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Ymir 5k

5MWh Liquid Cooling Battery Energy Storage System

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Ymir 5k liquid cooling energy storage system adopts 315Ah LFP cells, maximum capacity up to 5MWh, high energy density.

The system is integrated-designed, with built-in three-level BMS, UPS, liquid cooling system and fire suppression system.

Flexible configurations allows multiple applications for utility scale energy storage power plants, and the energy density is increased by 40% compared with the previous product, which can significantly save cost and space.

Product Introduction

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Compact Structure

Allows 20ft standard container shipment, no internal space wasted.

315Ah LFP Cells

High energy density, specialized for energy storage system, super safe and super intelligent.

Liquid Cooling Thermal Management System

IIntelligent liquid cooling system, temperature difference≤3℃.

C5 Anti-corrosion Protection

three-layer coating, applicable in harsh environment.

Multi-level FSS

Equipped with module-level fire suppression system and container-level fire suppression system, gas detector, ventilation system, sprinkler system and automatic pressure relief devices.

Three-level Circuit Breaker Mechanism

lPack level DC circuit breaker and battery cluster level DC circuit breaker lead to lower risk of PCS AC circuit breaker failure.

Product Features

Typical Configurations

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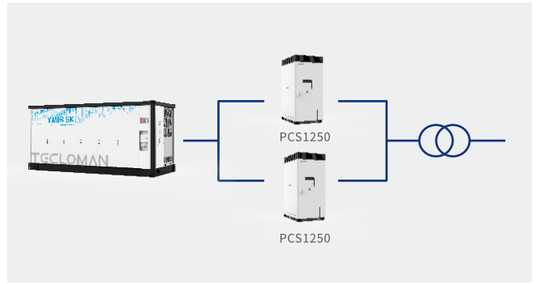
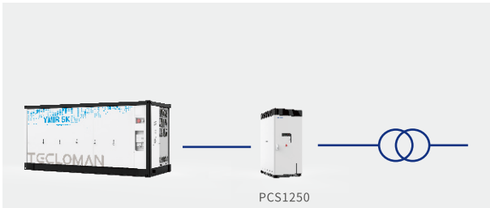
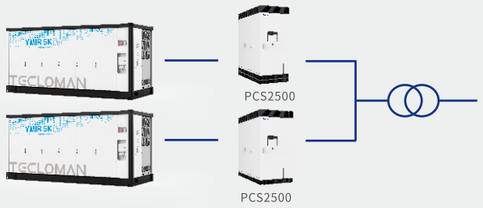


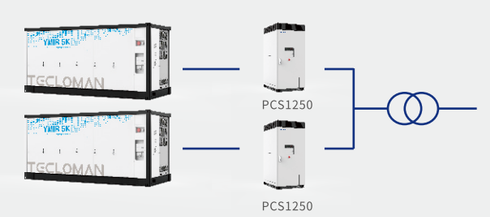
2-hour system 2.5MW5MWh



4-hour system 1.25MW5MWh



2-hour system 5MW10MWh



4-hour system 2.5MW10MWh

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Typical Applications

Generation side

On the power generation side, it can be used for new energy grid connecting and consumption, power plant energy storage frequency regulation, peak shaving, and other applications.

Distribution Side

In the distribution side, it can help with grid frequency regulation and voltage control, peak shaving, valley filling, and dynamic capacity expansion.

User Side

On the user side, it can be used for peak-valley arbitrage, backup power for commercial parks, and microgrid construction (integrated solar-storage-charging systems, power supply for remote areas).

Application Scenarios

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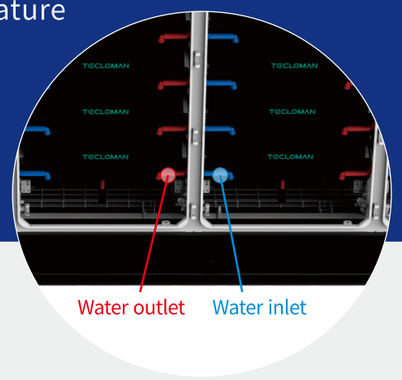
NO.1

High energy density with short modules for easy maintenance. Module replacement can be completed without the need for specialized tools, effectively reducing O&M costs.

NO.2

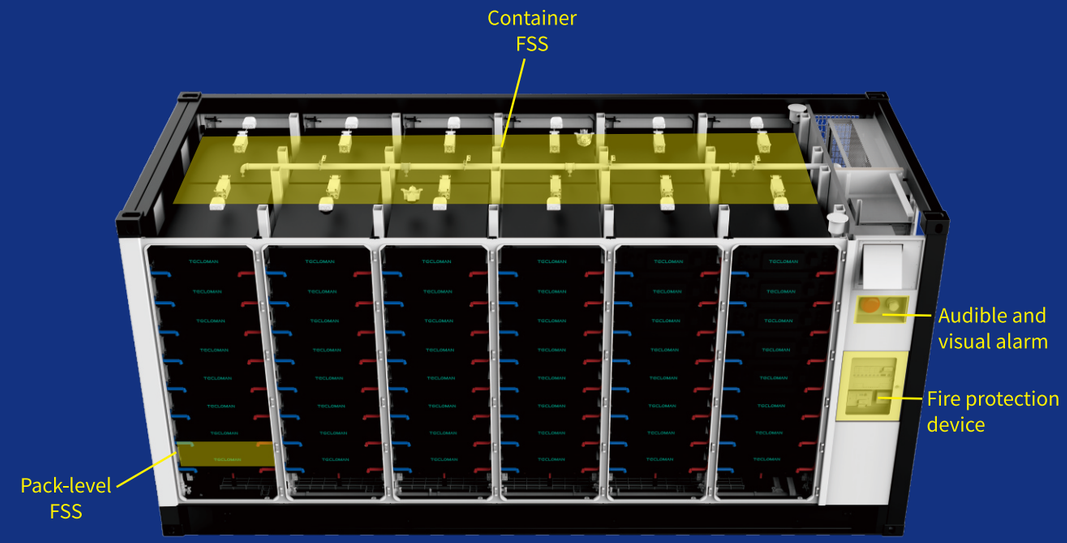
Intelligent liquid cooling technology combined with a multi-stage variable-diameter liquid cooling pipeline design enables an intra-cluster temperature difference of ⩽3°C. This significantly reduces system temperature variation and temperature rise, thereby enhancing system cycle life and improving project returns over the entire lifecycle.



Product Advantages

NO.3

Fire protection design compliant with NFPA 855 requirements, featuring a three-level coordinated system combining PACK-level fire suppression, cabin-level fire suppression, and water-based fire protection. Equipped with gas detection and explosion-proof ventilation systems, establishing a multi-level battery system safety management framework.



NO.4

Diverse configuration, with optional integrated video surveillance system, temperature/humidity control system, water leakage detection system, access control, uninterruptible power supply (UPS), and 2-hour backup power for the system.

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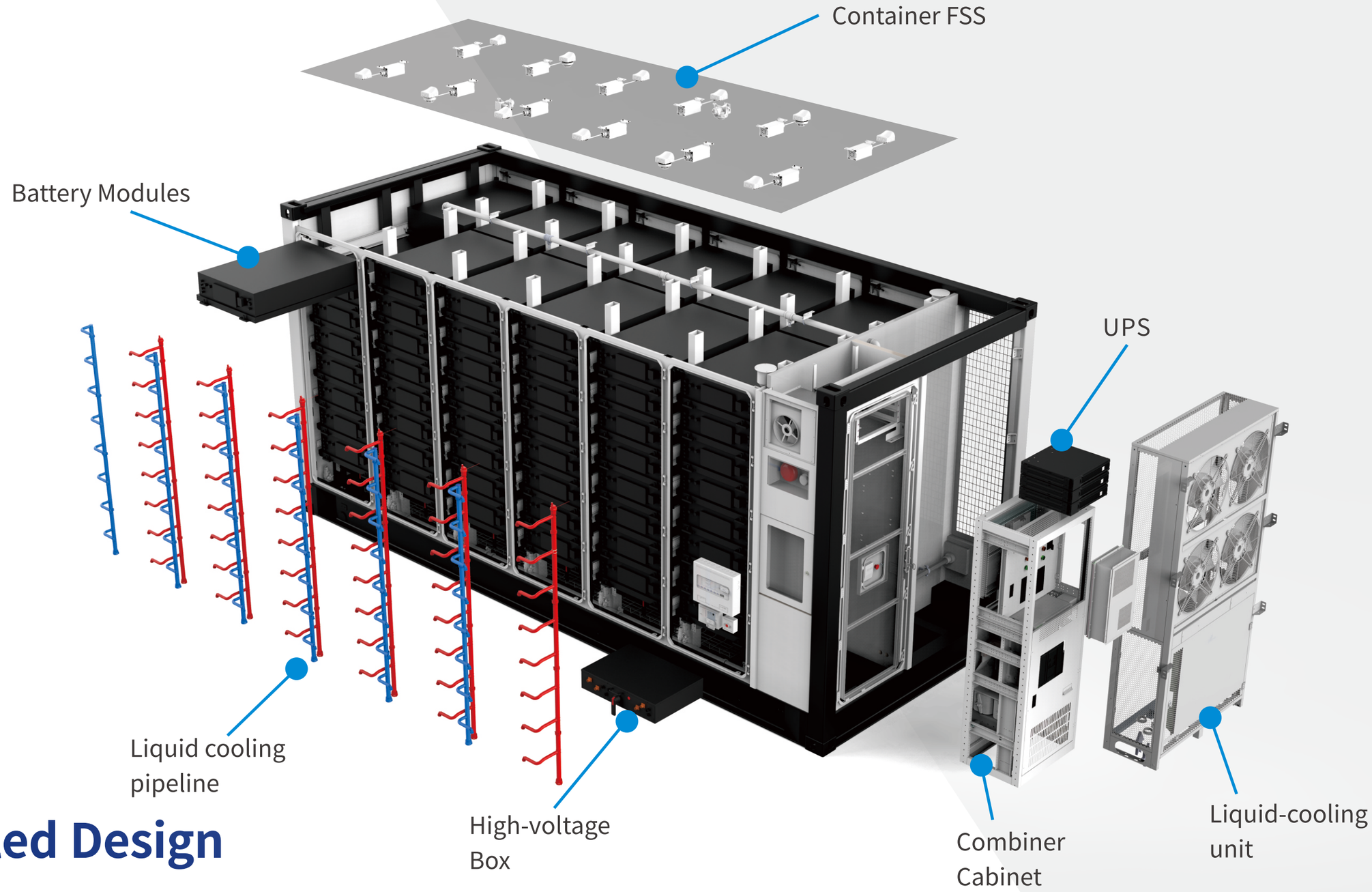
Detailed Design



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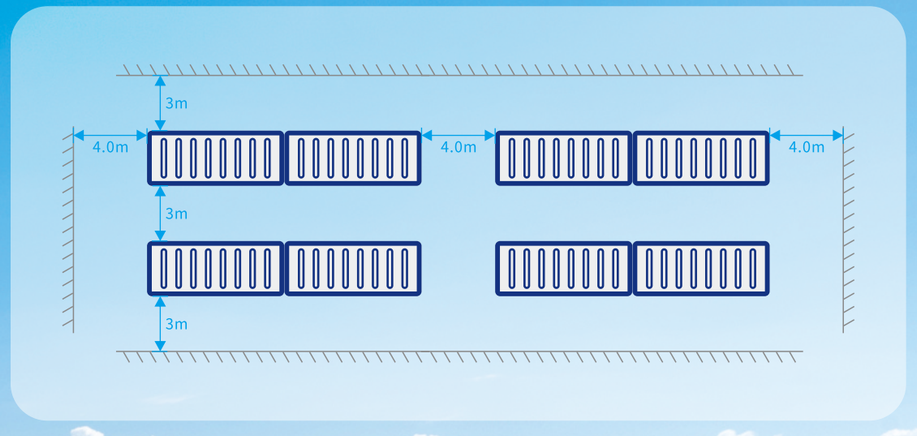
Construction layout plan:



Product Specification

Model	TBAT-5031-15-L-E
Cell Type	LFP 3.2V / 315Ah
Battery Module Configuration	1P52S
Max. Voltage of Cell	3.6V
Min. Voltage of Cell	2.8V
Number of Module per Rack	8
Battery Rack Configuration	1P416S
Number of Racks per Container	12
Nominal DC Voltage	1331.2V
Operating Voltage Range	1164.8~1497.6V
Nominal Capacity	5.031MWh
P-rate	0.5P / 0.25P
Max. charging/discharging power	2515kW
Temperature Range	-25 ~ 50°C
Cooling Method	Liquid cooling
Relative Humidity	⩽95%RH，non-condensing
Cycle life	⩾8000 cycles（25°C，90%DOD，80%EOL）
Max. Altitude	⩽5000m（>3000m needs to be customized，>2000m derating）
Auxiliary power supply specification	3P+N
IP Protection Degree	IP55
Anti-corrosion level	C3 / C4 / C5（Optional）
Fire Suppression System	Aerosol + Water
Weight	43T
Dimensions（W×D×H）	6058×2438×2896 mm