

Features and Benefits

- **Reducing Time to Decision and Action:** System 800xA Process Portal delivers the exact information, filters out noise to facilitate consistent, sound business decisions, and provides the right tools for the relevant user to take action as quickly as possible.
- **Optimizing Plant Asset Availability and Performance:** System 800xA real-time Plant Asset Management features increase in process uptime while reducing costs through predictive and proactive maintenance.
- **Improving Batch Production Profitability, Consistency and Traceability:** System 800xA Batch Management provides unsurpassed recipe management, batch and procedural control, regulatory compliance, safety and security. The batch management functions are seamlessly integrated within the System 800xA user interface environment.
- **Control, I/O and Fieldbus for all Plant Needs:** System 800xA offers a comprehensive controller suite of standards-based hardware and software and a complete line of industrial I/O to meet all plant needs. System 800xA integration of all major international standard field-buses offers lower lifecycle costs through cost savings in design, implementation and operation of field equipment.
- **Maximum Return on Investment:** For SattCon PLC and SattLine systems, ABB offers evolution strategies to ensure maximum return on investment while enhancing equipment availability and performance. ABB's systems are designed to be backward compatible, protecting existing investments in Satt Products and System.



Being competitive in today's business environment requires continuous productivity improvements. ABB has combined Satt Products and Systems (PBS, SattCon PLC and SattLine DCS) with Industrial IT Extended Automation System 800xA productivity enhancement software. This provides Satt Products and System users with the technology and solutions needed to achieve sustainable competitive advantages by enabling plants to perform smarter and better at lower costs.

System 800xA extends the scope of traditional control systems to include all automation functions in a single operations and engineering solution. The result is significant improvement in process control as well as production management, smart instrumentation, smart drives and motor control, information management, asset optimization and documentation.

The Satt Products and Systems provide the flexibility to implement System 800xA functionality in an incremental fashion. Instead of promoting rip and replace migration strategies, while ABB delivers genuine system evolution, allowing Satt Product and System users to build on their strong foundation. New functionality can be added at a pace that's tailored to user needs.

Satt Products and Systems is the Ideal Platform for Implementing the Full Benefits of System 800xA

Since ABB introduced PBS PLC's in early 1970, production facilities around the world have enjoyed improvements in productivity, capacity and profitability. Satt Products and Systems are key contributors in a variety of industries for optimization of processes and the realization of competitive advantages.

However, increased competition, higher productivity demands and lack of replacement parts may be pushing the PBS PLC or early SattCon PLC system to the limit. New business opportunities might call for new production lines or plant extensions. Success may require a new set of user interfaces as well as control and fieldbus functionality.

Utilizing Satt Products and Systems investments together with System 800xA productivity enhancements, key challenges – from ensuring low-cost maintenance and non-stop performance to accommodating growth strategies – are comprehensively met.

In the following pages, the opportunities available to Satt Products and System users are described in detail. Both the human system interface and control levels are addressed, ranging from the ability to supervise, detect and take preemptive action before problems occur, to the ability to reuse existing controllers, I/Os, field devices and other infrastructure elements.

**There's No
Need to Start
from Scratch**

ABB's pledge of evolution through enhancement ensures that future advances in system technologies will extend the lifecycle and the return-on-investment of installed Satt Products and Systems. The backward compatibility offers Satt Products and System users step-by-step evolution, meeting individual budget and functionality requirements.

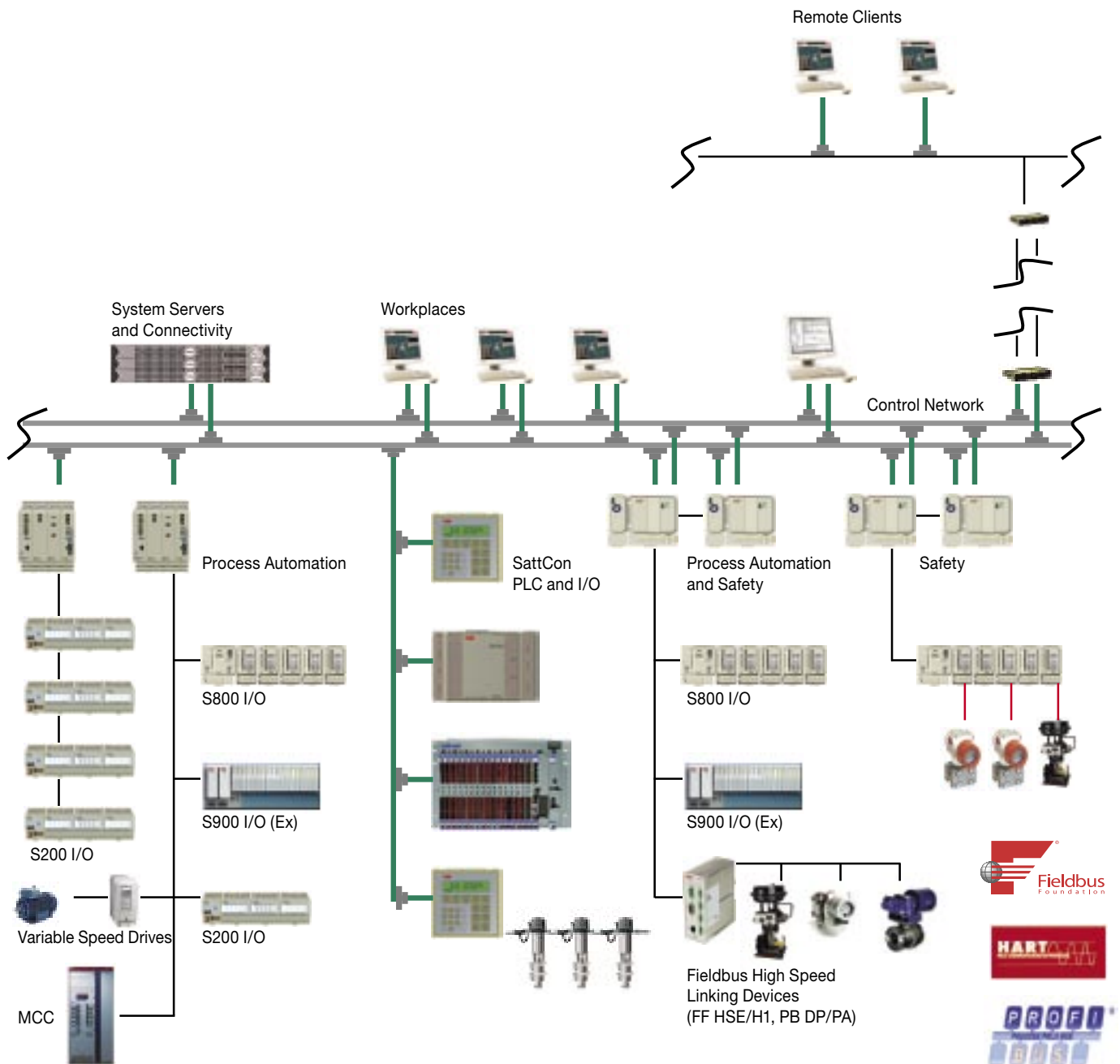


Figure 1. 800xA for Satt Products and Systems.

Extend Satt Products and Systems at the User Interface Level

800xA for SATT Products and Systems offers the industry's most intuitive system interface. Its flexibility, ease of use and consistent method for accessing enterprise-wide data, is second to none. These benefits allow Satt Product and System users to grow (for example, increase productivity or extend production lines), while ensuring maximum uptime and low maintenance costs.

Informed Decision Making through Integrated Data

System 800xA Process Portal makes information easy to retrieve, access, view and act upon. It provides a single interface by making all mission-critical data available from a single window application, relevant to the user's information requirements. This provides users with a much broader overview of the facility and more accurate access to information, enabling better, faster and more informed decision-making, thus increasing efficiency and reducing costs.

Information from ABB applications, as well as other automation systems or business systems, can be seamlessly integrated into the 800xA system. Since all data is easily retrievable from any Process Portal workstation, there is no need to search multiple system interfaces for information in other systems or platforms.

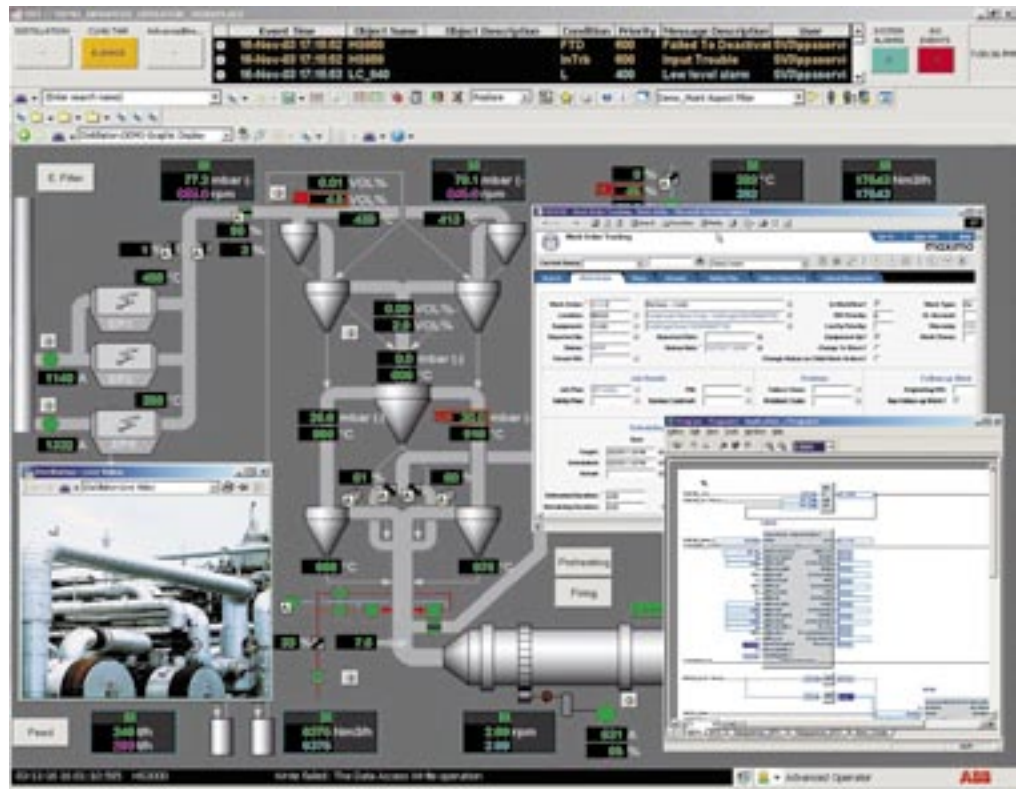


Figure 2. Fast access to relevant information reduces time to decision and action. Information from ABB applications, other automation systems or even business systems is readily integrated into the 800xA system on common displays providing a single window to the plant.



Figure 3. Extensive trend functionality is available, contributing to increased uptime and productivity.

Specifically, Process Portal offers an overview of a wide range of plant functions such as process and discrete logic control, asset optimization, information management, batch management, engineering and safety. All these functions can be accessed from the same user interface.

For examples, some of the applications available with Process Portal include: Auto-CAD drawings, live video, control logic diagrams, Maintenance Management System, production planning systems, pdf files and supplier web sites.

Extend Intelligence Beyond the Control Room

In modern plant facilities, users are often mobile, working outside the control room. With Process Portal, alarms and event information can be sent directly to the people who need it via mobile devices such as cell phones, wireless phones, pagers and email accounts. Taking shift schedules into account, it includes fail-over procedures if notified users do not respond in time.

Get the Full Picture

With Process Portal, up to four monitors can be controlled from one operator workplace client, making all information visible at the same time. Multiple monitors also allow applications to be moved from one monitor to another, or displayed simultaneously on several monitors, depending on the user's needs. For example, an operator can use one monitor for the main process interface while using other monitors for frequently used displays, such as faceplates, alarm and events or asset performance monitoring.

Read more about Process Portal, in the System 800xA Operations Overview 3BSE034823.

Management of Enterprise-wide Information

Protecting the reliability of historical data is crucial to benchmarking and delivering consistent product. System 800xA Information Management provides fast and accurate access to the performance history of all plant operations, enabling users to identify the root cause of inconsistency in production.

The data is also protected by user access restriction and offline backup storage, ensuring that electronic record-keeping requirements are uncompromised and that decisions are based on reliable information.

Read more about Information Management in the System 800xA Information Management overview 3BUS092079.

Detect Performance Dangers

When degrading plant asset performance, such as under-performing process loops or field device problems, goes undetected, overall plant productivity can be adversely affected. With System 800xA Asset Optimization monitoring and reporting features, plant resident information can be collected, aggregated, analyzed and compared to historical data to provide advanced warning of degrading device, equipment process performance and their impending failure.

System 800xA asset monitors features vary in complexity from simply identifying status changes in an intelligent device to identifying abnormal conditions using advanced process equipment condition monitoring applications. They also assists in the diagnosis of the problem, and offers repair recommendations, keeping the plant performing on its optimal level.

Improve Maintenance Management

The ability to supervise a plant and gather information from multiple sources and then transform it into information useful to plant operators, maintenance technicians, process engineers or product managers, is one of the strengths of the 800xA system. This is a giant step forward compared to production facilities traditionally maintained by many different systems, each with different needs.

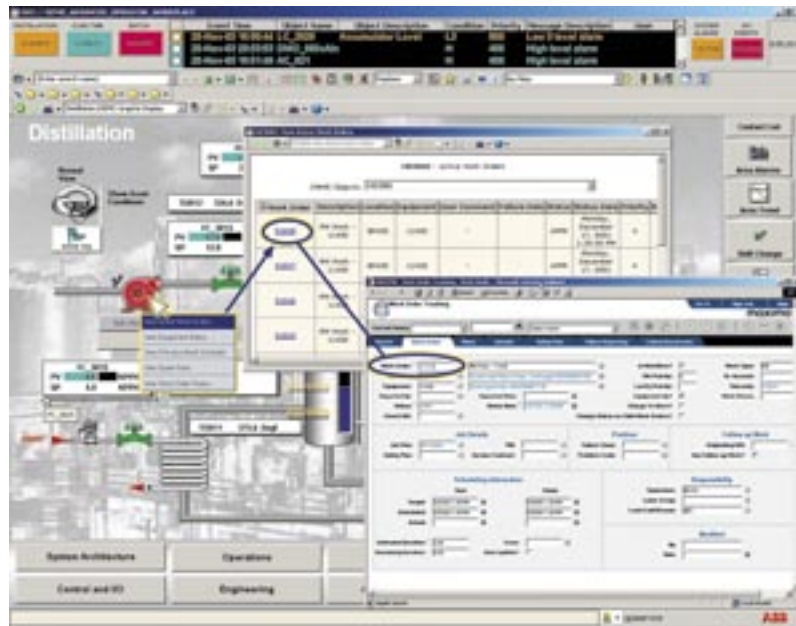


Figure 4. CMMS resident information is available for viewing in the System 800xA interface, speeding up the maintenance process.

One important advantage of System 800xA maintenance management is its CMMS (Computerized Maintenance Management System) integration, which gives users transparent access to both process control and maintenance system environments.

For example, when an equipment maintenance condition is detected, work orders can be electronically submitted to the CMMS and then automatically entered on to an action list, initiating repair, replacement or calibration activity.

Read more about Asset Optimization in the System 800xA Asset Optimization overview 3BUS092078.

Integrated Batch

800xA Batch Management supports the full range of batch manufacturing processes from simple fixed sequence/fixed production path applications to flexible variable sequence/variable production path applications. Based on industry standards like ISA S88, S95 and IEC 61512 it delivers:

- Increased product consistency resulting in better quality
- Easy to use recipe management functions reducing time to market
- Integrated management and control for maximum equipment utilization and minimized operating costs
- Automated documentation results in comprehensive audit trails

System 800xA Batch also provides the tools needed to achieve compliance with FDA's 21 CFR Part 11, cGMP requirements and GAMP guidelines. Facilitating the validation of process systems, System 800xA eliminates the need for maintaining paper records or other manual procedures.

Read more about Batch in the System 800xA Batch Management Overview 3BUS092077.

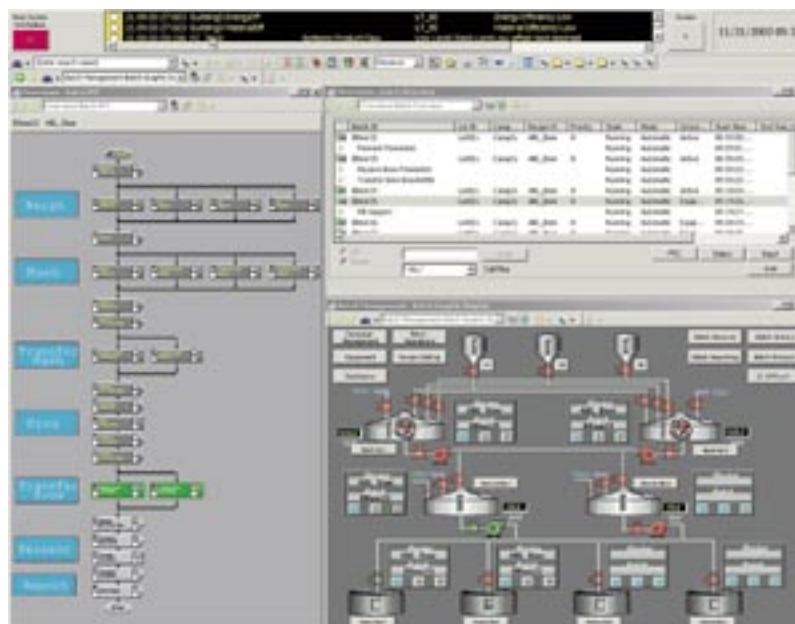


Figure 5. Batch management functions are fully and seamlessly integrated within a standard, open architecture for system configuration, operation, alarm/event management, security and real-time information exchange.

Extend Satt Products and Systems at the Controller and I/O Levels

Today, automation systems need to integrate all systems, controller and I/Os into one extended system that interconnects at all levels, giving users the flexibility to add functionality as they grow. It must also utilize existing infrastructure and ensure that the system performs without downtime at the lowest possible cost.

Advantages like these allow Satt Product and System users to succeed with key challenges such as growth, ensuring maximum uptime, and low maintenance costs.



Figure 6. 800xA Control and /IO makes connected field devices transparently available to applications and people, for everything from device configuration and setup to production monitoring and maintenance.

All Field Buses Supported

System 800xA provides fieldbus connectivity for all major international standard fieldbuses, including HART, Fieldbus Foundation and PROFIBUS. Furthermore, System 800xA Device Management provides the tools to engineer device integration from topology on down to field elements, including device parameterization, application planning, commissioning and detailed diagnostics. In addition, fieldbus integration enables maximum asset optimization through improved maintenance effectiveness, process availability and improved productivity.

Maintenance effectiveness is achieved with online access to device status and diagnostics, which can be used to identify poor performance before failure occurs. This will reduce the number of man-hours used to visit the field or dismount instruments.

Extensive Process Device Integration

The AC 800M controller and S800 I/O seamlessly integrate distributed and traditionally insulated plant devices and systems into the 800xA system environment. This capability extends the reach of the automation system to all plant areas, giving users entire plant control from a single interface, making it possible to supervise more efficiently.

Specifically, System 800xA gives users 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 INSUM switchgear and PC-based supervisory systems.

Fault Tolerance for Maximum Plant Availability

Redundancy is available in all critical areas of the Control and I/O subsystem, ensuring highest possible availability. These include control networks, fieldbuses, internal buses, power supplies, CPUs and I/O. If a fault occurs in a primary circuit, bumpless transfer to the back-up ensures uninterrupted operation.

Satt users, extending their installation with System 800xA, can utilize the latest S800 I/O offerings, which include a complete range of modules with redundancy at all levels. It can utilize virtually any signal type and range, from basic analog and digital inputs and outputs, to pulse counters and intrinsic safety I/O.

Read more about Control, I/O and device management in the [Control & I/O Overview 3BSE034989](#) and [Device Management Overview 3BDD013081](#).



Figure 7. 800xA offers plug and produce connectivity, a feature that reflects the openness of the system to a wide range of devices, I/Os and applications.

Smooth the Path to Better Business

System 800xA functionality can be integrated with Satt Products and System systems to provide users with the possibilities of increasing productivity, meeting growth demands, and ensuring low-cost maintenance.

Extend Satt Products and Systems with System 800xA Operations

System 800xA Process Portal can coexist with existing Satt HMI workstations to immediately gain the added benefits of the System 800 functionality. It's also possible to replace a SattGraph workstation with a Process Portal workstation in a smooth and cost-effective manner. Process Portal is easily integrated with existing Satt Product and System controllers. This means that existing Satt Product and System controllers, including controller application, I/O and field wiring, can be retained in a replacement scenario. To achieve a smooth transition with regards both to production output and operators training, consider parallel installations of existing Satt Products and Systems and Process Portal workstations.

Secure Access to Support and Spare Parts

Replacing Satt HMI with Process Portal offers secure and cost-effective access to support and spare parts. In the extension, it means lower maintenance costs and minimum risk of production shutdowns.

Familiar Look and Feel

When Process Portal replaces an Satt HMI workstation, the user will be comfortable in the new environment thanks to the flexibility in look and feel. Faceplates, system status, system alarm and alarm & event lists can be created similar to those in Satt HMI. Process Portal also offers 'hot key' ability for mapping keystrokes or keystroke combinations. A hot key will perform an action available to a selected object such as alarm acknowledgement, or a general action such as calling up a process graphic or other information.

Step-by-step Controller Evolution

The backward compatibility available to Satt Product and System users applies not just to the operator level, but to the controller level as well. For example, AC 800M can replace SattCon200 while retaining the S200 I/O and fieldwiring.

For example, when Process Portal replaces a SattGraph HMI, the existing SattCon PLC including I/O and field wiring can remain intact. The choice is open to replace the SattCon PLC with AC 800M later on. S200 I/O connectivity towards AC 800M is enabled with a communication interface in the AC 800M controller.

Peer-to-peer Communication

Peer-to-peer communication between AC 800M and Satt Products and Systems controllers is available. This is very useful when for example a System 800xA system is installed in a plant's new production line and Satt PLC's or Controllers are already in place in the plant.



Figure 8. A leading pharmaproducer needed to replace an outdated control system to increase capacity. They chose a combination of Satt and System 800xA; SattLine workstations and controllers and System 800xA Batch Management and Information Management. All information, including recipes, batch and reports, is presented in one user interface.

For the latest information on ABB visit us on the World Wide Web at <http://www.abb.com>



ABB Process Automation

Västerås, Sweden

Phone: +46 (0)21 32 50 00

Fax: +46 (0)21 13 78 45

www.abb.com/controlsystems

e-mail: processautomation@se.abb.com

ABB Process Automation

Wickliffe, Ohio, USA

Phone: +1 440 585 8500

Fax: +1 440 585 8756

www.abb.com/controlsystems

e-mail: industrialitsolutions@us.abb.com

ABB Process Automation

Mannheim, Germany

Phone: +49 (0) 1805 26 67 76

Fax: +49 (0) 1805 77 63 29

www.abb.de/controlsystems

e-mail: marketing.control-products@de.abb.com

3BSE039321 en

©Copyright 2006 ABB. All rights reserved. Specifications subject to change without notice. Pictures, schematics, and other graphics contained here in are published for illustration purposes only and do not represent product configurations or functionality. User documentation accompanying the product is the exclusive source for functionality descriptions.

The Industrial^{IT} wordmark, Aspect Objects, and all above-mentioned names in the form Operate^{IT} are registered or pending trademarks of ABB. All rights to other trademarks reside with their respective owners.