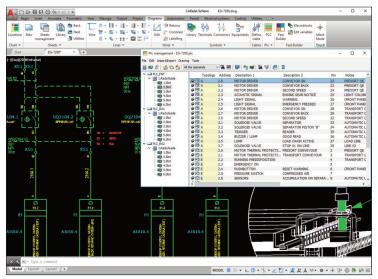# CADelet SCHEMI

Wiring diagram for industrial automation 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.

Generation of PDF files of the diagram translated into multiple languages, with choice of the language to be displayed.

Large database of materials, equipments, cables, protections, cost feature.

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 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.

Fast Builder

Automatic generation of diagram on the base of library of macro blocks with parametric and editable variables.

Manageing profiles of variables configuration.

Multisheet diagram generation based on sequences of macro blocks, with variable, acquired from .xls file.

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.

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

Blocks 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.

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 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 with default or customized graphics.

Automatic drawing of cables connected to terminals 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. Semi-automatic 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.

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.

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.

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.

Optional modules

Ampère: calculation of electrical grid.
Cablo: wiring lists and connection.
Tabula: bill of materials.
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.