

Integrated Power System Analysis Software

Generation•Transmission•Distribution•Industrial

PowerFactory is the flexible, easy to use software package for all kinds of electromagnetic transients studies. The new version of PowerFactory integrates models and functions for analyzing transients in all frequency ranges such as lightning overvoltages, line- and capacitor switching, ferro-resonance, transformer inrush, power electronics, harmonics, etc.

The PowerFactory EMT functionality is fully integrated into the PowerFactory power system analysis suite. The new PowerFactory modelling environment is more flexible than ever and allows to define power electronics circuits in full detail, even at the circuit level. This increased flexibility makes specialized EMT packages obsolete. Together with the graphical modelling environment that is based on a block-diagram representation and the new MATLAB/SIMULINK interface, PowerFactory is the ideal tool for dynamic simulations of wind generators, PV-cells, fuel cells and all other power electronic applications.

Electromagnetic Transients (EMT)

Overhead lines and cables

- Lumped- and distributed-parameter line models
- Frequency dependent line models
- Coupled overhead line systems
- Cables with various laying arrangements
- Directly buried cables, cables in tunnels, ducts or pipes
- Consideration of skin effect
- Frequency dependence of earth return
- Explicit representation of all conducting layers
- Monitoring voltages and currents in sheath and armour

Special models for EMT-simulations

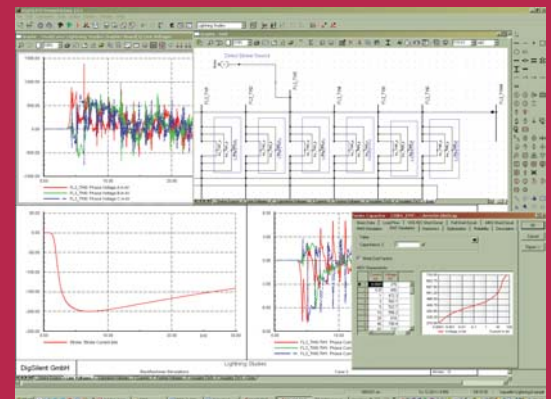
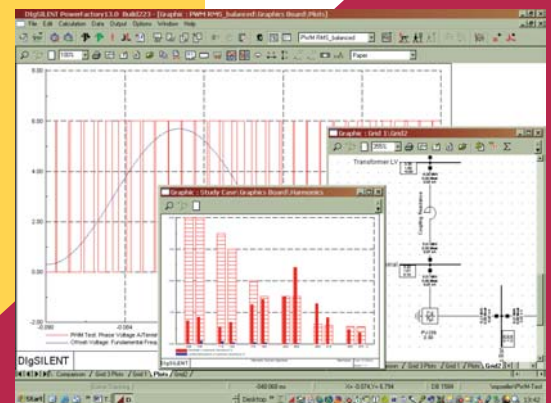
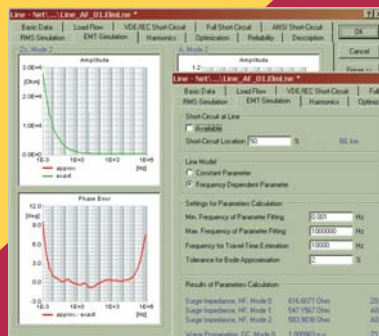
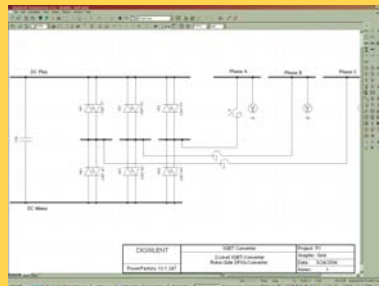
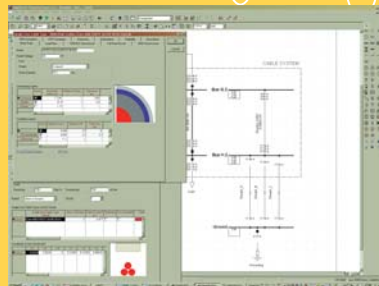
- Transformer saturation
- Capacitive transformer effects
- Surge arresters
- Sources for lightning strokes (Heidler source)
- Impedance measurement models for distance relays
- Diodes
- Thyristors
- IGBTs
- Dynamic generator and motor models

Special Features

- Fast, variable step-size algorithm
- Graphical modelling capabilities
- Powerful, easy-to-use post processing
- Load flow initialization
- Matlab/Simulink interface

Typical Applications

- Lightning overvoltages
- Line switching
- Capacitor switching
- Transformer inrush
- Ferro-resonance
- Power electronics
- Harmonics analysis
- Dynamic wind generator modelling
- Distributed generation



Supported PowerFactory Functions:

.... balanced and unbalanced power flow, fault analysis, harmonics, frequency scan, stability, EMT simulation for single-, two-, three- and four wire AC systems and DC systems.; protection simulation and co-ordination, distribution-, transmission- and generation reliability, small signal analysis (eigenvalues), static and dynamic voltage stability, active and reactive power dispatch, state estimation; open tie optimization, optimal capacitor placement, cable sizing; built-in automation interface (DPL), ODBC driver, interfaces for GIS and SCADA integration; PSS/E compatibility...

SILENT DIG

PowerFactory

Power System Planning,
Analysis and Optimization
for Windows

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