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# POWER STATION

Smart, Safe, Green Energy



Leading Global Energy Storage Solution and Service Provider



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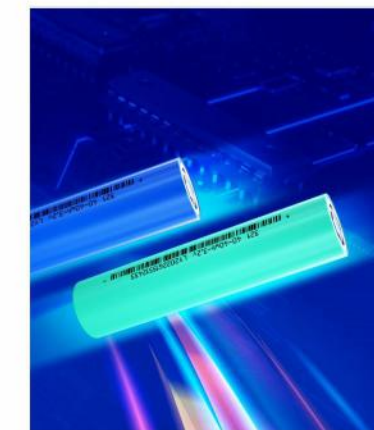
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## ABOUT LYRASOM

### Huizhou Liyuan New Energy Co.,Ltd

(Lyrasom) is a leading global energy storage solution and service provider. It is a high and new tech enterprise integrating R & D, production, sales, and technical services.

Based on advanced lithium battery application technology, the company jointly develops independent core technology products of the enterprise relying on partners such as Nanjing University, the doctor workstation of Central South University, and the base of Central South University. At present, the products are exported to more than 70 countries in the world such as the United States, Germany, Italy, and Japan, mainly including lifepo4/lithium batteries, household energy storage systems, industrial and commercial energy storage systems, portable power station, communications, electric tools, two or three-wheeled vehicles, and other environmentally friendly and intelligent lithium battery packs. Since its establishment, the company has been adhering to the "Three Good" service tenet of "good technology, good manufacturing, and good service". With its perfect technology R & D center and specialty and efficient quality monitoring system, it has become a trusted partner of many high-quality enterprises in the world.

In 2020, our company invested and established a cell factory in Yanting, Sichuan, covering an area of 245 mu, a plant area of 34000 m<sup>2</sup>, and an annual output of 4Gwh lithium-ion batteries. It is mainly applied to the production of environmentally friendly and efficient lithium-ion batteries for household energy storage, base station energy storage, solar energy storage, low-speed vehicles, and so on.

In the face of the ever-changing personalized, diversified, and international needs of global customers, our company will continue to improve the industrial layout, make every effort to create leading power batteries and power supplies in the new energy segment, and provide customers with all-round customized solutions and products, drive development with innovation, and work with global customers and partners hand in hand to carry forward our dreams.



*With Dreams  
To Create Brilliant!*

## ENTERPRISE CULTURE

### MISSION—WE ARE OMNIPOTENT

We aim to provide Safe & green power solutions and products for global clients.



### VISION—WE WANT TO AN INDUSTRIAL PIONEER AND PRODUCE HIGH-QUALITY PRODUCTS.

We always indulge in developing and manufacturing batteries and providing services of batteries, and creating the customized highland of the full industrial chain for the global lithium battery system.

### VALUE—WE ARE LOYAL TO CLIENTS AND INSIST ON QUALITY FIRST

Upholding the business philosophy of "people first and pursuit of excellence" and insisting on the value norms of "being kind to clients", we advocate the performance-oriented innovation, cooperative and high-efficient entrepreneurship, establish "co-construction and co-sharing" value distribution criteria, and pay back society with high sense of responsibility.



## CORPORATE STRATEGY

Provide safe and green energy storage solutions and products for global customers

The value standard of Lyrasom new energy is to meet customer needs

The core competence is continuous innovation and quick response

We develop new products and system solutions according to customer's needs, provide reliable quality and best service, and help customers to reduce costs



# COMPANY QUALIFICATION



UN38.3\MSDS\BIS\UL1973(Cell)\CE(cell)\CB(cell)

# COMPANY PATENT CERTIFICATE

Company Honor: School-enterprise Cooperation Enterprise of Central South University/Doctoral Workstation of Central South University/Cooperative Unit of "Production, Education and Research" of Central South University

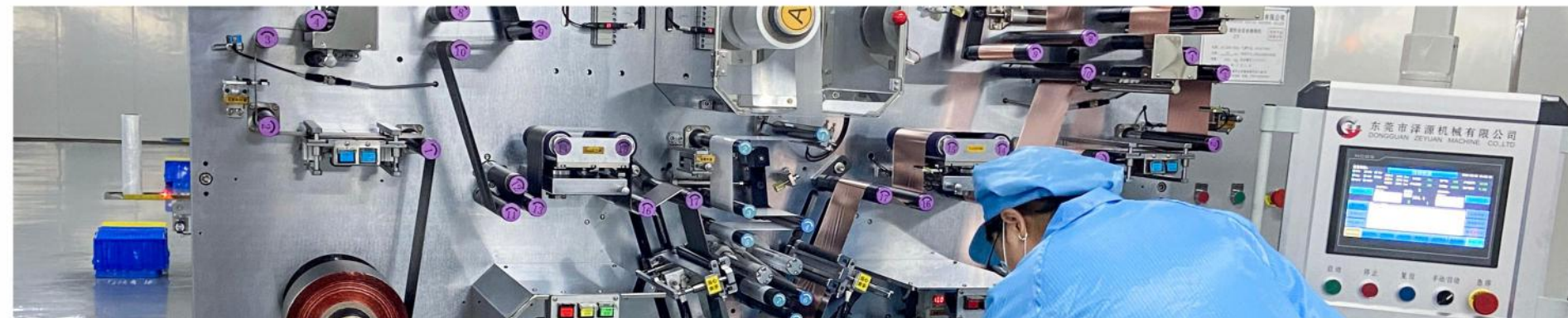
Manufactured many invention patents for lithium batteries and energy storage systems



# PRODUCT R&D STRENGTH



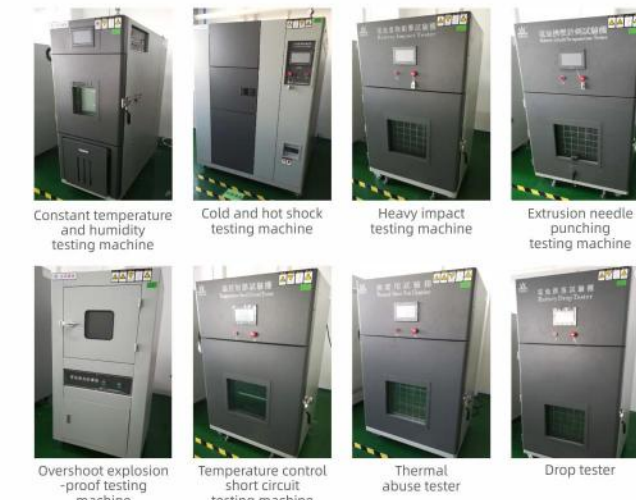
## RESEARCH AND DEVELOPMENT CENTER



## MANUFACTURING SYSTEM



## R&D AND MANUFACTURING



# HOME ENERGY STORAGE SYSTEM

- Longer Cycle Life · Low Self-Discharge
- Lighter Weight · Superior Safety
- Quick Charge · High Efficient

**Smart**  
Each module is equipped with an independent BMS system.

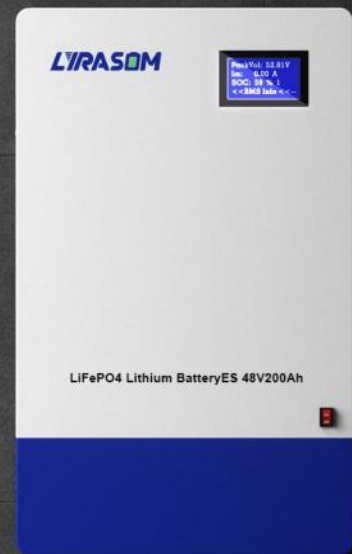
**Certifications**  
CE IEC UN38.3 MSDS.

**Easy Installation**  
Just Plug & Play.

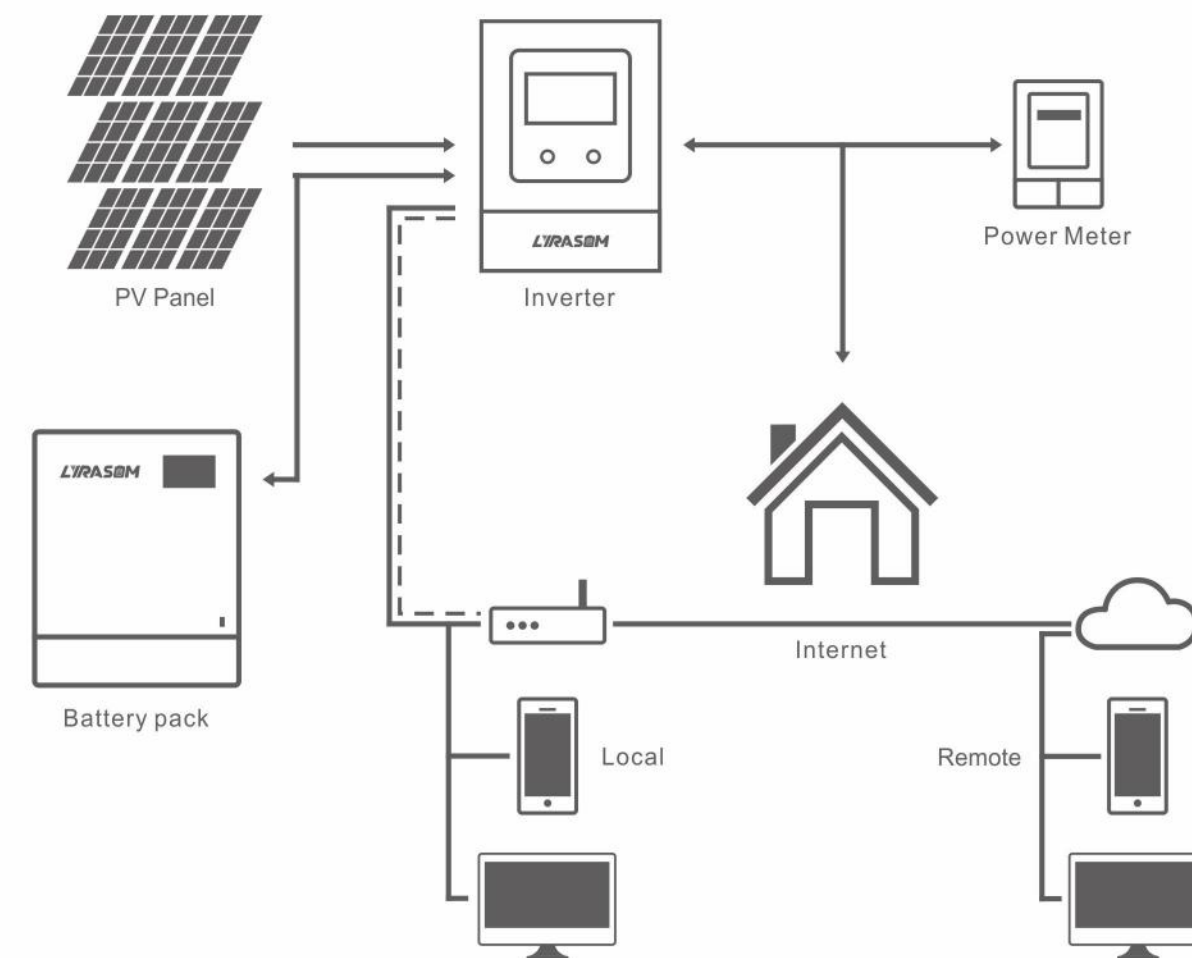
**Modular**  
Modular expansion.

**Safe and Green**  
Glass A safe lithium iron battery cell.

**Longer Lifetime**  
6000 cycles, 15 years design life.



## HOME ENERGY STORAGE PRODUCT ARCHITECTURE





# HOME ENERGY STORAGE SYSTEM

Class A battery/Smart BMS/6000 Cycles/  
Lighter Weight/Superior Safety/High Efficient



51.2V 400AH 20.48KWH

# STACKED ENERGY STORAGE SYSTEMS

Class A battery/Smart BMS/6000 Cycles/Lighter Weight/ Superior Safety/High Efficient



Product Model		LY-5A1	LY-5A2	LY-5A3	LY-5A4
Cell Type		LiFePO4			
Nominal Voltage		51.2V			
Nominal Capacity		100AH	200AH	300AH	400AH
Nominal Power		5.12KWH	10.24KWH	15.36KWH	20.48KWH
Cycle Life		> 6000* times			
Monthly Self-discharge		≤3%			
Charge Temperature		0°C-60°C			
Discharge Temperature		-20°C-60°C			
Max Charge Current	Recommend	10A	20A	30A	40A
	Maximum	20A	40A	60A	80A
Max Discharge Current	Recommend	50A	100A	150A	200A
	Maximum	100A	200A	300A	400A
	Peak Value@15S	110A	210A	310A	410A
Charge Cut-off Voltage		58.4V			
Discharge Cut-off Voltage		43.2V			
Communication Interface		485,232,CAN			
Shell Material		Matal			
Dimensions(mm)		354*490*616	708*490*616	1062*490*616	1416*490*616
Protection Level		IP54			
Weight		50KG	100KG	150KG	200KG
Humility		5%-95%			

## Features

High-energy density, excellent high-temperature and low-temperature performance, specific high energy, excellent safety performance, long circulation life, rapid charge and discharge, low self-discharge, connection in parallel, available for overlapping, high capacity, and long lifetime.

## Application

Communication base station, Data center, Communication outdoor cabinets, Solar energy hybrid power system, Home energy storage system etc.,

## Cerification

UN38.3 \ MSDS \ BIS \ UL1973(Cell) \ CE(cell) \ CB(cell)

### Features

- RS485/CAN
- Installation: wall/Floor/Stack mounted
- Matched with various global top Inverter brands
- High safety standard of LFP (LiFePO4) cell
- Long life battery design supported by the efficient equalization technology
- Advanced BMS protection functions

### Application

1. Home energy storage / outdoor power supply
2. Power station energy storage
3. Base station energy storage
4. Scenery energy storage
5. Industrial business user-end
6. Communication base station
7. Other Extensive use

### Cerification

UN38.3\MSDS\BIS\UL1973(Cell)\CE(cell)\CB(cell)

型号	LY-4A5	LY-4A6	
Electrical Parameters (25°C)	Rated Voltage	51.2V	51.2V
	Rated Capacity (C5)	100Ah@25°C	200Ah@25°C
	Energy	5120Wh	10240Wh
	Months Self Discharge	<3%	<3%
	Charge Efficiency	99.5%@0.2C	99.5%@0.2C
	Discharge Efficiency	96-99%@1C	96-99%@1C
Terminal Diameter	M8	M8	
Internal resistance (Fully charged, 25°C)	≤200mΩ	≤200mΩ	
Cycle life	>3000 cycles @ 0.2C 100%D.O.D	>3000 cycles @ 0.2C 100%D.O.D	
Capacity affected by temperature	40°C	101%	101%
	25°C	100%	100%
	0°C	90%	90%
	-10°C	75%	75%
Nominal operating temperature	25°C± 3°C(77°F± 5°F)	25°C± 3°C(77°F± 5°F)	
Operating temperature range	Discharge	- 20°C~60°C(-4°F~140°F)	- 20°C~60°C(-4°F~140°F)
	Charge	0°C~45°C(32°F~113°F)	0°C~45°C(32°F~113°F)
	Storage	0°C~ 40°C(32°F~104°F)	0°C~ 40°C(32°F~104°F)
Water Dust Resistance	IP50	IP50	
Charge Voltage	57V	57V	
Standard Charge Mode (25°C±2°C, <75%RH)	0.2CA Constant Current to 57V, then Constant Voltage 57V until the current drops to 0.02CA, before use, rest 30 minutes	0.2CA Constant Current to 57V, then Constant Voltage 57V until the current drops to 0.02CA, before use, rest 30 minutes	
Charge Current	20A	40A	
Maximum Charge Current	50A	100A	
Charge Cut off Voltage	57V	57V	
Continuous Discharge Current	100A	100A	
Maximum Pulse Current	150A (<15)	150A (<15)	
Discharge Cut Off Voltage	46V	46V	
Communicate Protocol (optional)	RS485/RS232/CAN	RS485/RS232/CAN	
SOC (optional)	Screen/LED/PC Software	Screen/LED/PC Software	
Application connection	1 string 1 parallel	1 string 1 parallel	
Mechanical	Cells	16 Strings	16 Strings
	Container	Metal	Metal
Approx. weight	42.2kg (93.03lbs)±2kg	79.2kg (174.60lbs)±3kg	

51.2V 100AH/200AH 5.12KWH/10.24KWH

# WALL-MOUNTED ENERGY STORAGE SYSTEM

Class A battery/Smart BMS/6000 Cycles/Lighter Weight/  
Superior Safety/High Efficient



51.2V 100AH/200AH 5.12KWH

# WALL-MOUNTED ENERGY STORAGE SYSTEM

Class A battery/Smart BMS/6000 Cycles/Lighter Weight/  
Superior Safety/High Efficient



LY-4A1

LY-4A2

Product Model		LY-4A1	LY-4A2
Cell Type		LiFe PO4	
Nominal Voltage		51.2V	51.2V
Nominal Capacity		100AH	100AH
Nominal Power		5.12KWH	5.12KWH
Cycle Life		>6000 times	
Monthly Self-discharge		≤3%	
Charge Temperature		0°C-60°C	
Discharge Temperature		-20°C-60°C	
Max Charge Current	Recommend	10A	10A
	Maximum	20A	20A
Max Discharge Current	Recommend	50A	50A
	Maximum	100A	100A
	Peak Value@5S	110A	110A
Charge Cut-off Voltage		58.4V	
Discharge Cut-off Voltage		43.2V	
Communication Interface		485,232,CAN	
Shell Material		Metal	
Dimensions(mm)		354*490*616	354*490*616
Protection Level		IP54	
Weight		50KG	50KG
Humidity		5%-95%	

## Features

- RS485/CAN
- Installation: wall/Floor/Stack mounted
- Matched with various global top Inverter brands
- High safety standard of LFP (LiFePO4) cell
- Long life battery design supported by the efficient equalization technology
- Advanced BMS protection functions

## Application

- 1.Home energy storage / outdoor power supply
- 2.Power station energy storage
- 3.Base station energy storage
- 4.Scenery energy storage
- 5.Industrial business user-end
- 6.Communication base station
- 7.Other Extensive use

## Cerification

UN38.3\MSDS\BIS\UL1973(Cell)\CE(cell)\CB(cell)

Model Name	LYH48100-L(W)	LYH48200-L(F)
Nominal Capacity	100Ah	200Ah
Nominal Voltage	51.2V	51.2V
Energy	5.12kWh	10.24kWh
Voltage	48~58.4Vdc	48~58.4Vdc
Standard Charge Current	50A	50A
Max. Charge Current	100A	100A
Standard Discharge Current	50A	50A
Max. Continues Discharge current	100A	100A
Peak Current	150A ≤5s	150A ≤5s
Module Parallel	Up to 8 packs	
Cycle Life	6000 times, 25°C	
Working Temperature Range	Charge:0°C--55°C Discharge: -20°C--60°C	
Storage Temperature	-10°C--50°C	
Communication	CAN/RS485	
Battery Protection	Over-current/Over-voltage/Short circuit/ Under-voltage/Over temperature	
Dimension	H580xW447xD150mm	H880xW620xD175mm
Weight	Approx.55kg	Approx.100kg
Installation	Wall	Floor
Warranty	5 years	
Life Span	>10 years	

### Features

- RS485/CAN
- Installation: wall/Floor/Stack mounted
- Matched with various global top Inverter brands
- High safety standard of LFP (LiFePO4) cell
- Long life battery design supported by the efficient equalization technology
- Advanced BMS protection functions

### Application

- 1.Home energy storage / outdoor power supply
- 2.Power station energy storage
- 3.Base station energy storage
- 4.Scenery energy storage
- 5.Industrial business user-end
- 6.Communication base station
- 7.Other Extensive use

### Cerification

UN38.3\MSDS\BIS\UL1973(Cell)\CE(cell)\CB(cell)

# 51.2V 100AH/200AH 5.12KWH/10.24KWH WALL/FLOOR- MOUNTED ENERGY STORAGE SYSTEM

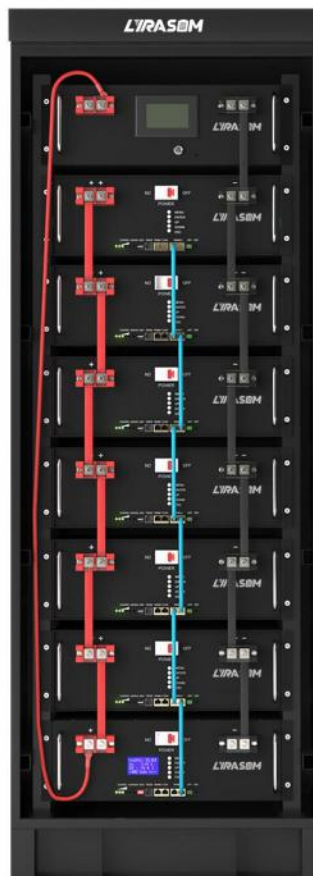
Class A battery/Smart BMS/6000 Cycles/Lighter Weight/  
Superior Safety/High Efficient



51.2V 100AH 5.12KWH

# RACK MOUNTED ENERGY STORAGE SYSTEM

Class A battery/Smart BMS/6000 Cycles/Lighter Weight/ Superior Safety/High Efficient



Product Model		LY-3A1
Cell Type		LiFe PO4
Nominal Voltage		51.2V
Nominal Capacity		100AH
Nominal Power		5.12KWH
Cycle Life		> 6000 times
Monthly Self-discharge		≤3%
Charge Temperature		0°C-60°C
Discharge Temperature		-20°C-60°C
Max Charge Current	Recommend	10A(single unit)
	Maximum	20A(single unit)
Max Discharge Current	Recommend	50A(single unit)
	Maximum	100A(single unit)
	Peak Value@15S	110A(single unit)
Charge Cut-off Voltage		58.4V
Discharge Cut-off Voltage		43.2V
Communication Interface		485,232,CAN
Shell Material		Metal
Dimensions(mm)		177*480*460
Protection Level		IP54
Weight		50KG
Humidity		5%-95%
Number of Modules		1-8P

## Features

- Large capacity supply equipment cabinet
- No active cooling system is required
- High operational reliability
- Working for more than 10 years at+25C
- Optimal management
- In line with the RoHs

## Application

- Oil and electricity hybrid energy storage system
- Grid frequency adjustment energy storage system
- New energy communication base station, Core computer room, IDC, UPS
- New energy generation(solar,wind,PV/wind hybrid) access to energy storage system
- Smart grid,micro-grid system
- Mobile container storage system
- Other energy storage system
- Peak load shifting energy storage system
- Load tracking energy storage system

## 认证

UN38.3 \ MSDS \ BIS \ UL1973(Cell) \ CE(cell) \ CB(cell)

## 📄 All-in-one Energy Storage System

Product Model		LY-5A1	LY-5A2	LY-5A3	LY-5A4
Cell Type		LiFe PO4			
Nominal Voltage		51.2V			
Nominal Capacity		100AH	200AH	300AH	400AH
Nominal Power		5.12KWH	10.24KWH	15.36KWH	20.48KWH
Cycle Life		>6000 times			
Monthly Self-discharge		≤3%			
Charge Temperature		0°C-60°C			
Discharge Temperature		-20°C-60°C			
Max Charge Current	Recommend	10A	20A	30A	40A
	Maximum	20A	40A	60A	80A
Max Discharge Current	Recommend	50A	100A	150A	200A
	Maximum	100A	200A	300A	400A
	Peak Value@15S	110A	210A	310A	410A
Charge Cut-off Voltage		58.4V			
Discharge Cut-off Voltage		43.2V			
Communication Interface		485,232,CAN			
Shell Material		Metal			
Dimensions(mm)		354*490*616	708*490*616	1062*490*616	1416*490*616
Protection Level		IP54			
Weight		50KG	100KG	150KG	200KG
Humidity		5%-95%			

### Features

- Perfect protective functions to protect inverters and batteries
- Integrated design for convenient integration
- Seamless switch of parallel and off-network state, and ceaseless supply loads
- Cooperate with BMS to monitor the system state in real time

### Application

Communication base station, Data center, Communication outdoor cabinets, Solar energy hybrid power system, Home energy storage system etc

### 认证

UN38.3 \ MSDS \ BIS \ UL1973(Cell) \ CE(cell) \ CB(cell)



51.2V 100AH 5.12KWH

## ALL-IN-ONE ENERGY STORAGE SYSTEM

- CLASS A BATTERY
- SMART BMS
- 6000 CYCLES
- LIGHTER WEIGHT
- SUPERIOR SAFETY
- HIGH EFFICIENT



No/power shortage country



Residential electricity



Superior Villa



Industrial business user-end

# INDUSTRIAL AND COMMERCIAL ENERGY STORAGE SYSTEM

Class A battery/Smart BMS/6000 Cycles/Lighter Weight/  
Superior Safety/High Efficient



## Industrial and Commercial energy storage system

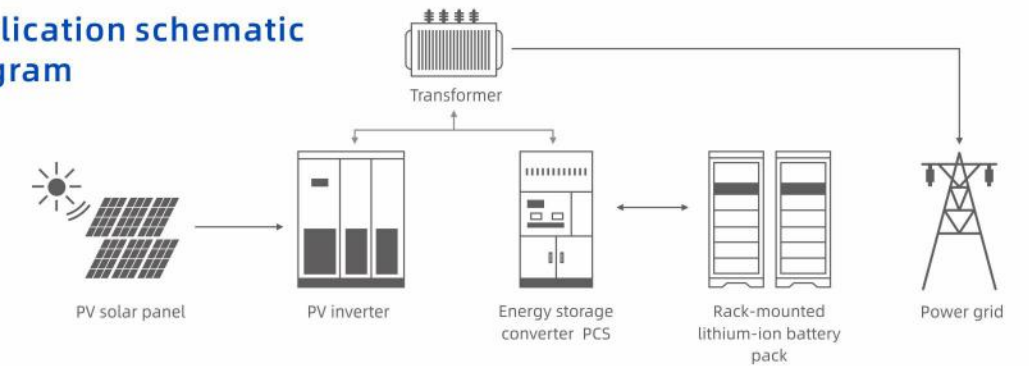


-   
PV energy storage
-   
Superior villa
-   
Industrial business user-end
-   
Communication base station
-   
Communication room

### Application

1. Gas-electric hybrid energy storage system.
2. Power grid frequency modulation energy storage system .
3. Smart grid, microgrid system.
4. Movable container energy storage system.
5. New energy communication base station, core machine room, IDC, UPS.
6. Peak ground displacement energy storage system.
7. Load-tracking energy storage system.
8. Renewable energy generation (solar, wind energy, PV/wind energy hybrid) connected to energy storage system.
9. Other energy storage systems.

### Application schematic diagram



### Features

- IP54, withstand all weather conditions.
- Built-in consumption, temperature control and pre-warming system.
- Compact structure, small space requirement, flexible layout, easy installation and maintenance.
- Intelligent control system, access to local monitoring system for unified management.

### Cerification

UN38.3 \ MSDS \ BIS \ UL1973(Cell)  
CE(cell) \ CB(cell)



## Portable energy storage system

Model	ASF300	ASF600	ASF600 Pro
AC continuous output power	300W	600W	600W
AC Peak power	600W	1200W	1200W
AC output voltage	AC pure sine wave 220V/50HZ or AC110V60HZ	AC pure sine wave 220V/50HZ or AC110V60HZ	AC pure sine wave 220V/50HZ or AC110V60HZ
Output Waveform	Pure Sinusoidal Wave	Pure Sinusoidal Wave	Pure Sinusoidal Wave
Battery model	3.2V 4000mAh(5S4P)	3.2V 6000mAh(8S5P)	3.2V 6000mAh(8S5P)
Battery capacity	256Wh (16V 16AH)	768Wh (25.6V 30AH)	1075Wh ( 25.6V 42Ah)
Battery type	LiFePO4 Lion battery	LiFePO4 Lion battery	LiFePO4 Lion battery
DC output	cigarette holder 12V constant pressure and DC head 12V	cigarette holder 24V 12V constant pressure and DC head 12V constant pressure 10A	cigarette holder 24V 12V constant pressure and DC head 12V constant pressure 10A
USB output	USB2.05 V2A/USB QC3.0/Type-C	USB2.05 V2A/USB QC3.0/Type-C	USB2.05 V2A/USB QC3.0/Type-C
Charging time	5 ~ 6H	6 ~ 8H	5 ~ 6H
Charging mode	DC 18~30V 3.5A (MAX) Solar Energy 18V 100W	DC 29.4~40V 15A (MAX) Solar Energy 36V 100W	DC 29.4~40V 15A (MAX) Solar Energy 36V 100W
Protection Function	Overvoltage, Low Voltage, Overtemperature, Overload, Output Short Circuit Protection	Overvoltage, Low Voltage, Overtemperature, Overload, Output Short Circuit Protection	Overvoltage, Low Voltage, Overtemperature, Overload, Output Short Circuit Protection
LED Illumination	3W*1 (Short Distance Astigmatic Illumination)	3W*1 (Short Distance Astigmatic Illumination)	3W*1 (Short Distance Astigmatic Illumination)
Working temperature	0 ~60°C	0 ~60°C	0 ~60°C
Product size	L240*W140*H220MM	L360*W215*H300MM	L360*W215*H300MM
Net/gross weight	4.5/5.6KG	10.5KG	12.8Kg
Certification	FCC,Rosh, CE,MSDS,UN38.3,PSE		

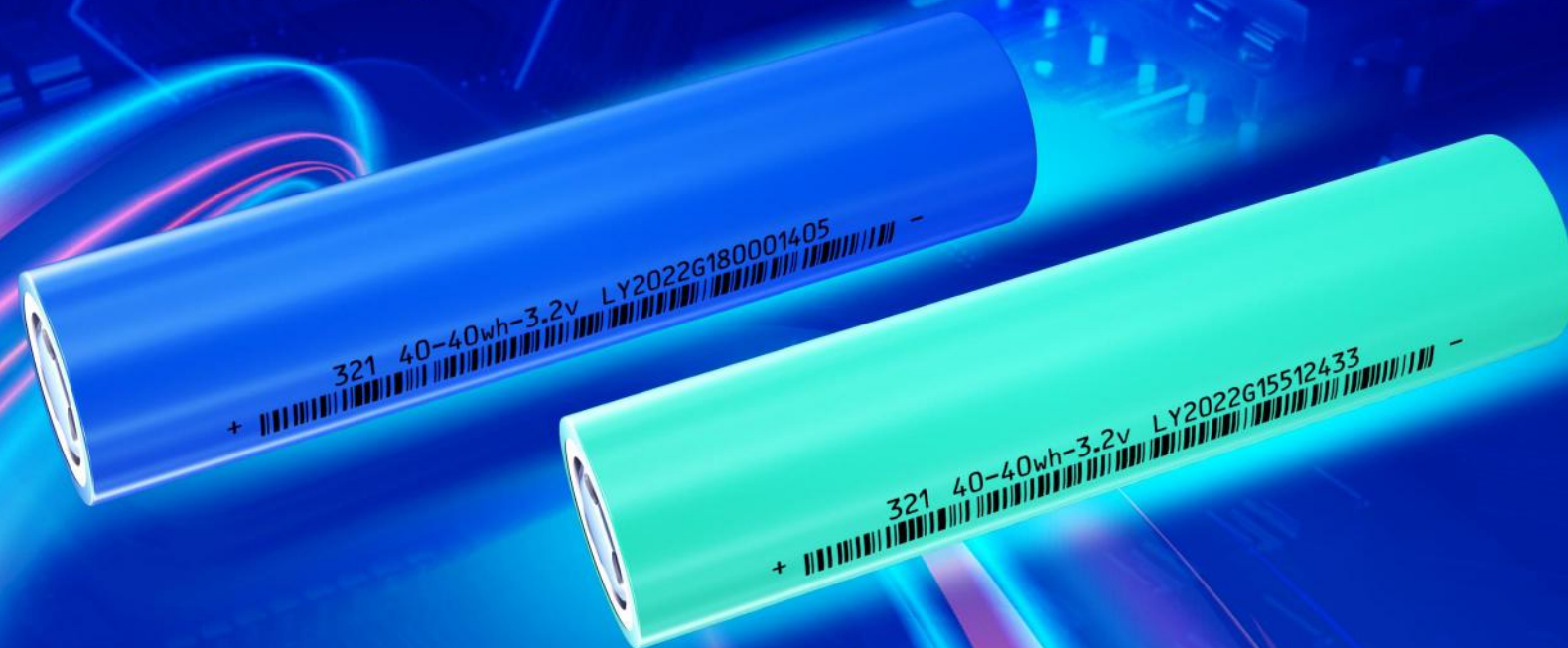
## PORTABLE ENERGY STORAGE SYSTEM

- Longer Cycle Life
- Low Self-Discharge
- Lighter Weight
- Superior Safety
- Quick Charge
- High Efficient



## 3.2V | 2500/15000mAh Lithium-ion battery

- Longer Cycle Life
- Superior Safety
- Lighter Weight
- High Efficient
- Quick Charge



Type	LY-32140	LY-32140	Remarks
Nominal capacity	12500mAh	15000mAh	0.5C discharge capacity Test temperature 25±3°C 0.5C
Minimum capacity	12000mAh	14500mAh	
Nominal voltage	3.20V	3.20V	
Internal resistance	Cell: ≤3mΩ	Cell: ≤3mΩ	AC 1KHz test after standard charging
Charge cut-off voltage(V)	3.65 V	3.65 V	
Discharge cut-off voltage	2.0V	2.0V	
Standard charge method	0.5C constant current constant voltage to 3.65V Cutoff current 0.05C	0.5C constant current constant voltage to 3.65V Cutoff current 0.05C	
Standard discharge mode	0.5C constant current constant voltage to 2.0V Cutoff current 0.05C CC	0.5C constant current constant voltage to 2.0V Cutoff current 0.05C CC	
Maximum continuous charge current	0.2C	0.2C	0-10°C
	0.5C	0.5C	10-20°C
	1.0C	1.0C	20-45°C
	0.5C	0.5C	45-55°C
Maximum continuous discharge current	3C	2C	
Maximum pulse discharge current	6C (10S)	6C (10S)	
Working temperature	0-55°C	0-55°C	15000mAh (charging)
	-20°C~+55°C	-20°C~+55°C	Discharging
Storage temperature	-10°C / +45°C	-10°C / +45°C	Less than a month
	-10°C / +35°C	-10°C / +35°C	Less than six months
Battery weight	275±5g	300±5g	
Energy density	145Wh/Kg	160Wh/Kg	

### Features

Lithium iron phosphate is used in 32140 battery material to create the safest power battery.

32140 core innovation implements full lugs and large cells. The construction of a long cylinder with full lug manufacturing process (leaving lugs directly from the positive/negative electrode) greatly increases the current path and shortens the lug spacing, thus significantly increasing battery power and safety while also improving fast charging performance. The innovation of large cells reduces the cost of the battery, increasing the capacity density, reducing cells in the battery pack, making monitoring and status analysis of the battery simpler and the bms system is more worry-free.

### Application

1. Power station energy storage
2. Scenery energy storage
3. Base station energy storage
4. Home energy storage / outdoor power supply
5. Extensive use

### Cerification

UN38.3, MSDS, BIS, UL1973, CE, CB