



Compact Product Suite

Control products for process automation

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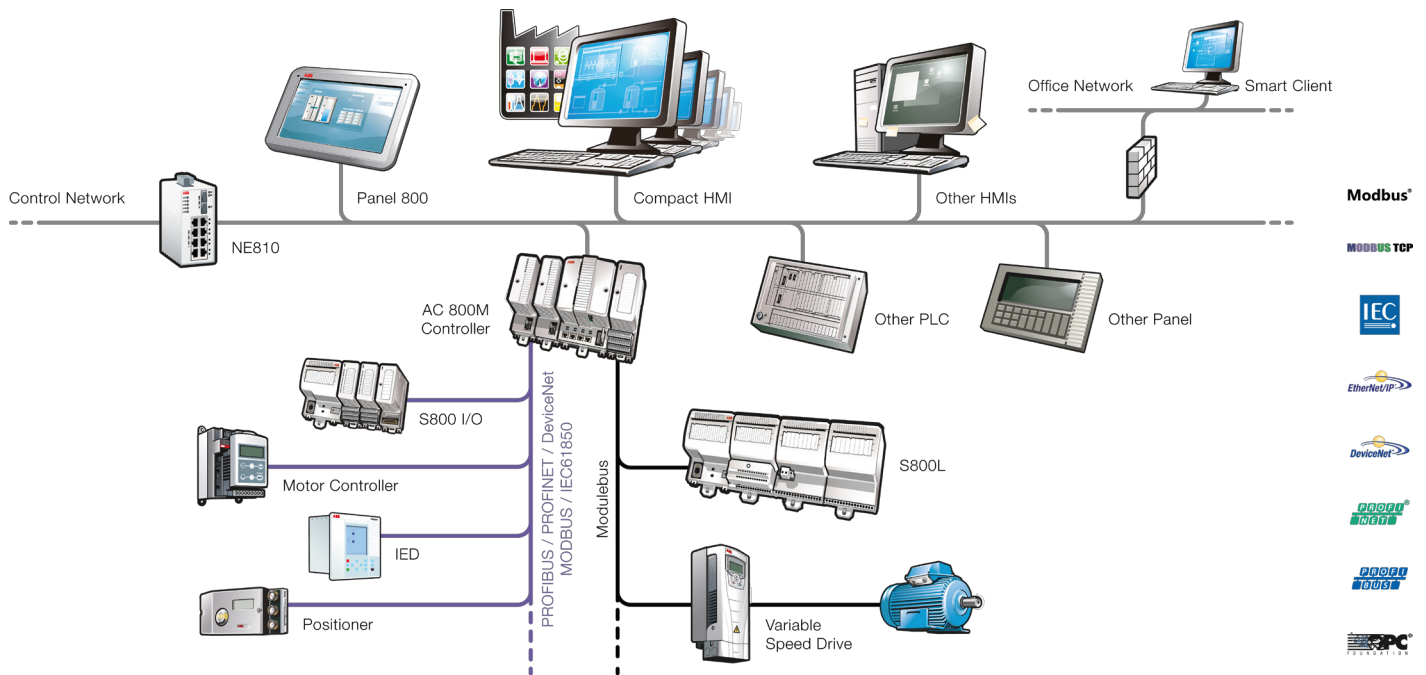
Soluciones en Instrumentación,
Automatización y Control Industrial

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ABB

Compact Product Suite

Intuitive automation products for the process industry



The Compact Product Suite is a comprehensive family of process automation and control products for your system integration and OEM business. It is the keystone to any automation task in the process industry where engineering efficiency matters.

These products can be combined as a tailored solution or, as standalones to complement an existing solution. However you use them, they will ensure high availability and enable increased productivity.

The Compact Product Suite is a set of automation building blocks that help you achieve the quality and productivity your production site deserves. It helps you focus on the missing block/component to add value to the production facility.

Whether it's process controllers, field interfaces or HMIs, our comprehensive suite of products enables automation with seamless perfection. When it comes to finding the best solution for your process, ABB's Compact Product Suite is your answer.

Every product in the Compact Product Suite portfolio provides the highest level of performance, security, connectivity and reliability in its class. This is the result of ABB's 50 plus years of proven expertise in automation control and technologies in the process Industry. From the process field, to panels, to your central operator room, Compact Product Suite will fulfill all your automation needs.

Essentials of automation

Scale up, scale out or scale within your existing resource with Compact Product Suite

This suite gives you the components to design and implement tailored, customer-specific and cost-effective control solutions that increase productivity, maximize availability, improve efficiency and drive profitability. Explore the infinite possibilities and benefits that Compact Product Suite can provide.



Compact HMI

Compact HMI is an easy-to-use and fully equipped PC-based SCADA system software for real-time operation of your plant. It offers the latest ergonomic design based on high performance graphics to take full control of your process and data.

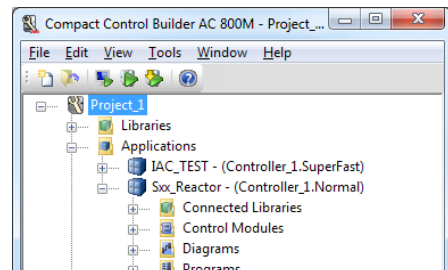
Panel 800

A wide range of user-friendly, intuitive and ergonomic operator panels for process automation systems gives you the right information at the right time, in the right place. They come in many versions such as: Standard, High performance, Black marine and Rugged panels to suit your needs.



Compact Control Builder

The Compact Control Builder is a powerful tool for creating control solutions and reusable control libraries for the AC 800M controller. It offers a choice of six programming “languages” to suit the tasks at hand: Instruction List, Structured Text, Function Block Diagram, Sequential Function Chart, Ladder Diagram, and Control Modules.



AC 800M & S800 I/O

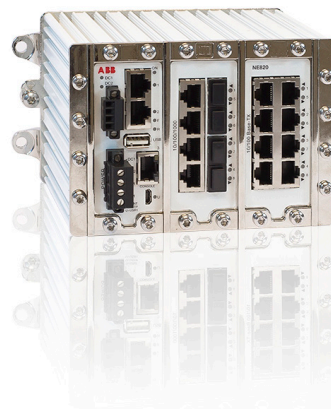
The AC 800M is a Programmable Application Controller, designed to achieve high availability for control applications in the process industry. The controller communication by means of Ethernet includes on board RNRP redundancy along with a broad set of communication modules to connect to third-party devices.



The S800 I/O is a distributed, highly modularized and flexible I/O system with an efficient design, providing easy installation of the I/O modules, process cabling and connection to drives systems. It provides high precision and comfort for process automation tasks.

NE800

NE800 provide pre-configured network components including RNRP industrial routers/ firewalls that are tested with System 800xA and Compact Products Suite to ensure top quality performance and provide protection against cyber threats in your systems.



Compact HMI

A feature-rich human-machine interface



Compact HMI is an easy-to-use and fully equipped PC-based SCADA system for real-time operation of your plant. It offers the latest ergonomic design based on high performance graphics to take full control of your process and data.

Based on the premium technology of ABB's System 800xA DCS with its leading object oriented engineering platform, it can be used in a variety of diverse industries, ranging from a single operator workstation, 50 signals and scale up to applications with several thousand signals and workplaces.

Designed with Microsoft Windows® standard of interaction, Compact HMI supports Windows 8.1 and Windows Server 2012 R2. This provides exceptional ease of use, unmatched performance and cost savings.

Another feature is the high performance pre-fabricated, re-usable graphics library that is based on the industry best-practice principles to help quick creation and utilization of graphic displays.

Not only can Compact HMI directly interface to a large number of OPC-compliant controllers but also it comes with built in drivers to connect to major PLCs.

Easy and integrated engineering

- Simplified “One-button” installation routine
- Ready to use templates and libraries for efficient engineering
- Bulk Data tool for configuring data with minimal engineering
- Instant access to process information in one environment

Open yet secure platform

- Connectivity through OPC (DA, HDA, AE)
- OLEDB to connect to databases
- Direct link to Comli, SattBus, Modbus Serial and Modbus TCP
- Option to connect Smart Client desktops for office environment
- Enhanced security based on MS security system

Object oriented

- Based on System 800xA Aspect Object technology
- Object-based Engineering for best re-usability

State-of-the-arts graphics

- User friendly and intuitive engineering tool
- High-performance graphics library for situation awareness
- Embedded CAD Viewer for object centric CAD drawings

Flexible alarm management

- Alarm shelving and alarm analysis for convenient alarm monitor and analysis
- Tab navigation for alarm status for increased usability

Compact HMI

Version 6.0.1 specification



HMI Server

Supported Configurations

1 Server Workplace Operation and Engineering

Integrated Smart Client Server

Server Workplace Size Option Pack

50 Signals (20 Tags)

500 Signals (200 Tags)

2500 Signals (1000 Tags)

HMI Client

Client workplace sizes

≤ 200 Signals

≤ 500 Signals

≤ 1000 Signals

≤ 2500 Signals

≤ 5000 Signals

≤ 10 000 Signals

Smart Client Configuration

1-10 Smart Client Workplaces or Remote Workplaces

Hardware requirements

Recommended performance and capacity of the PCs for different node types can be found in the Third Party HW Products Verified for Industrial IT System 800xA: <http://new.abb.com/control-systems/system-800xa/800xa-dcs/system/certified-3rd-party-products>

Panel 800 overview

Standard panels



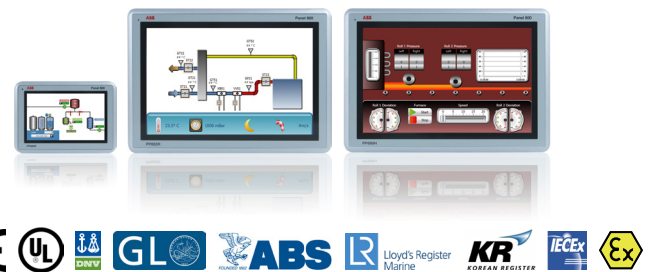
High performance panels



Black panels



Rugged panels



A wide range of user-friendly, intuitive and ergonomic operator panels for process automation systems gives you the right information at the right time, in the right place.

Panel 800 family comprises of user-friendly, intuitive and ergonomic operator panels that combine slim, space-saving dimensions with a comprehensive range of advanced functions.

Adding to the already well established feature rich version 6.0. our new Rugged and Black panels are designed to perform in challenging harsh environments. Whether it is heavy outdoor use, usage in areas with explosion risk, or ship bridge use in marine applications, they are ready to provide you with the information needed.

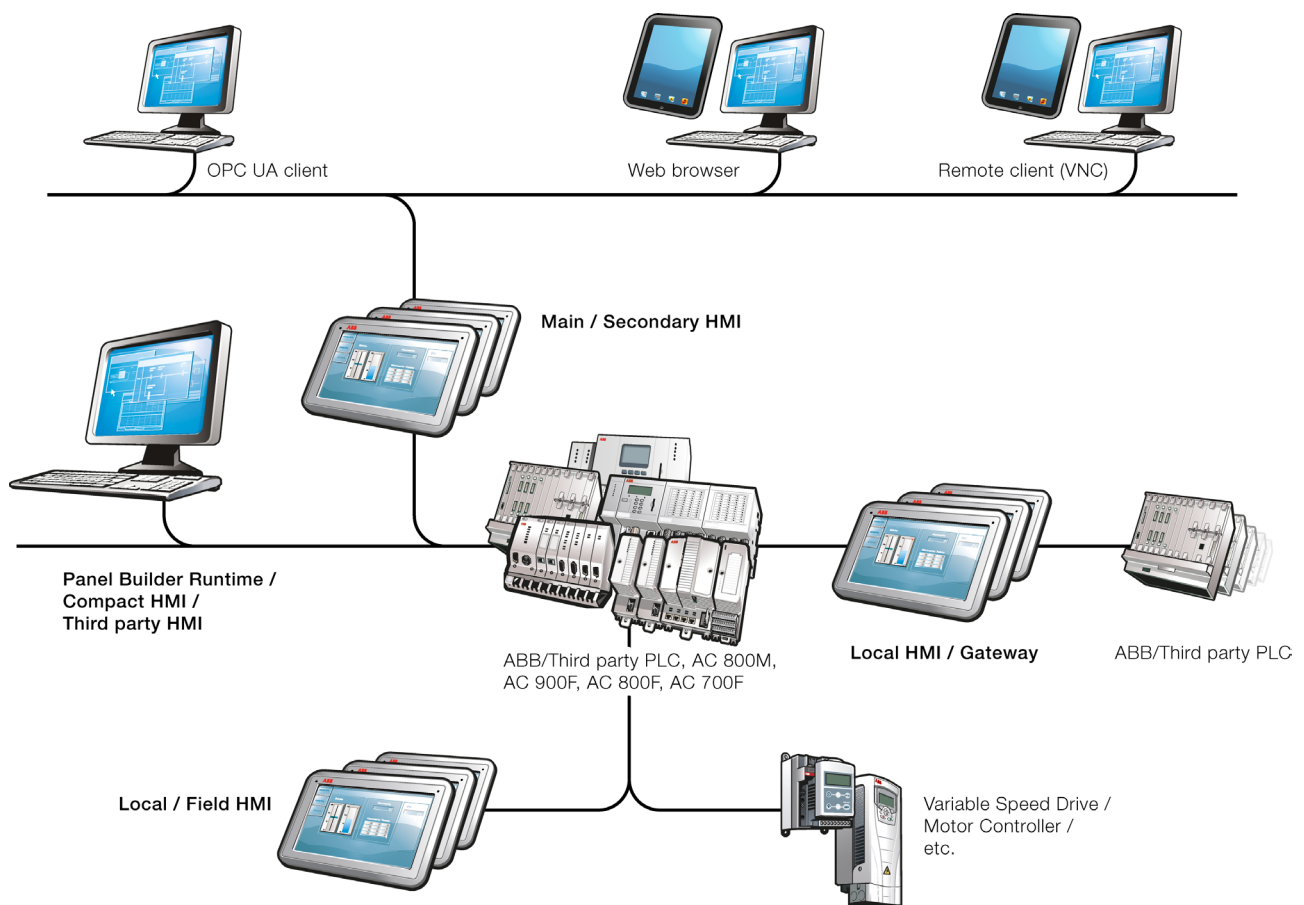
Designed to make process automation easy, all panels are equipped with advanced functionality for process and equipment control, maneuvered either by function keys located next to the screen or by touching the LCD display. Combined with market-leading performance and stunning graphical ability, Panel 800 erodes the line between ordinary Operator Panels and PC-based HMIs.

Panels are configured using ABB's Panel Builder tool that contains a wide range of advanced functions. The functions are tested and developed with customer needs and preferences in focus.

Key benefits

- **Easy to use**
A fully deployable HMI with comprehensive and integrated templates and libraries for every conceivable process. The Panel Builder tool, with familiar Microsoft® Windows® environment along with multiple language support results in remarkably quick, easy and efficient engineering.
- **State-of-the-arts graphics**
Vector-based, high-resolution graphics in TFL/LED display, with icon-based interface, navigation and control.
- **Robust and reliable**
Panel 800 is constructed in a strong yet lightweight diecast, powder-coated aluminum housing. IP65/IP66 front casing withstands wet, dusty and demanding environments. Operating temperatures ranging between -30 °C to 70 °C with maximum 85% humidity.
- **Truly open platform**
Built on open architecture and technologies that accompany the .NET framework, these panels are capable of multi-brand controller connectivity. A multitude of connection options are available for local communication, expansion, remote access and more.
- **Try your application before you use it**
Nice possibility to simulate and run the application directly from the Panel Builder 800 before you use it.

Various Panel 800 use cases



Example of Panel 800 use cases in various setups

Panel 800 as main / secondary HMI

The Panel 800 range is the perfect fit to act as the main HMI for smaller automation systems, or as a secondary complimentary HMI for mid-sized or larger systems.

A standard panel is suitable to handle process information from up to 1000 signals. High performance panels can handle up to 2000 signals.

Panel 800 runtime

Using Panel 800 Runtime and dedicated license dongles, Panel 800 applications can be run on normal Windows PC. This enables engineering efficient reuse of the panels applications in situations when a PC based HMI is required in addition to process panels.

Since Panel 800 Runtime can be used to visualize data from up to 4000 signals, it is also suitable for mid-sized SCADA applications even when process panels are not needed.

Panel 800 as Gateway

Many process sites has multiple brands of PLCs, and often these PLCs need to be able to share data and communicate with each other. Thanks due to the wide range of supported communication protocols, Panel 800 can act as gateways between PLCs from different vendors.

Panel 800 as local / field HMI

Panel 800 are industrial grade process panels and are well suited to be located in the field.

Using the extra rugged panels the HMI can be brought even closer to the process.

Compact Control Builder

Compact Control Builder

The Compact Control Builder, is a powerful tool for creating control solutions and reusable control libraries for the AC 800M Process PLC. It is all done in a Windowsbased environment, offering a wide range of control functionality for ABB's industrial Process PLC, AC 800M. From binary logic to advanced regulatory control, from discrete process signals to high-level process objects. In any choice of no less than six programming "languages", whichever are the most suitable for the tasks at hand. These are : Instruction List¹, Structured Text¹, Function Block Diagram¹, Sequential Function Chart¹, Ladder Diagram¹, and Control Modules, the latter being ABB's own contribution to higher application engineering efficiency and ease of use.

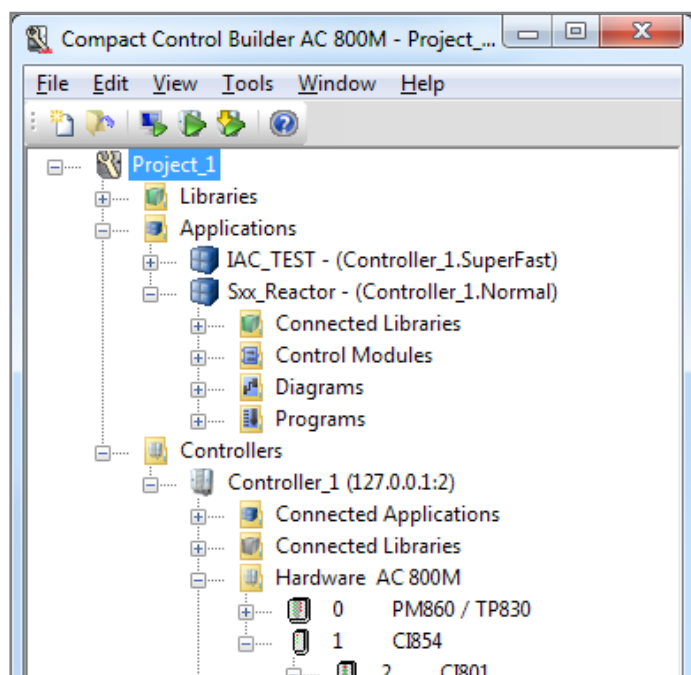
Control Diagram Editor

Control Diagram Editor in the next generation editor which increase engineering efficiency, reduce engineering mistakes, and enable the creation of logic which is easy to read and maintain. By allowing the user to combine Structured Text, Function Blocks, Functions, Sequential Function Charts and ABB's Control Modules into the same block-based editor, the benefits of each language can be combined. Control modules in combination with Control Diagram Editor supports forward and feedback signals in one and the same variable. The result is powerful and easy to read control logic.

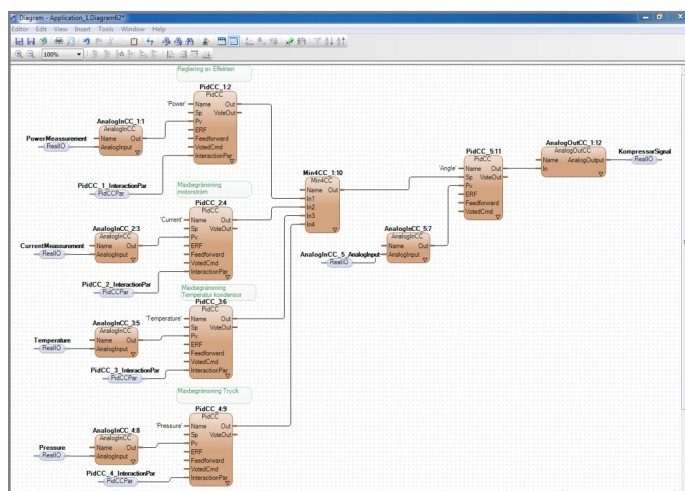
Footnote 1: According to the IEC 61131-3 standard.

Features and Benefits

- Promotes re-use of code by means of user-defined libraries of data- and function-block types
- Intuitive, graphical navigation by a Windows Explorer-like Project Explorer
- Libraries of ready-for-use functions for efficient programming
- Supplements the five standard languages with Control Modules for high-level configuration of control applications graphically
- Supports all the five IEC 61131-3 programming languages in a single integrated environment
- Supports multitasking, multicontroller and multi-user application development
- Offers powerful simulation and on-line facilities for testing and troubleshooting
- Alarm and Event handling
- Sequence of events
- Extensive on-line help



CCB



CDE

AC 800M - scalable process PLC with choice of speed, memory and availability

Challenging business goals require a flexible and powerful process PLC. Compact 800 is a range of simple and cost-effective control products that fulfill such a need. Working individually or in combination, they help you control a broad spectrum of industrial processing applications. AC 800M Process PLC is a key component of the Compact Product Suite family.

AC 800M is a modular process PLC with a rich set of communication functions as well as full redundancy and support for a large range of I/O systems. When configured with Compact Control Builder software, AC 800M is open to participate in any kind of control solution. Re-use of code and libraries of ready-to-use functions also promotes an efficient configuration and setup.

The AC 800M family is based on rail-mounted modules and comprises the CPUs plus communication modules, power supply modules and a series of accessories.

Memory card and storage of data

A flash card can be used as a removable storage of applications and data. Flexible, cost-effective control solutions that are easy to implement and change are the hallmark of Compact Product Suite. Like other products in this range, the AC 800M Process PLC is built with openness in mind. Individually or in combination with other products on the market, it creates reliable control solutions that are easy to afford and manage. Its rich set of functions help improve production control, maximize availability and minimize maintenance.

Features and benefits

- Full modularity and flexibility for all environments. Many options make AC 800M exceptionally open. Its flexibility comes into its own when control applications change, expand or contract.
- Scalable design for easy expansion. Simple to set up and easy to expand, AC 800M scales up as your control needs grow. Just add the extra modules your application requires.
- Powerful control solutions and reusable libraries. Compact Control Builder software offers a wide range of powerful control solutions for the AC 800M Process PLCs. Code re-use and libraries of ready-to-use functions promote efficient configuration.
- Fault tolerance gives maximum availability. Robust design and redundancy options in all critical areas of the controller and its components eliminates single-point failures and secures maximum availability.



AC 800M process PLC



High Performance AC 800M Process PLC, PM891

S800 I/O meet all automation needs



S800 I/O is an open comprehensive, distributed, process I/O system that communicates with controllers by direct connection or over industry-standard field buses. Thanks to its open connectivity it fits a wide range of process controllers from ABB and others. And it bears the name ABB, the world leader in process automation.

By permitting installation in the field, close to sensors and actuators, S800 I/O reduces the installation cost by reducing the cost of cabling. And thanks to benefits such as:

- Flexibility, permitting a virtually infinite number of installation arrangements, small or large, indoors or outdoors, wall mounting or floor standing,
- Modularity, permitting step-by-step expansion without bottlenecks ever developing,
- Cost-effectiveness, making for savings on hardware, cabling, installation and maintenance,
- Reliability thanks to features such as autodiagnosics and redundancy with bumpless, automatic, change-over, it helps industrial operators get a tighter grip on production and thereby improve profitability.

Features and Benefits

- Comprehensive: S800 I/O offers cost-effective solutions to practically all needs for field-device interfacing, including basic analog and digital I/O, as well as intrinsic-safety and high-integrity solutions.
- Structurally flexible: S800 I/O is highly modular and offers a number of ways in which the modules can be interconnected. Consequently, S800 I/O networks can be built in a near-infinite number of ways, from highly centralized to highly distributed.
- Supports industry-standard field bus PROFIBUS DP which makes S800 I/O compatible also with non-ABB controllers.
- S800 I/O supports also ABB's Advant Fieldbus 100.
- Easy to configure: S800 I/O devices are configured transparently as part of their parent controllers, like local I/O. No additional knowledge or skills are required.
- Reliable: Comprehensive diagnostics, hot swapping of modules and redundancy solutions are available, ensuring that both the I/O system and the production plant will stay up.

Lifecycle services

Life Cycle Policy

We want to maximize the useable life of our customers' system investment and provide our customers with the confidence that there is a well-defined support for, and a path forward for existing ABB systems.

ABB has defined a product support life cycle policy for its process automation control systems and products to help our customers' predict support for their automation assets. This policy then forms the basic lifecycle management foundation for ABB's Automation Sentinel Program, our unique control system lifecycle management program. ABB's control systems are designed for continuous evolution. It is ABB's goal to protect our customers' intellectual investment (i.e. application software) beyond the life cycles of the underlying platform products (i.e. hardware and software).

ABB will not "Remove from Active Sale" any product or "family" of products until an equivalent replacement to those products is available. Once a product has been removed from active sale, ABB will continue to support the product for at least 10 years, although exceptions to this may occur if components or technologies needed are no longer available to ABB.

Within this support period ABB will announce a "Last Buy" opportunity at least 12 months prior to the end of manufacturing (except in cases where there is a direct form, fit and function replacement). It is ABB's intention to provide support for as long as there are significant customer needs after the "Manufacturing End" through field service, repair and by making replacement spares (new or refurbished modules) available.

Details about ABB's Lifecycle Policy for distributed control systems can be found here: <http://new.abb.com/control-systems/service/lifecycle-policy>



License management

Compact Product Suite is covered by a software license concept. All software is available for installation, but functions and features as well as size parameters are enabled via licenses. The license file, which matches the capabilities that have been purchased, is downloaded from an ABB server and installed in the system.

It is ABB's desire that licensing shall never prevent plant operation. Hence, enforcement is normally not explicit, i.e. it is possible to provisionally override the current licenses to overcome a problem without contacting ABB, and correct the actual license match later. In addition, enforcement is 'soft' in the sense that license violation messages are issued instead of shutting down or disabling the start of functions not covered by an appropriate license.

Automation Sentinel

Automation Sentinel is ABB's control system lifecycle management and support program that assists system owners to actively manage their control system lifecycle, support and maintenance. This program allows users to take advantage of the continuous enhancements that ABB makes to system software products. Under this program, users are offered support for their existing software, along with an evolution path to the latest system software and hardware. The program covers not only Compact Product Suite software for PCs, but also the firmware code.

The Automation Sentinel Program offers a range of services to support and extend the life and reliability of your ABB control systems. It offers four levels of support to choose from:

- **Maintain Basic.** Set of lifecycle support basic services focusing on the control system security and web access to timely and relevant information via My Control System.
- **Maintain.** As above plus access to support and corrections of the present software version.
- **Maintain Plus.** As above plus access to newer versions of the same product.
- **Maintain & Evolve.** As above with the added possibility to evolve installations with previous generation systems to System 800xA.

Read more about our Automation Sentinel Program and its many valuable services here: <http://new.abb.com/control-systems/service/offerings/service-agreements>

Please contact your local sales representative for detailed information on the program and on how to order Automation Sentinel subscriptions.

Contact us

www.abb.com/compactproductsuite
www.abb.com/controlsystems

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