

## **Lighting Solutions**

### **Lighting Controls Failure Solutions**

#### **WHY THEY NEED SURGE PROTECTION AND HOW TO PROPERLY PROTECT THEM EFFICIENTLY...**

**This is the final segment of a three part series of articles provided specifically to discuss protection of complete lighting systems including Parking Lot & Roadway Lighting, HID, LED & Fluorescent Lighting and Electronic and Digital Lighting Controls. In this segment, we will narrowly focus on the harmful effects of transient activity to electronic and digital lighting controls as well as efficient, proven solutions of available protection that is unknown to many and therefore commonly overlooked.**

**Fully electronic and/or digital lighting controls are one of the industry's largest leaps forward in a 'wireless/hands free/digital' era, and most would agree the convenience and endless possibilities and energy efficiency they've provided and continue to provide have become deeply entrenched in our society for good. From a small doctor's office to a major convention center or theme park, they are everywhere.**

**As with all advancements in technologies, there is 'something' that must be sacrificed or manipulated to achieve the ultimate desired result; a smaller, faster, more convenient, electronic device (cell phone, television, etc). Take a big screen LCD television for example. While the screen looks great and the overall depth is dramatically less, what is the 'sacrifice' or 'manipulation' you are compromising or willing to compromise for this? The trade-off for the bigger, brighter picture and dramatically thinner television means they had to 'sacrifice' something right? It's the speakers! The same is true with virtually everything that is electronic and/or digital that is connected to a direct AC power source; electronic and digital lighting controls are no exception.**

**When purchasing, selling, installing or designing electronic or digital lighting control systems, you must ask yourself "how vulnerable is this system to the outside world, is it protected and how well is it protected?"**

**If we all accept the premise that Static Electricity Discharge (SED) can very easily and very quickly fry a circuit board by merely touching it with your finger after you have rubbed your feet on a carpet, then how do those same boards react when there is an increase in voltage induced by some of the most common daily events such as lightning or capacitor bank switching? If you guessed "not well", then you are correct. Unfortunately, the protection for these systems along with the proper, most effective way to protect them is often overlooked. This is mainly due to the fact that it is not widely known that there is a proven solution to this recurring, very expensive, very inconvenient problem in a system that is supposed to make life easier.**

**There are two very easy ways to protect these systems, both from the line side as well as [the most often overlooked area] the load side of the relays or breakers.**

**Consider this: You are designing, selling, installing or purchasing a new electronic or digital lighting control system in your home or place of business. In this panel, let's say, that you have 30 circuits total. Of these 30 circuits, 5 of them are going to feed exterior lighting of some sort (i.e. parking lot lighting, rooftop lighting, walkway lighting, pool lighting, etc) and the other 25 circuits are all indoors. Let's also assume that you have some level of surge protection on the 'line side' of the lighting control panel power supply (pack of MOVs, a real surge protector, lightning arrestor, etc) and you feel you are adequately protected because this is a standard design of many systems, to protect the "power-side in". The question becomes: What happens when a surge is induced on one of the 5 exterior circuits outside (i.e. pole hit by lightning, etc) and that surge comes from that exterior pole light directly to the lighting control relay/dimmer pack/electronic control module and back into the system via the back end (or load side) of your control cabinet? You have essentially reintroduced or derived a new 'service entrance' into your lighting control cabinet and your entire power distribution system from the load side and in most cases you will eventually experience a failure of some sort. The system is unnecessarily exposed and now vulnerable. What hurts the most is that this is 'standard' design practice and this protection type is missed or value-engineered out without understanding the full consequences of doing so. It is analogous to purchasing a security system then leaving the building with the back door opened wide for all to enter.**

**It is widely known that the three most replaced items on electronic or digital lighting control systems are; electronic control modules, dimmer packs and circuit boards for modems, Ethernet, etc. Replacement of these items is costly to the end user, but profitable to the lighting controls manufacturer and/or representative of that system in replacement parts and repetitive business. Warranties for lightning in most cases are expressly prohibited.**

**Due to the existence of this problem; Surge Suppression Incorporated, many years ago, designed a system and method to aid in isolating these systems from the outside world [both line and load side]. We have dramatically improved this system many times over the years and have a time proven, extremely effective solution to this industry nuisance.**

**SSI has successfully protected well over 10,000 circuits nationwide on a variety of Electronic and Digital Lighting Control Systems manufactured by companies including; Lighting Controls & Design (LC&D), Electronic Theater Controls (ETC), Lutron Electronics, Crestron, ILC and many more on some of the most high profile projects in the U.S.**

**This unique, custom-designed solution provides both line and load side protection [i.e. Isolates the control panels from the outside world], an exclusive 25-year unlimited free replacement warranty on the product and offers the customer friendly flexibility to work within custom footprints, enclosure colors, NEMA ratings, etc. This protection is not exclusive to only the power circuits; but also includes protection for the modems, Ethernet, and wall station circuits as well.**

**If you are seeking an integrated solution, Surge Suppression Incorporated is a current OEM supplier of factory installed custom SPD protection for digital control panels with Lighting Controls and Design [LC&D], which offer a variety of internal solutions as well to meet all market needs and demands. These products are also available for LC&D systems; including modem, Ethernet and wall station applications and also come standard with SSI's exclusive 25-year unlimited free replacement warranty.**

**If you would like to learn more about this exciting solution to these recurring nuisance failures in these more and more common electronic and digital systems, reduce maintenance and operating costs of these systems, or for more information on a tailor designed turn-key lighting protection solution package to include your electronic and/or digital lighting controls, please contact Mike Barton at: [mbarton@surgesuppression.com](mailto:mbarton@surgesuppression.com).**

**For additional information, contact your SSI representative or call **1-888-987-8877**.**