

VOLTAGE-OPTIMISER-POWER VOPs

Holiday Inn- Chester West

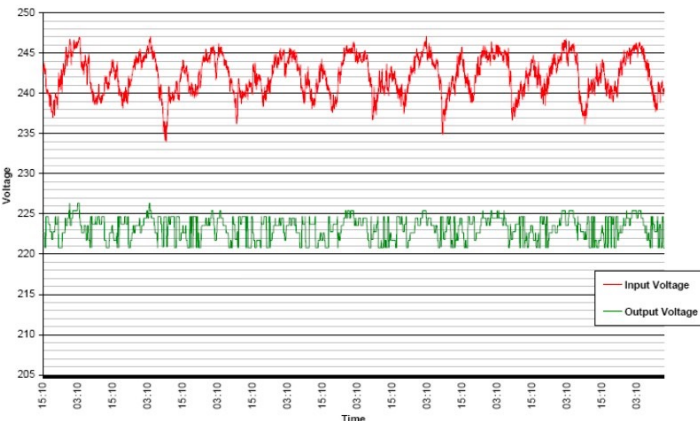


Project Summary

Installation of 1 x VOPs
- Staged Tracking VO Power Optimiser with integral Power Factor Correction was installed into Holiday Inn - Chester West

12% average energy savings achieved by the VO, savings of £5,837 per year, with a payback of 25 months

Holiday Inn - 15th - 24th March



The graph above shows the optimiser provides a stabilised reduced voltage to the hotel, whilst ensuring it remains above 221v, and the integral power factor correction improves the power factor from 0.86 to 0.97.

The installation of the Staged Voltage Tracking Unit has mitigated the problems associated with large voltage fluctuations on site.

Holiday Inn have seen a reduction in equipment failures, and associated replacement/maintenance costs as well as reduced electricity bills.

The Carbon Trust surveyed the hotel, with a view to identifying and prioritising up to 6 actions to reduce energy consumption. It was highlighted that voltage optimisation and power factor correction would be beneficial in reducing the hotels energy consumption. We were contacted as a potential supplier, and it emerged that we were the only company that could supply a single solution to handle all of the specific site issues. Data logging allowed us to measure consumption and provide baseline figures. During this process it emerged that the site suffered from large voltage swings which made it unsuitable for standard forms of fixed voltage optimisation. Our VOP optimisers are used to optimise the voltage to a single piece of equipment, localised area or an entire building. They can be supplied with fixed or variable outputs, with or without power factor correction. In this instance a three stage optimiser with power factor correction was designed to deal with the specific issues identified, and to achieve the maximum possible energy saving. The unit was installed and further data logging carried out to measure the savings.

Energy & Financial Summary of Project

Reduction in consumption per year	76,009 KWh
Reduction in electricity cost, per annum	£ 5837
Saving from improved power factor (by removing reactive power charge)	£ 600
Total project cost	£ 13,349.25
Payback period.	24.9 months
Reduction in CO ₂ emissions, per annum.	139.7 tonnes

Case Study – Holiday Inn

Simple Payback

1.8
years

CO₂ Savings
per annum

429.74
tonnes

Order to
Commission

5
months

*Approximate until unit has been
running 1 full year.*

The owner of the Holiday Inn at Stanington approached our team following a recommendation from an industry professional. The hotel was looking to decrease its carbon footprint, whilst reducing energy costs.

The Combined Heat and Power (CHP) needed to be integrated into an existing aging and inefficient heating system. It would have to produce hot water for the entire hotel, as well as its spa, including a jacuzzi and large swimming pool, both which have high energy needs.

After a full site survey and consultation with the owners, our team and the Holiday Inn agreed the CHP 140 was the best fit for the Holiday Inn's needs. This unit will produce 99% of the building's electrical requirements and will offer simple payback within 1.8 years.

