



5MWh Liquid Cooling Battery Container System

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Overview

Large-scale battery energy storage systems (BESS) stabilize renewable power by capturing surplus generation and delivering it when demand rises. Elektra's utility-scale solutions integrate advanced lithium-ion battery technology with liquid cooling, fire suppression, and intelligent monitoring systems to ensure safe, reliable operation.

Proven in diverse applications, these systems enhance grid resilience, efficiency, and the overall reliability of renewable energy supply.

Features

	Ultra-High Density		Smart & Scalable		Efficient & Durable
	Enhanced Monitoring & Control		Safe & Reliable		

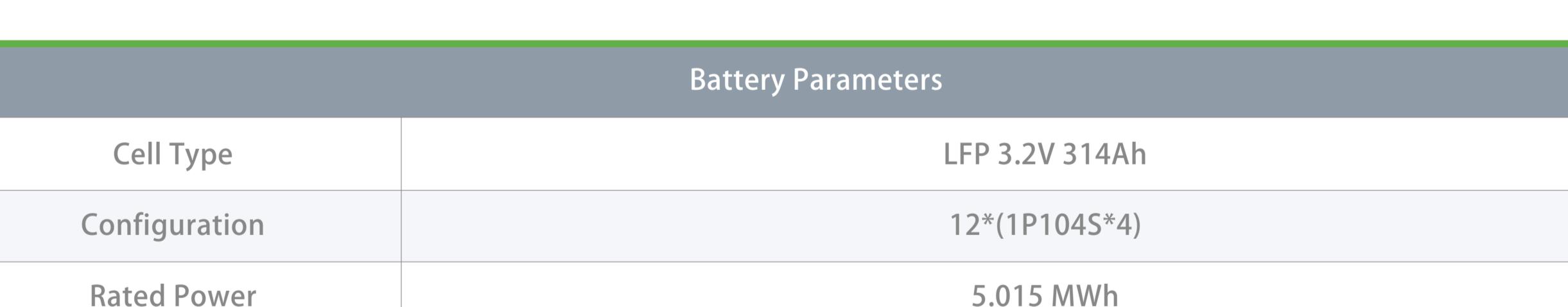
Design Philosophy and Specifications

- 5MWh Battery Container

- The Energy Storage System (ESS) adopts a modular architecture with a clear hierarchy of battery cells, modules, clusters, and fully integrated containerized systems. Each container is equipped with:

- ✓ Battery racks with advanced Battery Management System (BMS)
- ✓ Precision liquid-cooling thermal management system
- ✓ Integrated lighting system
- ✓ Fire detection and automatic suppression system
- ✓ Security and access control system
- ✓ Emergency response and protection mechanisms

- This design ensures scalability, safety, and operational reliability for utility-scale energy storage applications.



Hierarchical Battery Parameters

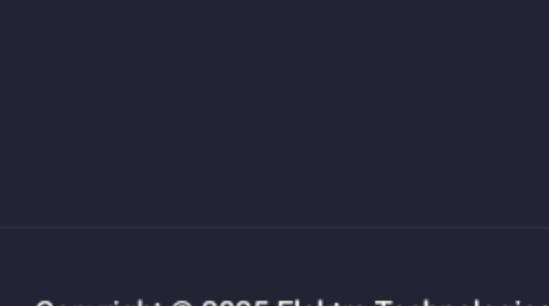
Item	Parameters	Minimum Voltage	Maximum Voltage	Rated Voltage	Capacity (Wh)	Quantity
Battery Cell	314Ah	2.8V	3.6V	3.2V	1,004.8	4992
Battery Module	1P104S	291.2V	374.4V	332.8V	104,499.2	48
Battery Cluster	1P416S	1164.8V	1497.6V	1331.2V	417,996.8	12
Battery Container	12P416S	1164.8V	1497.6V	1331.2V	50159616	1

System Technical Parameters

Battery Parameters	
Cell Type	LFP 3.2V 314Ah
Configuration	12*(1P104S*4)
Rated Power	5.015 MW
Rated Voltage	1331.2V DC
Voltage Range	1164.8V - 1497.6V DC
Rated Charging Power	≤ 2.5MW
Rated Discharge Power	≤ 2.5MW
Auxiliary Power Supply	400V AC±5% 50Hz / 220VAC (significant load)
Storage	-40°C < T ≤ 60°C
Work	0°C < T ≤ 55°C (charging); -30°C < T ≤ 55°C (discharging)
Altitude	≤ 2000m (>2000m derating)
Dimensions	L6058 x W2438 x H2896mm
Color	RAL 7035 (default)
Weight	About 43t
IP Rating	IP55 (default)
Refrigeration method	Liquid Cooling
Communication Protocol	CAN/IEC61850/IEC104/TCP/MODBUS RTU
Coolant	50% ethylene glycol aqueous solution

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