

# Motor cruiser

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A motor cruiser wouldn't be complete without a lot of electrical equipment. Most things used to run the boat usually use DC, bigger (household) appliances need AC. How much power does this add up to? Don't just look at the Watts. A microwave might use 1000 Watts, but only for 4 minutes. A fridge/freezer combo might consume as little as 100 Watts, but is turned on 24 hours a day.

The Cyrix BatteryCombiner is the only safe way to connect the house battery to the starter battery (to start your boat's engines). With a BatteryCombiner you can charge the house battery from the alternator without running the risk of draining the starter battery (which always should be ready to go). When other sources of power are available (eg. shore/solar/generator power), the Cyrix BatteryCombiner will allow bi-directional charging from the house battery to the starter battery.

If the house battery is Lithium and the alternators Amperage is smaller than the house battery, or when the Voltages of the starter and house battery are different: use a DC-DC converter or Buck-Boost.

Battery management systems take excellent care of Lithium batteries, protecting the individual cells of LiFePO4 batteries against over voltage, under voltage and over temperature and will shut down or reduce charging (VE.Bus products only) or disconnect the loads when this occurs.

Victron Energy also offers full flexibility when it comes to selecting a third-party off-grid battery bank (and their BMS) of choice. A large number of well supported Lithium battery manufacturers can be easily integrated through the use of a mandatory GX-device. This flexibility enables our customers to perfectly match their off-grid needs for their unique power situation. When working with unsupported brands, a Victron Energy Battery Monitor is required to pass on accurate state of charge readings to the wider system.

Discharging your battery too far will damage it. Adding a Victron BatteryProtect will disconnect the boat's electronics when the battery voltage drops below a pre-set level. It will also automatically reconnect everything when the battery is sufficiently recharged.

There is more to a Victron BatteryProtect. The built-in shutdown delay ensures that vital electronics aren't disconnected in error, i.e. when starting the engine causes a short drop in battery voltage.

Motor cruisers have one or two diesel engines to get from harbour to horizon. The engines are designed to run continuously, for days on end. They also come with high-output alternators to charge the engine batteries, drive fuel pumps, etc.

The Buck-Boost converter is used in dual battery systems, where the (smart) alternator and the start battery are used to charge the service battery (of equal or different voltages). The Buck-boost can be used in 12V or 24V

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systems and is suitable for both lead acid and lithium batteries.

Alternators cannot be connected directly to most lithium batteries. A lithium battery will draw more current than the alternator can supply, which may result in alternator damage. A Buck-Boost DC/DC converter solves this problem: it acts as a current limiter between the alternator and the battery.

How to select a Buck-Boost? The current rating of the DC/DC converter has to be less than the alternator's current rating. For example: pair a 50 Amps converter with a 60 Amps alternator. In the software the ideal throughput can be defined.

The Victron Cerbo GX is the communication-centre of your boat's installation, allowing you to always have perfect control from wherever you are and maximises its performance. Simply connect through our Victron Remote Management (VRM) portal, or access directly, using the optional GX Touch 50 screen, a Multi Functional Display or our VictronConnect app thanks to its added Bluetooth capability.

Contact us for free full report

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