

Containerized Battery System With Liquid Cooling



High Integration

- As 306 Ah cells were initially adopted in this PowerSupply System, 320 Ah cells are recommended for capacity expansion.
- The System facilitates two specifications as 3.7MWh/20HQ and 7.6MWh/40HQ in installation completion design for an easy-transportation of the complete equipment. The System facilitates stacking and stowage for two containers to save space.



High Security

- The "2+2" fire prevention and control measures include fire protection at module level + fire protection at the container level, fire protection with gas + fire protection with water. combustible gas detection, combustible gas venting, and explosion relief.
- With a DC 5000V withstand voltage without flash-over, multi-level disconnection protection mechanism, pack protection level is IP67, 1000 hours high-temperature reliability test for the pipeline, and The enhanced UL standard was used to examine the effects of thermal runaway.



Long-life

- The adoption of centralized refrigeration, multi-stage pipelines, and co-current flow in parallel flow design facilitates a temperature difference of 3 C for the Containerized Battery System.
- Special cells with a standard cycle of 10000 times dedicated for energy storage adopted in the System secures a continuous operation for 20 years.
- The three-level BMS architecture of General Control. Master Control and Slave Control is compatible with local EMS functions and various mainstream communication protocols.

Outdoor Liquid Cooling BESS Cabinet

System Technical Specification

Item	Spec	Remark
Product Code	MATRIX 20	TBD
Configuration	416s10p	
Rated Energy	3727.36kWh	100%DOD, 25°C, 0.5C
Rated Voltage	1331.2V	
IP level of cabin	Bat. Room IP54 Electric room IP54	
Efficiency	≥92%	
Insulation standard	≥10000Ω/Y	Test voltage 1000Vdc
Resistant to high voltage	5000VDC leakage current≤5mA no breakdown or flashover	
Cooling and heating type	Liquid cooling/heating	
Refrigerating Capacity	40kW @ 35°Cet 35kW @ 45°Cet	
Heating Capacity	16kW	
Auxiliary power supply	Aver 18KW Max: 23KW	Including BMS and cooling system
Communication protocol	CAN, RS485, TCP/IP	
Implementation criteria	UN38.3 UL1973 13062619, UL9540A GB/T 36276	For cell
	IEC62477, IEC62619, IEC62933-5-2 15063056 11973UL9540AUL9540UN3536	For system
Operating Voltage Range	1164.8-1497.6V	For cell 2.8V-3.6V
Dimension	6058mmx2438mmx289Gmm	
Mass	3500kg	
Standard charging method	Charge 1400A constant current until any cell reaches 3.65V, then charge to 3.65V according to 1/2 current value of the previous process the last charging current is 140A	25°C±2°C
Standard discharging method	Discharge at 1400A until any cell reaches a cutoff voltage of 2.5V	25°C±2°C
Rated charge current	1400 (for 0.5P system)	According to current map (5.1-5.4)
Rated discharge current	1400A (for 0.5P system)	According to current map (5.1-5.4)
Short overload charging current (<I _{min})	2800A (for 0.5P system)	According to current map (5.1-5.4)
Short overload charging current (<I _{min})	2800A (for 0.5P system)	According to current map (5.1-5.4)
Temperature range in cabin	-20-50°C	

Related certificates

UN38.3

