



2.5MW/5MWh BESS Specifications



Guangzhou Zhiguang Electric Co., Ltd.

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➤ 2.5MW/5MWh BESS

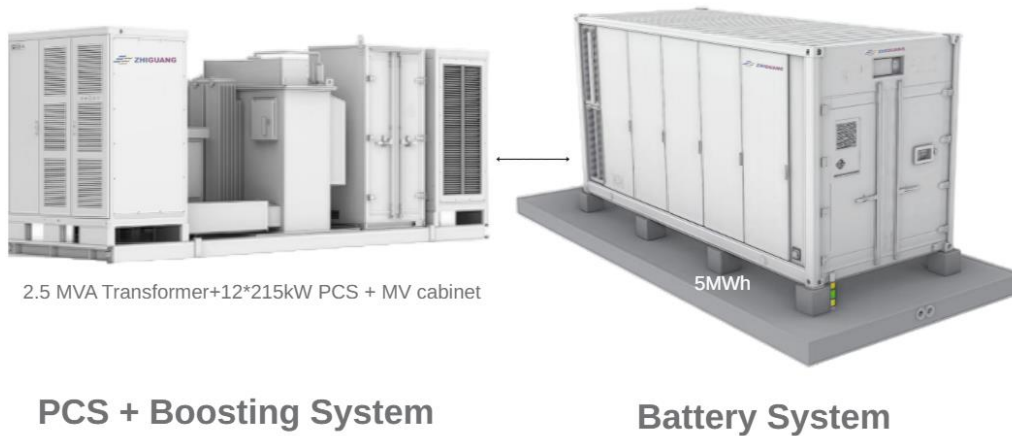


Figure1. 2.5MW/5MWh BESS Diagram

➤ 5MWh Battery system



Figure 2. 5MWh Battery system

5MWh liquid-cooled energy storage container	
General	
Battery Type	LFP cell, 314Ah
configuration	12*(8*1P52S)
Cooling Method	Liquid Cooling
Coolant	50% Ethylene glycol aqueous solution
Operating Ambient Temperature	-25 °C ~ +55 °C
Storage Temperature	-30°C ~ +60 °C

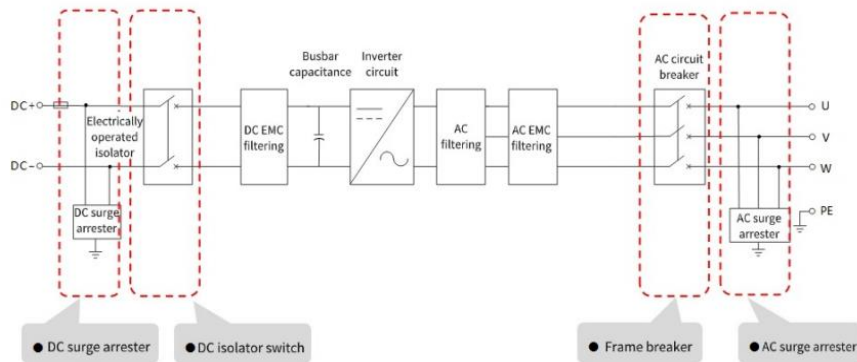
Application altitude	≤2000m
Protection Level	IP54
Weight	~44t
Size	6058mm(W)*2438mm(D)*2896mm(H)
Color	RAL7042
Fire protection	Aerosol + water firefighting + explosion-proof fan (combustible gas)
Electrical	
Rated Energy	5015.9616kWh
Rated Voltage	1331.2VDC
Voltage Range	1164.8~1476.8VDC
Communication method	CAN, RS485, TCP/IP
Communication port	RS485, Fiber ST
Fulfill standard	
Cell	UN38.3, IEC 62620 , IEC62619
Container	UN3536 , IEC62619 , EN61000 , EN62477, IEC63056 , IEC 62933-5-2

➤ Converter - Boost System



Figure 3. 2.5MVA Transformer+12*215kW PCS+MV cabinet

Energy storage converter circuit block diagram



Parameters of 215kW PCS

General	
Temperature	-20°C ~ 60°C(De-rating over 50°C)
Protection class	Class I
Cooling Method	Air Cooling
Degree of protection	IP66
Altitude	≤4000m (>3000m derating)
Humidity	0% ~ 95% (Non condensing)
Battery side	
Maximum battery voltage	1500 Vd.c.
Operating voltage range	1100~1500 Vd.c.
Rated voltage	1331.2Vd.c.
Max continuous discharge/charging current	199Ad.c.
Grid side	
Rated voltage	3~PE 750 Va.c.
Rated frequency	50Hz / 60Hz
Rated power	215kVA
Power factor (at rated power)	>0.99
Power factor adjustable range	-1 ~ 1
Total current waveform distortion rate	<3 % (Under rated power conditions)

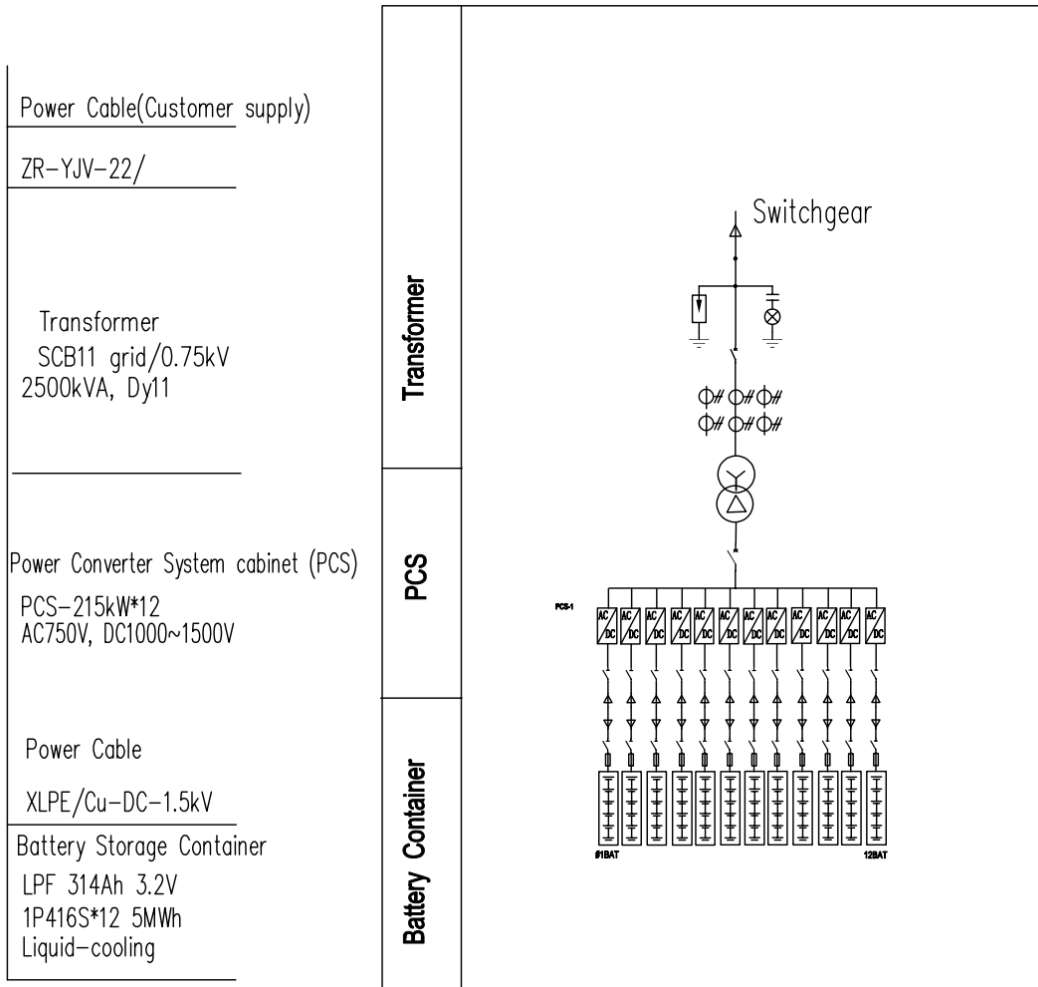
Certification

CE certification in accordance of IEC standards and, Grid Compliance

Parameters of 2.5MVA Transformer

Rated frequency	50Hz/60Hz
Rated power	2500kVA
Rated voltage	Grid/0.75KV
ambient temperature	-25°C ~ 40°C

➤ 2.5MW/5MWh BESS Single-line Diagram



➤ Global Reference

Power Generation Scenario		
Site pictures		
Project	Guangdong Thermal Power Auxiliary Frequency Modulation Energy Storage Project	Shandong Reservoir Photovoltaic Energy Storage
Capacity	60MW/60MWh	44MW/88MWh
Functions	AGC frequency regulation, reducing oscillation probability, improving operational reliability and safety	Energy integration, system frequency regulation, peak valley arbitrage
Power Grid Scenario		
Site pictures		
Project	Shandong Laicheng Independent Energy Storage Power Station	State Grid Corporation of China Hunan Power Grid Integrated Energy Storage Project
Capacity	100MW/200MWh	100MW/200MWh
Functions	Participate in provincial power grid assistance, grid peak shaving, and energy storage capacity leasing	Energy integration, renewable energy consumption, peak shaving, frequency regulation