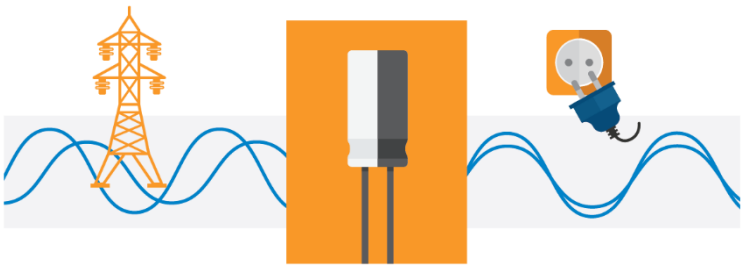
POWER FACTOR CORRECTION

AND HARMONIC MITIGATION



What are power factor and harmonic distortion?

Low power factor and harmonics are a frustration for electrical installations, like curves and bumps are a nuisance for the motorist. On the road, this means that fuel consumption and reliability are not optimal, resulting in an increased fuel bill and maintenance cost. In electrical installations, this means additional power losses, reduced energy reliability and increased energy costs.

The Power Factor (λ) is the ratio of the active power P (kW) to the apparent power S (kVA).

Numerous items can cause low power factor and harmonics including:

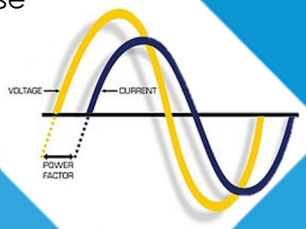
- Industrial equipment (welding machines, arc and induction furnaces, battery chargers),
- Variable Speed Drives for AC or DC motors,
- Uninterruptible power supplies, and
- Office equipment (PCs, printers, servers).

Why worry about power factor and harmonics?

Power factor correction and harmonic mitigation provide immediate benefit in terms of reduced power losses, reduced electricity bill, and the possibility to use the total system capacity.

With the electricity providers now charging by kVA instead of kW,

Companies with poor quality power will be penalised with increased electricity costs.



A plethora of significant benefits, including:

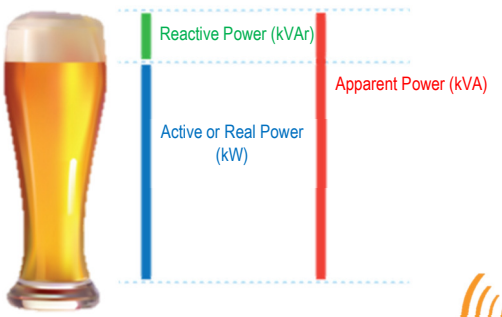
- Reduction of electricity bill by 5 to 10% typically;
- Reduction of power losses – which helps to prevent transformers and panels from overheating;
- Improvement of system availability and reliability. Harmonics can cause protection devices to trip, disrupting production and causing nuisance; and
- Improvement in business performance. Optimized use of electricity, no disruption of operation and longer equipment life expectation.

Let's look at diagnostics and solutions!

Monitoring is the best diagnostics tool!

Some examples of solutions include:

- Capacitor banks,
- Transient-free capacitor switching,
- Harmonic filters, and
- Fast reactive energy compensators.



Contact us on 07 4637 2744 to discuss these solutions in further detail.