

VO  4



The guaranteed way to reduce electricity bills and carbon emissions



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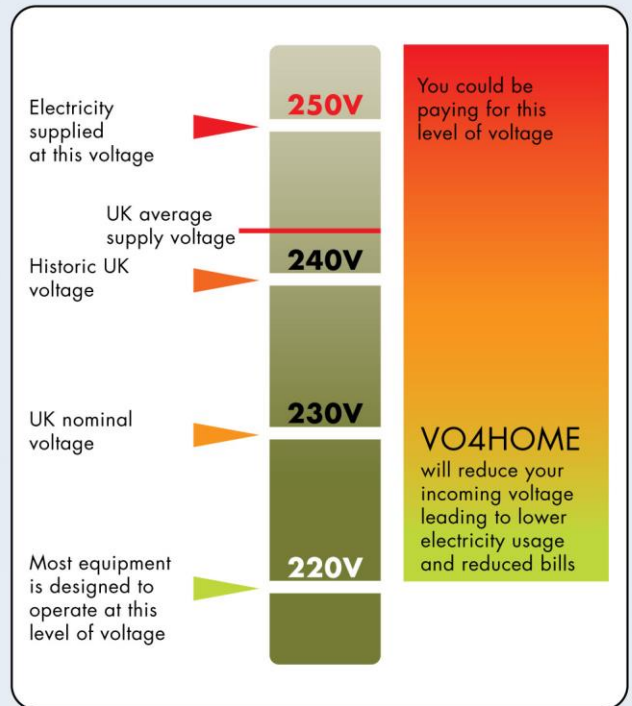
www.vo4home.com

What is VO4HOME?

VO4HOME is a British designed, domestic voltage optimisation system that works in homes and small business premises to reduce the incoming voltage supplied to a building.

This produces a reduction in energy consumption, savings on electricity bills and reduced wear on appliances. VO4HOME can make savings across a range of sites including:

- **Homes:** Savings can be made on common household appliances and electrical equipment
- **Hotels, Restaurants & Pubs:** Savings can be made on kitchen appliances, front of house equipment and accommodation areas
- **Retail:** Savings can be made on equipment such as lighting, heating, ventilation and chillers
- **Offices:** Savings can be made on IT equipment and printers through to fans and air-conditioning
- **Healthcare:** Dentists, GP's and veterinary surgeries can make savings on equipment, tools, lighting, heating and ventilation



Company Profile

- Market leaders in voltage optimisation
- More than 150 years combined experience in design and manufacturing
- At the forefront of technological advancement in energy management
- Adapted from proven and reliable commercial voltage optimisation technology
- Sold nationwide and distributed overseas to countries including Cyprus, Malta, South Africa and Australia
- Designed, engineered and built in the UK under BS171 IEC60076
- Manufactured in line with ISO9001 therefore all components are traceable
- Holders of the Made in Sheffield accolade in acknowledgement of manufacturing expertise



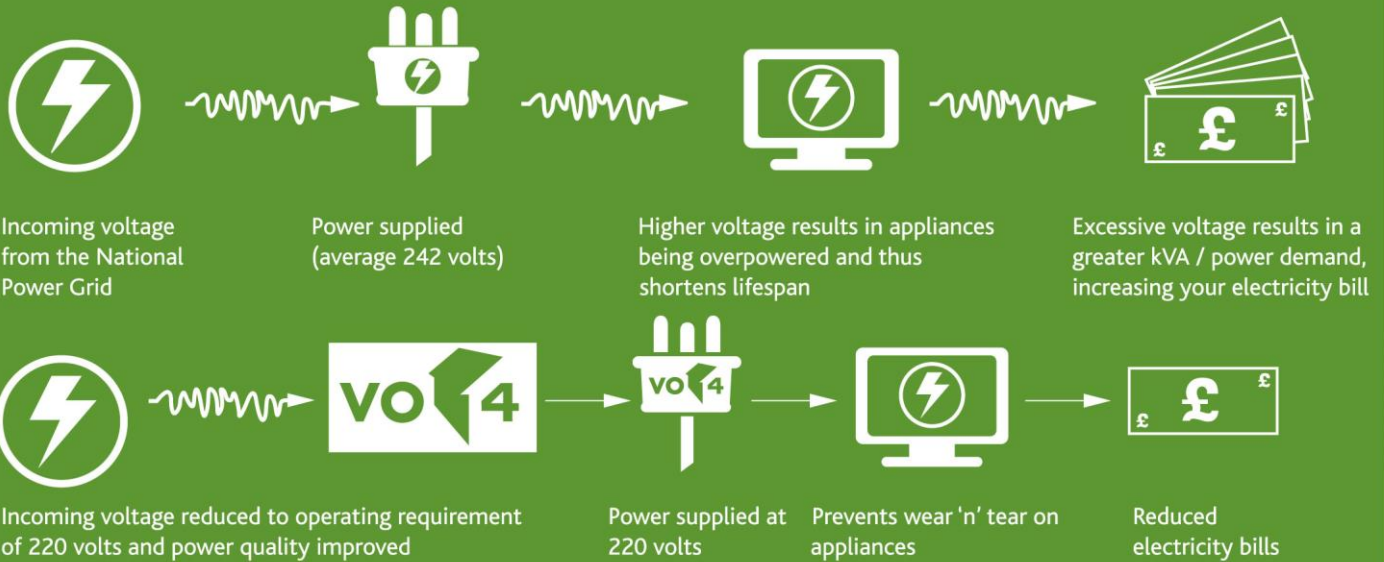
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How VO4HOME works?



Benefits of VO4HOME

- ✓ Reduces energy bills by an average of 12%
- ✓ Operates on all circuits, 24 hours a day, 7 days per week
- ✓ Quick and simple installation – no change to supplier needed
- ✓ Extends lifetime of electrical equipment
- ✓ Works with and improves efficiency of heat pumps and PV systems
- ✓ Compatible with energy saving and generation systems such as PV and wind power
- ✓ No maintenance required
- ✓ Guaranteed savings
- ✓ Payback within 5 years



Savings with VO4HOME

RWE npower trialed the installation of a VO4HOME system in an average home, and the independent research report released following the installation has concluded that installation of VO4HOME resulted in a **12% reduction in kWh electricity consumption at the property.**



This reduction equates to annual electricity savings of approximately 600kWh and a reduction in CO₂ emissions of 330kg per annum.

Case Studies

Property: Welsh based Bunkhouse, accommodates 30 guests



Saving: The installation of VO4HOME has proved energy savings of **17.6%**. Alongside the heat pumps and solar panels, the bunkhouse is experiencing a 32% reduction in electricity consumption across the facility

Customer quotation: "By installing the VO4HOME unit, power quality has improved and we have seen a marked reduction not only in electricity consumption, but also in the failure of electrical components."

Occupancy: 2 adults, no children

House style: 4 bedroom, detached house



Key appliances: gas central heating system, gas cooker, microwave, freezer, fridge, alarm system and washing machine

Saving: 18%

Customer quotation: "It does what it says on the tin! I have been most impressed with the service I have received – No hard sales pressure tactics but simply factual information on which to base decisions and then delivering."

* The visual images of the houses are representations of the house styles related to the case study, the npower trial report is based on a 28 day trial.

OHMS Law

What about Ohms Law?

Some doubt the effectiveness of Voltage Optimisation as they believe it may contravene ' Ohms Law', this is not the case as the example below highlights:

- If we take a load with a constant resistance of 100 Ohms, Ohms Law is $V=IR$
- Suppose the voltage is 250V. Then the equation becomes $250 = I \times 100$. Therefore the current, $I=250/100$ or 2.5A
- Now consider reduction of the voltage to 220V. As resistance is constant the current, I, now equals $220/100$ or 2.2A
- In this example power = volts x current, so when the voltage was 250V the power is 250×2.5 or 0.625kW whereas for the 220v example the power consumed is 220×2.2 or 0.484kW
- And of course it is kWh that we are billed for
- Voltage Optimisation reduces the work done by appliances, this does not in any way reduce their usefulness and it also contributes to a longer lifespan



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VO4HOME specification

Designed and manufactured in the UK, VO4HOME is an environmentally conscious product that is designed to use the highest quality materials for the most efficient operation.

The unit can be configured to give one of three fixed voltage reductions to closely match a buildings electrical supply to the optimum level for all electrical items in the property.

VO4HOME is housed in a rigid steel housing with a robust HIPS plastic cover which means it is pleasing to the eye, whilst retaining the integrity and safety required of a piece of live electrical equipment.

There are no operator serviceable parts inside the enclosure.

Overall Dimensions

- 269 mm Wide
- 316 mm High
- 160 mm Deep

Weight

- 18.5kg

Capacity

- 60A
- Built in circuit breaker

Voltage Reduction

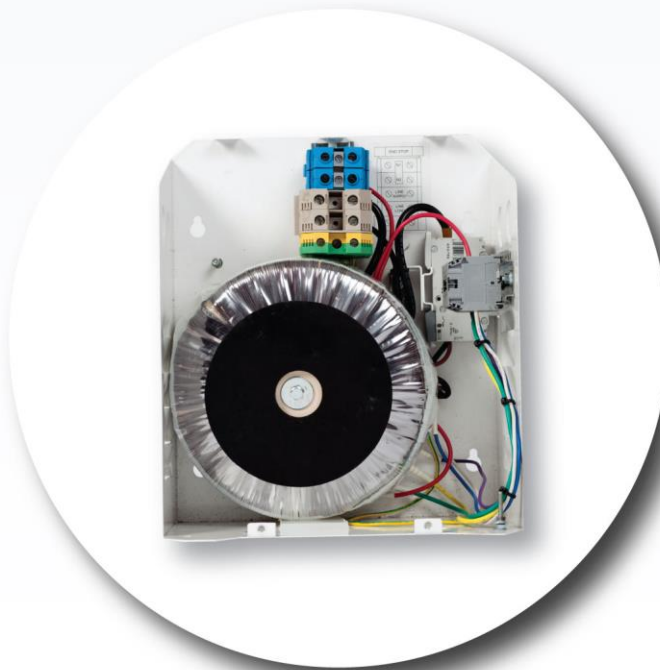
- 5, 10, 15, 20, 25V

Specifications:

- Temperature range -10°C to 60°C
- Humidity up to 90%
- Altitude to 1,500m
- 99.90% Efficient
- Low impedance
- 60A

Guarantee 5 Yrs

Expected lifespan 20 yrs



VO4HOME installation

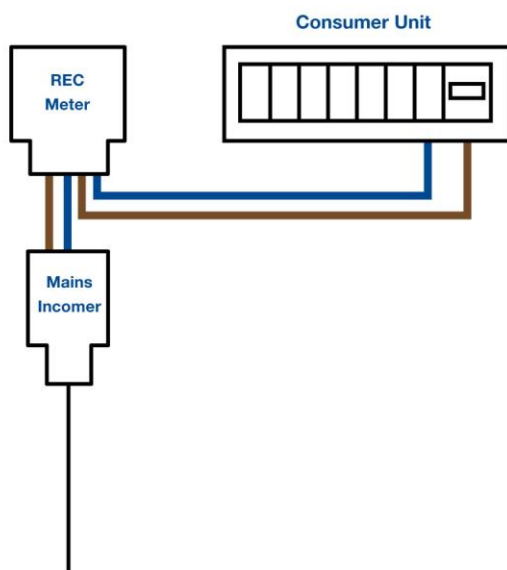
The VO4HOME unit is designed to reduce the voltage of a property to the optimum efficiency level. VO4HOME saves energy, saves money and reduces carbon emissions.

In addition it improves the performance of electrical items and appliances. The unit requires a 230V (nominal) single phase supply which is fed from the incoming mains.

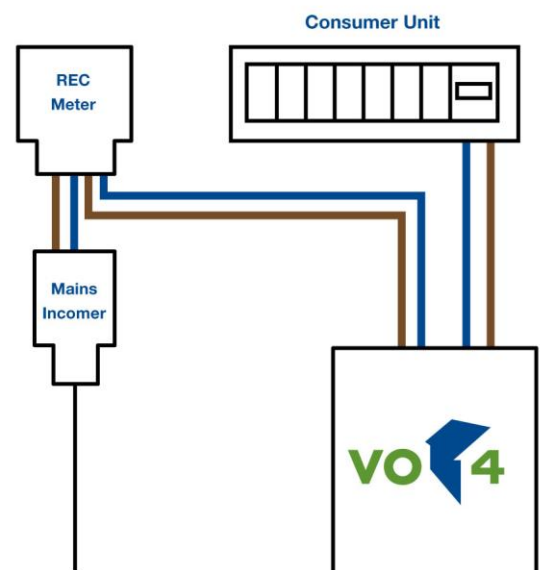
The supply to the VO4HOME must be fitted with a suitably rated isolator to allow maintenance (if required).

Quick and simple installation between your meter and consumer unit.

Before



After



- 1) Earth bonding omitted from drawing for clarity.
- 2) Meter tails are withdrawn from consumer unit and connected to vo4home terminals
- 3) Installer to fit new tails from vo4home to consumer unit



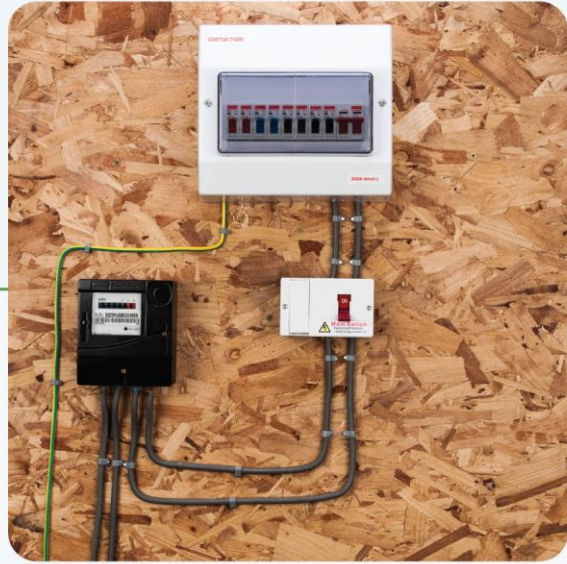
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Installation photos – It could not be simpler

The picture shows a typical property set up without a **VO4HOME** unit installed



The picture shows the same property following the installation of a **VO4HOME** unit



3-Phase installations

The VO4HOME 3-phase unit is now available for users with 3-phase installations up to 100A per phase and annual energy use up to 250,000kWh. Smaller sites can make use of 3 x 60A VO4HOME units, one per phase.

