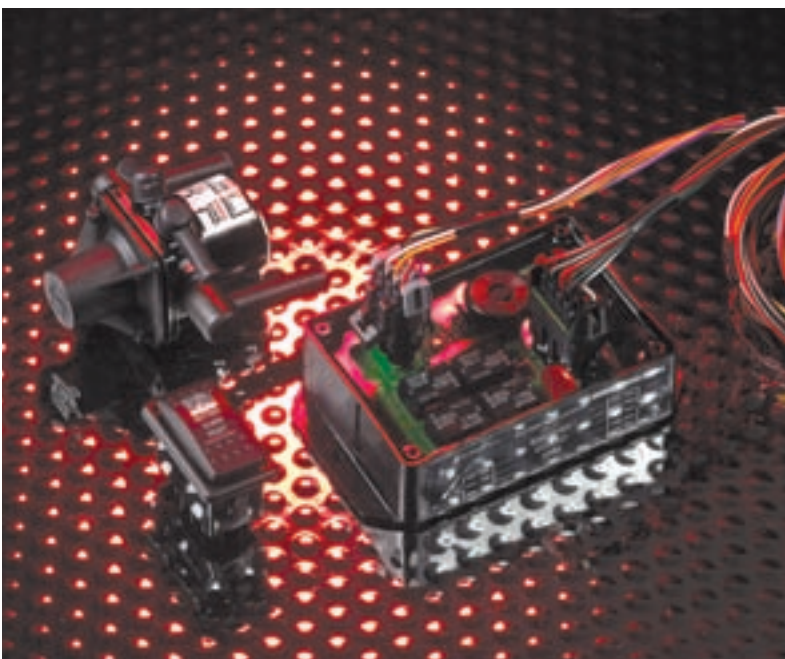
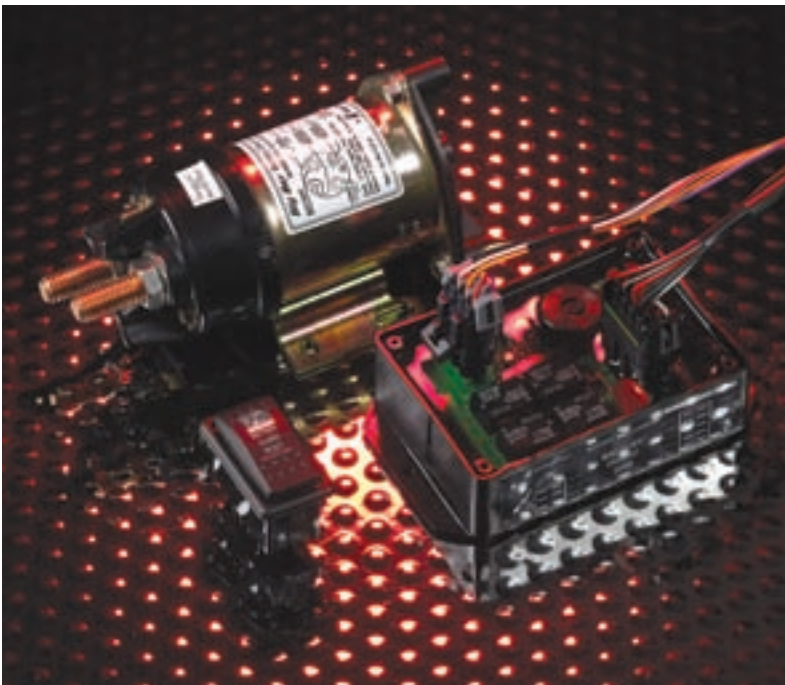


# Guarding the battery from flat-lining

The consequences of a flat battery on a fire truck are unthinkable, yet today thanks to a clever little gadget this scenario is highly unlikely. Special profile of the Battery Guard from Intellitec.



**M**odern firefighting operations could not function without the intricate electronic systems now present in every vehicle. However, the increased complexity and volume of electronics means more power is required. What's more, electrically powered functions on a truck (eg strobes, lights etc) often still need to work when the engine is turned off. This safety critical issue means that the battery can run flat.

Around 15 years ago Intellitec (a manufacturer of power management systems) launched a product which has now become an essential piece of kit in fire trucks all over the world. Battery Guard is a fully programmable power management system for vehicle batteries.

Brian Aston, sales manager for Intellitec UK, explains that the latest updated version is called Battery Guard 3,000, which consists of a manual and automatic battery isolator. He explains: "This device ensures that whatever the driver does with the electrics, and whatever condition he leaves the vehicle in, the battery will not run flat and the operator can still start the engine."

Battery Guard constantly monitors the available battery power when the engine or charging source is not running. The system works by measuring the voltage levels, and when they drop below a pre-determined level of time and voltage (24.1V), the system isolates all the electrical loads running to the battery. Aston explains that normal battery voltage should be somewhere between 26.1 and 27 volts, depending on the condition of the battery.

When the device goes into alarm mode, a flashing light and audible buzzer will alarm the driver about the state of the battery, prompting the driver to start the engine and charge it back up.

If the driver does not respond, the alarm will sound for the pre-programmed time (0 to eight minutes). Should no-one intervene, the system will automatically pull the relay and isolate the battery load. This ensures that all power that was left in the battery is actively conserved.

The Battery Disconnect relay is normally mounted under the hood, near the battery to keep the heavy battery cable length to a minimum. The relay is a mechanically latched unit that maintains electrical connection or remains open without requiring any power from the battery. The Battery Guard ECU (electronic control unit) records every incident for the fleet operator who can use this information to detect possible malfunctions of the battery, starter or alternator," says Aston.

What sets Battery Guard apart, however, is that different types of parameters (depending on the application of the vehicle), can be programmed into the unit according to the operator's specific wishes. In addition, the system is completely safe and easy to

## Intellitec in brief

In the US, Intellitec designs, manufactures, and markets electronic and electrical equipment to the OEM and fleet operators of specialty vehicles.

These unique products are used for power distribution, switching, and controlling electrical power in a wide variety of vehicles ranging from truck and heavy equipment, to marine and RV.

Intellitec UK, part of the London-based VIP Group, works as an independent subsidiary of the US company and holds the licence for the worldwide sales of Battery Guard and other equipment manufactured by Intellitec US and also functions as an applications engineer. Intellitec US is exhibiting a range of its products at the FDIC in Indianapolis at booth 611.

reset when the vehicle needs to go into maintenance or service. Simply pressing the reset button will restore all the circuit's connections.

Intellitec has sold around two million of these systems worldwide and now all the New Dimension vehicles (ie those bought as part of the programme that aims to enhance the capacity of English FRSs to tackle the consequences of terrorist and other large-scale catastrophic incidents) have been fitted with a Battery Guard, and most of the US fire brigades have also fitted this ingenious device in their trucks.

Aston explains that the company mostly supplies directly to the vehicle body builders, but that in many cases the reputation of the product has preceded itself and many customers request a Battery Guard to be installed in their vehicles. "We have a product that no-one can copy directly. It encompasses all electronics in the vehicle, and it can also be installed as a retrofit. We have developed different versions of the device, so that it can be fitted into any type of vehicle, but we can also fit a Battery Guard to solely monitor the electrics of a specific vehicle application, such as a tail lift, if the client knows that they could operate it to a level where it would not be possible to start the vehicle's engine.

"We have a product to suit every type of application, and we can deliver any type of solution for power management in vehicles," he concludes.



Left: Battery Guard 3,000 will ensure a full battery for fire appliances.  
Above: Battery Guard enables different parameters to be recorded into it.

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