MatClass

*Smart data maintenance,
research and distribution*

AmpereSoft

simply faster engineering

Quick and uncomplicated access to required information is a decisive competitive advantage. In the age of Industry 4.0, this factor becomes more and more important because for the reliable implementation of automated digital processes, standardized and detailed described product data is mandatory.

For example, robot-controlled manufacturing for the placement of DIN rails with rail-mounted devices and their wiring as well as laser labeling requires answers to the following questions:

→ what are the dimensions of the device?
→ where are the connections located?
→ which cross sections can be used?
→ where and how is the assembly done?
→ which labeling surfaces are available?

To serve the market with the required amount of product data, component and system manufacturers need a simple and efficient software solution for the (mass) maintenance of this high-value data.

Product data
in the Industry 4.0 era
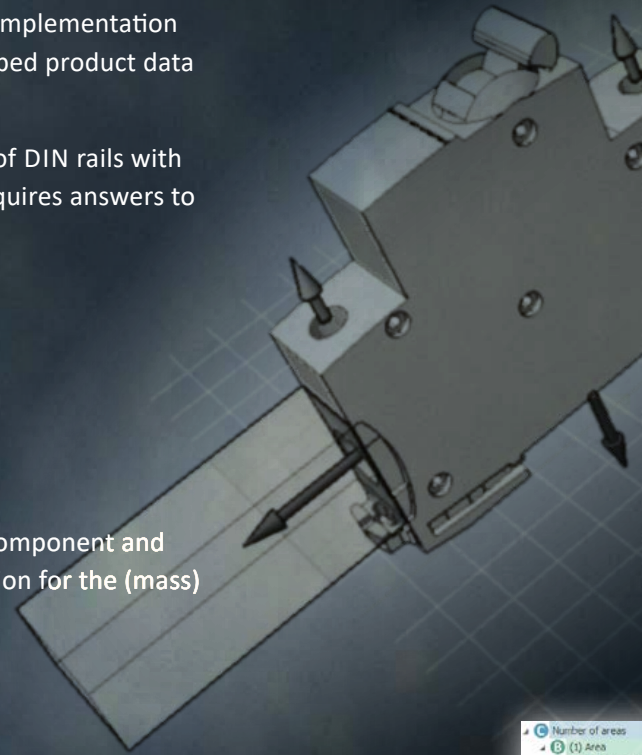
MatClass and ECLASS ADVANCED
Basis for computer-aided engineering and automated production processes

In the interaction between MatClass and ECLASS ADVANCED, the foundation for a fast and economic implementation of the entire electrical engineering process is laid. ECLASS ADVANCED is available in its full complexity in MatClass, including structuring of the features in aspects and blocks including the application of cardinality and polymorphism. This not only enables automatic generation of assembly plan and circuit symbols, but also the transfer of engineering data into an automated mounting process.
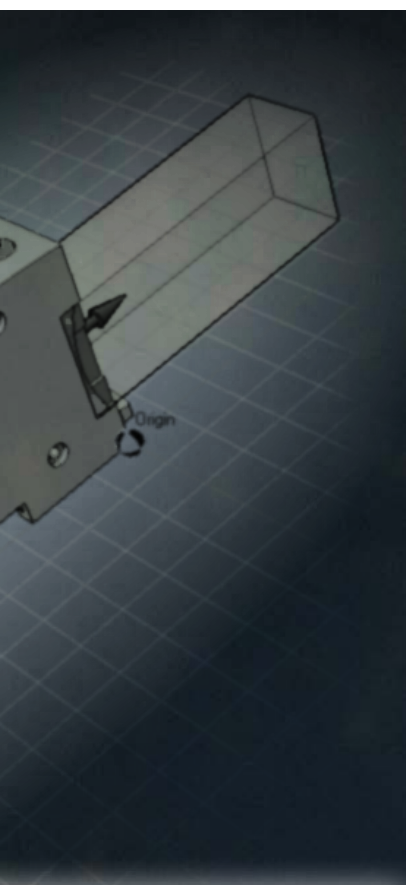
	2
the area	Rectangular
ificator of the area	1
int (in mm)	x=8,85 y=53,7 z=69,5 (Orientation: x=
	mm	17
	mm	8
reatment code	
ber according to RAL	9003
tion angle	°	Labeling
the area	Rectangular
ificator of the area	2
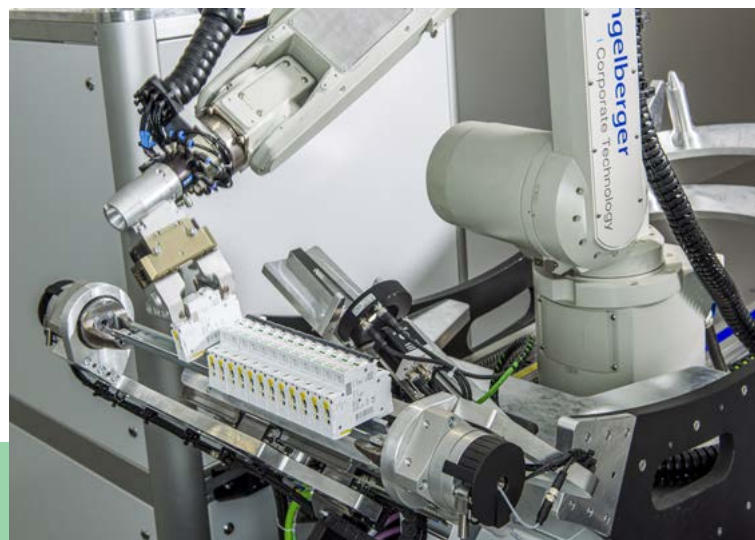
As an independent material and service catalog system MatClass makes the decisive contribution to smooth processes and makes Industry 4.0 a reality in your company.
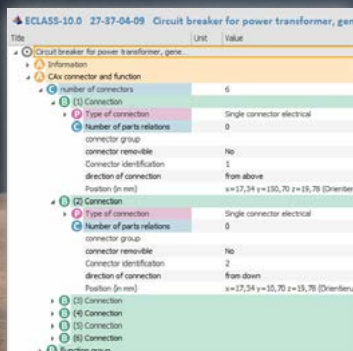
Maintain and use product data

MatClass is a tool that enables users to simple manage, flexible distribute and use their product data in a process accelerating manner. With its sophisticated data structure, thesolution not only adds value for product providers, but also for the product users. Thus, data for packaging and weight properties can be used for logistics and warehousing, power dissipation characteristics are used for temperature calculation and the preparation of thermal certificates, and product dimensions are crucial for the design planning.

Last but not least, among many other things, MIME data such as product pictures, assembly instructions, verification documents or 3D models, is required in different process steps and is part of a high-quality documentation.
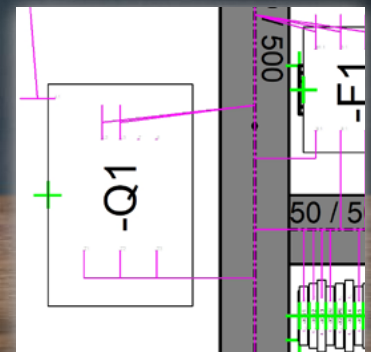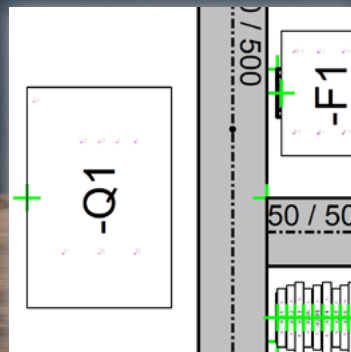
MatClass processes different classification systems like ETIM (widespread application in the electrical wholesale) and ECLASS (Basic/Advanced) in different versions and languages, but also offers the possibility to create own classification systems with all structural elements from ECLASS ADVANCED.

The detailed technical information in the ECLASS ADVANCED structure describes a product so precisely that tasks in the engineering process, such as wiring routing and temperature calculation can be carried out software-supported, automated and traceable.

**N**umerous standardized formats such as BMEcat and Excel© ensure not only the simple exchange of data with business partners but also with internal systems such as ERP software.

The use of BMEC at 2005.1 as the widely accepted XML-based exchange format for catalog data, provides an open, system-independent foundation for complete data exchange of ECLASS ADVANCED between component manufacturers and CAE systems. ►
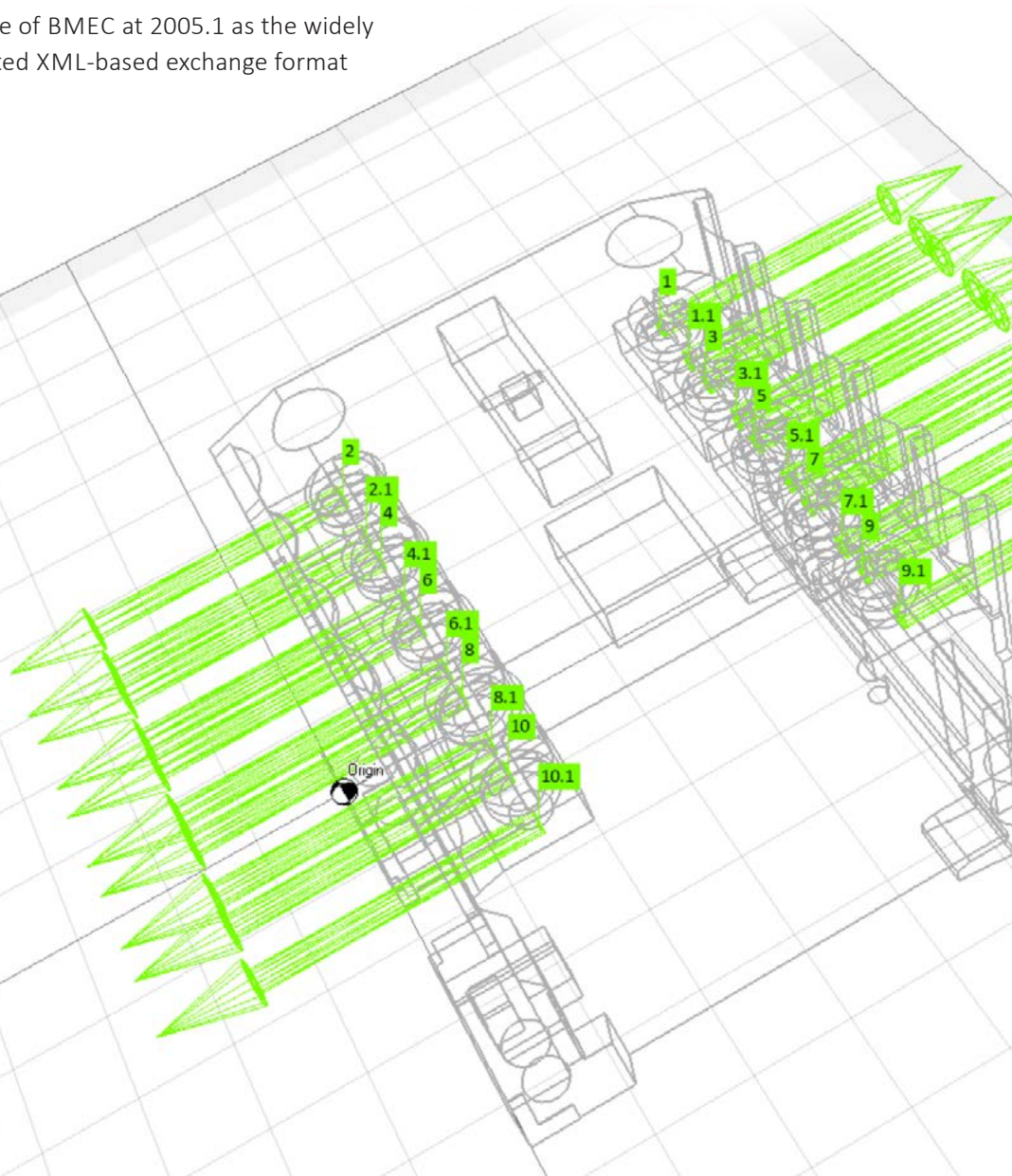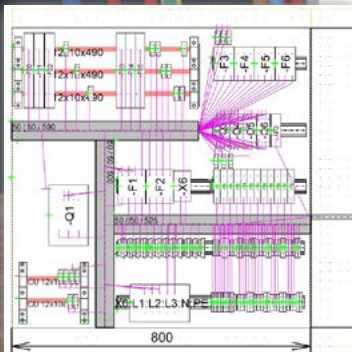
ECLASS-10.0 27-37-10-03 Power contactor, AC switching

Title	Unit	Value
Power contactor, AC switching (ADVANCED)		
▸ A Information		
⊿ A CAx connector and function		
▸ C number of connectors		24
▸ B Function group		
⊿ A CAx basic		
C Number of parts relations		0
▸ C number of barred areas		2
▸ C Number of Components receptacles		3
⊿ C number of fixing variants		2
⊿ B (1) Fixing variant		
C number of barred areas		0
C Number of mounting points		0
Fixing supply point (in mm)		x=13,00 y=42
name of fixing variant		TH35
fixing on another component possible		Yes
C number of mounting cut-outs		0
fixing under another component possible		No
type of mounting		Top-hat rail TH
C Number of parts relations		0
C number of mounting orientations		0
⊿ B (2) Fixing variant		
C number of barred areas		0
▸ C Number of mounting points		2
Fixing supply point (in mm)		x=0,00 y=0,0
name of fixing variant		MP
fixing on another component possible		Yes
C number of mounting cut-outs		0
fixing under another component possible		No
type of mounting		Screwed, Surf
C Number of parts relations		0
C number of mounting orientations		0
▸ C number of mounting orientations		1
C number of symbol representations		0
letter code of classes according to purpose or task (IEC ...		Q
letter code of subclasses according to purpose or task (...		QA
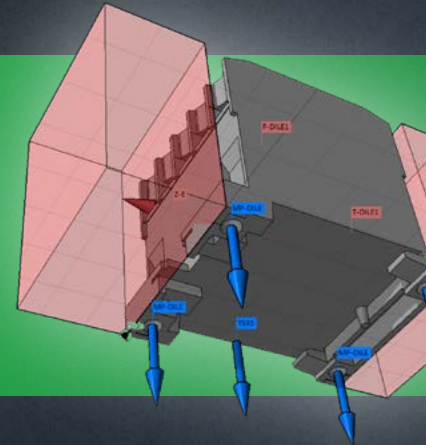
ANOTHER ADVANTAGE

The open API interface for the remote control of MatClass ensures a flexible connection to your internal systems and processes and enables automated processing of your data.

Let recurring processes, such as data reconciliation between different locations, run automatically and regularly to a certain time.
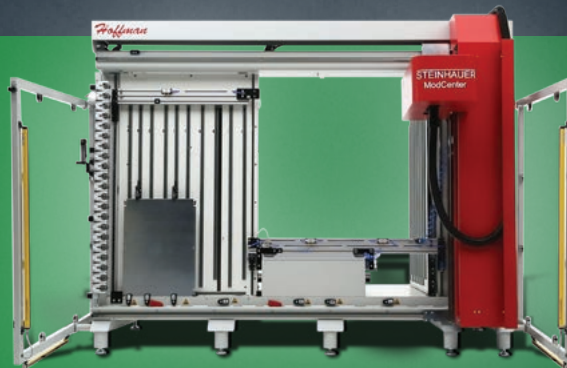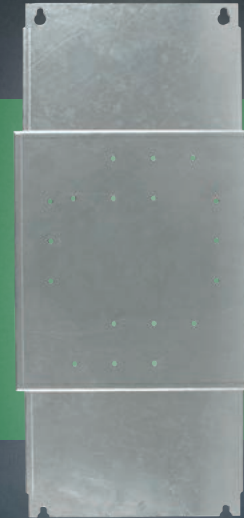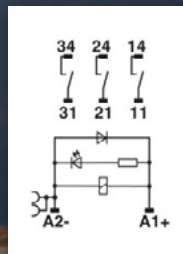
PHOTO: STEINHAUER GMBH

PHOTO: EATON INDUSTRIES GMBH

Data from internal systems can be imported into MatClass can be transferred in and out easily.

In data maintenance you can use this function for manipulating your data according to specified rules. This way class assignments and property values can automatically be set and let you create and combine texts and short descriptions on the basis of material property values.

Benefit from the data maintenance with Mat**Class**

MatClass will significantly optimize your data maintenance: The clear presentation of the class structure and the efficient mass maintenance functions, such as transferring, copying, pasting or supplementing of specifically filtered and presorted materials.

Experience shows that the maintenance of product data is carried out by several employees in a company—often from different departments or locations. With MatClass, the database can be in a cloud storage or on company-owned servers so that all persons involved can access one master database for common data processing.

Separate private cloud areas also enable the maintenance of individual product series and the subsequent merging of data. With the authorization concept the editing rights of different user groups on read/write permissions, assortments or areas of the classification structures can be defined and restricted.

Extensive translations of descriptions and designations are considerably simplified by the integrated DeepL translation function.
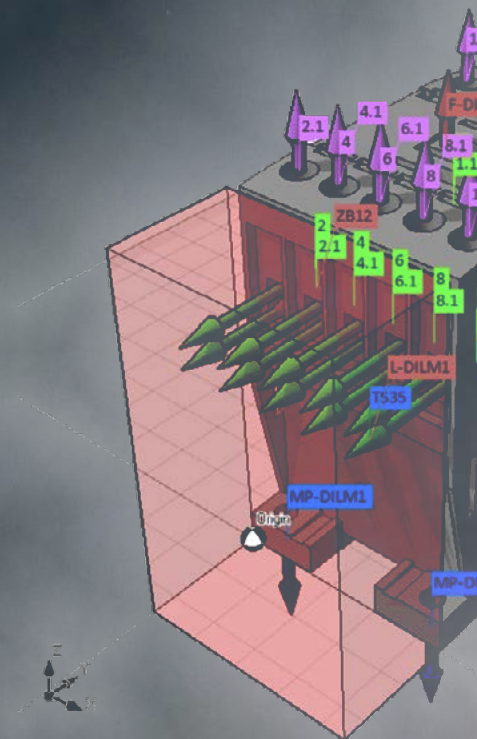
MatClass is the tool for detailed mass data maintenance and target group-specific distribution with standardized formats.

The combination of the representation of 3D product models (STEP) and the ECLASS ADVANCED data enables direct, visual control of the maintained characteristic values such as dimensions, connections, locking areas, component mounts and mounting options.

In this way, errors are detected at an early stage and the high reliability of the data is supported.

Basically, the user interface of MatClass can be application-specific designed and reused at any time (layouts). So the view of features, arrangement of windows, etc. is always as you need it. This makes the maintenance process as comfortable as possible.

Values from existing ETIM classifications can be transferred into ECLASS classification by the use of mappings and thus serve as a good basis for the more comprehensive ECLASS ADVANCED data maintenance.

With the reverse transfer of the ECLASS values to ETIM, you can provide the market with data for two classification systems by maintaining one source.

Also, mappings for the transfer of data between different versions of the classification systems is used.

Integrated in the AmpereSoft ToolSystem

AmpereSoft ProPlan

✔ The convenient and practice-based CAE System for electrical documentation

AmpereSoft MatClass

✔ The tool for the easy management, flexible distribution and efficient use of your product data to speed up the process

AmpereSoft Configurator

✔ The system for configuring complex switchgear assembly and component systems

AmpereSoft QuotationAssistant

✔ For the rapid creation of quotations and tenders with bills of quantities created by the user or GAEB data

AmpereSoft RoutingAssistant

✔ Fully automatic wiring routing taking into account cabinet doors and other depth dimensions by determining via the x, y and z coordinates

AmpereSoft TemperatureCalculator

✔ Produce standard compliant verifications on temperature in the switchgear assembly in accordance with DIN EN 61439-1

AmpereSoft ToolDataManager

✔ The cross-project search and maintenance tool for working with AmpereSoft ProPlan

Whether in sales, design, purchasing, work preparation, warehousing or production—the material master data is always available across tools and processes
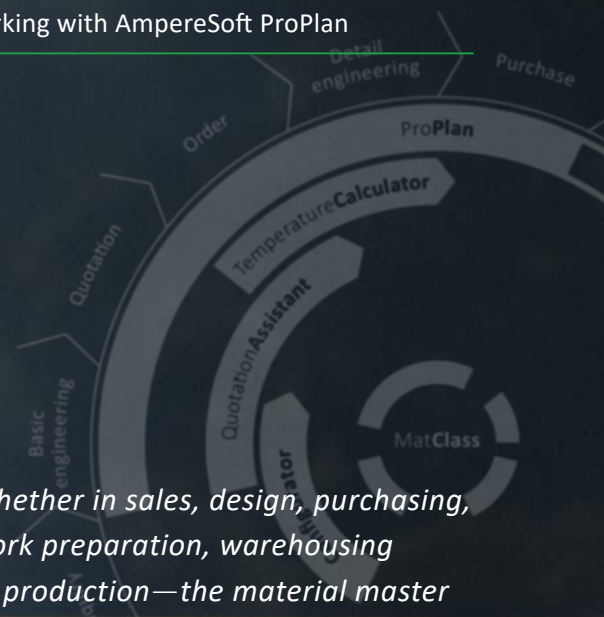
Our mission: a system-independent, consistent and fast engineering process

For more than 10 years we, the AmpereSoft GmbH, is well known for development, services and consulting all around the electrotechnical engineering process.

With our modular tool system, we assist you in the planning, project engineering, manufacturing and maintenance of power distribution boards and automation systems. Our solutions are used in more than 90 countries in various industries—from electrical engineering around machinery and plants as well as control cabinet construction and renewable energies.

With our software we offer added value for the engineering process and pave the way for manufacturing companies leading to Industry 4.0. The keys to this are open product data standards, which, among other things, **enable the automated robot-assisted production. That is why we are committed since many years** for the establishment and further development of standards such as ECLASS ADVANCED or **AutomationML.**
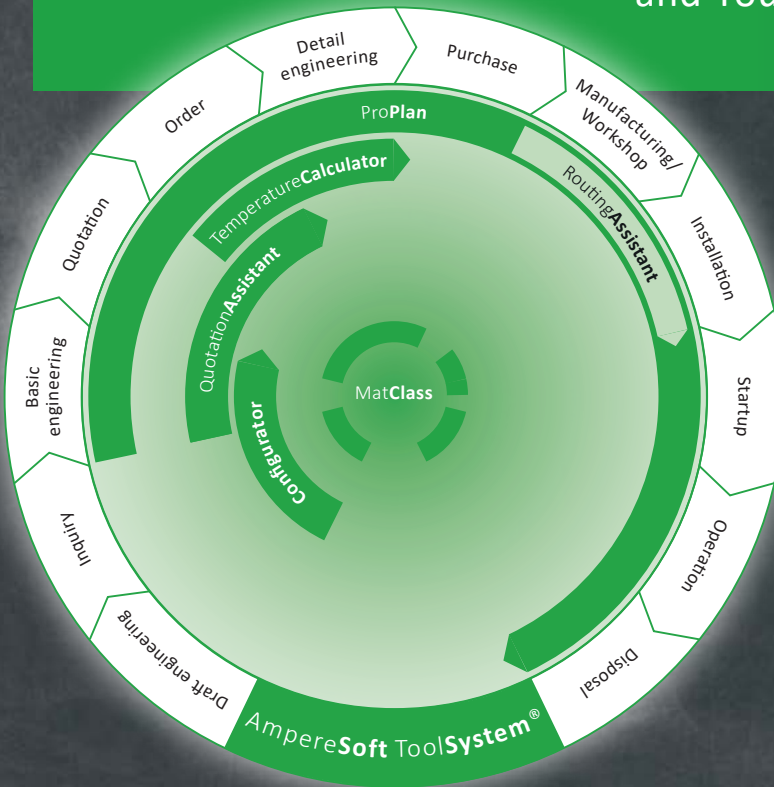
Ampere**Soft** is:

✔ **authorized ECLASS Service Provider**

✔ **ECLASS Gold Partner**

✔ **staff member in ECLASS CRD (Research and Development)**

✔ **member of the ECLASS CAx working groups together with other leading CAE manufacturers**

✔ **together with other leading CAE manufacturers**

✔ **member of AutomationML e.V.**

ECLASS preferred partner gold

ECLASS® ADVANCED

‹AutomationML/›
CONTRIBUTER MEMBER

amperesoft.net

Ampere**Soft** Tool**System**

Optimizing Your Engineering and Your Processes

Cycle diagram labels (outer ring): Detail engineering · Purchase · Manufacturing/Workshop · Installation · Startup · Operation · Disposal · Draft engineering · Inquiry · Basic engineering · Quotation · Order

Inner labels: Pro**Plan** · Temperature**Calculator** · Routing**Assistant** · Quotation**Assistant** · **Configurator** · Mat**Class** · Ampere**Soft** Tool**System**®

The Ampere**Soft** Tool**System** combines innovative software tools for your engineering process. You benefit herefrom the shared use of data once it has been entered. With each process step your projects will gain more information, giving you the overview and allowing you to track any changes and ensure they are taken into account in all process steps. The shared database—for example, the comprehensive and detailed product data of the manufacturers—is accessible to all tools at any time. This ensures the required quality assurance and documentation.

simply faster engineering
with the AmpereSoft ToolSystem

AmpereSoft GmbH

Jonas-Cahn-Straße 13

D-53115 Bonn, Germany

T +49 (0) 228. 60 88 47- 0

F +49 (0) 228. 60 88 47- 49

info @ amperesoft.net

Support

T +49 (0) 228. 60 88 47- 47

F +49 (0) 228. 60 88 47- 49

support @ amperesoft.net

www.amperesoft.net

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