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Ingenuity for life



Customized for
maximum demands

SIVACON S8 low-voltage power distribution
board: safe, flexible, efficient

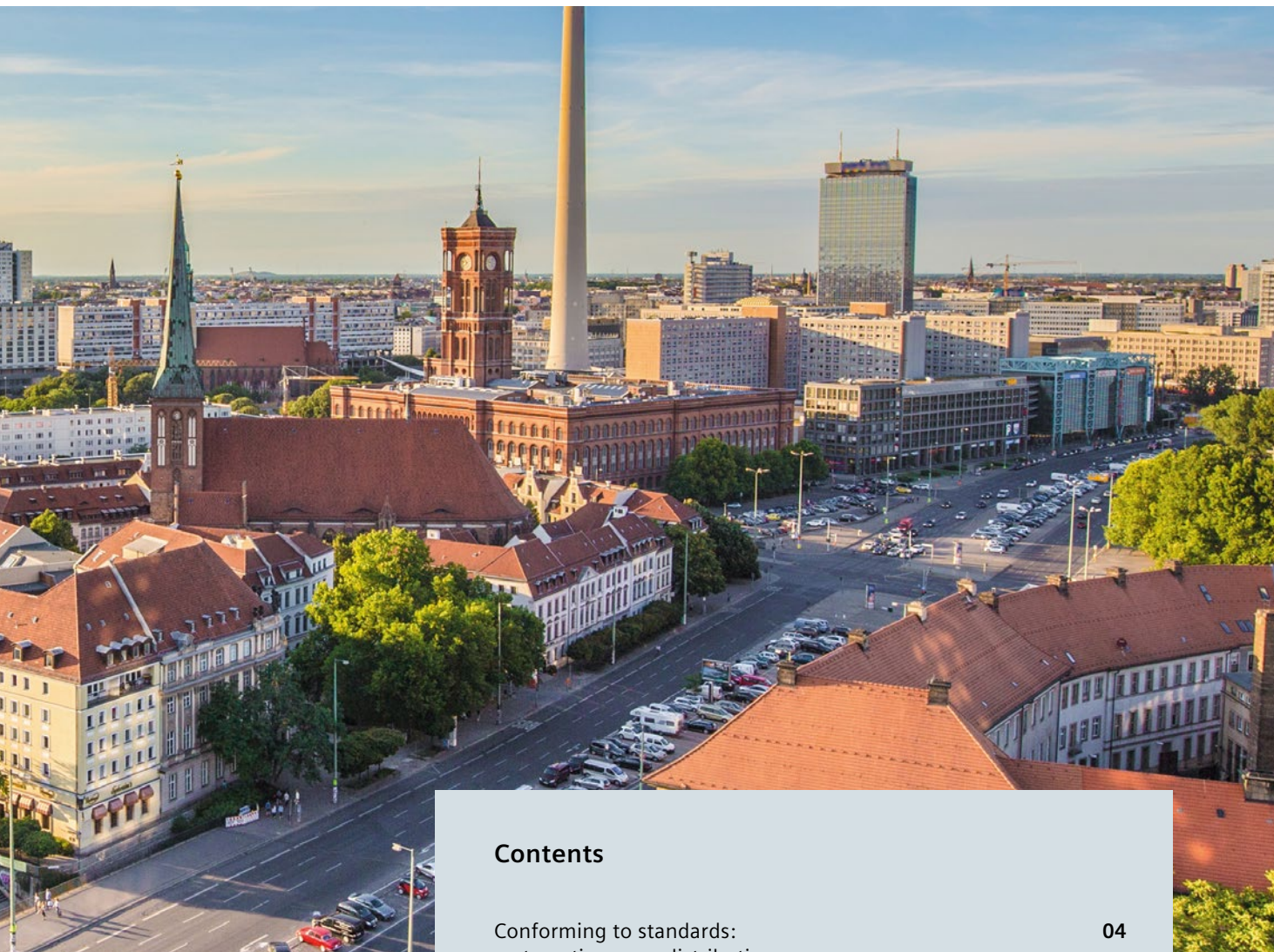
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Safe and flexible power distribution



In industrial plants, buildings, and infrastructure, even a small disturbance in the power supply can cause serious damage – not only to industrial and building operations but also to people. That is why the standards for safe power distribution are so high.

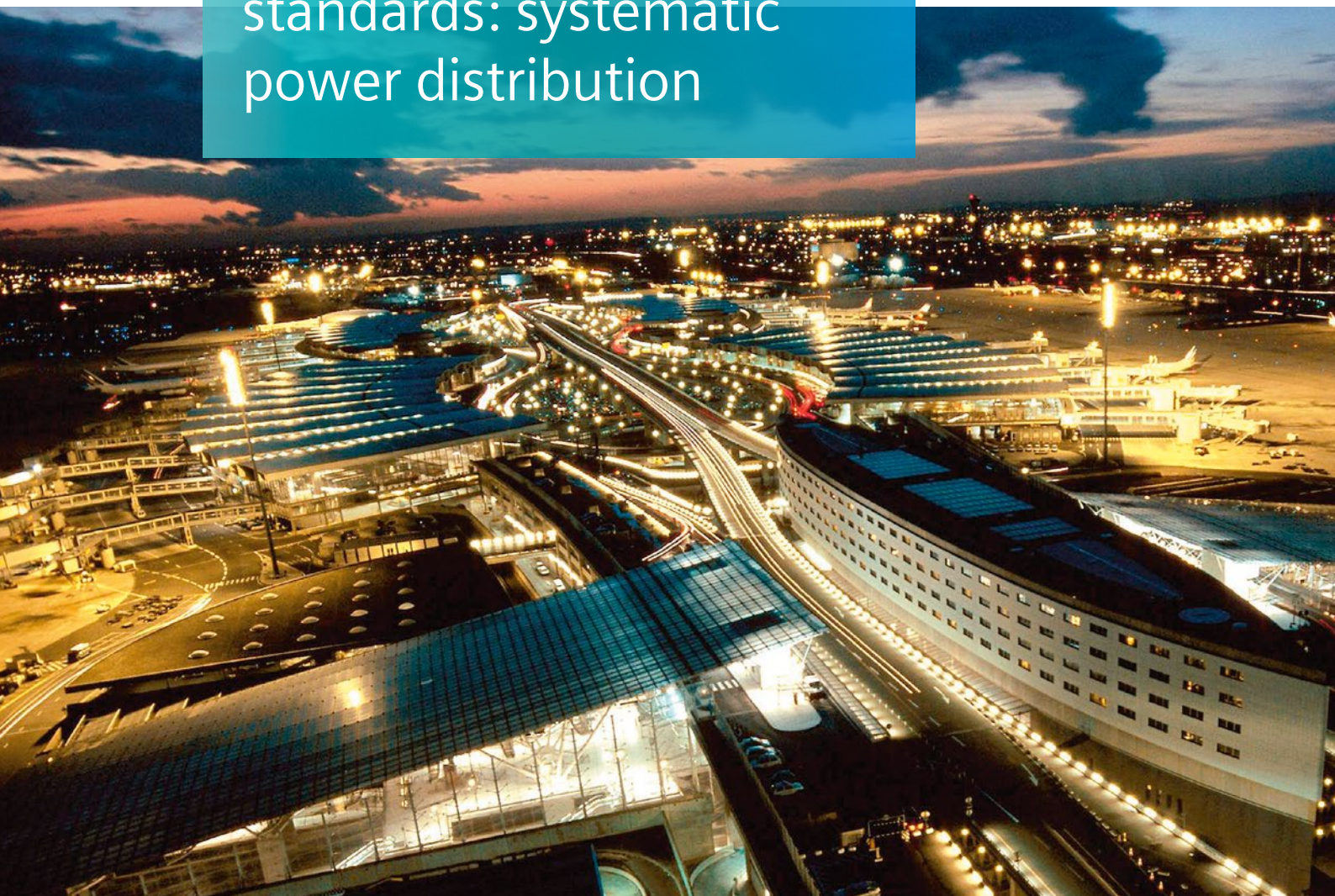
In addition, today's increasingly automated and digitized production processes and buildings require increasingly adaptable power distribution. They need a flexible layout, high availability, and personal and plant safety.



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Conforming to standards: systematic power distribution



Our products and systems support the safe, flexible, and efficient implementation of power distribution planning, design, and operation. The SIVACON S8 low-voltage power distribution boards and SENTRON components are tried-and-true and perfectly compatible.

This not only helps to significantly reduce investment costs and risks: It also increases plant availability throughout the entire period of use.

Conforming to standards: IEC 61439

As of 2014, all low-voltage switchgear and control gear assemblies in the European Economic Area must conform to the IEC 61439 standard.

This standard describes distinct areas of responsibility. Specifically, it divides the tasks between an “original manufacturer” and a “manufacturer of a switchgear and control gear assembly”. The original manufacturer (such as Siemens) is the company responsible for the original design and the associated verification of the switchgear and control gear assembly in accordance with the relevant standard.

With a SIVACON S8 low-voltage power distribution board, customers are always on the safe side: It is design-verified according to the IEC 61439-1/2 standard. In addition, it disposes of the shipping approvals according to LR, DNV-GL and ABS.



SIVACON S8: for maximum demands

Safe down to the last detail

The SIVACON S8 low-voltage power distribution board ensures a high level of personal and plant safety. Continuous testing to IEC 61641 and VDE 0660 Part 500-2 guarantees safety in the event of an arcing fault. Many well-thought-out details, including a reduced use of plastic parts and insulated main busbars, guarantee maximum safety and plant availability, resulting in low liability risk.

Flexible and adaptable

Thanks to its modular concept and wide variety of components, the SIVACON S8 low-voltage power distribution board can meet all individual requirements. For instance, the profile bar or flat copper design of the vertical section busbars allows for tap-offs in the smallest of grids. The switching device holders are also modular, with a graduated depth.

Efficient throughout the entire process

Over 404,000 switching boards have already been launched on the market by SIVACON Technology Partners – proof that technologically sophisticated solutions can be efficiently implemented with the SIVACON S8 low-voltage power distribution board. Power distribution is easy to plan, and the distribution board can be quickly configured using the SIMARIS software tools. The result: time savings and planning reliability throughout the entire process.

Benefits

- Emphasis on maximum personal and plant safety
- Flexible layout thanks to a modular concept and wide variety of parts
- Efficient implementation of technologically sophisticated solutions

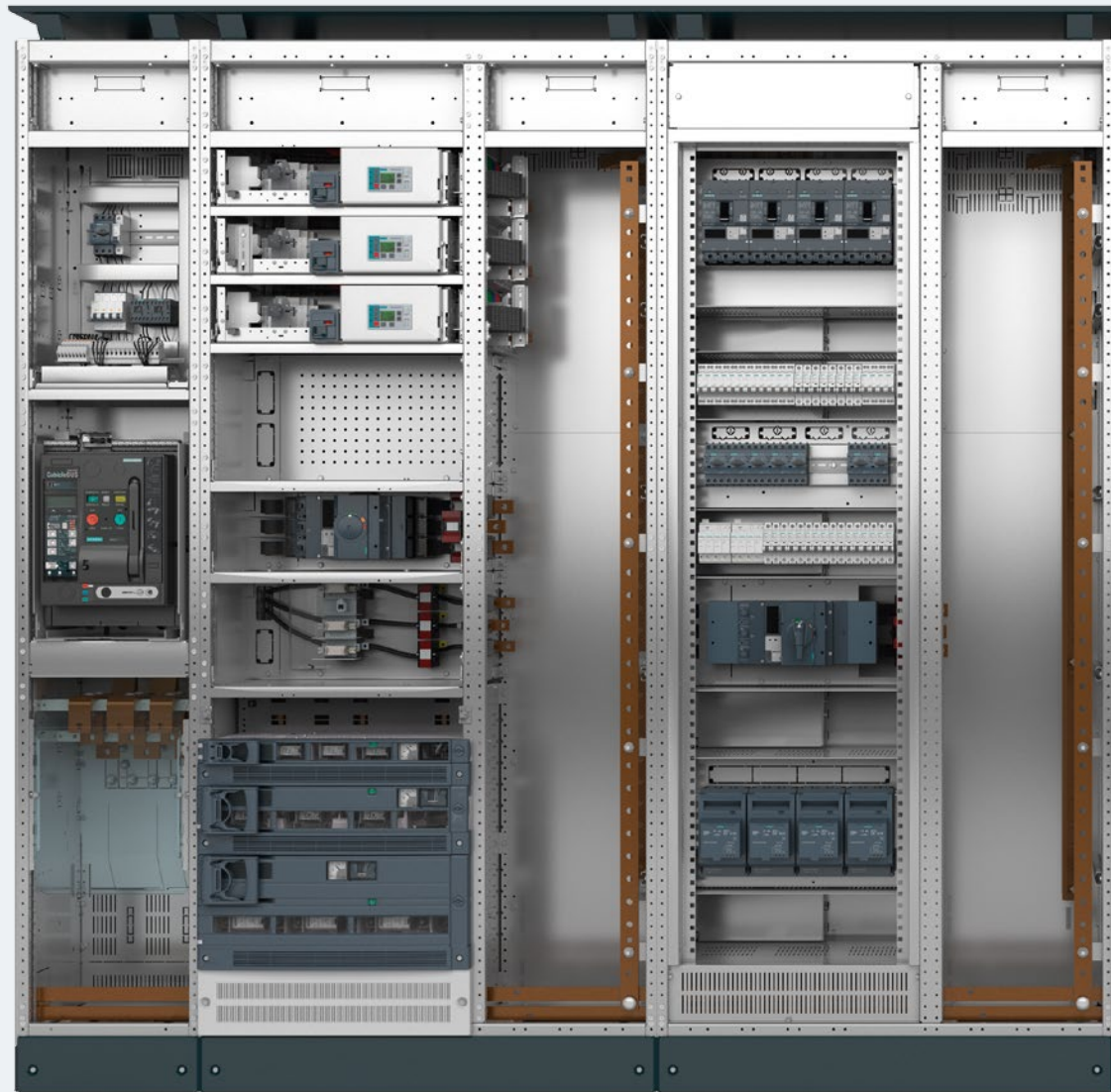


SIVACON S8 – system overview

	1 Circuit breaker design	2 Fixed-mounted design
Mounting design	Fixed-mounted design, withdrawable	Fixed-mounted design with compartment doors, plug-in
Functions	Supply, outgoing feeder, coupling	Cable feeders
Rated values	Up to 6,300 A	Up to 630 A
Connection position	Front or rear	Front or rear
Cubicle width (mm)	400, 600, 800, 1,000, 1,400	600, 1,000, 1,200
Internal separation	Form 1, 2b, 3a, 4b, 4 type 7 (BS)	Form 3b, 4a, 4b, 4 type 7 (BS)
Busbar position	Top/rear	Top/rear

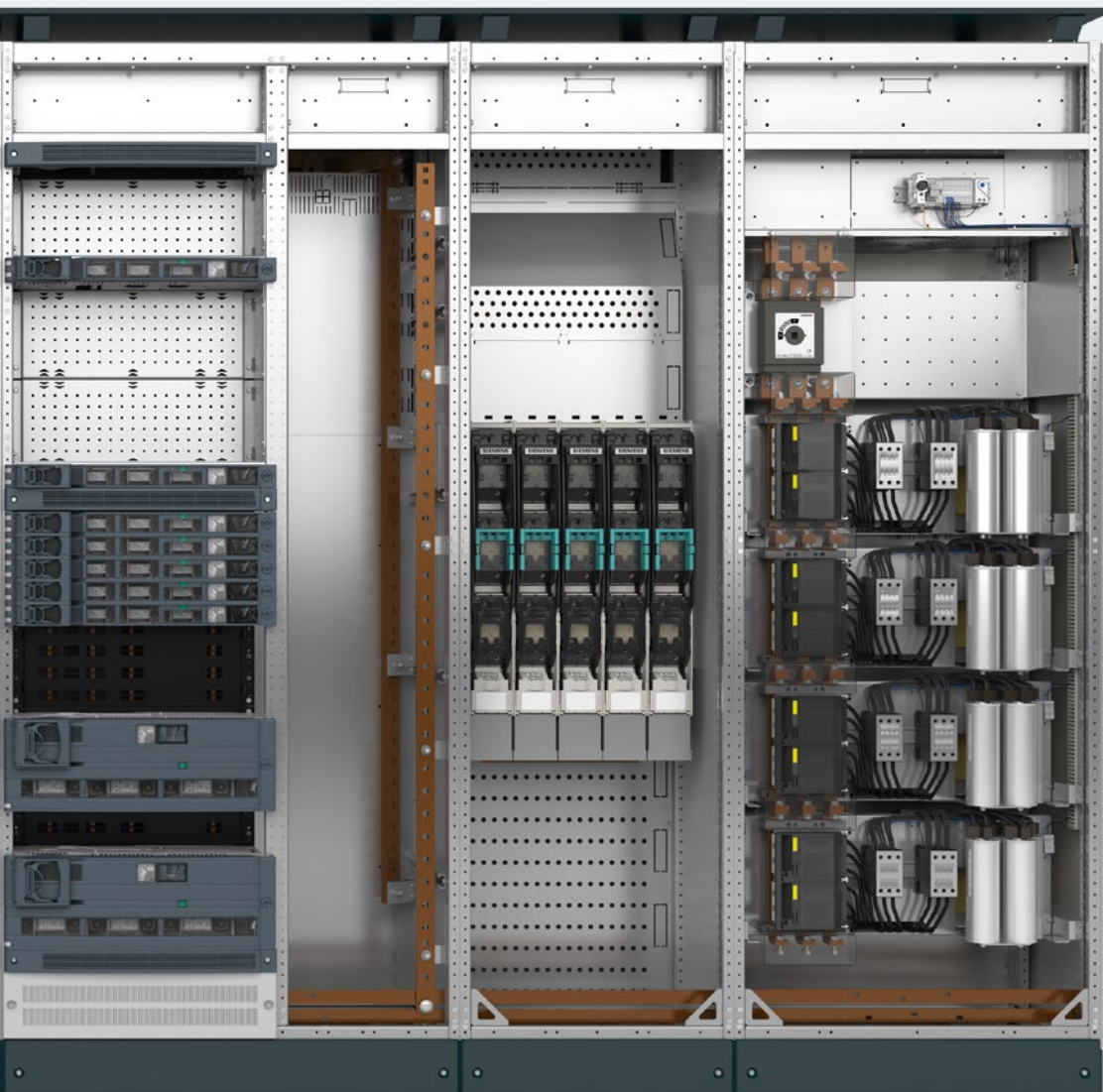


3 Universal mounting system	4 In-line design, plug-in	5 In-line design, fixed-mounted	6 Reactive power compensation
Fixed-mounted design with front covers	Plug-in	Fixed-mounted design	Fixed-mounted design
Cable feeders	Cable feeders	Cable feeders	Central reactive power compensation
Up to 630 A	Up to 630 A	Up to 630 A	Unchoked up to 600 kvar, choked up to 500 kvar
Front	Front	Front	Front
1,000, 1,200	1,000, 1,200	600, 800, 1,000	800
Form 1, 2b, 3b, 4a, 4b	Form 3b, 4b	Form 1, 2b	Form 1, 2b
Top/rear	Top/rear	Rear	Without/top/rear



SIVACON S8 – simple integration of SENTRON products for low-voltage power distribution

	3WL air circuit breakers	3VA molded case circuit breakers
Function	<ul style="list-style-type: none"> • People and plants protected against overload and short circuit 	<ul style="list-style-type: none"> • High level of personal and plant safety • Integrated measuring functions
Special features	<ul style="list-style-type: none"> • Numerous sizes permit flexible use • Fixed-mounted and withdrawable designs for fast and easy maintenance • Comprehensive accessories 	<ul style="list-style-type: none"> • High breaking capacity with compact design • Superior selectivity properties • Comprehensive accessories for flexible function expansions
Communication capability	<ul style="list-style-type: none"> • Early fault detection thanks to connection to higher-level control systems 	<ul style="list-style-type: none"> • Supports all common communication options: transparency of switching states and energy flows



Protection, switching, measuring and monitoring

3NJ4 fuse switch disconnectors	3NP1 fuse switch disconnectors	3NJ6 switch disconnectors with fuses
<ul style="list-style-type: none"> • Load switching and disconnecting in a single system 	<ul style="list-style-type: none"> • Reliably protect people and plants 	<ul style="list-style-type: none"> • Reliably protect people and plants
<ul style="list-style-type: none"> • Fast fuse tripping characteristic to prevent damage to plants and machines • Wide range of connection options 	<ul style="list-style-type: none"> • Compact design requires very little space • Fast, safe modulation • Switching position indicator and fuse monitoring: integrated line monitoring to ensure plant availability 	<ul style="list-style-type: none"> • Compact design requires very little space • Easy to replace in-line disconnectors • High switching capacity
<ul style="list-style-type: none"> • Collection of energy data via SEM3 multi-channel current measuring system 		



SIVACON S8 – features



- 1 Variable busbar positions at the top up to 6,300 A
- 2 Variable busbar position rear up to 7,000 A (top and/or bottom)
- 3 Plug-in busbar system with test finger safety, cover (IP 20B) for fast and easy replacement of fuse switch disconnectors
- 4 Optimal connection conditions in busbar connection compartment
- 5 The multi-profile bar allows for the simple assembly of modular installation devices
- 6 Boards for reactive power compensation with design verification according to IEC 61439 reduce transmission losses
- 7 Overview of power distribution, thanks to a standardized labeling system for sections and feeders
- 8 A modern look with design elements like the side panel and optionally extendable base



5



6

SIVACON S8 – features



7



8

7KM PAC measuring devices	5SY MCBs, 5SM3 RCCBs, 5SU RCBOs	NEOZED, DIAZED, NH fuse systems
<ul style="list-style-type: none"> Precise and reliable recording of energy values for supply, electric feeders, and individual loads 	<ul style="list-style-type: none"> Comprehensive protection of people and plants against damage through fire, electric shock, lightning, or overvoltage 	<ul style="list-style-type: none"> Safe and rapid switch-off to protect against overloads and short circuits
<ul style="list-style-type: none"> Power quality analysis 	<ul style="list-style-type: none"> Comprehensive standardized accessories Functional design 	<ul style="list-style-type: none"> Comprehensive range of products for all applications
<ul style="list-style-type: none"> Simple connection to higher-level energy management systems: transparency of power flows as well as the recording of system status and network quality 	<ul style="list-style-type: none"> Connection to management systems 	

SIVACON S8 – 8 good arguments for safety

The SIVACON S8 low-voltage power distribution board ensures a high level of personal and plant safety – at all times and everywhere.

1

- Design verification by verification test in accordance with IEC 61439-1/-2
- Design-verified connection to the SIVACON 8PS busbar trunking system



2

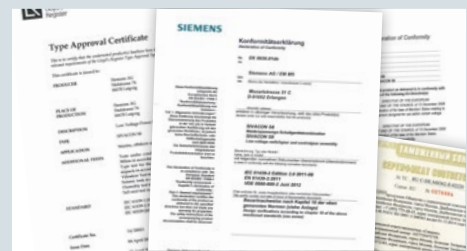
High level of personal safety thanks to **roof plate with pressure relief**



3

Comprehensive certifications

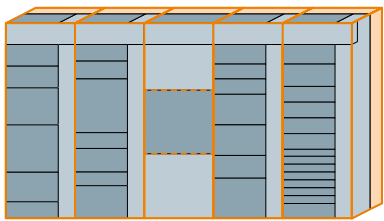
- High degree of test coverage
- Certifications for use on ships and offshore platforms
- Earthquake upgrade



4

The **patented locking system** or simple or central locking keeps doors closed even in the event of an arcing fault.

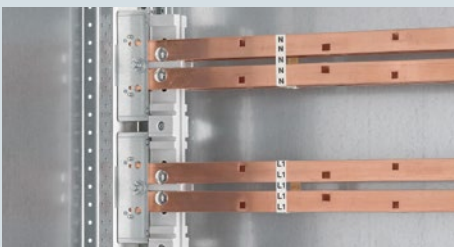




Safety in the event of an arcing fault, thanks to testing in accordance with IEC 61641 and VDE 0660 Part 500-2: restriction of the effects of the arcing fault

- Within the power distribution board
- To a section
- To a compartment

5



An **arcing fault barrier** restricts the effects to one section when an arcing fault occurs.

6



The **insulated main busbars** prevent the occurrence of arcing.

7



Safe housing

- Frame made from stable sheet-steel profiles
- Sendzimir-galvanized surfaces on frame components, bases, rear panels, and floor plates

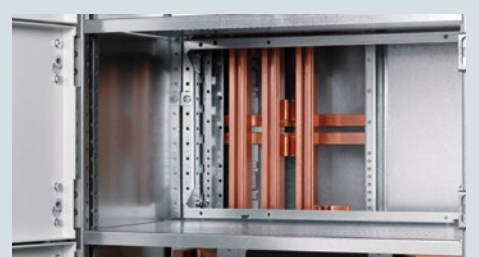
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SIVACON S8 – 8 good arguments for flexibility

Thanks to its modular concept and wide variety of parts, SIVACON S8 can meet the most demanding requirements and satisfy all individual needs.

1

A variety of connection options via vertical section busbars: flexible layout and optional expansions



2

Supply unit and feeder

- Via cable or SIVACON 8PS busbar trunking system from 630 to 6,300 A
- From the top or bottom
- Aluminum or copper busbar trunking system



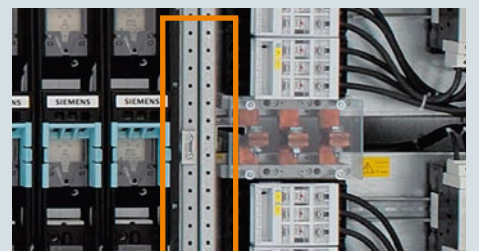
3

The section can be installed – either single- or double-fronted – **together with a main busbar system** or back-to-back with a **separate main busbar system**.



4

The **standardized, circumferential rows of holes** in the sheet-steel profiles allow for individual expansion.





High level of flexibility thanks to innovative modular technology

- Different installation designs can be combined in one section
- Functional units are easy to exchange or add

5



The functional compartments can be divided as required with **add-on modules**.

6



Depending on requirements, different degrees of protection can be implemented with the roof plate – **ventilated or non-ventilated**.

7



The **universal door hinge** allows the hinge side to be easily changed.

8

SIVACON S8 – 8 good arguments for efficiency

The SIVACON S8 low-voltage power distribution board permits the efficient implementation of technologically sophisticated solutions. The proof: Over 404,000 switching boards have already been installed in a wide variety of applications by SIVACON Technology Partners.

1

Economical design

- Circuit breaker section provides enough space for up to three circuit breakers
- Flexible installation design: fixed-mounted or withdrawable design for easy maintenance



2

Efficient, flexible operation

- High packing density with up to 35 outgoing feeders per section
- Fast exchange under operating conditions



3

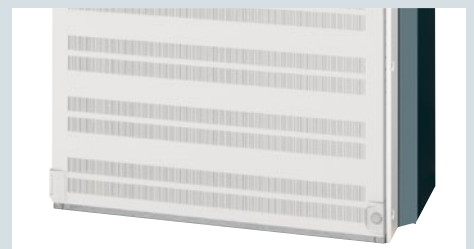
Reduced service time thanks to maintenance-free section connections



4

The patented ventilation slots reduce maintenance effort.

- Cleaning is possible with the door closed and from the outside
- Low repair costs





The **patented connection terminals** are safe, flexible, and easy to connect – during installation and in the event of subsequent changes.

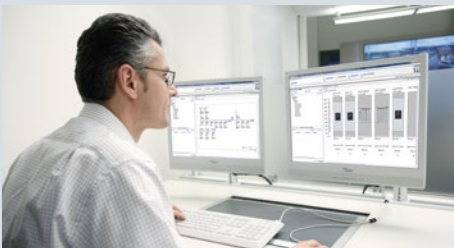
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Reliable partners

- Maximum technological progress through constant innovation guarantees the highest quality
- Brand strength combined with expertise gained over many years and the availability of a local partner on-site

6



The **SIMARIS software tools** save time throughout the process – from planning to configuration all the way to plant documentation.

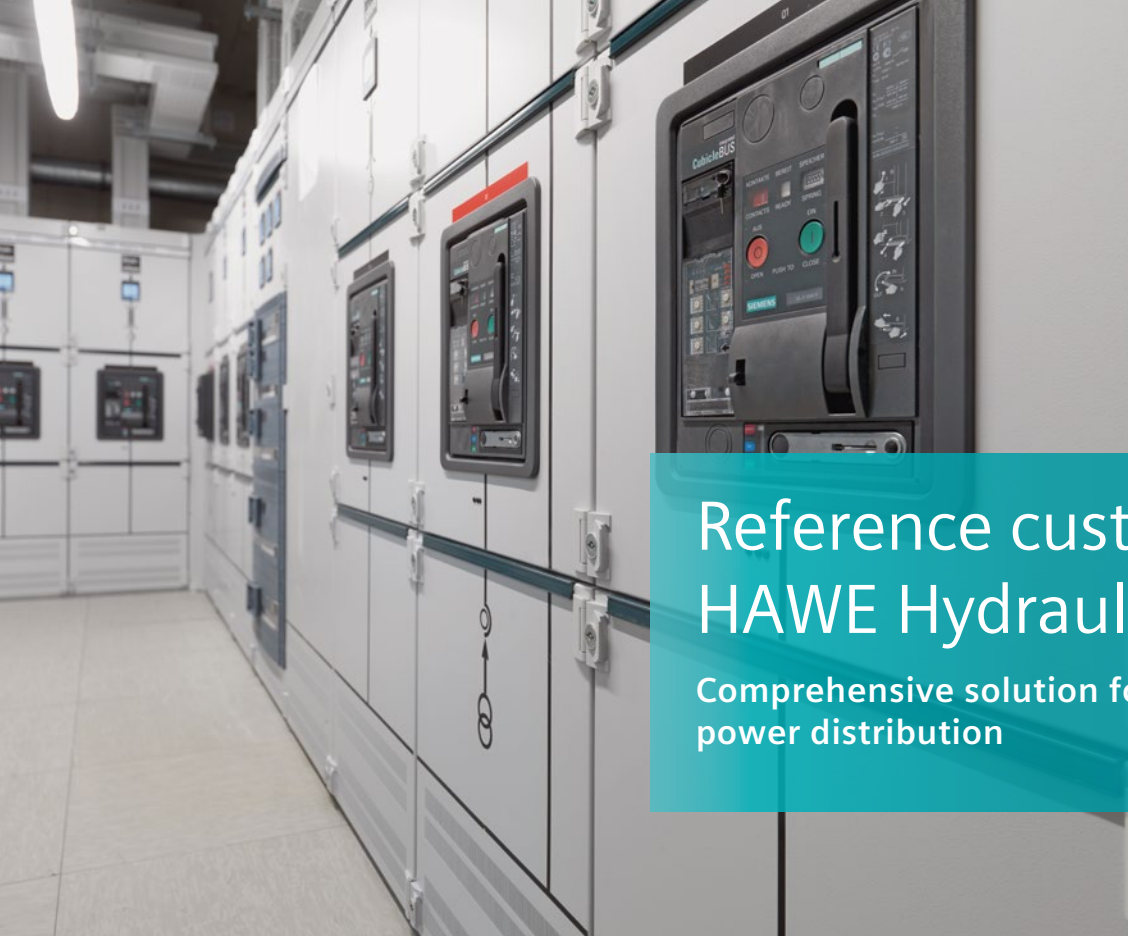
7



The innovative, communication-capable SENTRON components are **easy to integrate**

- System status and energy flows are made transparent
- For energy-efficient plant operation

8



80 boards of SIVACON S8
low-voltage distribution boards
ensure safe power distribution

Reference customer HAWE Hydraulik

Comprehensive solution for safe
power distribution

The HAWE Hydraulik SE group of companies, with headquarters in Munich, develops and manufactures hydraulic components and systems.

Requirements

- Safe power distribution in HAWE Hydraulik SE's largest plant in Kaufbeuren, Germany: four halls with 30,000 m² production area
- Uninterrupted power supply for state-of-the-art manufacturing and assembly technology
- Maximum reliability of electrical equipment
- Energy-efficient production and building systems

Solution

The new plant needed a comprehensive safety concept to be developed to supply it with power. The decision to use Siemens systems and components was based on both the overall concept and the high technical quality. With the participation of a SIVACON Technology Partner and an electrical planner, a comprehensive, uniform solution was developed that integrates both medium-voltage switchgears and low-voltage power distribution boards. Precisely

coordinated products and systems as well as technical support services guarantee continuous and therefore highly efficient and reliable power distribution.

Products employed

- 80 boards of SIVACON S8 low-voltage distribution boards
- 8,000 meters of SIVACON 8PS busbar trunking systems
- 30 boards of gas-insulated medium-voltage switchgear type 8DJH
- 13 GEAFOL cast-resin transformers

Result

As a design-verified low-voltage switchgear and control gear assembly in accordance with IEC 61439, the SIVACON S8 low-voltage power distribution board and 8PS busbar trunking systems guarantee high operating safety and short-circuit strength with a negligible fire load. Overall, power distribution in the new plant meets the highest demands for safety, reliability, availability, and efficiency.

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