

SolarInnovate Energy Solutions

21700 battery cell detailed introduction



**200kWh
Battery Cluster**



Overview

The 21700 lithium battery is a rechargeable battery. It is 21mm wide and 70mm long. These batteries last longer, have better runtime and capacity, and are more effective than the older 18650 model. What is a 21700 battery?

The 21700 battery is a rechargeable battery that comes with lithium-ion chemistry. The dimensions of the battery are 21 mm in diameter, and the length is 70 mm. This battery was first used for different electric vehicles such as electric scooters and Tesla. Now it is part of vaping and flashlights.

What is the difference between a 21700 and 18650 battery?

The most significant difference between the 21700 and 18650 batteries is their size and capacity. The 21700 is larger (21mm x 70mm) compared to the 18650 (18mm x 65mm), and this size difference allows the 21700 to store more energy. Capacity: The 21700 typically holds 5000mAh or more, while the 18650 generally maxes out around 3500mAh.

How big is a 21700 cell?

The 21700 cell stands out due to its standardized dimensions of 21mm in diameter and 70mm in length. These measurements make it larger than the widely used 18650 cell, which measures 18mm by 65mm. This increase in size allows the 21700 to deliver higher energy storage and improved performance.

Are 21700 batteries based on lithium ion?

However, most 21700 cells are based on lithium-ion (Li-ion) technology, which is widely used across many types of rechargeable batteries due to its excellent energy density and long lifespan. There are several types of lithium-ion chemistries that could be used within the 21700 format:

What is the energy density of a 21700 battery?

Energy Density One of the key advantages of 21700 batteries is their energy

density. Typically, 21700 batteries have an energy density ranging from 250 Wh/kg to 300 Wh/kg, depending on the chemistry used.

Why is a 21700 cell a good choice?

The larger size of the 21700 cell enables it to store more energy, making it ideal for applications requiring high power capacity, such as electric vehicles and industrial battery packs. Its dimensions also contribute to better thermal management, ensuring safer and more efficient operation.

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Characterizing and predicting 21700 NMC lithium-ion battery

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Jun 5, 2022 · Combined numerical and experimental studies are conducted to characterise 21,700 cylindrical lithium-ion battery (LIB) thermal runaway (TR) induced by nail penetration. ...

Degradation behavior of 21700 cylindrical lithium-ion battery cells

Nov 30, 2023 · Lithium-ion battery (LIB) cells are prone to overdischarge or overcharge when connected in series or parallel as a module or pack for large-format applications, such as ...



Heat generation quantification of high-specific-energy 21700 battery

Feb 5, 2021 · The results showed that this battery has a higher specific volume heat generation power compared with the pouch-type batteries reported in the literature. This article provides ...

Investigation of Convective and Radiative Heat Transfer of 21700 ...

Jun 26, 2025 · This study aims to deepen the understanding of passive heat dissipation in 21700 battery cells and optimize their performance. Special emphasis is placed on analyzing heat ...



Thermal analysis of high specific energy NCM-21700 Li-ion battery cell

May 30, 2024 · The Electro-thermal model of the NCM-21700 Li-ion battery cell incorporates two primary heat source terms during charge and discharge operations. In a battery cell, the total ...

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