



New Features Guide

The future of power systems engineering and operation - today

New Features & Capabilities

ETAP 12.5 release is the latest upgrade of the market-leading electrical power system design and operation software. The new analysis features and enhanced capabilities effectively enable optimized design, increasing safety, quality, and productivity.

ETAP Faster Than Real-Time™ solution provides for better decision making, improved operations management, cost saving, and compliancy.

- Dynamic Parameter Estimation & Tuning (DPET)
- GOST Short-Circuit - R 52735 Standard
- New Web Consoles for Monitoring & Predictive Simulation
- Customizable Web Console Templates
- Native SCADA Communication Protocols
- Waveform Capturing & Synchrophasor Measurements
- New Library Merge & Cable Library Quick-Pick
- Enhanced Analysis Modules
- 3,500+ New Device Libraries
- Multi-Language Editions

Multi-Language Edition

The multiple language support is completely localized in seven languages, plus provides translated output reports in eight languages.

- English
- Spanish
- Chinese
- Japanese
- Russian
- Portuguese
- Korean
- German

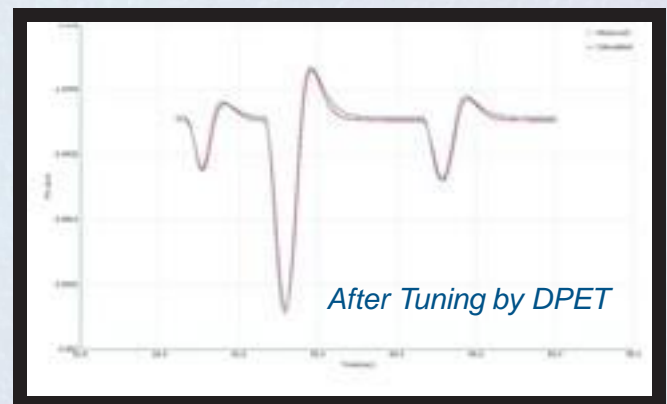
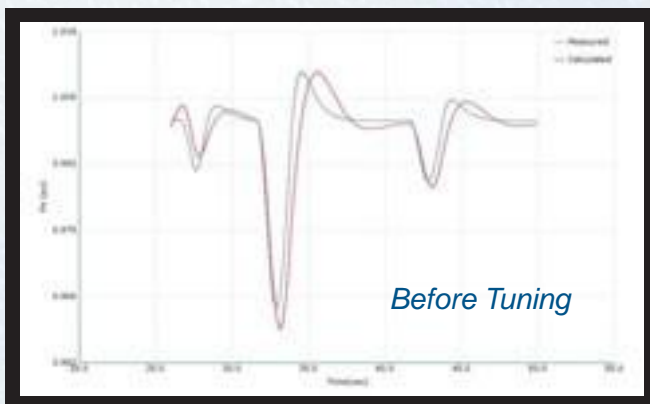
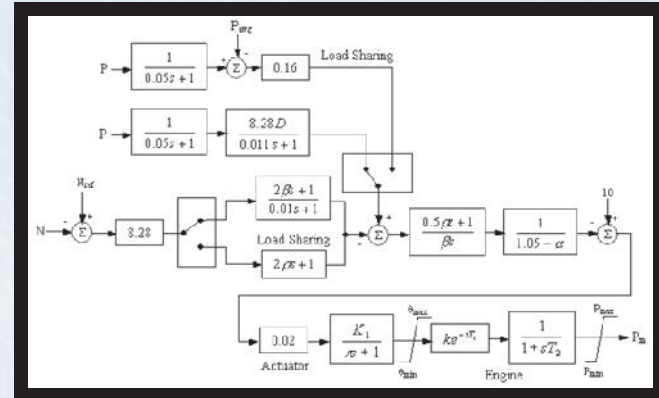


Arc Flash Labels in any Language

Dynamic Parameter Estimation & Tuning (DPET)

Combined with the User-Defined Dynamic Models (UDM), DPET adds an intelligent automated layer of time saving capabilities which can literally save hundreds of engineering man-hours spent on the tedious process of model validation parameter tuning.

- Compliance with NERC MOD Standards
- Automatically exclude questionable data & noise
- Multi-objective stochastic optimization method
- Generate comparisons of multiple estimation results
- Tune dynamic models with multiple inputs & outputs
- Estimate model parameters using field measurements
- Utilize field data from disturbance recorders & PMUs
- Utilize ETAP User-Defined Dynamic Model to build custom models
- Combinations of Models: Generators, Governors, Exciters, Power System Stabilizers, etc.
- Determine the best model parameters to fit measured data
- View parameter sensitivity, measured vs. calculated values
- Multiple sets of input/output data-files for tuning comparison



Tune dynamic parameters automatically, saving hundreds of hours

New time-saving system analysis & project management tools

GOST Short-Circuit - R 52735 Standard

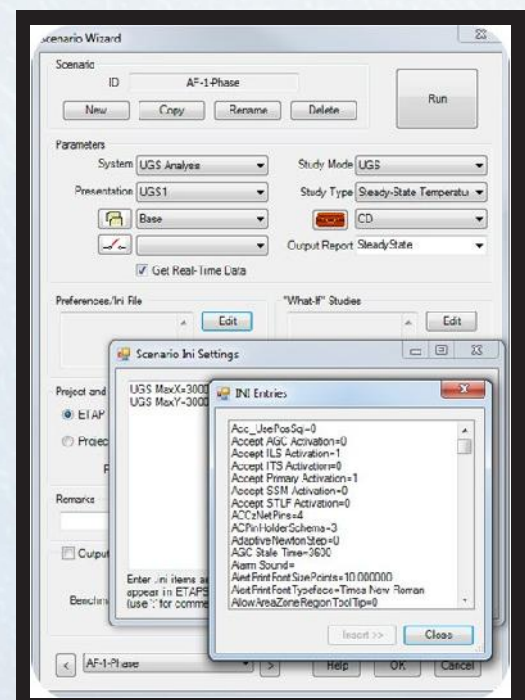
The Short Circuit Software module now complies with GOST R 52735 Standard of the Russian Federation and CIS countries. Save hours of tedious hand calculations, manual excel manipulations, and eliminate guesswork out of GOST short-circuit studies with ETAP using automated calculations process with comprehensive result analyzer.

- Calculate periodic & aperiodic components & surge current
- Consider pre-fault loading condition
- Calculation of short-circuit current at any specified time
- Radial & multi-loop circuit calculations
- Short-circuit output report in Russian language

Scenario Wizard Enhancements

Scenario Wizard now includes the ability to automatically run multiple Underground Raceway System scenarios with different project files and verify their study results against benchmark reports. New time saving project management features include:

- New Underground Raceway System (UGS) Scenarios
- Direct access to Study Case Editors
- Direct access to Revision & Configuration Managers
- Automatically compare & verify transient stability plots
- Export output data & plots to Excel
- Simulate “What if” events
- Dynamic update of preferences; INI file entries



Enhanced Library Merge Utility

The rate at which users merge ETAP library files has never been faster. Create custom library files and merge the additional models into the ETAP master library with increased speed utilizing the new merge process built into ETAP 12.5.

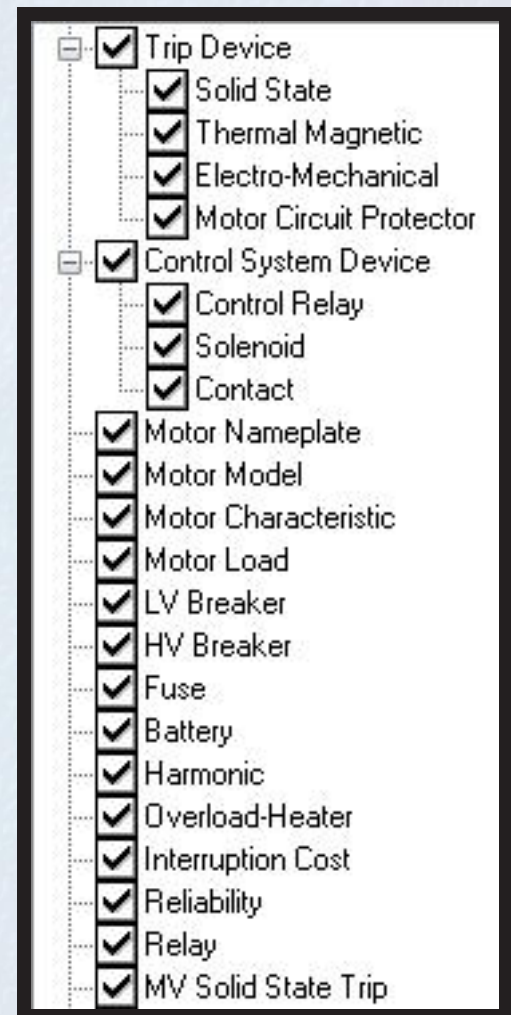
- New library merge process with increased speed
- Create custom library files faster
- Enhanced library merge functionality

Expanded Device Libraries

ETAP engineering libraries include over 3,500 new devices based on user feedback and the latest devices created for the industry.

Our libraries provide complete verified and validated data based on equipment manufacturer's published data.

- Low-Voltage Circuit Breakers
- Solid State Trip Devices
- Thermal Magnetic Trip Devices
- Motor Circuit Protectors
- Relays
- Reclosers
- Fuses
- Cables



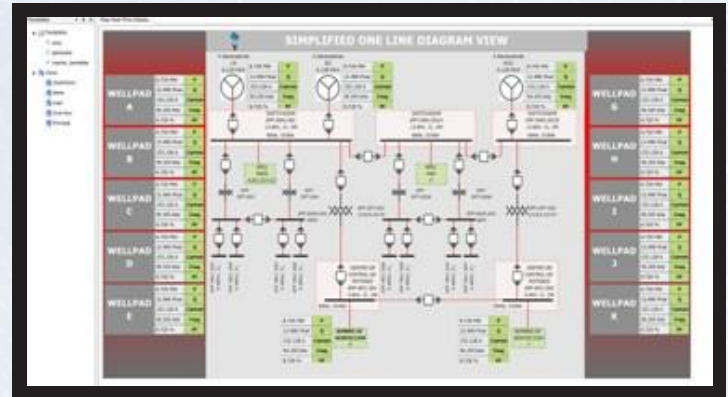
More than 3,500 new device entries

Faster Than Real-Time™ Power Management System

Distributed Electrical SCADA Technology

ETAP e-SCADA technology allows you to, predict, control, visualize, optimize, summarize and automate your power system. Distributed and web-based technologies provide the tools to make informative decisions based on planned or unplanned events from any location.

- Smart Grid & Microgrid Master Controllers
- Real-Time decision making applications
- Predictive simulation, optimization & automation
- Operator training simulator
- Enhanced SCADA component library
- Online & archive data trending
- Web-based SCADA architecture



Thin Client & Web Consoles

As the demand for web-based design and simulation increases, ETAP has created a powerful web-based interface to build and model your electrical system through an accessible URL.

- Automatically generate electrical diagrams from ETAP
- Intelligent web graphical user interface
- Configurable web interface & control
- HMI template library
- Utilize geospatial maps for situational awareness
- Alarm & warning displays
- Flexibility to create “what if” scenarios



Native SCADA Protocols

ETAP offers direct connectivity to any industry compliant systems. While maintaining open connectivity with the industry's standard hardware components, this additional functionality, provides enhanced flexibility, higher performance, and easy to configure architectures.

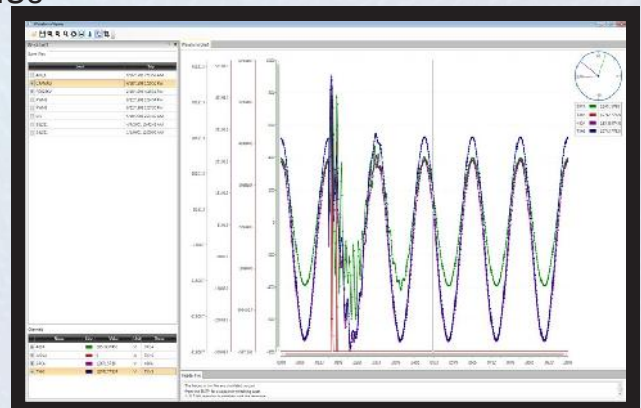
- Open connectivity simplifies integration with business & information systems
- Built-in server redundancy without expensive third-party fault tolerant computing platforms
- Integrated historian for both data & events
- Integrated alarm & event management
- Wide array of standard drivers expanded to include 1,000s of third party devicedrivers
- IEC 61850 • OPC
- Modbus • OPC UA
- DNP3



Waveform Capture & Synchrophasor Measurement

We provide the ability to replay recorded voltage and current waveforms; visualize and analyze power quality throughout the system.

- Replay recorded waveforms for root cause & effect analysis
- Capture data from Disturbance Monitoring Equipment:
 - COMTRADE Sequence of Events Recorders & PMUs
 - Fault & Dynamic Disturbance Recorders
- Online & archive data trending
 - Voltage
 - Current
 - Power
 - Frequency



Direct, Seamless Connectivity & Interoperability

Proven & Trusted Software

ETAP Upgrade and User Support Maintenance Contract

All upgrades are automatically provided to users with a valid ETAP Upgrade and User Support Contract (UUC).

The UUC is the most cost-effective way to protect your ETAP investment by providing product upgrades and technical support for your ETAP software.

Extending your maintenance support agreement will allow you the opportunity to apply ETAP's unique features and sophisticated analysis techniques to all your power system analysis projects.

With a valid UUC maintenance support agreement, you receive:

- Free version upgrades including automatic shipment of new releases
- Unlimited access to user/technical support
- Latest device libraries updates
- Full access to ETAP User FTP & download sites
- Access to prerelease & beta versions of new products & upgrades

etap.com

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ETAP Quality Assurance

ETAP is Verified and Validated (V&V) against field results, real system measurements, established programs, and hand calculations in order to ensure its technical accuracy.

Each release of ETAP undergoes a complete V&V process using thousands of test cases for each and every calculation module and library data.

ETAP's quality assurance is specifically dedicated to meeting the requirements of:

- ISO 9001:2008
- 10 CFR 50 Appendix B
- 10 CFR Part 21
- 10 CFR Part 50.55
- ANSI/ASME N45.2
- ASME NQA-1
- ANSI/IEEE 730.1
- CAN/CSA-Q396.1.2
- ANSI N45.2.2

Registered to ISO 9001:2008



Certification No. 10002889 QM08

ETAP is a high impact software qualified for use within nuclear, military and mission critical facilities and operations.