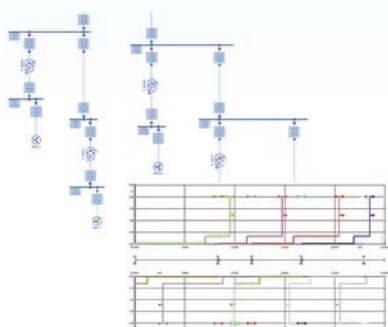




SPRENET

Stable Distribution Grids

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STABLE DISTRIBUTION GRIDS

The challenges of designing future distribution grids are defined by the integration of all participating producers, consumers and prosumers. Generation of renewable power takes place at all voltage levels.

The continuous sophistication of distribution grids demands well-engineered and integrated concepts for dimensioning of plants and primary equipment as well as optimal protection concepts.

With the SPRENET service package, Sprecher Automation provides professional grid analyses and calculations for sophisticated and stable operation of distribution grids of utilities and industries.

Plant security is vital. Under the aspects of decentralised generation and infeed, short circuit resistance of primary equipment has to be verified both mechanically and thermally. Furthermore, selectivity of the protection systems must be substantiated considering all possible switching states.

The optimal dimensioning of the primary equipment in the grid is defined by load flow and short circuit current calculations.

Short circuit current calculations are based on the standard of IEC 60909-0 (according to DIN EN 60909-0 and VDE 0102). Beside analyses of mechanical and thermal switchgear characteristics, short circuit current calculations are also used for validity checks of short circuit times in cable sections.

Load flow calculations analyse plants in operational mode. Voltage quality must be guaranteed and primary equipment must be protected against overload.

Load flow and short circuit current calculations act as the basis for protection concepts as well as determination of set values.

Short circuit current calculations also analyse proper functioning of backup protection systems.



ONE EXPERT FOR THE GRID

SPRENET is an integrated approach for optimisation of supply security as well as availability of primary equipment. A main advantage of the service package is, that grid planning and parameterisation can be completely provided by one source – without any external interfaces nor additional coordination efforts.

As an expert for power transmission and distribution, Sprecher Automation plans and realises turn-key solutions for stable and secure power supply.

Beside grid analyses that provide data for power system dimensioning, preparation of voltage profiles and evaluation of the various operational grid conditions as well as protection system simulation and selectivity, SPRENET also covers the complete conceptional design of secondary equipment.

Moreover, SPRENET explicitly documents all relevant data, connections and relations in the grid and therefore establishes the basis for future audits.

SPRENET AT A GLANCE

SPRENET covers the following service components:

- Consulting & planning
- Grid calculations
- Design of protection systems
- Consulting for operation optimisation
- Determination of protection parameters
- Determination of proper equipment (including converters)
- Verification of short circuit resistance
- Verification of selectivity
- Load flow analyses
- Voltage profiles
- Consulting for proper secondary equipment
- Parameterisation of devices
- Commissioning
- Cyclical testing
- Support for grid extensions



