

POWER CONDITIONING AND TVSS

Putting it all together

General

In our constant technological advancing world, electronics are becoming smaller and faster every day. As these electrical devices advance technically, they become more sensitive to power anomalies and, in many cases,

cause them. For this reason transformers are often purchased along with power protection devices. The most common power protection device used with transformers is a transient voltage surge suppresser (TVSS).

Transformers, depending on their technology, provide many power conditioning and protection features on their own. The TVSS will enhance the spike attenuation of these transformers.

Power Conditioning

The isolation transformer is the only transformer that provides true power conditioning as far as developing a clean ground and attenuating electrical noise. These transformers do provide a good amount of spike attenuation due to the isolation and shields between the primary and

secondary, but sometimes additional protection is desired for personal security and satisfaction. When TVSS is to be placed with a transformer some coordination of the two is necessary. The TVSS needs to be matched with the impedance, voltage, and current of the transformer. This can be

very confusing and time consuming for electricians and specifying engineers. Also, placement of the TVSS has to be determined (input or output of transformer). To avoid this confusion a transformer that has TVSS already pre-configured with it is needed.

Ultra-K

The *Ultra-K* manufactured by Controlled Power Company has the feature of a pre-configured TVSS with it. The *Ultra-K* is a shielded K-rated copper wound

isolation transformer that provides a clean ground, electrical noise attenuation, spike attenuation, voltage transformation, and K-factors up to K-20. It is used in

single or three phase applications and has the option of a high frequency filter with the TVSS for additional noise attenuation.

Summary

Today's electronic devices are more sensitive than ever and require good power conditioning and spike attenuation. TVSS devices along with isolation transformers provide optimal

power conditioning and spike attenuation for these applications. To avoid the confusion and time consumption of coordinating the TVSS with the transformer, the *Ultra-K* with pre-configured TVSS

and high frequency filter has been developed. The TVSS conforms to U/L 1449 rating 330 volts when subjected to the ANSI/IEEE C62.41 category B3 waveform.



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