



RITAR INTERNATIONAL GROUP

- Battery Energy Storage System (BESS)
- DC, UPS Backup Power System
- Communication Power System
- Power Grid System
- Motive Power System

RITAR INTERNATIONAL GROUP LIMITED

Headquarters : 10th Floor, Tower C, 1st Building, Software Industry Base, No.81, Gaoxin South 10th Road, Nanshan District, Shenzhen, Guangdong, China 518057

HENGYANG RITAR POWER CO., LTD

HENGYANG RICH POWER CO., LTD

Add: No. 1 Huangong Road Songmu Industrial Zone, Hengyang City, Hunan, China

RITAR POWER (VIETNAM) CO., LTD

Add: Lot A21, C4 Road, Thanh Thanh Cong Industrial Park, An Hoa Village, Trang Bang District, Tay Ninh Province, Viet Nam

Distributor: NIMA ARABIA Co. Ltd.

Add: Unit 46, Office 3, Al Sulaimi Bldg, Ad Dammam, Kingdom of Saudi Arabia

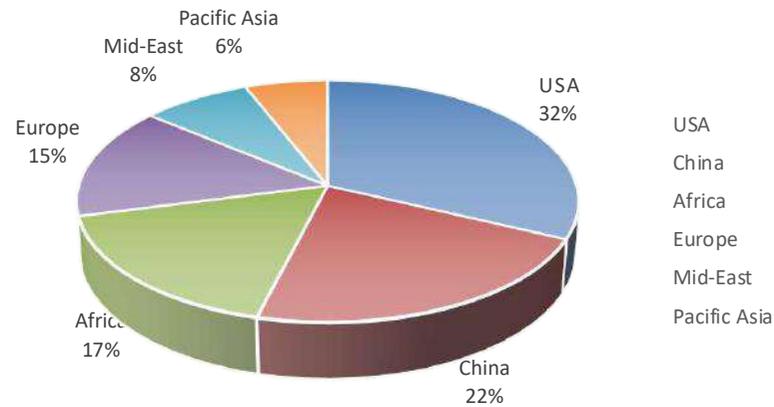
✉ info@nimaworld.com

GROUP INTRODUCTION

RITAR International Group has four main business sectors, and is a group company whose main body is listed on NASDAQ and two companies are listed in China. The annual turnover is 1.2 billion USD, the tax payment is 380 million RMB, and total employees are about 6,500.



MARKET SHARE in 2023



RITAR BATTERY ENERGY STORAGE SYSTEM

RITAR POWER headquartered in High-tech Industrial Park, Nanshan District, Shenzhen, China, it works with domestic and foreign institutions and scientific research institutions to striving for battery technology innovation. The most advanced OPzV and LiFePO4 battery pack are self researched and developed, it has met and exceeded international standards, and a variety of technologies have been granted national and international patents.

RITAR BESS is modular design and flexibly scalable for home or business consumption needs and can be configured to handle small to large-scale loads requirements. our professional team is work closely to supply the best solution and recommend the optimal system to benefit customer's projects.

We export to more than 200 countries and regions all over the world, such as South East Asia, Europe, America, South America, Australia, etc. With its reliable solution and quality services, which has won high praise from users at domestic and abroad.



INTRODUCTION OF RITAR



Established
in 2002



Listed on NASDAQ
in 2007



1.15 Billion USD
Total Annual
Turnover



6500+
Employees



**High-tech
Enterprise**
in China



4 Production Bases
3 R&D Centers



RESEARCH ABILITIES



CNAS
National laboratory
accreditation
certificate

Obtained the laboratory
accreditation certificate of
**China National Accreditation
Service for Conformity
Assessment (CNAS).**



200+
Research
Engineers

Among them, **88.46%** are bachelor
degree or above.



65 Items
Battery
Invention Patents

RITAR has **published 5 papers** in authoritative
newspapers and periodicals, participated in the
formulation of **2 international industry standards**,
and formulated **2 domestic industry standards**.



US\$8.5 Million
Total Investment

With **more than 100 sets of professional testing
and experimental equipment**, it further
enhances product competitiveness and
innovation, and is one of the largest
professional battery laboratories in South China.



University
Experimental
Cooperation

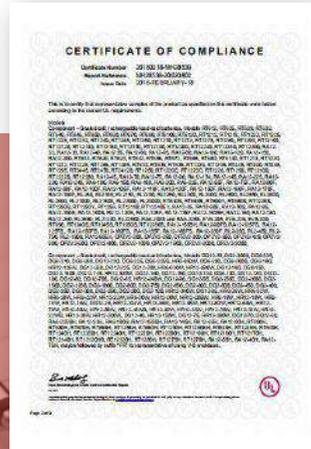
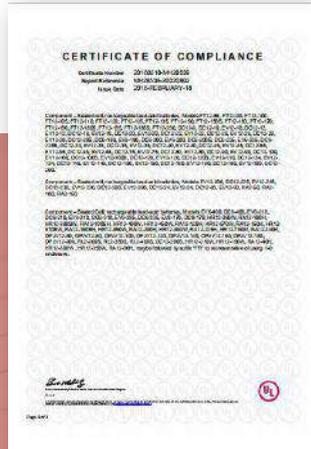
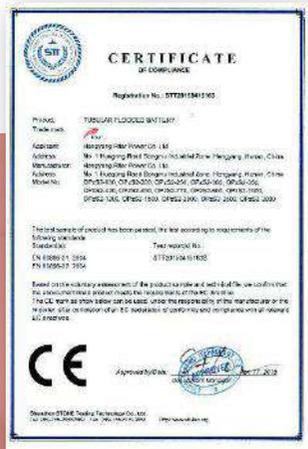
Cooperated with university of
Fudan, Jiaotong and South
China Normal University to
develop **nanobatteries**.



CERTIFICATES



www.ritarpower.com



ISO9001

ISO14001

OHSAS18001

RITAR is a national high-tech enterprise, and obtained **ISO9001, ISO14001, ISO45001** three major system certification.

RITAR has customers all over the world, and we have passed all series of relevant certifications for general industry certifications, such as **UL, CE, TLC**.



RITAR achieved top **TEN** BESS brand
in China BESS market.

&

Signed strategic partnership with
eight big state owned enterprises.

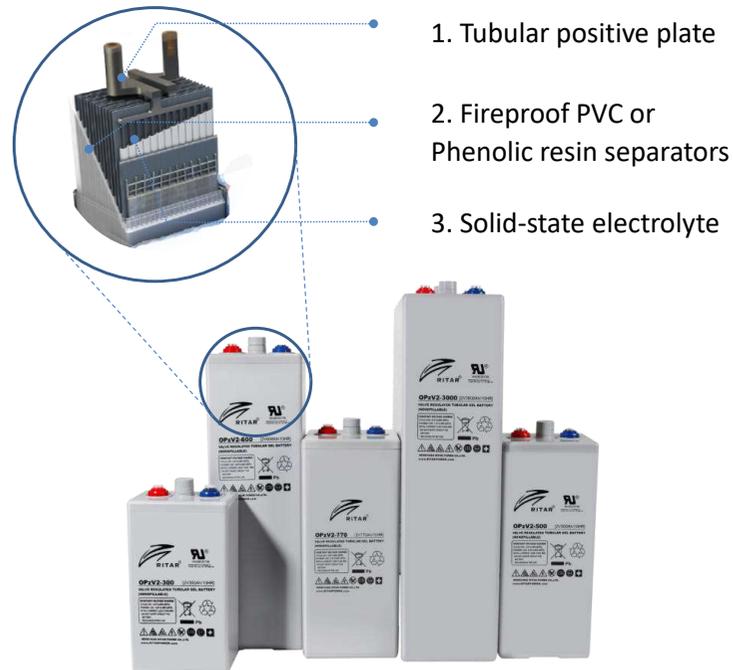


PRODUCT APPLICATION FIELDS

Battery Energy Storage System (BESS)

OPzV Acid-free Solid-state Battery

- The leader in electro-chemical energy storage
- Rank: Biggest export volume in China



Safety Dimension

- Acid-free Solid-state batteries are **intrinsically safe**;
- **All materials are fire-rated**, even the state of **short circuit**, there is **no fire explosion** in the open flame state,
- **Maintenance-free**, energy storage power station can be **monitored remotely**.



Environmental Dimension

- In the manufacturing process, **0 discharge of waste water, waste gas and residue**;
- Used batteries are **100% recycled**.



Resource Dimension

- China is very rich in lead resources;
- Waste batteries can be **trade-in to offset 30%** of the purchase price of new batteries.



Economic Dimension

- **Low cost**, not constrained by the upstream of raw materials;
- Since 2002, the purchase price of raw materials has **increased by less than 5%**.

PRODUCT APPLICATION FIELDS

IDC, UPS Backup Power System

- Excellent high-current, high-rate discharge performance
- Long and reliable service life
- Special grid alloy
- Unique electrolyte formulation



Communication Power System

- Unified exhaust system with **explosion-proof** filter acid structure
- **Corrosion-resistant** multi-alloy thick plates
- Excellent safety and compact structure
- Narrow front terminal structure design
- Long float design life



PRODUCT APPLICATION FIELDS

Power Grid System

- Comply with IEC, JIS, BS and EU testing standards
- **Large capacity, low self-discharge rate, over-charge or over-discharge resistance**
- Long service life, corrosion resistance, high-quality alloy grid
- Unique electrolyte formulation



PRODUCT APPLICATION FIELDS

Motive Power System

- Designed for use in electric vehicles with frequent cycling discharges
- Suitable for Light electric vehicles, golf carts, field mower etc.
- More than 1200 cycles at 50% DOD
- Special grid alloy
- Excellent plate formulation





HOT PRODUCTS



BESS --- INTERGRATED SOLUTION

- 4 Level security and protection
- 3 Level management architecture



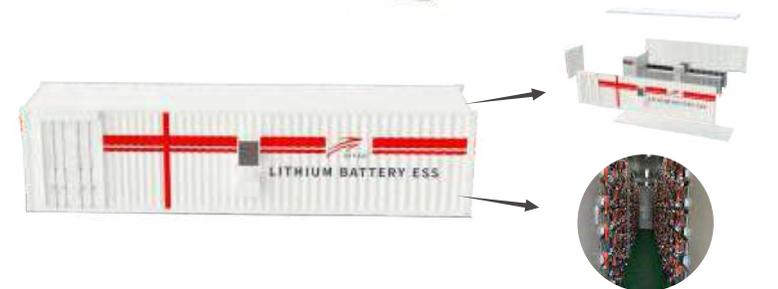
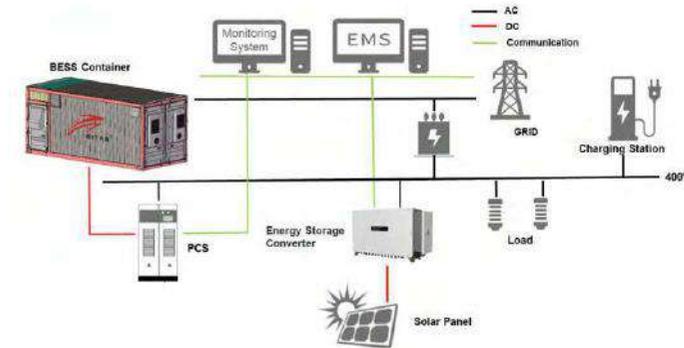
RITAR Container BESS adopts a modular energy storage configuration, which is mainly for customized solution, there are LiFePO4 battery or OPzV battery optional , and system composed of the following parts:

Battery Tank

- Power Converter System (PCS)
- Battery Management System (BMS)
- Energy Management System (EMS)
- Cooling Industrial Air Conditioners
- Gas fire extinguishing system



SPECIFICATION		
Containers Size	20' HC	40' HC
Rated Energy	1.28MWh Min.	2.56MWh Min.
Rated Voltage	DC 761.6V	DC 761.6V
Voltage range	666.4V-856.8V	666.4V-856.8V
Rated capacity	1680Ah	3360Ah
Max. charge / DISCHARGE CURRENT	840A	1680A
PCS / EMS	600kW	1200kW
Communication	RS485 / CAN / SCADA SUPP	
Cell type	LFP (LiFePO ₄)	
IP grade	IP54	
Size (W*H*D)	5690*2130*2380mm	11800*2130*2720mm
Certificates	CE / IEC62619	





HIGH RATE --- HR series VRLA

- Adopt emission grid and ultrathin separator to ensure smaller internal .
- the max. watts discharge is 7200W, battery terminal temperature doesn't exceed 45C degree.
- Awarded the best supplier of IDC project in China

RITAR HIGH RATE battery (HRL) has occupied 50% data center market in China directly or indirectly.



Deep Cycle – DC, DG series

RITAR is the first company in China to developed deep-cycle battery successfully in 2005. It optimized battery materials, design, and craft to achieve in-depth cooperation with MGE.

There are two series of deep cycle batteries.

- ◆AGM deep cycle series(DC series)
- ◆GEL deep cycle (DG series)



Tubular GEL -- OPZV Solid State Battery

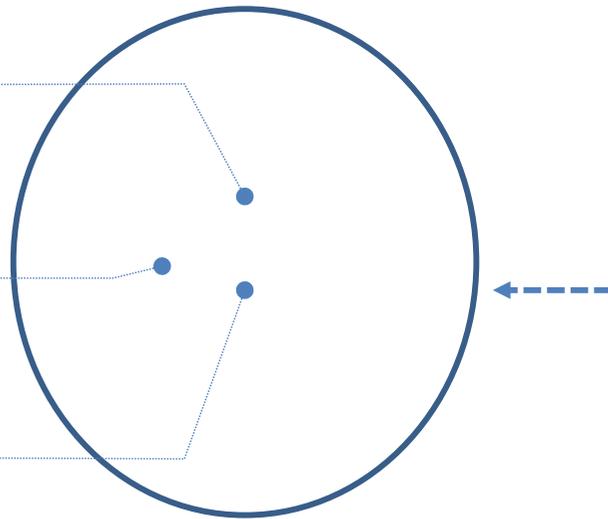
The first factory to develop 2V and 12V series tubular GEL batteries. Which technology is the leader in the industry. According to customs data statistics in 2015, RITAR has been **No.1** OPzV battery exporter.

- Design life up to 25 years
- Wide temperature resistance range $-40\text{ }^{\circ}\text{C} \sim 70\text{ }^{\circ}\text{C}$

Positive plate structure

Electrolyte type

Separator type





RESS 5KWh & 10KWh

INV-5KW-48V-EU 220Vac

INV-5KW-48V-AM 110Vac

RESS-5KWH-51.2V-I

RESS-10KWH-51.2V-I

ADVANTAGE

- p 100A current, fully comply with 5KW inverter
- p Cycle life >3500 times
- p BMS support different brands inverter (INV-5KW-48V-EU, INV-5KW-48V-AM)
- p Wall mounted or stacking
- p With heating, suitable for -30°C ambient

HIGH VOLTAGE RESS

204.8V~409.6V

50Ah(10.24KWH~20.48KWH)

HIGH SAFETY

- ü Using high quality LFP special energy storage cell,cycle life of more than 8000 times.
- ü Ip55 protection grade to meet the requirements of outdoor applications.
- ü Cabinet partition security isolation+pack-level security warning and fire prevention to ensure the system safety and control.

LONG LIFE

- ü The precise temperature control of industrial air conditioning ensures that each cell always works in the appropriate temperature range, ensuring battery performance and cycle life.
- ü Efficient equalization BMS: single series design + efficient equalization technology, the system parallel capacity loss of the system is 0.

HIGH INTEGRATION

- ü Standardized design for lower O&M costs, standardized production for fast delivery, and lower overall life cycle costs.
- ü Infinite parallel connection can realize elastic expansion and fully modular maintenance of the energy storage power station. Supporting multi-scene applications from kWh to MWh level.



LFP BATTERY SPECIALIZED FOR IDC

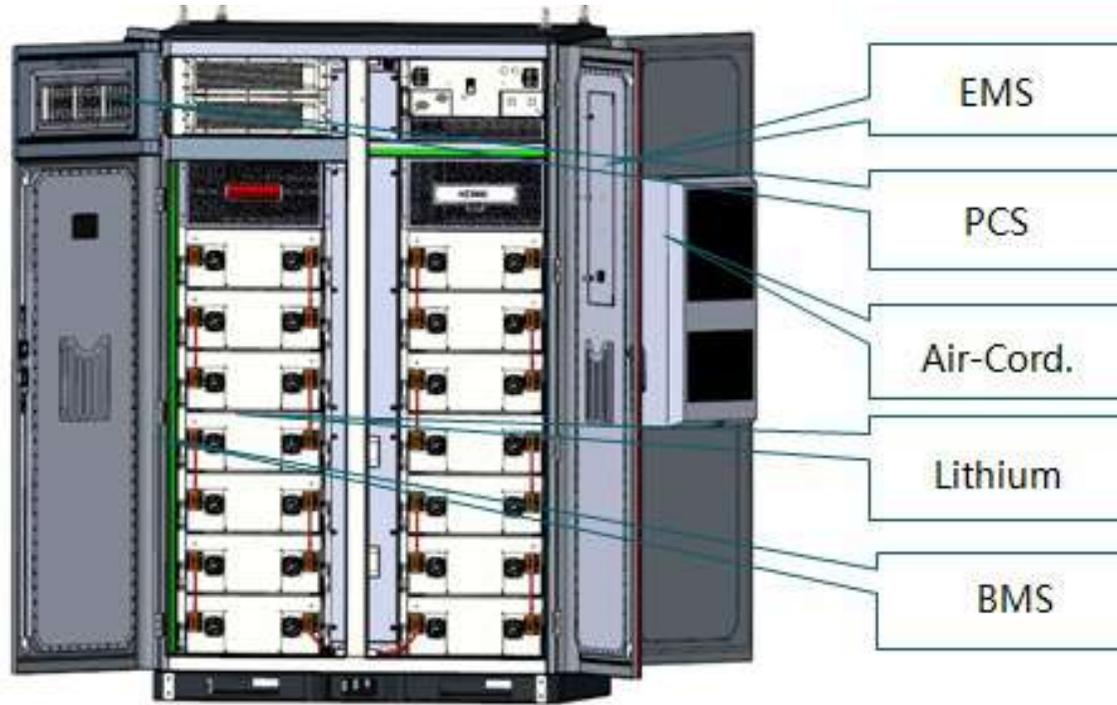
12.8V 50Ah MONOBLOCK DESIGN

ADVANTAGES:

1. Can replace high rate VRLA battery 12V150AH-240AH directly.
2. Node direct connection, no need software communication, but remain communication connection port.
3. Max. discharge rate 6C, 300A
4. If single unit battery is failed, which can be replaced directly, or remain batteries still can be discharged, no effect.
5. The price is more competitive compare with high rate VRLA batteries.



ALL IN ONE BESS CABINET --- Lithium Battery



Long Life Cells
Cyclic life > 6000 cycles
under 0.5c discharge



Efficient BMS
Efficient balancing technology
Eliminates series losses
caused by cells inconsistent



High-performance PCS
High efficiency three-
level topology

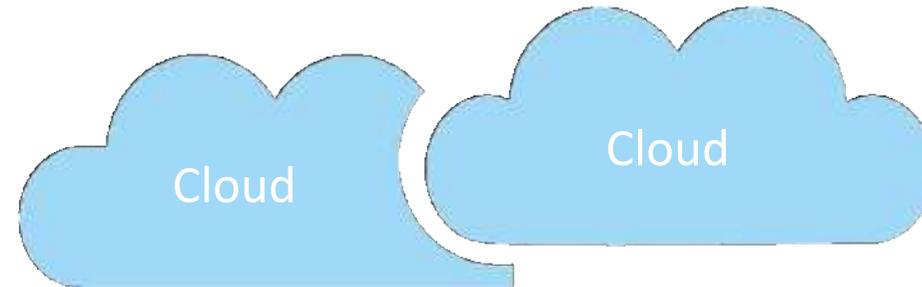


Active Safety System
Intelligent environmental control
Ensure optimal cell temperature
Ensure Fire protection absolutely
controllable



**Intelligent
Distribution System**
Integrated AC/DC distribution
with 2 level controllable switch +
passive protection

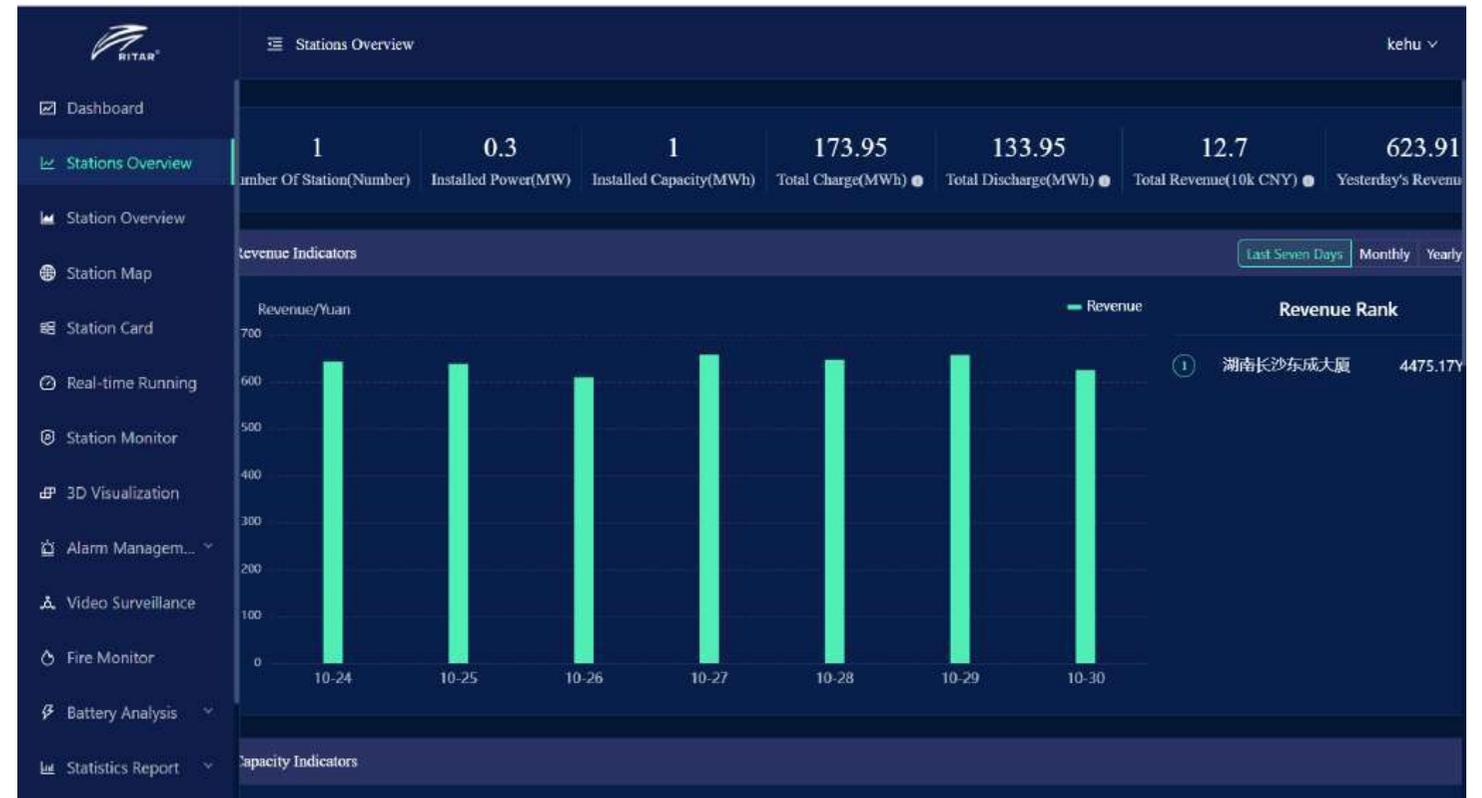
RITAR EMS



Supports predictive operation and smart cloud management systems



Supports remote detection operation and maintenance+multi-role management





RITAR ADVANTAGES

RITAR Container BESS adopts a modular energy storage configuration, which is mainly mainly for customerized solution, **there are LiFePO4 battery or OPzV optional** , and system composed of the following parts:

Battery Tank

Power Converter System (PCS)

Battery Management System (BMS)

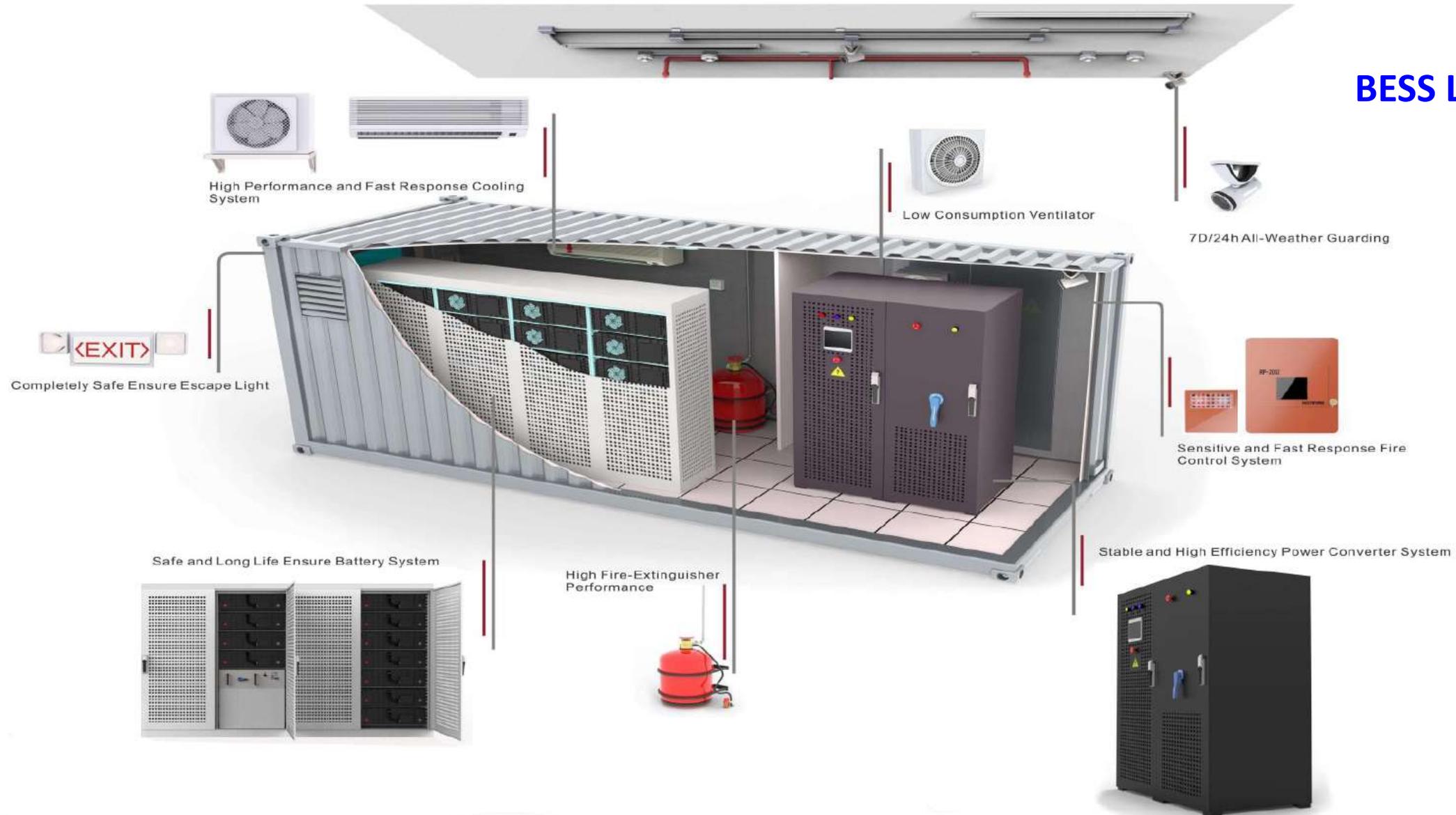
Energy Management System (EMS)

Cooling Industrial Air Conditioners

Gas fire extinguishing system



BESS LAYOUT



ITEM	ASPECT	ADVANTAGES
1	COMPANY STRENGTH	1.1- Listed Company: RITAR is the big group with several branches, there are guarantee for the battery quality and warranty.
		1.2- Strong manufacturing background, two plants (China & Vietnam)
		1.3- Stable Team: Every Ritar people is a master for his working platform, they are passionate and dynamic for the career.
2	PRODUCT STRENGTH	2.1- Keep Innovation: there are more than 100 patents or Invention for battery
		2.2- Use grade A lithium cell only for lithium battery, have complete cert. like UL, CE and IEC
		2.3- Self researched BMS, easier upgrade and management, as well as more inverter brands for choose.
		2.4- Higher precision under car platform BMS, and three level management, four level protectiont.

#	ASPECT	ADVANTAGES
3	QUALITY CONTROL	3.1- Excellent quality control system, rejective rate is 0.03%.
		3.2- RITAR management have over 30 years experience in the battery industry
4	TECHNICAL SUPPORT & SERVICE	Build service center in Europe, Donate the best in service, to growth with customer together.
5	SYSTEM DESGIN	5.1 More reasonable and experience design to save more cost.
		5.2 Three level management architecture : High precision control Smart operation and maintenance 24/7 management
		5.3 Four level security and protection : System level loop control Module level CMBS electronic component control Module level BMU temperature control Cell level LFP material + explosion – proof valve