SIVACON S8plus
Innovative features and solutions for SIVACON S8

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Innovations at your command –
SIVACON S8\textsuperscript{plus}

Profit from exciting features

The low-voltage switchboard SIVACON S8 with the feature package SIVACON S8plus is ready for the challenges of digitalisation. Thanks to its high quality custom design and its special features for power-critical applications, it provides, for example, increased safety and high flexibility at the same time.

Your advantages with SIVACON S8\textsuperscript{plus}

- SIMARIS control – Interface and monitoring system for uniform operation, monitoring, and parameterisation of intelligent switchboards as well as connection to higher-level control systems and to cloud-based systems
- Integration of communication-capable switching and measuring devices as well as sensors in SIMARIS control for recording data
- Extended protection against internal arcing for increased personnel and switchboard safety
- Small withdrawable units for space-saving switchboards
- Higher ratings through energy-efficient cooling
- Powerful motor management system – the solution for the oil and gas market with specific demands
- Comprehensive support from planning to maintenance
SIMARIS control is the central interface to the SIVACON S8 plus switchboard, where all intelligent switching and measuring devices can be operated and monitored. The system offers both comfortable local control and remote access.

- Compatible to various communication systems and network topologies
- Flexible and expandable
- Support for preventive maintenance through fast diagnostics
- Switch position indication and operating hour counter
- Uniform parameterisation of various devices via one interface
- SIMARIS control functions are independent of higher automation levels, and use the available switchboard communication system
- Appropriate authorisation levels are defined in individual user groups to avoid operating errors – for extra safety
- The digital twin can be customised by the end user during runtime

**Intelligent switchboard**

**SIMARIS control**

- Visualisation
- Energy management
- Control
- Maintenance

Communication system (fieldbus)

For example, with
- PROFINET
- PROFIBUS DP
- Modbus RTU
- 3VA line

Intelligent switching, protection, control, and measuring devices

Additional sensors, e.g. temperature
Communication-capable systems and sensors for future-proof and reliable operation

Modern switchboards feature a high number of intelligent switching devices, which often perform various control and monitoring tasks.

The SIVACON S8 plus offers the following key features:

- Integration of different bus systems in SIMARIS control
- Fully redundant communication system solutions are available
- IEC 61850 gateway solution. The special data concentrator converts all data into a single IED (Intelligent Electronic Device) node
- Standardised data model for Motor Control Centers
- Setting of threshold values for monitoring, control, and diagnostics, for early signaling
- Withdrawable unit/compartment identification and initialisation
- Communication-capable MCCBs in withdrawable design
- Continuous 24/7 temperature monitoring
- Power monitoring
Internal arcing faults in switchboards can cause personal injury or heavy damage to installations which may lead to high downtime costs. Internal arcing faults can occur even in modern low-voltage switchboards, caused, for example, by objects, animals, or by incorrect work. Within milliseconds, an internal arc releases a high amount of energy which causes extreme heat, a pressure wave, and toxic gases.

The active protection system against internal arcing of the SIVACON S8plus feature package quenches an arc fault quickly and reliably. The system limits the arcing time and reduces the pressure wave and the temperature rise significantly, which minimises the risk of injury during operation and maintenance, as well as damages to the switchboard.

The new system offers the following key features:

- Short-circuit rating of 100 kA up to 690 V
- Continuous self-supervising condition monitoring of the system
- No explosive substances needed; activation via Thomson Coil
- Reusability – two full-load operations at fault conditions with easy reset mechanism
- Testable – up to 100 test cycles
- Special arcing schemes

The design of the 300 mm high small withdrawable unit increases the packing density, and thus reduces the switchboard’s total costs of ownership. It offers an optimised air-flow design to lower the temperature rise caused by the power loss of the devices. Better access to the devices on the mounting plate ensures easy maintenance.
The SIVACON S8plus feature package offers a patented forced cooling technology for cubicles in circuit-breaker design and in universal mounting design (Motor Control Centers, MCC). The system was designed and optimised by Computational Fluid Dynamics (CFD) simulation, and was confirmed by numerous design verifications according to IEC 61439. The system reduces the derating and provides a low temperature profile inside a MCC to ensure safe and long life operation of sensitive electronic equipment. The control system monitors the temperature at critical spots, ensuring an energy-efficient cooling at any time. For increased service life, all fans are speed monitored. For this purpose, the system has been designed redundantly.

Higher ratings through energy-efficient cooling for safe and reliable operation

Powerful motor management system – the solution for the oil and gas market with specific demands

The SIVACON MCU (Motor Control Unit), specially designed for SIVACON S8 switchboards, is one of the most compact, robust, and powerful intelligent protection and control device for three-phase low-voltage motors. It offers fault-tolerant, dual-redundant Modbus communication for up to 25 devices per loop. To simplify reconfiguration, initialisation modules are available.
Comprehensive support from planning to maintenance

SIVACON S8 production factories

The SIVACON S8 factory in Leipzig, Germany, and the S8plus production factories are also the global Siemens Center of Competence (CoC) for low-voltage switchboards, where sales, product management, research and development, engineering, production, and quality departments work seamlessly toward maximising customer benefits. The CoC is complemented by strategically placed Siemens factories for SIVACON S8 around the world, using the same CAD systems, software tools, and assembly standards to ensure the high quality of Siemens at every site. Our highly qualified worldwide teams of trained design-to-order experts work hand in hand with the SIVACON S8 research and development. Result: a high level of flexibility and optimal solutions for every customer requirement.

Reliable local support

Local Siemens experts assist you around the world, providing ideas and solutions for your power supply, and specific expertise on project management and financial services. Important aspects of safety, logistics, and environmental protection are also considered.