4/5 MWh Battery Energy Storage System for North America

CPS ES-5016KWH-US

The CPS 4/5 MWh Battery Energy Storage System is designed for the North American market as a containerized solution that integrates 10 racks of LFP batteries for the 4 MWh model and 12 racks of LFP batteries for the 5 MWh model, and offers a high energy density for utility applications. It is equipped with an advanced liquid cooling system that provides effective and efficient pack-level thermal management. The battery system is packed into a 20 ft container to enable easy transportation, installation, and O&M.

Key Features

- High energy density
- Multiple-point electrical linkage measures
- Easy to expand with CPS's modular and string design
- Fully integrated system with minimum on-site installation and commissioning efforts
- Integrated, fast-acting fault protection
- Comprehensive fire prevention design to ensure system safety
- Smart liquid cooling control to improve battery performance and lifecycle

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Product Name	**CPS ES-5015KWH-US-M-R**	**CPS ES 4179KWH-US-M-R**
Battery Specifications		
Battery cell	LFP 314Ah @ 3.2 V	
Rated charging / discharging c-rate	0.5 C	
Rated charging / discharging current	1P52S	
Pack-level configuration	8 packs, 1P416S	
String-level configuration	12P416S (12 strings)	10P416S (10 strings)
Total nameplate energy capacity	5015.88 kWh	4179.9 kWh
Maximum continuous charging / discharging power	2507.94 kW	2089.95 kW
Operating voltage range	1331.2 V	
String operation voltage range	1164.8-1497.6 V	
Environment Specifications		
Operating temperature range	-13°F to 122°F / -25°C to 50°C	
Storage temperature range	-22°F to 140°F / -30°C to 60°C	
Operating humidity	0-95%, non-condensing	
Maximum operating altitude	≤ 6561.7 ft / 2000 m (derating at > 3280.8 ft / 1000 m)	
Protection rating	NEMA 3R / IP54	
Fire suppression	FM200	
Mechanical specifications		
Dimensions (W × H × D)	19.88 × 9.50 × 8.00 ft (6058 × 2896 × 2438 mm)	
Weight	94799 lb / 43 T	81571 lb / 37 T
Auxiliary Equipment		
Maximum auxiliary power consumption	3P3W+N+PE, 400 Vac, 50 kVA	
Liquid-cooled chiller cooling capacity	45 kW (W18/L35)	
Liquid-cooled chiller heating capacity	13 kW	
Liquid-cooled chiller rated coolant circulation speed	576 L/min	
Liquid-cooled chiller operational temperature range	-22°F to 131°F / -30°C to 55°C	
Liquid-cooled chiller coolant chemical	50% ethylene glycol solution	
Display and Communication		
Communication	RS485 / Ethernet / CAN	
Protocol	Modbus RTU (for liquid-cooled chiller, I/O module, for O&M purposes) Modbus TCP (for string-level BMS, rack-level BMS, LEMS) / CAN (for PCS)	
Certifications and Compliance		
Cell level	IEC62619, UL1642, UL9540A	
Pack level	UL9540A	
Rack level	IEC61000, IEC62477-1, IEC62619, IEC63056, UL1973, UL9540A	
Container level	UL9540	
Fire suppression	NFPA69, NFPA855	