



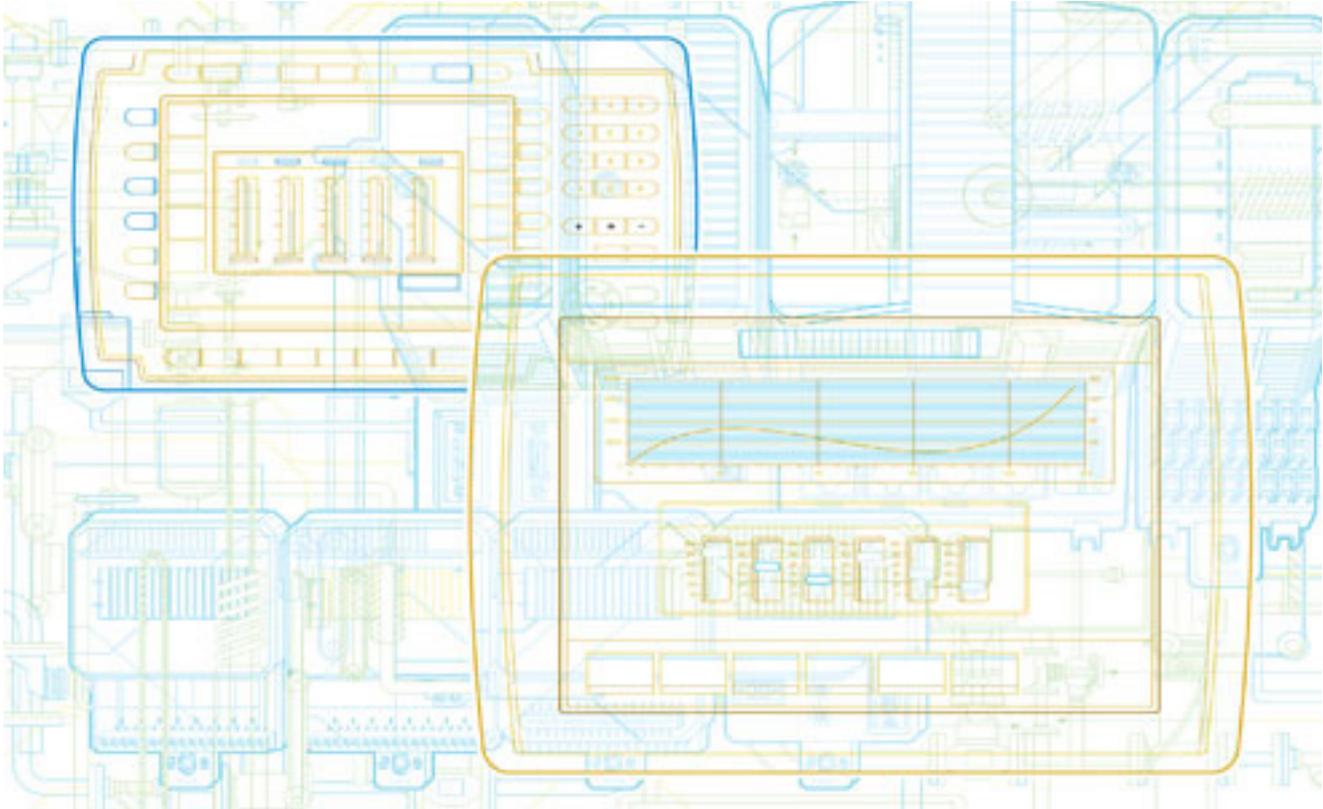
# Compact Product Suite Control products for process automation

Power and productivity  
for a better world™



# Compact Product Suite

## Intuitive automation products for the process industry



The Compact Product Suite is a comprehensive family of automation and control products for your system integration and OEM business. It is the keystone to any automation task in the process industry where engineers like to build their own solutions.

These products can be combined as a tailored solution or, as standalones to complement an existing solution. However you use them, ABB will ensure that you receive maximum benefit.

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 cell or simply get it going.

Whether it's process controllers, recorders, field interfaces, HMI's or safety controllers, 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 support 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.

### Essential Controllers Suite

- AC 800M and Compact Control Builder
- AC 700F and Control Builder F
- AC500 Programmable Logic Controller
- ControlMaster Panel-Mount Single-Loop Controller Series (CM10, CM30 and CM50)

### Essential Connect Suite

- S800 I/O Family
- S800L I/O Family
- S700 I/O Family
- S500 I/O Family
- S900 I/O Family

### Essential HSI Suite

- Compact HMI PC-based SCADA
- Panel 800 Panel-based HMI
- ControlMaster CM15 Panel-Mount Indicator

### Essential Recorders Suite

- ScreenMaster SM500F, RVG200 and SM3000 paperless recorders
- Commander C1300, C1900-R, C1900-RC, C1901, C1950 and C1960 Circular Chart Recorder Series
- Commander SR100-A and SR100-B Strip Chart Recorders

### Essential Safety Suite

- AC 800M High Integrity Controller
- S800 High Integrity I/O Family
- Control Builder Safe



# Essential Controllers Suite

## AC 800M, AC 700F, AC500 and ControlMaster CM10, CM30 and CM50

### AC 800M



### AC 800M

The AC 800M is a Programmable Application Controller, designed to achieve high availability for control applications in the process industry. The rich function block library includes several types of control loops, including advanced control and auto-tune capabilities as well as integration for ABB drives and motors. 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. A superior redundancy concept allows for fast switch-over times and topologically separated CPU-modules. Several CPU modules are available, varying in terms of processing power, memory size and redundancy support. Priority controlled, time-based tasks allow the highest stability in even complex control tasks.

Supporting standard IEC 61131-3 programming languages, Compact Control Builder is the tool for engineering the control code and the hardware layout of AC 800M. It creates logic, sequential and analog control-intensive automation solutions for all existing controllers in the automation system to be handled in one database. The flash memory card allows loading applications without the need to utilize the engineering tool to support OEM and remote solutions.

### AC 700F



### AC 700F

Although it comes in a PLC shape, the AC 700F controller has the true DCS background of ABB's Freelance process control system. Its small footprint allows it to be used in smallest housings of your skid or OEM solution. It can easily connect to other controllers to build an integrated system. This makes it perfect when it comes to a modular concept, where one or several of the same skids are used in one application. The high signal density of S700 I/O gives an excellent value for money and space used. The S700 I/O modules can be directly plugged to the CPU module, with as many as eight direct modules connected to one controller. Serial and Profibus communication completes this controller. AC 700F also offers expanded flexibility via a pluggable SD card for controller backup, firmware updates and application download without engineering tool. Engineering with IEC61131-3 includes a broad process automation library plus the ability for user defined function blocks. In case operator stations are needed, an integrated Operation and Monitoring software called DigiVis can be utilized.

AC500



ControlMaster series



### AC500 Programmable Logic Controller

Sometimes the application requires open and close loop control for machines or smaller and remote units. The AC500 family delivers a universal controller in a small form factor with a broad range of communication means designed for the manufacturing environment. Along with the small form factor and the very versatile and cost efficient S500 I/O family, it offers different performance levels and is the ideal choice for high availability, extreme environments as well as safety solutions. The AC500Eco series offers the most cost efficient solution, whereas the AC500 S safety controller supports SIL3 Safety levels.

### ControlMaster Panel-Mount Single-Loop Controller: CM10, CM30 and CM50

This is a range of easy-to-use yet powerful universal process controllers. Each instrument provides a comprehensive display of process status using crystal clear, full color, TFT technology. The simple-to-use user interface delivers clear text prompts that make installation, commissioning and operation quick and easy. Suitable for basic through to demanding applications, its functionality includes cascade, feed forward, adaptive, predictive and ratio control strategies. The faceplate has IP66 and NEMA 4X environmental protection rating and communication options includes Ethernet, RS485, Modbus TCP/RTU and a web server for remote process monitoring.

# Essential Connect Suite

## S800, S800L, S700, S500 and S900 I/O Family

S800



S800

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. A tight integration into AC 800M and Freelance Engineering tool provide extra benefit to the user over standard Profibus I/O. Redundancy can be reached on all levels and the modules can easily be exchanged and reconfigured while under operation. S800 offers highest accuracy analog modules.

S800L



S800L

S800L I/O modules are both cost-effective and space-saving. They connect to any PLC or controller via Profibus. The S800L I/O is also fully integrated with the AC 800M advanced process controller. In addition, its modules can be freely combined with high-performance S800 I/O modules to bring advanced field interface functionality into any S800L configuration. Its cost-effective design at an installation depth of 59 mm makes it an economic and space saving choice for PLC applications in the process industry.

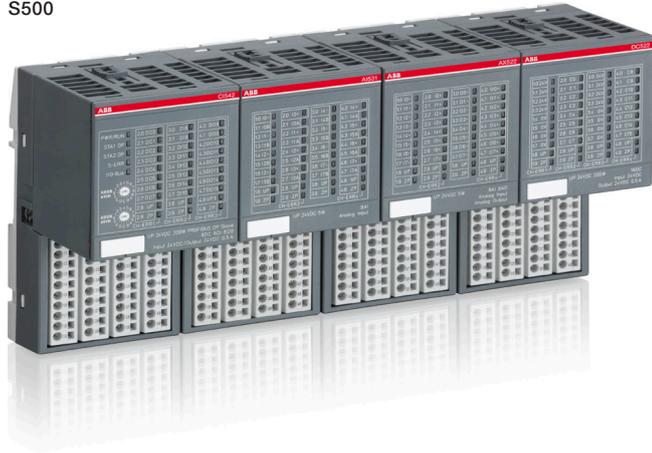
S700



S700

The S700 I/O is meant for applications where PLC I/Os have been traditionally used. The small footprint and flexible functionality per module allows cost-efficient automation solution. The AC 700F controller permits comfortable configuration and diagnostics in the Control Builder F engineering tool and in its DigiVis operator console. S700 I/O can be used as direct I/O together with the AC 700F controller, as well as remote I/O to any PLC with a Profibus master module. The equivalent S500 I/O Family provides even more communication means including Profinet functionality, but less integration into the controllers Engineering Tools and operator consoles.

S500



### S500

The high signal density of S500 I/O gives an excellent value for money and space used. The S500 I/O modules can be directly plugged to an AC500 CPU, with as many as ten direct modules connected to one controller. It is an ideal solution for System Integrators and OEMs in machine automation. Used as a remote IO, a field- bus-neutral communication is provided by the patented ABB Fieldbus Plug to connect to virtually any desired field bus. The compact size and the variety of modules with combined functionality means substantial space savings in the control panel and a cost efficient design.

S900



### S900

The S900 remote I/O system is designed for applications in the chemical, pharmaceutical and oil and gas industries. It can be mounted directly in process areas classified explosion hazard zone 1 (ATEX), significantly reducing installation costs. It communicates with controllers by means of redundant Profibus communication powered by a redundant power supply. Further savings can be achieved through S900's extended diagnostics and the use of HART®-compliant field devices. A field mounted IP66 variant with temperature range -20 to 60 °C is available.

# Essential HSI Suite

## Compact HMI, Panel 800 and ControlMaster CM15

### Compact HMI



### Compact HMI

This SCADA system lets you use the latest ergonomic design to take full control of your process. Based on the premium technology of ABB's System 800xA DCS it can economically scale from applications with just 50 signals and one operator workplace to applications with up to ten workplaces and 10,000 signals. Compact HMI runs on PCs with MS Windows® 7 or Windows® Server 2008/2008 R2 (32-bit and 64-bit versions). A High Performance Graphics library and options for alarm management, text messaging and read-only remote access via ABB's Smart Client technology complete the offering.

### Panel 800



### Panel 800 Version 6

Panel 800 Version 6 is a user-friendly, intuitive and ergonomic operator panel that combines slim, space-saving dimensions with a comprehensive range of advanced functions. Explore modern controlling using scroll and swipe gestures to make your application intuitive and more efficient to navigate. Also - save a lot of screen space while you're at it.

On top of the standard panels PP871, PP874 and PP877, Panel 800 has two high-performance panels: PP882 and PP885, offering more power, functionality and flexibility. The panel supports online language switch and includes simplified traditional Chinese. The communication includes protocol conversion and secure separation of Ethernet networks.

### CM15



### ControlMaster CM15

This panel-mount indicator is a feature-packed 1/8 DIN universal process indicator. A crystal-clear, full-color, TFT display shows operators exactly the information they need to know and provides operation and configuration menus in full text, making the CM15 intuitive to use and very quick to install and commission.

Available as a basic indication-only model, or enhanced through plug and play function keys and I/O modules, the CM15 offers totalization, level, math, logic, counter and alarm functions, making it extremely flexible and able to solve many tricky application requirements. Modbus and Ethernet communication options ensure easy integration and connectivity to supervisory or control systems.

# Essential Recorders Suite

## ScreenMaster Paperless Recorders and Commander Circular Chart Recorders

SM500F



### SM500F

The SM500F is probably the world's first field-mountable paperless data recorder. Featuring seven process inputs, seven recording channels and it is available with wall, panel and pipe mounting options. It's fully sealed IP66 and FNEMA 4X enclosure means it is ideal for use in even the most hostile environments, including hosedown and dusty applications.

RVG200



### RVG200

The RVG200 recorder takes the established operating and security benefits of the ScreenMaster range one step further. Features include touchscreen 'swipe' operation, front and rear USB ports for connecting peripheral devices, including a barcode scanner and keyboard, and Ethernet and RS485 communications.

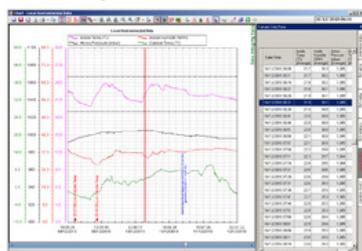
SM3000



### SM3000

Using the SM3000, up to 36 channels can be recorded, with data arranged in a variety of views to provide users with a tailored view of their process. Six process groups are provided, allowing channels to be grouped together and individual displays created for different processes.

DataManager Pro



### DataManager Pro

This PC-based analysis software provides the complete data collection, analysis and storage solution for data recorded by a ScreenMaster recorder. Via Ethernet communications, DataManager Pro can be integrated with any number of ScreenMaster recorders to create a fully automatic data gathering and storage system.

C1900



### Commander Circular Chart Recorders: C1300, C1900-R, C1900-RC, C1901, C1950 and C1960

With over 100 years experience in the industry ABB's circular chart recorder offering is world class. Our range is extremely easy to use, offers up to four pens, NEMA 4X and IP66 environmental protection, integrated PID control and data logging.

- C1901: Basic functionality single pen circular chart recorder
- C1900: 1 to 4 pen general purpose circular chart recorder with integrated PID control
- C1960: Circular chart recorder/controller for profile control applications
- C1900R: 1 to 4 pen general purpose circular chart recorder
- C1950: Circular chart recorder/controller for pasteurization applications
- C1300: 1 to 4 pen advanced circular chart recorder

# Essential Safety Suite

## AC 800M High Integrity Controller and S800 I/O High Integrity

AC 800M HI

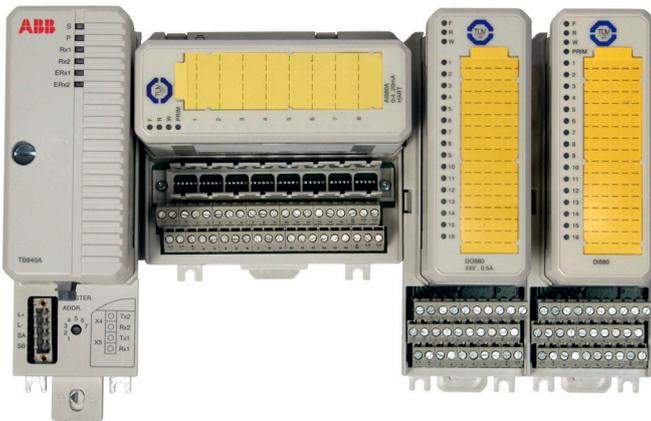


### AC 800M HI

The AC 800M HI offers a SIL3 TÜV certified control environment for combining safety and business critical process control in one controller without sacrificing safety integrity.

The AC 800M High Integrity controller is achieved by combining the processor module (PM865) with the safety module (SM811). When configured as a SIL1-2 system, the AC 800M HI is realized in a 1oo1D structure by combining application execution in the PM865 with diagnostic and monitoring functions in the SM811/SM810. As a SIL3 system, it is achieved in a 1oo2D structure in both PM865 and SM811.

S800 I/O High Integrity



### S800 I/O High Integrity

S800 I/O is a distributed, highly modularized and flexible I/O system, providing easy installation of I/O modules and process cabling. S800 I/O modules and its termination units can be mounted and combined in many different configurations to fit any space requirements or meet any application. A comprehensive assortment of I/O modules and accessories are available for safety critical and noncritical use.

Within the S800 I/O family, there are SIL3 compliant modules that can be used for safety and critical applications. AI880/AI880A, DI880 and DO880. These modules are supported by the AC800M High Integrity controller. The High Integrity I/O has to be used together with the High Integrity SIL certified controller and designed according to the applicable Functional Safety and Application specific standards. There are three modules that belong to the High Integrity I/O family that are certified for these standards.

The High Integrity System (controller and I/O) is certified in accordance with IEC 61508, EN ISO 13849 and EN 60204-1 among other Functional Safety and application related standards.

### Control Safe Engineering

Control Safe Engineering is a TÜV-certified engineering tool for the programming of SIL applications including certified libraries, IEC61131-3 programming languages, access and override (force) control and difference reports.

The object oriented engineering environment with SIL compliant function libraries efficiently supports the entire safety lifecycle. The engineering environment includes safeguards against non-SIL compliant configurations. The engineering system will automatically limit user configuration choices and will prevent download if SIL requirements are not met.

# Lifecycle services



## A comprehensive customer service is worth gold

Service means a profitable investment in continually maximizing and optimizing the availability, performance, quality and security of a plant. ABB and our authorized value providers support covers the following areas:

- Customer Support Services
- Training
- Spare Parts & Logistics, Repair Shops
- Process, Application & Consulting Services
- Service agreements
- Extensions, upgrades and retrofits

Through the resulting specialization of our employees, we guarantee maximum competence for each task we perform. Whether it's more traditional service support such as commissioning and maintenance or individual consulting services – the result is measurable customer benefits.

Our comprehensive Life Cycle Services enable us to increase the value of your plant over its entire lifetime. The conventional, reactive service can reduce production downtimes, while the use of new technologies offers an increased number of capabilities for preventive service measures to identify and avoid cost-intensive faults at an early stage. Proactive services such as asset management or ongoing modernization increase the value of our customers' plants and give them a distinct competitive edge.

## Life cycle management

We offer an unrivalled Life Cycle commitment to our customers: Our products are designed to last and to be taken to the next level when technology moves ahead. We will always thrive to offer you compatible, next-generation parts so that you can keep your control code without having to make major changes to it as you move to the next generation.

Moreover, ABB offers Automation Sentinel for selected software products, which is the essential life cycle management and support program for your control system from ABB. With this program, you can keep your control system up-to-date and maintain a flexible path to new technology. Automation Sentinel helps manage automation software assets with timely delivery of the latest releases, thus providing you with better productivity, lower support cost and simpler software management.

ABB's 'Evolution without obsolescence' policy provides for incremental, planned steps, adding new technologies or upgrading technologies in existing systems while protecting installed asset investments.

For more information about Automation Sentinel please refer to [Automation Sentinel Program - Lifecycle Management Program for Control Systems \(3BDD015294\)](#).

# Contact us

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