



# RNLI Rescue Support Vehicles

## Upgrading the onboard power for new regulations

The RNLI's fleet of rescue support vehicles are designed to be a multi-purpose platform for supporting rescue, prevention, community education and other operational demands. Each vehicle is a self-sufficient base of operations for crews attending incidents such as flood rescue operations and within each there is a compliment of equipment to carry out various tasks.

Based on a Mercedes Sprinter the vehicles' onboard equipment includes an effective command facility, storage, an advanced electrical charging bank, communications equipment, welfare and changing/privacy areas including a sealed wet hanging area for the drying of PPE and other equipment.



## Case Study

# RNLI Rescue Support Vehicles



Electrically the vehicles have their own AC generator to enable the AC loads (laptops, battery chargers, communication equipment etc) within the vehicle to operate when on remote sites. However, it is not always prudent to run the generator when a grid connection is available or, when the vehicle is back at the local station and can be connected to the building's grid connection.

The RNLI Engineering team produced a solution that included installing a Victron isolation transformer to each vehicle. This ensures that, irrespective of any Earth or Neutral/Earth bond made (or not made) within the building, the vehicle's electrical supply is completely independent from any building it may be connected to, and that the vehicle's earth will be for the vehicle only. There is no direct physical connection to the building's electrical supply as the isolation transformer completely isolates this through its input and output windings.

As a customer of Energy Solutions' with their marine requirement, the RNLI approached the company to help them with upgrades on the vehicles to meet the latest wiring regulations (BS7671:2008+A3:2015) and to undertake full tests that the 230v AC connection to the vehicle met these standards and provided a safe 230v AC connection to the vehicle.

Energy Solutions carried out the installation of the isolation transformers into the RNLI fleet of Rescue Support Vehicles at their facilities in Rochester.



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