



# Voltage Management

Many sites in the UK are supplied by a higher than optimal Voltage that is responsible for significant energy losses in voltage dependent equipment.

Voltage Management is an energy saving technique that reduces these unnecessary losses by improving voltage to site. The Wilson e2 transformer comes with in-built voltage management capabilities that allow for easy adjustment to LV site voltage without the need of costly additional equipment.

Depending on site supply voltage and your site's load profile, managing voltage through a supply transformer can reduce energy consumption by up to 12% with customers typically achieving savings of 3-8%.



## THE FIXED TAP SOLUTION

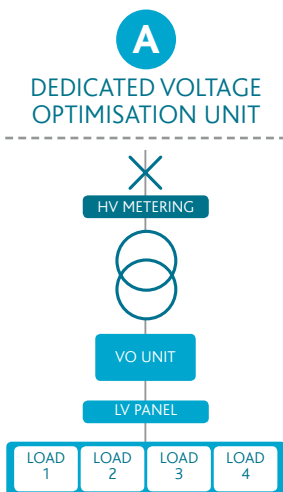
The Wilson e2 is designed to provide a lower nominal voltage and comes with an extended tapping range allowing you to adjust site voltage without the need for costly additional equipment.

**REDUCE UNNECESSARY ENERGY WASTAGE CUT ELECTRICITY BILLS**

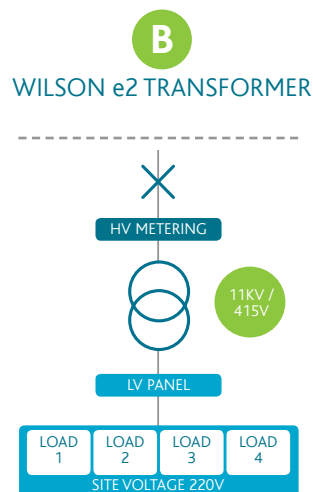
Depending on your supply voltage and the voltage dependent loads at site you can achieve reductions of up to 12% in electricity consumption. In addition, equipment life can be prolonged as a result of improved operating conditions.

In order to assess the savings potential of your site your incoming supply needs to be monitored and your load profile analysed.

## VOLTAGE MANAGEMENT THROUGH MV SUPPLY THE MOST COST EFFECTIVE AND LEAST INVASIVE SOLUTION



- High capital cost
- Additional system losses
- Increased plant footprint
- Additional cabling
- Additional maintenance



- Virtually maintenance free
- No additional equipment
- No added transmission losses
- No risk of system disturbance
- Cost effective 2in1 solution

Most sites with MV supply are operating a distribution transformer that is designed to provide a nominal phase voltage of 240V. Where sites can benefit from reducing supply voltage, replacing existing transformers with a with a Wilson e2 /Wilson e2+ transformer is often the most cost effective solution. Why?

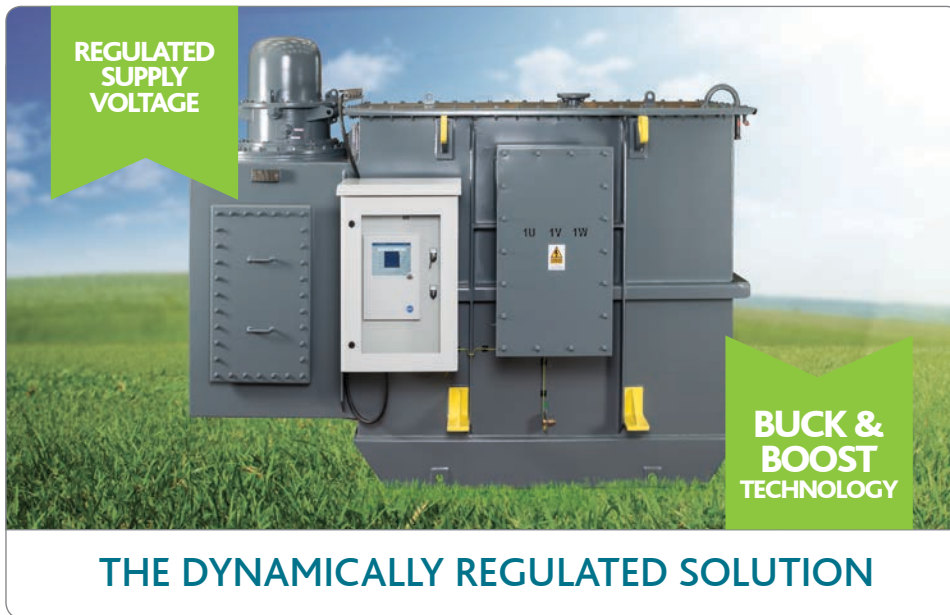
Replacing the supply transformer does not require any additional equipment to be installed. This eliminates the risk of system disturbance, avoids additional transmission losses, minimises the total plant footprint and is virtually maintenance free (see diagrams opposite).

### GUIDELINE VALUES FOR NO LOAD VOLTAGE

HV voltage	Tap setting	LV voltage
11,000V	7.5% (1)	384V
11,000V	5% (2)	394V
11,000V	2.5% (3)	405V
<b>11,000V</b>	<b>0 (4)</b>	<b>415V</b>
11,000V	-2.5% (5)	425V
11,000V	-5% (6)	436V

# IMPROVE YOUR INFRASTRUCTURE FOR ENERGY EFFICIENCY AND RESILIENCE

The Wilson e2+ is a super low loss amorphous transformer with a 17 position on-load tap changer that dynamically adjusts LV side voltage allowing you to maximize energy savings whilst safeguarding security of supply through buck and boost technology



**DYNAMIC STABILISATION GUARANTEED OUTPUT VOLTAGE**

Typical applications include sites where supply voltage fluctuates significantly (this can be irregular peaks and troughs as well as distinct day and night patterns), where a constant output voltage is required (for example operating highly sensitive equipment) or to increase your sites' resilience in view of increasingly dirty supply from the grid.

## BENEFITS OF DYNAMIC SUPPLY VOLTAGE REGULATION:

- ✓ Maximises energy savings from voltage dependent loads
- ✓ Provides controlled operating conditions
- ✓ Buck and boost" to safeguard against voltage spikes and drops
- ✓ Enables small scale renewable integration

### ADVANTAGES OF TRANSFORMERS WITH ON LOAD TAP CHANGER [OLTC] OVER "HYBRID" UNITS:

- One solid piece of engineering
- Proven and reliable technology
- Compact design
- Reduced plant footprint
- Less residual heat

### WHY CHOOSE AN ON LOAD TAP CHANGER (OLTC) OVER THYRISTOR PRODUCTS?

- No excessive heat
- Less maintenance
- Proven reliability
- Smaller plant footprint



Maximising energy savings - Increasing site resilience.



The Wilson e2+ is saving the store 285,000 kWh per year through loss savings and voltage management. Providing a cost-effective and space saving alternative to dedicated Voltage Management systems.



**ASDA**