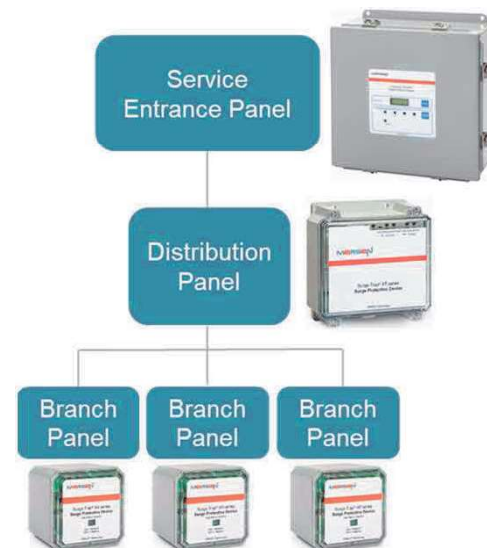


# MERSEN APPLICATION SNAPSHOT: CASCADING SURGE PROTECTION IN INDUSTRIAL PLANTS



## APPLICATION

In order to maximize system surge protection, system designers and owners often utilize cascaded surge protection. In a cascaded scheme, Surge Protective Devices are utilized in multiple locations throughout the power system.

For example, there may be an SPD at the main service entrance, one at each distribution panel or gear, and one at each branch circuit panelboard. Critical equipment may also have SPDs installed on board for additional protection. Cascading protection has the added benefit of quickly reducing switching surges produced within the facility and preventing them from affecting other equipment.

## PRODUCT OVERVIEW

Surge Protective Devices (SPDs) Listed to UL 1449 are required to undergo Voltage Protection Rating (VPR) testing as a measure of their performance. This rating gives the user an idea of what voltage levels their equipment will see in the event there is a surge on the electrical system. Cascaded protection offers a very effective multi-tier protection approach.



## SOLUTIONS

When selecting surge protective devices, it is important to choose devices which have the lowest possible voltage protection ratings in order to have the maximum reduction in surge voltages. VPR ratings must be less than 5x normal peak to be effective. Cascading protection is also very important to reduce large incoming surges to critical equipment as well as switching surges generated within a facility. A complete protection scheme will have SPDs located at strategic areas within the plant. Typically, 3-4 levels of SPD will offer the most protection. Critical loads should have on-board surge protection as a last line of defense.

## DIGITAL TOOLS



- [Mersen Minute: Panel Mount Surge Protection Devices](#)
- [Surge-Trap UL/CSA Surge Protective Devices Brochure](#)
- [Surge-Trap Surge Protective Devices Line Card](#)
- [SPD Quick Reference](#)
- [SPD Electrical System and Voltage Guide](#)

## TECHNICAL LINKS

- [Surge Protection Note 7: Surge Protective Device Performance and Cascaded Protection](#)
- [Surge Protection Note 5: Industrial Machinery and Surge Protective Devices](#)

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