

FeederAll®

Software for Distribution Planning and Analysis Part of the Network Planner product line



FeederAll for Windows provides the ideal environment to perform primary distribution planning, operation and optimization studies. FeederAll's advanced optimization tools allow utilities to determine the ideal system requirements for radial and looped networks with multiple generating sources. All applications are fully integrated and include:

- Load allocation
- Balanced and un-balanced load flow
- Short circuit
- Motor start
- Capacitor placement
- Protection coordination
- Feeder Site Optimization

The companion products Network Planner – Relinet, Network Planner – Foresite, and Network Manager – Distribution/CADOPS are all available in a fully integrated environment with FeederAll.

Using the advanced graphical editing features, engineers are able to determine the requirements of new circuits, the economic benefits of upgrading existing circuits, optimal seasonal configurations, and emergency contin-

gency plans. An optional feature allows multiple planners to share a common database and exploit the power of FeederAll in a coordinated, multi-user department.

FeederAll Features

Distribution Planning and Analysis

- Provides accurate modeling and analysis for the electrical distribution network
- Consists of proven engineering tools, refined through twenty-five years of experience
- Analyzes re-conductoring and feeder reinforcement plans
- Evaluates alternative feeder reconfiguration schemes
- Evaluates multi-scenario right-of-way options
- Simplifies development of contingency switching plans
- Improves capacitor selection and placement
- Improves coordination of protection equipment
- Improves the coordination of efforts by engineers and planners

FeederAll Results

Dramatic Benefits for the End User

- Reduces operating and capital expenditures to improve the bottom line
- Cuts system losses for more efficient operation
- Maximizes utilization of equipment to increase life expectancies
- Provides quick, accurate answers to complex engineering problems
- Simplifies the coordination of work performed by multiple engineers and planners

FeederAll Attributes

Benefits of Improved Use of Data

- Uses graphical data engineering tool to build feeders and make ad hoc changes
- Imports network data from Mapping and Geographical Information Systems
- Supports unbalanced electrical models
- Models constant power, constant impedance and primary metered loads
- Supports PQ and PV cogeneration models
- Models and stores both peak and off-peak load conditions
- Maintains a library of protection device characteristics
- Presents violation reports using on-screen line coloring and annotation
- Uses tabular displays and HTML reports



FeederAll System Analysis

Answers Complex Engineering Questions

- Load Allocation - Performs as three-phase totals or on a per-phase basis with or without loss corrections; allocation of substation and feeder loading using single or multi-point meter readings based on transformer KVA, customer billings or other factors; specifies power factor and override connected information; accounts for spot loads, co-generators and capacitors; and supports multiple down-stream series meters and various load ratio options.
- Balanced and Unbalanced Load Flow - Performs one-line equivalent power flow for balanced distribution networks (user-selected combination of Gauss Seidel or full Newton Raphson solution methods), and four-wire power flow using Carson's equations factoring in mutual coupling, line charging, unbalanced equipment, phase swapping and load models, along with transformer and load connections.
- Short-Circuit Calculations - Computes line-to-ground, line-to-line, double line-to-ground, and three phase fault currents, as well as positive and zero sequences driving point impedances at each bus.
- Motor Start Analysis - Performs "what if" scenarios for 10-10,000 Hp three-phase motors:
 - Voltage sags under starting and running conditions
 - Current limited starting conditions
 - Reduced voltage starting conditions

FeederAll System Optimization

Applications to Enhance Operations

- Capacitor Placement - Based on an overall economic analysis, under-voltage and power factor constraints, this application determines the optimal configuration of capacitor banks by number, size, location or type (fixed or switched).
- Protection Coordination - Analyzes protective device coordination using feeder topology.
- Feeder Site Optimization - Uses Constrained Multi-Feeder analysis to identify switch placement and circuit re-conductoring recommendations to minimize overall costs based on system losses and construction costs while observing all system capacity constraints.
- Volt/VAR Studies - The Load Flow and Capacitor Placement applications provide the user a platform to perform comprehensive Volt – VAR studies.
- Co-Generation Studies - Using the Load Flow, Short Circuit and Protection Coordination applications, the user can evaluate the effect of co-generators on the distribution network.

FeederAll Implementation

Fast and Flexible

- Designed to work with desktop or laptop Microsoft Windows-based operating system
- Operates as a stand-alone product or in a fully integrated multi-user department
- Fully compatible with ABB's Network Planner – Relinet, Network Planner – Foresite, and Network Manager – Distribution/CADOPS systems

ABB Solves the Puzzle

Distribution Operations Management

FeederAll software is a key element of ABB's solution to meet the challenges of today's distribution engineering and operations management teams. ABB's experience with IT and electrical engineering projects around the world confirms the benefits of using FeederAll. For more information, please inquire at: dis.marketing@us.abb.com.



ABB is an ISO 9001 registered organization.

Contact ABB today to learn more about solutions for the energy market. www.abb.com/electricutilities



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