

The Siemens logo, consisting of the word "SIEMENS" in a bold, blue, sans-serif font.

Ingenuity for life

Sitras RSC

Control system and station operation
for traction power supply and railway infrastructure

[siemens.com/rail-electrification](https://www.siemens.com/rail-electrification)

The Sitras® RSC (RailSCADA) power network control system is employed for controlling, monitoring, archiving and evaluation purposes in traction and auxiliary power supply and railway infrastructure.

The integrated energy management system supports the identifying of energy consumers (transparency). Therefore, the Sitras RSC supports your efforts to optimize the energy procurement and to increase energy efficiency.

Operating personnel thus receive a rapid and reliable overview of the operating states of the system.

Features

- Cost-effective operation thanks to energy management as well as active fault and maintenance management
- Certified energy data management system acc. to ISO 50001
- Object-oriented and simple-to-work with Engineering Studio
- High level of availability due to distributed „hot-standby“ systems
- Scalable system, from a very easy station operation to a distributed and redundant control system
- Multi-monitoring, client-server configuration, remote-clients
- Remote access
- Flexible, supporting customer-specific interfaces, functionalities and system configuration

Areas of application

Power network control system and station operation for traction power supply

- AC switchgear
- DC switchgear
- Low-voltage switchgear
- Track installations
- Disconnectors and drive mechanisms
- Contact line monitoring systems

Fault management for railway infrastructure

- Video surveillance
- Lighting
- Air conditioning
- Tunnel ventilation
- Elevators and escalators
- Automatic ticket vending machines
- Platform screen doors
- Fire and intrusion alarms
- Public Announcement and video systems
- Point machine heaters
- Point machine controllers

Overview

Philosophy

Sitras RSC uses a modular configuration to provide optimum coverage for all monitoring application areas, from station operation systems through single-user systems right up to high-availability and distributed „hot-stand-by“ systems.

In the power supply station controller, Sitras RSC is employed as the station HMI (Human machine interface) for operation and supervisory purposes.

Application of Sitras RSC as central control system as well as within the local substations allows operation with the same „look-and-feel“ providing a consistent data base. This facilitates simple system administration and easy extension of the networks control system.

Sitras RSC can control and monitor a multitude of different and independent subsystems. All subsystems are here combined into a single and uniform user interface. This guarantees simple usability for the operator.

More features

- Topology manager – Dynamically network topology illustrated supply status of the electrical network such as supplied, not supplied and earthed
- Control preview to analyze the consequences of control operations before the actual command is performed
- Energy management for monitoring of energy values, reporting and information management, load flow display and load management
- Data distributor for connectivity – Data interface to „Maintenance Management“ systems for data analytics
- Asset monitoring – Connection to selected asset monitoring systems via standard interfaces

Hardware / Operating system

For the control centers, Sitras RSC makes use of standard hardware, preferably based on Microsoft Windows®. For station operation purposes, embedded systems or panel PCs with „touch“ technology are employed. Sitras RSC can be simply integrated into existing secure IT environments

Flexibility

As a successor of Vicos RSC, Sitras RSC is a future-proof system offering migration capability. Depending on requirements, the system configuration can be individually tailored in terms of functionality, performance and security.

Data exchange with other systems and integration into multifunctional workstations as an integrated control center are possible with minimum effort.

Parameterization / Operation

With the editor Engineering Studio the customer can extend existing systems in a simple manner or change the parameterization of existing data. The Engineering Studio provides a user-friendly engineering surface with manifold functions, which support to build-up of projects and its process masks. A traction power-specific library is integrated, containing ready-to-go symbols and templates. Parameterizing Sitras RSC does not require any programming skills.

Additionally, the Smart-Object-Composer allows designing individual icons and components. Hereby logos, colors, style and layout may be adapted to a corporate- or customer specific design.

The object-oriented Windows-style user interface ensures intuitive simple operation of the system. The fact that Sitras RSC can be used both as a station HMI and as a control center operating workstation, allows end-to-end system operation with the same system data. Data acquisition needs to be performed just once.



Service / Maintenance

The system offers self-testing capabilities, on-site maintenance and secure remote service.

Energy Management

Sitras RSC supports with the new modul „iEMS“ (intelligent Energy Management System) the reduction of energy consumption by monitoring of energy data and energy key performance indicators. Consumption of individual consumers may be monitored, compared and forecasted.

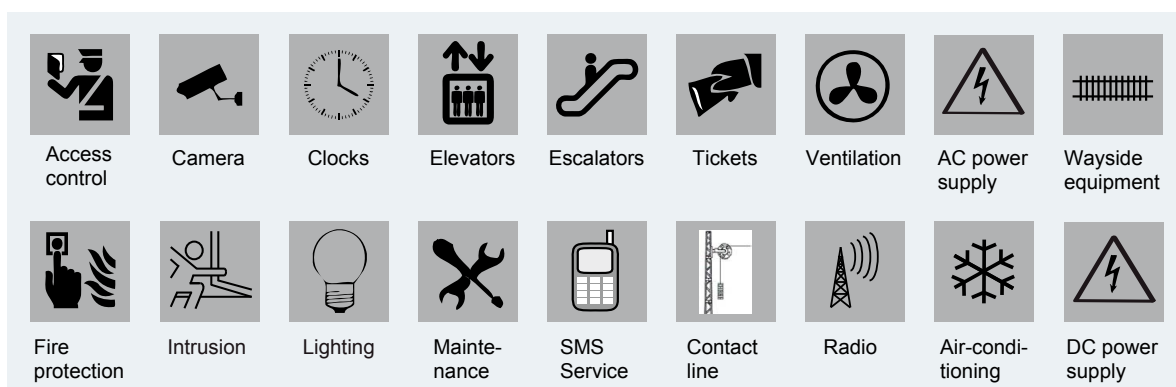
By the additional reporting functions, regular evaluations are made to increase transparency on energy consumption, which supports customers in their introduction of an ISO 50001 energy management system.

Besides the enhanced monitoring and reporting functions, the „load distribution“ with the electrical network can also be visualized, indicating e.g. overload situations in individual network sections.

A function for „load management“ allows time- or event-based actions targeting increased energy efficiency.

Properties

- As part of an OEM product strategy, we offer licensed sales arrangements for the Sitras RSC control system. System realization then takes place via the partner.
- The upgrade strategy provides the possibility to use the data for new SW version without the necessity to edit the data again. It is a simple matter to extend existing systems by adding new functions. Stations operating workstations can be expanded into fully-fledged control systems.
- The supply status of the network is illustrated dynamically. Statuses such as 'energized', 'de-energized' and 'grounded' are automatically determined and displayed topologically. This makes traction supply networks clearer and more manageable.
- The control preview (study) provides optimum decision support to avoid operating error. The operator can analyze the consequences of control operations before the actual command is performed.
- For the operators, the system offers support in any language. During operation, the language can be selected.
- Data archiving can be realized in the system's own database or in an Oracle database.
- Comprehensive maintenance and fault reporting concepts are supported. These include evaluations, notifications via e-mail or SMS and the preparation of maintenance jobs.
- The freely parameterizable individual and user-specific access rights enable reliable operational management tailored to the operator.
- Parameterizable interlocks automatically prevent conflicts that may arise through the operation of different switches. This virtually excludes operating errors.
- The system is equipped with standardized and comprehensive communication interfaces such as IEC 60870, DNP3, Modbus, Sinaut, BACnet, SNMP, OPC and Simatic S7.
- The asset monitoring provides connection to selected asset monitoring systems via standard interfaces. Transparency for efficient maintenance is supported by display of selected assets condition even in integrated control centers.



Process interface

References

For more than 40 years we have been developing control system solutions for traction power supply and railway infrastructure.

Our SCADA systems are used by a large number of public transportation companies in mass transit and mainline applications right across the world.



Security information

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

For more information about industrial security, please visit:
<http://www.siemens.com/industrialsecurity>.

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