

# SIMPOW® Fault Analysis

Used for determining the fault level of e.g. industrial networks in order to check the thermal and electromechanical strength of switchgears, cables, and for setting of protective relays.

Simulates steady-state symmetrical or asymmetrical conditions, considering power frequency voltages and currents. Fault analysis processes a linearized "frozen" state from a dynamic simulation, at an arbitrary point of time after the occurrence of an event, normally at zero time.

The fault analysis module performs calculation of power-frequency short-circuit currents and can be specified to include short circuit currents, their distribution, their positive-, negative- and zero-sequence components, as well as the corresponding short-circuit impedances seen from the faulty nodes.

The fault analysis module also includes a function by which short-circuit currents can be calculated according to the procedure and rules of the Standard IEC 60909, which is aimed to produce conservative results. Maximum and minimum values of initial peak, breaking and steady-state short-circuit currents on arbitrary nodes can be calculated.

- Dynamic method or according to IEC60909
- Dynamic method uses backward differentiation method to find the stationary solution – robust and fast
- Single run for all or a limited number of contingencies

## Contingencies

- Three-phase fault to ground
- Two-phase fault to ground
- Single-phase to ground
- Two-phase fault
- General fault
- Phase interruption
- General phase interruption
- Travelling shunt faults
- Simultaneous faults



*Photo by C Engelbrecht*

More information and free demo at  
[www.simpow.com](http://www.simpow.com)

