



MISSION TO  
GREENER WORLD

**IEC** ECOGEN

Power Battery and Energy  
Storage System Solutions



**IEC** ECOGEN

# CONTENTS

**01**

Company Profile / 01

**02**

Low-speed Vehicle Power Battery / 05

**03**

Residential Energy Storage System / 11

**04**

Industrial and Commercial Energy Storage Solutions / 17

**MISSION TO  
GREENER WORLD**

# 01 COMPANY PROFILE

**ECOGEN**, a leading professional battery system manufacturer with advanced technology and comprehensive cost advantages, is dedicated to serving the global energy storage market. Our mission is a leading global energy storage lithium battery company and make significant contributions to new energy industry.



ECOGEN was established in 2015, with two production bases, has provided over 10 GWh of products. By combining lean production method with advanced digital coordination, we ensure high quality and safety of the products. Aiming to provide global users with high-quality and efficient comprehensive solutions for new energy. Over the years, relying on strong research and development capabilities, and comprehensive testing methods, we focus on the two core issues of safety and economy in energy storage. We emphasize strengthening energy storage module control technology and thermal management technology to improve the safety and energy conversion efficiency of energy storage systems.

Our products are widely used in home energy storage systems, commercial and industrial energy storage systems, and power battery systems. They have received widespread acclaim in the market for their excellent product quality, reliable safety, and advanced technology.



## ■ Production line

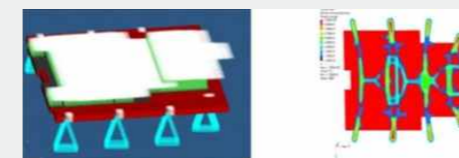


## ■ TEST EQUIPMENT

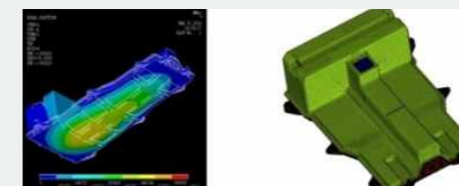


## ■ R&D Capacity

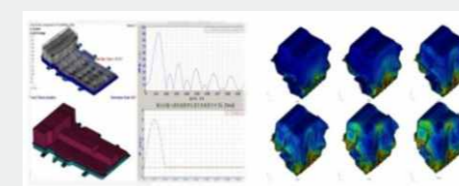
### Structural simulation



Topology Optimization

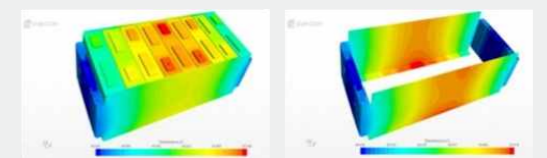


Static analysis

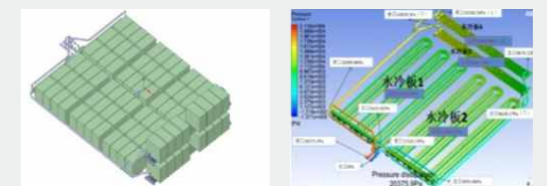


Collision deformation analysis

### Thermal Management Analysis

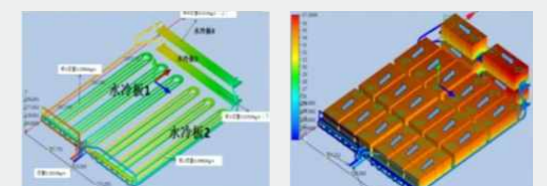


Battery cell/module thermal simulation



Modeling

Pressure field analysis



Flow Field

Temperature distribution cloud map

■ PARTNERS & CUSTOMERS



Global Reach, Local Impact:  
Our Customers and Partners  
Around the World.

# 02 LOW-SPEED VEHICLE POWER BATTERY



## ■ Lithium battery (LiFePO<sub>4</sub>)

## ■ RANGE OF APPLICATION



	LEAD ACID	NCM	LFP
Size	large	3x smaller	2x smaller
Weight	heavy	60-70% lighter	50-60% lighter
Cycle Lives	300-500	1000-2000	>2000
Life Span	1-2 years	3-4 years	7-8 years
Energy Density	35-40 WH/kg	200-300 WH/kg	150-220 WH/kg
BMS	None	Standard	Standard
Toxicity	Toxic Sulfating Venting Leaking	Non-Toxic	Non-Toxic
Corrosive	Yes	None	None
Memory Effect	Yes	None	None

**Lithium battery (LiFePO<sub>4</sub>) is the best choice for low-speed vehicles.**

## PRODUCT ADVANTAGE

**01**  
Utilizes automotive-grade battery cells

**02**  
All products employ laser welding technology




**03**  
Automotive-grade components



**04**  
Automotive-grade housing layout

**05**  
Automotive-grade BMS



**06**  
Rigorous capacity sorting and grouping



**07**  
Cloud platform data management and warning system





## 48V Battery Series

	48V45AH	48V80AH	48V100AH	48V120AH	48V150AH
Cathode Materials	LFP	LFP	LFP	LFP	LFP
Rated Capacity (AH)	45	80	100	120	150
Rated Voltage(V)	51.2	51.2	51.2	51.2	51.2
Dimension(L*W*H)mm	225*175*250	514*334*188	420*340*150	480*360*180	475*380*258.5
Weight(KG)	19	38	40	42	63
Continuous Discharge Current	≤ 45A	≤ 80A	≤ 100A	≤ 120A	≤ 150A
Operating Temperature	-10°C-55°C	-10°C-55°C	-10°C-55°C	-10°C-55°C	-10°C-55°C
Protection level	IP65	IP65	IP65	IP65	IP65
Communication	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth
GPS Function	Optional	Optional	Optional	Optional	Optional
Applicable Charger	58.6V8A	58.6V15A	58.6V15A	58.6V15A	58.6V20A
Cycle Life	2500 cycles, ≥90%				



## 60V Battery Series

	60V80Ah	60V100Ah	60V120Ah	60V150Ah	60V180Ah
<b>Cathode Materials</b>	LFP	LFP	LFP	LFP	LFP
<b>Rated Capacity (AH)</b>	80	100	120	150	180
<b>Rated Voltage(V)</b>	64	64	64	64	64
<b>Dimension(L*W*H)mm</b>	560*320*130	577*357*203	580*360*180	574*380*259	609*312*334.5
<b>Weight(KG)</b>	42	55	60	76	89
<b>Continuous Discharge Current</b>	≤ 80A	≤ 100A	≤ 120A	≤ 150A	≤ 180A
<b>Operating Temperature</b>	-10°C-55°C	-10°C-55°C	-10°C-55°C	-10°C-55°C	-10°C-55°C
<b>Protection level</b>	IP65	IP65	IP65	IP65	IP65
<b>Communication</b>	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth
<b>GPS Function</b>	Optional	Optional	Optional	Optional	Optional
<b>Applicable Charger</b>	73V15A	73V15A	73V18A	73V20A	73V25A
<b>Cycle Life</b>	2500 cycles, ≥90%				

## 72V Battery Series

	72V100Ah	72V150Ah	72V180Ah	72V200Ah	72V280Ah
<b>Cathode Materials</b>	LFP	LFP	LFP	LFP	LFP
<b>Rated Capacity (AH)</b>	100	150	180	200	280
<b>Rated Voltage(V)</b>	76.8	76.8	76.8	76.8	76.8
<b>Dimension(L*W*H)mm</b>	620*330*150	675*380*259	620*320*250	670*360*280	900*360*230
<b>Weight(KG)</b>	60	90.5	97	110	145
<b>Continuous Discharge Current</b>	≤ 100A	≤ 150A	≤ 180A	≤ 200A	≤ 280A
<b>Operating Temperature</b>	-10°C-55°C	-10°C-55°C	-10°C-55°C	-10°C-55°C	-10°C-55°C
<b>Protection level</b>	IP65	IP65	IP65	IP65	IP65
<b>Communication</b>	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth
<b>GPS Function</b>	Optional	Optional	Optional	Optional	Optional
<b>Applicable Charger</b>	87.6V15A	87.6V20A	87.6V25A	87.6V25A	87.6V35A
<b>Cycle Life</b>	2500 cycles, ≥90%				

# 03 RESIDENTIAL ENERGY STORAGE SYSTEM

Your Energy, Your Control:  
Store It Smart!

## 01 ECOGEN Residential Energy Storage Solution



In-depth research on the global market



insight into application scenarios and power consumption



Optimal choice



optimal cost, covering



multiple energy segments



worry-free expansion

## 02 Super compatibility

Matches 99% of global inverter brands

## 03 Smart cloud platform

It can provide efficient operation and maintenance capabilities, and cooperate with APP to realize rapid shutdown of rooftop solar cells.







## B4580 Powerbox



### High Protection Level

Ip54 protection level, waterproof and dustproof, easily meet various indoor and outdoor application scenarios



### Easy Installation

Batteries can be inserted directly and installed simply



### Multiple Installation Methods

Can be installed on the floor or on the wall to meet different installation conditions



### Higher battery capacity

Up to 4.8KWh to meet customers' electricity needs

Model	BESS-BOX
Battery Type	LiFePO4
Rated Energy	4.8KWh
Rated Capacity	100Ah
Rated Voltage	48V
Operating Voltage	42~54.75V
Recommended Charge/Discharge Rate	0.5C
Recommended Charge/Discharge Current	50A
Maximum charge/discharge current	100A
Peak charge/discharge current	110A (Protection)
Discharge Depth (DOD)	90%
Net Weight	53Kg
Dimension (L*W*H)	507*216*457mm
Charging Temperature Range	0~55°C
Discharging Temperature Range	-20~55°C
Communication	CAN/RS485
Cycle Life	≥6000次
Protection Level	IP54



## Powerbox Pro



### APP monitoring

Real-time monitoring & remote upgrade



### High safety

LiFePO4 battery & intelligent battery management system



### Multiple installation methods

Wall-mounted or floorstanding



### High protection level

Can be installed indoors or outdoors



### Wide compatibility

Matches leading inverter brands

Model	Wall-mounted
Battery Type	LiFePO4
Rated Energy	10.24KWh
Operating Voltage	44.8~57.6V
Rated Capacity	200Ah
Rated Voltage	51.2V
Rated Power	5.12KW
Peak Power	10.24KW
Recommended Charge/Discharge Rate	0.5C
Recommended Charge/Discharge Current	100A
Recommended Discharge Depth (DOD)	90%
Net Weight	103Kg
Dimension(L*W*H)	555*210*928
Charging Temperature Range	0~55°C
Discharging Temperature Range	-20~55°C
Communication	CAN/RS485/RS232
Cycle Life	≥6000 cycles
Protection Level	IP65
Capacity Expansion	Max 5 modules can be connected in parallel
Alarm	Overcharge/over discharge/over current/over temperature/short circuit
Advantage	Available in off-grid and grid-connected mode, compact design



## Tower

- APP monitoring**  
Real-time monitoring & remote upgrade
- Stackable battery modules**  
Automatic configuration, no wiring
- Wide compatibility**  
Matches leading inverter brands
- High protection level**  
Installed indoors
- High safety**  
LiFePO4 battery & intelligent battery management system

Model	Tower Basic	Tower Standard	Tower Pro	Tower Ultra
Rated Energy	5.12KWh	10.24KWh	15.36KWh	20.48KWh
Battery Type	LiFePO4			
Number of modules	1	2	3	4
Operating Voltage	44.8~57.6V			
Rated Voltage	51.2V			
Max continuous charge and discharge rate	0.5C	0.5C	0.4C	0.3C
Communication	CAN/RS485			
Charging Temperature Range	5~50°C			
Discharge Temperature Range	-10~50°C			
Recommended Discharge Depth(DOD)	90%			
Dimension(L*W*H)	630*400*375mm	630*400*525mm	630*400*675mm	630*400*825mm
Net Weight	58KG	102KG	146KG	190KG
Installation Environment	indoor			
Cycle Life	≥6000 cycles			
Protection Level	IP65			
Alarm	Overcharge/over discharge/over current/over temperature/short circuit			
Advantage	Available in off-grid and grid-connected mode, compact design, modular expansion			

## Home1.2

This product is a lead-to-lithium battery (also known as a lead-acid replacement battery). It is an entry-level energy storage product, targeting users with just-needed needs. It can be a good substitute for lead-acid batteries in some application scenarios. It has a senseless replacement experience. In addition, compared with lead-acid batteries, it also has the following characteristics: long life, daily usage costs are 70% lower than lead-acid batteries; lightweight; more environmentally friendly; highly reliable; no memory effect.

- Lightweight**  
Easy to install, weighs about 1/3 of a lead-acid
- Long life**  
10-year lifespan, over 3,000 cycles battery of the same capacity
- Flexible modules**  
Modular design, easy to expand in series or parallel
- High protection level**  
Ip65
- Easy to install**  
Easy to carry and can be used in various scenarios

Model	12V100AH	12V200AH
Battery Type	LiFePO4	LiFePO4
Rated Energy	1.28KWh	2.56KWh
Rated Capacity	100Ah	200Ah
Rated Voltage	12.8V	12.8V
Max charge/discharge current	100A(1C)	200A(1C)
Discharge Depth(DOD)	100%	100%
Net Weight	11KG	21KG
Dimension(L*W*H)	308*165*215mm	530*208*220mm
Charging Temperature Range	0~50°C	0~50°C
Discharging Temperature Range	-20~55°C	-20~55°C
Protection Level	IP65	IP65
Cycle Life	3000 cycles	3000 cycles
Capacity Expansion	4 in series or parallel	4 in series or parallel

# 04 INDUSTRIAL & COMMERCIAL ENERGY STORAGE SYSTEM



More than 9 years of technical accumulation, with advanced product technology capabilities



Independent research and development and production to ensure the safety and stability of the system



Battery cells, BMS, EMS, and system integration are all designed for energy storage applications



Modular design to meet customers' needs in various scenarios



Powering Business Brilliance:  
Energy Storage that Works!

## Liquid Cooling Industrial and Commercial Integrated Cabinet

The Liquid cooling industrial and commercial integrated cabinet integrates high-performance long-life liquid cooling modules, a new BMS control system, a high-performance liquid cooling PCS, an intelligent liquid cooling temperature control system, and an intelligent active fire protection system; the industrial and commercial integrated cabinet has grid support, high security and high economy. It can be used for small and medium-sized energy storage projects such as user side and microgrid, and strongly supports new power systems.



### High Efficiency

Modular and easy to expand, the cabinet directly outputs AC, supports parallel connection of multiple cabinets on the AC side, and improves power and energy density by >30%.



### High Lifespan

Liquid cooling has efficient heat dissipation, the system cycle efficiency is improved by >1%, PCS three-level topology, and the maximum efficiency is 99%.



### High Security

Single group fine control, no parallel connection on the DC side, small short-circuit current. Independent storage cabinets to achieve electrical and fire safety isolation. Battery core temperature difference <3%, improve safety and cycle life.

## Liquid Cooling Industrial and Commercial Cabinet Unit Integration



Liquid cooling industrial and commercial integrated cabinet unit integration, can realize various forms of parallel combination

Model	VenturePro 232	VenturePro 261-2
<b>Battery Parameters</b>		
Rated Energy	232KWh	261KWh
Battery Rated Voltage	DC 832V	
Battery Voltage Range	DC728-936V	
Maximum battery current	162A	179.4A
<b>AC Side Parameters (grid-connected)</b>		
Rated Power	100KW	125KW
Maximum Output Power	110KVA	137.5KVA
Rated AC Output Current	152A	189.9A
Maximum AC Output Current	167A	208.9A
Rated Grid Voltage	380V	
Allowable Grid Voltage	323~418V	
Rated Grid Frequency	50HZ/60HZ	
Permitted Grid Frequency	40~55HZ/55~65HZ	
<b>Basic Parameters</b>		
Product Dimension(L*W*H)	1350*1300*2250(mm)	
Weight	3T	3.1T
Maximum System Efficiency	90%(Without auxiliary power)	
Maximum Altitude Allowed	≤3000M/4000M(Optional, derate)	
Allowable Ambient Temperature	-30~50°C	
System Cycle Life	≥8000 cycles	
Protection Level	IP54	
Cooling Method	Internal circulation liquid cooling	

## GridUltra Liquid-Cooling Energy Storage Battery System



The modular design of the customized non-walk-in container improves the space utilization rate in the cabin. The advanced liquid cooling cycle design concept can reduce the impact of battery thermal runaway, effectively improve the all-round safety of the energy storage system and the life of the energy storage battery, and provide safer technical guarantee for the operation of the energy storage system.

Customized non-walk-in containers, modular design, high energy density, short project delivery lead time, easy installation and maintenance.

Liquid-cooling batteries have a long life cycle and high efficiency, with a system cycle life of more than 8,000 times and a design life of up to 15 years.

Battery protection level IP67, intelligent fire protection system design, multi-point monitoring and early warning, with rapid fire extinguishing function, liquid cooling system battery temperature uniformity is good, the system battery temperature difference is controlled within 3 °C.

## Product Composition



### Energy Store System

The battery compartment contains 9/10/12 battery clusters, 1 DC combiner, 1 power distribution cabinet, 1 fire protection system and 1 wave cooling system.



### Battery Cluster

Each battery cluster consists of 8 liquid-cooling battery modules and 1 high-voltage control reconnect in series.



### Battery Module

A single battery module is composed of 52 lithium iron phosphate cells 314Ah in a 1P52S grouping method, which has the characteristics of high energy density, wide temperature range, long life, high protection level and high safety.

Model	GridUltra 3355	GridUltra 3727	GridUltra 5016-2
<b>Battery Parameters</b>			
Rated Energy	9P416S	10P416S	12P416S
Battery Rated Voltage	3354KWh	3727.36KWh	5015.96KWh
Battery Voltage Range	DC 1331.2V		
Maximum battery current	DC 1164.8~1497.6V		
<b>System Parameters (0.5P)</b>			
Rated Charging Current	1260A	1400A	1884A
Max Charging Current	1600A	1792A	2400A
Rated Charging Power	1677KW	1863KW	2500KW
Rated Discharge Current	1260A	1400A	1884A
Max Discharge Current	1600A	1792A	2400A
Rated Discharge Power	1677KW	1863KW	2500KW
Auxiliary Power Supply Voltage	AC 380V,50HZ, Three-phase Four-wire		
Auxiliary Power Supply	Max 35KW	Max 35KW	Max 45KW
Operating Temperature	-30°C~50°C		
Maximum Altitude Allowed	≤3000M/<4000M (Optional, derate)		
<b>System Parameters (0.5P)</b>			
Dimension(L*W*H)	6058*2800*2896 (mm)		6500*2800*2896 (mm)
Weight	≈35T	≈38T	≈44T
Protection Level	Ip55		
Cooling Method	Liquid Cooling		

  
High Efficiency

  
High Lifespan

  
High Security

## GridUltra Air-Cooling Energy Storage System



The modular design of non-walk-in containers improves the space utilization rate in the cabin. The advanced air-cooling cycle design concept, intelligent humidity control structure, intelligent fire-fighting pressure relief system and intelligent energy management and allocation system can achieve effective thermal management of the air-cooling storage system, safe operation and precise control of the battery cell status.

It adopts non-walk-in container, modular design, high density, and easy installation and maintenance.

Cycle life of more than 8,000 times and a design life of up to 15 years.

The dragon body has an IP54 protection level and adopts a smart fire protection system. The multi-point value control has a rapid fire extinguishing function. The independent air cooling strategy accurately controls the ambient temperature in the cabin.

## Product Composition



### Energy Store System

The cabin contains 8 battery clusters, 1 core control panel, 1 PCS with transformer, 1 busbar system, 1 fire protection system and 1 temperature control system.



### Battery Cluster

Each battery cluster consists of 16 battery modules and 1 high-voltage control box connected in series.



### Battery Module

A single battery module is composed of 16 lithium iron phosphate cells grouped by 1P165. The modular design is easy to transport, install and maintain.

Model	Wall-mounted
<b>Battery Parameters</b>	
Configuration	8P256S
Rated Energy	2057.83KWh
Rated Voltage	DC 819.2V
Voltage Range	DC 716.8~921.6V
<b>System Parameters (0.5P)</b>	
Rated Output Power	500KW
Maximum Output Power	550KW
Maximum Output Current	794A
Rated Voltage	400V
Voltage Range	-20%~15%
Rated Frequency	50/60HZ±5HZ
System Efficiency	> 97.5%
Operating Temperature	-30°C~50°C
Apply Altitude	≤2000M/ < 3000M(Optional, derate)
<b>Basic Parameters</b>	
Dimension(L*W*H)	6058*2438*2896 (mm)
Weight	≈23T
Protection Level	IP54
Cooling Method	Air Cooling



High Efficiency



High Lifespan



High Security