



Integrated Bay Controller BC 1703 ACP

SICAM 1703 – flexible for all applications

Answers for energy.

SIEMENS



Photo: KWO/
Foto: R. Bösch

BC 1703 ACP, the integrated bay controller – More performance, more flexibility

The use of innovative basic technology (such as microprocessors and signal processors) has made it possible to construct integrated bay controllers that help cut the cost of automation in power supply systems through their extensive functionality.

BC 1703 ACP: Telecontrol and automation

With its ACP system concept, the new BC 1703 ACP integrated bay controller provides the technical basis for combining the classic functionalities of telecontrol and automation in a single device. As a result, functions are available for monitoring switching stations. Depending on the design, up to 10 switchgears (or more) can be controlled and up to 73 (or max. 500) I/O signals processed. A redundant power supply system can be provided as an option.

BC 1703 ACP puts everything on one card

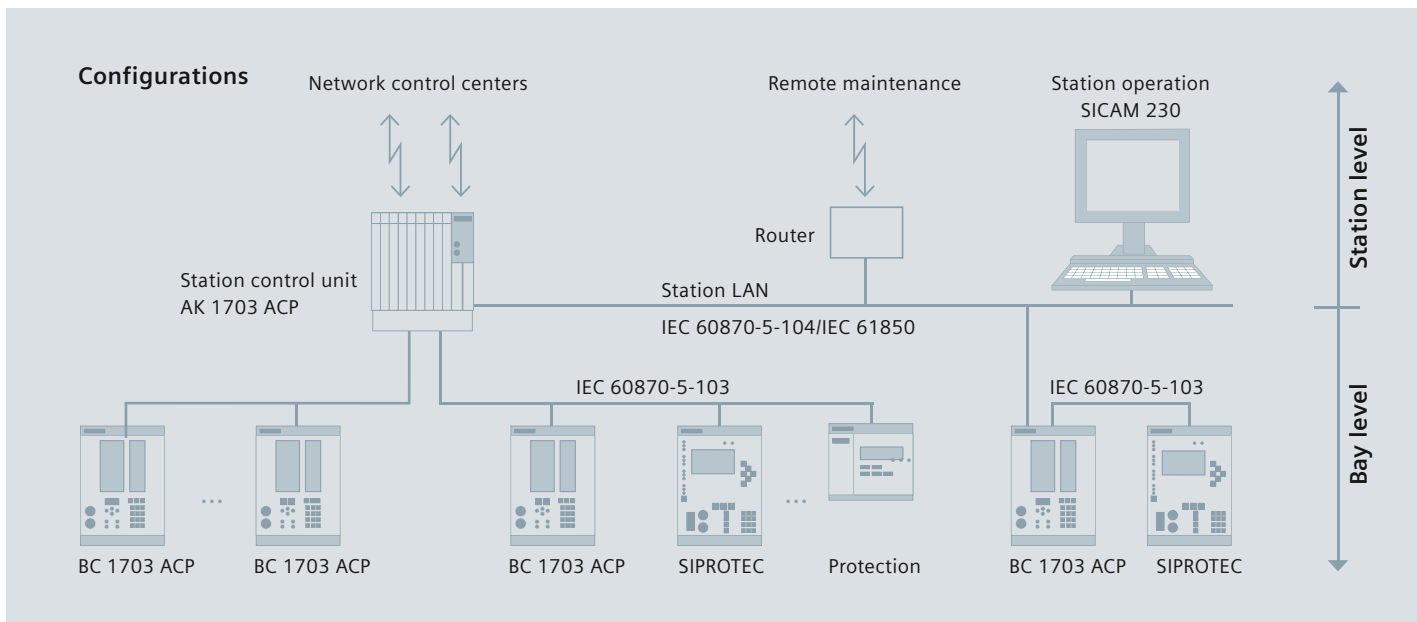
Parameter data for the BC 1703 ACP is stored on a flash card. This means that the correct parameters are always available locally and there is no need to load them from a PC. This ensures that in case of servicing component replacement is a simple Plug & Play operation since the project settings are simply transferred to the spare device with the flash card. Together with the comprehensive remote diagnosis functions this helps you to reduce downtimes to a minimum.

From medium to extra-high voltage

BC 1703 ACP is available in two models:

- BC 1703 ACP/C (Compact) for medium and high voltage
- BC 1703 ACP/M (Modular) for high to extra-high voltage

Both models use essentially identical hardware and software components, but differ with regard to the size of the device and the resulting range of signals. The proven peripheral modules TM 1703 can also be used for acquisition of process signals. The BC 1703 ACP thus allows universal solutions for station automation with uniform, yet flexible hardware technology from medium through to extra-high voltage.



Practical applications of BC 1703 ACP

BC 1703 ACP: Open for communication

Another outstanding feature of the BC 1703 ACP integrated bay controller is its comprehensive communications capability. In accordance with IEC standards 60870-5-101/103/104, BC 1703 ACP allows continuous addressing from data acquisition through to display in the control center. IEC 61850-compliant communication is available at both the server and client level. The server function was certified by an independent laboratory to verify interoperability. Since up to 3 interfaces can be configured in the BC 1703 ACP, it also supports applications as a gateway or subnode, for example for linking (older) protection devices with IEC 103 to a modern station bus with IEC 61850.

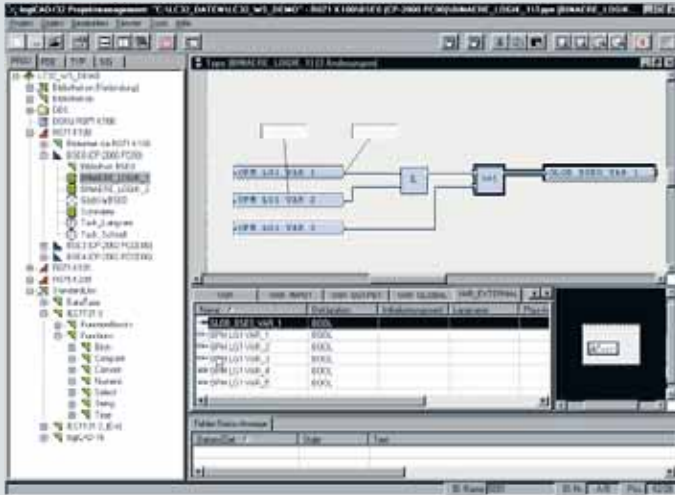
Consistently simple engineering

An essential aspect of the overall economic assessment of a process are the costs for the installation, maintenance and servicing of the automation system. In this respect in particular you can be certain with the SICAM 1703 automation family. The use of the object-oriented engineering system TOOLBOX II makes it possible to utilize the properties of the same types of primary units and equipment (e.g. isolators, circuit-breakers, feeders, etc.) for the parameter configuration as well.

The close interfacing with design tools such as ELCAD ensures the consistent, uniform documentation of the entire system all the way down to the circuit diagram. The control and interlocking functions are created in CAEx plus according to IEC 61131-3, thereby considerably reducing training times. The TOOLBOX II also enables you to carry out all engineering activities from system diagnosis to online testing from remote locations.

Technical Data

Models	BC 1703 ACP/C (Compact)	BC 1703 ACP/M (Modular)
Application area	Medium and high voltage	High voltage and extra-high voltage
Number of switching devices	Up to 10 switching devices	10 and more switching devices
I/O signals	Up to 73 I/O signals	Up to 500 I/O signals
Mechanical design	Flush or surface mounting	Flush or surface mounting or 19" rack installation
External dimensions (W x D x H)	Approx. 220 x 280 x 260 mm	Approx. 433/315 x 266 x 251 mm
Method of connection	<ul style="list-style-type: none"> ■ Screw terminals up to 2.5 mm² ■ Current transformer connectors up to 6 mm² 	<ul style="list-style-type: none"> ■ Screw terminals up to 2.5 mm² ■ Current transformer connectors up to 6 mm²
Operating and display panel		
LCD display	70 x 120 mm (W x H), 240 x 128 pixels Background lighting by LEDs (yellow-green) with automatic on/off switching	
LED indicators	<ul style="list-style-type: none"> ■ 1 x Device Ready indicator, 2 x Fault indicators (protection, control) ■ 10 x State indicators for protection, 9 x for control (freely programmable) 	
Controls	<ul style="list-style-type: none"> ■ 2 key switches (local/remote/test and locked/unlocked) ■ Numerical key pad 0 ... 9, decimal point and sign ■ Various individual keys (select, commands, cursor, etc.) ■ TOOLBOX II interface (TB) 1x D-SUB 9-pin 	
Installation	Rear panel installation, flush mount or 19" Optionally located up to 3 m remote from the mounting rack	
Type of protection	IP 62 according to IEC 60529 in case of covered switches and connectors	
EMC	IEC 60870-2, IEC 60255, IEC 61000, CISPR 22, EN 50263	
Supply voltage	24–60 VDC, 110/220 VDC +30/–20 %; 115–230 VAC +10 %/–20 %	
Control voltage	110/220 VDC, 48/60 VDC	
Temperature range	–20 ... +70 °C; limited readability of the display below –10 °C	
Relative air humidity	5 to 95 % non-condensing (IEC 60654, IEC 60870-2)	
Vibration and shock resistance	IEC 60068-2/3, IEC 60870-2-2 Cl. Bm, IEC 60255-21	



BC 1703 ACP – The advantages at a glance

Application areas

Feeder automation with/without integrated protection functionality:

- For direct installation in low voltage compartment or control cubicle
- With one hardware system from medium voltage to extra-high voltage level
- Optional decentralized signal acquisition via TM 1703
- Prepared for switchgear monitoring

Communication

- Up to 3 serial interfaces
- Serial and LAN/WAN communications according to IEC 60870-5-101/103/104
- IEC 61850
- Various 3rd party protocols

Plug & Play through flash card

- Storing of parameters and firmware on flash card
- No tool needed for module replacement

One tool for control

- Consistent data storage
- Object-orientation
- Creation of control and interlocking functions in accordance with IEC 61131-3
- All engineering operations are also possible remotely

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