

Microgrid Solution

GREEN THE FUTURE

Green Energy | Green Tech | Green Future

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Microgrid Structure

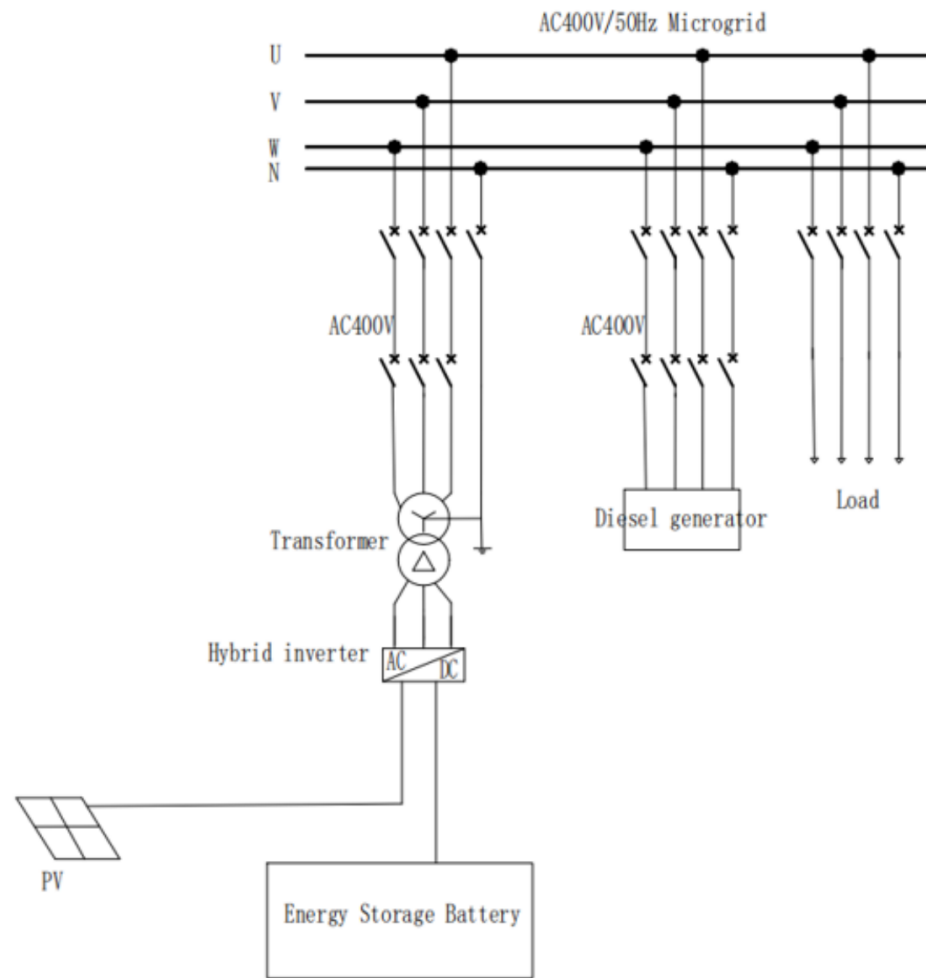
In areas without mains power, because the solar output power is volatile and intermittent, can not provide a stable power supply for the load, increase the battery energy storage system, can smooth the solar output, and the unused solar energy is stored in the battery energy storage system.

Solar energy + battery energy storage + diesel generators form a microgrid to provide stable power for the load, and it is controlled by an energy management system EMS, giving priority to the use of solar energy, minimizing the use of diesel generators and saving energy.



Microgrid Structure

Microgrid system main wiring diagram



BESS Product Introduction 100kW/215kWh

100kW/215kWh BESS Outdoor Cabinet

- Product type: 280Ah-LFP liquid-cooling BESS
- Applicable environment: outdoor installation
- An outdoor cabinet 100kW/215kWh,
- Contain fire control system, temperature control system, power distribution system, data monitoring system, hybrid inverter, transformer
- Port: Solar panel diesel generator, load.



BESS Product Introduction 100kW/215kWh

100kW/215kWh BESS Outdoor Cabinet

◆ Constituent Parts

NO.	Component	Quantity	specifications	remarks
1	Battery Rack	1	215kWh	
2	Battery Pack	5	43.008kWh	
3	Control box	1	1000V,including molded case circuit breaker	
4	Liquid cooler	1	The refrigerating capacity 6kW,50% ethylene glycol aqueous solution	
5	Fire suppression	1	fire protection system, smoke /temperature / combustible gas detection and Water fire protection	
6	BMS	1	efficient balance funtion	
7	EMS	1	Energy management system	
8	Hybrid inverter	1	100kW	
9	Transformer	1	100kVA	
10	Distribution system	1	Switch	



BESS Product Introduction 100kW/215kWh

100kW/215kWh BESS Outdoor Cabinet

◆ Technical Parameters

NO.	Name	Specification	Remark
1	Battery Nominal Capacity	215kWh	Cell type LFP, 280Ah
2	Rated charge/discharge power	100kW	
3	MaximumPV power	120kW	
4	Maximum PV Voltage	1000V	
5	MPPT voltage range	250V-850V	
6	Rated Battery Voltage Range	420-850	
7	Arrangement mode	Outdoor Container	
8	Grid connection voltage of the system	AC400V/50Hz	
9	Ac side circulation efficiency of the system	$\geq 87\%$	
10	Power factor	-0.99~0.99	adjustable
11	Fire Fighting Suppression System	gas fire fighting, combustible gas detection+air exhaust, water fire fighting	



BESS Product Introduction 100kW/215kWh

100kW/215kWh BESS Outdoor Cabinet

◆ Technical Parameters

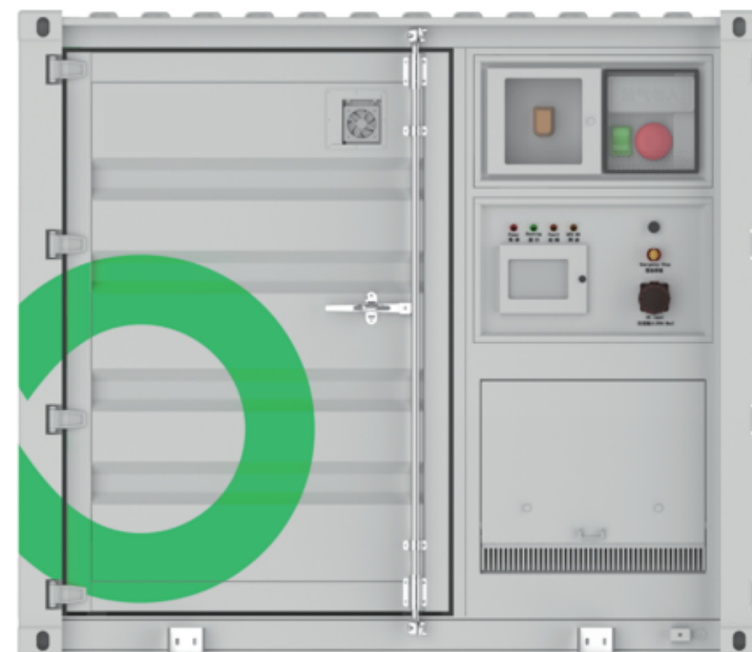
NO.	Name	Specification	Remark
12	IP Level	IP54	
13	Shell Anticorrosion Grade	C3	
14	Storage temperature range	-20°C~45°C	
15	Allowable operating temperature range	charging: 0~55°C; discharging: -30~55°C	
16	Best operating temperature range	25±2°C	
17	Relative humidity	RH 0 ~ 95% (no condensation)	
18	External communication interface	Ethernet	MODBUS (TCP/IP)
19	Communication	Modbus TCP、IEC104	
20	Cycles	≥87%	
21	≥6000	@25°C, 0.5P, 90% DOD, EOL 80%;	adjustable
22	Service life	≥10 years	



BESS Product Introduction 250kW/430kWh

250kW/430kWh BESS Outdoor Container

- Product type: 280Ah-LFP liquid-cooling BESS
- Applicable environment: outdoor installation
- An outdoor container 250kW/430kWh,
- Contain fire control system, temperature control system, power distribution system, data monitoring system, hybrid inverter, transformer
- Port: Solar panel ,diesel generator, load.
- Dimension: 10 feet (W*H*D): 2991*2591*2438mm



BESS Product Introduction 250kW/430kWh

250kW/430kWh BESS Outdoor Cabinet

◆ Constituent Parts

NO.	Component	Quantity	specifications	remarks
1	Battery Rack	2	215kWh	
2	Battery Pack	10	43.008kWh	
3	Control box	2	1000V,including molded case circuit breaker	
4	Liquid cooler	1	The refrigerating capacity 6kW,50% ethylene glycol aqueous solution	
5	Fire suppression	1	fire protection system, smoke /temperature / combustible gas detection and Water fire protection	
6	BMS	1	efficient balance funtion	
7	EMS	1	Energy management system	
8	Hybrid inverter	1	250kW	
9	Transformer	1	250kVA	
10	Distribution system	1	Switch	



BESS Product Introduction 250kW/430kWh

250kW/430kWh BESS Outdoor Cabinet

◆ Technical Parameters

NO.	Name	Specification	Remark
1	Battery Nominal Capacity	430kWh	Cell type LFP, 280Ah
2	Rated charge/discharge power	215kW	maximum power 250kW for short time(<1min)
3	MaximumPV power	300kW	
4	Maximum PV Voltage	1000V	
5	MPPT voltage range	250V-850V	
6	Rated Battery Voltage Range	420-850	
7	Arrangement mode	Outdoor Container	
8	Grid connection voltage of the system	AC400V/50Hz	
9	Ac side circulation efficiency of the system	≥87%	
10	Power factor	-0.99~0.99	adjustable
11	Fire Fighting Suppression System	gas fire fighting, combustible gasdetection+air exhaust, water fire fighting	



BESS Product Introduction 250kW/430kWh

250kW/430kWh BESS Outdoor Cabinet

◆ Technical Parameters

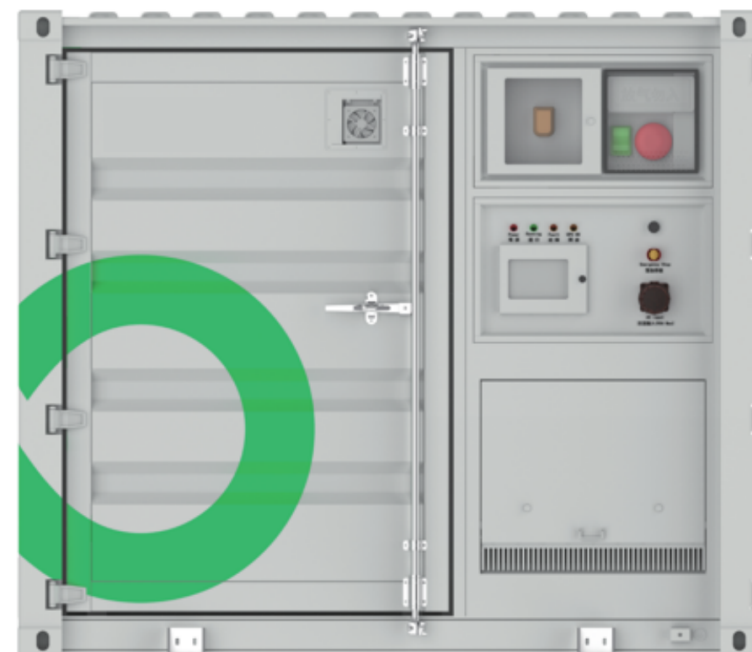
NO.	Name	Specification	Remark
12	IP Level	IP54	
13	Shell Anticorrosion Grade	C3	
14	Storage temperature range	-20°C~45°C	
15	Allowable operating temperature range	charging: 0~55°C; discharging: -30~55°C	
16	Best operating temperature range	25±2°C	
17	Relative humidity	RH 0 ~ 95% (no condensation)	
18	External communication interface	Ethernet	MODBUS (TCP/IP)
19	Communication	Modbus TCP、IEC104	
20	Cycles	≥87%	
21	≥6000	@25°C, 0.5P, 90% DOD, EOL 80%;	adjustable
22	Service life	≥10 years	



BESS Product Introduction 300kW/645kWh

300kW/645kWh BESS Outdoor Container

- Product type: 280Ah-LFP liquid-cooling BESS
- Applicable environment: outdoor installation
- An outdoor container 300kW/645kWh,
- Contain fire control system, temperature control system, power distribution system, data monitoring system, hybrid inverter, transformer
- Port: Solar panel, diesel generator, load.
- Dimension: 10 feet (W*H*D): 2991*2591*2438mm



BESS Product Introduction 300kW/645kWh

300kW/645kWh BESS Outdoor Cabinet

◆ Constituent Parts

NO.	Component	Quantity	specifications	remarks
1	Battery Rack	3	215kWh	
2	Battery Pack	15	43.008kWh	
3	Control box	3	1000V,including molded case circuit breaker	
4	Liquid cooler	1	The refrigerating capacity 6kW,50% ethylene glycol aqueous solution	
5	Fire suppression	1	fire protection system, smoke /temperature / combustible gas detection and Water fire protection	
6	BMS	1	efficient balance funtion	
7	EMS	1	Energy management system	
8	Hybrid inverter	1	500kW, Actual operating power 300kW	
9	Transformer	1	315kVA	
10	Distribution system	1	Switch	



BESS Product Introduction 500kW/1075kWh

500kW/1075kWh BESS Outdoor Container

- Product type: 280Ah-LFP liquid-cooling BESS
- Applicable environment: outdoor installation
- An outdoor container 500kW/1075kWh,
- Contain fire control system, temperature control system, power distribution system, data monitoring system, hybrid inverter, transformer
- Port: Solar panel ,diesel generator, load.
- Dimension: 20 feet (W*H*D): 6051*2591*2438mm



BESS Product Introduction 500kW/1075kWh

500kW/1075kWh BESS Outdoor Cabinet

◆ Constituent Parts

NO.	Component	Quantity	specifications	remarks
1	Battery Rack	5	215kWh	
2	Battery Pack	25	43.008kWh	
3	Control box	5	1000V,including molded case circuit breaker	
4	Liquid cooler	1	The refrigerating capacity 6kW,50% ethylene glycol aqueous solution	
5	Fire suppression	1	fire protection system, smoke /temperature / combustible gas detection and Water fire protection	
6	BMS	1	efficient balance funtion	
7	EMS	1	Energy management system	
8	Hybrid inverter	1	500kW	
9	Transformer	1	500kVA	
10	Distribution system	1	Switch	



BESS Product Introduction 500kW/1075kWh

500kW/1075kWh BESS Outdoor Cabinet

◆ Technical Parameters

NO.	Name	Specification	Remark
1	Battery Nominal Capacity	1075kWh	Cell type LFP, 280Ah
2	Rated charge/discharge power	500kW	
3	MaximumPV power	600kW	
4	Maximum PV Voltage	1000V	
5	MPPT voltage range	250V-850V	
6	Rated Battery Voltage Range	420-850	
7	Arrangement mode	Outdoor Container	
8	Grid connection voltage of the system	AC400V/50Hz	
9	Ac side circulation efficiency of the system	$\geq 87\%$	
10	Power factor	-0.99~0.99	adjustable
11	Fire Fighting Suppression System	gas fire fighting, combustible gasdetection+air exhaust, water fire fighting	



BESS Product Introduction 500kW/1075kWh

500kW/1075kWh BESS Outdoor Cabinet

◆ Technical Parameters

NO.	Name	Specification	Remark
12	IP Level	IP54	
13	Shell Anticorrosion Grade	C3	
14	Storage temperature range	-20°C~45°C	
15	Allowable operating temperature range	charging: 0~55°C; discharging: -30~55°C	
16	Best operating temperature range	25±2°C	
17	Relative humidity	RH 0 ~ 95% (no condensation)	
18	External communication interface	Ethernet	MODBUS (TCP/IP)
19	Communication	Modbus TCP、IEC104	
20	Cycles	≥87%	
21	≥6000	@25°C, 0.5P, 90% DOD, EOL 80%;	adjustable
22	Service life	≥10 years	



BESS Product Introduction 500kW/1290kWh

500kW/1290kWh BESS Outdoor Container

- Product type: 280Ah-LFP liquid-cooling BESS
- Applicable environment: outdoor installation
- An outdoor container 500kW/1290kWh,
- Contain fire control system, temperature control system, power distribution system, data monitoring system, hybrid inverter, transformer
- Port: Solar panel ,diesel generator, load.
- Dimension: 20 feet (W*H*D): 6051*2591*2438mm



BESS Product Introduction 500kW/1290kWh

500kW/1290kWh BESS Outdoor Cabinet

◆ Constituent Parts

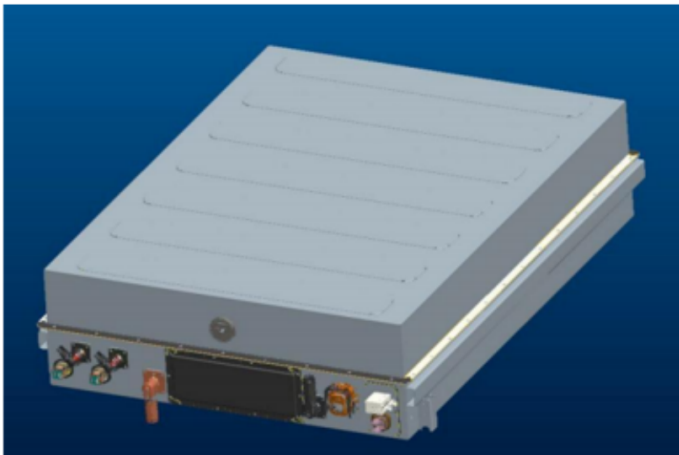
NO.	Component	Quantity	specifications	remarks
1	Battery Rack	6	215kWh	
2	Battery Pack	30	43.008kWh	
3	Control box	6	1000V,including molded case circuit breaker	
4	Liquid cooler	1	The refrigerating capacity 6kW,50% ethylene glycol aqueous solution	
5	Fire suppression	1	fire protection system, smoke /temperature / combustible gas detection and Water fire protection	
6	BMS	1	efficient balance funtion	
7	EMS	1	Energy management system	
8	Hybrid inverter	1	500kW	
9	Transformer	1	500kVA	
10	Distribution system	1	Switch	



BESS Product Introduction Common Characteristic

◆ Battery PACK

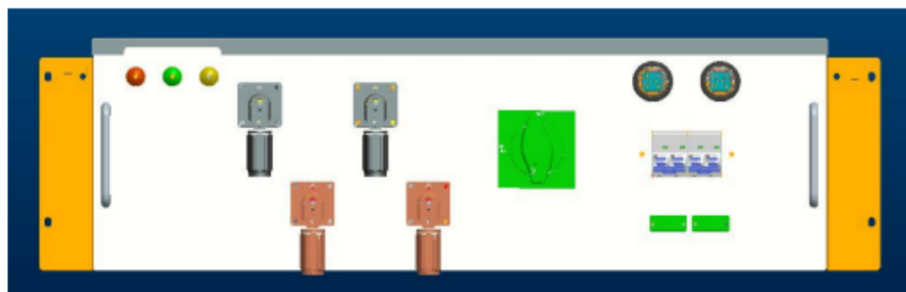
These products all use the same Battery PACK design



BESS Product Introduction Common Characteristic

◆ Battery PACK

These products all use the same Battery PACK design



Control box appearance

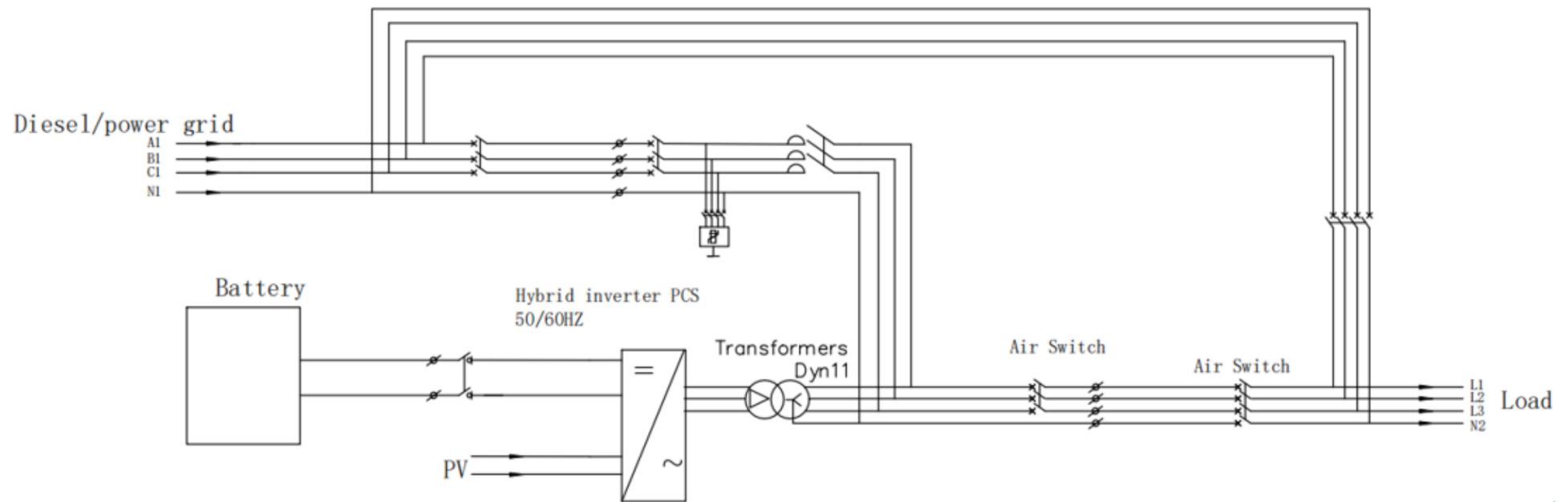
N O.	Name	Specification	Remark
1	Switch Gear	1000V/250A	
2	Operating temperature range	-20-55°C	
3	Humidity range	0-95%	
4	Degree of protection	IP54	
5	Cooling mode	forced air cooling	
6	Switch Gear	1500V/250A	



BESS Product Introduction Common Characteristic

◆ Electrical principle

These products all use the same Electrical principle design



Hongkong – Industrial Energy Storage Cabinet

In areas such as civil construction project sites, mining zones, and other regions where there is no reliable, fixed, and economical continuous power supply, configuring an energy storage system enables transformer capacity expansion to meet the high-power output demands of on-site machinery while also providing backup power functionality.

Address: China HK

Project Scale: 500kW/494kWh

Product Model: GR247

Energy storage function: In the construction site, there is no fixed power supply, configure the energy storage system to achieve transformer expansion to meet the high-power output of the field mechanical equipment and have the backup power function



Poland – FOGO Project

Address: Poland

Project Scale: 1.5MW/ 3kWh

Product Model: GR1500

Energy storage function: Smooth photovoltaic output, more photovoltaic storage to energy storage batteries, photovoltaic and energy storage batteries and diesel generators to form a microgrid to provide stable power for the load, through EMS optimization control, make full use of photovoltaic and reduce the use of diesel generators, to provide stable power for the load while increasing economic benefits



China Henan – Energy Storage Project

The medium-voltage grid-connected industrial and commercial energy storage system enables enterprises to achieve peak-valley arbitrage, demand management, and stable supply, ensuring stable production and reducing electricity costs.

Address: China Henan

Project Scale: 3MW/6MWh

Product Model: GR3440

Energy storage function: When the electricity price is low in the industrial park, the energy storage is charged from the grid, and when the electricity price is high, the energy storage can reduce the electricity cost of customers, and the energy storage can also provide backup emergency power for the important load in the industrial park



China Gansu – Paired Energy Storage Project

The 200 MW photovoltaic power generation and storage project in Minqin County, Weiwu City, Gansu Province, improves the instability of output power from wind and photovoltaic power plants, especially the impact of transient power on the grid, thereby enhancing the power quality of renewable energy stations and the grid.

Address: China Gansu

Project Scale: 40MW/ 80MWh

Product Model: GR5000

Energy storage function: Grid side energy storage, participate in grid auxiliary services: peak regulation, frequency regulation, voltage regulation, peak load fill valley





Case Video



Collection of Selected Cases



Zhejiang 2.4MWh C&I Energy Storage Power Station



Zhejiang Jinhua 1MWh Renewable Energy Storage



Zhejiang 800kWh C&I Energy Storage Project



Zhejiang 860kWh C&I Energy Storage Project



Zhejiang Hangzhou 400kWh Energy Storage Project



Shenzhen 215kWh Integrated System



THANKS!

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