

Introduction

MOTOMA 5015 ESS is composed of 314Ah battery, liquid-cooling battery pack, battery cluster, power distribution system, liquid-cooling temperature control system, fire protection system, BMS, etc. The rated capacity of the system is 5015.96kWh. Each cluster is equipped with a sub-controller for single-cluster charging and discharging management. Each cluster consists of eight 1P52S battery packs in series. 314Ah high energy density battery cells are used, which is output to the external interface of the container after passing through the sub-controller, and the overall container adopts non-walk-in external maintenance design. It is recommended to be applied to ESS in multiple application scenarios such as peak frequency regulation, output smoothing, power grid support, peak shaving and valley filling in new energy generation side, power grid side and user side.



Features

1. Safe :

- PACK level + container-level millisecond level sensing to achieve targeted fire extinguishing; gas firefighting.
- water firefighting to prevent re-ignition; active exhaust + third-level explosion venting to prevent secondary damage.
- Three-level thermal insulation for cells, PACK, and clusters, with fire resistance time more than 2 hours.
- PACK, cluster, heap and system four-level fuse protection mechanism, reducing security risks by 30%.
- 5VA-level new flame-retardant insulation material, flame-retardant capability increased by 25%.

2. Simple :

- 314 AH battery, extremely narrow cold plate, standard 20-foot HQ container nominal energy 5.015MWh, covered area <15m², better EPC cost.
- String architecture, AC side coupling, avoids inter-cluster circulation, and increases available power by 9%.
- The entire container is factory prefabricated, installed, and debugged, and the project delivery time is shortened by 50%.

3. Intelligent :

- Battery core temperature difference is less than 2.5°C, AI model predicts remaining life and battery core safety risks, guides preventive maintenance, and increases battery life by 12%.
- Active lossless equalization, self-healing and self-balancing, single-cluster automatic switching control, eliminating the need for expert on-site maintenance.
- Intelligent debug detection system to predict error early.

Technical Parameter

Type	Name		Parameters	Remarks
Battery Parameters	Cell type		LFP-3.2V-314Ah	
	Rated capacity[kWh]		5015.96	P2, @25°C±3°C
	Nominal voltage[V]		1331.2	
	Voltage range[v]		1164.8~1497.6	
	Charge and discharge ratio		≤0.5CP	
	Max. charging and discharging power[kW]		2500	215kW Modular PCS
	Operating temperature	Charging[°C]	0~50	
		Discharging[°C]	-20~55	
	Recommended ambient temperature[°C]		25±10	
	Cycle life		≥6000times	25±10°C, 90%DOD, 80%EOL
System Parameters	Cooling method		Liquid cooling	Liquid cooling medium: water + glycol
	BMS		Level 3	
	Auxiliary electrical parameter		~40kW-400V/50Hz	~3N+PE
	Fire protection system		Perfluorohexanone + water fire protection	Type S aerosol/HFC-227ea optional
	Anticorrosive level		C4	C5 optional
	Lightning protection level		Level II	
	Ingress protection		IP55	
	Operating temperature range [°C]		-20 ~+50	>45°C derating
	Storage temperature[°C]		-20 ~+55	<6months
	Operating humidity range		0~95%RH	No condensation
	Installation mode		Installation mode	
	Working condition		Max. 2 charge and 2 discharge per day	
	System communication interface		CAN/Ethernet/RS485	
	External system communication protocol		Modbus TCP	
	Altitude[m]		≤3000	
	Dimension[W*D*H mm]		6058*2438*2896	20 feet
	Weight[T]		~41	
Certificate	GB/T 36276、GB/T 34131			

■ Product continues to iterate, specifications may be updated without prior notice.