

SIEMENS



Controlling and telecontrol for medium and large data volumes

Automation Unit SICAM™

SICAM – flexible for all applications

SICAM TM – Outstanding performance

Rising demands for cost efficiency in nearly all processes require increasingly innovative automation solutions to achieve higher yet more reliable utilization of primary equipment. A prerequisite for this is automation systems such as SICAM TM with various communications interfaces and peripheral elements that can be expanded by adding modules.



Simple automation – with SICAM TM

Highly complex yet fully transparent automation solutions are no problem with SICAM TM, thanks to the system concept that makes it possible to combine automation and telecontrol in one device. The intelligent terminal modules are designed for easy mounting on 35 mm DIN rails.

Versatility is essential

Wide transfer interfaces are systematically reduced with SICAM TM through direct connection of actuators and sensors with wire cross-sections of up to 2.5 mm². Binary input and output modules up to DC 220 V also open up savings potential at interface level. For decentral input/output, individual modules can be located remotely up to 200 m away from the master control element.

SICAM TM understands your system

You can use a wide range of different media for local and long-distance communication. SICAM TM functions with IEC standards 60870-5-101/103/104 and IEC 61850 for consistent addressing from acquisition to output. Especially noteworthy is the possibility of offering client and server functionality on only one Ethernet interface. This interface was certified by an independent laboratory to verify interoperability. Seamless integration in existing automation networks is also possible.

SICAM TOOLBOX II: Consistently simple engineering

All engineering activities, from system diagnostics to online testing, can also be carried out extremely efficiently from remote locations. The close interfacing with design tools such as ELCAD ensures consistent documentation of the entire system, while the user programs for closed- and open-loop control functions are created in CAEx plus according to IEC 61131-3.

SICAM TM with Safety Integrity Level SIL 2

Functional safety in process instrumentation: SICAM TM fulfils the SIL (Safety Integrity Level) requirements in accordance with standard IEC 61508. Several safety-related SICAM TM or SICAM AK controllers linked via standard telecontrol protocols can be operated with SICAM Safety.



Practical applications of SICAM TM

SICAM TM is an automation unit within the system family, consisting of the master control element and the peripheral elements that can be expanded by adding modules and arranged in distributed locations.

Master control element

- Up to four communications interfaces via insertable serial interface modules for:
 - serial communication (point-to-point, multipoint, and dial-up traffic)
 - LAN/WAN (Ethernet)
 - PROFIBUS DP
- Interfacing of up to 16 peripheral elements via the serial Ax peripherals bus (16 Mbps)
- Function diagram design according to IEC 61131-3 with CAEx plus for open-loop and closed-loop control functions
- Configurable telecontrol functions with and without time tagging
- Time synchronization via minute pulse, time signal receiver, serial communications link or NTP server (LAN/WAN)
- Parameter setting, diagnostics, and testing by SICAM TOOLBOX II, both locally or from remote locations
- Storing of parameters and firmware on flash card

Peripheral element

- One peripheral element consists of a power supply, peripheral interface and up to eight I/O modules
- Direct connection of the signal cables via pull-off screw terminals

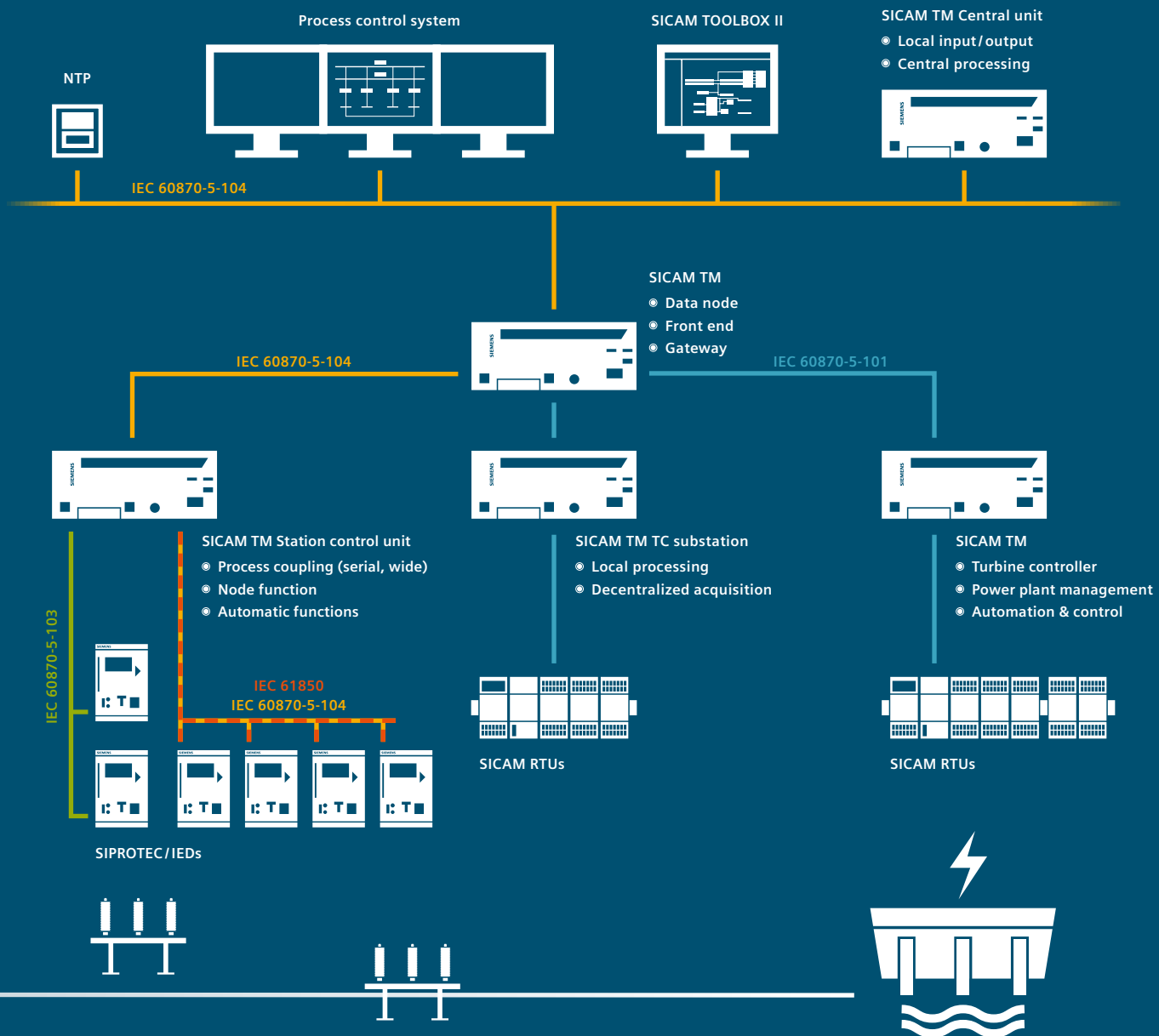
- Acquisition, processing, and output of process data
- Exchange of process data with the master control element via the serial Ax peripheral bus

Technical data

- Protocols: IEC 60870-5-101/103/104, IEC 61850, PROFIBUS DP, SAT SSI, SAT PCMBA, Modbus, DNP 3.0, IEC 61107 ...
- Closed- and open-loop control function: 512 KB for user program, about 50,000 variables and signals, of which 2,000 buffered, 250 buffered setpoint values
- EMC: IEC 60870-2, IEC 60255, IEC 61000, EN 50082 ...
- Supply voltage:
 - Master control element: DC 24 – 60V +30% / –20%
 - Peripheral element: DC 24 – 60V +30% / –25%; DC 110 – 220V + / –25%
- Temperature range
 - Master control element: –25... +65 °C (depending on equipment)
 - Peripheral element: –25... +70 °C
- Dimensions:
 - Master control element: 306 x 155 x 75 mm
 - Peripheral element: 630 x 127 x 72 mm = fully configured peripheral element with 8 I/O modules

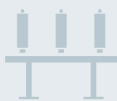
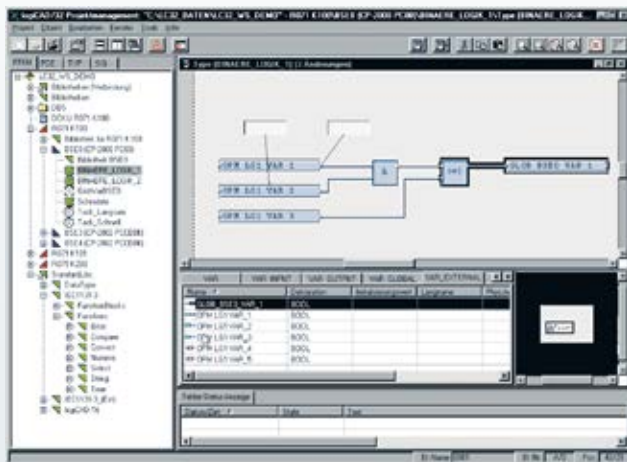


Configuration example



SICAM TM – The advantages at a glance

- The simple, intuitive operability with SICAM TOOLBOX II reduces cost for compiling and updating planning data.
- Storage of parameters and firmware on a flash card reduces personnel and service costs. Thanks to Plug & Play, units can be exchanged without new parameterization or loading and without a PC.
- The combined automation and telecontrol incorporated in a device allows flexible applications and problem-free connection to communications infrastructures already in place. The extensive application area ranges from:
 - Hydropower plants (e.g. turbine controllers)
 - Electrical power distribution and transmission
 - Oil and gas pipelines
 - Tunnel equipment, etc. to
 - Railway technology, in compliance with railway safety standards EN 50126, EN 50128, EN 50129
 - Safety-related safety controllers in accordance with IEC 61508 SIL2, also via standard telecontrol protocols distributed over several SICAM TM or SICAM AK controllers



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