



Power Quality Terms and SineTamers Effectiveness

Power Quality can have many factors associated with it, all having different causes and effects on the eventual outcome of just how our power is measured or graded within our structures. This grading of our power is called power factor, and it is how the utility power providers measure the effectiveness of how we utilize the power in our manufacturing processes or large commercial and industrial buildings. How efficient we use our power, determines what the costs of purchasing the power from the providers is. Power factor rates are only used in commercial or industrial applications to determine costs, but for the average individual in a house, it can also effect their bill as well thru other factors.

Power quality can be broken down to include many different conditions, and I will explain each of the conditions and explain what can be done to rectify each, enabling us to effectively try to gain a pure power supply for our sensitive electrics and electronics. Our intent should be to make our power in whatever building or business we have, as clean as humanly possible for our electrical systems and expensive electronics, for them to achieve their optimum operating performance. This in turn will allow this equipment to run like they were so intended and to give us years of trouble free service. SineTamer surge suppressors can be very effective in helping to clean our dirty power condition and I will attempt to explain each condition and how the SineTamer product can help.

Firstly, let me explain Dirty Power. It is a very widely used term these days but is also highly misunderstood as well. Dirty power's number one ingredient is transients. Although there are other ingredients that many people assume to be part of dirty power, like Harmonics, Brown outs or Sags, Swells or Surges, as well as EM (Electromagnetism) and RF (Radio Frequencies). Except for transients, which do the most severe long-term damage to electrical circuits and microprocessors, all the other conditions usually are a cause of various conditions which can occur within electrical circuits.

Power quality consists of:

Voltage Dips, Swells, and Sags

These conditions are longer than a milli or micro second. They tend to be in the half second or longer range, and are typically mitigated with capacitors or power factor correction capacitor banks. SineTamer units deal with sharper, more severe spiking and for a shorter time frames than the swells and sags. Voltage dips, and sags will usually be caused by dragging equipment on start up or motor startups, or a reduced voltage supply by the power provider, or perhaps large banks of lights coming on, etc.

Short but Brief Interruptions

Short interruptions of power can be very harmful to electrical systems, motors, controls, pumps and lighting. It is the equivalent of turning off a breaker under full load and immediately turning it back on again. For all intense purposes, it is not the brief interruption that causes the harm, but it is the large transient which occurs when the equipment is suddenly turned off and back on again. This transient is what causes the damage to controls, and the processor timing of the microprocessors. SineTamer can be very effective in mitigating these tendencies.

Longer Interruptions

Long Interruptions are as bad for electrical systems as the short interruptions. Once again, anytime you immediately start up multiple loads, the increased and sudden power draw creates transients within the circuits upon start up. SineTamer suppressors will mitigate a good majority of these problems with their implementation. They will not stop the power outage, but will help the sudden extreme startup process making it a lot less detrimental to the equipment involved.

Harmonics (Voltage and Current)

Harmonics whether they are voltage or current, are caused by nonlinear loads in an electrical system. Nonlinear loads traditionally try to chop or distort the sinewave form, and by doing this, send a recurring distorted wave frequency form. These conditions can cause heat in motors, or circuit boards, as well as overloading the neutral and ground wiring causing more heat within the circuits. This condition can be rectified with Harmonic filtering. Incidentally, the equipment that causes harmonics, also causes transients to occur as well. By utilizing SineTamer technology in the circuits, it has been proven thru extensive testing to greatly reduce the transients and help reduce some of the active harmonics within the circuits.

Surges and Transients

Sudden surges or transients are the main cause of dirty power and make up a great majority of the poor condition of our electrical circuits today. SineTamer technology is highly effective in mitigating these conditions, bringing back the sine wave form to near normal conditions. To make our circuits clean and give our new technology longevity, the SineTamer technology is an absolute must in protecting our newer sensitive equipment.

Flicker, Unbalance

These two conditions are not alike at all. Flicker is more of a very short term drop in power, causing transients to be produced on the immediate startup condition. SineTamer will be very effective for this type of condition. Unbalance is a condition of load imbalance or wiring imbalance at the panel. This condition can cause overheating of one conductor to another, and severe load imbalances across motors, lighting, etc. causing breakage of electrical components and overheating of circuits. SineTamer will not help this condition.

Earthen Compatibility

This condition is basically the ability to actively ground or bond our electricity and components to ground itself. This is vital in our electricity within our buildings today. Without proper grounding in place, or all our circuits bonded to one another as well as to the main panel, we subject ourselves to all kinds of conditions which can be very harmful to the human body, as well as inviting failure of our expensive electronics. SineTamer is very effective in its technology by protecting all modes of the power circuits, Line to Line, Line to Neutral, Line to Ground, as well as Neutral to Ground.

EM (Electromagnetism) and RF (Radio Frequencies)

These two conditions are hot topics these days with the dirty power syndrome as well as the ongoing fight to battle frequencies that are in the air causing us health concerns. RF or radio frequencies are both airborne as well as attached to our power as well. With the advent of WIFI and cell phones, it is very hard to mitigate these frequencies in the air. EM or electromagnetism is a byproduct of current flowing on our power. EM radiates outward for 3 ft. on average from any wiring within our power circuits. RF frequencies can also travel on top of the sinewave form emitting noise or frequencies typically in the kHz and MHz ranges. SineTamer technology is very effective at not only dealing with transients, but also has built in EMI and RFI filtration in the circuitry for the 1Khz to 10Mhz range. These frequencies are known to travel on our power circuits and can cause many health problems for humanity. SineTamer's filtration is very effective in reducing the RF Frequency to about 1 V on the kHz range of frequencies, leaving no residual energy on the power lines, neutral, or ground after suppression has taken place.

Conclusion

Although there are many conditions that make up power quality, it is crucial to understand that no building or electrical system is immune from transients in today's faster more efficient electrical infrastructure. The need to monitor and repair the dirty power effects, is crucial for the proper operation of our new advanced electronic systems. Technology is growing at a rapid pace, and without taking steps to protect our advancements in our sensitive equipment, we will not be able to utilize this new faster technology to its full capabilities.

SineTamer technology incorporates Frequency Attenuation Circuitry. Older 20th century fixed clamping technologies main concern was limiting the amount or height of the sudden energy boost, which left everything in between the clamping levels to invoke damage to circuits and equipment. SineTamer's 21st Century technology was developed, so we could actively track the frequency wave form very closely above and below the sinewave form, enabling our circuitry to quickly mitigate the energy induced and effectively rid the energy thru our specialized components. This enables us to effectively remove all the unwanted anomalies, bringing back the integrity of the wave form itself, enabling all our sensitive electronics to operate at normal conditions with a relatively pure sine wave form.

SineTamer is years ahead of the competition in the market place with its specialized technology, and has proven results. Our specialized internal components are thermally fused and multi layered to give long term effectiveness, and our inner components are encapsulated with a thermoelectric resin which makes our suppressors the safest in the world. Our warranties are the longest in the industry and with an average ROI of 5-7 months and up to an 80% reduction in electrical maintenance repair and replacement, it is by far the most effective suppression in the world today.

We purchase expensive equipment and electronics today enabling us to have a competitive edge against our competition, but sadly we have not taken steps in our electrical infrastructures to protect our investments. With the implementation of our SineTamer products, we can offer people and business, protection from power anomalies which can create long term health issues, reboot issues, premature failure of electronic and electrical components, and significant drops in costly downtime. SineTamer enables you to have a competitive edge, whether it regards your personal health, equipment investment, or your corporate bottom line. SineTamer ***"IS the standard"*** in suppression technology, and our results are proven worldwide.

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