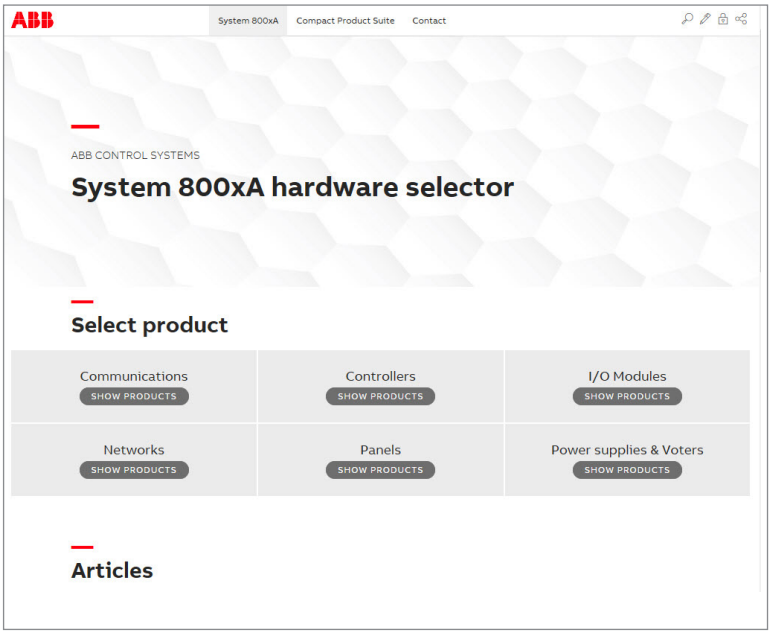
Extended Automation System 800xA

AC 800M Control and I/O seamlessly integrate traditionally isolated Process, Power and Safety devices and systems into the 800xA system environment, thereby extending the reach of the automation system to all plant areas. The result is a simplified, software representation of the plant, from simple on/off-type switches and valves to smart field devices, dedicated control subsystems, variable-speed drives, intelligent switchgear, protection relays (IED) and popular PC-based supervisory systems.

ABB's Aspect Object technology makes all information in plant devices available and presented in a consistent, ready-to-use manner at the controller, engineering, and process visualization levels. Process objects include familiar items such as motor and valve controls.

They can also include Operator interface objects, such as faceplates, trend displays, and other graphic elements, engineering objects and maintenance support objects. In this manner, AC 800M Control and I/O provide system applications with transparent, real-time access to all connected field devices, for everything from configuration and setup to production monitoring and maintenance.



Comprehensive maintenance features reduce downtime
AC 800M Control and I/O contribute to lower maintenance costs through a comprehensive set of self-diagnostics. All modules are equipped with front-panel LED displays that show faults and degraded performance.

Modules can report these errors to operators and maintenance personnel as alarm and event messages - and the system forwards them to key plant personnel by e-mail and/or SMS. For information on reporting features, see the 800xA Operations Overview document.

AC 800M Control and I/O can be fully integrated with the 800xA's Asset Optimization features to electronically submit fault reports to a computerized maintenance management system as a basis for work orders, thereby streamlining maintenance processes. For more information on 800xA Computerized Maintenance Management System (CMMS) integration features, please refer to the 800xA Asset Optimization Overview document.

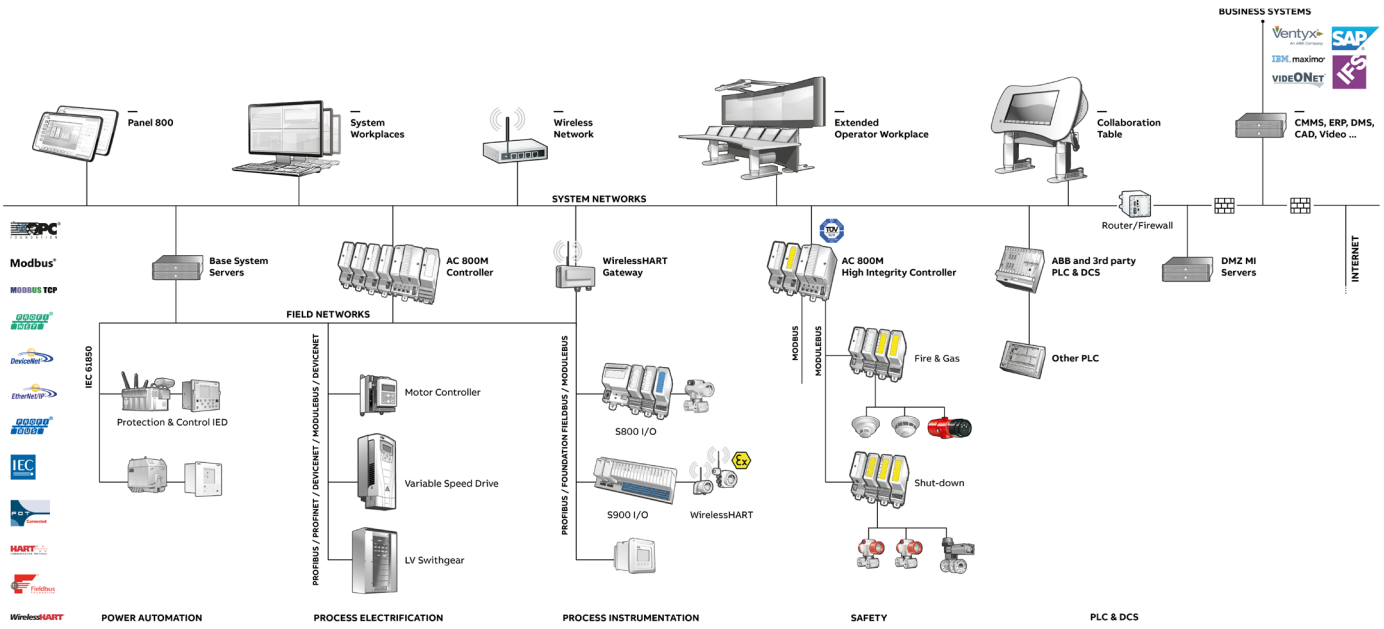
Modules can be replaced under power and are keyed to ensure replacement with the proper module types. The application and data can also be stored in Flash memory to secure its contents e.g. after a power failure or during replacement or transportation. AC 800M Control and I/O also support on-line upgrading of embedded firmware in CPUs and communication modules to avoid downtime.

More information - where to find
For updated information regarding System 800xA hardware, please visit our 800xA Hardware Selector. In the selector you can compare different communication modules, S800 IO modules, module termination units, AC 800M controllers, Panel 800, 800xA Networks and also print your own pdf files. **www.800xahardwareselector.com**

For more information about Ability™ System 800xA, please also visit our web: **www.abb.com/800xA**

Features and benefits

- Common Environment for Process and Power Automation and Safety: The High Integrity controller provides the ability to combine safety loops with control applications even within the same controller to facilitate maximum utilization of process equipment. The support of the IEC 61850 standard for substation makes System 800xA an efficient platform for a combined Process and Power Automation solutions.
- Fault Tolerance for Maximum Plant Availability: Robust design, distributed functionality and highly flexible redundancy options secure productivity, yield, and return.
- Open Architecture Reduces Lifecycle Costs: Industry-standard fieldbus, network, wireless and data interchange protocols are supported, making it easy to integrate third-party plant systems.
- Comprehensive Maintenance Features Reduce Downtime: Comprehensive self-diagnostics and hot-swap capability reduce maintenance costs and increase uptime and plant productivity.
- Flexible I/O for all Plant Environments: A full line of industrial I/O types including intrinsically safe and SIL-rated. Packaging and mounting options are available for remote and local I/O installations.
- Wide-ranging Control Functionality Meeting all Needs: Controller software to fit all Process, Power and safety applications, from simple to complex, discrete to continuous, and basic regulatory to advanced expert applications.
- HART pass-through
- Redundancy on all levels, also on I/O module level
- High Integrity I/O modules certified to SIL3
- I/O modules with Intrinsic Safety interfaces



Collaboration between people, systems, and equipment

In order to be competitive, various plant entities, departments and personnel have to work as one flexible, integrated, collaborative environment. For this to be accomplished, an automation platform with incredible connectivity capabilities is needed.

Collaboration is a necessity to increase engineering efficiency, asset utilization, energy savings, and operator effectiveness.

System 800xA's 'xA' stands for Extended Automation and utilizes the Industrial IT architecture, which was built for collaboration in a fully redundant, reliable environment. It provides connectivity to all seven ABB DCS systems, as well as other ABB and 3rd party plant systems and applications.

In addition, System 800xA's integration capabilities extend from Process Automation to Power Automation and Safety for highest operator effectiveness and optimized control.

The controller is the heart of the control system and often taken for granted as a commodity. This is not the case with the ABB Ability™ System 800xA.

800xA's flagship controller, the AC 800M, has the ability to integrate various networks, fieldbusses, serial protocols, and I/O providing seamless execution of advanced and unhindered process control strategies as well as functional safety, electrical, quality control, and power management applications.

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 features such as hot swap of modules, on-line reconfiguration and redundancy options, it contributes to keeping production -- and thereby profits up.