



**trak | powerpack lion**

Lithium-Ion  
retrofit solution



## trak | powerpack lion

Especially for industrial logistical applications

trak | powerpack lion is a modularly constructed lithium-ion battery system, which adapts individually to the customer needs. Next to the flexible tray-in-tray concept 3 models with different capacities are available, which can each be used in a broad temperature range. The battery management system from HOPPECKE guarantees next to a considerable longer lifespan in contrast to lead-acid batteries (expected lifetime of 4,000 cycles)

at any time a safe usage of the lithium-ion technology, as it was developed according to the most current standards of functional safety. The battery state (state of charge (SOC) and state of health (SOH)) is always presented transparently by the SOC display which can be placed freely inside the vehicle and, thus, allows a better planning of tasks and replacement purchases. trak | powerpack lion is the universal lithium-ion retrofit solution and is ideally suited for multishift applications.

### 6 good reasons for trak | powerpack lion

High vehicle  
availability  
24/7 operation

Maintenance  
and emission  
freedom

Low operating  
costs  
High system  
efficiency

Safety

Transparency  
and user-  
friendliness

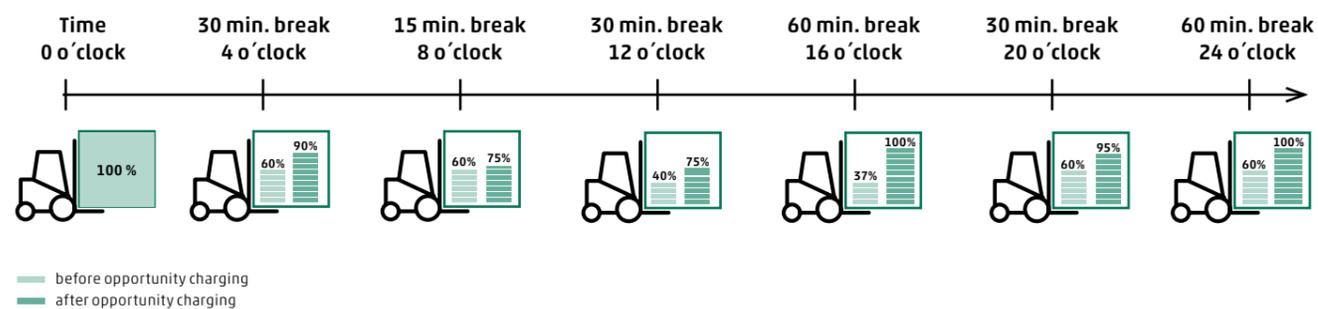
Universal  
retrofit solution  
Plug & drive

## High vehicle availability

### Application around the clock possible

trak | powerpack lion is a fast and opportunity charging battery – It can be fully charged within one hour. With opportunity charging during break time, the vehicle can be used the whole day without battery change up to a 24/7 application. trak | powerpack lion is excellently suited for decentralised charging: Charge your battery where the vehicle is needed – in doing so, you save the travel time to a centralised charging station. The charging of trak | powerpack lion can be integrated unconditionally into your internal processes. The recuperation of the braking energy is especially well supported by the special cell properties of the lithium-ion battery. In this way, energy is available for your vehicle for a longer period of time.

## trak | powerpack lion capacity course during a 24 hour application with opportunity charging during break times



### Your advantage with HOPPECKE

- Charging within one hour possible
- 24/7 application
- No travel time to central charging station
- Unconditional integration into your internal processes
- High recuperation

## Maintenance and emission freedom

### Ideal solution for the food trade

The closed battery pack is maintenance-free. During the entire lifetime neither do you have to refill water nor to come in contact with acid. trak | powerpack lion is emission-free, as no gas develops during the charging and, therefore, it is perfectly suited for the use in the food trade, in the fresh food area and in the pharmaceutical industry, where there are special demands on cleanliness.

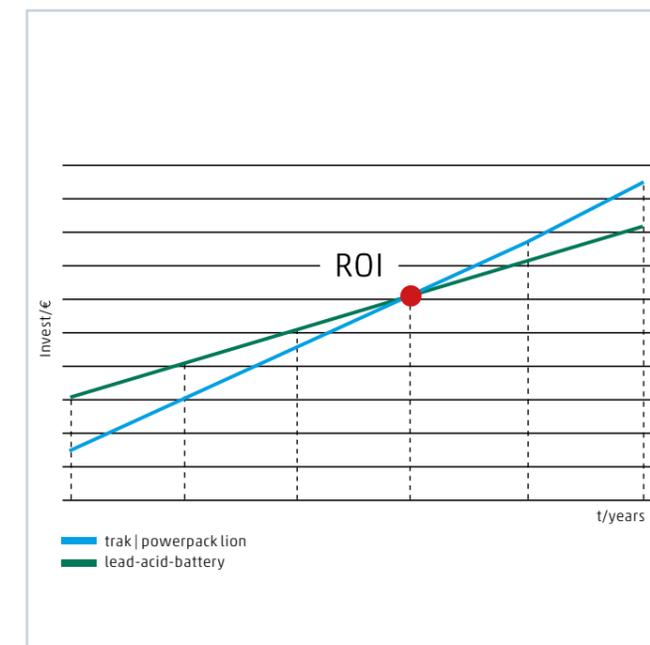
### Your advantage with HOPPECKE

- Maintenance-free (no refilling of water)
- Emission-free (no gas formation during charging)
- Ideally suited for
  - Food trade
  - Fresh food area
  - Pharmaceutical industry

## You save twice

### Low operating and investment costs

With the use of trak | powerpack lion, the battery change and the battery changing device are dropped. The requirements of charging spots and stations, like e. g. acid-proof ground conditions (trak | powerpack lion contains no liquid electrolyte), ventilation (no gassing during charging) etc. are also dropped. Due to the durability of the lithium-ion battery fewer replacements take place than in case of a lead-acid battery. Consequently, you save investment costs. As no resources are required for water refilling and battery change, you save operating and at the same time investment costs.



### Your advantage with HOPPECKE

- No battery change
- No central charging station
- Fewer replacement purchases
- Low operating costs
- Faster achievement of the ROI

## Safety around the clock on 365 days

### We leave nothing to chance

In the run-up to each project, an analysis of its specific application is implemented, so that you receive the perfect solution. The battery management system developed by HOPPECKE monitors the safe running of each individual cell around the clock on 365 days – cell voltage, temperature and current are kept under constant observation. In critical cases, the system shuts the battery automatically down.



### Your advantage with HOPPECKE

- Systematic pre-analysis
- Around the clock monitoring of the lithium-ion cells
- Integrated safety and automatic shutdown

## Protection of the environment We take our responsibility seriously

We organise the collection of your used batteries directly on-site and ensure that all packaging and transport regulations are kept. We guarantee a recycling according to the rules and issue a certificate about this. You have absolute certainty that your batteries subject to disposal regulation are treated according to the rules.



### Your advantage with HOPPECKE

- Recyclable
- Appropriate transport
- Professional recycling & disposal
- Collection directly at your place

## High user-friendliness External SOC display

Algorithms developed by HOPPECKE use the data from the permanent monitoring of the voltage, the current and the temperature in order to calculate charge (SOC) and ageing level (SOH) precisely. An external SOC display allows a visualisation of the charge level, directly inside the vehicle without opening the battery room. With the help of the SOC, the driver can plan his tasks better, because he knows the charge level at any time and knows precisely when he has to charge the battery. With the precise determination of the SOH, those responsible for the vehicle fleet receive a planning tool for replacement purchases.



### Your advantage with HOPPECKE

- External SOC and SOH display
- User-friendly
- Precise determination of charge and ageing level
- Planning tool
- Transparent

## Universal retrofit HOPPECKE retrofit lithium-ion battery

trak | powerpack lion is a universal and at the same time modular lithium-ion retrofit solution for all usual industrial trucks. The packs are designed in a way that they can be installed in conventional DIN troughs. With the tray-in-tray concept and different types with

different capacities, customer requirements can be realised perfectly. Thanks to plug & drive, the drive technology can be changed easily from a lead-acid to the lithium-ion technology.



### Your advantage with HOPPECKE

- Suitable for all conventional vehicles
- Plug & drive solution
- Modular

HOPPECKE Batterien GmbH & Co. KG  
Bontkirchener Str. 1  
D - 59929 Brilon  
Tel: +49 (0) 2963 61-0  
Fax: +49 (0) 2963 61-449  
E-Mail: [motivepower@hoppecke.com](mailto:motivepower@hoppecke.com)

