

Traction battery accelerates electric vehicle development

Ecovolta has developed a standardized Li-ion traction battery. Manufacturers can convert even smaller or pre-existing vehicle series to run on electricity, creating prototypes within just a few weeks. CAN is supported.



The development of Evo Traction Battery (Photo: Ecovolta)

Previously, customized battery packs had to be developed for each individual vehicle model. The time taken up by this process created additional risks and meant that electric vehicle manufacture was only profitable with larger production runs. In contrast, the Evo Traction Battery is already certified as a universal solution and can be put to use.

The integrated battery management system enables master-slave operation as well as connection of the batteries to a CAN network. This allows the batteries to exchange data with the higher-level control system, which is essential for safe and efficient vehicle operation. The safety technology, relay and recharging are also integrated.

"We estimate that vehicle manufacturers using a battery with an operating voltage of 48 V and a capacity of 10 kWh, for example, will be able to save a total of 250 000 to 500 000 € in development and certification costs," said CTO Paul Hauser.

"And things can move a lot faster, too. Our customers are generally looking at a development time of up to two years for a battery pack and the accompanying battery management system. The Evo Traction Battery, on the other hand, can be configured within a few hours, whether it's being used in a golf cart or a lorry," added Hauser.



The battery (Photo: Ecovolta)

This standardization cuts the costs per kilowatt hour of electricity stored, lowering the barriers to entry for companies looking to move into e-mobility. It covers aspects of the dimensions, capacity levels and electronics. Users of the battery receive fully documented certification for all battery packs, including the crucial UN 38.3 certification for transport safety.

The product is available with a voltage of 24 V, 48 V, and 400 V as well as a capacity of 2,5 kWh to 15 kWh. Up to 16 batteries can be connected in series in any configuration, and up to 32 strings can be connected in parallel, allowing a battery voltage of between 24 V and 829 V and a total capacity of up to around 7 600 kWh.

Every individual battery module has a fixed length of 520 mm and a width of 218 mm, while the height depends on the voltage and capacity. This creates clear parameters for the vehicle design.

The Swiss company produces customized battery systems and e-mobility solutions. The company's patented design enables the fully automated series production of high-current capable batteries which do not need active cooling. Battery and drive solutions are developed and tested in the in-house research and development area. Ecovolta has its headquarters and Swissfactory production plant in Brunnen/Schwyz, Switzerland.

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