XVOLT Driver Protection

Frequently Asked Questions

Many lighting infrastructures can be quite old or have unique setups that introduce various power quality concerns. Repeated line voltage swells or transients below the threshold of the surge suppressor or a loss of neutral event can potentially result in outages on luminaires installed on legacy power systems. Upgrading to the **XVOLT option** can provide the confidence of greater protection from poor power quality and help ensure longer operational life for your lighting system.

What is the XVOLT Option?

XVOLT is an extra durable driver option available on select AEL fixtures that provides an additional level of protection against dropped neutral and other power quality issues.

What is a dropped neutral and what causes it?

An event when the neutral conductor in a circuit becomes disconnected or somehow compromised. This can happen when the neutral wire is manually disconnected or accidentally compromised (damage/surges/etc).

What is the result of a dropped neutral?

Every fixture on the circuit receives 480V, potentially destroying drivers, surge protectors, and other electrical components that are not rated for 480V. Because XVOLT drivers are rated for up to 480V, they will not be damaged.

Who can repair a dropped neutral?

Must be repaired by a licensed electrician.

What is voltage notching?

Voltage notching is a type of periodic waveform distortion produced by the normal operation of power electronic devices when current commutates from one phase to another. Three phase converters are the most important cause of voltage notching. The notches occur when the current changes from one phase to another.

What is a voltage swell?

Voltage swell is the opposite of voltage sag. Voltage swell, which is a momentary increase in voltage, happens when a heavy load turns off in a power system.

What is a temporary overvoltage?

Temporary overvoltages (TOVs) are undamped overvoltages of relatively long duration (i.e., seconds, even minutes). These overvoltages are typically caused by faults to ground, resonance conditions, load rejection, energization of unloaded transformers, or a combination of these.

What is a capacitor switching voltage transient?

Utility capacitor bank switching transients can be magnified at low voltage capacitor locations on customer power systems, causing premature failure of sensitive electronic equipment. The capacitor bank energizing transient is important because it is one of the most frequent utility system switching operations.

What is an impulsive transient voltage?

Impulsive transients are sudden and excessive increases in power that can cause voltage or current to go up or down. The main causes of transients are lightning strikes, inadequate grounding and switching of devices, among others.

What voltage does XVOLT support?

277V-480V

What voltage can XVOLT withstand?

527V

Does XVOLT support dimming?

Yes, fixtures with XVOLT driver option still support dimming and control options.

What about programmability?

XVOLT offers integrated programmable output current.

I have a surge protection device, do I still need XVOLT?

Yes, most dropped neutrals and many other power quality events exceed the protection offered by typical surge protection devices.

Does the XVOLT affect my surge protection device?

Whenever XVOLT is selected you will also get the high-voltage 347-480V SPD option that ensures the surge protection device ewill not fail during over-voltage.

Will XVOLT protect my photocontrols?

No, dropped neutral and power quality issues can still damage your photocontrol. However, fixing the issue only requires a new plug-in photocontrol node, the fixture itself will otherwise still operate fine.

How do I learn more about XVOLT?

Contact your AEL sales representative or visit our XVOLT page at www.americanelectriclighting.com/xvolt.

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