

Ri charging process: energy-efficient and battery-safe charging for electrically driven truck transport vehicles

Source:

Fronius International GmbH

Section:

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Company: Fronius International GmbH

Location: Pettenbach, Austria

Description:

When purchasing an electrically driven truck, it is often only necessary to think about the optimum charger on the edge, as the advantages and disadvantages of the different battery charging systems are not very clear in many cases. The Austrian company Fronius International GmbH has now developed a new "Ri charging process". This innovation has two advantages for the potential user. On the one hand, the greatest possible energy efficiency of the charging process is ensured by the high overall efficiency from the socket to the floor conveyor. And on the other hand, the battery-sustaining process (lowest battery heating) ensures a maximum battery life extension.

Conventional battery charging technologies work according to the same principle. They charge for a prefabricated fixed charging characteristic and hardly go into the state of the battery.

Up to now, a defined voltage has been charged into the battery. This electricity has resulted in the charging voltage.

With the new Ri charging process Fronius chooses a technically completely new approach; for the first time, the electricity is not given but the voltage. The voltage is determined as a function of the internal battery resistance. Depending on the age, temperature and charge state, the internal resistance is different.

The innovative process therefore only loads the current into the battery, which is really needed.

The charging process takes place in the following steps. First, the state of the battery is determined based on the internal resistance. Depending on the age, temperature and charge level of the battery, the charging characteristic is then adjusted. The optimum voltage of the battery is now fed into each charging phase. Each individual charging cycle is therefore unique with an individual characteristic curve. The charging efficiency of this technology is 90%, the device efficiency 93% and the resulting total efficiency 84%. By adapting the voltage to the battery, charging losses can be avoided at the beginning of charging as well as during the recharge phase.

>> Video information

Further information hier.

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