

Power on with Hybrid Drive

See how to reduce fuel costs and achieve zero emissions with advanced EnerSys® AGM²™ battery technology for all your hybrid marine power needs.



Today's modern boats are becoming more power demanding; standard equipment can now include navigation systems, lights, washing machines, electric ovens, induction hobs and even air-conditioning.

EnerSys® has developed a cost-effective battery solution for a range of hybrid powertrains using the latest AGM² technology in its ODYSSEY® range of marine batteries. This tried and tested technology was specifically developed for hybrid systems used in the harshest conditions and environments - so ideal for the demands of marine applications.

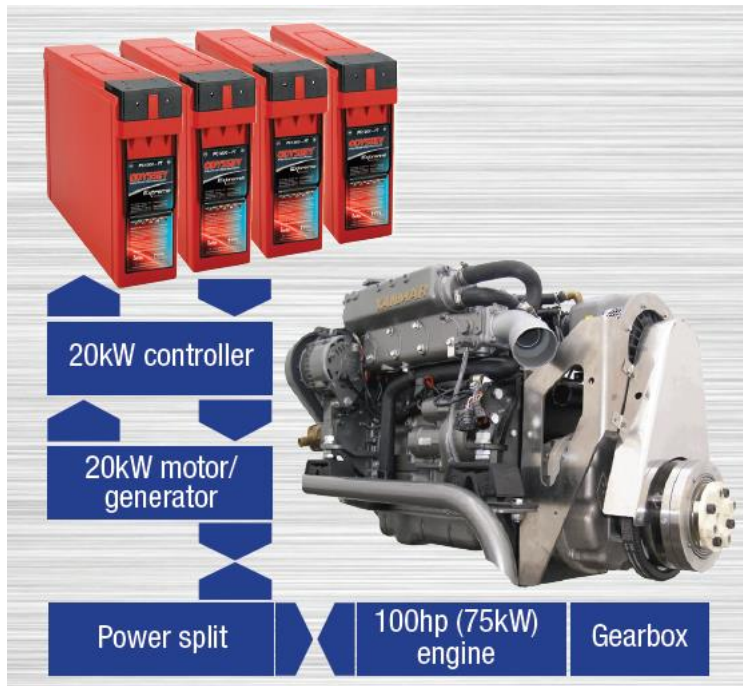
Hybrid Marine has been developing award winning marine hybrid power and propulsion systems for over ten years. Graeme Hawksley Managing Director at Hybrid Marine Ltd said:

"In close co-operation with EnerSys, we have developed practical charging algorithms for ODYSSEY batteries. Due to their low internal resistance we can charge at high current to optimally load our hybrid generators. This has enabled us to improve overall efficiency of our systems."

"Hybrid Marine has performed extensive research into regeneration of energy from freewheeling propellers (sailing boats). Sophisticated algorithms have been developed that allow use of many propeller types when charging."

"We have found ODYSSEY batteries reliable and robust in service and they are our recommended battery of choice for all our seagoing hybrid systems."

A typical hybrid power and propulsion system developed by Hybrid Marine Ltd.



Dr Thomas Verghese, Technical Manager at EnerSys® commented: *“Hybrid Marine’s developments are a perfect example of how systems can use the ODYSSEY range of batteries to maximise the efficiency of internal combustion (IC) engines, reducing fuel costs and giving the vessel the ability to run with zero emissions when required.*



“An electric motor powered by the ODYSSEY battery bank drives a propeller. Then, when the IC engine is running it can drive the propeller and recharge the battery, maximising its own efficiency.

“Once under sail, the normally redundant propeller is used to transfer power back to the battery bank to recharge – with AGM² technology this means a full charge from flat can be achieved in less than one hour under optimal conditions. Other renewable sources of energy can also be used to increase the efficiency and electrical load capacity too.”

In order to meet the demands of modern hybrid systems, the ODYSSEY range of marine batteries are large enough to accommodate long run times to maximize the running efficiency of the engine. They can also operate for long periods of time in a partial state of charge without great degradation in performance. In addition, the high charge acceptance capability of the ODYSSEY range ensures that when the IC engine is running, the battery is recharging, further extending the life of the battery.

The capital cost per kWh for the ODYSSEY is extremely cost-effective when compared to other battery chemistries, so the savings achieved justify the use of a hybrid system. The battery has proved to be reliable and robust in service, and is a critical component in a complete system that offers cost savings, increased electrical power, convenience and even luxury to today’s craft users – meaning that the ODYSSEY range is truly the reliable, robust, efficient and cost effective battery of choice!

To find out more visit:

<https://www.odysseybattery.com/Applications/Marine> or eu.odysseybattery.com/marine