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Press Release

Liebherr energy storage system Liduro increases efficiency of mobile and stationary applications

- Fully integrated energy storage system from Liebherr for mobile and stationary applications based on double layer capacitors
- Scalable “connect & use” system for effective energy utilisation

Nussbaumen (Switzerland), November 2017 – At SPS IPC Drives 2017, Liebherr is presenting its in-house developed energy storage system "Liduro", which has been specially designed to increase the efficiency of mobile and stationary applications. This system concept was initially presented at Bauma 2016 and made it to the 3rd place among the nominees for the innovation award.

Efficient energy use is gaining more importance and brings with it the growing demand for cost-effective and sustainable energy storage systems to increase the efficiency of electric drive systems. To meet these market requirements, Liebherr has developed a fully integrated energy storage system. The compact, liquid-cooled complete system comprises all of the individual systems and assemblies needed, thereby significantly facilitating the integration into any application. The system has been thoroughly tested, optimised and is now available for customers as a matured product.

Compact energy storage unit ensures higher storage capacity

“Liduro” is a complete system with 1.5 MJ of energy, which enables the accumulation and supply of 100 kW of power within 15 seconds with a reaction time of 500 µs.

Until now, the integration of energy storage units in new and existing mobile and stationary applications has required extensive measures in terms of development and installation. Aside from complicated mechanical implementation, it was necessary to bring together numerous individual systems, such as storage cells, DC/ DC controllers, cooling and management units. This, therefore, required a great deal of space and resulted in high costs. Thanks to the integration of all individual components and systems in one energy storage unit, considerable time can be saved along with

material costs for system integration and installation. The “connect & use” system from Liebherr makes simple installation and operation possible. The user only has to arrange for the mechanical attachment and electrical wiring. He has the option of connecting the storage unit as a purely two-pin device directly to a DC link of 530 V to 850 V as well as accumulating a defined amount of energy or supplying it again by using an additional communication interface. It is also possible to exchange all of the processing data through this interface.

Depending on the amount of energy that needs to be accumulated, up to ten energy storage units can be connected in parallel to enable an increase in storage capacity. Therefore, the energy storage capacity of the entire system is easily scalable to the requirements of each specific application. One further advantage here is that more power can be supplied and excess energy remains in the system, so that it can be used for subsequent work, meaning that no additional supply is required. Moreover, peak loads can be covered at reduced connected power.

As compared to battery-type accumulators, energy storage units based on double layer capacitors offer much more advantages. This is particularly true of applications associated with a high number of charging and discharging cycles, in which high load peaks temporarily occur and long service life is essential. This is, for example, the case in the area of electro-mobility or during lifting operations, such as with cranes, fork-lift trucks as well as heavy load applications.

Weblink

www.liebherr.com/energy-storage-unit

Captions

liebherr-energy-storage-unit-liduro.jpg
Liebherr energy storage unit Liduro for efficient energy use.

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