



ABB motion control drives provide capability without complexity

ABB motion control drives offer flexible technologies and high performance motor control to solve a wide variety of applications. The range includes powers from less than 1 kW to more than 100 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 motion 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.

ABB motion control drives



Compact motion control drive for simple applications



Compact motion control drive with real time Ethernet technology

MicroFlex Analog highlights

- Compact motion control drive for single and three-phase operation
- +/- 10 V analog speed/torque demand or Pulse + Direction inputs
- Choice of resolver feedback or incremental encoder/SSI

Features

- 1 or 3-phase operation from 105 to 250 V AC
- 3, 6 and 9 A rms
- IP20 enclosure for cabinet installation (UL open)
- Auto-tuning and anti-resonance digital filters
- Suitable for single drive and multi-axis systems
- Controls rotary and linear AC servo motors
- Options
 - Space saving footprint EMC filter
 - Brake units

For further information, see flyer "ABB motion control drives, MicroFlex brushless AC servo drives", code: 3AUA0000123110 EN.

MicroFlex e100 highlights

- Compact motion control drive for single and three-phase operation
- Ethernet PowerLink technology for real-time motion control
- Mint programming for multitasking control of communications, logic, motion and HMI interaction in a powerful yet simple programming language

Features

- 1 or 3-phase operation from 105 to 250 V AC
- 3, 6 and 9 A rms
- IP20 enclosure for cabinet installation (UL open)
- Real-time Ethernet operation with PowerLink
- Suitable for single drive and multi-axis systems
- Controls rotary and linear AC servo motors
- Options
 - Space saving footprint EMC filter
 - Brake units

For further information, see flyer "ABB motion control products, MicroFlex e100 servo drives", code: 3AUA0000116018 EN.



Compact motion control drive with embedded safety and EtherCAT® technology



Versatile motion control drive with integrated real-time Ethernet technology

MicroFlex e150 highlights

- Compact motion control drive with embedded safety for single and three-phase operation
- Ethernet technology including EtherCAT® for real-time motion control
- Advanced Mint programming for multitasking control of communications, logic, motion and HMI interaction in a powerful yet simple programming language

MotiFlex e180 highlights

- Wide range of motion functions
- EtherCAT®, Modbus TCP, EtherNet/IP™ and PowerLink
- Dynamic control of rotary and linear servo motors
- Safety as standard with integrated safe torque off in accordance to IEC 61800-5-2, SIL 3, PL e
- HIPERFACE DSL one cable solutions

Features

- 1 or 3-phase operation from 105 to 250 V AC
- 1, 3, 6 and 9 A rms
- IP20 enclosure for cabinet installation (UL open)
- Embedded real-time Ethernet including EtherCAT®, Modbus TCP and EtherNet/IP™
- Suitable for single drive and multi-axis systems
- Controls rotary and linear AC servo motors
- Safe torque off feature as standard
- Options
 - Additional IO
 - Simulated encoder output
 - Space-saving footprint EMC filter
 - Brake units

For further information, see flyer “ABB motion control products, MicroFlex e150 servo drives”, code: 3AUA0000097609 EN.

Features

- Servo duty output current 3 to 50 A (3-phase 200 to 480 V AC)
- IP20 enclosure for cabinet installation (UL open)
- Suitable for stand-alone and multi-axis motion systems
- Integrated safe torque off (STO) as standard
- Memory unit for control of drive settings and functionality level
- Real time Ethernet operation with EtherCAT® and PowerLink
- Controls rotary and linear AC servo motors
- Options
 - Different speed/position feedback interfaces
 - Drive functionality levels (Slave/Single axis Mint motion)
 - External EMC filters, chokes and braking resistors

For further information, see catalog “ABB motion control products, MotiFlex e180 servo drives”, code: 3AUA0000168683 EN.



Compact motion controller with real-time Ethernet PowerLink technology



NextMove e100

- Compact panel mount motion controller
- Ethernet PowerLink technology for real-time motion control
- Stepper and analog axis control
- CANopen® manager for system expansion
- MINT programming for multitasking control of communications, logic, motion and HMI interaction in simple motion applications

Features

- 1 to 16 axes interpolated axes via PowerLink
- Additional CN profiled PowerLink axes
- 4 x PTO (stepper) axes
- 3 x analog controlled axes with encoder feedback
- Maximum of 30 axes of control
- Digital and analog I/O including 4 x high speed registration latches
- Options
 - Differential/single-ended stepper interfaces
 - 8, 12 or 16 axes of interpolated motion

For further information, see flyer "ABB motion control products, NextMove e100 real-time Ethernet motion controller", code: 3AUA0000116020 EN.

Complete motion control solutions highlights

The motion control 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.

Features

- CP600 HMI range offers 64k touchscreen displays from 4,3" to 15", portrait and landscape versions
- 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
- AC500 PLC offers comprehensive and scalable platform, which is based on IEC 61131-3 and PLCopen
- NextMove motion controllers offer a choice of hardware platform and feature CANopen® expansion, on board I/O and powerful Mint motion control programming
- A wide range of rotary servo motors and gearheads

For further information, see brochure "ABB motion control solutions", code: 3AUA0000068580 EN.





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 100 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 and pulp and paper.

ABB general purpose and industrial drives offer ease-of-use with standard motors



Effortless energy efficiency for a wide range of applications



Well-proven industrial drive ensures high productivity and efficiency of operations

General purpose and industrial drives are suitable for a wide variety of applications such as pumps, fans, compressors, mixers, mills, propulsion and thrusters, mine hoists and conveyors in many industries. The drives are industrial all-rounders that ensure energy-efficient and productive processes.

ACS580MV highlights

- Simple to select, order, commission and operate
- All essential features built into the drive
- Straightforward settings menu and assistants
- Energy efficiency features for optimal energy use
- Universal connectivity
- Member of ABB's all-compatible drives portfolio

Features

- Power range 200 kW to 6300 kW (6.0 to 11 kV)
- Air cooling
- Cabinet-built drives, IP21 as standard, IP42 as option
- VSI – Voltage Source Inverter, 36/54 pulse diode rectifier, multilevel output
- Emergency stop cat. 0 as standard, (SILCL 3/PL e) as an optional variant
- 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 GOST-R

For further information, see catalog "ACS580MV", code: 3BHT490775R0001.

ACS1000 highlights

- Retrofit-ready for existing motors
- Output sine filter for pure sinusoidal voltage and current output
- Integrated or separate input transformer for highest system design flexibility

Features

- Air-cooled power range 315 kW to 2 MW (2.3 to 4.16 kV)
- Water-cooled power range 1.8 to 5 MW (3.3 to 4.16 kV)
- Available with an integrated input transformer or for connection to external input isolation transformer
- Output sine filter for pure sinusoidal voltage and current outputs
- 12- or 24- pulse diode rectifier
- For induction motors
- Seismic design
- Marine certification available for ABS, CCS, DNV
- IEC, EN and UL certified

For further information, see catalog "ACS1000, ACS1000i", code: 3BHT490400R0001.



Technology leading industrial drive for a broad range of applications

ACS2000 highlights

- Suitable for use with or without an input isolation transformer
- Available as low harmonic or regenerative drive
- Market specific design to comply with IEC and NEMA specific industry standards
- Flexible connectivity and various options offer an optimum solution for different applications

Features

- Power range 250 to 3200 kW (4.0 to 6.9 kV)
- Air cooling
- Available for transformerless operation allowing a direct connection to the line supply (direct-to-line), for connection to an external input isolation transformer or with an integrated transformer
- Available as a low harmonic drive for optimal low harmonic performance or as a regenerative drive for enhanced active braking and power factor correction
- For induction motors
- Two line side connection configurations, the diode front end (DFE) and the active front end (AFE)
- Optional output sine filter for pure sinusoidal output voltage and current outputs
- EN, IEC, CE, NEMA, IEEE and UL certifications

For further information, see catalog "ACS2000", code: 3BHT490640R0001.

Improving energy efficiency is the fastest, the most sustainable and the cheapest way to reduce greenhouse gas emissions.



ABB special purpose drives for engineered solutions to specific needs



Superior arc protection for a high level of personal safety



Modular drive for demanding applications

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.

ACS5000 highlights

- Highest level of personnel safety due to arc fault resistant design with fast fault elimination
- High reliability due to proven design and low parts count
- Available with combined transformer (common cooling water loop) or for connection to an external input isolation transformer

ACS6000 highlights

- Modular drive designed for the most demanding single or multi-motor applications
- 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

Features

- Power range 5 to 36 MW (6.0 to 6.9 kV, 10 to 13.8 kV)
- Air and 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, synchronous and permanent magnet motors
- Options
 - Suitable for high speed applications up to 250 Hz
 - Hot standby for fast startup (pre-charged system with open MCB)
 - IP54 enclosure protection
 - Marine approved design for offshore applications

For further information, see catalog "ACS5000", code: 3BHT490501R0001.

Features

- Power range 5 to 36 MW (3.3 kV; optional: 2.3 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

For further information, see catalog "ACS6000", code: 3BHT490399R0001.



Proven technology for high powers

MEGADRIVE-LCI highlights

- Suitable for high power and high voltage applications
- Available as variable speed drives and soft starters

Features

- Air-cooled power range 2 to 31 MW
- Water-cooled power range 7 to 72 MW and higher
- 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

For further information, see catalog "MEGADRIVE-LCI", code: 3BHT490112R0001.



