SIEMENS
Ingenuity for life

Digital Enterprise SPS Dialog

Innovations / Highlights

siemens.com/sps-dialog

Digital Enterprise SPS Dialog on November 26, 2020
#SPSdialog

SIEMENS
Ingenuity for life

Join us live and experience the Siemens SPS highlights in a virtual world.

Starting on November 10, you can book an appointment for your personal meeting with us. We're looking forward to meeting you!

Explore product news and updates in our brand new virtual showroom or watch our virtual stage program from 10 a.m. to 2:30 p.m. on November 26, 2020 – with

- Industry examples for higher flexibility and efficiency in production
- New technologies in use: cloud and edge computing, AI, additive manufacturing, simulation for automation
- Scenarios for the future of industry with autonomous plants

Discuss
with our Digital Enterprise experts

Explore
products, solutions and highlights in 3D

Be inspired
by top-level industry speakers

Further information, free registration and appointments here:
siemens.com/sps-dialog

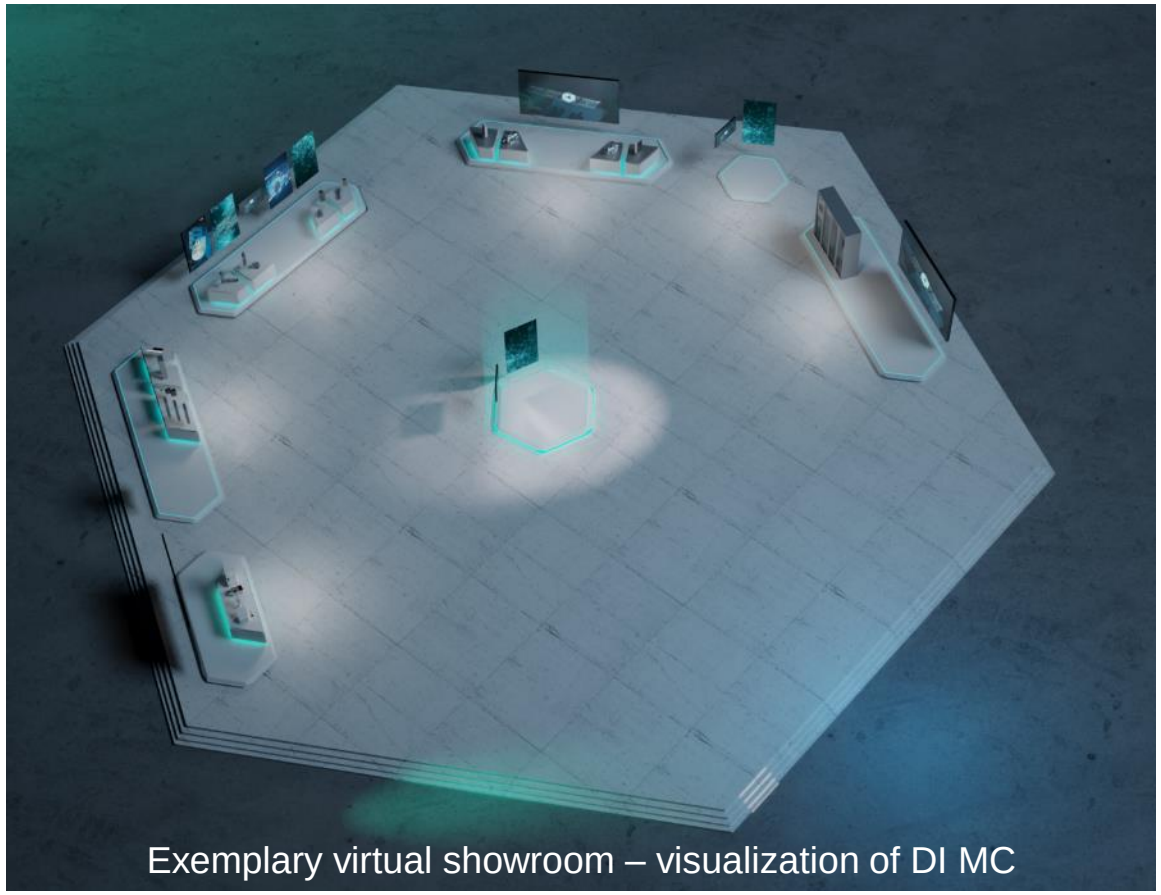
SIEMENS
Ingenuity for life

Smart Electrification

Digital Enterprise SPS Dialog 2020

Step into Smart Electrification – Cluster Topics

SIEMENS
Ingenuity for life



Exemplary virtual showroom – visualization of DI MC

Control panel components
Electrical planning and operation

Control panel design
The new standard in electrical engineering

Power distribution components
Electrical planning, commissioning & operation

Power distribution components
3WA air circuit breaker – The new generation

Power distribution systems
Overall system for smart power distribution

Smart Electrification – Overview

SIEMENS
Ingenuity for life

Story

The underlying **electrical infrastructure** and **industrial controls** are both crucial for the smooth operation of digital production environments:
SIRIUS, SENTRON and SIVACON offer a **wide portfolio of versatile systems and components.** In addition to **efficient engineering tools** and **cloud-based applications** which can be adapted to meet the individual requirements of the customer across the entire valueadded process. Thanks to the optimum interplay between products and tools, simple digital solutions are created which suit both the needs and the digitalization profile of the application.

That's what smart electrification means.

Benefits

- Coordinated portfolio of protecting, switching and measuring devices as well as matching switchboards and busway systems
- Simple and easy engineering of the whole system thanks to intelligent tools for the electrical planning process
- Integrated, application-specific features for user-optimized use
- Availability of configuration and energy data in the central automation environment thanks to TIA Portal integration
- Enhanced operational efficiency and system availability due to constant analysis of relevant parameters from the application and forwarding to cloud-based solutions such as MindSphere

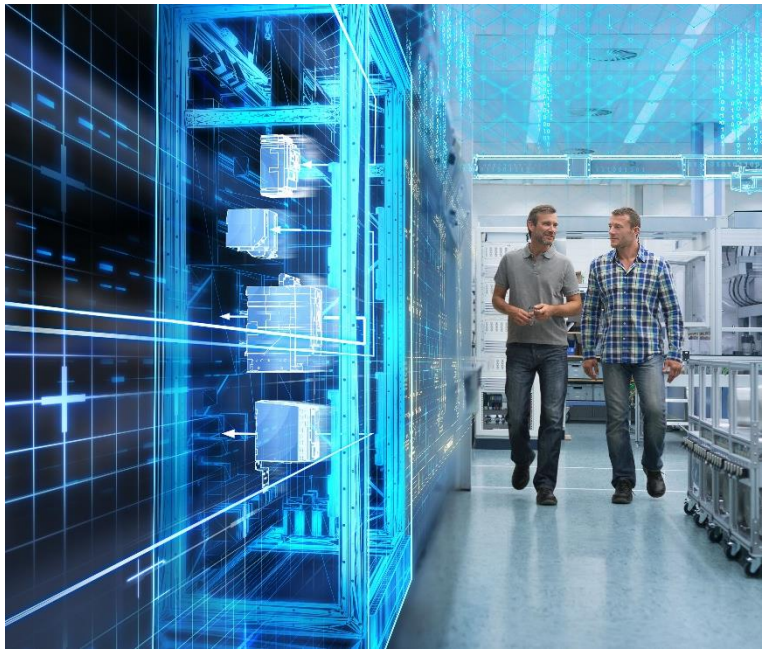
Exhibits

NEW: **Control Panel Components:**
electrical planning & operation Forward-looking industrial controls for straightforward engineering, targeted deployment in SIRIUS applications, and maximum transparency in the plant

NEW: **Smart Control Panel Design**
The new standard in electrical engineering

Power Distribution Components:
- NEW: **3WA air circuit breaker**
  Made for makers. Simply reliable.
- **Electrical planning, commissioning & operation**
  Protection, switching and measuring devices SENTRON with communication capabilities for transferring energy measurement data

Power Distribution Systems:
with SIVACON S8plus switchboards and SIVACON 8PS busbar trunking systems for a safe power distribution and an intelligent management of data and processes



Further information | SIRIUS | Control Panel Designer | SENTRON digitalization | SENTRON | 3WA air circuit breaker | SIVACON S8plus | SIVACON 8PS

Control Panel Components
Electrical planing and operation

SIEMENS
Ingenuity for life

Story

Today, all process steps in the electrification of machines and plants can be supported digitally and customized to meet the special requirements of the application.

From planning to ongoing operation, our SIRIUS control components in combination with the matching planning and engineering tools support customers throughout the entire process in their plant.

This means SIRIUS stands for Control Perfection.

Benefits

Smart control panel design:
With planning and engineering tools, digital twins of control cabinets are created, the interaction of electrification and automation components is visualized, and integrated solutions are planned.
As flexible and individual as the application:
Integrated, application-specific functions such as pump cleaning, dry-running protection, automatic parameterization with changing startup behavior as well as integrated properties such as electrical ruggedness in case of fluctuating line voltages support smooth operation in a large variety of applications.
Transparent operation:
The ongoing collection and analysis of data from the application creates transparency in the plant and serves as the database for greater energy efficiency and fail safety.

Models

- **Control panel components:**
  From planning to ongoing operation
- **Control panel design:**
  The new standard in electrical planning

Links

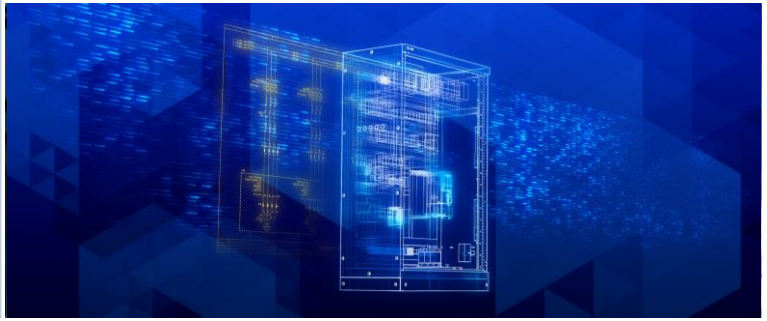
SIRIUS	Smart Control Panel Design	SIRIUS Hybrid	SIRIUS Control

Links

SIRIUS Monitor	SIRIUS Command

Solution and products

- **Control panel design assistant in the TIA Selection Tool** for perfect, standard-compliant design of the control cabinet
- **Control perfection:** Sirius control technology for easy engineering, targeted use in applications and maximum transparency in the plant



Control Panel Design
The new standard in electrical engineering

SIEMENS
Ingenuity for life

Story

Digitalization is the lever to maximize efficiency and flexibility. It enables the necessary standardization and integration in engineering to develop machines in an interdisciplinary way. Today, electrical engineering is the field where the greatest potential for digitalization can be tapped.

Multi-layered and complex electrical engineering for a standard-compliant control cabinet is facilitated considerably by **Control Panel Design in the TIA Selection Tool**, because electrical dimensioning can now be performed at the push of a button.

For the first time, Siemens is offering a function that allows the main electrical system of a machine to be designed and dimensioned in compliance with existing standards. This means: that cable cross-sections and short-circuit currents for the IEC standardization area and the North American market no longer need to be calculated manually.

Control Panel Design optimizes the entire engineering process and sets a new standard in electrical engineering.

Links

Smart Control Panel Design	Integrated Control Panels	Load Feeder Configurator IEC	

Article

Benefits

Control Panel Design in the TIA Selection Tool supports electrical engineering through:

Easy dimensioning that makes fun: Control Panel Design in TIA Selection Tool simplifies the IEC and UL-compliant design of load feeders. It also supports you in configuring the lines for your loads and offers you the possibility to perform important dimensioning calculations at the push of a button.

The **digital standards know-how** of Control Panel Design for IEC and UL supports you, among other things, in line dimensioning, short-circuit calculation, or in the assignment of reference designations according to leading standards. It considers standards such as UL508, NFPA79, the NEC, IEC-60204-1, and IEC-81346.

Consistent workflow for creative projects: You can use functions such as the generation of circuit diagrams for EPLAN or the main circuit view. Achieve your goal faster and let the Control Panel Design wizard guide you step-by-step through the electrical planning process in the TIA Selection Tool.

With a **supporting portfolio** of switchgear, such as the SIRIUS modular system for UL and IEC, SENTRON fuses and switch disconnectors, as well as accessories for the correct setup of reversing and star-delta combinations, you have a constantly growing selection of hardware at your disposal for your projects.

Exhibits

- **Control Panel Design:**
  The new standard in electrical engineering
- **TIA Selection Tool**

Power distribution components
Electrical planning, commissioning and operation

SIEMENS
Ingenuity for life

Story

In order to optimally set up industrial companies and their building infrastructures, both the process and the energy distribution environment must exploit the possibilities of digitization. Siemens is showing a consistent digital ecosystem for the entire value-added process of different customer and user groups in low-voltage power distribution. This offers enormous potential, e.g. in the areas of increased efficiency, reliability, cost savings, increased quality and the possibility of developing and using new business models. In order to realize this potential, Siemens offers an integrated digitization concept with innovative software solutions, tools, applications and communication-capable hardware - from data-based 2D and 3D planning, project planning, tool-based parameterization and commissioning to fully networked power distribution during operation for monitoring and analysis , maintenance management and many other applications.

Benefits

The digitization of low-voltage power distribution brings among other things significant cost and time savings, quality and efficiency improvements and significantly higher reliability with it. While data and tools reduce effort, time and costs in the planning and commissioning phases, the digital image also enables preliminary tests and simulations of entire building simulations. During operation, the simple provision of data and the intuitive applications and software enable better energy management, transparency and error avoidance or faster error localization.

In addition to the energy data, above all also use the status data of the protective devices via integrated functions for optimized maintenance management and are therefore an essential pillar for predictive and preventive maintenance concepts.

Models

- **Power Distribution Components**
  Electrical planning, commissioning and operation

Links

SENTRON digitalization	Low voltage components		

Solutions and products

Planning: data formats and planning and configuration software SIMARIS design / SIMARIS project

Commissioning: SENTRON powerconfig and SENTRON powerconfig mobile

Ongoing operation: energy and visual data, control and evaluation with SENTRON powermanager, 7KN Powercenter 3000 and SENTRON powermind

Components of low-voltage distribution:
protection, switching and measuring devices

Power distribution components
3WA Air circuit breaker – Made for makers. Simply reliable.

SIEMENS
Ingenuity for life

Story

The **new 3WA air circuit breakers** combine all the functions currently required of electrification components in digital companies. The 3WA circuit breaker protects plants against accidents and damage caused by electricity. It is characterized by its flexible options for use and integration in switchgear, high endurance, and low maintenance. In addition, it offers innovative functions for consistent e-Engineering, secure power data acquisition, and seamless integration in digital environments. It also offers the option of collecting energy and system data and making them available in cloud platforms so that production systems can operate efficiently in a network and work automatically. Planners, switchgear manufacturers, and operators of industrial plants and buildings can rely on the proven quality. They benefit from high efficiency throughout the workflow, maximum flexibility, and an air circuit breaker that makes energy flows transparent and fits perfectly into the digitalization landscape.

Benefits

IoT integration: The 3WA air circuit breaker brings power distribution to the IoT. All data relating to energy, power quality, circuit breaker condition and maintenance information can be recorded and integrated in automation, cloud-based energy management, and medium-voltage systems.

Optimal protection in decentralized energy networks: The circuit breaker can automatically adapt its protection algorithms to the particular direction of energy flow. In this way, it provides optimal protection in distributed power grids as well as in buildings, infrastructures, and industrial facilities that produce and store their own energy and feed it back into the grid.

Consistently digital workflows: Several million breaker versions can already be generated virtually in 3D and 2D during the design phase. New features and upgrades can then simply be downloaded from the Internet and installed, so a replacement due to changed or new requirements is no longer necessary.

Models

- **3WA air circuit breakers.**
  Made for makers. Simply reliable.
- **Electrical planning, commissioning & operation**
  Communication-capable protection, switching and measuring devices SENTRON for the transmission of energy measurement data

Links

3WA air circuit breakers	SENTRON digitalization		

Solutions and products

- Integration into higher-level automation and energy management systems such as SENTRON powermanager
- Easy integration in cloud applications via 7KN Powercenter 3000
- Faster and more powerful data transfer thanks to the switched Ethernet functionality and the simultaneous use of several communication protocols, for example Profinet and Modbus TCP

Power distribution systems
Overall system for intelligent power distribution

SIEMENS
Ingenuity for life

Story

In the quest for digital realization, industry players are faced with numerous parallel challenges – not least of which remains the interface between production and energy. Siemens not only offers important components for power distribution here. Rather, we also add these components to a system.

The combination of **SIVACON S8^{plus} low-voltage switchboard** and **SIVACON 8PS busbar trunking systems** is consistently design-verified and safe. It offers the right technology for every supply task.

Notice the benefits of digitalization in each project phase – from planning through installation to operation: software tools for an efficient planning, BIM data as a digital twin in building infrastructure, smart data transmission and processing on-premise or transmission into automation and energy management systems as well as into cloud-based solutions (IoT).

With our **SIVACON systems**, you benefit from a safe and economical energy supply.

Links

SIVACON S8plus | SIVACON 8PS

Benefits

Consistently planned:
everything fits together

Efficient and safe installation with the right components: really safe!

Future-oriented operation: make energy data easily available and use the potential of the data

Solutions and products

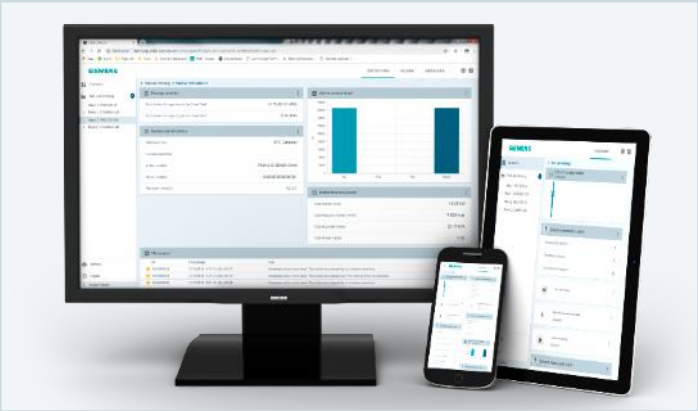
- Work successfully - with SIMARIS control, the digital twin of the SIVACON S8^{plus} switchboard
- Smart, safe and efficient - data transmission via SIVACON 8PS with the help of powerline technology
- Integration in higher-level automation and energy management systems as well as in cloud-based solutions (IoT)

Models

- **SIVACON S8^{plus} low-voltage switchboard**
  The plus for your business:
  Intelligent. Flexible. Safe.
- **SIVACON 8PS busbar trunking system**s
  Energy and data successfully put on track

Smart Electrification
Product Information

SIEMENS
Ingenuity for life



Characteristic/Function

7KN Powercenter 3000 IoT data platform

The 7KN Powercenter 3000 IoT data platform expands the digitalization solutions in the SENTRON portfolio. It collects and processes power and system data of connected devices such as circuit breakers, 7KM PAC measuring devices and 7KN Powercenter 1000, and is the central communication interface to local monitoring systems and open IoT platforms such as MindSphere.

Benefit

- Enables small and medium-sized companies in industry and infrastructure an easy introduction into cloud-based energy management
- Existing power monitoring systems can thus be connected to the cloud and enhanced with additional functions.

High availability and flexibility for data centers with LData system

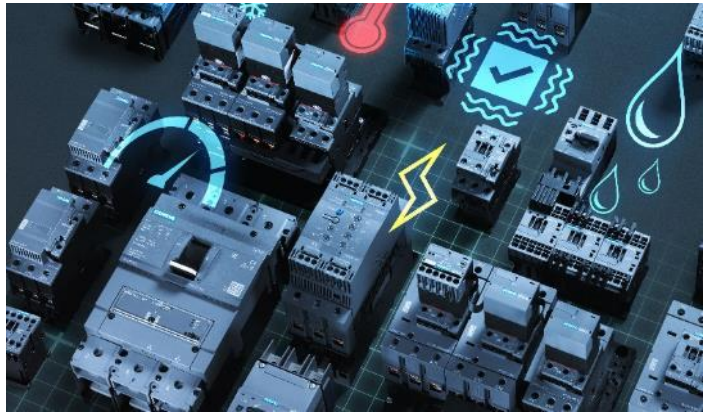
Data centers need a continuous power supply. Retrofits and upgrades should be performed without interrupting operations. LData system, the youngest member of the SIVACON 8PS product family, supports this level of reliability, and allows for easy planning, rapid installation, and a high level of flexibility

- Operational safety and continuous availability
- Thoroughly economical thanks to space-saving and modular design, energy-tap all over the system
- Flexible end-to-end support with comprehensive TIP solutions ensuring substantial cost savings through the lifecycle
- Future oriented solution with the powerline technology and integration into overall systems and cloud-based solutions (IoT)

Further information | siemens.com/powermonitoring and siemens.com/LData-system

Smart Electrification
Product Information

SIEMENS
Ingenuity for life



Characteristic/Function

SIRIUS modular system

The modular SIRIUS system features a comprehensive industrial control portfolio – including circuit breakers, contactors and overload relays. The modular set-up means that all components and products are coordinated by design and fit together.

New: Expansion of the SIRIUS portfolio to include 3-pole contactors up to 2 650 A. Ideal for use in wind power

Benefit

- Save time and costs with perfect combination options for controlling and protecting
- Largest spring-loaded portfolio reduces wiring overhead
- Completely new and innovative device generation in the smallest of spaces
- Certified products designed for global use without additional outlay

SIRIUS ACT ID key-operated switches – Programmable identification solutions

The electronic ID key-operated switch with RFID technology has been extended by a freely programmable version. Here the focus is on individual authorization management and the unambiguous identification of users.
They are mainly used in industrial plants with many safety-relevant functions that require different switching authorizations. With the new version, plant operators are no longer limited to 50 programmable authorizations, but enjoy unlimited flexibility in self-created TIA programming.

- Increased plant safety due to the reliable identification of persons
- Individual authorization management for groups or individuals for access to machines/plants
- Unrestricted selection and combination of authorization levels for individual special locks
- Evaluation of all activities possible for each key through IO-Link
- Easy system integration
- Alternative to conventional locking systems

Further information | www.siemens.com/controlpanel/tools and siemens.com/sirius-control and siemens.com/sirius-act

SIEMENS
Ingenuity for life

Merkmal/Funktion

SIRIUS ACT with direct PROFINET connection

With the flexible SIRIUS ACT communication system with PROFINET, SIRIUS ACT pushbuttons, switches and indicators are connected directly to the control system via PROFINET. It is possible to integrate safety functions, such as EMERGENCY STOP, via PROFIsafe.

Produktvideo
Podcast
Starter kit Unboxing

Nutzen

- Reduced wiring effort and fewer sources of error during installation and commissioning
- Quick and easy installation
- High flexibility in many applications
  - modular design
  - compatible with SIRIUS ACT standard devices
  - additional interfaces (DI, DQ, AI)
- Extended diagnostics and parameterization options resulting from integration in the TIA Portal
- Integrated safety technology

SIRIUS ACT Configurator

The online configurator offers a unique scope of design options, from individual commanding and signaling devices all the way to fully equipped enclosures and customer-specific labelling. The image-based selection with drag-and-drop function as well as graphic preview of the individual steps facilitate configuration. Images or texts can be used from the data pool or uploaded by the user. In addition to the article number, a CIN number is generated for unambiguous identification when ordering.

Produktvideo Konfigurator
Explainedvideo

- Intuitive operation with image-based product selection and user-friendly documentation options
- Simple configuration of individual devices, enclosures, and labels with user-friendly ordering options via the Mall
- Easy identification and reduced ordering effort for customer-specific configurations through a uniquely identifiable Configuration Identification Number (CIN)
- Interface to the TIA Selection Tool
- Comprehensive online documentation: CAx data, EPLAN macros, data sheets, photos, dimension drawings, circuit diagrams, operating instructions, certificates, approvals, and much more.

Further information | siemens.com/sirius-command and siemens.com/sirius-act

Smart Electrification
Product Information

SIEMENS
Ingenuity for life

Characteristic/Function

Intelligent SIVACON S8^{plus} low-voltage switchboard

SIMARIS control, the digital twin of the SIVACON S8^{plus} switchboard, ensures a uniform operation, monitoring and parameterization of the communication-capable devices. The Health Index function captures state information. These energy and status data are available for higher-level systems as well as for cloud-based systems like MindSphere.
SIVACON S8^{plus} adapts to match the requirements thanks to its compact and flexible withdrawable design. It goes beyond the standard and offers safety at a high level with its active protection system against internal arcing.

Benefit

- Flexible and safe operation
- Enhanced system availability thanks to faster, more flexible and simpler operational diagnostics
- Identification of savings potentials thanks to continuous data monitoring and transparent power flows
- Enhanced system availability thanks to predictive maintenance
- Future-orientated solution thanks to possible integration in cloud-based solutions (IoT)

Energy and data successfully put on track – SIVACON 8PS busbar trunking systems

With the use of the powerline technology, the BD2, LD, LData and LI systems make it possible to transmit data, as current and switching cycles, per plug and work via the conductors. No additional data cables are required. The powerline modules can also be retrofitted for your existing busbar runs. The data support the optimization of maintenance measures and identification of potential savings. As an attractive alternative to cables, busbar trunking systems also offer a high short-circuit rating and a low fire load as well as flexibly deployable tap-off units.

- Space-saving and easy installation– for energy and energy data
- Economical and safe energy and data transmission
- Optimized maintenance measures
- Transparent power flows to identify savings potentials and for cost center accounting
- Future-orientated solutions thanks to possible integration in cloud-based solutions (IoT)

Further information | siemens.com/sivacon-S8plus **and** siemens.com/sivacon-8PS

Smart Electrification
Product Information

SIEMENS
Ingenuity for life

Characteristic/Function

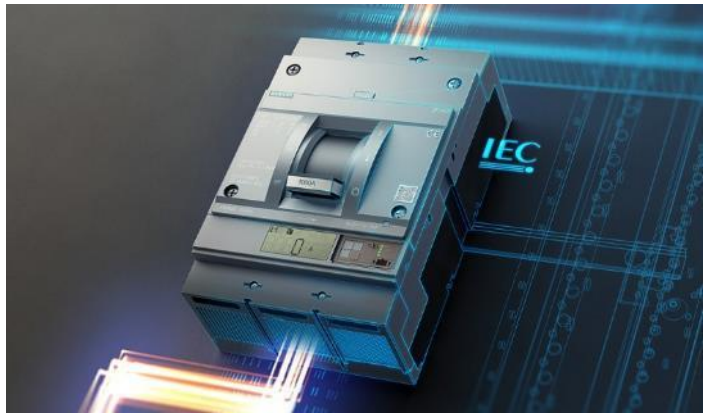
SIRIUS 3RW5 soft starters

SIRIUS 3RW soft starters are the best solution when direct or star-delta starting is not suitable for three-phase motors. Because mechanical shocks in the machine or voltage drops in the mains supply can often cause problems. The complete range of soft starters with intelligent functions offers a gentle alternative for almost every application. The best soft starter for the customer´s application can be selected easily using the Soft Starter Simulation Tool (STS).

Download of the STS here.

Benefit

- Soft Starting up to 1200 kW also for safety-related applications (SIL1 / SIL3) or in the ATEX area thanks to IECEx certification
- Fast engineering and high system transparency thanks to high data availability right into MindSphere - also via direct OPC UA
- Easy integration into automation thanks to numerous communication connections
- Intelligent use thanks to application-specific functionalities such as auto parameterization, pump cleaning or protection against water hammer



Condition monitoring with 3VA molded case circuit breakers

Condition monitoring enables you to determine the state of health and remaining lifetime of a 3VA molded case circuit breaker based on the contact condition. Visualization is performed via the SENTRON powerconfig configuration software including the powerconfig mobile app, the SENTRON powermanager power monitoring software or SENTRON MindSphere applications.

- Simple overview of the state of health of the plant
- Unnecessary device replacement is avoided, thus saving costs
- Maintenance planning reduces unscheduled plant downtimes
- Location-independent analysis by means of cloud-based evaluation

Further information | siemens.com/softstarter, siemens.com/powermonitoring and siemens.com/3va

Disclaimer

SIEMENS
Ingenuity for life

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations may be trademarks or other rights of Siemens AG, its affiliated companies or other companies whose use by third parties for their own purposes could violate the rights of the respective owner.