

Growth markets

2010

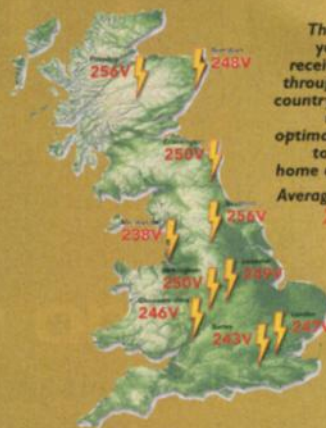
Voltage optimisation



VPhase fits alongside a normal consumer unit



The VPhase Unit



optimum performance

Save your customers money and energy by reducing the voltage.

Voltage Optimisation has been saving industry millions each year but hasn't been available for domestic properties until, well, right about now. PE spoke to VPhase CEO Dr. Lee Juby to find out why every home should have one fitted – by a qualified electrician, of course.

Homes in the UK waste around £8 billion of energy each year and create around five and half tonnes of CO₂. And worryingly for us all, a recent Ofgem report has predicted a potential rise in domestic consumer bills of up to 60% by 2016 if the right energy efficient measures aren't taken straight away. This means the pressure is now on for us to radically change our attitude towards energy wastage and invest in low-carbon technologies.

In the Volts

One option that has long been adopted by large commercial sectors is voltage optimisation, which allows the end user to improve power quality whilst saving energy. For instance, Tesco has adopted voltage optimisation technology across a number of its sites and has quoted annual energy savings worth approximately £8.2m this year alone.

The problem is voltage optimisation has not been cost-effective on a domestic scale, until now that is! That's because the boffins at VPhase have worked together with Liverpool University to develop a device that allows homes and businesses alike to reap the benefits of the technology as well. Significantly, the VPhase unit not only delivers immediate

money and energy savings across the whole home; it does so without requiring any lifestyle changes from the occupants.

Lee Juby explains: "As most electricians will be aware, the incoming voltage to properties in the UK varies and is normally higher than necessary to ensure the distribution network works effectively – typically around 245V. With household appliances designed to operate within the statutory range (207V to 253V), many of them will be more efficient and use less electricity at a much lower voltage.

"A VPhase unit will reduce and regulate the voltage to an operationally efficient level of 220V, eliminating 'over-voltage,' which is often a costly and an unnecessary waste of energy. Our research demonstrates that higher voltage levels do not necessarily enhance performance. For example, a fridge does not get colder with a higher voltage supply. In fact, high voltage levels can be known to shorten the operating life of a product, such as light bulbs. They can also produce surplus energy, which is wasted in the form of heat."

Savings scheme

The company has tested the product on a wide range of household appliances and the results show significant energy savings and consequent CO₂ savings. In fact, VPhase believes that if every household in the UK used voltage optimisation, a typical home could save carbon emissions of 270kg every year – the equivalent of taking 2.3million cars off the road.

For example, the company's data shows the energy used by a Class A freezer can be reduced by 17% and lighting by 15% – even new energy saving light bulbs can save 10%. Further savings will also be found on washing machines, tumble driers, dishwashers, televisions and a whole range of other electrical appliances across the whole home.

Where the device will not make energy savings is on electrical heating devices that operate to a thermostatically controlled level. These appliances will continue to consume the same amount of energy when voltage is reduced. Therefore, dedicated heating circuits such as showers or immersion heaters are not connected to the VPhase output.

Fit for purpose

A VPhase unit can be easily fitted by a qualified electrician and installation takes approximately one hour. The unit is fitted next to a consumer unit and operates on socket outlets and lighting circuits. Once installed it requires no maintenance. For the homeowner it's simply a matter of fit, forget and save money and energy instantly. The amount of energy saved will vary depending on the incoming voltage and type of appliances in the house.

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