SIEMENS

9919

SICLIMAT™ X

System software
SICLIMAT X Version V4.1

The system software includes all HVAC specific functions for the building automation and control system SICLIMAT X for the management and automation levels.

Use

The SICLIMAT X complete system allows you to operate all types of buildings. The system software includes all management and automation level functions allowing for the optimal use of building plants. The software includes functional groups.

- Operating and monitoring
- Archiving
- Documentation (logs)
- Information
- Administration
- Optimization
- Interfaces

The software is located on the server X-OS and automation station AS.
Multiple automation stations can be operated in parallel with each under one X-OS.
Multiple such systems can work in parallel and be linked into a complete system.

Performance features

SICLIMAT X is **open** thanks to**:**

- The use of standards
- Documented interfaces
- Use of standardized communications interfaces, such as:
  TCP/IP, Ethernet, PROFIBUS, OPC, LON

Ready for the future thanks to:

- Modular expandability
- Client/server architecture
- Ensuring downward compatibility (automation devices since 976 with LS300 B)
- Mastering large data volumes using the "Dynamic-Change-Of-State (DCOS) principle"

Simple thanks to:

- Graphical user interfaces with menu-based operation for all system functions
- Fast access to important system functions
- Event-controlled to the associated plant operating images for faster operational intervention

Operationally secure thanks to:

- Use of industrial standards
- Autonomous partial components
- Detailed password protection and logging
- Self-monitoring of the components among one another
- Use of proven blocks from comprehensive standard libraries

In the system, the Server X-OS with the operator stations and automation stations represent one unit. The user views the plant via the operator station and receives a tailored, object-oriented view without the need to know where the individual functions operate. The communications technology is not only used to link the individual system components, but rather integrate the system homogenously in existing office communications.

Automation level

The automation stations SICLIMAT AS meet all automation and optimization tasks autonomously and reliably through standardized function blocks for supply technology and other technical building plants.
The modular software block from a standardized library can be freely combined depending on need to meet customer requirements and outfitted with necessary operating parameters, e.g. for:

- Complex process controls
- Meshed control circuits
- Alarm recognition
- Local operation
- Energy saving optimization functions
- Peer-to-peer communication

Physical and virtual basic functions

- Switching
- Positioning
- Signalling
- Measuring
- Metering

Processing functions

- Self-monitoring

Monitoring

- Recording and processing messages.
- Setting limit values for measured values.
- Meter monitoring that derives limit values.
- Command runtime monitoring/controls (monitor a switching or positioning command).
- Message linking.
- Suppress/hide a message.
- Visualize messages.

Control

- Start-up controls.
- Motor controls.
- Sequence controls.
- Safety controls.
- Frost protection.

Controller

- Fixed value controllers.
- Sequential controller cascade controller with and without disturbance variable enabling.
- Limitation controller.

Heating controller.

with

- PI control.
- PID control.
- PI-PID cascade control.

Processing and optimization

- Calculated values.
- Event switching.
- Scheduling.
- Heating time optimization.
- Ventilation time optimization.
- Cyclical switching.
- Summer evening cooling mode.
- Cooling off protection.
- Energy recovery.
- Backup mode.
- Power restoration program.
- Heating curve adaptation.
- Consumption calculation.
- Energy consumption calculation.

Room display/ operator function for individual room control

- Setpoint readjustment.
- Occupancy/presence recognition.
- Operating state display.
- Room temperature display.

Processing functions for individual room control

- Operating mode control.
- Control characteristic curve change over.
- Downdraft compensation.
- Summer/winter compensation.
- Boost heating/rapid cooling.
- Controlling primary plant.

Management level

Superposed tasks are processed at the management level that impact the entire building operation. This includes, in addition to saving process values and events, optimizing and analyzing processing functions as well as their output in the form of protocols.

The full graphic, object oriented user interface is customized to the specific tasks for your building operations, for example:

- Display messages, alarms, operating states, reports, plant images, trends.
- Processing messages and alarms.
- Message distribution table to set output channels for messages and alarms.
- Logging, archival and analysis of documents operational workflows.
- Superposed operation and monitoring, switching and positioning.
- Maintain, calculate and display statistics.
- Monitor distributed properties.
- Rationalize by communicating with other computer systems within the company.

Messaging system

- Message and alarm lines for colored display of messages and alarm on the operator station.
- Report protocol for outputting alarms and messages to the printers with headers on footers on each page.
- Relay control for warning sounds to signal hazardous plant states.

Dynamic plant images

Dynamic plant images are used to operate and monitor a plant.
A complete and hierarchically structured set of automatically generated plant images is available after engineering the plant to control the entire plant. Operator interventions are protected by issuing user-dependent operator rights.
In addition to the automatically generated plant images, you can generate dynamic plant images using the GEDIT plant image edit (not included in this software package) for individual operation and control, (free plant images).
Video sequences or AVI files, can be view from the plant image.

Data archiving

- Event-dependent long-term archival
  - Messages.
  - Measured values.
- Logbook archive to archive important operator interventions.

Statistics

- Fault statistics to assess fault frequency.
- Consumption statistics to assess media and energy consumption.

Logging

Data for logs originate from the database and the process. Standard database selection mechanisms as well as compression functions. SICLIMAT X can create the following logs:

- Message log.
- Schedule log.
- Event switching.
- State logs.
- Logbook logs.
- Trend logs.
- Peak load logs.
- Measured and meter value logs.
- Shift/daily log.
- Overview logs.
- Statistic logs.

The log layout editor defines the layout of the logs.

Time and event management

- Weekday calendar with daily attributes.
  - Workday.
  - Special workday.
  - Factory vacation.
  - Holidays.
  - 15 freely selectable daily attributes.
- Time synchronization to synchronize the clocks on the automation and management levels.
- Time control is for switching and positioning tasks as well as to activate event programs with:
  - One-time entries.
  - Holiday entries.
  - Weekday entries.
  - Daily entries.
  - Weekly entries.
- Superposed event programs for cross-plant switching and positioning tasks as well as to start and stop other event programs.

Administration and system services

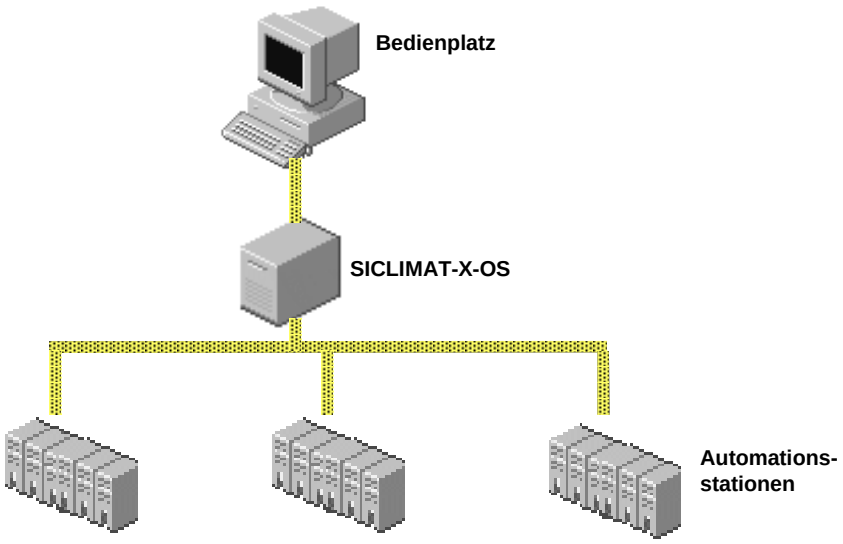
- User and group administration of operator rights.
- User log on.
- Administer periphery devices using a fully graphical overview of the device states.
- Switch or connect printers to divert printing for a certain time frame to another printer or print an additional copy (gateway printers).
- Replacement strategy to automatically divert the output for faulty printers to a replacement device.
- Data backup to back up and restore customized data.
- Self-monitoring to ensure the functionality of all important system components.

Supporting tools

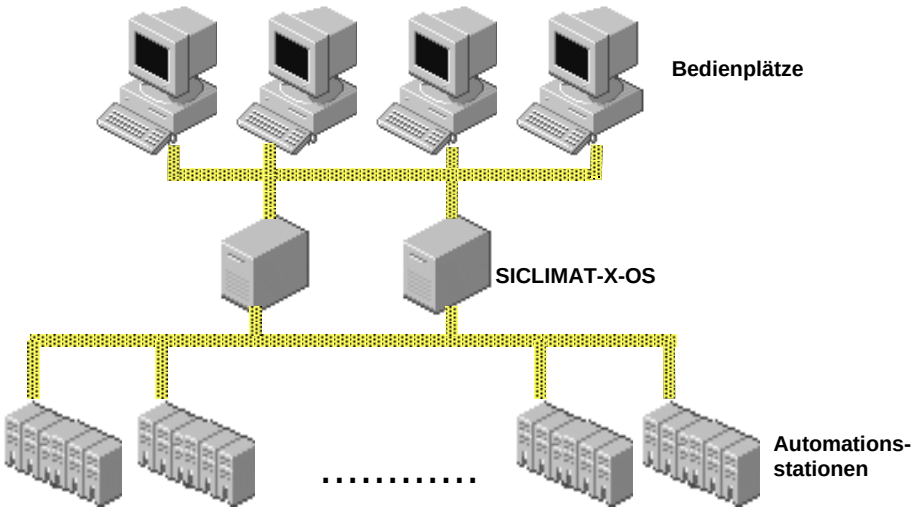
- HTML browser.
- Office package
  The Open Office package includes numerous components such as word processing, spreadsheets, presentation software, HTML editor, formula editor, drawing tool, and integrated database connection.
- Graphic tool QCad
  QCad is a vector oriented application for two-dimensional computer assisted drawing. You can create technical drawings using QCad, for example
  plans for buildings, equipment or mechanical parts to create and processing drawings in DXF format.
- Graphics program GIMP
  GIMP is a pixel oriented graphics program. GIMP can be used as a simple coloring program up to process high-quality pictures. GIMP supports a number of file formats, including GIF, JPG, PNG, XPM, TIFF, TGA, MPEG, PS, PDF, PCX, BMP, etc. GIMP is useful, for example, for creating and modifying background images.

Information

- Problem-oriented help for each pane.
- About provides the current version of the management functions.
- Online user's manual in PDF.



Typical configuration



Ordering

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

Type	*Order number*	.
System software packages		
SICLIMAT X V4.1 Basic package	**6FLGRUND-V41**	**for 1st X-OS**
SICLIMAT X V4.1 Expansion package	**6FLERWEIT-V41**	**for 2nd or 3rd X-OS**
SICLIMAT X V4.1 Property package	**6FLLIEGEN-V41**	**as of the 4th X-OS**

Technical data

System requirements

Type	**System software**
Software	SuSe-Linux V10.0 Professional, ORACLE V9.0, X11, OSF/Motif
Hardware requirements for management software.	Standard X-OS with uninterrupted power supply and operator station (minimum configuration).
Hardware requirements for automation level software.	SIMATIC S7 (S7-300 and/or S7-400)
Delivery (basic package).	SuSe Linux on 5 CDs and 2 DVDs, 2 boot-diskettes, 2 backup-CDs. The backup CDs contain all the software required for ongoing operation of SICLIMAT X (including ORACLE, X11, OSF/Motif and driver).