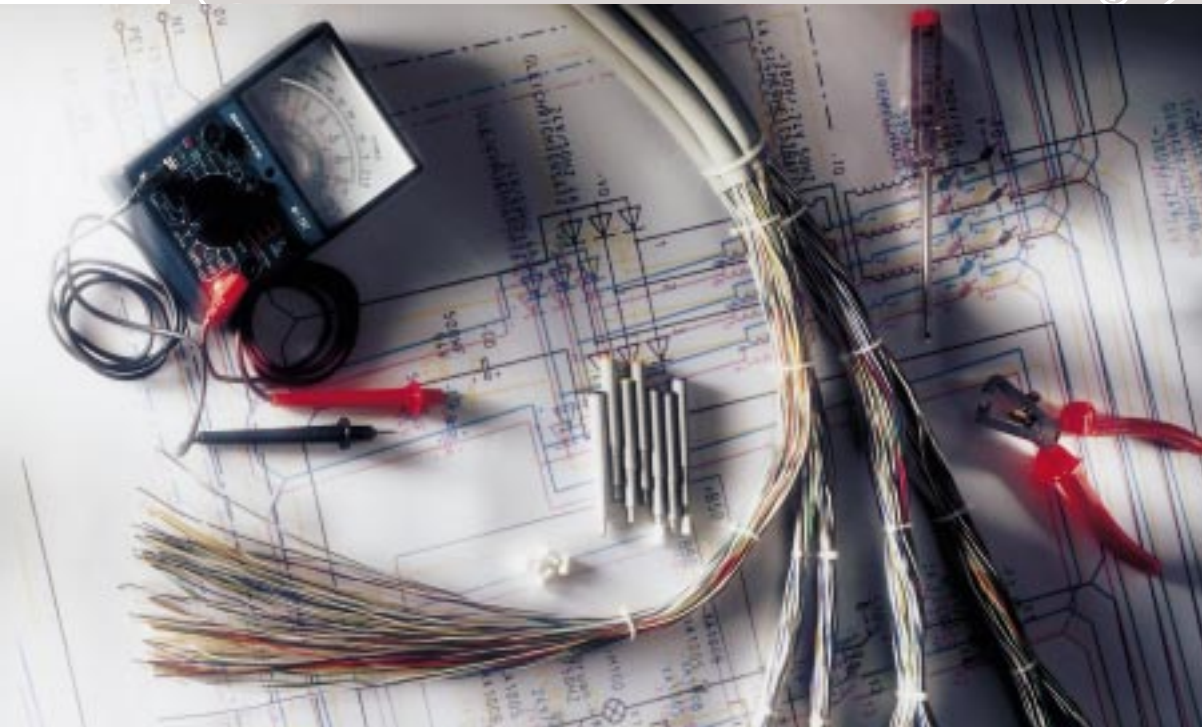


RUPLAN

THE RUPLAN PRODUCT FAMILY



**RUPLAN – Electrical CAE For Power Supply
Companies, The Car Industry,
Airports, And All Outside Suppliers**

Your partner for integral solutions

Irrespective of whether you operate electrical plants as an power supply company, in the car industry or at an airport or project new plants in this field, in any case you need a professional tool for computer-aided projecting and documentation of the circuit and block diagrams. In order to be able to handle branch or company-related processes and the complex interaction between outside suppliers and operator, a high degree of functionality and flexibility is required.

On the other hand, you are looking for a standard software solution which will meet the new technical and organisational requirements of your company in some years' time as well; your partner is to guarantee a long-term co-operation and is to be a competent contact in all technical and branch-related matters.

Based on many years of experience, AUCOTEC Frankfurt offers branch-related modules and interfaces for various applications in the field of electrical-engineering construction and planning, apart from the modular standard software package RUPLAN. Today already, more than 3,000 users are benefiting from our tailor-made standard software solutions. On request, we offer you additional competent project services from one source.

Moreover, we have successfully expanded our know-how in the field of electrical CAE by merging with AUCOTEC Hanover. Together we will use this strong position to make our software components even more powerful, and to take into consideration your requests and suggestions in our further developments to a much higher degree.

By means of our strong international sales partners, we follow the trend of the globalised markets and provide foreign-language on-site assistance.

We are looking forward to a co-operation with you !

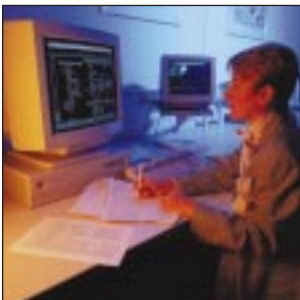


The RUPLAN product family

RUPLAN is an acronym for the German equivalent of computer-aided diagram making. RUPLAN is a complete solution for electrical CAE which can be used independent of the branch. Wherever plants, devices or equipment is designed, RUPLAN can be used as a tool for projecting, documenting, and administering comprehensive circuit and block diagrams. By means of the open modular structure, RUPLAN combines the fortes of modern software engineering with application-related know-how. The result is a comprehensive standard software package for electrical CAE which opens up the path for customised solutions.

Higher efficiency by intelligent, flexible solutions

The RUPLAN product family follows a consistent philosophy. The basis are the electrical-engineering standards, which



permit a higher degree of standardisation, and thus a more efficient method of working in the engineering office. RUPLAN renders available databases, libraries, and forms which are easily to operate by means of a graphical user interface, and which generate a uniform data basis for all diagrams.

RUPLAN produces a flawless documentation and thus relieves the technical designer of time-consuming routine activities. Here integration means that you structure projects comprehensively and optimise work processes for the entire branch or even companies.

Compared to conventional CAE solutions, RUPLAN is an intelligent system, which records diagrams in a logical structure as well as in a graphical, which means, for example, that the



system can carry out error detection online. In this way RUPLAN detects automatically whether a wrong symbol has been used for a device, whether a double allocation has been set or whether a wrong connection allocation was used, and many things more. In addition, you can automatically generate transdiagram potential and device references or contact designations. Various sequential records, such as terminal diagrams and resource schedules, are produced from the circuit diagram automatically by RUPLAN.

High functionality in application

In addition to these basic functions, the RUPLAN product family consists of a number of modules, which meet the special requirements of individual fields of application. Thus, RUPLAN is not only a powerful tool for applications in electrical engineering. Circuit and block diagrams in hydraulics and pneumatics, pipe and instrumentation drawings in chemical engineering and process technology can professionally be produced as well. The modules are strictly geared to



standardised methods of working, and offer a consistent support. For this reason, you can use RUPLAN to produce and edit function diagrams as well as specific circuit and block diagrams.

Integration by an open concept

In order to be able to integrate CAE solutions in existing data processing environments and other information systems, RUPLAN has been designed as an open system. RUPLAN is available for all standard PCs running Windows NT, and for powerful workstations of Hewlett-Packard, IBM, SUN, and Digital companies. The system will also run perfectly in heterogeneous environments.

Open interfaces (VNS, DXF, IGES, and a user-configurable ASCII format) permit a life-cycle support for all phases of a plant – from the erection to the disposal.

Modern WINDOWS interface

The continuous integration of customer requests over a period of many years has made RUPLAN a modern system to be operated intuitively. Thus, the system can be learnt easily and can be employed productively fast by new users as well.

As to how our solutions are effectively put into practice you will read on the following pages.



Project solutions/branch solutions

The comprehensive functionality, flexibility, and integrability of RUPLAN permits the efficient creation, documentation, and editing of circuit and block diagrams. Moreover, the efficiency of the system is rendered clear by the suitability of RUPLAN as an integrated standard tool for a wide field of applications: the range of customers encompasses the car industry to the power supply companies.

Independent of which branch you are active in, RUPLAN offers you decisive advantages:

- By using RUPLAN you profit from a uniform method of working at the manufacturers and operators of plants, which saves time-consuming and cost-intensive double acquisition and quality controls.
- RUPLAN provides a uniform and standard-related database, which helps prevent contradictions, redundancies, and errors.
- The unproblematic exchange of documents increases the efficiency in setting up and editing diagrams.
- The automatically created sequential documentations and the controls render a flawless and qualitatively improved documentation.
- The paperless exchange of data permitted by RUPLAN improves the communication between all parties concerned.



The most important success factors of a software solution include the fact that the programs can be adapted easily to the corporate reality. RUPLAN permits an unproblematic customising and a fast adjustment of the system to the requests of the customer by:

- Openness and independence of hardware.
- Modules with comprehensive functions.

RUPLAN renders a standard package for tailor-made branch solutions: The additional modules of RUPLAN are matched to the requirements of individual branches and fields of application. They contain standards, special functions, and comprehensive symbol and object libraries.

Full service for the electrical-engineering documentation at Mercedes-Benz in Rastatt

The efficiency of AUCOTEC Frankfurt is not only substantiated by the product family around RUPLAN, but also by the services rendered in conjunction with these products. For this reason, product maintenance, training courses, consultation service, integration of RUPLAN into other data processing systems and customer-related adaptations have belonged to our offers for a long time.

Since 1995, this service range has been extended considerably. Within the framework of a full-service offer to our customers, we take over all activities around the electrical-engineering documentation inclusive of the supplier integration.



Against a strong competition we won a first project at Mercedes-Benz, located in the German town of Rastatt, at the beginning of 1995 where the new A series of Mercedes-Benz is being manufactured. On account of the large number of suppliers for the new works, approx. 150 plants with sizeable electrical-engineering documents are being installed. The aim of the project at MB is to have an electrical-engineering documentation uniform and consistent across all plants, which is structured according to the same aspects, and thus is easily comprehensible in one uniform system for the maintenance and upkeep of the works.

The service project started in March 1995 and was handled in partnership with Cimbase Company. During the first phase,

the basic data as well as the project guidelines were worked out and finalised. In the process, approx. 360 standard diagrams were created according to the function groups. The BSB (standardised basic symbol library) and the BOB (basic object library) were used as a basis.

In addition, approx. 500 new symbols and objects as well as approx. 590 TEC objects were created, whereby the latter were taken mostly from the BQF (reference source release) of MB in Rastatt.

The required evaluations correspond to the RUPLAN standard evaluations with slight modifications. Test routines were developed which check the documentation for conformity with the guidelines.

So far 17 suppliers have been integrated. The installation was carried out on the IBM, HP, DEC-UNIX, DEC-VMS, SUN platforms and PCs under Windows NT.



All suppliers received a complete package consisting of RUPLAN, the Rastatt data stock and evaluations, the project guidelines as well as a training in the methods of working planned for Rastatt.

At present, one of our staff members is on site in Rastatt permanently in order to ensure fast help and clarification of project-related matters (project hotline).

We are sure that we can prove our competence in such high-quality services by a successful continuation and termination of the project.

The demand is revealed increasingly in all big projects, in which a large number of suppliers have to document electronic plants according to uniform aspects, and the data supplied are to be used for further processes, such as maintenance.

Electrical documentation for VEAG power stations produced by RUPLAN/EVU

- Brown coal fired power stations in Lippendorf and Boxberg
- Pump-fed power station in Goldisthal

VEAG, the umbrella company of eastern German power stations, has decided in favour of RUPLAN/EVU for the documentation of the new construction of the power stations. This standard is to apply uniformly for all suppliers of electrical documentation.



In this way, VEAG is able to revert to standardised and logically evaluable documents of all electrical-engineering plants during the operation of the power stations, which not only facilitates the acquisition of information in case of maintenance but also any revisions at a later point in time.

With this decision, the use of RUPLAN and of the EVU module especially is advanced in the power station sector. The pre-requisites were established last year by the implementation of the KKS system in the EVU module apart from the DIN system.

In these projects for VEAG, AUCOTEC Frankfurt is not only the supplier of the product, but also the service provider. The tasks include the support of the suppliers as well as the monitoring of the adherence to the EVU module standard in the documentation supplied.

Modules and interfaces



RUPLAN standard

The module for the electrical engineer. Use this software to create circuit diagrams of an electrical plant completely system-supported at the graphical workplace. RUPLAN takes the circuit diagram to set up sequential documents, such as parts lists, terminal and cable diagrams.

EVU module (module for power supply companies)

The creation of standardised wiring manuals for electricity generation and distribution is the main task of the additional RUPLAN module for the power supply companies. The uniform, standardised database guarantees that the manufacturer and operator of plants can efficiently co-operate and communicate electronically.

Thus, the wiring manuals of various manufacturers can be combined without any problems which increases the efficiency of the power supply companies considerably.

Various sequential documents, such as terminal and connection diagrams, are generated automatically according to the EVU standard (standard for power supply companies) by the RUPLAN module.

PLC module

Within the framework of plant projecting, data are created in the RUPLAN as well as the PLC system. By means of the



additional module, standard systems for programmable logic controllers are linked to the CAE system RUPLAN, which means that data can be transferred, checked, and updated. Thus, you reduce the input outlay for the allocation lists, prevent mistakes in the data transmission, and can generate circuit diagram automatically.

DXF module

Due to the wide spread of AutoCAD, the DXF interface has become a standard in the exchange of graphical data. The functions exceed by far the mere transmission of pure pixel graphics. The DXF interface is recommended whenever the external system does not use a VNS processor.



VNS module

The independence of CAE systems is the aim of VNS, the process-neutral interface for circuit diagram data in compliance with German standard DIN V 40950. By means of the additional VNS module, you can edit the circuit diagrams set up on external systems in your environment by means of RUPLAN. In this way, supplier and operator of plants can co-operate productively, and can exchange CAE data without having to work on the same system basis.

Wiring documents archived in the VNS format are independent of the system, standardised, and thus are safe to use in the long term.

Module to address labelling systems

In the construction of switch cabinets, labelling systems, such as those manufactured by Phoenix, Weidmüller or Murr Plastic, are used to label terminals, devices, and cable cores. This module transfers the item data into the format of the respective labelling system. The cumbersome and error-prone double entry of data is superfluous.

Switch cabinet module

Cables and other electrical items are to be arranged in a switch cabinet as space saving and clearly arranged as possible. By means of correct-scale two-dimensional representation, which permits an easy recognition of collision, and a complete electrical documentation, the "switch cabinet" RUPLAN module facilitates this documentation task. The module produces flawless, dimensioned installation drawings for workshop and assembly, and provides a fast overview of the required installation site.

SYMDOK and OBJDOK modules

These acronyms stand for symbol and object documentation. For better overview and administration of the symbols and/or objects used in the RUPLAN applications, they can be documented graphically by means of the modules mentioned above. This documentation ensures a consistent uniform and flawless utilisation of symbols and objects in extensive circuit and block diagrams.



Coupling to EDM systems

Engineering Data Management systems offer a considerable rationalisation potential beyond the limits of departments. From the document management to the various workflow functions, this interface offers the integration of RUPLAN into the market-leading EDM systems.

As AUCOTEC also sells EDM systems and has expertise in the handling of correspondingly large projects, we can offer you complete solutions inclusive of service and customisation in this field.

Label module

By the push of a button, you obtain clean, uniform, and flawless labels for items, and thus relief the workshop or production

department of the cumbersome writing tasks of signs and labels. The designations are produced by CAD application. You can design the labels as requested, and thus meet the respective demands of the item designation.

RUPLAN/TIFF CD

This module permits the easy graphical access to the drawings saved to a CD in the TIFF format. The drawing header data can be used for comfortable search; a viewer is used to view and plot the drawings found. It is especially for the maintained plant sections or for the final plant customers abroad that there is a possibility to search and view documents easily without CAE workplace and corresponding knowledge.

This module comprises the software components to generate the data CDs as well as a database-oriented retrieval software inclusive of a TIFF viewer for the view workplace.

RUPLAN/KABI module

In vehicle construction, especially in the production of lorries, rail vehicles, and special vehicles, cables, harnesses, appertaining plugs, and accessory parts play an important role. The harness or power-related methods in the construction are supported in an ideal way by this module by the administration of path diagrams and automatic length determinations. Subsequent revision work is considerably simplified by RUPLAN/KABI.



Hybrid module

The hybrid module permits the integration of drawings in the TIFF format to complete the electronic documentation.

