



We've taken Surge Suppression in a Bold New Direction!

The Difference Is Technology!

Transient voltage surge suppression can offer excellent results in helping reduce electrical failure and repair expenses in commercial and industrial facilities. As education increases in maintenance of microprocessor based equipment, so does the awareness of the need for surge suppression. The necessity of protecting equipment from damaging transients is now becoming more commonplace throughout cost-conscious, maximum production oriented companies.

Originally, surge suppression technology consisted of a single device, normally a single gas tube, carbon block, MOV (metal-oxide varistor), transorb, surgistor or similar type of electronic component application. However, the effect of dissipating transient activity resulted in deterioration of the device itself. As transient activity caused heat rise and build up in the component, the device deteriorated. So did its performance specifications. The clamping levels become higher, the response speed slower, allowing more and more destructive energy to pass to the equipment it was protecting. The longer it was in service, the greater its reduction in performance, until eventually the device no longer provided any protection. Basically, the

surge suppressor was designed to be intentionally self-sacrificing as it protected equipment from damaging transient voltage.

The second generation of surge protection technology is commonly referred to as a "staged" or "hybrid network." These networks consist of a combination of the surge suppression components mentioned as above, arranged in stages so as to interact the various strengths of each device.

Such devices are certainly more effective than their predecessors - combining faster response times and higher energy dissipation abilities. These hybrid designs trap the spike, convert some of its heat, and dissipate the heat with its electronics and /or divert some of the transient to ground. Yet like the earlier models, these networks still undergo a deterioration process while protecting against surges. The heat buildup in the electronics causes deterioration of the performance characteristics of the components. As specific components in the network deteriorate, the entire design loses effectiveness and ultimately fails. Specifications in performance of these types of devices can be misleading, due to their deterioration as a result to transient activity.

It has long been realized that if an efficient process could be found for dissipating the heat from the electronics within the TVSS, the electronics could be protected, providing an extended life for the surge suppression device. This is, in fact, the technology utilized in "SineTamer®" products.

This new type of transient voltage surge suppression incorporates technology from both electronic and chemical sciences. It is engineered with an electronic hybrid network design in combination with a complex solidified chemical compound having high energy dissipation properties. The use of chemical compound having these properties overcomes the problem of electronic component deterioration. This is achieved by an interaction between the electronic network and the chemical compounds in a thermal conversion process.

As the electronic components "trap" the surges, the chemicals interact at the reactive level, drawing the heat out of the electronics, dissipating it at a rate faster than it can build up in the electronic componentry.

The electronic components witness only the reactive level of heat as the chemical completes its thermal conversion and dissipation process. Thus, the electronics are spared from the consequences of the destructive heat level build up that is traditionally experienced by the suppression devices utilizing only electronic components.

This advanced, electronic-chemical link technology gives this suppression device an unmatched service life, superior surge suppression, and a constant level of performance. Having overcome the problem of destructive heat as a result of transients, the performance specifications of the SineTamer® do not decline during its service life. The electronic components are never over stressed or over heated. The service life span for SineTamer® products is far in excess of the 25 year warranty period based on calculated data collected from in field use.

On the outside many look the same.. on the inside...



**THE DIFFERENCE IS TECHNOLOGY.
THAT DIFFERENCE COULD SAVE YOUR
INVESTMENT IN ELECTRONIC
EQUIPMENT!**