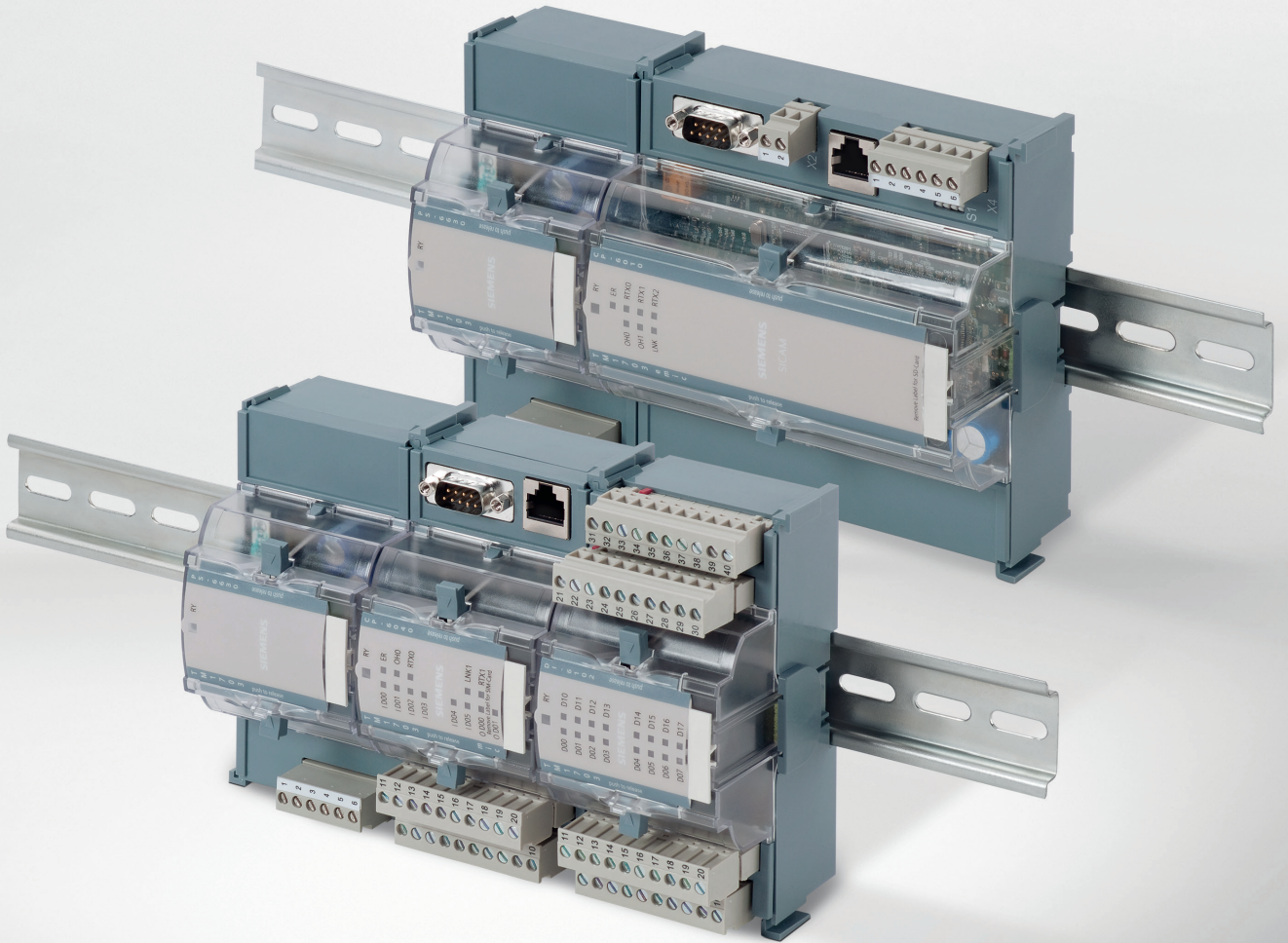


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SICAM MIC/EMIC

Compact, flexible telecontrol and automation systems

Answers for infrastructure and cities.

Small-scale tools for great flexibility: Compact telecontrol systems SICAM MIC and EMIC

Electr. distribution substations

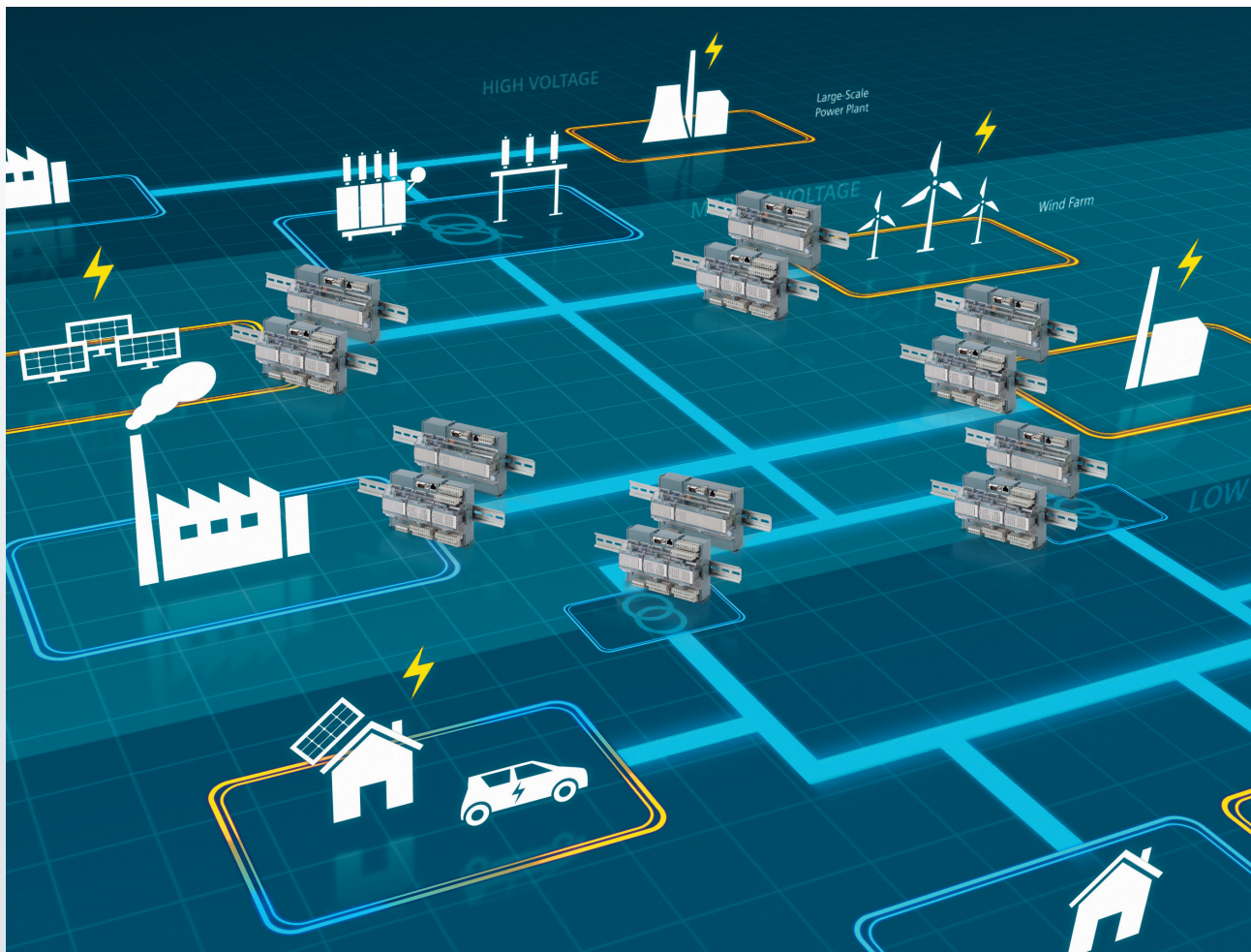
Gas distribution stations

Pipelines

Hydropower plants

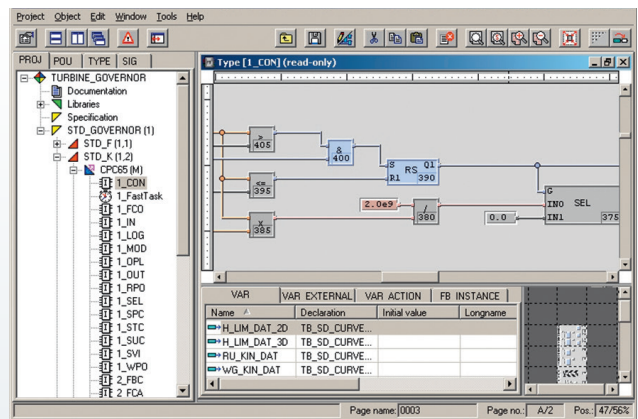
Solar plants/wind farms

Railway power supplies



An impressive list of features: SICAM MIC/EMIC – combining reliability and economy

- The universal systems SICAM MIC and SICAM EMIC are ideally suited for applications in:
 - Hydropower plants
 - Wind farms and solar plants
 - Railway power supplies and tunnels
 - Electrical distribution substations/secondary substations
 - Gas distribution stations
 - Pipelines
 - Building protection and alarm sensors
- Integrated node functionality for interfacing additional equipment via various protocols
- Communication via IEC 60870-5-101 / 104
- Simple configuration via Web browser, without special tools or licenses
- Configuration, diagnostics and testing via integrated Web server
- Alternatively, the engineering process can also be carried out with SICAM TOOLBOX II
- Integrated remote maintenance, remote diagnostics and remote parameterization
- Application programs for local controls and interlocks
- Plug & Play for start-up and servicing through use of flash card or SIM card for data storage
- Exchange of modules without need for a tool
- Direct connection of the process cables
- Mounting on 35-mm DIN rail
- Temperature range – 25 °C to + 70 °C



SICAM MIC



SICAM EMIC

Two from a good background: SICAM MIC/EMIC from the proven SICAM family

Automation of small electricity distribution substations allows existing equipment to be utilized more intensively and more reliably, with comparatively low financial outlay.

In conjunction with modern, high-performance automation systems, this enables the universal, reliable management of complex processes.



Compact performance – SICAM MIC

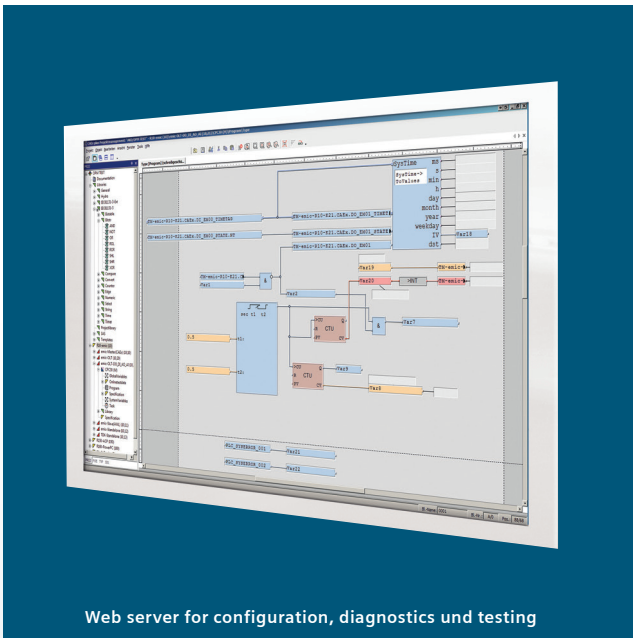
SICAM MIC (Terminal Module for microcontrol) is a low-cost, modular, telecontrol substation and belongs to the proven SICAM RTU automation family. The devices consist of a master control element and various I/O modules. The master control element serves for interfacing and supplying the I/O modules and provides a telecommunications interface in accordance with IEC 60870-5-101 for dial-up or multi-point traffic. Alternatively, LAN/WAN communication can be used according to IEC 60870-5-104 over Ethernet TCP/IP. All modules are designed for DIN rail mounting.

Flexible use of SICAM EMIC

SICAM EMIC (Terminal Module enhanced microcontrol) is the logical expansion of SICAM MIC. The proven I/O modules can be used and fitted on all products in the SICAM RTU family. The master control element serves for the interfacing and supplying of the I/O modules and provides 3 communication interfaces (1 x Ethernet, 2 x serial) to meet a wide range of requirements. Complete flexibility is ensured, because different communications protocols can be allocated freely. The option of performing automation functions rounds out the range of functionality of the SICAM EMIC.



The embodiment of simplicity: SICAM MIC/EMIC make the simple easy



Web server for configuration, diagnostics und testing



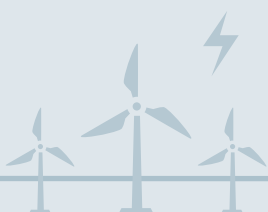
Extension cable CM-6810

Practical engineering

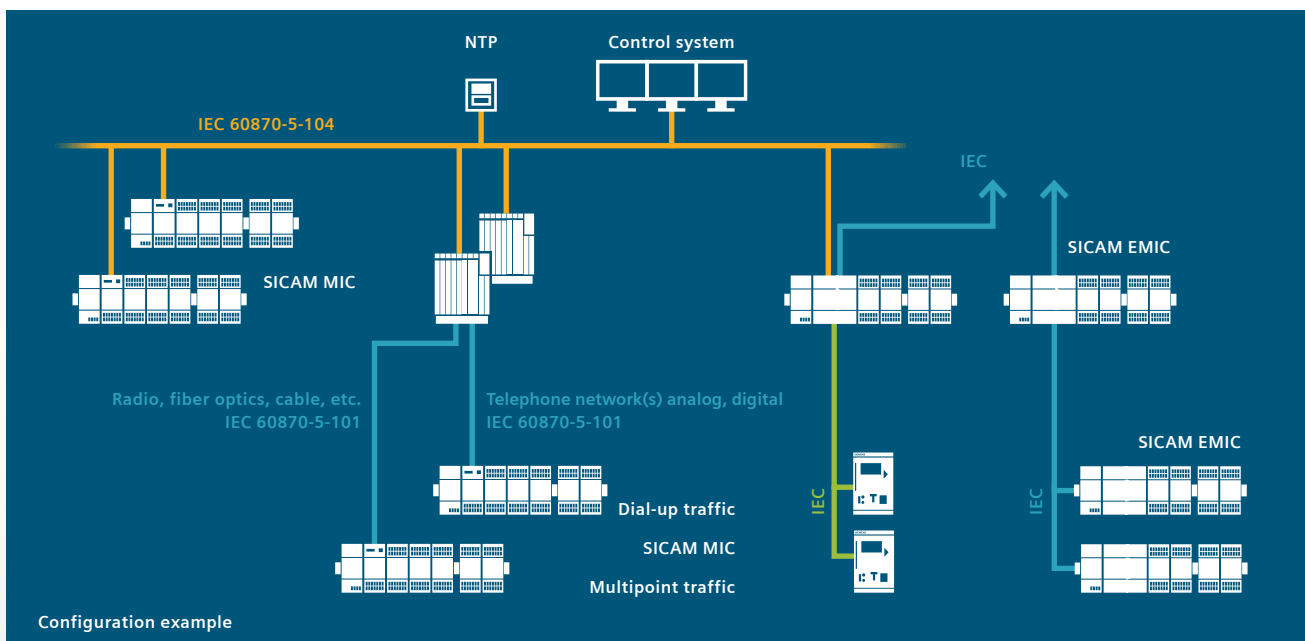
Great importance was placed on keeping the engineering process as simple as possible. That's why the master control element has an integrated Web server for configuration, diagnostics and testing, so no special tools or additional licenses are needed. The tool is already integrated in SICAM MIC and SICAM EMIC and is operated with a standard Web browser. Alternatively, it is also possible to use SICAM TOOLBOX II, the integrated engineering tool for the entire SICAM RTU family.

Universal assembly

The modules are simply snapped onto a 35-mm DIN rail. Up to eight I/O modules can be mounted in addition to the power supply module and the master control. The extension cable CM-6810 enables the I/O modules to be distributed between two DIN rails. The advantage of this is that even with limited space there is still adequate room for the modules.



Focus on configuration: SICAM MIC/EMIC, versatile in every respect



Total application, fully flexible

- Thanks to its node functionality, the SICAM EMIC has many different potential applications, for example as an ordinary telecontrol substation with any kind of communication to a control center.
- If SICAM EMIC does not offer adequate signal scope, additional SICAM EMIC systems can be readily connected.
- Freely programmable application programs for local control functions complete the all-round versatility of the SICAM EMIC.
- The SICAM MIC can be used optionally in multipoint or dial-up traffic, but also over LAN/WAN networks. Transmission conforms to IEC 60870-5-101 or IEC 60870-5-104.

Good connections to the control center

- **Multipoint traffic**
External data transmission equipment can be connected via the V.28 interface.
- **Dial-up traffic**
A wide range of connection-oriented transmission media (analog, ISDN, GSM, TETRA) is supported as standard.
- **LAN/WAN**
IEC 60870-5-104-compliant transmission based on Ethernet TCP/IP is used for communication.



Scalable to requirements: SICAM MIC/EMIC are ready for operation at any time

Functions of the master control element			SICAM MIC	SICAM EMIC
Central processing functions			●	●
Storing of the parameters on an SIM card			●	
Storing of the parameters and firmware on a flash card				●
Interfacing and supplying of up to 8 I/O modules			●	●
Divided structure of the I/O module possible with extension cable			●	●
Telecommunications or LAN/WAN interface			●	●
6 binary inputs, 2 relay outputs, watchdog			●	
3 communication interfaces, with different individual communication protocols (IEC 60870-5-101/103/104, Modbus, DNP3.0, other protocols on request)				●

Available components			SICAM MIC	SICAM EMIC
Power supply	PS-6630	DC 24 – 60V	●	●
	PS-6632	AC 110 – 220V	●	●
Master control element	CP-6010	Processing & 3 x comm. (V.28, RS485, Ethernet)		●
	CP-6020	Processing & comm. (V.28)	●	
	CP-6040	Processing & comm. (Ethernet)	●	
Binary I/O modules	DI-6100	Binary input 2 x 8, DC 24 – 60V, resolution 10 ms	●	●
	DI-6101	Binary input 2 x 8, DC 110/220V, resolution 10 ms	●	●
	DI-6102	Binary input 2 x 8, DC 24 – 60V, resolution 1 ms	●	●
	DI-6103	Binary input 2 x 8, DC 110/220V, resolution 1 ms	●	●
	DI-6104	Binary input 2 x 8, DC 220 V	●	●
	DO-6200	Binary output transistor 2 x 8, DC 24 – 60V	●	●
	DO-6212	Binary output relay 8 x DC 24 – 220V/AC 230V	●	●
	DO-6220	Secure command output basic module	●	●
	DO-6221	Secure command output basic module with metering	●	●
	DO-6230	Secure command output relay module (16 x 1.5 pole/8 x 2 pole)	●	●
Analog I/O modules	AI-6300	Analog input 2 x 2 ± 20 mA/± 10 V	●	●
	AI-6307	Analog input 2 x 2 ± 5 mA	●	●
	AI-6308	Analog input 2 x 2 ± 2 mA	●	●
	AI-6310	Analog input 2 x 2 Pt100/Ni100	●	●
	AO-6380	Analog output 4 x ± 20 mA/± 10 V	●	●
	TE-6420	Speed measurement 2 x 2 DC 24 V/DC 5 V/NAMUR	●	
	TE-6430	Counter inputs with buffering 2 x DC 24 – 60 V		●
Accessories	CM-6810	I/O Modules extension cable	●	●



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Order No. IC1000-G220-A176-X-4A00 | Printed in Germany | AL=N ECCN=N
Dispo 6200 | c4bs Nr. 768
HL 13037869 WS 07131.0

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