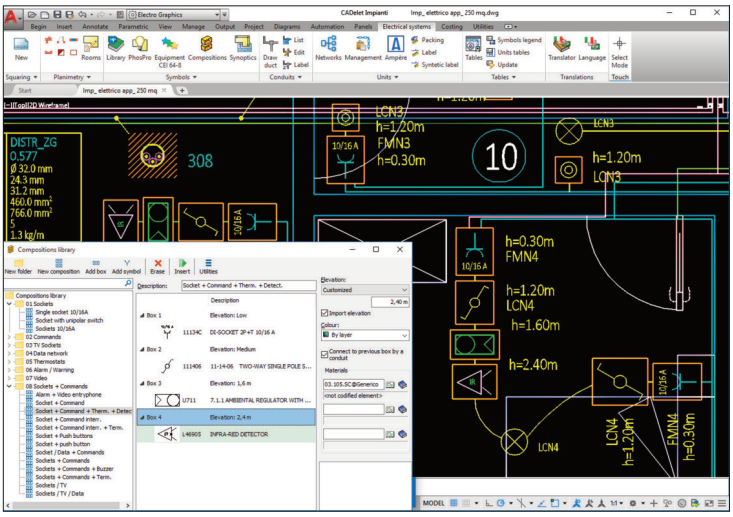
CADelet IMPIANTI

Drawing and engineering electrical system in AutoCAD



Basic functionalities

This package derives from CADelet Professional: it offers the basic functionality for creating diagrams summarized below.
Management of job orders, backup and recovery, conditional access to the common database and library.
Saving and downloading projects on EG Cloud.
Multisheet drawing system for managing an unlimited number of sheets.
Comprehensive libraries of standard symbols according to CEI, IEC, DIN, ANSI/CSA, symbols and cell in medium voltage, symbols for pneumatic, hydraulic and heat engineering according to UNI, 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.
Macro-symbols, points compositions, typical sheet, universal symbols (black box) for functional groups or cards.
Importation of structured information of electrical devices from edz file. Unlimited user symbol library and symbol legend.
Generation of QR codes with information to be inserted as an image on the drawing.
Automatic symbols marking according to CEI EN 81346-2 e 61346, CEI 3-34, IEC 750, setting of marking parameters and marking user profile. Management of global system parameters and specific scheme parameters.
Definition of dynamic parametric macro blocks with element visibility dependent on schema parameters.
AutoSheet: wizard to create a multisheet diagram assembling drawings previously developed.
ViewSheet: browse multisheets diagram and print PDF.
Automatic translation of texts on drawing in several languages. Large database of materials, equipments, cables, protections, cost feature.
Fast Builder: automatic diagram generation based on a library of parametric macro blocks.
Inspector: access to information about diagram and components.
Power flow analysis on wiring diagram to size auxiliary power supplies.
Print and save as PDF multisheet diagrams.
Generation of PDF files with the panels layout or the conduits system 3D model.
EGData Exchange: tool for the selective download and importation of data packages, classified by manufacturer and series, to update and enhance all database.

Cross reference

Automatic drawing of cross references among assembled elements in the diagram.
Semi-automatic drawing of cross-reference labels.

Interconnection diagram

Block diagram of the interconnections among the various locations.
Setup of cable bundles and their connection to 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.

Wire numbering

Automatic (up to 30 sheets), semi-automatic or manual numbering of connection wires. 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. Bundles of wires and equipotentiality bars. Cross-references of wires on different sheets.

Terminal boards and connectors

Database of terminals and connectors (modular also) with over 1.800 items from leading manufacturers.
Automatic drawing by fence line or box and terminals numbering. Marking of terminal boards and editing of terminals numbering. Drawing of the layout of cables and pre-wired wires. Localization of terminals and connectors with navigator.
Drawing of terminal blocks and connectors.
Connection diagram between terminal blocks and components.

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 drawing of front and rear button panels and drill plates of panels. Automatic dimensioning and 3D representation.

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.

Materials table

Summary table of the used materials, with customizable format. Bi-directional connection with Tabula (optional module), 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.
Online check of the quantities already inserted compared with the expected quantities.
Monitoring the amount of work in relation to the elements inserted in the drawing.

Lighting calculation

Lighting calculation according to UNI 12464 and 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 definition

Drawing conduits and 3D rendering.
Management of compartments inside the conduits.
Assign materials and accessories of the conduit and list 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 cable ducts distribution and assignment data about the units inside it.
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.
Determination 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, see Ampère Professional) for the electrical grid calculation.
Automatic generation of single-line, multi-line or radial diagram as a result of the design in Ampère.

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

Optional modules

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

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.