Sodium-ion Battery Cabinet

EADCN-240V/+240V

Introduction

Integrated sodium-ion battery UPS products are based on the market demand from edge computing branches to ultra-large computing power centers, relying on the latest research and development achievements and safety and security application experience gathered by EAST Group in the field of sodium-ion batteries. Compared with lithium-ion batteries and lead-acid batteries, sodium-ion batteries have achieved new breakthroughs in safety, environmental adaptability, intelligent management, and maintainability, and provide users with more environmentally friendly, safe and reliable services.

Compared with lithium-ion batteries, sodium-ion batteries have obvious advantages in terms of economy, safety and temperature adaptability. Especially in terms of safety, sodium-ion batteries have outstanding performance. According to the testing of China Automobile Technology and Research Center Co., Ltd. (CATARC), the sodium-ion battery does not smoke, catch fire, or explode during the nail penetration test, and it does not catch fire or burn after short-circuit, overcharge, overdischarge, extrusion or other experiments. The safety is significantly better than that of a lithium-ion battery. At the same time, sodium-ion batteries have better thermal stability, and sodium-ion battery UPS systems are gradually becoming the preferred energy solution for data centers and other critical power applications because of their high efficiency, environmentally-friendly and long life.

Features

High Reliability
- The sodium-ion battery module is equipped with a PACK-level fire-fighting module as standard, and a cabinet-level fire-fighting system is optional, which is safer and more reliable than the lithium-ion battery module
- Modular design, the faulty module exits automatically, which will not a ect the normal operation of other modules of the system and improve reliability
- Sodium-ion batteries do not smoke, catch fire, or explode during the nail penetration test, and do not catch fire or burn after short-circuit, overcharge, overdischarge, extrusion or other experiments. The safety is significantly better than that of lithium-ion batteries
- The sodium-ion battery module adopts 16S1P non-parallel mode, no circulation, and adopts DC/DC boost mode to improve system reliability

High Availability
- The sodium-ion battery cabinet is flexibly configured, and the capacity of the module or cabinet can be expanded according to the UPS capacity
- Adopt high-security intelligent BMS battery management system
- The modular design of the sodium-ion battery is easy to replace, has high maintainability, and realizes the integration and miniaturization of higher power density
- It occupies a small area and has a high energy density, saving 70% of the area compared to lead-acid batteries
- High rate charging-supports 1H high-speed charging, saving more than 80% of charging time than lead-acid batteries

High Intelligence
- The sodium-ion battery module has self-recovery from failure, real-time battery cell equalization function, and provides protection functions such as overvoltage, undervoltage, overcurrent, short-circuit, and high and low temperature to improve the reliability of the module and increase battery life
- Intelligent charge and discharge management to avoid overcharge and overdischarge
- The sodium-ion battery module automatically detects the internal temperature of the battery, which has better thermal stability and reliability

Environmental Friendly
- Compared with lead-acid and lithium-ion batteries, sodium-ion batteries do not contain toxic and harmful substances, have little environmental impact and are more environmentally friendly

Warranty
- Promise 5 years warranty

Main Technical Parameters

Dimension (W×D×H)(mm)	600×850×1600
Module number (MAX)	9
Output voltage	DC240V/±240V
Battery module dimension (W×D×H)(mm)	440x700x160(3.6U)(without hanging lug)
Discharge time (single pack)	16 minutes (MAX) load 6.75kW

Dimension (W×D×H)(mm)	600×850×2000
Module number (MAX)	11
Output voltage	DC240V/±240V
Battery module dimension (W×D×H)(mm)	440x700x160(3.6U)(without hanging lug)
Discharge time (single pack)	16 minutes (MAX) load 6.75kW

Sodium-ion Battery Module Technical Parameters (EUN24050R15S1P)

MODEL		EUN24050R15S1P
Basic Parameters	Cathode material	NaFePO4
	Design life	10 years
	Rated capacity	50AH/2280WH
	Cooling mode	Forced-air cooling
Electrical Characteristics	Output voltage	240VDC
	Max. output power	7500W@240V
	Max. charging current	8A@270V
	Start-up time	50~60s
	Max. parallel connection number	CAN:16 units
	Cycle life	3000 times (1C, 80%DOD, 25°C)
Mechanical Properties	Dimension (W×D×H)(mm)	440x700x160 (3U)(without hanging lug)
	Weight (kg)	≤46.5
	Installation type	Standard 19-inch rack
	Communication interface	CAN/RS485; 1pc DO; 1pc DI
Environments	Operating temperature	No derating from 0°C to 40°C, linearly derated to 50% at 40°C to 50°C
	Storage temperature	0°C~55°C
	Transport temperature	-40°C~+60°C
	Relative humidity	5%RH~95%RH (non-condensing)
	Altitude	Altitude≤1000m, above 1000m, load derated 1% per 100m from 1000~5000m, up to 5000m