Spectrum PowerCC
Energy Control
The Control System for Industrial Networks

Power Transmission and Distribution
Competition in industry is leading to increased cost pressure, which is forcing many companies to take economization measures; power supply is no exception. For example, such actions might include reducing network monitoring shift work at night or weekends. The energy market, which is becoming increasingly dynamic and complex as a result of deregulation, also affects industrial power supply. By recording, monitoring and controlling purchased energy and peak load, one can reduce costs and optimize one’s own power generation.

Spectrum PowerCC – Meeting the Challenges of Industrial Power Supplies

All functions of the system control center
Spectrum PowerCC for industrial network control helps you manage your operations. It includes an innovative modular product concept based on the latest software technology and it provides the complete range of functions for a system control center.

Spectrum PowerCC – a real highlight for your power supply system
The state-of-the-art Spectrum PowerCC technology supports and integrates leading industry products and many upcoming industrial standards. The modular product concept reduces installation effort and ensures a minimum delivery time.

In terms of costs, Spectrum PowerCC is a real highlight. Data entry and maintenance (and system upgrading, too) are easy. Standard software and hardware help to further reduce costs and neatly close the gap between power management and your company’s IT environment. Spectrum PowerCC fits well into the context of your processes and is ideal for integration into your company’s IT framework.
The Spectrum PowerCC network control system encompasses the full range of functions – tailored to the needs of industrial power supply.

**Basic functions**
The basic functions encompass operation and monitoring, logging, control, updating, tagging and alerting. They also include alert forwarding (e.g. via city call), operation and monitoring via the Intranet/Internet, messages and values generated via logical combination rules and automatic command outputs. Further optimization functions are available for electrical networks.

**What Spectrum PowerCC has to offer**
Spectrum PowerCC provides clear indications, visualization of values (also graphically in the form of bar charts, curves, fill levels, etc.), the logging of indications, convenient filter functions for message lists and the indication of information outside the context of power supply, e.g. from production. The operator is alerted visually and/or acoustically. A graphic representation of the cause of the fault can be selected directly from the event list, with events classified according to importance.

**Operating support**
Operation is supported by fault localization, topological network coloring, interlocking conditions, fault localization in the power supply network, display of earth faults in parts of the network based on the messages of suitable protection equipment, identification of defective equipment and highlighting of parts of the network that are not receiving supply.

**Archive**
The archive encompasses measured values, indications and counted values. It is broken down into an online archive and a long-term archive on external data media, and it is stored in an Oracle database. A convenient user interface enables ad-hoc access.

**Process data handling**
Process data handling encompasses measured values, indications and counted values and also offers averaging and the determining of maximum and minimum values. Counted values make it possible to work out consumption by individual load groups (for example plant departments), as well as producing hourly, daily, weekly and monthly reports and calculation of power purchased in conformity with agreements.
Load management
Load management serves to balance contracts with power suppliers. It includes load forecasting, purchase monitoring and load distribution and control, and it features suggestion and automatic modes of operation.

Engineering system
The engineering system provides a standard input interface for all configuration and system data. It enables importing of data from an external source, for example another database or an ASCII file. An object-oriented editor is also available for input and editing of system data. It also uses familiar technological terms already used in the network, for example station, voltage level, feeder and switching element. The hierarchic data structure can be freely selected and changes made to data without having to interrupt any operating processes. Data is stored in a commercially available relational database.

Process data acquisition
The standard protocols IEC 61850-5-101, -104 and SINAUT 8-FW make it easy to connect processes. Interfacing to an automation system can also be established without complications directly via the OPC interface.

Interfaces
ODBC/OLE-based interfaces enable easy integration of tools such as Microsoft Excel. An SQL interface is also used for archive information. A simplified SQL interface enables data access directly from the domain model (e.g. system data, process data or data computed in applications).

Software development kit
Whenever a project poses special demands, low-cost additional functions with minimum impact on the rest of the system are possible with the software development kit, using clearly defined interfaces.

Connection of large-screen projectors

Redundant system structure (optional)
Spectrum PowerCC Technologies

State-of-the-art technologies offer clear advantages. Spectrum PowerCC employs the latest IT features, including:

- Windows platform and standard PC hardware
- Open interfaces, based on Microsoft components including COM/DCOM, ActiveX Controls and XML
- Archiving system based on Oracle database
- Standard industrial interfaces for structured queries (SQL) and for Open Database Connectivity (ODBC)
- User interface via Intranet/Internet
- Process connection via telecontrol interface with the IEC 61850-5, SINAUT 8-FW protocols
- Automation systems and OPC interface
- Object-oriented system design, user interface and data model

Spectrum PowerCC is based on WinCC, the world’s leading industrial standard for SCADA systems.

Competitive advantages
The broad spectrum of functions ensures a reliable power supply for operation and production; that is a crucial competitive factor. Further advantages are:

- Cost-effective power procurement
- Full integration in your operational processes
- Reliable error-free switching
- In the event of malfunctions, quick and specific intervention is possible, focussing on the critical stoppages
- A balanced workload for the operator minimizes errors
- Overview of network capacity utilization
- Reliable planning database
- Enhanced network transparency
- System maintenance costs reduced
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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

Subject to change without prior notice.

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