ESplan® Data Sheet Version R15

Application Area:
2.5 D CAE / CAD comprehensive electrical engineering software program for electrical and fluid documentation, process diagram, flow diagrams, R & I, switching and control engineering plans, hydraulics, pneumatics, installation engineering and free Constructions.

ESplan® Range of Functions:

- Modern User Interface / Window technology
- 2,5 CAD Functions
- CAE Functions
- CAE Reports / Lists
- 3D CAE Data base

ESplan® CAE Functions: Creation / Construction / Engineering

- Typs of Planning: Graphic-, Functional-, Article- and Resource-oriented
- Planning by using standardized resources such as Sample projects, Project pages, Standard sheets, Forms, Symbologies, Macros, Page copies and Planning with the use of logical page groups and structure copying-technology
- Automation by Form generation manager
- Project structures: plant / location / DTag / function / field / field distributor / field box / measuring point freely combinable, also project-independent configuration possible
- Plant-/Site Editor for renaming Plant/Site structures in real-time
- Plant-/Site-structure copy between different projects
- Connecting technology: Auto connecting horizontal/vertical, can be switched on- and off, live connection in move functions, multi-pole free drawing
- Plant- Site boxes: intelligent side group structure copy with logic control free and according to A/O
- Conduct- /Cable management: Wire Core, Exchange Wire, Link/Wire Information, Merge Lines, Split, Lines, Screen, Screen in Screen
- Potentials and Signals: Rails, Signals, Management, differentiation Rail – Wire
- Cross-references: Automatic linking of connections, Devices/Elements (Auxiliary Contacts, PLC Channels, Potentials, Signals, Cables, etc.), Free Links
- Cross-references types: Contact mirror, Contact bridge, Master/Salve, Chain, Star, Devices (Distributed representation), Break-Off Points
- Templates or Automation: Circuit diagrammer, Templates projects, Value-Based exchange of resources, Macro Variant technology, Project Options technology, Connection of Configurators
- Layer management: Complete Layer management according to CAD style. Switchable and can be switched off and freely assignable also for Symbols, Macros. No distinction between E and M, intelligent functionality given on each side.
- Mass Processing: Attribute values, Resources, Documents, Articles, List-dependent selective editing and ODB Symbol database
- Terminal block processing: Bulk processing of Bridges, Exchanging terminals, Accessory management, Cascading bridges, Main objectives, N-secondary destinations, 4 Bridges per terminal, Terminal group formation, Terminal blockbrowser with comprehensive group, labeling, N-pole terminals, Insertion, Shifting function, etc. in graphical Display with preview and navigation. Also available as clamp type solder distributor. Merging of bars possible (Realtime) Loading and saving of strip layouts. Block clamping technology and free clamping technology. Inter and external layer switching, Plug/Socket management.
- Multi-terminal blocks: N-floor, Administration in connection with terminal blockbinders. Also mechanical representation in the terminal plan, Solder distributor.
- Copying: Cross-Page and Cross-Project copying, Pages, Subscharts, Devices, Cutting and Pasting wiht automatic updating. Intelligent merging in real-time of functions modules with and without preservation, Macros, External project pages, External project areas.
- Blackbox: Device box or device box, QVW with distributed display
- Greybox: possible via distributed device or via layer technology.
- Signal management

ESplan® CAE Functions: (continuation)

- AO-Box Function: Creation and Editing
- Slot und Rack Processing: Creation and Editing
- Wiring type: Point and Target wiring
- Direct editing of the Switching data in forms, databases and circuit diagram
- Project data processing (real-time) MultiThreading (no generation runs)
- Project Pages Limit: Unlimited
- Simultaneous editing of several project pages.
- Delete and Insert Pages
- Logical and Physical Page counter
- Plan translation system in other Country languages with lexicon, optionally as a UNICODE version for language translation in e. g. Arabic, Chinese, etc.
- USE Police Management UPM (ESP User rights management in the network)
- Circuit diagram Assistant for automatic project development
- Switch cabinet-Construction modul
- Part of the project-Export
- Geometry Exporter, Output parametrizable in ASCII (for controlling CNC Systems)
- Plan data Exporter, free parametrizable and in SQL
- Programmable, (Outputs in ACCESS, EXCEL and ASCII)

ESplan® Performance and Reports:

- Free Creation of Symbols, Macros and Drawings
- Easily and quickly create and program forms and drawing frames
- Revision management with list and image data storage
- LifeCycle Revision management EN 15016 (graphic comparison Red/Yellow)
- Send of compressed projects via E-mail
- Archiving System for ESP projects
- ESP Viewer
- Real-Time evaluation of all current flow data: Cross-references, Terminals, Cable, Parts lists, Construction plans, Terminal wiring diagrams, Billboard construction, table of contents, etc.
- Protected type editor with resource management
- Virtual labeling of the DTag´s with different labeling types and free labeling with contracting control
- Occupancy control of distributed devices (Contactor, Potentials, Termination marks, PLC, etc.)
- Block terminals management with graphical terminals Display in plan (Hardware-oriented)
- Free clamping technology labeling and positioning in the Terminal plan via Terminal index line
- Device box function for the immediate creation of black boxes in the plan
- Plants/Site window function: allows to create a different plant and area in the form of a rectangle on a page with assigned plant and location ID.
- Symbolic cable function, cable function with cable database
- Cable unions single-pole splice able with single-wire management Wire cross-reference
- Automatic switch cabinet construction
- Automatic terminal connection diagram
- Automatic index creation
- Automatic creation of tabular terminal diagrams
- Automatic creation of DIN terminal diagrams
- Step piece list
- List of totals
- Cable connection plan
- Cable plan
- Connection list
- Revision logs
- Soldering distribution plan, Soldering-Soldering, Plug-Soldering, etc.

ESplan® CAD Functions: 2D CAD Construction

All CAD functions can be carried out parametrically in the scalable coordinate system (based on the AutoCAD © standard of drawing, capture, processing functions).

Basic Functions:

- Own 2.5 D CAD core (similar to AUTOCAD ©) with dimensioning
- Layer technology and administration
- ESP-Fonts, Windows-TrueType, ESP-Vector- Fonts, AUTOCAD® SHX Fonts
- Freely definable grid in X, Y and switchable raster
- Parametric design in scales and units
- Predefined and free sheet size selection, horizontal and vertical
- ISO construction support in signs and grid functions
- DXF-Export/-Import
- DWG-Export/-Import
- DWG Direct Editor
- BMP Import

Processing-Functions:

- Trimming functions
- Object trimming
- Contour
- Chamfers
- Round
- Cutting
- Tangents
- Lot
- Copy with Lot
- Copying
- Copy constructively
- Copy with Clipboard
- Slide constructively
- Slide with Lot
- Reflect
- Change line length (parametric)
- Turning
- Scaling
- Break
- Central parameter modification of all objects

Graphic-Primitives:

- Lines / Arcs / Rectangle
- Circles
- Ellipse (fully parameterizable)
- Text-Types (TTF, ESP SHX, AutoCAD© SHX)
- Polygons
- Hatching / filling surfaces
- Equidistant
- N-Corner
- Spline
- Ring
- Drilling

Catching-Functions:

- Object Endpoint catch
- Object Midpoint catch
- Object Intersection Catch
- Centre catch (Circles, Arcs, Polygons, etc.)
- Quadrant Points
- Lot
- Tangents
- Next Point
- absolutely polar/Cartesian
- relative polar/Cartesian
- go to (polar/Cartesian)
- Catch from
- Object Selector
- Point determination
- Catch between 2 points

Dimensioning (associative):

- Length dimensioning
- Oblique dimensioning
- Circle dimension
- Range of dimensions
- Baseline dimensioning
- Chain dimensioning
- Angular dimensioning
- Changeover dimension type (Architecture, Mechanical Engineering)

ESplan® Operating: Desktop and Window display

- Windows Desktop Operating System „look & feel“ freely adjustable classic to Office 2007
- Uniform surface across all trades
- Freely adjustable work surface
- Predefined, also freely adjustable and producible toolbars
- MDI technology with dock able windows and implementation with riders: Simultaneous window presentation: database (structures, resources), project page preview, symbol preview, macro preview, documents, clipboard, navigation preview on objects, project structure, presentation of the projects and pages
- Magnifying glass and master magnifying glass
- Terminal blockbuster
- Simultaneous opening of several projects
- HMI Dialog-/ Command line
- Online-Help
- Navigation, Navigation from Documents, Search navigation
- Pass-Over-Activation
- Text search and/or –change
- Article search and/or –change
- Symbol search and/or –change
- Project check / analysis for data inconsistencies of all types: potential sources without continuation, open breaks, unauthorized contacts, free contactor coils, cross-reference breaks, distributed devices, etc.
- API command / script language, player, recorder, circuit diagramer, project wizard

ESplan® System features:

- Multi-core processor support
- Multithread technology (parallel processes in real-time)
- Operating mode: mouse, menu, keyboard
- Networkable under Windows Server 2003 and 2008
- Single or multiple screen solution
- Object-oriented programming and architecture
- Performance-based file and database management
- Windows Standard Database connection to all ADO / ODBC-capable DBs
- Available in German and English

ESplan® System requirements:

Operating System:	Windows Vista, 7/8/10, (32/64 Bit)
Hardware:	Commercially available PC, Mouse, Keyboard,
Screen:	at least. 2 GB random access memory
	> 2,6 GB Hard disk during installation
	> 500 GB Working Hard disk
Processor:	from Pentium IV / 2,6 GHz or compatible

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