



## Now it is economical to use Lithium batteries instead of lead batteries!

### J.K.Medico now markets high quality Lithium batteries adapted to the market demands for capacity, lifetime and price in the Rehab sector

We offer a range of standard packages consisting of battery and charger or separately.

The solutions are specifically aimed at the Rehab market, where JK Medico for 30 years has been market leader with its Medico approved chargers for wheelchairs and scooters.

As well as the Marine Market, where JK Medico has also been represented for a number of years.

Our battery supplier specializing in providing customized battery solutions for the industrial market and the cooperation with J.K.Medico, expanded the market now to include the Rehab market, but also to other markets in which J.K.Medico is in.

This applies to the market for batteries and chargers for electric bicycles in the Rehab market and the leisure market as well as the Marine Market for batteries for electric motors as well as marine batteries and solar cells - battery storage.

Basically, we offer a number of standard solutions, consisting of batteries and chargers for the Rehab market, where battery economy and service are significant parameters in the budget of an electrical powered device.

We also offer customized solutions of battery packs and power electronics of any kind,

We handle everything from specification, development, certification, assembly, testing, packing and shipment.

### Why Lithium Batteries ?

**With our Lithium chargers and batteries, great benefits are gained on many points:**

- By just looking at battery life, a better economy is obtained than using lead-acid batteries
- The life span is 2-3 times longer than a lead battery.
- The life of a lithium battery typically corresponds to the life of the electric vehicle, which is economically optimal.
- Charger and battery together make up an intelligent device which gives a minimum of errors and thus a minimum of service costs, and no trouble and problems with replacing batteries.
- Low capacity loss at regular use and high load, increases driving range > 50%.
- The battery weight and dimensions are 2-3 times less than a lead battery.
- The battery can withstand partial charging - does not require 100% charging, which is optimal for the user.
- Low pollution, no lead, cadmium or mercury.
- Low self-discharge, can stand without charging for several months.
- Lithium batteries can be charged in enclosed spaces, they do not generate hydrogen during charging.
- J.K. Medico's Rehab chargers are designed specifically for electric wheelchairs and scooters. Emphasis has been placed on safety, reliability and functionality. Our Rehab chargers are Medico approved and CB certified acc. to EN60601 ed.3.1 and our chargers generally have the reputation of being the best and most reliable on the Rehab market. J.K. Medico's chargers are programmed specifically for the battery type it is used for, giving the market's best battery economy. The patented electrical design used ensures very high efficiency and thus reliability. With their waterproof and robust construction, J.K.Medicos battery chargers are particularly suitable for harsh environments and outdoor use. The chargers are designed without fan and therefore do not make noise.

**The Battery pack and charger make up the unique solution for both user and payer.**

Why does a Lithium battery provide longer mileage than a lead battery with the same capacity (Ah)? Look at [www.jk-medico.dk](http://www.jk-medico.dk)

**For the Rehab market, we recommend the following solutions:**

**Package # 1:** For the scooter or wheelchair with a  $\leq 55\text{Ah}$  lead battery:  
1 pcs. 40Ah / 24V LiNMC Battery + 1 pc. 29.2V / 10A charger (CCC410S).

**Package # 2:** For the scooter or wheelchair with a  $\geq 55\text{Ah}$  lead battery, wish for extra long driving time:  
2 pcs. 40Ah / 24V LiNMC Battery + 1 pc. 29.2V / 10A charger (CCC410S),

**Package # 3:** For the scooter or wheelchair with a  $\geq 55\text{Ah}$  lead battery, request for extra long driving time:  
1 pcs. 60Ah / 24V LiNMC Battery + 1 pc. 29.2V / 10A charger (CCC410S),

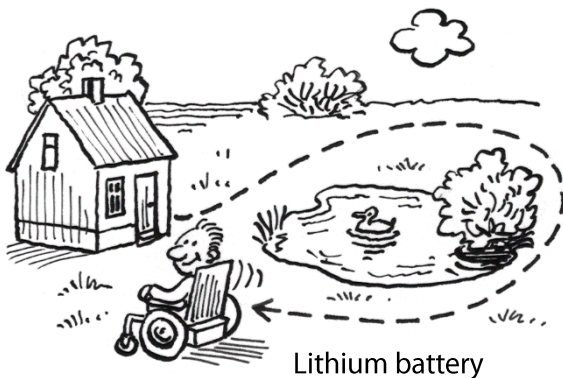
**Charger and battery can also be purchased separately:**

- Lithium charger type CCC4xxS, see list of types below.
- Battery type JKM24LINMC-39AH / 50A
- Battery type JKM24LINMC-59AH / 120A
- Battery type JKM24LINMC-39AH / 50-H, This battery has built-in heater for operation in extreme cold environment (Request for further data)

Batteries								
Type no.	Battery voltage nominal [V]	Battery capacity [Ah]	Output current max. [A]	Output peak current max.1s. [A]	Weight [Kg]	Length [mm]	Width [mm]	Height [mm]
JKM24LINMC 39AH/50A	24	40	50	120	8,66	212	163	153
JKM24LINMC 59AH/120A	24	60	120	330	15.00	260	172	213+20

Chargers							
Type no.	Battery voltage nominal [V]	Output current max. [A]	Battery Vmax. [V]	Battery type	Option DD-CHG	Option AH-DISP	Part number
CCC210S	12	10	14,6	LiNMC	OK	OK	71000-056-10-12
CCC220S	12	20	14,6	LiNMC	OK	OK	71000-064-10-12
CCC406S	24	6	29,2	LiNMC	OK	OK	71000-074-10-12
CCC408S	24	8	29,2	LiNMC	OK	OK	71000-076-10-12
CCC410S	24	10	29,2	LiNMC	OK	OK	71000-072-10-12
CCC606S	36	6	41,8	LiNMC	OK	OK	71000-077-10-12



# Why Lithium batteries?



## High specific energy

<40% weight compared to lead-acid

"Specific energy" measures the amount of energy per unit of mass: E.g. Wh/kg. Lithium batteries have a very high measure of specific energy compared to lead-acid batteries, giving them a comparative advantage.



## Maintenance free

Requires no maintenance

No refilling of water, no sulfation, no stratification and no float/maintenance charging. Completely maintenance free.



## Fast charging

Standard <3 hours

Standard lithium batteries can be charged with a current that's 50% of the nominal capacity. E.g. for a 40Ah battery, 20A charging current is fine.



## Longer run times

Use your equipment for longer periods of time

Many of the advantages listed here, result in an overall run-time improvement, which means spending less time charging or changing batteries.



## Opportunity charging

Charging during the coffee break is fine

Lithium batteries can be charged partially or fully. Neither will affect the life-time of the battery pack.



## High charging efficiency

More than 95% efficient charging

A high charging efficiency means that almost all the energy that is delivered by your charger, will actually also be stored in the battery, which in turn should result in lower charging costs.



## Low TCO

Similar or lower TCO than lead-acid is attainable

The Total-Cost-of-Ownership of a Lithium battery is now similar or lower than a lead-acid battery. This is mainly due to our very competitive prices.



## High energy density

<50% volume compared to lead-acid

In general terms, a lithium battery pack will only have half the volume of an AGM/GEL battery of equal capacity.



## No hydrogen gas

Lithium batteries don't create gas while charging

There is no need to have a specially ventilated charging room, for charging lithium batteries because there is no potential gas development.



## Pollution free

No cadmium, lead or mercury

Lithium-ION batteries are free of some of the most environmentally dangerous substances like cadmium.



## Customizable design

No size or shape constraints

Because our lithium batteries are built up of a number of individual battery cells, we are mostly free of design constraints.



## Low capacity loss at high C-rates

(Low Peukert-exponent)

On an AGM/GEL battery, the capacity is very dependent on the discharge rate. The higher the rate (discharge current), the lower the available capacity. This relationship is expressed through the Peukert-exponent.



## High DOD tolerance

Discharge as you like

As opposed to lead-acid batteries, lithium batteries can be discharged to a very low DOD without adversely affecting the SOH (State-of-Health) or life-time.



## Low self-discharge

Long time storage is fine

With an inherently low self-discharge, lithium batteries are perfect for long time storage. In other words: You don't have to worry about your batteries going "sour".





Patented computer controlled  
**BATTERY CHARGERS**

**We offer customized solutions of battery packs and power electronics of any kind.**

**We handle everything from specification, development, certification, assembly, testing and packing to shipment.**