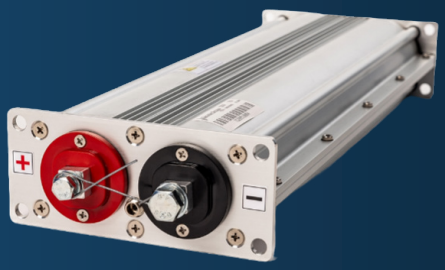
Tecate Group

Power, Performance, Solutions

Transportation Solutions

Ultracapacitors and lithium-ion capacitors offer valuable benefits in transportation applications by providing fast, reliable bursts of energy for functions such as acceleration, regenerative braking, and start-stop systems. Their rapid charge and discharge capabilities improve energy efficiency and reduce fuel consumption, especially in hybrid and electric vehicles. With a long cycle life and high tolerance to temperature extremes, they enhance system durability and reduce maintenance needs. Lithium-ion capacitors add the advantage of higher energy density, enabling longer operation times between charges. Together, these technologies support cleaner, more efficient, and more reliable transportation solutions.



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Telematics

Ultracapacitors and lithium-ion capacitors provide a reliable power source for telematics applications in vehicle tracking by ensuring continuous operation during power interruptions or engine shutdowns. Their ability to quickly charge and discharge makes them ideal for supporting data transmission and GPS functions without delay. Unlike traditional batteries, ultracapacitors have a longer lifespan and can withstand extreme temperatures and vibration, common in transportation environments. This improves the durability and reliability of tracking systems, ensuring accurate, real-time vehicle monitoring.

Stop-Start Systems

Ultracapacitors are highly effective in stop-start systems, providing the quick bursts of power needed to restart engines efficiently at every stop. Their fast charge and discharge capabilities ensure smooth and reliable engine starts, even in cold weather or high-traffic conditions. Unlike traditional batteries, ultracapacitors can handle frequent cycling without performance loss, extending system lifespans and reducing maintenance costs. By reducing the load on the main battery, ultracapacitors improve overall energy efficiency and contribute to lower fuel consumption and emissions.

Active Suspension

Ultracapacitors enhance active suspension systems in automobiles by providing the rapid, high-power energy bursts needed for real-time adjustments to road conditions. Their fast charge and discharge capabilities ensure immediate response, improving ride comfort, handling, and vehicle stability. Unlike traditional batteries, ultracapacitors can endure frequent power cycling without degradation, making them ideal for the constant demands of active suspension. They also operate reliably across a wide temperature range, ensuring consistent performance in various driving environments. This results in more responsive and durable suspension systems, enhancing both safety and driving experience.

Engine Starting

Ultracapacitors offer significant benefits for engine starting by delivering high power on demand for engine cranking, even in extremely cold conditions. Their long cycle life and high reliability make them a durable, low-maintenance solution, especially in heavy-duty vehicles and equipment. Typical installations involve using the ultracapacitors in parallel with a downsized lead-acid battery. By reducing strain on the battery and ensuring consistent performance, ultracapacitors improve system performance and reliability and reduce downtime.

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