



比亚迪储能
Build Your Dreams
 储能行业引领者



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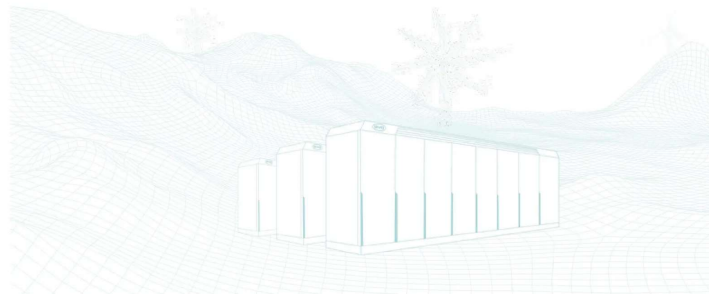
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About BYD



TECHNOLOGICAL INNOVATIONS FOR A BETTER LIFE

BYD Company Limited ("BYD") was established in February, 1995 with its headquarter in Shenzhen, Guangdong Province. BYD employs 450,000 people and operates across four industries: Auto, Rail Transit, New Energy and Electronics. BYD is listed in Hongkong and Shenzhen. In 2008, BYD proposed Three Green Dreams of Solar, Energy Storage and EV. BYD is committed to the interconnection with all links from energy absorption, storage to application and continues to provide technological innovations for a better life.





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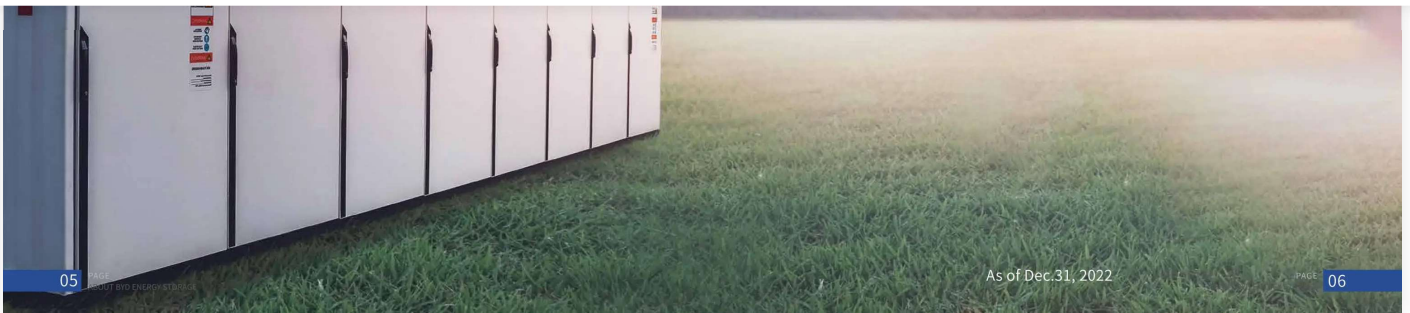
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BYD Energy Storage Milestones





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R&D Innovation

27 Years Experience

37000+ Patent System

45000+ R&D Personnel

Magic Cloud e.0 /Algorithm and Control Platform

EMCU, Data Center, Local Data, IPC Edge Computing, Big Data

MULTIPLE SAFETY TESTS

 External Fire Exposure	 Vibration	 Nail Penetration
 Impact	 Heating	 Crush

Remote Upgrading

OTA remote upgrading, access to latest services

One-key Remote Start

Commissioning free, less site work

Smart Algorithm

SOX calculation with high precision based on the mass data analysis and smart BMS with the cloud-terminal computing power

Cloud Fault Diagnosis

System fault diagnosis with one touch, intelligently push the solutions to realize the fast commissioning and maintenance

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Ultra Safety & Ingenious Design



Ultra Safety
Intelligent chip control, active and passive protection to deal with various emergencies



Ultra High Strength
Honeycomb-like aluminum plate structure design to ensure structural strength



Ultra Power
Voltage output up to 1500V and peak current up to 238A at full power



Ultra Low Cost
Compared with the traditional battery pack, the space utilization rate is increased by 20%, and the comprehensive LCDE is reduced by 30%



Ultra Long Lifecycle
LFP chemistry, life up to 12000 cycles



Ultra High Energy Density
No-Pack design, space saving to realize the ultra high energy density



Ultra Low Temperature Performance
Operate efficiently at -30°C and maintain the optimal state

Manufacturing



Mineral Resources Development

Material R&D & Manufacturing

Technical R&D

Cell R&D & Manufacturing

BMS R&D & Manufacturing

Module R&D & Manufacturing

Energy Storage System R&D & Manufacturing

Recycling & Repurposing

Energy Storage Battery Whole Industrial Chain Layout

All-round R&D layout of energy storage battery based on the R&D of basic materials, battery performance as the center, and innovative technology-oriented.



Automation



Smart



Digitization



One-stop





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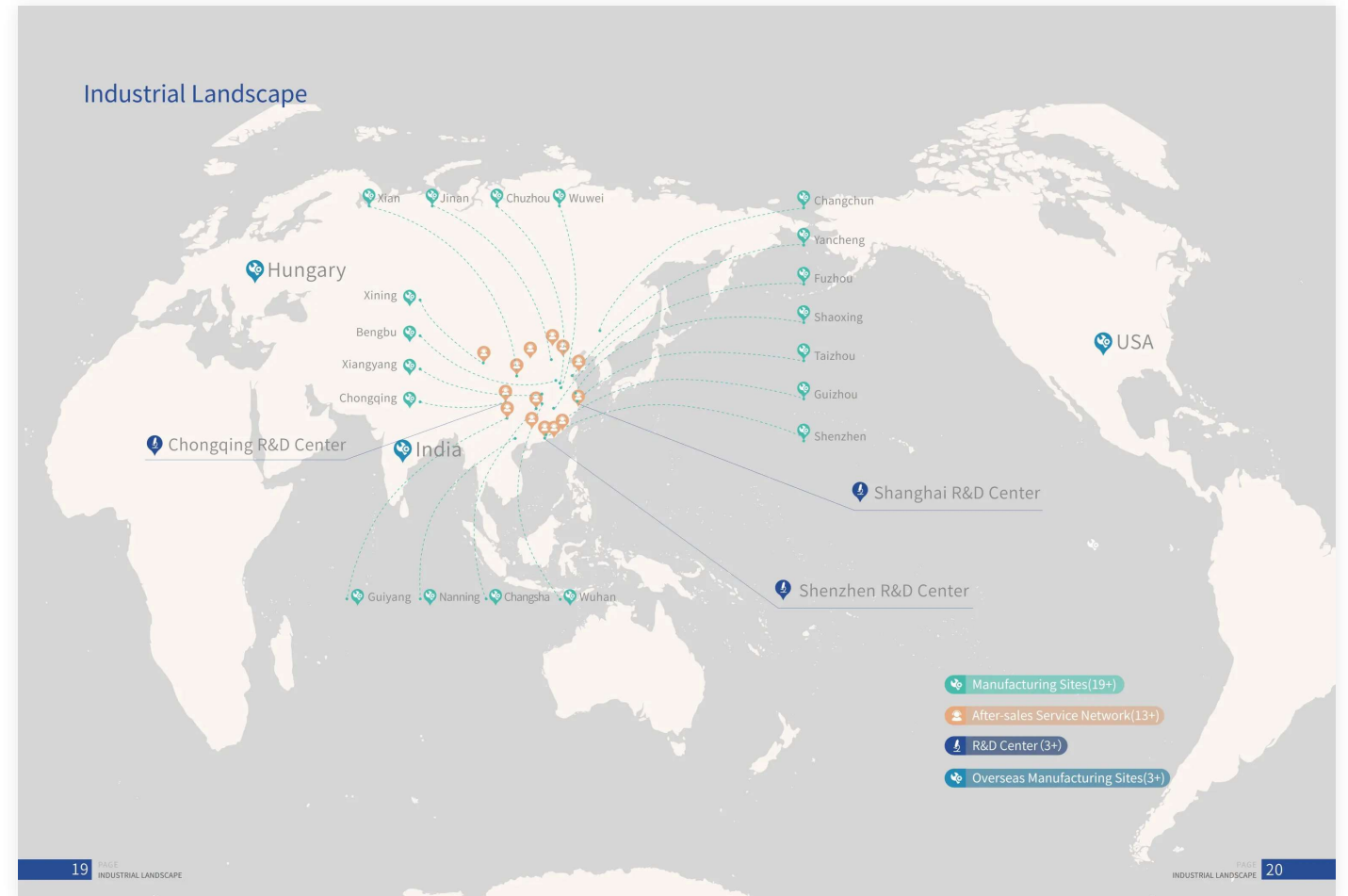
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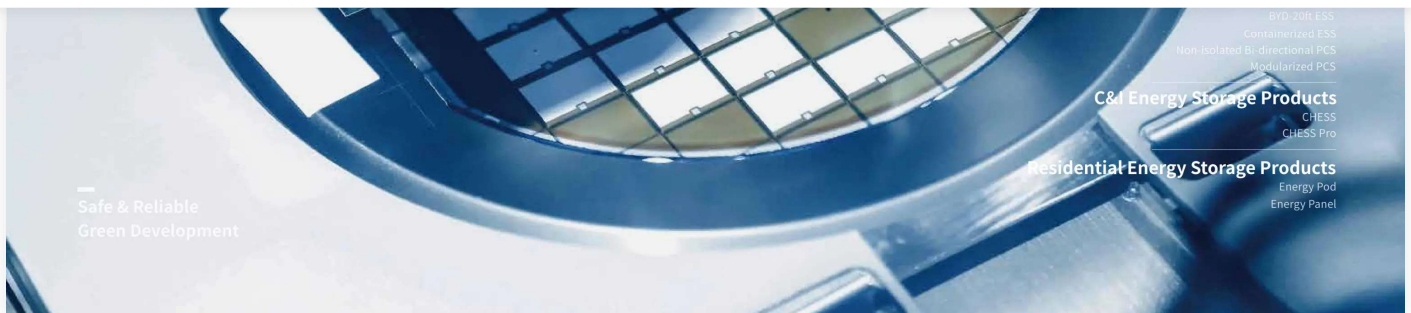
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MC Cube

MC-B536-E-R4M01
MC-B466-E-R2M01



World's first BESS using the Blade Battery, highly integrated with ultra high energy density.

SYSTEM FEATURES



Safe & Reliable

Pass 10+ destructive tests such as short-circuit, vibration, external fire exposure, four-level active and passive protection



Flexible & Configurable

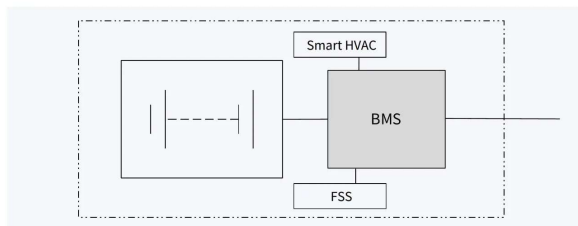
Compliant with global energy storage standards, quick connector design to save the time, flexible augmentation, possible for mixed use of new and old batteries



Cost-efficient & Smart

Maximized the overall energy density, space saving; interconnected with the cloud system for the real-time monitoring

CIRCUIT DIAGRAM



System Parameters

System Type	MC-B536-E-R4M01	MC-B466-E-R2M01
DC Side		
Cell Type	LFP	LFP
String Type	1P416S	1P416S
System Configuration	1×1P416S	1×1P416S
Battery Capacity (BOL)	536kWh	466kWh
DC Usable Energy (BOL)@FAT	515kWh	447kWh
DC Usable Energy (BOL)@SAT	500kWh	434kWh
Battery Voltage Range	1081.6 ~ 1497.6V	1081.6 ~ 1497.6V
Nominal Power	125kW	217kW
General Parameters		
Dimensions(W×D×H)	1130×1203×2521mm	1130×1203×2521mm
Weight	≈3784kg	≈3817kg
IP Rating	IP55	IP55
Operating Ambient Temperature	-30°C~+55°C [1]	-30°C~+55°C [1]
Relative Humidity	5%~100%	5%~100%
Max. Working Altitude	< 2000m	< 2000m
Cooling Concept	Smart Air Cooling	Liquid Cooling
Noise	≤75dB(A)	≤75dB(A)
Fire Suppression System	With fire alarm system(Aerosol optional)	With fire alarm system(Aerosol optional)
Communication Interfaces	CAN	CAN
Communication Protocols	OD	OD
Standard Color	RAL9003	RAL9003
Compliance	UN38.3, UN3536, UL9540A, UL1973, IEC62619	

Note:
[1] Power derating is performed when the ambient temperature is below -15°C or above 45°C.





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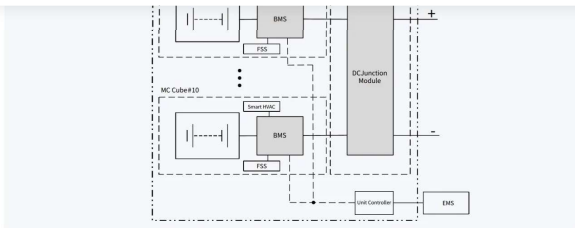
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Cooling Concept	Smart Air Cooling	Liquid Cooling
Noise	≤75dB(A)	≤75dB(A)
Fire Suppression System	With fire alarm system(Aerosol optional)	With fire alarm system(Aerosol optional)
Communication Interfaces	Ethernet	Ethernet
Communication Protocols	Modbus TCP/IP	Modbus TCP/IP
Standard Color	RAL9003	RAL9003
Compliance	UN38.3,UN3536,UL9540A,UL1973,IEC62619	

Note:
 [1] Power derating is performed when the ambient temperature is below -15°C or above 45°C.

CUBE Pro

CP36-B2800-E-R1M01 & CP32-B2800-E-R2M01 & CP32-B3000-E-R4M01

World's first liquid-cooled battery energy storage system that has passed UL9540A and GB36276 tests.



SYSTEM FEATURES



Small Space & High Energy Density
 Compact mechanical design, minimized footprint.



Liquid Cooling & Stable System
 Equipped with an efficient and reliable liquid cooling system, the battery temperature difference is less than 3°C during operation.

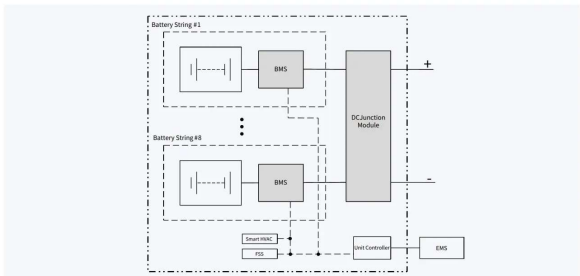


Advanced Technology & Efficient and Safe
 Using the advanced LFP batteries, longer service life. Equipped with FSS to ensure safe operation.



Highly Integrated & Easy for Installation
 Highly integrated system, all-in-one design, integrated local controller, HVAC and FSS, easy for installation and transportation.

CIRCUIT DIAGRAM



SYSTEM PARAMETERS

System Type	CP36-B2800-E-R1M01	CP32-B2800-E-R2M01	CP32-B3000-E-R4M01
DC Side			
Cell Type	LFP C15	LFP C15	LFP C15
Pack Type	1P114S	1P114S	1P114S
Rack Size	1P228S (2 packs)	1P342S (3 packs)	1P342S (3 packs)
System Configuration	12×1P228S	8×1P342S	8×1P342S
Battery Capacity (BOL)	2800kWh	2800kWh	3000kWh
DC Usable Energy (BOL)@SAT	2560kWh	2590kWh	2835kWh
DC Energy at Full Power (BOL)@SAT	2430kWh	2590kWh	2750kWh
Battery Voltage Range	638.4~820.8V	934~1231.2V	934~1231.2V
Nominal Power	2430kW	1245kW	625kW
General Parameters			
Dimensions(W×D×H)	11000×1700×2645mm	9800×1700×2645mm	9800×1700×2645mm
Weight	31000kg	29500kg	29000kg
IP Rating	IP55	IP55	IP55
Operating Ambient Temperature range	-30°C~+55°C [1]	-30°C~+55°C [1]	-30°C~+55°C [1]
Relative Humidity	5%~100%	5%~100%	5%~100%
Max. Working Altitude	< 3000m	< 3000m	< 3000m
Cooling Concept	Liquid cooling	Liquid cooling	Liquid cooling
Noise	≤80dB(A)@1m	≤75dB(A)@1m	≤75dB(A)@1m
Fire Suppression System(optional)	Heptafluoropropane/perfluorohexanone/ reserved water fire pipeline	Heptafluoropropane/perfluorohexanone/ reserved water fire pipeline	Heptafluoropropane/perfluorohexanone/ reserved water fire pipeline
Aux. Power Interface	AC400V/50Hz, 3-phase 4-wire	AC400V/50Hz, 3-phase 4-wire	AC400V/50Hz, 3-phase 4-wire
Aux. System Peak Power Requirement @45°C, PF0.8	50.70kW	32.70kW	11.60kW
Communication Interfaces	Ethernet	Ethernet	Ethernet
Communication Protocols	Modbus TCP/IP	Modbus TCP/IP	Modbus TCP/IP
Standard Color	RAL9003	RAL9003	RAL9003
Compliance	UN38.3,UL9540A,UN3536,UL1642,IEC62619,CE Marking,UKCA,IEC63056		

Note:
 [1] Power derating is performed when the ambient temperature is above 40°C.





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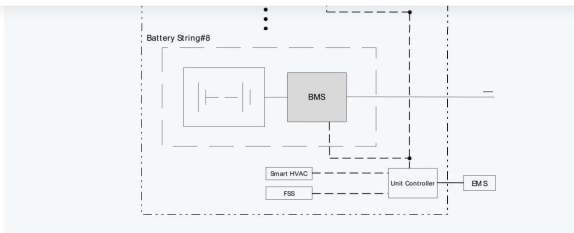
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Auxiliary system nominal power	27kW	52kW
Auxiliary system voltage	400V	400V
Auxiliary system wiring	3P4W	3P4W
Auxiliary system peak power requirement @45°C, PF=0.8	33.75KVA	65KVA
Communication interfaces	Ethernet	Ethernet
Communication protocols	Modbus TCP/IP	Modbus TCP/IP
Standard color	RAL 9003	RAL 9003
Compliance	UN38.3, UN3536, UKCA, CE Marking, IEC62619, IEC63056	

Annotation:
[1] Power derating when environment temperature is lower than -15°C or higher than 40°C.
[2] When the altitude is between 2000-3000m, the output of the system will be de-rated.
[3] FM200/NOVEC1230 and water spray system are optional.

