

Transmission Line

Plan Design Operate

The ETAP Transmission Line editor calculates electrical parameters, conductor ampacity-temperature relationship, and sag/tension-temperature relationship of overhead transmission lines. Comprehensive modeling of the coupling effect between different line branches is available. The user-friendly graphical interface displays the layout of circuits and ground wires for overhead lines. Useful for efficiently sizing lines, building new lines, or verifying the parameters of existing lines.

line

Design & Simulation of Transmission Lines

Transmission Line

Key Features

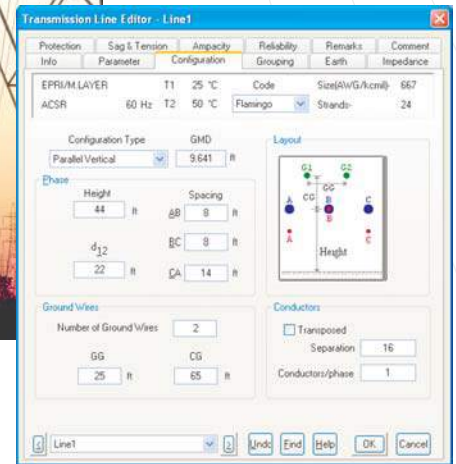
- Overhead Line Parameters & Coupling
- Sag/Tension vs. Temperature
- Conductor Ampacity vs. Temperature
- Calculate Long-Line Constants

Capabilities

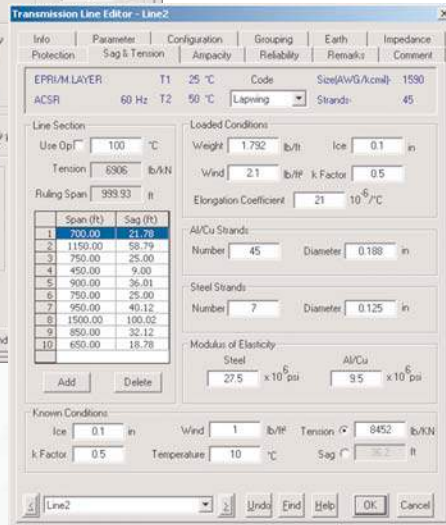
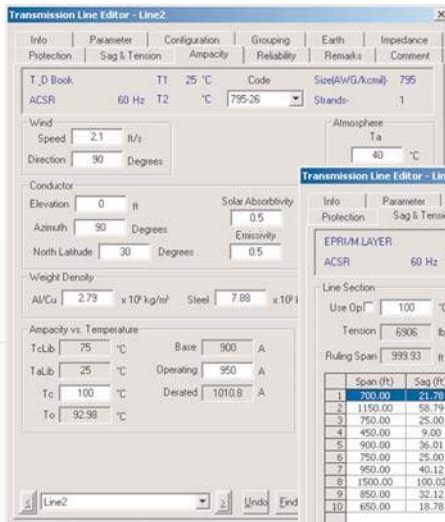
- Graphical user interface
- User-friendly input & output
- Flexible data entry for physical or impedance parameters
- Automatic impedance calculation based on physical parameters
- Integrated with all system studies
- One or more single-, two- or three-phase circuits, both transposed & untransposed
- One or more ground wires, both segmented & unsegmented
- Modeling of all possible types of line configurations
- Multiple layers of earth models
- Sag, tension, temperature, & ampacity calculations
- Modeling of coupling effect between different line branches

Flexible Operation

- Available transmission line & ground wire libraries
- Selectable line layout types
- Multiple layers of earth models
- Optional conductor transposition or earth wire segment
- Optional phase/sequence domain parameter display



Detailed Line Configurations



Reporting

- Series branch impedance matrices in the phase domain
- Series branch impedance matrices in the sequence domain
- Shunt branch susceptance matrices in the phase domain
- Shunt branch susceptance matrices in the sequence domain

Benefits

- Integrated tool to size lines or create
- Physical parameter to impedance calculator
- Sag/tension vs. temperature analysis
- Conductor ampacity vs. temperature analysis
- Fully integrated within ETAP

- Unlimited Buses* & Elements
- No Voltage Limitations
- Looped & Radial Systems
- Multiple Isolated Sub-Systems
- Customizable Libraries
- Integrated 1-Phase, 3-Phase, & DC Systems
- Graphical Display of Results on One-Line Diagrams
- Customizable Font Types, Sizes, Styles, & Colors
- Customizable Display of Ratings & Results
- Graphical Display of Equipment Impedance & Grounding
- Automatic Error Checking
- Graphical Display of Overstressed Devices
- Graphical Display of Over/Under Voltage Buses
- Dynamically Adjust Display of Results

*Maximum number of energized buses during calculations is license dependent.



10 CFR 50 Appendix B • 10 CFR 21 • ANSI/ASME N45.2-1977 • ASME NQA-1
ISO 9001 A3147 • ANSI/IEEE Std 730.1-1989 • CAN/CSA-Q396.1.2-89

