

# Variable Speed **Hybrid Power**

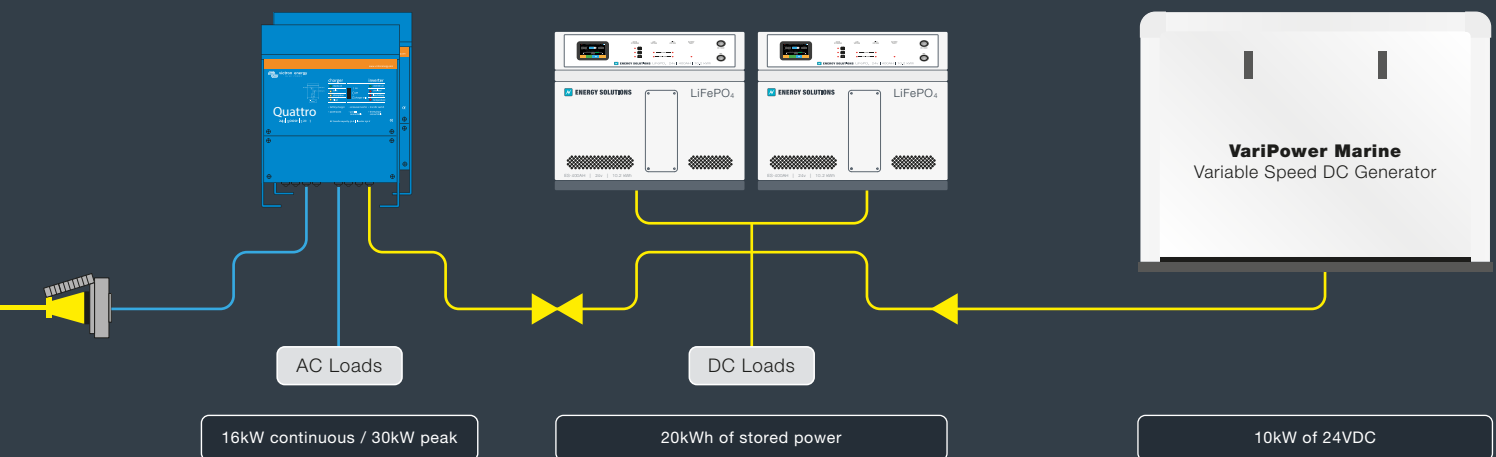


## Uniquely efficient on board power

By using the combination of variable speed generator with a lithium battery bank and inverter we can help you deliver on board power in the most efficient way currently possible. The final specification of your hybrid power system will depend on your individual vessel's power loads and requirements, but whatever the size, our Variable Speed Hybrid Power System will save boat builders and owners space, installation time, fuel & servicing costs. At the same time delivering the benefit of silent power and reduced carbon emissions.

Our scalable solution allows power to be delivered from a far smaller footprint than a traditional generator and lead acid battery bank. The generator can be sized for average loads, not peak loads; and the lithium battery option offers far greater power capacity and cyclic life than a lead acid bank of the same size.

## Variable Speed Hybrid Power System



## Variable Speed Hybrid Power

VariPower Marine Variable Speed DC Generator and Lithium Ion 24v Battery Pack





## VariPower Marine Variable Speed DC Generator

A unique variable speed DC marine generator; operating between 900 and 2000 rpm dependant on loads. The ability to run at varying levels means the unit intelligently adjusts its speed depending on the loads demanding power, therefore reducing running costs, emissions & noise. At 900 rpm the generator runs with incredibly low noise levels.

The unit is substantially smaller than a traditional generator of the same power capacity so will reduce space used on board a vessel. VariPower Marine will be available Q2 2017 with an optional sound enclosure.



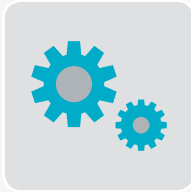
### Less Noise

Quieter when running at lower speeds down to 900 RPM



### Fuel Saving

Engine speed matches demand reducing fuel burn



### Reduced Servicing

Low power periods are serviced by the batteries reducing engine run time



### Lower Emissions

Matching engine speed to loads optimises fuel consumption



### Intelligent

Generator adjusts the engine RPM to match any load

## Lithium Ion $\text{LiFePO}_4$ (24v Battery Pack - 10.2 kWh)

Our lithium ion battery offers amazing power capacity for on board facilities. The 10kW unit comes as one complete unit with protection contactor, battery management system and control contacts, so there is no requirement to buy ancillary parts.

Designed for the marine market the unit offers a simple installation and configuration which reduces labour costs for boat builders / owners. In addition the unit is scalable – so energy storage can be built up with units in parallel. This allows larger vessels to take advantage of lithium batteries as part of a larger hybrid system.

Installing the unit with existing power electronics is also fine, it will integrate seamlessly with any brand a vessel currently has on board.



### Complete System

Protection contactor, battery management system & control contacts all in one unit



### Large Capacity

Massive 10.2 kWh capacity gives hybrid systems the autonomy they need



### Installation

Simple installation and configuration



### Scalable

Easily increase energy storage with extra batteries in parallel



### Universal

Can be integrated with any power electronics