



Surge Suppression of High Frequency Digital Drivers/Ballast

On occasion, we'll encounter a customer who has had multiple lamp driver failures. While these types of failures are rare, it is especially rare for one customer to have multiple driver failures. We have had some of these customers return their complete fixture to evaluate if there was any issue with the lamp possibly causing the driver issues, but we have never been able to conclude anything in that respect. In some cases, it is really obvious that the driver sustained a significant power surge on the customer's input power. We can easily determine this type of damage as internal components such as the front end suppressors for over voltage and over current protection in the power supply input of the driver will be damaged. In some cases it is not as obvious, but from analysis of the circuit, we know it is possible that such power surges can ultimately damage any of the internal circuitry.

It is well understood that the quality of power can greatly vary based on several issues:

- 1. The quality of the power supplied by the power company.**
- 2. The age and wiring quality feeding and running through the circuits in use.**
- 3. Other equipment running at the same location.**
- 4. Large equipment turning on and off, even the lights themselves turning on and off.**
- 5. Proximity to industrial users of power.**

From all of this, the only reasonable conclusion we can arrive at is that these multiple problems at a single customer location must likely be power related. While the driver is designed with some power surge suppression, the possibility of greater surges is certainly possible. This is the reason we all use those surge suppression power strips on our computer systems. But, since these lamps draw a bit more power than a typical computer system, we would like to suggest a higher quality product such as a **Tripp-Lite Premium Surge Suppressor. These are of high quality construction and very reasonably priced. We have selected five of their models that we think would make sense for use on a 120V, 15A circuit. These surge suppressors are available from Amazon at the prices shown with free shipping, but you can likely find an even better deal on the internet. Tripp-Lite Isoblok2-0 \$20.55, Ultrablock \$20.79, Isobar2-6 \$27.99, Ibar4 \$34.99, and Isobar4 Ultra \$39.23 (priced on 9/20/13).**

The first two items have 2 outlets and plug directly into a socket. The Isobar2-6 has 2 outlets with a 6 foot power cord. The remaining two items have 4 outlets with 6 foot power cords and provide greater surge suppression capabilities than the first 3 items. These units should be plugged directly into your timer and the lamps plugged into it.

Tripp-Lite has many other products with greater quantities of outlets, but if you were only using them for our lamps, these 5 models should suit you well. You may want a unit with a greater number of outlets if you are using our Pontoons. Their website is www.tripplite.com if you wish to further check out their products.

For further information on the benefits of using surge suppressive protection devices for your digital loads this is an excellent article on this subject:

<http://www.geindustrial.com/publibrary/checkout/IEEE-BALLAST?TNR=White%20Papers|IEEE-BALLAST|generic>