

DC Arc Flash Hazards Analysis



Assess the risk level of arc flash hazards in your DC network

The electric industry has stressed in recent years to improve the protection of personnel against arc flash hazards. These powerful events can cause operational downtime, and more importantly, substantial injury to employees working on or near electrical equipment. In addition to the AC Arc Flash Hazard Analysis, we now offer the DC Arc Flash Hazard Analysis module to help engineers identify arc flash risk levels of their DC network and adopt the necessary safety measures.

Safeguarding your personnel

Understanding the arc flash risk level of your network is crucial to ensure a safer work environment. Faulty equipment and human error often cause unwanted short-circuits. An arc flash that results from an unforeseen short-circuit could cause a violent explosion accompanied by an intense level of heat, a harmful level of light, pressure and sound. Any of these threats could lead to serious injuries and death.

Conducting proper analyses and putting in place appropriate equipment labeling and personal protective equipment can help reduce the danger of a potential arc flash.

DC Arc Flash Hazard

Integrated as an additional module to the CYME 7 series, the DC Arc Flash Analysis module complements the existing DC network modeling and analysis capabilities. Using the CYME DC Short-Circuit Analysis engine and the coordination analysis part of the Protective Device Analysis module, the DC Arc Flash Hazards Analysis module computes the fault currents and the fault-clearing time of the over-current protective device in order to evaluate the level of incident energy and the associated risk category. Based on industry-recognized standards and robust calculation engines, this analysis is a well-rounded solution to help engineers in the prevention and protection against the dangers of potential arc flash events.



Powering Business Worldwide

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Features

The DC Arc Flash Hazard analysis module uses the following three methods that are compliant with the industry-recognized NFPA-70E® and CSA Z462® Standards :

- Stokes & Oppenlander
- Paukert
- Maximum Power

Main capabilities include:

- Bus data of DC networks can be supplemented with DC Arc Flash related information (connected equipment type, fixed or moveable exposed circuit, enclosure and reverberation coefficients, working distance, bus gap, clearing time and fault current).
- Calculation of the maximum bolted short-circuit current levels at the desired workplace (bus)
- Batch mode simulation which performs the analysis on every bus in the DC network in one single simulation
- Automatic detection and validation of protection schemes in the DC network
- Calculation using default values depicted by standards or user-specified values

- Additional user-defined options:
 - Include an arcing current multiplier
 - Select devices that contribute to arcing current and include their contribution to the result
 - Choose either NFPA-70E® or CSA Z462® as the standard for reports and warning stickers
 - Select the arc-in-a-box incident energy calculation for enclosed type equipment

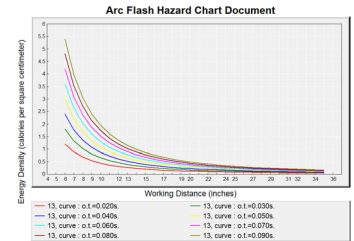
With the one-line diagram, the user can easily create different what-if scenarios (different operating levels, different protective devices, or different protective device opening times, etc) to better assess the arc flash risks and to find solutions that could minimize such risks.

One-line diagram

You can display and customize the results of the analyses on your network. The results can be displayed in tags and the one-line diagram can be color-coded by risk category, incident energy or arc flash boundary.

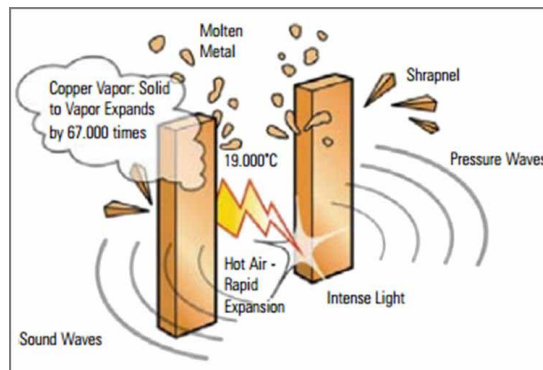
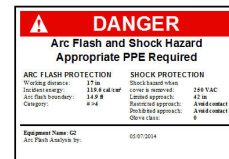
Reports and Charts

The results can be displayed in a tabular report. In addition, charts can be used to compare the arc energy level between different scenarios of clearing time and working distance.



Warning Labels

Create your weatherproof warning labels to display information such as arc flash boundary, incident energy at working distance, risk category and personal protective equipment. Customize these stickers with any additional information required and choose the label format that suits your needs.



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