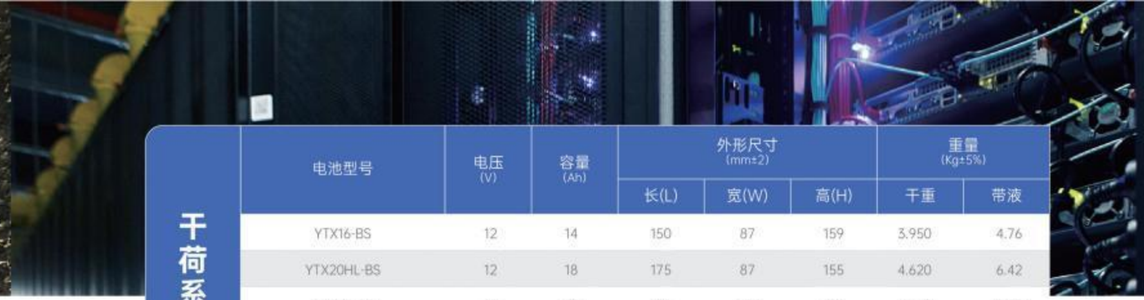
电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX2-4	2	4	9	46	25	100	106	F1	7	0.25
HX4-3.2	4	3.2	18	90	34	60	66	F1	6	0.4
HX4-3.5S	4	3.5	16	48	48	102	108	F1	3	0.42
HX4-4.5	4	4.5	16	48	48	102	108	F1	3	0.48
HX4-10	4	10	9	102	44	95	101	F2/F1	6	1
HX4-20	4	20	6	149	43	154	165	F17	3	2.2
HX6-1.2	6	1.2	55	97	24	52	58	F1	6	0.29
HX6-2.3	6	2	30	43	37	76	76	F1	/	0.34
HX6-2.3A	6	2	32	66	33	97	104	F1		0.46
HX6-2.8	6	2.8	32	66	33	97	104	F1	4	0.5
HX6-3.2	6	3.2	35	134	35	61	67	F1	6	0.65
HX6-3.5S	6	3.5	30	70	47	101	107	F1	4	0.62
HX6-4	6	4	30	70	47	101	107	F1	4	0.68

小密系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX6-4.5	6	4.5	25	70	47	101	107	F1	4	0.72
HX6-4.5H	6	4.5	25	70	47	101	107	F1	4	0.74
HX12-17	12	17	18	181	77	167	167	F17/F18	3	5.1
HX12-18	12	18	16	181	77	167	167	F17/F18	3	5.3
HX12-20	12	20	14	181	77	167	167	F17/F18	3	5.7
HX12-24	12	24	15	166	175	125	125	F17/F18	3	7.6
HX12-26	12	26	14	166	175	125	125	F17/F18	3	7.9
HX12-28	12	28	12	166	175	125	125	F17/F18	3	8.2
HX12-24A	12	24	15	165	125	175	182/175	F18	3	7.5
HX12-28A	12	28	12	165	125	175	182/175	F18	3	8.8
HX24-5B	24	5		140	90	103	109	F1/F2	3	3.2
HX24-5	24	5		179	70	101	106	F1/F3		3.15
HX12-7	12	7		151	65	94	100	F1/F2	1	2.2

干荷系列

电池型号	电压 (V)	容量 (Ah)	外形尺寸 (mm±2)			重量 (Kg±5%)	
			长(L)	宽(W)	高(H)	干重	带液
YTX4L-BS	12	4	113	70	85	1.230	1.500
YTX5L-BS	12	4	113	70	105	1.440	1.800
YTX7L-BS	12	6	113	70	130	1.790	2.260
YTX7A-BS 加重	12	7	150	86	94	1.920	2.420
YTX9-BS	12	8	150	87	105	2.150	2.740
YTX12-BS 加重	12	11	152	88	130	3.080	3.870
YTX14-BS 加重	12	14	150	87	145	3.330	4.270
YB2.5L-BS	12	2.5	80	71	103	0.830	0.990
YB3L-BS	12	3	98	56	110	0.970	1.170
YB5L-BS	12	5	120	61	128	1.430	1.760
YTX6.5L-BS	12	6.5	139	66	97	1.580	1.880
YB9-BS	12	9	135	76	137	2.270	2.780
YB9L-BS	12	9	135	76	137	2.270	2.780
YTX9L-BS	12	8	150	87	105	2.149	2.600
YT9B-BS	12	7.5	150	71	105	2.070	2.480
YT12B-BS	12	10	150	71	130	2.641	3.180
YT14B-BS	12	11.5	150	71	145	3.010	3.610



干荷系列

电池型号	电压 (V)	容量 (Ah)	外形尺寸 (mm±2)			重量 (Kg±5%)	
			长(L)	宽(W)	高(H)	干重	带液
YTX16-BS	12	14	150	87	159	3.950	4.76
YTX20HL-BS	12	18	175	87	155	4.620	6.42
YIX30L-BS	12	28	168	127	177	7.110	9.05
YB7BL - BS（轻）	12	7	147	59	130	1.840	2.38
YTZ5-BS(pp壳免维护)	12	4	113	69	85	1.325	1.594
YTZ6-BS(pp壳免维护)	12	5	113	69	105	1.644	2.009

FT系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)			重量
				长(L)	宽(W)	高(H)	
HX12-50FT	12	50	7.5	291	106	221	15.5
HX12-75FT	12	75	6.5	562	114	189	24.5
HX12-100FT	12	100	5.5	506	110	224	31
HX12-110FT	12	110	5.5	410	110	286	33
HX12-120FT	12	120	5	551	110	239	36
HX12-125FT	12	125	4.5	436	108	317	37
HX12-150FT	12	150	4.2	565	110	297	48.5
HX12-180FT	12	180	4	560	125	316	55.5

中大密系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX6-36	6	38	3	162	88	164	170	F2	5	5.6
HX6-42	6	42	4.2	162	88	164	170	F3	5	6.1
HX6-100	6	100	3	194	170	205	210	F14	4	15.5
HX6-150	6	150	2.5	260	180	245	250	F13	5	23
HX6-180	6	180	2.2	307	169	220	225	F13	5	27
HX6-200A	6	200	2	307	169	220	225	F13	5	29
HX6-200	6	200	2	321	176	226	229	F13	4	29.5
HX6-220	6	220	2.5	260	180	247	252	F13	5	29.4
HX6-300	6	300	1.5	295	178	345	348	F13	5	47
HX12-31	12	31	11	195	130	155	166	F14	6	9.6
HX12-33	12	33	10	195	130	155	166	F14	6	10.2
HX12-35	12	35	9	195	130	155	166	F14	6	10.5
HX12-38	12	38	9	197	165	175	175	F14	3	12
HX12-40	12	40	8.5	197	165	175	175	F14	3	12.5

中大密系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX12-42	12	42	8.5	197	165	175	175	F14	3	13.5
HX12-45	12	45	8	197	165	175	175	F14	3	14
HX12-50	12	50	7.5	229	138	211	214	F14	6	15.5
HX12-55	12	55	7	229	138	211	214	F15	6	16.5
HX12-50A	12	50	7.5	229	138	205	210	F19	6	15.5
HX12-70	12	70	6.5	260	168	211	214	F15	6	21.5
HX12-85	12	85	6.5	260	168	211	214	F15	6	22.5
HX12-80	12	80	5.5	260	168	211	214	F15	6	23
HX12-65	12	65	6	350	167	174	174	F14	3	20
HX12-80A	12	80	6	350	167	174	174	F14	3	23.5
HX12-90E	12	90	5	306	169	211	214	F14	6	26.5
HX12-90AE	12	90	5	330	171	214	220	F14/F12/灰白F13	6	27.3
HX12-90A	12	90	5	330	171	214	220	F14/F12/灰白F14	6	27.5
HX12-100E	12	100		330	171	214	220	F14/F12/灰白F15	6	29.3

中大密系列

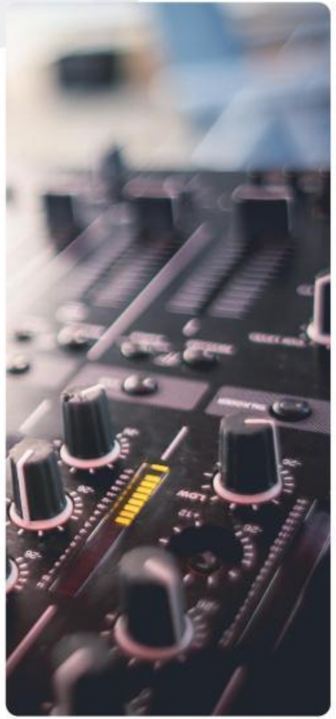
电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX12-100	12	100	4.5	330	171	214	220	F14/F12/灰白F16	6	29.5
HX12-105	12	110	4.5	330	171	214	220	F14/F12/灰白F17	6	31
HX12-110	12	110	4.5	330	171	214	220	F14/F12/灰白F18	6	32.5
HX12-120A	12	120	4	409	176	225	225	F13	6	34
HX12-135S	12	135	3.5	485	172	240	240	F13	6	40.5
HX12-150	12	150	3.5	485	172	240	240	F13	6	43
HX12-160	12	160	4	530	207	210	213	F13	2	49.5
HX12-180S	12	180		522	238	218	221	F13	2	55.5
HX12-190S	12	190		522	238	218	221	F13	2	56.5
HX12-200	12	200	3	522	238	218	221	F13	2	59.5
HX12-220	12	220		522	238	218	221	F13	2	62
HX12-225	12	225		522	238	218	221	F13	2	63
HX12-250E	12	250		521	269	220	223	F12/F13	2	71

2V系列

电池型号	电压 (V)	容量 (Ah)	内阻 (mΩ)	外形尺寸 (mm±2)				端子类型	端子位置	重量 (Kg±5%)
				长(L)	宽(W)	高(H)	总高(TH)			
HX2-100	2	100	0.8	171	72	205	210	F13	7	5.6
HX2-150	2	150	0.6	171	102	206	221	F13	4	8
HX2-200	2	200	0.9	171	111	330	364	F12	7	12.8
HX2-250	2	250	0.9	171	111	330	364	F12	7	14.5
HX2-300	2	300	0.8	171	151	330	364	F12	7	18
HX2-400	2	400	0.6	210	175	330	367	F12	8	25
HX2-500	2	500	0.5	241	175	330	365	F12	8	30
HX2-600H	2	600	0.45	302	175	330	367	F12	8	36
HX2-650	2	650	0.45	302	175	330	367	F12	8	37.5
HX2-800	2	800	0.4	410	175	330	367	F12	9	50
HX2-1000	2	1000	0.3	475	175	330	367	F12	9	60
HX2-1500	2	1500	0.22	400	350	345	382	F12	10	93
HX2-2000	2	2000	0.2	490	350	345	382	F12	11	120
HX2-3000	2	3000	0.12	710	350	345	382	F12	11	180

OPZV

电池型号	重量 (Kg±5%)	外形尺寸 (mm±2)				端子类型	端子位置
		长(L)	宽(W)	高(H)	总高(TH)		
OPzV 200	20	103	206	355	390	F12	7
OPzV 250	24	124	206	355	390	F12	7
OPzV 300	28	145	206	355	390	F12	7
OPzV 350	31	124	206	471	506	F12	7
OPzV 420	35	145	206	471	506	F12	7
OPzV 500	41	166	206	471	506	F12	7
OPzV 600	49	145	206	646	681	F12	7
OPzV 800	65	191	210	646	681	F12	8
OPzV 1000	80	233	210	646	681	F12	8
OPzV 1200	93	275	210	646	681	F12	8
OPzV 1500	117	275	210	796	831	F12	8
OPzV 2000	155	397	212	772	807	F12	12
OPzV 2500	192	487	212	772	807	F12	9
OPzV 3000	228	576	212	772	807	F12	9



OPZS

电池型号	重量 (Kg±5%)	外形尺寸 (mm±2)				端子类型	端子位置
		长(L)	宽(W)	高(H)	总高(TH)		
OPzS 200	17.5	103	206	355	410	F12	7
OPzS 250	20.5	124	206	355	410	F12	7
OPzS 300	24	145	206	355	410	F12	7
OPzS 350	28	124	206	471	526	F12	7
OPzS 420	32	145	206	471	526	F12	7
OPzS 490	37.5	166	206	471	526	F12	7
OPzS 600	47	145	206	646	701	F12	7
OPzS 800	64	191	210	646	701	F12	8
OPzS 1000	78	233	210	646	701	F12	8
OPzS 1200	92	275	210	646	701	F12	8
OPzS 1500	111	275	210	796	851	F12	8
OPzS 2000	152	397	212	772	827	F12	12
OPzS 2500	185	487	212	772	827	F12	9
OPzS 3000	222	576	212	772	827	F12	9

电动车

型号规格	重量 (Kg±5%)	外形尺寸 (mm±2)		
		长(L)	宽(W)	高(H)
6-DZM-12-I	4.2	151	98	97
6-DZM-20-I	6.7	181	79	171
6-DZM-21-I	6.85	181	79	171
6-DZM-22.3	7.15	181	79	171
6-EVF-32	10	257	77	171
6-EVF-30	10.5	222	94	175
6-EVF-35	11.8	222	106	175
6-EVF-40-I	13.5	222	120	175

发电机电池

型号规格	重量 (Kg±5%)	外形尺寸 (mm±2)			
		长(L)	宽(W)	高(H)	总高(TH)
HX12-33P（36）	33	195	130	155	166
HX12-50P（60）	50	229	138	205	210
HX12-70P（80）	70	260	168	211	214
HX12-90P（100）	90	306	169	211	214
HX12-100P（120）	100	330	171	214	220

INSPECTION AND MAINTENANCE
检查与维护

保存 Storage

电池出厂前是充过电的，安装前请注意以下几点：

The battery is delivered in a fully charged condition. Please note the following points before installation:

1、贮存的电池会产生易燃气体，因此应保持电池通风良好，并使电池远离火花和明火。

2、开包装后，检查配件数量和外观。到达后请检查电池包装（纸箱）有无损坏，然后小心将纸箱打开不要损坏电池。

3、在电池安装地附近将电池包装打开，托住电池底部将电池取出，不要提端子，注意！如果在端子上用力使电池移动，密封胶可能开裂。

4、开包装后，检查配件数量和外观。

Ignitable gases may be generated from the storage battery. Provide sufficient ventilation and keep the battery away from the sparks and naked flame.
Please check for any damage to the packages after arrival, then unpack carefully to avoid damage to the battery.
Unpacking at the installation location, please take out the battery by supporting the bottom instead of lifting the terminals. Attention that sealant may be disrupted if the battery is moved with force on the terminals.
After unpacking, check the quantity of the accessories and the exterior.

维护 Manintenance

1.检查电池无异常后，将其安装在指定地点（例电池房）
2.如将电池安放在电池房，应尽可能将其放在电池房最低处，电池间隔应保证15mm以上。
3.避免电池安装在靠近热源（如变压器）的地方。
4.因为电池贮存时可能产生易燃气体，安装时应避免靠近产生火花的装置（如保险丝）。
5.连接前，擦净电池端子，而使其呈现金属光亮。
6.多个电池一起使用时，首先使电池间连接正确，再将电池用充电器或负载连接。

1、After verifying no abnormality in the battery, install it on the prescribed location (e.g. cubicle of battery stand)
2、If the battery is to be accommodated in a cubicle, place it at the lowest place of the cubicle whenever it is practicable. Keep at least 15mm distance between the batteries.
3、Always avoid installing the battery close to a heat source (such as a transformer).
4、Since a storage battery may generate ignitable gases, avoid installing close to an item that produces sparks (such as switch fuses)
5、Before making connections, polish the battery terminals to bright metal.
6、When a multiple number of the batteries are used, first connect the inter-battery in a correct manner, and then connect the battery to the charger or the load.

在这种情况下，电池正极应与充电器或负载的正极连接，负极与负极连接。
如果电池与充电器连接不正确，充电器会被损坏，一定注意不要连接错误。每个连接螺母与螺栓一定扭紧，扭紧扭矩按下表所示：

适用螺栓	扭矩规定
M5	2.0～4.0N*m(20～40kgf*cm)
M6	4.5～8.0N*m(45～80kgf*cm)
M8	11～13N*m(110～130kgf*cm)

In these cases, the positive (+) of the storage battery should be securely connected to the positive (+) terminal of the charger or the load, and negative (-) to negative (-).
Damage to the charger may be caused by the incorrect connection between battery and charger. Make sure all connections are correct. The tightening torque for each connecting bolt and nut shall be in accordance with the below chart.

为了防止电池损坏，按下列方法定期检查电池并做记录

时间	内容	方法	检查标准	出现异常时的处理
每月检查	浮充中的总电压	用电压表测量总电压	浮充电压*电池数	调整至浮充电压*电池数
半年检查	浮充中的总电压	用精度为0.5或更精确的电压表测量电压总电压	总电压为（浮充电压*电池数）	电压值偏离正常时应调整电压
	浮充时单格电池电压	用精度为0.5或更精确的电压表测量电压总电压	在2.25+0.1v/单格范围内	向我们询问纠正错误，任何电池超过允许值时，应修理更换
	外观	检查电槽和上盖有无损坏或漏酸	换成电槽或上盖无损坏或漏酸	如有，应更换
		检查电池是否被灰尘等污染	电池无灰尘污染	如果污染用湿布清洁
		检查电池架，连接板，连接电缆和端子是否有生锈等异常	电池架/连接板/连接电缆端子无生锈	查找原因,并进行清扫、除锈、修补
年度检查（年度检查除半年检查项目外，还应加上下面项目）				
	连接件	拧紧螺母和螺栓	查（连接螺册和螺柱扭矩）	

补充电 Supplementary charge

1、在运输和贮存过程中，由于自放电电池会损失部分容量，使用前请补充电。

(1) Part of the battery capacity will have been lost due to the self-discharge during transportation and storage. Please make supplementary charge before putting into service.

2、使用前应根据下列条件进行补充电(下表):

2、The supplementary charge should be given by the following conditions before service (see below chart) :

补充电条件25℃

贮存时间	每单格充电电压	充电时间
不到1年	2.25V/cell	3天以上
	2.30V/cell	3天
	2.45V/cell	1天
1~2年	2.25V/cell	6天以上
	2.30V/cell	5天
	2.45V/cell	2天

NOTES
注意事项

贮存 Storage

1、当保存电池时，应将电池从充电器和负载上取下并尽可能保存在干燥低温环境中。

2、电池保存很长时间时，使用前请补充电。

1、When storing the battery, the battery should be removed from the charger and load and stored in a dry low temperature environment as much as possible.

2、When the battery is kept for a long time, please replenish the electricity before use.

注意事项 Cautions

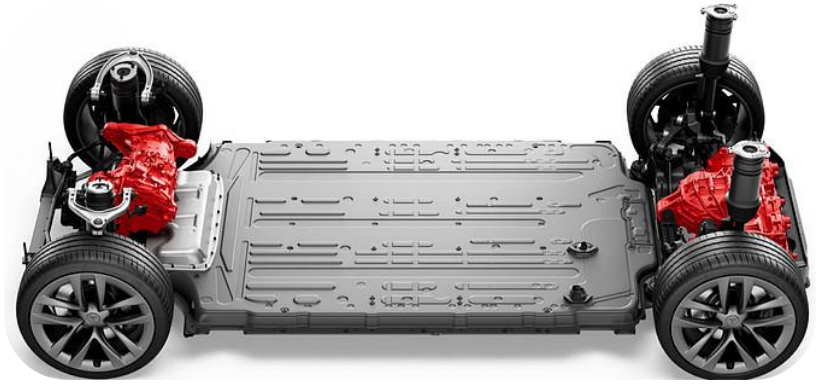
1. 清扫蓄电池时，请使用湿布，不要使用汽油等有机溶剂，也不要使用含这些物质的布抹电池。请不要用排尘器或干布（特别是化纤布）清扫电池，因为有可能产生静电而引起危险。
2. 贮存中的电池会产生易燃气体，请不要将电池靠近明火或短路电池。
3. 不要试图分解电池，如果由于电池机械损坏，硫酸沾在皮肤或衣服上时，立即用水冲洗，不慎沾入眼睛时，用大量水冲洗并立即去医院治疗。
4. 请不要将电池投入火中，有破裂的危险。
5. 将蓄电池放入容器或袋子内使用时，要设置排气口，并对蓄电池房和机箱进行充分换气。
6. 触摸导电体时将引起触电，检查或维护前请带上橡胶手套。
7. 对电池连接件请作防锈处理。
8. 电池允许使用温度范围为-15-50℃，但在15-25℃范围内使用时电池寿命更长。
9. 4个或4个以上电池组并联使用前请先与我们联系。
10. 混合使用不同容量，不同生产日期和不同生产厂家的电池易对电池和设备造成损害，如果有需要这样做时请与我们联系。

1. Clean the battery with wet cloth. Keep battery away from organic solvents such as gasoline, and do not use cloths with these materials to clean battery. Avoid using dust cleaner and dry cloth (especially chemical fabric) as they will generate static electricity which is dangerous.
2. A storage battery may generate ignitable gases，avoid placing near a naked flame or short-circuiting the battery.
3. Do not attempt to dismantle the storage battery. If sulfuric acid splashes on skin or clothes due to mechanical damage, rinse immediately with water. If splashed into the eyes, wash with a large amount of fresh water and get treatment immediate.
4. It is very dangerous to throw battery into fire, avoid such conduct at all times.
5. A ventilation opening is required when the storage battery is operated in a container or bag. A cubicle or case containing the battery should be provided with sufficient ventilation.
6. One may get electric shock if touch an electrical conductor. Be sure to wear rubber gloves before inspection or maintenance work.
7. Please take rust proof conduction on the battery connectors.
8. Theoretically operating temperature is -15-45℃, but operating under 15-25℃ is recommended for longer service life.
9. Please contact us before using 4 or more batteries in parallel.
10. Mixed use of batteries with different capacities, different histories and of different manufacturer is liable to cause damages to the battery or the equipment, consult with us if such necessity is present.

动力系统产品
Power system products

Application - Power System Products

commercial vehicle



Passenger cars

Cooperative manufacturer: Chang'an Dongfeng Geely

Cooperative manufacturers: Geely, Chang'an, Kaima Automobile, Guangxi Automobile, Xiamen Jinlv, FAW Hongta, Wanxiang Automobile, Shangrao Bus, Dongfeng Automobile

QH power product parameters (Microvan)-35.904kWh

product type	Energy type
cell type	23140160-55Ah
Standard box	V01
burst mode	2P102S
Voltage (V)	326.4
Electricity consumption (KWH)	35.904
Continuous charge/discharge rate	1C/1C
Energy density (Wh/kg)	≥128
protection grade	IP67
Thermal management method	Heating film heating/natural cooling
Electric box size (mm)	1448×805×236
Safety	Meet GB38031-2020
REMARK	Suitable for micro/light trucks

High security

The high safety Lithium iron phosphate system matches the design of high-strength PACK box, meeting the requirements of GB38031-2020 standard

Long lifespan/wide temperature range

LFP high cycle electrolyte, meeting a 5-year 200000 kilometer warranty

Fast charging+thermal management strategy to ensure normal use of the battery in the temperature range of -30~60 ℃

durability

Full life cycle IP67, PVC coated armor on the bottom of the PACK box, passing ball impact testing, fearless of bottom gravel impact

Product parameters of Microvan-38.016kWh

product type	Energy type
cell type	23140160-55Ah
Standard box	V02
burst mode	2P108S
Voltage (V)	345.6
Electricity consumption (KWH)	38.016
Continuous charge/discharge rate	1C/1C
Energy density (Wh/kg)	≥135
protection grade	IP67
Thermal management method	Heating film heating/natural cooling
Electric box size (mm)	1165×960×210
Safety	Meet GB38031-2020
REMARK	Suitable for micro/light trucks

High security

The high safety Lithium iron phosphate system matches the design of high-strength PACK box, meeting the requirements of GB38031-2020 standard

Long lifespan/wide temperature range

LFP high cycle electrolyte, meeting a 5-year 200000 kilometer warranty

Fast charging+thermal management strategy to ensure normal use of the battery in the temperature range of -30~60 ℃

durability

Full life cycle IP67, PVC coated armor on the bottom of the PACK box, passing ball impact testing, fearless of bottom gravel impact

Product parameters of Microvan-46.08kWh

product type	Energy type
cell type	48173166-150Ah
Standard box	V03
burst mode	1P96S
Voltage (V)	307.2
Electricity consumption (KWH)	46.08
Continuous charge/discharge rate	1C/1C
Energy density (Wh/kg)	≥135
protection grade	IP67
Thermal management method	Heating film heating/natural cooling
Electric box size (mm)	1522×860×205
Safety	Meet GB38031-2020
REMARK	Suitable for micro/light trucks

High security

The high safety Lithium iron phosphate system matches the design of high-strength PACK box, meeting the requirements of GB38031-2020 standard

Long lifespan/wide temperature range

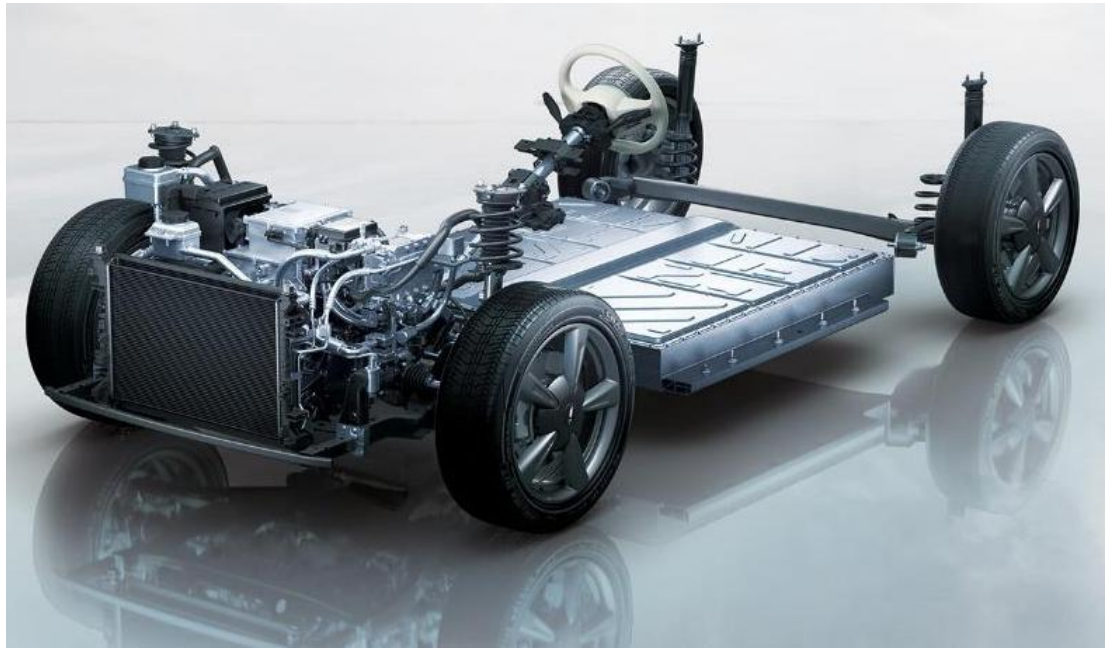
LFP high cycle electrolyte, meeting a 5-year 200000 kilometer warranty

Fast charging+thermal management strategy to ensure normal use of the battery in the temperature range of -30~60 ℃

durability

Full life cycle IP67, PVC coated armor on the bottom of the PACK box, passing ball impact testing, fearless of bottom gravel impact

Two box product parameters for small trucks-27.456kWh)



product type	能量型
cell type	48173166-165Ah
Standard box	T1
burst mode	1P52S
Voltage (V)	166.4
Electricity consumption (KWH)	27.456
System scheme	54.912kWh（2*T1/104S）
Continuous charge/discharge rate	1C/1C
Energy density (Wh/kg)	≥145
protection grade	IP67
Thermal management method	PTC heating/liquid cooling
Electric box size (mm)	1000×452×400
Safety	Meet GB38031-2020
remark	Suitable for small trucks/light trucks

High security

The high safety Lithium iron phosphate system matches the design of high-strength PACK box, meeting the requirements of GB38031-2020 standard

Long lifespan/wide temperature range

LFP high cycle electrolyte meets a 5-year 200000 kilometer warranty, and optional liquid cooling can meet a 300000 kilometer warranty

Fast charging+thermal management strategy to ensure normal use of the battery in the temperature range of -30~60 ℃

Lightweight

Lightweight design, achieving high energy density above 145Wh/kg

太阳能直流发电系统
Solar DC power generation system

SG1206

New solar energy storage system

Solar lighting system is a combination of lighting and charging functionsSmall solar engine. The system is suitable for non-gridIn remote areas, simple lighting and power supply solutions can be provided.This modern and eff cient energy solution not only brings high qualityLED lights and USB charging, also supports camping lights, speakers, electric fansPower supply equipment such as game consoles can easily solve the problem of outdoor electricity consumption.

LITHIUM BATTERY
High Capacity LFP Battery
More than 2000 cycles

SOLAR PANEL
Separate solar
panel included

USB CHARGER
Charges mobiles
via USB port

HD LARGE SCREEN
Clearly show the
battery level

STORAGE BOX
Hidden storage box
for easy storage

LED LIGHTING
Connect to small systems
easy to use

Product features

- High-effciency solar panels can be used for 25 years of life.
- High brightness and low loss 5 LED bulbs can be stored freely Built-in lithium battery.
- Four USB mobile phone charging ports.
- BMS (Battery Management System) with over charge and over discharge protection.
- Compatible with virtually all mobile phones.
- Mobile charging and battery indicator.

Size&Weight

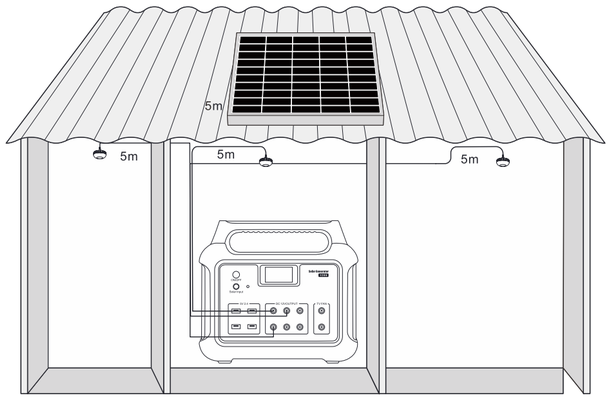
Small System:306.5x161x272.5
Solar Panel Dimension:
Main unit Weight:

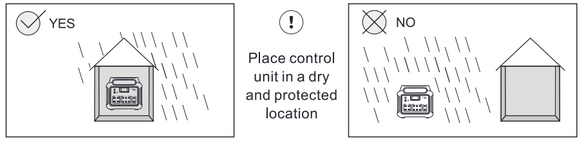
Product parameter

Solar panel	60W 10pcs/CTN,18.9KG,780*170*455mm
Battery	230WH
LED bulb	5W*6
USB output	5V2A * 2
Solar controller	5A
DC output	MAX:8A(12V0.6A*6 & 12V2A*2 & USB)
Charging mode	PWM
Charging time	6-10H
Package	2pcs/CTN,10.6KG,590*360*340mm Solar panel package:10pcs/CTN,10.6KG

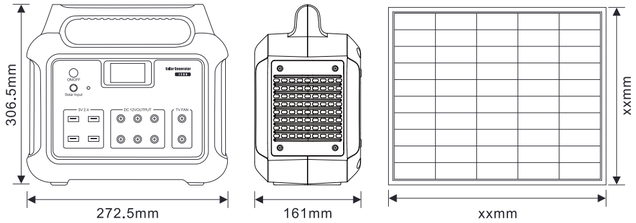
Instructions for use

First step:Charging by solar panel
The solar panel will be placed toward to the sun,then plug the wire of solar panel to the charge port.
Please make sure the battery will be fully charged before Its first use.

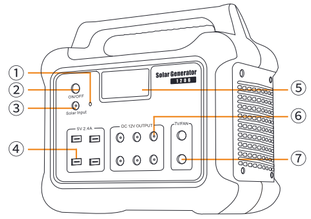




Product size



Product analysis



① Charging indicator light
② Power switch
③ Solar panel charging
④ 5V2A * 2
⑤ LED digital display
⑥ TV/FAN
⑦ DC Output

Notes

Please tum on the system switch while using the system.
Red LED indicator on:System working
Red 20% LED blinking:Low voltage protection,need to be charged in time.
Green LED blinking:Over load protection,need to remove all loads expect system configuration Load.

ELECTRIC SURFBOARD

电动冲浪板

参数对比

	运动款(23款) Sports version (2023)	**竞技款** Competition version	**运动款** Sports version
额定功率	10 KW	12KW	10 KW
电池电压	48V	64V	48V
最大速度	52-55KM/H	55-58KM/H	52KM/H
续航时间	60MIN	45-60MIN	60MIN
材质	高密型泡沫子弹壳材料 ABS	超纤维 Microfiber	高密型泡沫子弹壳材料 ABS
最大载重	120KG	120KG	100KG
冷却形式	水冷 (WATER-COOLING)	水冷 (WATER-COOLING)	水冷 (WATER-COOLING)
电池材料	三元锂电池 (LITHIUM BATTERY TYPE)	三元锂电池 (LITHIUM BATTERY TYPE)	三元锂电池 (LITHIUM BATTERY TYPE)
电池类型	超软充电包 Soft charging bag	隐藏式固定 Hidden fixed	超软充电包 Soft charging bag
电池容量	3.2 KWH	3.6 KWH	3.2 KWH
充电器规格	110V、220V	110V、220V	110V、220V
规格数量	套（可定制） SUIT (CUSTOMIZED)	把/套（可定制） CATTLE TIN (1	套（可定制） SUIT (CUSTOMIZED)
板体尺寸	1803*810*145 MM	1800*310*140 MM	1803*810*145 MM
推荐包装尺寸	184*56.5*23.5 CM	215*32*23 CM	184*56.5*23.5 CM
电池包装尺寸	42*20*12 CM	50*44*15 CM	42*20*12 CM
包装重量	20 KG	21 KG	20 KG
包装重量	26 KG	23 KG	26 KG
保险包装	纸巾盒装保险+2个泡泡袋+2个气泡膜+1个包装袋 Tissue box insurance + 2 bubble bags + 2 bubble wrap + 1 packaging bag	纸巾盒装保险+2个泡泡袋+2个气泡膜+1个包装袋 Tissue box insurance + 2 bubble bags + 2 bubble wrap + 1 packaging bag	纸巾盒装保险+2个泡泡袋+2个气泡膜+1个包装袋 Tissue box insurance + 2 bubble bags + 2 bubble wrap + 1 packaging bag

**请仔细看对号下单哦，可联系当面核实重量*
Some data are measured statically and may have minor errors

运动款(23款)

SPORTS VERSION

竞技款

COMPETITION VERSION

运动款

SPORTS VERSION

可加配件

定制印花(LOGO可选)
Custom drawing (Logo optional)

注意事项