

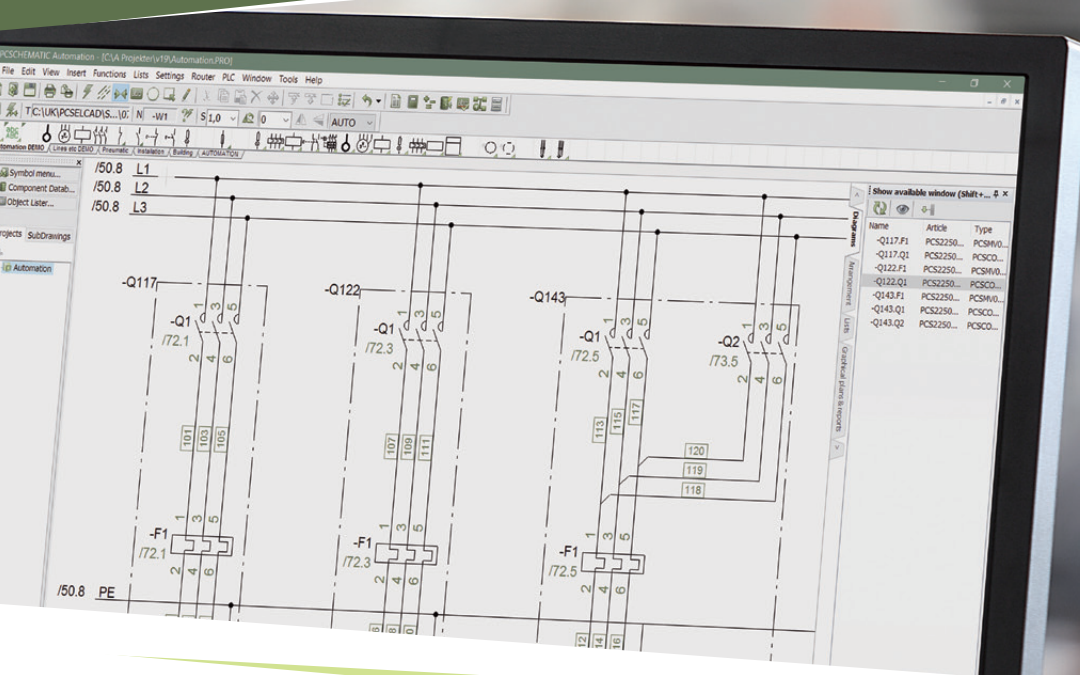
ELECTRICAL CAD SOFTWARE

– All modules included



AUTOMATION PROJECTS

– and much more...



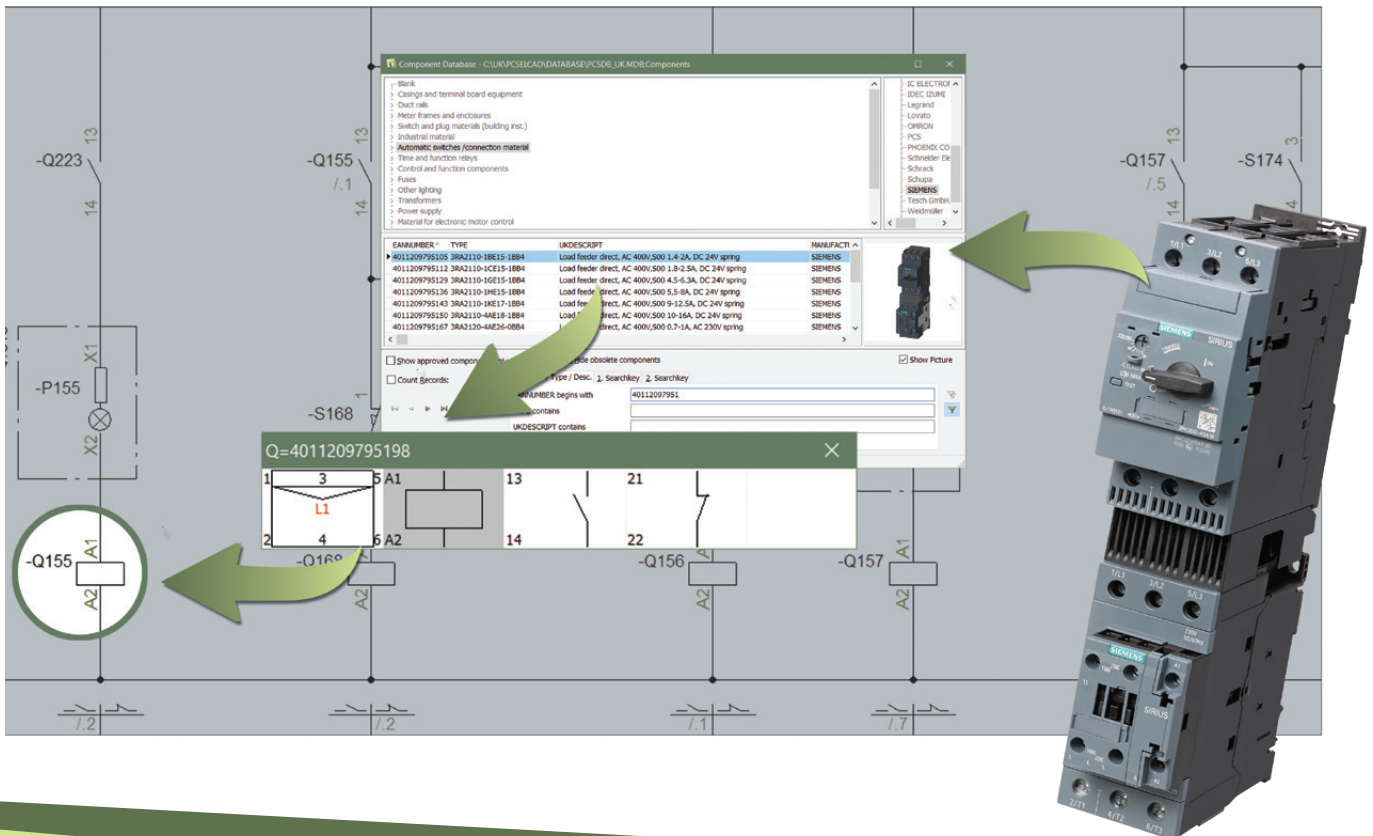
PCSCHMATIC Automation is an advanced electrical CAD software that sets you free to focus on your professional challenges, while the software handles the practical details. Automation has an intuitive workflow, which allows you to get started right away – well supported by the free tutorials on the PCSCHMATIC YouTube channel.

The software handles reference designations intelligently according to IEC/ISO 81346, and includes symbols for automation, PLCs, topology / bus connections, single line diagrams, pneumatics/hydraulics, house installation and more.

This brochure describes selected functions in the Automation software in bullets. All of the functions are available in any variant of Automation, because all variants of the software contains full functionality and includes all available modules.

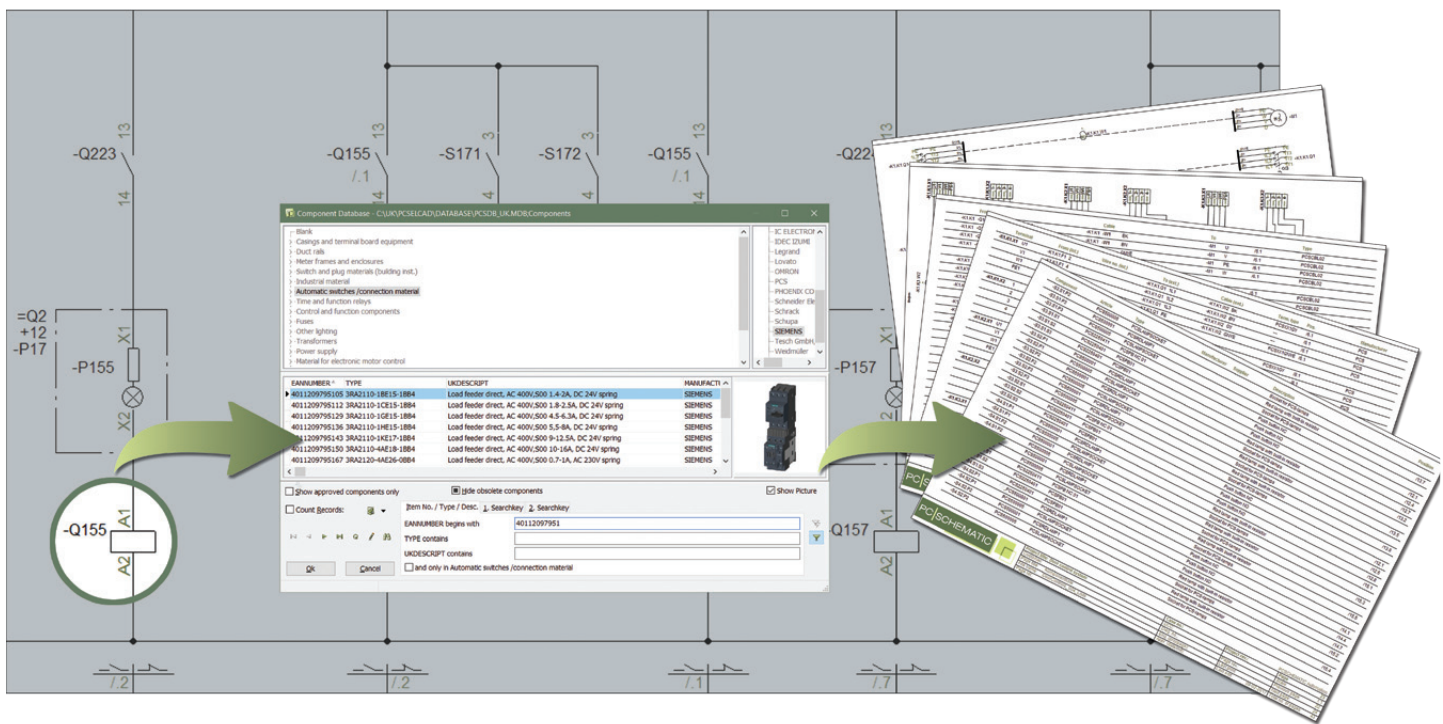
At the last pages of this brochure, you can see a more thorough feature list. For more detailed information about the software, please refer to the Automation whitepaper.

COMPONENT BASED WORKFLOW



- Automation includes a comprehensive & advanced component database: Electrical & mechanical symbols are attached to all components
- Automation has a unique component based workflow: Select a component in the database & get all of its electrical symbols automatically. Place the symbols in the diagrams & component data is attached automatically
- When you copy symbols, areas or pages, article data are also attached to the pasted symbols - with intelligent renaming
- Show available and/or used symbols for all project components
- Flexibility: You can also work with symbols without attached data
- Specific intelligent symbol properties due to component type
- Expand the component database easily: Wizard for fast creation of components with attached symbols and data
- Comprehensive IEC symbol libraries

AUTOMATIC LISTS and Graphical reports



- All list types included: Tables of contents, parts lists (BOM), component lists, terminal lists, cable lists, connection lists, label lists, plc lists etc. (all user definable)
- Lists updated automatically – based on the data attached to the symbols in the diagrams
- Lists on page, chapter & project level – and by reference designations
- Export all lists as files – wire number files, connection list files etc.
- Graphical Cable, Terminal and Connection reports generated automatically – just specify the settings & click Generate
- Symbol documentation (legend) generated automatically
- Interfaces to relevant 3rd party softwares

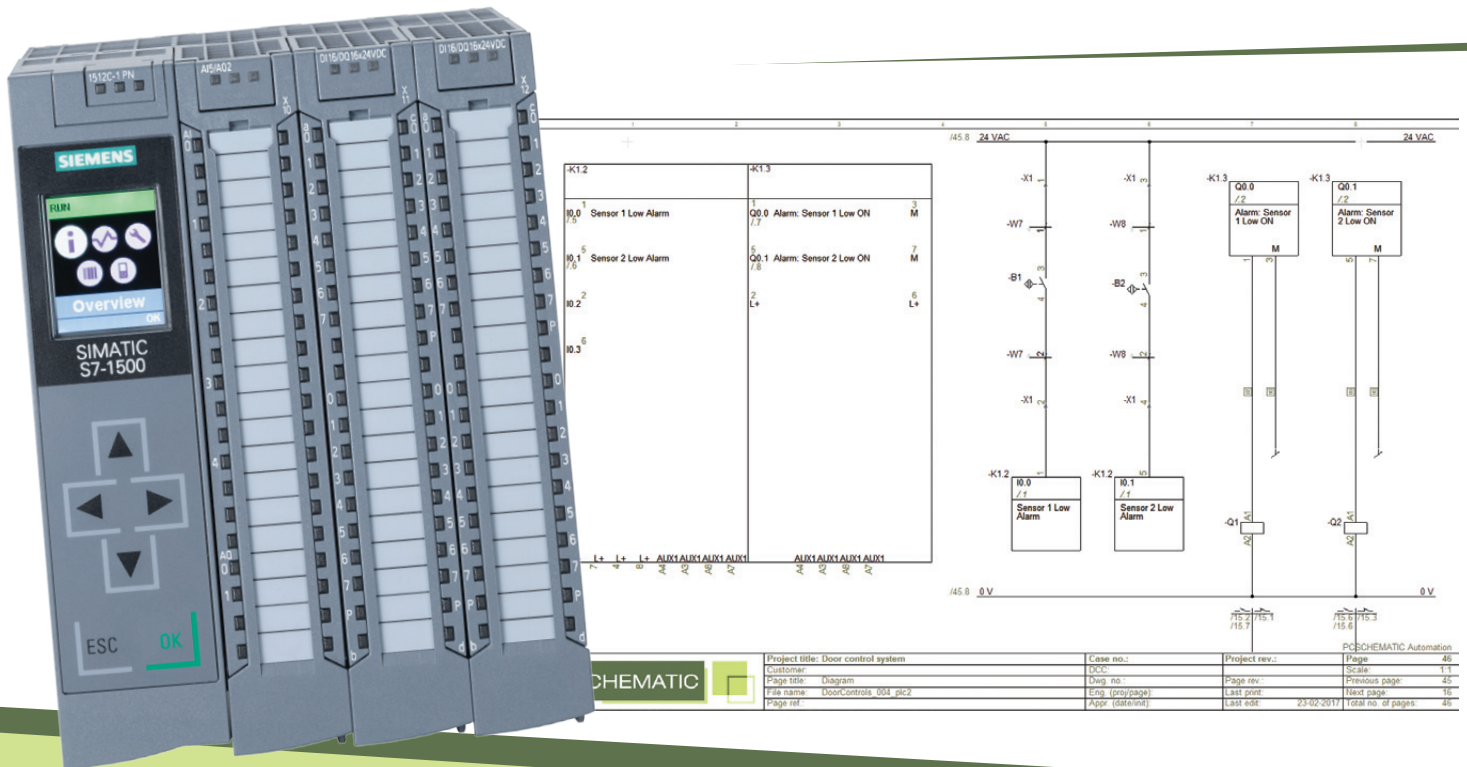
NET NAVIGATOR

and Intuitive project navigation



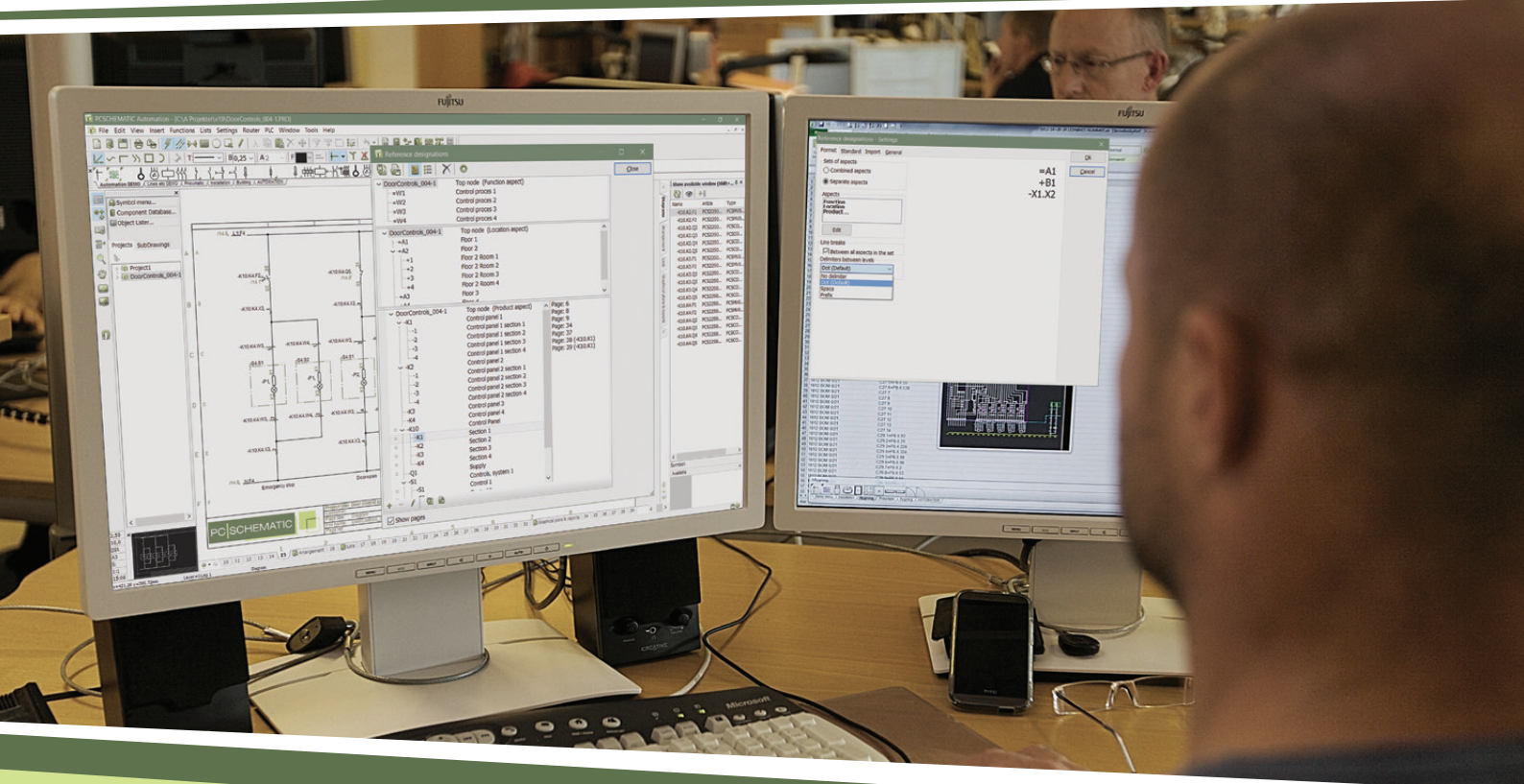
- Multiple possibilities for intuitive navigation in projects
- Net Navigator for easy navigation through electrical potentials
- Cross references created & updated automatically for components: Click and jump between all symbols for a component – or click in lists and jump directly to the component in the diagram
- Explorer window for locating chapters, pages, components, symbols and reference designations
- Object Lister for easy identification and editing of any object
- Design check – such as check for short circuits and missing connections
- Fast navigation when finding errors

ADVANCED HANDLING OF PLCS



- Place PLC symbols directly from the database – just place the symbols and component data is attached
- Flexibility: Draw your I/O functions first – let Automation support you in selecting the right hardware configuration
- Automatic PLC card overview (PLC reference symbols)
- Automatic PLC I/O addressing
- Cross-page PLC editing
- Automatically updated cross references between PLC symbols
- User-definable channel settings & support of complex analogue PLCs
- Wizard for easy creation of PLCs in database with symbols attached – including reference symbols and symbols for I/O, supply & bus structure
- Import/export PLC I/O files to/from diagrams – e.g. via Excel
- Integration with PLC configuration tools – e.g. Simatic TIA configurator

REFERENCE DESIGNATIONS



- Flexible software: Apply a product approach & start drawing diagrams without defining a general structure – or apply a solution approach & start by defining reference designations.
- Creation and handling of reference designations at component, area, page and project level (function, location and product aspects) – according to IEC/ISO 81346, RDS/PP, KKS or user defined standards
- Reference designations handled intelligently when changing, copying and merging areas, pages and projects
- Use reference designations to easily generate documentation variants, based on which options your customers select

MOUNTING ASSISTANT

based on circuit diagrams

The software interface displays the following connection table:

Cable name	Potentiale	Wire number	Wire data
-Q1.F1:1			
-K1.X1:L1			
-K1.F1:1			
-Q1.W1			

The detailed connection list table is as follows:

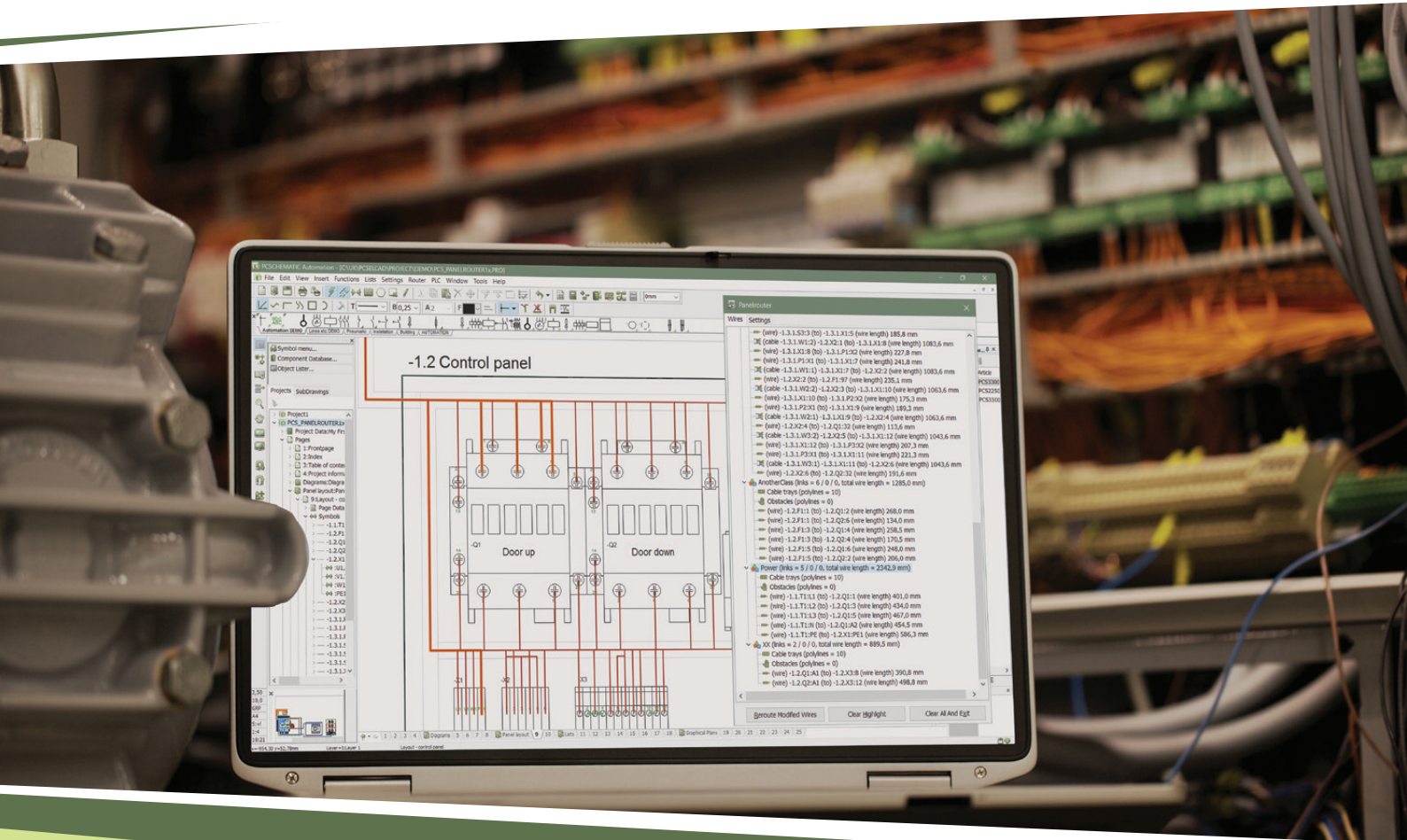
From	To	Potentiale	State
-Q1.T1:L1	-Q1.F1:2		⌘
-Q1.F1:1	-K1.X1:L1		⌘
-K1.X1:L1	-K1.F1:1		⌘
-K1.F1:1	-K1.F2:1		⌘
-K1.F2:1	-K1.F3:1		⌘
-K1.F3:1	-K1.F4:1		⌘
-Q1.T1:L2	-Q1.F1:4		⌘
-Q1.F1:3	-K1.X1:L2		⌘
-K1.X1:L2	-K1.F1:3		⌘
-K1.F1:3	-K1.F2:3		⌘
-K1.F2:3	-K1.F3:3		⌘
-K1.F3:3	-K1.F4:3		⌘
-Q1.T1:L3	-Q1.F1:6		⌘
-Q1.F1:5	-K1.X1:L3		⌘

Control options for the list:

- Show in the list above:
 - All
 - Mounted
 - Not mounted
 - Ignored:
 - Stucked:
- Selected links: 273
- Mounted: 0
- Ignored: 0
- Stucked: 0
- Highlight in the diagram:
 - Mounted
 - Not mounted
- Total number of links: 273
- Mounted: 0
- Not mounted: 273

- Mounting Assistant: Presents all connections in the electrical diagrams in mounting order – e.g. by reference designation, power potential, component or page
- Keep track of the mounting process easily: Overview over and control of mounted wires and components
- Quality assurance: Every action is logged with user name and time stamp
- Project changes are easily transferred to the workshop
- Easy sharing of mounting status information

PANEL ROUTER and Mechanical layouts



- Mechanical layout (General arrangement):
Get mechanical symbols with correct dimensions for the used components automatically – from the database
- Panelrouter for automatic routing of wires in panels:
Based on the electrical connections in the diagrams, the Panelrouter finds the shortest wire paths. Easy tools for redirection included
- Links from wires on mechanical layouts to the corresponding wires in the electrical diagrams
- Output of wire lengths
- Check for capacity in wire trays and conduits
- Check of jumper link dimensions etc.

PROJECT GENERATION, sub drawings and templates



- Intelligent reuse of data – e.g. intelligent copying of areas and pages
- Project, page and list templates
- Circuit diagram macros (sub drawings)
- Variants on sub drawings – use the same drawings for different hardware configurations
- Generate projects by just dragging in templates and sub drawings
- Project Generator: Generate full projects automatically from Excel file
- Customizable text and page setup for individual customers

INTELLIGENT PDF FILES



- Intelligent export to PDF
- Component and line data available in PDF file
- Links between symbols for the same component in PDF file
- Links from the component in the lists to the component in the diagram
- Links from tables of contents to project chapters
- Easy way of delivering non-editable documentation to customers

PANEL BUILDER and House installation



- Panel Builder included for automatic documentation of small panels
- Select the components and the panel layout is generated automatically
- Single line diagrams are drawn automatically based on the panel design
- The Panel Builder creates full documentation for small switchboards and panels according to EN 61349-1 and 3 concerning power dissipation calculation and more – labels for CE marking included
- House installation: Place different installation types on separate layers
- Individual components and parts lists according to layers
- Drawing in elevation
- Cable lengths calculated
- Import/export of DWG/DXF files

API, MODULES, networks and licenses

```
ShowMessage('Not a valid font');
end;
end;

if (PCsApplication.ActiveDocument <> NIL) and (ChangeFont) t
begin
with PCsApplication.ActiveDocument.Drawing do
begin
for p:=0 to LibTypes.Count-1 do
begin
ChangeTexts (LibTypes.Item[p].SymbolTexts);
ChangeTexts (LibTypes.Item[p].Texts);
ChangeDatafields (LibTypes.Item[p].DataFields);
for u:=0 to LibTypes.Item[p].Connections.Count-1 do
begin
ChangeConnTexts (LibTypes.Item[p].Connections.Item[u]
if (LibTypes.Item[p].Connections.Item[u].Reference<>
(LibTypes.Item[p].Connections.Item[u].Reference.Re
ChangeText (LibTypes.Item[p].Connections.Item[u].Re
end;
end;
for p:=0 to Pages.Count-1 do
with (Pages.Item[p] as IPCsPage2) do
begin
ChangeTexts (Texts);
ChangeDatafields (DataFields);
for s:=0 to PageHeadersCount-1 do
ChangeSymbolText (PageHeaders[s]);
for s:=0 to Symbols.Count-1 do
ChangeSymbolText (Symbols.Item[s]);
for n:=0 to Lines.Count-1 do
begin
if Lines[n].LineTexts<>NIL then
ChangeTexts (Lines[n].LineTexts as IPCsTexts);
if Supports (Lines[n], IPCsReferenceFrame) then
ChangeText ((Lines[n] as IPCsReferenceFrame).Name
end;
end;
--4.
```



- Create your own modules and scripts for Automation
- Full documentation of open API interface included
- Administrator program for customizing user access
- Server installation and workstations
- Network licenses
- Available in 13 languages

FUNCTIONS IN AUTOMATION

	Automation 40	Automation Flex	Automation Smart	Automation Advanced
Overview and navigation				
Project oriented: All parts of a project gathered as pages in a single file – including diagrams, mechanical pages, lists, tables of contents, chapter dividers etc.	✓	✓	✓	✓
Enhanced Explorer window: For easy navigation between projects and project pages, and for finding symbols etc. in project pages	✓	✓	✓	✓
Net navigator for easy navigation through electrical potentials	✓	✓	✓	✓
Cross references are created and updated automatically for all types of components: Click and jump between the symbols for a component, or click in lists and jump directly to the component	✓	✓	✓	✓
Object Lister for overview over all objects in the documentation – and for editing their attached texts/ data. (Texts can also be edited by clicking on the individual texts in the project pages)	✓	✓	✓	✓
Show available window: Easy access to all components with unused symbols/functions	✓	✓	✓	✓
Reference designations, templates, sub drawings, project generation ...				
Creation and handling of reference designations at component, area, page and project level (function, location and product aspects) – according to IEC 81346, KKS or user defined standards	✓	✓	✓	✓
Reference designations handled intelligently when changing, copying and merging pages and projects	✓	✓	✓	✓
Project, page and list templates – just drag them into your projects	✓	✓	✓	✓
Sub drawings / sub diagrams with attached article data – just drag them into your projects. Possible to select different sets of model data for each individual sub drawing	✓	✓	✓	✓
Module and Model Based Drag'n Draw: Create full projects just by dragging in pages, sub drawings, lists and sub projects	✓	✓	✓	✓
Automatic project generation via project definition file – e.g. via Excel ("Autodiagramming")	✓	✓	✓	✓
Automatic project generation based on selected options	✓	✓	✓	✓
Panel router for automatic routing in conduits	✓	✓	✓	✓
Mounting assistant for overview over and control of mounted components and wires	✓	✓	✓	✓
Databases, components and symbols				
Databases from 48 component manufacturers created designed specially for PCSCHEMATIC. All components have attached both electrical and mechanical symbols	✓	✓	✓	✓
Component wizard for quick and effective creation of own components with attached symbols	✓	✓	✓	✓
Unique timesaving database workflow: Symbol pickmenus for all multi-function components in the database – just click and place the symbols in the diagrams and article data are attached automatically	✓	✓	✓	✓
Advanced copying: All symbols and their reference designations are renamed intelligently – e.g. when copying symbols and areas, or when inserting subdrawings, subprojects and projects. Attached article data are included when copying	✓	✓	✓	✓
Rename symbols and Insert name at project level	✓	✓	✓	✓
Automatic load of mechanical symbols for the components used – handled by the database	✓	✓	✓	✓
Number of cable wires and colour codes controlled by the database	✓	✓	✓	✓
Easy search for / editing of data for symbols and components	✓	✓	✓	✓
Automatic documentation of symbol libraries and applied symbols in projects	✓	✓	✓	✓
Comprehensive IEC 60617 symbol libraries	✓	✓	✓	✓
Design your own symbols as well as Symbol generator for quick generation of simple symbols	✓	✓	✓	✓
PCSCHEMATIC Database program Included for handling component data in e.g. Access	✓	✓	✓	✓
ODBC and MDAC interface for communication with database systems	✓	✓	✓	✓
Drawing functions				
Easy to get familiar with the program – and easy to create and maintain documentation	✓	✓	✓	✓
Reuse existing documentation intelligently	✓	✓	✓	✓
Automatic naming of all types of symbols	✓	✓	✓	✓
Handling of subnames on symbols – including individual references	✓	✓	✓	✓
Automatic naming and update of symbol names according to current path numbers possible	✓	✓	✓	✓
Reference crosses or contact mirrors with cross references – click and jump to the individual symbols for the component	✓	✓	✓	✓
Replace symbol function: On project or page level, and for individual symbols	✓	✓	✓	✓
Handling of multi-layer terminals – electrically, mechanically and in lists	✓	✓	✓	✓
Mounting correct drawing supported – with option to display in "dot" drawing mode	✓	✓	✓	✓
Counting functions in numerous numbering systems	✓	✓	✓	✓

	Automation 40	Automation Flex	Automation Smart	Automation Advanced
Single-line and multi-line diagram features	✓	✓	✓	✓
Lines are closed automatically when symbols are deleted	✓	✓	✓	✓
Router: Automatic drawing of connecting lines – for instance when placing symbols	✓	✓	✓	✓
Aligning, spacing and trimming functions	✓	✓	✓	✓
Handling of jumper links and busbars	✓	✓	✓	✓
Automatic wire numbering function	✓	✓	✓	✓
Design check	✓	✓	✓	✓
Single-key keyboard short cuts – define them easily	✓	✓	✓	✓
Drawing headers, lists and import/export				
Automatic list update: Of tables of contents, parts lists (BOM), component lists, terminal lists, cable lists, connection lists, labels and PLC lists. Any of these lists can be defined freely by you	✓	✓	✓	✓
Excel/XML/text files can be exported for all of the mentioned list types	✓	✓	✓	✓
Export of wire numbers	✓	✓	✓	✓
Drawing headers for any type of project page can be defined freely – and can be replaced on project level	✓	✓	✓	✓
Automatic generation of graphical terminal, cable and connection plans	✓	✓	✓	✓
Print labels via Excel or via e.g. CLIP PROJECT Marking or M-Print PRO	✓	✓	✓	✓
Export of PDF files containing active links in the documentation	✓	✓	✓	✓
PLC				
PLC survey symbols	✓	✓	✓	✓
Automatic PLC I/O addressing	✓	✓	✓	✓
Automatically updated cross references between PLC symbols	✓	✓	✓	✓
Import/export of PLC I/O files to/from diagrams – e.g. via spreadsheet/Microsoft Excel	✓	✓	✓	✓
Open for integration with PLC configuration tools – e.g. Simatic TIA configurator	✓	✓	✓	✓
House installation				
Import/export of DWG/DXF files (Member of Open Design Alliance)	✓	✓	✓	✓
Drawing with elevation displayed in 2D or isometrically	✓	✓	✓	✓
Unit drawings	✓	✓	✓	✓
Pages for mechanical layouts and ground plan drawings as well as drawing in layers	✓	✓	✓	✓
Measurement objects	✓	✓	✓	✓
Design a panel, and the panel layout is generated automatically. Single line diagrams are drawn automatically based on the panel design	✓	✓	✓	✓
Document small switchboards and panels according to EN61439-1 and 3 concerning power dissipation calculation and more	✓	✓	✓	✓
Revision control, passwords etc.				
Revision control and revision clouds	✓	✓	✓	✓
Password protection of projects	✓	✓	✓	✓
Translation of texts on project pages	✓	✓	✓	✓
Insert OLE objects and images	✓	✓	✓	✓
OLE automation: Create your own and scripts applications for Automation (full documentation available)	✓	✓	✓	✓
Net versions only				
Flexible sharing of net licenses and license borrowing		✓	✓	✓
Administrator control		✓	✓	✓

Automation variants	Available functions	Allowed number of symbols / connections	Max number of diagram + mechanical pages	Also available as net version
Automation 40 – free version	All	40/200	10	No
Automation Flex versions	All	150/750 or 350/1750	Unlimited	Yes
Automation Smart versions	All	Unlimited	20 or 40	Yes
Automation Advanced versions	All	Unlimited	Unlimited	Yes

Automation 40 can be downloaded for free at www.pcschematic.com/demo • Automation Flex & Automation Smart are economy versions

OTHER PRODUCTS

CABLEMANAGER

Software for managing and routing cables. For design and maintenance.

LOOPGI

Software for automatic generation of loop diagrams

TELE

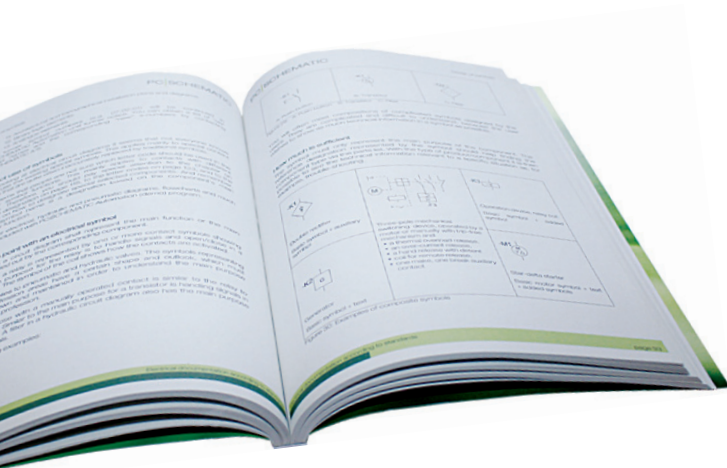
Software for documentation and overview of telephone and computer installations.

POWERDISTRIBUTION

Software for planning, operation and maintenance of LW installations.

AUTOMATIONSERVICE

Designed for daily work assignments for maintenance and repair as well as for mounting and assembly.



BOOK ABOUT ELECTRICAL STANDARDS

Our reference book "Electrical documentation according to standards" describes ISO/EN/IEC rules and requirements from all relevant standards regarding electrical documentation for machines, equipment, electrical panels and installations.

The book is written for machine constructors, electrical panel constructors, and other technicians and technical assistants, creating electrical documentation internationally and in the European Union.

Get 4 hours of free Automation training videos at www.youtube.com/pcschematic

MAINTENANCE AGREEMENT



When you choose PCSHEMATIC Automation, you can purchase a maintenance agreement, which includes:

- Telephone, e-mail & remote support
- Program upgrades (new versions)
- Program updates

In countries with a PCSHEMATIC distributor, please contact your local PCSHEMATIC distributor for a maintenance agreement. In other countries, please make the arrangements with PCSHEMATIC A/S.