

DesignBase Modeler

Power Systems Design and Simulation Platform

Paladin® DesignBase™ is the best-selling and most powerful electrical system design and analysis software platform... and the only power systems modeling tool that can interact and be synchronized to the live system in real time, using EDSA's Paladin® Live™ platform.

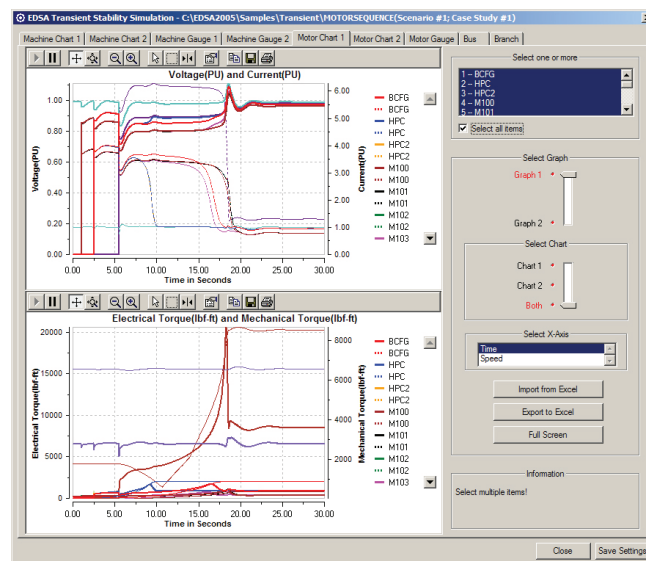
Unlike conventional modeling, Paladin DesignBase gives electrical engineering professionals the means to create both a detailed design and knowledge base of the performance specifications of their entire electrical distribution system.

Paladin DesignBase provides the technological richness needed to model and analyze systems from a variety of static or dynamic perspectives. This includes the ability to model and embed detailed control logic of intelligent electronic devices that control power flow throughout the system.

In addition, an integrated library of dozens of optional Paladin DesignBase programs allows users to perform specialized forms of analysis and optimization, including Fault Analysis, Protection Coordination, Power Flow Analysis, Power Quality Analysis and Mitigation, Dynamic Behavior Simulation, Design Optimization, and Sizing Optimization.

Paladin DesignBase is the industry's most robust and productive modeling environment, featuring:

- More than a dozen core programs, and 30+ optional programs, enable users to simulate virtually any electrical power condition
- 800 pre-defined intelligent modeling objects (breakers, motors, etc.)
- Detailed specification libraries for more than 100,000 components from leading manufacturers
- Autodesk® ActiveShapes® technology
- DWG Unplugged™ for reading/writing AutoCAD DWG and DXF™ files, and DWF Export Kit for Web publishing
- Plugs-and-Sockets technology
- Intelligent hyperlinking
- Project Cost and BoM Reporting
- Heidi® graphics engine
- Interactive Shape Editor
- VBA 6.2 Embedded for customization



Only Paladin DesignBase provides three crucial benefits for users:

1. Team-based modeling and analysis

Whether working in standalone mode, or as part of a design team, Paladin DesignBase provides powerful modeling, simulation, analysis, and “what if” testing prior to the construction phase. By supporting multiple simultaneous users, Paladin DesignBase is the only platform in its class that can dramatically accelerate the overall design process.

2. Get designs “Perfect on Paper”

The engineering intent behind all facets of the electrical engineer's design is preserved to guide downstream construction, installation, and maintenance crews.

3. Future-proofing your facility

Once the facility is operational, or Paladin Smart Grid DesignBase can – using EDSA's Paladin Live platform – serve as a benchmark against which actual measurements are compared, in order to identify potential operational problems before a catastrophic power loss.

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Paladin DesignBase Core Programs:

- Power Flow – three phase
- Power Flow – single-phase
- Motor Starting
- Short Circuit – classical three phase
- Short Circuit – ANSI / IEEE
- Short Circuit – IEC 909
- Short Circuit – single-phase
- Protective Device Coordination – AC
- Protective Device Coordination – DC
- Arc Flash – AC
- Arc Flash – DC
- Electrical Schedules
- Validated Protective Device Library

Paladin DesignBase Optional Programs

Power System Optimization (PSO)

Power Flow Analysis

- AC Multi Motor Starting Power Flow
- AC Advanced Power Flow – 3phase, 1phase
- AC/DC Power Flow
- DC Power Flow
- AC Voltage Profile

Protection Coordination

- Device Coordination AC
- Device Coordination DC
- Impedance Relay Coordination
- Validated Protective Device Curve Library

Arc Flash Simulation

- AC and DC Arc Heat per NFPA-70E and /IEEE-1584

Dynamic Behavior Simulation

- Universal Control Logic Simulator
- Advanced Transient
- Advanced Motor Torque and Performance
- Electromagnetic Transient Analysis (EMTAP)

Reliability and Capacity

- Load Forecasting
- Block Based Reliability Analysis
- Distribution and Substation Reliability Analysis

Sizing Optimization

- Battery Sizing
- Cable Ampacity N-M and IEC
- Generator Set Sizing
- Wire and Conduit Sizing
- Bare Wire Sizing
- Short Line Parameters
- Transmission Line Constants with EM field calculation
- Transmission Line Sag and Tension
- Reactor Sizing
- Capacitor Sizing & Optimization
- Electrical Schedules
- Motor Parameter Estimations
- Cable Pulling
- Ground Grid Design

Fault Analysis

- AC Short Circuit – 3phase and 1phase ANSI/IEEE
- AC Short Circuit – IEC 60909
- AC Short Circuit – IEC 61363