Energy Storage System Products

To Make ESS Better

2023 2024 2025

CATALOGUE

To Make ESS Better

#01

Product datasheet

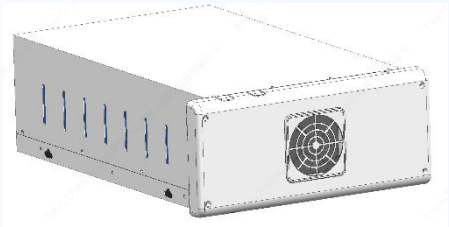
#2024

Product datasheet

MS-GS215-2H2/3/6

NO	ITEM	REMARK
a	Cool type	Battery compartment uses Intelligent air conditioner cooling, PCS compartment uses Forced air cooling
b	Dimension	1865(W)*1000(D)*2500(H)mm
c	weight	2700kg
d	IP grade	IP54
e	Color	RAL9016
f	Anti corrosion grade	C5
d	Seismic grade	Class 9

Product datasheet



ITEM	Cell	Pack	Cluster
Dimension(W*D*H) (mm)	173.7*204.6*71.7	526x784.5x230	1865*1000*2500
Weight (kg)	5.49±0.3kg	105kg	2700kg
Voltage (V)	3.2	51.2	768
Voltage range (V)	2.5~3.65	40~58.4	660~864
Capacity (kWh)	0.896	14.3	215

Product datasheet

NO	ITEM		DATA
1	Amount of Cell		1P240S
2	Capacity		215kWh
3	Voltage		768V.dc
4	Voltage Range		660~864
5	Charge/Discharge current	Rated	130A
		Max	151A
		Min	115A
6	Charge/Discharge power	Rated	100kW
		Max	110kW
		Peak	150kW , ≤10s
7	MPPT power	Rated	150kW
8	Access PV power	Rated	200kWp
9	MPPT Voltage range		180~880V.dc

Product datasheet

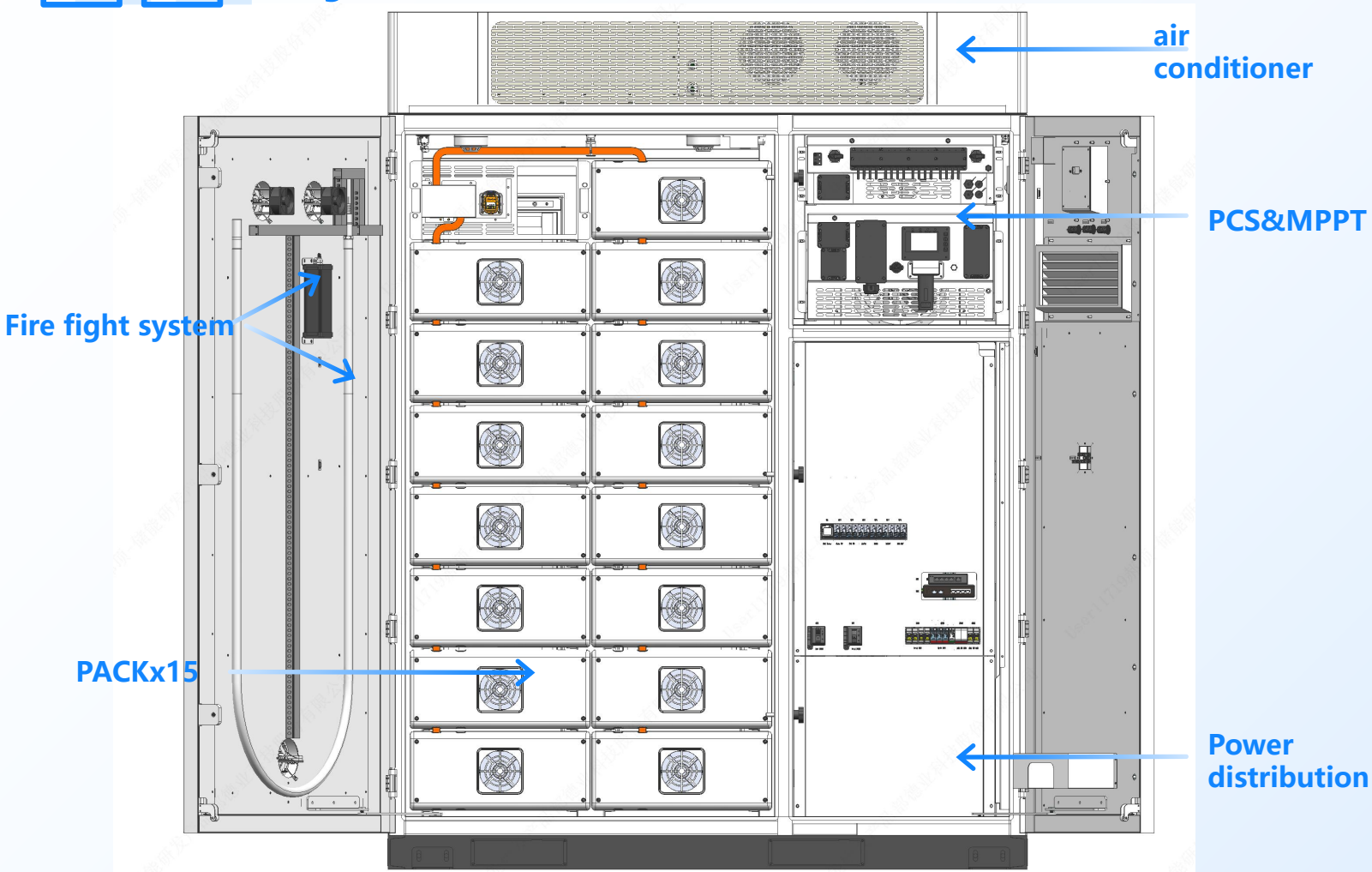
NO	ITEM		DATA
10	Ambient temperature	Charge	-20℃~+50℃
		Discharge	-20℃~+50℃
11	AUX power	Voltage	230Vac±5%
		power	≤3kW
12	Environment condition	Storage temperature	-20℃~+60℃
		Altitude	≤3000m
13	Communication interface	SFP/Ethernet	
14	Lightning protection	DC Type II / AC Type II	
15	Overvoltage level	Class 3	
16	Protect class	1	
17	MAX. in parallel on AC side	On grid ： 20 pcs Off grid:10 pcs	

To Make ESS Better

#02
System introduction

#2024

System introduction

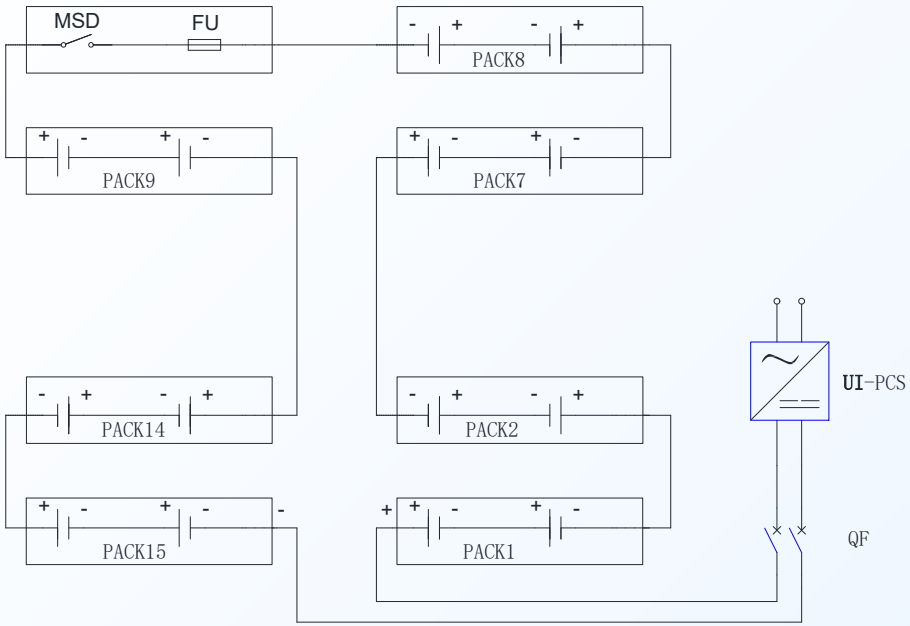


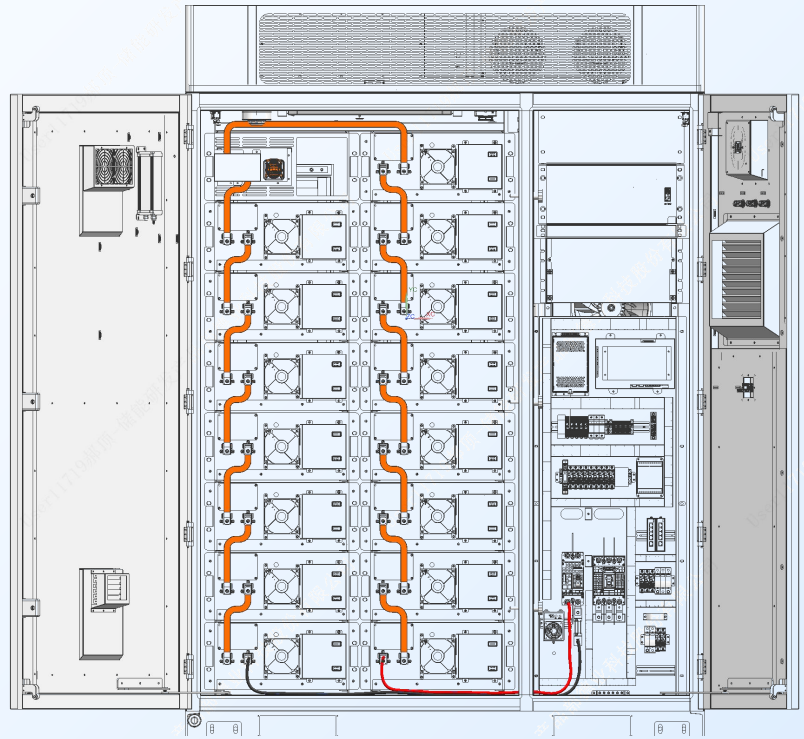
MS-GS215-2H2/3/6

It is a new energy storage product developed and produced by Deye ESS, which is reliable power supply for various devices and systems.

MS-GS215-2H2 is particularly suitable for high-rate cyclic charging and discharging applications, such as electricity cost savings, power expansion, solar power consumption, backup power sources, photovoltaic microgrids, and demand response.

System introduction





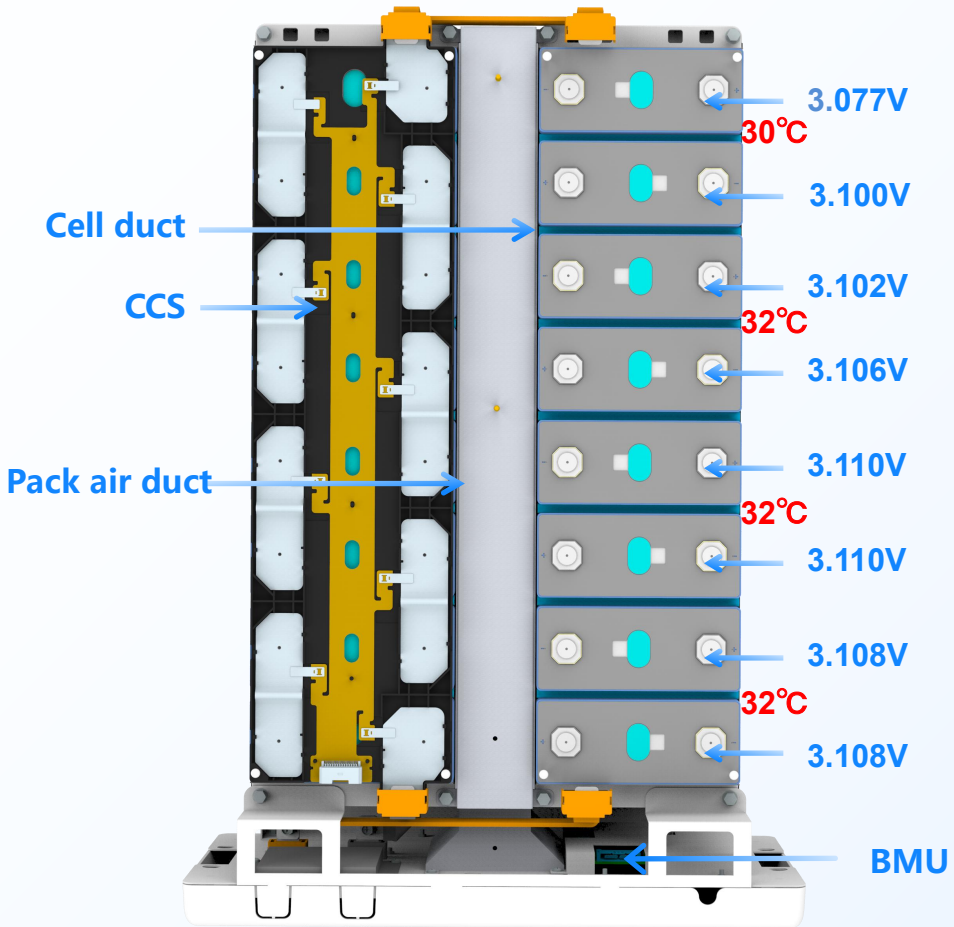
01 The battery compartment consists of 15 PACKs connected in series, each PACK consisting of 16 280Ah battery cells

02 Fuse short-circuit protection, which prevents circuit damage by melting itself when the current is too high or exceeds the load current

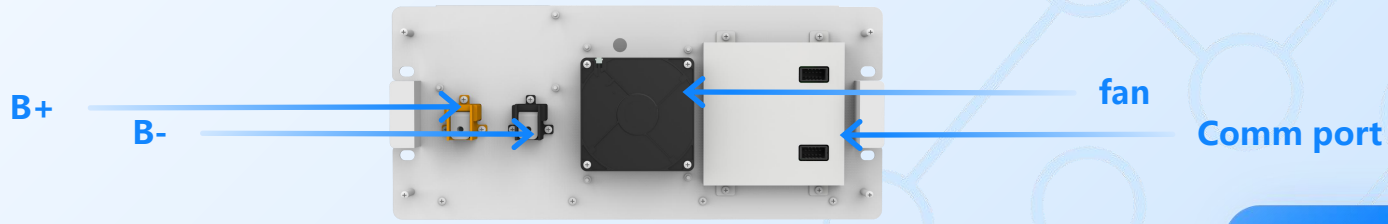
03 MSD can quickly separate the connections of high-voltage circuits, making maintenance and other work in a relatively safe state

04 A DC circuit breaker is designed at the B+/B - front end of the battery to provide overcurrent protection and effectively disconnect the high-voltage connection with PCS, reducing maintenance risks

PACK introduction



Position	Function
B+	Battery positive input terminal
B-	Battery negative input terminal
FAN	Accelerates air flow through cell ducts, carrying away the high heat generated during their operation
Communication port	Monitoring and control of battery packs can be achieved through serial communication mechanism
CCS	Electrical connection and signal detection structural components.
Pack air duct	Guide the cooling airflow through the surface of the battery module to enhance the heat dissipation effect
BMU	Battery management unit
Cell air duct	Integrate with battery module to achieve convective heat transfer

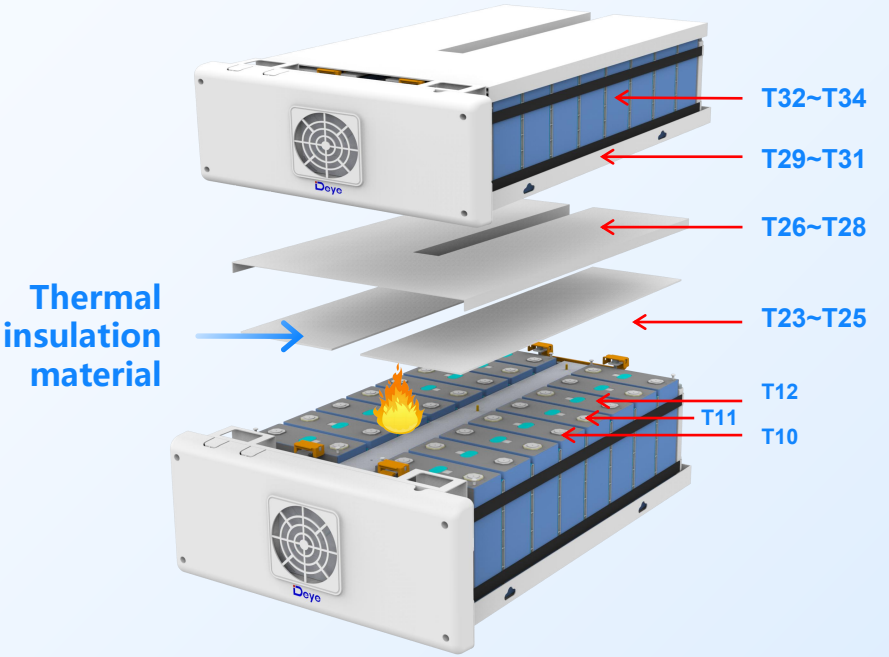


PACK thermal insulaiton

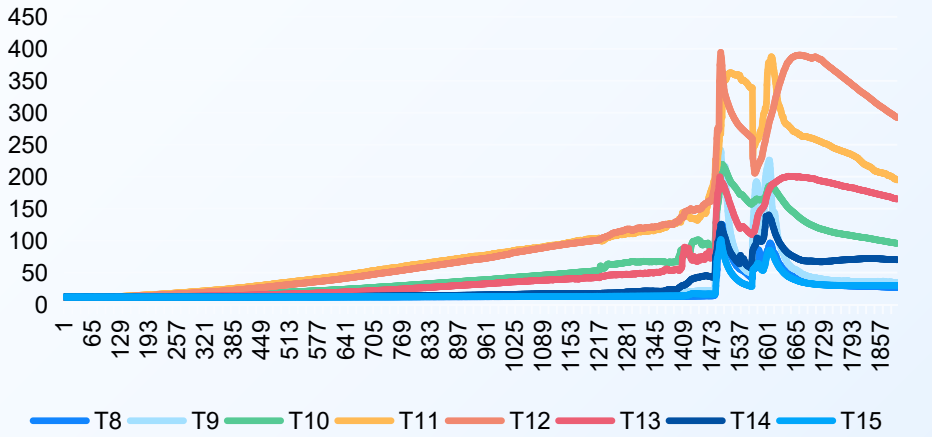
Very low thermal conductivity effectively isolates temperature conduction between PACKs, reducing the risk of thermal diffusion

With good fire and flame retardant properties, flame retardant materials will not burn and can prevent the spread of fire

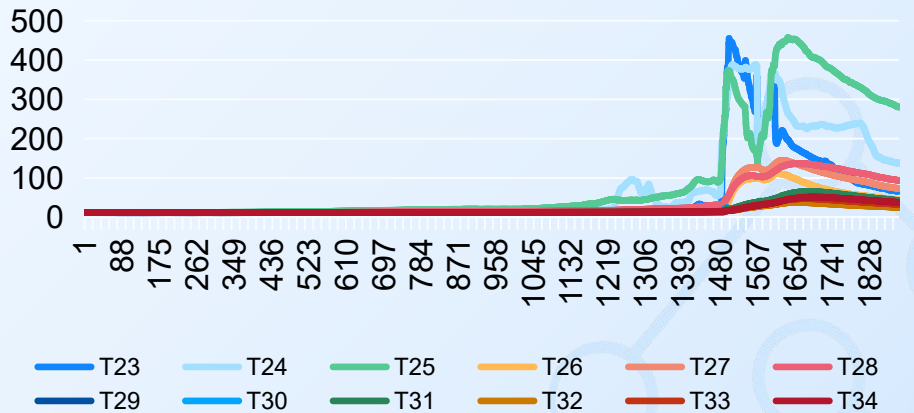
Ultra light and non-toxic, very environmentally friendly



Therma

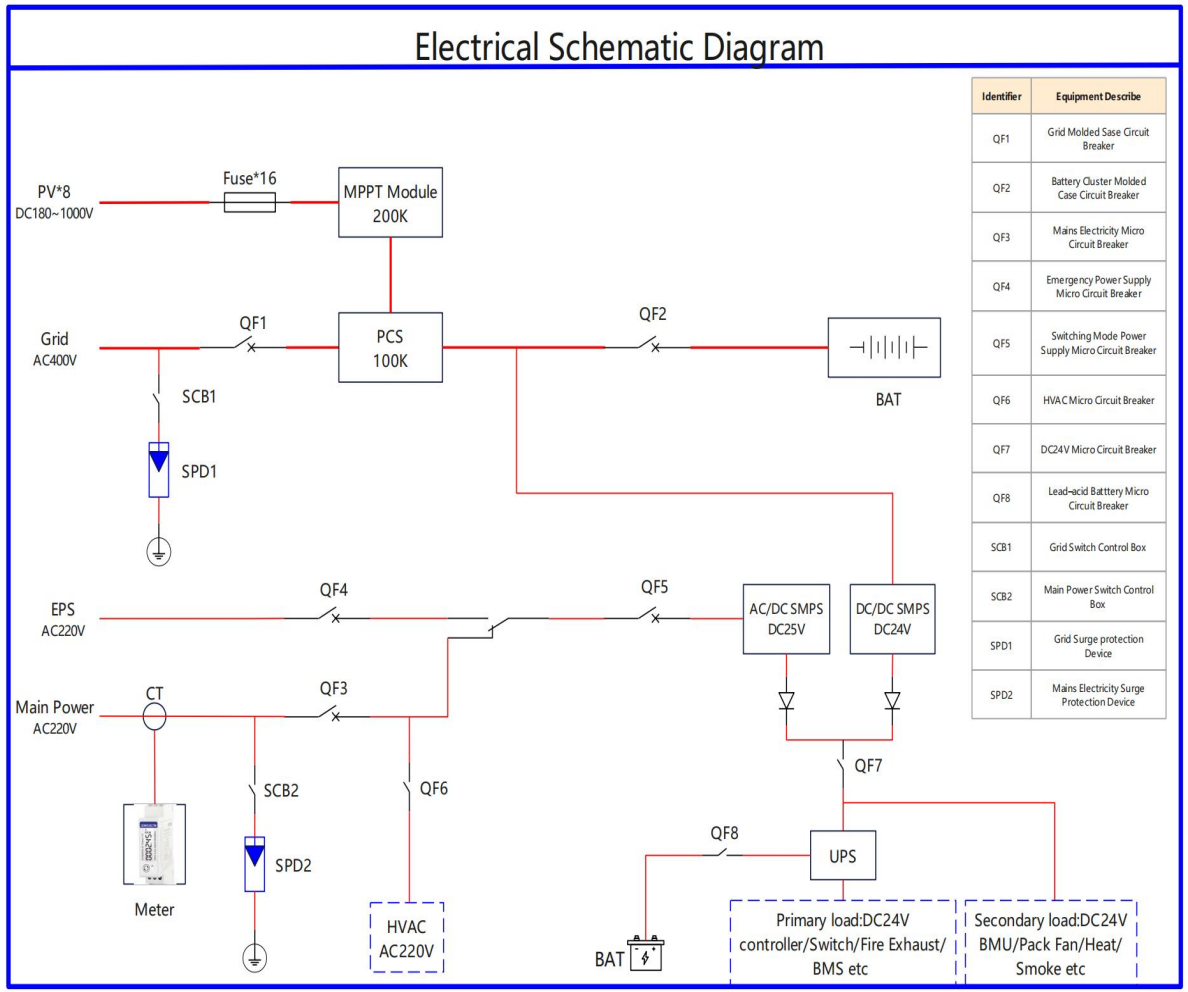


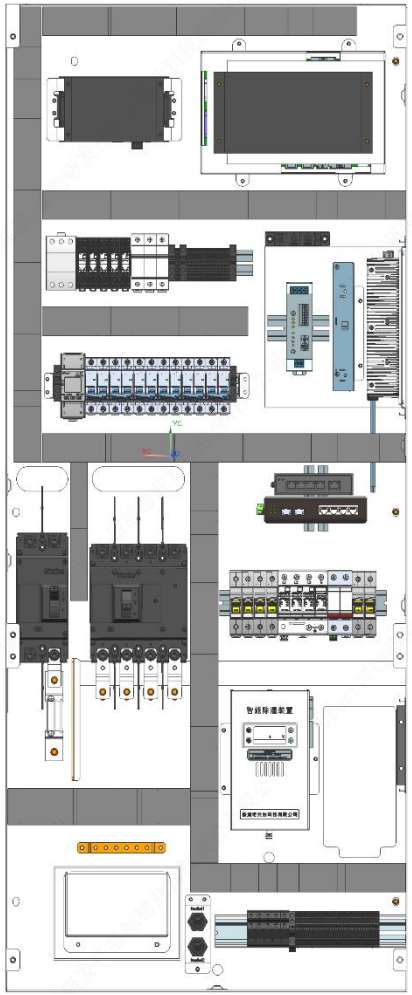
Thermal i



T8-T15 are temperature of thermal runaway module，T10-T12 are runaway battery cells）

PCS room—Power Conversion Area





Support dual 230Vac auxiliary power input, one main circuit, one UPS backup power, dual power redundancy, improve system reliability

Built in dual 24Vdc power supply to guarantee the reliability of low-voltage power supply, DC UPS is configured at the front end of the primary power to ensure the reliability of data and safety components

Both AC380V power supply and auxiliary AC230V power supply are equipped with lightning protection devices to protect electronic equipment and infrastructure from damage

The cabinet door is equipped with an emergency stop protection switch, which is activated in case of emergency.

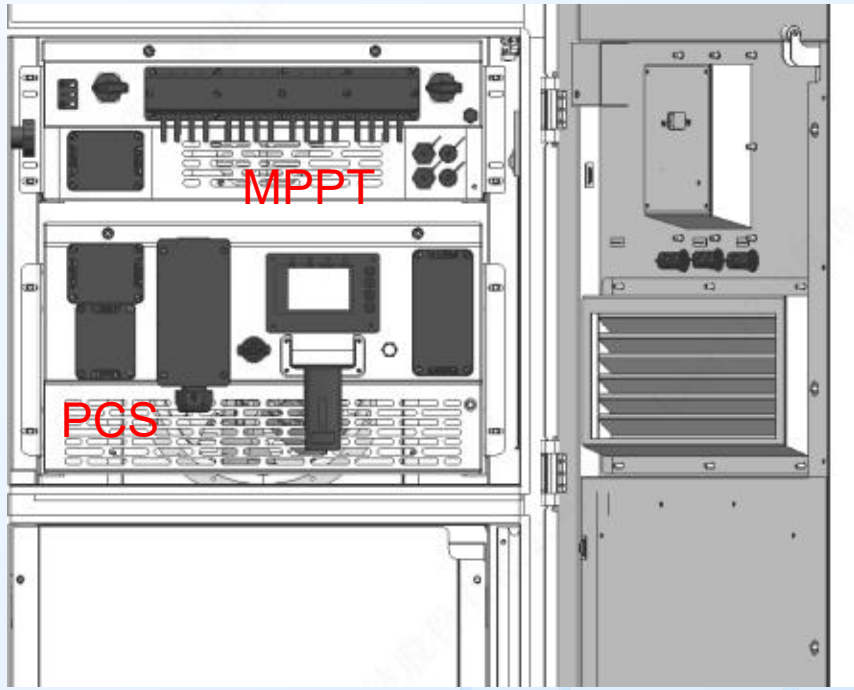
PCS room—PCS & MPPT area introduction

PCS is a conversion device between the power grid and batteries/photovoltaics, meanwhile charge and discharge batteries. PCS can invert the DC power from the battery into AC power or, on the other hand rectify the AC power to DC power that can be charged into the battery. PCS can work on on/off grid mode.

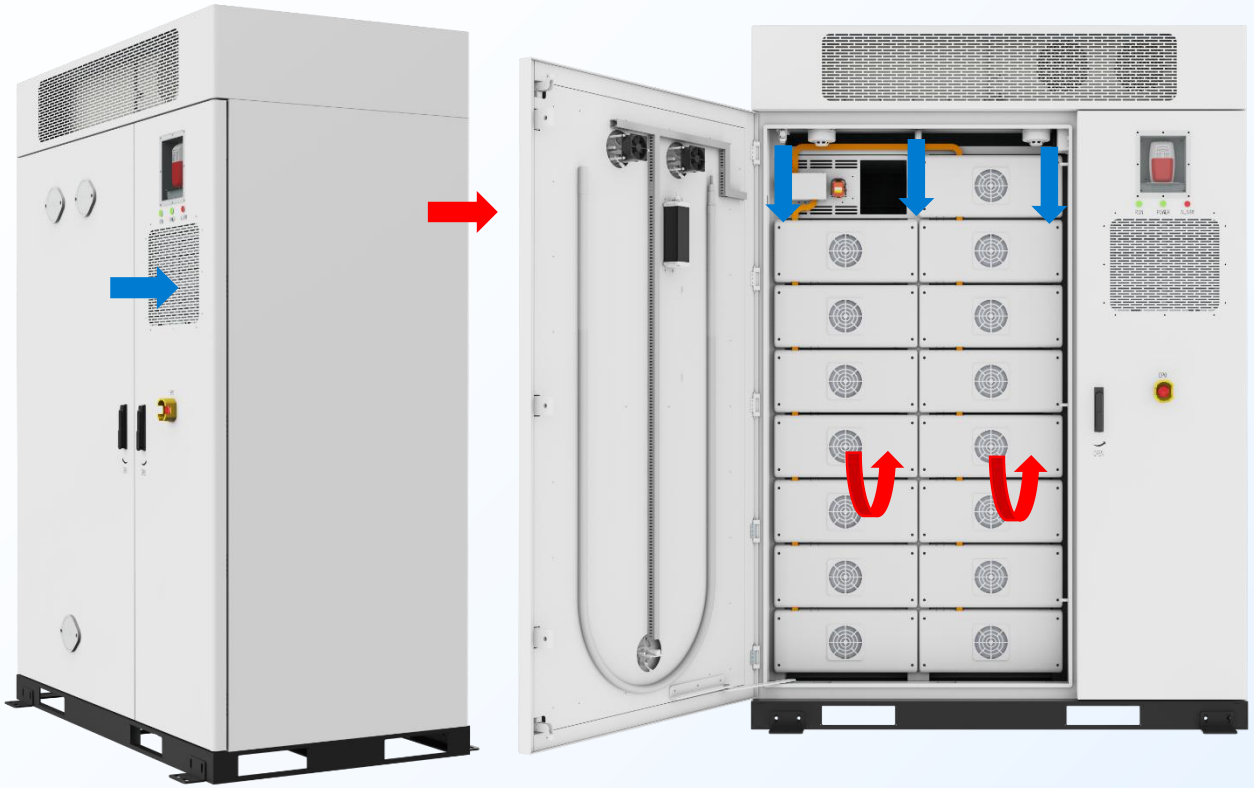
Mppt transfers solar power generated by photovoltaics to the DC side of PCS, releasing the energy to the grid or battery through PCS.

MPPT is designed for an access capacity of 200kWp, greater than the output power of PCS 100kW, Making the output of PCS can reach 100kW when there is insufficient lighting. At the same time, when there is sufficient sunlight, the excess power can be saved to the battery for the nighttime and raining day

supports 10 units paralleled off grid model and 20 units on grid mode. A 500kW STS has been developed for backup , allowing up to five MS-G215 parallelled with a backup power of 500kW.



Thermal and Environmental management



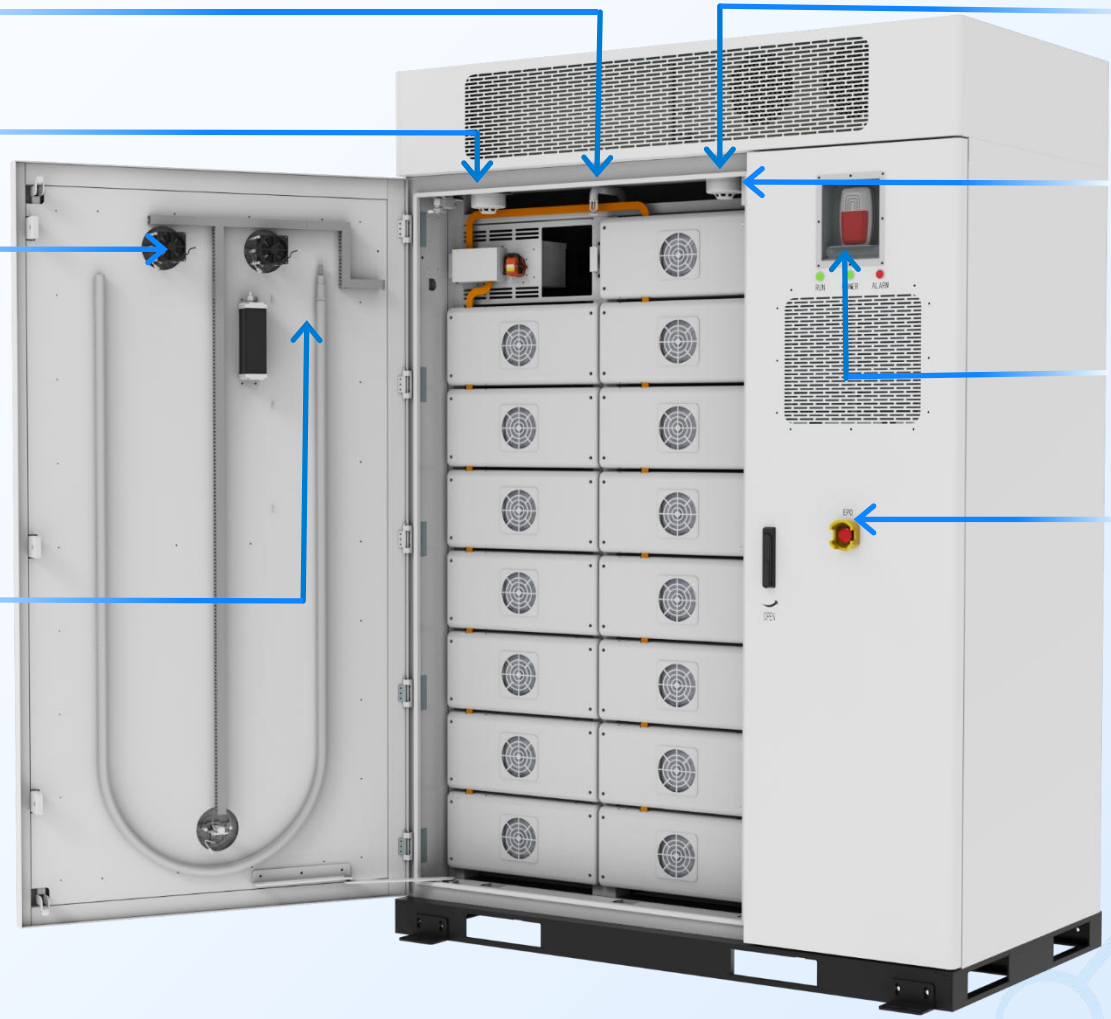
Battery room

Thermal management: The cooling capacity of the battery compartment is provided by the air conditioner, and the heat is provided by the PTC heater inside the air conditioner. The thermal management system adjusts the operating power of the air conditioner and pack fan based on real-time collected battery cell temperature data, keeping the average temperature of the battery cells between 15-37 ℃.Airflow circulation: When the air conditioner on the top of the cabinet is running, it forms an airflow circulation inside the cabinet, and cooperates with the fans on each pack to blow a constant temperature airflow into the interior of the pack to exchange heat with the battery cells and then exhaust the pack.

PCS room

Thermal management: The main fan is used for air circulation and heat dissipation inside and outside the electrical compartment, and some devices are equipped with separate fans to enhance heat dissipation . Humidity management: Semiconductor refrigeration chip condensation dehumidification.

Fire extinguishing system introduction



The principle of fire extinguishing system introduction

Sound and light alarms

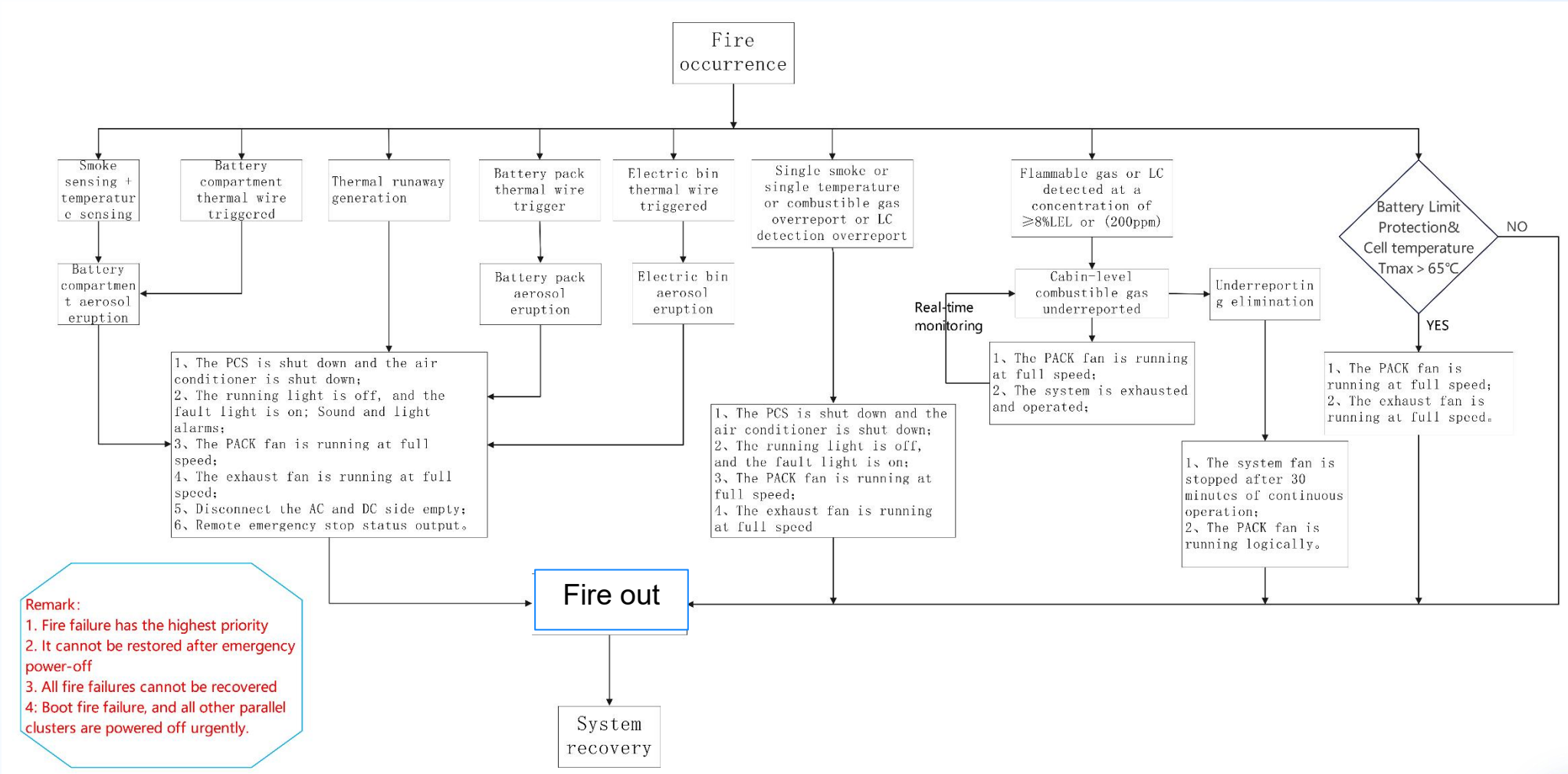
Trigger behavior

- Thermal runaway
- Smoke and temperature sensors Simultaneously triggering
- Aerosol puncture

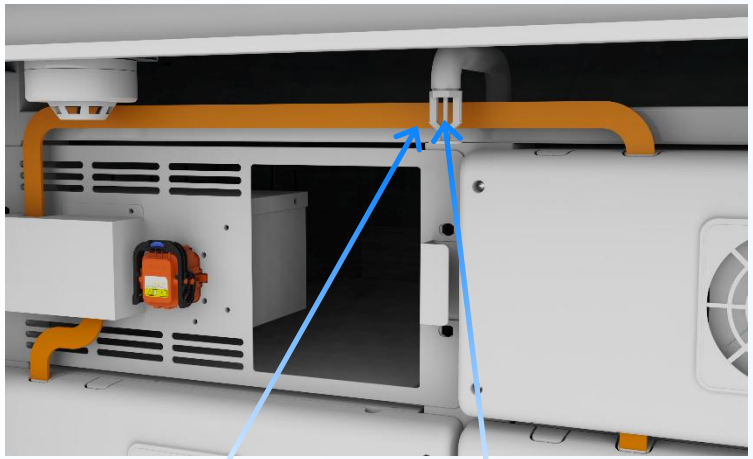
Function

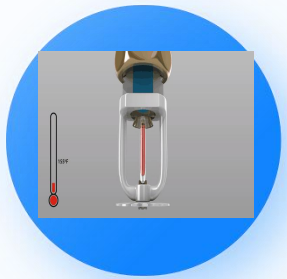
- Quick response, alarm location
- Enhance fire safety awareness
- Accelerate evacuation and ensure personnel safety

The principle of fire extinguishing system introduction



Automatic sprinkler fire extinguishing system introduction





automatic sprinkler

Open sprinkler

Working principle

When the temperature of the flame or smoke reaches the controlled explosion temperature (79 ℃), the thermosensitive glass tube will explode, and water will be sprayed out through the sprinkler head splash plate to extinguish the fire.

Open type sprinkler head, when the control valve of the sprinkler pipeline of the corresponding cabinet is opened, water can spray.

Function

Fire control

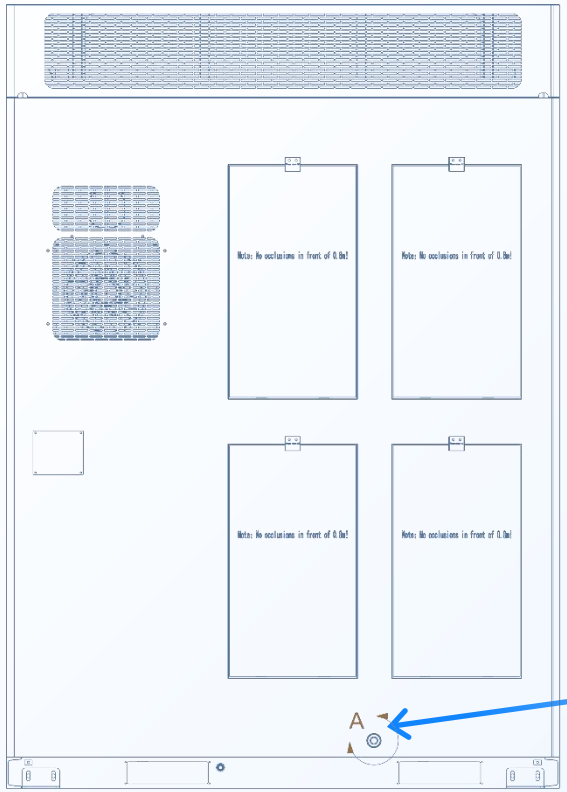
Lowering the temperature, reducing the impact of the fire on the surrounding environment

Prevent the spread of fire and control it within a certain range

Ensure personnel safety

The selection between closed and open nozzles can be switched according to demand

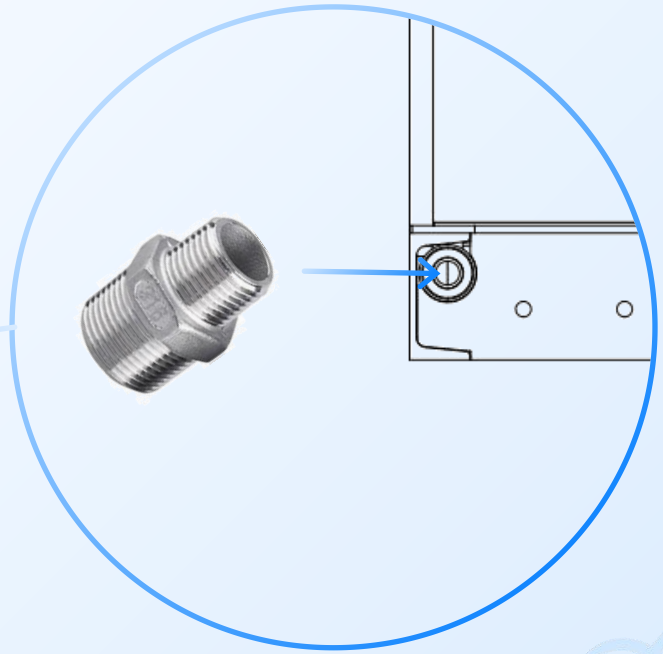
Automatic sprinkler fire extinguishing system introduction



DETAIL A
SCALE 1:5

Fire water pipe interface

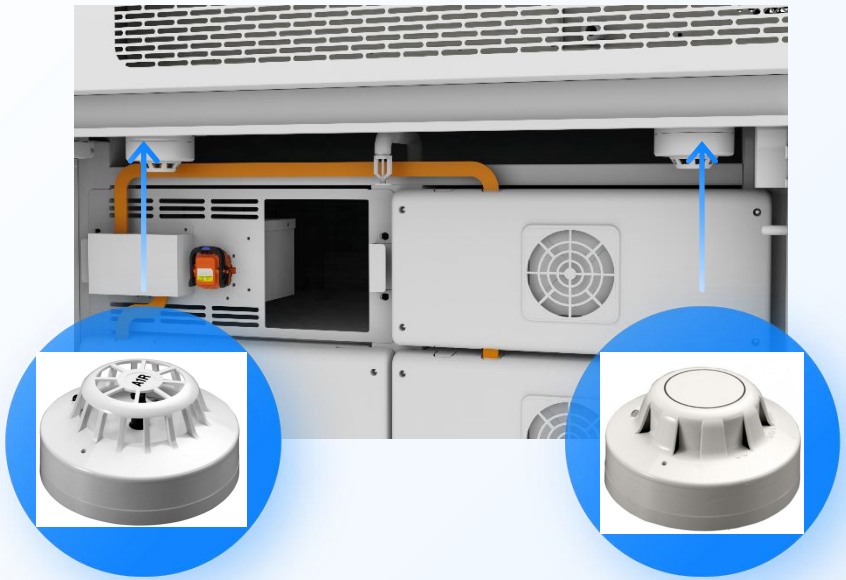
DN32 internal thread, DN32 external thread to DN65 adapter is recommended



Fire alarm detection system introduction

Working principle

Smoke detector, based on the principle of photoelectric induction, uses the scattered light received by the photodiode to determine smoke. When the smoke reaches a certain threshold, the smoke detector generates an alarm。Temperature sensors generally use thermistors as sensors to detect fire alert. Once the temperature exceeds the set threshold, the temperature sensor will issue an alarm signal.



Temperature sensor

Smoke sensor

Early detection of fire

monitor the concentration of smoke to forecast a fire.

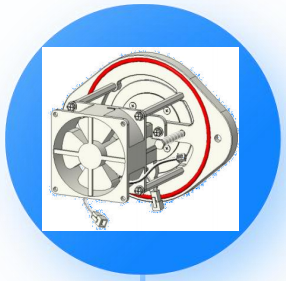
Real time monitoring of device temperature

Warning and safety

automatic alarm

Combustible gas detection and exhaust system introduction

Exhaust fan



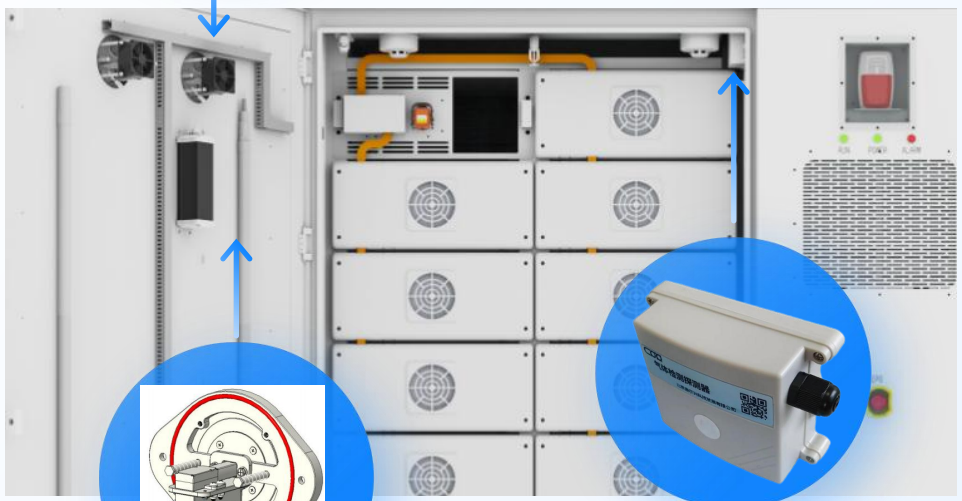
real-time detection

Detect combustible gas inside and around the cabinet

combustible gas Concentration value display

timely Linkage alarms generating

Automatic opening and closing



combustible gas detector

Air inlet

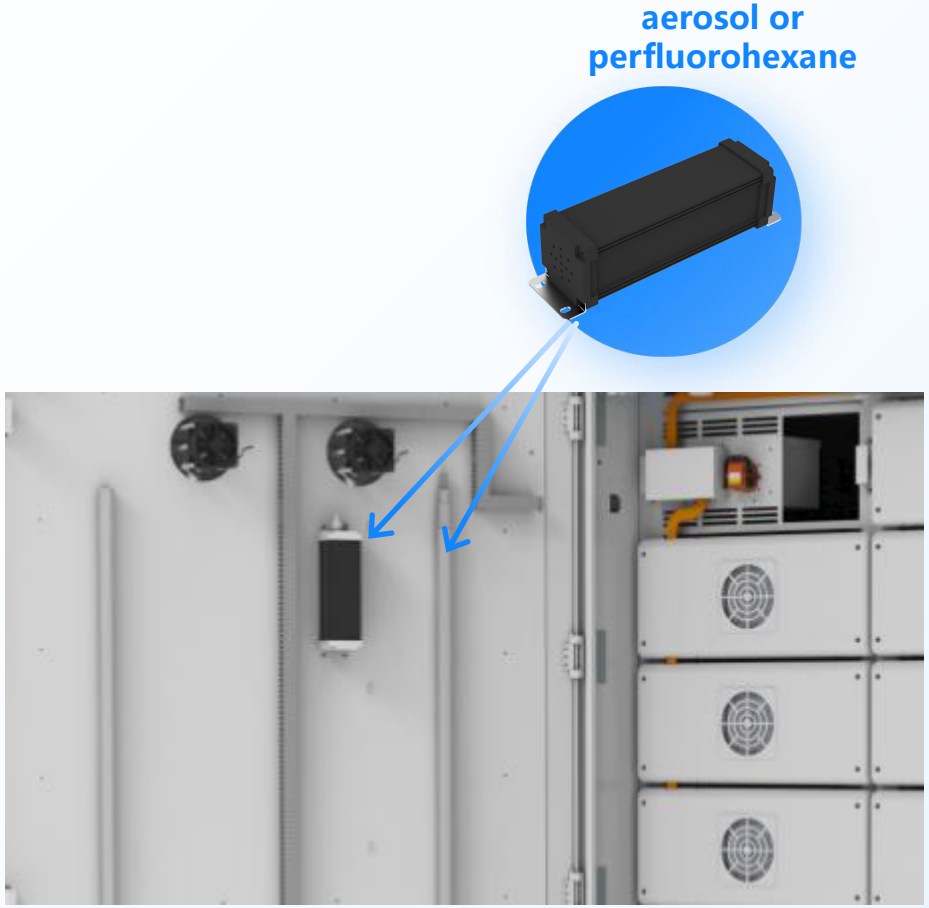
Working principle

When the combustible gas reaches the threshold, the sensor will generate a sound an alarm and activate fire linkage ventilation and exhaust action. the event will be sent to EMS meanwhile the air inlet, exhaust outlet, and exhaust fan will be triggered .

Combustible gas detection and exhaust system introduction

The reasonable arrangement of air inlet and outlet ensures the circulation and circulation of air, achieving the flow of air. The MS-G215 generates 167L of combustible gas in the battery compartment within one minute, and the exhaust fan operates at a rate of 3500L per minute.

Firefighting medium - aerosol or perfluorohexane(C6F14)



Trigger method

- The fuse ignites
- Electric ignition

Feedback after triggering

After the aerosol is triggered, a serial of actions will be taken:

- PCS shutdown , Air conditioning turned off
- Running light off, fault light on, sound and light alarm
- PACK fan at full speed
- Disconnect the AC and DC sides
- Remote emergency stop Status output

Explosion discharge design introduction

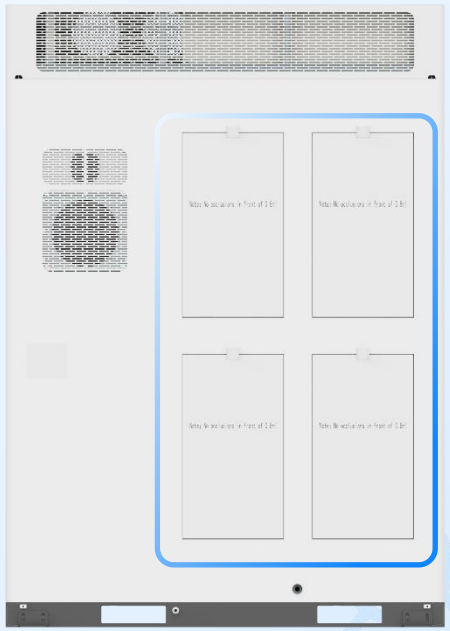
The product is equipped with four explosion-proof plates, which provide directional explosion-proof in the event of combustible gas explosion caused by thermal runaway of the battery cell, ensuring that the main structure of the product is not damaged and protecting the safety of property and surrounding personnel.

Pressure release

When the pressure is too high during operation, the explosion-proof plate can play a role in releasing the pressure, thereby relieving the pressure and protecting the equipment from damage.

Explosion protection

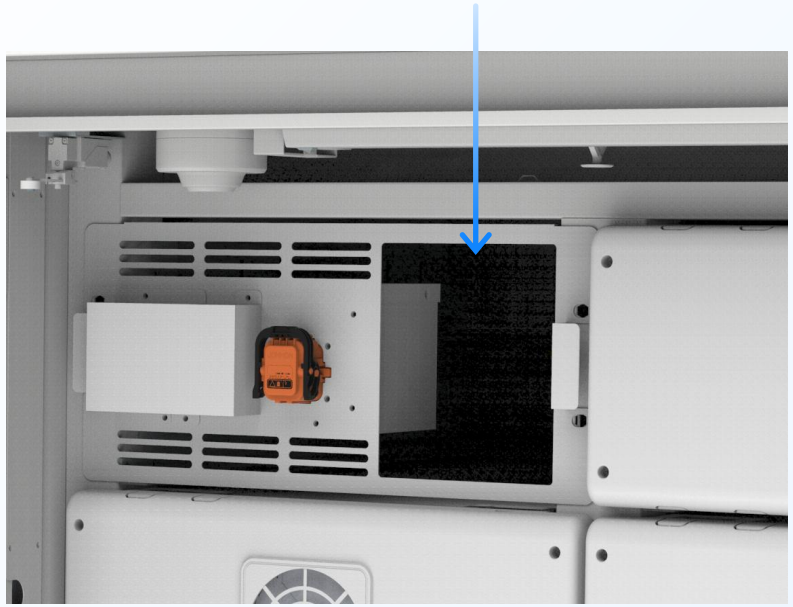
InC&I ESS if an explosion occurs an explosion-proof plate can provide protection and reduce the impact of the explosion on the environment and personnel.



Explosion discharge design introduction

Explosion vents are set up around MSD to connect the front and rear spaces of the battery compartment. In the event of an explosion, the explosion pressure in the front and rear of the battery compartment is balanced, and the shock wave generated in the front is smoothly transmitted to the rear explosion plate, allowing the explosion plate to open smoothly and reducing the impact on the front door panel and other components.

Pressure balance channel



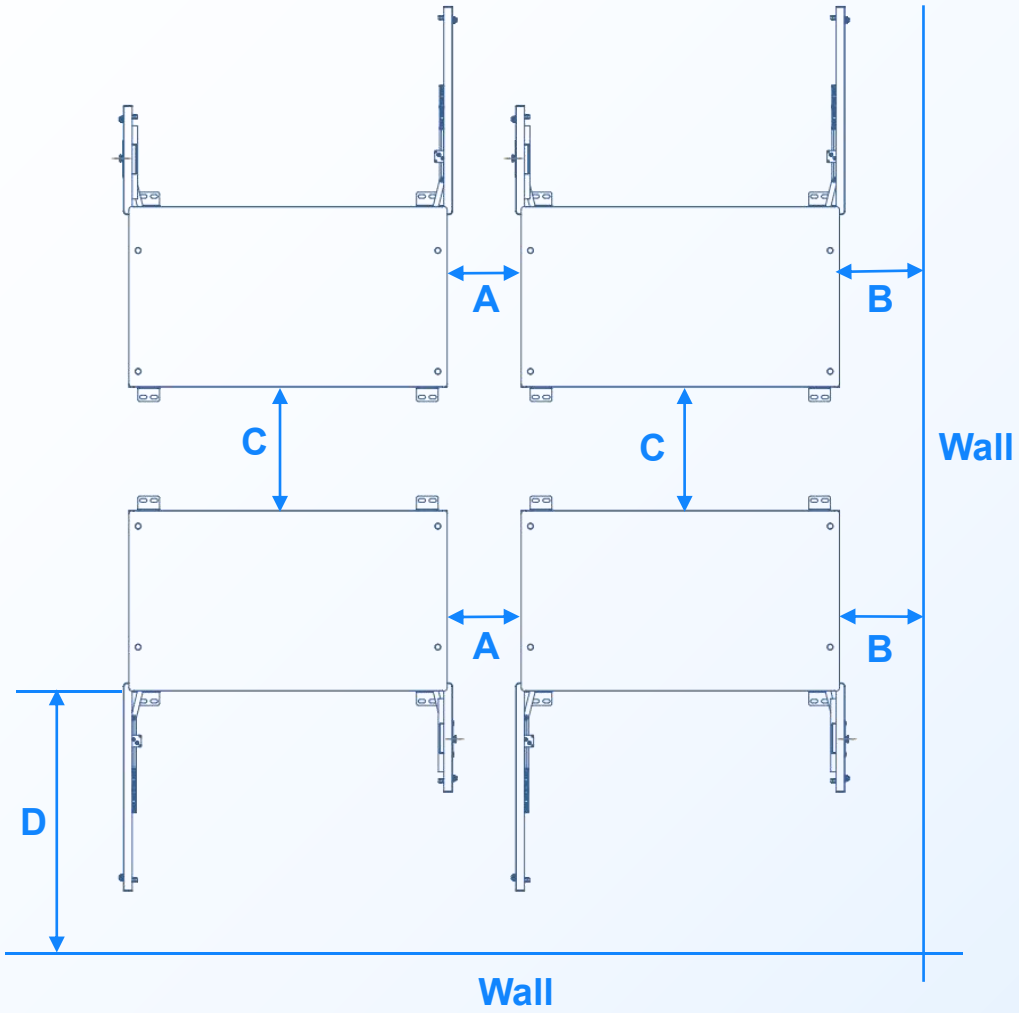
To Make ESS Better

#03

installation

#2024

Installation spacing requirements

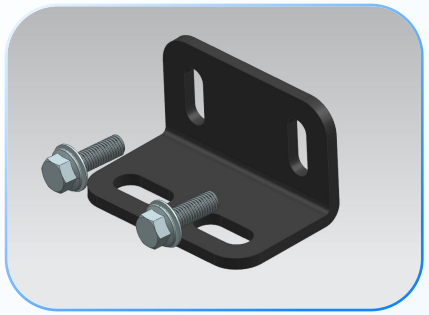


NO	Distance（unit：mm)
A	150
B	150
C	800
D	1500

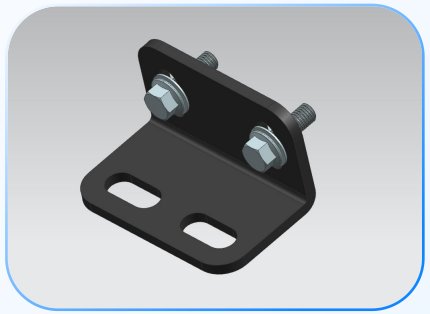
Fixed plan

Step 1: First, fix the L-shaped angle steel to the cabinet using M10 * 25 hexagonal three combination screws with a torque of 20 N · m
Step 2: Insert M16 * 100 expansion screws and fix them to the ground with a torque of 80 N · m to fix the bolt angle.

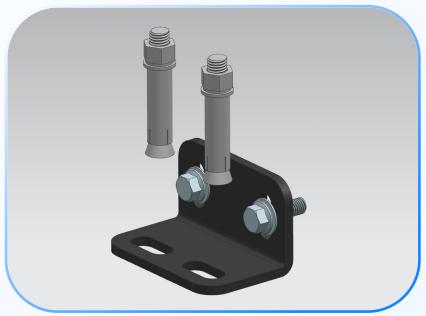
#1



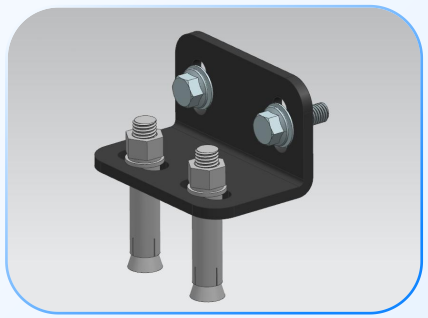
#2



#3

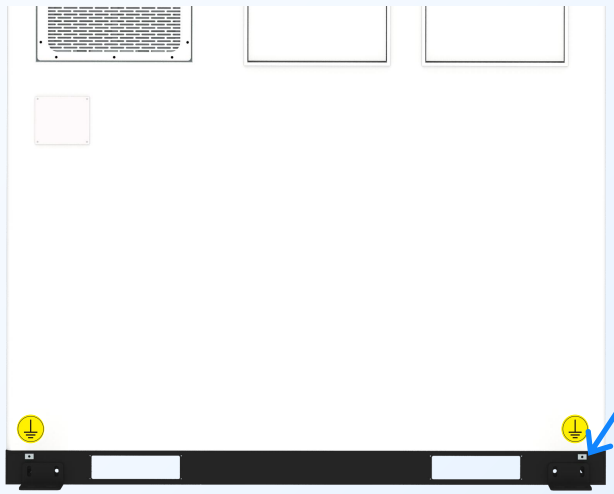


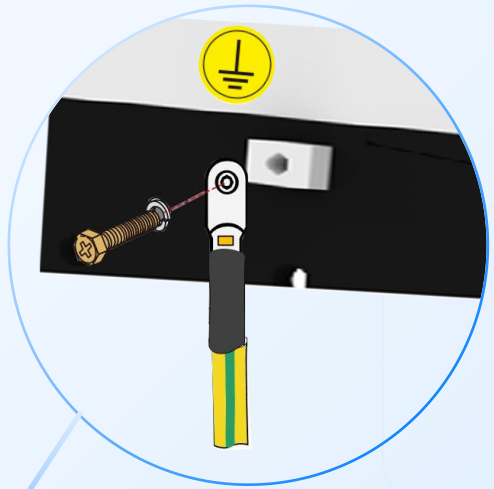
#4



Electrical wiring——Equipment grounding

The grounding wire of the energy storage cabinet is a wire that connects the metal shell of the energy storage cabinet to the ground. Its function is to ground the metal shell and internal metal parts of the energy storage cabinet to prevent high voltage from occurring in the electrical components inside the energy storage cabinet. If there is high voltage in the electrical components inside the energy storage cabinet, the grounding wire can allow current to be applied to the ground, thereby avoiding the danger of electric shock to people and equipment. At the same time, grounding wires can also eliminate static electricity from electrical equipment and protect its normal use.





GND

M8

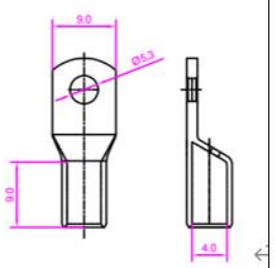
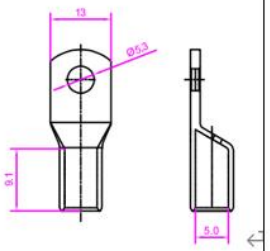
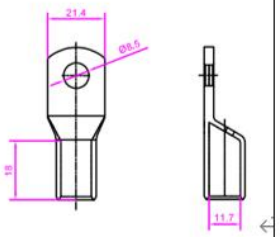
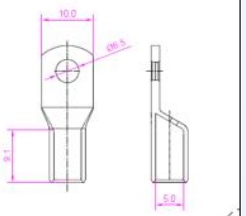
10-12N·m

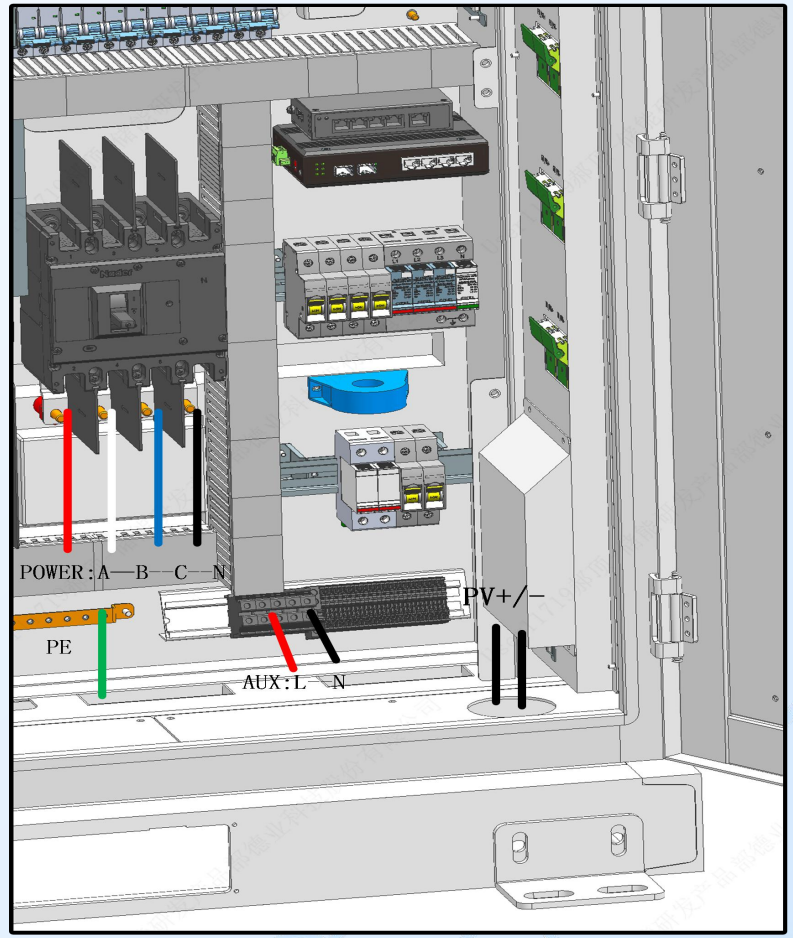
Electrical wiring——Equipment power and auxiliary power supply connection

Power connection: Three phase four wire connection is adopted, and the connection wire diameter is shown in the following figure

Auxiliary power supply: single-phase two-wire connection is adopted, and the connection wire diameter is shown in the following figure

PV access: Supports component access with 8 positive and 8 negative poles each

Position	AUX:AC 230	PE	GRID	PV
figure				
terminal	SC 6-5	SC 16-5	SC 70-8	SC 10-6
Wire diameter	10AWG	5AWG	1/0AWG(软线)	8AWG



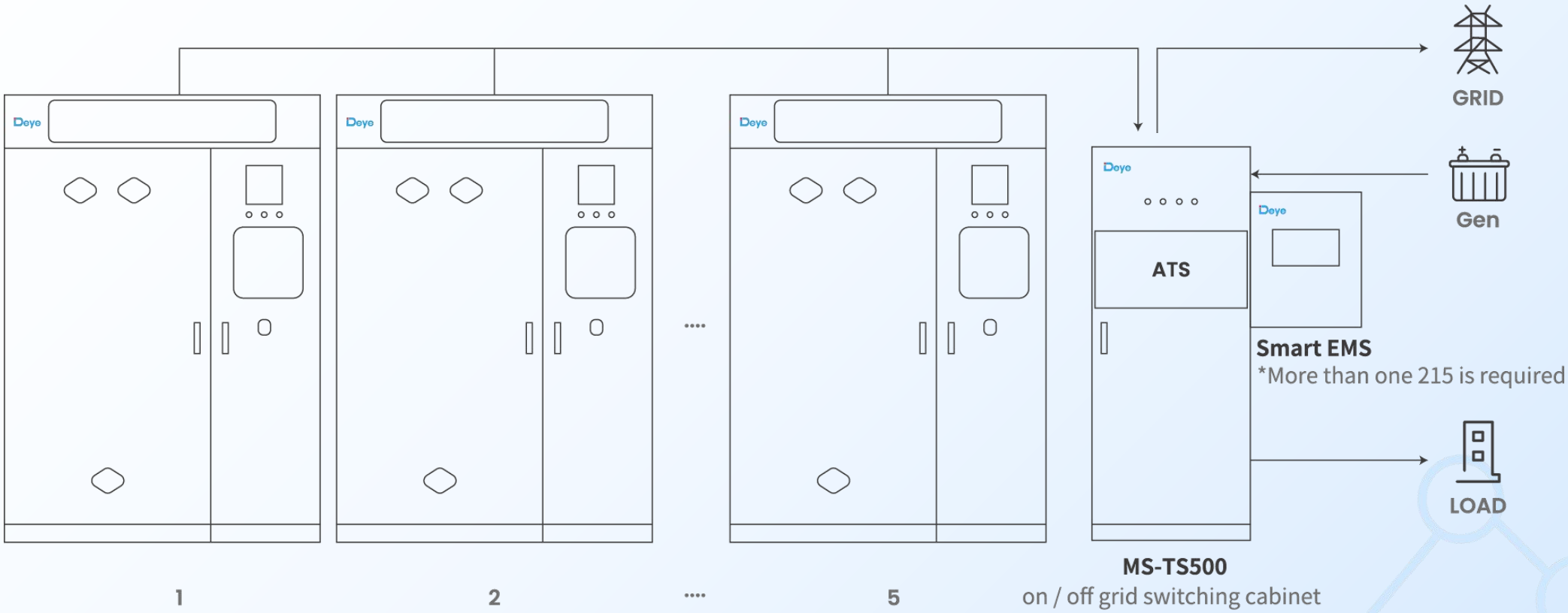
To Make ESS Better

#04
ESS solution introduce

#2024

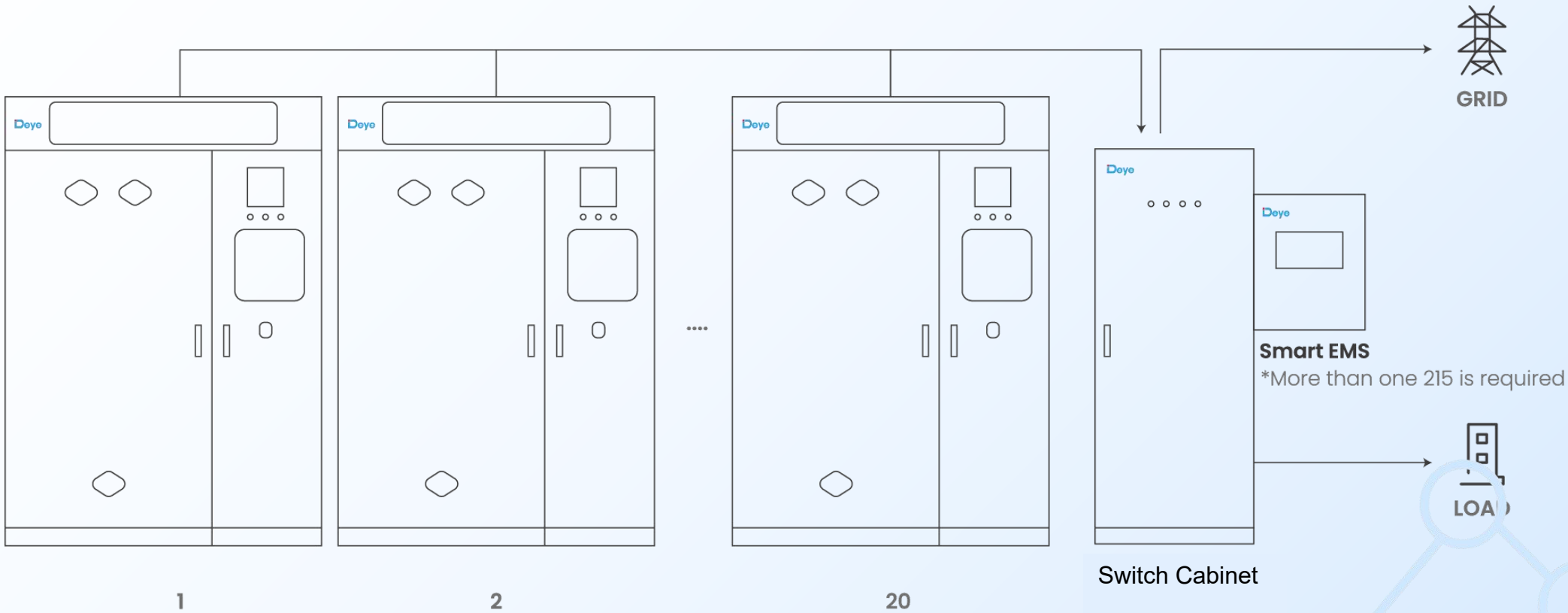
Battery storage on-grid back up solution

MS-G215-2H2/3/6



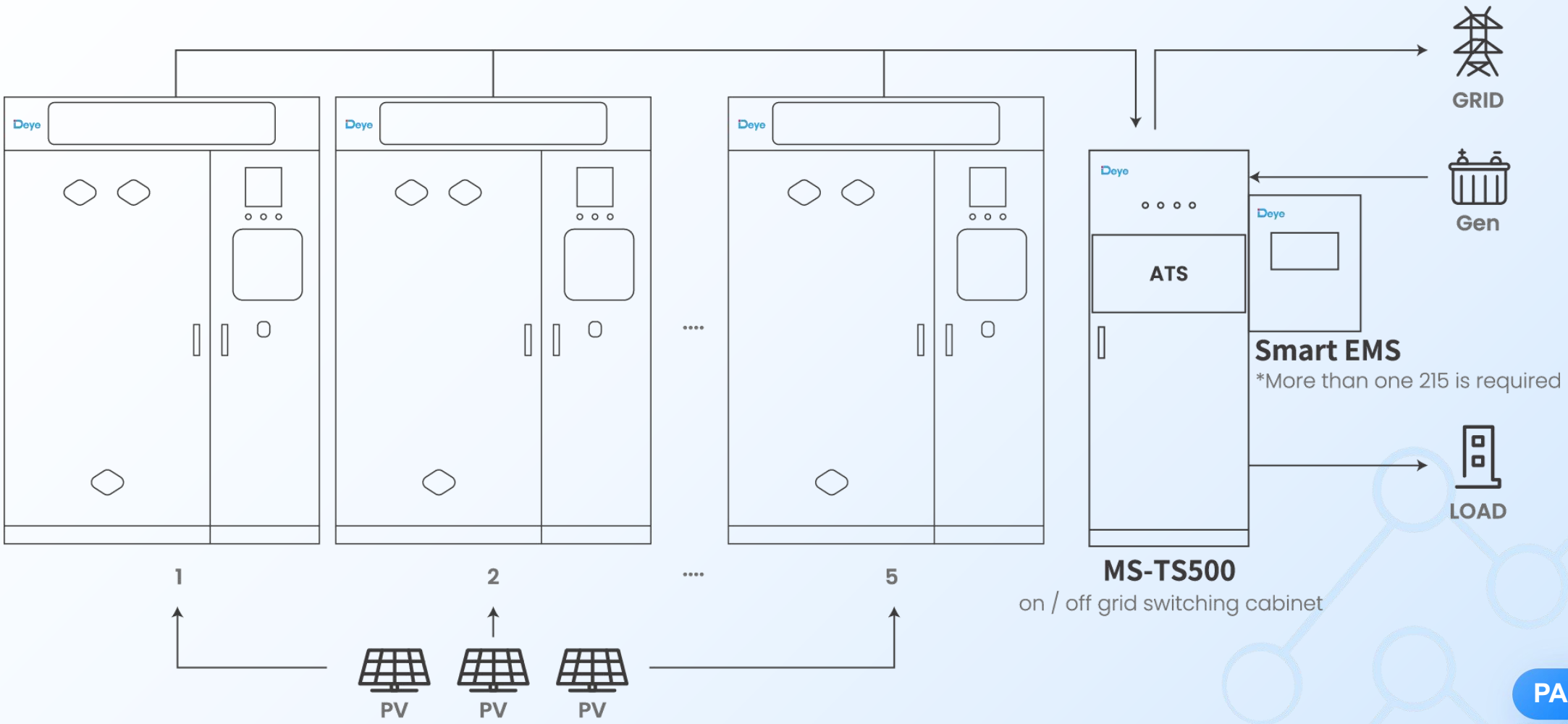
Battery storage on-grid solution

MS-G215-2H2/3/6



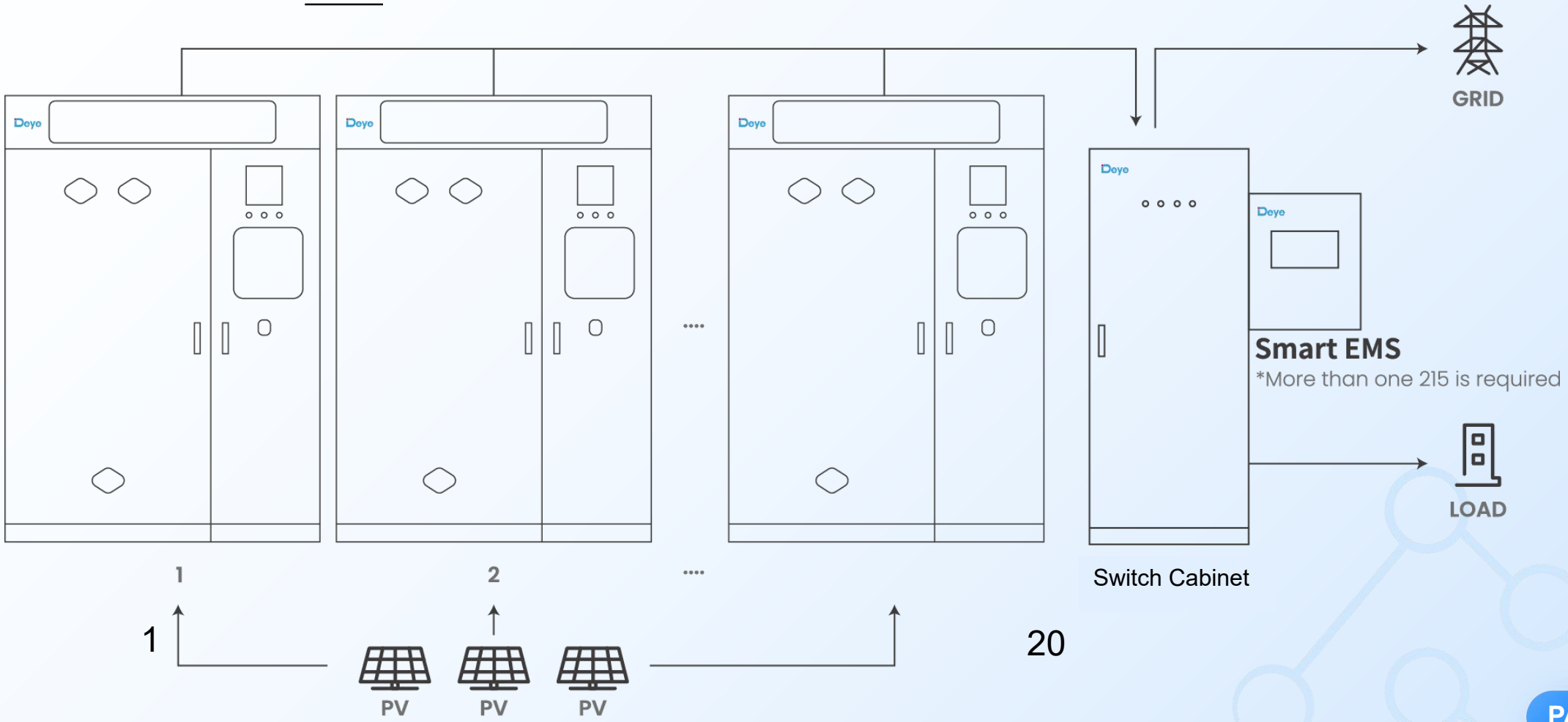
Solar & battery energy storage on-grid back up solution

MS-GS215-2H2/3/6



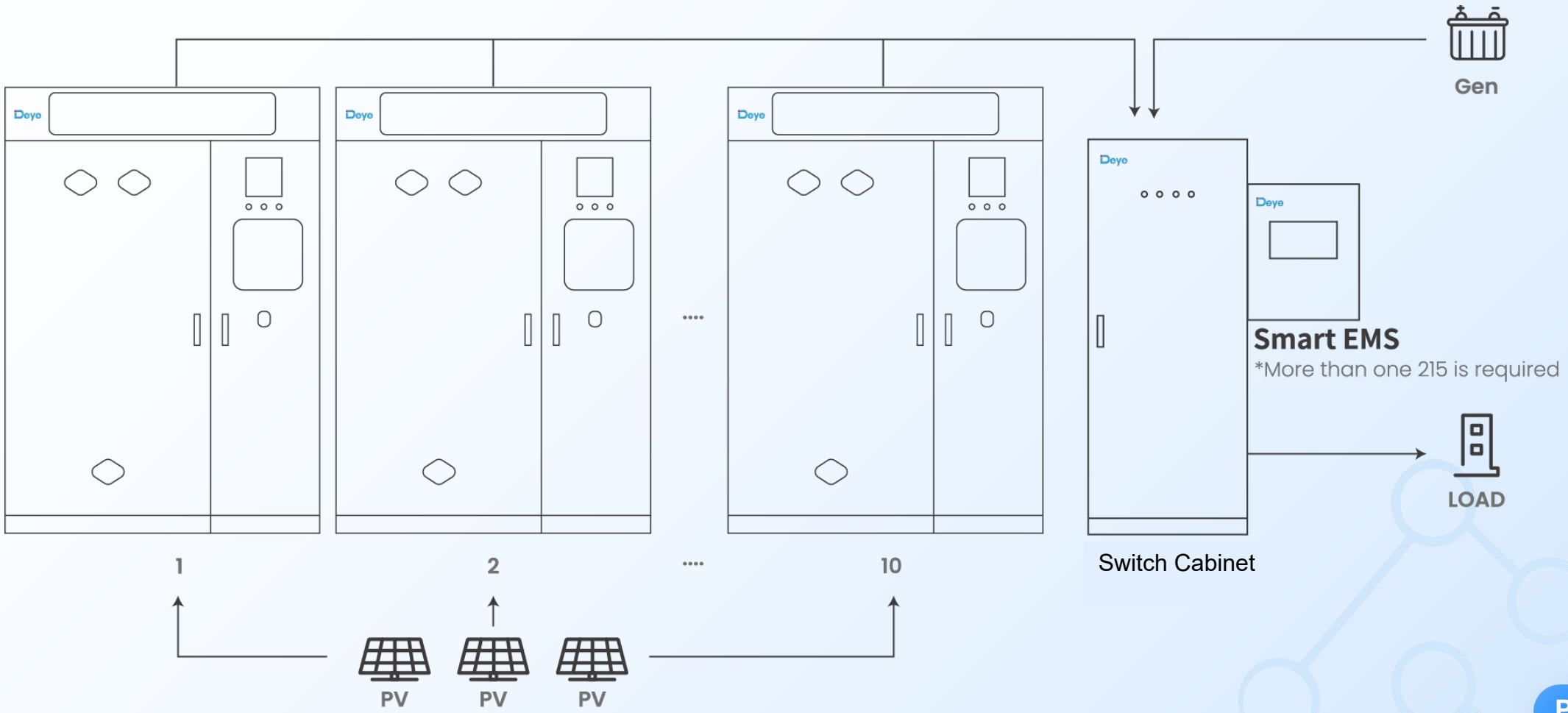
Solar & battery energy storage on-grid solution

MS-GS215-2H2/3/6



Solar & battery energy storage off-grid solution

MS-GS215-2H2/3/6



Energy management system

Deye-EMS is typically deployed in various settings, such as industrial facilities, smart grids, renewable energy integration, and electric vehicle charging stations. The primary goal of an EMS is to improve energy efficiency, reduce costs, and ensure the stable operation of energy resources.

Battery Cell Real-Time Monitoring:

Peak Shaving Control:

Demand Response (DR):

Load Forecasting:

Energy Consumption Optimization:

Renewable Energy Integration:

Microgrid Management:

Fault Detection and Preventive Maintenance:

Power Quality Monitoring:

Data Analytics and Reporting:

Real-Time Alerts and Notifications:

Deye Cloud

Millions of Devices Globally
Harnessing Data Value to Establish Key Performance Models and Enhance Energy Quality

https://ess.deyecloud.com
ID:salesdemo@deyeess.com
PASSWORD:deyeess666

SMART ANALYSIS | **SAFE AND RELIABLE** | **FLEXIBLE AND FRIENDLY**

https://ess.deyecloud.com
ID:salesdemo@deyeess.com
PASSWORD:deyeess666

“Safe and carefree”

AI control
Integrated management

Unified coordinate with PV, energy storage, microgrids, and EV,our platform participates in the electricity trading market and demand response.

Consumption and cost

Reduce peak consumption and costs

Residual power on grid

Improve energy utilization efficiency

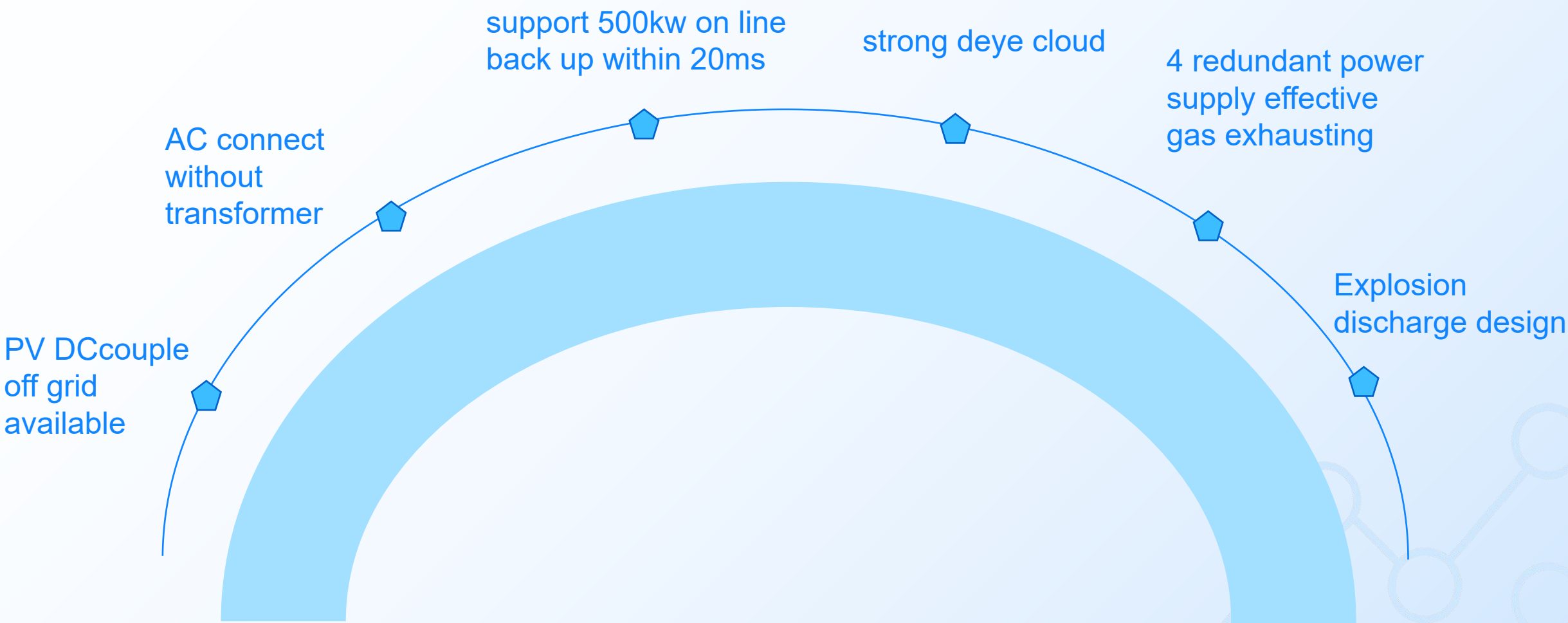
Self consumption

Increase enterprise revenue

Grid assistance

Support national policies
Enhance corporate image

Deye C&I ESS advantage



Deye C&I ESS Case study

Capacity:
1MW/2.15MWh

Factory type:
Air conditioning, copper pipe, metal processing factory

Capacity:
1.8MW/3.87MWh

Factory type:
Kitchenware factory

Capacity:
1MW/2.15MWh

Factory type:
Inverter manufacture

Capacity:
0.7MW/1.5MWh

Factory type:
Aluminum alloy precision die-casting factory

Leading Quality, Unlocking Intelligence

Smart Energy Solutions New Product Launch


Deye
To Make ESS better