

SIEMENS



SIVACON

SIMARIS control

Solution for uniform operation and monitoring of intelligent switchboards

Distributing power intelligently

Intelligent switching devices form the basis of modern power distribution systems and motor control centers (MCCs). As well as essential switching and protection functions, these devices also perform additional control and monitoring tasks. For this purpose, components have communication interfaces for connecting to higher-level automation systems. Circuit breakers with electronic trip units, measuring devices, intelligent motor protection and control devices and frequency converters are used in SIVACON S8. These devices can be parameterized and adjusted flexibly and optimally to corresponding functions.

Simple operation of complex switching devices

Using the SIMARIS control visualization application, all intelligent switching devices of the SIVACON S8 low-voltage switchboard can be operated and monitored uniformly. Status information and measured values of devices are displayed comprehensively and clearly. Detailed warnings and error messages enable simple and fast diagnostics of the cause of the fault. This helps reduce downtimes and increase plant availability. SIMARIS control can be used as a central operator station directly in the switchboard. Remote access is also possible via a web client, either simultaneously or as an alternative. SIMARIS control is integrated directly into the communication system of the switchboard, and it works independently of a higher-level automation system.

Highlights

- Uniform operating and monitoring interface for all intelligent switching devices
- Clear display of extensive measured values, status and diagnostics information
- Fast diagnostics by means of structured and detailed fault information
- Use as central switchboard operator station on-site, with remote access option
- Independent of a higher-level automation system

Answers for infrastructure and cities.

Switchboards

SIVACON S8 Power Distribution Boards and Motor Control Centers

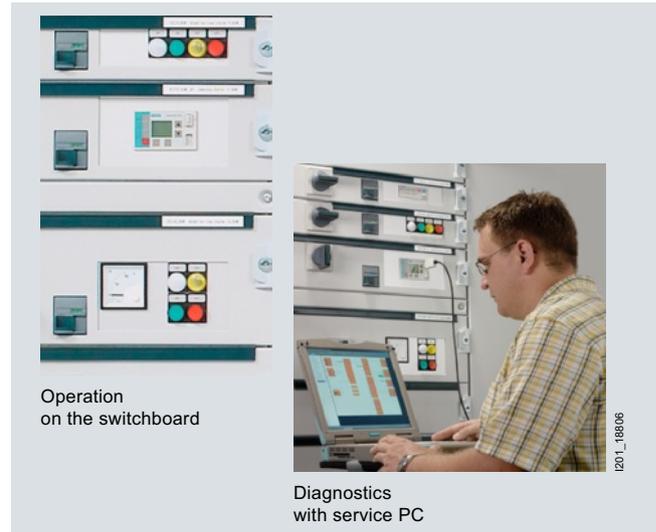
SIMARIS control

Overview

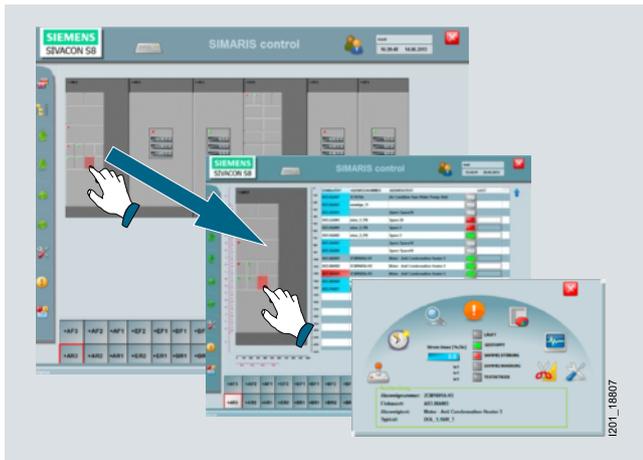
Starting point

Modern low-voltage switchboards, especially motor control centers, use intelligent protection, switching and control devices almost exclusively. These devices have extensive diagnostics, status, measuring, statistical and service data. The use and display of this data in the control system for process automation comes down to a few items of status information and individual measured values as well as the control function.

Signaling and control on the switchboard is possible using indicator lights, pushbuttons or device-specific operator panels. The extent of the information to be displayed is extremely limited here. While the use of device-related display operator panels allows detailed display, the size of displays and installation positions restrict clear arrangement and good readability of information. Comprehensive and clear presentation of all device information is often only possible with a PC and the appropriate software. The individual devices use different software tools here.



Distributed operating and monitoring on the switchboard



Operating and monitoring with SIMARIS control

Innovative solution

With SIMARIS control, all the information of the intelligent switching devices used in SIVACON S8 is displayed clearly and in a structured, requirement-oriented form. Events are shown immediately in individual graphical displays, and they are recorded in centralized message lists. With SIMARIS control, operational diagnostics can thus be carried out faster, more flexibly and more simply. Individual operating parameters like current settings can be modified without parameterization software, thus simplifying the commissioning of SIMOCODE motor feeders, for example. Sensor data (e.g. for temperatures) can also be displayed in the visualization system for the purpose of monitoring relevant status information of a switchboard.

SIMARIS control is a PC-based software application that is integrated into the communication system as a permanent diagnostics station, independently of a higher-level automation level. Intuitive operation is provided via touch screen.

Benefits

Uniform

Different switching, protection and measuring devices of a switchboard are operated and monitored in the same way with just one application. Ongoing diagnostics information of the individual devices is recorded in a central message list for the entire switchboard.

Transparent

Comprehensive display of all measured values, status signals and statistical data enables a high degree of transparency right down to the individual feeder. Statistical data such as switching frequencies, runtimes, etc. support optimization and planning of maintenance measures. The power demand of the switchboard can be analyzed and optimized using the consumption values of the feeders.

Simple

Operation of SIMARIS control is touch-screen-optimized. Navigation through the switchboard structure is clear and intuitive. Causes of diagnostics events can be determined directly and quickly.

Autonomous

SIMARIS control functions independently of a higher-level automation level and uses the available switchboard communication system.

Flexible

SIMARIS control allows changes during runtime. Feeder names and comments can be freely modified. Adjustments to the switchboard structure resulting, for example, from moving, adding or removing feeders can be carried out in SIMARIS control by users themselves with the appropriate authorization.

Safe

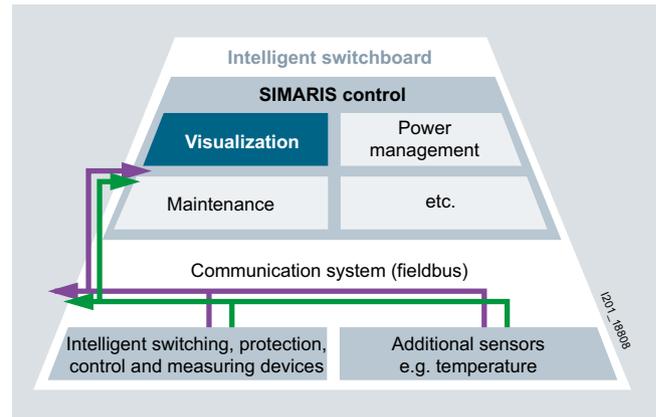
Appropriate authorizations are defined in individual user groups to avoid operating errors. Users of the "Guest" group, for example, have no switching authorization and also cannot make any changes in SIMARIS control. User administration in SIMARIS control is carried out by users with administrative authorization.

Function

Basic principle

SIMARIS control acquires all relevant information via the existing communication system of the switchboard, independently of a higher-level automation system. This information is visualized clearly and in accordance with the requirements. This makes uniform operation and monitoring of the switchboard possible across device boundaries.

The visualization function of SIMARIS control is a PC-based software application. It is integrated directly into the switchboard via an industrial PC or panel PC. A standard PC can also be used outside the switchboard. The hardware of SIMARIS control can be integrated into existing IT structures via the integral LAN interfaces. Functions such as remote access/monitoring are thus also possible as an alternative to centralized operation on the on-site panel PC of the switchboard.



SIMARIS control – system structure

Concept of operation

The image shows five screenshots of the SIMARIS control interface, illustrating the navigation steps for diagnosing a feeder event. The steps are numbered 1 through 5:

- ① General overview with panel arrangement and group information
- ② Panel overview with feeder information
- ③ Feeder overview
- ④ Detailed feeder information (measured values, status signals, statistical data and much more)
- ⑤ Central message list

The screenshots show a progression from a high-level overview of the switchboard to a detailed view of a specific feeder, including its status, measured values, and a list of messages. A hand icon indicates the user's interaction with the interface. A reference number '1201_18809' is visible on the right side.

Example: Operating options for diagnosing a feeder event

A SIVACON S8 switchboard is operated with SIMARIS control using a touch-screen-optimized software interface. Navigation through the switchboard structure is very simple and intuitive.

With just a few operation steps, extensive feeder-specific detailed information can be displayed from a general overview.

Switchboards

SIVACON S8 Power Distribution Boards and Motor Control Centers

SIMARIS control

Get more information

Technical features

- SIMARIS control visualization application for SIVACON S8 switchboards
- Windows PC / Industrial PC system
- Optimized for touch screen operation
- Interfaces for PROFIBUS, PROFINET, Modbus, Ethernet, and others
- Several operator stations possible
- Operation possible via web client
- Structured representation of alarms and faults / message list
- Integral user group administration with differentiated authorizations
- Configuration changes during operation possible (changes to number and positioning of feeders, adaptation of feeder names and descriptions)

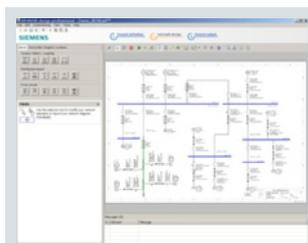
Overview of the SIMARIS tool landscape

SIMARIS control is a continuation of the familiar SIMARIS planning and configuration tools. With more than 20000 installations worldwide, the SIMARIS tools simplify dimensioning, planning and configuring of power distribution systems.

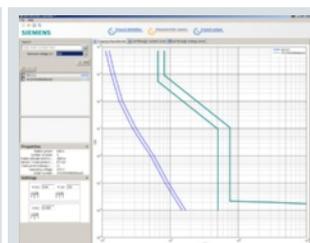
SIMARIS control expands this integrated tool landscape with functions for operating and servicing switchboards.

The SIMARIS software tools set efficiency standards. They provide support in dimensioning the electrical power distribution system, determine required devices and switchboards, and simplify the commissioning, operation and servicing of switchboards:

- SIMARIS design for system calculation and dimensioning
- SIMARIS curves for visualization of tripping characteristics, as well as let-through current curves and let-through energy curves
- SIMARIS project for determining space requirements of the power distribution system, calculating budget and drafting tender specifications
- SIMARIS configuration for configuring low-voltage switchboards
- SIMARIS control for uniform operating and monitoring of intelligent switchboards



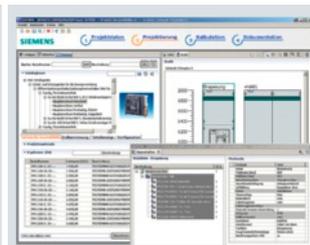
SIMARIS design



SIMARIS curves



SIMARIS project



SIMARIS configuration



SIMARIS control

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