

Lithium Ion Batteries

Lithium Ion is the battery technology of today. Do you want to be the fastest or best performing? Do you want to save energy or burn less fuel? Do you want your investment to last longest? Do you want to be 'out there' longest without getting anxious about your energy? Then Lithium Ion (LiFePO4) is your choice of batteries.



Courtesy of Matt Knighton / Abu Dhabi Ocean Racing / Volvo Ocean Race.

TECH tip™

Performance Ready

The beating heart of the electrical system onboard all boats participating in the Volvo Ocean Race was formed by two Mastervolt MLI Ultra 24/5000 Lithium Ion (LiFePO4) batteries, which performed seamlessly throughout the race. Choose indestructible Mastervolt Lithium Ion batteries, like the Volvo Ocean Race boats.

A few of its outstanding features

- Space and weight savings up to 70%
- Three times the lifespan of traditional batteries (2000 cycles)
- Extremely fast charging and discharging
- High efficiency: not wasting energy
- Safe operation

Safest Lithium Ion technology available

The term Lithium Ion encompasses multiple chemistries, having slightly different compositions of materials. These differences result in variations of energy and power density, lifespan, cost and safety. As safety is our primary concern, Mastervolt chooses to use only the safest available Lithium Ion chemistry, Lithium-iron phosphate (LiFePO4).

Mastervolt brings Lithium Ion technology in two product ranges

MLI Ultra series

Large capacity series, fully equipped for extreme cycling, like running airconditioning, pumps or electric motors for long periods of time with short intermittent charging.

MLS series

Small capacity series, entry model for smaller applications, such as portable/mobile equipment or backup power.

MLI Ultra Series

The MLI Ultra series is designed to be able to enjoy all the best properties of Lithium Ion (LiFePO4) technology in the harshest conditions (high charge/discharge currents, flooded environment, mechanical shock or vibrations). To do this, the MLI Ultra batteries bring two things on top of Lithium-iron phosphate cells: a sturdy, waterproof housing and the best Battery Management System (BMS). The BMS ensures optimal use of each individual cell, even during fast charge and discharge, and has integrated battery monitoring to always have the best information on the state of your battery. Last but not least, it has MasterBus communication to the Mastervolt battery charger to ensure the best possible recharging and lifetime of the battery.



MLS Series

The MLS series is the MLI Ultra's smaller brother, for smaller capacity applications where reducing weight/volume and/or increasing cycle life is key. It is specifically designed to be as easy as possible to install. The MLS series comes with an integrated safety switch, this saves installation and commissioning time.



For higher capacity, multiple MLS batteries can easily be connected in parallel. While the MLS series is a little less heavy duty than the MLI Ultra series, it gives an ideal entry to the benefits of Lithium Ion technology. Perhaps consider replacing your existing lead-acid battery?



Suitable for large battery banks

The MLI Ultra batteries are ideal for electric and hybrid applications, and can be connected in parallel unlimited. The built-in common-rail technology offers an easy series connection of multiple batteries.



Safe operation

The Mastervolt MLI Ultra battery is equipped with an integrated Battery Management System (BMS) with active cell balancing and communication through MasterBus. Even in the harshest cycling conditions this guarantees efficient and safe operation of the battery. The MLS batteries come with an integrated automatic safety switch. Safety always comes first.



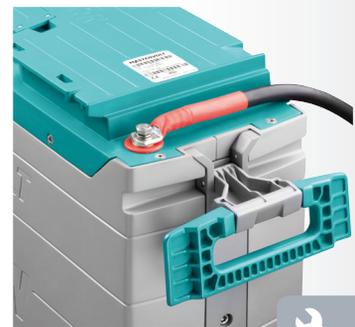
Superior performance

Mastervolt Lithium Ion (LiFePO4) batteries have a realistic lifespan of over 2000 cycles at a depth of discharge (DOD) of 80%. This means five times more energy storage than lead acid batteries thanks to features such as extremely high efficiency, the almost complete absence of self discharge and the minimal build-up of the infamous 'memory effect'.



Weight reduction

As speed and performance are crucial aspects, a Lithium Ion (LiFePO4) battery – which takes up 70% less weight than similar lead acid batteries – offers considerable benefits. A vessel or vehicle with a capacity of 20 kWh on board, can easily save up to 500 kg and achieve a substantially better performance.



Easy installation

The elegant design of the MLI Ultra in the characteristic Mastervolt colours includes two integrated handles with a recess for the correct and practical installation of the cables. The battery poles are easily accessible and completely protected, so no extra isolation covers are needed. The MLS batteries make a great 'drop-in replacement' for a system with lead-acid batteries, because no system changes or additional components are required.