SIEMENS SICAM S8000 Power Automation and Control Software User Guide

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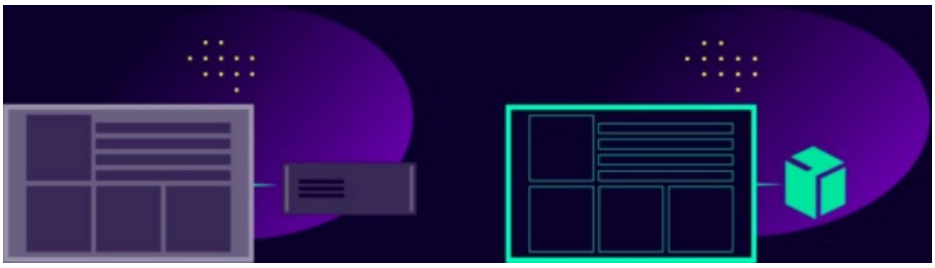

- The hardware independent SICAM 8 power automation & control software solution for all applications along the entire energy supply chain
  siemens.com/sicam8
  SICAM S8000 represents high performance with state-ofthe-art technology, modularized architecture and is a part of the universal power automation platform SICAM 8.

As a pioneer in all areas of power automation, with SICAM 8, we support our customers in terms of

- **Efficiency**
  fast and consistent engineering
- **Sustainability**
  technology to achieve climate goals and create a sustainable world

SICAM S8000 is a seamless, hardware independent software
product for low-, medium- and high-voltage power automation and control applications in various industries and can be fully virtualized. The engineering is done with SICAM Device Manager, like the entire portfolio of the SICAM 8 Platform.
All SICAM 8 cybersecurity standards are maintained in SICAM S8000. Compliance with the following standards can be achieved:

- IEC 62443
- IEC 62351

Your benefit with SICAM S8000

- Select prequalified IPCs or install the substation controller fully virtualized to gain complete hardware independence
- Choose between multiple Linux Operating Systems
- Create virtual testing setups of your IPC based substation controller by deploying the same configuration fully virtualized
- Reduce hardware thanks to the consolidation of multiple functions
- Scale your system in terms of connections, functions, performance and applications
- Continuously adapt to the changing energy landscape thanks to the endless flexibility
- Integrate state of the art cybersecurity features
- Improve resilience thanks to the decoupling of hardware and software
- Built future ready IT/OT convergent systems

Engineering with SICAM Device Manager
One engineering tool for all runtimes and applications within the SICAM 8 family minimizes maintenance effort and costs as well as optimizes the efficiency and training needs for operating personnel.

Runtime Selection
SICAM S8000 can be installed on prequalified IPCs or can be deployed fully virtualized. The chosen IPC or the assigned hardware resources define the performance limits. Selected prequalified IPCs:

- SIMATIC IPC 227G & 277G with on-board display
- RUGGEDCOM APE1808LNX
- WELOTEC RSAEC & RSAPC (incl. PRP/HSR)

Supported hypervisors for virtualization:

- VMware
- Hyper-V

Choose between multiple Linux operating systems:

- Debian
- Red Hat Enterprise Linux
- SIMATIC Industrial OS

For further information on tested hardware types, hypervisors, operating systems as well as minimum requirements for virtual machines contact your Siemens sales representative.

1. **get started**
    - **Download latest Software Package**
    - Engineer with SICAM Device Manager
    - Deploy virtually & start testing today with the21 days free trial license
2. **choose and order your product**
    - Create Function Point account: Click „Sign Up“ **on SICAM Function Point Manager**
    - Place order for hardware & licenses using your function point credentials
3. **deploy runtime and upload license**
    - Deploy your SICAM Device Manager configuration on chosen hardware or runtime
    - Create license files in the function point manager using runtime serial number
    - Upload license files with SICAM Web

With the 21 days free trial license, most applications can be tested anytime.
The licenses can be generated in the SICAM Function Point Manager and uploaded to specified applications and runtimes via SICAM Web. Dependencies according to manual must be considered

Major Features

Features are available for IPC runtimes and fully virtualized:

- Integration of up to 1200 stations (IEDs)
- TCP/IP based communication protocols: IEC 61850, IEC 60870-5-104, DNP 3.0i, Modbus TCP, OPC UA Server, OCPP Client
- Support of (serial) converter for MODBUS, DNP, Profibus, Profinet
- CFC logics (up to 8 additional CFC instances with extended processing)
- Security features such as TLS & IPSec encryption
- CIS Benchmark Level 2 with appropriate installation
- Secure Boot with appropriate installation & hardware
- Redundant configurations
- SICAM 8 Core functions such as HTTPS, NTP Client & Server SNMP Server, Syslog, VLAN for local Ethernet ports
- Support of SIAPPs (3rd-party applications that can be installed on the SICAM 8 platform, allowing for the quick and easy creation of up to three custom applications)

Find all available features and more detailed descriptions in the manual.
Example Use-Cases for SICAM S8000
Multiple applications can be combined on one runtime:

- All-in-One configuration for compact substation automation and control (runtime: SICAM S8000 on SIMATIC IPC 227G with onboard display, applications: SICAM S8000 RTU + SICAM HMI + SICAM EVA + SICAM Archive)
- Monitoring of digitalized distribution substations (runtime: SICAM S8000 virtualized as data collector, for on-premise visualization and gateway to Electrification X, SICAM EGS as sensor device in the digital distribution

substation, applications: SICAM S8000 RTU + SICAM HMI + SICAM EVA + SICAM Archive + SICAM GridEdge)

- Station controller for primary substation automation, control and monitoring (runtime: SICAM S8000 on IPC, applications: SICAM S8000 RTU + SICAM Archive, connected to SICAM SCC)
- Virtual SCADA front-end & gateway (runtime: SICAM S8000 virtualized, application: SICAM S8000 RTU)
- Virtual closed-loop testbed using digital twins to accelerate pre-FATs, FATs, firmware updates or any other engineering processes (runtime: SICAM S8000 virtualized, connected to SIPROTEC DigitalTwin, applications: SICAM S8000 RTU + SICAM HMI + SICAM EVA)

Siemens AG
Smart Infrastructure Electrification & Automation
Mozartstraße 31c
91052 Erlangen, Germany
Customer Support: http://www.siemens.com/csc

SICAM S8000 profile_24-12

For the U.S. published by Siemens Industry Inc.
3617 Parkway Lane Peachtree Corners, GA 30092 United States

For all products using security features of OpenSSL, the following shall apply: This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (www.openssl.org), cryptographic software written by Eric Young (eay@cryptsoft.com) and software developed by Bodo Moeller.

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Contents

Documents / Resources

	SIEMENS SICAM S8000 Power Automation and Control Software [pdf] User Guide SICAM 8, SICAM A8000, SICAM HMI, SICAM S8000 Power Automation and Control Software, SICAM S8000, Power Automation and Control Software, Automation and Control Software, Control Software, Software

References

- OpenSSL
- OpenSSL
- Sales Support und Customer Service für Smart Infrastructure Distribution Systems - Siemens Global
- SICAM 8 - Siemens Global
- User Manual