



APPLICATION GUIDE

In Canada, electrical installations are governed by the Canadian Electrical Code (CSA C22.1), which sets out specific requirements for surge protective devices (SPDs) — including Rule 26-420 governing surge protectors, and CSA C22.2 No. 269.1/269.2, the product standards SPDs must meet. In addition, standards published by the National Fire Protection Association (NFPA), such as NFPA 20 and NFPA 780, apply to certain equipment types, including fire pump controllers and lightning protection systems. Under these standards, a number of equipment types must be protected by surge protectors.



CODS Protection — Critical Operations Data Systems

Under the Canadian Electrical Code (CSA C22.1), electronic systems managing critical equipment must be protected by properly rated surge protective devices. It is therefore recommended to specifically protect electrical systems connected to emergency servers, information processing systems that should not be shut down, or safety systems such as fire alarms.



Fire pump controller

According to NFPA 20, Article 10.4.1, a surge protective device must be installed to protect fire pump controllers against the risks and damage associated with lightning and surges.

According to a National Fire Protection Association (NFPA) study, 12% of those surveyed reported property damage related to power surges.



Loading systems

Under the Canadian Electrical Code (CSA C22.1), load systems such as elevators, escalators, conveyors, chair lifts, or other associated equipment — whether in a residential or industrial installation — must be protected against lightning and power surges, since they are connected to your entire electrical circuit.



Wind power systems

Under the Canadian Electrical Code (CSA C22.1), Rule 64-320, a surge protective device must be installed between a small wind system and any loads served by the premises electrical system.



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MCC and emergency electrical panels

Under the Canadian Electrical Code (CSA C22.1), switchboards and emergency switchboards must be protected. Emergency equipment is defined as any system required to automatically supplement your generator in case of an abnormal loss of power. It is essential to protect this equipment to ensure it is not destroyed at the same time as the electrical circuit it is intended to replace.



Protect the different voltage levels

Surge protection should protect your emergency equipment at all voltage levels to ensure functionality even in the case of unexpected events. It is therefore recommended to specifically protect electrical systems, HVACs, communications, and signals in critical operational locations.

The electrical code recommends distributing protection across different voltage levels, as these devices are connected to electronic boards and PLCs. These control systems are sensitive and can be disabled by overvoltages. It is important for the safety of users to properly protect these emergency electrical circuits so they remain active even in the event of a major weather event, ensuring that emergency services remain operative. Lightning is a common environmental hazard that can destroy your servers and damage your electrical system.

In addition, overvoltages related to internal plant activity near your equipment and servers can significantly damage your installations. They shorten equipment lifespan, resulting in breakdowns, slowdowns, higher maintenance costs, or even partial data loss.



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