

Case Study:  
**SHEFFIELD HALLAM  
UNIVERSITY**



**A UNIQUE VOLTAGE OPTIMISATION SYSTEM**



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Powerstar is an approved energy savings system. This product may qualify for an interest-free Energy Efficiency Loan from the Carbon Trust. Powerstar® is a registered Trademark by EMSc (UK) Limited.

Registered with the DTI MAS as a Centre of Expertise in Manufacturing.

## A UNIQUE VOLTAGE OPTIMISATION SYSTEM



Sheffield Hallam University has always strived to reduce its impact to the environment through a variety of projects, both in environmental as well as energy efficiency. One of the main areas the University targeted was the Student Union, for the electricity consumption as well as to reduce the high level light tube failures. EMSc (UK) Ltd carried out a full site survey and recommended their unique Powerstar voltage optimisation unit to help improve the University's energy efficiency and reduce the life expectancy of their lights.



### THE CUSTOMER

The University is one of two Universities in Sheffield with a long history in providing excellent education. The University prides themselves on innovation and progression and have state-of-the-art facilities.

### THE CHALLENGE

Having identified that the Student Union voltage was high, and that the power quality received by the building was poor, it was left to the Powerstar team to design a system which would not only reduce the University's energy consumption but also significantly improve their power quality.

*"The Powerstar system has saved 16% of the total electricity consumption at the Student Union Building and has reduced the failure of the lights by an amazing 75%. I have no hesitation in recommending Powerstar"*

**Stephen Ward, Senior Electrical and Mechanical Engineer, Sheffield Hallam**

### THE SOLUTION

The Powerstar unit designed and manufactured for the Student Union, required to remove high levels of harmonics (electrical noise) from the supply, and its unique design, provided both the energy savings required as well as the minimisation of harmonics, thus improving the power quality at the building.



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### THE BUSINESS BENEFITS

The installation of Powerstar at Sheffield Hallam University was completed in March 2008 with minimal disruption to business. Since the installation, the University have seen a **reduction of 16% in kWh consumption and 19% in maximum demand**. In addition, the University monitored the failure of the light tubes for 18 months before, and 18 months after the installation of the Powerstar, and they have seen a **75% reduction in the failure of their light tubes**.

Just the reduction in the maintenance costs at the building paid for the system in less than 24 months. With the energy savings, the University's **payback is just over a year**.



### QUOTATION FROM CUSTOMER

"We are absolutely delighted with the Powerstar system which has reduced our direct carbon emissions by 16%. In addition, the significant improvement in the life expectancy of our electrical equipment due to Powerstar has shown that the overall carbon savings from this project are considerably higher than originally anticipated. I have no hesitation to recommend Powerstar to others"

**Stephen Ward, Senior Electrical and Mechanical Engineer, Sheffield Hallam University**



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