

SIEMENS

Customized for maximum demands

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





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 industry and infrastructure 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 building infrastructures require increasingly adaptable power distribution. They need a flexible layout, high availability, personal and plant safety and energy and condition monitoring.



Contents

Conforming to standards: systematic power distribution	5
SIVACON S8 for maximum demands	6
SIVACON S8 system overview	7
8 good arguments for safety	13
8 good arguments for flexibility	15
8 good arguments for efficiency	17
Connection to energy management, control, and automation systems	19

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 motion control center (MCC) as well as SENTRON and SIRIUS 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 DNV-GL.

Low-voltage switching system SIVACON S8 – for maximum demands

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



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 wellthought-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

Thanks to end-to-end communication, our intelligent SIMARIS and SENTRON software solutions ensure efficient, reliable and sustainable energy distribution based on data – from planning and commissioning to targeted energy and status monitoring during operation. 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.

SIVACON S8

system overview

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



4 In-line design, plug-in

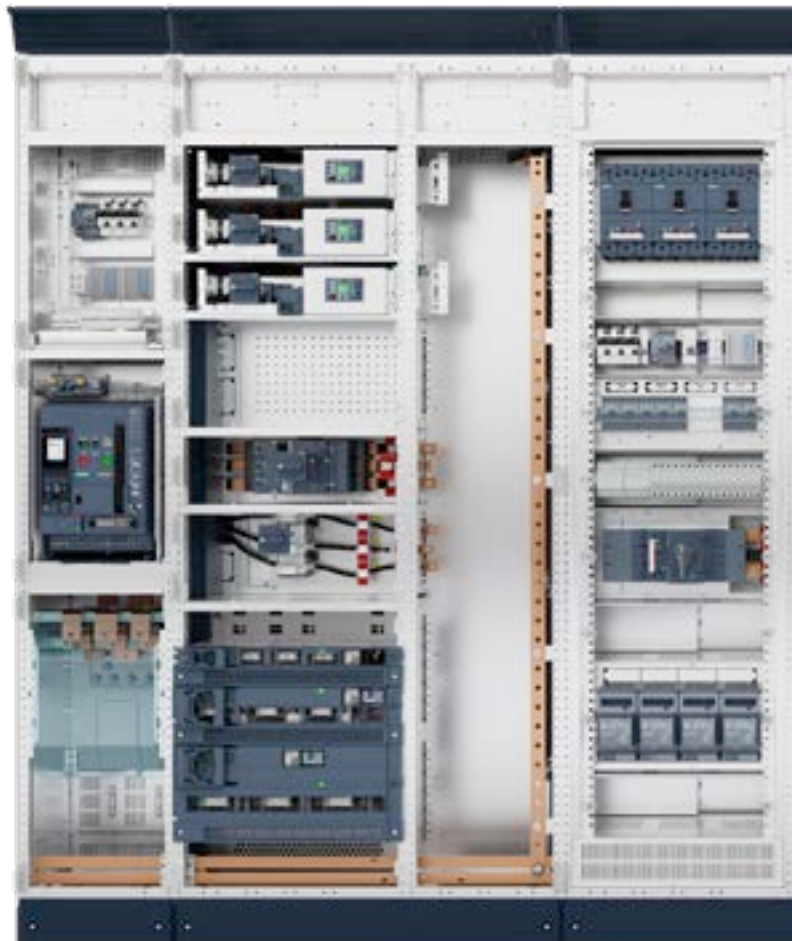
5 In-line design, fixed-mounted

Plug-in	Fixed-mounted design
Cable feeders	Cable feeders
Up to 630 A	Up to 630 A
Front	Front
1,000, 1,200	600, 800, 1,000
Form 3b, 4b	Form 1, 2b
Top/rear	Rear



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

	3WA 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• Condition monitoring	<ul style="list-style-type: none">• High breaking capacity with compact design• Superior selectivity properties• Comprehensive accessories for flexible function expansions• Condition monitoring
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



3NJ4 fuse switch disconnectors

- Load switching and disconnecting in a single system
- Fast fuse tripping characteristic to prevent damage to plants and machines
- Wide range of connection options

3NP1 fuse switch disconnectors

- Reliably protect people and plants
- Compact design requires very little space
- Fast, safe modulation
- Switching position indicator and fuse monitoring: integrated line monitoring to ensure plant availability

3NJ6 switch disconnectors with fuses

- Reliably protect people and plants
- Compact design requires very little space
- Easy to replace in-line disconnectors
- High switching capacity

- Collection of energy data via SEM3 multichannel 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

SIVACON S8

Features



5



6



7



8

7KM PAC measuring devices

- Precise and reliable recording of energy values for supply, electric feeders, and individual loads
- Power quality analysis
- Simple connection to higher-level energy management systems: transparency of power flows as well as the recording of system status and network quality

5SY MCBs, 5SM3 RCCBs, 5SU RCBOs

- Comprehensive protection of people and plants against damage through fire, electric shock, lightning, or overvoltage
- Comprehensive standardized accessories
- Functional design
- Connection to management systems

NEOZED, DIAZED, NH fuse systems

- Safe and rapid switch-off to protect against overloads and short circuits
- Comprehensive range of products for all applications

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.



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

1

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

2

Comprehensive certifications

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

3

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

4

**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

8

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.



A variety of connection options via vertical section busbars:

flexible layout and optional expansions

1

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

2

The section can be installed –
either single- or doublefronted –
together with a main busbar system
or back-to-back with a
separate main busbar system

3

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

4

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 1,000,000 panels have already been installed in a wide variety of applications by SIVACON Technology Partners



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

1

Efficient, flexible operation

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

2

Reduced service time thanks to maintenance-free section connections

3

The **patented ventilation slots** reduce maintenance effort

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

4

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

5

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
- Thanks to the BIM connection, customer requirements can be met quickly and easily.

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

Connection to energy management, control, and automation systems

Analyze data, reduce energy costs, increase plant availability

For industrial plants to operate efficiently, their load must be constantly optimized and downtime reduced. The 7KM/7KT PAC measuring devices and communication-capable 3WA/3VA circuit breakers integrated in the power distribution board can help you achieve this.

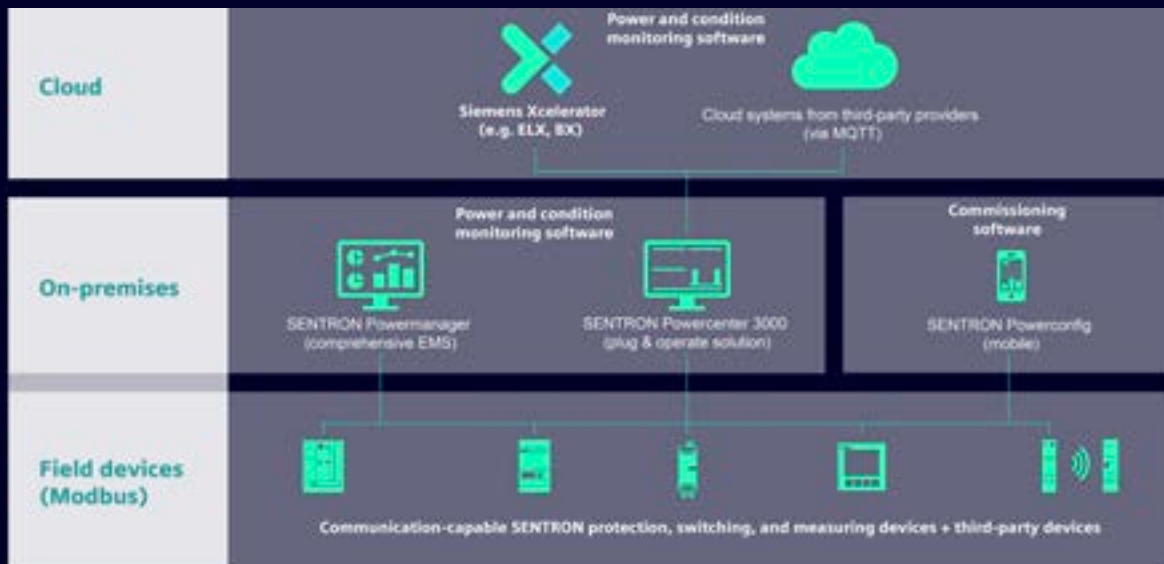
They precisely and reliably record energy values for electric feeders or individual loads and display the values on-site. The communication-capable devices supply important measured values via standardized bus systems for the purpose of assessing the system status and power quality.



Benefits

- System status and fault prevention are made transparent
- Increase plant availability
- Identify potential savings with transparent energy flows
- Reduce energy costs

Data can be visualized and managed via measuring devices with an integrated web server and the powermanager power monitoring software. The measured data of the devices can easily be processed in higher-level automation and energy management systems as well as cloud applications. Because only by knowing your energy consumption you can reduce energy costs and ensure optimal system operation.



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 Ongoing data analysis
 is the foundation for
 your decisions.

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