POWERFACTORY

Arc Flash Calculation

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April 23rd 2021

Online training course

Arc flash analysis in *PowerFactory* is carried out to calculate the potential incident thermal energy in the vicinity of low and medium voltage equipment when a short circuit occurs. The result is used to choose appropriate personal protective equipment (PPE). Thereby ensuring that staff are not dangerously exposed to the arc flash hazard during the course of their work and in order to ensure that workspace safety standards are fully complied with.

Using practical examples, the participants will familiarise themselves with the fundamentals of arc flash calculation according to IEEE 1584 and NFPA. A brief introduction to German DGUV 203-077 will be provided.

PowerFactory's extensive toolset is used to analyse arc flash calculation as well to guide the selection of the required PPE.

This training focuses on arc flash in ACsystems only.

WHO SHOULD ATTEND:

This training course is aimed at planning, operational and project engineers, whose tasks include the selection and configuration of AC-system components, checking of protection devices and electrical workspace safety in low and medium voltage networks.

The participants should be familiar with the operation of our software *PowerFactory*, e.g. by attending the introductory course "Load flow and short circuit calculation" and "Protection", or by having obtained commensurate experience through using the software independently for similar calculations.

PRICE PER PARTICIPANT:

- 558.00€* (with valid maintenance contract)
- 635.00€* (without valid maintenance contract)
- 190.00€* (with valid student identification)

*Prices are exclusive of VAT

Training schedule

Central European Time (UTC +01:00)

DAY 1

9:00 Basics
Explanation of terms, tasks and requirements of arc flash calculation with a focus on the IEEE 1584 recommendation. Modelling of low and medium voltage equipment in PowerFactory for performing the arc flash calculation. Introduction of network variations and expansion stages as well as operation scenarios as a network planning toolset. A brief presentation of protection concepts inside of *PowerFactory.*

10:30 Coffee break

11:00 Exercise: Modelling of a low and medium voltage system
Modelling of the electrical power system equipment relevant for the arc flash calculation including the modelling of protection devices. Introduction to the concept of network variations and operation scenarios.

12:30 Lunch break

13:30 Arc flash calculation in *Power Factory*
Execution of arc flash calculation on the entire network or on one specific element of the network. Evaluation of the results and creating reports and warning labels.

14:00 Exercise: Executing arc flash calculations
Calculation of incident energy and current with global arc duration as well as taking into account the protection devices and their tripping times. Arc Flash calculation in the network using operation scenarios.

15:00 Coffee break

15:30 Exercise: Evaluation of the results focusing on personal protective equipment (PPE)
Examination of the effect that arc duration has on the incident energy. Checking protection settings. Selection of PPE.

16:15 Arc flash calculation methods
Comparing different calculation methods that are widely used for calculation of arc flash. Discussion on the topic of calculation methods and recommendations for their development. Examination of the outlook for arc flash calculations in DC systems

17:00 End of the training course

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