E&I Electrical Designer

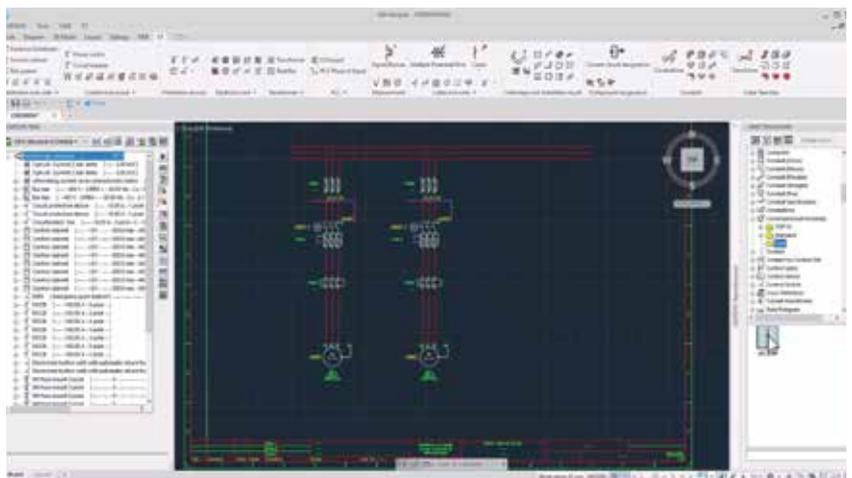### With Built-in AutoCAD OEM Graphics Engine

Key Features

- Extensive Library for all Electrical and Instrumentation symbols
- Drawing templates for electrical design types
- Intelligent Schematics (SLD) creation
- Circuit Diagram creation
- Engineering Calculations for Cable sizing, Transformer sizing, Earthing calculations, UPS capacity
- Automatic Device Tagging & Wire Numbering (KKS & ISA Standards)
- Automatic Terminal Drawing
- Quick Contactor & Contact
- Cross Referencing circuits across drawings in projects
- Automatic Legend Creation
- Panel Layouts (2D/3D)
- 3D Cable Tray Routing and Conduits & Trenches
- GA Extraction from 3D Layout
- Automatic Reports Generation (Load List, Cable List, etc.)
- Cable Scheduler function for cable length and fill factor calculation

The use of basic CAD tools and hand drawn sketches to conceptualize, and using calculators and spreadsheets to calculate and create electrical drawings for planning/ designing and documenting throws up many challenges in maintaining consistency, accuracy in data and project information, and also, maintaining the changes and revision control of thousands of drawings and documents. Some established solutions in the market turn out to be expensive, and comprehensive only when many modules are purchased.

Introducing E&I Electrical Designer, a comprehensive and integrated, easy-to-use software solution for Electrical Design in the Manufacturing, Process and Construction segments. It is a cost-effective solution with a built-in database and an AutoCAD OEM as graphic engine that offers the best value for money for electrical design tools.
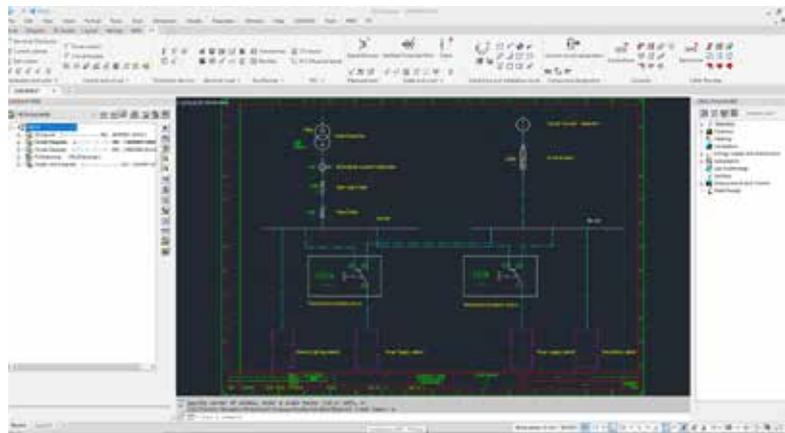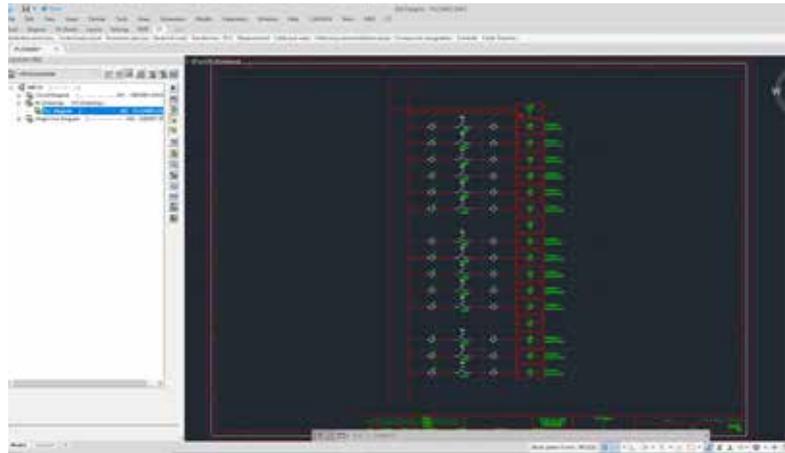
Intelligent Schematics

E&I Electrical Designer uses a single platform with an embedded CAD engine and a built-in database for schematics, calculations, 3D and 2D layouts, and reports. Its Construction set function reduces the drafting time significantly, ensuring reusability and accurate deliverables.

The numbering and tagging system is in accordance with DIN/KKS standards. The in-built Standard Object & Symbol Libraries (including DIN, IEC, and ANSI) facilitate the creation of intelligent schematics and circuit diagrams based on inputs such as load lists. The unique Symbol Editor function allows for the creation and editing of symbols as per required specifications.

The Terminal Strip Editor for rearranging and numbering of terminals in the graphical user interface for automatic terminal drawing creation of deployed field device and displays information of all terminals (wires, destination components) along with To and From connected objects.
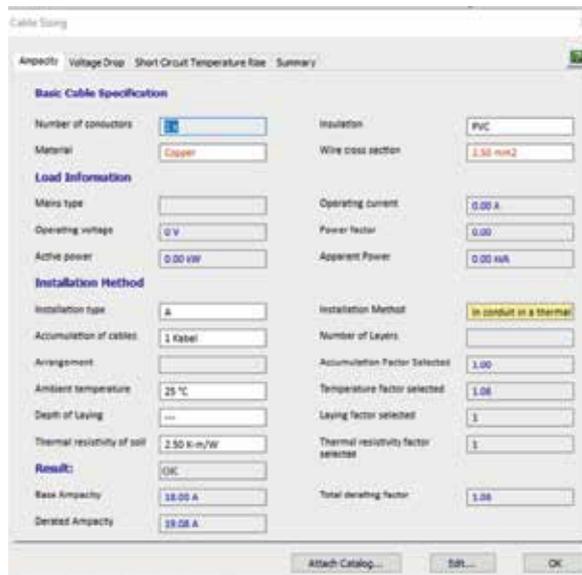
The automatic generation of PLC schematics from the I/O list further contributes to time-saving deliverables and higher efficiency.

Engineering Calculations

E&I Electrical Designer enables Electrical engineers to perform a variety of sizing calculations quickly while working on drawings. Cable sizing is based on user inputs such as rated power, rated voltage, load current, actual current, and the number of runs required. Transformer sizing determines the MVA rating and voltage drop of the transformer as per IEC60076. Earthing calculations compute the total earth resistance of a system. Battery sizing calculates the capacity of UPS (Uninterrupted Power Supply) and batteries as per the IEEE 485 standard.
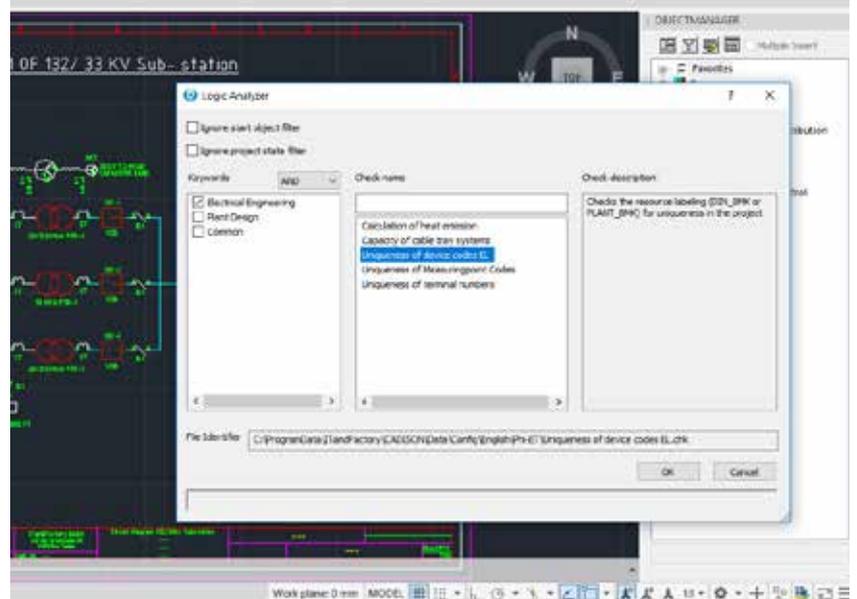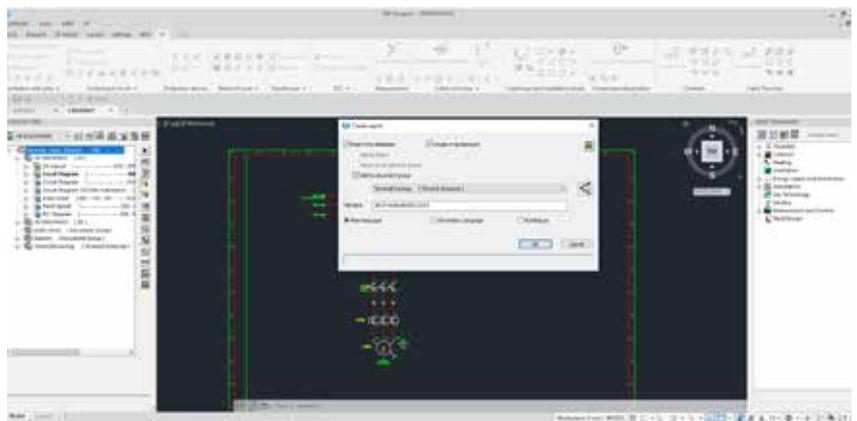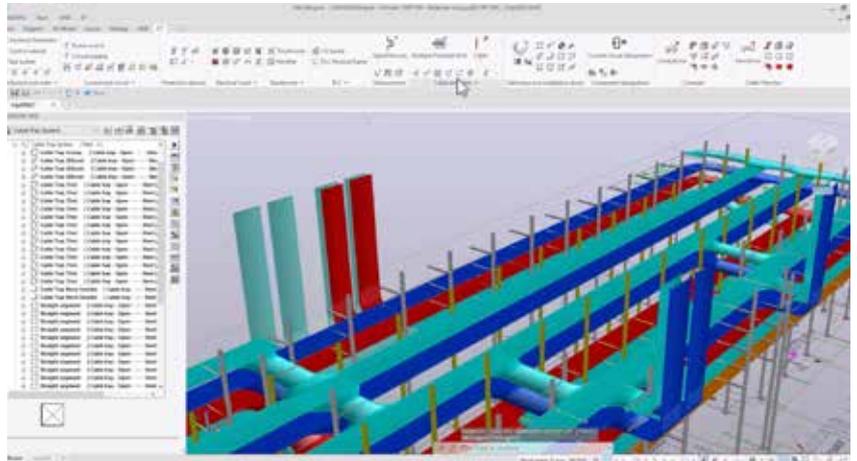
3D Cable Trays, Conduits, Trenches & Panel Layouts

The intuitive interface enables the creation of conduits and trenches analogous to existing cable tray or pipeline routing and Cable Trench Systems. Users can create and modify the conduits with the new conduit components such as Straight Segment and Tee & Cross. Space planning of components for 3D panel layout design is possible using standard catalogs of panels/enclosures. Accurate BOM can be generated for cable trays, conduits, trenches, and panel layouts. Furthermore, E&I Electrical Designer can intelligently extract 2D panel GA drawings from the 3D model.
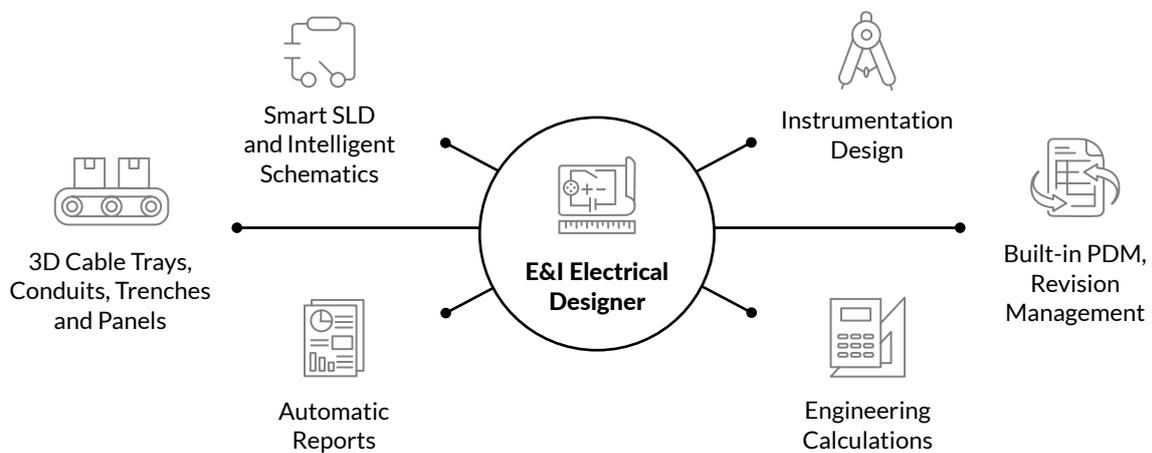

Automatic Reports

E&I Electrical Designer enables the generation of configurable reports for electrical input/output and automation components. It is equipped with several pre-defined report formats such as Bill of Materials (BOM), cable lists, cable-tray lists, terminal lists, and wiring lists. This design solution offers the flexibility to customize reports to the user's company standards. Reports can be generated in MS Word, Excel and PDF formats at plant, cabinet, project, drawing and object levels. The bilingual feature generates reports in English and German.

The built-in, rule-based QA & Error Checking feature Logic Analyzer enables users to configure quality checks and rules.

System Requirements

Supported Operating System (64-Bit)	Supported Applications (64-Bit)	Additional supported Software (64-Bit)
Windows 10 Pro (version 21H2 or higher) Windows 10 Enterprise (version 21H2 or higher)	Microsoft Office 2016 Microsoft Office 2019	PDF Writer DWG Trueview 2021, 2022 or 2023

PC-Hardware	Minimum Requirements	Recommended
Processor (CPU)	2.5–2.9 GHz Processor	3+ GHz Processor
Memory (RAM)	8 GB RAM	16 GB RAM
Graphic Adapter	4 GB GPU with 106 GB/S Bandwidth and DirectX12 compliant	Autodesk certified graphic card
Display Resolution	1920 x 1080 resolution with True Color	High Resolution
Free disk space	3,5 GB on C-Drive 2 GB on the drive where the software is installed	> 10 GB
Network Adapter	Ethernet Adapter 100 Mbit/s TCP/IP Protocoll	Ethernet Adapter 1000 MBit/s

Smart SLD and Intelligent Schematics

Instrumentation Design

3D Cable Trays, Conduits, Trenches and Panels

E&I Electrical Designer

Built-in PDM, Revision Management

Automatic Reports

Engineering Calculations

For more details visit **www.enidesigner.com** or email: **marketing@enidesigner.com**

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