

CATL unveils world's first mass-produced sodium-ion battery for light commercial vehicles

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The Tianxing II series includes innovative sodium-ion and lithium-ion batteries, improving performance and cost efficiency for LCVs in cold climates

Contemporary Ampere Technology Co. Ltd. (CATL), the world's largest battery-maker, has unveiled its Tianxing II light commercial vehicle (LCV) battery series, introducing the industry's first mass-produced low-temperature sodium-ion battery.



Source: Getty Images

Notable for its 45-kWh capacity, the newly unveiled sodium-ion battery pack offers an energy density of 175 watt-hours per kilogram (Wh/kg) and a cycle life of more than 10,000 cycles.

It is the first to be certified under the GB 38031-2025 national standard, designed specifically for small and micro vans and light trucks. This battery outperforms lithium batteries in cold weather, maintaining 90% capacity at -40°C and permitting charging at -30°C while frozen, addressing the challenges faced by commercial vehicles in cold climates.

Sodium, being more abundant and cheaper to extract than lithium, is expected to lower the cost of batteries and enhance the economic viability of light commercial electric vehicles over time. Besides the sodium-ion battery, CATL's Tianxing II series includes three variants of lithium-ion batteries, including the fast-charging version, which charges from 20% to 80% in 18 minutes, offering an additional 150 km of range for standard 100-kWh vehicles.

Meanwhile, the long-range version, which provides a 253-kWh capacity and a range of 800 km, is optimized for long-distance logistics and reduces vehicle weight by 260 kg when using CATL's Taishan pack architecture.

The third variant is the high-temperature fast-charging version, which is intended for southern high-temperature regions. It uses a customized liquid cooling system to maintain performance, particularly suited for short-range, high-frequency deliveries such as supermarket and community distribution.

Tianxing is a battery brand launched by CATL in July 2024, dedicated to commercial vehicle applications.

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