

Job orders

Job order management, network projects sharing, backup and recovery.
Management of user profiles for conditional access to the common database and library.
Saving, uploading, and sharing projects on EG Cloud, with the option to generate sharing links with other operators.
Configuration of graphical mode and diagram management. 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, multi-line, 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 multi-sheet 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.
Full compatibility with iDEA and Eplus.

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

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 a 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 variables, 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 with consistency check on the type symbols 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.

heat engineering according with UNI.
Standard symbols for security, fire alarm, intrusion detection and domestic 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.

Management of control points and accessories compositions.

Management of macro-symbols and typical sheet. Using universal symbols (black box) for functional groups or cards.

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 bundles of cables 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.

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.

Management of bundles of wires and equipotential bars. 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 Cabo (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

Optional modules

Ampère: calculation of electrical grid.

Tabula: bill of materials.

Cabo: management wiring lists and connection.

Vario: management of variations in diagram.



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.

Report information about crossed terminals and connectors, connected cables, available terminals.

Panel layout

Database of carpentry and panel accessories.

Drawing guides and conduits with calculation of the length.

Arrangement of 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

Automatic printing of diagram sheets also on PDF files.

Exporting sheets as several image formats (bmp, tiff, jpeg, etc.).

Generation of a single technical report PDF 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 other database engines, with support of SQL server (SQLite, MySQL or SQL Server).

Managing databases in client/server mode.

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.

Plant drawing

Drawing of walls, doors and windows (2D or 3D), drawing of chimneys, niches, pilasters, pillars and columns.

Automatic floorplan dimensioning.

Definition of locals and interactive link with the symbols contained inside.

Tables of locals, utilities, power loads,...

Labelling of conduits and layings representation according to IEC standard.

Management of the minimum equipment on the plant according to CEI 64-8 or customizable.

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.

Lighting calculation

Lighting calculation according to UNI 12464 e

UNI 11826, with definable devices and their automatic layout on the floor plan. Drawing of rooms in 3D with ISOLUX displayed on walls and horizontal surfaces. Check of illumination, direct or with more reflections on the walls.

Large list of equipment, complete of photometric characteristics, extensible importing EULUMDAT and IESNA files.

Report of calculation exportable to RTF files.

Conduits drawing

3D drawing conduits and rendering.

Management of compartments inside the conduits. Assigning materials and accessories of the conduit with display of the used materials.

Table of sections and parts.

Automatic determination of the optimal path for cables.

Automatic threading of the terminal circuits with recognition of the typical connection diagrams.

Reconstruction of path depending on the type of endpoint (control, socket or other).

Verification of the packaging of the chosen conduit

and filling check in according to the standard Drawing details of laying of cables inside conduits.

Electrical grid and units setup

3D drawing of electrical line distribution and assignment data about the units inside.

Check of consistency between laying of cables and conduit characteristics; management of multiple laid for a single unit.

Automatic detection of length, conditions of proximity and laying of each conduit.

Setup of electrical distribution and assignment of power loads and their electrical characteristics.

Calculation of the electric barycentre of loads according to standards.

Labelling of units, representation of the installation details, table of cables.

Identification of the laying method required, and summary table with the appropriate standard references.

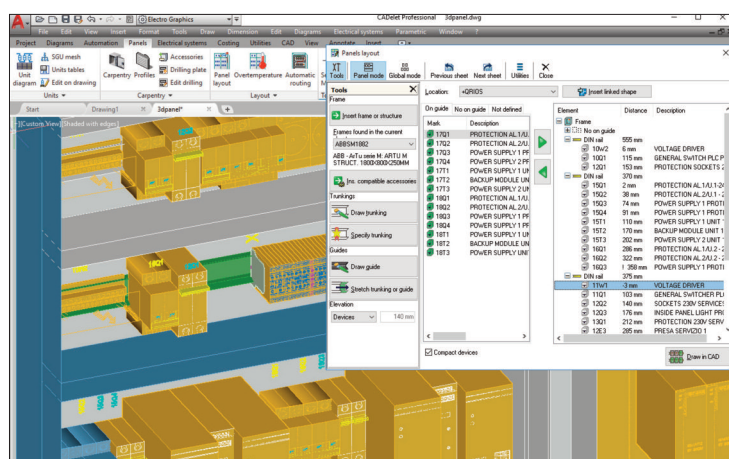
Bi-directional connection with Ampère (optional module) for the electrical grid calculation.

Automatic generation of single-wire, multi-wire or radial diagram as a result of the design in Ampère.

Export data to Sigma software for estimation (optional module, Italian only).

Networks and structured cabling

Setup of networks of structured cabling, alarm, EVAC, fire protection and video surveillance.



Marking cables and terminations in accordance with IEC 11801.

Definition of generic auxiliary networks, TV / SAT and machine cabling.

Automatic recognition of conduits paths and filling check on dedicated compartment.

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

Processing of drawing variation, for comparison between states of the project and extraction of data for the computation of the variation.

ViewSheet

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

System requirements: Computer with 3 GHz or higher processor, 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. AutoCAD version 2018-2025.