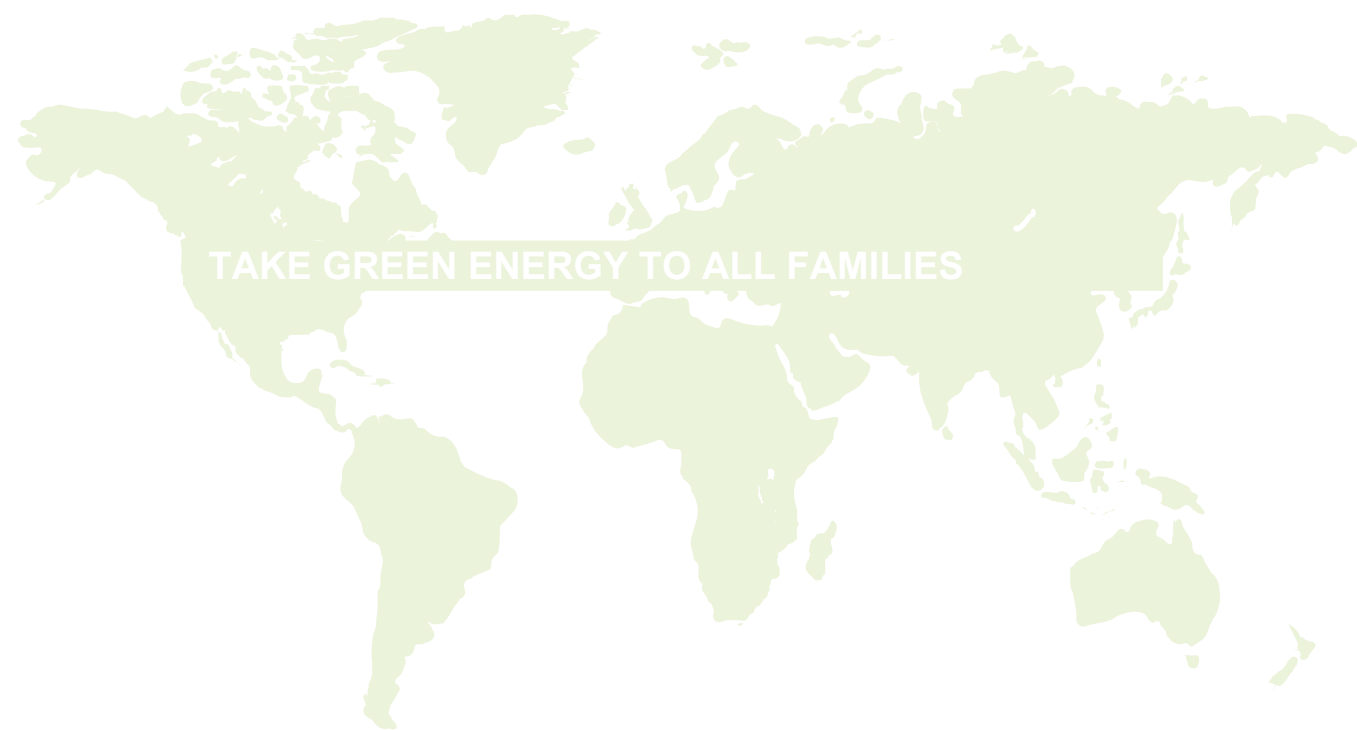




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Distributors in South Africa, Nigeria, America, Uganda and Kenya



GEMSBOK



**ENERGY
STORAGE**

GEMSBOK GREEN ENERGY SOLUTIONS - SOUTH AFRICA



GEMS BOK

CONTENTS

- | Company Profile
- | Home Energy Storage System
 - | All-In-One Energy Storage System
 - | Standard Battery Pack
- | Outdoor Cabinet Energy Storage System
- | Industrial & Commercial Energy Storage Containers
- | Lead-acid Replacement and RV Power Battery Product
- | Two-Wheeler Battery Pack Product
- | Portable Energy Storage Power Supply





About us

Gemsbok Green Energy Solutions is a Black Owned South African energy storage battery brand. We have a network of distributors across Africa and in the United States of America . Our major interests include solar energy storage systems from battery cells, battery packs, to integrated portable power station, All in One residential Energy Storage Systems, industrial outdoor battery cabinets, commercial MWh energy storage and container projects.

Our R&D center is located in China, our design team collaborate virtually while we brand and market from South Africa and distribute globally. We currently lead the market in Africa. With our highly experienced team and highperformance energy solutions, we are poised to be your reliable partner in emerging Energy Storage Technologies. Our mission is to contribute to solving Africa's energy problems by developing environment friendly energy storage systems. Welcome to our GEMSBOOK GROUP.



Home Energy Storage System

Product Overview

The family energy storage system project takes the family unit as the scenario, as we actively implement the global clean energy goals.

Gembok Green Energy Solutions is on a Pro-environment mission to “Take Green Energy To All Families”, as we bring clean, efficient, Continuous and cheap energy system products which completely solve the status quo of “difficult electricity consumption, expensive electricity, and no electricity”.

Features

Self-powered Home

Backup Power

Home energy control, Energy saving

New Energy' ECO & Low Carbon

Smart Home Control

Excess Electricity Enables Transactions



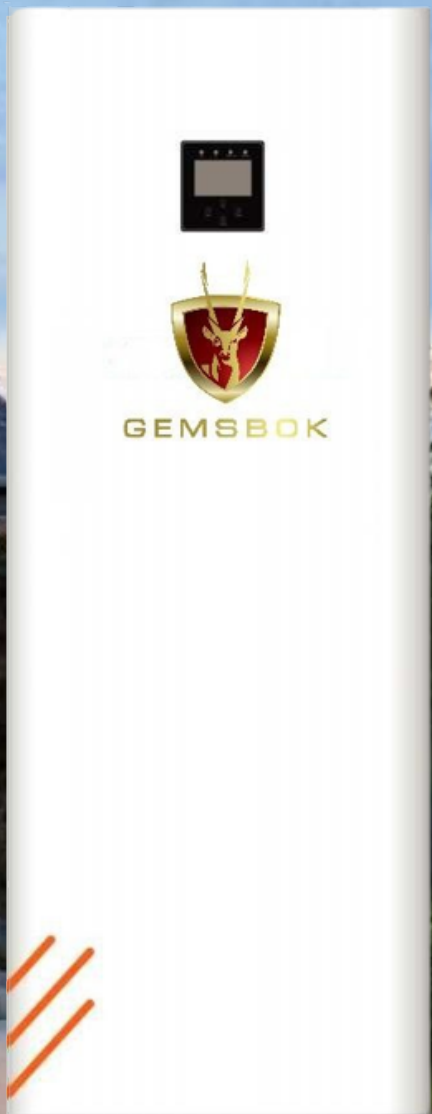
Load Power: 3kw/5kw
Storage Ability: 3.6kWh/4.8kWh



Load Power: 3kw/5kw
Storage Ability: 4.8kWh/9.6kWh



Load Power: 3kw/5kw
Storage Ability: 7.2kWh/9.6kWh/14.4kWh



Load Power: 6kw/8kw/12kw
Storage Ability: 19.2kWh

All-In-One Energy Storage System

Product Layout

Gemsbok Power is an integrated system including PV controller, battery packs, battery management system, inverter and charger, with home energy management and energy efficiency management system.



Interface

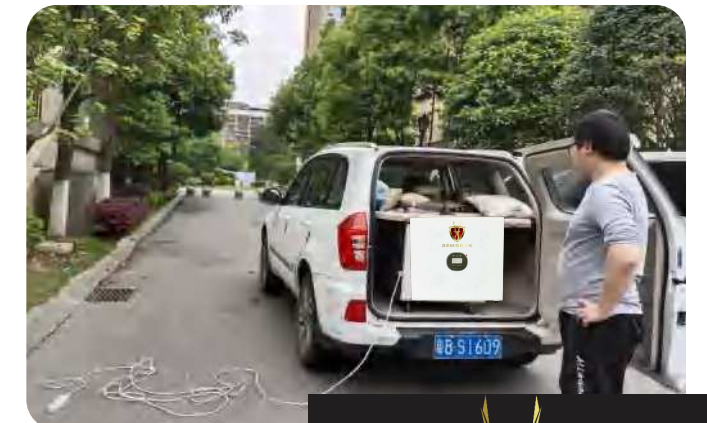
Connection Interface

Cooling Fan

LCD display

Wheel/Holder

Applications



Parameters

Model	GEMSBOK -3035		GEMSBOK-3048	GEMSBOK-3096	GEMSBOK -5072	GEMSBOK-5096	GEMSBOK -50144	GEMSBOK -80192U
Parameter								
Pic								
Feed-in Type	Single & Split-Phase				Single & Split-Phase			Single/Split/Three Phases
Output Voltage	110/220 vac (charge and discharge)				110/220 vac (charge and discharge)			120/208/240/230/400Vac
Storage Ability	3.6 kwh		4.8kwh	9.6kwh	7.2 kwh	9.6kwh	14.4kwh	19.2kwh
Max Solar input	2.4kwp		2.4kwp	2.4kwp	4.5kwp	4.5kwp	4.5kwp	10.4 kw
PV Side Max. Input Voltage	145 VDC				145 VDC			370V (100V~500V)
MPPT Voltage	60-110 VDC				60-110 VDC			125V-425V
PV Charging Max Current (A)	60A/30A				80A/50A			22A+22A
AC Charging Max Current (A)	16A/12A				50A/25A			36.7A / 38.5A
Charging time	1-3 Hours				1-3 Hours			1-3Hours
Continuous Output Power	3 kw		3 kw	3 kw	5 kw	5 kw	5 kw	8kw
Peak power	4 kw (discharge only)		4 kw (discharge only)	4 kw (discharge only)	7 kw (discharge only)	7 kw (discharge only)	7 kw (discharge only)	16 kw (discharge only)
Weight	61 kg		72kg	130kg	120kg	138kg	178kg	306kg
Size (L*W*H)	560*390*660mm		560*390*660mm	550*400*1130mm	550*400*1130 mm	550*400*1130mm	550*410*1145 mm	736 x 420 x 1906mm
Imbalance for Single-Phase Loads	100%				100%			
Power Factor output Range	+/- 1.0 adjustable				+/- 1.0 adjustable			
Battery DC Voltage	48V				48V			
Depth of Discharge	90%				90%			
Operating Humidity(RH)	Up to 100%, condensing				Up to 100%, condensing			
Operating Temperature	-10℃-50℃ / 14°F~122°F				-10℃-50℃ / 14°F~122°F			
Storage Temperature	-20℃-60℃ / 4°F~140°F				-20℃-60℃ / 4°F~140°F			
Maximum Altitude	2000m				2000m			
Ingress Rating	IP 20/54/65				IP 20/54/65			
Noise Level @1m	<35 dBA at 30℃				<35 dBA at 30℃			
Certificates	CE, MSDS, UN38.3, ISO:9001				CE, MSDS, UN38.3, ISO:9001			
Mounting Options	Floor				Floor			
Warranty	10 years				10 years			
Packaging	Standard Export Carton with pallet				Standard Export Carton with pallet			

Standard Battery Pack



Features

- ▶ Compact Size and Light Weight
- ▶ 6000 cycle life
- ▶ Reliable performance
- ▶ Easy Installation
- ▶ 10+ years technical support
- ▶ Wide Applications
- ▶ 100% DOD with More Usable Capacity
- ▶ RS485/RS232/CAN Communication Protocol

Applications

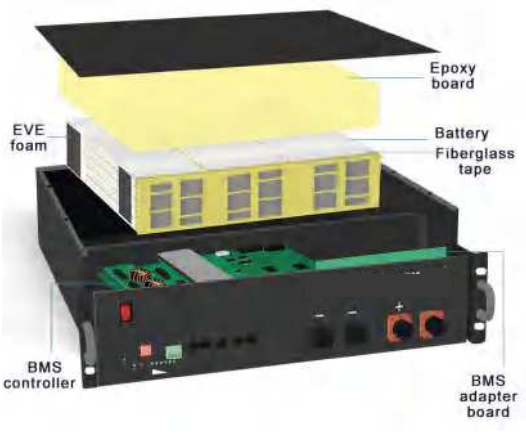
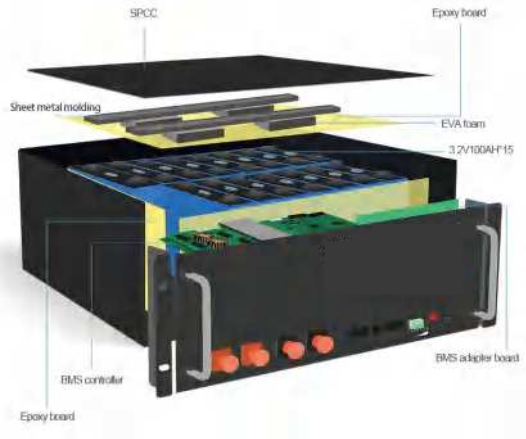


Parameters

Model	GEMS-2400	GEMS-3600	GEMS-4800	GEMS-9600
Nominal Voltage	48V			
Nominal Capacity	2400Wh	3600Wh	4800Wh	9600Wh
Usable Capacity	2200Wh	3200Wh	4500Wh	9200Wh
Dimension	442*410*100mm	442*420*150mm	442*420*177.5mm	592*437*235mm
Weight	25kg	32kg	48kg	96kg
Discharge Voltage	45V~53.5V			
Charge Voltage	52.5V~53.5V			
Charge / Discharge Current	25V (Recommended) 50A (Max) 100A (Peak@15s)	37V (Recommended) 75A (Max) 100A (Peak@15s)	50V (Recommended) 100A (Max) 100A (Peak@15s)	50V (Recommended) 100A (Max) 100A (Peak@15s)
Communication Port	RS232 .RS485 .CAN			
Single string quantity	15pcs			
Working Temperature	0~50℃			
Shelf Temperature	-20~60℃			
Humidity	5%~85%			
Altitude	<2000m			
Design life	10+ Years (25 /77 ℉)			
Cycle Life	>6000, 25℃			
Authentication Level	CE / UN38.3		UL / CE / UN38.3	CE / UN38.3



Structure



Gemsbok Outdoor Cabinet Energy Storage System

20kWh-100kWh

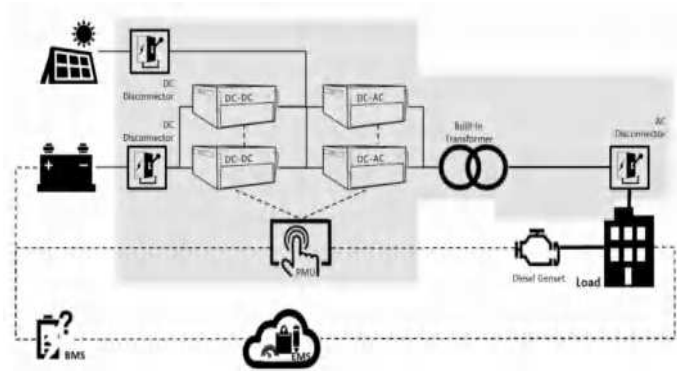
- UPS Back-up Power System
- Industrial Microgrid Power System for small factory/Village
- Weight:200kg-1000kg



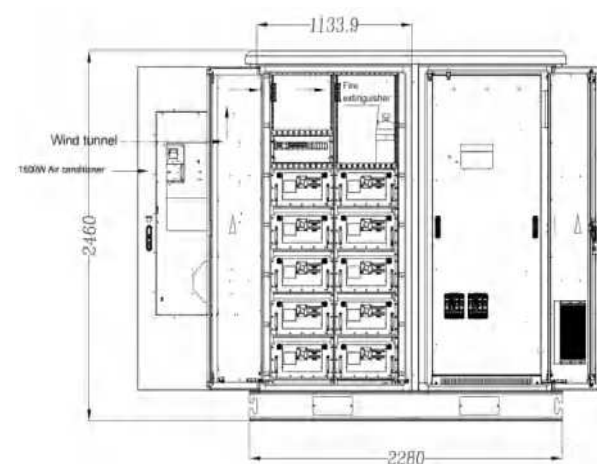
Features

- ▶ Modular design and wide power range in single cabinet
- ▶ Bi-directional Power Conversion
- ▶ System Built-in transformer
- ▶ Grid-support functions
- ▶ Flexible configuration
- ▶ Support PV access

Diagram

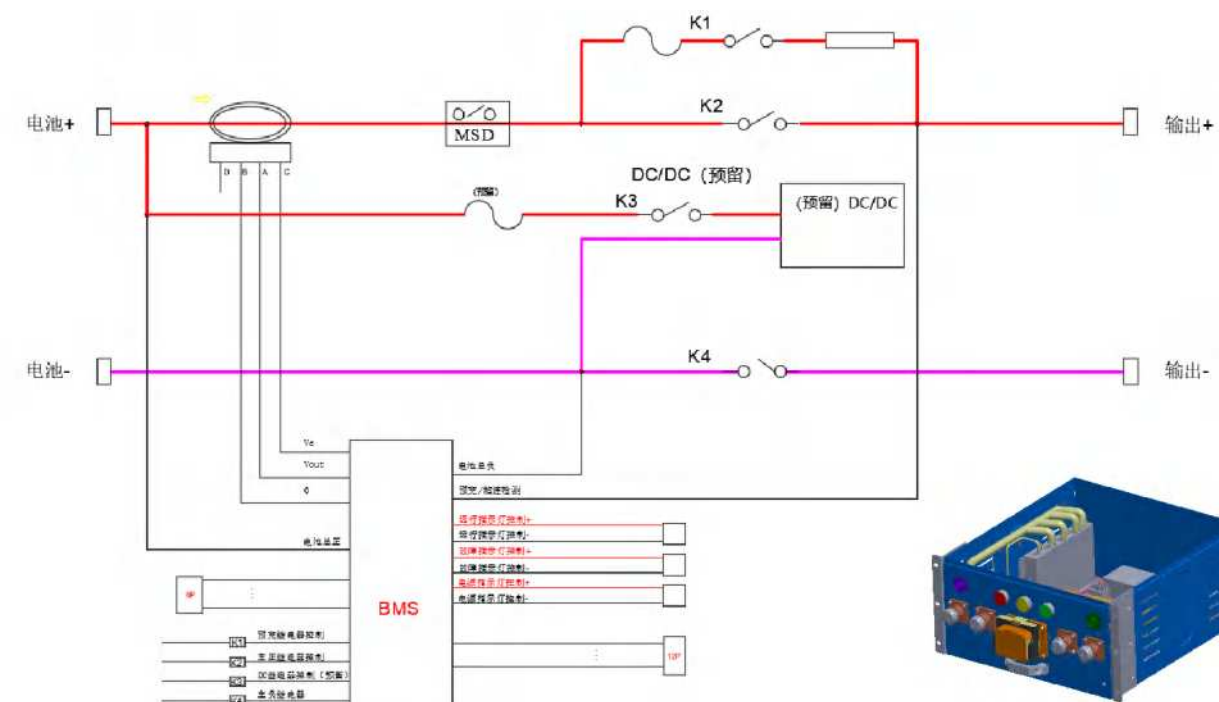


System diagram



design diagram

Electrical schematic diagram of high voltage box



Product Cases



Industrial And Commerical Energy Storage Containers

100kWh-500kWh

- Industry Storage System
- Distributed ESS
- 10"Container



500kWh-1000kWh

- Distributed ESS
- Wind power/solar Power
- 20"Container



1000kWh-2000kWh

- Distributed ESS
- Wind power/solar Power
- 40"Container



Features And Functions

► High Yield

Advanced three-level technology, max. efficiency 99% effective forced air cooling, 1.1 overload capacity, no up to 55 ° C, various charge and discharge mode, flexible for battery configuration.

► Easy O&M

Integrated current and voltage monitoring functions for online analysis and quick troubleshooting modular design, all components are front removable for easy maintenance, integrated auxiliary power panel for external equipment.

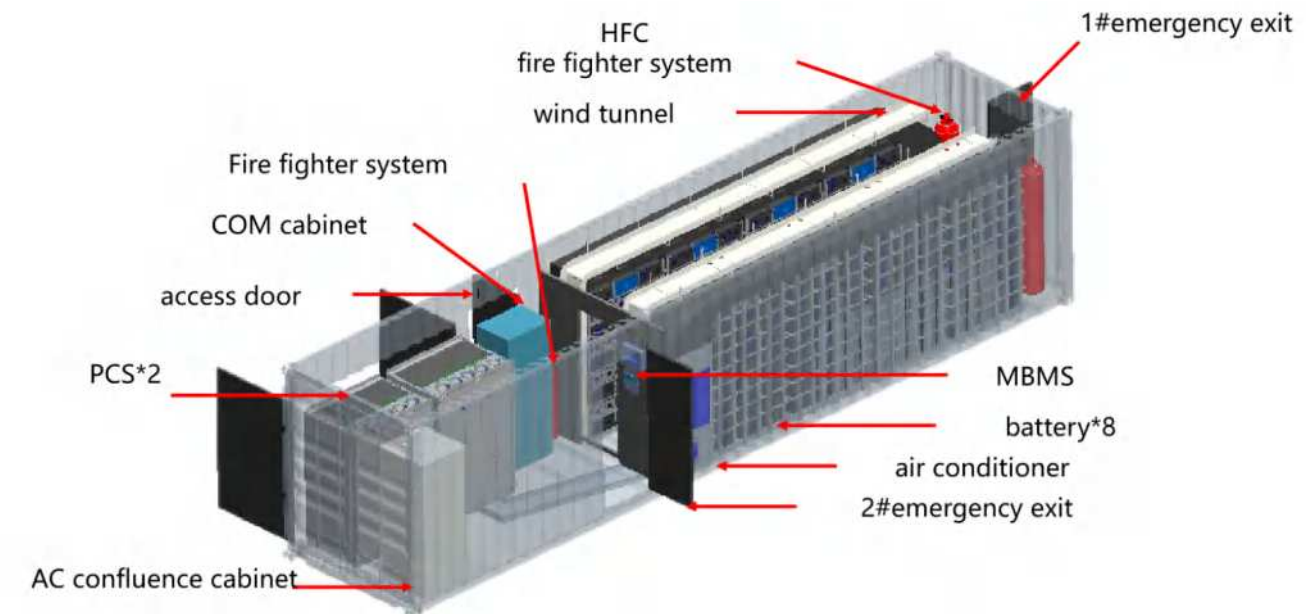
► ESS Applications

Typical applications: peak shaving, energy shifting, frequency modulation, capacity stabilization, battery charge and discharge management for bidirectional converter systems operating in four quadrants, black start function, integrate VSG.

► Grid Support

Compliance with IEC 61727, IEC 62116, SGSF Dynamic grid voltage and frequency support L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support.

Structure



Project Cases



Lead-acid Replacement and RV Power Battery Product

Product Overview

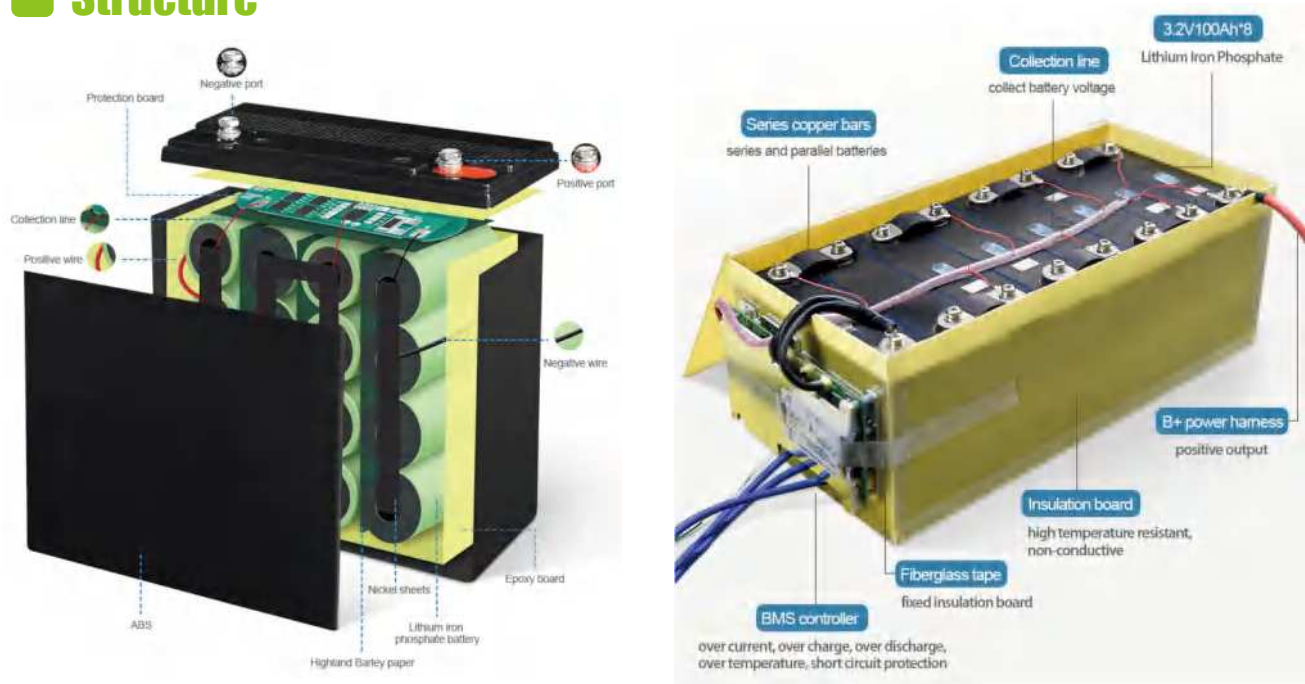
Our lithium battery system can replace the lead-acid battery. Under the original high-efficiency solar panel and the power generation module of the controller, we have launched a compatible power storage and inverter module to provide a safe, reliable, stable and compatible complete power system. From power generation to power transmission-charging-storage-inverter-power distribution-power consumption to ensure its efficiency. Among them, RV power supply is one of the main demand for lead-acid replacement.



Features

- ▶ Provide twice the running time
- ▶ Reduce operating costs
- ▶ Half weight and size in same capacity than lead acid battery
- ▶ Cycle life over 2000 times

Structure

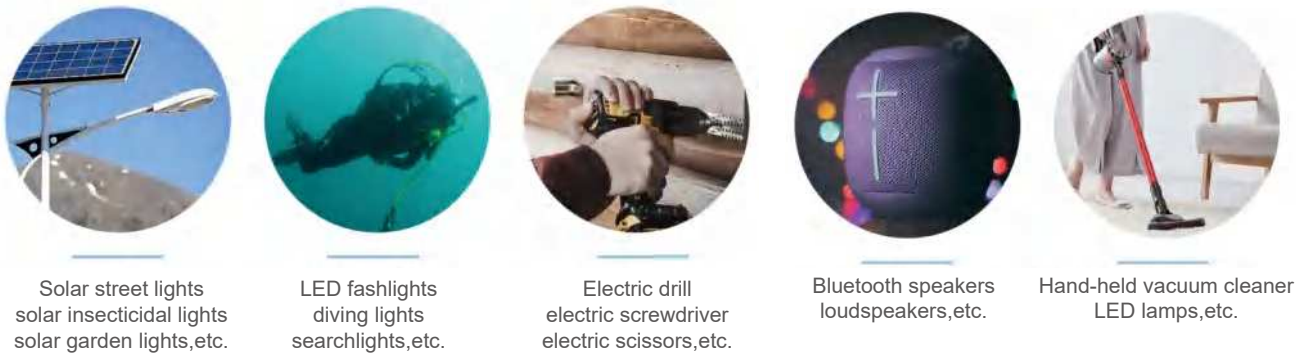


Parameters

Model	12100	12200	24100
Type Of Battery	Lithium Iron Phosphate		
Standard Voltage	12V	12V	24V
Standard Aapacity	100Ah	200Ah	100AH
Charging	CC/CV		
Charging Cut-Off Voltage	14.6V	14.6V	29.2V
Discharge Cut-Off Current	200mA	200mA	200mA
Discharge Cut-Off Voltage	9.2V	9.2V	29.2V
Maximum Continuous Charging Current	100A		
Maximum Continuous Discharging Current	100A		
Maximum Pulse Discharge Current	200A/10S		
Cell Of Battery Pack	Top grade A 3.2V 100Ah LFP cells		
Battery Pack Assembly Method	4S1P	4S2P	8S1P
Charging Temperature	0~60°C		
Discharging Temperature	-20~60°C		
Protection Grade	IP56 or customized		
Input/Output Port Type	M8 or anderson or another bolt screw		
Dimension(L*W*H)	330*170*215mm	350*170*240mm	350*170*240mm
Net Weight	12Kg	22Kg	22Kg
Certifications	CE, RoHS ,MSDS and UN38.3		
Warranty/Cycle Life	Warranty: 3 years/Cycle life:2000 times (85%DOD), 3000times (80%DOD), 5000 times (65% DOD), 8000 times(40% DOD)		



Applications



Two-Wheelers Power Supply

Two-wheelers battery

(36/48/60/72V MOQ Apply)



GEMSBOK



Features

- ▶ Compatible with more battery cells
- ▶ Charge and discharge at -20℃
- ▶ Automotive-grade manufacturing process guarantees high-end quality
- ▶ Alloy shell provides great protection
- ▶ 151 micron automotive grade aluminum-plastic film encapsulated cell
- ▶ Long cycle life up to 2000 times (State of Charge ≥80%)



Parameters

Model	GSVB 4818	GSVB 6020	GSVB 7220
Nominal Voltage	48V	60V	72V
Operating Voltage Range	39V ~ 54.6V	48V ~ 67.2V	60V ~ 84V
Rated Capacity	18Ah	20Ah	20Ah
Total Battery Capacity	864Wh	1200Wh	1440Wh
Max Continuous Charging Current	8A	10A	10A
Max Continuous Discharging Current	18A	20A	20A
Cell Charging Cut-Off Voltage	4.2V	4.2V	4.2V
Cell Discharge Cut-off Voltage	3V	3V	3V
Charging Temperature Range	0℃~45℃	0℃~45℃	0℃~45℃
Discharge Temperature Range	20℃~60℃	20℃~60℃	20℃~60℃
Dimension	245*156*102mm	250*180*145mm	230*185*170mm
Weight	≤ 5.4 Kg	≤ 8.3 Kg	≤ 9.2 Kg
Design Life	3 Years (25 /77°F)	3 Years (25 /77°F)	3 Years (25 /77°F)
Warranty Time	1 years	1 years	1 years
Cycle Life	>2000, 25℃	>2000, 25℃	>2000, 25℃
Packaging	Carton box		



Applications



Portable Energy Storage Power Supply



GEMSBOOK

POWER STATIONS



Applications



Charging pile



Flashlight



Computer



Drone



SLR camera



Car refrigerator



Mobile phone



Cooker



Short circuit
protection



Overcurrent
protection



Overvoltage
protection



Undervoltage
protection



Overload
protection



Over temperature
protection

Parameters

Model Parameter	GEMS BP102	GEMS BP201	GEMS BP301	GEMS BP501	GEMS BP1001	GEMS 1010	GEMS BP2001
Picture							
Capacity	111Wh(30000mAh/3.7V) Print as (99 Wh)	222Wh(60000mAh/3.7V)	296Wh(80000mAh/3.7V)	518W(140000mAh/3.7V)	1036Wh	1008Wh	1997Wh
AC adapter	TYPE-C 5V/3A	DC15V/2.8A	DC 18V/3A	DC 24V/2.5A	DC 24V/5A	800W Maxi Super fast charging	1100W Maxi Super fast charging
Cigarette Lighter input	None	DC 12V~30V, 2.8A Max	DC 12V~30V, 3A Max	DC 12V~30V, 2.5A Max	DC 12V~30V, 2.5A Max	DC 12V,10A,120W Max	DC 10V~44V, 20A 500W Max
Solar Panels	None	DC 12V~30V, 2.8A Max	DC 12V~30V, 3A Max	DC 12V~30V, 2.5A Max	DC 12V~30V, 2.5A Max	DC 10A,200W Max	DC 10V~44V, 20A 500W Max
USB2.4A	5V/2.4A*1	5V/2.4A*2,3.1AMAX	5V/2.4A*2,3.1AMAX	5V/2.4A*2,3.1AMAX	3.6~12V/18W*1	12W/2.4A,5Vdc*1	3.6~12V/18W*1
TYPE-C/PD	5V3A (charigng and discharging)	PD30W (charigng and discharging)	PD45W (charigng and discharging)	PD45W (charigng and discharging)	PD45W (charigng and discharging)	PD100W (charigng and discharging)	PD100W (charigng and discharging)
DC 5.5 Output	(12V/10A)*1	(12V/10A)*2	(12V~16.8V/10A)*2	(12V/10A)*2	(12V/10A)*2	136W,136Vdc,10A	(12V/10A)*2
Car Charger Output (Cigarette Lighter)	None	None	(12V~16.8V/10A)*1	(12V/10A)*1	12V/10A)*1	13.5V/10A)*1	12V/10A)*1
AC Output	AC(USA Stantard*1 /EU Stantard*1) Corrected square wave	AC(USA Stantard*2 /EU Stantard*1) Sine wave	AC(USA Stantard*2 /EU Stantard*1) Sine wave	AC(USA Stantard*2 /EU Stantard*2) Sine wave	AC(USA Stantard*2/EU Stantard*2) Pure Sine wave	AC(USA Stantard*1 /EU Stantard*1) Pure Sine wave	AC(USA Stantard*1 /EU Stantard*1) Pure Sine wave
AC Continuous output	100W	200W	300W	500W	1000W	1500W	2000W
Lighting function	High-brightness LED lighting board			High-brightness LED lighting board	LCD Screen	LCD Screen	LCD Screen
Control switch mode	AC switch,DC switch,Light switch	AC switch,DC switch,USB switch, Light switch		AC switch,DC switch,USB switch, Light switch	AC switch,DC switch,USB switch, Light switch	AC switch,DC switch,USB switch, Light switch	AC switch,DC switch,USB switch, Light switch
Operating temperature	Discharge-20 ℃~50℃; Charge 0℃~55℃	Discharge-20℃~60℃; Charge 0℃~55℃		Discharge-20℃~60℃; Charge 0℃~55℃	Discharge-20℃~50℃; Charge 0℃~55℃	Discharge-20℃~60℃; Charge 0℃~45℃	Discharge-20℃~60℃; Charge 0℃~55℃
Size	215*115*42mm	190*177*120mm	230*203*140mm	265*234*160mm	375*180*288mm	340*272*198mm	392*279*323mm
Weight	1.0kg	2.4kg	3.4kg	5.4 kg	10.8kg	10.8kg	20.0kg



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