

ABB drives

Motion control solutions

Motion control solutions



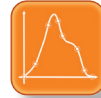
- Real-time motion bus systems
- Multi-axis coordinated motion
- Distributed motion control
- Intelligent drive solutions

- CoDeSys IEC61131-3 programming environment
- PLCopen motion library
- Scalable controller family
- High availability
- Scada solutions
- Powerful engineering framework

Advanced Motion Control

PLC Technology





Functional Safety

- Safety PLC
- Safety I/O
- Safety relays and controllers
- Safety sensors and actuators
- Drive Integrated safety functions

System Solutions

- Human-machine interfaces
- Rotary servo motors
- Linear motors
- Distributed I/O
- Fieldbus interfaces
- Cables



ABB motion control products

ABB offers an extensive range of machine control solutions for diverse industrial applications such as labelling, packaging, bottling, pick and place, laser cutting/trimming, stacking, cut-to-length, flying shear, web feeders and high speed rotary wrappers.

Our solutions include human-machine interfaces (HMI), programmable logic controllers (PLC), safety technology and extend to multi-axis motion controllers, high performance servo drives, rotary servo motors and linear motors. All of which seamlessly interface to provide a complete machine control solution.

With global representation and established proven technology we help manufacturers reduce energy consumption, increase equipment uptime, minimize maintenance and increase productivity.

Choice of platform

Industries, applications and ever changing demands require a variety of solutions that can be tailored to each. ABB offers industry standard CoDeSys IEC61131-3 with PLCopen motion, high-level programmable motion controllers (Mint™ motion programming) and even intelligent drives that can solve single axis or multi-axis coordinated applications.

Flexible drive technology

As the world leader in industrial drives, we offer flexibility in technology, both motor control and system connectivity with powers ranging from less than 1 kW to more than 100 kW. ACSM1 drives provide servo and induction motor control and a choice of Ethernet or traditional fieldbus options. MicroFlex e100 and MotiFlex e100 drives offer high performance rotary and linear servo control and feature real-time Ethernet POWERLINK and universal encoder support. MicroFlex e150 offers advanced motion programming and EtherCAT connectivity for multi-axis systems with AC500 PLC products.

Plug & play safe

Jokab Safety, a member of the ABB Group, provides innovative safety concepts for machinery applications. Jokab Safety sensors, actuators, safety relays and programmable safety controllers, combined with ABB's new AC500-S safety PLC and safe I/O offer the latest in machine safety solutions to meet EN ISO 13849-1 safety standard.

Engineering productivity through integrated software

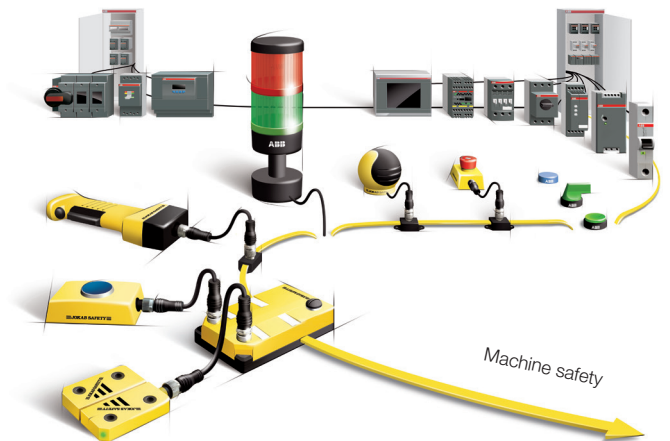
Automation Builder integrates PLCs, Drives, Robots, machine Safety, Motion and HMI with system planning and configuration in a single package for OEM, machine builders and integrators. Enables improved management, design and delivery of innovative solutions with reduced engineering effort.



Human-machine interfaces

The CP600 HMI range offers 64k color touchscreen displays from 4.3" to 15", portrait and landscape versions, Ethernet connectivity and drivers for ABB drives and controls.

- Recipe storage, alarms with history list and multi-language applications
- Server-client architecture for remote machine visualisation function

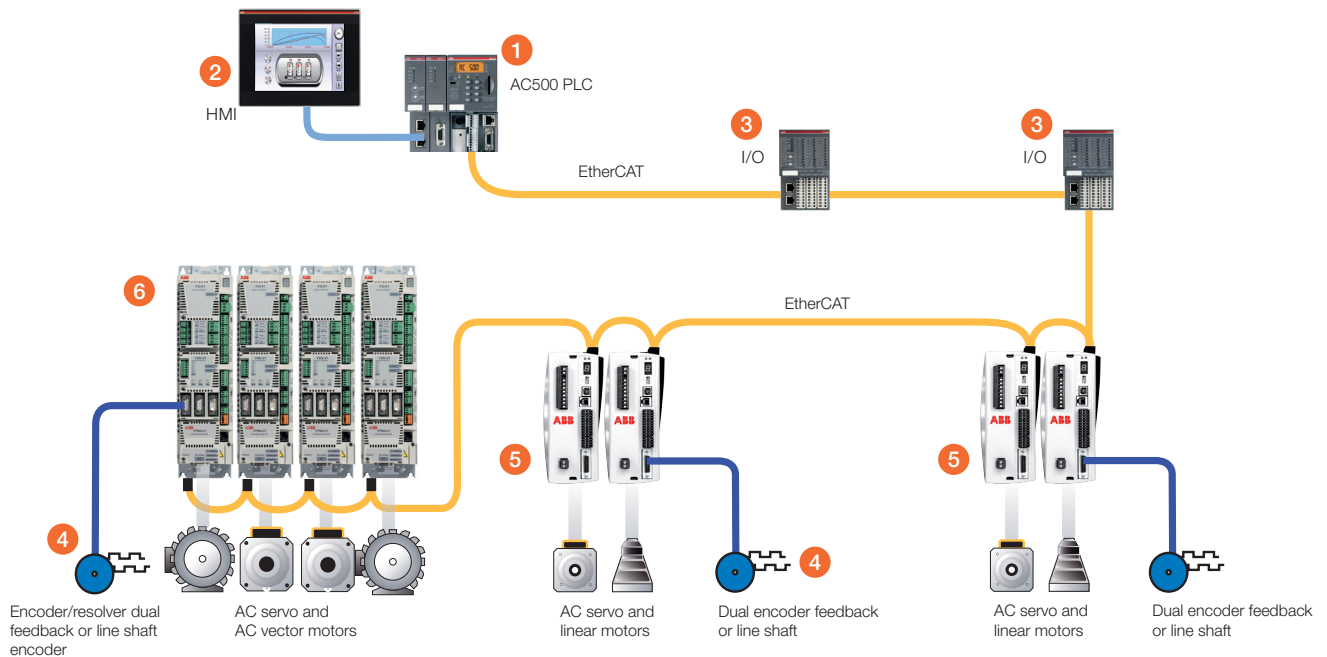


Functional safety technology

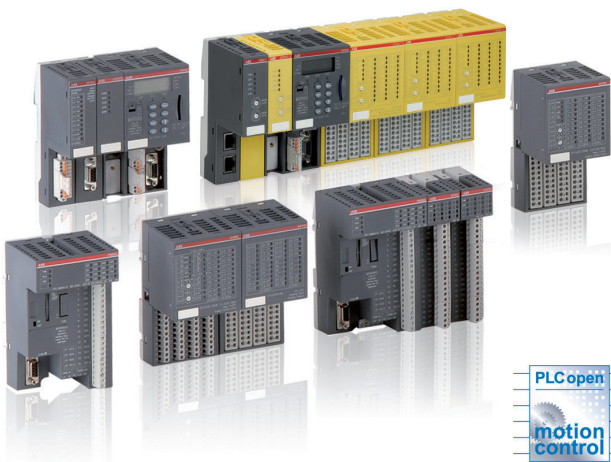
ABB offers a broad range of safety technology to meet the latest industry machinery safety directives.

- Jokab Safety sensors, actuators, safety relays and programmable safety controllers
- Safety PLC and safe I/O systems built on PROFIsafe
- Integrated drive safety functions

PLC machine control



1. Powerful AC500 PLC with multiple fieldbus capabilities, IEC61131-3 and PLCopen motion.
2. HMI connected on Modbus RTU or CANopen.
3. Distributed I/O expansion on EtherCAT or other fieldbus systems.
4. Additional line shaft encoders can be connected to drives or to the PLC on EtherCAT or direct to high speed I/O on the PLC.
5. MicroFlex e150 EtherCAT servo drives controlling rotary and linear servo motors. STO as standard.
6. ACSM1 drives controlling AC induction and rotary servo motors. Options for fieldbus, feedback devices and I/O expansion. STO as standard.



AC500 and AC500-eCo PLC family

ABB offers a comprehensive and scalable PLC platform powered by CoDeSys IEC61131-3 and PLCopen for simple to complex automation tasks.

- Scalable performance through choice of CPU's, communication modules, I/O, safety logics and safety I/O
- Real-time control of ACSM1 and MicroFlex e150 drives via EtherCAT and PLCopen Motion Control Library

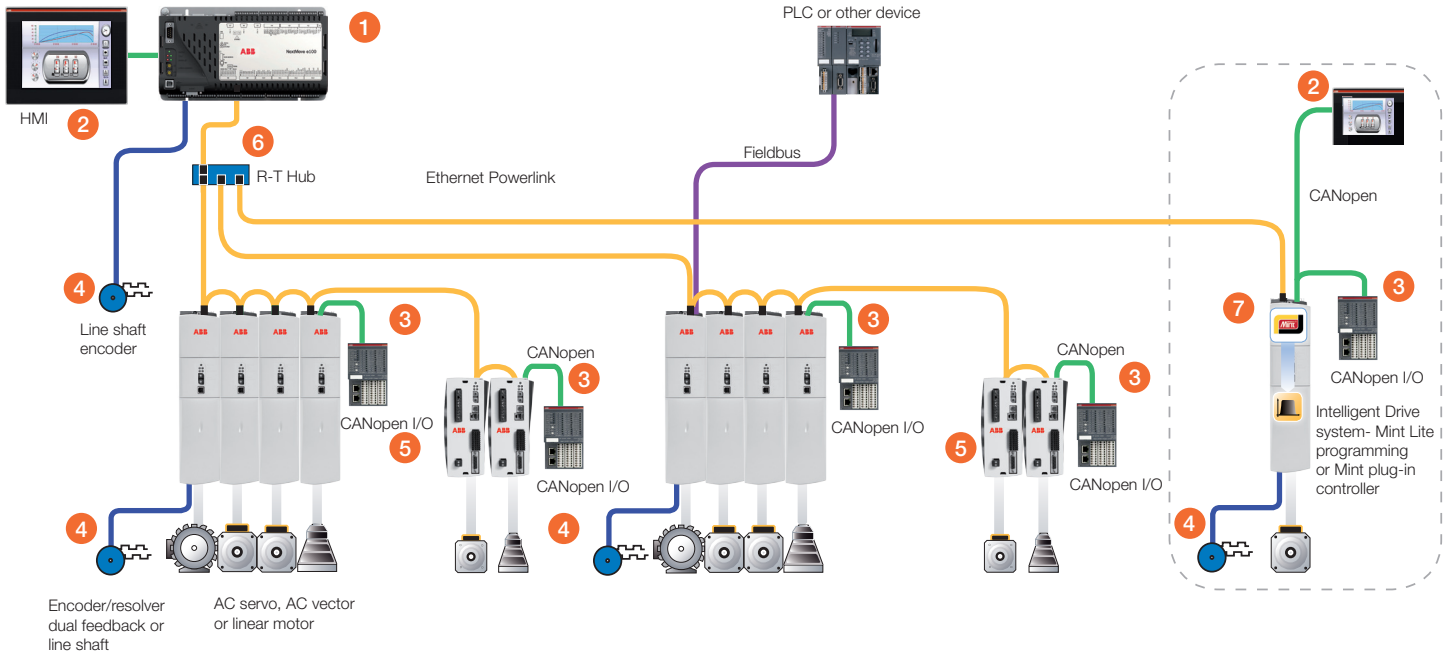


ABB high performance machinery drives, ACSM1 series

ACSM1 drives are optimized for applications from simple speed&torque to demanding motion control. The drives control both synchronous and asynchronous servo motors.

- ACSM1-04 drive module – 3-phase 230 to 500 V AC 3 to 580 A rms (0.75 to 355 kW / 1 to 450 hp)
- ACSM1-204 regen supply module – 3-phase 400 to 500 V AC 8 to 93 A rms
- Expansion options for feedback, I/O and all major fieldbuses including Ethernet technologies

Ethernet machine control



1. NextMove e100, 16 axes coordinated motion.
2. HMI via CANopen or Modbus RTU.
3. Distributed CAN I/O at any drive.
4. Line shaft or dual loop encoders.

5. MicroFlex e100 compact single phase drives and MotiFlex 3-phase drives with DC bus connection.
6. Class II repeating hubs for tree structures.
7. Mint lite or plug-in controller creates distributed intelligent axes or sub systems.



Motion controllers

NextMove motion controllers offer a choice of hardware platform and feature CANopen expansion, on board I/O and powerful Mint™ motion control programming.

- Euro-card, PCI and panel mount format supporting analog, stepper and Ethernet POWERLINK
- Plug-in NextMove controller MotiFlex e100 for decentralized control of five axes

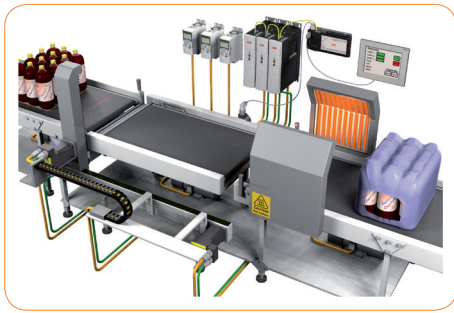


e100/e150 servo drives

MicroFlex e100 and MotiFlex e100 feature Ethernet POWERLINK as standard while MicroFlex e150 integrates EtherCAT. All provide high performance control of our servo and linear motors.

- MicroFlex e100/e150 – 1 or 3-phase 105 to 250 V AC, 3 to 9 A rms
- MotiFlex e100 – 3-phase 180 to 528 V AC 1.5 A to 65 A rms with integrated common DC bus
- Mint programmable intelligent drives

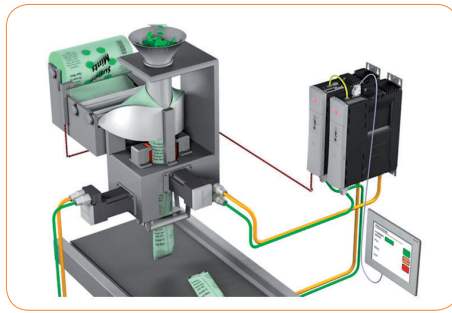
Flexible choice of platform



e100 motion solutions

e100 solutions provide advanced machine control, with up to 16 axes of high performance motion using real-time Ethernet POWERLINK and powerful multi-tasking programming.

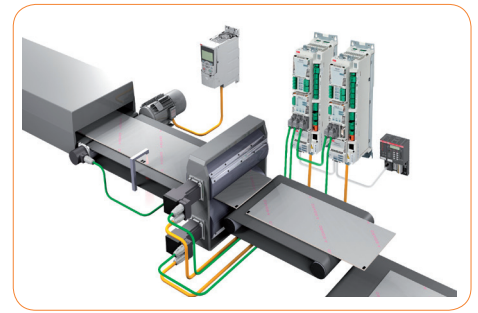
- Advanced e100 servo drives with universal motor control
- Proven in applications in the packaging, food & beverage, metal forming and many other industries



Intelligent drive solutions

e100, e150 and ACSM1 drives offer motion programming for single axis control. A plug-in controller for MotiFlex e100 creates a 5 axis machine control solution, without any external controller or PLC.

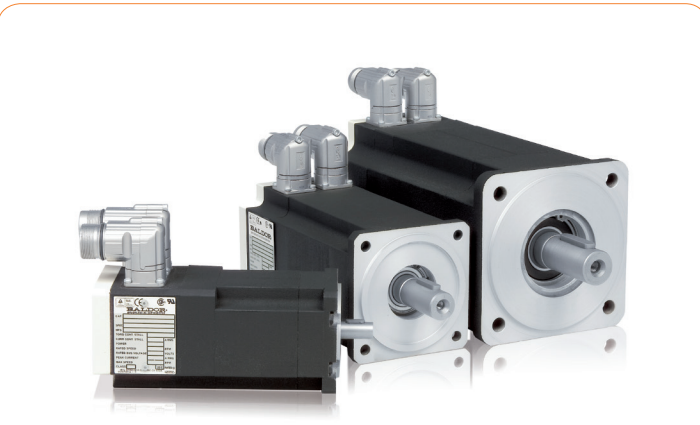
- Mint™ motion programming as standard on all e100 and e150 drives
- SPC application programming for ACSM1 drives
- Ideally suited to applications like cut to length, flying shears, vertical form fill seal and others



PLC motion solutions

AC500 series PLCs combine IEC61131-3 CoDeSys programming, PLCopen motion functions and EtherCAT control of ACSM1 and MicroFlex e150 for modern automation applications.

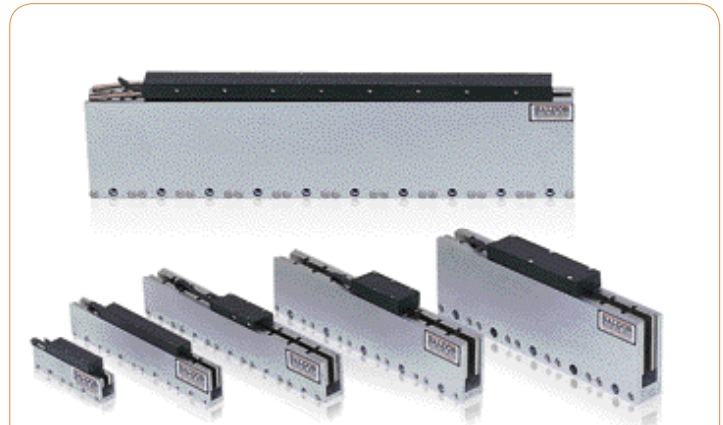
- Scalable CPU offering and wide range of fieldbus and I/O expansion
- For applications in food & beverage, packaging, material handling and many more



Rotary servo motors and gearheads

A range of BSM servo motors with choice of high or low inertia models, winding options, feedback devices and gearheads to match.

- Continuous torque ranges from 0.16 Nm to 120 Nm and peak torques up to 320 Nm
- Stainless steel designs suitable for harsh environments and for the pharmaceutical and food processing industry



Linear motors

A wide range of linear motor products offering high dynamic performance, repeatability and accuracy for precision and/or demanding applications.

- Brushless AC, cog-free modular design. Peak force to 2300 N, acceleration to 10 G and speeds to 5 m/s
- AC induction design. Peak force to 224 N, acceleration to 1 G and speeds to 6.8 m/s

Contact us

For more information please contact your local ABB representative or visit:

www.abb.com/drives

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