

Victron introduces Lithium-Ion Charging

The demand for Victron Inverters/Chargers that can charge lithium-ion batteries has been growing rapidly. Charging these batteries differs from charging conventional batteries such as the GEL and AGM types. As always, Victron is eager to meet customer demand. Therefore we have launched a special 48V MultiPlus series which are able to charge these lithium-ion batteries.

Hybrid Solutions

Victron is able to design entire energy systems for any hybrid solution, including the batteries and a charge system. Lithium-ion batteries are becoming a more frequent choice for hybrid solutions. The hybrid systems that use lithium-ion batteries have several advantages in comparison to conventional battery systems:

- Higher energy density
- Significantly lower weight
- Faster charging
- No memory effect
- Longer cycle life

The same MultiPlus advantages

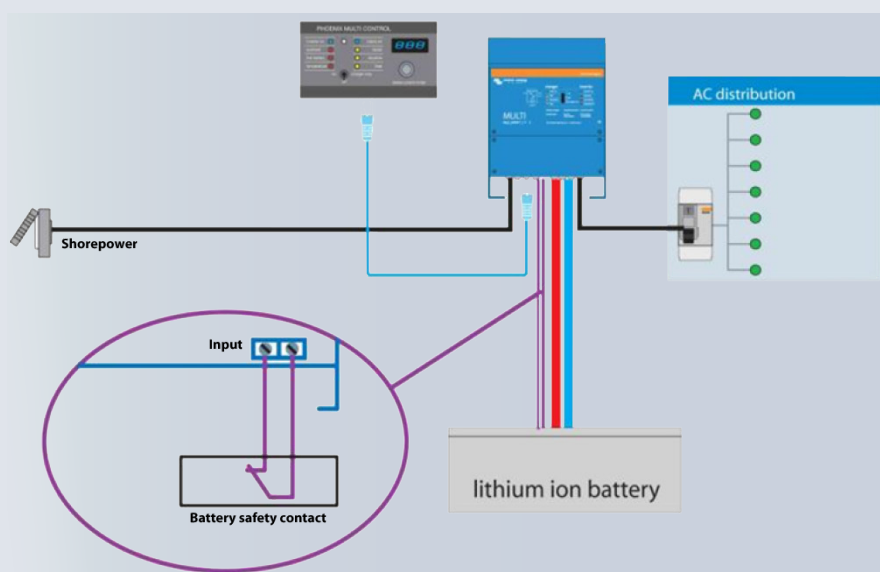
The unique MultiPlus features, which are not featured in any other inverter/charger, are also applicable for lithium-ion systems.

Power Control

The MultiPlus is a very powerful battery charger. It will therefore draw a lot of current from the generator or shore side supply (nearly 20A per 3kVA MultiPlus at 230VAC). With the Multi Control Panel a maximum generator or shore current can be set. The MultiPlus will then take account of other AC loads and use whatever is extra for charging, thus preventing the generator or shore supply from being overloaded.

Power Assist

This feature takes the principle of Power Control to a further dimension. It allows the MultiPlus to supplement the capacity of the alternative source. Where peak power is so often required only for a limited period, the MultiPlus will make sure that insufficient shore or generator power is immediately compensated for by power from the battery. When the load reduces, the spare power is used to recharge the battery.



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Battery Management System

A lithium-ion system is equipped with a Battery Management System (BMS). The BMS communicates with the batteries and collects important data such as:

- Individual cell voltages
- Individual cell temperatures
- Currents
- Internal battery temperatures
- State of Charge (SOC) of each battery

The BMS uses this information to decide whether the system functions correctly and safely. The BMS can also control contactors and battery chargers (charging current). It can give notifications/ warnings as well. For example, when a battery reaches its maximum discharge limit or when temperatures are too high. If necessary, the BMS can shut down the system.

Victron Customers

There are several Victron customers that already use lithium-ion batteries and MultiPlus Inverters/ Chargers for hybrid systems. See below for a couple of examples:



Elektro Štumpfl

This Slovenian Victron distributor is specialized in designing complete electrical installations. They design and install electrical installations for various large boat builders. Next to designs for unique projects, they provide serial production for several of their clients. More than 500 boats have been fitted with their electrical system. A couple of their references: Salona Sailing, Elan Power Boats (see picture) and Seaway.

Seaway, one of Elektro Štumpfl's customers, is a Slovenian boat development company which provides design, engineering and tooling to production sailboats and powerboat builders. They have recently developed the award-winning Greenline 33 Hybrid. The Greenline models are all fitted with hybrid propulsion systems. Whenever their Volkswagen engine is turned off it gets disengaged. At that point the electric motor takes over. A 48V Victron MultiPlus unit recharges the lithium-ion batteries and supplies all onboard 230V equipment.



Royal Huisman builds unique custom yachts, from 30m to 90m / 100 to 300 ft, for a very discerning clientele. Their fabrication takes place in a 30,000 m² purpose-built shipyard where advanced technologies complement the finest traditional Dutch craftsmanship. To ensure that their yachts contain maximum comfort and security, Royal Huisman has approached Victron. They have been a Victron customer for many years now. Their lithium-ion fitted boats are equipped with two sets of three 48/3000 MultiPlus units. These MultiPlus units are connected in parallel.

For more information about our new MultiPlus series and/ or lithium-ion charging, please contact us at sales@victronenergy.com or phone +31 (0)36 5359700.