SIEMENS

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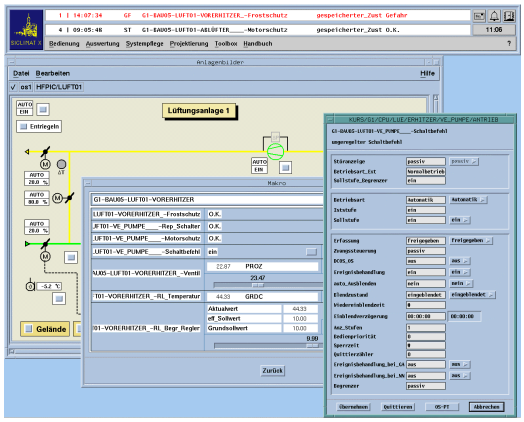


SICLIMAT™ X

System software ZLXSICX

The system software covers all HVAC-specific functions for the management and automation levels of the SICLIMAT X building management system.

Use

The overall SICLIMAT X system is used to operate buildings of all sizes and for all purposes. The system software incorporates all the functions at the management and automation levels necessary to optimize the use of the building services plant. The software comprises the following function groups:

- Operation and monitoring
- Archiving
- Documentation (reports)
- Information
- Administration
- Optimization
- Interfaces

The software is resident on the main X-OS central station and the AS automation station. Several automation stations can be operated in parallel under one X-OS central station. Several systems of this type, operating in parallel, can be networked to create an overall system.

Features

SICLIMAT X is an **open** system:

- Use of industry standards
- Documented interfaces

SICLIMAT X is **future-proof**:

- Modular expandability
- Client-Server architecture
- Assurance of upward compatibility (automation stations with LS300 B since 1976)
- Ability to handle large quantities of data by use of the DCOS principle (dynamic change of state)

SICLIMAT X is **easy to use**:

- Graphical user interfaces with menu-driven operation for all system functions
- Fast access to the main system functions
- Fast operator access through event-driven guidance to the relevant plant operating graphics

SICLIMAT X is **reliable**:

- Use of industry standards
- Autonomous sub-components
- Detailed password protection and log maintenance
- Mutual and self-monitoring of components
- Use of proven function blocks from a comprehensive standard library.

Within the system, the X-OS central stations, the X-BS operator stations and the automation stations form a single entity. Users can view their own plant via the X-BS; this provides them with a tailor-made, object-oriented view without the need know exactly where individual functions are implemented. The communications technology serves not only to connect the individual system components, but also to integrate the system seamlessly into an existing office communications system.

Automation level

The SICLIMAT AS automation stations perform all automation and optimization tasks autonomously and reliably, using standard, tested function blocks for the utilities and other building services.
The modular software blocks from the standard library can be freely combined and configured with the necessary operating parameters in accordance with the requirements of the customer's plant for the following, for example:

- Complex process control
- Intermeshed control loops
- Identification of alarms
- Local operation
- Energy-saving optimization
- Peer-to-peer communication

Basic physical and virtual functions

- Switching
- Positioning
- Signaling
- Measuring
- Counting

Processing functions

- Self-monitoring

Monitoring

- Logging and processing of messages
- Definition of limit values for measured values
- Counter value monitoring with definition of limit values
- Command run-time monitoring/control (to monitor a switching or positioning command)
- Message logic
- Hide/suppress message display
- Message display

Open loop control

- Start-up control
- Motor control
- Sequencing
- Safety interlocks
- Frost protection circuits

Closed loop control

- Fixed value controllers
- Sequence controllers, cascade controllers with and without interference variables
- Limit controllers
- Heating controllers

with

- PI control
- PI/PID control

Calculation and optimization

- Calculated values
- Event switching
- Time switching
- Optimized heating period
- Optimization of ventilation period
- Duty cycling
- Night cooling
- Cool-down protection
- Energy recovery
- Network redundancy
- Power restoration program
- Adaptation of heating curve
- Power consumption calculation
- Energy consumption calculation

Room display and operation in individual room control system

- Setpoint adjustment
- Occupancy sensing
- Display of operating status
- Room temperature display

Individual room control processes

- Control of operating mode
- Controller curve change-over
- Down-draught compensation
- Summer/winter compensation
- Morning boost / Fast cooling
- Primary plant control

Management level

Higher-level tasks affecting the overall operation of the building are processed at the management level. In addition to the storage of process values and events, these tasks also include processing functions for optimization and analysis and the printing of these processes in report form.
The fully graphical, object-oriented user interface is designed with the user in mind and tailored to the specific tasks associated with operating the building, e.g.

- Display of messages, alarms, operating modes, reports, plant graphics, trends
- Editing of messages and alarms
- Message distribution table to define the output channels for messages and alarms
- Reporting, archiving and analysis of documented procedures
- Higher-level operation and monitoring, switching and positioning
- Control, calculation and display of statistical information
- Monitoring of distributed sites
- Rationalization through communication with other IT systems within the company

Messaging system

- Message line and alarm line for the display of messages and alarms on the operator station
- Message report format used to print alarms and messages on the printer, with a header and footer for each page.
- Relay control for audible alarms to indicate hazardous system states.

Animated plant graphics

The plant is monitored and operated by use of the animated plant graphics.
After the project design phase, a complete, hierarchically structured set of automatically generated plant graphics is available, which can be used to manage the whole plant.
Unauthorized operation is prevented by the allocation of user-specific access rights.
In addition to these automatically generated plant graphics, the Plant Graphics Editor, GEDIT (not part of this software package) can be used to create animated graphics for individual operation and monitoring (freely defined plant graphics).

Data archiving

- Event-based long-term data storage
  - Messages
  - Measured values
- Log archive, used to archive important operator actions.

Statistics

- Fault statistics to analyze the frequency of faults
- Consumption statistics for evaluation of energy media and energy consuming equipment.

Reports

The data used in the reports is derived from the database and from the process. For this purpose, the usual database selection mechanisms and database compression functions are used. The following reports can be created with SICLIMAT X:

- Message report
- Time schedule report
- Event switching report
- Status reports
- Log book reports
- Trend reports
- Maximum demand reports
- Measured value and counter value reports
- Energy management reports
- Shift and day report
- Overview reports
- Statistical reports

The layout of the reports can be defined with the Report Layout Editor.

Time and event management

- Works calendar with the following day attributes:
  - Working day
  - Special working day
  - Works holiday
  - Public holiday
  - 15 user-definable day attributes
- Time synchronization to synchronize the clocks at the automation and management levels.
- Time-switch lists for switching and positioning commands, and to activate event programs with:
  - Single entries
  - Public holiday entries
  - Workday entries
  - Daily entries
  - Weekly entries
- Higher-level event programs for switching operations and positioning across the system, and to start and stop other event programs.

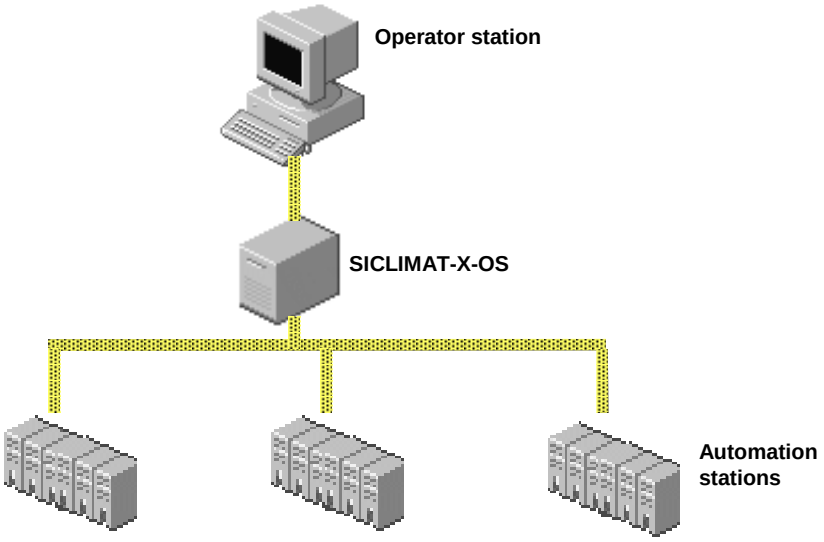
Administration and system services

- User and group administration with access rights
- User login
- Field device handling with full graphical overview of the status of the devices
- Printer routing, to divert printed material to another printer or an additional printer for a given period (e.g. the night porter's printer).
- Substitution strategy to divert output automatically from a faulty printer to an alternative printer.
- Data backup to back up and restore user-specific data.
- Self-monitoring to ensure full functioning of all the main system components
- Text editor

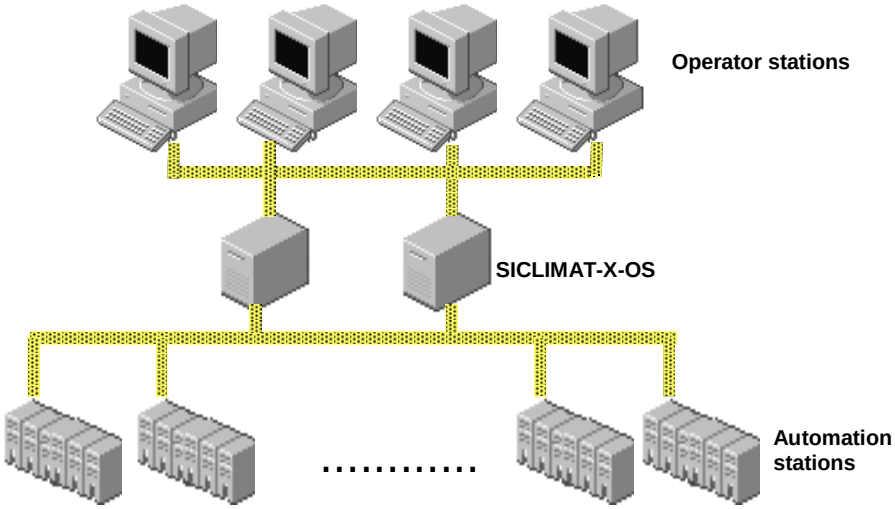
Information

- Problem-centered help for each window
- Version information gives the current versions of the management functions
- Online user guide in PDF format

Minimum configuration



Typical configuration



Ordering

When ordering, please specify the quantity, product name and type code.

Type	*Order No.*	*Specification No.*
SICLIMAT X V3.1 system software package	**6FL4414-2AC01**	**11/24200**

Technical data

	Type	**System software**
System requirements	Software	SCO-Unix, ORACLE, X11, OSF/Motif and SCO driver and NCD configuration files. (The DAT cassette supplied contains the valid version of each of these software components.)
	Hardware requirements for the management station	Standard X-OS with uninterruptible power supply and X-BS (minimum configuration)
	Hardware requirements for the automation-level software	SIMATIC S7 (S7-300 and/or S7-400)
	Items supplied	1 DAT cassette, 2 boot disks, 1 installation disk The DAT cassette contains all the software required for continuous operation of SICLIMAT X (including SCO-Unix, ORACLE, X11, OSF/Motif with driver, and the NCD configuration files).