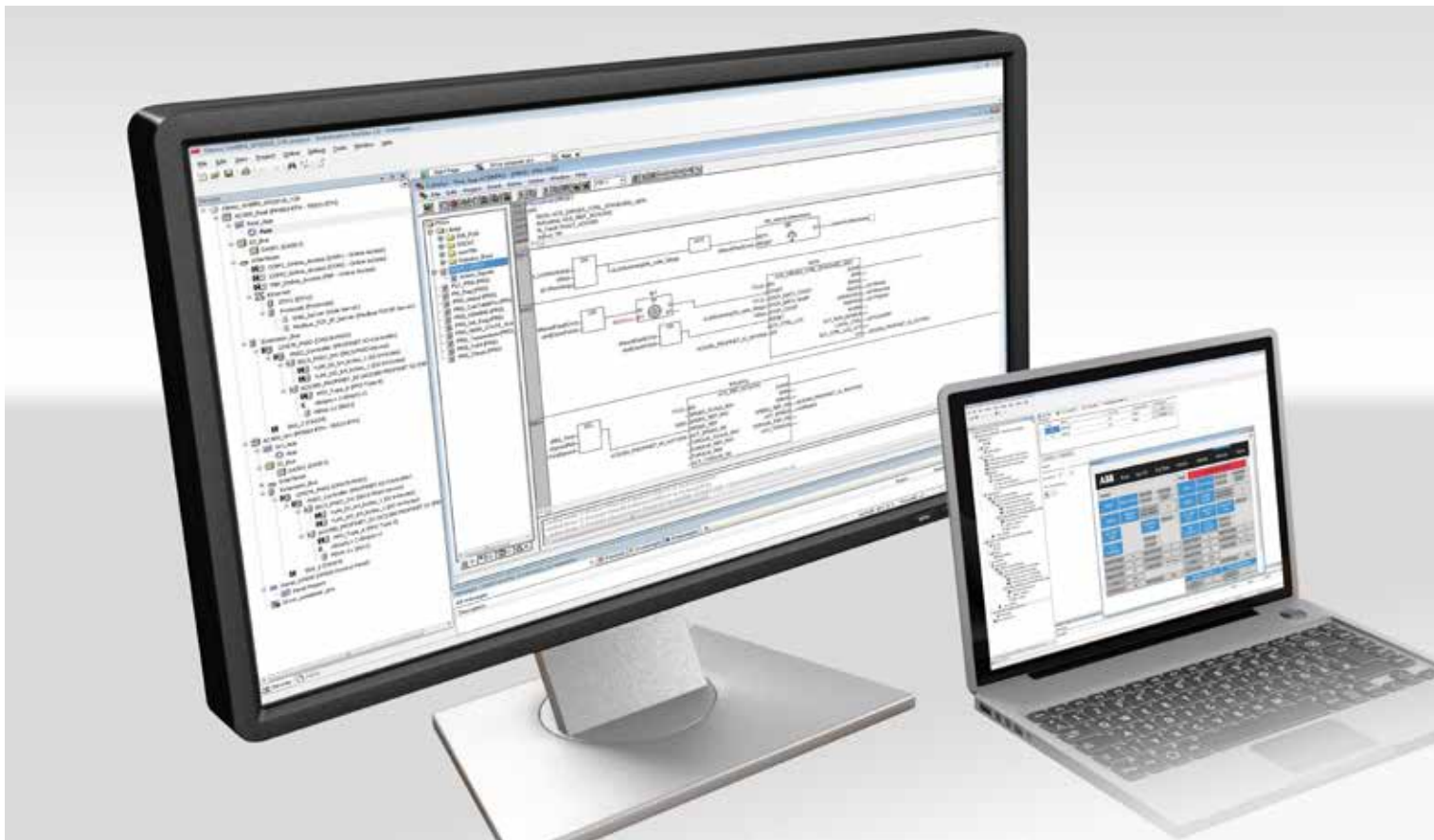


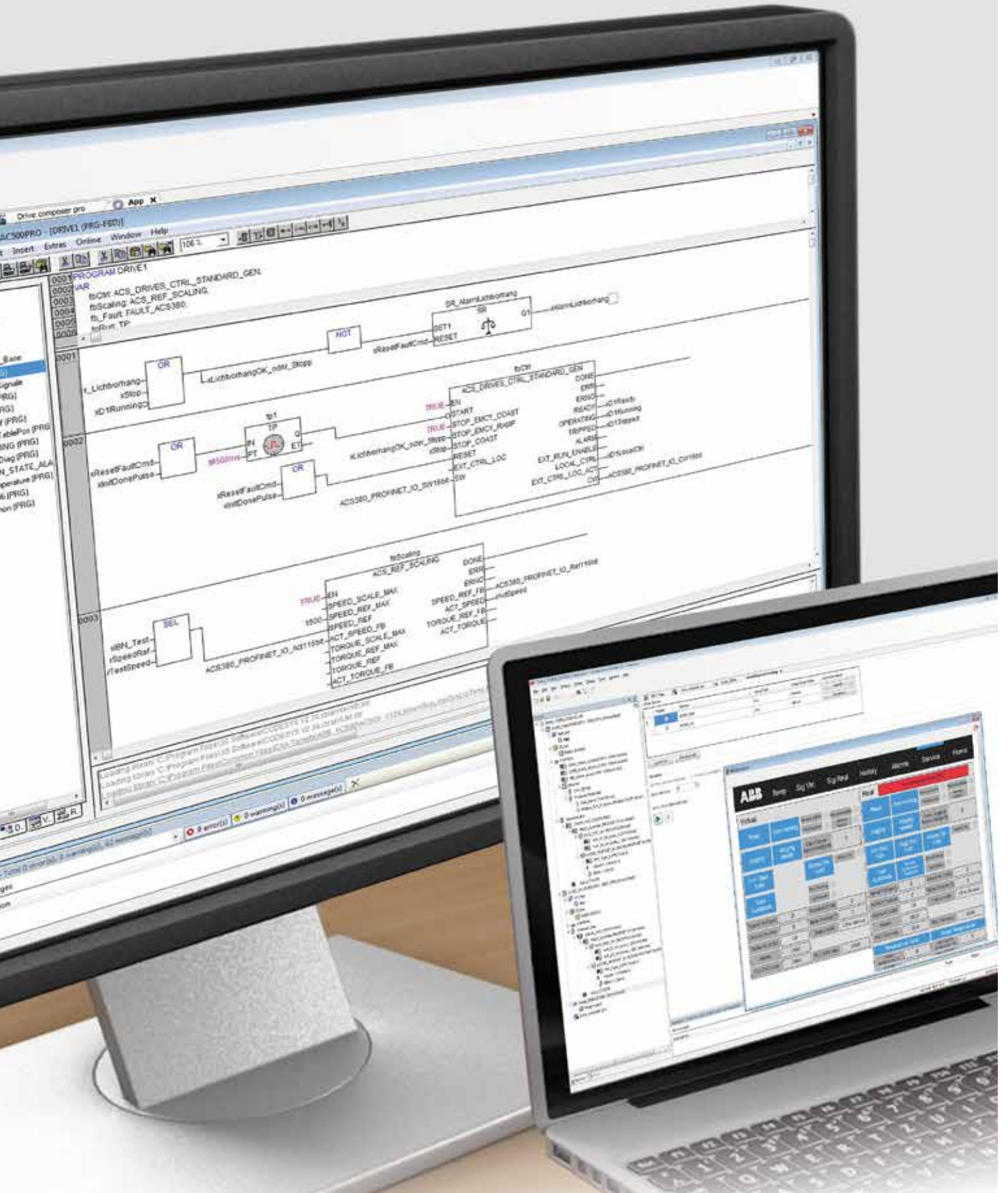
PLC AUTOMATION

Automation Builder

Engineering productivity

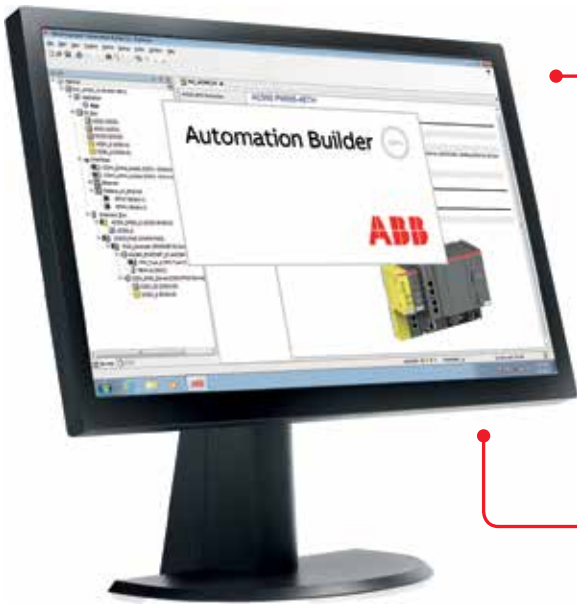


Download Automation Builder from www.abb.com/automationbuilder



Automation Builder

Key features



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- Stay in control of your project: Automation Builder integrates engineering tools for PLCs, safety, drives, motion, control panels and SCADA

—

- Reduce risk: Manage complexity and realize connectivity easily

—

- Increase efficiency: Build comprehensive solutions with integrated engineering that add value to your business

—

- Combine tools: One common intuitive interface for configuring, programming, debugging and maintaining automation projects

—

- Save time: Test systems effortlessly in virtual time without real hardware using Virtual Commissioning technology

Automation Builder

Integrated engineering suite

Engineering productivity for machine builders and system integrators.



Product license options

	Automation Builder Basic	Automation Builder Standard	Automation Builder Premium
Free	●		
AC500-eCo	●	●	●
AC500 with local I/O & network (1)	●	●	●
AC500 with fieldbus (2)		●	●
AC500-S Safety		○	○
Drive Manager		●	●
Drive application programming (3)	●	●	●
Motion programming	● (4)	●	●
Panel Builder 600	○	●	●
Panel Builder 600 Basic	●	●	●
Integrated engineering (5)		●	●
Productivity features (6)			●
Additional features (7)		○	○

- fully
- partly

(1) TCP protocols, Modbus, IEC60870-5-104, CS31

(2) PROFIBUS, PROFINET, EtherCAT, CAN

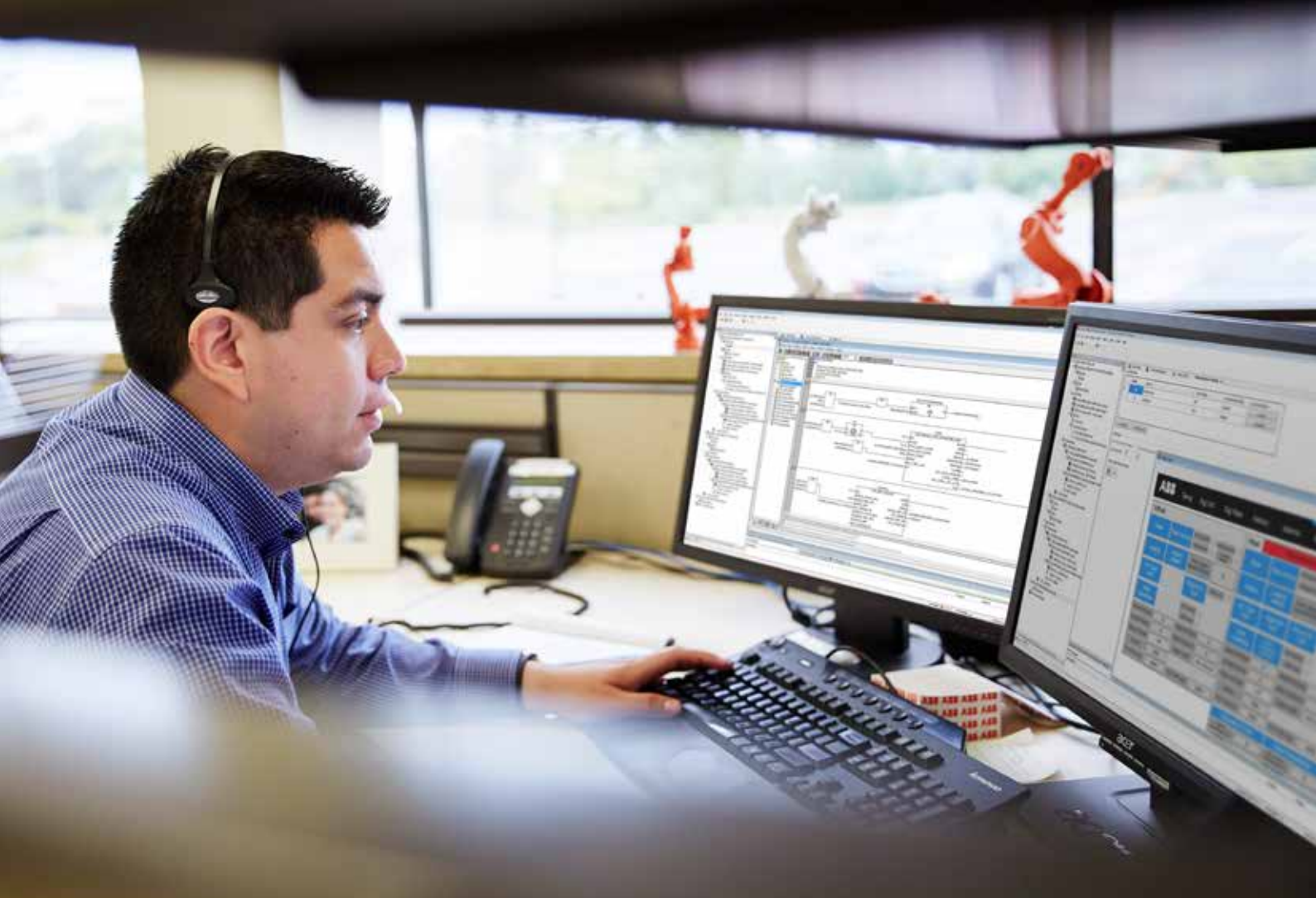
(3) Drive application programming for drives with embedded PLC (only available with Automation Builder 2.1 and before). Drive Composer pro license included in Standard and Premium Edition.

(4) No Fieldbus connectivity in Automation Builder Basic

(5) PLC, Safety, Panel, Drive, Motion, SCADA

(6) C/C++, ECAD data exchange, CSV interface extensions, project compare

(7) Virtual Commissioning Platform for virtual system testing, Professional Developer Tools for multi-user engineering



Discover engineering productivity when designing your automation solutions

Automation Builder is ABB's integrated programming, simulation, commissioning and maintenance environment for PLCs, safety, drives, motion, control panels and SCADA. Automation Builder combines the proven ABB tools Drive Manager, Drive composer pro, Mint WorkBench, Panel Builder and ABB zenon.

Always get the right scope of Automation Builder for your automation solutions

One single software installer helps you to create and maintain your personal Automation Builder configuration - either on your PC or on a server. Any changes or updates are just a matter of a few mouse clicks. The Automation Builder licensing system is designed for supporting most operation scenarios. Licenses can be installed on PCs, USB dongles or license servers. In case of changes in the organization or in the engineering workflows the licenses can easily be transferred to where you need them.

Next level engineering efficiency

Improve your engineering efficiency by maximizing data re-use. Data that is available from third party tools can be imported or synchronized, either via dedicated interfaces or generic Excel sheets. Configurations that have been created for the PLC can automatically be re-used e.g. for the configuration of drives or operator panels.

Engineering efforts can be reduced further by using easy-to-use libraries e.g. for wind, water, solar, drives, motion, robotics, safety and building automation applications. And in case building blocks are missing for your automation solution simply create them yourself. Project scripting allows you to automate the creation of any part of your configuration or application.

Automation Builder

Integrated engineering suite

Minimized efforts for project code and data administration

Configure and program all devices of your automation solution in one single project. This makes it easy to share your solutions with others. For more advanced usage the integrated version control system supports further scenarios like multi-user engineering or product line management.

Managing the life-cycle of your automation solutions is also easy. The annual Automation Builder release also supplies you with the latest versions of device firmware. The decision, whether to use the latest firmware with the latest feature set or to keep the current firmware with the current feature set can be made for each project and independent of the installed Automation Builder version.

Speeding up during commissioning and maintenance

Whenever there is an issue in the automation system, it is required to quickly and efficiently fix it. Automation Builder supports this by a generic three-step approach:

- General diagnosis provides a traffic light view on devices and (sub)systems.
- Detailed diagnosis provides detailed information e.g. about the source and the type of the issue.
- Extended diagnosis is available for some sub-systems such as fieldbuses and offers advanced commissioning functions such as comparing connected vs. configured devices or manual control of bus states.

The diagnosis information is accessible not only via Automation Builder, but also via the AC500 display, the PLC application or operator panels.

Easily create a connected world

To achieve advanced connectivity, the ABB zenon software has been added to Automation Builder. The advantage of the ABB zenon software is that it provides high quality documentation for easy traceability and high transparency of automation system states as required in machine building or in infrastructure projects. It incorporates an energy data management system and comprehensive security features to unlock the potential of the Internet of Things.

Virtual commissioning – a game changer in engineering

Simulate and automate all kinds of applications with minimum effort. Test the complete system seamlessly before involving real hardware. Even complex systems can be built up efficiently, ensuring smooth interaction of all components and operator training at an early stage.

Download Automation Builder from

www.abb.com/automationbuilder

Familiarize yourself with Automation Builder using the 30-day test license.

Automation Builder

Productivity features

Object-oriented programming of AC500 V3 CPUs

All essential features of standard object-oriented programming are included in Automation Builder's object-oriented programming:

- Better structured program code with “separation of concerns” and information hiding
- Flexible extensibility by new types of objects (e.g. software representations of new types of drives)
- Reuse of code for defining specialized sub-classes (inheritance), reuse of code operating on different implementations of an interface (polymorphism)
- New optimized editors for IEC programming languages
- Continuous Function Chart (CFC) with auto routing of connections between POU's, unrestricted definition and display of the execution order
- Structured Text (ST) with Support for quick editing with common help, such as grouping, collapsible tree structure, and indented brackets

HMI integration

Synchronization of connection settings and access to tags on the AC500 PLC.

Drive integration

Seamless integration of ABB Drives connected to AC500 PLCs:

- Common configuration of cyclic data exchange
- Access to the drive via the AC500 PLC - no need for point-to-point connections
- Upload, download and offline editing of drive parameters

Integrated configuration of AC500 software features

All required AC500 software features can be selected and configured by Automation Builder, e.g.

- KNX gateway for connecting to building automation devices
- IEC 60870 protocol for data exchange with substations
- Time synchronization via SNTP
- Shared variables with other AC500 PLCs

Professional version control – management of the application project

Professional Version Control is an integrated link to the version control system Subversion (SVN). End users can use this tool to manage independently both the complete IEC 61131-3 project version, as well as the individual application objects. End users benefit from automated management of the source code when developing a project in various teams or over a long period of time.



Automation Builder

AC500 libraries and software

A good investment for system integrators and end-users, AC500 libraries and software improve stability while reducing warranty costs and service. Library and software packages contain functions or protocols and easy-to-use examples for minimal programming effort and quick implementation of complex and demanding applications.





AC500 libraries and software deliver the seamless integration of PLCs, drives and HMI required to build and commission automation solutions quickly and easily. AC500 libraries and software by ABB are maintained to ensure that your programs can also be used with less risk.

Solar library

Library package for solar trackers increasing energy efficiency, providing quick commissioning and excellent positioning accuracy.

Water library

Library package with energy efficiency functionalities offering quick commissioning of water applications, such as pump stations with remote communication.

Temperature control library

Library package for the advanced PID temperature control of demanding applications, for example extrusion.

HA-CS31 library

Library package adds high availability system functionality for redundant hot standby over serial CS-31 bus.

Drive integration library

Library package for the quick integration of ABB ACS drives using different fieldbusses.

Motion control library

Library package for decentral, central and coordinated motion according to the PLCopen standard.

BACnet library

Library package adds BACnet-ASC Device Profile for communication to BMS Building Management Systems in larger infrastructure projects.

HA-Modbus TCP library

Library package adds High Availability System functionality for redundant hot standby over Ethernet field network via Modbus TCP.

KNX protocol

Engineering and protocol package which seamlessly integrates ETS and Automation Builder.

61850 protocol

Adds engineering tool and library for 61850 Ed.1 MMS Server and GOOSE publish and subscribe functionalities.

Automation Builder

Virtual Commissioning Platform – virtual system testing

Automation Builder 2.0 introduces virtual system testing which allows machine builders and system integrators to simulate and automate all kinds of applications with minimum effort. This gives seamless testing of the complete system at an early stage, even when all the necessary hardware is not yet ready. Even complex systems can be built up quickly and efficiently, ensuring smooth interaction of all the components.

Virtual Commissioning Technology builds on ABB’s proven engineering tools RobotStudio and Automation Builder as basis for simulation. It lets you build simulation models from virtual devices and manage the virtual time and signal exchange between the virtual devices.

Virtual devices emulate real hardware. They function as real hardware, provide signals (onboard, local, fieldbus/remote IOs) and variables. Virtual time lets you control the execution of the simulation. Speed up, slow down or freeze the execution for testing and debugging.

Additional components can be included to these models. This allows to simulate the real system including physical inputs or actuators. The flexible architecture of the Virtual Commissioning Technology allows to extend your simulation to more advanced aspects, e.g. the dynamic system behavior.



Automation Builder

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www.abb.com/automationbuilder

Automation Builder Editions

For	Description	Type	Order code	Price
Free 61131-3 engineering for simple PLC solutions	Automation Builder 2.x Basic (1)	-	-	FREE
Integrated Engineering for PLC, drives, motion, SCADA, panels	Automation Builder 2.x Standard (2)	DM200-TOOL	1SAS010000R0102	
	Automation Builder 2.x Standard Upgrade (2)(3)	DM201-TOOL-UPGR	1SAS010001R0102	
	Automation Builder 2.x Standard Network (5)	DM204-TOOL-NW	1SAS010004R0102	
Integrated Engineering for PLC, drives, motion, SCADA, panels and features for engineering productivity and collaboration	Automation Builder 2.x Premium (5)	DM202-PREM	1SAS010002R0102	
	Automation Builder 2.x Premium Upgrade (4)(5)	DM203-PREM-UPGR	1SAS010003R0102	

Automation Builder add-ons

Functional safety engineering	AC500-S Safety PLC programming	DM220-FSE (2)	1SAS010020R0102
		DM221-FSE-NW (5)	1SAS010021R0102
Virtual system testing based on Virtual commissioning technology	Virtual Commissioning Platform for Automation Builder 2.x (7)(8)	DM250-VCP (2)	1SAS010050R0102
		DM251-VCP-NW (5)	1SAS010051R0102
Collaborative engineering support	Professional Version Control with Subversion for Automation Builder 2.x	DM207-PVC (2)	1SAS010007R0102
		DM214-PVC-NW (5)	1SAS010014R0102

Accessories

Automation Builder licensing based on a USB Key	USB Key for Automation Builder without license (6)	DM-KEY	1SAP193600R0001
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All Automation Builder PC software licenses can be installed either on engineering PCs or on USB dongles. Network licenses can also be installed on a license server. The licenses can be transferred between computers or dongles unlimited times. Borrowing of network licenses is available on request.

(1) Free license

(2) Single user license - bound to PC or DM-KEY (USB Key)

(3) Purchase this option to upgrade Automation Builder 1.x Standard to Automation Builder 2.x Standard

(4) Purchase this option to upgrade Automation Builder 1.x Premium to Automation Builder 2.x Premium. Edition upgrade licenses from Automation Builder 2.x Standard to Automation Builder 2.x Premium are available on demand.

(5) Network license for shared usage within a local area network. Per license one user can use the license at the same time.

(6) Does not contain license. Automation Builder license must be purchased separately. Can carry an arbitrary number of licenses.

(7) Enables virtual Drives (ACS380, ACS580, ACS880) and virtual PLCs (AC500 V2, AC500 V3)

(8) Expert function - only available on request

AC500 Library Licenses

For	Description	Type	Order code	Price
all AC500 V2 CPUs	Solar library	PS562-SOLAR	1SAP195000R0101	
all AC500 V2 CPUs	Water library	PS563-WATER	1SAS030000R0101	
all AC500 V2 CPUs	Motion Control library, Extended	PS552-MC-E	1SAP192100R0102	
all AC500 V2 CPUs	Temperature control library	PS564-TEMPCTRL	1SAS030010R0101	
all AC500 V2 CPUs	BACnet library B-ASC profile	PS565-BACnet-ASC	1SAP195500R0101	

Delivery includes a single user license, which can be used for creating applications for an unlimited number of CPUs. All library licenses can be installed on engineering PCs, on USB dongles or on a license server. The licenses can be transferred between computers or dongles unlimited times. Borrowing of network licenses is available on request.

AC500 Runtime Licenses

For	Description	Type	Order code	Price
All AC500 CPUs	Modbus TCP HA runtime license	PS5601-HA-MTCP	1SAP195400R0101	
All AC500 V3 CPUs	IEC 61850 protocol runtime license	PS5602-61850	1SAP195600R0101	
All AC500 V3 CPUs	KNX IP protocol runtime license	PS5604-KNX	1SAP195800R0101	

For using runtime licensed features one license per CPU is required. The license has to be installed on the AC500 V3 CPU either by connecting it to Automation Builder or via SD card that has been prepared by Automation Builder for license activation.

The licenses can be transferred between AC500 V3 CPUs unlimited times.



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