

CASE STUDY

Project: First Great Western Trains
Country: United Kingdom
Year: 2011
Product: Sollatek Voltage Stabiliser – 75Amps



Sollatek™

First Great Western



FGW Night Riviera Sleeper

Stabilised power for electric ovens on-board First Great Western Train

The power supply on a train is always unstable; any change in speed will cause voltage variation, as will traveling uphill or pulling a heavy load.

These fluctuations can cause power problems and glitches that may damage the on-board electronics equipment.

First Great Western (FGW) operate The Night Riviera, one of only two remaining sleeper train services on Great Britain's railway network. The Night Riviera is a unique, luxurious and restful way to travel; the sleeping car provides compartments and beds for all its passengers. However, power stability issues prevented them from offering their customers an appropriate level of service.

The hot food and drink that FGW wanted to offer needs a combination of microwave energy and convected heat but the vehicle power supply was too unstable and there was a risk of damage to the equipment. FGW were looking for a way to provide a power supply stable enough to enable them to fit a new combination microwave oven.



Sollatek SVS75-22

continued overleaf

Sollatek (UK) Limited, Unit 10, Poyle 14 Newlands Drive, Poyle, Slough SL3 0DX. United Kingdom.
Tel : +44 1753 688 300 Fax : +44 1753 685 306 email : sales@sollatek.com www.sollatek.com

Sollatek Voltage Stabiliser (SVS) provided the perfect solution to this problem. The SVS monitors the mains voltage continuously; if the voltage rises and drops, the SVS will regulate the output to ensure the power reaching the equipment remains constant at 230V ($\pm 6\%$). With its wide input voltage range and extremely fast response time, the British designed SVS is the ultimate solid state voltage stabiliser for all domestic and industrial equipment from fridges, air conditioners and televisions right through to medical applications.

The single phase SVS75 Amp unit that was supplied to FGW protects the new oven from varying voltage on the vehicle (typically 250V to 280V). This unit was very easy to install and the pre-drilled holes made it very easy to connect the electrical conduits from the vehicle. As the SVS has a very large capacity, the sleeper service is now considering connecting more equipment to it. Soon they will have a large coffee machine to deliver cappuccino and latte, instead of just instant coffee from an urn.

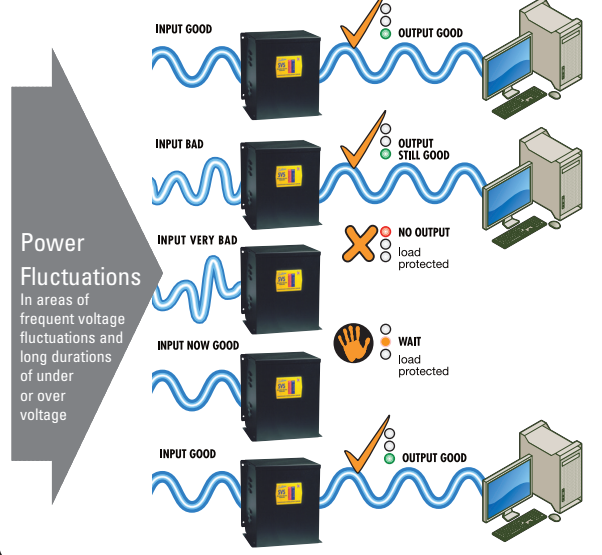


Combination Oven stabilised by Sollatek SVS on-board FGW train

THE SOLLATEK SVS HAS THE FOLLOWING ADVANCED FEATURES:

- The Sollatek SVS boosts low voltage.
- The Sollatek SVS reduces high voltage.
- The Sollatek SVS disconnects the load (fridge, TV, PC etc) using its built-in Automatic Voltage Switcher (AVS™), when mains stabilisation within acceptable limits is outside its capability (available as an option in 3 phase models*).
- Automatically reconnects the load, but only after the mains has remained within acceptable limits for a period of three minutes (see TimeSave™ function on the opposite page). This is to allow neutralisation of compressor gases, critical in such applications.*
- Has a very wide voltage response range of 145V to 290V (-26% to 18%). (see table of input and output voltage responses).
- Incorporates intelligent delay to reduce off-time when the appliance has been switched off for over three minutes (see TimeSave™ function on the opposite page*).
- Uses a unique zero voltage switching technique to achieve clean pure stabilised power.
- Incorporates full spike protection.
- Frequency compensated measurements.
- Frequency and voltage measurement smoothing in software to filter noise.
- Fault detection - senses if the measurements being made are unreasonable and disconnects output. Red and yellow LEDs flash alternately to indicate a fault.

THE SVS PRINCIPLE



 **Voltright™**

The Sollatek SVS Range

A range of stabiliser devices that protect all electronic equipment and stabilise a fluctuating mains supply

THE SOLLATEK VOLTAGE STABILISER (SOLLATEK SVS) has been designed to provide a clean, regulated AC power supply to all equipment in environments with unreliable, fluctuating mains supply.