



—
PORTFOLIO GUIDE



ABB DRIVES, CONVERTERS AND CONTROLS

Comprehensive portfolio of energy-efficient solutions



- Improving energy efficiency is the fastest, the most sustainable and the cheapest way to reduce greenhouse gas emissions.
- The installed base of ABB drives saves over 310 million megawatt hours per year. This is equivalent to the amount of energy used by 75 million households.

ENGINEERED
TO OUTRUN

Technology is the core of our business. For over 100 years we have invested a significant proportion of our turnover in research and development.

As a result, we developed the very first high-power AC drive in the 1970s, and today we offer you the most advanced range of variable speed drives in the world.

Still, the cutting edge technology is not the only thing that makes us the global leader in AC and DC drives. You can expect more from us.



ABB DRIVES, CONVERTERS AND CONTROLS

Comprehensive portfolio of energy-efficient solutions

06–15 INTRODUCTION

06–07 What can you expect from the world's largest drives manufacturer?

08–09 The most effective way to a more sustainable process is also the most profitable

10 ABB AC drives comply with the EU Ecodesign requirements

11 ABB Value Provider network to serve your needs

12–13 Our extensive drives and controls portfolio means the most optimal solution for you

14–15 Product positioning by applications

16–35 ABB LOW VOLTAGE AC DRIVES

18–23 Machinery drives

ACS180

ACS380

ACS380-E

ACS880-M04

24–29 General purpose drives

ACS580

ACS480

28–29 ABB drives for water and wastewater

ACQ580

ACQ580 ultra-low harmonic drives

30–31 ABB drives for HVACR

ACH480

ACH580

ACH580 ultra-low harmonic drives

32–35 Industrial drives

ACS880

ACS880 single drives

ACS880 drive modules

ACS880 multidrives

36–39 ABB WIND TURBINE CONVERTERS

ACS880-77LC/-87LC/-87CC, wind turbine converters

PCS6000, wind turbine converters

40–43 ABB SERVO DRIVES PROVIDE CAPABILITY WITHOUT COMPLEXITY

42–43 ABB servo drives

MotiFlex e180

MicroFlex e190

42–43 Complete motion control solutions

44–51 ABB MEDIUM VOLTAGE DRIVES

46–47 Air-cooled drives

ACS580MV

ACS8080

48–51 High-power drives

ACS6080

ACS5000

MEGADrive-LCI

		INTRODUCTION	
		06–15	
		LOW VOLTAGE AC DRIVES	
		16–35	
52–55	DC DRIVES ENGINEERED FOR PROVEN PERFORMANCE		
53	Versatile for wide range of applications		
54	DCS880 family		
	DCS880-S modules and DCS880-A cabinets		
55	Further ABB DC solutions		
	DCS580-S modules and modernization solutions		
		WIND TURBINE CONVERTERS	
		36–39	
56–57	ABB THYRISTOR POWER CONTROLLERS FOR INDUSTRIAL HEATING APPLICATIONS		
	DCT880		
		SERVO DRIVES	
		40–43	
58–71	ABB PROGRAMMABLE LOGIC CONTROLLERS		
60–65	PLC Automation product family		
	AC500 PLC platform		
	CP600 control panel platform		
	AC500-eCo PLC		
	AC500 PLC		
	AC500-XC PLC		
	AC500-S PLC		
	S500 remote I/O		
	Condition monitoring system CMS		
	ABB Ability™ Automation Builder		
66–71	Application descriptions and features		
	AC500 for general motion control		
	Condition Monitoring with AC500 PLC		
	Machine controllers based on AC500 PLC		
		MEDIUM VOLTAGE AC DRIVES	
		44–51	
		DC DRIVES	
		52–55	
72–87	DIGITAL SOLUTIONS AND CONNECTIVITY FOR DRIVES		
73–74	Plan		
75–77	Design		
78–87	Build and maintain		
		POWER CONTROLLERS	
		56–57	
88–93	ABB MOTION SERVICES		
88–89	ABB Ability™ Digital Powertrain		
90	ABB Motion Services		
91	A lifetime of peak performance		
		PROGRAMMABLE LOGIC CONTROLLERS (PLCS)	
		58–71	
		DIGITAL SOLUTIONS AND CONNECTIVITY FOR DRIVES	
		72–87	
		ABB MOTION SERVICES	
		88–91	

WHAT CAN YOU EXPECT FROM THE WORLD'S LARGEST DRIVES MANUFACTURER?

Our equipment is only a part of the solution

Our commitment to service aligns with the technology expertise of our R&D department. This means a local presence wherever you are in the world, providing knowledgeable customer service, access to support and expertise, advanced tools, and a technical partnership that brings you added value whether you are a system integrator, OEM, or end user.

Count on us to thoroughly comprehend your business, processes, and needs from A to Z. Leveraging our experience, we aim to boost your production capacity,

elevate product quality, and minimize waste and maintenance costs. Our dedicated experts speak your language, guiding you to the most efficient and profitable solutions without compromising personnel safety or environmental responsibility.

Buy a drive, and our expertise is part of the deal

When you buy an ABB drive, the world's leading application engineering organization is at your service. We have a thorough knowledge of all applications from pumps, fans, and compressors to conveyors, extruders, winders, and marine applications. In your plant, our expertise



covers every step of the electrical installation process. This includes correct selection, dimensioning, and installation to operation and maintenance of drives, PLCs, motors, transformers, relays, switches, contactors. It extends all the way to transducers and meters.

Our offering is digitally enabled, seamlessly integrating connectivity, data analytics, and data management to optimize your operations for efficiency, predictability, and safety. Making optimal choices not only conserves energy but also diminishes maintenance needs. For example, combining ABB motors and drives not only enhances

performance but also minimizes the life-cycle cost of pumps, fans, and other driven machines, as well as the overall mechanical installation.

Wherever our equipment goes, we are there to support your business

You can expect us to be by your side wherever you are in the world. Our companies and sales offices are at your service in more than 100 countries, and one of our authorized channel partner companies is likely to be located in your neighborhood. If you are a machine builder, ABB can be a vital part of your customer service offering.



THE MOST EFFECTIVE WAY TO A MORE SUSTAINABLE PROCESS IS ALSO THE MOST PROFITABLE



Improve your processes with drives

INCREASED LIFETIME – A lower starting current decreases the electrical stress on the motor and network, while a smooth ramp up to full speed also reduces mechanical wear on your equipment, prolonging its lifetime.

INCREASED PRODUCTIVITY – The use of drives enhances the productivity of applications by reducing unplanned stops caused by excessive heating of the motor or sudden breakdowns of mechanical equipment due to high mechanical stress.

REDUCED NEED FOR MAINTENANCE – Being able to apply a softer starting moment and vary the speed and torque of an electric motor reduces wear and tear on both the motor and the machine it is driving. The ability to gradually bring a process up to speed helps prevent sudden shock loading, which can, over time, damage both motors and machines.

Further optimize your processes with AC drives

SUBSTANTIAL ENERGY SAVINGS – Rather than have an electric motor running continuously at full speed, using an electric drive allows the user to slow down or speed up the motor according to demand. Reducing motor speed in line with the actual demand of the process often means substantial energy savings and reduced operating costs.

OPTIMAL PROCESS CONTROL – An electric drive facilitates the attainment of the precise speed and torque required for a process, ensuring accuracy and, consequently, contributing to consistent end-product quality and throughput.

EFFICIENT SYSTEM UPGRADE – An electric drive allows for the removal of valves, gears, and belts, while also ensuring network dimensioning based on a lower starting current.

FUNCTIONAL SAFETY – ABB all-compatible drives have Safe Torque Off (STO) as standard. A wide range of functional safety modules are available as options. All drive-based safety functions are pre-certified and mostly conform to the highest safety levels SIL3/ Plc and communicate over PROFIsafe or CIP Safety protocols.

ABB drives common features

EASY TO SELECT – Finding the right product for your application is easy with our wide selection of ABB drives.

EASY TO PURCHASE – ABB drives are available directly from ABB and through selected ABB channel partners. Contact us to learn more and check the [ABB Channel Partners page](#) for additional details about ABB Value Provider network.

EASY TO INSTALL AND COMMISSION – ABB drives are not only simple to install but also offer a variety of mounting options, ranging from wall-mounted to cabinet-mounted configurations.

EASY TO USE – ABB drives are designed for easy installation, commissioning, and use. The user interface enables instant adjustments to speed or other advanced parameters.



As part of ABB's sustainability strategy, the company will provide Environmental Product Declarations for relevant products, contributing to transparent and environmentally conscious business practices.

Environmental Product Declarations (EPDs) are standardized, third party verified, documents that provide information about the environmental performance of a product throughout its life cycle. They are based on Life Cycle Assessment (LCA) data and provide information on a range of environmental impacts such as carbon footprint, energy consumption, and resource use. EPDs are part of ABB's commitment to transparency and environmental sustainability.

ABB Drives EPDs include:

1. Raw materials extraction and processing:
Information about the materials used in the product.
2. Manufacturing process:
Details about the manufacturing process, energy consumption, and emissions during production.
3. Transportation:
Information on the transportation of raw materials to the manufacturing site, and the transportation of the finished product to the end-user.
4. Installation:
Environmental impacts associated with the installation process, including energy use and emissions.
5. Use phase:
Energy consumption during the operation of the frequency converter based on efficiency its rating.

6. Maintenance:

Information about the environmental impact of maintaining and servicing the frequency converter during its operational life.

7. End of life:

Details about the recyclability of the product and the environmental impact of its disposal.

Environmental impact categories:

EPDs include information on a range of environmental impact categories, such as global warming potential, ozone depletion, acidification, eutrophication, and others.

Declaration of Global Warming Potential (GWP):

Information about the product's contribution to climate change, expressed in terms of carbon dioxide equivalent (CO₂-eq).

ABB Group EPDs follow the ISO 14025 standard.

The ABB EPD's can be found here:

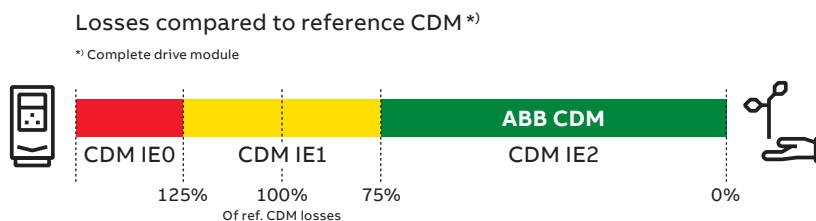
Environmental Product Declarations
– ABB Group (global.abb)

ABB AC DRIVES COMPLY WITH THE EU ECODESIGN REQUIREMENTS

The Ecodesign regulation (EU) 2019/1781 is the legislative framework, that sets minimum energy efficiency requirements for low voltage induction motors and variable speed drives. AC drives and power drive systems are classified according to their power losses. From July 2021, the minimum requirement for non-regenerative AC drives in EU is IE2.

ABB's AC drives (micro and machinery, general purpose, industrial and industry-specific drives) comply with the strictest requirements of the standard for energy efficiency and are classified as IE2.

Energy efficiency classes for a Complete Drive Module (CDM)



Markings on the ABB LV AC drives

Unique identifier QR code to Ecodesign information



IE class and % loss of rated apparent power 50 Hz, 400 V

IE2 (90;100) 2,3 %

Unique QR codes are located on the rating plate and/or the front side of the drive.

Web-based ABB EcoDesign Tool



- Calculates absolute and relative losses and efficiency data at standard and user-defined operating points according to EU regulation 2019/1781 for complete drive module (CDM), LV motors with VSD supply, and power drive system (PDS)
- Losses and efficiency data at operating points in graphical and table format
- Printable efficiency report with possibility to customize title and additional details
- Report can be converted to PDF or CSV format and shared via email

The regulation was implemented in two steps:

Step 1: July 1, 2021

- Power range: from 0.12 to 1000 kW
- 3-phase LV AC drives with diode rectifier
- Drive manufacturers must declare power losses in percentage of the rated apparent output power at 8 different operating points as well as standby losses. The international IE level is given at the nominal point. Drives fulfilling the requirements will be CE marked.

Out of scope of the regulation:

- All drives without CE marking
- Following low voltage AC drives: regenerative drives, low-harmonic drives (THD < 10%), multiple AC-output drives and single-phase drives.
- Medium voltage drives, DC drives and traction drives
- Drive cabinets with already conformity assessed modules

Step 2: July 1, 2023

No changes for AC drives

For more information, see: ecodesign.drivesmotors.abb.com

ABB VALUE PROVIDER NETWORK TO SERVE YOUR NEEDS

ABB's carefully selected channel partners are regularly trained, audited, officially authorized and fully supported. They are periodically assessed on the ABB offering they specialize on to ensure the customer expectations are fulfilled.



ABB Value Providers are members of the ABB channel program – the ABB Value Provider Program.

Products and services for your specific needs

With ABB Value Providers' in-depth knowledge of local markets and business requirements, and their expertise in selected products and services, they can ensure speed, efficiency and consistency in daily operations.

Their work secures that ABB products are backed by the same high standards of service and support all over the world.

Different partner profiles for different needs

Channel type	Focused offering	Authorization for
Distributor	Availability	Sales
Technical distributor	Product specialist	Sales Support Service ^{*)} Engineering ^{*)}
System integrator	Hardware and software integration	Sales Support Service ^{*)} Engineering
Panel builder	Panel designs	Engineering
Service provider	Life cycle provider	Support Service

^{*)} Optional

Authorized

Customers know they receive the highest quality and globally consistent customer support and services when they see the ABB Value Provider program label. Only ABB Value Providers are authorized to use this label.

Looking where to buy?

To learn more about our unique ABB Value Providers near you, please visit:

new.abb.com/drives/drivespartners



—
When you're looking for ABB products and services, look for this label. The sign of quality services from ABB Value Providers.

OUR EXTENSIVE DRIVES AND CONTROLS PORTFOLIO MEANS THE MOST OPTIMAL SOLUTION FOR YOU

ABB low voltage AC drives

The ABB low voltage AC drives product range, from 0.18 to 6000 kW, is the widest selection available from any manufacturer. These drives establish the global benchmark signifying reliability, simplicity, flexibility and ingenuity throughout the entire life cycle of the drive.

ABB machinery drives

ABB machinery drives can be flexibly configured to meet demands set by different machines. An order-based configuration is an integral part of the machinery drives offering. The drives have a broad range of standard and optional features. Their programming capability offers additional flexibility to meet challenging machine requirements.

ABB general purpose drives

ABB general purpose drives are easy to install, commission and use. They are designed to offer control over a broad range of standard drive applications and have a wide range of built-in features simplifying all operations.

ABB industry specific drives

The drives for HVAC, and water and waste water provide customers with dedicated drive solutions for virtually any type of motor control which speaks the same languages as users and their systems.

ABB industrial drives

ABB industrial drives are highly flexible AC drives that can be customized to meet the precise needs of industrial applications. The drives cover a wide power and voltage range up to 6000 kW and 690 V. The drives are designed for industrial applications such as those found in pulp and paper, metals, mining, cement, power, chemical, oil and gas, water and wastewater, and food and beverage. Drives adapted and approved for use in marine environment are also included in this drives family.

ABB wind turbine converters

ABB offers wind turbine converters for small-scale and utility-scale wind turbines. ABB wind turbine converters, suitable for any of today's turbine concepts, deliver durable, reliable performance and are backed by a complete set of life-cycle services.

ABB servo drives

ABB servo drives offer flexible technologies and high performance motor control for a wide variety of applications. The drives enable operation with single and three-phase supplies for global markets, and have open communication options as well as real-time Ethernet technologies such as EtherCAT® and POWERLINK. In addition to drives, ABB offers complete motion control solutions, including human-machine interfaces, programmable logic controllers, safety technology and servo motors.

ABB medium voltage AC drives

ABB offers an extensive portfolio of variable speed drives and soft starters for medium voltage applications with a power range from 250 kW to over 100 MW.

ABB medium voltage drives are used in a wide range of applications in industries such as metals, marine, mining, cement, power, chemical, oil, gas, water and wastewater.

The drives are equipped with air or water cooling and with different line supply connection options. Some products come with an integrated input transformer or with the capability to operate direct-to-line without an input transformer, and therefore minimize both, weight and space.

ABB general purpose and industrial drives

ABB general purpose and industrial drives are used to control standard motors. These motors are typically used to drive applications such as pumps, fans, compressors, mixers, mills and conveyors.

ABB special purpose drives

Special purpose drives are engineered drives, typically used for high power, high speed or special performance applications such as test stands, marine propulsion and thrusters, rolling mills, SAG and ball mills, large pumps, fans and compressors.



ABB DC drives

ABB's DC drives portfolio, from 9 to 18000 kW, provides the highest power-to-size ratio on the market. The drives are designed for most industries and applications including metals, cement, mining, pulp and paper, printing, food and beverage, wire manufacturing, and test rigs. ABB DC drives are available as complete cabinets, modules for cabinet assembly, and retrofit kits.

The DC drives feature auto-tuning capabilities. Intuitive user software minimizes startup time and improves daily operation. This helps to increase process productivity and improve production quality.

ABB standard drives

With compact dimensions and robust technology, ABB standard drives are an ideal solution for any machinery and OEM manufacturer as a new installation or a replacement for older analog devices.

ABB industrial drives

ABB industrial drives are designed for all industrial applications. The fast drive-to-drive DCS link is designed for demanding high power 12-pulse applications, as well as smart master-follower configurations. ABB industrial drives are available both as complete enclosed DC drives and as converter modules to meet the requirements of the users, OEMs and system integrators. These drives are highly flexible and they can be configured to meet the precise needs of industrial applications.









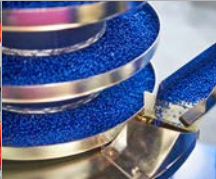





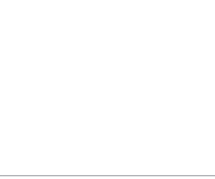



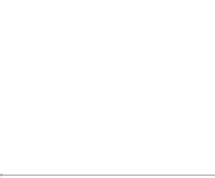





Power controller

The DCT880 thyristor power controller provides precise control of resistive or inductive heaters and infrared heaters in applications for annealing, drying, melting or heating in glass, plastic or metal industry.

ABB Programmable Logic Controllers (PLCs)

ABB offers a comprehensive range of scalable, powerful PLCs and robust HMI control panels. The PLC range starts with the cost-efficient AC500-eCo. AC500 is the powerful flagship PLC, offering a wide range of performance levels. High availability configurations are easy to implement. For extreme conditions like in marine, wind, solar, vibrating machines and waste water treatment, the AC500-XC series is the first choice. AC500-S is the ideal choice for simple and complex safety solutions. Automation Builder is the effortless, straightforward engineering tool for PLC, drives, HMI and internet services.

Right products to right customers

		Servo drives	Machinery drives			High performance machinery drives
						
		e180 & e190	ACS180	ACS380	ACS380-E	ACS880-M04
Variable torque	Pumps, Fans, Agitators					
Basic constant torque	Compressors, Belt conveyors, Gates					
High torque requirements	Mixers, Extruders, Screw conveyors, Centrifuges, Rolling mill					
High precision, open or closed loop	Cranes, Spindles, Winding and unwinding					
High torque, precision and enhanced safety	Cranes, Winches, Kilns					
Position control and synchronizing	Stacker cranes, Rotary tables, Converting machinery					
Drive modules for OEMs and system integrators						

General purpose drives	HVACR drives	Water & wastewater drives	Industrial drives	DC drives
 <p>ACS480/580</p>	 <p>ACH480/580</p>	 <p>ACQ580</p>	 <p>ACS880</p>	 <p>DCS880/580</p>
				
				
				
				
Complete products for distribution and end-users				

ABB LOW VOLTAGE AC DRIVES

The ABB low voltage AC drives product range, from 0.18 to 6000 kW, is the widest selection available from any manufacturer.

These drives establish the global benchmark signifying reliability, simplicity, flexibility and ingenuity throughout the entire life cycle of the drive.



—
About 70 percent of
electricity consumed
by industry is used to
run electric motors.

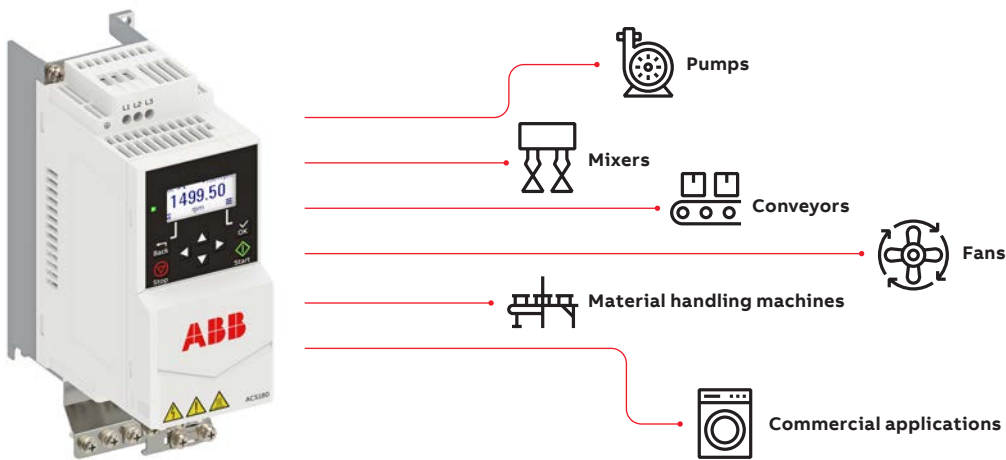
MACHINERY DRIVES

Keep your machines running

The all-compatible machinery drives provide high performance, adaptability and dependability for machine building needs. The drives help machine builders improve machine performance and provide more added value for their customers, while simultaneously cutting integration and maintenance costs.

The ACS180, ACS380, new ACS380-E, and ACS880 machinery drives are part of ABB's all-compatible drives portfolio, offering technically compatible solutions with long-term support for users, processes, businesses, and the environment.





Compact drive with essentials for machine builders

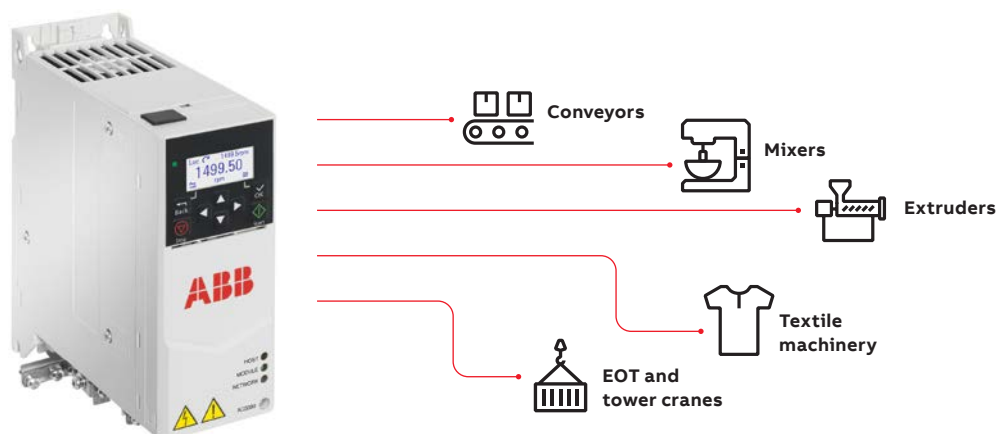
ACS180

Highlights

- Excellent motor control performance with open-loop vector control, supporting induction and permanent magnet motors
- Reliable operation even in harsh conditions – coated boards, optimized air flow, 50C ratings and full earth fault protection
- Dual ratings in one drive, support both heavy overloadability and light overloadability, optimal selection for pumps and fans
- Compact size, easy to be installed in small spaces and side-by-side
- Versatile integrated features: EMC filter, Safe Torque Off (STO), user panel, Modbus RTU
- Adaption to extended needs of machine via adaptive programming
- Part of ABB all-compatible drives portfolio

Features

- Power and voltage range:
 - 0.25 to 3 kW (1-phase 200 to 240 V)
 - 0.25 to 11 kW (3-phase 200 to 240 V)
 - 0.37 to 22 kW (3-phase 380 to 480 V)
- Enclosure class: IP20 as standard
- Integrated EMC filters C2 for 1-phase 200 V and C3 3-phase 400 V standard for ACS180-04S drives
- Integrated Safe Torque Off (STO) as standard for ACS180-04S drives
- Built-in Modbus RTU
- Integrated, icon-based control panel
- Scalar control and sensorless vector control
- Customized functions with adaptive and sequence programming
- Common DC connection and built-in braking chopper for R2 to R4 frame
- Options
 - Advanced control panel with USB or Bluetooth connectivity



Reliable performance and ease of integration for machine builders

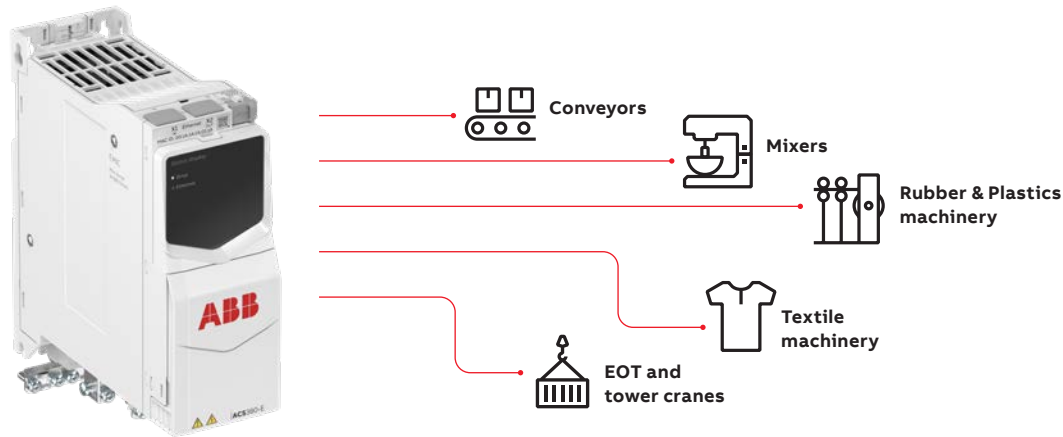
ACS380

Highlights

- Precise motor control for multiple motor types including induction, permanent magnet and synchronous reluctance motors
- Motor control performance with 3-phase current measurement meets demanding load profile requirements
- Connects with all major industrial automation networks
- Safe Torque Off (STO) is built-in as a standard, and can be controlled via PROFIsafe with an optional module
- Adaptive programming for logic development to customize drive operation for application specific requirements
- Part of ABB all-compatible drives portfolio
- Integrated Safe Torque Off (STO) as standard
- Product can be ordered as per application demands
 - Base variant – for I/O control
 - Standard variant – for I/O and Modbus control
 - Configured variant – for fieldbus control, extra I/O's and closed loop with encoders
- Integrated, icon-based control panel
- Scalar control, open and closed loop vector control
- Adaptive programming with function blocks and sequence programs
- Built-in braking chopper
- Common DC connection with built-in charging unit
- Options
 - Fieldbus adapter modules
 - I/O extensions, encoder interface, 24 V auxiliary power
 - PROFIsafe (STO, SS1-t)
 - Input chokes, du/dt filters
 - Advanced control panel with USB or Bluetooth connectivity

Features

- Power and voltage range:
 - 0.25 to 2.2 kW (1-phase 200 to 240 V)
 - 0.25 to 11 kW (3-phase 200 to 240 V)
 - 0.37 to 22 kW (3-phase 380 to 480 V)
- Enclosure class: IP20 as standard (optional UL type 1 kit)
- EMC categories C2 and C3 with an internal filter



Adaptable, secure and connected, for seamless machine control

ACS380-E

Highlights

Adaptable Connectivity

- One drive for all major Ethernet protocols – PROFINET, Ethernet/IP, Modbus TCP
- Fast Ethernet-based commissioning, remote access, and file backups
- Built-in I/O and high-performance motor control for smooth integration

Versatile Simplicity

- Supports all motor types including induction motors, Permanent magnet motors and servos, synchronous reluctance motors
- Compact, uniform depth and side-by-side install without de-rating
- Spring terminals and ejectable front mounts for faster, easier wiring
- “All-compatible” platform – learn ones, use everywhere

Robust Cybersecurity

- Secure boot, ABB-signed firmware, and tamper-proof supply chain
- SL2 support by 2027 for future compliance
- Designed for safe, secure, and reliable machine operation

Features

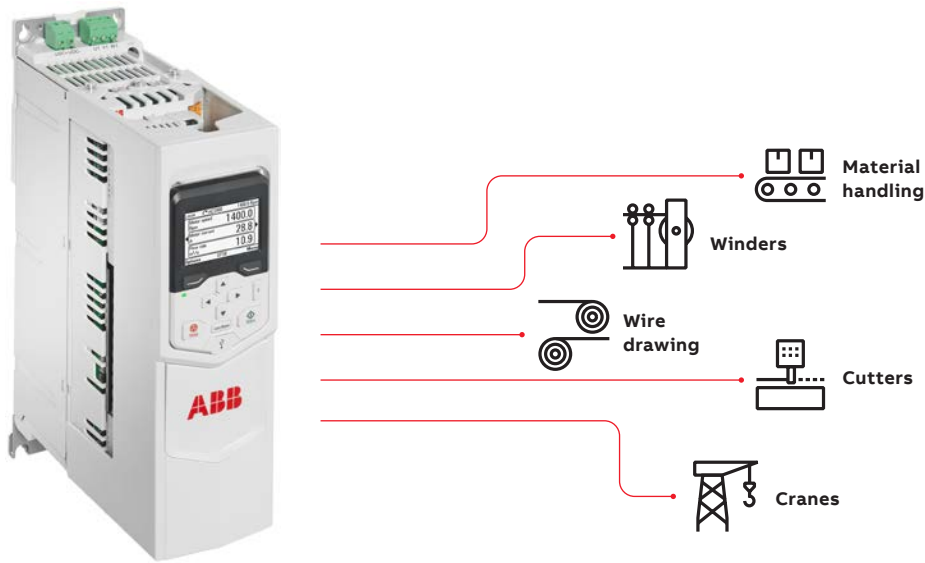
- Power and voltage range:
 - 0.25 to 2.2 kW (1-phase 200 to 240 V) ^{*)}
 - 0.25 to 11 kW (3-phase 200 to 240 V) ^{**)}
 - 0.25 to 22 kW (3-phase 380 to 480 V) ^{***)}
- Enclosure class: IP20 as standard (optional UL type 1 kit)
- EMC category C2 built-in
- Integrated Safe Torque Off (STO) as standard
- Status display with RJ45 for external panel as standard
- Scalar control, open and closed ^{***)} loop vector control
- Adaptive programming with function blocks and sequence program
- Built-in braking chopper
- Protocols: Ethernet IP, Profinet, Modbus TCP/IP, EtherCat ^{***)}, Ethernet Powerlink ^{***)}
- Options:
 - Keypad display
 - I/O extensions, encoder interface ^{***)}

^{*)} Release Q4-2025

^{**)} Release Q2-2026

^{***)} Release Q2-2025





Easy to adapt and configure to machines

ACS880-M04

Highlights

- Excellent performance and compatibility with all kinds of machines
- Comprehensive connectivity
- Good possibilities for customizing the drive with IEC 61311-3 and adaptive programming
- Cost and time savings with drive-based functional safety
- Removable memory unit for fast drive replacement
- Optimized for cabinet assembly
- Top entry and bottom exit of the power cables enabling the optimal cabinet layout
- Bookshelf design
- Standard ACS880 with position control program (+N5700) provides solution for higher powers and more complex machinery applications
- Standard ACS880 with position control program (+N5700) provides solution for higher powers and more complex machinery applications.

Features

- Power and voltage range: 3-phase 0.37 to 22 kW, 200 to 240 V AC
- Power and voltage range: 3-phase 0.75 to 45 kW, 380 to 500 V AC
- Enclosure class: IP20
- Integrated Safe Torque Off (STO) as standard
- Built-in braking chopper
- Extensive I/O connectivity as standard
- Options
 - Extended connectivity to I/O
 - Speed and position feedback interfaces
 - Fieldbus adapter modules
 - Advanced control panel with USB or Bluetooth connectivity
 - Built-in/plug-in EMC filters for category C3, external EMC filters for category C2
 - Safety functions: SS1, SSE, SBC, SLS, SMS, SDI, SSM
 - PROFIsafe over PROFINET connectivity between drive and safety PLC
 - Application specific control programs including position control, tower crane, winder, etc.
 - EC61131-3 programming

GENERAL PURPOSE DRIVES

Get it fast.

Use it easily.

Improve your processes.

The general purpose drives are designed to control a wide range of applications such as mixers, conveyors, compressors, fans, pumps, and centrifuges.

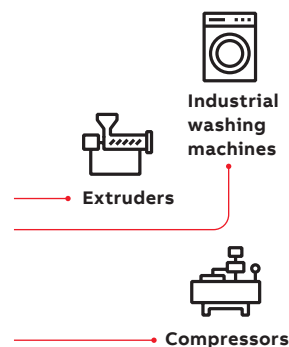
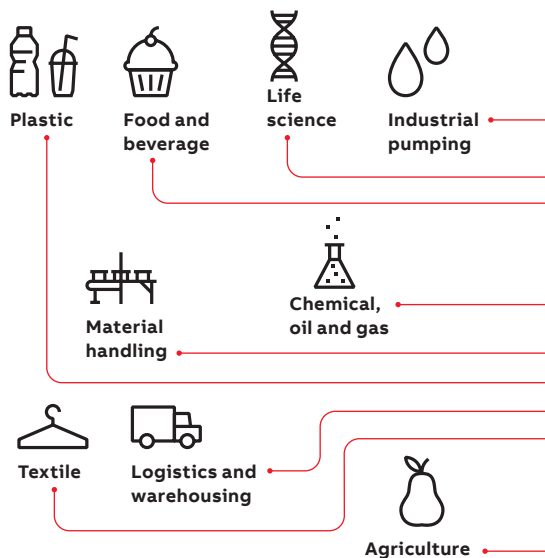
They are also suitable for process control applications in industries such as material handling, food and beverage, chemicals, rubber and plastics, textiles and printing.

The ACS480 and ACS580 drives offer an optional software package for the food and beverage industry comprising two parts (Cooling compressor control and Anti-cavitation) to improve processes through segment-specific functions.

The drives are easy to select, install, configure, and use, saving considerable time. They are equipped with ready-made application specific control macros, making it easy to fulfill application requirements.

The general purpose drives ACS480 and ACS580 are part of ABB's all-compatible drives portfolio, offering technically compatible drives with long-term solutions and support for users, processes, business, and the environment.





Effortless process automation for a broad range of applications

ACS580

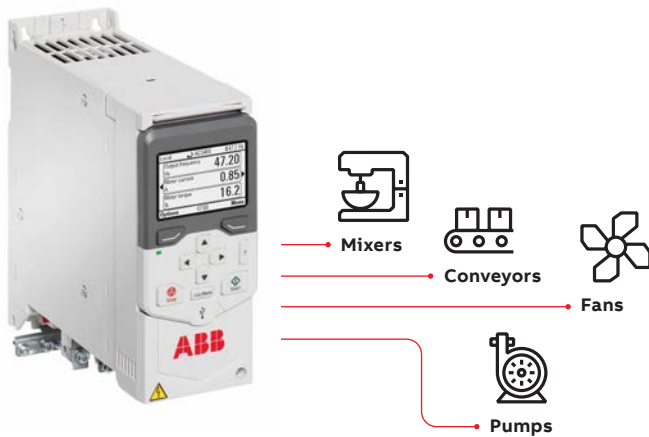
Highlights

- Wall-mounted, drive modules and cabinet-built drives to control a variety applications
- Easy to select, install and use
- All essential features built into the drive
- Straightforward settings menu and assistants for fast commissioning
- Food and beverage segment specific software features including cooling compressor control and cavitation control
- Suitable for harsh environment with IP55 enclosure
- Energy efficiency features for optimal energy management and support for energy efficient motors
- Adaptive programming for fine tuning and engineering the drive functionality
- ATEX certified thermistor relay for potentially explosive environment (e.g., dust areas in F&B)
- Connectivity to most common automation networks and extensive selection of I/O options to match your needs
- Part of ABB's all-compatible drives portfolio

Features

- Power range 0.75 to 500 kW (3-phase 380 to 415 V, 440 to 480 V, 200 to 240 V)
- Wall-mounted drives, IP21 as standard (UL type 1), IP55 as option (UL type 12 in frame sizes R1-R9)
- Drive modules, IP00 as standard, IP20 as option
- Cabinet-built drives, IP21 as standard, IP42 and IP54 as options

- Assistant control panel as standard with primary settings and diagnostics menu with various assistants for effortless use of the drive
- EMC C2 filter for wall-mounted drives which allows safe installation in first environment
- EMC C3 and common mode filter for drive modules and cabinet-built drives which allow safe installation in second environment
- Integrated EMC C2 filter for drive modules and cabinet-built drives as option
- Built-in DC or AC choke to mitigate harmonics
- Brake chopper as standard up to 22 kW (R3), optional for R10-R11
- Adjustable switching frequency control reducing motor audible noise
- Options
 - Wide range of fieldbus adapters and remote monitoring
 - Relay extension, PTC-thermistor, I/O options to increase functionality, ATEX-certified PTC-thermistor, analog I/O extension, CAIO-01
 - Free entry level PC tool with USB connection on control panel
- Assistant control panel with Bluetooth capability
- Supports induction motors, permanent magnet motors and synchronous reluctance motors (SynRM)
- Safe Torque Off and Safe Stop over PROFIsafe and CIP-safety



Essential process efficiency for many applications

ACS480

Highlights

- Cabinet-optimized, compact design and all essential features built-in offer pure ease of use for various of applications, such as pumps, compressors, conveyors and fans
- Straightforward settings menu and assistants for fast commissioning
- Food and beverage segment specific software features including cooling compressor control and cavitation control
- Energy efficiency features for optimal energy management and support for energy efficient motors
- Connectivity to most common automation networks
- Part of ABB's all-compatible drives portfolio

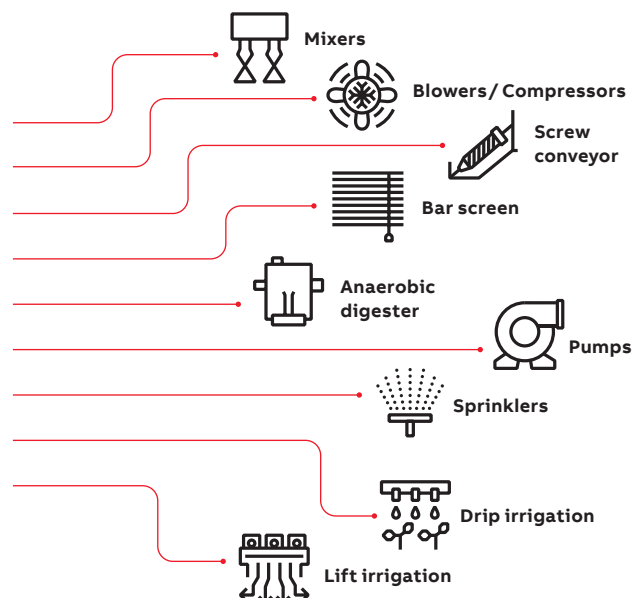
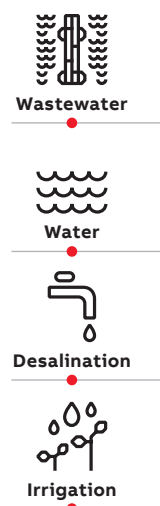
Features

- Power range 0.37 to 22 kW (1-phase and 3-phase 200 V to 240 V, 3-phase 380 to 480 V)
- Cabinet-optimized, IP20 as standard
- Assistant control panel as standard with primary settings for quick operation without a need to scroll through parameter lists
- Integrated and preprogrammed features, such as PID, pump and fan macros, timers
- Integrated EMC C2 filter as standard
- Adjustable switching frequency control reducing motor audible noise
- Built-in Safe Torque Off (STO) to enhance safety
- Options
 - Basic control panel, assistant control panel with Bluetooth capability, industrial assistant control panel
 - Most common fieldbus adapters available
- Remote monitoring with NETA-21
- Safe configuration for unpowered drives
- Supports induction motors, permanent magnet motors and synchronous reluctance motors (SynRM)





ABB DRIVES FOR WATER AND WASTEWATER



Robust design securing optimal flow of water and wastewater

ACQ580

Highlights

- Optimized efficiency for water and wastewater supply and treatment processes
- Enhanced reliability with built in pump protections and application control features
- Proven performance in demanding environments with flexible and robust offering
- Seamless integration and operation, supporting multiple motor types and industry wide communication protocols
- Easy to commission, configure and use with the intuitive Hand-Off-Auto control panel that speaks the industry language

ACQ580 ultra-low harmonic drives

Highlights

- Total Harmonic Distortion (THDi) less than 3%
- Unity Power factor (1.0), even with partial loads
- Ability to boost the output voltage in weak networks
- Everything built in – no external filters or contactors required
- Ride through power quality dips and imbalances without tripping
- Reduces the need for oversized generators and transformers

Features

- Power range:
 - 0.75 to 500 kW (3-phase 380 to 480 V)
 - 0.75 to 75 kW (3-phase 200 – 240 V)
 - 0.37 to 37 kW (1-phase 200 – 240 V)
- Ultra-low harmonic drives power range:
 - 4 to 355 kW (3-phase 380 to 480 V)
- Wall-mounted drives, IP21 as standard (UL type 1), IP55 as option (UL type 12)
- Drive module, IP00 as standard, IP20 as option
- Cabinet-built drives, IP21 as standard, IP42 and IP54 as options
- Built-in pump application program with Intelligent multipump functionality, Sensorless flow calculation, Level control, Soft pipe fill, Quick ramps, Anti-cavitation, Pump cleaning and Pump protection functions
- Adaptive programming for user defined control functions
- Intuitive and easy to use Hand-Off-Auto control panel available also with Bluetooth functionality
- Built-in choke and EMC filter
- Functional safety: Safe Torque Off (STO) as standard
- Extended I/O option modules
- Coated PCBs for humid and harsh environments

ABB DRIVES FOR HVACR

All-compatible HVACR drives family



Complete HVACR functionality in a compact package

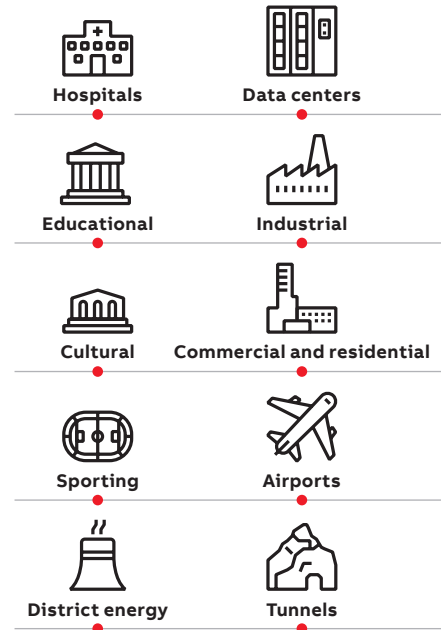
ACH480

Highlights

- Optimized efficiency of HVACR processes
- Enhanced comfort with dedicated HVACR application functionalities
- Designed for panel builders thanks to the drive's compact design and wide operating temperature range
- Seamless integration and operation with wide motor and communication protocol support
- Easy to commission, configure and use with intuitive Hand-Off-Auto control panel that speaks HVACR language

Features

- Power range 0.37 to 22 kW (3-phase 380 to 480 V)
- IP20 as standard, UL type 1 with option
- Built-in EMC filter, category C2
- Built-in HVACR application program with Fireman's override, Intelligent multipump control, Sleep and boost functions, Anti-condensation, Resonance monitoring etc.
- Adaptive programming
- Intuitive and easy to use Hand-Off-Auto control panel available also with Bluetooth functionality
- Functional safety: Safe Torque Off (STO) as standard
- Embedded BACnet MS/TP, Modbus RTU and N2 for easy integration with BMS
- PID controllers for controlling HVACR applications
- Real time clock and built-in timers for timed operation of the drive and external HVACR devices





Pumps

- Heating and cooling substations
- Booster stations
- Fire pumps
- Pool pumps



Fans

- Supply and return fans
- Air handling units
- Fan arrays
- Cooling towers



Compressors

- Chillers
- Heat pumps

Comprehensive climate control for comfortable, safe and energy efficient buildings

ACH580

Highlights

- Optimized efficiency of HVACR processes
- Enhanced comfort with dedicated HVACR application functionalities
- Proven performance in demanding environments with robust drives offering
- Seamless integration and operation with wide motor and communication protocol support
- Easy to commission, configure and use with intuitive Hand-Off-Auto control panel that speaks HVACR language
- Widely available from ABB authorized partners and from ABB regional and central stocks

Features

- Power range:
 - 0.75 to 500 kW (3-phase 380 to 480 V)
 - 0.75 to 75 kW (3-phase 200 to 240 V)
 - 0.37 to 37 kW (1-phase 200 to 240 V)
- Ultra-low harmonic drives power range:
 - 4 to 355 kW (3-phase 380 to 480 V)
- Wall-mounted drives, IP21 as standard (UL type 1), IP55 as option (UL type 12)
- Drive module, IP00 as standard, IP20 as option
- Cabinet-built drives, IP21 as standard, IP42 and IP54 as options
- Built-in choke and EMC filter
- Built-in HVACR application program with Fireman's override, Intelligent multipump control, Sleep and boost functions, Anti-condensation, Resonance monitoring, Active braking (in ULH offering), etc.
- Adaptive programming
- Intuitive and easy to use Hand-Off-Auto control panel available also with Bluetooth functionality
- Functional safety: Safe Torque Off (STO) as standard
- Extended connectivity to I/O
- Embedded BACnet MS/TP, Modbus RTU and N2 for easy integration with BMS
- PID controllers for controlling HVACR applications
- Real time clock and built-in timers for timed operation of the drive and external HVACR devices
- Coated PCBs for humid and harsh environments

ACH580 ultra-low harmonic drives

Highlights

- THDi even less than 3%
- Power factor always 1.0 even with partial loads
- Ability to boost output voltage in weak networks
- Everything built in – no external filters or contactors required

INDUSTRIAL DRIVES

Uncompromised productivity

Experience leading performance and benchmark reliability with ACS880 industrial drives, engineered for heavy use in harsh environments. Ensure precise motor control without encoders, seamless integration with all major automation networks, and flexible customization compatible with virtually any motor type.

Simplify and secure your operations with intuitive installation features, a user-friendly interface, and built-in safety functions. At the core of our ABB Drives offering are advanced energy-saving features, reduced CO₂ emissions, and a durable design that enhances productivity and efficiency.



ALL-COMPATIBLE ACS880 INDUSTRIAL DRIVES



ACS880

Highlights

- Robust, long lifetime design for maximum reliability, even in harsh conditions
- Flexibility in hardware and software enabling superior customization
- Drive-to-drive link for fast communication between drives
- Wide power and voltage range from 0.55 to 6000 kW
- Ready application- and industry-specific solutions
- Precise DTC control for all common motor types
- Communication with all major automation networks
- Integrated safety including Safe Torque Off (STO) as standard with several safety functions as options
- Energy and investment savings with unity power factor of ultra-low harmonic and regenerative drives
- The active supply unit can boost output voltage, ensuring full motor voltage when the supply voltage is below nominal
- Marine approvals from various key classification bodies
- Options include:
 - I/O extension modules
 - Fieldbus adapter modules
 - Integrated safety features
 - Speed feedback interfaces
 - EMC filter, output filters

ACS880 single drives

Highlights

- All the essential features, like brakes, are built in a stand-alone drive
- Compact and ready-to-use unit ensures easy installation for single motor applications in different environments

Features

- IP20: Option (-01, -11, -31)
- IP21: Standard (-01, -11, -31)
- IP22: Standard (-07, -17, -37)
- IP42: Standard (-07CLC, -17/37LC). Option (-07, -17, -37)
- IP54: Option (-07, -17, -37, -07CLC, -17/37LC)
- IP55: Option (-01, -11, -31)
- Flange mounting with IP55 back side protection (-01, -11, -31)
- Wall-mounted single drives, 0.55 to 250 kW, 230 to 690 V
- Cabinet-built single drives, 45 to 2800 kW, 400 to 690 V
- Liquid-cooled cabinet drives, 250 to 6000 kW, 500 to 690 V
- Regenerative and ultra-low harmonic
 - Wall-mounted drives, 2.2 to 110 kW, 400 to 500 V
 - Cabinet-built drives, 45 to 3200 kW, 400 to 690 V

Designed to tackle any of your motor-driven applications, in any industries, whatever the power range



ACS880 drive modules

Highlights

- ACS880 drive modules have been optimized for assembly into the customer's own cabinets
- High power modules have wheels for easy maneuvering
- Side-by-side mounting reduces the required cabinet space
- Flange mounting with IP55 back side protection (-04)
- A large variety of support materials, accessories and assistance available for cabinet design and assembly

Features

- IP00: -x4, -x04, -x04LC
- IP20: -01, -04, -04F, -11, -31, -14, -34
- Wall-mounted single drive modules, 0.55 to 250 kW, 230 to 690 V
- Single drive modules, 200 to 710 kW, 400 to 690 V
- High power single drive module packages, 400 to 2200 kW, 400 to 690 V
- Regenerative and ultra-low harmonic
- Drive modules, 2.2 to 400 kW, 400 to 690 V
- Drive module packages, 160 to 2200 kW, 400 to 690 V
- Multidrive modules
 - Air cooled multidrive modules from 1.5 to 3200 kW, 400 to 690 V
 - Liquid-cooled multidrive modules from 45 to 6000 kW, 400 to 690 V

ACS880 multidrives

Highlights

- Designed for multimotor applications
- The most compact design on the market with side-by-side mounting capability
- Engineered-to-order to meet space- and process requirements
- Drive line-up can be built and installed into straight line, back-to-back, L-, U-, or other shape and layouts
- Highly efficient thermal handling as heat loss of each inverter unit is guided to the back of the cabinet. All cabinets are their own compartments.

Features

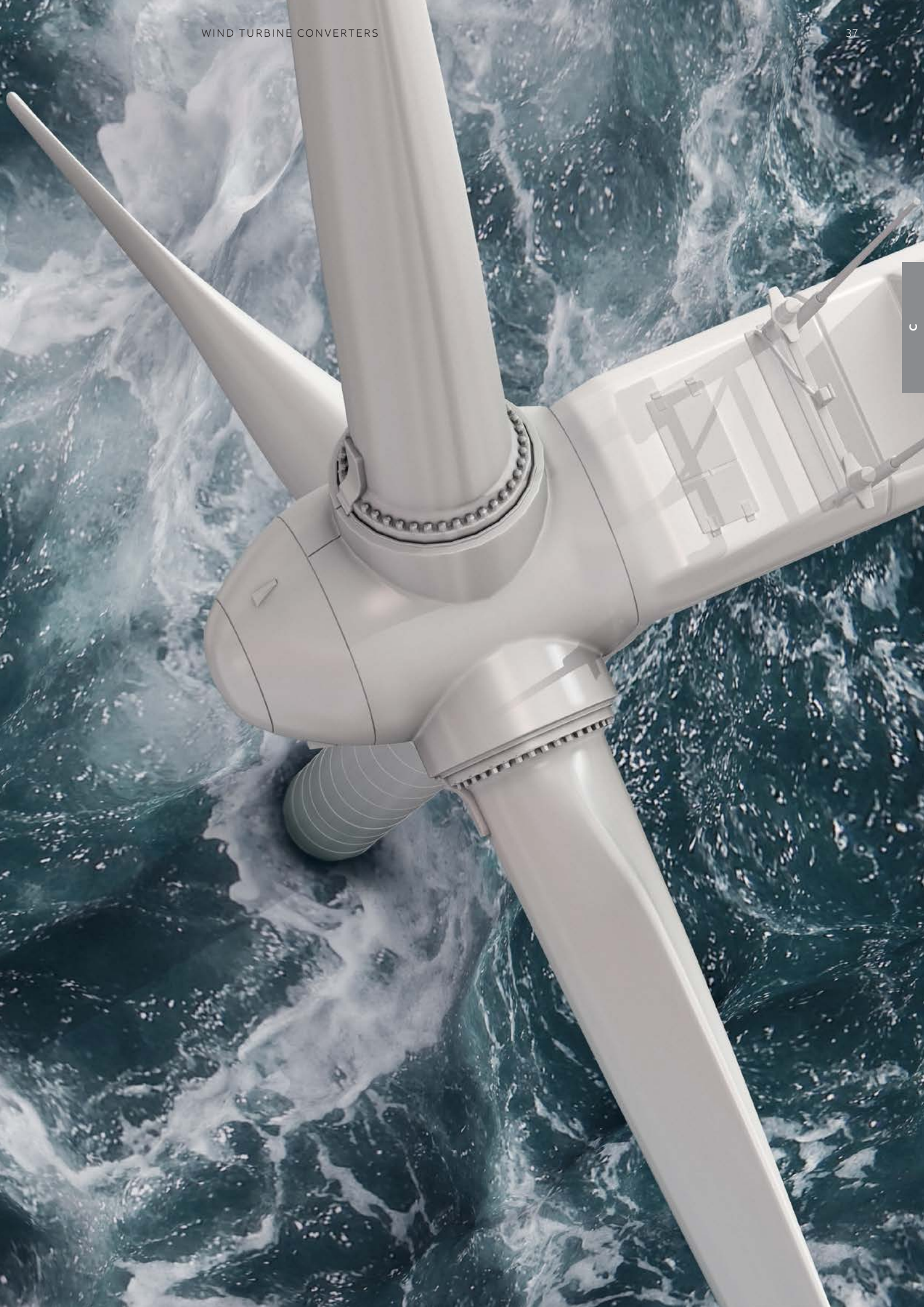
- Air cooled
 - IP22 (as standard), IP42 and IP54
 - Power range: 1.5 to 5600 kW, 400 to 690 V
- Liquid cooled
 - IP42 (as standard) and IP54
 - Power range: 45 to 6000 kW, 500 to 690 V
- Inverter units
- Regenerative IGBT supply units
- Regenerative rectifier units (only air cooled)
- Diode supply unit
- DC/DC converter
- Liquid-cooling units
- Braking unit

ABB WIND TURBINE CONVERTERS

The wind turbine converter plays an important role in helping customers create the perfect wind economy. The selection of the right converter is critical in the turbine design and for a higher return on investment.

ABB offers wind turbine converters for small-scale and utility-scale wind turbines. ABB wind turbine converters, suitable for any of today's turbine concepts, deliver durable, reliable performance and are backed by a complete set of life-cycle services.







The ACS880 converter is a full power converter engineered for onshore and offshore wind turbines

Designed for extreme conditions

ACS880-77LC/-87LC/-87CC, wind turbine converters

Highlights

- The ACS880 wind turbine converter has been adapted from ACS880 drive family and optimized to meet the requirements of the wind industry. It is based on a technology proven and tested in thousands of applications worldwide.
- The precise, fast control dampens drivetrain oscillations, minimizing stress on the gearbox. This results in a longer lifetime for the mechanical drivetrain.
- The converter can be installed as both nacelle and tower installations, either in-line or back-to-back cabinet with liquid cooling or combined cooling. Various cabling options enable adaption to different installations.
- Easy troubleshooting and fast replacement thanks to modular components, such as control units and power modules. Possible faults are limited to one modular component.
- Improved stability of the turbine's power supply conforming to user-defined settings with the optional integrated battery control, enabling connection to an external energy storage.

Features

- Generator power range 1 to 12 MW
- Liquid cooling with totally enclosed cabinet
- Full power converter for permanent magnet and asynchronous generators
- Rated grid voltage 525 to 690 V AC, 3-phase, $\pm 10\%$
- Rated generator voltage 0 to 750 V AC
- Nominal grid frequency 50/60 Hz
- Efficiency at converter's rated point, typical value 97%
- Generator-side converter du/dt , measured value 1.25 kV/ μ s

- Total harmonic current distortion, measured value 2.5%
- Ambient temperature:
 - Transport -40 to +70 °C
 - Storage -40 to +70 °C
 - Operation -30 to +50 °C
- Coolant inlet temperature +5 to +50 °C
- Totally enclosed cabinet IP21 and IP54 / UL type 12
- Cabling connections: Bottom
- Cooling connections: Left or right side
- Cabinet configuration: In-line, back-to-back or several separate
- Fieldbus interfaces: EtherCAT, PROFINET IO, PROFIBUS-DP, CANopen, Modbus, ControlNet, InterBus-S, DeviceNet
- Standard Ethernet connection for PC browser
- Supports wind turbines to comply with the most stringent grid code requirements
- Product markings: CE, GL2010, North American EMC EN 61800-3/ A11 (2000), EN 61800-3 (2004) 2nd environment, unrestricted distribution, category C3
- Quality assurance system ISO 9001
- Environmental system ISO 14001
- Product approvals: UL61800-5-1, CSA C22.2 No 274, DNVGL-SE-0441
- Options include:
 - Sub-converter configuration
 - Cooling method Liquid or combined cooling
 - Online reconfiguration
 - Integrated energy storage
 - Output contactors on the generator side protection
 - High coolant inlet temperature up to +55 °C
 - High altitude up to 4000 m



Superior system performance

PCS6000, wind turbine converters

Highlights

- The PCS6000 wind turbine converter has been adapted from ABB's medium voltage frequency converters and optimized to meet the requirements of the wind industry. It is based on a technology proven and tested in thousands of applications worldwide.
- The converter is suitable for other high power renewable energy application such as tidal or wave
- Supports wind turbines to comply with the most stringent grid code requirements
- The converter can be installed as both nacelle and tower installations, either in-line, back-to-back, face-to-face or T-shape arrangement
- Easy troubleshooting and fast replacement thanks to modular components, such as control units and power modules. Possible faults are limited to one modular component.
- Very compact, light-weighted, fuseless and filterless design
- Very robust and reliable power conversion by IGCT semiconductors
- Efficient cable connections to generator and transformer due to MV technology
- The precise, fast control dampens drivetrain oscillations, minimizing stress on the gearbox. This results in a longer lifetime for the mechanical drivetrain.

Features

- Generator power range up to 15 MW (higher on request)
- Liquid cooling with IP54 enclosed cabinet
- Full power converter for permanent magnet and induction generators
- Rated grid voltage 3.3 kV AC
- Rated generator voltage 0 to 3.3 kV AC
- Nominal grid frequency 50/60 Hz
- Efficiency at converter's rated point, typical value > 98%
- Ambient temperature:
 - Transport -25 to +70 °C
 - Storage -25 to +55 °C
 - Operation -10 to +45 °C
- Coolant inlet temperature up to +45 °C, higher temperatures possible on request.
- Cabling connections:
 - Generator-side connections from top or back (Pfisterer P3)
 - Grid-side connections from top (Pfisterer P3)
 - Braking resistor connections from top or back
 - Control connections from bottom (terminals inside control cabinet)
- Product markings CE (acc. 2014/35/EU, 2014/30/EU), DNV-GL (acc. GL-IV-2:2012), CGC (acc. CGC-R46022:2011), UL (acc. UL 6141:2016)
- Quality assurance system ISO 9001:2015
- Environmental system ISO 14001:2015
- Occupational health and safety system ISO 45001:2018

ABB SERVO DRIVES PROVIDE CAPABILITY WITHOUT COMPLEXITY

ABB servo drives offer flexible technologies and high performance motor control to solve a wide variety of applications. The range includes powers from 0.1 kW to 7.5 kW. The drives enable operation with single and three-phase supplies for global markets, and have open communication options as well as real-time Ethernet technologies such as EtherCAT® and POWERLINK.

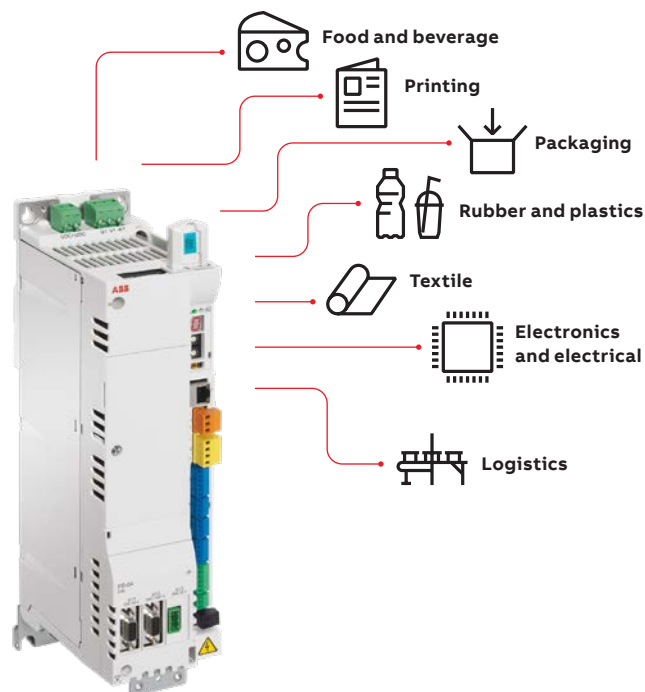
Our intelligent servo drives include programming options for single and multi-axis control applications or can be combined with our multi-axis motion controllers and PLC products for system solutions.



D



ABB SERVO DRIVES



Versatile servo drives with flexible Ethernet communication protocol options

MotiFlex e180

Highlights

- Versatile servo drives with integrated safety function for the three-phase power network
- Software selectable Ethernet protocols including EtherCAT, POWERLINK, Modbus TCP/IP, EtherNet/IP and PROFINET IO
- Advanced motion programming language Mint for multitask controls such as communication, logic, motion and HMI interaction
- Supports the HIPERFACE DSL one cable solution

Features

- Three phase operation voltage from 200 to 480 V AC
- 200% and 300% overload capacity up to 3 s
- Degree of protection IP20 for cabinet installation (UL open)
- Supports the protocols EtherCAT and POWERLINK via the ports E1 and E2, and supports the protocols EtherNet/IP, Modbus TCP/IP and PROFINET IO via the port E3
- Suitable for single axis and multi-axis servo systems
- Supports rotary and linear AC servo motors
- Integrates the Safe Torque Off (STO) function which complies with the standard EN61800-5-2
- Supports the analog and PTO control modes
- Supports the second input for dual feedback
- Flexible options for function expansion
 - Various encoder adaptors for different kinds of encoders
 - AC chocks
 - EMC filters
 - External braking resistors

For further information, see catalog "ABB servo product – Servo drive and motor packages". Code: 3AXD50000751464 EN.

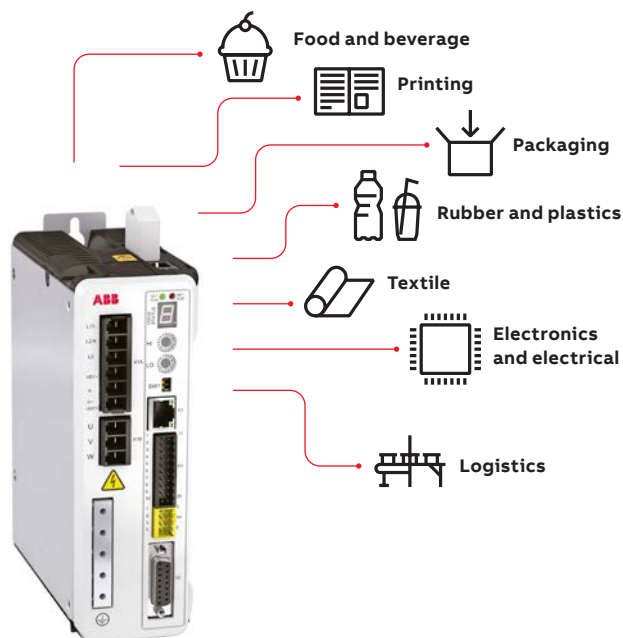


Complete motion control solutions

Highlights

The servo drives are part of ABB's extensive range of motion control solutions. The solutions include human machine interfaces (HMI), Programmable Logic Controllers (PLC), functional safety technology, multi-axis motion controllers, rotary servo motors and linear motors. All of which seamlessly interface to provide a complete machine control solution.

For further information, see catalog "PLC Automation AC500, CP600, Automation Builder", code: 3ADR020077C0204.



Compact servo drives with flexible Ethernet communication protocol options

MicroFlex e190

Highlights

- Compact servo drives with integrated safety function for the single/three phase power network
- Software selectable Ethernet protocols including EtherCAT, POWERLINK, Modbus TCP/IP, EtherNet/IP and PROFINET IO
- Advanced motion programming language Mint for multitask control such as communication, logic, motion and HMI interaction

Features

- Single/three phase operation voltage from 200 to 240 V AC
- 200% and 300% overload capacity up to 3 s
- Degree of protection IP20 for cabinet installation (UL open)
- Supports the protocols EtherCAT, POWERLINK and PROFINET IO via the ports E1 and E2, and supports the protocols EtherNet/IP and Modbus TCP/IP via the port E3
- Suitable for single axis and multi-axis servo systems
- Supports rotary and linear AC servo motors
- Integrates the Safe Torque Off (STO) function which complies with the standard IEC61800-5-2
- Supports the analog and PTO control modes
- Supports the second input for dual feedback
- Integrated EMC bonding plate on the front panel makes it easy for grounding
- Flexible options for function expansion
 - Resolver splitter OPT-MF-200
 - Resolver adaptor OPT-MF-201
 - IO Expansion option OPT-SIO-1
 - EMC filters
 - External braking resistors

For further information, see catalog "ABB servo product – Servo drive and motor packages". Code: 3AXD50000751464 EN.

Features

- The CP600 control panel platform offers displays from 4.3" to 21.5", portrait and landscape versions
- The comprehensive and scalable AC500 PLC platform is based on IEC 61131-3 and PLCopen
- A wide range of rotary servo motors and gearheads
- Safety technology with integrated drive features, safety PLC and safe I/O systems, as well as Jokab Safety sensors, actuators, safety relays, programmable safety controllers

MEDIUM VOLTAGE DRIVES

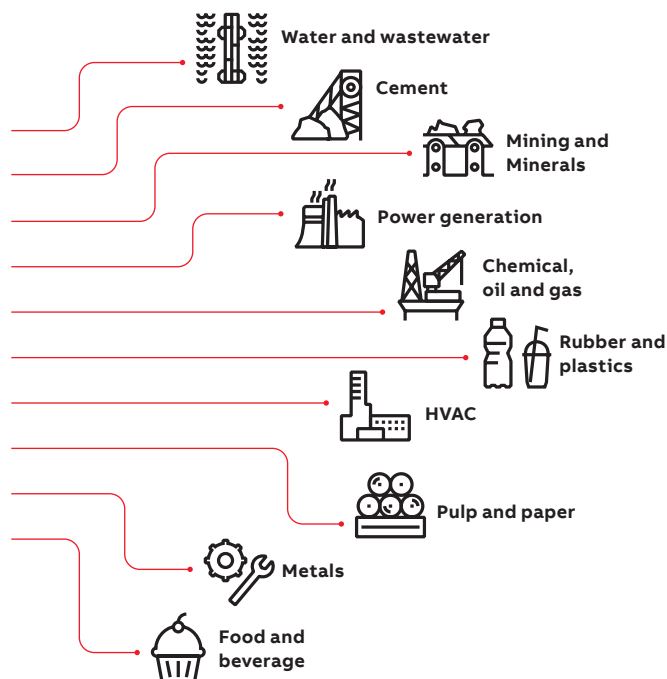
ABB offers an extensive portfolio of variable speed drives and soft starters for medium voltage applications in the power range from 250 kW to more than 150 MW.



They are used in a wide range of applications in industries such as metals, marine, mining, cement, power, chemical, oil and gas, water and wastewater, food and beverage, pulp and paper, and test stands.



AIR-COOLED MV DRIVES



Effortless energy efficiency for a wide range of applications

ACS580MV

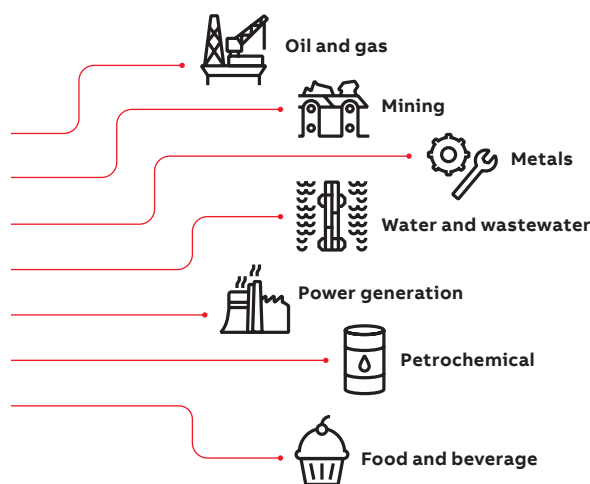
Highlights

- Simple to select, order, commission and operate
- All essential features built into the drive
- Speeds up commissioning process
- Straightforward settings menu and assistants
- Bluetooth connection available
- Energy efficiency features for optimal energy use
- Universal connectivity
- Member of ABB's all-compatible drives portfolio
- ABB Ability™ Condition Monitoring for drives to monitor your drive condition all the time, anywhere in the world

Features

- Power range 200 kW to 6.3 MW (3.3 to 11 kV)
- Air cooling
- Cabinet-built drives, IP21 as standard, IP42 as option
- VSI – Voltage Source Inverter, multiple-pole diode rectifier, multilevel output
- In-line manual bypass panel for highest availability of any application that can operate direct on line (DOL)
- In-line synchronize bypass panel for softstarter applications with large motor as well as multi-motor starting
- Optional cell bypass functionalities with neutral point shifting control for even higher performance in mission-critical applications
- Free entry level PC tool with USB connection on control panel
- Advanced diagnostics and monitoring system
- Wide range of fieldbus adaptors for all major automation networks
- Compliance with CE and EAC

Air-cooled drives are suitable for a wide variety of applications such as pumps, fans, compressors, mixers, mills, conveyors, test stands, mine hoists and conveyors in many industries. The drives are all-rounders that ensure energy-efficient and productive processes.



Designed to meet demanding industrial application needs

ACS800

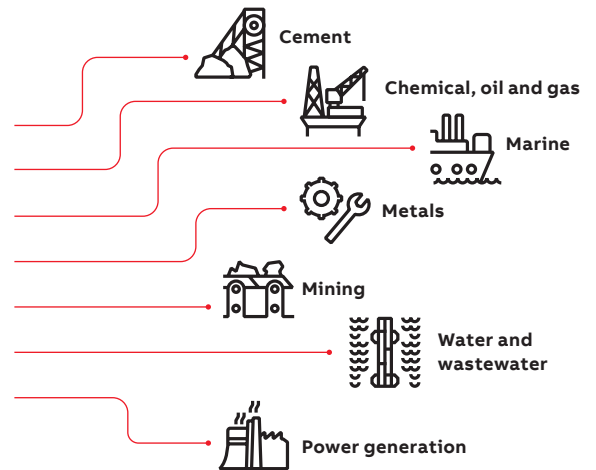
Highlights

- Based on well-established and proven ABB drives technology
- Minimized potential points of failure
- Optimized maintenance and minimized downtime
- Adapts to almost all applications and industries
- Easily integrates with diverse types of supplies and motors
- Creation, validation, and realization of customized solutions
- Enhanced efficiency and output while minimizing losses
- Reduced total cost of ownership (TCO)
- Fast and efficient data processing
- Enhanced personnel and machine safety
- Safeguards from unpredicted and unsafe situations
- Protection against unauthorized access, malware, data breaches, and insecure connections

Features

- Power range: 300 to 6700 kW / 400 to 9000 HP
- Air cooling with flexible cooling setups
- Integrated transformer, external transformer or direct-to-line supply configuration
- Diode and active rectifier variants
- Suitable for single- and multi-motor applications
- Output sine filter or active filter options
- Next generation control unit (UCU)
- Model Predictive Pulse Pattern Control (MP3C)
- ABB Crealizer™ software platform support
- Protection based on arc prevention and fast arc elimination
- Integrated DC link grounding switch
- Functional safety features (EOFF, ESTOP, STO)
- Robust cybersecurity

HIGH-POWER MV DRIVES



Modular drive for demanding applications

ACS6080

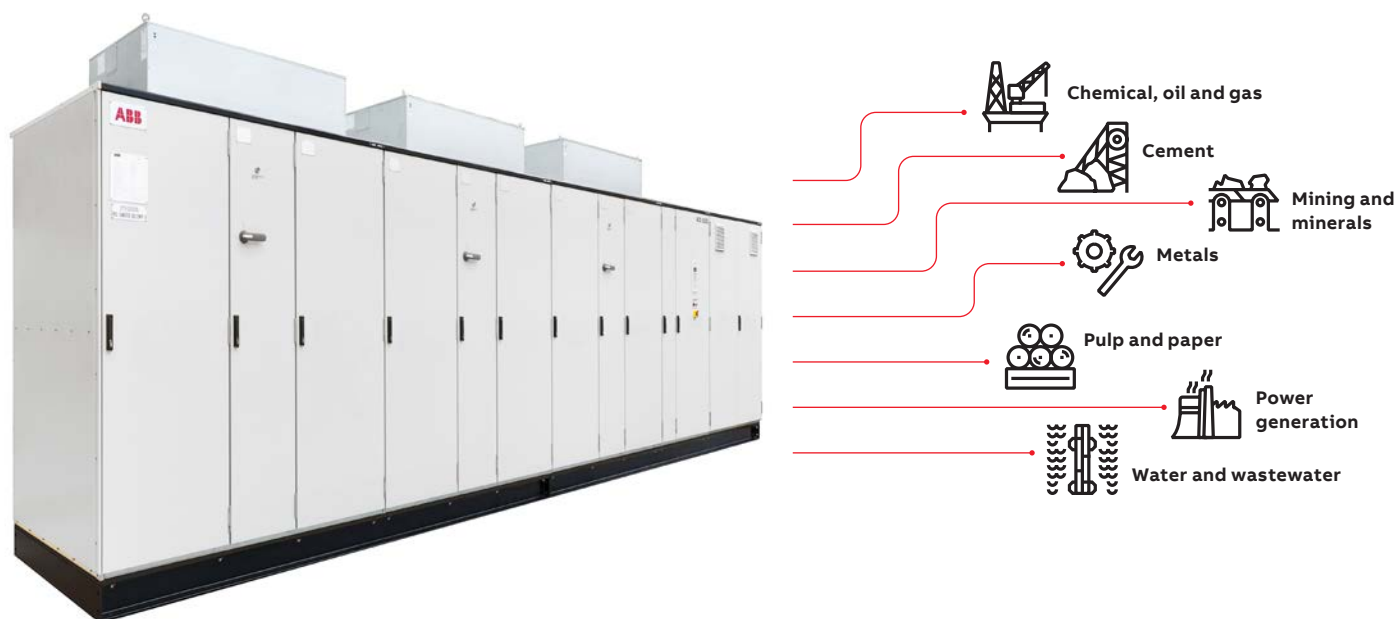
Highlights

- Modular drive designed for the most demanding single or multi-motor applications
- High performance, system precision and efficiency
- Capability of providing full- or semi-redundancy for single motors
- Available as a regenerative drive for reduced harmonics, enhanced active braking and power factor correction
- Superior arc protection for high level of personal safety and drive availability
- ABB Ability™ Condition Monitoring for drives to monitor your drive condition all the time, anywhere in the world

Features

- Power range 5 to 36 MW (2.3 to 3.3 kV)
- Water cooling
- Modular design for optimum configurations
- Common DC bus enabling multi-motor operation and energy regeneration as option
- Line Supply Unit (LSU) for two-quadrant operation with a constant power factor over the whole speed range
- Active Rectifier Unit (ARU) for four-quadrant operation and reduced harmonics with adjustable power factor
- Available for induction, synchronous and permanent magnet motors
- Marine type approved design available as an option

These drives are engineered drives, typically used for high power, high speed or special application such as test stands, marine propulsion and thrusters, rolling mills, SAG and ball mills, large compressors, pumps, fans and gas turbine starters.



Reliable and safe operation of high-power applications

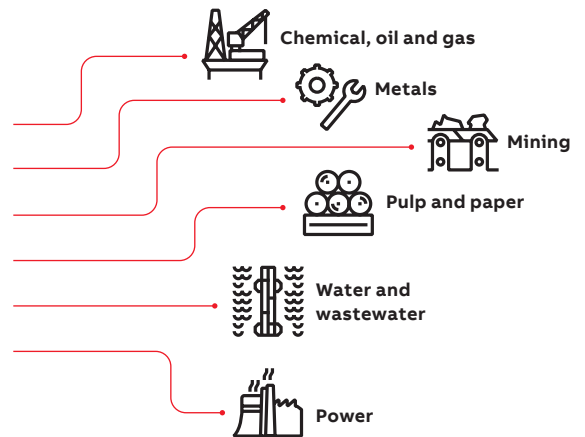
ACS5000

Highlights

- Built to order – every drive is customized to fit your needs
- Choose from a broad range of configurations with flexible transformer arrangement
- Smooth integration and easier operation throughout your entire installation
- Advanced process control
- Large variety of available fieldbus interfaces
- Arc resistant design based on arc prevention and fast arc elimination
- Electromechanically interlocked doors with DC grounding switch
- Certified functional safety
- ABB Ability™ Condition Monitoring for drives to monitor your drive condition all the time, anywhere in the world
- Low parts count and fuseless design – ABB IGCT technology proven to be the best choice for high-power applications

Features

- Power range 5 to 36 MW and higher on request (6.0 to 6.9 kV)
- Water cooling
- Superior arc protection function for very fast arc detection and elimination (IAC classified)
- Low harmonic solution (36-pulse configuration)
- Suitable for single loop cooling (external heat exchanger or fin-fan)
- Available for induction and synchronous motors
- Options
 - Suitable for high speed applications up to 250 Hz
 - Hot standby for fast startup (precharged system with open MCB)
 - IP54 enclosure protection
 - Marine approved design for offshore applications



Proven technology for high powers

MEGADrive-LCI

Highlights

- Suitable for high power and high voltage applications
- Available as variable speed drives and soft starters
- For more than 40 years, MEGADrive-LCI drives and soft starters have proven their maximum reliability and availability in a wide range of industries and applications
- The MEGADrive-LCI features a simple, well-proven, fuseless drive design and robust thyristor components ensuring high reliability
- Benefit from the drive's easy voltage scalability, minimized harmonic influence on the supply system and a converter efficiency of more than 99 percent
- ABB Ability™ Condition Monitoring for drives to monitor your drive condition all the time, anywhere in the world

Features

- Air-cooled power range 2 to 40 MW
- Water-cooled power range 2 to 150 MW and higher on request
- Available as variable speed drives and soft starters
- 6, 12 or 24-pulse converters to minimize the harmonic influence on the supply system and on the motor
- Series connection of thyristors for the scalability of voltage and power as well as for the implementation of n+1 thyristor redundancy
- User-friendly control terminal
- For synchronous motors
- MPTC (Model Predictive Torque Control) for an optimized operation point and highest availability
- Arc resistant design to protect people and equipment



DC DRIVES ENGINEERED FOR PROVEN PERFORMANCE

ABB DC drives are available as regenerative or non-regenerative drives. ABB offers digital DC drives from machinery applications all the way up to complete drive solutions in cabinets.

The latest product generation called DCS880 is built on ABB's common all-compatible drives platform and comes with integrated functional safety (STO SIL 3/PL e) for DC drives as a standard.

The drives can be also used in revamp or upgrade solutions.



VERSATILE FOR WIDE RANGE OF APPLICATIONS

Whether building a new installation or retrofitting an existing one, ABB's portfolio of state-of-the-art DC drives offers design flexibility and proven, dependable performance. These drives are engineered to control the speed, torque, and direction of DC motor applications such as rolling mills, winders, extruders, kilns, cranes, hoists, and pumps. In addition to motor control, the same device can also be used as a DC power supply, providing precise current and voltage regulation for non-motoric applications including electrolysis processes (such as hydrogen generation and water treatment), battery charging, and powering magnets.

Ski lifts**Non-motoric****Electrolysis processes****Plastic & rubber****Pulp & paper****Mining****Oil & gas****Food & beverage****Crane****Metals****Cement**

DCS880 FAMILY

Modules and cabinets

DCS880-S drives combine all compatible platform, integrated safety and Internet of Things connectivity



Highlights

- High power density saves space in existing installations
- User-friendly due to start-up assistance, auto-tuning functions and a multilingual assistant control panel
- Flexible connectivity using a common PC tool Drive Composer and remote monitoring
- Additional functions and features with IEC 61131 programming

Features

- Power 9 kW up to 5.5 MW as single modules
- Up to 1190 V AC, up to 1500 V DC
- 20 to 5200 A DC as single modules
- Combination of up to four single modules (hardparallel) to increase the load current
- 6-pulse, 12-pulse, and hardparallel
- Individually adaptable to customer requirements
- Built-in safety functions (e.g., STO/SS1)

For further information, see catalog "DCS880-S modules", code: 3ADW000465.

DCS880-A Complete delivery of a tested drive system in a compact enclosure



Highlights

- Wide range of power
- Proven type tested design
- Fully routine tested for short commissioning and downtime
- Approvals for different markets

Features

- Power 37 kW up to 18 MW as standard solution
- Up to 1190 V AC, up to 1500 V DC
- 81 to 19600 A DC as standard solution
- High power solutions in 6-pulse, 12-pulse, 18-pulse, 24-pulse and hardparallel available to increase the load current (e.g., 12-pulse plus hardparallel up to 30.6 kA at 500 V DC)
- Individually adaptable to customer requirements
- Degree of protection IP21, IP42, IP54
- Built-in safety functions (e.g., STO/SS1)

For further information, see catalog "DCS880-A Enclosed Converter", code: 3ADW000531.

FURTHER ABB DC SOLUTIONS

DCS580 modules and modernization solutions

Tailored drive for machine builders with precision control and robust connectivity



Highlights

- Designed for machine manufacturing and retrofit of legacy DC installations
- Compact size with integrated high-performance field exciter
- Removable memory unit for easy setup and replacement
- Adaptive Program for custom drive logic without coding expertise
- Control panel and PC tools offer intuitive configuration and maintenance

Features

- Power range: 13 kW to 520 kW
- Voltage: Up to 525 V AC, three-phase
- Current: 20 to 1000 A DC
- Integrated field exciter: up to 35 A
- Standard and extended I/Os, encoder, and tacho inputs
- Three slots for I/O extension or fieldbus modules
- Supports EtherNet/IP, Modbus/TCP, PROFINET IO, PROFIBUS DP-Vx
- PC-based Drive Composer and mobile Drivetune app for easy commissioning
- Bluetooth-ready control panel (optional)

For further information, see catalog "ABB DC Drives, DCS580", code: 3ADW000860R0201.

Modernization solutions for improved production performance and reliability



Highlights

- Enhance productivity and quality
- State-of-the-art communication via fieldbus
- Reuse proven long-life components (busbars, chokes, cables, etc.)
- Enhance connectivity and remote monitoring
- Solve spare part problem by partial upgrade

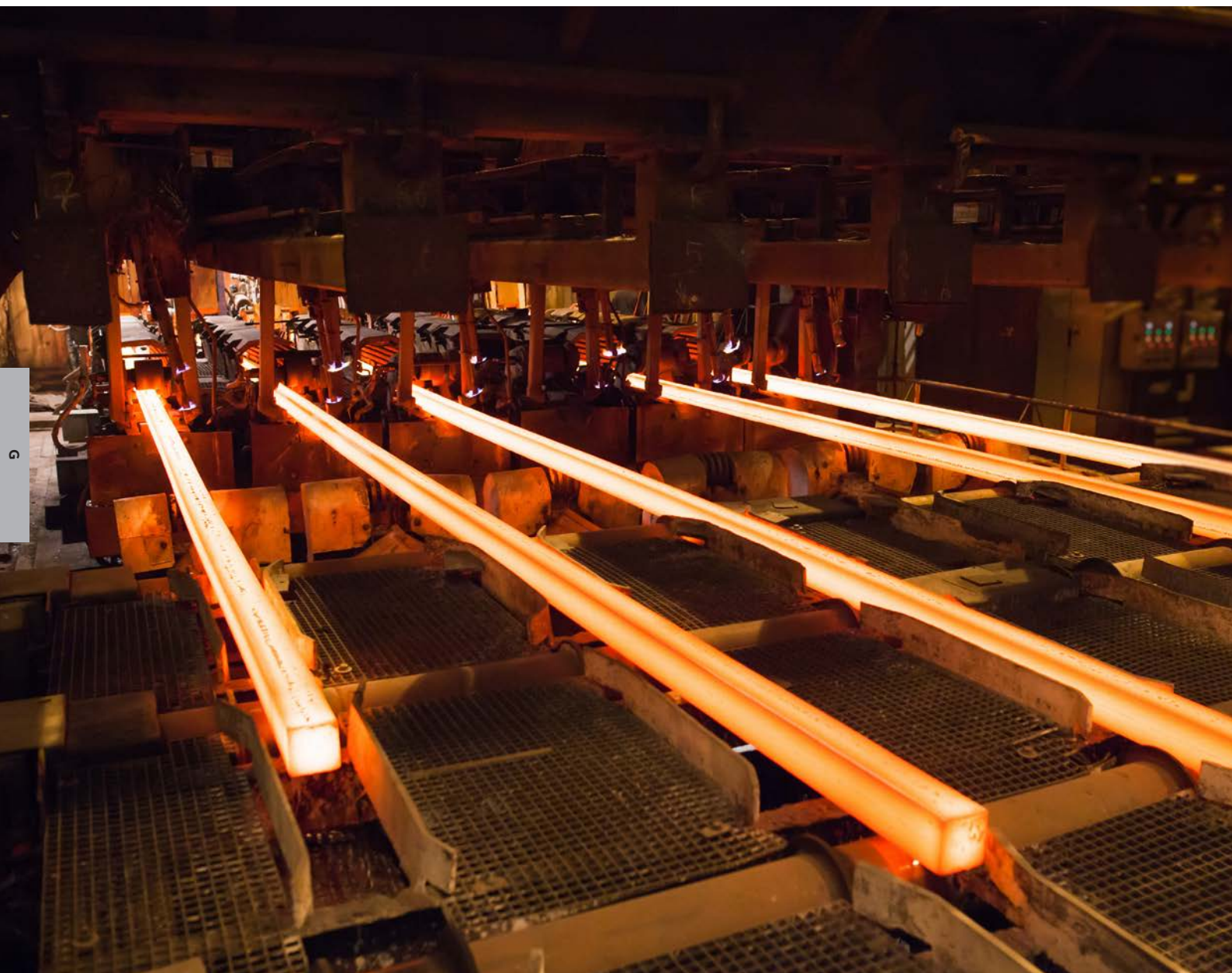
Features

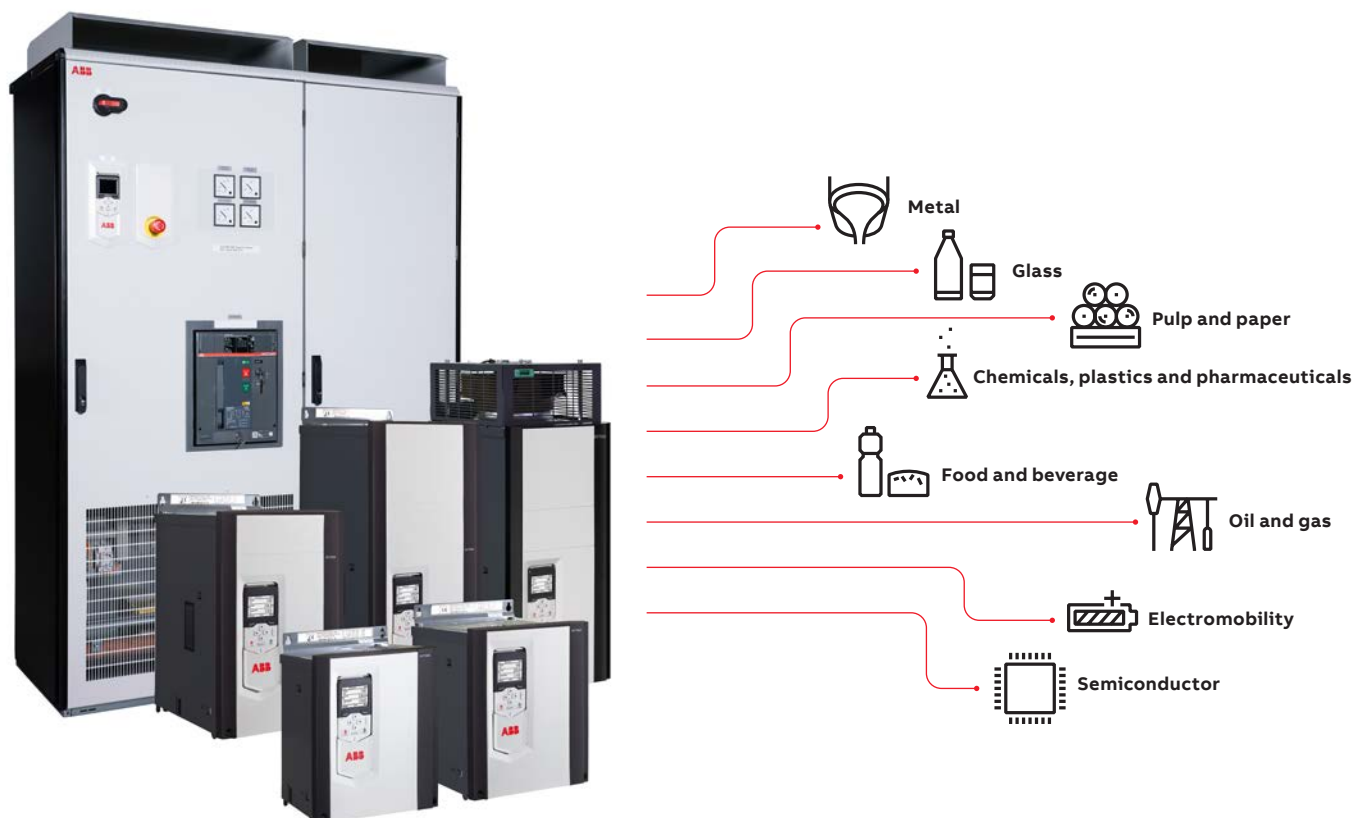
- Modernization of existing control electronics by reusing existing thyristors
- The rebuild kit (DCS880-R) is suitable for almost all existing DC drives from different manufacturers
- The upgrade kit (DCS880-U) is used to upgrade older ABB brand DC converters
- Cost-efficient option for DC currents above 1000 A DC

For further information, see product note "DCS880-R Rebuild kit", code 3ADW000619.

ABB THYRISTOR POWER CONTROLLERS FOR INDUSTRIAL HEATING APPLICATIONS

To provide precise heat control that leads to better utilization of raw materials and reduced energy consumption, ABB developed DCT880 power controller. Extremely accurate temperature control allows production processes to run faster while consuming less energy. When powered by renewable energy sources, the DCT880 provides further cost and energy savings.





The DCT880 offers users an array of advanced technical features to make monitoring and optimizing power as simple and efficient as possible

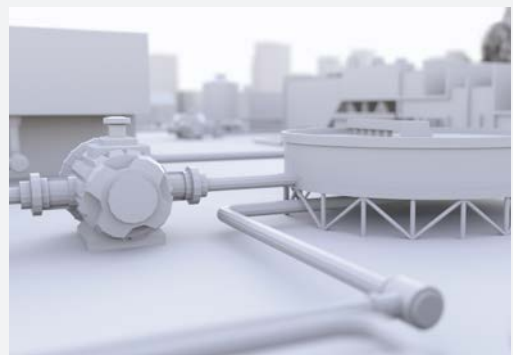
DCT880

Highlights

- Ideal for controlling electro-thermal processes
- Suitable for all resistive and transformer loads, infrared heaters and ultraviolet lamps
- Connectivity options for all major automation networks
- Wide variety of standard analog/digital I/Os and extensions
- Flexible due to IEC-61131-3 programming, adaptive programming (AP) and 3 slots for optional extension modules
- Reduction of peak loads using optimized load balancing
- Available as modules and complete cabinet solutions

Features

- Up to 990 V, and suitable for low and high current up to 4200 A (3 phase)
- 3-leg (W03) or 2-leg (W02) variants
- Current, voltage and power measurement for individual single-phase loads or one common 3-phase load
- All control modes: phase angle, full wave (burst), and half wave control
- U, U² (incl. open loop), I, I², P or direct temperature control
- All common load configurations: delta, star, (open) delta, single-phase with common or individual controls, transformer, multitap
- Integrated load monitoring (true RMS)
- Increased flexibility with adaptive and application programming features
- Advanced power optimizer that reduces peak loads



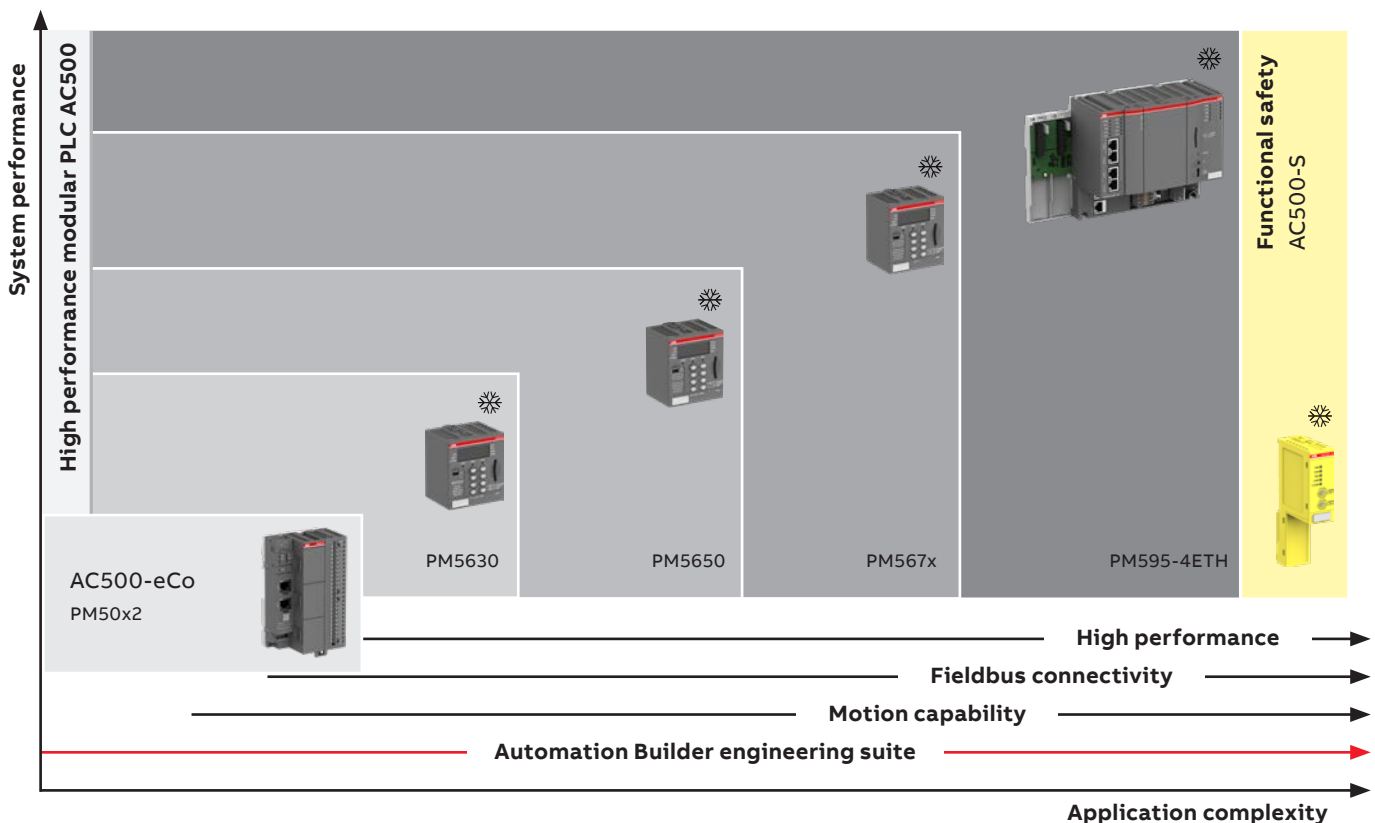
PROGRAMMABLE LOGIC CONTROLLERS

ABB offers a comprehensive range of scalable Programmable Logic Controllers (PLCs) and robust HMI control panels. Since its launch, the AC500 PLC platform has achieved significant industry recognition for delivering high performance, quality and reliability. ABB delivers scalable, flexible and efficient ranges of automation components to fulfill all conceivable requirements of the most diverse automation applications.

ABB's automation devices deliver solutions with high performance and flexibility to be effectively deployed within various industries and applications including water, building infrastructure, data centers, renewable energy, machinery automation, material handling, marine and many more.

The AC500 PLC platform offers different performance levels and is the ideal choice for high availability, extreme environments, condition monitoring, motion control or safety solutions.

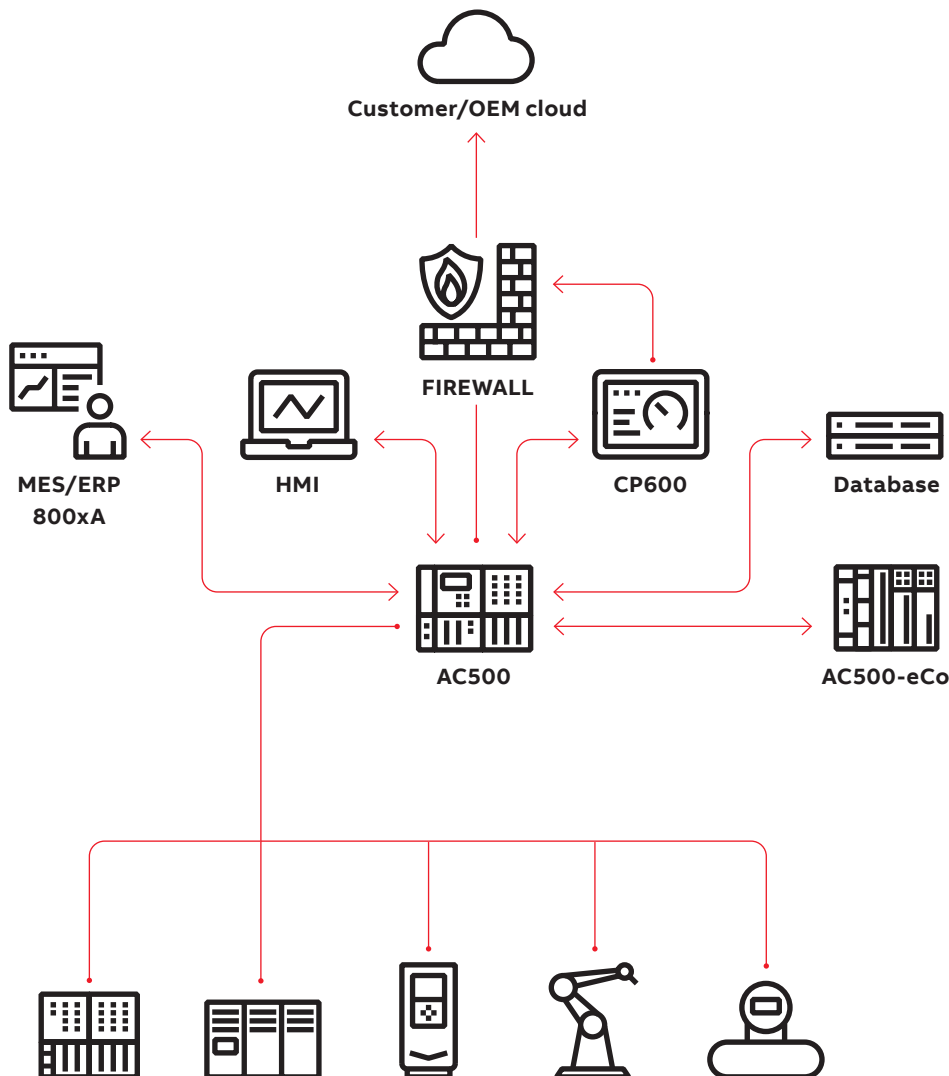
AC500 PLC platform



PLC AUTOMATION PRODUCT FAMILY

Connectivity

ABB's PLC and control panel portfolio provides a high number of scalable products, communication protocols and connectivity options, from the field layer right through to the management and visualization layers.



IT network/Internet

- FTP(S)
- HTTP(S)
- MQTT
- NTP/SNTP
- OPC UA
- SMTP(S)

Factory/site network

- BACnet
- DNP3
- FTP(S)
- HTTP(S)
- IEC 60870-5-104
- IEC 61850
- KNX
- MySQL/MSSQL
- NTP/SNTP
- OPC DA/AE
- OPC UA
- SNMP
- TCP/IP
- UDP

Control network

- CANopen
- CAN 2A/2B
- DNP3
- EtherCAT
- Ethernet/IP
- IEC 60870-5-104
- IEC 61850
- Modbus RTU
- Modbus TCP
- PROFIBUS DP
- PROFINET/PROFIsafe
- SAE J1939



Comprehensive range of scalable PLCs

AC500 PLC platform

Highlights

- The AC500-eCo, AC500, AC500-XC and AC500-S scalable PLC ranges provide solutions for small, medium and high-end applications
- Our AC500 PLC platform offers different performance levels and is the ideal choice for high availability, extreme environments, condition monitoring, motion control or safety solutions
- Our AC500 PLC platform offers interoperability and compatibility in hardware and software from compact PLCs up to high end and safety PLCs

Features

- **AC500-eCo:** Compact PLC for economical automation solutions and motion control in smaller applications
- **AC500:** Powerful PLC featuring a wide range of performance, communications and I/O capabilities for industrial applications. For complex, high-speed machinery, motion control and networking solutions
- **AC500-XC:** Extreme Condition PLC variant with extended operating temperature, immunity to vibration and corrosive gases, for use at high altitudes and in humid environments
- **AC500-S:** Integrated safety PLC (SIL 3, PL e) for safety applications in factory, machinery or process automation area. For simple and complex safety solutions.



Operational information at one single touch

CP600 control panel platform

Highlights

- CP600-eCo, CP600, CP600-C and CP600-Pro control panels in combination with the PB610 Panel Builder 600 offer a wide range of features and functionalities for maximum operability
- ABB control panels are distinguished by their robustness and easy usability, providing all the relevant information from production plants and machines at one single touch
- Ideal choice for visualization of AC500 PLC platform automation solution

Features

- **CP600-eCo:** Economical control panel aimed for standard functions and high usability for clear interaction with the operation process
- **CP600:** Robust HMI with high visualization performance, versatile communication and representative design for machines and systems
- **CP600-C:** User experience in focus with outstanding display and performance in the compact CP600-eCo housing – perfect for machine builder who want multi-touch capability to make their machines stand out
- **CP600-Pro:** HMI with high end visualization performance, multi-touch operation, versatile communication and representative design
- PB610 Panel Builder 600 is the engineering tool for the entire CP600 control panels platform. PB610 Panel Builder 600 software is integrated in the ABB Ability™ Automation Builder engineering suite.



Cost-effective and compact PLC

AC500-eCo PLC

Highlights

- Ethernet communication with MQTT protocol and OPC UA server for IoT applications, optional communication on IEC 60870 (1), DNP3 (1), IEC61850 (1), BACnet (1), KNX (1)
- HTML5 web server, FTP server, Modbus TCP or Ethernet/IP (1) for communication to other system or remote I/O
- EtherCAT (1) master real-time communication to drive or remote I/O for motion application
- Meets the demands for cost-efficiency of the compact PLC market whilst offering total interoperability with the core AC500 range
- Up to 10 I/O modules can be connected to the CPU, onboard extension with up to 3 option boards for I/O or interface extension
- Motion capability with fast onboard I/O (A/B encoders, counters up to 200 kHz), up to 4 PTO (100/200 kHz) pulse train outputs for multi-axis positioning
- Powerful real-time coordinated PLCopen motion control for synchronized axis with EtherCAT master on the onboard Ethernet
- Large user program memory and high performance

Features

- AC500-eCo CPU variants with 1 MB up to 24 MB user program memory, web server and HTML5 visualization with up to 21 MB memory
- New high performance CPU with powerful 600 MHz processor for motion control
- Large remanent data up to 100 kB without battery
- Large communication capability with integrated or optional protocols like Modbus RTU/TCP, OPC UA, IEC60870 (1), DNP3 (1), IEC 61850 (1), Ethernet/IP (1), BACnet (1), KNX (1) or EtherCAT (1)
- Processing time per instruction down to 0.01 μ s, processor with FPU for fast calculation
- Up to 3 serial interfaces, up to 2 independent Ethernet interfaces with switch
- Micro memory card or memory card slot for program/firmware update or data saving
- Up to 12 digital inputs, 8/6 digital outputs transistor or relay, 2 digital configurable in/output, motion capability with integrated fast I/Os
- (1) License required



Powerful PLC offering with a wide range of performance levels

AC500 PLC

Highlights

- IoT protocols MQTT and OPC UA
- Integrated web server with HTML5, IEC60870 (1) and DNP3 (1) remote control protocol for all Ethernet versions
- Large memory and high performance for motion applications using PLCopen motion library and EtherCAT realtime fieldbus
- Complete range of I/O modules can be used as remote I/O with controllers supporting Modbus TCP, PROFIBUS DP, PROFINET, EtherCAT or CANopen

Features

- CPUs with high performance and large memory configurations up to 160 MB user program memory including up to 8 GB of internal flash disk for data storage
- Up to 6 communication modules in any configuration which can communicate with fieldbuses like PROFIBUS DP, CANopen, EtherCAT, Modbus TCP, Ethernet port extender and PROFINET
- One or two Ethernet interfaces on CPU for programming via PC, internet protocols (web server, FTPs, e-mail, time sync and more), OPC DA/AE, IEC 60870-5-104, Modbus TCP, MQTT, OPC UA or licensed Ethernet/IP (1), IEC 61850 (1), BACnet (1), DNP3 (1) or KNX (1)
- Up to 2 serial interfaces (RS232/RS485) with different protocols as ASCII protocol, Modbus RTU (master or slave), CS31 bus (master)
- Onboard CAN interface for CANopen master, CAN 2A/2B or J1939 communication on AC500 V3 CPU
- Programming with IEC 61131-3 standard languages or with C and C++
- Digital and analog S500 I/O modules to offer local and/or remote expansion options using most industry standard communication protocols
- Hot swappable I/Os for increased availability
- (1) License required



The rugged variant for extreme indoor and outdoor conditions

AC500-XC PLC

Highlights

- Extreme condition PLC variant
- With extended operating temperature, immunity to vibration and corrosive gases, for use at high altitudes and in humid environments
- Many of the traditional practices are not required, such as: HVAC for the panel, shock absorbers, door sealing, etc.
- All the benefits from AC500 range: ABB Ability™ Automation Builder engineering suite, I/O modules, scalable and flexible, same high performance communication, libraries and web services

Features

- Operation in extremely humid environments
 - Increased resistance against 100% humidity and condensation
- Reliable in high altitudes
 - Operation in altitudes up to 4000 m above sea level or air pressures up to 620 hPa
- Extended immunity to vibration
 - 4 g rms random vibration up to 500 Hz
 - 2 g sinusoidal vibration up to 500 Hz
- Extended operating temperature
 - -40 °C up to +70 °C operating temperature
- Extended immunity to corrosive gases and salt mist
 - G3, 3C2 / 3C3 immunity
 - Salt mist EN 60068-2-52 / EN 60068-2-11
- Extended EMC requirements
 - EN 61000-4-5 surge immunity test
 - EN 61000-4-4 transient / burst immunity test
- Hot swappable I/Os for increased availability



For functional safety applications involved in factory, machinery or process automation area

AC500-S PLC

Highlights

- The AC500-S is the PLC of choice for applications where uncompromised flexibility, comprehensive integration and seamless communication are a must
- Automation Builder seamlessly integrates your safety application in ABB PLC, safety, drives, motion and HMI
- Through integrated standard languages, such as those from IEC 61131-3, Automation Builder is easy to use thus allowing you to get started in virtually no time at all
- Intuitive system configuration using one single tool for safety and non-safety functions ensures optimal transparency

Features

- The AC500-S safety PLC facilitates the implementation of small to even most complex safety applications
- Support of safety-relevant calculations, such as COS, SIN, TAN, ASIN, ACOS and LOG makes the AC500-S the ideal solution for material handling, crane, renewable, hoisting and many other applications
- Safety programming with Structured Text (ST) and full support for Function Block Diagram (FBD) and Ladder Diagram (LD) programming and advanced features in PROFIsafe over PROFINET communication, like Shared Device functions, gives you greater flexibility and simplifies safety application development
- PROFINET/PROFIsafe communication between safety CPUs, decentralized safety I/Os, safe position and speed monitoring as well as triggering of safety drive functions
- Both simple and complex safety functions can be easily implemented: Safely limited acceleration, deceleration, force, orientation, position, speed and torque
- The AC500-S Safety PLC is also available in a version for extreme conditions



S500 I/O modules run with various controllers



Predictable performance for your operations

S500 remote I/O

Highlights

- The availability of different fieldbus communication interfaces makes it easy to use S500 I/O modules as remote I/O for nearly any PLC and PC
- The S500 remote I/O station consists of a communication interface and I/O modules
- The smallest configuration can be just the communication interface with the onboard I/O channels
- Hot swap capable for continuous plant operation

Features

- Communication interfaces are available for the following fieldbuses:
 - PROFIBUS
 - PROFINET/PROFIsafe
 - EtherCAT
 - Modbus TCP
 - CANopen
 - ABB CS31 System Bus
- The electronic configuration files that are provided by ABB for different fieldbus systems make it easy to configure the S500 remote I/O station in your engineering tool
- The files such as GSD and GSDML are available for download at www.abb.com/plc.
- For Modbus TCP remote I/O stations a dedicated configurator is included in Automation Builder and for larger applications a Bulk Data Manager tool can be used
- An AC500 V3 CPU can be upgraded to an Ethernet/IP remote I/O station

Condition monitoring system CMS

Highlights

- Optimize your assets with a flexible condition monitoring system (CMS) based on the proven AC500 PLC platform
- The FM502 module can help you to improve your operations resulting in greater efficiency and higher reliability while minimizing service and operating costs

Features

- Planned maintenance rather than spontaneous repair ensures predictable performance
- Approaching damage is identified very early
- Fast protection against spontaneous failures and operation in critical conditions
- Reduction of costs in maintenance and lost production time
- Increased plant availability
- Optimum utilization of the aggregates until real end of life
- 16 analog channels, synchronous sampled up to 50ks/s @24bit
- Suited for vibration, current, voltage
- Additional counter/encoder inputs and 4 DIO
- Simple to use, maintain, adapt or expand
- Signal processing library for flexible local analysis to reduce data transfer
- Stand-alone CMS or control integrated use possible
- Fast, accurate data logging, e. g. for improved production quality
- Proven and future-proof, as based on AC500 PLC platform
- Extreme conditions XC version available



Automation Builder for next level engineering productivity

Automation Builder

Highlights

- Automation Builder is the integrated software suite for machine builders and system integrators requiring state-of-the-art productive machine and system automation
- Automation Builder connects the engineering tools for PLC, safety, control panels, SCADA, drives and motion
- Automation Builder combines the tools required for configuring, programming, debugging and maintaining automation projects from one common intuitive interface
- Efficient commissioning and maintenance by extensive diagnosis, available from Automation Builder or any operator panel
- Advanced simulation allows to simulate all kinds of applications with minimum effort. Even complete systems can be tested before involving real hardware.

Features

- Improve your productivity with seamless engineering, common data storage, a single project archive, time-saving library blocks for device integration, and one common software installer
- Automation Builder combines PLC engineering with the proven ABB tools Drive Composer pro, MINT WorkBench, zenon Editor and Panel Builder
- Efficient motion control engineering supported by an integrated motion solution wizard and intuitive graphical CAM table editors
- Speed up your project with the powerful ECAD and MS EXCEL interfaces of Automation Builder.
- Support of professional IEC 61131-3 application development, e.g. by multi-user engineering or static code analysis
- Download Automation Builder from new.abb.com/plc/automationbuilder

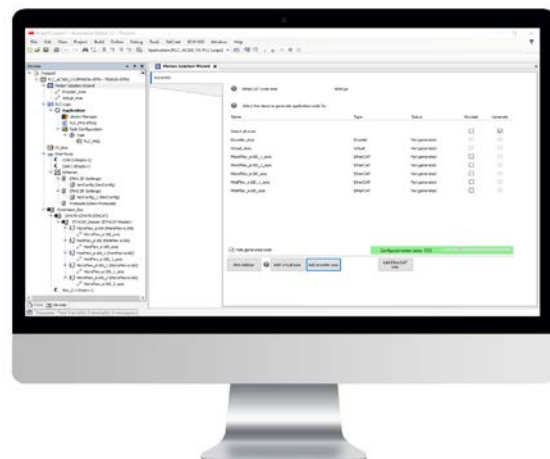
APPLICATION DESCRIPTIONS AND FEATURES

AC500 for general motion control

Automation Builder with integrated motion solution wizard for efficient motion control engineering and workflows

Convenient to start efficiently without programming to set up and work on real, virtual and encoder axes, guided by the motion solution wizard, both for EtherCAT or PTO based synchronized drives.

Completely based on open standards like Codesys and comprehensive PLCOpen motion libraries, the fully integrated engineering environment efficiently enables seamless set up, programming and testing from small to complex machinery and complete lines.

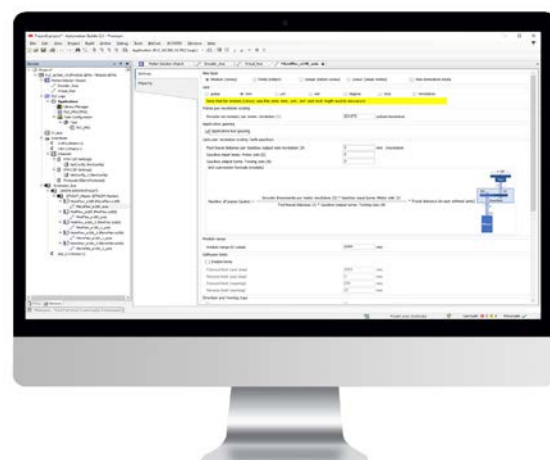


One-click axis engineering

The intuitive, easy-to-use wizard supports unique one-click motion axis setup. Then step-by-step configuration vastly simplifies the setup of smaller and high-end motion control applications.

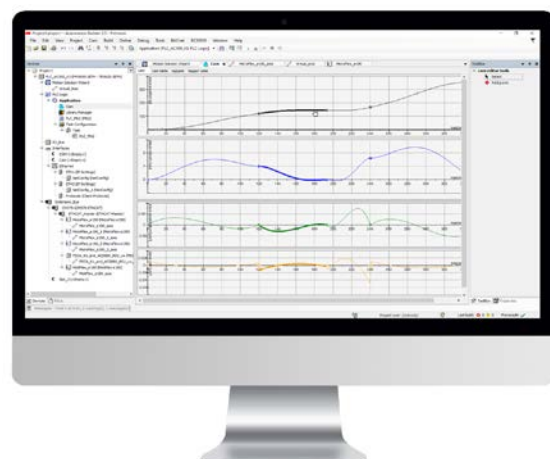
It's all about engineering efficiency

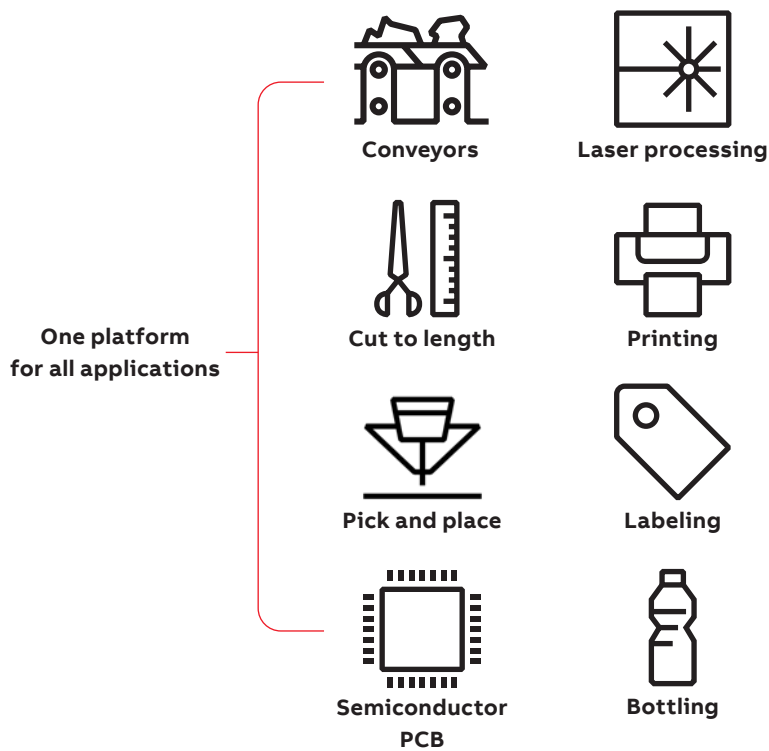
The solution combines the best of two main approaches for effortless motion control engineering: Wizard setup – with in-depth drill down options for expert users later – and intuitive graphic CAM table editors. This future-proof approach not only ensures fast setup but also has a selectable programming depth for flexible machine production options, quality, maintainability and durability through adaptable and expandable gentle movements.



Full insight for fine-tuning

The Automation Builder engineering tool also features comprehensive tools for tracking or visualizing the exact and precise movement of axes, whether virtual, simulated or real, together with other variables or I/O signals. The graphic interfaces, including CAM editors, simplify fine-tuning and allow you to visualize the dynamics of combined movements as required for configuring, improving, operating or diagnosing machine operation.



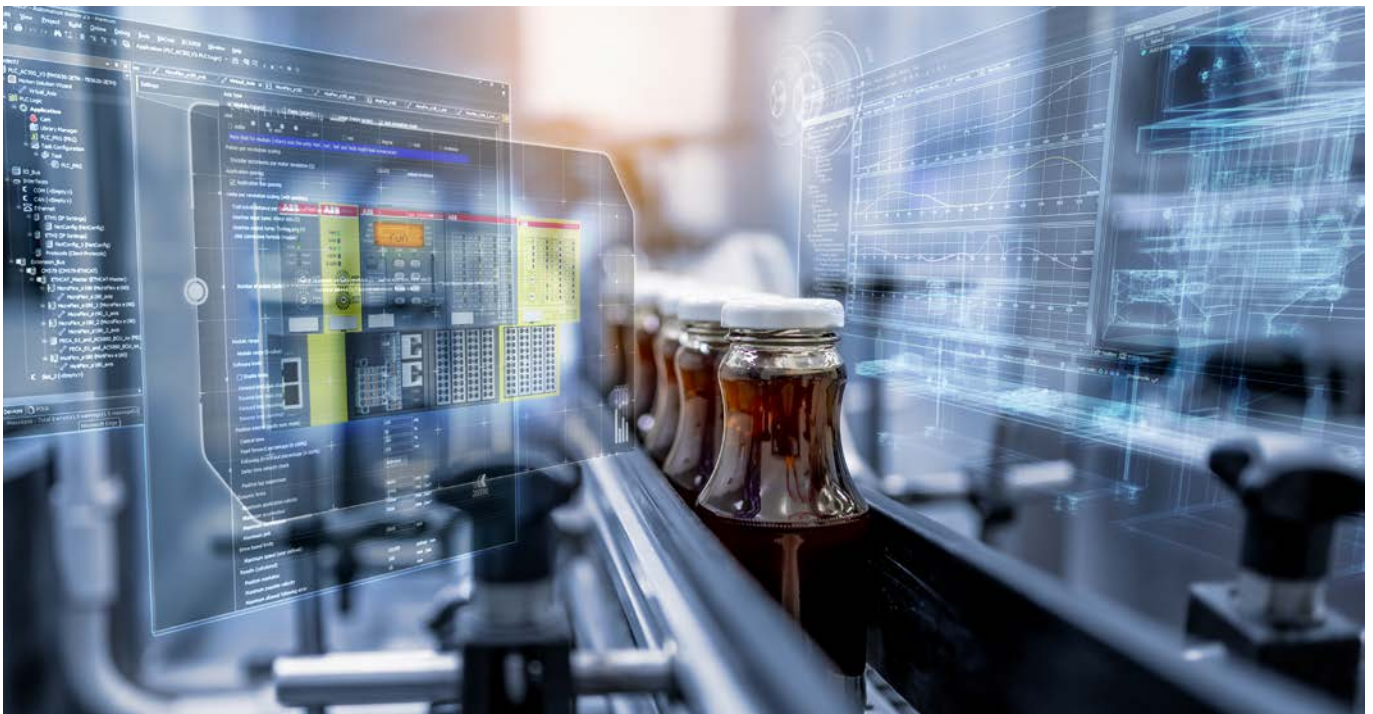


One platform for all performance classes

The AC500 V3 and AC500-eCo V3 CPUs uniquely scale with one look and feel from cost efficient PTO to real-time synchronized EtherCAT based motion control – all in the same familiar Codesys and PLCopen engineering environment.

The flexible integration of AC500 PLCs, the wizard and electronic CAM and gearing simplifies handling, minimizes the potential for errors and increases overall transparency, saving a lot of time throughout the workflow.

For more information, please see new.abb.com/plc



APPLICATION DESCRIPTIONS AND FEATURES

Condition Monitoring with AC500 PLC

Controller integrated or stand-alone condition monitoring

The AC500 condition monitoring module FM502 (1) is a natural part of the AC500 platform and Automation Builder, and can be used in different condition monitoring concepts, stand-alone or control integrated.

Due to the easy programming in PLC languages, it is usable for a variety of use cases and is especially suitable for plant, line and machine builders as easy extension of their offering.

If controller integrated

- it enables at very reasonable cost
- the best prediction horizon as it can measure online, when best measurement quality is given without scheduling production interruptions
- while continuously protecting the application in real time e.g. with the same or other sensor(s).
- Further inputs can be used as fast data logger e.g. precisely documenting process quality.

Therefore it is not only able to continually check the mechanical components but also gives fast protection for spontaneous and large failures even while measuring. The condition monitoring mode creates a database internally or externally for predictive maintenance. Automatic and user assisted responses can be enabled to prevent costly consequences including total failures.

As many as 16 vibration sensors + 2 encoder counters can be connected.

The recorded condition monitoring data can be stored in the CPU flash disk before communication or directly analyzed. Higher level indicators can be calculated and communicated to a local or remote HMI or database system.

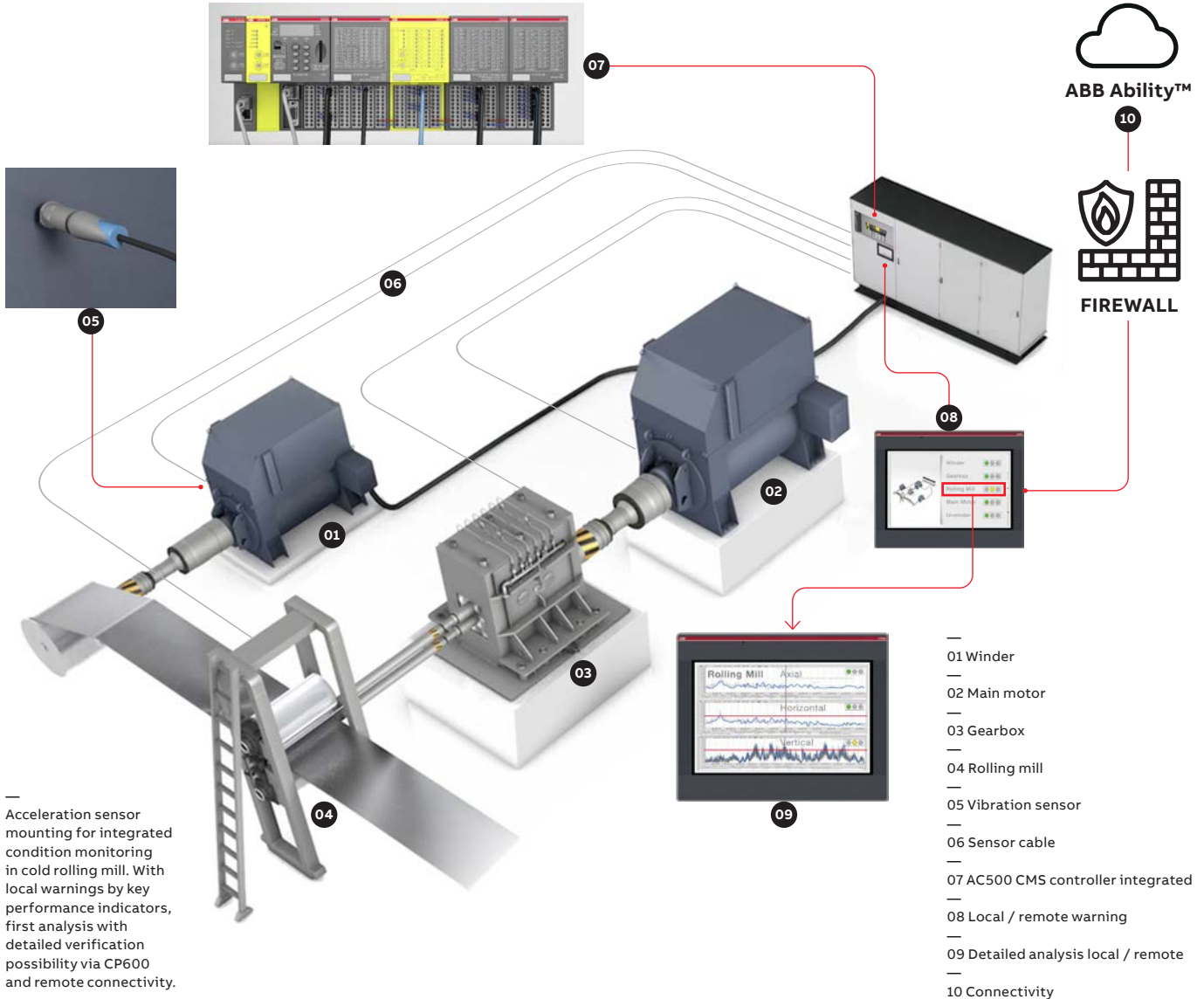
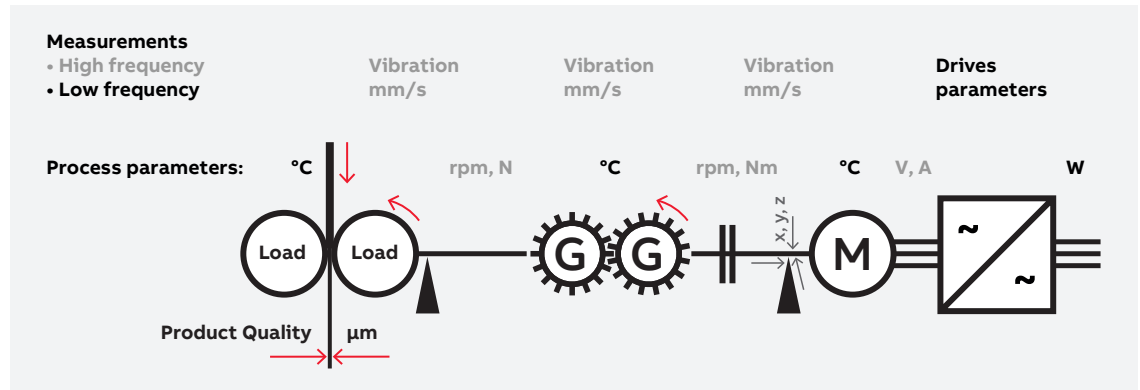
Predictive performance for your process or machines

- Easy and cost saving integration of condition monitoring into the AC500 platform.
- Early detection of mechanical damages.
- Fast protection from spontaneous failures.
- Even complex C-code analytics can be used locally for meaningful own performance indicators.
- Leads to optimized planning of maintenance instead of fixed, scheduled service and spontaneous repair.
- No additional system or fixed software for diagnostics and visualization needed.
- Easy storage of the data, locally (4GB) or in remote servers and databases.
- Ideally suited also for retrofit of older equipment, as it can make use of mechanical reserves of still valuable equipment.

(1) Only with AC500 V2 CPU PM592-ETH



—
AC500 Condition
Monitoring module
FM502-CMS: Controller
integrated or stand-
alone CMS covering a
complete drive train.



Example: Cold rolling mill in steel processing:

- One FM502-CMS module can execute differently configured measurements at the same time and can be reconfigured at runtime.
- Several critical and unique components can be protected and condition predicted: Motors, gearbox, process (cold rolling mill).
- Production quality can be logged in parallel in real time.
- Remote diagnostics expertise and detailed analysis and reports only in case of warnings.

Please watch our videos
on our ABB PLC YouTube
channel:



youtube.com/user/abbplc

Machine controllers based on AC500 PLC

Machine controllers based on AC500 PLC

- Convenient PLC portfolio for diverse applications
 - Simple machine control with AC500-eCo PLC
 - Point-to-point motion with PTO outputs, EtherCAT or Modbus communication with the drive and AC500-eCo V3
 - Mid-range applications with AC500 PLC
 - EtherCAT communication with the drive or remote I/O and cam-switch for synchronized motion
 - High-end motion application
 - Axis interpolation e.g. for Delta robot
- Easy integration and excellent scalability using Automation Builder
- Motion wizard and library for fast setup of complex applications

ABB's AC500 PLC using EtherCAT real-time bus delivers high performance for multi-axis control applications.

The AC500 PLC provides an industry solution with IEC 61131-3 programming and PLCopen motion functions in combination with ABB drives such as ABB servo drives E1xx or E5xx (1), ACS880-M04 fitted with the FECA-01 EtherCAT module for higher power axes or ACS380 drives. Also 3rd party's drives can be integrated.

This popular high-performance motion bus provides simple 'daisy chain' connection.

EtherCAT multi-axis coordinated motion

01 AC500-eCo V3 PLC
Onboard EtherCAT

02 AC500 PLC

03 CP600 HMI

04 Pluto Safety
PLC module

05 PTI drive

06 MicroFlex e190

07 MotiFlex e180

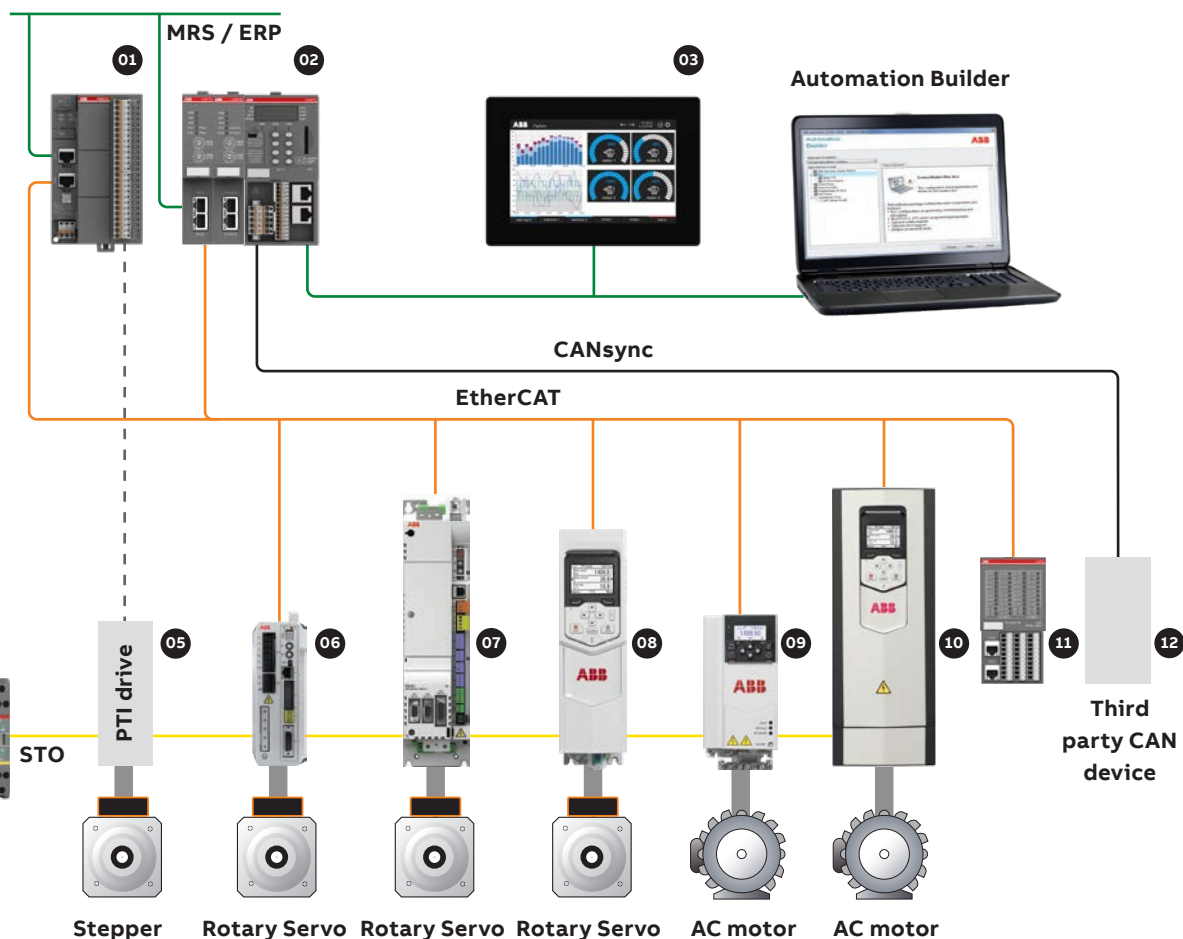
08 ACS880-M04

09 ACS380

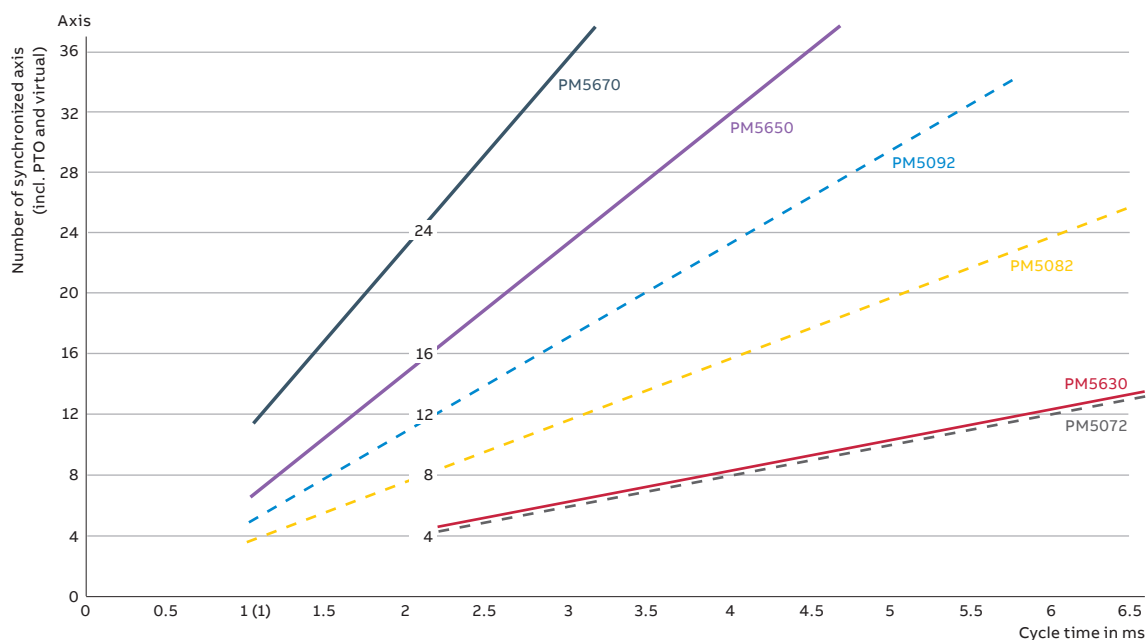
10 ACS880

11 S500 EtherCAT I/O

12 Third party
CAN device



(1) In preparation



—
01 Number synchronized
Axes / ms

(1) Depending on application complexity the available performance is limited and shared, pure Ethercat axis may only support a lower real axis count at this cycle time

EtherCAT AC500 machine controller kits

In order to simplify your application, ABB offers products for the implementation of machine control or motion control applications. These products can be purchased individually or as a kit. Two available EtherCAT kits contain the components required for your application.

Depending on the required performance, the kit provides a powerful CPU, an EtherCAT master communication module and the respective

terminal base. The kit can be expanded using standard I/Os, other communication products or software solutions.

EtherCAT or pulse-train based AC500-eCo V3 motion control

Efficient and economic motion control via 4 PTO/PWM outputs usable with simple motion library or comfortable to configure PLCopen based motion control programming mixed with EtherCAT onboard axis.

PLC Type used: AC500-eCo V3 AC500 V3	PM5032	PM5052	MC-Kits available (2)					
			PM5072	PM5082	PM5092	PM5630	PM5650	PM5670
Min. task cycle settable in ms	5	2	1	1	0.5	1	1	0.5
ETH ports	1	1	2	2	2	2	2	2
Option slots	2	3	3	3	3	—	—	—
PTO axis (200 kHz) (1)	4	4	4	4	4	—	—	—
Performance indication: axis/2 ms	—	—	4	8	12	4	12	24
Configuration limits (5), examples:								
Number of synchr. axis in 1 ms (3)	—	—	—	4	6	—	7	16
Number of synchr. axis in 2 ms	—	—	4	8	12	4	16	32
Number of synchr. axis in 4 ms	—	—	8	16	24	8	32	64
Min. EtherCAT master cycle time, ms	—	—	2	1	1	2	1	0.5 (4)

(1) New revision 1 HW: 4 at 200 kHz, classic HW: 4 at 100 kHz or 2 at 200 KHz

(2) See ordering information page eCo-Kits, pp AC500 Kits...

(3) Depending on application complexity the available performance is limited and shared, pure Ethercat axis may only support a lower real axis count at this cycle time **depending on mapped Objects; AB limits are higher to also account for other Ethercat devices.**

(4) Only 2 axis possible at @0.5ms

(5) PTO, encoder and virtual axis included

DIGITAL SOLUTIONS AND CONNECTIVITY FOR DRIVES

ABB digital tools and connectivity for drives enhance the performance, reliability, and efficiency of the whole system throughout the entire drive life cycle, which gives end users a new level of trust.



Plan – Tools for smooth selection journey



- + ABB GoSelect
- + DriveSize
- + ABB EcoDesign tool
- + EnergySave calculator
- + LV Drives Configurator
- + DriveUpgrade

Design – Engineering tools for advanced customization



- + ABB Ability™ Virtual Commissioning for drives
- + Drive application programming
- + Mint WorkBench

Build and maintain – User tools for superior drive management



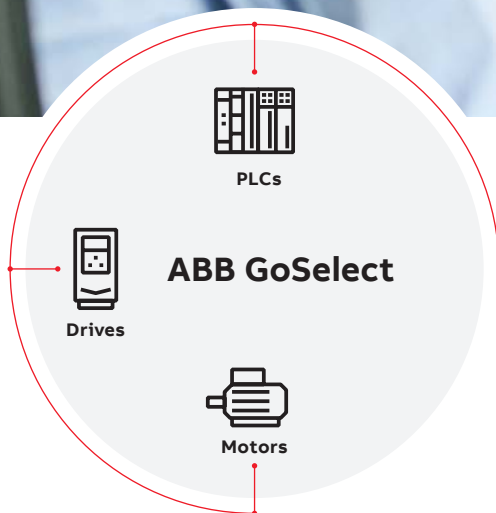
- + Drive Composer and Drive Composer 3
- + ABB Ability™ Mobile Connect for drives
- + Drivetune mobile app
- + ABB Access
- + ABB Ability™ zenon
- + User interface options (control panels)
- + Fieldbus and Industrial Ethernet solutions
- + Functional safety offering



+ ABB GoSelect web-based tool

Build the optimal solution for your application quickly and easily online

ABB GoSelect is a web-based selection and dimensioning tool for motors, drives, and PLCs. Build the optimal solution for your application and efficiently create, collect, and manage documentation and reports – all in one place.



Improved productivity

ABB GoSelect's modern, intuitive interface is easy to use. You can start by following the guided selection journey to get help finding the most suitable products. If you have already identified the right product for your application, you can proceed directly to sizing. The tool can also be used to validate the selected solution directly.



All in one place

With ABB GoSelect you can select, dimension, and validate your solution – all-in-one convenient online portal, with or without logging in. No more searching and saving links or skipping between different tools. The tool eliminates the need to duplicate input data across multiple tools, bringing all your project documentation together in one place. No more wasted time.

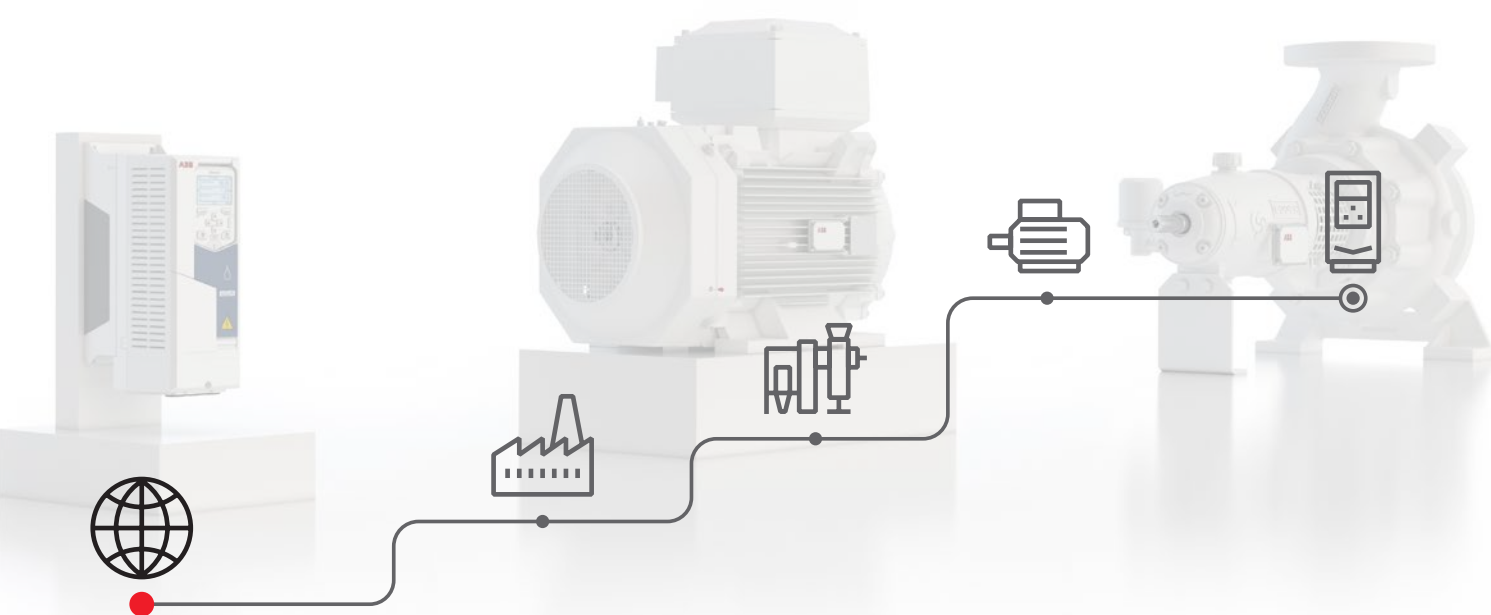


Efficient collaboration

With ABB GoSelect, the whole team can provide their input in one place in real time. You can create different alternatives in one project to make it easy to compare your options and track the project history. No more time-consuming and confusing file exchanges via email.

For more information, see:
goselect.motion.abb.com





+ DriveSize

DriveSize helps you select an optimal motor, drive, and transformer, and contains current versions of our motor and drive catalog. DriveSize can compute network harmonics and create dimensioning documents.

new.abb.com/drives/software-tools/drivesize

+ EnergySave calculator

Calculate how much energy and money you could save by using ABB drives while also deriving other benefits such as soft starting and stopping, an improved power factor, and connection into process automation.

new.abb.com/drives/software-tools/energysave-calculator



+ ABB Ability™ Virtual Commissioning for drives

Virtual engineering and commissioning allow machine builders and system integrators to develop and simulate entire industrial processing lines and machines, including ACS880 drives, without actually running the hardware. This gives valuable benefits in the phases of designing, commissioning and operating machines.

Design safely and efficiently

Engineers can start configuring and programming drives well before receiving them from ABB production line, since the same software tools like Drive Composer Pro can be used with virtual and real drives. Virtualization can also cover the kinematical and physical behavior of the machine and the overriding automation. Virtual drives can also be used with the Drive Application Builder and ABB Automation Builder programming tools to build more complete virtual machines and processing lines.

After deploying the virtual machine in use on-site, any future improvements can be virtually tested before implementing them in the process. This all supports safety and quality in the engineering process.

Benefits

Throughout the value chain from sales, marketing, and training to field engineering and product development, virtual commissioning makes drive applications more easily understood and helps to:

- Design, test and learn drive applications virtually with the same software tools as for the actual hardware
- Train users and engineers with application simulation
- Tune up drive parameters easily off-site before going into more demanding on-site testing
- Find and solve potential problems earlier
- Save time and money due to faster drive commissioning
- Assist the dimensioning and energy optimization of electromechanical drive systems

—
Save time, reduce risk, and increase engineering productivity

For more information, please see new.abb.com/drives/software-tools/virtual-commissioning-for-drives





+ Drive Application Programming

Drive application programming lets you create cutting-edge advantages in your machines, thanks to the built-in PLC functionality of ACS880 drives. The application program runs on top of the drive's standard drive firmware. This allows seamless implementation of custom control algorithms in addition to the standard drive functionality, access to the drive peripheral I/O and customization of the drive user interface.

Drive application programming is based on the well-known IEC 61131-3 standard. This standard allows to start a program development with minimal training and to transfer customized programs to other platforms.

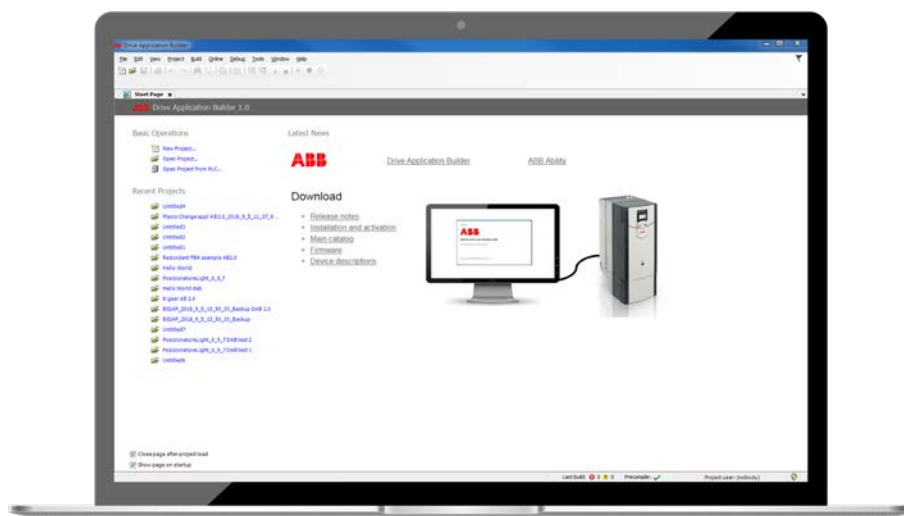
Benefits and Features of Drive Application Programming include:

- Cost savings and higher reliability, due to fewer system components and simpler installation work because no external PLC is needed
- Compact solution requires less cabinet space, as the PLC is inside the drive enclosure, with the same IP class
- Performance and productivity improvements, since decentralized machine control enables faster control loops
- No need for a separate HMI, as a drive control panel can be used instead in some applications
- Creation of intelligent applications with several drives, using the drive-to-drive communication

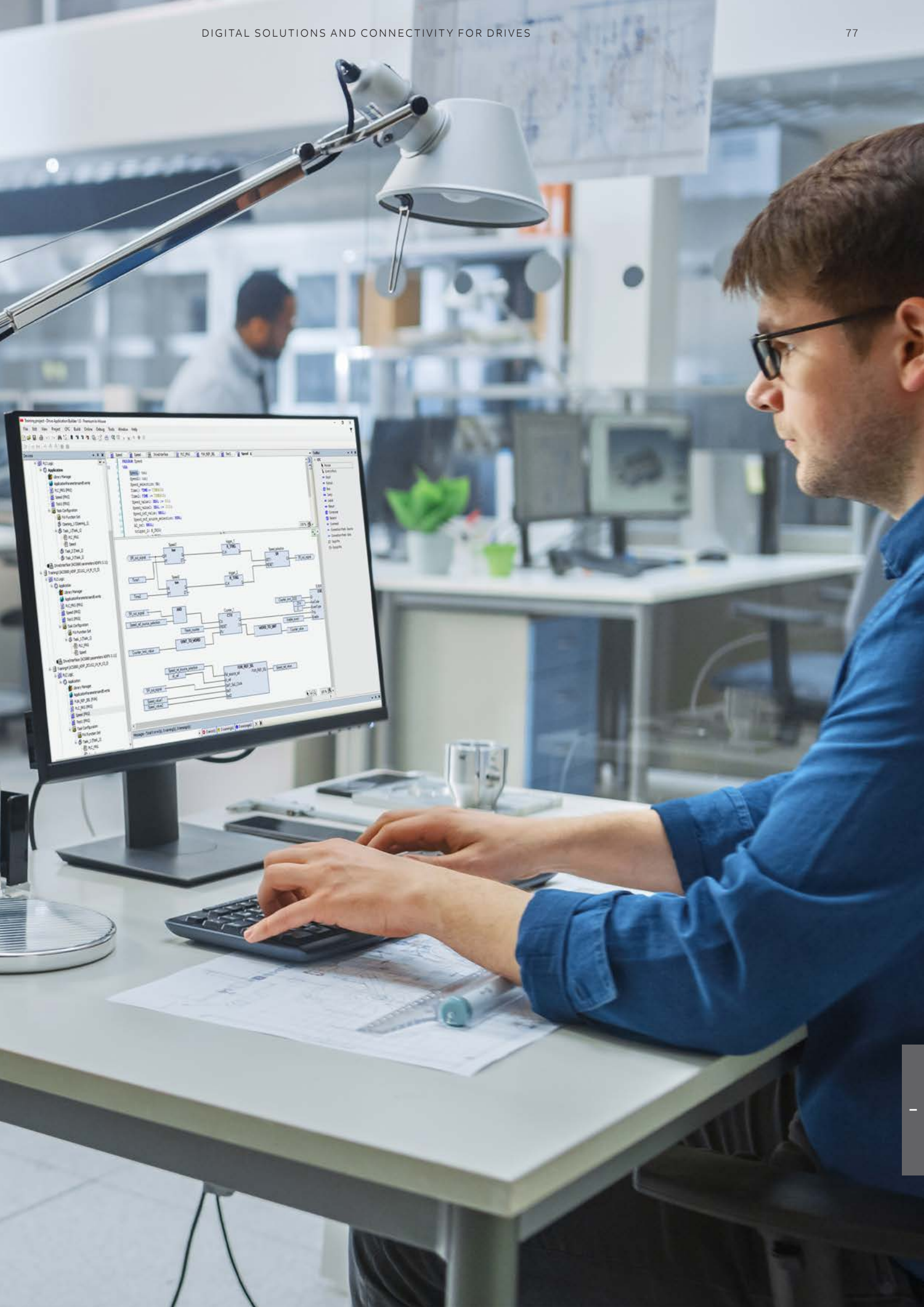
Standard features:

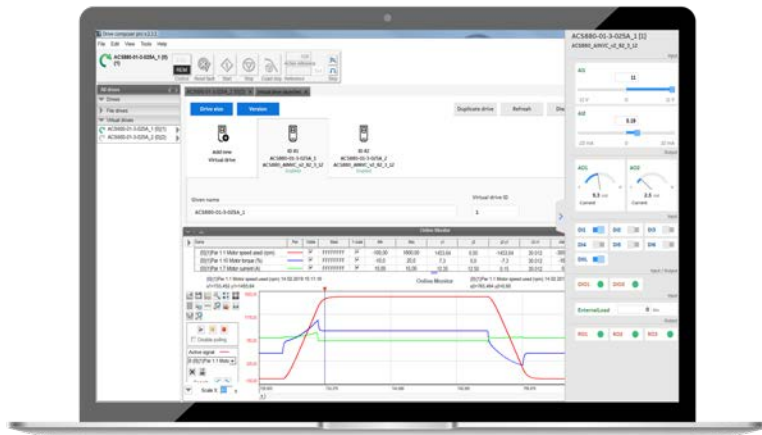
- IEC 61131-3 programming
- 160kB of program memory
- Running application program in parallel drive FW in tree configurable tasks (1ms-1000ms)
- Interface to standard drive parameters
- Adding customer parameters
- Adding customer events
- Drive I/O programming
- Drive-to-drive communication

Combine your application knowledge with the world's number one electrical drives



For more information, please see new.abb.com/drives/software-tools/drive-application-programming





+ Drive Composer

Drive Composer is an easy-to-use, reliable, and secure tool for commissioning, monitoring, and troubleshooting ABB all-compatible drives.

The **entry** version of Drive Composer provides basic functionality for setting parameters, basic monitoring, taking local control of the drive from the PC, and event logger handling. The entry version is available for free and can be downloaded from below.

Drive Composer **pro** is the full-fledged commissioning and troubleshooting tool. Order Drive Composer pro through ABB sales channels. Existing license holders can upgrade to latest version of Drive Composer pro by downloading the installation package from below.

Download

Drive Composer entry

<https://search.abb.com/library/Download.aspx?DocumentID=9AKK105408A3415&LanguageCode=en&DocumentPartId=1&Action=Launch>

Drive Composer pro

<https://search.abb.com/library/Download.aspx?DocumentID=9AKK105713A1935&LanguageCode=en&DocumentPartId=&Action=Launch>

Drive Composer software Features

	Entry version (FREE)	Pro version (DCPT-01)
Connectivity		
Online, offline and demo modes available	●	●
Use the USB port of an Assistant control panel for PC tool communication	●	●
Use Ethernet-based fieldbus adapter module or Panel bus network connection	◇	●
Control, monitor and display status of the connected drive	●	●
Work simultaneously with multiple drives (networked drives)	◇	●
Parameters Management		
Management of connected drive parameters (Display & modification)	●	●
Edit parameter files in offline mode	◇	●
Copy/download parameters to a drive	●	●
Customization of parameter windows	●	●
Save and export parameters to a parameter file	●	●
Compare parameters between parameter lists or drives	◇	●
Drive parameter conversion tool (for ACS800/ACS600)	◇	●
User parameter set functionality (only ACS880 drives)	◇	●
Monitoring		
Monitor signals in numerical and graphical format	Max 8 signals	Max 26 signals
Monitor signals simultaneously from multiple drives connected	◇	●
Save and Export monitored data to a computer	●	●
Open and analyze the saved or monitored files	●	●
Additional features		
Adaptive programming feature (Create and edit programs)	●	●
Control diagrams for parameter setting and diagnostic purposes	◇	●
Creation, configuration and execution of Macro scripts	◇	●
Configure the optional safety functions modules (FSO)	◇	●
Firmware loader (Update drive, FSO safety module)	◇	●
Drive text editor (manage user editable texts in a drive)	◇	●
Create EDS export files of a connected drive	◇	●
Display contents of an event logger (faults and warnings)	Partly	●
Display and analyze of data logged in a drive	◇	●
Maintenance		
Display of System info (basic information about the drive and its options)	●	●
Connect to Drive installed base (DIB) service portal (register, search, report)	●	●
Backup/restore functions	●	●
Advance restore (restore a set of components/parameter settings)	◇	●
Create backup of all connected drives in a computer network	◇	●
User interface available in different languages	●	●
Virtual drive launcher available	◇	●
Use an OPC-based commissioning and maintenance tool	◇	●



+ Drive Composer 3

New generation of integration between drives and user tools



Drive Composer 3 is the latest version of our easy-to-use, reliable, and secure tool for faster commissioning, monitoring, and troubleshooting ABB all-compatible drives. The tool can also be used for optimizing drive performance.

01

More efficient than ever

- Fast, reliable connectivity options
- Quick, effortless commissioning
- Advanced features for power users

02

Easy to use

- Backward compatible and future-proof
- Easy to get started
- Faster commissioning and reduced risk

03

Reliable and secure

- Reliable remote troubleshooting
- Secure by design

Versatile PC connectivity

- Connectivity with ACS380-E and other selected drives
 - USB-C connectivity on drive
 - Ethernet connectivity for tool network and fieldbus communication
- Connectivity with other drive models
 - USB connection via Assistant Control Panel (ACP)
 - Ethernet connectivity via Ethernet fieldbus adapter modules
- ACS380-E supports
 - The new Drive Composer 3 as well as earlier 2.x versions
- Supported operating systems
 - Windows 10 and 11

01



02



03



Find out more and
download the tool:





+ ABB Ability™ Mobile Connect for drives

Easy access to remote support

ABB Ability™ Mobile Connect for drives is a platform for remote drive support consisting of the Mobile Connect web portal and the Drivetune mobile app.

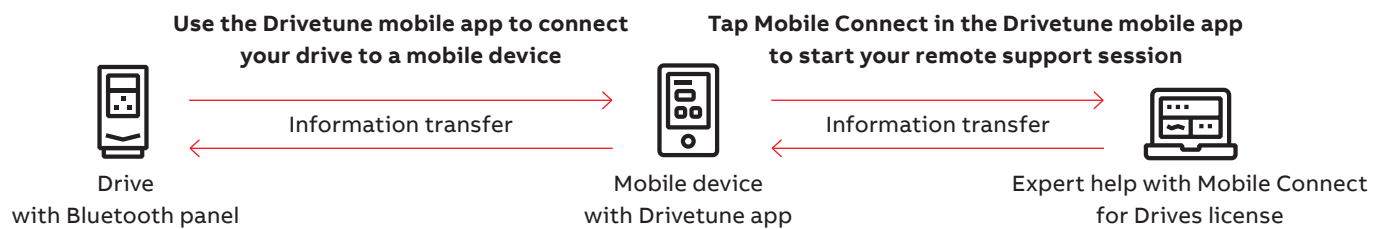
The platform allows ABB service partners to provide remote commissioning and troubleshooting support for personnel on-site without any complex connectivity infrastructure. Chats, sharing images and backups, viewing parameters online and sending support packages are all possible,

making your technical support process quick and efficient.

All that is needed is the Bluetooth control panel and a mobile device.

The platform is available for ABB partners and OEMs under a renewable subscription-based agreement.

[ABB Ability™ Mobile Connect for drives support portal](#)



+ Drivetune mobile app for managing drives via an intuitive interface

Drivetune mobile app is a powerful tool for performing basic drive startup and troubleshooting tasks. It is possible to connect with drives and access data available in the Internet at the same time. The wireless Bluetooth

connectivity means that users won't need to enter hazardous or difficult-to-reach work areas to access information necessary to help them commission and tune the drive.



- **Startup, commission and tune your drive and application with full parameter access**
- **Optimize performance via drive troubleshooting features**
- **Create and share backups and support packages**
- **Keep track of drives installed base**

Download Drivetune mobile app

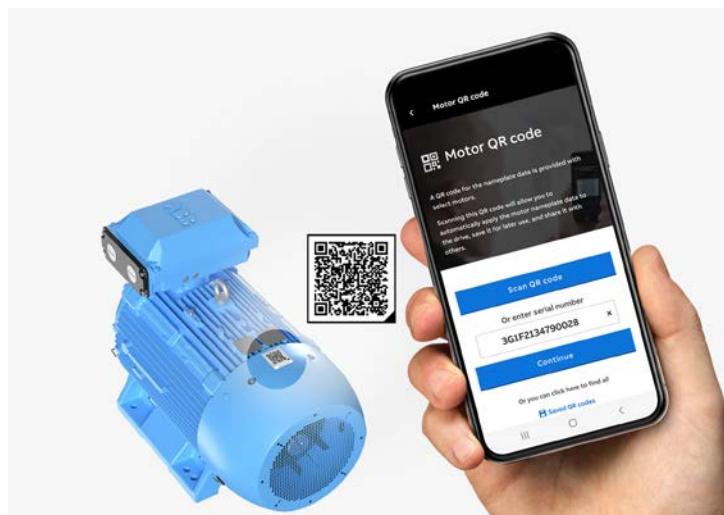




+ Drivetune mobile app

Motor QR code reader for quick and reliable motor parameter setting with ABB Drive-Motor package

Drivetune mobile app with motor QR code reader quickly and easily transfers ABB motor* data to drive parameters.



Faster and easier commissioning

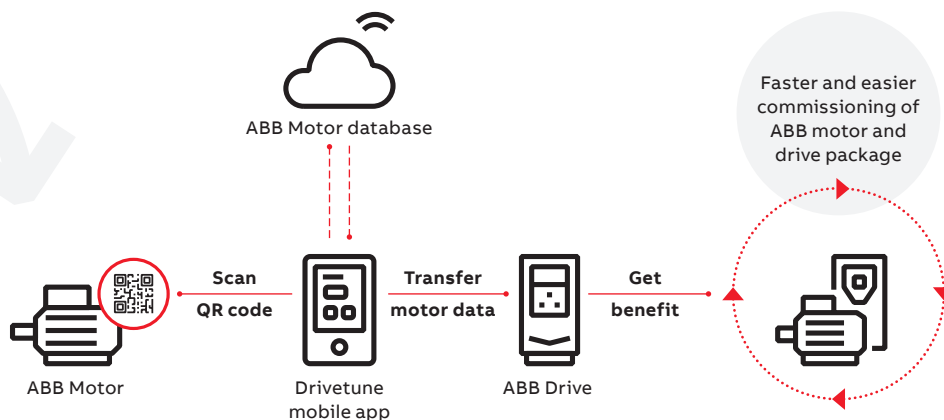
- Quick and reliable motor parameter setup
- Scan the QR code or enter the motor serial number to get the data for parameters
- Less manual work and reduced risk of error when commissioning motors
- Drivetune helps to filter motor configurations



Easy to use

- Same motor QR code for ABB Access and Drivetune
- Share motor nameplate file between users/devices
- Add descriptive name and comments to motor nameplate file

ABB motors and drives are designed to complement each other, allowing you to optimize your machine speed and reduce energy consumption.



Download free from the [Apple App Store](#) or [Google Play](#).



* Drivetune does not currently support all ABB motors. We are working to expand the range of supported motors. If you receive a message saying 'data not available' when scanning a QR code, you will need to enter the data manually.

More information about the Drivetune app can be found on the [ABB website](#).



+ ABB Access

Scan the QR code to access 24/7 self-services for ABB drives, motors and PLCs

With ABB Access, you can unlock all aspects of your drives, motors or PLCs, from one central location: the palm of your hand.

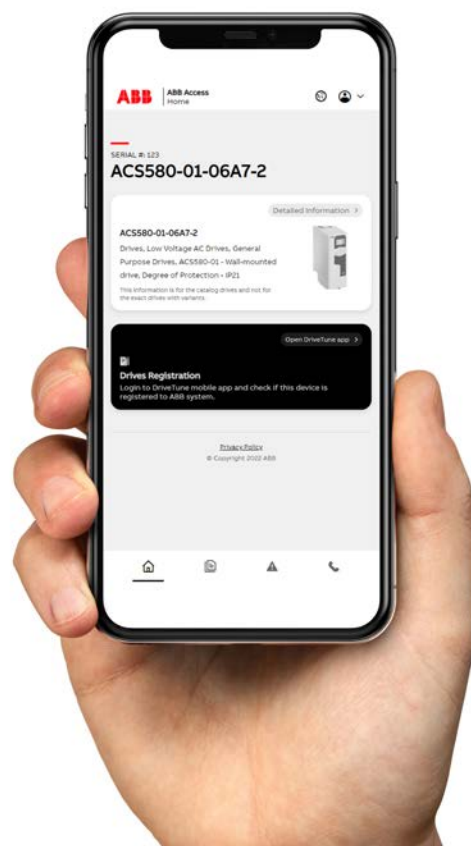
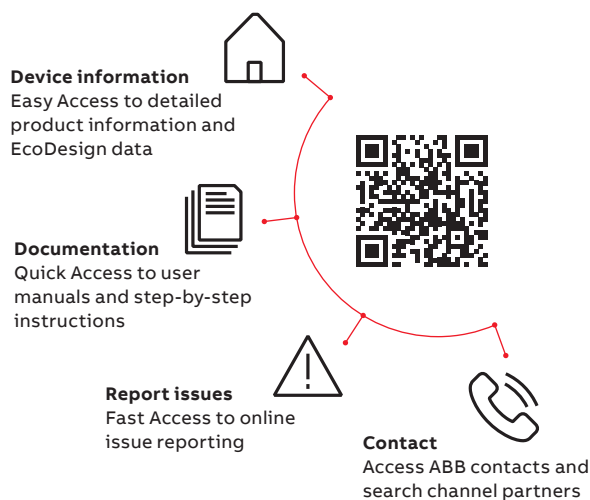


Simply scan the QR code on the ABB product to get started

ABB Access, helps you easily find up-to-date product online data.

It also provides easy access to documentation and manuals.

If you happen to experience issues with your ABB product, this can be fastly and easily reported online to reach expert support from ABB.





+ ABB Ability™ zenon

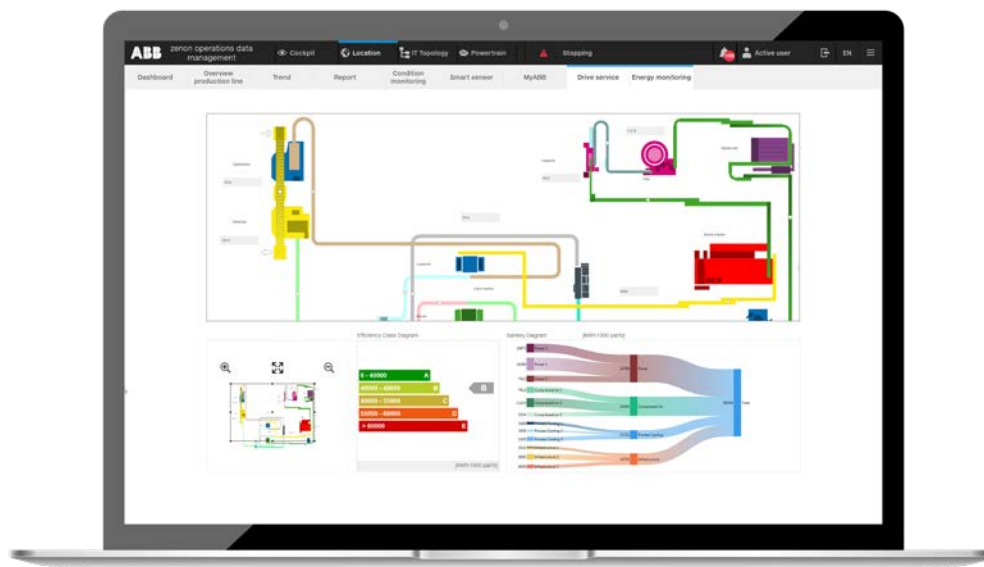
Highlights

- ABB Ability™ zenon integrates your technology by connecting drives, motors, PLCs, and electrical devices to complete automation and electrification
- It enables supervision, control, data acquisition, scheduling and performance reporting for your machines and factories
- ABB Ability™ zenon hosts ABB Ability™ solutions on premises and connects to other remote solutions
- The platform's security is designed to be smartly integrated into all processes and systems in critical infrastructure
- Turning data into information, ABB Ability™ zenon provides insight into production processes via its more than 300 communication protocols and drivers, enterprise resource planning capability, and cloud interfaces
- Its extensive lifecycle, backward compatibility and ability to engineer mixed version environments, ensures low total cost of ownership and cost-effective extensions for factories

Features

- Control and supervision for factory assets
- Connectivity through more than 300 communication protocols and drivers
- IoT from machines to multi factory
- Secure data storage and communication
- Certified ISO 50001 Energy Data Management System
- Freely definable KPIs
- Alarm management
- Realtime Management Dashboards
- Extensive production data analytics
- Audit Trail
- Batch and recipe handling – ANSI/ISA–88.01 compliant
- Equipment Model – ISA S95 compliant
- Production scheduler
- Soft PLC
- HTML5 Webserver
- FDA CFR 21 Part 11 compliant
- GAMP 5 compliant
- Certified SAP ERP and MS Azure interface

Information – Integrity – Insight





+ Drive Assistant Control panels

Easy commissioning and operation

ABB has a wide range of drive HMI options with different value proposition for customers – from the low-cost, easy-to-use Basic control panel to the Drive Connectivity panel which is a plug-and-play solution for the ABB Ability™ Digital Powertrain for remote condition monitoring and expert support.



Basic control panel

The icon-based control panel supports users with parameter backup, settings, and fault tracking in basic operation. Simple and low cost, it fulfils all essential needs.



Bluetooth control panel

The control panel with built-in Bluetooth enables easy and secure wireless connection with the Drivetune mobile app. With the entry version of Drive Composer software tool, you can startup, commission, maintain, and get remote support of ABB all-compatible drives.



Assistant control panel

ACS-AP-I control panel works with all ABB drives, making it easy to use one panel with different products. Enhanced usability, intuitive and appealing interface, easy navigation.



Drive Connectivity Panel

Control panel variant with built-in Bluetooth and mobile radio. It offers easy remote condition monitoring, plug, and play installation with secure and reliable wireless connection to the ABB Ability™ Digital Powertrain, the cloud-based condition monitoring portal for ABB Drives. Possible to connect with the Drivetune mobile app and Drive Composer Entry PC tool as well. Available with a renewable subscription to the ABB Ability™ Digital Powertrain.





+ Fieldbus and Industrial Ethernet solutions

Easy, secure, and reliable integration with the leading automation ecosystems

ABB is a technology leader in digital automation communication networks. We provide device integration, wireless and wired products, and systems that help you to make the Industrial Internet of Things a reality.

A wide variety of fieldbus solutions are available and all major fieldbus protocols are supported by ABB drives, giving you the flexibility, compatibility, and security, you need. So, whatever your preferred communication networks and automation systems, we have a suitable solution.

Thanks to embedded protocols and a wide range of **F-series fieldbus interface modules**, ABB drives provide reliable connectivity with your automation systems, with a simplified interface to control and manage all your ABB drives in low to medium voltage ranges.





+ Functional Safety offering

Ensure the safety of your machinery and processes with drive-based functional safety

ABB offers various safety devices and tools for designing safer machines and processes while utilizing drives. Our drive-based functional safety offering includes drives that come with integrated safety features and extended safety functionality all in one package. Safe connection between drive and PLC is established using safety communication protocols PROFIsafe or CIP Safety or connectivity. ABB's functional safety design tool speeds up the design process when building safety solutions.

ABB all-compatible drives have Safe Torque Off (STO) as the standard. A wide range of functional safety modules are available as options:

FSO-12 and FSO-21 provide an easy way to extend safety functions in the ACS880 and DCS880 series drives. These plug-in modules are installed and cabled inside the drive, enabling different safety functions and diagnostics in one compact and reliable module.

FSO-12 and FSO-21 offers several safety functions including:

- Safe Stop 1 (SS1, as SS1-r and SS1-t implementations),
- Safe Stop Emergency (SSE)
- Safe Brake Control (SBC)
- Safely Limited Speed (SLS)
- Safe Maximum Speed (SMS)
- Prevention Of Unexpected Start-up (POUS).

FSO-21 featuring two additional functions:

- Safe Direction (SDI)
- Safe Speed Monitoring (requires the pulse encoder interface module (FSE-31))

For more information, please see new.abb.com/drives/functional-safety

Both safety function modules are capable of monitoring safe speed in encoder less mode (in open loop). This is made possible when monitoring is based on a pre-set motor profile, speed profile and speed estimation of the safety functions module.

CIP Safety™ functions module, FSCS-21 and PROFIsafe safety functions module, FSPS-21, are easy to use, cost-efficient and compact modules that helps you to connect drives seamlessly to a safety PLC. Modules are easy to install and configure and is suitable for ensuring the safety of equipment that reduces the risk of accidents for people working with a variety of applications.

- Compatible drives: ACS380, ACS580, ACS880
- Safety functions: Safe Torque Off (STO), Safe Stop 1 (SS1)
- The highest safety levels: SIL 3/PL (Safety Integrity Level/Performance level)



Functional safety design tool

The functional safety design tool (FSDT-01) helps you design and calculate safety integrity levels (SIL)/performance levels (PL) for safety functions and generate safety calculation reports. It is a Windows application, which is a support tool for performing functional safety modeling, design,

calculations, and verification for machine functional safety. The tool is aimed to simplify the process of safety function design and verification and to generate documentation to support compliance to the required standards and the European Machine Directive for safety

For more information, please see new.abb.com/drives/functional-safety/functional-safety-design-tool

ABB ABILITY™ DIGITAL POWERTRAIN

Condition monitoring for drives and rotating equipment

Accurate, real-time information about powertrain events. When you have the facts, you can make the right decisions.

ABB Ability™ Digital Powertrain

The ABB Ability Digital Powertrain enables you to remotely monitor the health and performance of entire powertrains including drives, motors and applications, such as pumps. The data collected from the connected equipment can be accessed and analyzed remotely, providing a better understanding of the health and energy efficiency of the entire process.

The service can be tailored to fit your needs

Our standard package gives you industry leading monitoring capabilities – whether you want to view the drive status through ABB's Internet portal or integrate this data with your existing monitoring systems.

The standard package includes the following services:

- Self-service condition monitoring
- Alarm Management
- Asset Health
- Team Support
- Backup Management

The standard package can be supplemented with optional services:

- Condition-Based Maintenance ^{*)}
- Offline Data Collection
- Expert Reports
- Remote Assistance
- Monitoring Service
- Plug & Play Connectivity

^{*)} Not available for all drives



Key benefits



Solid fact-based decision making

Get the facts, and the history, to help run your operations better and more safely.



Always stay one step ahead of problems

Recognize early signs of possible failures and assess the risks before they turn into serious operational issues.



Find the root cause of process issues

Remotely access data from ABB drives built-in sensors to track the cause of problems. Get back to smooth operation quickly with data back-ups.



Remotely analyze and optimize drives

Get critical drive information anywhere anytime – even in difficult to access sites, or when a site visit is impossible.

Customers can configure powertrains and customize the digital service plan

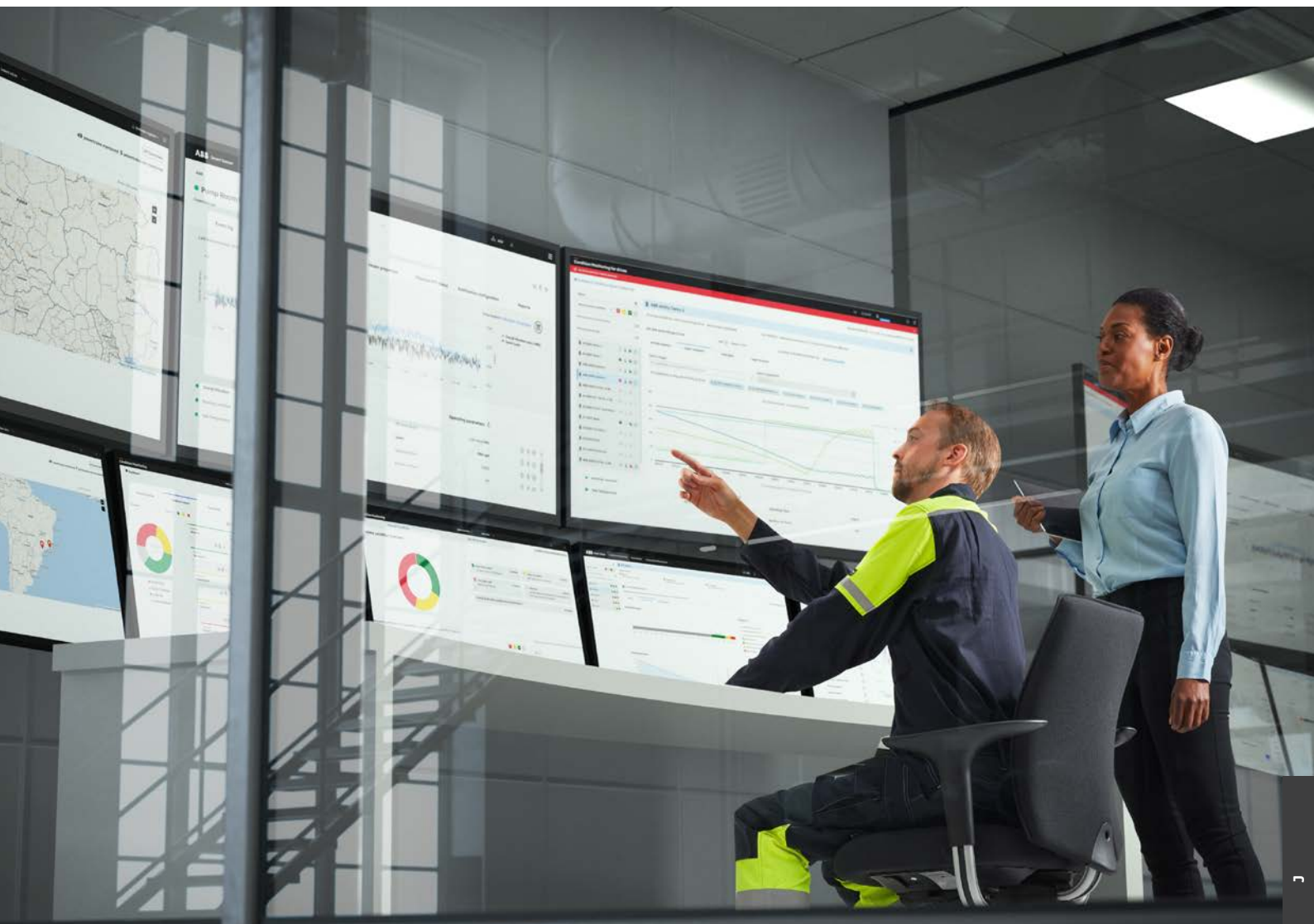
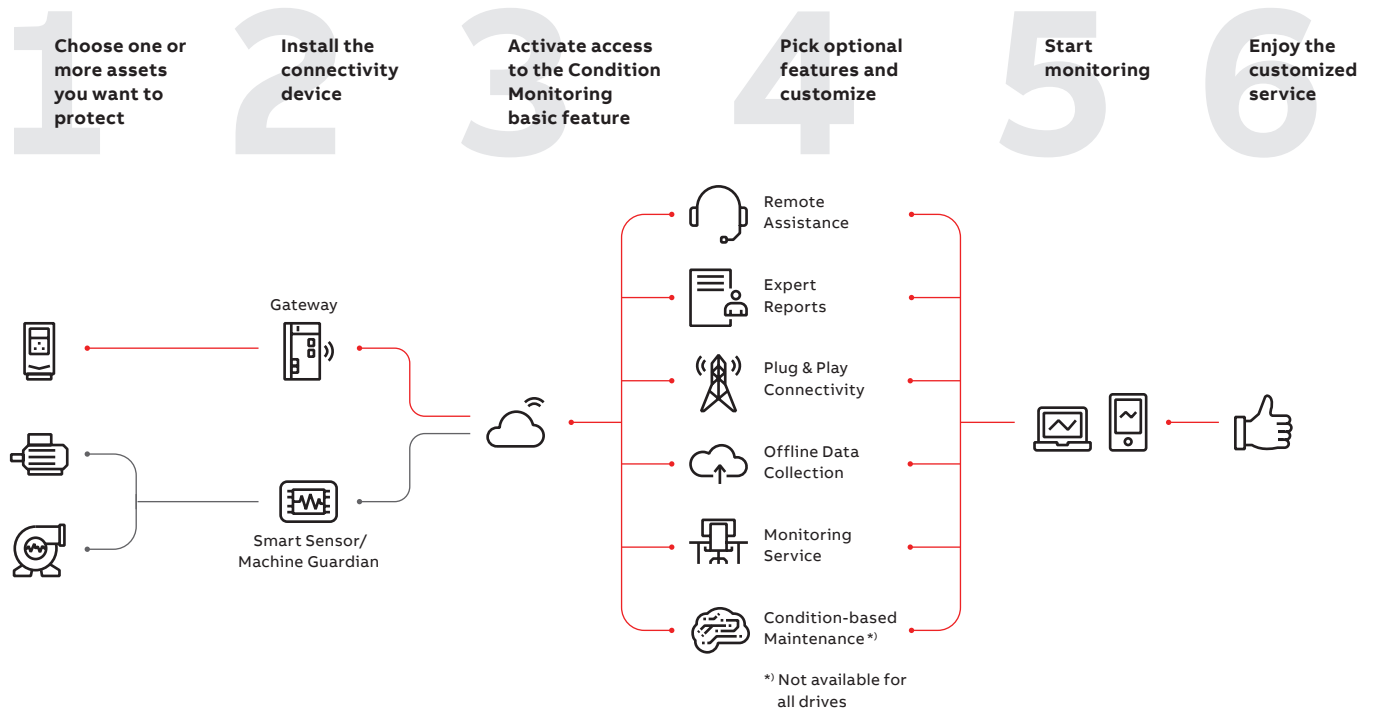
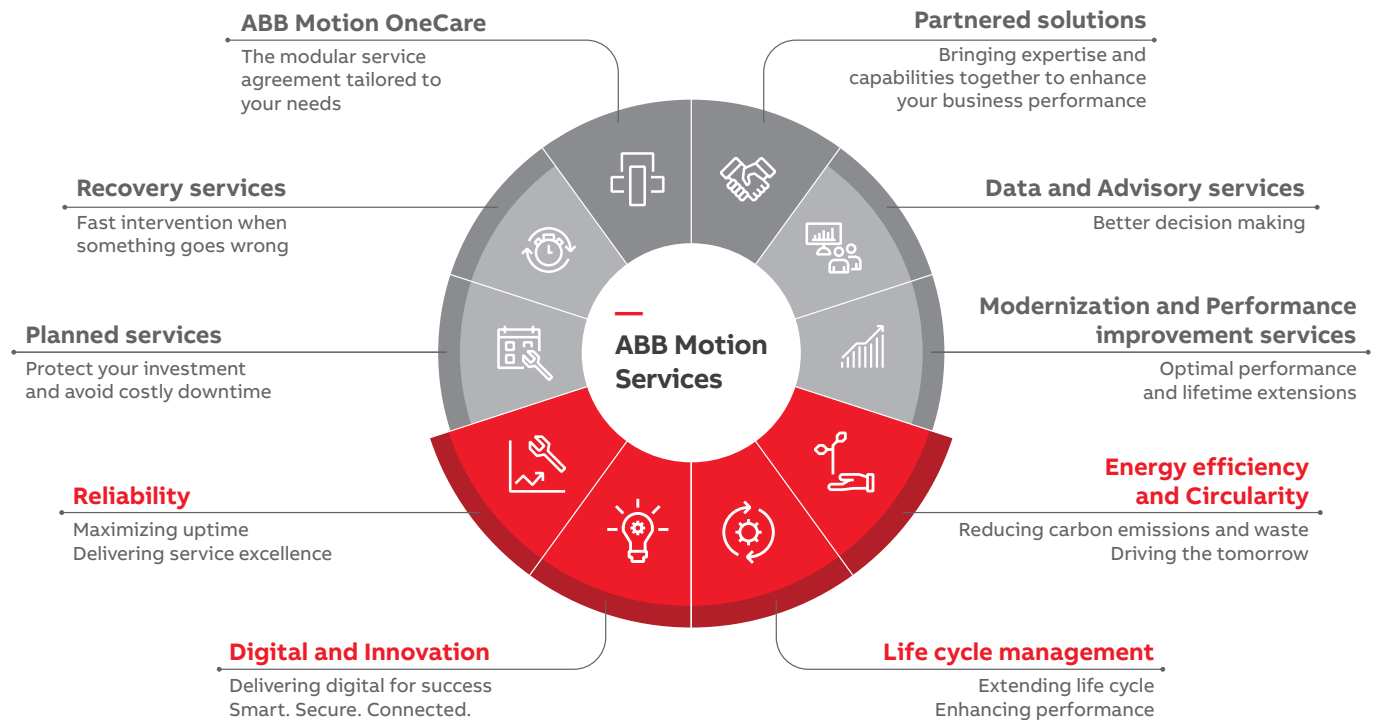


ABB MOTION SERVICES

ABB Motion Services helps customers around the globe by maximizing uptime, extending product life cycle, and enhancing the performance and energy efficiency of electrical motion solutions. We enable innovation and success through digitalization by securely connecting and monitoring our customers' motors and drives, increasing operational uptime, and improving efficiency. We make the difference for our customers and partners every day by keeping their operations running profitably, safely and reliably.



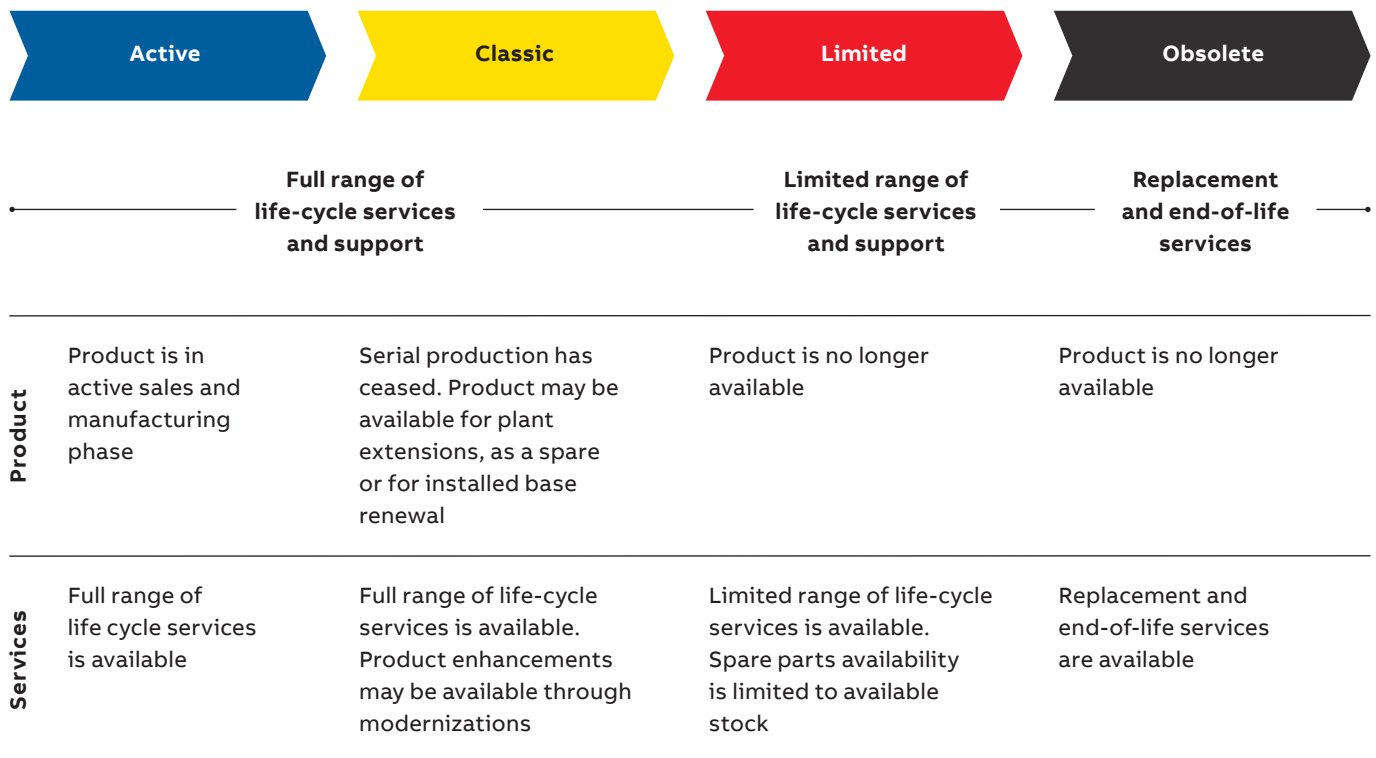
OUR EXPERTISE
YOUR ADVANTAGE

A LIFETIME OF PEAK PERFORMANCE

You're in control of every life-cycle phase of your drives. At the heart of drive services is a four-phase product life-cycle management model. This model defines the services recommended and available throughout drives lifespan.

Now it's easy for you to see the exact service and maintenance available for your drives.

ABB drives life-cycle phases explained:



Keeping you informed

We notify you every step of the way using life-cycle status statements and announcements.

The benefit for you is clear information about the status of your drives and the exact services available. It helps you plan the preferred service actions ahead of time and make sure that continuous support is always available.

Step 1

Life-cycle Status Announcement

Provides early information about the upcoming life-cycle phase change and how it affects the availability of services.

Step 2

Life-cycle Status Statement

Provides information about the drive's current life-cycle status, the availability of product and services, the life-cycle plan, and recommended actions.

Additional information

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.



—
For more information, please contact
your local ABB representative or visit

new.abb.com/drives

new.abb.com/drives/drivespartners

new.abb.com/plc

new.abb.com/plc/automationbuilder