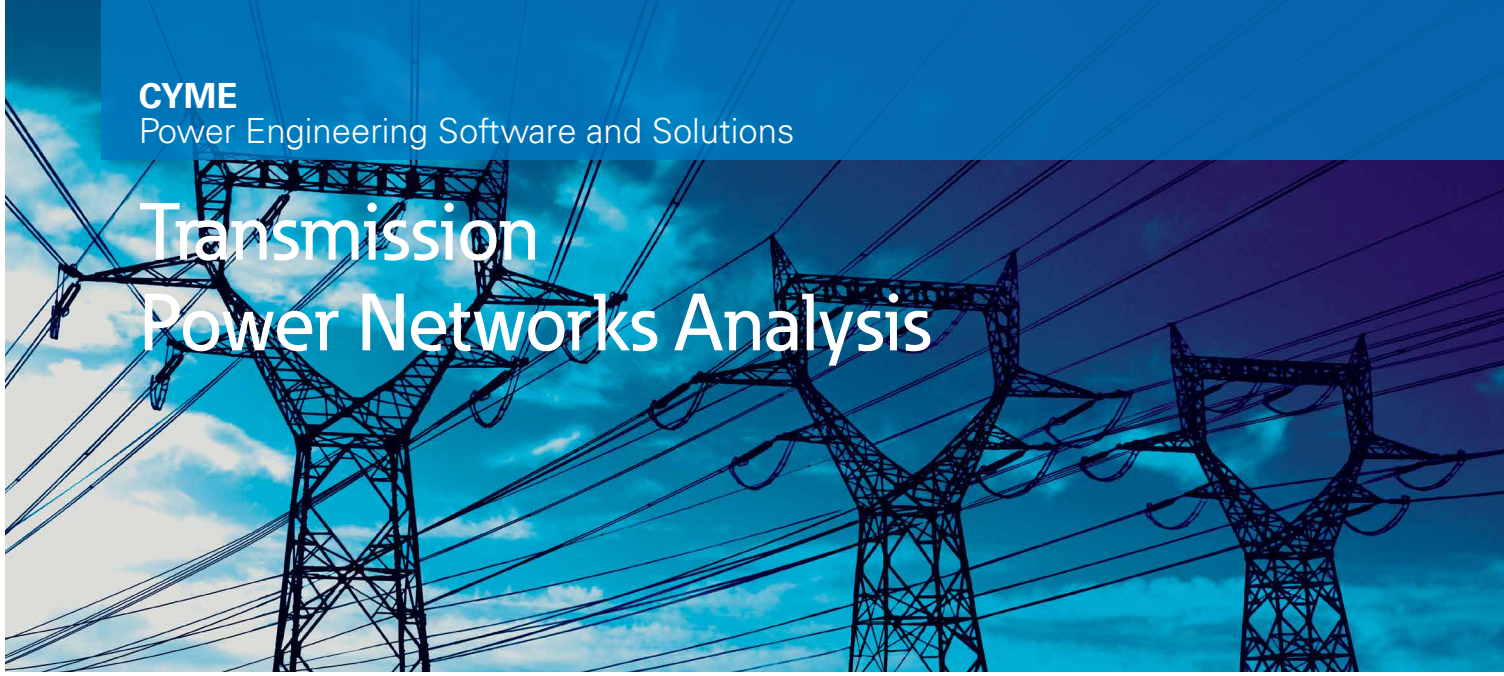
CYME
Power Engineering Software and Solutions



Transmission Power Networks Analysis

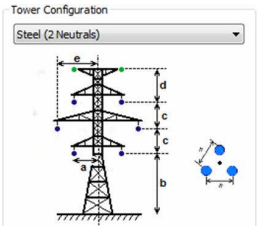
Plan an efficient transmission grid and optimize performance

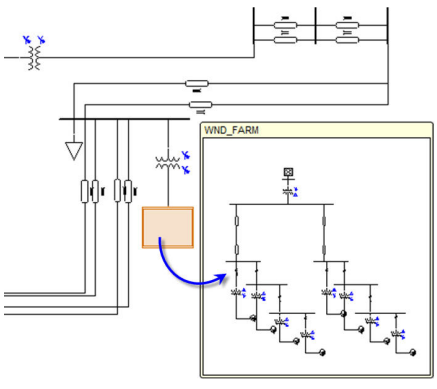
The CYME Power Engineering Software is designed to assist electrical engineers to perform key simulations necessary for the design, planning and optimization of transmission power systems. From system reliability improvement studies to minimizing cost through asset management, the CYME software is an indispensable tool for the everyday planning and the performance optimization of the transmission system.

The CYME power engineering software features a powerful graphical user interface that is fully customizable to provide the one-line diagram representation, results and reports in a level of detail needed by each user. In addition, innovative engineering technologies and industry standards are at the core of the CYME algorithms. With its extensive built-in equipment libraries and advanced analyses, the CYME software can help you create the most accurate network representation to yield the accurate results that are needed.

Major features

- Equipment sizing and identification of abnormal operating conditions
- Sizing and coordination of protective devices
- Detailed modeling of any on-site generation: photovoltaic, diesel, wind, gas, etc.
- Motor starting analysis and drive system specifications
- DC Line Modeling
- Static VAR compensators
- Flexible AC Transmission Systems (FACTS), STATCOM and Unified Power Flow Control (UPFC)
- Power quality problems assessment and filter design
- Transmission and generation system steady-state and transient analysis
- Optimization of system performance
- Area interchange studies
- Generation dispatch studies
- Voltage collapse studies





Powering Business Worldwide

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Network Editor

The CYME graphical user interface provides great flexibility in the creation of the one-line diagram.

- Extensive equipment library of cables, conductors, generators, motors and protective devices
- Single and double circuit overhead lines and cables parameters estimation from conductors' characteristics and layout
- Customize display and reporting functions

Power Flow

The Power Flow Analysis is the main analysis tool for the design, planning and operation of any electrical power system.

- Multiple solution algorithms
- Simulation of islanded networks
- Phase shifting and reactive power transformers
- Abnormal conditions for voltage limit and equipment rating violations

Fault Analysis

The Fault Analysis module assesses the effects of different types of short-circuits, evaluates fault contributions from machines and helps the verification of equipment rating.

- Supports conventional short-circuit studies and adheres to: IEC-60909©, ANSI® C37.5, ANSI® C37.010, ANSI® C37.13
- Shunt, series and simultaneous faults calculations.
- Identify possible fault locations from recorded current measurement
- Equipment Rating Verification functionality to assess if equipment are properly rated

Voltage Stability

The Voltage Stability module assesses the ability of a power system to maintain stable voltages under different contingencies and loading conditions.

- Study load scaling scenarios
- Generator dispatch to match load increase
- Generate PV curves

Optimal Power Flow

The Optimal Power Flow is a module for the optimization of system performance through the study of planning alternatives and system control strategies.

- Minimize system losses and generation cost
- Voltage collapse analysis
- Load transfer capability investigation

Transient Stability

The Transient Stability Analysis module is a time-series analysis to simulate electromechanical transients in electrical power systems.

- Dynamic models of equipment and controls
- Voltage, over-current and frequency operated relays with trip signals to controlled breakers
- Test the step response of controllers during events such as faults, switching and load shedding

Harmonic Analysis

The Harmonic Analysis module evaluates the impact of non-linear loads on the network.

- Modeling of harmonic equipment and sources
- Frequency scan analysis
- Harmonic voltage and current distortion calculations (THD, IHD, TIF, ITIF)
- K-factor calculation
- Capacitor rating and filter sizing analysis

Load Flow Contingency

The Load Flow Contingency module allows the study of what-if scenarios up to N-p contingencies to establish optimal network operation.

- Process sequential contingency studies in a single batch run
- Create a group of up to N-3 outages contingency
- Automatic computation of voltage and overload indices to identify the most severe contingencies

Additional Modules

Additional modules, such as the COM module and the Scripting Tool with Python module, offer capabilities that further assist in batch analysis and the automation of the simulation process. Please refer to our website for additional information on each of the following modules:

- Protective Device Analysis
- Python Scripting
- Advanced Project Manager
- Component Object Modeling
- Geographic Overlay

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