



### Control IT PLC family AC31

AC31 offers compact, high performance central units in varying designs with the possibility of decentral networking.

All central units are universally programmable according to IEC 61131-3, beginning with the small PLC (series 40..50) up to the high-performance compact PLC (series 90).

They offer high functionality within a small space with up to 1 MByte user memory, with 60 integrated I/Os (analogue and digital), with two serial interfaces (both of which are configurable for MODBUS or ASCII) and with a plug-in smart media card for the uploading of user programs or for data saving.

Units are available with built-in RS232 and RS485 ports. The user can choose varying combinations of integrated fieldbuses resp. network protocols: e.g. Ethernet + PROFIBUS DP, ARCNET + CANopen or also CANopen + Ethernet.

The couplers are integrated within the central unit in order to save space. Tools for the configuration of the fieldbuses used are included in the software package 907 AC 1131.

The components of AC31 series 40..50 and of AC31 series 90 can be mixed. This way it is even possible to combine I/O-modules of series 40..50 with the compact controllers of series 90 or vice versa to combine I/O-modules of series 90 with a small PLC of series 50.

All components are Industrial IT – certified. The respective Aspect-Object-files are available upon request.

Hardware	07KT51	07KT94-S	07KT95	07KT96	07KT97	07KT98	07SL97
MODBUS	x	x	x	x	x	x	x
Ethernet					x	x	
CANopen					x	x	
PROFIBUS DP					x	x	x
ARCNET		x			x	x	x
DFU RCOM		x	x	x	x	x	
DeviceNet					x	x	x
CS31 system bus	x	x	x	x	x	x	x
AC31 Safety Fieldbus		x					

## Safety PLC AC31-S - Safety First

Nowadays, machine and plant manufacturers are confronted by ever more extensive and ever more stringent safety conditions, in line with the demand that the safety of machines and systems must be implemented optimally and in line with the "state of the art" for protection of man, machine and the environment. The safety-related automation system AC31-S allows small, distributed control units to be designed and standardised. They operate autonomously at a local level where the safety function is required. The relevant, related inputs and outputs are installed in the field where the signal is detected or output. They are connected to their central unit via the AC31 Safety Fieldbus. This helps, once again, to save on cables. These control units can be networked flexibly and can exchange data among each other or with a higher-level system.

## Software programming package 907AC1131

For the integrated programming of AC31 central units according to IEC61131-3.

907AC 131 offers the following functionalities:

- 6 programming languages: Function Block Diagram (FBS), Instruction List (IL), Ladder Diagram (LD), Structured Text (ST) and Sequential Function Chart (SFC) and Continuous Function Chart (CFC).
- Debugger: for the step-by-step processing of the automation program, including setting of breakpoints.
- Offline simulations: IEC-61131-3 commands including fault behaviour can be simulated for an external controller. After testing, the application can be transferred to the controller.
- Sampling Trace (chronological portrayal of process variables) and a visualisation – with integration of pictures and illustrations and display of process-variables from the controller.
- Recipe administration and watch lists: values of selected variables can be displayed. Variables can be preallocated with dedicated values and be transferred to the controller all at once. (Writing the recipe). Current values of the controller can be imported and saved in the same manner into the recipe and watch list manager as preallocations (Reading the recipe). These functions are especially helpful e.g. for the adjustment and gathering of control parameters.

## Economical

The Advant Controller 31-S requires no redundant central unit for safety functions, so this system is lowest cost both as regards hardware and as regards engineering. The I/O units at a local level already feature an internal 2-channel structure and monitor themselves, including passive error and fault detection.

## One set of hardware for all functions

The hardware of the Advant Controller 31-S supports the safety functions and operating functions simultaneously. At the AC31 safety field bus safety-related I/O modules and standard I/Os can be mixed.

The safety-related functions are programmed with the help of certified function blocks.

The controller is certified for requirement class 4 and safety category 3.

- Visualization with color changes, moving elements, bitmaps, textdisplay, set value input and display of process variables from the controller. Dynamic columns, alarm and event processing, function keys. The graphics are created with the help of the software package 907 AC1311 and can be also used with the operator version that is available separately on the CD.
- Configuration for PROFIBUS-DP, DeviceNet, Ethernet, CANopen.
- Open interfaces DDE and OPC.
- Programming using ARCNET and Ethernet.
- Engineering interface for accessing an external project data base from the programming system, where data is administered that accumulates while building an automation project. The use of an external data base ensures the consistency of the data, which then can be used mutually by several users, projects and programs.
- Extensive libraries.
- Windows 32 bit standard.
- Operating systems Windows 98, NT, 2000 und XP.
- Visualization package: program for the operation of a machine or installation. Graphics created with the programming software are displayed online.