

ABB high performance machinery drives

ACSM1, 0.75 to 110 kW / 1 to 150 hp

Technical catalogue



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Type code structure:

ACSM1 - 04XX - XXXX - 4 + XXXX

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ABB high performance machinery drives



ACSM1

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04XX

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ABB high performance machinery drives

ABB high performance machinery drives provide speed, torque and motion control for demanding applications. They can control induction, synchronous and asynchronous servo and high torque motors with various feedback devices. The compact hardware and programming flexibility ensure the optimum solution. The innovative memory unit concept enables flexible drive configuration.



Industries and applications

The high performance machinery drives are ideal for

- Plastics and rubber
 - Extruders
 - Calenders
 - Injection moulding machines
 - Winders & unwinders
 - Blow moulding machines
- Printing
 - Sheet-fed printing
 - Commercial printing
 - Label printing
 - Web printing
 - Bindery machines
- Paper & paperboard, film & foil converting
 - Calendering
 - Slitter
 - Coating
 - Sheeter
 - Laminating
 - Winders
 -

- Material handling
 - Cranes and winches
 - Automatic storage
 - Elevators
 - Pick and place systems
 - Conveyors
 - Palletising
- Textile
 - Knitting/weaving machines
 - Needle punching machines
 - Non-woven machines
 - Fibre processing machines
 - Spinning/speder machines
 - Textile coating machines
- Food and beverage
 - Conveyors, mixers and extruders
 - Rolling, pressing and cutting
 - Stamping
 - Slicing
 - Bottling and labeling
 - Packaging
- Other industries and applications
 - Woodworking machinery
 - Plywood and chipboard industry
 - Flying and rotary shear
 - Packaging machinery
 - Wire & cable drawing machines

Highlights

- For demanding machine applications
- For synchronous and induction motors
- Wide range of feedback interfaces
- Solution programming to extend drive functions
- Modular and compact design
- Memory unit for easy drive management
- Safe Torque-Off



| Feature | Advantage | Benefit |
|---|--|--|
| Control and performance | | |
| Various control arrangements | Speed and torque control variant as well as motion control variant. High bandwidth for torque, speed and position control. | Suitable for wide range of standard and demanding applications. |
| Asynchronous and synchronous motor compatibility | Various motor types from asynchronous motors (standard induction motors, servo) to synchronous motors (servo, high torque), can be controlled in open or closed loop mode. | One drive can be used with various motor types. |
| Wide range of feedback interfaces | Different speed and position feedback devices can be used for closed loop and motion control. Each feedback interface option has two inputs and one output. | Almost any kind of feedback can be used to provide different configurations. |
| Drive-to-drive link as standard | Fast and powerful drive-to-drive link can be used for synchronized peer-to-peer communication. | Enables daisy-chaining multiple drives to control machine axes. |
| Different communication options for master communication | Flexibility with master communication as the drive supports PROFIBUS, CANopen, DeviceNet and Ethernet communication. | Choose the network standard that best suits your requirements. |
| Integrated Safe Torque-Off (STO) function | Safe Torque-Off can be used for prevention of unexpected start-up and other safety related stopping functions. | Safety as standard. Cost-effective and certified solution for safe machine maintenance. |
| I/O extensions as options | Plug-in I/O extensions available to add analogue and digital inputs/outputs. | I/O extensions offer flexibility in addition to the extensive standard offering. |
| Ready-made solution programs | Ready-made solution programs provide specific drive functionality for the application. Solution programs can be modified or new ones developed using technology function libraries. | Easy to develop solutions for specific applications, saving time and engineering design costs. |
| Modular and compact design | | |
| Compact size | Five compact frame sizes cover the wide power range (0,75 to 110 kW). | Optimum installation layout and efficient cabinet space usage. |
| Modular design | Drive has three main parts - power, control and memory units. External options like mains choke, mains filter and braking resistors are available for different system configurations. | Offers flexibility in system design. |
| Integrated braking chopper | Braking chopper as standard. | Compact and cost-effective design. |
| Several mounting and cooling options | DIN-rail, back plate, side-by-side and cold plate. | Optimized solutions for various cabinet designs and layouts, providing installation flexibility. |
| Common DC link | Several drives can be connected with a common DC link. Each drive can have its own braking resistor. | Use one AC input connection for several drives. Saves energy due to reduced need for supply-side power. Use centralized or distributed braking resistors for regenerative power. |
| User interface and programming | | |
| Easy drive sizing and selection | MCSIZE feature within the sizing tool selects optimum drive and motor combination based on given motion and mechanics data. | Motors and drives can be rapidly specified using DriveSize sizing tool. |
| Simple and flexible human-machine interface | 7-segment display shows the drive status. DriveStudio PC-programs offer easy access to drive programming and start-up features. Advanced control panel can be used for general service routines. | Easy to read and interpret user interface with the drive. |
| Drive programming | Solution programming with IEC-61131 function blocks provides an easy and innovative method for extending drive firmware functionality. | Provides opportunity to create tailor-made application solutions thereby avoiding additional hardware or software costs. |
| Memory unit for easy drive management | Complete drive configuration and settings are stored in a separate memory unit. – power or control unit can be replaced without parameter setting. | Drive functionality can be easily configured, modified or updated with the memory unit. Offers quick and easy after-sales service. |

Technical specification



ACSM1 - 04XX - XXXX - 4 + XXXX

| Main connections | |
|---------------------------------|---|
| Supply voltage | 3-phase 380 to 480 V +10 /- 15% |
| Frequency | 50 to 60 Hz +/- 5% |
| Total harmonic distortion (THD) | With mains choke to meet limits acc. to EN 61000-3-2, IEC 61000-3-12, IEC 61000-3-4. |
| DC connection | |
| DC voltage level | 485 to 648 V DC ± 10 % |
| Charging | Internal |
| Common DC | See Engineering Manual |
| Motor connection | |
| Motor types | Asynchronous motors (standard induction, servo) and synchronous motors (servo, high torque) |
| Output frequency | 0 to 500 Hz |
| Switching frequency | 2 to 16 kHz, 4 kHz as default. Output current derating above 4 kHz |
| Braking power connection | |
| Braking chopper | As standard in all types |
| Braking resistor | External resistor connected to drive |

| Operating conditions | |
|-----------------------------------|--|
| Degree of protection | IP20 acc. to EN 60529; Open Type acc. to UL 508. |
| Ambient temperature | -10 to +55 °C, derating above 40 °C |
| Installation altitude | 0 to 4000 m, derating above 1000 m |
| Relative humidity | max. 95% |
| Climatic/environmental conditions | Class 3K3, 3C2 acc. to EN 60721-3-3. Oil mist, formation of ice, moisture condensation, water drops, water spray, water splashes and water jets are not permissible (EN 60204, Part 1). |
| Vibration | Class 3M4 acc. to EN 60721-3-3 |
| EMC (According to EN 61800-3) | With mains filter: Category C2 |
| Functional safety | Safe Torque-Off function (STO acc. EN 61800-5-2). IEC 61508: SIL 3 EN 954-1: Category 4 IEC 62061: SILCL 3 EN ISO 13849-1: PL e Certified by TÜV |
| Compliance | CE, UL, cUL, CSA, C-Tick, GOST R |



ABB high performance machinery drives, ACSM1



The ACSM1 series of ABB high performance machinery drives offers versatile features for machinery applications. The ACSM1 covers power ratings from 0.75 to 110 kW (2.5 A to 210 A) in five frame sizes.

Designed for machine builders

The ACSM1 is the optimum choice for machine builders. The ACSM1 can control with or without feedback induction motors, asynchronous and synchronous servo motors. It uses proven DTC (Direct Torque Control) motor control technology to guarantee high performance. The mechanical design is very compact and drives can be installed side-by-side. In addition to covering standard features there are three slots for control and communication options. Drive tools support commissioning, tuning and programming. The ACSM1 offers optimum selection for each machine control philosophy.

Modular and compact design

- Five compact frame sizes
 - 0.75 kW (1 Hp) to 110 kW (150 Hp) / 380 to 480 V
 - IP20
 - Supply AC or DC input from top (A, B, C, D frames) or bottom (E frame)
 - Motor and braking resistor connection from bottom
 - Inbuilt braking chopper as standard
- Optimum assembly and cooling solutions
 - Side-by-side installation
 - Air-cooled variant including support for DIN-rail mounting or back plate mounting
 - Cold-plate variant for external cooling method
 - Removable control terminals and power terminals enables fast assembly and maintenance
- Flexibility with different external options
 - Mains filters to meet EMC requirements.
 - Mains chokes to limit harmonic distortion (THD).
 - Braking resistors for various braking power needs
 - Possibility for different common DC configurations

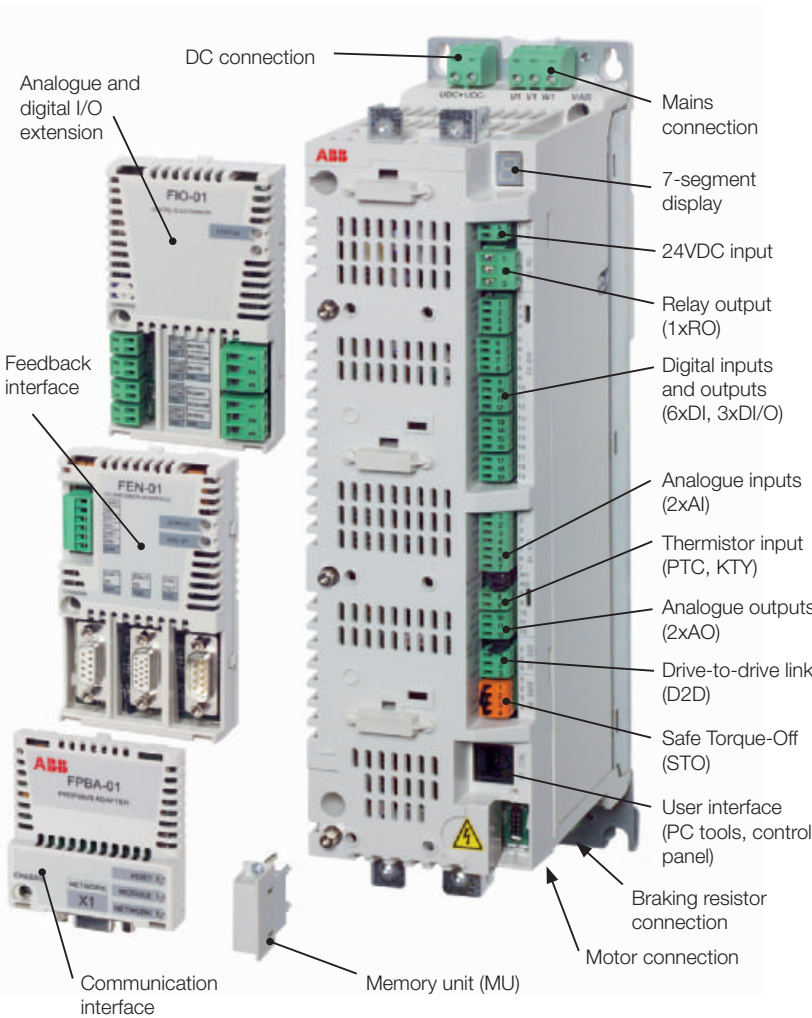
- Global compatibility with machinery environment and standards
 - Standard approvals for CE, UL, cUL, CSA, C-Tick
 - With external mains filter: EN 61800-3, category C2 (A-limits)
 - Integrated Safe Torque-Off (STO) function, which is certified by TÜV
 - Coated boards as standard to meet environmental requirement

Control and communication

- Control interface with versatile standard connections
 - Digital input/output: 6DI, 3DI/O, 1 relay output
 - Analogue input/output: 2AI + 2AO
 - Motor thermistor input (PTC/KTY)
 - Drive-to-drive communication link (RS 485)
 - Complete drive configuration and settings are stored in memory unit
- Scalability with different plug-in control options
 - Three options slots for control options
 - Analogue and digital I/O extension modules
 - Interfaces for different feedback types (TTL, Resolver, Sin/Cos, Endat, Hiperface, SSI)
 - Master communication via fieldbuses (PROFIBUS, DeviceNet, CANopen and Ethernet)



Options Internal



Control unit (CU)

| | | X1 | |
|---|---------|----|--|
| External power input 24 V DC, 1.6 A | +24VI | 1 | |
| | GND | 2 | |
| | | X2 | |
| Relay output 250 V AC / 30 V DC 2 A | NO | 3 | |
| | COM | 4 | |
| | NC | 5 | |
| | | X3 | |
| +24 V DC* | +24VD | 1 | |
| Digital I/O ground | DGND | 2 | |
| Digital input 1 | DI1 | 3 | |
| Digital input 2 | DI2 | 4 | |
| +24 V DC* | +24VD | 5 | |
| Digital I/O ground | DGND | 6 | |
| Digital input 3 | DI3 | 7 | |
| Digital input 4 | DI4 | 8 | |
| +24 V DC* | +24VD | 9 | |
| Digital I/O ground | DGND | 10 | |
| Digital input 5 | DI5 | 11 | |
| Digital input 6 | DI6 | 12 | |
| +24 V DC* | +24VD | 13 | |
| Digital I/O ground | DGND | 14 | |
| Digital input/output 1 | DIO1 | 15 | |
| Digital input/output 2 | DIO2 | 16 | |
| +24 V DC* | +24VD | 17 | |
| Digital I/O ground | DGND | 18 | |
| Digital input/output 3 | DIO3 | 19 | |
| | | X4 | |
| Reference voltage (+) | +VREF | 1 | |
| Reference voltage (-) | -VREF | 2 | |
| Ground | AGND | 3 | |
| Analogue input 1 (Current or voltage, selectable by jumper J1) | AI1+ | 4 | |
| | AI1- | 5 | |
| Analogue input 2 (Current or voltage, selectable by jumper J2) | AI2+ | 6 | |
| | AI2- | 7 | |
| AI1 current/voltage selection | J1 | | |
| AI2 current/voltage selection | J2 | | |
| Thermistor input | TH | 8 | |
| Ground | AGND | 9 | |
| Analogue output 1 (current) | AO1 (I) | 10 | |
| Analogue output 2 (voltage) | AO2 (U) | 11 | |
| Ground | | 12 | |
| | | X5 | |
| Drive-to-drive link termination J3 | | | |
| | B | 1 | |
| Drive-to-drive link. See separate section below. | A | 2 | |
| | BGND | 3 | |
| | | X6 | |
| Safe Torque-Off. Both circuits must be closed for the drive to start. See separate section below. | OUT1 | 1 | |
| | OUT2 | 2 | |
| | IN1 | 3 | |
| | IN2 | 4 | |
| PC tools, control panel connection (RS 232) | | | |
| Memory unit connection | | | |

Control and communication options

| Options | Data | Slot 1 | Slot 2 | Slot 3 |
|---|---|--------|--------|--------|
| Analogue & digital extension | | | | |
| FIO-01 | 4 x DI/O, 2 x RO | ○ | ○ | - |
| FIO-11 | 3 x AI, 1 x AO, 2 x DI/O | ○ | ○ | - |
| Feedback interface | | | | |
| FEN-01 | 2 inputs (TTL incremental encoder), 1 output | ○ | ○ | - |
| FEN-11 | 2 inputs (SinCos absolute, TTL incremental encoder), 1 output | ○ | ○ | - |
| FEN-21 | 2 inputs (Resolver, TTL incremental encoder), 1 output | ○ | ○ | - |
| Communication | | | | |
| FPBA-01 | PROFIBUS | - | - | ○ |
| FCAN-01 | CANopen | - | - | ○ |
| FDNA-01 | DeviceNet | - | - | ○ |
| FENA-01 | EtherNet/IP, Modbus/TCP | - | - | ○ |

○ = option
- = not available



Mains choke

The ACSM1 drive does not necessarily need a mains choke for operation. Each individual case should be checked to ascertain whether a mains choke needs to be installed. Mains chokes are typically used to:

- reduce harmonics in the mains current
- achieve a reduction in the r.m.s. mains current
- reduce mains disturbance and low-frequency interference
- increase the allowed DC bus continuous power

A mains choke series is available to meet different system design needs.

Mains filter (EMC)

The EMC product standard (EN 61800-3 + Amendment A11 (2000)) covers the specific EMC requirements stated for drives (tested with motor and cable) within the EU. The new revision of 61800-3 (2004) product standard can be applied from now on, but latest from 1st October 2007. EMC standards such as EN 55011, or EN 61000-6-3/4, apply to industrial and household equipments and systems including drive component inside. Drive units complying with requirements of EN 61800-3 are always compliant with comparable categories in EN 55011 and EN 61000-6-3/4, but not necessarily vice versa. EN 55011 and EN 61000-6-3/4 do not specify cable length nor require a motor to be connected as a load. The emission limits are comparable according to the following table, EMC standards.

EMC standards in general

| EN 61800-3/A11 (2000), product standard | EN 61800-3 (2004), product standard | EN 55011, product family standard for industrial, scientific and medical (ISM) equipment |
|--|-------------------------------------|--|
| 1 st environment, unrestricted distribution | Category C1 | Group 1 Class B |
| 1 st environment, restricted distribution | Category C2 | Group 1 Class A |
| 2 nd environment, unrestricted distribution | Category C3 | Group 2 Class A |
| 2 nd environment, restricted distribution | Category C4 | Not applicable |

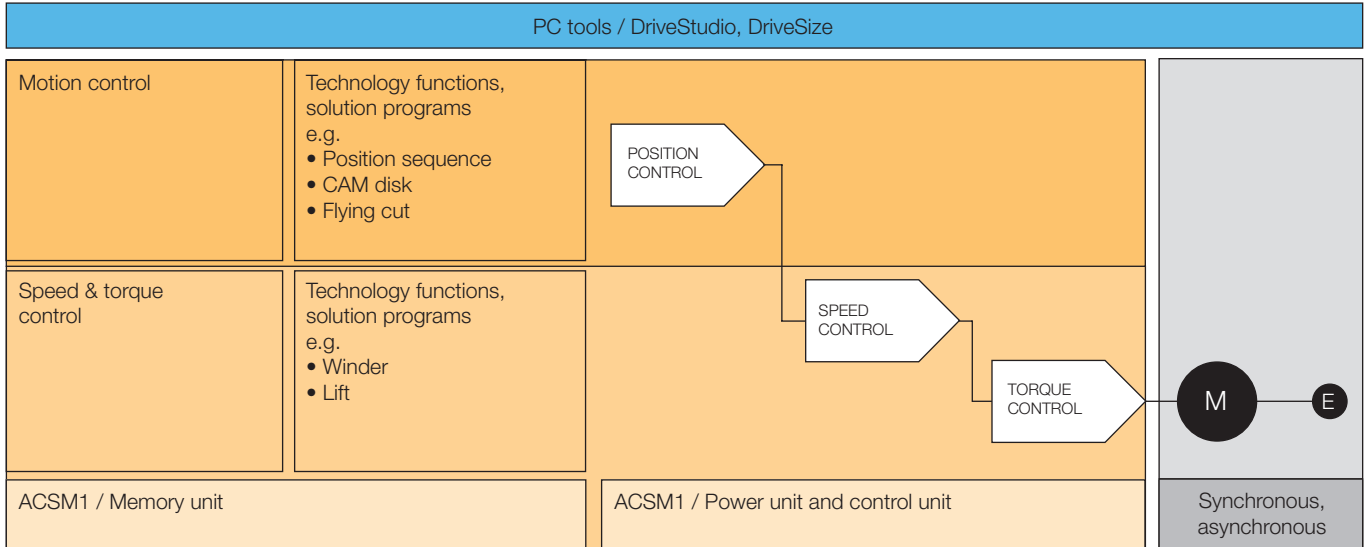
Mains filters are available to meet category C2 level with the ACSM1 drive installation, including a motor with a max. 50 m cable. This level corresponds to the A limits for Group 1 equipment according to EN 55011.

Braking resistors

Depending on the application, an external braking resistor may be needed to convert the kinetic energy generated into thermal energy. A selection of resistors is available for different kinds of pulse duty performance. All braking resistors are equipped with a thermal sensor as standard.



Scalable control and programming environment



Two control variants

- Speed and torque control
- Motion control

Speed and torque control

- Open and closed loop DTC (Direct Torque Control)
- Synchronous and asynchronous motors
- Ideal for high bandwidth of speed or torque control application

Motion control

In addition to speed and torque control

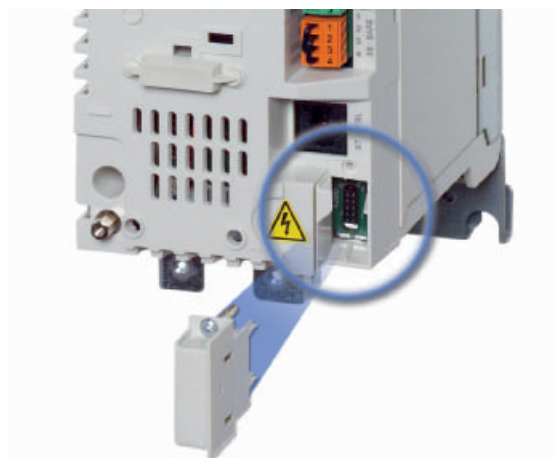
- High bandwidth of position and synchronization control
- Point-to-point positioning with extensible positioning profile sets
- Synchronization (encoder feedback or drive-to-drive link)
- Register control based on fast probe inputs
- Multiple homing methods

Solution programming

In addition to multiple parameter programmable speed and position control functions, drive functionality

can be easily modified or extended using solution programming.

- Standard function blocks to modify a basic control interface or make extensible PLC-tasks.
- Technology function blocks to meet machine-specific application requirements, e.g. damping filters for demanding mechanical systems. Technology function block libraries are optional.
- Solution programs, ready-made solutions for dedicated applications such as winding, lift control and flying cut applications using the corresponding technology function library. Easy to modify with parameters or additive function blocks.
- Drive functionality is defined and delivered with memory unit.





DriveStudio

User-friendly PC environment both for simple drive commissioning tasks and for the more demanding drive tuning and programming tasks.

Commissioning and tuning tools

- Drive overview screen for fast parameter and function block navigation
- Parameter setting and signal monitoring
- Data logger and on-line signal monitoring for drive tuning (multiple signal channels and triggering conditions)
- Back-up and restore tool for drive parameter cloning and life time support
- Case sensitive helps with detailed drive parameter, event and function descriptions

Solution program composer

- Simple, easy-to-understand function block interface to drive firmware functions for signal monitoring and parameter setting
- Same interface enables the adding of user-defined function block programs even on the fastest time levels of the drive control
- Function block programming with standard function block library
- Optional and changeable technology function block library expands the variety of functions
- Professional programming environment: hierarchy levels, custom circuits, user parameters, copy protection etc.

DriveCAM tool

- Multiple methods for designing axis profile between reference axis and controlled drive axis
- Upload/download to drive memory, multiple profiles

Assistant control panel

The assistant control panel features a multilingual alphanumeric display for easy drive configuration. It is an ideal tool for service engineers providing the following main features:

- A large graphical display
- Extremely easy to navigate
- Soft and convenient keys
- Local control keys (start/stop/reference)
- Parameter setting and monitoring
- Status and history data



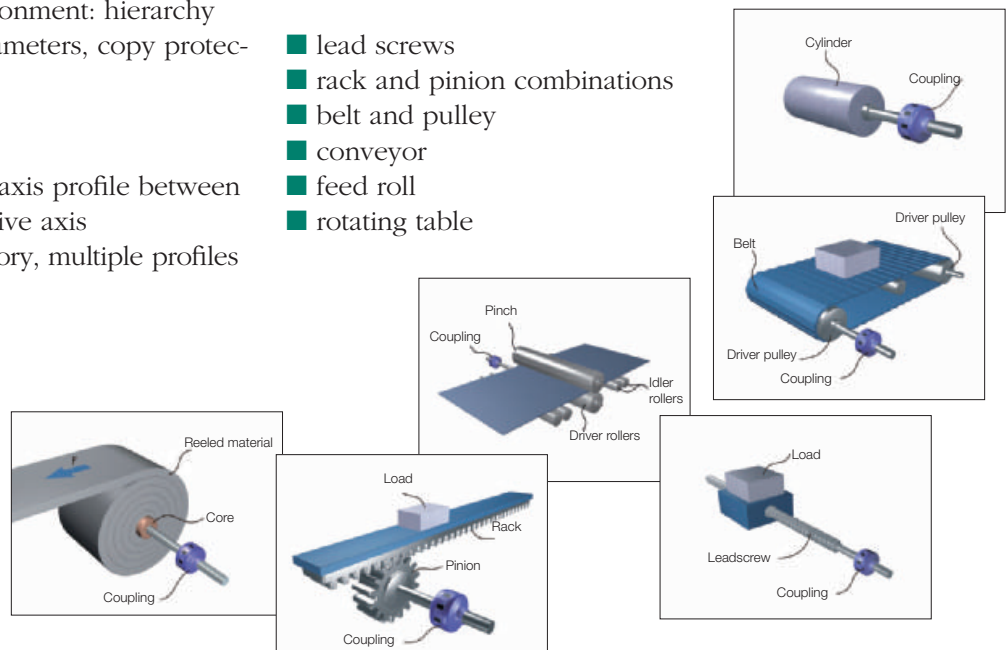
The control panel is an external option and can be connected by cable to the ACSM1 drive. The panel mounting kit enables mounting of control panels on the cabinet doors or inside the control cabinet.

Sizing tool

DriveSize helps the machine designer to select the optimum ACSM1 drive, motor and gear combination for the required motion and speed profiles, and for typical mechanical applications.

Ready defined input sheets make it very easy to specify the dimensions of different kinds of linear or rotary movement mechanisms such as

- lead screws
- rack and pinion combinations
- belt and pulley
- conveyor
- feed roll
- rotating table





Types, ratings and dimensions

ACSM1 - 04XX - XXXX - 4 + XXXX

| Feature / frame size | A | B | C | D | E |
|------------------------------|---------------|--------------|-------------|--------------|--------------|
| Current & Power | | | | | |
| Nominal current | 2.5 to 7.0 A | 9.5 to 16 A | 24 to 46 A | 60 to 90 A | 110 to 210 A |
| Maximum current | 5.3 to 14.7 A | 16.6 to 28 A | 42 to 81 A | 105 to 158 A | 165 to 326 A |
| Typical motor power | 0.75 to 3 kW | 4 to 7.5 kW | 11 to 22 kW | 30 to 45 kW | 55 to 110 kW |
| Braking chopper | ● | ● | ● | ● | ● |
| Braking resistor | □ | □ | □ | □ | □ |
| Mains choke | □ | □ | □ | □ | ● |
| Mains filter (EMC) | □ | □ | □ | □ | ● |
| Mounting and cooling | | | | | |
| Removable power connectors | ● | ● | - | - | - |
| Removable control connectors | ● | ● | ● | ● | ● |
| Air-cooled variant | ■ | ■ | ■ | ■ | ■ |
| - Back plate mounting | ● | ● | ● | ● | ● |
| - DIN-rail mounting | ● | ● | - | - | - |
| Cold plate variant | - | - | ■ | ■ | - |

- = standard
- = product variant
- = option, external
- = not available

Ratings

| Ratings | | | | Type code | Frame size | $I_{2cont4k}^{(6)}$ 4 kHz A | $I_{2cont8k}^{(7)}$ 8 kHz A | $I_{2cont16k}^{(8)}$ 16 kHz A |
|-------------------|-------------------|---------------------|-----------------------|---|------------|-----------------------------------|-----------------------------------|-------------------------------------|
| $P_N^{(1)}$ kW | $P_N^{(1)}$ hp | $I_{2N}^{(2)}$ A | $I_{2max}^{(3)}$ A | | | | | |
| 0.75 | 1 | 2.5 | 5.3 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -02A5-4 | A | 3 | 2.5 | 2 |
| 1.1 | 1.5 | 3 | 6.3 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -03A0-4 | A | 3.6 | 3 | 2.2 |
| 1.5 | 2 | 4 | 8.4 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -04A0-4 | A | 4.8 | 4 | 2.4 |
| 2.2 | 3 | 5 | 10.5 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -05A0-4 | A | 6 | 5 | 2.5 |
| 3 | 3 | 7 | 14.7 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -07A0-4 | A | 8 | 5.5 | 3 |
| 4 | 5 | 9.5 | 16.6 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -09A5-4 | B | 10.5 | 9.5 | 5 |
| 5.5 | 7.5 | 12 | 21 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -012A-4 | B | 14 | 12 | 6 |
| 7.5 | 10 | 16 | 28 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -016A-4 | B | 18 | 13 | 7.5 |
| 11 | 15 | 24 | 42 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -024A-4 | C | 27 | 24 | 18 |
| 15 | 20 | 31 | 54 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -031A-4 | C | 35 | 31 | 20 |
| 18.5 | 25 | 40 | 70 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -040A-4 | C | 44 | 35 | 22 |
| 22 | 30 | 46 | 81 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -046A-4 | C | 50 | 38 | 24 |
| 30 | 40 | 60 | 105 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -060A-4 | D | 65 | 55 | 28 |
| 37 | 50 | 73 | 128 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -073A-4 | D | 80 | 60 | 31 |
| 45 | 60 | 90 | 150 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -090A-4 | D | 93 | 65 | 34 |
| 55 | 75 | 110 | 165 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -110A-4 | E | 110 | 75 | - |
| 75 | 100 | 135 | 202 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -135A-4 | E | 135 | 90 | - |
| 90 | 125 | 175 | 282 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -175A-4 | E | 175 | 115 | - |
| 110 | 150 | 210 | 326 | ACSM1-04x ⁽⁴⁾ x ⁽⁵⁾ -210A-4 | E | 210 | 135 | - |

- ¹⁾ P_N : Typical motor power. A and B frame sizes with or without mains choke, C and D frame sizes with mains choke.
- ²⁾ I_{2N} : Nominal output current.
- ³⁾ I_{2max} : Maximum short time output current.
- ⁴⁾ $x^{(4)}$:
A = Air-cooling
C = Cold plate
- ⁵⁾ $x^{(5)}$ = Control (torque, speed, motion)
- ⁶⁾ $I_{2cont4k}$: Continuous output current at a switching frequency of 4 kHz at 40 °C (104 °F).
- ⁷⁾ $I_{2cont8k}$: Continuous output current at a switching frequency of 8 kHz at 40 °C (104 °F).
- ⁸⁾ $I_{2cont16k}$: Continuous output current at a switching frequency of 16 kHz at 40 °C (104 °F).

Dimensions

| Frame size | Height ¹⁾ mm | Width mm | Depth ²⁾ mm | Weight kg |
|------------|----------------------------|-------------|---------------------------|---------------------|
| A | 364 | 90 | 146 | 3 |
| B | 380 | 100 | 223 | 5 |
| C | 467 | 165 | 225/161 ³⁾ | 10/8 ³⁾ |
| D | 467 | 220 | 225/161 ³⁾ | 17/14 ³⁾ |
| E | 700 | 314 | 398 | 67 |

Notes

All dimensions and weights are without options.

- ¹⁾ Height is the maximum measure without clamping plates.
- ²⁾ Depth will increase by 23 mm with options. Additionally, 50 mm should be reserved for feedback cabling if FEN-xx options are used.
- ³⁾ Depth or weight is for ACSM1 with the cold plate variant.



With its large variety of drive lifecycle services and worldwide service network ABB aims for high drive availability and a long lifetime.

Training and learning

The ABB University provides e-learning modules enabling people to gain familiarity with all ACSM1 features, ranging from product specification to installation and commissioning. In addition to drive-specific items, basic training for motion control applications and related engineering is also extensively covered. Hands-on training courses are run in local training centers.

On-site services

ABB's professional on-site service uses certified engineers to install and adjust ABB drives according to the application requirements as well as to instruct the user on how to best operate the drive.

Supportline services

The support line network provides fast and efficient support to ABB drive users. The service is available via e-mail and telephone.

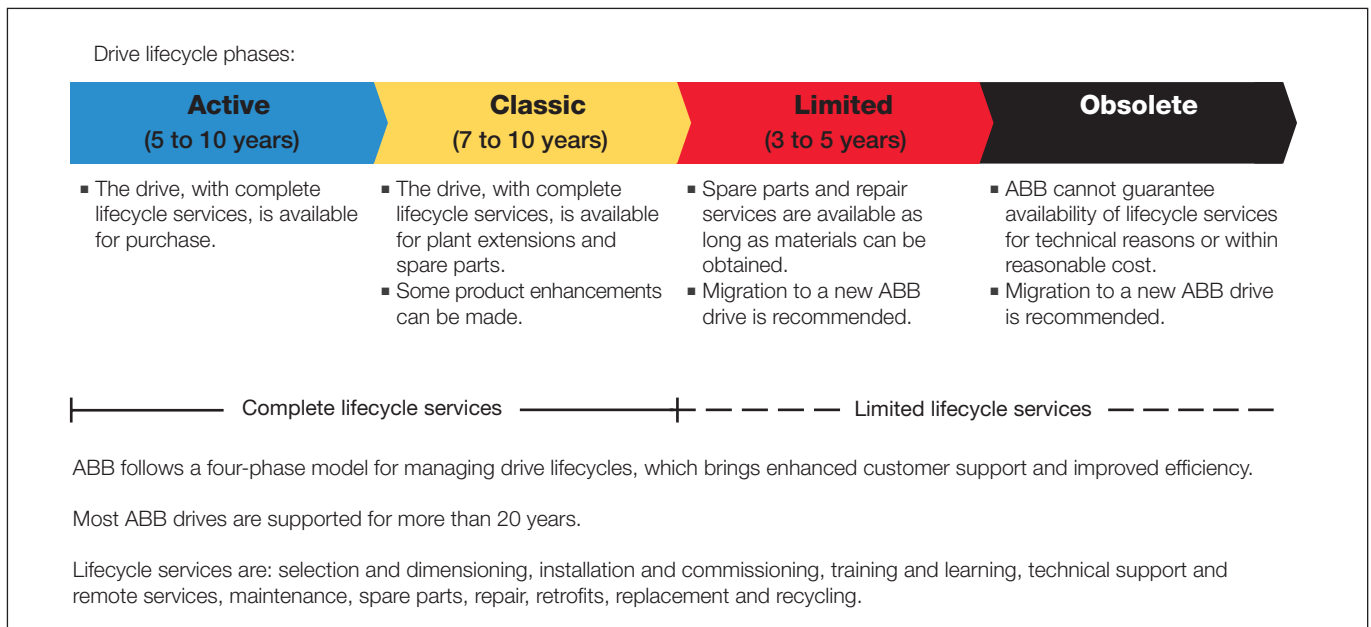
Lifecycle management

The ABB drive product lifecycle management model provides solutions in all lifecycle phases to ensure drive availability, operation and performance. This four-phase model provides not only optimum support to you but also a smooth transition to a new drive when the service life of your current drive ends. It also provides ABB with a well-structured means of managing different drive generations. With complete lifecycle support, you will always be aware of the support plans for your valuable assets.

Spare part services

Genuine ABB factory-certified drive parts are delivered quickly worldwide. They guarantee full compatibility and are available throughout the drive lifetime following the drive lifecycle model.

ABB drive lifecycle management model



Contact and web information

www.abb.com/drives



ABB's worldwide presence is built on strong local companies working together with the channel partner network. By combining the experience and know-how gained in local and global markets, we ensure that our customers in all industries can gain the full benefit from our products.

For further details about all our low voltage AC drives and services please contact your nearest ABB office or ABB drives channel partner or visit the websites www.abb.com/drives and www.abb.com/drivespartners.

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