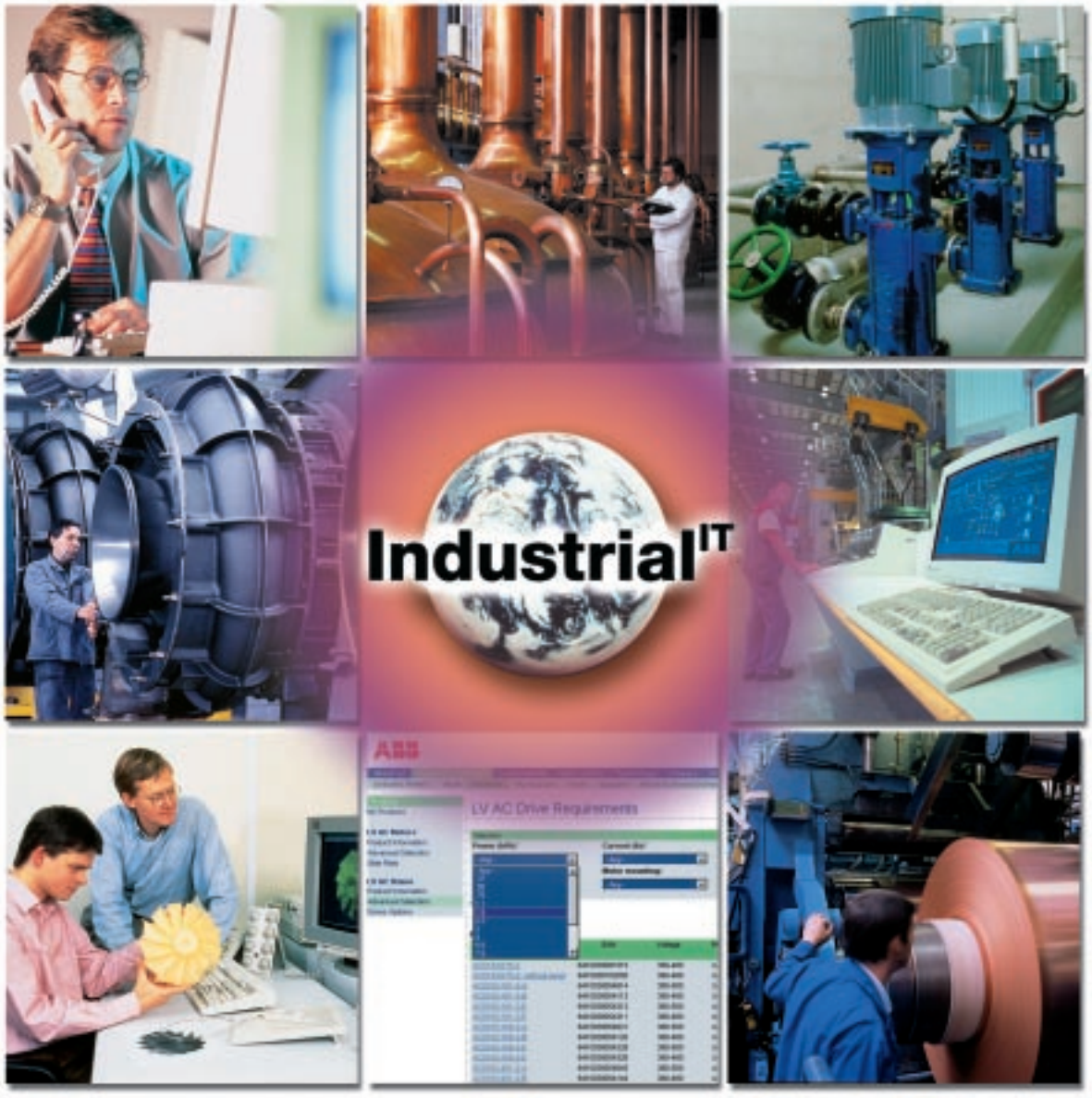
Industrial^{IT} for Drives



ABB

Contents

IndustrialIT

As a key element of its business strategy, ABB has committed to a broad program of product development and positioning under the IndustrialIT umbrella. This initiative is geared toward increasing standardization of ABB products as the 'building blocks' of larger solutions, while incorporating in functionality that will allow multiple products to interact seamlessly as components of real-time automation and information systems.

Why is this important for you? You can think of your business as two types of processes:

Operational, which represents all of the processes required converting raw materials into high quality products while minimizing waste.
Asset management representing all the processes required to keep your plant operating and maintained, optimizing your return on net assets, and reducing the total cost of ownership of capital equipment.

In either case, real-time access to information about your processes and your assets is crucial for the successful management of your business. Industrial^{IT} is designed to give you that. Industrial^{IT} is a concept and an architecture developed by ABB that can integrate a company's entire business and production processes into a single system.

At the product level ABB's Industrial^{IT} architecture ensures that ABB products can interoperate perfectly. Only products that satisfy a complete list of requirements stipulated by Industrial^{IT} are certified to bear the Industrial^{IT} enabled symbol, a special mark that indicates that the product can be easily integrated into the Industrial^{IT} architecture, in a "plug & produce" manner. In this architecture all information pertaining to the product is readily available in electronic form and can be accessed at the click of a mouse through what we call aspect systems that are integrated into a simple navigation tool, ABB's Plant Explorer.

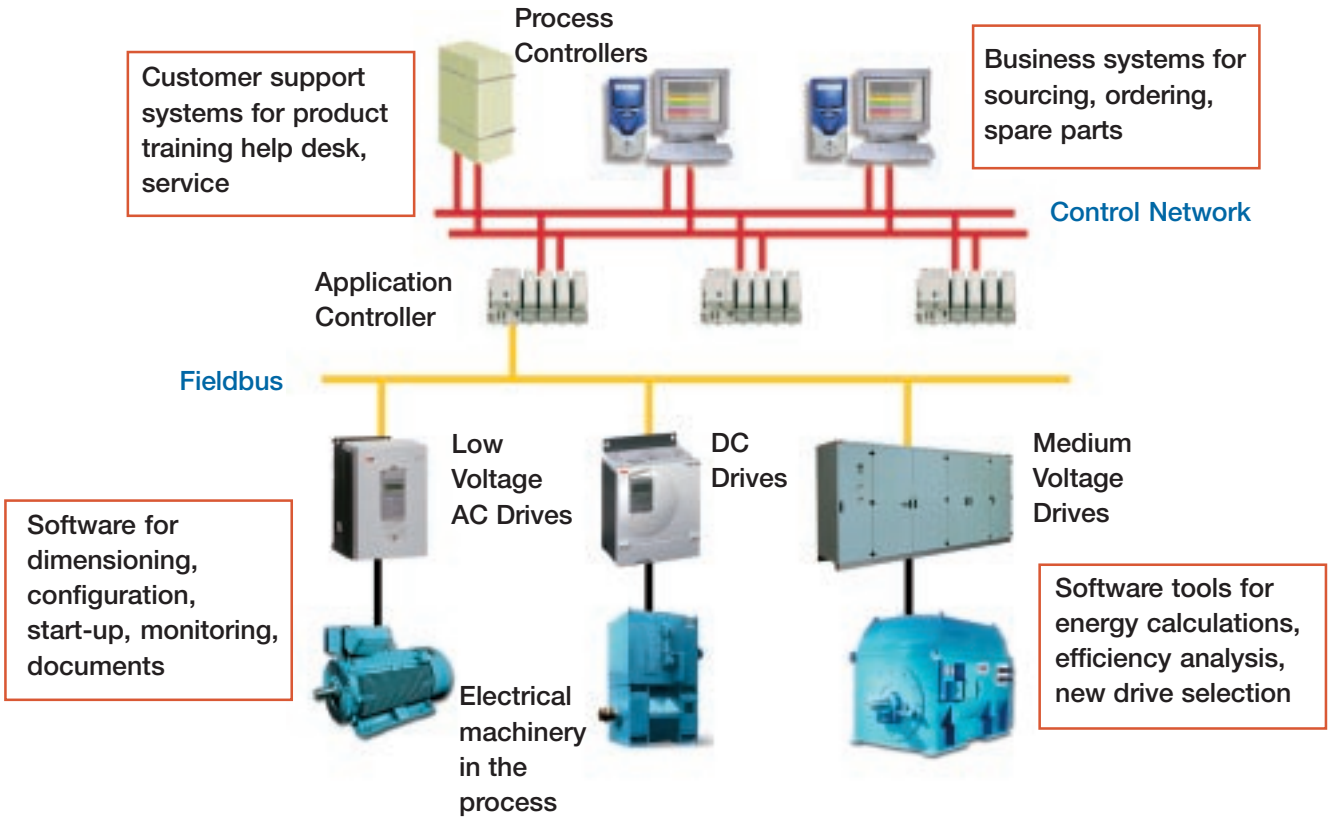
Standardization and an architecture based on open standards increase engineering efficiency, speed of implementation and quality. The final result is higher productivity and more output from your plant.

Industrial^{IT} and Drives

One of ABB's strengths is its broad product portfolio and depth of expertise. To give you quick and easy access to this pool of technology and know-how we have grouped our entire offering in some 30 Industrial^{IT} product suites.

ABB is a clear market leader in the area of drives. We offer one of the largest portfolios of variable speed drives backed up by in-depth application know-how. This brochure is your guide to our offering of drives and related services. It describes how our drives fit in ABB's Industrial^{IT} architecture and how you get the benefits of the Industrial^{IT} concept when applying drives from ABB. In putting together its product portfolio for Drives customers, ABB has taken care to address not only the core technology of drives but also the systems and services that support customers across the total lifecycle. Our Drive^{IT} drive products provide the performance, energy savings, and life extension that customers have come to expect from ABB. Our Engineer^{IT} configuration tools make selection and configuration of the correct drive easier. Our Fulfill^{IT} eBusiness tools offer faster ordering and delivery. And our Support^{IT} Lifecycle Services ensure that your ABB drive products keep performing efficiently for years to come.

The drives described in this brochure are certified to bear the Industrial^{IT} enabled symbol, a special mark that indicates that the product can be easily integrated into the Industrial^{IT} architecture. This means that all information pertaining to the drives is readily available in electronic form and can be accessed at the click of a mouse using ABB's Plant Explorer. The drives are also able to communicate with the environment in several different ways: through control panels, fieldbus adapters, or through OPC interfaces. This makes it easy to integrate the drives in the overall Industrial^{IT} architecture. Further information about the connectivity of the products is given below.



Drive^{IT} Low Voltage AC Drives

High productivity with low energy consumption

Low Voltage AC Drives are used to control the speed and torque of a standard induction motor, the workhorse of the industry. ABB is a major player in both motors and drives worldwide. With the drive the motor has a smooth starting with no inrush current, which reduces the plant maintenance cost.

AC drive technology extends the motor speed range from zero to high above the rated speed increasing the productivity of the driven process. The drive reduces the machine speed and saves energy when a low capacity is enough. The AC drives made by ABB and used around the world reduce CO_2 emissions by tens of millions tons annually.

Accurate speed control of the manufacturing process optimizes the quality of the end product. Direct Torque Control (DTC) invented by ABB has improved the control accuracy and by making speed encoders unnecessary.

Through versatile connectivity the drives made by ABB can be easily integrated with different process automation systems fulfilling the requirements of Industrial^{IT}.

Our offering

ABB Low Voltage AC Drives power range is from 0,12 kW to 4,3 MW for voltages from 200 V to 690 V. With a step-up drive practically any motor voltage can be chosen. Drives are made for markets with both 50 Hz and 60 Hz supply frequency.

The Low Voltage Drives series include models to suit virtually any application or operating environment with a complete selection of enclosure ratings, combined with highly flexible control and communication capabilities.

Micro Drives are compact and easy to use. They are widely used in pump, fan and conveyor applications in small industry and buildings. Small machinery type drives look similar but they have more functionality and connectivity to suit to control different low power but intelligent machinery functions.

Integral drives and motors are compact packages for speed control solution in harsh environments in industries and utilities. In addition to ABB motors the drive can be mounted on motors from other manufacturers and if needed the drive is available as a wall mounted variant.

Standard drives for low and medium power range are suitable for many industrial, utility and commercial building applications like pumps, fans, conveyors and plant machinery. For the same power range single drives with DTC are suitable for more demanding machines in industry like extruders, decanters, centrifuges, different metal industry applications etc.

Regenerative drives are available for power ranges from 11 kW to 1100 kW. These can be used for applications where repeated braking with high efficiency is required. This principle is also suitable for continuous power generation as in windpower systems.

For different process control applications ABB has developed an engineered drive system for multiple motor line-ups. The system is utilizing a common DC busbar design, which is cost-efficient with less space and high energy efficiency. Multi drives are used in different kind of processing lines like paper machines, steel mills, plastic industry etc. Large multimotor systems often need a drive specific

Application controller which includes both drive and process I/O functionality.

DriveIT Low Voltage AC Drives products 2002-01-01

Folder	Descriptive name	Type code	IndustrialIT class
DriveIT	Low Voltage Micro Drive	ACS 100	Information
DriveIT	Low Voltage Machinery Drive	ACS 140	Information
DriveIT	Low Voltage Integral Drive	ACS 160	Connectivity
DriveIT	Low Voltage Standard Drive	ACS 400	Information
DriveIT	Low Voltage SingleDrive	ACS 600	Information
DriveIT	Low Voltage MultiDrive	ACS 600	Information
DriveIT	Low Voltage Process Drive	ACS 800	Information
DriveIT	Application Controller	AC 80	Information

How Low Voltage AC Drives fit in IndustrialIT

Information

The Aspect Objects architecture presents the drives as model objects each object containing essential information and documentation, such as Technical specifications, Mechanical drawings, Electrical diagrams, Control programs and Test reports that are specific to that type of drive. These electronic files, which will be available online, are the aspects. Most of these are already available through our web pages from SCOT Library.

Connectivity

The drive communicates with the environment in several ways. The communication is an essential element for successful IndustrialIT. The communication goes through different types of connections:

Control Panel is the most common Man Machine Interface (MMI). The panel usually has push buttons for START/STOP, LOCAL/REMOTE, RESET, DIRECTION OF ROTATION, SPEED setting and PARAMETER settings. The ABB control panels have an alphanumeric display for reading of drive status and value of different parameters.

Hard wired I/O is the traditional communication channel between the drive and the controlled process. Most common inputs are interlockings, reference signals and measured actual values. Typical outputs are relay contacts for RUN and FAULT signals and interlockings between process machines.

Fieldbus connections are used for communication between drives and process automation systems. For ABB drives this connectivity is achieved with a dedicated gateway concept between the fieldbus systems and ABB Distributed Drive Communication System (DDCS). DDCS is a high speed optical link providing fast data transfer and excellent noise immunity.

Drive OPC is a software package which allows OLE for Process Control (OPC) communication between Windows applications and ABB drives using DDCS. It is ideal for integrating commercial PC monitoring software and ABB drives. OPC is an open interface for factory automation and a key technology for IndustrialIT.

Contacts

ABB web site is an important source of information about ABB as a company, its products and services. The website is also a communication channel between existing and potential customers with ABB specialists in area.

If you are especially interested in IndustrialIT for Drives, please go to this website **www.abb.com/motors&drives**

DriveIT Medium Voltage AC Drives

Increased productivity with high performance and rugged reliability

Medium Voltage AC Drives are used to control the speed and torque of induction and synchronous machines where high powers are needed. By delivering precise process control through ABB's patented Direct Torque Control (DTC), our Medium Voltage AC Drives are ensuring the highest control accuracy without the use of an encoder, despite input power variations or sudden load changes. We certainly know that reliability is of paramount importance for our customers. The reduced component count makes our drives inherently more reliable than other designs. Furthermore, we test each component individually and load test every drive before delivery. ABB' Medium Voltage AC Drives provide the highest power density at high power applications, which saves footprint area. The small footprint though ensures maximum installation flexibility and offers particular advantages for retrofits.

ABB Medium Voltage AC Drives reduce the machine speed and save energy when a low capacity is enough. They furthermore do reduce CO_2 emissions by tens of millions tons annually.

Our IndustrialIT offering

ABB Medium Voltage AC drives offer a power range from 315 kW to 27 MW. They are widely used all around the world in wide ranges of applications.

Standard drive solution for asynchronous motors

- Compact product for single motor applications
- Applications: pumps, fans, extruders, conveyors, compressors in industry
- Built-in output sine filter, fits perfectly to existing motors
- Power range: 315 - 5000 kW

Modular drive system for asynchronous and synchronous motors

- Modular concept with common DC bus design: allows both single drive solutions and multidrive configuration for multiple motor line-ups
- Both cases available with diode line supply units and regenerative supply units as well as with various braking options, allowing 4-quadrant operation
- Applications: wide range from pumps, fans and compressors to marine drive applications and high dynamic rolling mill production lines
- Power range: 3 - 27 MW

Cycloconverter drive for synchronous motors

- Especially for applications where high power at low rotating speed is required
- Mine hoists, SAG and ball mills, rolling mills and marine main propulsion drives
- 4-quadrant operation inherently
- Power range: 1 - 27 MW

DriveIT Medium Voltage Drives products 2002-01-01

Folder	Descriptive name	Type code	IndustrialIT class
DriveIT	Medium Voltage Standard Drive	ACS 1000	Connectivity
DriveIT	Medium Voltage Single Drive	ACS 6000	Connectivity
DriveIT	Medium Voltage Multi Drive	ACS 6000	Connectivity
DriveIT	Medium Voltage Cycloconverter Drive	ACS 6000	Connectivity

How Medium Voltage AC Drives fit in IndustrialIT

Information

The Aspect Objects architecture presents the drives as model objects each object containing essential information and documentation, such as Technical specifications, Mechanical drawings, Electrical diagrams, Control programs and Test reports that are specific to that type of drive. These electronic files, which will be available online, are the aspects. Most of these are already available through our web pages from SCOT Library.

Connectivity

The drive communicates with the environment in several ways. The communication is an essential element for successful IndustrialIT. The communication goes through different types of connections:

Control Panel is the most common Man Machine Interface (MMI). The panel usually has push buttons for START/STOP, LOCAL/REMOTE, RESET, DIRECTION OF ROTATION, SPEED setting and PARAMETER settings. The ABB control panels have an alphanumeric display for reading of drive status and value of different parameters.

Hard wired I/O is the traditional communication channel between the drive and the controlled process. Most common inputs are interlockings, reference signals and measured actual values. Typical outputs are relay contacts for RUN and FAULT signals and interlockings between process machines.

Fieldbus connections are used for communication between drives and process automation systems. For ABB drives this connectivity is achieved with a dedicated gateway concept between the fieldbus systems and ABB Distributed Drive Communication System (DDCS). DDCS is a high speed optical link providing fast data transfer and excellent noise immunity.

Drive OPC is a software package which allows OLE for Process Control (OPC) communication between Windows applications and ABB drives using DDCS. It is ideal for integrating commercial PC monitoring software and ABB drives. OPC is an open interface for factory automation and a key technology for IndustrialIT.

Contacts

ABB Switzerland Ltd
Medium Voltage AC Drives
ATD
Austrasse
CH-5300 Turgi / Switzerland
Phone: +41 (0)58 589 27 95
Fax: +41 (0)58 589 29 84
E-Mail: MVdrives@ch.abb.com
Internet: www.abb.com/motors&drives

Drive^{IT} DC Drives

Innovative and reliable products

In the last years ABB invested millions of EURO in the development of new DC Drives and DC Motors to be able to offer a complete and modern portfolio. The DC Drives covers a power range from 10 to 20.000 kW.

- Easy regenerative and non-regenerative mode
- High torque at low speed
- Precise control
- Low power losses
- Accuracy
- Reliability
- Small footprint
- Easy to handle and commission

Those are the standard advantages of ABB DC Drives. New technologies like IGBT based field exciters have been implemented to allow better harmonics so that the brush lifetime of the motors exceed the service interval of the bearings by far.

Being 100% compatible to the ABB AC Drives gives you the possibility to choose the best solution for your drive problem. ABB DC Drives can really meet the expectations of the industries.

Applications and modernizing

DC Drives are still a very good choice in demanding applications in the metal processing, marines, extruding, lift/cranes, mixing, processing and many other fields.

Cost efficient Replacement

Because of the small size and the high flexibility, all products suit very well for replacement and retrofit projects. In addition special retrofit kits are available. Our know-how and experience on retrofit projects helps you to find the best solution.

The Product Portfolio

DCS 400, the OEM Drive for standard applications (10 - 500 kW) has an extremely small and compact design. Installation and commissioning is very easy. The accurate speed and torque control and the integrated field supply are the outstanding features of this drive.

The Integrated Drive (DCE 400 plus; 20 - 130 kW) is the easiest way to replace an existing DC drive. AC fuses, auxiliary transformer, motor fan starter and a main contactor are already integrated.

DCS 500 (10 - 5000 kW) is the **Standard DC Drive** with a modular hardware structure. Free programming software is possible via function blocks. The 12-pulse configuration enables a power range up to 10 MW and more.

The DCS 600 Multi Drive (10 - 5000 kW) is our solution for complex multidrive applications. The flexible and modular hardware structure and the possibility of free programming are the main features of the drive. Pre - programmed solutions are available for metals, cranes, Pulp&Paper, mining and other applications.

DriveIT DC - Drives products 2002 - 01- 01

Folder	Descriptive name	Type code	IndustrialIT class
DriveIT	Low Voltage DC OEM Drive	DCS 400	Information
DriveIT	Low Voltage DC Integrated Drive	DCE 400 Plus	Information
DriveIT	Low Voltage DC Standard Drive	DCS 500	Information
DriveIT	Low Voltage DC Multi Drive	DCS 600	Information

How DC Drives fit in IndustrialIT

Product Information Level

All DC Drive Products are equipped with the optimum information that you as our customer would need. Product information and documentation, technical specifications, mechanical drawings, electrical diagrams, control programs and test reports are or will be provided via our ABB.COM/DC or the ABB library.

Connectivity

ABB DC Drives are equipped with the best and reliable techniques to ensure easy, accurate, precise and fast communication.

Communication via Control Panel in different languages, traditional hard wiring I/O is a standard. Fieldbus connections are used for communication between drives and process automation systems. DDCS (ABB Distributed Drive Communication System) enables the drives via high-speed optical link to transfer data very fast and with best noise immunity.

OPC is the ABB interpreter software which allows OLE for Process Control communication between Windows applications and ABB drives.

Contacts

If you like to have further information about DC Drives please look on our website **www.abb.com/dc** or send us an e-mail: **dc-drives@de.abb.com**

Engineer^{IT} Drive Configurators

Easy to solve complex high-tech problems

The world is becoming more complicated all the time. This means that users should spend more time learning new things. Do users want to do that? No. Things must be easier to use! When ABB started to develop the software package for sizing and configuring the motors drives and drive systems, one of the main objectives was its easiness to use, although what it handles is often of a very high-tech and pioneering nature.

The strength of these softwares are:

- Developed according to users requirements and so the programs are very easy to use
- The same software tools for all ABB Drives
- Programs follow the lifecycle of Drives
- Inside the software the software components can utilize information already given and the user does not have to rewrite it.

Our offering

ABB's Drives Dimensioning Tool is an advanced, easy-to-use tool for dimensioning motors, drives and transformers. It produces information on the selected units quickly and clearly, performs the harmonics calculations, and gives a complete data print-out. All dimensioning rules used in the program have been approved, so you can rely on the dimensioning result. The software also enables you to:

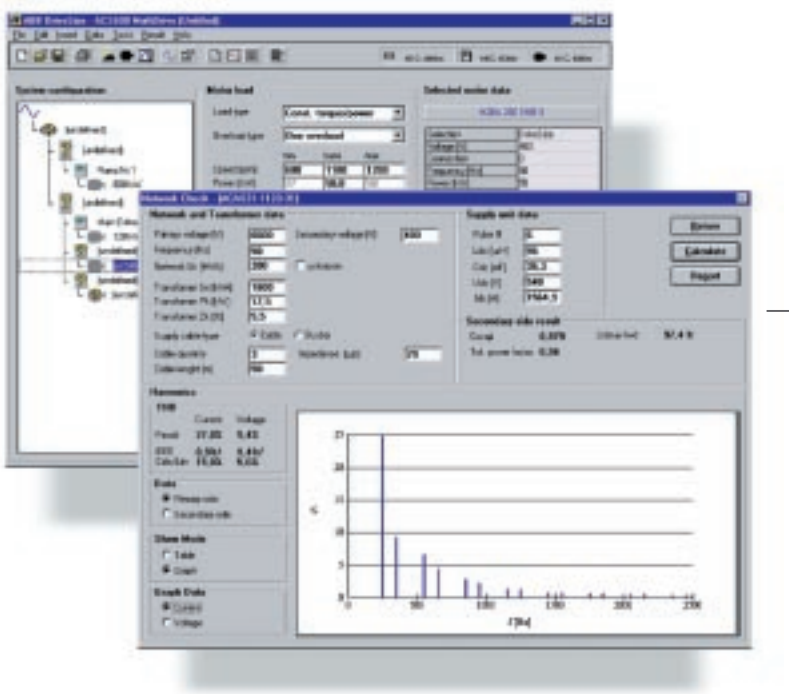
- Calculate the network harmonics and power factor
- Calculate the DC voltage level for the line supply unit according to the network conditions you define.
- Obtain preliminary efficiency values.
- See your selections in graphical or numeric form.
- Select an alternative unit from the database.
- Print out reports.
- Save the dimensioning result into files.

ABB's Drives Configuration Tool is for making a quick offer with the necessary information such as actual cabinet dimensions and electrical single line diagrams. In the Tool the user selects the required options for the dimensioned drive. Its main functions are:

- Selecting the functional drive units
- Selecting the optional parts and devices
- Selecting transportation units
- Technical validation
- Document generation for offering and engineering

Engineer^{IT} Drives Dimensioning and Configuration products 2002-01-01

Folder	Descriptive name	Type code	Industrial^{IT} class
Engineer^{IT}	Drives Dimensioning Tool	DriveSize	Information
Engineer^{IT}	Drives Configuration Tool	DriveBuilder	Information



How Dimensioning and Configuration Tools fit in Industrial^{IT}

Information

The latest version of the Drives Drives Dimensioning Tool and its Users Manual can be downloaded from the Internet: www.abb.com/motors&drives.

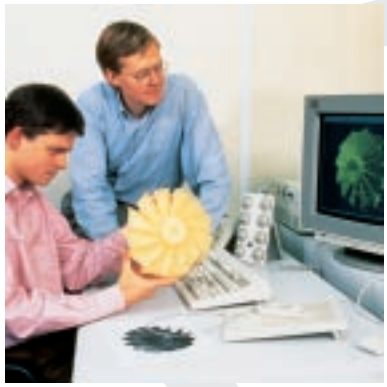
The Configuration Tool with Users manuals is available for ABB organizations and Channel Partners in CD Rom format.

These tools are an essential part of the business systems for drives. A proper and reliable dimensioning of drive systems is very important to keep the good relationship between ABB and its customers.

Contacts

ABB web site is an important source of information about ABB as company, its products and services. The website is also a communication channel between existing and potential customers with ABB specialists in the area.

If you are especially interested in Industrial^{IT} for Drives, please go to this website **www.abb.com/motors&drives**



Engineer^{IT} Energy Saving and Efficiency

Variable Speed Drives save energy and the environment

The main reason to use variable speed drives in industries, utilities and buildings are to improve the quality of the main function of the process. Good examples are: even thickness of a metal sheet, constant water distribution pressure or comfortable indoor climate in an office.

A very important additional benefit with variable speed control is the optimizing of electrical energy in the process. Most of the processes are running with variable load and the variable speed control always adjust the speed to the optimum and the energy consumption is reduced to minimum.

Energy savings may be tens of percent when compared to constant speed systems, which are controlled by mechanical ways like throttling control of pumping systems.

ABB has been a leading company to apply energy efficient AC drives for pumps and fans, which are most suitable for energy saving with variable speed control. It is estimated that the ABB AC drives delivered 1991-2000 to pumps and fans contribute every year to energy saving of 54 TWh which corresponds a 45 million tons reduction of CO_2 emissions.

Our offering

To make it easier for customers, consultants and ABB own engineers to estimate energy savings ABB has developed three different software tools:

Energy Calculator for Pumps is for comparing energy, money and environmental savings with variable speed AC drives compared to throttling, on-off control and hydraulic control of pumps.

Energy Calculator for Fans is for comparing energy, money and environmental savings with variable speed AC drives compared to damper, inlet vane, two-speed and pitch control of fans.

Efficiency Calculator for Replacements is for comparing energy, money and environmental savings with new AC drives, motors or both drives and motors to old, less efficient drives and motors installed more than ten years ago.

Drive Selector for Replacements is for selection of new AC drives to replace old drives installed more than ten years ago.

Engineer^{IT} Energy Saving and Efficiency products 2002-01-01

Folder	Descriptive name	Type code	Industrial^{IT} class
Engineer^{IT}	Energy Calculator for Pumps	PumpSave	Information
Engineer^{IT}	Energy Calculator for Fans	FanSave	Information
Engineer^{IT}	Efficiency Calculator for Replacements	Efficiency Tool	Information
Engineer^{IT}	Drive Selector for Replacements	Drive Upgrade	Infomation

How Energy Saving and Efficiency Tools fit in Industrial^{IT}

Information

The latest version of the Tools and theirs Users Manuals can be downloaded from the Internet: **www.abb.com/motors&drives**.

These tools are an essential part of the optimization part of the drives as customer assets. The tools can be used to estimate the life cycle cost of the customer plant.

Contacts

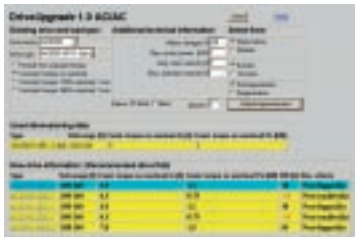
ABB web site is an important source of information about ABB as company, its products and services. The website is also a communication channel between existing and potential customers with ABB specialists in the area.

If you are especially interested in Industrial^{IT} for Drives, please go to this website **www.abb.com/motors&drives**

Energy Calculator for Pumps

Energy Calculator for Fans

Efficiency Calculator for Replacements



Drive Selector for Replacements

Fulfill^{IT}

Getting the most out of your assets

Time is money. We see the systems grouped in the suite Fulfill^{IT} as an extension of our offering of drives, because increased supply chain transparency means lower transaction costs, lower quality costs and reduced inventories. With services provided by the supply chain management systems in the Fulfill^{IT} suite we can substantially reduce the cycle times in our ordering and delivery processes, which translates into less capital tied up, quickly turning our products into cash, shortening the distance between our suppliers and our customers.

Essentially, these systems reduce the cost of doing business with us, allowing you to get high quality drives without hassles and without delays. Without compromising quality.

Our offering

The product suite Fulfill^{IT} includes three applications that make ordering drives and doing business with ABB easy and efficient:

Fulfill^{IT} Electronic Ordering System for Products
The Fulfill^{IT} Electronic Ordering System for Products is designed for our customers. Through this system our customers, we call them channel partners, can check the availability of our products in real-time, place orders electronically and follow up the status of orders. The system is backed up by an integrated logistic system. The Fulfill^{IT} Electronic Ordering System enables our customers to reduce their cost of transactions and to reduce their inventory levels. We back the winners.

Fulfill^{IT} Electronic Ordering System for Parts
The Fulfill^{IT} Electronic Ordering System for Parts is designed for our customers. Through this system our customers can order spare parts electronically. The system is backed up by an integrated logistic system. The Fulfill^{IT} Electronic Ordering System for Parts is managed and backed up by ABB's worldwide service organization. This organization's main purpose is ensure the trouble-free operation and availability of our products.

Fulfill^{IT} Vendor Information System
The Fulfill^{IT} Vendor Information System is designed for our suppliers. It is an application that allows ABB to share critical information about stock levels and quality with its suppliers. This feedback enables our vendors to reduce their cost of transactions, to reduce their inventory levels and to reduce their quality costs. Similar benefits befall ABB, which make us more competitive. This again translates into more business for our vendors. Partnership at work.

'We walk the talk'

Under the Industrial^{IT} umbrella ABB offers sophisticated production systems and logistic solutions. We like these systems and solutions so much, that we use them ourselves. We are always concerned about quality, obsessed with quality is actually a better way of putting it. In particular we worry about products that are successful, like our drives. Why? Because when a product is successful, more customers are depending on it. And above all we are committed to our customers.

Contact information

If you want to do business with us and get the full advantage of electronic commerce, please contact:

Support^{IT} Support Systems

Comp-AC.com

Selectica

Drive*Window* for setting-up and maintenance

ABB's Drive *Window* is an advanced, easy-to-use tool for commissioning and maintenance of drive systems in different industries. Its host of features and clear, graphical presentation of the operation make it a valuable addition to your system providing information necessary for troubleshooting, maintenance and service, as well as training. Drive *Window* has connection kits for both laptop and desktop PCs.

Drive*OPC* for Windows™ based monitoring

Drive *OPC* is a software package which allows OLE for Process Control (OPC) communication between Windows applications and ABB drives. It is an ideal tool for integrating commercial PC monitoring software and ABB drives.

Drive *OPC* can access all drives connected to the DDCS network. The number of measuring points is not limited.

Drive*Support* for service expert inside your PC

Drive *Support* is a simple, clear and concise multimedia-based service tool. ABB is a pioneer in intro-ducing this type of tool which provides actual pictures and clear instructions for troubleshooting and servicing drives. Drive *Support* makes fault correction easier than ever before.

Contact information

Industrial^{IT} - Frequently Asked Questions (FAQ)

Q. What is Industrial^{IT}?

A. This trademarked term describes the ABB group commitment to bridging the gap between industrial assets and the information technology (IT) needed to make them work seamlessly together in real time.

Q. What is Industrial^{IT} Enabled?

A. This designation describes products from ABB and selected partners, which are equipped with standard information characteristics necessary to support the component as part of a broader Industrial^{IT} system. ABB tests and certifies the technologies for compliance at one of four levels - ranging from presentation of base product information in common electronic formats, to extended aspect data that may be exchanged between components to optimize the system in which they are working.

Q. What is an Aspect Object?

A. This unique software shell bundles electronic product characteristics (Aspects) - such as instruction manuals, drawings, remote control faceplates, and configuration tools - into a "virtual" replica of the real component, for mouse-click access to the information required to install, configure, operate, and optimize it. For a comparison, think of the CD-ROM provided with many personal computer products - containing drivers, fonts, connectivity instructions, etc.

Q. What is the Aspect Integrator Platform? (AIP)

A. This MS Windows-based architecture sets the standard for all ABB and Industrial^{IT} technologies. The platform allows grouping of Aspect Objects in easy-to-navigate structures tailored to the needs of operations, maintenance, or management personnel - for configuration, support, or evaluation of each component within the context of its larger system. The AIP facilitates real-time interaction between the characteristics (Aspects) of certified system components, and allows easy modeling of new objects into their individual Aspect parts.

Q. Which technologies will ABB certify as Industrial^{IT} Enabled?

A. ABB has defined some 30 functional categories of Industrial^{IT} hardware, software, and service technology "building blocks" - which measure, control, power, protect, optimize, support, etc. individual steps in the enterprise value chain. Many of these relate directly to ABB products such as sensors, controllers, switchgear, safety systems, etc.

Although Aspect Object technology is most commonly associated with plant or business devices, the AIP offers the same object-modeling approach to finished products, raw materials, etc. - dynamically linking the individual requirements of each with the productive assets required to produce them. In the enterprise of the future, for example, the process of ordering a new automobile might automatically trigger a series of detailed events across the collaborative value chain, ala "I need four whitewall tires, one V-6 engine, and one premium stereo on hand next Tuesday to complete this order."

Q. When will customers benefit from Industrial^{IT} Enabled products?

A. Immediate benefit will be derived from the very first product, as customers find all the information required to install, operate, and maintain in one easy-to-use software object. As the portfolio of enabled technologies from ABB and its partners grows, real-time integration and optimization through the Aspect Integrator Platform will increase in direct proportion.

Q. Will Industrial^{IT} Enabled products cost more?

A. Base-level "information enabling" as part of ABB's common group processes will have little impact on product cost. Significant incremental value will be achieved as technologies take greater advantage of the licensed Aspect Integrator Platform, and certified ABB products are combined as part of broader solutions.

Ad agency Piirtek #10277

441 025
Printed matter

HANSAPRINT/26550/2/2001

ABB Oy
Drives
P. O. Box 184
FIN - 00381 Helsinki
Finland
Telephone +358 10 22 11
Telefax +358 10 222 2681
Internet http://www.abb.com/motors&drives