

Super Large Cylindrical Energy Storage Sodium Battery





Overview

What is energy storage sodium battery technology?

In the energy storage sodium battery technology, the sodium ion battery has better performance at high and low temperatures. The capacity retention rate is 70% at -40°C , and it can be recycled at 80°C . At the level of energy storage system, the air conditioning power quota can be reduced, and there is room for cost reduction.

Are solid-state sodium batteries a good alternative to organic liquid-based batteries?

Solid-state sodium batteries (SSNBs) are considered as a promising alternative to organic liquid-based batteries due to their excellent safety, high energy density and cost-effectiveness.

Does Na-Sb alloy have supersodiophilic properties?

Furthermore, both Na-Sb alloy and NaF species exhibit supersodiophilic properties toward Na matrix and SSEs such as NASICON-type (NZSP), thereby strengthening the interfacial contact, homogenizing Na⁺ flux and local currents, and endowing a dendrite-free deposition [1, 2].

What are the advantages of a solid-state Na/NZSP module?

Benefiting from these merits of the uniquely designed Na/NZSP module, the solid-state Na-symmetric cells demonstrate a low interfacial resistance of $14.1\ \Omega\ \text{cm}^2$ at room temperature (RT) and an excellent cyclic lifespan of 7800 and 4700 h with overpotentials of approximately 22 and 61 mV at current densities of 0.1 and 0.3 mA cm⁻², respectively.



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Large Cylindrical Sodium Battery for Energy Storage Market

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