Programmable Controllers and I/O Systems

Selection Guide

From its wide range of programmable controllers, I/O systems and programming tools ABB offers efficient solutions for industrial applications.

ABB's controllers range from small, compact units to powerful controllers in terms of memory, speed and communication capability and offer a comprehensive range of functionality. All the controllers are configured and programmed using the most advanced engineering tools and, since open standards are used throughout, it is easy to access all information using standard office software.

A scalable and open approach to control systems

Easy to integrate
Powerful engineering tools
Tailored to users' needs

The range of I/O systems is similarly comprehensive, from compact I/O modules to units with the very latest technical features.

In addition to the features essential for each application, ABB's equipment and systems all have the following advantages:

Easy to integrate

ABB's industry-leading commitment to open standards means that all programs use standards based software and communication interfaces. This greatly simplifies integration with existing automation and information systems.

ABB's controllers are open to all OPC compliant supervisory software packages thus it is easy to integrate third party applications including standard office programs such as Word and Excel.

This approach also facilitates Plug & Produce – just plug in and it works without further intervention.

All programs are open for easy migration as users and technologies develop.

Powerful engineering tools

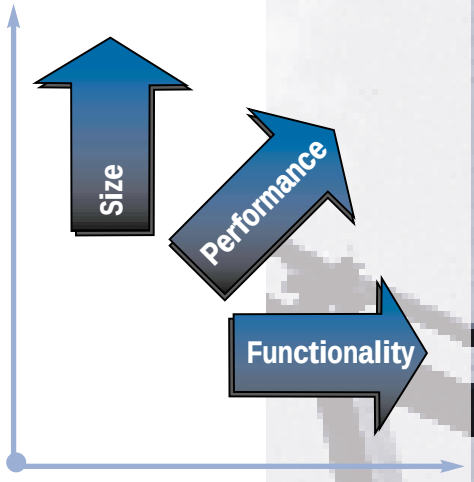
The engineering tools operate in a Windows® 2000 environment and function in all IEC 61131-3 languages. These tools are powerful and yet they are easy to learn and to use.

Their scope, flexibility and unique features reduce engineering time and costs significantly.

Tailored to users' needs

The controllers, I/O systems, functionality and engineering tools are all modular and are selected to meet each user's current needs but can be extended incrementally so as to grow with the business.

Users are offered a wide choice of sizes (number of I/O signals), performance (CPUs) and functionality (software packages ranging from binary control to very advanced closed loop control).



HART
MMS
SattBus
Fieldbus FOUNDATION
TCP/IP
3964R
PROFIBUS
ControlNet
COMLI
Modbus
OPC

Controllers

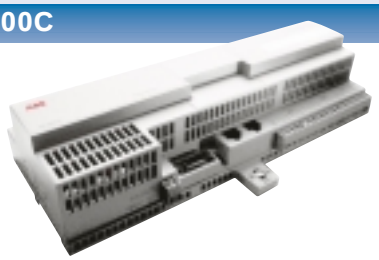
AC 800M

Fully modular controller for small as well as large applications. Up to 6 communication units and 96 I/O modules can be connected locally. Possibilities to connect further remote I/O modules and field devices. Excellent EMC characteristics and hot-swap capabilities.

AC 800F

Top class performance in fieldbus management applications. Suitable for connection to remote I/O modules and with possibility to hot swap fieldbus modules. Excellent EMC characteristics.

AC 800C



Very compact controller with 10 DI and 6 DO onboard I/Os. 16 local I/O modules and 2 external communication slots. Max 36 I/O modules, including local modules.

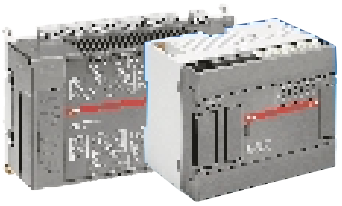
Advant Soft Controller

Suite of software to run on a PC. Ideal for applications requiring large memory and high speed.

Advant Controller 250

Fully modular controller with 3 types of CPU with up to 48 local I/O modules and 12 communication units. Possibility to connect further I/O modules for large decentralized applications.

Advant Controller 31



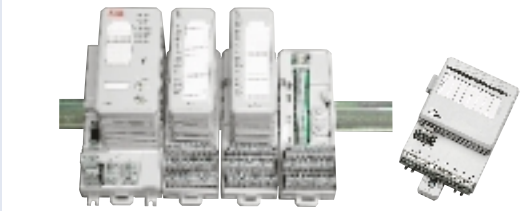
Distributed automation system. Central units with I/O's, fieldbus and network interfaces on board. Up to 31 I/O modules (max 1000 I/Os) on the fieldbus. 15 types of CPU's.

I/O Systems and Software

S200 I/O System

Wide range of compact I/O modules, used both as local or remote I/O, for various applications. Function and measuring range is configured via the Engineering Tool.

S800 I/O System



Wide range of compact I/O modules, used both as local or remote I/O, for various applications. Function and measuring range is configured via the Engineering Tool. Extensive diagnostic capability. Available also with built-in Ex barriers.

S900 Process I/O System

Compact units for intrinsic safe application. Redundancy for power and communication. Hot swap capability in Zone 1 and hot configuration. Configuration via GSD or DTM. Full transparency for HART communication.

Advant Controller 31 I/Os

Wide range of I/Os for CS31-fieldbus of AC31. Digital (IP20 and IP67), analogue, configurable and safety-related. Modules with up to 32 channels.

Functionality

ABB's software provides a really comprehensive range of high performance functionality.

The software is packaged so that users may select and pay for only the functionality and size of installation appropriate to their current needs; users can easily extend the scope of their installation as their process and technology develop.

All programs are written in standard software with open communication interfaces. They are well suited to distributed applications and network control.

Advanced functions include Fuzzy Logic Control – essential for optimising complex processes.

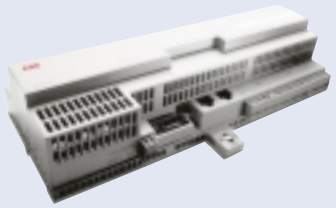
Engineering Tools

Different suites of extremely efficient engineering tools are available depending on the controllers used and the type of application.

All the engineering tools operate in a Windows® 2000 environment and are offered in packages so that users can select tools for their current requirements with the facility for later enhancement. They are also scalable in terms of the type and size of the installation.

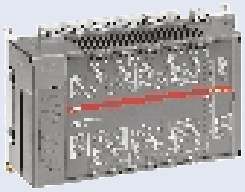
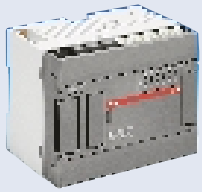
The tools incorporate important features which add significantly to overall efficiency such as the ability to reuse existing programs, off-line simulation and on-line inspection.

Controllers



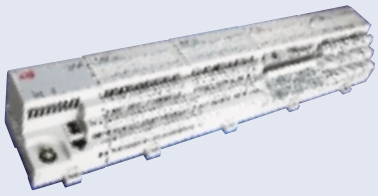
	AC 800M	AC 800C	AC 800F
General Specifications			
Operating temperature	+5 – +50 C°	+5 – +50 C°	0 – +60 C° with tempearture monito
Humidity	95 % non condensing	95 % non condensing	95 % non condensing
Ex classification	No	Class 1 Div 2	Class 1 Div 2
EMC directive	89/336/EEC acc. to EN 50081-2 & EN 50082-2	89/336/EEC acc. to EN 50081-2 & EN 50082-2	89/336/EEC acc. to EN 61326 par & EN 50081-2 & EN 50082-2 & EN 55022 / 4, NAMUR 21/8.98 is m
UL and CSA classification	No	UL 508 (US and Can)	CSA/UL
Power Supply	+24V DC	+24V DC	115 /230 V AC or +24V DC red.
Number of CPU variants available	2	1	2
Performance indicator (time/1000 lines of program code, Boolean ops.)	0.3 ms	2.2 ms	1 ms
RAM (for application)	5.5 MB	2 MB	4 / 16 MB
Battery back-up	Yes, 1 or 18 month	Yes (option)	Yes, 18 months
On-board communication channels			
Ethernet No. of channels	2	0	0
RS232 No. of channels	2	2	0
Local I/O possibilities & capacity	84 S800 modules (Optical Module Bus)	Not applicable	0
Direct I/O possibilities & capacity	12 S800 modules (Module Bus)	16 S200 modules	1000 I/O with Freelance Rack I/O
Remote I/O possibilities	S200, S800, S900 any non ABB remote I/O on PROFIBUS-DP	S200, S800, S900 any non ABB remote I/O on PROFIBUS-DP	S200, S800, S900 any non ABB remote I/O on PROFIBUS-DP
On Board I/O	No	10 DI (0-5 Fast input), 6 DO	No
FDT/DTM technology	No	No	Yes
HART (via PROFIBUS remote I/O)	No	No	Yes
Expansion Communication Modules			
PROFIBUS	DP (Master)	DP (Master)	DPV1 (Master)
FOUNDATION Fieldbus	H1	H1	HSE
RS232	Yes	Yes	Yes
RS485	No	No	Yes
Ethernet	Yes	Yes	2; AUI, 10Base2, 10BaseTX10
Protocols	Comli (Master & Slave), Siemens 3964R (S) MODBUS RTD (M) customer specific, SattBus (via Ethernet)	Comli (Master & Slave), Siemens 3964R (S) MODBUS RTD (M) customer specific, Sattbus (via Ethernet)	No
Redundancy			
CPU	No	No	Yes
Fieldbus	PROFIBUS Line-Redundancy via RLM01	PROFIBUS Line-Redundancy via RLM01	PROFIBUS Line-Redundancy via RL PROFIBUS Master-Redundancy via CPU Redundancy
Control network	No	No	No
Control Functionality			
Autotuning	Yes	Yes	Yes
Fuzzy logic	Yes	Yes	External
Server functionality	Yes	Yes	Yes
Client functionality	Yes	Yes	Yes
Object Oriented programming	Yes	Yes	Yes
Closed Loop Control	Yes	Yes	Yes
Fast binary control (PLC)	Yes	Yes	Yes
Fieldbus Management	No	No	Yes
Engineering tool	Control Builder M	Control Builder M	Control Builder F
Application languages	FBD, IL, SFC, ST, LD	FBD, IL, SFC, ST, LD	FBD, IL, SFC, LD, (ST in prep.)
Control Module Diagram programming	Yes	Yes	No
User defined Function Blocks	Yes	Yes	Yes
No of User Tasks	3-16	3-16	9
System Event Tasks	No	No	Coldstart, Warmstart, Run, Stop, E

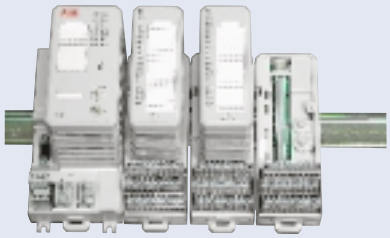


	Advant Soft Controller	Advant Controller 250	Advant Controller 31 Series 90	Advant Controller 31 Series 40 & 50
ring	PC HW dependent	+5 – +50 C°	0 – + 55 °C	0 – + 55 °C
	PC HW dependent	90 % non condensing	50 – 95 % non condensing	50 – 95 % non condensing
	PC HW dependent	Class 1 Div 2	No	No
t 1	PC HW dependent	89/336/EEC acc. to EN 50081-2 & EN 50082-2	89/336/EEC and Low Voltage Directive No. 73/23/EEC	89/336/EEC and Low Voltage Directive No. 73/23/EEC
net				
	PC HW dependent	UL 508 (US and Can)	UL 508, CSA, C22.2, No. 142-M1987	UL 508 in preparation
	PC HW dependent	+24V DC	+24V DC	+24V DC; 120 V AC/230 V AC
	N/A	3	10	6
	PC HW dependent	1.72 ms /1.0 ms /0,1 ms depending of CPU type	0.07 ms / 0.3 ms (depending on CPU type)	0.8 ms
	Min 64 MB	2/8/8 MB depending of CPU type	480 KB to 1 MB user program (2MB RAM)	34 KB
	PC HW dependent	Yes	Yes (option)	Yes
	PC HW dependent	0	0	0
	PC HW dependent	2/2/1 ch. depending of CPU type	2	1
	16 modules per ISA-CllO board Max. 4 boards	48 S200 modules (via 200-ANN)	No	On Board I/O + 6 I/O modules
	Not applicable	Not applicable	Not applicable	31 I/O modules per fieldbus line + 62 extensions per CS31
	S200, S800, S900 any non ABB remote I/O on PROFIBUS-DP	S200, S800, S900 any non ABB remote I/O on PROFIBUS, S200 on Control Net 1.2	AC 31 series 90 I/O on PROFIBUS DP, ACS600, TMAX, Fieldbus CS31	AC 31 series 40, 50 I/O via Fieldbus CS31
	No	No	Digital and analogue I/O on board. Between 26 and 50 (number depending on CPU type)	8 DI and 6 DO
	No	No	No	No
	No	No	No	No
	DP (Master)	DP (Master)	DP (Master + Slave) onboard of CPU	No
	No	No	No	No
	Yes	Yes	Yes	Yes
	PC HW dependent	Yes	No	Yes
	Yes	Yes	No	No
	Comli (Master & Slave), Siemens 3964R (S) MODBUS RTD (M) customer specific, SattBus (via Ethernet)	Comli (Master & Slave), Siemens 3964R (S) MODBUS RTD (M) customer specific, SattBus (via Ethernet)	2x MODBUS RTU or ASCII	1 x MODBUS RTU or ASCII (switchable in RS 485 for 50 serie)
	No	No	AC 31-S: Software Redundancy	No
M01	No	No	By repeater NCBR	By repeater NCBR
	No	No	ARCNET	No
	Yes	Yes	No	No
	Yes	Yes	No	No
	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes
	Yes	Yes	No	
	Yes	Yes	Yes	Yes
	Yes	Yes	Not applicable	Not applicable
	No	No	Yes	Yes
	Advant Control Builder	Control Builder M	907 AC1131	907 AC1131
	IL, ST	FBD, IL, SFC, ST, LD	FBD, IL, SFC, ST, LD	FBD, IL, SFC, ST, LD
	Yes	Yes	No	No
	Yes	Yes	Yes	Yes
	16	16	32	2
rror	No	Not applicable	Not applicable	Not applicable

I/O Systems





General Specifications	S200 I/O	S800 I/O
Power Supply	24 V DC (19,2 - 30 V DC)	24 V DC (19,2 - 30 V DC)
Operating temperature	0 – +55 °C	+5 – +55 °C
Humidity	< 95% non condensing	5 – 95% non condensing
Coating	No	No
Protection class	IP20	IP20
Ex classification	Class 1 Div 2 mounting/Zone 2	Class 1 Div 2 mounting/Zone 2
EMC directive	89/336/EEC according to EN 50081-2, 50082-2	EN 50081-2, 50082-2, 60439-1, 50178, 60950, 61010-1
UL/SCA Classification	UL 508	CSA/FM
CE approved	Yes	Yes
No of I/O modules/Communication Interface	8	12 (optionally up to 24)
Integrated IS barrier	No	Yes (Ex-Modules)
Communication	PROFIBUS DP, ControlNet	PROFIBUS DP
Redundacy on communication	No	Yes
HART transparency	No	Yes
Cyclic I/O with status	Yes	Yes
Diagnosis	Yes, wire fault detection, wrong/missing/defective I/O modules	Yes, wire fault detection wrong/missing/defective I/O modules
Behaviour in case of failure	Outputs	Outputs
Simulation (forcing)	Inputs/outputs	Inputs/outputs
Based on DTM (DP V1)	No	No
Based on description file	AC800M, AC800C, Advant Soft Controller	AC800M, AC800C, Advant Soft Controller
Based on GSD (DP V0)	AC800C, AC250, AC31 and all other DP based DCS	AC800C, AC250, AC31 and all other DP based DCS
Local or Direct I/O for	AC800C	AC800M

Module Specifications

Communication Interface Media Modules 200

ANN	Adapter for N.N bus
ACN	Adapter for Control Net
APB12	Adapter for Profibus
AIO	Adapter for Expantion

S200 I/O Modules

IB16	16 DI, 24 V DC
OB16	16 DO, 24 V DC
OB16P	16 DO, 24 V DC, S-c proof
IB10xOB6	10 DI & 6 DO, 24 V DC
IP2	2 Puls counters
IP4	4 Frequency counters
IE8	8 AI, 24 V DC, 12 bit res.
OE4	4 AO, 24 V DC, 12 bit res.
IE4xOE2	4 AI & 2 AO, 24 V DC, 12 bit res.
IF4I	4 AI, ind. isolated, 24 V DC, 16 bit res.
OF4I	4 AO, ind. isolated, 24 V DC, 15 bits + sign res.
IT8	8 Termal couple input signals, 24 V DC, 16 bit res.
IR8	8 three-wire RTD Inputs, 24 V DC, 16 bit res.
IR8R	8 four-wire RTD Inputs, 24 V DC, 16 bit res.
IA8	8 DI, 120 V AC
IM8	8 DI, 230 V AC
OA8	8 DO, 120 V AC
OM8	8 DO, 230 V AC
OW8	8 Relay Outputs
OB8EP	8 Digital S-c proof

S200L I/O Modules

DI210	16 DI, 24 V DC
DO210	16 DO, 24 V DC, S-c proof
DX210	10 DI & 6 DO, 24 V DC
AI210	8 AI, 24 V DC, 12 bit res.
AO210	4 AO, 24 V DC, 11 bit res.
AX210	4 AI & 2 AO, 24 V DC, 11 bit res.

Communication Interface Media Modules

CI810	Comm. Interface for Advant Fieldbus 100
CI820	Comm. Interface for Red. Advant Fieldbus 100
CI830	Comm. Interface for PROFIBUS-DP
TB810/811	Optical Modulebus extension port
TB815	Interconn. unit for coord. of a red. pair of CI820
TB820	Optical Modulebus Modem

S800 I/O Modules

DI810	16 DI, 24V DC
DI811	16 DI, 48V DC
DI814	16 DI, 24V DC, current source
DI820	8 DI, 110V DC, 120V AC
DI821	8 DI, 220V DC, 230V AC
DO810	16 DO, 24 V DC, 0,5 A, S-c. proof
DO814	16 DO, 24 V DC, 0,5 A, S-c proof, current sink
DO815	8 DO, 24 V DC, 2 A, S-c proof
DO820	8 DO, 5-250VAC/DC, 3 A, Relay (N.O)
DO821	8 DO, 5-250VAC/DC, 3 A, Relay (N.C)
AI810	8 AI, single ended, 12 bit res.
AI820	4 AI, differential, 12 bit res.
AI830	8 three-wire RTD Inputs, 15 bit res.
AI835	8 Termal couple input signals, 24 V DC, 16 bit res.
AO810	8 AO, 850 Ohms 14 bit resolution, S-c proof
AO820	4 AO, ind. isolated, 500 Ohms,12 bits + sign res, S-c proof
DP820	2 Puls/freq. counters, 0,25Hz - 1,5MHz, 5/24V DC

S800 I/O Ex-Modules

DI890	8 DI, 24V DC, IS-Interface, NAMUR,W-f detection
DO890	4 DO, 150-5000 Ohms, 11V @ 40mA, IS-Interface,W-f detection, S-c proof
AI890	8 AI, IS-Interface, single ended, 12 bit res.
AI895	8 AI, IS-Interface, single ended, 12 bit res., HART
AO890	8 AO, 750 Ohms, IS-Interface, W-f detection, 12 bit res., S-c proof
AO895	8 AO, 750 Ohms, IS-Interface, W-f detection, 12 bit res., S-c proof, HART

S800L I/O Modules

DI801	16 DI, 24V DC
DI802	8 DI, 110 V DC, 120 V AC
DI803	8 DI, 220 V DC, 230 V AC
DO801	16 DO, 24 V DC, 0,5 A, S-c proof
DO802	8 DO, 5-250 VAC/DC 2A Relay (NO)
AI801	8 AI, single ended, 12 bit res.
AO801	8 AO, 750 Ohms 12 bit res.

S900 Process I/O

24 V DC (19,2 - 33 V DC)
-20 – +60 °C
< 85%, short duration condensation allowed
Yes
IP20
Zone 1ATEX II 2 (1) G EEx ia II C T4
EN 61326, 55822
UL508 (120/230 VAC, ambient max 40°C)
Yes
16
Yes (Zone 1 mounting)
PROFIBUS DP V1
PROFIBUS DP V1
Yes
Yes
Yes, wire fault detection, wrong/missing/defective I/O modules
Inputs/outputs
Inputs/outputs
AC800F, Symphony
AC800M, Advant Soft Controller
AC800C, AC250, AC31 and all other DP based DCS
No

Communication Interface Media Modules

CI920S	Comm. Interface for single/red. PROFIBUS DPV1 for Ex-applications
CI920N	Comm. Interface for single/red. PROFIBUS DPV1 for non Ex-applications

S900 I/O Modules

SA910N	Power supply PS24
DX910N	8 DI/O, Namur, W-f detection
DO910N	4 DO, 21V 8 mA, 12V 40 mA, ind. isolated, W-f detection, S-c proof
AI910N	4 AI, 4..20mA, transmitter power supply, 14 bit res., W-f detection, S-c proof
AI930N	4 AI, 4..20mA, transmitter power supply, 14 bit res., W-f detection, S-c proof, full HART support
AI931N	4 AI, 0/4..20mA, passive, 14 bit res., W-f detection, S-c proof, full HART support
AO950N	4 TI, 4 wire RTD, TC with integrated CJC, 15 bit res., W-f detection
AO920N	4 AO, 0/4..20mA, 700 Ohms, 14 bit res., ind. isolated, W-f detection, S-c proof

S900 I/O Ex-Modules

SA910S	power supply PS24-Ex
DX910S	8 DI/O, Namur, W-f detection
DO910S	4 DO, 21V 8 mA, 12V 40 mA, ind. isolated, W-f detection, S-c proof
AI910S	4 AI, 4..20mA, transmitter power supply, 14 bit res., W-f detection, S-c proof
AI930S	4 AI, 4..20mA, transmitter power supply, 14 bit res., W-f detection, S-c proof, full HART support
AI931S	4 AI, 0/4..20mA, passive, 14 bit res., W-f detection, S-c proof, full HART support
AO950S	4 TI, 4 wire RTD, TC with integrated CJC, 15 bit res., W-f detection
AO920S	4 AO, 0/4..20mA, 700 Ohms, 14 bit res., ind. isolated, W-f detection, S-c proof

AC31 Series 40..50 I/O

24 V DC or 20 VA/230 VAC
0 – +55°C
50 – 95 % non condensing
No
IP20
No
89/336/EEC and Low Voltage Directive No. 73/23/EEC
UL508
Yes
31 remotes units on CS31 + 62 extensions
Yes
CS31 fieldbus
No
No
Yes
Overload, short-circuit, out of range, internal fault, cut wire
Red LED will light up. The error message will be reported to the central unit
Inputs/outputs
No
No
No
AC31, series 40..50 and series 90

I/O Bus Modules

ICMK14F1:	Remote unit with CS31 bus interface with 8 DI 24VDCand 6 DO relays 230VAC/2A Power supply: 24VDC or 120VAC/230VAC
ICMK14N1:	Remote unit with CS31 bus interface with 8 DI 24VDC and 6 DO 24VDC 0.5A Power supply: 24VDC

I/O Modules:
connected to 40&50 series remote units or basic units.
Power supply provided by remote units or basic units

XI16E1:	16 DI, 24VDC
XC08L1: XO08Y1: XO16N1:	8 configurable DI/DO 24VDC, 0.5A 8 DO 24VDC, 2A 16 DO 24VDC, 0.5A
XO08R1: XO08R2:	8 DO relays 230VAC/2A NO independent DO 230VAC/3A : 4 NO + 4 NO/NC
XM06B5:	4 inputs 12bits: -/+10V, 0-20mA, 4-20mA, Pt100, Pt1000 (2,3,4 wires), Balco500,Ni1000 + 2 outputs 12bits -/+10V, 4-20mA, 0-20mA
XE06B5:	8 inputs 12bits: -/+10V, 0-20mA, 4-20mA, Pt100, Pt1000 (2,3,4 wires), Balco500,Ni1000
XTC 08:	8 data display 5 digits + sign

AC31 Series 90 I/O

24 V DC
0° – +55°C
50 – 95 % non condensing
No
IP20 /IP67
No
89/336/EEC and Low Voltage Directive No. 73/23/EEC
UL508
Yes
31
Yes
CS31 fieldbus
I/Os for AC31-S
No
Yes
Overload, short-circuit, out of range, internal fault, cut wire
Red LED will light up. The error message will be reported to the central unit
Inputs/outputs
No
No
No
AC31, series 40..50 and series 90

Communication Interfaces

07KP90:	RCOM+ and RCOM protocol, Master/Slave for dedicated line and dial-up connection
07KP93:	MODBUS protocol, 2 communication channels, Master and Slave operation, Interfaces RS232/422/485
07KP99:	Advant Fieldbus 100 protocol (AF100), Slave operation

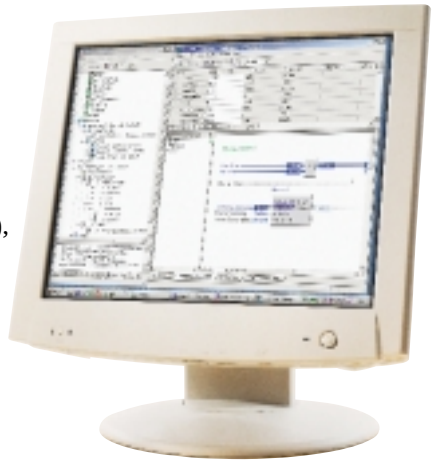
I/O Modules

07 DI 92:	32 DI, 24 V DC
07 DC 91:	16 DI, 8 DO, 8 configurable DI/DO, 24 V DC, 0,5 A
07 DC 92:	32 configurable DI/DO, 24 V DC, 0,5 A
07 AI 91:	8 inputs 12-bit,-/+50 mV, -/+500 mV, -/+10 V, 0 ...20 mA, 4 …20 mA, Pt100, Pt1000, thermocouple, 24 V DC
07 AC 91:	16 configurable channels as input and output
Mode 1:	16 channels can be set in pairs 0 …10 V, 0 …20 mA,4 …20 mA, 8-bit
Mode 2:	8 inputs and 8 outputs,-/+10 V, 0 …20 mA, 4 …20 mA,12-bit, 24 V DC
07 DI 93-I:	IP67, 16 DI, 24 V DC
07 DO 93-I:	16 DO, 24 V DC, 2 A transistor
07 DK 93-I:	8 DI, 4 DO, 24 V DC, 2 A transistor

DI	=	Digital Inputs
DO	=	Digital Outputs
AI	=	Analog Inputs
AO	=	Analog Outputs
S-c	=	Short circuit
Red.	=	Redundant
W-f	=	Wire fault

Engineering Tools

To enable users to achieve the best possible performance from its comprehensive range of controllers ABB has developed powerful yet easy to use engineering tools. These tools take full advantage of ABB's scalable and open approach to control systems and thus lead to extremely efficient engineering.



All of ABB's programming tools operate in a Windows® 2000 environment and all can be programmed in Instruction List (IL), Structured Text (ST), Function Block Diagram (FBD), Ladder Diagram (LD) and Sequential Function Chart (SFC).

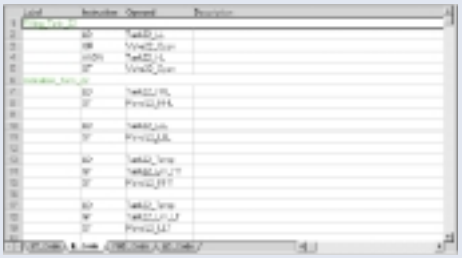
The tools can be purchased at different levels so that users do not pay for highly advanced functions unless the wish to use them. They are also scalable in terms of the number of controllers, users and tasks. All versions are upwards compatible to facilitate later extension and migration.

ABB's tools include features which reduce the time and costs for engineering. More importantly they improve the performance of the whole installation.

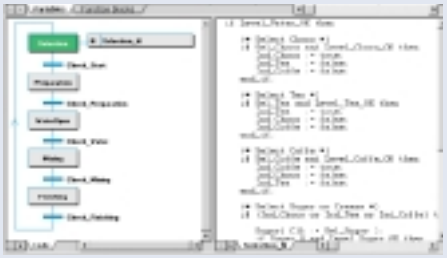
Examples of the feature are:

- Distributed applications for maximum utilisation capacity
- Use of MS Office tools (e.g. Cut & Paste), to make up, modify and transfer lists and to create type-solutions
- Reuse of existing programs
- Off-line simulation to configure the controller system, debug software and design improvements
- On-line inspection to check actual parameters. A great aid during commissioning and autotuning
- Fuzzy Logic for real optimisation

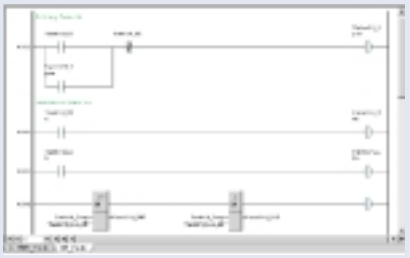
Supports all five programming languages.
Examples of ABB's engineering tools in each of the IEC 61131-3 languages.



Instruction List

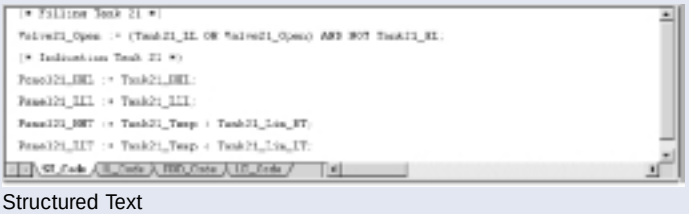


Sequential Function Chart



Ladder Diagram

Function Block Diagram



Structured Text

There is wide commonality amongst all ABB's engineering tools but some specialisation is necessary to achieve optimum functionality and facility. Three sets of engineering tools are offered:

Control Builder M

Used with controllers Advant Controller 250, AC 800C and AC 800M and the Advant Soft Controller. It is highly scalable being used for simple PLC applications and advanced object oriented DCS applications.

To cover this wide range three versions of Control Builder M are available **– Control Builder M Basic, Control Builder M Standard and Control Builder M Professional.**

The architecture of this tool allows the programmer to create an application oriented around the process and subsequently to distribute the tasks to the various controllers in the system. Control Builder M automatically sets up communication between the controllers.

A special feature of Control Builder M is a language called 'Control Modules' which greatly facilitates and speeds up object oriented programming of complex installations using an intuitive graphic tool.

Control Builder F

This is used to program applications using AC 800F controllers. It is available in two versions:

Control Builder F Standard is used for hybrid applications (controller performing closed loop control) with light Human-System interface requirements that do not involve FDT/DTM technology or User defined Function Blocks.

Control Builder F Professional provides full functionality including Process Portal (HSI) integration. It has extended fieldbus capabilities such as commissioning aids to scan the bus for new devices, to add new devices without having to initialise the bus and remote addressing of devices. It has FDT/DTM technology.

AC1131 Program

The programming software 907AC1131 is for the full range of AC31 controllers. The same software package can be used from the smallest compact configuration up to decentralised applications.

The complete assortment of tools including integrated Profibus/DeviceNet configurators, OPC interface, basic unit setting allows you to reduce engineering and commissioning time.

As part of its Industrial IT activities ABB has developed a long term strategy of offering a comprehensive range of products and systems for industrial applications. At the heart of this strategy is the Aspect Objects™ concept which allows all users access to all control and information systems within the enterprise and to assemble the information they require in a format best suited to their needs. Users are able to extend, modify and migrate their systems without difficulty.

ABB has developed a suit of Human-System Interfaces which combines comprehensive process know-how and experience with advanced software functionality. Based on the Windows® platform, HSI unified user interface provides a consistent method for accessing enterprise wide systems and for launching multiple applications from any connected workstation in a plant or office.

Automation Technology Products within ABB offers a complete range of Industrial IT products from individual programmable controllers to complete control systems for complex plants. These products are sold and supported by the worldwide network of ABB.

If you would like to know more about the products please contact your local office or visit our website at www.abb.com/processautomation.

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