Competitive Analysis of OmniCube-A215 and Huawei C&I

2024.4

01/ OmniCube-A215 Highlight

Support parallel up to **10 units**, expandable to MWh-level

Pioneering **iCCS** technology
Error prediction and self-balancing

Global Top3 shipping cell brand-
EVE

2 Hours fire resistant casing

Support **50/100kW PV INPUT** (Optional)

Multi-dimensional security
BMS, fire protection system

215KWH Capacity and
100KW power

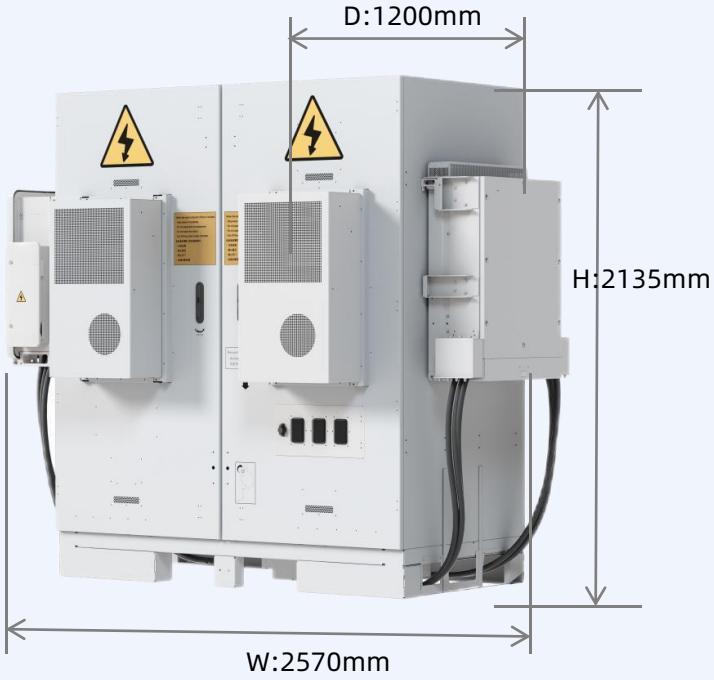
IEC GB certified

AIO design

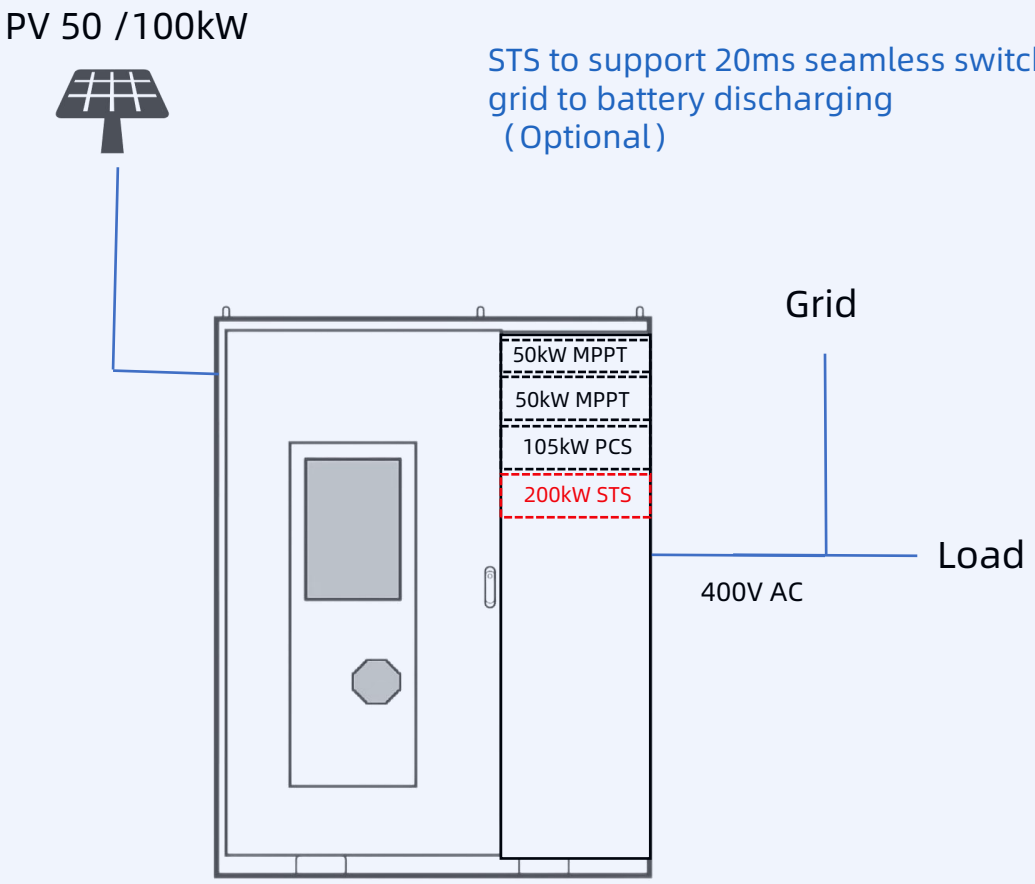
Easy to install

02/ Bigger capacity、Lighter weight、Higher standard

105kW/215kWh	VS	100kW/200kWh
2600kg	VS	2950kg
IEC/EN62619 IEC/UL60730 IEC/EN62477 IEC/EN61000 GB36276 GB/T34131 UN38.3、UN3480	VS	GBT 36276-2018 IEC62619 UL9540A UN38.3



02/ Support 50/100kW PV INPUT



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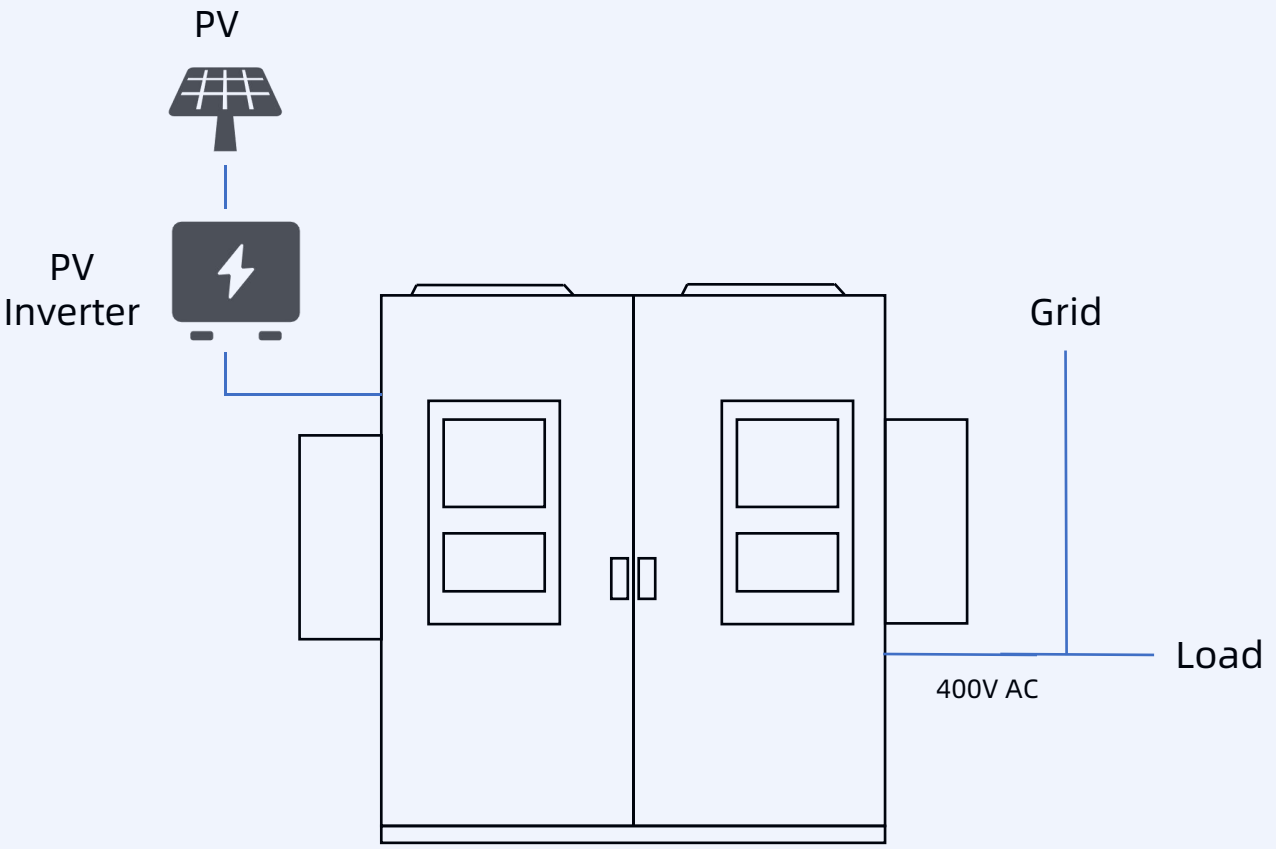

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03/ Easier installation and low cost

All components are pre-integrated in factory

Many components need to be installed on site, which takes a long time and costs higher labour cost

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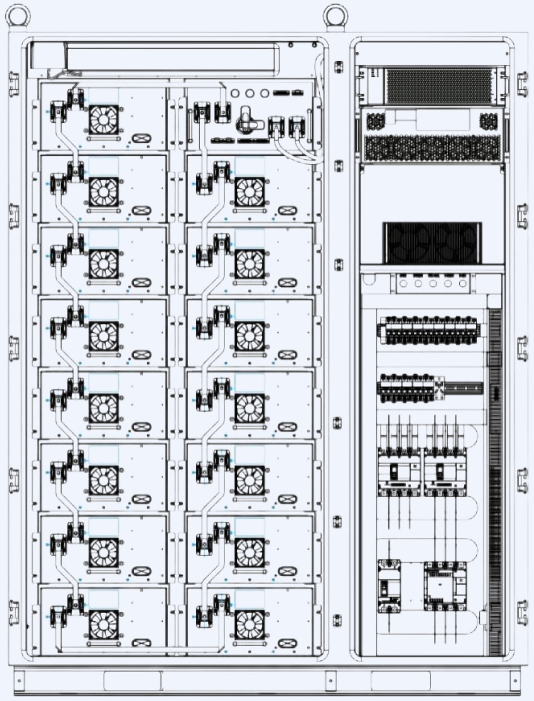
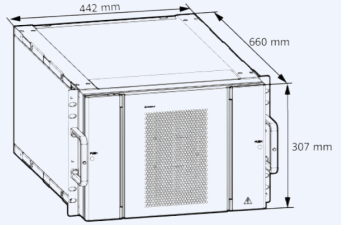
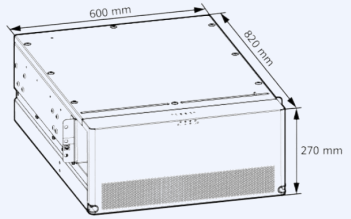


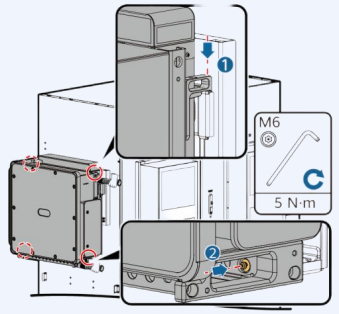
Main installation steps: Unpacking - Wiring - commisioning

PACK weight:≤140kg



Rack Controller weight:≤90kg





Rack Controller weight:≤90kg

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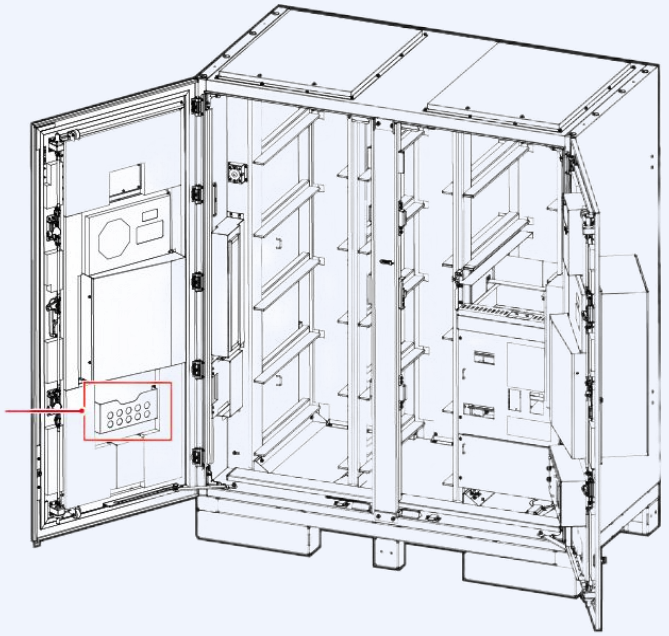
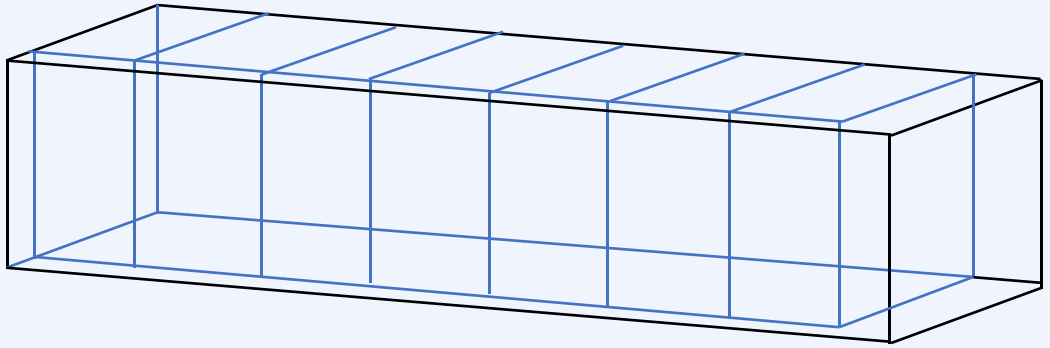


03/ 40HQ Loading capacity



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8 sets

VS

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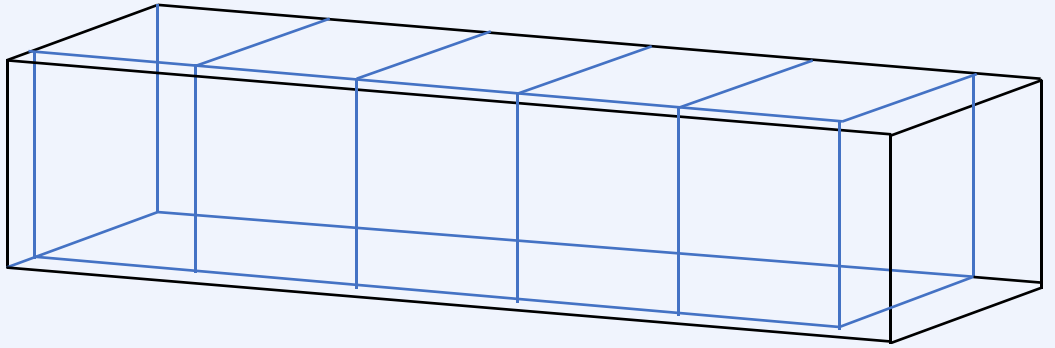
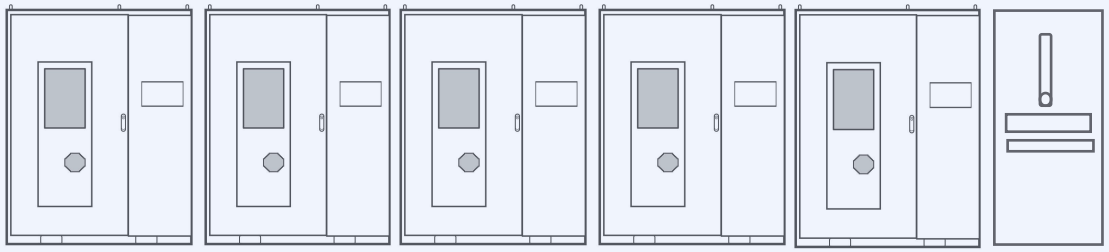


5 sets

Estimated

03/ Up to 10 units parallel connection
5 parallel units and one control cabinets together
Expandable to MWh level solution

eEMS supports up to 10 parallel units and can adapt
to client control cabinets



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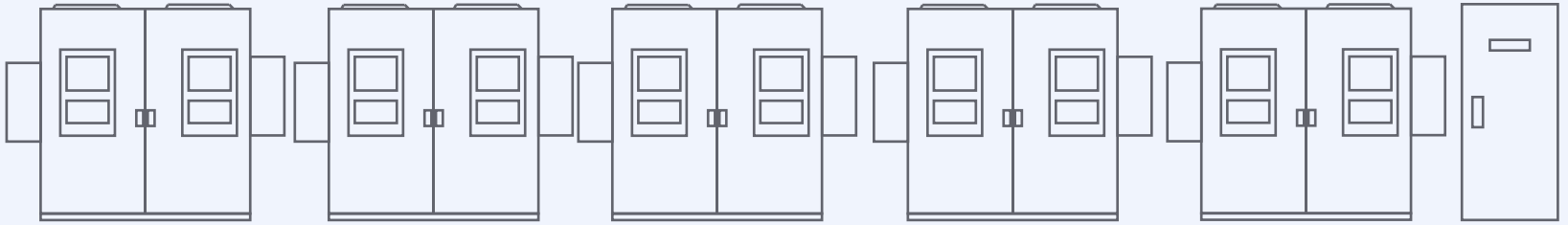


04/ Cell selection-EVE 280Ah

6000 cycles@80%EOL

Long cycle life

≥94%

Charging and discharging efficiency

High energy density to 230Wh/kg

Same space for bigger capacity

Certified performance by GW+ market delivery

IEC, UL, GB, UN certification

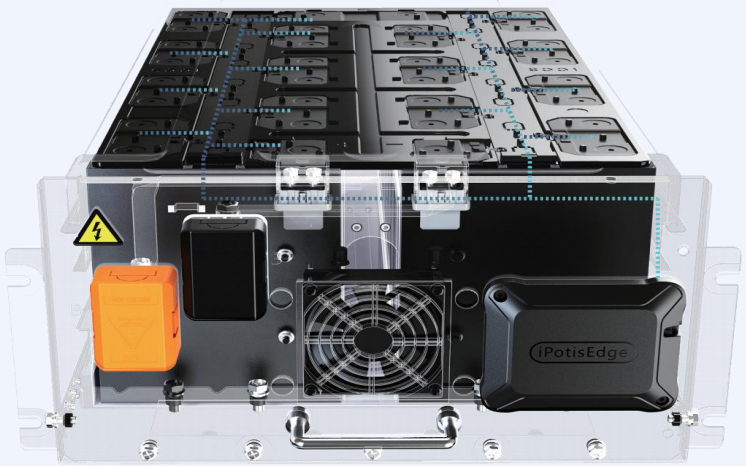
Global certified, high quality control

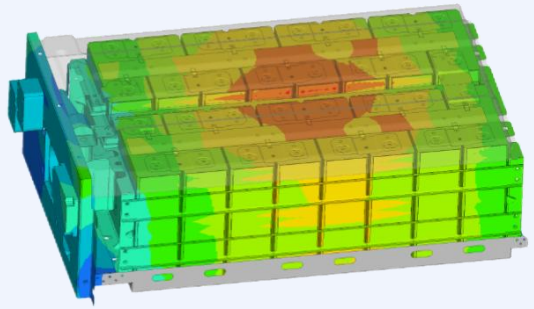
8 security tests

Drop, heating,crush
Over charge, over discharge
Thermal runaway
External short circuit,
Extrusion needle test

04/ Patented iCCS technology

- Advance warning time for valve opening: 3-5min
- Thermal runaway prediction time of battery cells: 3-6 months
- Advance thermal runaway confirmation: 30s-1min





Prediction（P）

The DCR algorithm predicts cells that may experience thermal runaway, and the prediction time for thermal runaway is advanced by several days to months to remind for replacement. Minimize potential risk.

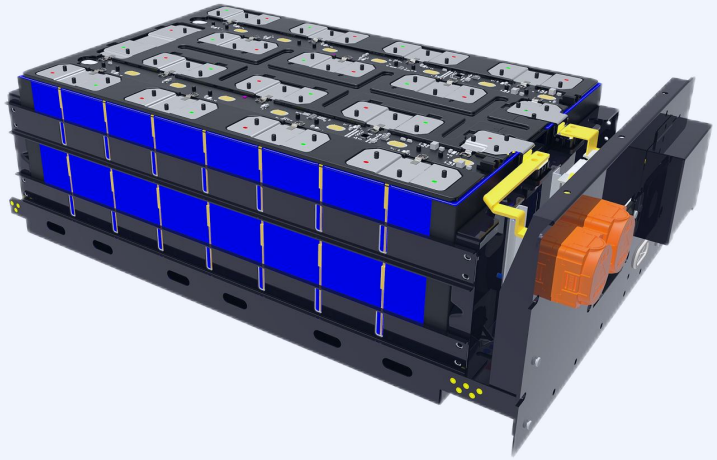
Warning（W）

iCCS can detect abnormal battery cells temp. rise status of safety valves,
cut off the charging and discharging currents 30S to 5 min before thermal runaway combustion

Confirm（C）

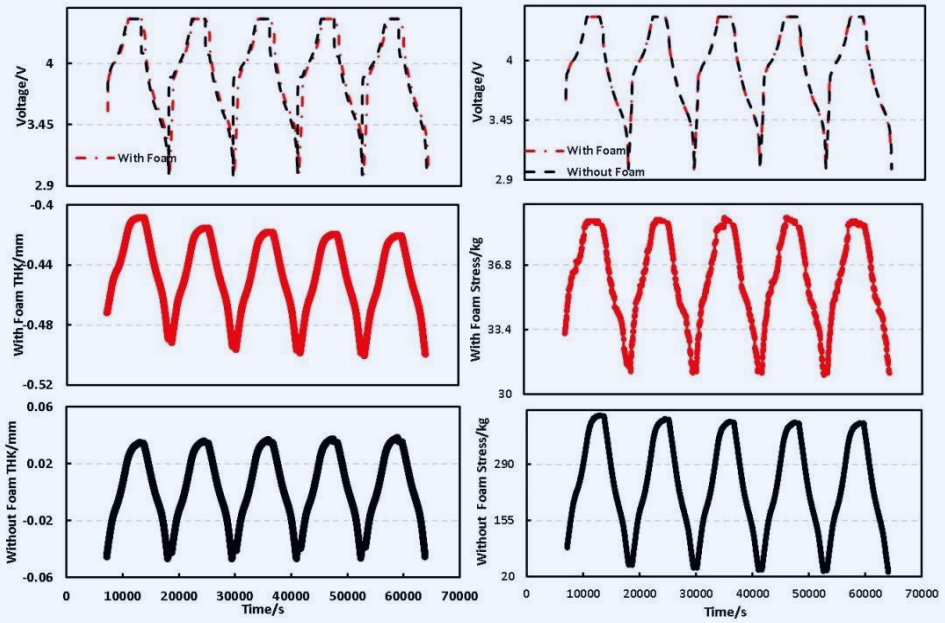
iCCS can detect the range and speed of temperature rise diffusion within 30 seconds before confirming thermal runaway, timely activate the battery compartment level fire protection system, and push an alarm.

04/ 1P16S -CTP Module design



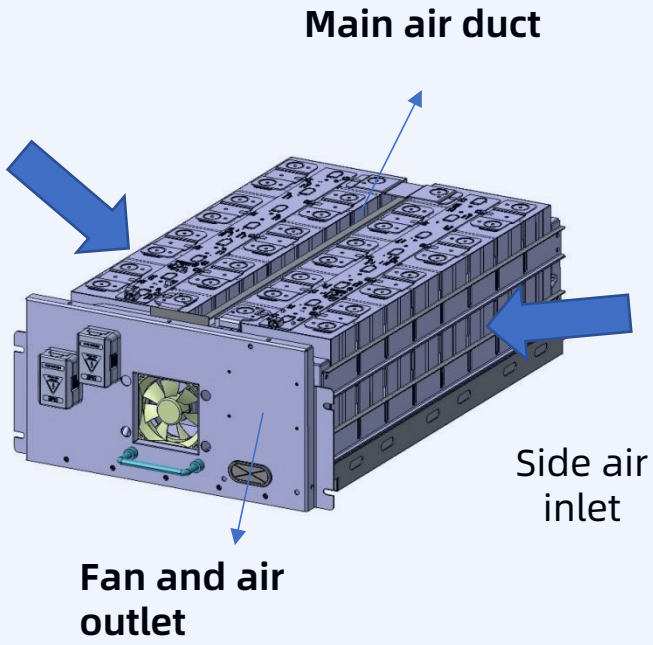
4mm air inlet duct design between each battery cell
Phlogopite mica material+ foam
Cushioning synthetic design

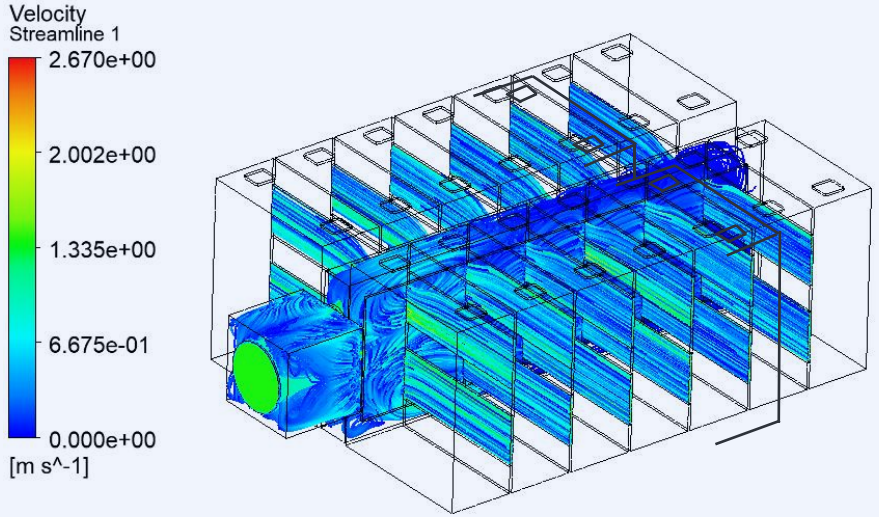
Effective role in heat insulation and heat blocking for a single battery cell in case of thermal runaway, so as to protect the safety of the whole battery system.



Under constant pressure and constant gap conditions:
expansion thickness and expansion force variation curve of foam during charging and discharging

04/ 1P16SPACK Thermal management design





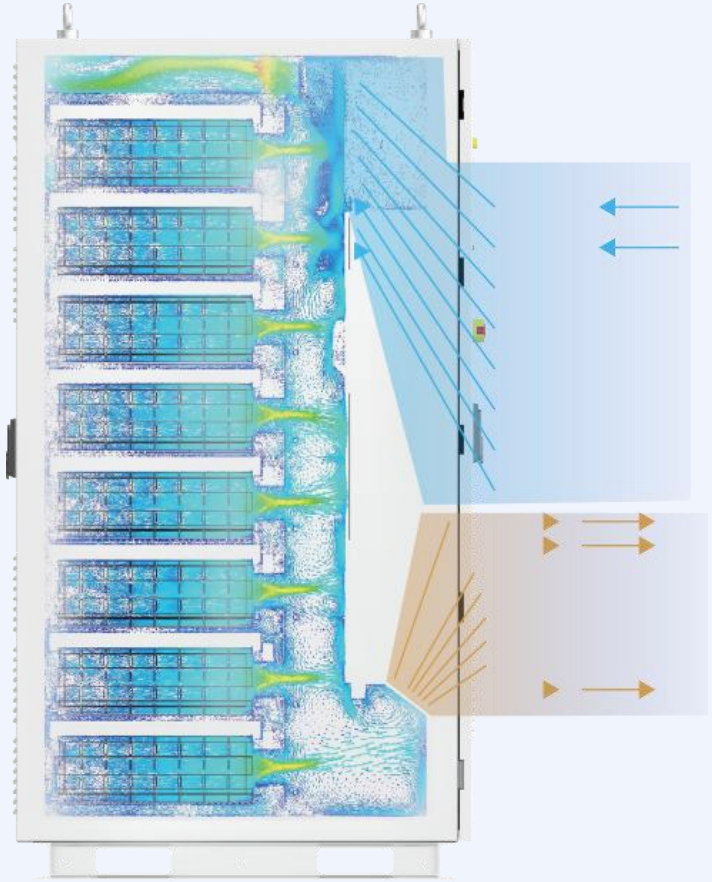
Air-cooling pack, with a cooling interface between battery cells and a well-designed air duct.

In thermal simulation, after one cycle of 0.5P charging and discharging at an initial battery temp. of 25 ℃, and an ambient temp. of 25 ℃:

Highest tem. of PACK is 35.1 ℃, located at both ends of the module's battery cells (caused by a single air duct at the end of the battery cells).

Highest temp. of NTC is ≤ 33.7 ℃, and the temp. difference between NTC is 0.6 ℃.

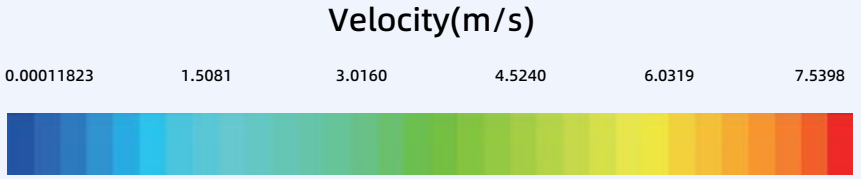
04/ Dual compartment and dual duct battery electrical precise tempcontrol



Battery compartment:
temp. difference ≤ 5 ℃

System efficiency ≥ 89%

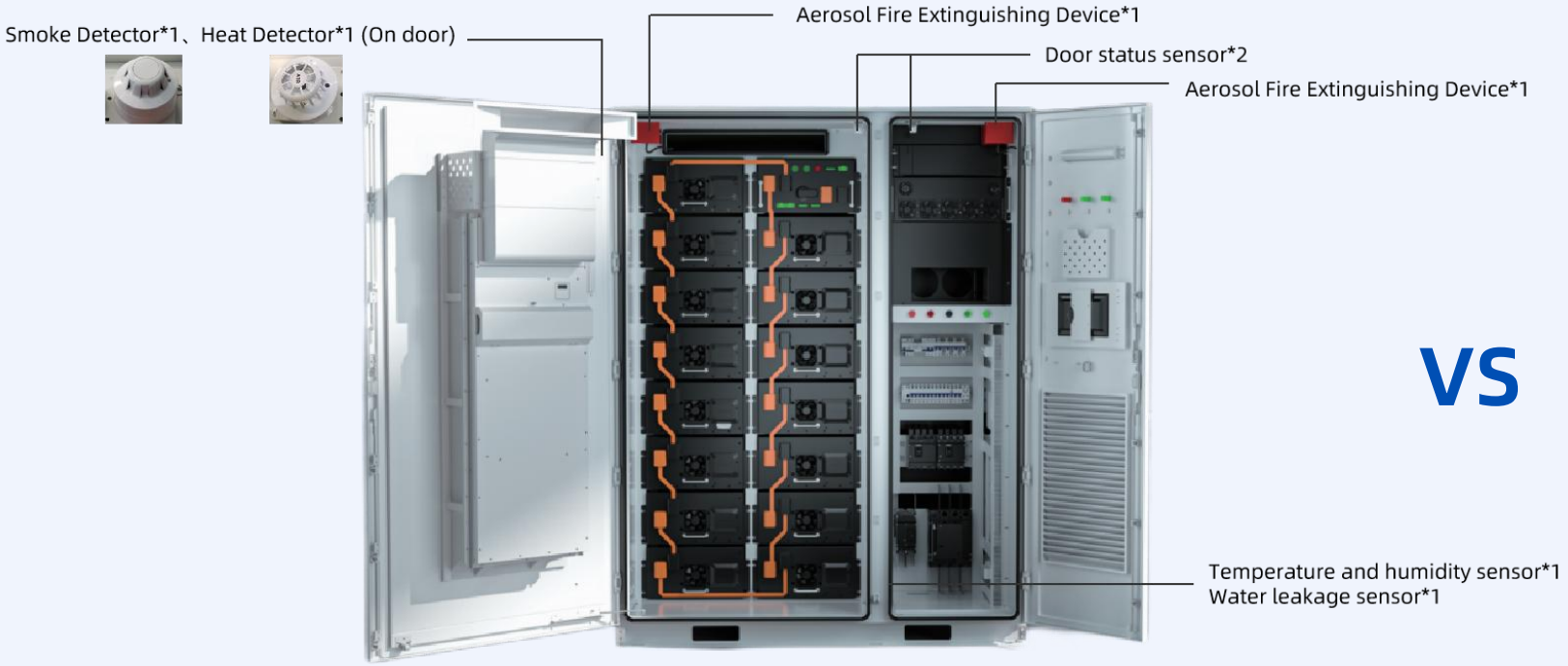
Electrical cabin:T<60 ℃



04/ Equipment safety and fire protection design

Battery compartment and electrical compartment safety design, each compartment equipped with an independent fire protection system (CE certification). And can receive fire feedback remotely.

No subdivision design, high safety risk.
However, it is differentiated in the top configuration of the explosion-release plate



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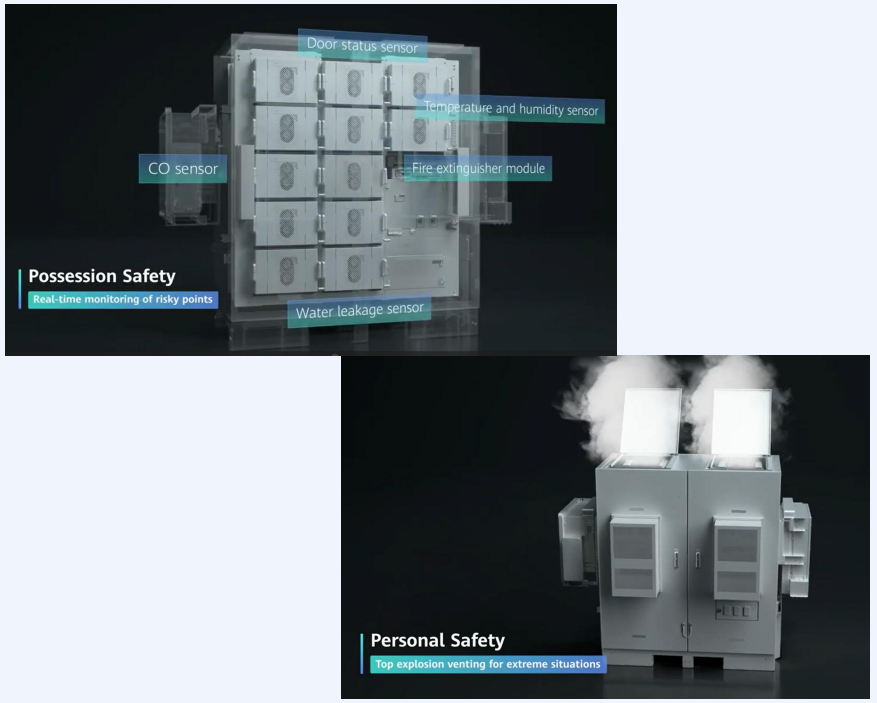

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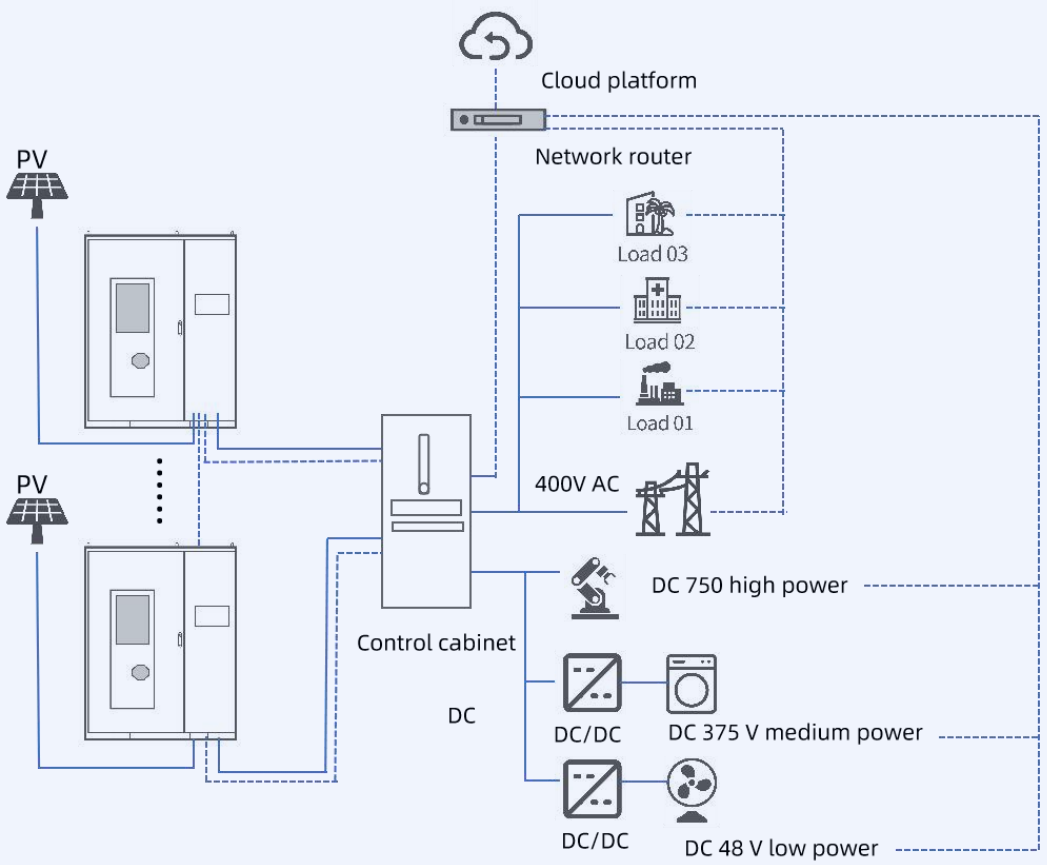
05/ # Application scenarios

Grid connection
Peak-shaving

Off-grid

Micro-grid

Support VPP scheduling



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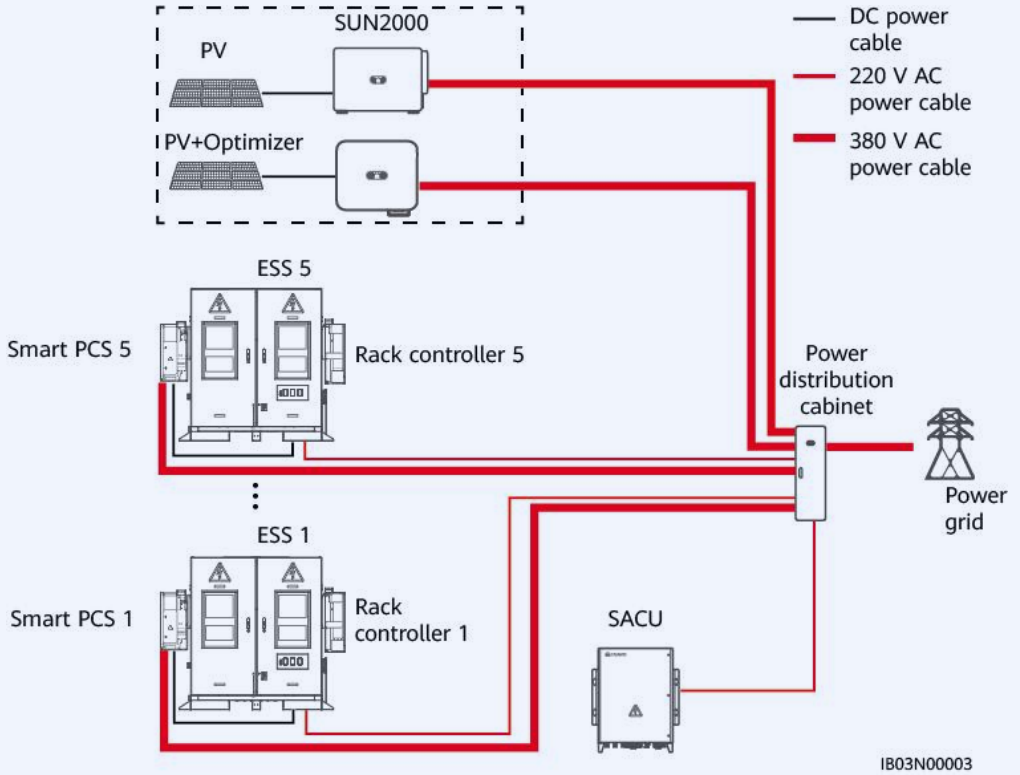

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