

The **SAT 230** Control Center System

The scalable solution for monitoring and controlling your processes

With its scalable size, SAT 230 provides a convenient, transparent and open interface between the operator and the process, especially for utility and industrial companies. Its wide range of seamless, scalable system solutions – from display systems to redundant control center systems – is ideally suited to perfectly map and display your plants with the required depth and technical functionality.

The SAT 230 Control Center System

A system for every task

Closer to the action:

a multi-hierarchic control center concept

With SAT 230's distributed, multi-hierarchic control center concept, you can distribute the process control system functionality to different process hierarchies or segments. This allows decisions to be made where they are needed – and as close to the process as possible. At the same time, the control center system is relieved of lower-priority tasks.

Configuring made simple:

SAT 230 Project Manager

SAT 230 Project Manager supports you with convenient tools during the generation, maintenance and data synchronization of your (distributed) control center project. You benefit from short implementation times and superior transparency even in large projects. What's more, most SAT 230 projects have been implemented by our customers on their own, at locations around the globe.

Better visualization:

SAT 230 Process Visualization

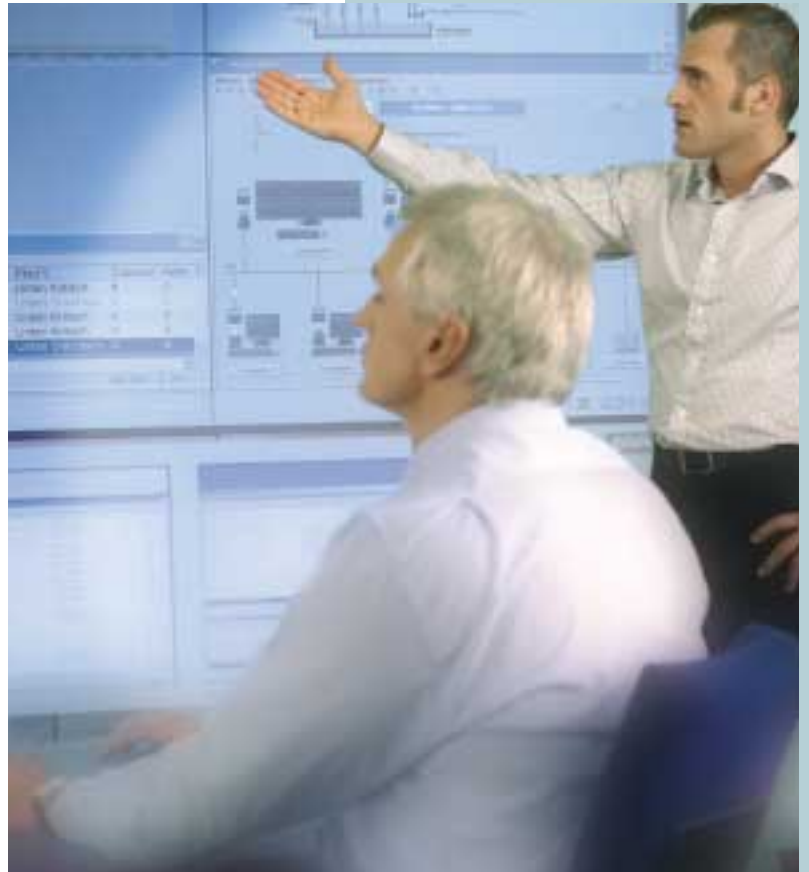
The advanced SAT 230 Process Visualization software supports realistic depiction of process data. With the multi-window, multi-screen technology and freely customizable display hierarchies in SAT 230, the presentation of process information can be tailored to your needs. User-friendly filter functions give you selective access to online and archived information.

Efficient communications:

SAT 230 Interfaces

Communication servers for SAT 1703 systems and PLC interfaces are available to link the system with your processes, and they can be operated in parallel. The integrated functions supporting multimedia applications such as audio output, video windows and HTML browsers can be activated by process states. Functionality can be extended by using open system interfaces to integrate a range of industry-specific expansion modules as well as project-specific functions.





SAT 230 delivers winning advantages

You benefit from:

- State-of-the-art, intuitive operator guidance through context menus, multi-window and multi-screen techniques, dedicated masks and online-adaptable lists
- More efficient engineering by generating more highly aggregated process-engineering objects for graphics and data models
- Scalable architecture all the way from Windows CE to the PC workstation
- Multi-hierarchic and multi-project capability as well as redundant servers (optional)
- Highly-developed, industry-specific solutions, for instance for substation automation, hydroelectric power plants, municipal utility plants (electric power, gas, water and district heating) or regional utility companies, as well as customized energy data management
- Proven standard solutions, for instance for archiving, logging, reports, formulas, computer interfaces or remote control connections via IEC 60870-5-101 or -104, network management by SNMP or Message Control for alerting on-call services via mobile phone

The SAT 230 system architecture – efficient and reliable

Simply clever: SAT 230 is a perfect fit

SAT 230 runs on Windows and thus provides not only a familiar user interface but high availability and the capability of integrating state-of-the-art technologies into the process control system. You benefit, for example, from substantially shortened familiarization times and very high user acceptance. What's more, the modular SAT 230 system architecture lets you choose optimized solutions for every process level, from a Windows CE-based display system for use at the process level to the redundant control center system running on MS Windows NT, 2000 or XP. During commissioning and service you are supported by convenient functions such as parallel logging, call-up of the current process image, recording and playback of the process data, as well as statistical throughput and system information.

Universal access:

the Client-Server Concept of SAT 230

Thanks to the network-wide client-server concept of SAT 230, you can access and process central functions such as alarm and sequence of event lists, archiving, acknowledgments and configuring from any workstation. Standardized, object-oriented software tools protect your investment and are open for new developments in the IT sector.

Integration as a success factor: multi-hierarchic process control systems with SAT 230

In many processes, the different process levels are now linked by a WAN connection. That's the best approach for interconnecting the control centers of the individual hierarchic levels directly! In such distributed, multi-hierarchic process control systems, processing of process data is distributed among the respective process hierarchies.

For developing distributed process control systems, SAT 230 supports you with special features:

- Automatic synchronization of the hierarchic control centers as parameters are changed
- System-wide global parameters
- Management of unambiguous access authorizations across all process levels
- Availability of process information tailored to individual process levels.

Two heads are better than one:

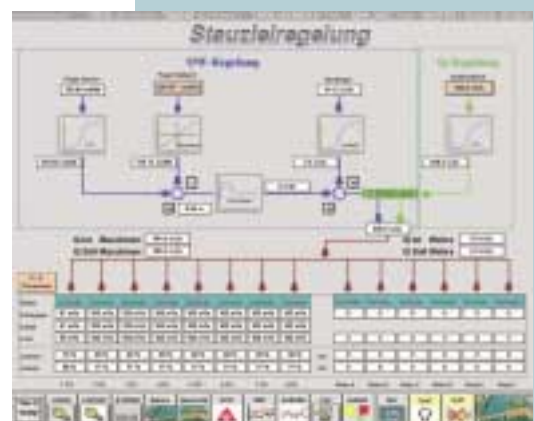
redundant servers with SAT 230

The SAT 230 redundancy concept is based on two servers working in parallel, and which are continually being synchronized through the network link. This ensures that messages, file entries, derived counters, variable identifiers, trend memories and many other data are brought up-to-date. The switchover is therefore accomplished very smoothly, and availability is substantially increased.

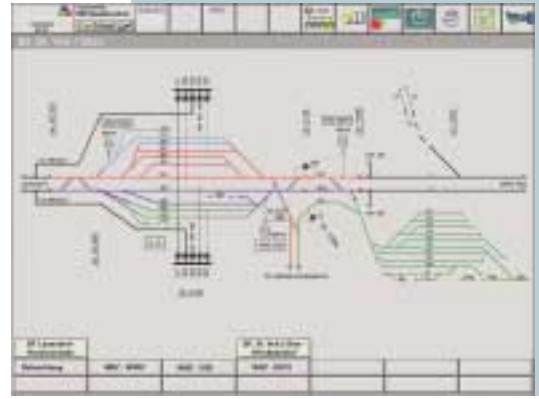
Open to all:

communications interfaces in SAT 230

Automation systems such as SAT 1703 can be interconnected serially (IEC 60870-5-101) or through a LAN or WAN (IEC 60870-5-104). The open interfaces in SAT 230 equip the system for future standardization trends in the automation or IT sector. What's more, additional PLC servers (such as Profibus FMS, SAIA etc.) are available for standardized remote control connections.



Making your tasks simpler – SAT 230 at work



Configure your workstation

SAT 230 can be optimized for operation with a mouse, trackball or touch screen. Its multi-screen concept enables you to use a variety of monitor configurations in a given project. At the same time, you can also implement monitor assignments and operator interface concepts tailored to the individual users. System windows such as reports, trend indication and log output are parameterizable with your control and indicator elements – the operator only gets access to those functions that are relevant for monitoring the process in question. Consistent locking of the operating system level prevents unauthorized access to other system functions.

Error-free configuring:

SAT 230 Project Manager

In addition to the object-oriented, menu-driven parameterization with the graphical user interface, you'll find many other convenient tools in the SAT 230 Project Manager. These include graphics import, import/export of the data model, copy and alignment functions, zoom, online help, etc. The data model is generated and maintained with the OPM II object-oriented process data manager as part of the SAT TOOLBOX II.

Everything under control:

alerting functions and event management

Use SAT 230 to adapt your alerting functions and event management perfectly to your application through variable definitions and complex filter conditions available for the output. Flexible reaction matrixes with standardizeable processing objects are available to assist you. The output can be issued in the form of reports, open and closed logs or as an export in standard file formats. In the event of a breakdown, monitored image hierarchies guide your operating personnel from the overview image to the acknowledgment-capable alarm in the detail process view. In unattended control centers, a message module automatically alerts the on-call service via SMS, City Call etc..

Better informed:

computing and linking with SAT 230

You can perform many data analyses directly in SAT 230 through a multitude of arithmetical and logical links. SAT 230 supports you, for example, by providing trigonometric functions, statistical computations, operating hours and operations counter as well as data condensations over parameterizable time intervals. You can perform more complex computations using VBA as an integrated script language. The computed and derived variables can then be processed just like process data.

Logs, wherever and however you need them

The SAT 230 Log Generator generates closed logs based on online and archival data in a simple and convenient manner. This includes even complex logs with a diversity of layout and computational requirements, which can be output on-screen, as a file, or as a print-out.

Make the most of your data:

the SAT 230 Archiving Module

Cyclic, event-driven or spontaneous: the SAT 230 Archiving Module performs intelligent data archiving and compression (through multi-level cascading of archives). Archival data can be post-processed via the logs or in a tabular archive window. Condensed values in subsequent archives are updated when changes are made. Archiving can be performed at will. An archive export in standard file format is parameterizable. The backup function can be used to display files in the system even if they have already been transferred off-site.

Reliable trend recognition:

The SAT 230 Trend Curve Module

The trend curve display feature in SAT 230 gives you a fast and precise overview of current developments derived from the evaluation of online and archival data. For more precise analyses, you're provided with a zoom function, linear or logarithmic value scaling, X/Y displays and value queries via pointers, as well as extensive filter functions.

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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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