



OUR CUSTOMERS. OUR MARKETS.

MOTORHOMES AND OTHER VEHICLES

The LE300 Smart Battery System is specially developed for self-sustaining onboard electricity. Through an extension to the built-in battery, the system offers higher autonomy and a longer battery lifetime in motorhomes, vans, or family cars. It is also great for commercial or municipal vehicles, like for technicians or emergency services.

BOATS AND YACHTS

Limited space is a special challenge. Due to its small yet scalable modules, LE300 Smart Battery System is an excellent addition for boats of all sizes. Moreover, the double redundancy of modular LE300 plus lead-acid battery guarantees power supply on the seven seas.

SMALL SOLAR SYSTEMS

The LE300 Smart Battery System is used in small sized solar applications around the globe. It can be installed in tiny houses, at water pumps, irrigation systems and parking ticket machines.

TRAFFIC CONTROL SYSTEMS

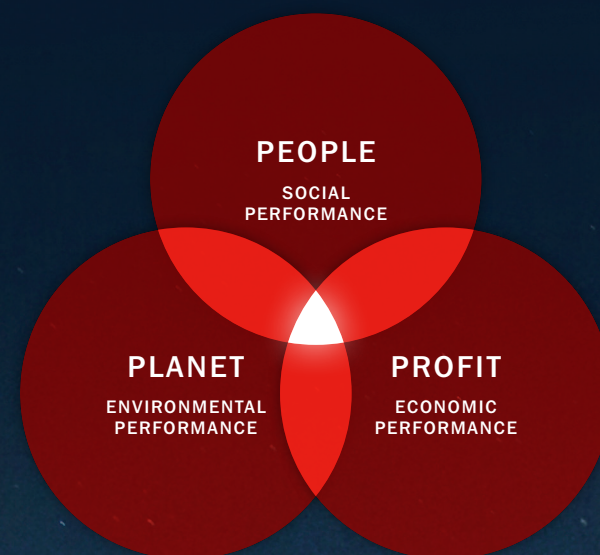
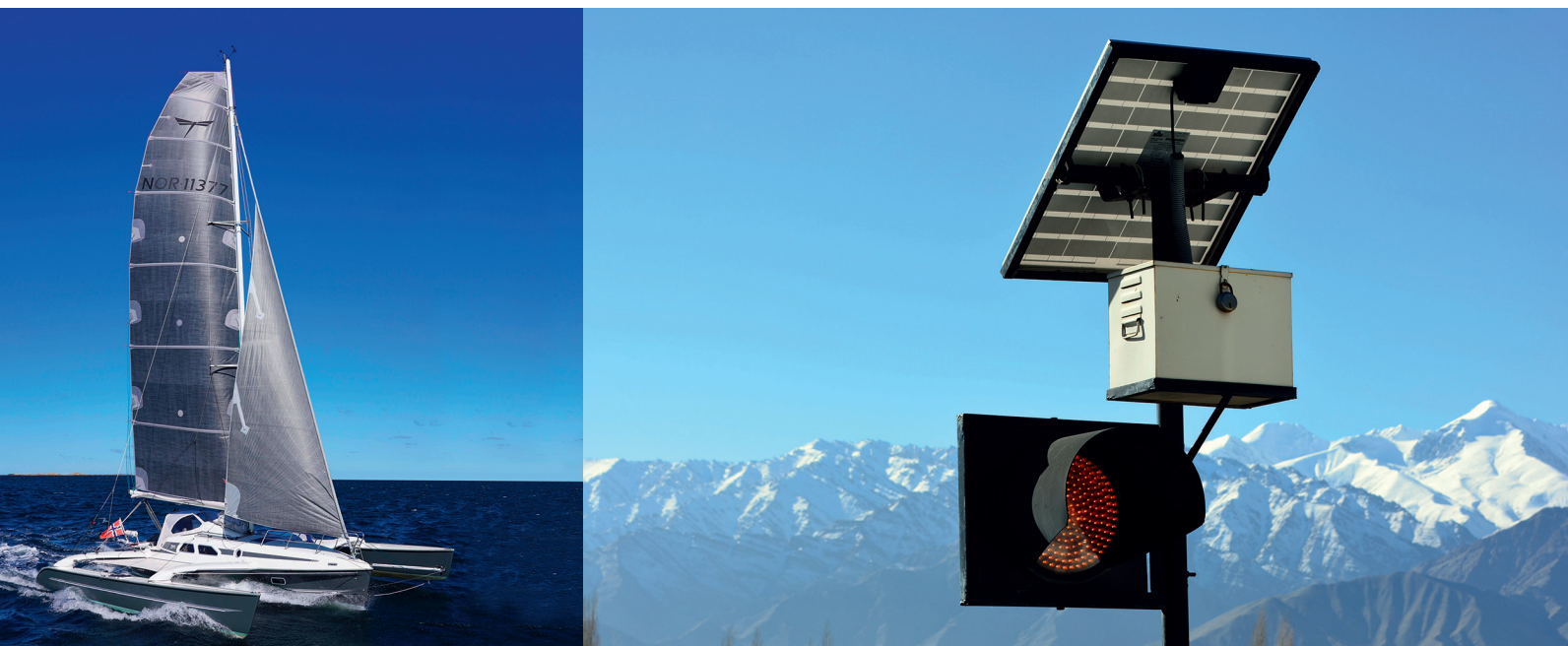
LE300 Smart Battery System is maintenance-free and extends the lifetime of the traffic control battery. This offers many benefits and helps to save time and money.

REMOTE DATA TRANSMISSION DEVICES

The network of data transmission has expanded to far-flung regions worldwide. In many cases, areas have an unreliable or no grid supply. Freedom from maintenance, monitoring features and longer battery life are welcome in this scenario.

AND MANY MORE APPLICATIONS

LE300 can be used wherever a classic lead-acid battery needs to be extended for example in lawnmowers or electric wheelchairs. Our customers often inspire us with new ideas and possible application areas.



POWER TO GO.
EXPERIENCE FREEDOM ANEW.

LE300 SMART BATTERY SYSTEM LITHIUM EXTENSION / LEAD-ACID



LE300 SMART BATTERY SYSTEM, WITH LiFePO₄ CELLS, IS A SMART AND INTEGRATED LITHIUM EXTENSION SOLUTION. THE MODULES CAN BE USED WHEREVER A 12 V LEAD-ACID BATTERY NEEDS TO BE EXTENDED. THEY ARE DESIGNED FOR MOTOR HOMES, BOATS, TRAFFIC SYSTEMS AND ANY OTHER LEAD-ACID APPLICATION.

www.smart-battery-system.com



BALANCED SYSTEMS. SMART ENERGY.

BOS Balance of Storage Systems AG is a German high-tech company, manufacturing smart energy storage solutions and innovative lithium batteries.

Their key markets are located in rural and semi-urban areas with insufficient access to modern energy services as well as market segments in industrialized countries that require decentralized power supply.

BOS aims to become the leading company in decentralised energy supply with a focus on lithium and lead-acid hybrid charging technology that supports intelligent load management for solar systems.

BOS AG works according to the triple bottom line, where People, Planet and Profit are equally in focus. Optimizing the footprint and the positive return in each area is the strategic objective.



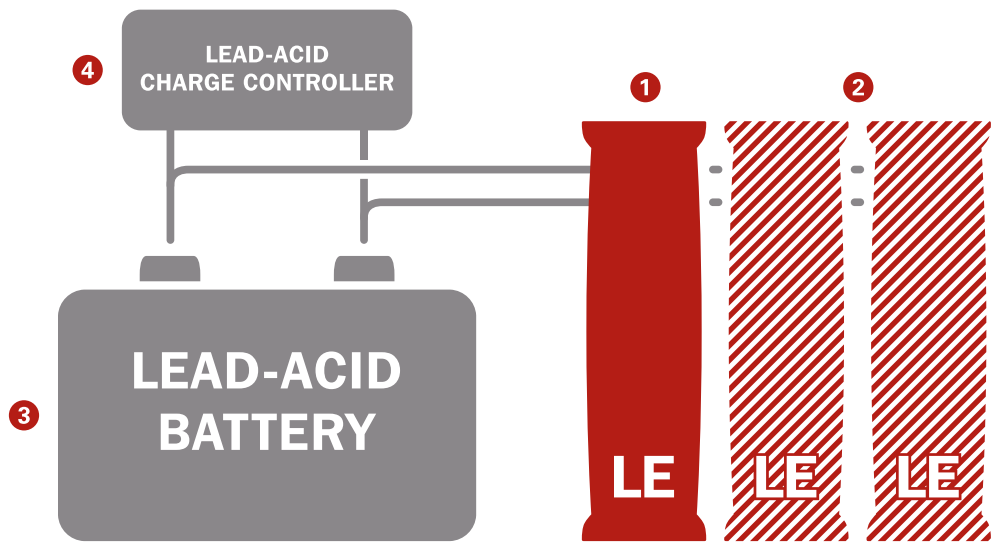
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MODULAR SYSTEM. SMART FEATURES.



THE BOS LE300 SMART BATTERY SYSTEM IS A FULLY SCALABLE LITHIUM EXTENSION SOLUTION TO ADD CAPACITY TO LEAD-ACID BATTERIES. ITS INTELLIGENT BATTERY MANAGEMENT SYSTEM ALLOWS AN EASY PLUG & PLAY INSTALLATION AND PROLONGS THE LIFESPAN OF BOTH BATTERIES BY UP TO 10 YEARS.

SMART MODULAR SYSTEMS



1 LITHIUM EXTENTION BATTERY

Our lithium battery is based on the latest lithium iron phosphate cells (LiFePO₄). In addition, a Battery Management System and display are integrated in the compact housing.

2 MODULAR AND SCALABLE

By easily stacking the modules together, the desired capacity can be achieved. The modules are connected in parallel to the lead acid batteries.

3 LEAD-ACID BATTERY

Existing or new 12 V lead-acid batteries – including AGM and gel – can be used. The LE300 is directly connected to the positive and negative terminals of the lead-acid battery.

4 LEAD-ACID CHARGE CONTROLLER

Existing charge controller for lead-acid batteries with a constant voltage above 14 V or with the IoUo standard can be used.



CORE BENEFITS



LONGER BATTERY LIFETIME

With the LE300 connected, the lead-acid battery is kept fully charged while the cycle-resistant lithium battery takes on most charging cycles and is preferentially discharged under load. The capacity and the performance of both batteries are used optimally, so you can look forward to a better performance and a longer life span of up to ten years for both batteries.



PLUG & PLAY

Simply connect the modules to the plus and minus terminal of the lead-acid battery. The existing charging technology remains unchanged. This is possible in new systems and retrofit. After installation, the system can be used immediately, as every LE300 is an individual unit with all necessary protection features and integrated Battery Management System.



GUARANTEED POWER

In blocks of several LE300, the single lithium modules function independently of each other and thus provide a very reliable power supply. This, plus the simplicity of a lead-acid system, guarantee functionality as well as quick repairs even in the remotest regions of the world.



MODULARITY

Extending capacity is possible even after years. A block of two modules can be turned into a block of four or six at any moment. This means that your battery system can grow with your demand and adapt to your available budget.



COLD-PROOF

Contrary to pure lithium-battery solutions, cold temperatures are no problem for the LE300 Smart Battery System. Due to integrated cell-heating in combination with a temperature sensor, the LE300 is heated with charging current before the actual charging. Consequently, cell temperature is between five and ten degrees higher than outside temperature.



VIBRATION-RESISTANT

The LE300 Smart Battery System is a high quality, Made in Germany product. It is tested beyond legal requirements to withstand the most extreme conditions. The TÜV confirmed E1 certification for vehicles, makes the LE300 a reliable, vibration and shock resistant system - perfectly adapted to the needs of boats, motor vehicles and much more.



OVERWINTERING THE LEAD-ACID BATTERY

During winter or a longer storage period, the LE300 system can keep lead-acid batteries fully charged. Additional charging is obsolete.



INCREASING SOLAR EFFICIENCY

LE300 Smart Battery System maximizes the charging efficiency in solar systems, for example on vehicles or boats. As soon as the lead-acid battery is around 80 percent full and its charging speed slows down, LE300 takes up the power surplus. It thus makes solar power usable which in a pure lead-acid system would get lost. The easiest way to get maximum value out of your panels.

SMALL SIZE. MORE POWER.

EXAMPLE BATTERY PACK CONFIGURATION

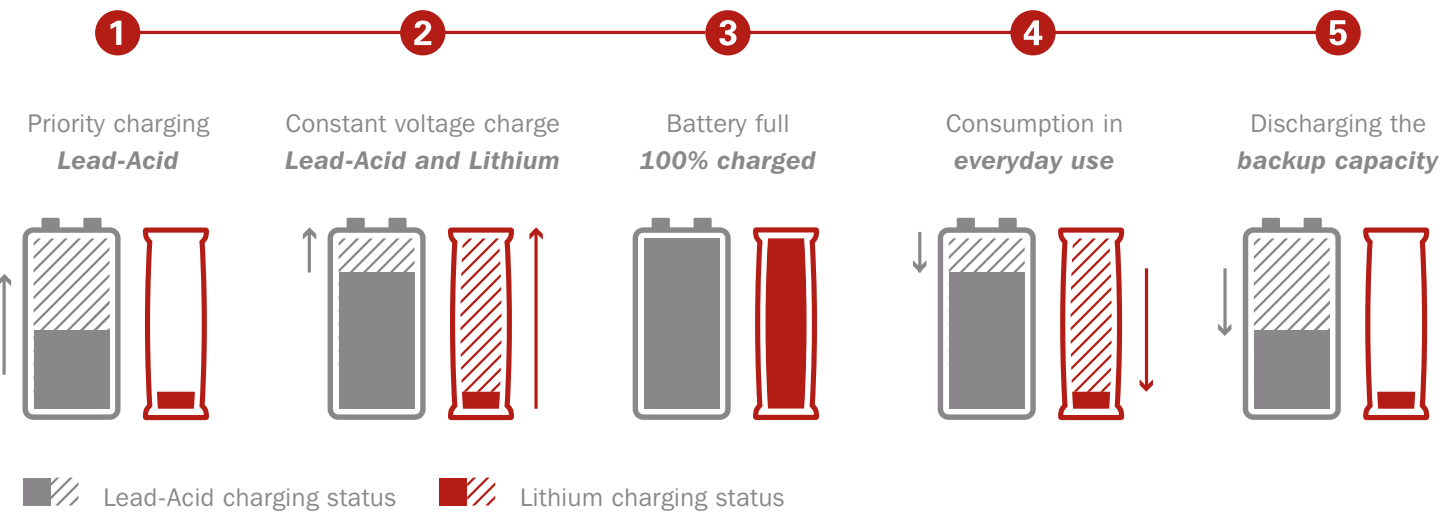


The capacity of lead-acid batteries is specified as 70% DOD.

The capacity of lithium batteries is specified as 90% DOD.

* higher quantities are possible after consulting BOS partner.

CHARGING & DISCHARGING CYCLE



LE300 prioritizes the lead-acid battery during the charging process until the latter starts to charge more slowly. Then, LE300 will take up the surplus solar energy. Both batteries will charge until they are full at maximum charging efficiency. In daily cycles, LE300 is discharged first and lead-acid serves as a back-up.