LIEBHERR

Press information

New Liebherr energy storage system Liduro increases productivity of electric drive systems

- Fully integrated energy storage system from Liebherr for mobile and stationary applications based on double layer capacitors
- Modular “connect & use” system for effective energy utilisation
- Series production is expected to start in mid-2016

Munich (Germany), 19 January 2016 – At the Bauma 2016, Liebherr is presenting for the first time its in-house developed energy storage system "Liduro". This new powerful and flexible system for electric drive systems is based on double layer capacitors.

The compact, liquid-cooled complete system comprises all of the individual systems and assemblies needed, thereby making integration in an application significantly easier. As such, the new energy storage system from Liebherr is a cost effective and sustainable system for increasing the productivity of electric drive systems and facilities.

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. 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 make arrangements for the mechanical attachment and electrical wiring. He has the option of connecting the

storage unit as a purely 2-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 via 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. The advantage here is not only 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.

Verifiable system benefits during use

The "Liduro" basic system has already been installed and tested on a mobile, diesel-electric gantry crane. A fuel reduction of up to 40% was recorded, which equates to a saving of 700 litres per week. Used accordingly, a cost saving of up to €18,000 per year can be achieved. Among the other advantages is also the use of a smaller diesel engine. This no longer has to cover load peaks and can be maintained at an optimised operating point. This significantly reduces the emission of harmful substances.

For applications associated with a high number of charging and discharging cycles, in which high load peaks temporarily occur and long service life is essential, double layer capacitor energy storage units offer many advantages compared with battery-type accumulators, e.g. in the area of electro-mobility and also during lifting operations, such as with cranes, fork-lift trucks and elevators. The new energy storage system from Liebherr is, therefore, a cost effective and sustainable system for increasing the productivity of electric drive systems and facilities.

Captions

liebherr-energy-storage-unit-liduro.jpg
The new energy storage system Liduro by Liebherr for effective energy utilisation

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