


# Powtrix™ Liquid cooling
# 5.015MWh Battery System

## High security

- UL9540A thermal forced spread test evaluation results are excellent, combustible gas monitoring, pressure relief and explosion protection meet NFPA68, NFPA69 specifications;
- "2+2" fire prevention and control measures: The design adopts the modular built-in fire suppression & container firefighting system echelon configuration;
- Large scale fire impact assessment test results were good, no propagation to adjacent container;
- Insulation strength of the system is sufficient, and no breakdown or flashover in 5kVd.c. withstand test. The DC circuit is equipped with multi-level disconnections, whitch are echelon configuration;

## Long life and durability

- Thermal management design adopts centralized cooling, multistage shunt, parallel flow channel, throttling control. The temperature difference of cells in the module is 2℃, and that is 3℃ for container level.
- Special energy storage battery, standard cycle 10000+, service life of 20 years;
- Protection is in place and reliable and durable. The protection grade of the enclosure is IP55, the anti-corrosion grade is C4/C5, and the high voltage module is IP67.

## Solid and reliable

- Adaptive design, module structure retention and internal force release optimization in the whole life cycle;
- Excellent steel structure stability, 2 times lifting load, 10 times ballast performance recognized by classification society;
- The overall structural stability meets IEEE693 high level earthquake tolerance;
- Electrical components are tested for high temperature durability at 60 ° C; The liquid cooling pipeline is checked at 1000 hours of high temperature cycle;

## Relevant certifications

MSDS · CSA GROUP · RoHS · IEC · UL · UN38.3 · GB

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# Powtrix™ 5.015MWh Battery System



**5.015MWh**
High Energy

**10000 + cycles**
Long Cycle Life

**High Safety**
FSS with module-level and container-leve

**20HQ**
Standardization

**3℃**
Intelligent Temperature Control

**Low LCOS**
Scientific Design

**27% Land Saving**
Single-side Door Opening Design

**Seismic Resistance**
Meet high design level based on IEEE Std 693

**<75dB**
Low Noise Design

## General

| | | |
|---|---|---|
| Product Model | Y104R04C12 | |
| Configuration | 416s12p | |
| Communication protocol | CAN, RS485, TCP/IP | |
| Elevation | ≤3000m | |
| Cooling and heating type | Liquid cooling / heating | |
| Operating ambient temp | -30~55℃ | |

## Electrical Parameters

| | | |
|---|---|---|
| Withstand voltage | 4500VDC, leakage current ≤5mA | |
| Short circuit current | 130.56kA@12 racks | 13.6kA @1 rack |
| Rated energy | 5015.9kWh | 100%DOD， 0.5P |
| Rated voltage | 1331.2V | |
| Operating voltage range | 1040V~1500V | |
| Rated charge power | 2500kW(0.5P) | According to power map |
| Rated discharge power | 2500kW(0.5P) | According to power map |
| Short peak charging power | 5000kW@60s | According to power map |
| Short peak discharging power | 5000kW@60s | According to power map |
| Auxiliary power supply | 3phase 400Vac±10% 50Hz(CE)<br>3phase 480Vac±10% 60Hz(UL) | |
| DC side output form | 1/2/12 outputs(optional) | |

## Mechanical Parameters

| | | |
|---|---|---|
| Mass | ~44.5t | |
| IP level of enclosure | IP55 | |
| Dimension | 6058mm×2438mm×2896mm | L ×W ×H， 20HQ |

## Certification

| | | |
|---|---|---|
| Executive standard | UL9540A-2019，UN38.3，RoHS，GBT36276-2023 | For module |
| | UL9540A-2019，UL1973-2022，IEC62477-1-2012<br>IEC62619-2022，IEC63056-2020，IEC60730-1-2022，GBT36276-2023 | For unit |
| | UL9540-2023，NFPA68-2023，NFPA69-2024，NFPA855，UN3536<br>IEC62477-1-2012，IEC62933-5-2-2022，IEC61000-6-2-2016，RoHS<br>IEC61000-6-4-2018,IEEE Std 693-2018，ISO3744-2010，REACH | For container |