

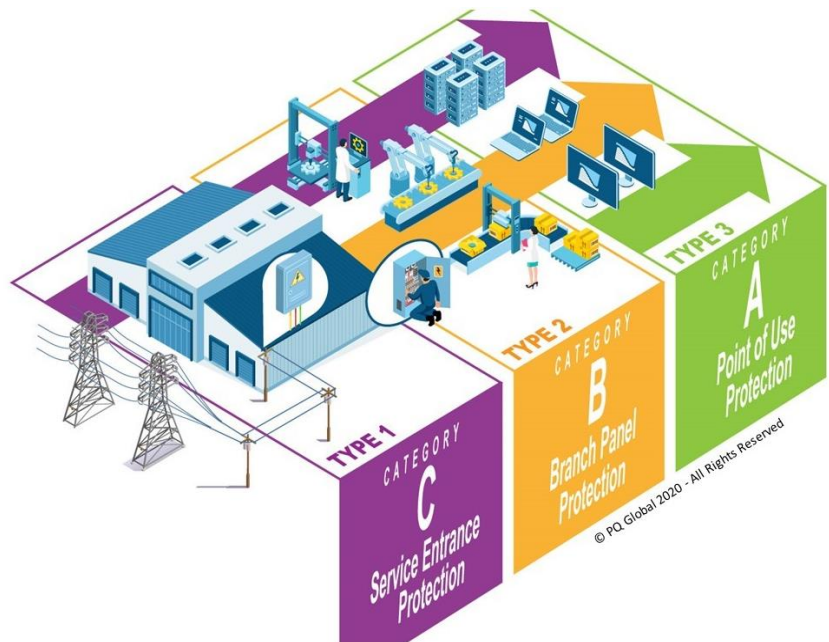
## YOU CANNOT AVOID TRANSIENTS, BUT YOU CAN PROTECT AGAINST THEM

Transients are the most destructive power quality problem, causing continuous or permanent damage to your critical equipment and are responsible for 80% of downtime costs.

Fortunately, Surge Protection Devices (SPD) are simple to select, simple to implement, simple to install, and is the lowest cost power quality solution there is.

**UL-1449 and National Electric Code 285 recommend 3 levels of protection**

- **Service Entrance**  
(Category C or Type 1)
- **Branch Panels**  
(Category B or Type 2)
- **Point of Use**  
(Category A or Type 3)



## SERVICE ENTRANCE:

External transients are generated by lightning, utility switching or nearby facilities.

Your service entrance can be fully protected with a surge suppressor > 150KA similar to our XDS... XAS... MVF or PQM6.



**The Surge Protection Devices must be installed close to the service entrance.**

## BRANCH PANEL:

65% of all transients are generated inside a building and can damage or reduce the life of expensive critical equipment, stopping important costly processes and causing long term power outages.

Your facility's every day operation is the cause of these transients. (Load switching, motor starts, air conditioners, robotics, chillers, or any equipment that turns on and off)

These branch panel transients cause millions of dollars in equipment damage and production losses.

Branch panel protection recommended is >100KA similar to our XCS, XMS or PQM4.



***These Surge Protection Devices will protect everything that is connected to the panel.***

## POINT OF USE:

At the point of use, it is important to protect the equipment and processes that are critical to your operation. Such as VFDs, controls, CNCs, AC controls, communication equipment, servers, routers, internet equipment, and Building Management Systems.

Point of use protection recommended is >50KA similar to our XMS, SPDee, or DSF



***These Surge Protection Devices must be installed close to the critical load***

## IN SUMMARY:

If you know the electrical location (Service Entrance, Branch Panel, or Point of Utilization) and you know the voltage of the panel, you can easily define what protection you need.