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SICAM 230

The control center system for every job

Answers for infrastructure and cities.

Ready for anything: the SICAM 230 control center system

All energy suppliers – whether they provide electricity, natural gas, water, or district heating – face ever greater and more complex demands as they implement new energy mixes. So when a critical element like a control center can grow with its tasks and is easy to maintain, the benefit is impossible to measure.

- **Forward-looking:**

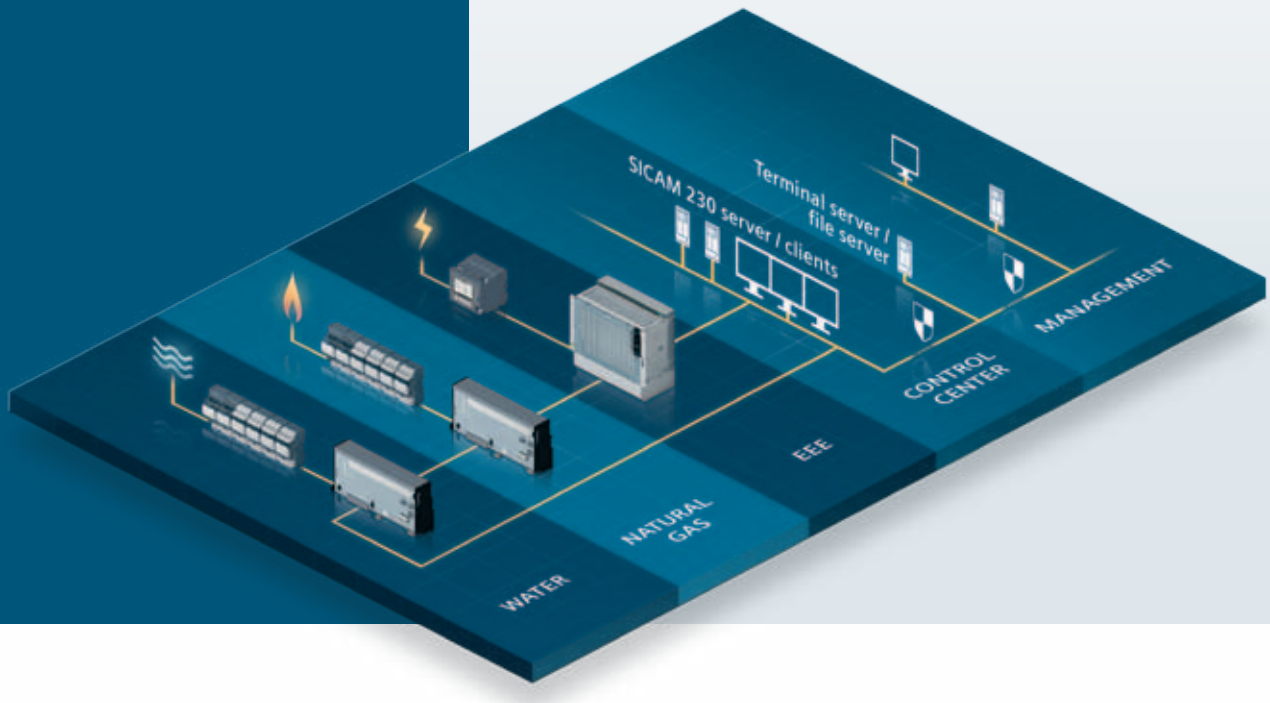
With SICAM 230, you're ready to face the challenges of the future. You benefit from a scalable system for a broad range of applications that lets you keep all your options open. So you're on the safe side – today and tomorrow.

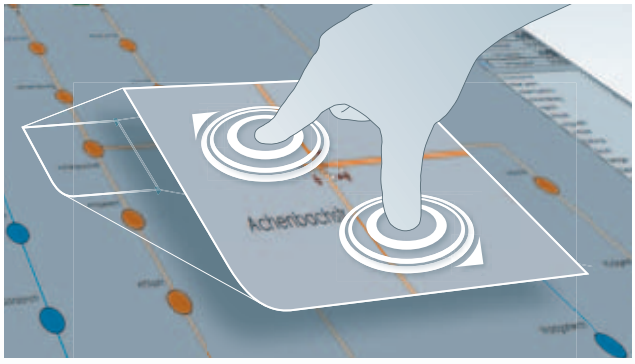
- **Universal:**

SICAM 230 can be used anywhere – from an integrated energy system for utility companies to a monitoring system for smart grid applications. The choice is yours.

- **Consistent:**

The SICAM 230 architecture is completely consistent – from the on-site controls to the redundant multi-hierarchic control system. This brings order to your system structure.





- **Rely on established usability:**

Standard interfaces and a Windows-based user concept reduce the time required to learn to use SICAM 230. You can rely on familiar workflows.

- **See the big picture at all times:**

SICAM 230 offers a centralized project planning interface for everything – from images and icon libraries to archives, functions, and process connections. You'll always find your way in this interface.

- **Face the future without worry:**

SICAM 230 is fully compatible with future versions – existing projects are automatically converted. So you're always up-to-date.

Comprehensive basic features

- Alarm and event list
- Archiving
- Advanced trend charts
- World view
- Network technology (client-server redundancy, multi-hierarchic, circular redundancy©)
- Command element
- Picture alarm element
- VBA / VSTA script language
- DCOM interface to external programs
- Communication through IEC 60870-5-104 and IEC 61850
- Driver for AMIS transaction server
- Multitouch controls

HMI / SCADA options

- Topological coloring and interlocking
- Short-term optimization of gas and electricity
- Energy distribution calculation
- Short cut fault location
- Simulation and switching sequences
- Switching administration module
- Remote alarming (text message, voice, e-mail)
- Easy Energy Report and archive editor (Excel-based)
- SQL server interface
- OPC DA and OPC UA server
- Over 100 additional communications protocols

Simply clever: the innovative user interface

Innovative user interface concepts from the world of tablet computers and smartphones offer new opportunities to control system users as well.

User interface makes it intuitive

New in the control room: SICAM 230 supports multitouch controls. Use familiar gestures such as “swipe” or “zoom” for optimal control – to move or zoom in on a world view, for example. Simply follow your intuition.

Adaptable multiscreen concept: SICAM 230 allows different monitor configurations within a single project. Enjoy screen layouts and user concepts tailored to the individual. The user interface and display elements of system windows such as lists, trend charts, and log outputs can be parameterized, so users see only those features relevant to the processes they monitor. Systematic locking mechanisms at the operating system level ensure secure operation, blocking unauthorized access to other system functions. This makes everyone’s interaction with the control system easier.

Project planning makes it convenient

Installing SICAM 230 is comparable to configuring standard software such as the Microsoft Office Suite. Various tools help with parameterization – from the graphics import and the import and export of data models to copy and configuration features, a zoom feature, and online help. The ultimate in convenience.

OPM II is the ideal tool to create and maintain the basic data model. This object-oriented process data manager is part of the SICAM TOOLBOX II engineering software for the entire SICAM product family. Use one system for everything.

Attention to detail: the efficient display

Topology modeling makes it clear

SICAM 230 lets you display so-called world views, which model the entire network topology down to the last detail. The full world view is larger than the monitor, of course, so SICAM 230 offers different zoom levels for varying degrees of detail. This lets you maintain an overview at all levels.

In the event of an error, you can see immediately what has happened and where: Special colors highlight ground faults and short circuits in the network map, for example. If the SICAM 230 control system is directly coupled with protective equipment, you can quickly isolate the site of the trouble. And the faster you find the cause, the faster power can be restored.

Project editor makes it easy

The SICAM 230 editor helps you create and manage control center projects through

- convenient tools for fast response times,
- a high level of transparency in complex projects,
- the option of maintaining multiple projects simultaneously.

Most of the SICAM 230 projects around the world have been managed independently by our customers – proof that the system is intuitive and easy to maintain. See for yourself!

Flexible alarm and event handling

SICAM 230 provides flexible reaction matrixes with standardizable processing objects to help you optimize the handling of alarms and events to your specific needs. You the user determine whether to output alarms and events to lists or logs and / or export them to a file format.

If a problem arises, your attention is quickly and intuitively directed from the overview to a detailed view highlighting the source of the error. When SICAM 230 is used in unstaffed control rooms, it sends out alarms through a message module. Receive alarms by text message, voicemail, or e-mail – it's your choice.

Always well prepared: the built-in flexibility

Logging and archiving features make it flexible

Flexible reporting is an essential component of any control system. SICAM 230's Easy Energy Reporting requires no special expertise. Standardized layouts based on Microsoft Excel are available for all areas, so producing gas, water, and electricity reports is a snap. Use daily, monthly, or annual logs to generate manual or cyclical reports from the SICAM 230 archive – even save them directly to PDF.

In addition to the reports, SICAM 230 also offers an archive editor with the following features:

- Manual correction of corrupted / invalid archive data
- Linear interpolation
- Copy and paste function for archive data

Energy distribution calculation makes you prepared

The deployment and expansion of renewable energies is accompanied by shifts in the direction of the energy flow. On certain days, energy may be fed from cities and towns back into the high-voltage grid of upstream energy companies.

Public utilities typically lack the tools needed to properly calculate the flow in demand. SICAM 230 calculates energy distribution using a simplified, single-phase, strictly ohmic model without the phase angle. During the multi-step command, the system calculates the future grid status and alarms the user if there is a risk of overload. If you also wish to see which switching actions make sense in such situations, the "Simulation" add-on module lets you run various scenarios in advance to preview the expected energy distribution offline. This gives you the basic tools you need to face the key challenges of the energy future.

Seamless documentation makes it manageable

If your company is in the business of operating electrical grids, you and your partners need the reliable support of the SICAM 230 to manage switching records. From request to approval and planning to implementation, all the necessary transactions are displayed in one user-friendly workflow and are seamlessly documented. The layouts and documentation expressions can be easily customized in Microsoft Word. And as always, you use the convenient SICAM 230 user administration interface to define which users have which authorizations.

Ready for tomorrow: the platform for big jobs

Automation platform makes it future-proof

The growth of decentralized energy producers, the requirements placed on energy companies and the expected rise in the number of electric vehicles all require increased automation of the distribution network. It's impossible to rule out disruptions in the energy supply and lapses in the permitted quality of the electrical voltage, but these events must always be monitored and logged.

Information on the status of the grid is invaluable in this effort: data provided by smart meter systems such as Siemens AMIS; compact telecontrol stations such as SICAM MIC, EMIC, and CMIC; and power quality measuring devices such as SICAM P. All that is required is that this information be collated at a central point or passed along to other systems.

SICAM 230 is the ideal platform for such a data hub, offering a large selection of protocols, open interfaces, and an integrated archiving system. Once you've gathered all the available information, it's just a small step to improve the quality of the grid. Use smart meter relay outputs instead of ripple controls to switch consumer groups, for example. Or use telecontrol switches to move the separation points. SICAM 230 offers you all the options.

Multi-hierarchic system ensures end-to-end consistency

SICAM 230 offers special features to help you establish distributed control systems:

- Automatic synchronization of hierarchic control centers when parameters change
- Global, system-wide parameters
- Administration of unique access rights across all process levels
- Process information tailored to each specific level

Each level can also be configured redundantly for even greater system availability. Play it safe.

Condition monitoring lets you be proactive

Energy grids are under increasing demands, maintenance budgets are falling, and the infrastructure continues to age, posing new operation and maintenance challenges. Responding to an outage or error is often only an emergency strategy.

Decades ago, automation made our energy grids more reliable and easier to operate. Now, a new dimension of reliability has arrived: online monitoring of key equipment. SICAM 230 supports you with integrated condition monitoring solutions for:

- Transformers
- Circuit breakers
- Cable and ground separators
- SF_6 gas
- Auxiliary switches
- Overhead lines
- Cables
- Surge arresters

Eliminate the need to fall back on your emergency strategy by keeping track of the status of your equipment. Identify problems early on and put yourself back into the comfortable position of responding proactively.

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