

Aurora 5015

Containerized Liquid-Cooled Utility ESS



The Ener Hexon® Aurora 5015 Containerized Liquid-Cooled Utility ESS primarily consists of 314Ah liquid-cooled battery PACKs, a control box, a main control panel, a liquid cooling unit, a liquid cooling pipeline system, a BMS (Battery Management System), a fire protection system, auxiliary power distribution, and more. The system has a nominal energy capacity of 5015.96 kWh, utilizing 314Ah Lithium Iron Phosphate (LFP) battery cells. A single PACK is configured as 1P52S. Each battery cluster is formed by connecting 8 battery PACKs in series. A single system comprises 12 clusters in total. Each is equipped with one control box. The DC side supports multiple parallel branch circuits converging into a centralized PCS (Power Conversion System). The temperature control system features an independent liquid cooling circulation system. The fire protection system employs an aerosol fire suppression + combustible gas detection + explosion-proof ventilation and exhaust + water fire suppression solution. The overall container utilizes a non-walk-in external maintenance design.

The Ener Hexon® Aurora 5015 Containerized Liquid-Cooled Utility ESS can be applied in generation-side, grid-side, and user-side fields, meeting various application scenario needs such as renewable energy consumption, peak shaving and frequency regulation, shared energy storage, independent energy storage, and peak load shifting.

Key Features: E-S³ Design Concept

Safe

- Utilizes high-safety, long-life, high-efficiency, large-capacity Lithium Iron Phosphate (LFP) batteries;
- Integrates advanced BMS products for real-time monitoring and intelligent management; comprehensive battery protection strategies and fault detection/isolation measures ensure energy storage system safety;
- Combustible gas + temperature + smoke cabin-level detection; total flooding gas fire suppression; integrates six safety protections - pre-warning, detection, prevention, isolation, venting, and suppression - into one system; implements BMS whole-unit linkage protection strategy with ultra-early warning protection control for enhanced safety;
- Unaffected by extreme operating conditions; high protection rating: IP54 (IP55 for battery compartment); corrosion resistance rating C4 or higher.

Simple

- Supports centralized topology solution, centralized DC-side convergence; simple topology communication and control logic ensure system stability and reliability;
- Employs 314Ah large-capacity battery cells; PACK uses an extremely narrow 770mm cooling plate; the enclosure uses a standard 20-foot container meeting sea and land transport requirements; single container footprint < 15m²; supports expansion and parallel cabinet connection, saving 35% on footprint, resulting in better overall station EPC cost;
- Factory pre-fabricated production supports cost-effective and efficient deployment on-site, effectively reducing construction workload; on-site installation and commissioning efficiency improved by 50%, lowering project costs.

Smart

- Efficient liquid cooling temperature control strategy; fully variable frequency liquid cooling units; cluster-level throttling design; temperature difference within Pack < 2.5°C; smooth battery cell temperature fluctuations extend battery service life by 15%;
- Independent dehumidification and cooling air conditioner ensures temperature and humidity control within the cabin to prevent condensation;
- Supports one-click upgrades for fast maintenance and updates.

Technical Parameters

Model		YTLS1T5015A	
Category	Name	Parameter	Remarks
Battery Parameters	Cell Type	LFP-3.2V-314Ah	
	Battery Rated Capacity [kWh]	5015.96	@25°C±3°C
	Nominal Voltage [Vdc]	1331.2	
	Voltage Range [Vdc]	1164.8 ~ 1497.6	
	Charging C-rate	≤0.5CP	
	Discharging C-rate	≤0.5CP	
	Maximum Charging/Discharging Power [kW]	2500	2 units of 1250kW
	Operating Temperature	Charging [°C] Discharging [°C]	5 ~ 45 0 ~ 45
	Recommended Ambient Temperature [°C]	25±10	
	Cooling Method	Liquid Cooling	50% Ethylene Glyco Aqueous Solution
System Parameters	Fire Protection System	Aerosol + Water-based Fire Protection	
	Anti-corrosion Grade	C4	C5 optional
	Lightning Protection Grade	Class II	
	Protection Level	IP54 (IP55 for battery compartment)	
	Operating Temperature Range [°C]	-20 ~ +55	Derating when >45°C
	Storage Temperature [°C]	-20 ~ +35 (≤6 months)/ -20 ~ +45 (≤1 month)	SOC @20% ~ 50%
	Operating Humidity Range	0 ~ 95%RH	No condensation
	Installation Method	Outdoor Installation	
	Working Condition	2 charges and 2 discharges per day	
	System Communication Interface	Ethernet/RS485	
Certification	External System Communication Protocol	Modbus TCP/IEC104/IEC61850/Modbus RTU	
	Altitude [m]	≤4000	Derating when >3000m
	Dimensions [mm] (L*W*H)	6058*2438*2896	
	Weight [T]	Approx.42.5	
Certification		IEC62619, IEC60730, IEC63056, IEC61000, IEC62477, UN38.3, UN3536	

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