

EATON

Powerware

Powerware® PXL

Product Focus



Introduction

Today's business environment calls for 24x7 uptime and reliability. Customers require solutions to ensure that their investments in equipment and processes are protected from the damaging effects of voltage transient and electrical noise. Surge protection devices are needed to protect sensitive telecommunications, HVAC, and other electrical and electronic equipment. The Powerware PXL series of surge protective devices provides enhanced feature capability for mission-critical applications.

Intelligent Surge Suppression Device with Advanced Monitoring Options

The Powerware PXL offers improved quality and reliability including enhanced monitoring capabilities and a new patent-pending technology — our Thermo-Dynamic Fusing™ system — which provides a safer surge protective device in a smaller package.

Our premium display option offers features not even found in our customers' highest functioning displays. In addition to typical features such as a surge counter, push to test button and phase operating status LEDs, our premium display incorporates a mini power quality meter with surge, sag, swell and outage counters and a voltmeter — all on a compact, 2 x 16 LCD. Even our standard display is loaded with features including an audible alarm, form C contact and phase operating status LEDs.

Surge Protection from the Inside Out

The Powerware PXL is the first surge protective device to utilize our patent-pending Thermo-Dynamic Fusing system to provide both safety and performance. This technology, which uses fuse traces (FT) on each individual metal oxide varistor (MOV), can sustain high surge currents and provide the necessary interruption of high fault currents (kAIC). In addition, a thermal fuse spring (TFS) utilizing a special low temperature solder, is designed to disconnect the MOV before it exceeds a safe temperature during low-level fault current events. Low-level fault currents are most common during temporary over-voltage conditions (TOV) and are the main cause of surge protective device failure (SPD). SPD products that promote fuses with excessive surge current ratings do not provide the proper system coordination. They sacrifice low-level fault protection and do not disconnect during low current fault events. This can result in catastrophic failure (fire) and eventual tripping of the upstream breaker or fuse. With the PXL, you get both safety and system coordination.

Let-through voltage is a key performance measurement for SPDs. The most significant factor affecting let-through voltage is lead length. The PXL's reduced size allows the device to be installed as close as possible to the equipment being protected. By minimizing

the lead length, let-through voltage is reduced and performance enhanced. In addition to creating a product that features advanced display capabilities that is smaller and safer, we have continued to use our world-class design methodologies including SurgePlane™ technology.

Powerware 3D SurgePlane Technology

The Powerware SurgePlane is a low impedance surge suppression platform that reduces let-through voltage for all ANSI/IEEE defined surges. Reduced let-through voltage is achieved by lowering the overall system inductance and ensuring the rated surge current is equally diverted to all suppression components. Advanced tuned suppression filtering further enhances performance by providing an additional path for transients. In order to reduce the footprint, our design engineers developed the 3D SurgePlane, which provides the same cross sectional copper area, but utilizes the x-y and z-axes. Saving space while providing the same tried and trusted technology, Eaton is once again thinking outside the box.

Powerware 3D SurgePlane:

- Lowest possible self-inductance copper plane construction maximizes surface area for shunting high frequency surges
- Reduced mutual inductance - minimizes the loop area of all modes, resulting in lower let-through voltage
- Longer life expectancy - diverts surge current equally to all matched MOVs within each phase
- Matched MOVs with +/- 1-2% maximum continuous operating voltage (MCOV)

Installation Recommendations

When installing a surge suppressor, it is important to mount the suppressor as close to the electrical equipment as possible, keep the wiring (lead length) between the electrical equipment and the suppressor as short as possible (less than 14 inches is recommended), and twist/tie the conductors together to reduce inductive effects.

Customer Designed Service

Eaton offers world-class service through 300 Powerware customer service engineers in North America and 1200 internationally. Factory-certified and trained service technicians deliver 7x24 support for virtually any application.

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Printed in USA
TVSS01FXA
January 2006



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