



## **Future proof your electrical grid**

### **Adding any power source or energy storage solution**

Which renewable energy sources or battery storage systems will be relevant in the future? We do not know for sure. At the same time, new legislation is pushing us to modernize. It is impossible to turn a blind eye to future challenges. How should we operate our ships in the most cost-effective and environmentally friendly way?

CG Drives & Automation is a Swedish company that has both the equipment and the experience to help you create the scalable and flexible grid solution needed to secure your future energy efficiency. Emotron drives form the basis of your future electrical grid, allowing you to add many energy sources such as diesel, onshore power, solar cells, fuel cells or batteries.

We give you the full freedom to switch between the energy sources depending on your circumstances. For example, when you enter the harbor - switch from PTI to PTO mode for zero emissions. When out at sea during swell, use extra power from the battery pack to counter a higher load and keep a constant load on the engine.

### **Keeping power stability**

Emotron drives allow for simple integration with the vessel's existing systems and the sturdy marine approved construction is highly suitable for marine applications. Generally, the Emotron AFG is used for grid feedback, the Emotron VSI for generator control and the Emotron DCU for DC source connection e.g. for peak shaving and energy storage. These low harmonic drives are designed to avoid disturbances of any kind – the AFG can withstand 150% overcurrent and the DCU keep voltage constant even with strongly varying input voltage of 15-85%.

### **Modular flexible converters for small spaces**

As ships almost always have a limited area - and above all limited height - Emotron modular drives offer a unique opportunity to create own builds that fit in tight spaces.

The smart PEBB module system is built upon identical modules that are 100% interchangeable and with own monitoring of e.g. current and temperature. If a module were to fail, it can be replaced quickly.

#### **Built-in cooling using seawater**

The hallmark of Emotron drives is flexibility, which extends to a variety of options for cooling. Water-to-air or water-to-water solutions are available and seawater can be used for cooling.

#### **Keeping your HES up and running**

Installing Emotron drives is extremely easy. Should you need any assistance, CG Drives & Automation has a worldwide service organization as well as the option of remote access control.

[More information on Emotron marine solutions](#)