

Voltage Control

The usual comment I get when I recommend voltage reduction is: “Well, if I reduce the voltage, the result is less power. My lights will be dimmer and the fans are running not as fast.”

Correct, and that’s the point. Voltage typically fluctuates between 253V and 225V (230V +10%/-2%, this is the “preferred range”), however it might be outside these tolerances for a short period of time. Typical voltages are around the old (1980’s) standard voltage of 240V.

Today, appliances and equipment are specified and designed to operate at the nominal IEC standard voltage of 230V.

While, with this higher voltage, we get 4-5% more power, at the same time we use 4-5% more energy.

To achieve the desired outcome (temperature, lighting levels etc) we do not need the extra power. Rather we will save energy and cost by reducing the voltage to an acceptable and constant level. To the contrary, most appliances work just as effective at 220V as this is still within the tolerance range of 216V to 253V (230V +10%/-6%)

Example: You are driving a car. If you need to cover 45 km in 30 min, you can reach your destination comfortably at constant 90 km/h. You may decide to speed up to 110 km/h, be there early and then just spend time (5 ½ min) waiting at the destination, but you will use more fuel, without having a real benefit.

Voltage reduction/regulation will save energy and cost, by ensuring you only use the energy you really need.

Please contact Jorg at jorg@etatec.com.au for more information