



SMARTER
ENERGY GROUP



About Us

Welcome to The Smarter Energy Group, where we believe that every household has the power to make a positive impact on the environment.

As energy prices continue to rise, it's essential to find new ways to save money and reduce carbon emissions. With our cutting-edge technology and innovative solutions, we can help you lower your electricity bills by up to 19% while contributing to a cleaner, more sustainable future for all.

Our team of experts understands the challenges households face in the current energy market. That's why we provide tailored solutions to meet the unique needs of each client. Whether you're a small family or a large household, we have a solution that is right for you.

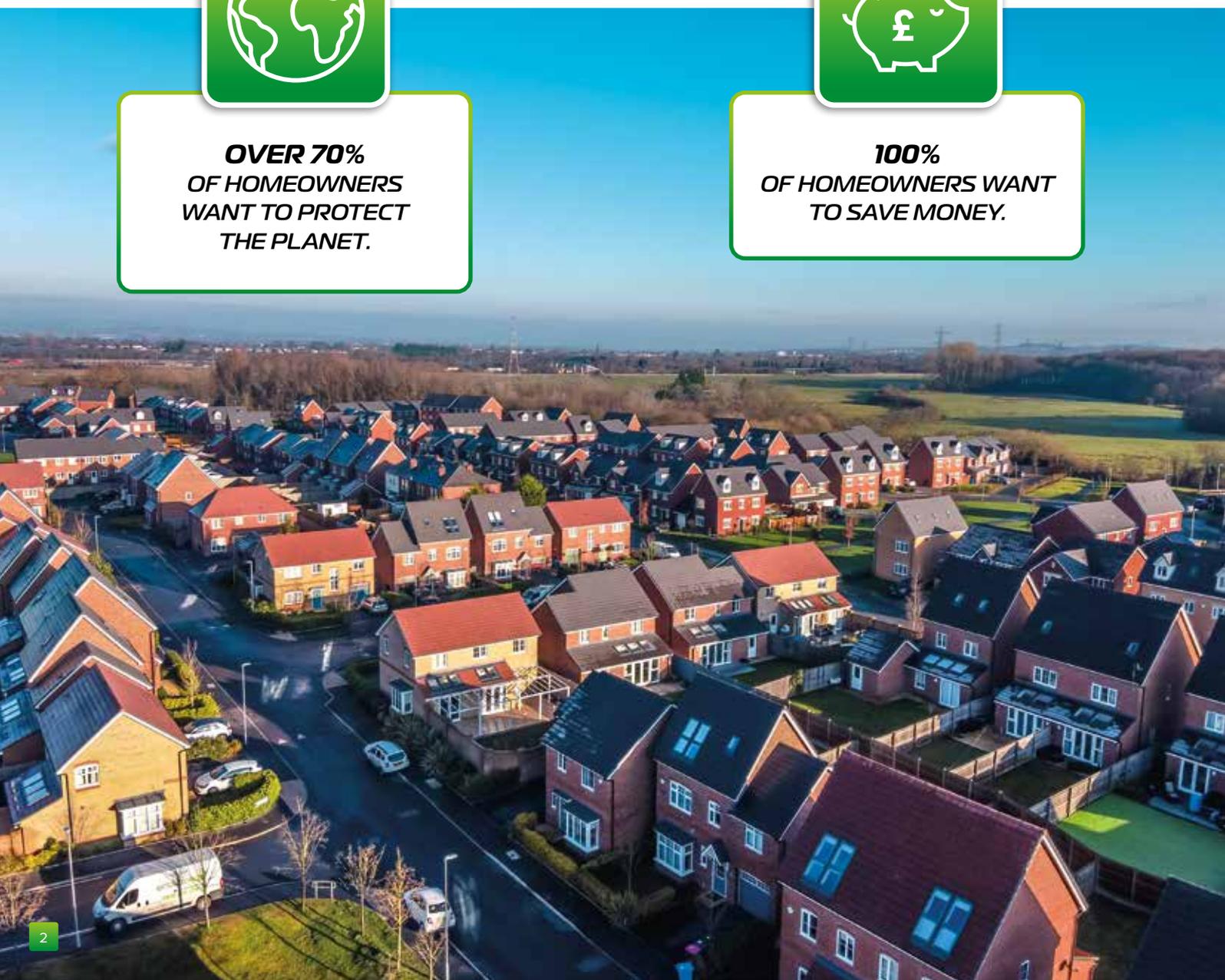
We believe that every individual has a responsibility to contribute to a greener planet. By partnering with us, you can join the growing movement towards sustainable energy usage and make a positive impact on the environment.



**OVER 70%
OF HOMEOWNERS
WANT TO PROTECT
THE PLANET.**



**100%
OF HOMEOWNERS WANT
TO SAVE MONEY.**



The Problem

European legislation was introduced in 1993 to standardise the supply voltage across Europe in order to provide two major benefits.

Firstly, it enabled electricity to be generated and supplied from one country to another and because the European market is far larger than the UK market, electrical equipment is predominantly designed to operate most efficiently at 220v when the national average in the UK is 243v.

Secondly, this allowed electrical equipment manufacturers to design one appliance that could be used throughout Europe. Prior to this, equipment was manufactured for use at two different voltages, one for the UK and one for continental Europe.

At 220-225V the equipment is operating inside CE equipment tolerances and at its most efficient and longest life expectancy meaning if your voltage is above 220-225 you are using unnecessary electricity which means wasting money and affecting the planet.



90%
*SAY ECO-FRIENDLY PRODUCTS
ARE TOO EXPENSIVE.*



60%
*WOULD CHANGE THEIR HABITS
FOR THE BENEFIT OF THE
ENVIRONMENT IF IT ALSO
SAVED THEM MONEY.*



56%
*WOULD CHANGE BEHAVIOUR
IF IT IS AS EASY AS THEIR
CURRENT HABITS.*



22%
*FEEL THEY DON'T KNOW ENOUGH
ABOUT WHAT THEY CAN DO.*

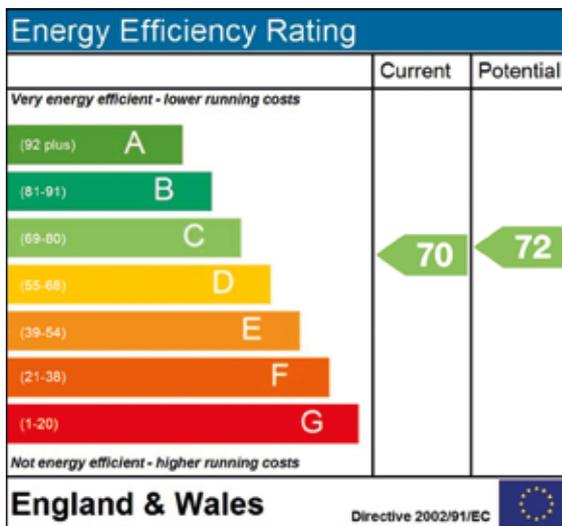
The Effects We Don't Think About

Many electrical appliances are designed to operate at 220 volts, but the voltage supplied by the grid can often be higher than this, resulting in appliances being overpowered and burning out more quickly.

This can result in increased maintenance costs and the need to replace appliances more frequently, which can be particularly costly for homes that rely on a large number of electrical appliances. Our smart voltage optimisers are designed to reduce the voltage supplied to appliances to the optimal level of 220 volts, ensuring that they operate efficiently and last longer.

By reducing the voltage supplied to appliances, our voltage optimisers can help homes to save money on maintenance and replacement costs, as well as reducing their energy consumption and carbon emissions. In addition, by installing our voltage optimisers, homes can also benefit from improved power quality, as voltage fluctuations and surges can be reduced, resulting in a more stable and reliable power supply.

This can also help to protect appliances from damage and reduce the risk of downtime due to power outages or equipment failure. Overall, our voltage optimisers can provide a cost-effective solution to businesses looking to reduce their energy consumption, improve the lifespan of their electrical appliances, and save money on maintenance and replacement costs.



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Because the European market is far larger than the UK market, electrical equipment is predominantly designed to operate most efficiently at 220V, this is down to the infrastructure of the EU Voltage.

The appliance manufacturers wanted to make one appliance for the whole of the EU rather than make different versions for different countries.

This is why white goods sold in our country have a CE stamp demonstrating the product was tested at 220-230V to gain its energy performance certificate. A rated appliances are only A rated when they are used at 220V, in the United Kingdom the average voltage is 242V meaning, when buying an A rated product in the UK, its performance level would be nearer C/D rather than A.

OLD

NEW

Label may display EU or UK flag depending on which marketplace the lamp is available.

Classification from A to G.

QR code for additional product information.

UNCHANGED: Electricity consumption in kilowatt hours per 1,000 hours of use.

Label Type	Energy Efficiency Class	Consumption (kWh/1000h)
Old energy label	A++	2
New energy label	E	2



Our Solution

At The Smarter Energy Group, we provide bespoke smart voltage optimisers that are designed to help homes save money and reduce energy waste.

Our smart voltage optimisers work by reducing the voltage of the electricity supply to the optimal level for your appliances. The average supply voltage in the UK is around 243 volts, but most appliances only need 220 volts to operate efficiently. This means that homes are constantly using electricity they don't need, leading to higher energy bills and unnecessary energy waste.

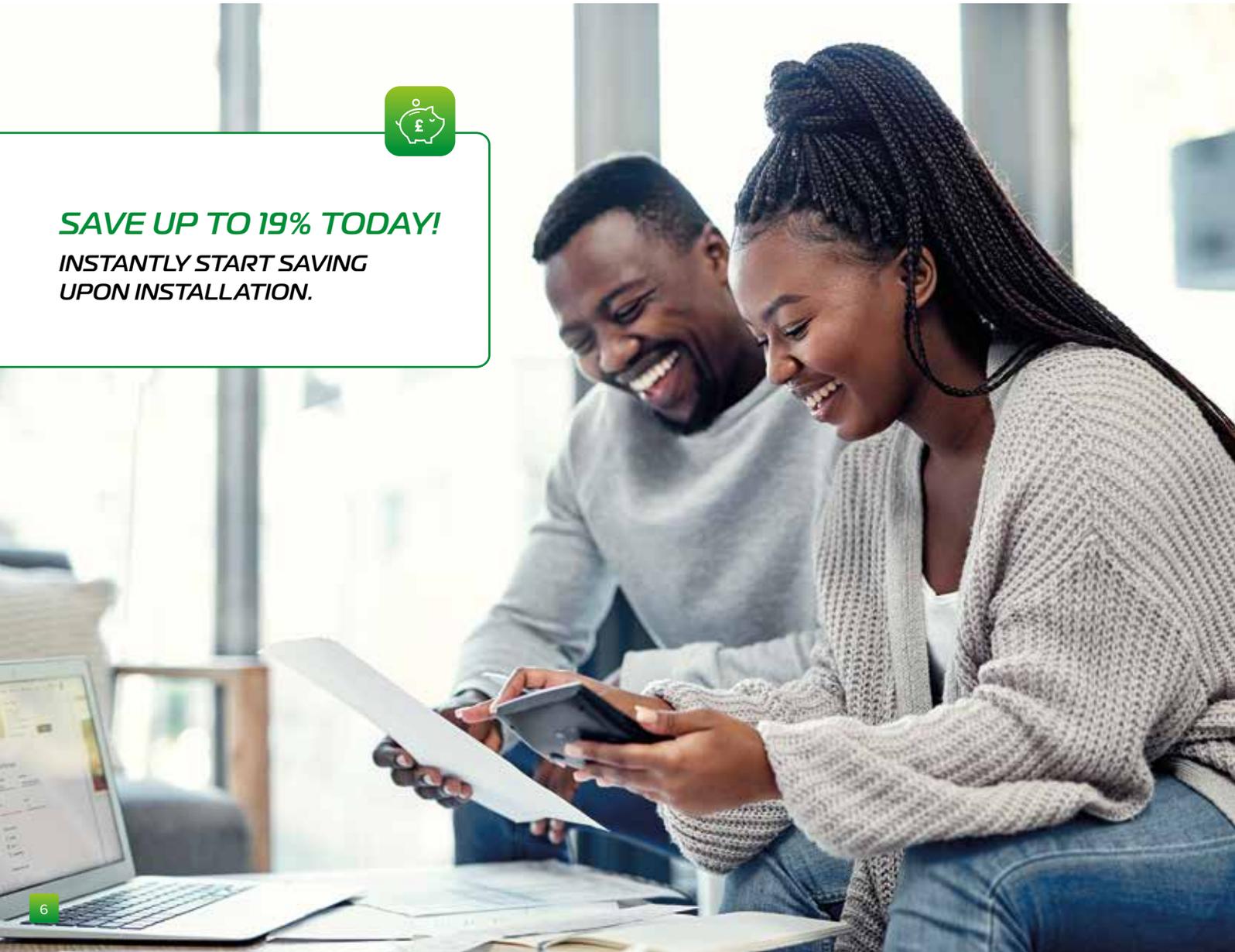
Our smart voltage optimisers use state-of-the-art technology to monitor the electricity supply and adjust the voltage to the optimal level for your appliances.

Our optimisers are bespoke and tailored to meet the specific needs of each client. Our team of experts will conduct a complimentary electrical safety check and energy audit to assess the safety of your electrics and your energy usage and identify areas of inefficiency. Based on this assessment, we will design a solution that is right for your home, taking into account your energy usage patterns and energy-saving goals.

Our optimisers are easy to use and maintain, with remote monitoring and maintenance options available to ensure maximum performance and efficiency. We are committed to providing exceptional service and support to all our customers.



SAVE UP TO 19% TODAY!
INSTANTLY START SAVING
UPON INSTALLATION.



The Product

Introducing the very first consumer unit in the history of the world. All in one, Auto-transformer unit and consumer unit. C/W type 2/3 surge protection device.



Features

- Selectable voltage to suit installation.
- 1 x 32A Arc fault detection device.
- 1 x Automatic fire suppression system.
- 1 x 100A isolator.
- Twin 63 A 30 mA Type A RCD's.
- Populated with 11 x mcb's, 1 x afdd
- Type 2/3 surge arrester.
- Full compliment of earth and neutral terminals, busbar, marking.
- Labels and instructions.
- Amendment 3 compliant.
- Metal clad enclosure.

General characteristics	6 + 6 way Optimised Split load unit
Standards	BS EN 61439-3
Current rating	63A / 100A
Input voltage	216 - 253 V ~
Optimised output voltage	-6% (15V) , -8% (20V), -10% (25V)
Efficiency	>99.7%
Frequency	50 Hz.
Fault current rating	16kA
No. of poles	Single pole
No. of ways	21
Useable ways	12
IP rating	IP4XC
Terminal capacity	35 mm ²
Incomer device	Isolator
Cable entry	40 mm K.O's + Rear Cutouts
Material (enclosure)	Mild Steel
Finish	Powder coat white RAL 9010
Dimensions	(W = 503 mm) x (H = 258 mm) x (D = 198mm)
Surge device details	
Remote indication	Yes
Designation according to EN 61643-11	Type 2/3
Maximum continuous operating voltage (L-N)	275V
Maximum discharge current (8/20) (L-N)	15A
Nominal discharge current (8/20) (L-N)	5 A
Maximum back-up fuse	63A/100A
Visual end of life indication	Yes

Fire Safety Measures Reducing Electrical Fire Risks

Surge Protection

When the grid suffers from a surge it can be from:

- **Lightning strike** – when the high voltage from lightning has entered the grid and created a spike of energy that surges across & down via the grid into people's homes
- **Supply changeover** – when the grid changes or add a supply of energy, it can sometimes create a spike/surge when the two connect.

Without a surge protection device, the surge from the grid can damage microchips, electrical goods, blow up lights and cause damage to any weak points within a property's electricity.

This can impact the safety of the supply devices in the distribution board causing critical, invisible safety problems and weaken the integrity of the electrical supply into the home.

Automatic Fire Suppression System

AFFS consists of a sealed thermoplastic tube that begins to soften when exposed to high temperatures. Once the fire reaches 70°C the tube will burst, releasing a liquid extinguisher into the heart of the fire.

In recent years, overheated cables within consumer units have ignited and caused irreparable damage to homes. This is the solution that uses a safe liquid that extinguishes the fires instantly.

It is compact, lightweight and specially designed to extinguish fires in the early stages, offering full passive fire protection. In many cases consumer units, as well as the wiring, will endure only minimal damage and therefore won't require replacing.

The Smarter Energy Group Auto Transformer

The Smarter Energy Group auto-transformer offer an effective solution by regulating voltage to as close as 220V as possible, preventing devices and appliances from overheating and breaking down. By installing The Smarter Energy Group in homes, homeowners can enjoy greater safety and reliability in their electrical systems, while also extending the lifespan of their equipment and appliances.

Overworking electrical products can be particularly dangerous when voltage levels fluctuate or are high to begin with. Auto transformers help to ensure that electrical products run safely and efficiently at their optimum voltage level. Using auto transformers is an effective way to protect homes from electrical fires caused by overworked equipment, and to ensure that appliances and devices last longer and operate more efficiently.

Arc Fault Detection Devices

AFDD's are protective devices installed in consumer units to provide protection from arc faults. They use microprocessor technology to analyse the waveform of the electricity being used to detect any unusual signatures which would signify an arc on the circuit. This will cut off power to the affected circuit and could prevent a fire. They are far more sensitive to arcs than conventional circuit protective devices.

Arc fault detection is now mandatory in care homes, HMO's, student housing and higher risk residential buildings. The Smarter Energy Group boards are protected with AFDD and utilise the extensive protection it provides by suppressing fire starters before they ignite.



**EACH YEAR AROUND 70
PEOPLE ARE KILLED AND
350,000 ARE SERIOUSLY
INJURED DUE TO AN
ELECTRICAL ACCIDENT.**

Voltage Optimisation and Ohms Law



Georg Ohm 1789-1854

All Electricians will have studied Ohms Law at some time or other, usually as part of an apprenticeship. However, many go on to rarely use it fully during their career. Most will occasionally refer to a fraction of it, in a simple form, $W(\text{Power}) = V(\text{Volts}) \times A(\text{Current})$, for working out adequate cable sizes.

This often leads to the common misconception of assuming that wattage is a constant, along with the fact it's usually stamped on equipment like this SOW lamp, so using the above formula would intimate that if voltage is reduced, the current would go up!

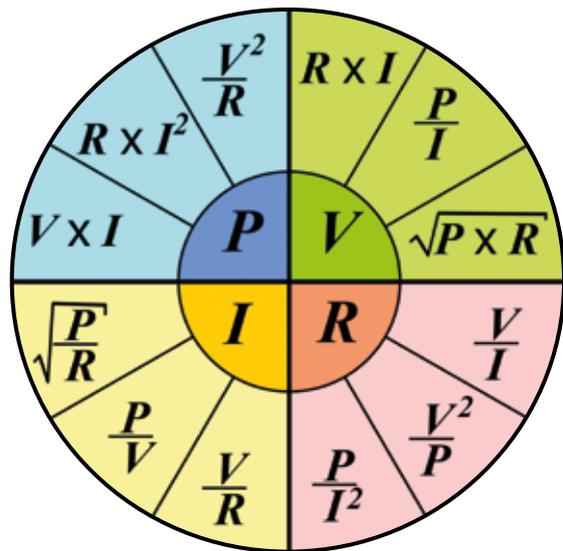


In actual fact the lamp is only rated at 50W if exactly 230v is present, any more, such as the 242v UK average and the lamp will be running at over 55W, burning hotter and drastically reducing its life expectancy. It's the physical resistance of the wire element in the lamp that's a constant, not the wattage, which is actually voltage dependent. We therefore need to use the formula as shown in the Ohms Law Circle opposite. $P = V^2$.

With equipment like this (100% voltage dependent) for every reduction or increase of 1% voltage, a corresponding decrease or increase of 2% watts of power is realised.

Let's take a closer look at what this means with a typical domestic 230v '2kW' hair dryer or commercial hand dryer. $P 2000 = V 230^2$ So $R = 26.5 \Omega$.

You will see by the table below that depending what voltage is applied to the same piece of equipment, life expectancy and running costs (at typical 15p/KWh) can vary dramatically.



Combined Resistance, motor and heater = 26.5 Ohms (Ω)

Voltage	Current Drawn	Power Consumed	Power Running Cost / Hour	Result
Design voltage = 230V	8.7A	2000W	30p	Running and costing as designed.
Average UK voltage = 242V	9.13A	2210W	33p	Running hotter, vibrating more, costing more to use, and reducing life expectancy.
Optimised voltage = 220V	8.3A	1826W	27p	Approx 19% energy and financial saving compared to UK average voltage.

The Importance Of Being Up To Date

An up-to-date fuse box (also known as a consumer unit) is essential for ensuring the safety and reliability of your electrical system.

Fuse boxes are responsible for distributing electricity through-out your home and protecting your electrical devices and appliances from power surges or over-loads that could cause damage or even start a fire. Here are some key reasons why it's important to have an up-to-date fuse box:

Safety

An old or outdated fuse box may not have the necessary safety features, such as circuit breakers and residual current devices (RCDs), to protect against electrical faults or hazards. An up-to-date fuse box will provide better protection against electrical shocks, fires, and other potential hazards.

Compliance With Regulations

Building regulations require that fuse boxes in new homes and major renovations are installed with modern consumer units that comply with current standards. An up-to-date fuse box will ensure that your home meets these regulations and is safe for you and your family.

Increased Functionality

Modern fuse boxes come with a range of additional features, such as surge protection, smart meters, and remote monitoring capabilities, which can help you monitor and manage your electricity usage more efficiently.

Better Energy Efficiency

An up-to-date fuse box can also help you save money on your energy bills by providing more efficient distribution of electricity throughout your home. Newer consumer units have better energy efficiency ratings and can help reduce wasted electricity.

In Summary

Having an up-to-date fuse box is crucial for ensuring the safety, reliability, and efficiency of your electrical system. It's important to have a professional electrician inspect your fuse box regularly and upgrade it when necessary to ensure that it's working properly and providing the best possible protection for your home and family.





How we do it

1. Free Site Survey

With our FREE comprehensive site survey we provide advice on how to reduce your voltage supply. One of our Technical Surveyors will attend your premises getting to know your power usage patterns whilst making a note of the equipment and appliances you have and check the safety of your electrics. The assessment and any recommendations that we make will be left in writing for you to then do with as you please. All quotations are valid for 12 months.

2. The Solution

The information gathered will be analysed by our team of energy experts. No two systems are the same. By using a modular approach, we are able to offer you a bespoke solution that suits your needs and requirements. Saving you energy and money.

3. The Calculator

We will use our calculator to work out exactly how much money we can save you, what your ROI will be and how many carbon emissions you will be saving and contributing to helping save our planet.

4. Installation

One of our My Electrics engineers will arrive on your arranged install date to complete your installation and run through the operation of your equipment. We always test and demonstrate your system before leaving your premises, ensuring complete customer satisfaction.



OUR MISSION

Our Commitment To Sustainability

At Smarter Energy Group, our commitment to sustainability, affordable energy access, and a net-zero future forms the foundation of our operations. We embrace the challenges of the energy transition and strive to make a meaningful impact by revolutionising the way we produce, distribute, and consume energy. Together with our partners we are shaping a smarter, greener, and more equitable energy landscape for the benefit of all.

Sustainability is at the heart of everything we do. We understand the urgent need to transition to cleaner, renewable energy sources in order to mitigate climate change and protect our planet for future generations. We are committed to developing innovative solutions that promote sustainable practices and reduce carbon emissions. From investing in renewable energy projects to optimising energy efficiency, our focus on sustainability drives our every decision. By integrating sustainable practices into our operations and offerings, we aim to minimize the environmental impact of energy production and consumption. We strive to harness the power of nature's resources responsibly, ensuring a harmonious coexistence between humans and the environment. Our commitment to sustainability extends beyond our own operations; we actively engage with our partners and communities to foster a collective responsibility for the planet.

Making Energy Affordable For Everyone

Energy is a fundamental necessity of modern life, and we believe that access to affordable energy should be a basic right for all individuals. At Smarter Energy Group, we are dedicated to breaking down barriers and making energy accessible to everyone, regardless of their socioeconomic status. We work tirelessly to develop cost-effective solutions that enable affordable energy access for households, businesses, and communities. Through innovative technologies, scalable infrastructure, and inclusive business models, we strive to reduce energy costs without compromising on quality or reliability. By empowering individuals with affordable energy options, we aim to enhance their quality of life, spur economic growth, and drive social development.

Helping The World Become Net Zero

The urgency to combat climate change requires bold actions, and at Smarter Energy Group, we are committed to leading the charge towards a net-zero future. We believe that the transition to clean energy is not only necessary but also offers immense opportunities for innovation, job creation, and sustainable economic growth. Through the development and implementation of smart technologies we empower individuals, businesses, and governments to reduce their carbon footprint. We provide comprehensive consultancy services, partnering with organisations to develop tailored strategies for achieving their sustainability goals. By facilitating the transition to a net-zero world, we aim to preserve the planet's natural resources, mitigate climate risks, and create a sustainable legacy for future generations.



ALSO AVAILABLE FOR BUSINESSES TOO

The Smarter Energy Group isn't just for domestic use, Our optimisers are bespoke and tailored to meet the specific needs of each client.

Our smart voltage optimisers use state-of-the-art technology to monitor the electricity supply and adjust the voltage to the optimal level for your appliances. By reducing the voltage, we regularly see businesses have an ROI of up to 300%!

Below you can see some of the businesses that we have helped and if you are a business owner, or know a business that could benefit from one of our smart voltage optimisers, contact us today on **0333 789 0120** or email us at info@thesmarterenergygroup.com and one of our experts will be more than happy to help.

ASDA



Total Annual Savings: £587,380



Carbon Reduction: 1,823 tonnes



ROI: 8 months

Kellogg's



Total Annual Savings: £80,452



Carbon Reduction: 243 tonnes



ROI: 10 months

BETFRED



Annual Savings Per Branch: £12,000



Carbon Reduction: 18 tonnes



ROI: 6 months

co op



Annual Savings Per Branch: £30,177



Carbon Reduction: 21 tonnes



ROI: 12 months



FAQs

What if I have a fixed tariff with my energy provider?

It doesn't matter even if you have a fixed tariff, The Smarter Energy Group lowers your incoming electrical supply so, in turn, lowers your Kwh usage, saving money on your bills.

Why have I never heard of voltage optimisation?

For a number of years, voltage optimisation has been used in the commercial sector. Organisations including Kellogg's, McVities, Ikea, Tesco, and Bet Fred have saved millions of pounds, reduced carbon emissions, and extended the lifespan of machinery and electrical products.

Around four years ago, this same technology was placed in smaller units which are perfect for residential buildings allowing homeowners the same benefits which businesses have been having.

Can I install my own unit at home?

Despite the simplicity of installing the professional Voltsmart a qualified electrician will be required for installations, and will be carried out by one of our electricians.

How long does it take to install?

Our installers should be with you for no more than 3 hours. In some circumstances, there may be additional work required. However, our installation team will inform you of anything they need to do prior to doing the work, and we can assure everything will be carried out to the highest standard and cleanliness.

If I reduce my voltage, will my electrical equipment's performance be affected?

In short, no. Electrical equipment intended to be used in Europe would have been tested at 230 volts, and have a range of 207v to 253v. When your voltage is reduced to between 220 volts and 225 volts the equipment is operating within CE equipment tolerances and will be at its efficient and longest life expectancy.

What is CE?

This is the mark on all electrical equipment to show that it is intended to be used in Europe and it complies with relevant harmonised standards, along with being built and tested to run within the harmonised voltage tolerances.

How do I know my voltage optimisation is working?

The electrician will take a reading to show that it is intended to be used in Europe and it complies with relevant harmonised standards, along with being built and tested to run within the harmonised voltage tolerances.

Are your products safe?

Safety is paramount and our manufacturer is accredited by BS to the latest ISO 9001 quality management systems, is also a member of BEAMA, and has the prestigious Made In Sheffield hall mark on their products.

How do volts lose power?

As electricity travels along a wire, volts are lost the further it goes. Electricity companies send voltage out very high so it can travel long distances, which means most UK properties are getting too high volts for their equipment.

Recommend A Friend And Receive A £100 Gift Card!

There is no better recommendation than word of mouth; hearing directly from someone who has used and can endorse a product.

We hope that anyone who uses a Smarter Energy Group product wants to shout about it for all the right reasons. If you do, and that recommendation becomes a new customer, we'd like to say thank you by gifting you a £100 gift card of your choice.



Simply call, message us via the website or email us at info@thesmarterenergygroup.com with details of your recommended friend and once they purchase from us, you will receive your £100 voucher.





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