

SIEMENS

Ingenuity for life

SICAM DC

Smart Grid Infrastructure – Data Concentrators
for a more intelligent Power Supply Network

www.siemens.com/sicam

Smart Grid – Key Element

Smart Grid is a consistently intelligent power supply system that ensures a reliable and efficient power distribution in order to meet the constantly increasing requirements imposed on our power supply. The AMI (Advanced Metering Infrastructure) systems make a major contribution to the implementation of this task. The individual system components from the smart meter and data concentrator to the central IT provide power consumption data of the connected customers as well as information necessary for the network control so that the optimal power supply is guaranteed.

Smart Grid – Applications

The data concentrator is one of the most important components within the AMI system and plays a key role in this context. The following two complementary applications can be roughly identified:

- 1) **Communication gateway** for data from smart meters ensures reliable data transmission (power consumption etc.) from all connected smart meters to and from the central IT, e.g. Siemens Energy IP.
- 2) **Intelligent network node** provides important data for the network operation and works as an active element in the network control.

SICAM DC – for a more intelligent Power Supply Network

The SICAM DC data concentrator developed on the basis of experience gained from smart metering and power automation projects enables the implementation of consistent and highly available intelligent power supply networks - the Smart Grids.



Standard Communication

To ensure the communication with the connected smart meters, the SICAM DC provides power line communication (PLC) based on PRIME^(a) and DLMS/COSEM^(b). The communication from the data concentrator to the central IT can be performed via glass fiber, Ethernet, radio, (e.g. GPRS, WiMax) or B-PLC (Broad Band Power Line Communication). The SICAM DC provides web services for the data transmission.

Easy Operation

SIEMENS has found a new approach and offered the SICAM DC for the first time as a data concentrator with display and function keys for local operation. Apart from the display, the integrated web server also simplifies handling. As a result, the fast and easy interaction with the device is possible without additional tools.

^(a)PRIME...PowerLine Intelligent Metering Evolution

^(b)DLMS/COSEM...Device Language Message Specification/
Companion Specification for Energy Metering Companion Specification for Energy Metering]

Intelligent und efficient

Device Characteristics

Communication Interfaces and Protocols

- 2 x Ethernet LAN 10/100BASE-TX
- 1 x RS-232, 1 x RS-485
- Web services and file transfer for communication with the central IT
- Power Line (PLC) signal injection
- PRIME Base Node conformity
- DLMS/COSEM protocol for communication with smart meters

Operation and Display

- Local operation via 4 function keys and display (74x56 mm)
- Power, ready und error LED, status LEDs of communication interfaces

Real Time Clock

- +/- 2 ppm, maintenance-free, buffered, time synchronization via NTP (Network Time Protocol)

Electromagnetic Compatibility

- IEC 60870-2-1, IEC 61010, IEC 60255-5, IEC 61000-4

Auxiliary Voltage

- AC 230 V
- DC 24 V

Signal Inputs

- 2 galvanically isolated digital inputs (DC 24 - 60 V)

Temperature Range

- From -40°C to +70°C

Housing Specification

- Plastic housing for DIN rail mounting
- Dimensions: 128 x 124 x 123 mm (W / H / D)
- Protection class: IP20, front IP40

Special Features

- Integrated web server for configuration and diagnostics
- Data storage via SD memory card (for meter data and device firmware)
- Integrated Ethernet switch for the connection of additional devices



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SICAM DC profile_V2.docx
Printed in Germany | © 07.16 Siemens AG

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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) and cryptographic software written by Eric Young (eay@cryptsoft.com).