



Schedule 70 IT  
Cooperative Purchasing  
Surge Suppressor

## USES® (Universal Shunt Efficiency System) Information

On the Power Shaver website, [www.PowerShaver.com](http://www.PowerShaver.com), there are many downloadable pdf's of white papers and spec sheets. The USES® Technology is available through the Federal Department of General Services, Schedule 70: Information Technology Equipment, Cooperative Purchasing and Surge Suppressor. We are finding the kWh reductions are much greater now, compared to the UL, CSA and performance patent testing in the early 90's (as stated on the spec sheet) because of the dramatic increase of harmonic currents.

The USES® technology is dynamic, passive, resonance-free and reduces kW demand and kWh consumption through **FIVE** methods:

**First:** The USES® system employs magnetic phase balancing of voltage and current to reduce waste, demand, friction and heat in loads.

**Second:** Passive resonance free power factor correction, to reduce the demand of reactive non-power currents and the associated penalties.

**Third:** Harmonic filtering of non-power currents and harmonics, to reduce the billed kWh consumption and improve power quality.

**Fourth:** Transient energy conversion through one of the surge protections self-healing magnetic chokes. Energy above and below the operational voltage of a facility is absorbed, reconstituted and returned to the customer as usable power.

**Fifth:** Is the ability, through its **proprietary** chokes, to generate wattage from the magnetic field of each phase, per Faraday's and Lenz's Laws, that is injected into the adjacent phases as usable power further reducing magnetic fields. It has been found that the unique arrangement of chokes provides substantial reductions in power usage, especially for inductive loads in an industrial application. The immediate benefit is a verifiable reduction of electric utility bills. Additionally, equipment life is increased while maintenance and downtime are reduced.

The USES® technology employs self-healing magnetic chokes and metal oxide varistors as its two forms of surge and spike protection. The USES® units are not custom built per loads, but are specifically and intentionally placed throughout a facility according to the operational demands. They will protect against damage from surges sags and phasing and are maintenance free. Life expectancy is now approximately 15 to 20 years. USES® is VFD or any control system compatible.

**John D. Knapp**

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