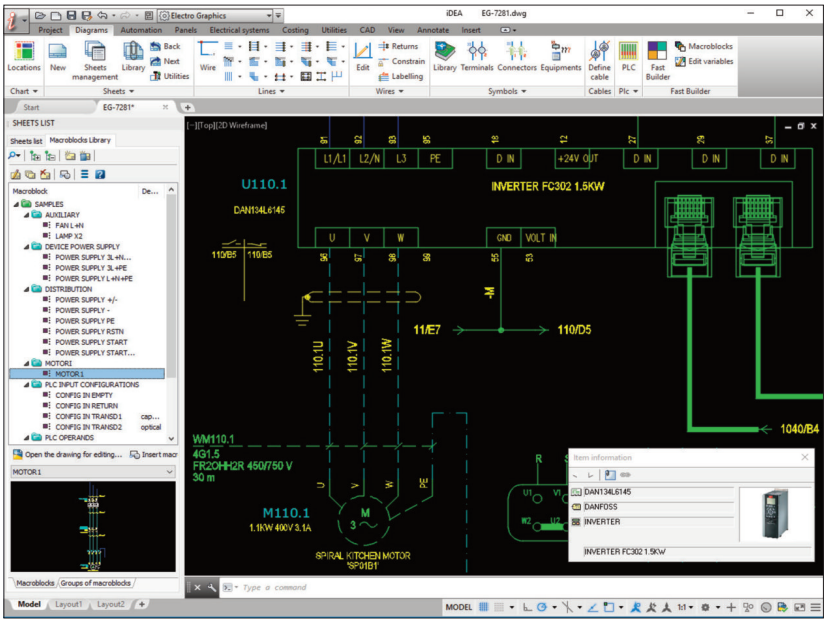
CAD for electrical engineering, both, automation schematics and electrical systems, based on Autodesk technology



CAD standalone
Standalone electrical CAD, 2D and 3D, based on AutoCAD OEM 2025 64 bit.
AutoCAD 2025 ".dwg" file format, with possibility to read and save as previous format.
Functions for drawing editing: copy, move, delete, stretch, cut, cut, mirror, rotate and stretch.
General functions for dimensioning.
Powerful features for zooming, moving, aerial view and three-dimensional view.
Importing PDF vector files in the drawing.
Full compatibility with CADelet and Eplus.

Job orders
Job order management, network projects sharing, backup and recovery.
Saving, uploading, and sharing projects on EG Cloud, with the option to generate sharing links with other operators.
Management of user profiles for conditional access to the common database and library.
Configuration of graphical mode and diagram management.
Importing PDF vector files in the drawing.
Portability of the project database on other work environments.

Basic functionalities
Multisheet drawing system for managing an unlimited number of sheet; MDI for manage multiple drawings and diagrams.
A lot of sheet type: title page, single-line, multiline, functional, cables and terminal blocks.
Parameterization of reports according with IEC 61082-1, even by interactive wizard.
Tracing of multi-wire lines, leads, drop line, bus, serial connection, parallel or T-junction, with the assignment of designation, color and wire section.
Bundles of wires and equipotentiality bars.
Dynamic connection of wires on symbol insertion.
Identification with functional group and location according to IEC 81346; general functions to edit properties on filtered groups of components. Automatic positioning of topographic symbols in relation to typical entities; automatic attributes rotation.
Editing symbols with access to the archives.
List of sheets, copy, move and shift of sheets, revision index, global editing of titlebox.
Explosion of diagram, in order to split the multisheet and to obtain one drawing file for each sheet.
Legend of symbols.
Generation of QR codes with information to be inserted as an image on the drawing.
Power flow analysis on the electrical diagram to size the auxiliary power supplies and protections.

Symbols libraries
Library manager with advanced searching and sorting of symbols, creating groups, setting typical parameters, and automatic alignment during insertion. Comprehensive libraries of standard symbols according to CEI, IEC, DIN, ANSI/CSA, NEMA and P&ID.
Library of symbols and cell in medium voltage.
Library of symbols for pneumatic, hydraulic and heat engineering according with UNI.
Standard symbols for security, fire alarm, intrusion detection and domotic applications.
Wide library of 2D and 3D shapes of electrical equipments, cabinets, panels, ducts and installation details.
Unlimited user library with wizard interactive for the creation of new symbols.
Manager of compositions of control points and accessories.
Management of macro-symbols and typical sheet.
Using universal symbols (black box) for functional groups or cards.
Importation of structured information of electrical devices from edz file.

AutoSheet
Wizard to create a multisheet diagram assembling drawings previously developed, with preview of the new project.
Managing sheets sorting, components marking with check and resolution of any conflicts.

Schema parameters and macro blocks
Management of global system parameters and schema-specific parameters, including the definition of derived variables.
Generation of relationships and formulas between parameters, with the use of the results in managing and editing parametric macroblocks and attributes.
Definition of dynamic parametric macro blocks with element visibility dependent on schema parameters.

Fast Builder
Automatic generation of diagram on the base of library of macro blocks with parametric and editable variables.
Management of profiles of variables configuration.
Multisheet diagram generation based on sequences of macro blocks, with variable, acquired from .xls file.

Inspector
List of all components in the diagram and view of their properties.
Rapid localization of elements and editing of associated data.

Equipments
Large database of assembled components (contactors, relays, buttons, etc.).
Drawing of elements in distributed representation, and consistency check on the symbol type and pins.
Correlation with the database of components, with a consistency check on the selected item.

PLC
Importing I/O list of PLC (file from software Siemens, Schneider, Omron, etc.) for the schematic drawing of PLC (operand, intermediate junctions, actuators and control elements).
Management of PLC cards with types of operands that can be defined when inserted into the drawing.
Editing I/O operands, symbols and characteristics.
Saving data as file compatible with software of Plc manufacturers or as .xls file.
Automatic drawing of operands as distributed mode or single board. Connection tables of the operands with external actuators.

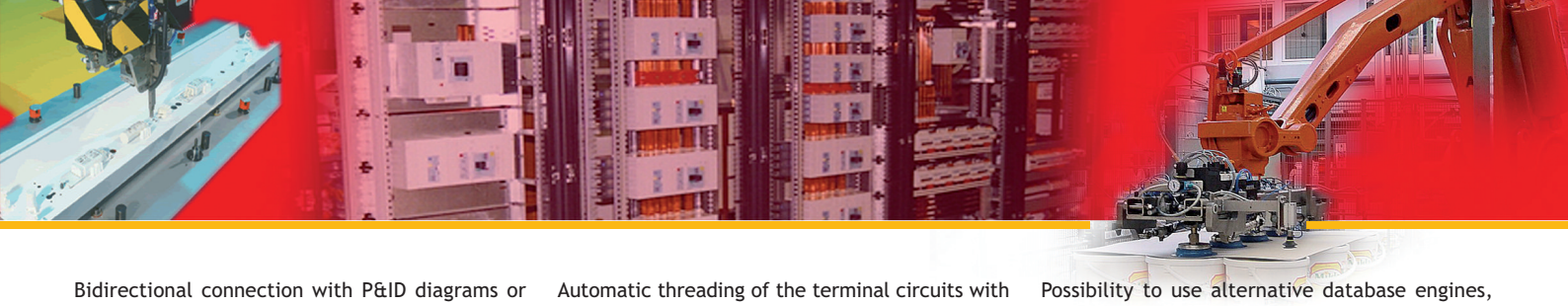
Symbols marking
Automatic symbols marking according to CEI EN 81346-2 e 61346, CEI 3-34, IEC 750, with consistency checks in real time.
Setting of marking parameters (letter, function, location, sheet, row, column, index).
Creation of user marking profiles.

Cross reference
Automatic drawing of cross references among assembled elements in the diagram and real-time update.
Online management of contacts and pinouts with check of number of contacts according to the used components.
Graphics representation of pin contacts with several types of summary tables.
Localization of disjointed elements with navigation on diagram.
Correlation and cross reference between the electrical diagram and the pneumatic diagram.

Interconnection diagram
Block diagram of the interconnections among the various locations.
Setup of cable bundles and their connection to the terminal blocks.
Setup of cables belonging to different bundles and their labeling.
Check of consistency and orientation between cables and terminal blocks.

Optional modules

Ampère: calculation of electrical grid.
Tabula: bill of materials.
Cablo: wiring lists and connection.
Vario: variations in diagram



Bidirectional connection with P&ID diagrams or other interchange file with list of equipments.

Automatic wire numbering
Automatic (real time), semi-automatic or manual numbering of connection wires. Detection of connection methods (serial, parallel or T).
Setting of wire numbering with parametric composition of the wire mark, graphic properties, constraints, wire-clamp assignment and marks reservation.
Wire analysis with recognition of phases and levels of device crossing.
Equipment recognition, numbering of wires and terminals on a single-line diagram and parametric constraints with indications of the phases.
Cross-reference of wires on different sheets.
Automatic identification of short-circuit conditions or inconsistent symbols.
Summary table of the used wires.
Setup of cables on the diagram.
Export wiring data to Cablo (optional module).

Terminal boards and connectors
Database of terminals and connectors (modular also) with over 1,800 items from leading manufacturers.
Setup of terminal blocks with choice of type and parameters setting.
Use of multi-level, special (with disconnectors, fuse, etc) and multi-conductor terminal blocks.
Automatic drawing by fence line or box and terminal numbering (by phases, start-ups, sequences, etc.).
Management of junction box.
Marking of terminal boards and editing of terminals numbering.
Localization of terminals and connectors with automatic navigator.
Automatic processing of wire or bar bridges.
Automatic drawing of terminal blocks and connectors.
Automatic drawing of cables connected to terminal blocks and connectors.
Preliminary setup of cables on the plant layout diagram.
Drawing of the layout of cables and pre-wired wires.
Drawing of connection diagram between terminal blocks and components, terminal blocks table and cable laying table after wiring processing in Cablo.

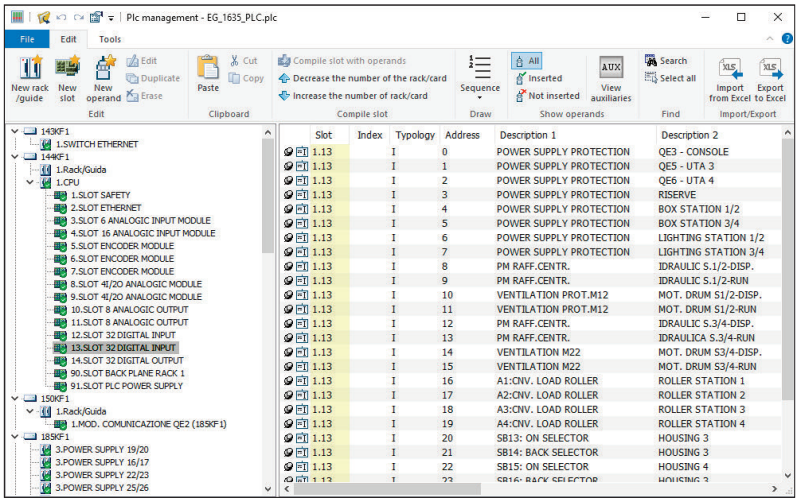
Loop diagram
Graphic representation of the electrical connections that connect one component to the rest of the system.
Report information about crossed terminals and connectors, connected cables, available terminals.

Drawing from pre-computation
Inserting on the plan of symbols related to the items required on the preliminary calculation.
On-line check on the quantities already inserted and compared with expected quantities.
Monitoring the amount of work in relation to the elements inserted in the drawing.

Conduits and cables
Drawing of conduit and cable routes in three-dimensional mode; setup of compartments and power loads inside them and data exchange with Ampère.
Drawing details of laying of cables inside conduits and table of cables.

Automatic threading of the terminal circuits with recognition of the typical connection diagrams.
Definition of network of structured cabling, alarm, EVAC, fire and video surveillance.
Definition of generic auxiliary networks, TV / SAT and machine cabling.
Automatic generation of single-line, multi-line or radial diagram as a result of the design in Ampère.

Panel layout
Database of carpentry and panel accessories.
Drawing guides and conduits with calculation of the length.
Arrangement of the component shapes on the bottom plate, panel or door, with search and filter aid.
Automatic insertion of shapes on DIN guide.
Automatic generation of front and rear button panels and drill plates of panels.
Automatic dimensioning and 3D representation.
Generation of .PDF files with the panels layout or the conduits system 3D model.



Panel thermal test
Calculation of overtemperature in the cabinet according to CEI 17-43.
Verification with forced ventilation or air-cooling and calculation of air flow and power removed.
Control of the working temperature limit on components inside panel.

Multi-sheet printouts and PDF
Printing of diagram sheets or saving as PDF.
Jump between command / referred elements or wire references in the diagram saved as PDF.
Generation of a single technical report in PDF format with diagram and attached documents correlated via hypertext links.

Translation
Automatic translation of texts on drawing in several languages that can be optionally displayed and interaction with Microsoft Translator.
Dictionaries, each one with several languages, provided by thousands of translated texts.
Custom dictionaries.
Unicode text handling.
List of the untranslated words in a temporarily dictionary for later translation.
Using the dictionary as an archive of sentences, to be included as descriptive texts on the drawing.
Generation of PDF files of the diagram translated into multiple languages, with choice of the language to be displayed.

Database
Access to database in client / server mode, with a powerful search and filtering engine.
Possibility to use alternative database engines, with support of SQL database servers (SQLite, MySQL or SQL Server).
Stock materials database with more than 170,000 basic articles.
Importing files in standard Metel® provided by manufacturers and distributors of electrical material.
Database with more than 5,000 items of cost feature.
Database with more than 1,900 standard equipments (auxiliary and power contactors, relays, buttons, etc.).
Database with more than 12,000 cables and 6,000 types of conduits and pipes.
Database with all electrical characteristics of more than 93,000 devices (switches, fuses, breakers, etc.) and busbars.

EGData Exchange: tool for the selective download and importation of data packages, classified by manufacturer and series, to update and enhance all database.

Materials table
Summary table of the used materials, with customizable format.
Bi-directional connection with Tabula (optional module, see Tabula), for the management of bill of material.

Blocks diagram
Management of the block diagram of the system.
Automatic generation of the panels block diagram as a result of an Ampère project.
Automatic layout generation of photovoltaic system according to the Solergo project.

Variations during construction
Automatic processing of design variation, for comparison between states of the project.
Extraction of data for the calculation of the variation, with elements added, removed or changed.

ViewSheet
Viewer of multisheet diagrams with possibility to print or save as PDF.

System requirements: Computer with 3 GHz or higher processor with SSE2 technology, not ARM. At least 8 GB RAM. Hard disk with at least 10 GB free space. 1024x768 screen resolution. USB port, mouse, printer or plotter.
64-bit O.S. Windows 10 (version 1809 or later) or 11.