



Energy Storage

# BYD MC Cube

All-Scenario

All-Value

All-Ecology

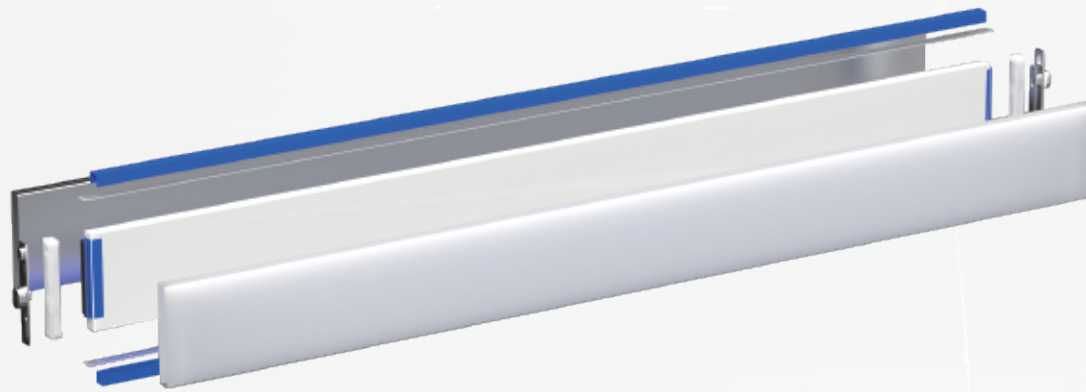


World's first Battery Energy Storage System (BESS) integrated with the Blade Battery

# 01 Core Technologies

## Blade Battery

MC Cube is equipped with the “ Blade Battery ” which has successfully passed the **Nail Penetration Test**, and features **Ultra-high Safety, Ultra-long Life, Ultra-high Energy Density and Ultra-high Strength**. So far, BYD Blade Batteries have been implemented in more than 4 million new energy vehicles in the world, and proven their outstanding performance in the market.



## High Voltage Ultra-high Energy Density Integration Technology

- 1500V High Voltage
- No-module + No-pack design for ultra-high energy density



The blade battery can both work as an energy unit and the structural component, significantly increasing the integration level.

# 02 Adaptability

### All Terrains

Desert  
Gobi  
Plain  
Mountainous Area  
Plateau  
Seafront

### All Scenarios

Grid Following  
Grid Forming  
Frequency Regulation  
Wind and Solar Colocated ESS  
Standalone ESS  
Residential ESS  
C&I ESS

### All Climates

Extreme Cold  
High Humidity  
Severe Sand and Wind  
Heavy Rainfall  
Extreme Heat  
Extreme Drought  
Heavy Snowfall  
Frequent Thunderstorm

## 03 Features

### Ultra Safety

#### Six-dimensional high precision sensing

- Temperature
- Humidity
- Pressure
- Smoke
- Combustible gases
- Water drenching

#### Four levels of combined protection (active/passive)

- Multi-channel cyclone exhaust
- Load isolation (millisecond)
- Aerogel insulation
- Quick dissolve protection (millisecond)

The system has passed more than 10 extreme destructive tests such as short circuit, internal/external fire, vibration, tumbling and water drenching.

#### Self-developed intelligent control chip

### Easy Application



#### Easy Layout

Making full use of limited space



#### Easy Transportation

Transportable as a whole or in parts



#### Easy Installation

Low requirements for tooling, more convenient for quick connectors



#### Easy Maintenance

Accessible in front, easy and fast replacement



#### Easy Augmentation

Flexible augmentation, mixed use carefree



### Great Efficiency

**3%**

Annual Average Availability

**0.5%**

System Operation Efficiency

**100%**

Battery Lifetime

**80%**

Commissioning & Installation Efficiency

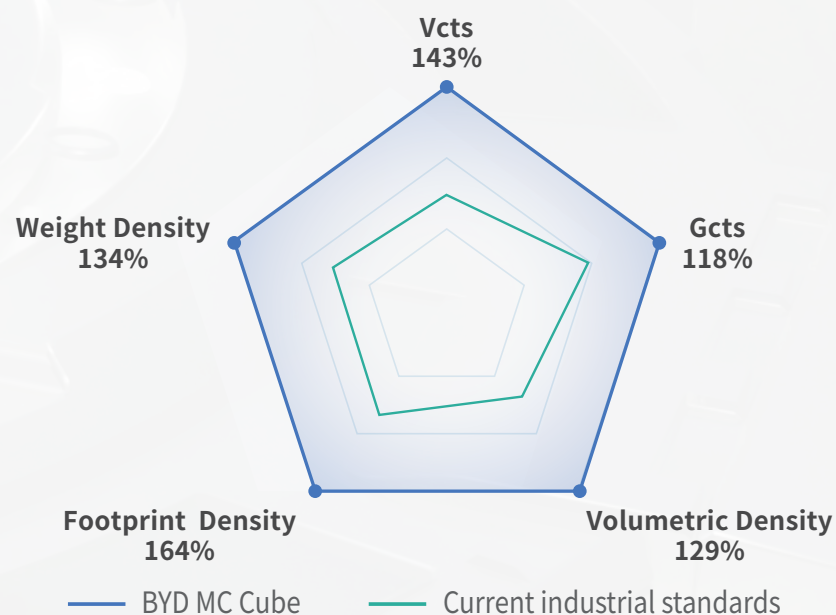
**29%**

Volumetric Energy Density

*Efficiency  
UP*



### Ultra Energy Density



# MC Cube

MC-B536-E/U-R4M01  
MC-B466-E/U-R2M01

Standard outdoor battery cabinet, the world's first BESS using the Blade Battery, adopts CTS (Cell To System) integration technology, cells are directly integrated into the system, highly integrated with ultra high energy density.



## SYSTEM FEATURES



### Safe & Reliable

Passed 10+ destructive tests such as short-circuit, vibration, fire exposure; four-level active and passive protection.



### Flexible & Configurable

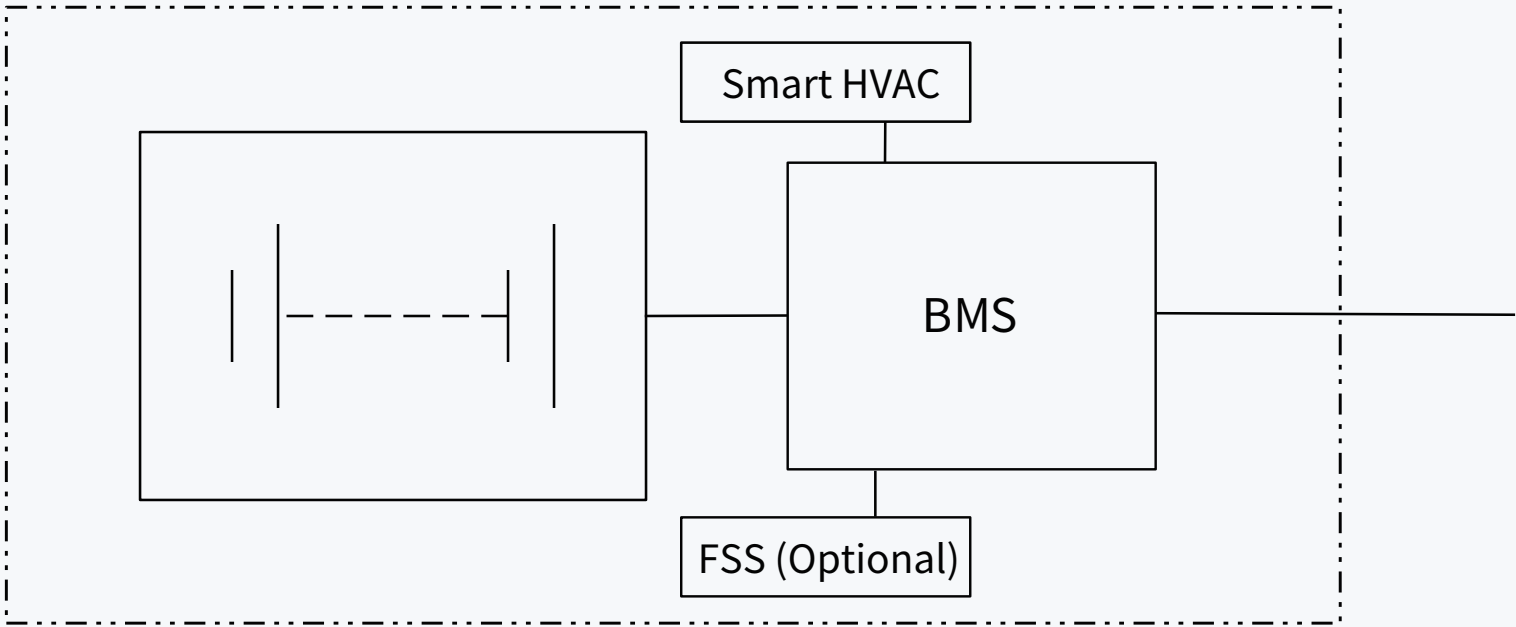
Compliant with global energy storage standards, quick connector design to save the time, flexible augmentation, possible for mixed usage of new and old batteries.



### 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/U-R4M01                                                                                                             | MC-B466-E/U-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 Temperature Range | -30℃~+55℃ <sup>[1]</sup>                                                                                                      | -30℃~+55℃ <sup>[1]</sup> |
| Relative Humidity           | 5%~100%                                                                                                                       | 5%~100%                  |
| Max. Working Altitude       | < 2000m <sup>[2]</sup>                                                                                                        | < 2000m <sup>[2]</sup>   |
| Cooling Concept             | Smart Air Cooling                                                                                                             | Liquid Cooling           |
| Noise                       | ≤75dB(A)                                                                                                                      | ≤75dB(A)                 |
| Fire Suppression System     | With fire detection and alarm system. Aerosol is optional.                                                                    |                          |
| Communication Interfaces    | CAN                                                                                                                           | CAN                      |
| Communication Protocols     | OD                                                                                                                            | OD                       |
| Standard Color              | RAL 9003                                                                                                                      | RAL 9003                 |
| Compliance                  | IEC 62619, GB/T 36276, GB/T 34131, UL 9540, UL 9540A, UL 1973, NFPA 69, NFPA 72, NFPA 855, CFC, UN 38.3, UN 3536, CE Marking; |                          |

Note:  
[1] Power derating is performed when the ambient temperature is below -15℃ or above +45℃.  
[2] Power derating is performed when the altitude is >2000m.

# MC Cube ESS

MC10C-B5365-E/U-R4M01  
MC-B4659-E/U-R2M01

World's first BESS using the Blade Battery, highly integrated with ultra high energy density, flexible configuration and easy for transportation, layout, installation, augmentation and maintenance.



## SYSTEM FEATURES



### Professional & Smart

Automotive-standard cooling system/electronic control system, cloud-terminal smart battery management algorithm.



### Ultra High Safety

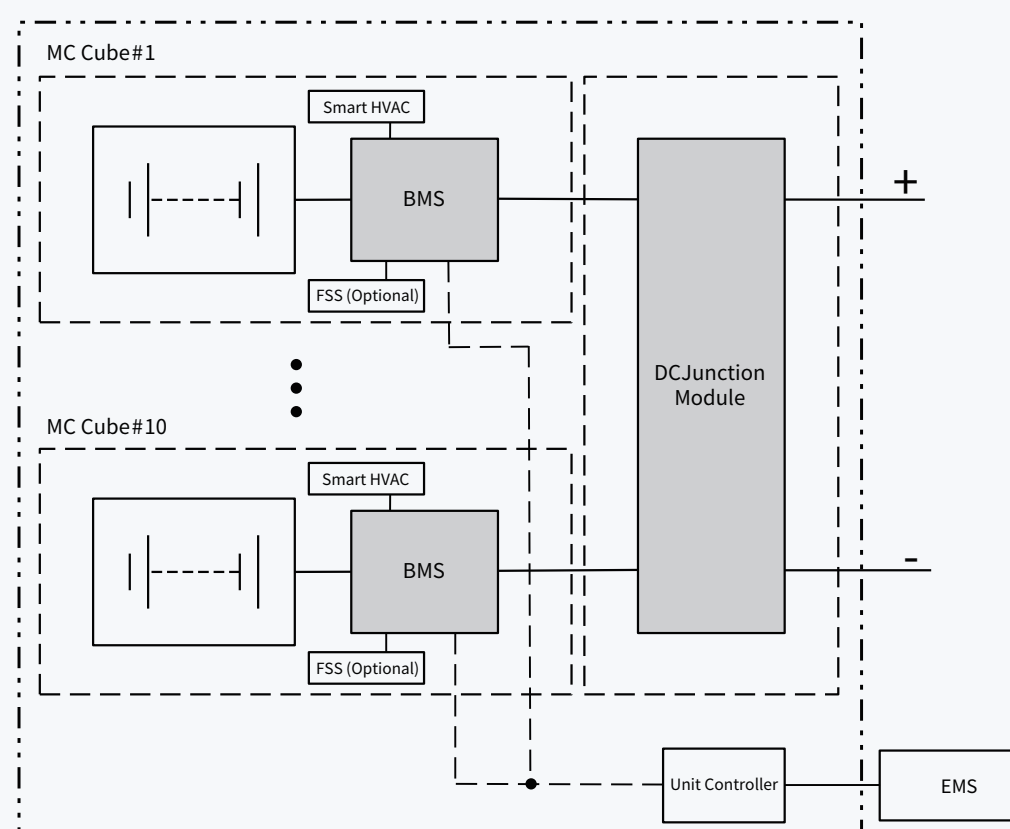
UL9540A test certified.



### Reliable & Stable

Extreme battery strength, long lifecycle, cloud service with intelligent over-the-air upgrade.

## CIRCUIT DIAGRAM



## SYSTEM PARAMETERS

| System Type                 | MC10C-B5365-E/U-R4M01                                                                                                         | MC-B4659-E/U-R2M01       |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| DC Side                     |                                                                                                                               |                          |
| Cell Type                   | LFP                                                                                                                           | LFP                      |
| String Type                 | 1P416S                                                                                                                        | 1P416S                   |
| System Configuration        | 10×1P416S                                                                                                                     | 10×1P416S                |
| Battery Capacity (BOL))     | 5365kWh                                                                                                                       | 4659kWh                  |
| DC Usable Energy(BOL)@FAT   | 5099kWh                                                                                                                       | 4428kWh                  |
| DC Usable Energy (BOL)@SAT  | 4946kWh                                                                                                                       | 4295kWh                  |
| Battery Voltage Range       | 1081.6 ~ 1497.6V                                                                                                              | 1081.6 ~ 1497.6V         |
| Nominal Power               | 1236kW                                                                                                                        | 2147kW                   |
| General Parameters          |                                                                                                                               |                          |
| Dimensions(W×D×H)           | 6058×2438×2896mm                                                                                                              | 6058×2438×2896mm         |
| Weight                      | ≈41035kg                                                                                                                      | ≈41385kg                 |
| IP Rating                   | IP55                                                                                                                          | IP55                     |
| Operating Temperature Range | -30℃~+55℃ <sup>[1]</sup>                                                                                                      | -30℃~+55℃ <sup>[1]</sup> |
| Relative Humidity           | 5%~100%                                                                                                                       | 5%~100%                  |
| Max. Working Altitude       | < 2000m <sup>[2]</sup>                                                                                                        | < 2000m <sup>[2]</sup>   |
| Cooling Concept             | Smart Air Cooling                                                                                                             | Liquid Cooling           |
| Noise                       | ≤75dB(A)                                                                                                                      | ≤75dB(A)                 |
| Fire Suppression System     | With fire detection and alarm system. Gas/Water/Aerosol are optional.                                                         |                          |
| Communication Interfaces    | Ethernet                                                                                                                      | Ethernet                 |
| Communication Protocols     | Modbus TCP/IP                                                                                                                 | Modbus TCP/IP            |
| Standard Color              | RAL 9003                                                                                                                      | RAL 9003                 |
| Compliance                  | IEC 62619, GB/T 36276, GB/T 34131, UL 9540, UL 9540A, UL 1973, NFPA 69, NFPA 72, NFPA 855, CFC, UN 38.3, UN 3536, CE Marking; |                          |

Note:

[1] Power derating is performed when the ambient temperature is below -15℃ or above +45℃.

[2] Power derating is performed when the altitude is >2000m.

# Clean Energy for a Better Life

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