

CHARGING SYSTEM

Dedicated for Li-ion batteries in forklift trucks

Fronius (Austria) has developed for Linde and Still, two brands of the Kion Group, battery charging systems. They use an embedded CAN network.



The CAN-based battery charging system is used by Linde and Still (Photo: Fronius)

The lithium-ion battery charging systems are available in the 9 kW and 18 kW power categories – the appropriate category depends on the capacity of the battery used. Linde offers five different counterbalance trucks with load capacities of between 1,4 t and 1,8 t. They are equipped with lithium-ion batteries from 13,1 kWh to 45,7 kWh. The charging time can be reduced to as little as 50 min, depending on the strength of the charger and the size of the battery – for lead-acid batteries, this is normally between seven and eight hours. Furthermore, opportunity charging is possible at any time without damaging the battery. For forklift truck operators, this means significant time saving and increased availability of the fleet. Still, another brand of the Kion Group, uses also the Li-ion battery charging systems for five different forklift models with load capacities between 1,4 t and 2 t.

The batter charging system uses an embedded CAN network connecting battery, charger, and display. During operation, numerous parameters, such as the temperature and state of charge of the battery, and the remaining driving time, are constantly monitored and shown on the driver's display. Where safety-related limit values are concerned – such as an insufficient charge rate – the system intervenes and, for example, adapts the power consumption of the forklift truck accordingly. This prevents the deep discharge of the battery and any resulting damage.

[hz](#)