

## PQI adds premium Surge Protection Devices to it lineup of essential power quality devices

### General Product Description

The PQI Surge Protection Devices are specifically designed for critical protection applications and can be installed at the service entrance's main switchboard or distribution panel, downstream distribution panels or directly at critical loads. The PQI's ANSI/IEEE Category C3 High Exposure Level Surge Protection Devices are UL 1449 4<sup>th</sup> Edition Listed.

### Features

The distinctive slim enclosure designs of Type SPD Surge Protection Devices allow for installation between electrical panels where space is often limited. This allows for an optimized installation where connection lead lengths can be kept to a minimum.

Featuring Ultra 2X technology, this device has been specifically designed to exceed the safety requirements of the abnormal over-voltage testing of UL 1449 Edition 4. Many Surge Protection Devices permanently disconnect all protection from the circuit during an over-voltage event. Ultra 2X technology will allow the Surge Protection Device to experience an abnormal over-voltage up to twice its nominal operating voltage and remain operational during and after the event. Ultra 2X technology allows the Surge Protection Device to provide reliable and continuous protection for sensitive electronic equipment.

Ultra 2X technology is recommended for sites where sustained over-voltages are known to occur and where failure of traditional Surge Protection Device technologies cannot be tolerated.



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## NEC Code Requirements for Surge Protection

620.51(E) *“Where any of the disconnecting means in 620.51 has been designated as supplying an emergency system load, surge protection shall be provided.”* This article was added to address emergency system loads such as elevators, escalators, moving sidewalks, chairlifts, and associated equipment.

645.18 *“Surge protection shall be provided for Critical Operations Data Systems.”* Critical Operation Data Systems are defined by the NECT as *“Information technology equipment systems that require continuous operation for reasons of public safety, emergency management, national security or business continuity.”*

670.6 *“Industrial machinery with safety interlock circuits shall have surge protection installed.”* The concern is failure of safety interlocks on machinery, causing safety risk to operators who may not be aware of disabled safety mechanisms.

694.7(D) *“A surge protection device shall be installed between a wind electric system and any loads served by the premises electrical system.”* The surge device can be on the circuit serving the wind electric system or on the load side of the service disconnect.

695.15 *“A listed surge protection device shall be installed in or on the fire pump controller.”* A new NEC provision requires a listed surge protection device (SPD) to be installed in or on the fire pump controller. An SPD is necessary to provide protection for the fire pump controller. A study commissioned by the Fire Protection Research Foundation found that 12% of those surveyed had damage to fire pumps due to surges.

700.8 *“A listed SPD shall be installed in or on all emergency systems switchboards and panel boards.”* The NEC defines emergency power systems as systems legally required to automatically supply power to designated loads upon loss of normal power. This requirement will help ensure emergency electrical distribution systems continue to deliver reliable power to vital life-safety loads in the event of damaging surges.

708.20 *“Surge protection devices shall be provided at all facility voltage distribution levels”* for Critical Operation Power Systems (COPS). COPS include but are not limited to power systems, HVAC, fire alarms, security, communications and signaling for designated critical operations areas. Surge protection ensures that these systems will operate in an emergency.