

AdvaControl™

Advant® OCS

Open Control System

Advant Soft Controller

The Powerful PC-based Software Technology



Advant Soft Controller runs under Microsoft Windows NT operating system.

The Advant Soft Controller is a real-time software technology that turns a PC into a powerful process controller.

The Controller runs under Microsoft® Windows NT® operating system.

The Advant Soft Controller is programmed using the Advant Control Builder, which is a powerful configuration and programming tool with extensive function libraries and several programming methods according to the IEC 61131-3 standard.

The Controller is available in six sizes for up to 256 I/O units.

- Remote programming via Ethernet or serial COM port.
- I/O support for S200 I/O and S200L I/O centrally via the serial I/O bus and remotely via PROFIBUS-DP
- I/O support for S800 I/O remotely via PROFIBUS-DP
- Communication alternatives to other control systems: MMS, SattLink, COMLI, SattBus, Data Highway Plus, 3964R, and user-defined protocols (via COM ports) etc.
- The application program size depends on the internal memory size of the PC.

CE

ABB

Software

The Advant Control Builder provides the controller with a wide range of functionality, such as logic functions, PID control, alarm handling and communication possibilities to other controllers, HMI systems and third party alternatives.

Logic Functions

Logic functions, flip-flops, timers, counters, etc. are available as specified in IEC 61131-3.

PID Control

PID control functions are available in the controller system.

Alarm Handling

Functions for alarm and event detection and alarm printouts on local printer are available.

Communication

Communication with the programming tool is achieved via MMS on Ethernet or MMS on a serial port (SattLink).

Communication with other systems, e.g. HMI, SCADA and control systems, may be achieved

- via MMS and SattBus on Ethernet.
- via SattBus fieldbus.
- via Data Highway Plus fieldbus (as client).
- via serial COM ports. Available protocols are 3964R (as client), COMLI and MMS (SattLink). Also user-defined protocols may be used.

Programming

The Advant Control Builder can be installed in the same PC as the Advant Soft Controller or be located in another PC.

The maximum size of the application program depends on the internal memory size of the PC.

Fast execution

The Advant Soft Controller executes in a standard Microsoft Windows NT task. By executing at high priority, and locked in a RAM memory, high real-time performance is achieved. For example, a PID loop can be executed in less than 25 microseconds, or 1000 lines of logic in less than 30

microseconds on a Pentium II processor (300 MHz).

In time critical applications, it is recommended to use a dedicated PC, i.e. do not permit any other applications to be started.

Hardware

I/O system

The I/O systems S200 I/O and S200L I/O can be mixed and can be centrally or remotely connected to the controller. S800 I/O can be remotely connected.

The Advant Soft Controller can handle up to 256 I/O units depending on the chosen model.

Each adapter, 200-AIO and 200-APB12, can handle up to eight I/O units. Adapter CI830 can handle up to 24 I/O units.

Central I/O

The central I/O system is connected with a maximum cable length of 2.5 meters to the Advant Soft Controller and can handle up to 64 I/O units. These I/O units can be divided across a maximum of four interface units, ISA-CIIO, and eight I/O adapters, 200-AIO.

ISA-CIIO is an interface board for the central I/O. The board has two serial I/O bus interface connections and is mounted in an empty ISA slot in the PC containing the Advant Soft Controller.

Remote I/O – PROFIBUS-DP

The PROFIBUS-DP fieldbus can handle a maximum length of 100 to 1200 meters, depending on the transmission rate. The interface unit, PCI-CIPB/DP, can handle up to 256 I/O units via I/O adapters. Either up to 99 adapters 200-APB12 or via up to 79 CI830 or a combination of both. Up to seven additional rows of I/O units can be connected to the CI830 adapter via optical cables and optical interface units, TB820.

PCI-CIPB/DP is an interface board for connecting the PC to the PROFIBUS-DP fieldbus. The board acts as a master of class 1 and is mounted in an empty PCI slot in the PC containing the Advant Soft Controller.

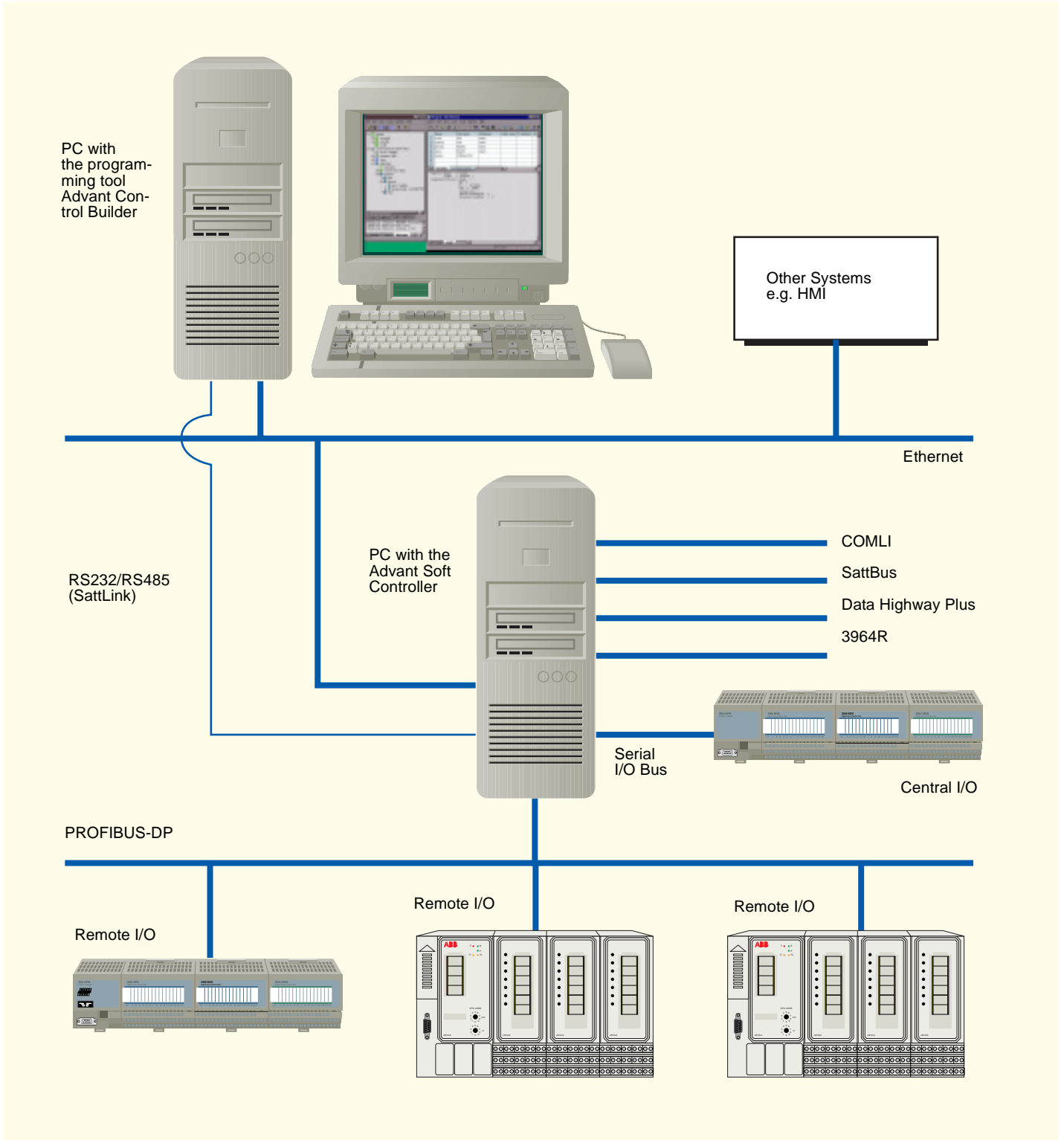
SattBus

SATTBUSPC is an interface board for connecting the PC to the SattBus fieldbus. The board is mounted in an empty ISA slot in the PC containing the Advant Soft Controller.

Data Highway Plus

1784-KT is an interface board for the fieldbus Data Highway Plus of an Allen-Bradley PLC-5 system.

The board is mounted in an empty ISA slot in the PC containing the Advant Soft Controller.



Configuration alternative. The programming tool Advant Control Builder and the Advant Soft Controller can be located in one PC.

Technical Data

Advant Soft Controller

Product name	Advant Soft Controller version 1.1
I/O capacity	Available for 2, 16, 32, 64, 128 or 256 I/O units
Hardware Requirements	
Computer	Pentium processor-based system (Pentium 90 MHz or better) with the necessary environmental protection, depending on the installation environment
Operating system	Windows NT operating system (Release 4.0 incl. min. Service Pack 3)
Internal memory	Minimum 64 Mbyte RAM memory
Hard disk	Minimum 35 Mbyte available
CD-ROM Drive	Local or via network
Ethernet interface	For the licence management an Ethernet interface is required
Communication	The TCP/IP protocol must be installed, if Advant Soft Controller is going to be connected to a Local Area Network (LAN). Alternatively, a COM port can be used for serial communication
Supported I/O	S200 I/O, S200L I/O and S800 I/O
Order codes	ASC2, ASC16, ASC32, ASC64, ASC128 and ASC256

Central I/O Interface ISA-CIIO

Connectors	Two 15-pin compact DSUB connectors for the serial I/O bus channels 0 and 1. One ISA bus connector
Address selector	DIP-switch to select the board address
Current consumption (from the ISA bus)	
+5 V	Typ. 0.2 A
+12 V	Typ. 0.75 A
Watchdog time-out	Typ. 1.2 s
Temperature	
Operating	+0 °C to +70 °C
Non-operating	-25 °C to +70 °C
Approvals	CE marked for industrial and light industrial environment and meets EMC directive 89/336/ECC according to the following standards: EN 50081-1 and EN 50082-2. UL listed for USA and Canada according to UL508
Size	Half size
Weight	0.10 kg (excl. packaging)
Order code	ISA-CIIO

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PROFIBUS-DP Interface PCI-CIPB/DP

Type	DP master class 1
Transmission speed	9.6, 19.2, 45.45, 93.75, 187.5, 500, 1500, 3000, 6000 or 12000 kbit/s
Status indicators	
Front	2 green LEDs for Ready and Run. 1 red LED for Error
Board	3 LEDs for service use only
Connectors	One 9-pin compact DSUB connectors for the Profibus. One PCI bus connector
Current consumption (from the PCI bus)	
+5 V	Typ. 700 mA
Approvals	CE marked for industrial and light industrial environment and meets EMC directive 89/336/ECC according to the following standards: EN 50081-1 and EN 50082-2
Temperature	+0 °C to +70 °C, operating
Size	Half size. Occupies 2 slots
Weight	0.14 kg (excl. packaging)
Order code	PCI-CIPB/DP

SattBus Interface SATTBUSPC

Status indicators	1 red LED for power/stop 1 yellow LED for communication
Connectors	One 4-pole detachable connector One ISA bus connector
Address selector	DIP-switch to select the board address
Internal current consumption (from the ISA bus)	
+5 V	Typ. 700 mA
Approvals	CE marked for industrial environment and meets EMC directive 89/336/ECC according to the following standards: EN 50081-2 and EN 50082-2
Temperature	+0 °C to +70 °C, operating
Size	Half size
Weight	0.15 kg (excl. packaging)
Order code	SATTBUSPC