

Surge Protection Modules

“The Complete Solution”

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Session 3: *Electrical Protection/
Surge Protection*
March 23, 2022

Summary of presentation

- The presentation will cover the **key characteristics, applications** and **benefits** of Surge Protection Modules.
- It will also discuss the **challenges** in designing and manufacturing Thermal and Overvoltage protection Technologies in One completely Integrated Solution.

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What is Surge Protection Module

- A Surge Protection Module is a combination of **Overvoltage**, **Overcurrent** and **Overtemperature** Technologies offered as one Integrated Surge Protection Solution.
- It is NOT a Surge Protection Component or a Surge Protection Device.



Pictures of Surge Protection Modules



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What is does

- It is utilized in Electrical/Electronic designs as Surge Protection to protect equipment, systems, and networks from extreme conditions caused by internal and external threats*
- Internal and External Threats* lightning, induced lightning, AC power cross, AC power industrial induction, AC power transients, harmonics, solar flare/storms etc.

Technologies integrated in Surge Protection Modules

- OverVoltage Protection.
- OverCurrent Protection.
- OverTemperature Protection paired together with all the above.
- Signaling and Monitoring.

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How is made

- It is made by combining in the most efficient way the best performance characteristics of Overvoltage, Overcurrent and Overtemperature Technologies to achieve maximum Surge performance, Safety and Reliability, in one Integrated package.
- It can contain many choices of Surge Protection Technologies such as MOV, GAS Tubes etc. in numerous combinations and configurations.

Surge Protection Modules and UL1449

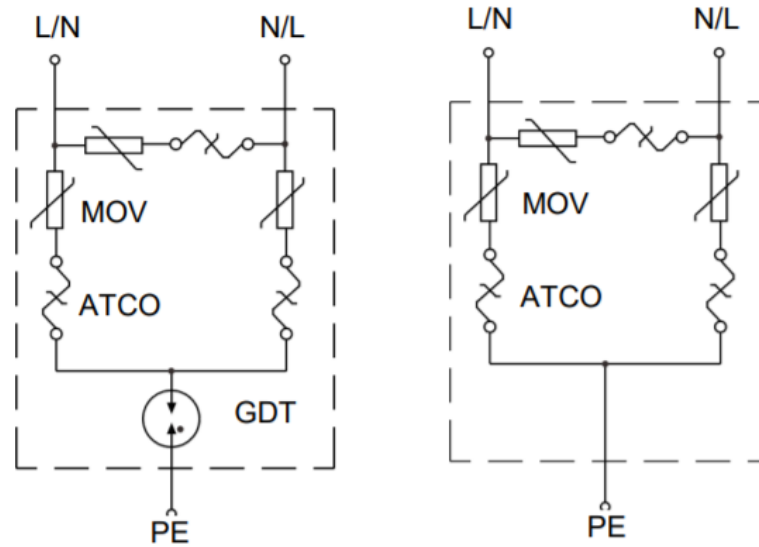
- Surge Protection Modules are Type 4CA

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Schematics of Surge Protection Modules

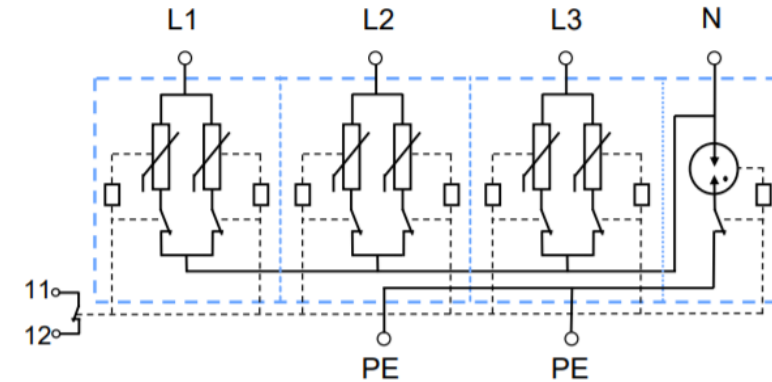
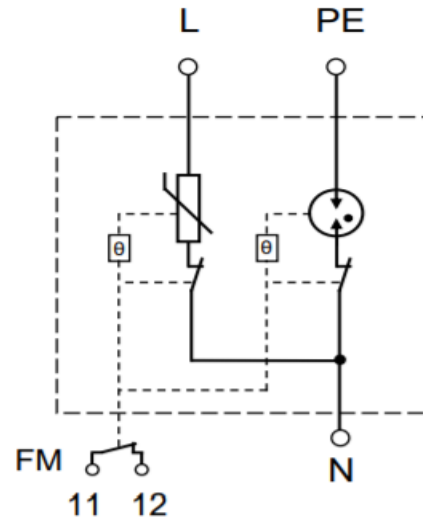
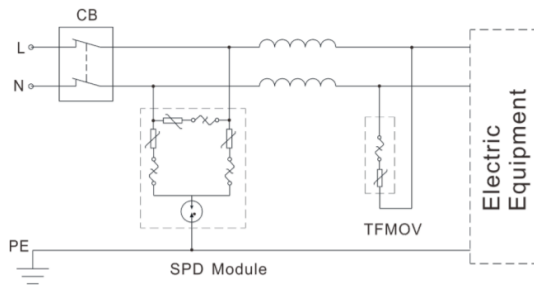


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Schematics of Surge Protection Modules



Why choose Surge Protection Modules

- Surge Protection Modules eliminate all the concerns for Fusing, Thermal protection and dealing with many discrete components.
- Integration in one package optimizes Surge performance.
- Efficient and precise Surge Protection.

Failure modes

- The Failure modes are in compliance with Safety standards and requirements.
- Additionally, its status can be monitored through built-in monitoring capability.

Applications

- Surge Protection Modules are utilized across all industries where equipment are connected to AC/DC or powered by it.
- You will find them in Fire Protection, Telecommunication, Industrial, Medical, Transportation, Green Energy etc.

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Selection and Considerations

- AC/DC mains Voltage and supply configuration, Single Phase, Three phase etc.
- Voltage withstand level of protected equipment and systems.
- Remote Monitoring options.
- Housing, mounting and dimensions of Surge Protection Module.
- Certification Standards and Safety Requirements (UL/CSA/IEC).
- Special Environmental Requirements.

Thank you for Attending

Q & A

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