



Automation solutions

Drives, PLC, motion,
motors and safety

Motion control solutions

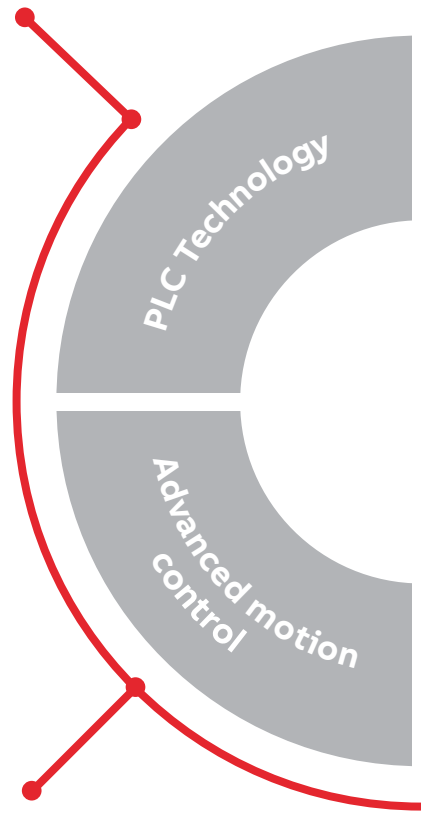
Scalable software solutions

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



Advanced motion capabilities

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





Functional safety solutions

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



Product technologies

- Human machine interfaces
- Servo motors
- Distributed I/O
- Fieldbus interfaces
- Cable sets and accessories



ABB motion control products

ABB offers an extensive range of machine control solutions for diverse industrial applications ranging from high-speed labelling, packaging, metal cutting/forming, flying-shears, plastics extrusion and processing, wood working and textiles.

Our solutions include human-machine interfaces (HMI), programmable logic controllers (PLC), safety technology and extend to multi-axis motion controllers, high performance servo drives, and rotary servo 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 maximize 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 IEC61131-3 with PLCopen motion, high-level programmable motion controllers 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 100kW.

ACS380 and ACS880-M04 drives provide servo and induction motor control and a choice of Ethernet or traditional fieldbus options. ABB servo and machinery drives offer high-performance rotary and linear motor control and support a wide variety of Ethernet technologies including Modbus TCP, EtherNet/IP, Profinet IO and real-time EtherCAT® and PowerLink. MicroFlex e190 and MotiFlex e180 offer advanced motion programming for intelligent drive solutions.

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 the 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.



Integrated software solutions

ABB Automation Builder is the integrated software suite for machine builders and system integrators wanting to automate their machines and systems in a productive way.

- Covering the engineering of ABB PLCs, safety PLCs, control panels, drives, motion and robots
- Increase flexibility and quality
- Reduce project cost and maintenance

CP600 range

The CP600 HMI range offers 64k color touchscreen displays from 4.3" to 21". CP600-eCo is a cost-effective control

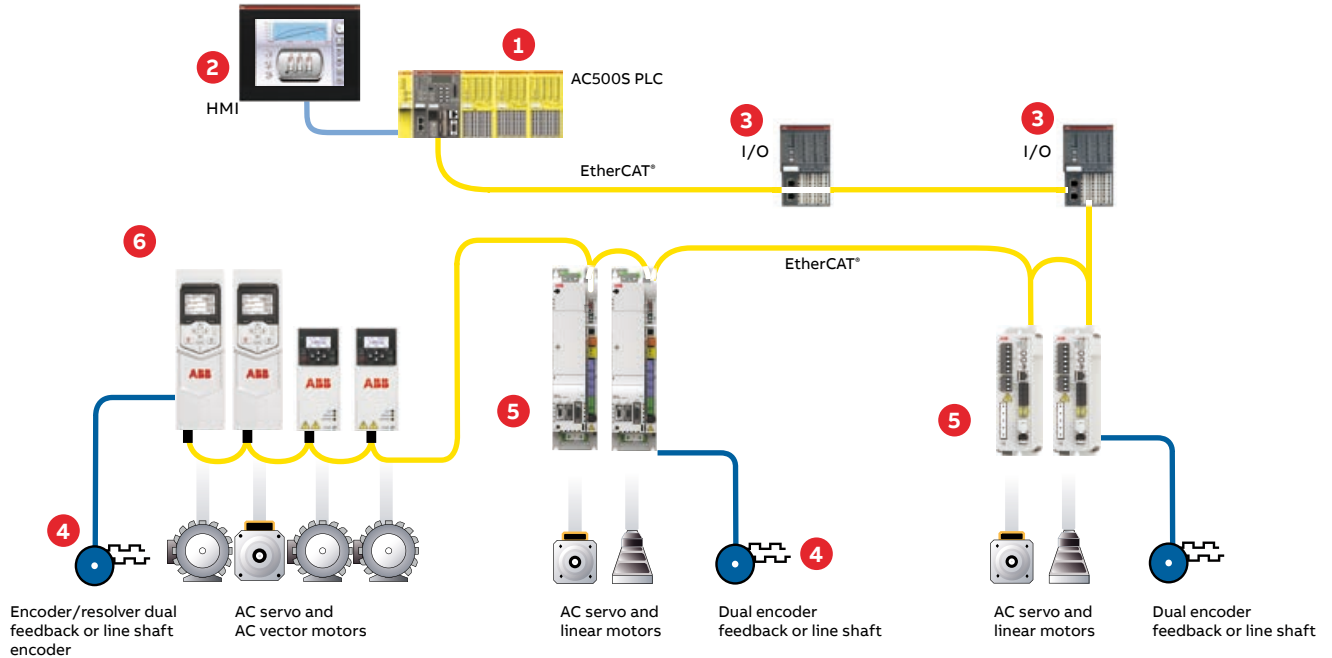


panel. It provides selected features of the CP600 in a slimmed-down enclosure.

The new CP600 PRO screens offer a temperature range of -20 °C to +60 °C with multi-touch control with up to 16M colours.

- Recipe storage, alarms with history list and multi-language applications
- High-performance connectivity to PLC, machinery and motion drives and rapid programming
- Easy integration and good scalability

PLC machine control



1. Powerful AC500S PLC with multiple fieldbus capabilities, IEC61131-3 and PLCopen motion.
2. HMI connected on Modbus RTU or Ethernet.
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 e190 and MotiFlex e180 EtherCAT® servo drives controlling rotary and linear servo motors. STO on all drives.
6. ACS380 and ACS880 machinery drives feature DTC motor control for continuous process motion such as extrusion and web applications.



AC500 and AC500-eCo PLC family

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

- Scalable performance through choice of CPUs, communication modules, I/O, safety logics and safety I/O
- Real-time control of MotiFlex e180 and MicroFlex e190 drives via EtherCAT® and PLCopen Motion Control Library
- The new V3 CPU supports OPC-UA server and html5 web pages

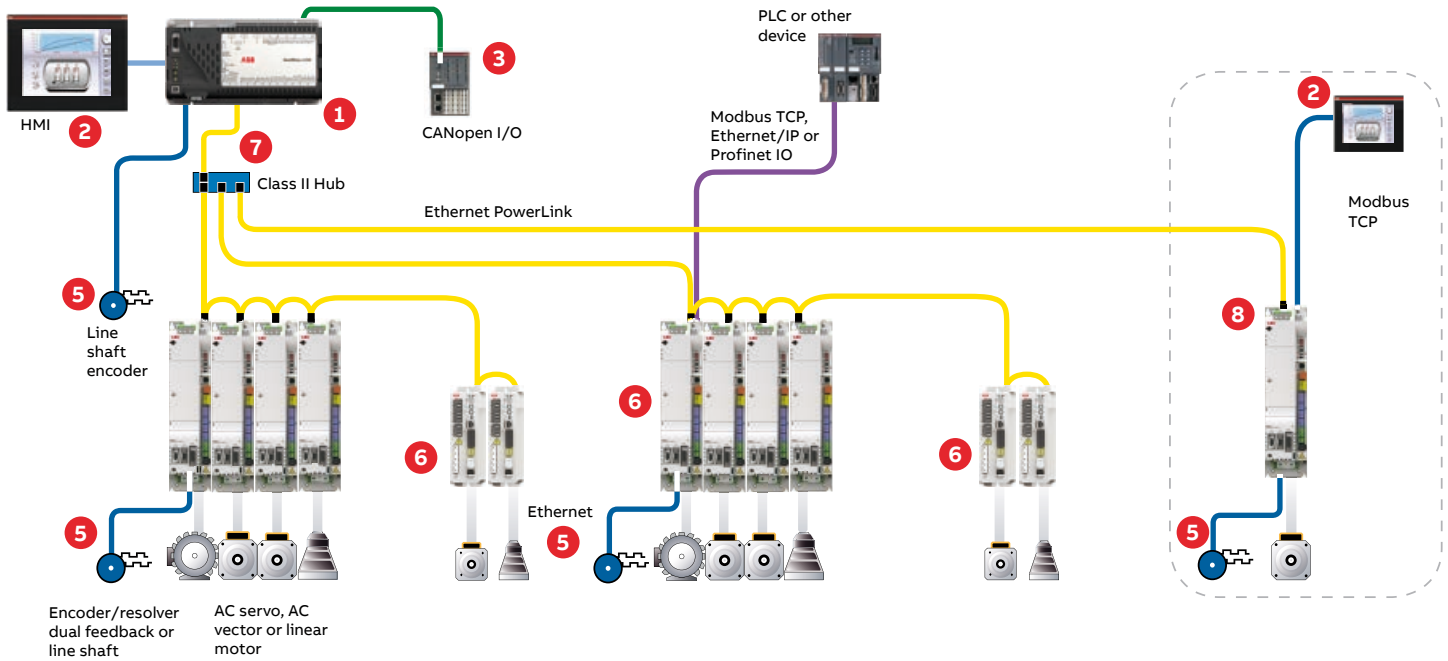


Machinery drives, ACS380 and ACS880-M04

ACS380 and ACS880-M04 drives are optimized for continuous process applications such as wire drawing, and extrusion. The drives control both synchronous and asynchronous servo motors.

- ACS380 - 0.25 to 22 kW, 200 to 480 V
- ACS880-M04 - 0.37 to 45 kW and 230 to 500 V
- IP20 enclosure class as standard
- Direct torque control on ACS880-M04
- Ready-made control programs

Ethernet machine control



1. NextMove e100, 16 axes co-ordinated motion (30 axes total).
2. HMI via Modbus RTU or Ethernet.
3. On NextMove e100, expand I/O via CANopen® or use drive I/O for system functions.
4. On MotiFlex e180, expand I/O using Modbus TCP.
5. Line shaft or dual loop encoders.
6. MicroFlex e190 compact single phase drives and MotiFlex e180 3-phase drives with DC bus connection.
7. Class II repeating hubs for tree structures.
8. MINT memory module option +N8020 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 motion control programming.

- Supporting analog, stepper and Ethernet PowerLink
- PC developer libraries available
- CAN interface for I/O expansion and HMI
- On board digital and analog I/O can be used to control many parts of the machine



MicroFlex e190 and MotiFlex e180 servo drives

MicroFlex e100 and MotiFlex e180 feature Ethernet PowerLink as standard while MicroFlex e190 and Profinet IO MotiFlex e180 supports EtherCAT®, Ethernet/IP and Modbus TCP. All providing high performance control of our servo motors.

- MicroFlex e190 – 1 or 3-phase 105 to 250 V AC, 3 to 9 A rms. 1.6A, 3A, 6A and 9Arms with 200 and 300% overload modes
- MotiFlex e180 – 3-phase 180 to 528 V AC 1.5 A to 65 A rms with integrated common dc bus

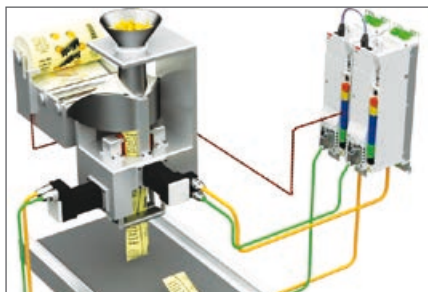
Flexible choice of platform



MINT motion solutions

MINT solutions provide advanced machine control, with up to 30 axes of high performance motion using real-time Ethernet PowerLink and powerful multi-tasking programming.

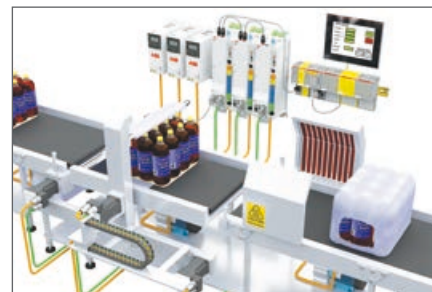
- Advanced servo drives with universal motor control
- Proven in applications in the packaging, food & beverage, metal forming and many other industries



Intelligent drive solutions

e190 and e180 drives offer motion programming for single axis control. A machine control solution, without any external controller or PLC.

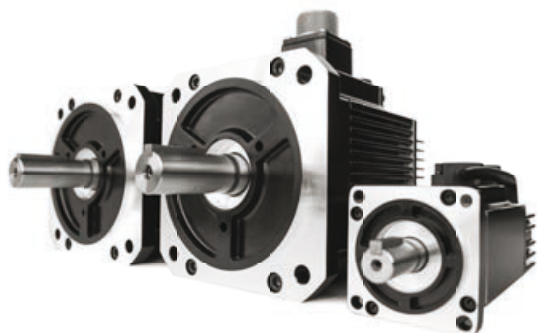
- MINT motion programming capability on all motion drives
- Ideally suited to applications like cut to length, flying shears, vertical form fill seal and others



PLC motion solutions

AC500 series PLCs combine IEC61131-3 programming, PLCopen motion functions and EtherCAT® control of MotiFlex e180 and MicroFlex e190 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



e-Series servo motors

A range of servo motors high torque density and low rotor inertia, the e-Series servomotor is perfect for highly dynamic, precision motion. A choice of single- and multi-turn high resolution absolute encoder feedback options are available to match application requirements.

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



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



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

- abb.com/drives
- abb.com/drivespartners
- abb.com/PLC
- abb.com/motion
- abb.com/safety

