



**FINE**  
ELEC



**Integrated Environment  
for Electrical Design**



**4M**

# The innovative tool for electrical installations design

**FINE ELEC** combines Design and Calculations in a **Fully INtegrated Environment**, making all the required calculations for any **Electrical Building Installation** directly from drawings, and thus producing automatically all the study results: **Calculation sheets, technical reports, bill of materials and costing, as well as all the final drawings (plan views, panel diagrams, details) fully updated.**

FINE ELEC consists of two Components, synergistically interacting between each other:

- The CAD Component, a powerful autonomous tool (based on IntelliCAD), including a flexible cad interface for designing the installation and an expert system for producing the final drawings (plan views of the installation, block diagram, panel drawings details etc).
- The Calculations Component, an advanced calculation environment, using a spreadsheet-like functionality and a rich methodological background. It provides all the calculation results of the network, in a perfectly presented and completely documented way.

## ✓ Advanced and Powerfull CAD Interface

FINE-ELEC has an advanced CAD interface for designing any electrical installation in two simple steps:

- Location of the Installation components on the ground plan (panels, receptors, appliances, lights, switches etc)
- Cable Drawing design (auto-routing) with simple or more sophisticated commands (i.e. "Cables Parallel to Wall, automatically connected to the receptors" command) that speed up the process.



The view plan can be in any DWG or DXF file format or even taken from a scanner (bitmap file). Also the Architectural plan can be drawn from scratch through the AutoBLD (Architectural) commands of the package.



**✔ Complete Calculations directly from the Drawings**

The calculations Component is automatically updated from the installation drawings through the AutoNET group of commands. The network is recognised and transferred into the calculation sheet, where it is immediately calculated. Calculations are based on a rich Methodological background, adopting International and European standards.



All the components of the installation (cables, protection devices etc) are calculated in detail, taking into account any relative parameter (ambient temperature, cable installation method and means etc). Intermediate calculation results (e.g. permissible current in each line, voltage drops etc) are also presented. Optimization routines (such as automatic phases allocation) and control procedures (such as short circuit controls etc) are also accomplished. In addition the program produces the bill of materials, and a series of technical descriptions. All the results are shown in the calculations output and are completely documented.



**✔ Automatic production of all project drawings**

All project drawing are automatically created in a final form:

**Panels**

They include all the information and can be edited by the user.



**Block Diagram**

Shows the distribution diagram of the whole installation



**Detailed View Plan Drawings**

Fully updated according to the calculation results.



All the drawing can be edited and enriched, using the special utilities and the symbol libraries which are open to the user.

### 5 + 1 reasons for working with FINE ELEC

- Global Design based on Object Oriented Programming (OOP) philosophy, Implemented with the most advanced tools (C++ ) and a long-range software engineering technology.
- Autonomous CAD (including IntelliCAD with its user license) providing full independency from other CAD environments, but keeping the most popular CAD standards and open dwg communication.
- Work on real 3D model of the project (building plus electrical network) from the beginning to the end. Unlimited freedom to create and modify, through parametric dialog boxes, due to the object structure of the whole information.
- Seamless Integration between the CAD Component and the Electrical Calculation Component and Interactive Communication between drawings and spreadsheets.
- Calculation environment based on a rich and reliable methodological background, adopting the most modern techniques and standards. Results completely documented and perfectly presented.
- 4M-Suite Supports the close cooperation between the Electrical Engineer and the Architect, Civil Engineer and Mechanical Engineer, during all the stages of the Building Design process



9 Mikion str.  
152 33 Chalandri  
Tel.: (+30) 210 6857200  
Fax: (+30) 210 6848237  
gen@4m.gr, www.4m.gr

