



Battery Energy Storage Systems

Commercial | Industrial | Residential

MPMC GROUP OF COMPANIES



www.mpmc-china.com



www.mpmclighttower.com



www.mpmcbess.com



www.mpmchybrid.com



www.semookii.com

WWW.MPMC-GROUP.COM



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MPMC POWERTECH CORP.

Global leader in distributed solar hybrid solutions & off-grid systems



120 Countries

Products are exported to 120 countries



52 Types

Three categories of 52 types of products



12000 Sets

Annual production capacity



50 Specialists

50 solution experts focused on different applications



107 Patents

6 invention patents, 91 utility model patents, 8 software copyrights and 2 appearance patents.

With lower carbon, greener, more reliable and more intelligent customized solutions .

MPMC POWERTECH CORP. (stock code: 832266) was established in Pudong New Area, Shanghai, 2008. As the global leader in distributed solar hybrid solutions & off-grid systems, MPMC focus on independent research & development, full process intelligent manufacturing, and global marketing & service, committed to high quality development and high-end brand positioning. MPMC produces and sells intelligent emergency generator sets, mobile hybrid energy lighting towers, hybrid energy power stations and lithium-ion battery energy storage solutions. Currently, MPMC's products have been exported to more than 120 countries and regions, and it has in-depth cooperation with more than 60 dealers which covers the Americas, Europe, Oceania, Africa, the Middle East, Southeast Asia and the Commonwealth of Independent States. In addition, MPMC has established holding subsidiaries or offices in overseas countries such as US, UAE and South Africa. MPMC has a professional team composed of industry experts and senior engineers, and has established a joint laboratory of distributed hybrid energy cloud technology in cooperation with Tongji University. By using the independently developed intelligent energy management cloud platform "More Power Cloud", the laboratory is committed to conducting technical research on global hybrid energy micro grid cloud management. MPMC aims to become the global leader in hybrid energy power solutions and provide customers around the world with lower carbon, greener, more reliable and more intelligent customized solutions .

MPMC has been developed wind, solar, diesel generator and battery powered hybrid energy products since 2019, and established the holding and wholly-owned subsidiaries, SEMOOKII BESS CO., LTD. and MPMC Energy Jiangsu in 2021. By optimizing the combination of multiple energy and storage systems, MPMC provides customers with distributed hybrid energy solutions, which cover a wide range of application areas, including mining, rental, telecom, oil and gas field, and construction site, etc. The new energy products include residential energy storage and charging, on&off grid industrial & commercial energy storage, solar, battery and diesel genset micro grid, off-grid systems and lithium iron battery packs' OEM/ODM, etc. MPMC currently has more than 280 employees and is accelerating its global industrial layout to continuously improving its digital intelligent manufacturing capability, innovative application of cutting-edge technologies in the industry and customer service experience. In the past five years, MPMC's business areas have continued to expand, started as the diesel generator sets supplier and now has become a group company providing diversified solutions, including wind, solar, diesel genset and hydrogen energy power units, energy storage systems and hybrid energy management, etc. With the expansion of business, MPMC's demand for digital and intelligent production facilities and equipment is also increasing. Currently, MPMC is building MPMC Energy Jiangsu in Yangzhong, Jiangsu Province and plans to start production in the fourth quarter of 2024.



CNAS L18681
Laboratory accreditation certificate



Certificate
Certificate of the World
Manufacturer Identifier(WMI)Code



Built-in Smart EMS

Grid Forming

Grid Following



THE FUTURE

is coming with sustainable,
smart, stable energy

DEDICATION Product Portfolio

01) Commercial & Industrial BESS

HBD A Series

HBD R Series

02) BCH Series BESS

& Mobile EV Charger

03) Residential BESS

HBC Series

UHOO Series

04) Battery Cluster & PACK



6000
Life Cycles

EOL 80%
Usable Energy

110%~150%
Overload

< 20MS
Switch Mode

3000M
Max altitude

-20~50°C
Operating Temperature

Commercial & Industrial BESS

A Series All-in-one



HBD-250-400
Rated Output Power: 250kW
Battery Storage Capacity:401.4kWh

Design Standards

HBD® is a new range of secure integrated Battery Energy storage system. This mobile and modular solution includes batteries, PCS and control system; HVAC, fire protection and auxiliary components for option. It can be connected to external PV power station, AC generator and Grid power. HBD® is mainly developed for no emission and low noise, Reduce the dependence on grid, Improve power supply quality and Ensure the power consumption of emergency load.

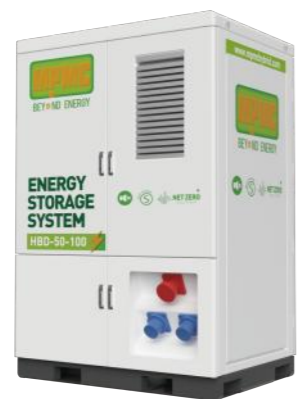


- 0.2~0.5C**
Discharging Rate
- 60~3000**
kwh/unit
Power Range
- IP54**
Indoors & Outdoors

Overload coping:
110% long-term overload supported, 120% for 10min, 150% for 200ms



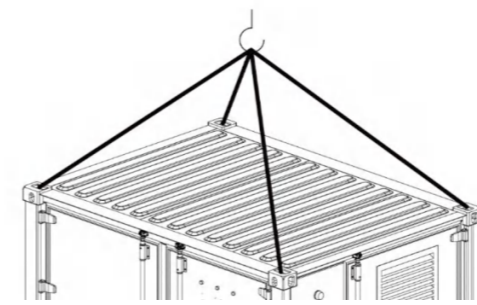
HBD-30-60
Rated Output Power: 30kW
Battery Storage Capacity:61.44kWh



HBD-50-100
Rated Output Power: 50kW
Battery Storage Capacity:100.35kWh



HBD-100-200
Rated Output Power: 100kW
Battery Storage Capacity:200.7kWhkWh




Benefits

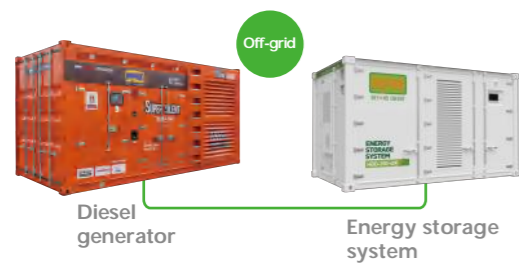
- All-in-one**
Integrated design, small in size, compact installation environment
- Manufacture**
Full process manufacturing production line, strong manufacturing and processing capabilities
- Modularity**
Standard modular design, add on demand/ easy for maintenance / system expansion
- Corrosion protection level:** 3-year warranty for C4 coating
- Maintenance:** Easy to maintain, equipped with SCADA, remote monitoring, diagnosing and upgrading supported.
- Convenient transport**
Lifting points and spreaders, 4 lifting points design.
Forklift hole.
Selfmade cabinets adapt to the shipping standards, maximizing space utilization, saving transport costs

Application Scenarios

 **5 YEARS**
Product Warranty

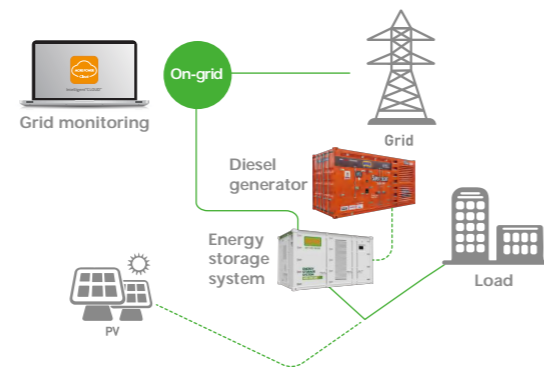
 **10 YEARS**
EOL Usable energy 80%
Performance warranty

Peakshaving by diesel gensets



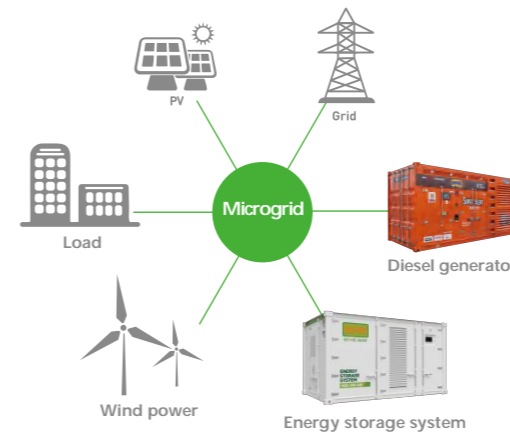
Reducing power of diesel generator, reducing carbon emissions, extending life of diesel gensets.

Enterprise Critical Peak power management



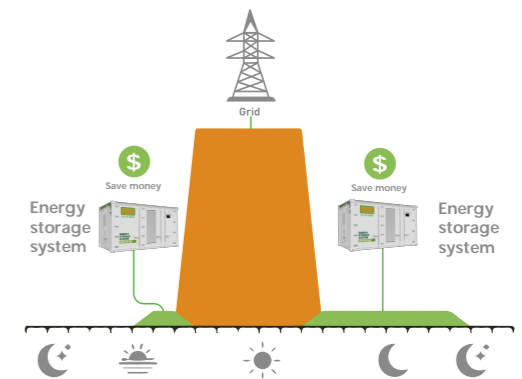
- 1、Solving the problems of seasonal or periodic overload power consumption, inefficient enterprise transformer capacity
- 2、Rapid discharge of energy storage system, relieving power supply pressure, saving investment costs for capacity expansion, reducing renovation cycle, avoiding power outages and retrofits

Microgrid mode



Wind, solar, diesel and storage microgrid system, stable off-grid power supply

Peak-valley arbitrage



Improving renewable energy utilization, shortening pay-back cycle

Input Energy Sources



Output



Load

Output through copper bars, installation and debugging completed in the factory, ready-to-use load output.

Optional quick-plug sockets

AC Input



Diesel generator

Smooth parallel connection with diesel gensets, extending life of diesel gensets by 3 times

AC / DC Input



PV

Photovoltaic AC-coupled access coming in standard, optional photovoltaic DC-coupled access

AC Input



Grid

Charging and supplying power to the load at the same time.

AC Input



Wind power

AC Input



Hydrogen

Parallel

Flexible expansion, no limit for the number of parallel connection in the on-grid mode.



Max. 6 units in in the off-grid mode.

Product Features



Battery

Long battery life - 6000 cycles Batteries only connected in series, high voltage and low current with high efficiency, no circulation influence.



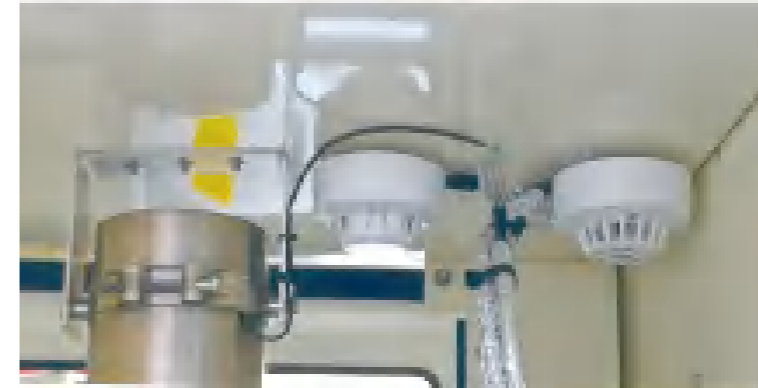
High voltage system

Using smaller wires and components, reducing resistance and energy loss, more efficient than low voltage systems in storing and delivering energy. Using fewer batteries and wires, reducing material and installation costs. Compact structure, higher energy density per unit space, flexible control of the system scale. High voltage systems can be used in a wider range of equipment and applications, making them more versatile and able to adapt to changing energy needs.



PCS

Three level topology, high operating efficiency. 110% long-term overload supported, 120% for 10min, 150% for 200ms. Equipped with off-grid V/F, P/Q output, VSG and black-start features. Supporting charge and discharge modes such as constant voltage, constant current, constant AC power, constant DC power, etc.



Fireproof

Built-in fire protection system, subdivision design, fire resistant isolation for 1 hour.

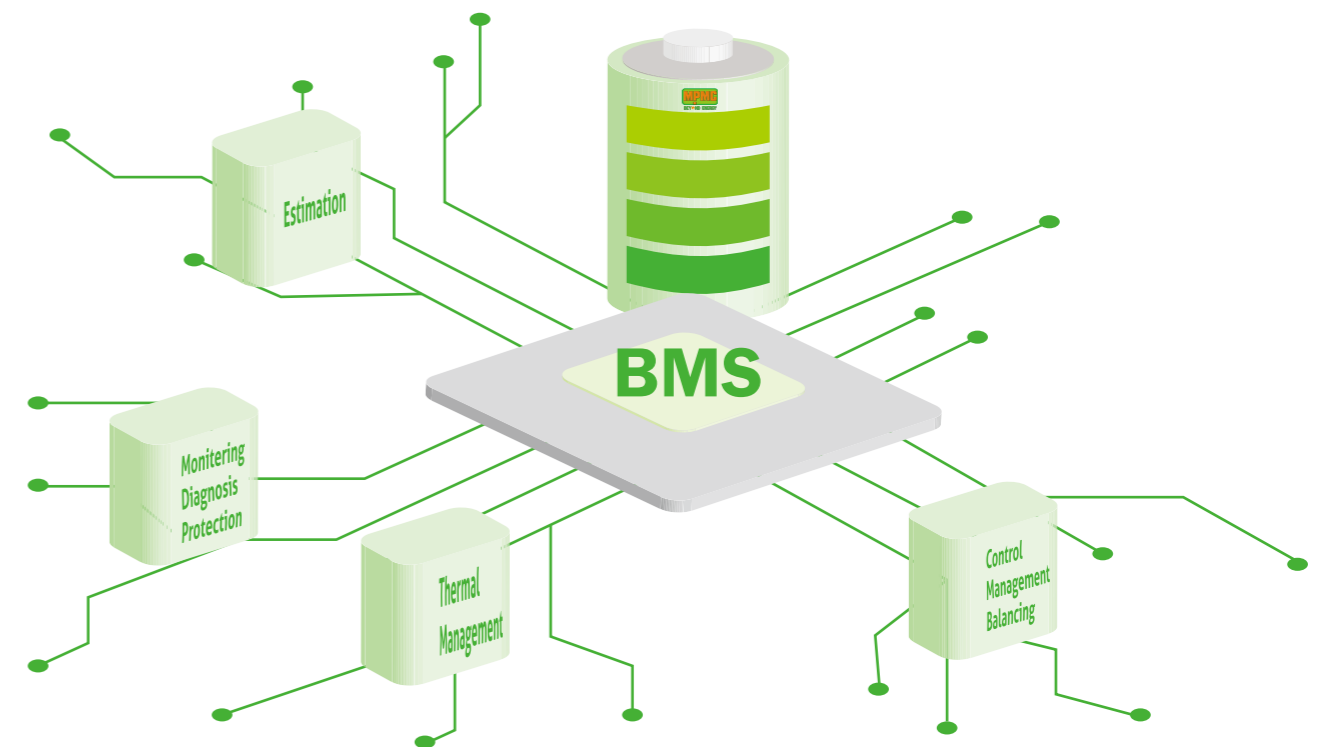


Cooling system

Distributed air conditioning, well thermal management and thermal isolation structure design, improving consistency.

BMS

Reliable, reputable brand, application tested Sensor with high stability



HBD A Series Specification

Model	HBD-30-60	HBD-50-100	HBD-100-200	HBD-250-400
Rated Power(AC Output)	30kW	50kW	100kW	250kW
Rated Voltage/Phase	400Vac/3P			
Frequency	50Hz			
AC Connection	3P4W			
Battery Cluster Voltage	614.4VDC	358.4VDC	716.8VDC	716.8VDC
Battery Cluster Voltage Range	537.6-691.2VDC	313.6-403.2VDC	627.2-806.4VDC	627.2-806.4VDC
BESS Engery@25 °C	61.44kWh	100.3kWh	200.7kWh	401.4kWh
Battery Pack Voltage	51.2VDC			
Battery Pack Capacity	100Ah	280Ah		
Pack Engery@25 °C	5.12kWh	14.336kWh		
Pack Qty.	12pcs	7pcs	14pcs	28pcs
Cycle Life@90%DOD	6000times			
PCS Model - Off-Grid	PWS2-30P-EX		PWS1-100K-CN	PWS1-250K-H-CN
PCS Rated Power	30KW		100kW	250kW
Battery Voltage Range	150-750VDC		500-850VDC	600-900VDC
PCS Qty.	1pcs	2pcs	1pcs	1pcs
Control System	Local EMS(Remote for option)			
Cooling System	HVAC			
Fire Fighting System	Aerosol (CE)			
Operating Temp.	-20-50 °C (> 45 °C derating)			
Altitude	≤ 3000m (> 2000m derating)			
Dimensions (L x W x H)	1800*1150*1800mm	1550*1250*2250mm	2200*1250*2250mm	2950*2250*2250mm
The loading capacity	6units/20'GP 12units/40'GP	4units/20'GP 9units/40'GP	4units/20'GP 9units/40'GP	2units/20'GP 4units/40'GP
Weight	1.4t	2.1t	2.9t	7.4t
Options				
Transformer	1' Special voltage ; 2' Rated power same with PCS			

* HBD Container Series can be customized

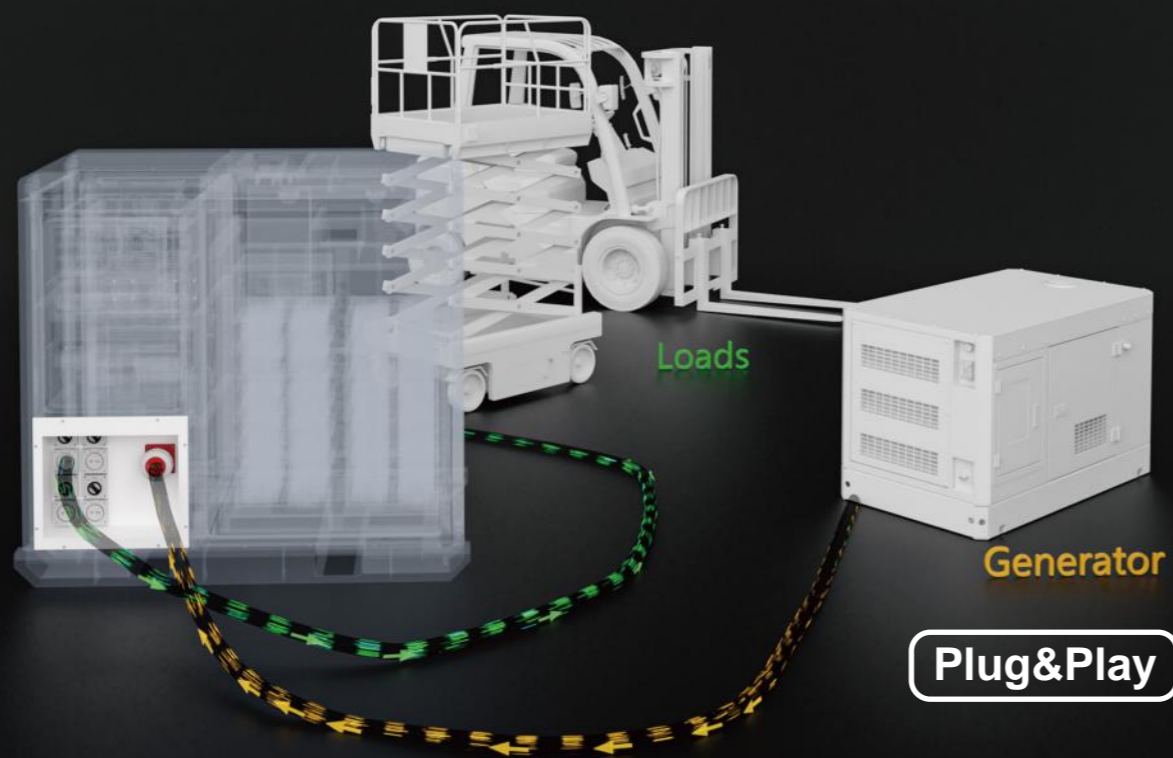
Model	HBD-250-500	HBD-300-600	HBD-400-800	HBD-500-1000	HBD-500-1500	HBD-1000-1500	HBD-1000-2000	HBD-1500-2500	HBD-1500-3000
Rated Power(AC Output)	250kW	300kW	400kW	500kW	500kW	1000kW	1000kW	1500kW	1500kW
Rated Voltage/Phase	400Vac/3P				400Vac/3P				
Frequency	50Hz				50Hz				
AC Connection	3P4W				3P4W				
Battery Cluster Voltage	768.0VDC	716.8VDC			768.0VDC	716.8VDC	768.0VDC		
Battery Cluster Voltage Range	672-864VDC	627.2-806.4VDC			672-864VDC	627.2-806.4VDC	672-864VDC		
BESS Engery@25 °C	492kWh	602kWh	802.8kWh	1003.5kWh	1505.3kWh	1505.3kWh	2007kWh	2580kWh	2580kWh
Battery Pack Voltage	51.2VDC				51.2VDC				
Battery Pack Capacity	320Ah	280Ah			280Ah				
Pack Engery@25 °C	16.384kWh	14.336kWh			14.336kWh				
Pack Qty.	30pcs	42pcs	56pcs	70pcs	105pcs	105pcs	140pcs	180pcs	210pcs
Cycle Life@90%DOD	6000times				6000times				
PCS Model - Off-Grid	PWS1-500KTL -CN-4M	PWS1-500KTL -CN-5M	PWS1-500KTL -CN-7M	PWS1-500KTL -CN	PWS1-500KTL-CN				
PCS Rated Power	250kW	300kW	400kW	500kW	500kW				
Battery Voltage Range	600-900VDC				600-900VDC				
PCS Qty.	1pcs				1pcs	2pcs	2pcs	3pcs	3pcs
Control System	Local EMS (Remote for option)				Local EMS (Remote for option)				
Cooling System	HVAC				HVAC				
Fire Fighting System	Novec™ 1230				Novec™ 1230				
Operating Temp.	-20-50 °C (> 45 °C derating)				-20-50 °C (> 45 °C derating)				
Altitude	≤3000m (> 2000m derating)				≤3000m (> 2000m derating)				
Dimensions (L x W x H)	20'GP				40'GP			40'HQ	
The loading capacity	NA				NA			NA	
Weight	12t	14t	16t	18t	25.3t	26t	30t	36t	41t
Options									
Transformer	1' Special voltage; 2' Rated power same with PCS								

Commercial & Industrial BESS

R Series Expert For Rental

 **10 YEARS**
System Warranty

Your Off-grid Energy Pilot



Max. 4 units in Parallel



Applications



Municipal engineering



Construction



Mining



Events



Sports & Games

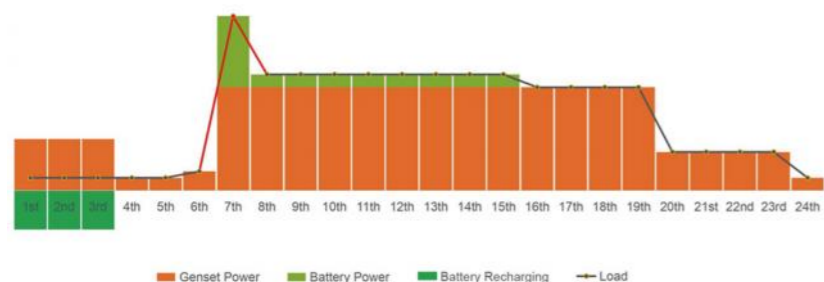


Bridges, Roads & Ports

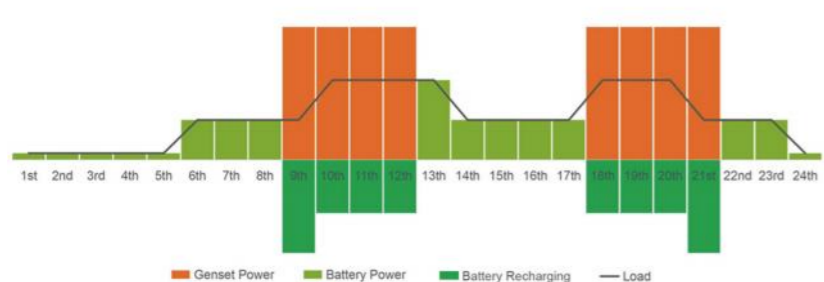
Best Partner Of Diesel Generator

- Protect your gensets from low load operating
- Protect your gensets from impact loads
- Support your gensets to cover peak loads

Peak Shaving Operation

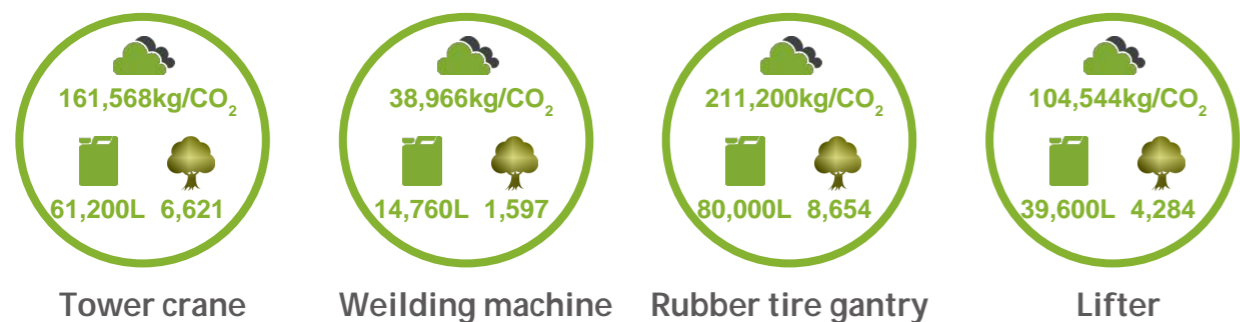


Low load Operation

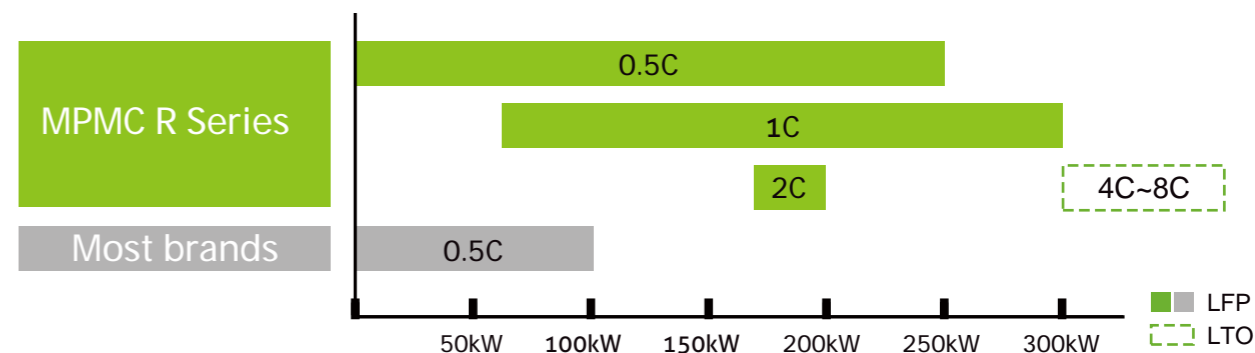


- ☁ Reduce carbon footprint
- 🛢 Reduce up to 75% fuel consumption
- 🌳 Reduce noises
- 💰 Proactive grid forming, lowering operating costs by 50%
- 💡 Extend the life span of your gensets by 3X

MPMC BESS to help with potential annual saving



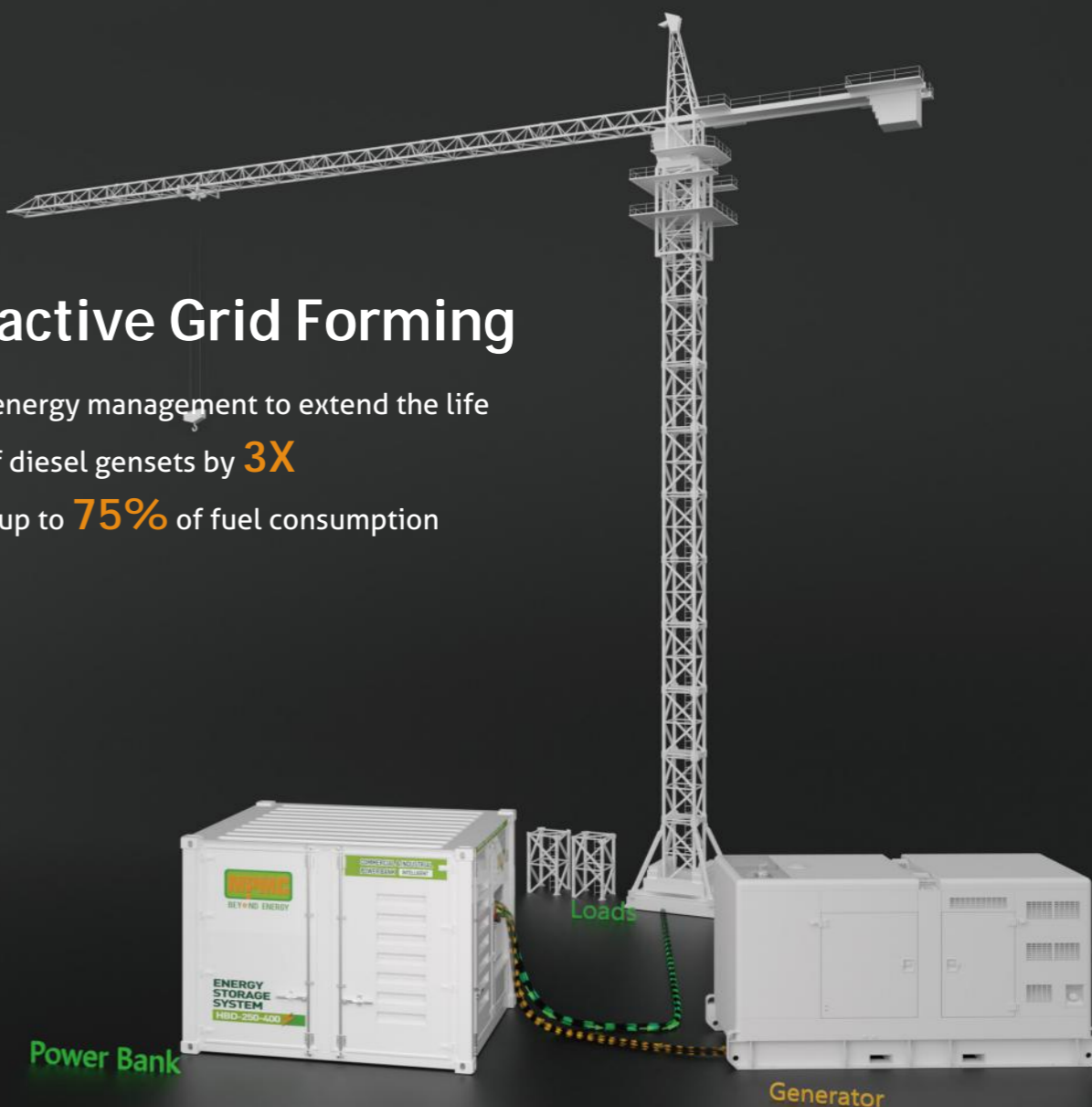
Super Capacity, Wide Power Range



Up to 4C fast charging and discharging
Fully charged in 15min-2h

Proactive Grid Forming

Smart energy management to extend the life span of diesel gensets by **3X** saving up to **75%** of fuel consumption



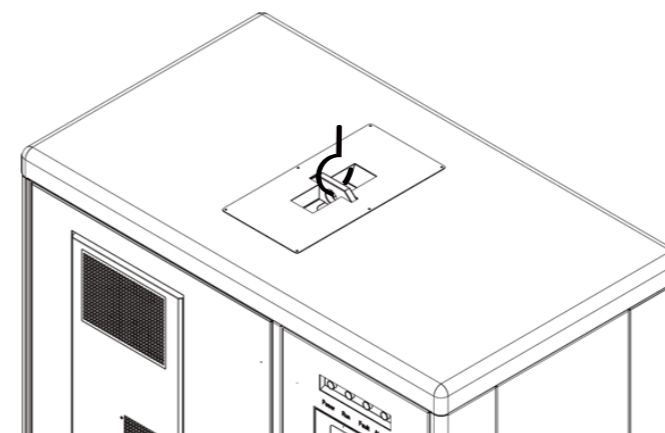
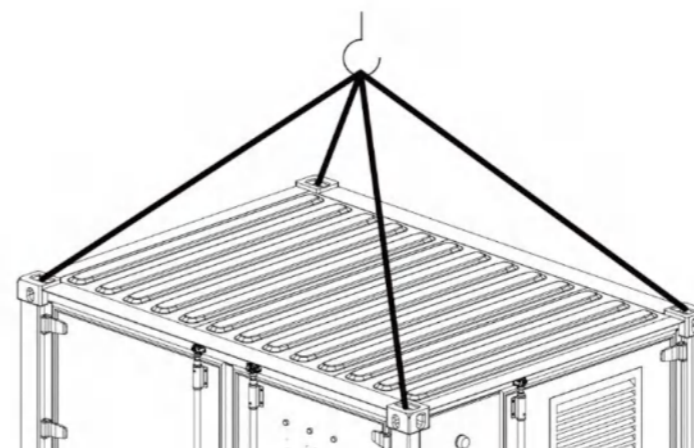
ALL-IN-ONE Robust Structure



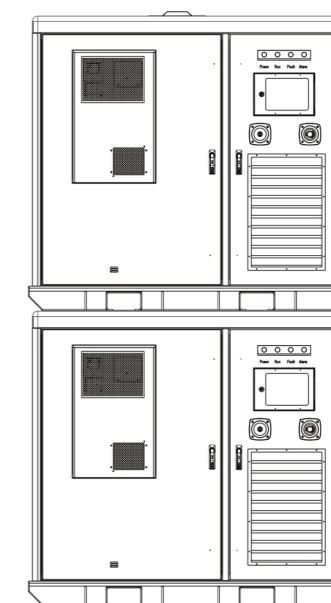
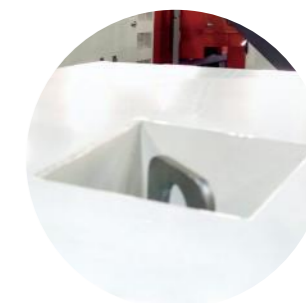
IP54 Indoors & Outdoors

- Solid structure, great durability
- Anti-collision
- Anti-corrosion
- Remote upgrading, diagnoses and maintenance
- Easy maintained HVAC systems design
- Anti-theft protections
- Wind proof
- Highly mobile

Easy Transportation & Storage



- Single lifting point
- Forklift hole and drag hole
- Stackable



HBD R Series Specification



Model	HBD R Series							
	HBD-30-60	HBD-50-100	HBD-100-200	HBD-250-400	HBD-60-60	HBD-100-100	HBD-300-300	HBD-200-100
Rated Power (AC Output)	30KW	50kW	100kW	250kW	60KW	90KW	300kW	200kW
Rated Voltage/Phase	400Vac/3P							
Frequency	50Hz							
AC Connection	3P4W							
Battery Cluster Voltage	614.4VDC 537.6-691.2VDC	358.4VDC 313.6-403.2VDC	716.8VDC 627.2-806.4VDC	716.8VDC 627.2-806.4VDC	614.4VDC 537.6-691.2VDC	512.0VDC 448-576VDC	768.0VDC 672-864VDC	768.0VDC 672-864VDC
BESS Engery@25°C	61.44kWh	100.3kWh	200.7kWh	401.4kWh	61.44kWh	102.4kWh	307.2kWh	99.84kWh
Battery Pack Voltage	51.2VDC	51.2VDC	51.2VDC	51.2VDC	51.2VDC	51.2VDC	51.2VDC	51.2VDC
Battery Pack Capacity	100Ah	280Ah	280Ah	280Ah	100Ah	100Ah	100Ah	130Ah
Pack Engery@25°C	5.12kWh	14.336kWh	14.336kWh	14.336kWh	5.12kWh	5.12kWh	5.12kWh	6.65kWh
Pack Qty.	12pcs	7pcs	14pcs	28pcs	12pcs	20pcs	60pcs	15pcs
Cycle Life@90%DOD	6000times	6000times	6000times	6000times	6000times	6000times	6000times	6000times
PCS Model Off-Grid	PWS2-30P-EX	PWS2-30P-EX	PWS1-100K-CN	PWS1-250K-H-CN	PWS2-30P-EX	PWS2-30P-EX	PWS1-500KTL-CN-5M	PWS1-250K-H-CN
PCS Rated Power	30KW	30KW	100kW	250kW	30KW	30KW	300kW	200kW
Battery Voltage Range	150-750VDC	150-750VDC	500-850VDC	600-900VDC	150-750VDC	150-750VDC	600-900VDC	600-900VDC
PCS Qty.	1pcs	2pcs	1pcs	1pcs	2pcs	3pcs	1pcs	1pcs
Control System	Local EMS (Remote for option)							
Cooling System	HVAC							
Fire Fighting System	Aerosol (CE)							
PV system	AC 400V input							
Operating Temp.	-20-50 °C (Power derated, over 45 °C)							
Altitude	≤ 3000m (Power derated, over 2000m)							
Dimensions (L x W x H)	1950*1150*1800mm	2000*1280*1800mm	2280*1280*2250mm	2950*2250*2250mm	1950*1150*2000mm	2000*1280*2000mm	3950*2250*2250mm	1150*1350*2250mm
The loading capacity	6units/20'GP 12units/40'GP	4units/20'GP 9units/40'GP	4units/20'GP 9units/40'GP	2units/20'GP 4units/40'GP	6units/20'GP 12units/40'GP	4units/20'GP 9units/40'GP	1units/20'GP 3units/40'GP	8units/20'GP 16units/40'GP
Weight	2.0t	2.3t	3.3t	7.6t	2.1t	2.45t	6.6t	2.3t
Option:								
Transformer	1' Special voltage ; 2' Rated power same with PCS							



High voltage BESS All-in-one



Why do high voltage all-in-one battery energy storage systems have more advantages over low voltage systems



EFFICIENCY

High voltage systems are generally more efficient at storing and delivering energy than low voltage systems. This is because higher voltage systems can use smaller wires and components, resulting in less resistance and energy loss, based on $P=V \cdot I$, when the power is the same, the higher the voltage, the less the current (I), less the loss of energy, and thus the wire of the machine is thinner (lighter).

SCALABILITY

High voltage systems can be more easily scaled up or down than low voltage systems. This is because higher voltage systems require less physical space to store the same amount of energy, making them more suitable for large-scale commercial or industrial applications.

COST

High voltage systems can be more cost-effective than low voltage systems in certain applications. This is because high voltage barriers require fewer cells and less wiring, resulting in lower material and installation costs.

FLEXIBILITY

High voltage systems can be used with a wider range of equipment and applications than low voltage systems, making them more versatile and adaptable to changing energy needs.

Smaller wires

Fewer cells

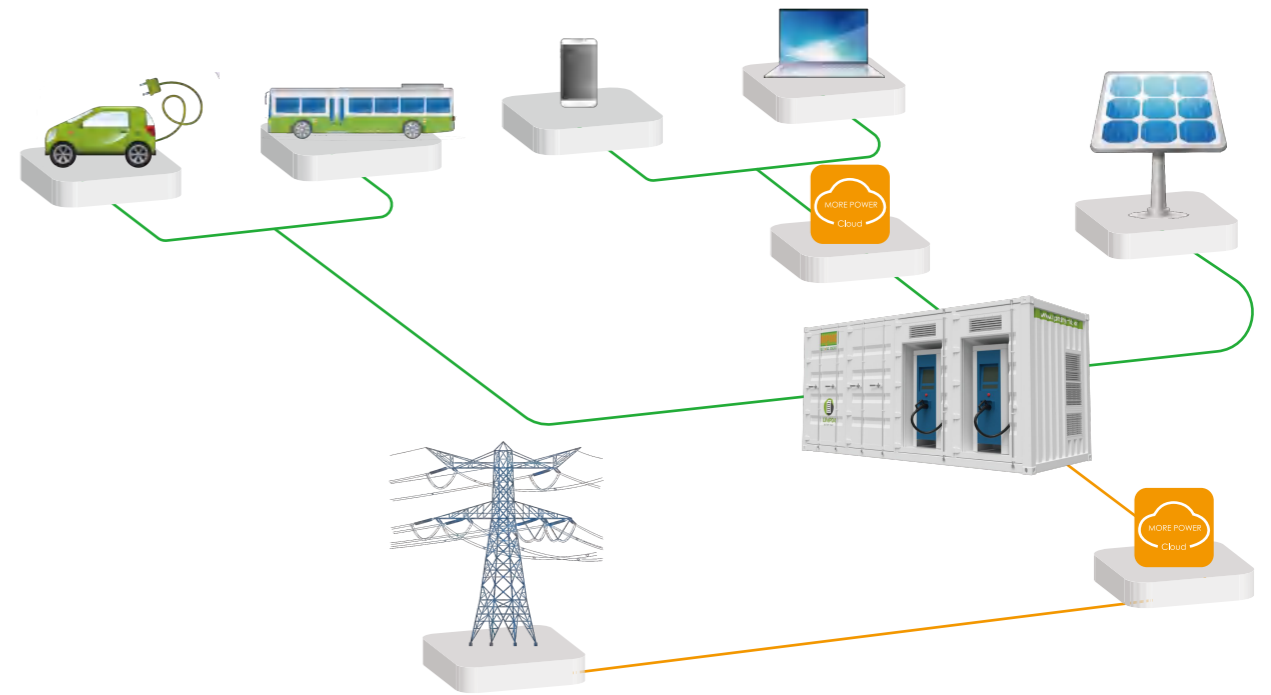
More compact

Less wiring

Lower costs

More versatile

BCH Series BESS & Mobile EV Charger



Product Advantages

Green Electricity	Fast Charging	Emergency Backup Power	Plug & Play	Peak Load Shifting	Peak-Valley Arbitrage

- The use of solar energy storage green electricity for charging or backup power supply.
- DC high voltage charging, saving charging time.
- In addition to charging, can be used as a backup power supply.
- Storage and charge integrated design, no installation, plug & play.
- The whole system reliability protection strategy design to ensure the security of system operation.
- The use of peak and valley difference charging, saving charging costs.

Specification

Model	BCH-300-600	BCH-500-1000
Rated Power (AC Output)	300 kW	500 kW
Rated Voltage/Phase	400/230 Vac / 3P	
Frequency	50/60 Hz	
Battery Voltage	716.8 VDC	
Energy Capacity@25°C	602 kWh	1003.5 kWh
Pack Capacity@25°C	14.336 kWh	14.336 kWh
Pack Qty.	42 pcs	70 pcs
Cycle Life@90%DOD	6000 times	6000 times
PCS Rated Power	300 kW	500 kW
Transformer	Included	Included
Levels of EV Charging	Level 3	Level 3
EV Charger Qty.	60kW x 2	60kW x 4
Plug & Play	400A Single Pole Camlocks In/Out 2 x 50A 125/250V CS6369 Receptacles	
Control System	EMS	
Cooling System	HVAC	
Fire Fighting System	Aerosol (CE)	
Operating Temp.	-20 ~ 50 °C (> 45°C derating)	
Altitude	≤3000 m (> 2000m derating)	
Estimated Dimensions (L x W x H)	20HC	20HC
Estimated Weight	14 ton	18 ton

Case Study



Micro Grid Hybrid Power Plants Project

Site location: Kenya

Sites: Qty. 4

Total Power Installation: 6MW

Each Site: Diesel Generators 2 units of 500kw & 2 units of 250kw

Diesel Generators

Each site equipped with totally 4 units of diesel generators (2 units of 500kw and 2 units of 250kw) as backup power, to coordinate with PV panels and BESS.

All sites connect with SCADA, realizing real energy management, and ensuring maximum fuel efficiency of the diesel generators while supporting the loads.

Excitation after closing, ensuring fast response of backup power during power shortages.

Battery Energy Storage Systems

Each Site: 2.1MWh BESS, 80% DOD, 6000 lifecycles.

Redundant design. DC coupled.

Functions: PQ, VF, VSG, Black Start, Grid-forming.

SCADA

Each site can run the SCADA independently and communicate with Master system in real time. StarLink for communication backup.

Realtime data and remote control. Weather forecasting for emergency response.

Smart maintenance management with alarms and records. 10-years data tracking. Reports can be generated to support on-site spare parts management,

PV Panels

Each Site: > 1MWc PV power



BESS for Long-term Rental

Site location: Chile

Total battery capacity installation: 2MWh

Application: Long-term Rental

Residential BESS

HBC Series

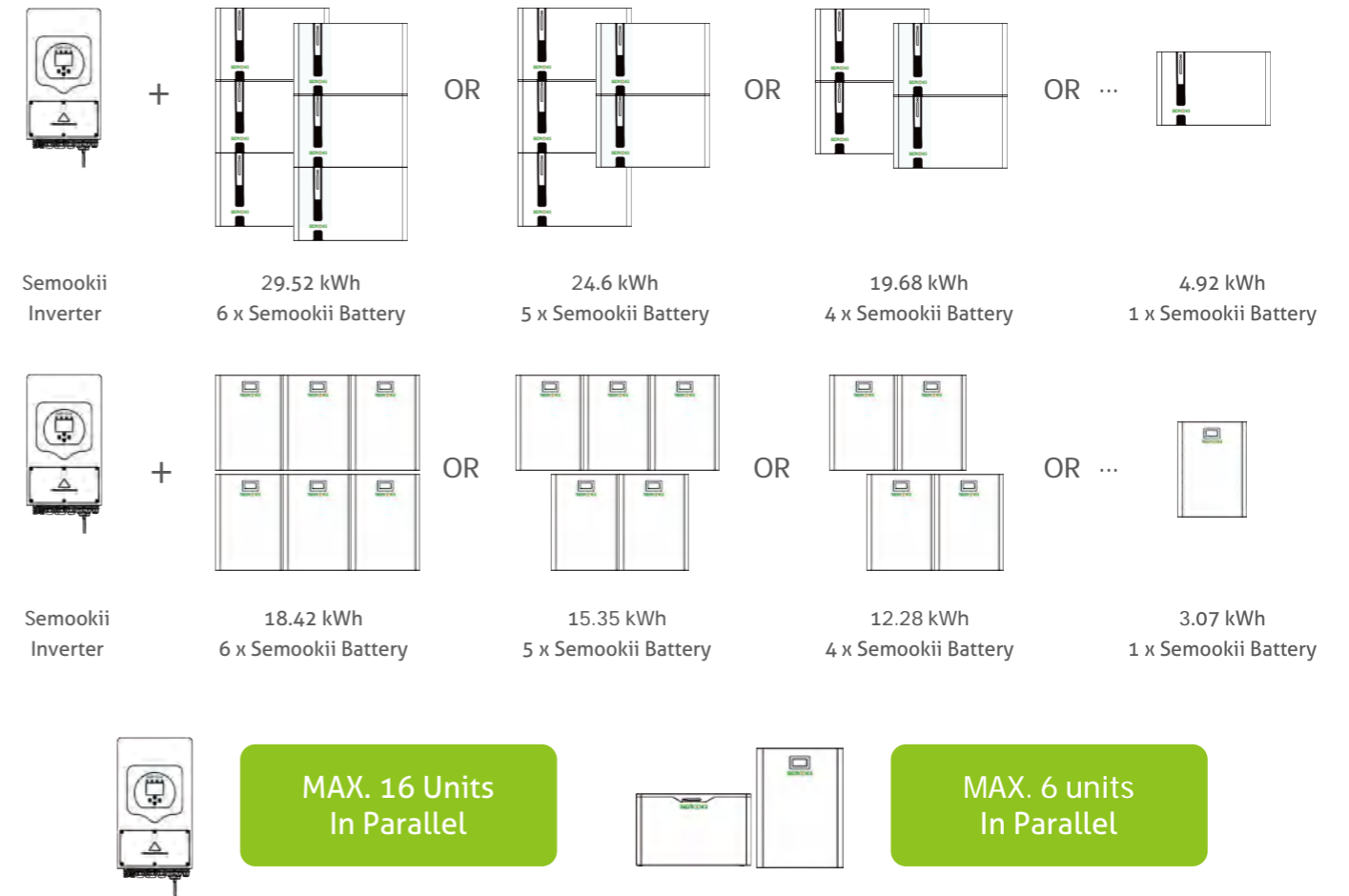
LiFePO4 BESS
3 ~ 30kWh

\$SAVING
70%



Modular Design Reduces Operating Costs

Semookii HBC BESS features a module design that allows customers to expand storage system capacity as the power needs evolve.



Customizable Options For Bigger Markets

Semookii offers a variety of series of up-market residential battery energy storage systems and customized solutions for customers all around the world, helping to reduce carbon footprint and realize energy independence.



C Series



Pro Series

HBC® Battery Energy Storage Solutions

Only ONE out of ten residents who have installed rooftop solar systems has introduced energy storage systems to their homes, according to BDEW, Bundesverband der Energie- und Wasserwirtschaft.

Against the steep rise in household electricity bills, Semookii HBC BESS makes a convincing case for the complementary nature between solar power and energy storage systems.

By storing the excess electricity produced by solar panels, homeowners will increase solar self-consumption and load-shifting, lower electricity expenses by about 70%, and it's carbon-free!

It includes self-developed LiFePO4 batteries with high-density cells and an EMS-integrated inverter. External PV power is recommended and AC generator is optional.



Max. 1100°C Fireproof Insulation
Incorporates high-temperature insulation materials ensuring fire resistance.

Modular Design, Easy Installation
Modular design simplifies the assembly process and reduces skilled labor and installation costs.

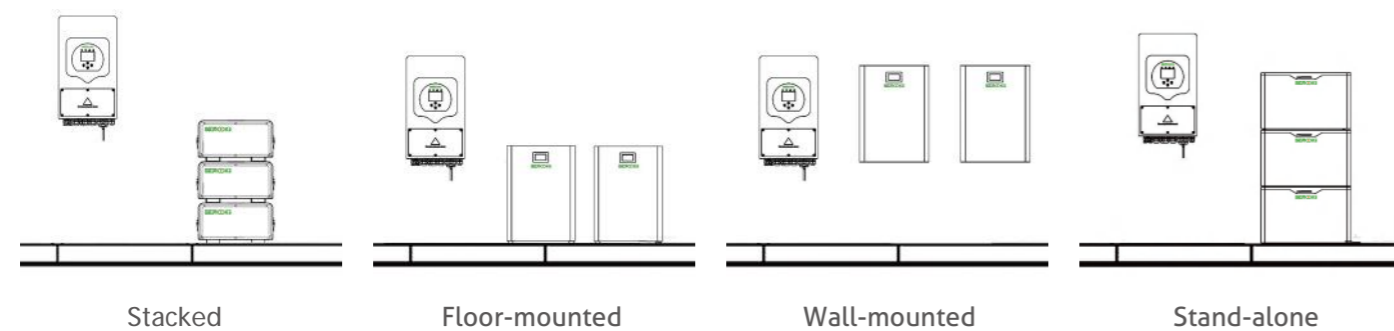
EV Charging & Battery Health Monitoring
Charge electric vehicles and check the health of EV batteries at the same time.

DC/AC Coupled
Perfectly fits in both PV+battery installation and adding to existing rooftop solar system.

Hybrid Energy Sources
Compatible with Solar panels, gensets and the utility grid.

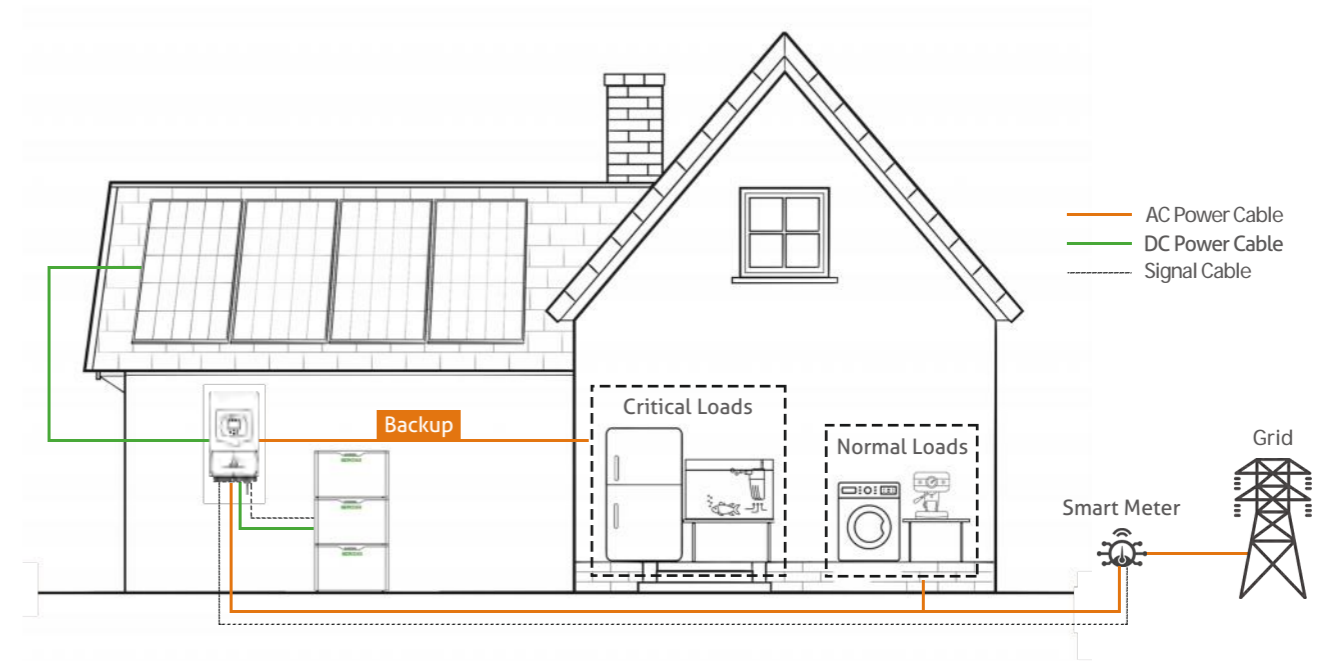
Backup Power
Ensure power resilience and provide uninterrupted power within 4ms during power outages.

Flexible Mounting For Diverse Installation Requirements

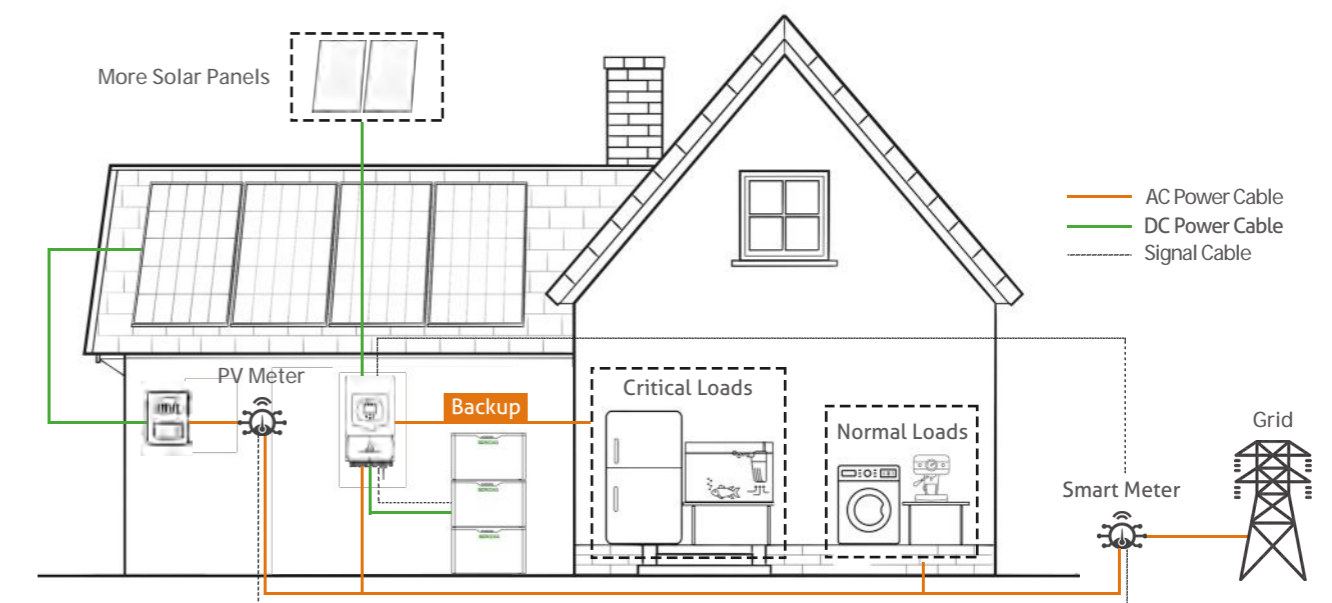


How Does HBC® BESS Power Your Home

DC Coupled Solution



AC / Hybrid Coupled Solution



HBC Series Specification

Inverter			
Model	MIV-3AS	MIV-5AS	MIV-10A
Rated Voltage*	230 V	230 V	400/230 V
Rated Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Phase	Single-Phase	Single-Phase	Three-Phase
Max. PV Input Power	3900 W	6500 W	13000 W
Max. PV Input Voltage	500 V	500 V	800 V
Number of MPPT / Strings per MPPT	1/1	2/1+1	2/2+1
MPPT Voltage Range	150 ~ 425 V	150 ~ 425 V	200 ~ 650 V
Start Up DC Voltage	125 V	125 V	160 V
Max. PV Input Current	13 A	13 + 13 A	26 + 13 A
Max. PV Short-circuit Current	17 A	17 + 17 A	34 + 17 A
Max. Charging/Discharging Current	70 A	120 A	210 A
Dimension (W x H x D)	330 × 433 × 248 mm	330 × 580 × 232 mm	422 × 702 × 281 mm
Weight	11.4 kg	20.5 kg	33.6 kg
Ingress Rating	IP65	IP65	IP65
Safety / EMC	IEC62109-1/-2, EN61000-6-1/-2/-3/-4		
Grid Regulation	EN50549, AS4777.2, VDE0126, IEC61727, VDEN4105, G99, NBT32004, CEIO-21, NRS097, NBR16149/16150, RD1699, TOR Erzeuger Typ A, OVE-Richtlinie R25		
Warranty	5 Years	5 Years	5 Years

Model	MIV-3BS	MIV-5BS
Rated Voltage*	230 V	230 V
Rated Frequency	50 / 60 Hz	50 / 60 Hz
Phase	Single-Phase	Single-Phase
Max. PV Input Power	4500 W	7500 W
Max. PV Input Voltage	550 V	550 V
Number of MPPT / Strings per MPPT	2/1+1	2/1+1
MPPT Voltage Range	90 ~ 500 V	150 ~ 500 V
Start Up DC Voltage	100 V	100 V
Max. PV Input Current	18.5 + 18.5 A	18.5 + 18.5 A
Max. PV Short-circuit Current	26 + 26 A	26 + 26 A
Max. Charging/Discharging Current	80 A	80 A
Dimension (W x H x D)	513 x 370 x 192 mm	513 x 370 x 192 mm
Weight	17 kg	17 kg
Ingress Rating	IP65	IP65
Safety / EMC	IEC62109-1/-2, EN61000-6-1/-2/-3/-4	
Grid Regulation	NRS97, G98/G99, EN50549-1, C10/C11, AS 4777.2, VDE-AR-N4105, VDE0126	
Warranty	5 Years	5 Years

LFP Battery			
Module Model	MF5160C	MF51100C	MF51100P
Cell Chemistry	LFP (LiFePO4)	LFP (LiFePO4)	LFP (LiFePO4)
Module Capacity	3.07 kWh	4.92 kWh	4.92 kWh
Module Nominal Voltage	51.2 V	51.2 V	51.2 V
Max. Modules in Parallel	6	6	6
Capacity Range @90% DOD	3.07 ~ 18.43 kWh	4.92 ~ 29.49 kWh	4.92 ~ 29.49 kWh
Usable Capacity Range	2.8 ~ 16.6 kWh	4.42 ~ 26.54 kWh	4.42 ~ 26.54 kWh
Max. Charging/Discharging Current	60 A (1C)	100 A (1C)	100 A (1C)
Cycle Life	6000	6000	10000
Dimension (W x H x D)	628 x 440 x 151 mm	628 x 440 x 216 mm	710 x 440 x 184 mm
Weight	40 kg	56 kg	55 kg
Operating Temperature Range	-10 °C ~ 50 °C	-10 °C ~ 50 °C	-10 °C ~ 50 °C
Ingress Rating	IP20	IP20	IP65
Transportation Certification	UN38.3	UN38.3	UN38.3
Safety	CE, IEC 62619 (Cell), IEC 62619 (Pack)	CE, IEC 62619 (Cell), IEC 62619 (Pack)	CE, IEC 62619 (Cell), IEC 62619 (Pack)
Warranty	2 Years	2 Years	5 Year Product Warranty 10 Year Performance Warranty

EV Charging	
Rated Input Voltage*	AC 220V or AC 380V
Rated Output Voltage*	AC 220V or AC 380V
Output Current	16A, 32A, 63A
Interface	GB/T 20234.1-2015, IEC 62192-2 AC Type 2
Dimension (W x H x D)	Wall-mounted 300 x 190 x 450mm Stand-alone 400 x 200 x 1325mm
Ingress Rating	IP54
Communication	Ethernet; 4G (optional)
Compliance Standards	GB/T 18487, GB/T 20234, GB/T 28569, NB/T 33002, NB/T 33008, IEC/EN 61851

* Rated voltage can be configured according to customer requirements.

** The communication of Semookii® Inverters is Wi-Fi, 4G is optional.

Residential BESS

UHOO Series



Product Introduction

UHOO, a hybrid all in one BESS, compatible with high voltage LFP battery system, can achieve the best function to maximize clean solar power usage for your home.

Convenient

Heat stimulation for the best layout

Quiet

Less than 25 db, no noise pollution

Flexible

IP65 up to 6kW, 5/10kWh optional

Adaptative

Self-power, backup, and load shifting modes

Independent

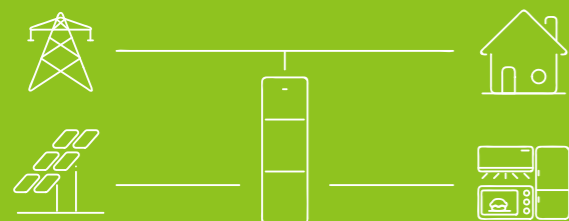
No additional modules and inverters are required

Smart

Support VPP and AIOT

UHOO will store photovoltaic or grid energy. If there is not enough solar energy to support consumption, the battery will be discharged by UHOO to meet the power demand.

Autonomous strategy.



UHOO Series Specification

Model	UHOO-3.6-5 UHOO-3.6-10	UHOO-4.6-5 UHOO-4.6-10	UHOO-5-5 UHOO-5-10	UHOO-6-5 UHOO-6-10
PV Input				
Absolute max Voltage (d.c.V)	600			
MPPT Voltage Range (d.c.V)	100...550			
Max. DC Input Power (W)	4800	6200	6650	8000
Start-up Voltage (d.c.V)	90			
Rated Operating Voltage (d.c.V)	360			
Max. Input Current (d.c.A)	12.5/12.5			
Max. inverter backfeed current to array (d.c.A)	0			
Isc PV (d.c.A)	18/18			
NO of MPPT Trackers	2			
NO of Strings per MPPT Tracker	1			
Battery Model				
Battery Capacity	MF20425		MF40925	
Nominal Battery Voltage (d.c.V)	LiFePO4 5.12kWh		LiFePO4 10.24kWh	
Battery Voltage Range (d.c.V)	204.8		409.6	
Max. Charge/Discharge Current (d.c.A)	160...227.2		320...454.4	
Cycling times	6500			
AC Input/Output				
Rated output Power (W)	3600	4600	5000	6000
Rated Apparent Power to Grid (VA)	3600	4600	5000	6000
Max. Apparent Power to Grid (VA)	3600	4600	5000	6000
Max. Apparent Power from Grid (VA)	7200	9200	10000	12000
Rated Voltage (a.c.V)	220/230/240			
Rated Frequency (Hz)	50/60			
Rated AC Current to Grid (a.c.V)	15.6	20	21.7	26.1
Max. output current (a.c.A)	17.2	22	23.9	28.7
Max. Current from Grid (a.c.A)	31.2	40	43.4	52.2
Inrush current (a.c.A)	16 a.c.A (peak), 11.3 us (duration)			
Max. output fault current (a.c.A)	57 (peak), 40 (rms)			
AC output Maximum output overcurrent protection (a.c.A)	40			
AC input power factor	-0.8...+0.8			
AC output power factor	1(-0.8...+0.8 adjustable)			
THDi	<3%			
EPS Output (With Battery)				
Max. Output Power (W)	3600	4600	5000	6000
Rated Apparent Power (VA)	4320	5520	6000	7200
Max. Apparent Power (VA)	4320	5520	6000	7200
Rated Voltage (a.c.V)	230 (±2%)			
Normal Frequency (Hz)	50/60 (±0.2%)			
Max. Output Current (a.c.A)	18.8	24	26.1	31.3
Inrush current (a.c.A)	16 a.c.A (peak), 11.3 us (duration)			
Max. output fault current (a.c.A)	57 (peak), 40 (rms)			
EPS output Maximum output overcurrent protection (a.c.A)	40			
Switch time (ms)	<10			
THDv @Linear Load (%)	<2			
Power Factor	-0.8...+0.8			
Efficiency				
PV Max. Efficiency (%)	97.6			
PV Europe Efficiency (%)	97			
PV Max. MPPT Efficiency (%)	99.9			
Battery Charge by PV Max. Efficiency (%)	98			
Battery Discharge Efficiency (%)	96.7			
Protection				
Over/Under voltage protection	Yes			
DC isolation protection	Yes			
DC injection monitoring	Yes			
Residual current detection	Yes			
Anti-islanding protection	Yes			
Over load protection	Yes			
Battery input reverse polarity protection	Yes			
PV reverse polarity protection	Yes			
Surge protection	Yes			
Over heat protection	Yes			
General Data				
Dimension (W/D/H)(mm)	MF20425		MF40925	
Dimension of Packing (W/D/H)(mm)	550*233*1125		550*233*1750	
Net weight (kg)	655*302*1390		655*302*2085	
Gross weight (kg)	68		115	
Operation Temp (°C)	78		130	
Relative Humidity (%)	-10...+55			
Altitude (m)	0...95			
Ingress Protection	≤3000			
Cooling	IP65			
Inverter Topology	Natural			
Over voltage category	Non-Isolated			
Protective class	III(AC), II(DC)			
Active anti-islanding method	Class I			
Human Interface	frequency shift			
BMS Communication Interface	LED/APP			
Meter Communication Interface	RS485/CAN			
Noise Emission (dB)	RS485			
Standby Power Consumption (W)	<25			
Safety and Approvals				
Safety	IEC62040.1:2019 IEC 62109-1&2 IEC62619 UN38.3 IEC60730-1			
EMC	EN IEC 61000-6-2:2019 EN IEC 61000-6-3:2021			
Country	AS/NZS 4777.2:2020 VDE-AR-N 4105:2018-11 MEA:2015 PEA:2016 EN 50549-2:2019 EN 50549-1+Poland deviation G99/1-6:2021 RD1699+UNE Distribution Code VDE0126+UTE C10/11: 2021			

Text and images correspond to the current state of technology at the time of printing. Subject to modifications. All information is without guarantee in spite of careful editing-liability excluded.

Battery Cluster & PACK



Battery Pack for OEM / ODM



BMS Function:
Overcurrent, Overvoltage, Overcharge, Over Discharge, High Temperature, Short Circuit, SOC Estimation, Equalizing

**10%
85%**

Ambient Humidity

≤ 2000M

Altitude

0.5C

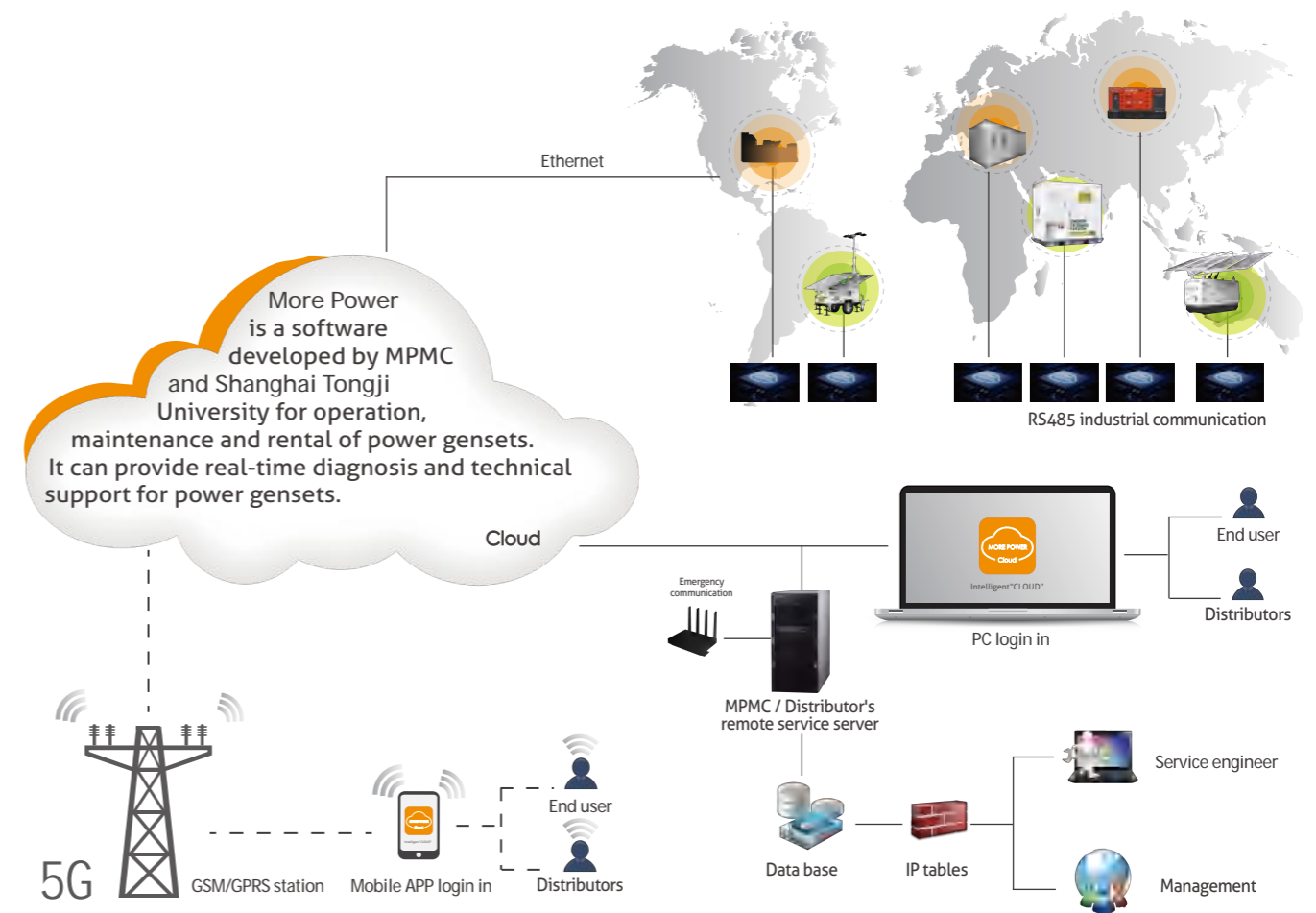
Standard Charging /Discharging Rate

Specification

Battery Cluster Model	MF313280A	MF627280A	MF358280A	MF358280B	MF716280A	MF716280B	MF768280A	MF614100A
Pack Model	MF44280HVS	MF44280HVS	MF51280HVS	MF51280HV2	MF51280HVS	MF51280HV2	MF51280HVS /MF51280HV3	MF51100HVS
Pack Qty.	7	14	7	7	14	14	15	12
Combination Type	1P98S	1P196S	1P112S	1P112S	1P224S	1P224S	1P240S	1P192S
Pack Energy	87.878kWh	175.616kWh	100.352kWh	100.352kWh	200.704kWh	200.704kWh	215.04kWh	61.44kWh
Rated Voltage	313.6V	627.2V	358.4V	358.4V	716.8V	716.8V	768V	614.4V
Voltage Range	274.4V-352.8V	548.8V-705.6V	313.6V-403.2V	313.6V-403.2V	627.2V-806.4V	627.2V-806.4V	672V-864V	537.6V-691.2V
High voltage system Model	HVB-B10250-B01	HVB-B10250-B01	HVB-B10250-B01	HVB-B10250-A01	HVB-B10250-B01	HVB-B10250-A01	HVB-B10250-B01	HVB-B10250-B01
Dimensions (L x W x H)	1975*520*810mm	1975*990*810mm	1975*520*810mm	1975*520*810mm	1975*990*810mm	1975*990*810mm	1975*990*810mm	1490*1010*460mm
Weight	830kg	1620kg	920kg	920kg	1800kg	1800kg	1900kg	720kg

Pack Model	MF44280HV3	MF44280HVS	MF51100HV3	MF51100HV2	MF51100HVS	MF51100LV1	MF51100LV5	MF51280HV3	MF51280HVS	MF51280LV5	MF51130HVS
Rated Capacity	280Ah				100Ah				280Ah		130Ah
Nominal Voltage	44.8V				51.2V				51.2V		51.2V
Energy	12.54kWh				5.12kWh				14.336kWh		6.656kWh
Voltage Range	39.2V-50.4V				44.8V-57.6V				44.8V-57.6V		44.8V-57.6V
Continuous Charging Current	140A				50A				140A		43.4A @25±2°C
Continuous Charging Current	140A				100A				140A		175.6A @25±2°C
Continuous Discharging Current	140A				50A				140A		130A @25±2°C
Maximum Continuous Discharging Current	140A				50A				140A		260A @25±2°C
Battery weight	100.8kg	59kg	52kg	52.2kg	56kg	56kg		113.9kg	120kg		62kg
Dimension(L*W*H)mm	670*482.6*226.5	615*420*133	405*482.6*226.5	482*470*221.5				748*482.6*226.5	748*482.6*226.5	830*495*230	795*482.6*133.5
Communication Mode	isoSPI				RS485, CAN			isoSPI			isoSPI
Cycle Life @ 0.5C 25±2°C 90%DOD	≥6000 times or ≥5 years		≥5000 times or ≥5 years		≥4000 times or ≥5 years			≥6000 times or ≥5 years			≥5000 times or ≥5 years
Operating Temperature	Charge	-20-60°C	-20-55°C	-20-65°C	-20-55°C			-20-60°C	-20-50°C	-20-55°C	-20-50°C
	Discharge	-20-60°C	-20-55°C	-20-65°C	-20-55°C			-20-60°C	-20-55°C	-20-55°C	-20-60°C
	Storage	-20-45°C	-20-60°C	-20-45°C	-20-55°C			-20-45°C	-20-60°C	-20-60°C	-20-60°C

Internet Intelligent "More Power" Remote Service System



More Power is a software developed by MPMC and Shanghai Tongji University for operation, maintenance and rental of power gensets. It can provide real-time diagnosis and technical support for power gensets.

- Integrating RS485、
- Ethernet、
- EtherCAT、
- CAN communication ports

MPMC Cooperated with Tongli University and developed "More Power" cloud system which focused on the power solution systems health management for operation, maintenance and rental.

Smart could platform on PC/ Mobile APP, real-time monitoring, unattended, automatic warning, storing data for benefit analysis.

Easy to maintain, equipped with SCADA, remote monitoring, diagnosing and upgrading supported.

More Power can provide real-time diagnosis and timely technical support for customers in different countries and different industries.