

## SMART ENERGY SOLUTIONS PORTFOLIO

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Smart energy solutions for industrial and commercial businesses

[www.powerstar.com](http://www.powerstar.com)

# LOW VOLTAGE SOLUTIONS

Powerstar has helped businesses to reduce their energy consumption, costs and CO<sub>2</sub> emissions for over 18 years with its range of low voltage optimisation solutions:



## LITE

The Powerstar LITE range of fixed voltage optimisation systems provide a set level reduction across a predefined tap range. The optimised voltage will match the incoming voltage profile, albeit reduced by a set amount.



## MAX

Powerstar MAX offers variable or 'electronic-dynamic' voltage optimisation, meaning that rather than reducing voltage by a set amount it will match the incoming voltages 'peaks and troughs', providing a constant output, even to unstable profiles.

### BENEFITS:

- 100% Guaranteed savings
- Carbon emission reductions
- Reduced wear and tear on electrical equipment
- Maintenance free system
- Patented design
- 15 years warranty & 50 year lifespan

Typical payback period for Powerstar's voltage optimisation solutions:

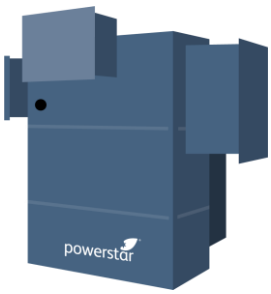
**2 – 4 years**

YOUR BUSINESS' ENERGY COSTS COULD RISE BY

30% to 40%

REDUCE ENERGY COSTS WITH SMART ENERGY SOLUTIONS FROM powerstar

# HIGH VOLTAGE SOLUTIONS



## HV MAX

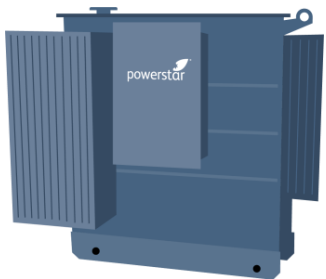
Powerstar HV MAX provides a solution to two common problems, combining a super low-loss amorphous core HV/LV transformer with integrated variable or 'electronic-dynamic' voltage reduction.

### BENEFITS:

- 100% Guaranteed savings
- Carbon emission reductions
- Reduced wear and tear on electrical equipment
- Maintenance free system
- Patented design
- 15 years warranty & 50 year lifespan

Typical payback period for Powerstar's voltage optimisation solutions:

**2 – 4 years**



## SO-LO

The Powerstar SO-LO range of super low loss transformers are the only amorphous core transformers designed and manufactured in the UK and provide a cost-effective way of reducing your energy consumption by upgrading your HV infrastructure.

Powerstar SO-LO's remote monitoring allows 24/7 visibility to help you better understand how your transformers are performing and where efficiencies can be made to obtain the best return on investment.

### BENEFITS:

- Up to 75% lower core losses compared to CRGO transformers
- Simple upgrade to energy efficiency with 50 year lifespan
- Remote monitoring allows for greater visibility of transformer's operations

**Powerstar SO-LO can be delivered as a containerised solution, featuring a distribution transformer and HV/LV switchgear, a popular and economical approach to providing energy to locations such as construction sites.**

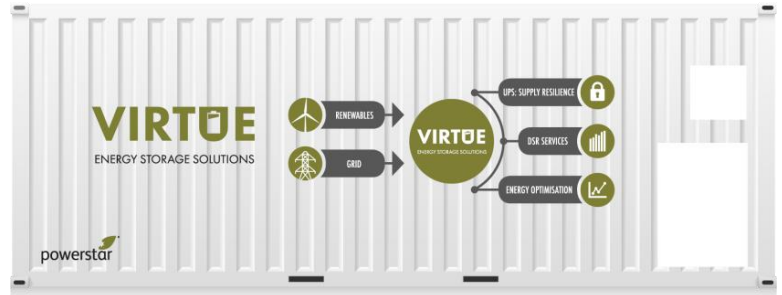


# ENERGY STORAGE

Powerstar VIRTUE energy storage solutions can provide full site-wide Uninterruptible Power Supply (UPS) capabilities to increase energy resilience, and can maximise renewable generation to minimise reliance on the grid and help towards carbon neutral goals.

## VIRTUE

ENERGY STORAGE SOLUTIONS



The Powerstar VIRTUE energy storage system is an integrated energy management and microgrid solution with smart grid control. It allows for greater control and flexibility of electricity usage.

Typical applications of Powerstar VIRTUE include, but are not limited to: time shifting, demand side response (DSR), supply resilience through uninterruptible power supply (UPS) capabilities, and maximising renewable generation.

## TECHNOLOGY APPLICATIONS

### ENERGY RESILIENCE

Battery energy storage

Site-wide UPS

Voltage regulation



### MAXIMISING RENEWABLES

Battery energy storage

Renewable generation

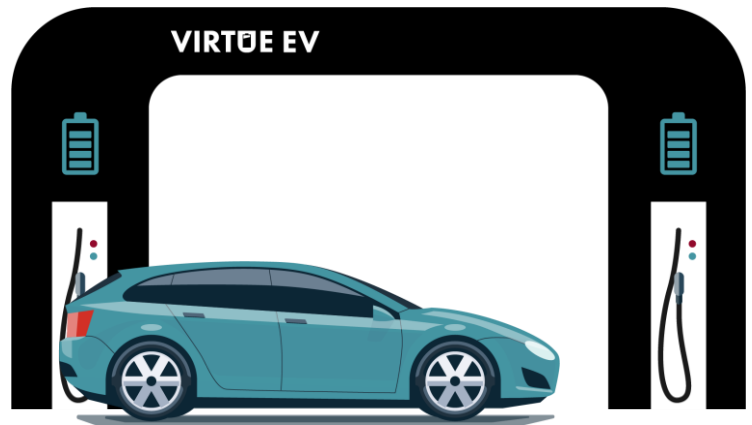


Typical payback period for Powerstar's energy storage solutions:

# 4 – 7 years

# ELECTRIC VEHICLE CHARGING

## VIRTUE EV



VIRTUE EV is a combined DC rapid/fast charger and energy storage solution with an integrated solar (PV) canopy.

VIRTUE EV can be customised to suit each customer's requirements including the charger head, the integrated solar canopy, and the capacity to charge. VIRTUE EV's ability to be adapted and scaled as required makes it a future-proof investment as the UK develops its energy infrastructure in preparation for the uptake of electric vehicles.

Typical payback period for Powerstar's energy storage solutions:

# 4 – 7 years

## Charging without the storage:

Alternatively, if you are purely interested in EV charging, we can supply systems independent of our energy storage technology. See below for a list of options including charge times and costs:

- 🍃 3kW charger: full charge in 39 hours - £250 to £500 per unit
- 🍃 7kW charger: full charge in 15 hours - £400 to £800 per unit
- 🍃 22kW charger: full charge in 6 hours - £1,000 to £4,000 per unit
- 🍃 50kW charger: full charge in 1.5 hours - £15,000 to £30,000 per unit
- 🍃 150kW charger: full charge in 30 minutes - £45,000 to £70,000 per unit



# POWERSTAR TRANSFORMERS



- **Cast resin transformers:** We offer a range of cast resin distribution transformers from 100kVA up to 3MVA, at competitive prices.
- **Load bank reactors:** Used to provide a stable, continuous and variable load to imitate real loads in real time. This means backup systems can be periodically fully tested, ensuring they meet the original design criteria for efficient power generation. Often used in oil and gas, marine, health and data centres to name a few.
- **Dry type transformers:** Suitable for both indoor and outdoor applications and widely used in data centres and other critical applications.
- **Network rail transformers:** We have designed and supplied distribution transformers with minimal inrush currents to stop nuisance tripping of strategic control equipment, DC traction, light rail, tram and mainline equipment.
- **Liquid cooled transformers:** Robust distribution transformers which offer a long-life expectancy. Often used in marine and offshore applications as well as drives and automation industries.
- **Bespoke transformers for specialist applications:** As experienced manufacturer's we have the ability to design, build and supply transformers to a required specification. This includes transformers for hazardous environments and purpose-built to size or power.

We also offer a wide range of services and support, including maintenance annual inspections, energy efficiency consultations, refurbishment, repair and rewinding, project management, and equipment buyback, as well as full after sales support.

CONTACT POWERSTAR TO FIND OUT MORE ABOUT  
THE FULL RANGE OF SMART ENERGY SOLUTIONS  
AND THEIR BENEFITS

Call

01142 576 200

Email

[info@powerstar.com](mailto:info@powerstar.com)

Visit

[www.powerstar.com](http://www.powerstar.com)  
[www.powerstartx.com](http://www.powerstartx.com)



4 Cowley Way, Ecclesfield, Sheffield, S35 1QP