Performance Description

Contents: EPLAN Electric P8 2022
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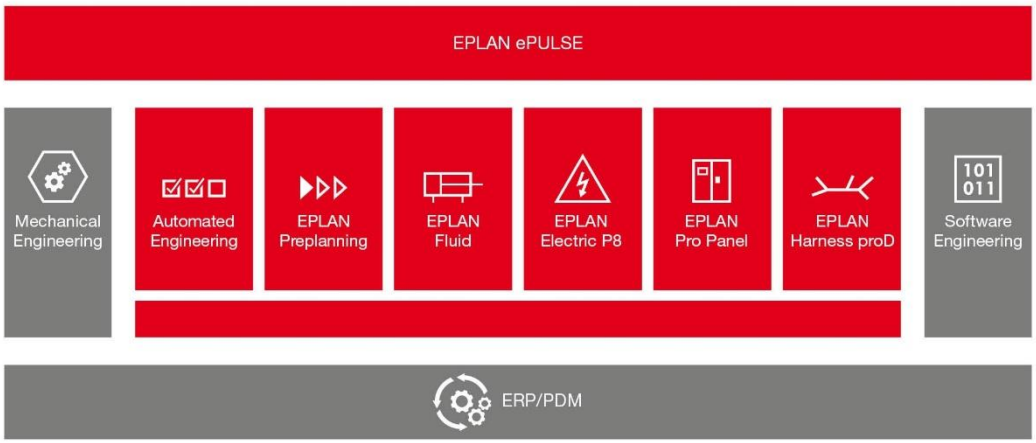
Introduction

EPLAN offers Engineering software and service in the fields of electrical engineering, automation and mechatronics. The company develops one of the world's leading software solutions for engineering, plant engineering and enclosure design. EPLAN is also the ideal partner for simplifying challenging engineering processes.

Standardized and individual ERP and PLM/PDM interfaces ensure consistent data along the entire value chain. Working with EPLAN means unrestricted communication across all engineering disciplines. Whether small or large companies: Customers can use their expertise more efficiently. EPLAN aims to keep growing with its customers and partners and furthers integration and automation in engineering. "Efficient Engineering" is our motto.

EPLAN was founded in 1984 and is part of the Friedhelm Loh Group.

All from one provider: EPLAN Solutions



EPLAN supports you with establishing your engineering across multiple disciplines. The basis is formed by the EPLAN platform that interconnects our software solutions. For you this means a clear increase in efficiency when it comes to working on your EPLAN project. Since your digital data flow seamlessly from solution to solution and are enriched further in every process step. The Cloud products of EPLAN offer added values for collaboration in teams - in particular for tasks across all your locations.

Together the EPLAN Platform and the supplementary Cloud applications form EPLAN Solutions - or, in other words: the key for your future-oriented engineering.

EPLAN offers a comprehensive framework for your daily work. This way interfaces allow the bidirectional exchange with ERP and PDM systems. With the connection to mechatronic processes you expand your view to a mechatronical engineering perspective. With neutral interfaces you can transfer the EPLAN project data into other software environments and continue working on them.

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Extensions and modules for all cases

No matter to what extent you are already working with EPLAN solutions in your company and which requirements have to be fulfilled in the future: Extensions in all directions can be implemented easily thanks to the add-on concept of EPLAN - flexibly and individually for your tasks.

To this purpose EPLAN offers comprehensive extension options through extension modules and in the form of service packages - the "Elements".

You can find a comprehensive overview of the current extension modules in the licensing overview. Should you have any further questions on this topic, please do not hesitate to ask your EPLAN contact person.

EPLAN Electric P8

With EPLAN Electric P8 you configure your electrical design for machines and plants in an engineering system consistently, coherently and quickly. The software supports diverse engineering methods: from manual creation to standardized and template-based work. EPLAN Electric P8 automatically creates detailed reports for you as an integral part of the project documentation - if desired continuously or bundled after project completion. This way you supply the downstream process steps with all required information from the engineering process.

EPLAN Fluid

EPLAN Fluid is your engineering tool, especially for the configuration and automated documentation of circuits of fluid-power plants in the fields of hydraulics, pneumatics, cooling and lubrication.

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EPLAN Preplanning

EPLAN Preplanning allows you to already acquire engineering data in the pre-planning phase. This, for example, includes the actuators and sensors of a plant, machine or a building. You can import data both from external tabular sources as well as plant and machine overviews and furthermore graphically acquire process and instrumentation diagrams. You can also access data that have been collected and enriched in EPLAN Preplanning for downstream planning phases in the engineering.

EPLAN Pro Panel

With EPLAN Pro Panel Professional you conceive and design control system enclosures, switchgear and power distribution systems for the energy supply in 3D. This way you can solve diverse engineering tasks in one software: from the electrical schematic creation through the planning of the mounting layout in 3D to the virtual routing of connections. A variety of data and information for the manufacturing are provided in an automated way - from the component labeling to the support of manual wiring processes.

EPLAN Smart Wiring

EPLAN Smart Wiring is your virtual assistant for manual wiring in the enclosure production. From the connecting point to the exact routing track, the software provides you - as the wirer - with all the required information in digital form - if necessary, also in 3D. You can note the status of the wiring with the traffic light principle. If you need to reassure yourself, you can call up the electrical schematic and counter-check it - on the basis of each individual connection. The provision of the project data on a central server makes it possible to manufacture many identical enclosures in parallel or work together with several wirers.

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EPLAN Harness proD

Use EPLAN Harness proD for the efficient design and documentation of cables and wire harnesses. With the software you digitize the typical work processes in cable and wire harness design: From the importing of the connection information as well as the 3D panel layout from the EPLAN Platform through the intuitive routing up to the creation of manufacturing documentation. The software is open for MCAD systems and can in this way be seamlessly integrated into existing system landscapes.

EPLAN Cogineer

With EPLAN Cogineer you gain the full potential from your engineering in a short time as well as increase the quality of your electrical and fluid-power documentation. You use the switching templates you have already created to structure a macro library and with EPLAN Cogineer realize the automatic schematic creation at the push of a button. Profit from the innovative methods with added value in engineering without long implementation - in all industries and in companies of all sizes.

EPLAN Engineering Configuration (EEC)

With EPLAN Engineering Configuration (EEC) you illustrate your product portfolio in a modular system with interdisciplinary function units. On this stable basis, EEC becomes your tool for the design and application of configuration user interfaces as well as the automated creation of documentations. The interdisciplinary working method integrates sales, order processing, mechanical engineering, electrical engineering and control technology as well as production and documentation.

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EPLAN ERP/PDM Integration Suite

Continuous data flows ensure transparency in the product development process. Through the EPLAN Integration Suite, EPLAN manages the integration into existing ERP, PDM and PLM system landscapes. You can optimize your work processes from the schematic through to the master data. The quick and individual provision of the data takes place in bidirectional exchange with the systems, without you having to leave the work environment within the EPLAN platform.

EPLAN eVIEW Free

EPLAN eVIEW Free lets you implement engineering review processes digitally. This free software allows structured collaboration with co-workers, customers and service providers. It enables you to view and comment on changes to a project through redlining workflows by using a browser and irrespective of your location.

EPLAN eBUILD Free

New methodology for your engineering process: With EPLAN eBUILD Free you have the possibility to compile schematics from template libraries with a few clicks. Registered users have this application automatically available as a free service. eBUILD Free offers you predefined libraries and a configurator that allows you to create parts of schematic projects in EPLAN practically at the click of a button.

EPLAN eBUILD

With EPLAN eBUILD you create your own template libraries which can be re-used by employees and colleagues within the EPLAN Cloud environment. This way you can automatically create schematics in EPLAN across the company. eBUILD is composed of two functional areas which are available to you completely in the full version: In Designer experienced users create their own template libraries on the basis of the EPLAN macro technology. In Project Builder they can then be used repeatedly at any time to compile elements of schematics which are frequently used in day-to-day work with a few clicks.

EPLAN Data Portal

With the EPLAN Data Portal you have direct online access to high-quality product catalogs from a continuously growing pool of notable component manufacturers. All the solutions anchored in the EPLAN platform access this Web service equally. Simple transfer of the offered components into the EPLAN documentation reduces the required configuration work and increases the quality of the machine and plant documentation. With its Data Standard based on ECLASS Advanced, EPLAN Data Portal provides a systematic framework for device attributes.

EPLAN eMANAGE Free

EPLAN eMANAGE Free is your Cloud application for collaborations across all your projects and locations with colleagues, partners, suppliers and clients. eMANAGE enables you to share EPLAN projects with selected project partners across all teams and across the company in a protected Cloud environment. The solution enables simple uploading of projects from the EPLAN Platform or via web browser.

The described functionalities are only available for certain module packages.
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EPLAN eMANAGE

Beyond the functions of the free version, the full version of EPLAN eMANAGE offers you practical, functional extensions as well as additional storage for your data. Share project data via eMANAGE at an extended scope - with familiar access control and the same ease of use. Make your master data available with eMANAGE from the EPLAN Platform 2022 and thus make their usage easier for other users. With a click you make current EPLAN projects available in earlier Platform versions as well. This way you allow project partners who do not yet use the current EPLAN version access to the project data you provided in the Cloud.

Note:

The properties and functionalities specified in this performance description are based on the maximum scope of performance of the product including all extension modules, Elements and add-ons. Extension modules, Elements and add-ons are available optionally and separately and as a rule cost an additional fee. For further details of the available product variants please refer to the "Licensing Overview" chapter.

EPLAN Electric P8 - Innovative and Flexible

With EPLAN Electric P8 you configure your electrical design for machines and plants in an engineering system consistently, coherently and quickly. The software supports diverse engineering methods: from manual creation to standardized and template-based work. Once recorded in the schematic, the project data form the basis for automated completion of the machine and plant documentation.

EPLAN Electric P8 creates automated detailed reports for you as integral part of the project documentation - if desired continuously or bundled up after project completion. This way the required information is supplied from the engineering phase to the downstream process phases – from the consistent planning through to manufacturing, commissioning, maintenance and servicing.

Your added values

- Autoconnecting enables you to logically connect circuit symbols with each other in no time.
- Choose between a graphical, logical or device-oriented configuring approach to support different work processes.
- Reports such as terminal diagrams, cable diagrams or bills of materials are created automatically.
- Functionalities for editing mass data such as "Find and replace" or "Edit in Excel" accelerate your configuration and at the same time increase the quality.

The described functionalities are only available for certain module packages.
See the Licensing Overview chapter.

User Interface

Look & Feel

The system provides an intuitive user interface. Through an operating concept that is familiar from the Windows usage and easily understandable functionalities - such as, for example, ribbon, Backstage view, quick access toolbar, drag & drop and online help - even beginners and casual users will feel at home quickly.

Users can easily adapt the entire user interface including window arrangement to their needs and wishes. The settings can be saved and retrieved as workspaces as needed. This allows you e.g. to save defaults for work standards and processes.

Workflow & Integration

The system can be configured by means of settings to meet the needs of the user, companies, and project. The result: The workflow is accelerated and the required work result achieved efficiently.

You also have access to an extensive online didactic help system which provides efficient work support.

Functionalities for the backup of projects ensure the required security for the protection of the work results safety reached. A compression function removes the non-essential data from a project to simplify data maintenance and, if necessary, to protect your company know-how when projects are passed on.

Common data formats, such as TXT, CSV, XLS, XML, PDF and DXF / DWG with layers and blocks are available as interfaces for exchange with Microsoft Office products and CAD programs.

Interfaces facilitate interdisciplinary cooperation.

The program can be integrated into the existing added value chain. The information and work flow can be automated using scripts or API in the ".NET" environment. An active automatic exchange of information simplifies integration into PDM and ERP systems.

Method

The CAE program should reproduce the engineer's approach – this ensures maximum effectiveness. This should be differentiated as follows:

- Graphical combination of symbols and graphical sub-schematics
- Function-oriented view (module principle)
- Start of planning with bills of materials (lists of materials).

During the project phases, the work method changes frequently or is combined with multiple methods. Any editing sequence – plan functions / draw schematic / edit BOMs – is possible.

The program is designed so that editing in the system can always follow the actual course of the project. The system allows the project to be edited at any time on the basis of different views.

Graphical Sub-schematics

You can create and use own graphical symbols and partial circuits (macros). Automatic naming of devices during insertion reduces manual inputs – and therefore the number of input errors as well. Configurable checks immediately draw your attention to potential errors where necessary. Users can interconnect symbols or partial circuits rapidly and efficiently through autoconnecting.

Function-oriented View

Higher-level object orientation permits the synchronous editing of devices distributed throughout the schematic (contactor coil / contacts) with a single action. Special overviews for items such as PLCs, buses, plugs, terminals, cables, wires, etc. simplify function-oriented processing – independent of schematic pages.

Starting Planning with Bills of Materials

Preliminary bills of materials (for example from MS Excel) can be integrated into the program and quantities incorporated into the schematic can be checked immediately. You can pre-order service items or equip the mounting panel while the schematic is still being drawn.

Projects

A project is a database in which the master data used in the project (symbols, plot frames, forms, parts data, etc.) is stored, in addition to the project pages. Schematics and corresponding documents such as lists and overviews are created as project pages within projects.

You can open multiple projects simultaneously and copy pages or sections of pages from other projects.

Basic projects

From the very beginning of a project EPLAN supports the user through the selection of a basic project when norm-compliant documentation is created. Basic projects can contain already standardized schematics, pre-defined settings and pre-set reports.

Project Master Data

The master data pertaining to the project, such as the plot frames, forms, symbols, etc., are stored together with the project.

This ensures that the project is complete and consistent in itself when it is passed on or data is backed up. Bidirectional comparisons with centrally stored master data are possible.

You can therefore monitor and control the master data used and the entire project can e.g. be adapted as needed to current standards.

Project Structure

The pages and devices in the project can be divided into areas such as functional, location or product aspects. Reports can also be included automatically in this subdivision. The following identifier blocks are available for defining the project structure (norm IEC 81346):

= =	Functional assignment
=	Function designation
++	Installation site
+	Location designation
-	Product aspect
&	Document type (IEC 61355)
	Higher-level function number
	User-defined identifier block

These identifier blocks can also be used to define the device structure in accordance with the norm IEC 81346. The various structuring criteria from the standard (functional, location and product aspect) are mapped in the EPLAN Platform by means of the function designation (functional aspect; preceding sign "="), the location designation (location aspect; preceding sign "+"), and the product aspect (product aspect; preceding sign ""). The position of the "Document type" identifier block and the usage of object identifiers (IEC 61355) can be defined project-specifically. In your own project structure, you can specify user-defined prefixes for higher-level function numbers and user-defined identifier blocks.

The schematics can also be created in accordance with different standards, such as the NFPA standard (USA), the GOST standard (Eastern Europe), the GB standard (China) or the JIS standard (Japan). The system helps users to manage the structure identifiers with descriptive texts, sorting functions, and a usage test. Structure identifiers no longer used can be removed automatically. The order within the structure identifiers for page sorting and reports is user-definable.

Multi-user

Multiple users can edit one project simultaneously in multi-user operation. With the Elements "Professional +" and the included module "EPLAN Multiuser Management" you can see which users are currently working on a project. This allows users to define defined working sections at large projects in order to have a better overview of the project planning.

Please contact EPLAN Support with regard to the hardware requirements for multi-user operation. We can advise you specifically according to your individual requirements.

Pages

The program can use any page format to display the actual page sizes. A scale can be assigned to the page to insert dimensions. This enables schematics to be planned and printed on a wide range of page formats.

The page name can be combined optionally with characters or sub-identifiers.

Documents in different formats such as MS Word or PDF can be integrated as project pages. The complete documentation therefore also includes information that was created using different software applications.

Page Navigator

The pages of a project can be displayed in the page navigator in either a list or tree structure. With the aid of a graphical preview, the important page-based processing steps can be performed here – e.g. creating, opening, copying, deleting, exporting, importing, and numbering pages, editing page header data, etc.

Via the macro technique the current page – and subsequent pages if necessary – can be very easily used as the default solution for an automation-specific task.

Filters can be used to display only those pages that meet specific criteria – for example selected structure identifiers. Pages pending revision can be automatically identified from a large selection and made directly available using this function.

Print and Print Preview

The print preview displays project pages exactly as they are printed. You can choose between color or black and white.

Independent of the paper format, pages are scaled to the page output format of the printer. However, it is also possible to deactivate scaling – this is particularly important for free graphics, which are often printed to scale.

Graphical Editor

A graphical editor allows you to edit the elements on project pages. It can be used to create e.g. diagrams, graphics, mounting panels, macros, symbols, forms, and plot frames.

This gives the areas a uniform, transparent look and feel – and eases familiarization.

Hyperlinks to a document on the network or Internet can be inserted anywhere as text. You can use this functionality to dynamically store further information in the schematic itself, so you can store notes on planning and maintenance exactly where they are needed.

Logical and graphical elements can be grouped and edited jointly using editing functions. The elements can be moved to the foreground or background. By grouping them like this, numerous individual editing steps can be performed in one single action.

Global Editing

Output data can be directly edited on automatically generated report pages. This change acts object-oriented on the entire schematic.

In the reports, the user has an optimal overview over the project data (e.g. an entire terminal strip or bill of materials). He / she can directly carry out the modifications here. Searching for the devices in the schematic can be dispensed with. EPLAN Electric P8 automatically synchronizes the modifications on the reports with the schematic so that the project data are correct and up-to-date.

Working with Texts

Different technical properties can be displayed as texts beside the elements in the schematic. The installed Windows fonts can be used for this. The texts can be scaled and rotated by any angle.

When revising schematics, the layout of texts on the project pages automatically adjusts to the text lengths. Docked texts accommodate each other and don't overwrite each other. Texts are automatically positioned correctly after each change.

A path function text simplifies the documentation, as you don't have to enter a proprietary function text for each component.

In many cases, it's necessary to display data from other objects beside an object in the schematic. To display the relevant information, the system uses block properties.

Data input at one place is then also visible at other places. This eliminates the costs of redundant data maintenance.

Editing a Graphic

The graphical editor provides constructive support with snap points (e.g. end points, center of circle, intersection) for graphical interactions. Graphical elements can be stretched, mirrored, scaled, and rotated. It is possible to insert various image formats on the pages.

A construction mode helps you to align graphical elements to specific points or place them at specific coordinates.

Dimensioning

For dimensioning, there are functionalities for simple dimensions, continued dimensions, incremental dimensions, baseline dimensioning, angular dimensions, radius, and diameter. The dimensioning functions can be used to create norm-compliant mechanical designs and customer-specific drawings.

The representation of dimensions with regard to dimension lines, dimension line limiting, and formatting or moving the dimension value is user-definable. Two units can also be displayed for international projects in order to improve the comprehensibility.

These functions establish the prerequisite allowing you to do without, for example, a separate solution for enclosures, mounting panels, and other mechanical representations.

Symbols

The schematics can be created by joining individual symbols. You select the existing symbols from the Insert center using a graphical preview. While inserting, one of up to eight symbol variants can be selected for a symbol and then be rotated, mirrored and positioned.

The schematics are easier to read due to appropriately preconfigured standardization of the graphics, and the position and format of the texts.

EPLAN provides the symbol libraries that permit norm-compliant project planning as a part of the master data.

You can easily create new symbols yourself. A wizard is available for creating rotated symbol variants.

The graphics and insertion point are rotated as necessary, and the connections are adapted automatically to the rotation. The logic can be assigned to the symbol in the form of a function definition.

The graphical layout and naming of symbols is user-definable and independent of the logic.

Autoconnecting

Connections of components that are horizontally or vertically opposite each other are linked automatically. When inserting and moving symbols or parts of schematics, the system displays a preview of the connections.

Using the Smart connect function, the connections are retained when moving elements. In graphical revisions, the connection of items is therefore retained.

An interruption point allows you to transpose a connection or a potential to another project page the documentation, with the interruption point name being user-definable.

Crossing connections can be used to display exchanges in the connection sequence between elements transparently.

Automatic Cross-reference

The cross-reference displayed in the schematic allows you to display distributed devices and locate the corresponding components from a multitude of project pages securely.

The cross-reference provides different options for configuration and norm-compliant formatting. For example, it can be included at interruption points arranged by row or column as a star or chain reference. It can also be displayed in brackets in accordance with the GOST standard often used in Eastern Europe.

Automatic Contact Image

The system automatically generates the contact image display with cross-references in the schematic and the display of the free elements. Newly drawn elements in the schematic appear in the contact image either on their own as a symbol or in a table cross. Forms in tabular form can also be used in order to allow special forms of representation of the contact image – as is common in the Asian markets.

The representation of connection point designations, cross-references, and part numbers can be configured extensively. The contact image appears at a configurable default position and can be moved anywhere for each element.

Layer Management

Different layers can be used in the drawing. Transparent management permits the generation and labeling of user-defined layers that control font sizes, colors, line strengths, line types etc.

Macros

Macros allow sections of a schematic to be used repeatedly. The partial schematics are saved under a specific name so they can be easily re-used later. Separate macro projects are available for creating and managing macros. You can create different variants and representation types of a macro under the same file name to vary the circuit or rotate the representation. A macro navigator provides the user with a simple overview of their macros and facilitates the management of macros in a macro project.

The advantage of storing parts of the schematic as a macro is that work already performed can be re-utilized for similar tasks. Structured generation and storage produces a knowledge database that can save you a lot of time in similar projects.

Variant Technology

Machines increasingly contain construction variants that are used to implement individual customer requirements and different machine configurations. Optional plug connections for rapid and mounting-friendly exchange of machine components or variable motor control systems for flexible use of a drive are examples that also have an effect through different representations in the documentation.

To simplify the planning of these machine variants the user can store records as variants at the EPLAN macros (meaning as value tables for technical data and parts information). This eliminates the need for manual editing of macros after inserting them. Placeholders can be defined for the data in a macro.

Items / Devices

When you insert a symbol into the schematic, this graphic includes an electrical function. Graphics and logic are managed separately so that real functions can be represented in any way. This can be used to comply with graphically different standards and work regulations.

Devices can be numbered simply and automatically during inserting, either individually or through multiple selection. Identifiers can be assigned norm-compliant or, if required, be defined individually.

Central navigators with special functionalities are available for devices such as terminals, plugs, PLC, cables connections, potentials, and interruption points. These provide you with clear editing options that are independent of the representation on different project pages.

Complex or unknown devices don't have to be described in detail in the program before you can work with them. The black box functionality provides you with a technique that quickly gives concrete results for variable detailing.

The items are automatically managed in device lists and bills of materials. Preplanned devices can be imported and used. The system checks online which components are already integrated into the schematic.

Terminals

In the "Terminals" area, the program includes comprehensive functionalities for terminal strips and terminals.

Terminals can be numbered using numbering schemes and arranged using sort options for positioning the terminals on the terminal strip. Different bridge types and multiple parts can be assigned to the terminals. Users can quickly and easily edit the entire terminal strip by means of the "Edit terminal strip" dialog.

In addition, you can create and manage terminal strips like devices and check them using pre-definitions. It's important to note here that the terminal designations don't necessarily have to be indicated.

Plugs

Plugs can be considered either as an entire component or the individual parts "male pin" and "female pin". Even if the male and female pin are displayed separately in the schematic, the system can manage the correspondence, which permits both connection tracking and comprehensive reports.

Plug-in add-ons form proprietary project pages that you can copy into the project as necessary. Pins can be numbered using numbering schemes and arranged using sort options for positioning the pins on the plug report.

Connections

The system contains a connection navigator that can be used across pages. Various types of connection can be displayed and differentiated – e.g., hydraulics, pneumatics, electrical, process engineering, cable, tube, pipe, wire, wire jumper, saddle jumper, phase busbar, busbar, etc.

You can enter project-wide, potential-wide, signal-wide or network-wide defaults for the properties of connections. Using connection definition points, information can be assigned to each individual connection, e.g. cross-section, color, conductor / connection number, type designation, intrinsic safety, etc. These connection data can be reported and output in forms.

The connections are displayed in the schematic according to configured line data. You can configure the line data for the project, potentials, signals, or individual connections.

Connection Numbering

Connection numbering allows you to automatically or manually assign connection designations. Manually preallocated and automatically assigned connection designations can be used together in a project. You can exclude individual connections from the numbering and freely position the connection designation on the connection (subsequently).

Connection designation formatting is flexible. The designation is not only limited to numbers, but may also contain letters and certain special characters. Certain groups of connections within the function definitions selected for numbering can be formatted differently.

Apart from display in the schematic, the connection designations can also be output in list form, e.g. as a connection list for mounting and in the form of forms. These output options can be used amongst other in label printing machines or for tags.

Cables

Cables can be edited in the navigator for cables or in the graphical editor. In addition to conductors, a cable can also contain optical fibers or tubes (hybrid cable). A cross-reference can be assigned to the cables that simplifies the localization of distributed representations in the schematic.

An automatic run generates and / or completes the cables in the project. There are special formatting options for the system-supported numbering of cables. Multiple shields can also be managed for shielded cables. The cable lengths used in the project can be automatically totaled per cable type to determine the number of cable drums required.

Spare conductors can automatically be specified for cables starting at a certain minimum number of conductors. The work standards of different companies that prescribe a specific number of spare conductors in cabling are fulfilled in this way.

Cable lengths can also be determined automatically with the "FieldSys" module.

Signals & Potentials

The potentials and signals defined in the project can be displayed in either a tree or list structure in a navigator.

You can specify on a connection point whether the connection point is a source for a physical potential. The limits of the physical potential are defined by the source and the consumer. The following settings can be set for potentials:

- Name of potential
- Signal name
- Potential type
- Potential value
- Frequency
- Possible counter potentials.

Potentials or signals can be temporarily highlighted in color to allow a quick overview of their extent. Signals and energy flows can be clearly visualized and securely planned beyond page borders.

Editing Items

Navigators

The different navigators offer page-independent views of the project data. For example, in the device navigator the functions are displayed, whereas in the cable navigator only cables and shields are displayed, and in the terminal strip navigator only terminal strips and terminals are displayed. These dialogs are dockable and can remain open while the project is being edited if you wish.

The data from several projects can be displayed and edited at the same time in the navigators. Filters can be configured so that only the required data volume is displayed.

In the graphical editor, you can jump to every placed component that is selected in the navigator. To do this, the corresponding project page is opened and the component selected. Vice versa a component marked in the schematic can also be synchronized with the navigators in order to find functions belonging together faster.

Parts Management

Parts management is used to store part-specific and supplier-specific information multilingually so that it can be combined with the project currently being edited. Both manufacturer-specific and company-specific part numbers can be managed. The accessories function can be used to assign and manage required or optional accessories for the parts. The program also processes part variants as identical part numbers with partially different sales or technical data.

The data required for the evaluation of the safety of controls can be stored directly at the parts in the parts management. The user does thus not have to compile the safety-related values manually anymore.

You can combine a collection of parts into an assembly that belongs to a device (e.g. a probe with an NO contact, the appropriate mounting and the button). This assembly then receives its own part number and can contain subassemblies.

Assemblies can additionally contain lists of subparts (so called positions) structured by device tag (DT). An assembly can also contain other assemblies.

Parts can be structured to suit the individual perspective of the customer. Standardized structures such as VDMA, ECLASS and ETIM are also possible. The representation in the EPLAN Platform optimally adapts to the existing structure and way of thinking. This allows items to be maintained and gradually selected in a tree view, based on customer-specific criteria.

Data collections from specific manufacturers can be imported or exported. Various data of a part can be copied to other parts of the same type.

If you use foreign-language designations, you can create and edit the parts master data in different languages.

The parts data are stored in an MS Access database or on an SQL Server.

If you already use a program to manage parts that has a suitable interface, the system can link up with this. In the interface, the fields of the external data source are assigned to the EPLAN parts management fields. This assignment is configurable. The system then accesses the external database for these fields instead of it own.

The program fully integrates into existing ERP solutions in this way. Data is stored and maintained centrally.

Device Selection

When selecting defined devices, the system offers parts matching the functionalities drawn in the schematic. This can occur after the design process in the schematic, or as a preselection, after which the design is used in the schematic in a second step.

Defined devices are selected using technical features and parts are automatically offered which have an "appropriate" or a "larger" set of functions than are needed.

Device selection automates time-consuming manual searching through catalogs, supports you in planning by offering the use of existing reserve items, and facilitates automatic checking of schematics for over- or under-assignment of items.

Logic Checks

While editing a project, there may be (intentional or unintentional) inconsistencies or electrical and logical errors. This sort of project error can result in incorrect or incomplete reports.

EPLAN Electric P8 offers you the option of performing logic checks on the schematic pages, which support you when creating correct schematics and reports.

Device data is checked, such as incompleteness in definitions (cables, terminals, contactors, devices, PLC, etc.) or multiple (non-cross-referenced) or no longer existing devices. Function-related checks can also be performed, such as incomplete cross-references or interruption points, incorrect potential definitions, etc. The projects can be checked online or offline. The maximum number of possible off-line check run messages is limited to 10,000 messages.

You can determine yourself which criteria should be checked and how the corresponding messages are to be categorized.

An overview of the inconsistencies discovered in the check runs is displayed in message management. Each message uses an intelligent jump function to enable you to find the corresponding error location in the project. An extensive description and correction suggestions are available in the online help for the project planning messages.

The message texts of the message management are shown in the graphical editor.

At an activated functionality and corresponding type of check ("online / offline") planning errors are visible immediately when they arise in the schematic and can be corrected or avoided immediately.

Bulk Data Processing

Automatic DT Numbering

When inserting or copying new devices into the schematic, you can specify whether their original designations are retained or automatically numbered immediately. A DT is determined and assigned online for every device that you insert. The counter for the DT is incremented by one in the process. However, you can also number devices afterwards in the page navigator, the device navigator, or the graphical editor.

You can use a numbering format to specify which format elements (page, identifier, path, line, counter, etc.) are used in which order. You can check and modify the numbering in a preview before writing it to the project.

For devices connected to a PLC, you can accept parts of the PLC address or the designation of the PLC connection point into the device tag (or the terminal or pin designation). Such an identifier is used for projects, for instance, which comply with the NFPA standard (USA).

An identifier check function is available for checking the validity of the manually input characters for the DT.

Block Editing

Block editing is used similarly for the various objects. First, you select the objects to be edited, then open the Properties dialog. If the same data is entered in the input field on the elements, you see this value. Otherwise, a placeholder appears, which can be edited.

You can change or synchronize the shared properties of the selected objects in this way. Elements found using the search function can also be edited in blocks.

Editing in a Table

Using table editing, different objects on different project pages can be edited together in a single dialog.

The DT and properties of the selected devices are shown in the convenient form of a table and can be edited in blocks.

Editing Data Externally

For direct connection to other programs (such as Excel), you can create templates that can be used to edit the data in the program. E.g., Excel macros can also be stored in the template.

You can specify the data to be considered during external editing of project pages, functions, connections and parts. You can export the data to edit it at another workstation. However, you can also start the external application to modify the data and reimport it into the system.

With the external editing of data, additional data in the EPLAN Platform such as pages, functions, or new parts can be generated in the parts database. The newly generated functions or parts can then by dragged-and-dropped easily into the schematic from the navigators or Insert center.

Finding / Replacing

The search for objects can be defined for the entire project, or just for specific project pages. In addition, you can specify the project in which to look for a search term.

The results of a search are entered in a list of results. You can enter the additional search results in the list of results and replace existing entries. You can also change to the objects on the project pages.

You can automatically replace terms contained in the list of results by new or changed terms by using the Replace function.

Automated Processing (Script)

A script is created to process a project automatically. The actions within a project to be automatically executed are defined in the script.

The user interface can be used to create a simple script with a few clicks of the mouse. Experienced users can rework and extend the script using an editor.

The script can be called by a command line. It then opens the program and performs the defined actions within the project.

EPLAN Assembly Reports

The system includes automatic creation and, if required, online updating of graphical reports such as terminal diagrams, cable diagrams, and bills of materials.

Connected reports for project sections or report types can be grouped into blocks. The reports that belong to a report block are then always updated simultaneously.

The result of the report is displayed in a report page or output to external files, e.g. for the printing of item labels. It is possible to output the report pages into the same or into any other project.

General Reports

- Table of contents
- Title page / cover sheet
- Structure identifier overview
- Plot frame documentation
- Forms documentation
- Symbol overview
- Connection list.

Function-related Reports

- Terminal diagram
  One terminal diagram for each terminal strip. Structure and wiring.
- Terminal line-up diagram
  One terminal line-up diagram for each terminal strip.
- Plug diagram
  One plug diagram for each plug. Structure and wiring.
- Cable diagram
  Cable properties
- Cable assignment diagram
  Shows single-line predefined cables multi-line with male pin assignment.

Revision Overview

- The revision overview outputs the data of the revisions in the project.

EPLAN Interfacing

For the visual identification of devices and connections, directly on the plant site, it is necessary to label them.

Identifying and descriptive information about parts and connections can be prepared for labeling automatically. The data is then output in external applications such as Excel.

EPLAN Article Reports

- Parts lists
  The parts used in the project are listed individually.
- Summarized parts lists
  The parts used in the project are listed individually. Identical parts are consolidated and listed in summary.

Device Tag List

- The device tag list outputs the devices used in the project.

EPLAN Graphical Reports

Connection Diagrams

The connected targets of items are represented graphically in the automatic connection point diagrams. You can tell at a glance how the signal and energy flows between the items are wired.

- Terminal-connection diagram
- Pin-connection diagram
- Cable-connection diagram.

Device Connection Diagram

- The device connection diagram displays the wiring of the connection points from a device-oriented viewpoint. Sorting is device.

EPLAN Administration

Settings

The EPLAN platform allows you to configure the program via settings to adapt it to individual requirements and needs. The settings are divided into four main categories, which are themselves divided into sub-categories. This subdivision is displayed as a tree view in the settings dialog.

- Project-specific settings
- User-specific settings
- Workstation-specific settings
- Company-specific settings

The settings enable you to adapt the system's appearance and behavior to different working methods and specifications.

Form & Plot Frame Editor

Forms display information or results of report runs in graphical form.

Unlike forms, the plot frames define the logical structure of the schematic, i.e. the header, page size and division into rows and columns are specified by assigning a plot frame to a project page.

Forms and plot frames consist of static or dynamic elements such as rectangles, lines, inserted image files, etc. Apart from graphics, macros and symbols can also be inserted into a form or plot frame. As on schematic pages, inserted macros or symbols can also be edited with the functions available for this.

The form editor can be used to adapt plot frames and forms easily to company specifications.

Compressing a Project

In the course of project planning, project data is also generated which is no longer used in the project when planning is finished. This data can also be removed from the project using the compression function. The user defines which project data is removed in the process.

When compressing data, the system checks which project data is used in the system and whether this data is consistent. Only the data used remains in the project.

Elements: Compact +

The optional and fee-based Elements: "Compact+" includes the functionalities and options described below.

EPLAN Mounting Panel also allows for schematic creation and reports the configuration of 2D mounting layouts for mounting panels and enclosures.

Using so called jump functions, you can switch between 2D mounting layout and schematic view. When placing items on the mounting panel, the program can take account of locked areas and mounting differences.

For the 2D mounting layout, the user can generate item legends that can be bound to the project in a number of different ways.

In order to support the various working methods of designers and engineers, it is also possible to perform a 2D mounting layout independent of the schematic. The part placements used in the 2D mounting layout in this context define a device, even if no corresponding function has been placed in the schematic yet.

During placement, devices used in the schematic or existing in the parts preselection can be displayed in a list structure or tree structure.

Items used in the schematic can be placed on a 2D mounting panel. In the course of the placement a check is carried out whether the positioning is taking place on the correct mounting panel. This furthermore immediately indicates which items from the schematic have yet to be placed on the mounting panel.

The data of the items in the 2D mounting layout can be listed automatically. The resulting enclosure legend can be generated as a window legend – i.e. as a freely positionable graphical object – on the same project page as that of the 2D mounting layout. It is alternatively possible to output the legend as a separate form on its own project page.

EPLAN Multiuser allows several users the possibility to edit a project simultaneously in multi-user operation. You can furthermore see which users are currently working on a project with the "EPLAN Multiuser Management" functionalities. This allows users to define working sections in large projects in order to have a better overview of the project planning.

Please contact EPLAN Support with regard to the hardware requirements for multi-user operation. We can advise you specifically according to your individual requirements.

The **EPLAN Overview Reports** offer overviews to be automatically generated and deliver a rapid and correct listing of the items used in the schematic. The following overviews can be generated in this context:

- Cable overview
- Plug overview
- Terminal-strip overview
- Potential & Signal Overview

The potential overview outputs the project data on potentials and signals.

Elements: Select +

The optional and fee-based Elements: "Select+" includes the functionalities and options described below.

EPLAN PLC & Bus Extension supports the user in managing PLC controllers and bus systems.

Several bus systems and PLC controllers can be managed in one EPLAN project. In the process several bus systems can be connected to a PLC or a bus system can contain several PLC control systems. The PLC information in an EPLAN project can be displayed and edited in a dialog.

PLC connections can be re-addressed automatedly and displayed on overview pages. Settings for different PLC types can be saved in schemes and switched centrally.

The wiring of PLC assemblies can be overviewed at every project stage and edited with system support.

Network Structure

The defined network structure can be mapped with symbols on a single-line schematic page graphically. The system then manages the bus IDs with the dependencies of the slave and master configuration. Different communication protocols can be defined directly at the bus plug.

PLC Data Exchange

Various exchange formats, amongst other AutomationML, are available for the exchange of PLC configuration files with external PLC configuration programs.

You can plan the assignment of the PLC card to the rack slot / module in the same way as the bus cable and the type of station of the node model number. The PLC navigator shows which racks and PLC cards are used to form the network structure in the hardware.

Automatically Generating Schematics from PLC Data

PLC functions can be imported from a PLC configuration file or created interactively in the PLC navigator. Assignment lists and hardware configurations from the PLC configuration programs of the manufacturers are used as source data. The Elements "Select+" allows automatic placement of PLC functions and allows the generation of PLC schematics including overview pages at the click of a button.

This allows PLC configurations to be created using special PLC configuration programs which can then be imported into EPLAN and used to generate a schematic automatically. Schematics, PLC overviews, and hardware structures are automatically generated as target data.

Reports can be created in the form of PLC diagrams and PLC card overviews.

The PLC diagram provides information on PLC connection points of the PLC card. One diagram can be created per PLC card.

The PLC card overview represents the physical cards of the PLC, which are detailed in the distributed schematic view by the individual PLC boxes. It graphically displays which inputs / outputs are occupied and which are available, which function these perform, and on which schematic page they are displayed. This type of overview can contain a different number of inputs and outputs, depending on the manufacturer and type.

EPLAN Single Line offers the possibility of creating single-line schematics as part of the project documentation.

This simplifies the creation of higher-level function overviews considerably. There cables, terminal strips and plugs can be defined in advance in order to be included later in the detailed schematic. Single-line representations are also often used to represent the current distribution simply and structured and thus also to determine the protective values.

The system can be used to create single-line representations from macros for graphical pre-planning amongst others. This allows you to create a complete overview very quickly at the start of project planning and therefore simplify the planning of parts to be ordered in advance. If required, the detailed interconnection of items can also be stored in table form in the database in the single-line representation.

There is a synchronization between multi-line and single-line schematics. This allows you to automatically update the other representation when using copy and revision functions.

EPLAN Netbased Wiring allows the planning of the wiring of the components in a plant from the functional view in tabular form. With the so called point wiring you represent which items / connection points that are connected to each other in the schematic. The order of the connections can still remain open at this point. When the spatial arrangement of the components and their optimal wiring has been clarified by the installer later on, this information can be added.

In the case of strongly distributed potentials the net-based representation makes many interruption points and connection lines in the schematic superfluous. The engineer thus represents complex connections in simplified form. The schematic is better structured and easier to read for the installer.

Elements: Collaboration

The optional and fee-based Elements: "Collaboration" includes the functionalities and options described below.

EPLAN Revision Management allows to automatically record and document modifications at existing projects using a revision control. The user can also access older versions of the project and mark the modified project pages with an approval stamp.

If objects were changed in a revision, these are displayed with a graphical marker in the schematic. The revision states created for a project can be output in revision overviews, which can be either printed or inserted into the current project as separate report pages.

EPLAN Project Management offers the possibility of project management across multiple devices in a local client/server infrastructure. Project-specific and non-project-specific information can be stored and displayed in the project management. Projects which are provided via the EPLAN Cloud Service eMANAGE cannot be managed.

To find existing projects via project management from other workstations, the header data of the EPLAN projects can be read into a project management database.

Project properties can be processed in blocks in project management. A complete view of the project header data of a project can also be output. If desired, the users who are currently editing a project are displayed.

EPLAN Change of Standard offers the possibility of adapting an existing project to the specifications of a different standard on the basis of a wizard function. On the basis of suitable templates you can replace plot frames and forms, rotate schematics (Europe – USA), replace symbol libraries and symbols, and adapt designations and descriptions to the target standard.

The described functionalities are only available for certain module packages.
See the Licensing Overview chapter.

EPLAN Multi Language Translation offers the possibility to output mono- or multilingual schematic documentation.
Texts within an EPLAN project are automatically translated. The support of professional translation agencies can be integrated through a data exchange via XML, CSV or TXT. Unicode characters are supported. The "AutoComplete" functionality minimizes manual inputs.

Elements: Professional+

The optional and fee-based Elements: "Professional+" includes the functionalities and options described below.

EPLAN Multiuser Management

Extensive projects are often edited at the same time by several person and are often not transparent for the individual users in view of the amount of data involved. Although the designer only works in a defined part of the project, EPLAN displays the entire project data in dialogs and navigators. In this use case the "EPLAN Multiuser Management" module reduces the amount of data for the individual user.

Defined Working Sections

You can use this option to divide projects structured by identifier blocks into "defined working sections". The division of projects into defined working sections is done on the basis of the existing structure identifiers in the project. Either each user chooses the defined working sections in which he or she wants to work, or the assignment is done centrally by an administrator.

Subproject Management

With this option projects can be divided into smaller subprojects and edited. These subprojects can then be edited independently of the overall project.

Projects can be divided on the basis of different criteria as required, for example by trades or by structure identifiers. The criteria specified by the user for the division are "schemes". The working method also allows comfortable collaboration with suppliers.

The described functionalities are only available for certain module packages.
See the Licensing Overview chapter.

After completed editing, the subprojects can be integrated back into the overall project in order to automatically obtain a complete documentation.

EPLAN Multiuser-Monitor offers additional transparency and an overview of the current editing steps, in particular when editing projects with multiple users. For actions with a corresponding execution time (for example check runs, reports etc.), the multi-user monitor shows the status of the action.

EPLAN Multiuser-Monitor provides information which users are active in which project and which actions are performed by whom in the project.

EPLAN Project Options defines areas of a machine or plant as options and then displays or hides them within the EPLAN project. This way, configuration characteristics or different designs of a machine or plant can be easily represented and managed.

The currently activated project options are considered for reports within a project. Hidden project options are not considered.

A project option can also be displayed transparently. With the transparent display it is also graphically easy to recognize that at this point in the documentation a project option has been defined which is, however, currently deactivated and not considered.

Additional information (e.g. in deactivated project options) can be removed from a project prior to delivery. Special reports give an indication which project options are contained in the project and which ones are selected.

EPLAN Project Reference supports the collaboration between client and supplier.

The incoming or outgoing project can be checked by the supplier as well as the client rapidly and without manual work against the specifications and guidelines of the client. A structured overview of the test results allows a substantiated assessment of the project quality and consistency. The assessment whether the project fulfills the acceptance criteria of the client is thus possible at any time.

The following criteria can be used for a project comparison:

- Is the project free of errors? A project is free of errors if none of the scheduled check runs generate messages.
- Are the project-related settings unchanged?
- Are the project data properties unchanged?
- Are they compliant with the project planning specifications?

Differences to the project specifications are documented by means of a message report.

EPLAN User Rights Management

Access to functionalities and options of the EPLAN Platform can be administered, similar to the Windows rights management.

The usage of dialogs, menu items and commands of the user interface can be restricted using **EPLAN User Rights Management**.

The defined access rights can be defined individually or in blocks and can be assigned to users or user groups.

If certain rights are revoked from a user, the associated menu items will be grayed out. In this way, the system only offers users the commands they need to perform their tasks.

Both users as well as user groups that have already been defined in a company can be transferred simply into the rights management by using Active Directory.

If you want to work with the rights management, the Elements: "Collaboration" has to be used at all EPLAN workplaces in the company. This is the only method of ensuring that a user cannot circumvent the defined rights structure.

Elements: Ultimate

The optional and fee-based Elements: "Ultimate" includes the functionalities and options described below.

EPLAN FieldSys simplifies the planning of the machine / plant cabling. Automatic routing including length determination takes place in 2D and accelerates the creation of a comprehensive documentation. Extensive reports that are created on the basis of the routing results also support the tasks after the engineering process, such as mounting and maintenance.

EPLAN Fluid (add-on) facilitates the norm-compliant planning of hydraulic, pneumatic, lubricant, cooling, and electrical engineering in one central documentation and on a shared engineering platform. Automatic cross-references between the trades simplify navigation and the processing of hybrid construction elements such as e.g. electropneumatic or electrohydraulic assemblies.

The Elements "Ultimate" includes separate symbol libraries for the trades "Hydraulics", "Pneumatics", "Lubrication", and "Cooling".

The user can influence the fluid power-related reports specifically through the differentiation of the trades "Hydraulics", "Pneumatics", "Lubrication" and "Cooling".
The system supports the identification code for fluid power items in accordance with ISO 1219-2 and IEC 81346. A frame can be assigned to device tags at fluid-power items in accordance with the standard.

EPLAN Preplanning Professional (Add-on) allows you to record and manage the technical data for process automation, building technology or automation technology in mechanical and plant engineering in the EPLAN Platform already at an early phase of the engineering process.

The integration of pre-planning into planning ensures significantly reduced expenses, while improving project quality thanks to the data consistency. Thanks to its far-reaching flexibility, EPLAN Preplanning Professional allows for a very easy start into this planning method.

The central pre-planning dialog of the EPLAN Platform is the pre-planning navigator. This dialog displays and manages the pre-planning data defined in a project. Parallel to the view in the pre-planning navigator, graphical machine /

higher-level function overviews or P&IDs in the graphical editor on corresponding pre-planning pages can also be created. This graphical information is linked with the pre-planning data in the navigator and can be edited in both views.

As a further alternative in data acquisition, pre-planning offers a comprehensive import functionality that can be used to import data from Excel tables into the EPLAN Platform. This way, information from other planning departments can be used to generate in EPLAN pre-planning structures through import. External data is compared with existing project data during the import.

The data entered at the segments and planning objects in pre-planning can be output in reports, and can thus be used, for example, for data sheets, bills of materials or for calculations of price and expenditure. From within pre-planning, the detailed planning in EPLAN Electric P8 (schematic) or EPLAN Fluid (fluid schematic) or EPLAN Pro Panel Professional (3D enclosure) can also be created in a subsequent planning phase via Drag & Drop.

The Elements "Ultimate" makes extensive functionalities available for the graphical and database-oriented creation of P&IDs – generally plant overviews.

On the basis of a symbol library you create these plans as an integral component of the machine / plant documentation. This way the required plant data in the EPLAN project database can already be acquired in the pre-planning phase.

The plant data recorded is available in the subsequent disciplines fluid power (in EPLAN Fluid) and electrical engineering (in EPLAN Electric P8 / EPLAN Pro Panel).

Creating P&IDs

The "EPLAN Preplanning Professional" add-on makes extensive editing functions available for the graphical and database-oriented creation of P&IDs – generally plant overviews.

On the basis of a symbol library you create these schematics as an integral component of the machine / plant documentation and can already record the plant data in the project database during the pre-planning phase.

Through the integration into the EPLAN Platform, the project data recorded in the course of the P&ID creation are available in the subsequent disciplines fluid power (in EPLAN Fluid) and electrical engineering (in EPLAN Electric P8).

The described functionalities are only available for certain module packages.
See the Licensing Overview chapter.

Elements: 3D Panel Layout

The optional and fee-based Elements: "3D Panel Layout" includes the functionalities and options described below.

Core component of this Elements is EPLAN Pro Panel (Add-on).

EPLAN Pro Panel (not EPLAN Pro Panel Professional) is used for placing electrical engineering and fluid power devices from the EPLAN project, from the EPLAN parts management or from the EPLAN Data Portal in 3D, as required. In conjunction with mechanical components such as cable ducts, mounting rails, mounting panels, or entire enclosures, "EPLAN Pro Panel" simplifies the construction of complex 3D mounting layouts dramatically.

Using the integrated STEP import, 3D data (solids) is integrated in the EPLAN system using the STEP format to define them in other work steps as EPLAN 3D macros and assign them to existing parts data for further usage, as required.

EPLAN Pro Panel STEP export allows the export of 3D components of a layout space in the STEP format. Information about the solids, analytic surfaces and volumes is exported in as far as it is available in the EPLAN 3D macro. For further use the exported data can be imported for further processing into suitable, external CAD systems.

Available add-on modules

EPLAN FieldSys simplifies the planning of the machine / plant cabling. Automatic routing including length determination takes place in 2D and accelerates the creation of a comprehensive documentation. Extensive reports that are created on the basis of the routing results also support the tasks after the engineering process, such as mounting and maintenance.

The described functionalities are only available for certain module packages.
See the Licensing Overview chapter.

Elements: Data Portal

In connection with an optional and fee-based EPLAN Software Service or EPLAN Subscription contract the Elements: "Data Portal" offers the functionalities and options described below.

EPLAN Data Portal makes web-based device data and master data of notable manufacturers available for direct inclusion in the EPLAN Platform. In addition to alphanumeric parts data, these master data also contain schematic macros, multilingual parts information, preview images, documents, etc.

The data provided by the manufacturers is integrated directly into the EPLAN Platform when downloaded. The option to download each part and component selectively ensures a clear structure and specific updating of your personal parts management.

The EPLAN Data Portal simplifies considerably for the designer the integration of parts data with the engineering process. While planning, the engineer can directly access master data that has been classified and checked for EPLAN compatibility, without time-consuming searching of manufacture catalogs, which thus reduces the project planning time.

EPLAN EDZ format

EPLAN parts records can be imported or exported in the EPLAN EDZ format.

EPLAN ECLASS import

EPLAN parts records can be imported in the ECLASS format.

EPLAN Pro Panel Professional

Virtual 3D Enclosure Design

With EPLAN Pro Panel you conceive and design control system enclosures, switch gears and flexible power distribution systems for the energy supply in 3D. The scope of performance of the software includes 3D mounting layout, virtual 3D wiring as well as the design, modification and customizing of copper rails.

Further functionalities apply to the manufacturing integration: All the project reports, drawings and unfolds including the data required for the machine control that are relevant for manufacturing and mounting can be generated directly in EPLAN Pro Panel. In the form of data for the machining of enclosure components or copper rails as well as the controlling of automatic machines and the use of service concepts for the cable and wire fabrication, the automatic equipping of terminal strips as well as robot-supported wiring of devices. Innovative bundle technologies are also supported.

Innovative 3D Mounting Layout and Wiring

In EPLAN Pro Panel you can choose the workflow approach and engineering method freely. Whether on the basis of device and connection lists, electrotechnical or fluid-power schematics; whether in 3D mounting layout directly on the mounting panel or in the course of the design of busbar systems and flexible power distributors. All the relevant components can be identified very easily and for example mounted on the mounting panel. Thanks to the innovative eTouch technology you place devices and components in 3D just as precisely and simply as in 2D.

Virtual wiring

For perfect wiring of the control technology EPLAN Pro Panel uses the 3D mounting layout and further data sources, such as the schematic. Virtual wiring of the enclosure is carried out on the basis of the combination of the exact position of the item in the mounting layout and the connection information. At the

click of a button the system determines the optimum conductor and cable routing tracks as well as all the resulting connection lengths.

EPLAN Pro Panel Copper

Measuring, cutting, bending, fitting and connecting: Copper rails are an important factor in planning current distributors. The "EPLAN Pro Panel Copper" extension module can be used to plan individual busbar systems and flexible current distributors including the copper rails to be bent and their connections, and to fit them to the installation situation. All the required data for drill holes, punched holes, bending angles or radii are also provided in the form of drawings and machine data for NC-supported manufacturing.

EPLAN API Extension

The optional "EPLAN API Extension" extension module allows you to control EPLAN externally through a programming interface or to extend and customize it customer-specifically. The program functions available in EPLAN are structured in modules. They can be addressed directly from other programs through the programming interface. It is also possible to integrate customer-specific extensions into the EPLAN user interface.

You generally only need a text editor and a ".NET Compiler" for this functionality. For development support, we recommend an integrated development environment such as "Visual Studio".

Languages supported by .NET can be used as programming languages. The code can be directly loaded, compiled, and executed in the system as a script.

The programming interface can be used to adapt the system very much to your requirements. Maximum integration is achieved in this way, reducing work processes and accelerating the workflow.

Hardware Requirements

Workstation

The computer platform is a PC with an Intel Core i5, i7, i9 or compatible processor. Rather select a high-speed computer with less CPU cores than a slower computer with more CPU cores.

Recommended Workstation Configuration

Processor:	Multicore CPU, not older than three years
RAM:	16 GB
Hard disk:	500 GB
Monitor / graphics resolution:	2-screen solution with a resolution of at least 1280 x 1024 recommended 1920 x 1080
3D display:	Graphics card from ATI or Nvidia with the latest OpenGL driver

Network

We recommend using a Microsoft Windows network.

Net transfer rate of the server:	1 Gbits/s
Net transfer rate of the client computer:	100 Mbits/s
Recommended latency	< 1 ms

Multi-user

With regard to minimum requirements for multi-user operation, please contact EPLAN Support. We can advise you specifically according to your individual requirements.

Software Approvals

In the current Version 2022 the programs of the EPLAN platform are available as a 64-bit version.

Operating Systems

The EPLAN Platform supports the 64-bit variants of the Microsoft operating systems Windows 10.
The EPLAN user interface language installed must be supported by the operating system.
The Microsoft .NET framework 4.7.2 is required to operate the EPLAN platform.

The program is identified by EPLAN as compatible in accordance with the requirements specified in this performance description on the following operating systems:

Workstation

- Microsoft Windows 10 (64-bit) Pro, Enterprise
  Version 1809, 1903, 1909, 2004, 20H2

Server

- Microsoft Windows Server 2012 R2 (64 bit)
- Microsoft Windows Server 2016 (64 bit)
- Microsoft Windows Server 2019 (64 bit)

Citrix-Server

- Terminal-Server with Citrix XenApp 7.15 and Citrix Desktop 7.15

Microsoft Office Products

Prerequisite for the creation of Microsoft Office file formats from EPLAN is that an executable MS Office version that is identified by EPLAN as compatible in accordance with the requirements specified in this performance description is installed on the computer.

- Microsoft Office 2016 (64 bit)*
- Microsoft Office 2019 (64 bit)*

*Please observe the notes in the information portal (www.eplan.help).

SQL Server (64-bit)

- Microsoft SQL Server 2016
- Microsoft SQL Server 2017
- Microsoft SQL Server 2019

PDF Redlining

- Adobe Reader Version XI
- Adobe Acrobat Version XI Standard / Pro
- Adobe Reader Version DC
- Adobe Acrobat Version DC Standard / Pro

Licensing Overview

✓ Standard functionality O Optional - Not available

EPLAN Electric P8	Compact	Select	Professional
Schematic pages	40 max.	Unlimited	Unlimited
EPLAN Assembly Reports	✓	✓	✓
EPLAN Interfacing	✓	✓	✓
EPLAN Article Reports	✓	✓	✓
EPLAN Graphical Reports	-	-	✓

Licensable elements	Compact	Select	Professional
Compact +	O	✓	✓
EPLAN Mounting Panel			
EPLAN Overview Reports			
EPLAN Multiuser			
Select +	-	O	✓
EPLAN PLC & Bus Extension			
EPLAN Single Line			
EPLAN Netbased Wiring			
Collaboration	-	O	✓
EPLAN Revision Management			
EPLAN Project Management			
EPLAN Change of Standard			
EPLAN Multi Language Translation			

The described functionalities are only available for certain module packages.
✓ Included O Optional − Not available

Professional+	-	O	O
EPLAN Multi User Management	* Requirement is the "Select" module package		
EPLAN Multi User Monitor			
EPLAN Project Options			
EPLAN Project Reference			
EPLAN User Rights Management			
3D Panel Layout	O	O	O
EPLAN Pro Panel (Add-on)			
STEP Import			
STEP Export			
Ultimate*	-	-	O
EPLAN FieldSys	* Requirements are the module package EPLAN Electric P8 Professional and the Elements "Professional+"		
EPLAN Fluid (Add-on)			
EPLAN Preplanning Professional (Add-on)			
EPLAN Pro Panel (Add-on)			
STEP Import			
STEP Export			

Errors and changes reserved.

The described functionalities are only available for certain module packages.
✓ Included O Optional − Not available

Licensable add-on systems and modules	Compact	Select	Professional
FieldSys	-	O	O
Fluid Compact (Add-on)	O	-	-
Fluid (Add-on)	-	O	O
Pro Panel Professional (Add-on)	-	O	O
Preplanning Professional (Add-on)	-	O	O
Cogineer	-	O	O
Cogineer Advanced	-	O	O
API Runtime	-	O	O
Data Portal	O	O	O

The described functionalities are only available for certain module packages.
✓ Included O Optional − Not available