



Low voltage AC drives

ABB general purpose drives

ACS480

0.75 to 11 kW

Catalog

The all-compatible ACS480 general purpose drives

Some applications need only the essentials from their drives: efficiency and simplicity in a small package, delivered as effortlessly as possible. The ACS480 general purpose drive is exactly that: it brings all the essentials effortlessly together for you to run your pumps, fans and compressors.

The ACS480 is part of ABB's all-compatible general purpose drives portfolio and features a wide range of useful built-in features in a compact design. This gives users high dependability and simplified operation for numerous applications in various industries. The user-friendly icon-based menu on the ACS480 control panel provides smart and quick commissioning and startup of the drive. All the essential features are built-in, thus reducing the need for additional hardware and also simplifying drive selection.

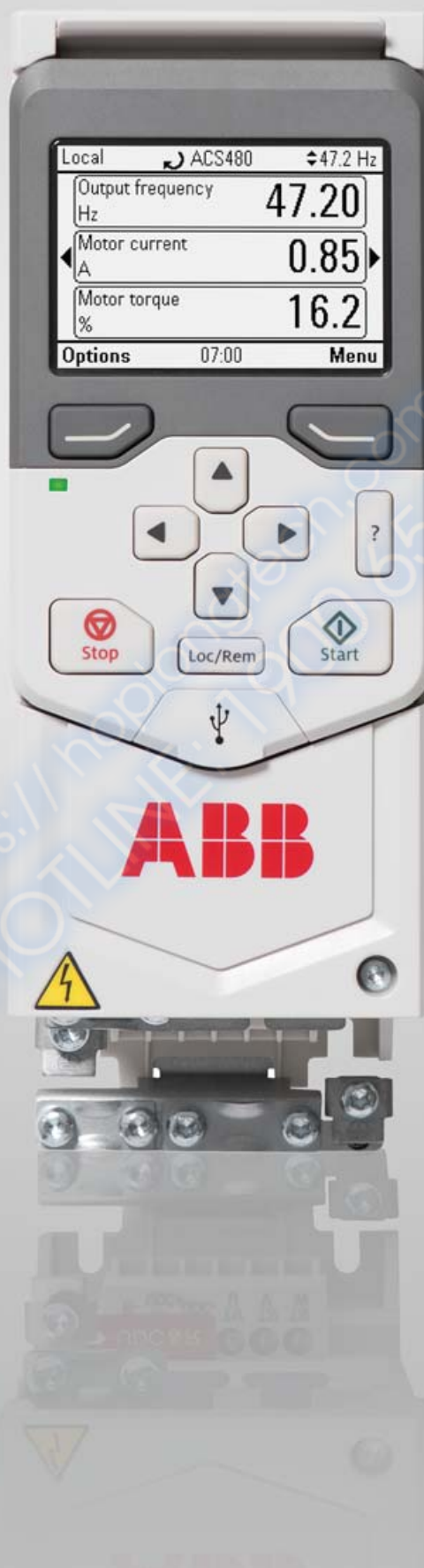
The drive is optimized for pump and fan applications, with integrated macros designed to make parameter setting and commissioning on pumps and fans simple and fast. It is a compatible drive with solid solutions and support to provide users with long-term benefits to their processes, their businesses, and the environment.

What if you require even more flexibility? You can choose the next member of the all-compatible drives portfolio, such as the ACS580 general purpose drives. The drives share the same user interfaces and options, enabling you to use the knowledge you have gained with the ACS480 drives. You increasingly keep saving time. And saving time in business means saving money and improving profit potential.

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Essential energy efficiency
and simple operation



Essential energy efficiency at the core of your application

All essentials inside

The ACS480 general purpose drive has all essentials inside making it easier than ever before to select, install and use the drive. In addition, having all you need in one package saves you time and costs that you would typically spend on adding external options.

Simple to select, install and use

Built-in features such as an EMC filter, a Modbus RTU fieldbus interface and safe torque off functionality simplify drive selection, installation and use.



Simplicity at your fingertips

The control panel's straightforward primary settings menu with assistants help you set up the drive quickly and effectively.

Boosting energy efficiency

Support for high efficiency synchronous reluctance motors and permanent magnet motors enables higher system efficiency. Energy optimizer and energy efficiency information help you monitor and save the energy used in your process.

Supporting your business

By choosing an all-compatible drive from ABB, you also get a wide range of products and services to support your business and decades of experience in various industries.



The ACS480 general purpose drives are part of ABB's all-compatible drives portfolio. They ensure essential energy efficiency and simplicity throughout their whole life cycle.

The drive's built-in features and compact design provide refined dependability and easy operation for applications such as pumps, fans and compressors.

Optimized pump and fan control

The ACS480 is optimized for pump and fan control. It's easy to commission thanks to the integrated and pre-programmed features, such as PID, pump and fan macros and timers.

Communication with common automation networks

Optional fieldbus adapters enable connectivity with most common industrial automation networks.

Integrated safety features

The TÜV certified safe torque off (STO) function is built into the drive as standard. Integrated safety functions protect both people and machines.

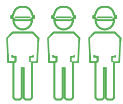
Availability and service

Regardless of where your equipment is or what time it is, ABB's professional service network guarantees the continuous operation of your equipment anywhere in the world.



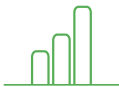
The all-compatible match

ACS480 general purpose drive is part of ABB's all-compatible drives portfolio designed to offer not only a technically compatible drive, but an all-compatible solution for people, process, business and environmental goals.



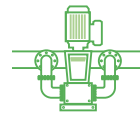
Human all-compatible

- Saving time and energy with effortless simplicity through
 - drive selection
 - installation
 - commissioning
 - use



Business all-compatible

- By choosing an all-compatible drive from ABB, you also get
 - a wide range of products and services to support your business
 - decades of experience in various industries
- ABB's local offices are in over 90 countries and our global value provider network members offer products and services globally



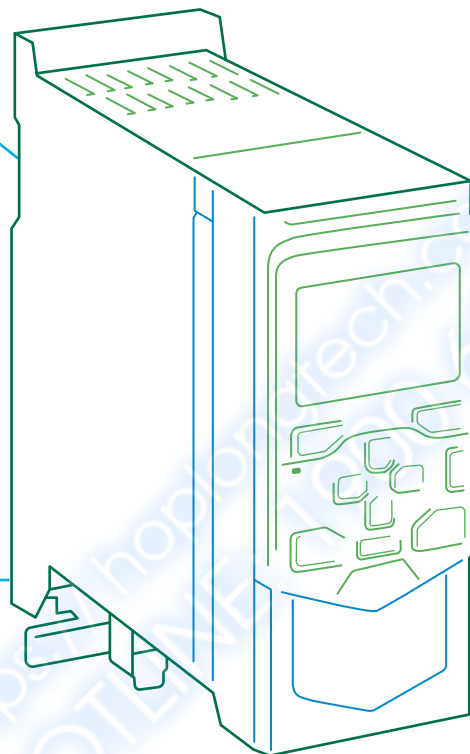
Process all-compatible

- The ACS480 drive for a broad range of standard speed applications
- The all-compatible drives portfolio enables smooth transition to more advanced drives, such as the ACS580 drives



Environment all-compatible

- Use only the exact amount of energy needed to run a motor
- Further energy savings with
 - drive's built-in energy optimizer functions
 - ABB's life cycle services for process optimization
- Fully recyclable packaging is the greenest in the market



Simple to select and install

- All-inside concept simplifies drive selection and installation, saving time and money.
- Stock availability ensured with readily stocked product by ABB and distributors.

Simple to commission and use

- No need to know parameters or use any programming language
- Quick setup ensured by
 - the primary settings menu with embedded assistants
 - ready-made control macros
- Commission and monitor drive wirelessly
 - with optional Bluetooth assistant control panel

Reliable and consistent high quality

- Improved durability and reliability in harsh environmental conditions
 - coated boards as standard in drives and all options
- All drives tested in the production
 - in maximum temperature
 - with nominal loads
 - with full testing of the performance and all protective functions with motors

Reducing life cycle costs

- The purchase cost of a drive is only a fraction of the cost a drive can save during its life cycle
 - Energy savings achieved with drive control
 - Reduced maintenance and operational costs



Energy efficiency in a compact package

The all-compatible ACS480 general purpose drive offers fundamental functionality in a small package to effortlessly improve processes and operations. The result is energy savings in many common speed controlled applications like pumps, fans and compressors. The drive meets the energy-efficiency needs of a variety of light industries, including food and beverage, logistics and warehousing, and water and wastewater. This new drive series is specifically designed to optimize pump, fan and compressor operations in an energy efficient and simple manner.

All you need for all your basic needs

The ACS480 general purpose drive has all essential functions built inside and is therefore optimized to manage common variable-torque applications via numerous integrated and preprogrammed features such as PID, pump and fan macros and timers. Built-in EMC C2 filter secures compliance with the latest European and international standards allowing the drive to be used in industrial and commercial (building) environments. To protect both people and machinery, the drive comes with key safety functions such as a TÜV certified safe torque off (STO) as standard. In addition, the drive is enabled for connectivity to most common automation networks and has Bluetooth capability for easy configuration of the drive and monitoring of parameters with mobile devices. With its straightforward control panel settings menu, the ACS480 is easy to startup, commission and operate.

Pure essentials for maximum energy efficiency

Energy reduction is the number one focus area for the ACS480 and the built-in energy optimizer gives easy direct access to critical energy efficiency information, helping users monitor and systematically reduce the amount of energy used in their processes for big savings on energy bills. The new drive also supports synchronous reluctance motors for even greater efficiency and savings.

Seamless scalability with other all-compatible drives

In keeping with ABB's all-compatible philosophy, ACS480 drives share the same user interface, tools and options as other ABB all-compatible drives, thus making drive selection, installation and operation extremely easy. The new ACS480 general purpose drive complements the ACS580 drive series, thus forming a perfect combination by offering the exact same operating procedures and user experience, just in a different mechanical form factor. This allows seamless scalability from the ACS480 to the ACS580 whenever more power or features may be needed.

All essential features are built in the drive

In a compact package, users get the exact functionality they need to effortlessly and intuitively control many standard applications. All essential components are integrated in the drive, which both makes product ordering easier and reduces the investment.

Modbus communication inside the drive easily connects to the automation network. A fieldbus enables communication between drives and PLC systems, I/O devices and the process. Fieldbus communication reduces wiring costs when compared with traditional hard wired input/output connections. The ACS480 drives support the most common fieldbus protocols.

The built-in safe torque off (STO) is used to prevent unexpected startup and stopping-related functions, enabling safe machine maintenance and operation. With safe torque off activated, the drive will not provide a rotational field, preventing the motor from generating torque on the shaft. This function corresponds to an uncontrolled stop in accordance with stop category 0 of EN 60204-1.

High frequency noise can directly affect sensitive electronic equipment and high-speed communication fieldbuses. Therefore, it is imperative to make a good EMC plan to avoid any potential interference risks. Each ACS480 drive is equipped with a built-in filter to reduce high frequency emissions, and fulfills the EMC product standard (EN 61800-3) category C2.



How to select a drive

It is very easy to select the right drive.

This is how you build up your own ordering code using the type designation key.

- 1

Start with identifying your supply voltage. This tells you what rating table to use. See page 11.
- 2

Choose your motor's power and current rating from the ratings table on page 11.

Ratings, types and voltages

Nominal ratings		Light overload use		Type designation		Frame size
P_N kW	I_N A	P_N kW	I_N A			
0.75	3.5	0.75	3.5	ACS480-04-02A7-4	01	
1.1	5.0	1.1	5.0	ACS480-04-03A4-4	01	
1.5	6.3	1.5	6.3	ACS480-04-04A1-4	01	
2.2	10.0	2.2	10.0	ACS480-04-05A7-4	01	
3	13.0	3	13.0	ACS480-04-07A3-4	01	
4	18.0	4	18.0	ACS480-04-09A5-4	01	
5.5	25.0	5.5	25.0	ACS480-04-12A7-4	01	
7.5	33.0	7.5	33.0	ACS480-04-018A-4	02	
11	50.0	11	50.0	ACS480-04-026A-4	03	

Page 11

- 3

Select your drive's ordering code from the rating table based on your motor's nominal power rating.

Ratings, types and voltages

Nominal ratings		Light overload use		Type designation		Frame size
P_N kW	I_N A	P_N kW	I_N A			
0.75	3.5	0.75	3.5	ACS480-04-02A7-4	01	
1.1	5.0	1.1	5.0	ACS480-04-03A4-4	01	
1.5	6.3	1.5	6.3	ACS480-04-04A1-4	01	
2.2	10.0	2.2	10.0	ACS480-04-05A7-4	01	
3	13.0	3	13.0	ACS480-04-07A3-4	01	
4	18.0	4	18.0	ACS480-04-09A5-4	01	
5.5	25.0	5.5	25.0	ACS480-04-12A7-4	01	
7.5	33.0	7.5	33.0	ACS480-04-018A-4	02	
11	50.0	11	50.0	ACS480-04-026A-4	03	

Type designation

ACS480-04-02A7-4

ACS480-04-03A4-4

ACS480-04-04A1-4

ACS480-04-05A7-4

ACS480-04-07A3-4

ACS480-04-09A5-4

ACS480-04-12A7-4

ACS480-04-018A-4

ACS480-04-026A-4

Page 11

- 4

Choose your options (on page 15 and 17) and add the option codes to drive's ordering code. Remember to use a "+" mark before each option code.

Effortless drive commissioning and use with control panel

Almost anyone can set up and commission the drive using the assistant control panel. You do not need to know any drive parameters as the control panel helps you to set up the essential settings quickly and get the drive into action.

Effortless drive advice

- The primary settings menu with embedded assistants provides a simple and quick way to set up the drive.
- Each setting is clearly named by its function, such as motor ramp or fault setting.

Effortless process monitoring

- One glance at the control panel's visible home view will show you the status of the drive and process. It offers many data visualisations including bar charts, histograms and trend graphs.
- See how the electrical terminals are configured, what the actual data is, and get a quick access to the related settings from the I/O menu.
- Add information to I/O signals, customise fault and warning messages or give the drive a unique name with the panel's text editor.
- Connect the PC tool to the drive through the USB connector on the control panel.

Effortless drive maintenance

- Faults or warnings are quickly resolved as the help key provides context sensitive guidance and troubleshooting instructions.
- Powerful manual and automatic backup and restore functions (with name, date and content).

Control panel options

Assistant control panel ACS-AP-S is included as standard in the delivery unless otherwise specified.

Option code	Description	Type designation
+J425	Assistant control panel	ACS-AP-S
+J429	Control panel with Bluetooth interface	ACS-AP-W
+J424	Basic control panel	ACS-BP-S
+J424	Blank control panel cover (no control panel delivered)	CDUM-01
3AJA4000108878	Control panel mounting platform (flush mounted, requires also panel bus adapter on the drive)	DPMP-01
3AXD60000009374	Control panel mounting platform (surface mounted, requires also panel bus adapter on the drive)	DPMP-02

Page 15 and 17

3

4

Type designation:

Product series

Types and construction

Rating

Voltage

Options

ACS480

-

04

-

03A4

-

4

+

J425

Technical data

Mains connection

Voltage and power range	3-phase, 380 to 480 V, +10%/-15% from 0.75 up to 11 kW
Frequency	50 Hz ±5%

Motor connection

Voltage	0 to U_N , 3-phase
Frequency	0 to 599 Hz
Motor control	Scalar and vector control

Product compliance

CE
 Low Voltage Directive 2014/34/EU, EN 61800-5-1: 2007
 Machinery Directive 2006/42/EC, EN 61800-5-2: 2007
 EMC Directive 2014/30/EU, EN 61800-3: 2004 + A1: 2012
 RoHS directive 2011/65/EU
 Quality assurance system ISO 9001
 Environmental system ISO 14001
 Waste electrical and electronic equipment directive (WEEE) 2002/96/
 EC RoHS directive 2011/65/EU
 TÜV certification for functional safety pending

EMC according to EN 61800-3: 2004 + A1: 2012

ACS480 cabinet-mounted drive with built-in C2 category filter as standard

Environmental limits

Ambient temperature	
Transportation and storage	-40 to +70 °C
Operation	-10 to +50 °C no derating required, no frost allowed +50 °C - +60 °C with derating
Cooling method	
Air-cooled	Dry clean air
Altitude	
0 to 1,000 m	Without derating
1,000 to 4,000 m	With derating of 1%/100 m
Relative humidity	
5 to 95%, no condensation allowed	
Degree of protection	
IP20	
Functional safety	
Safe torque off according to EN/IEC 61800-5-2: IEC 61508 ed2: SIL 3, IEC 61511: SIL 3, IEC 62061: SIL CL 3, EN ISO 13849-1: PL e	
Contamination levels	
No conductive dust allowed	
Storage	
IEC 60721-3-1, Class 1C2 (chemical gases), Class 1S2 (solid particles)*	
Transportation	
IEC 60721-3-2, Class 2C2 (chemical gases), Class 2S2 (solid particles)*	
Operation	
IEC 60721-3-3, Class 3C2 (chemical gases), Class 3S2 (solid particles)*	

* C = chemically active substances
 S = mechanically active substances

Dimensions

Dimensions, weights and space requirements

Drive mechanical size

IP20								
	H		W		D		Drive net weight	
	mm	in	mm	in	mm	in	kg	lb
R1	223.00	8.78	73.00	2.87	207.2	8.16	1.8	3.9
R2	223.00	8.78	96.70	3.81	207.2	8.16	2.4	5.2
R3	223.00	8.78	171.50	6.75	207.2	8.16	3.6	7.8

* Front height of the drive with clamp

ACS480 design has been optimized for cabinet mounting:

- ACS480 has uniform height and depth across the full power range
- ACS480 can be mounted side-by-side



Ratings, types and voltages

3-phase, $U_N = 400 \text{ V}$ (380 V-480 V). The power ratings are valid at nominal voltage 400 V.						
Nominal ratings			Light-overload use		Type designation	Frame size
P_N kW	I_N A	I_{\max} A	P_{Ld} kW	I_{Ld} A		
0.75	2.6	3.2	0.75	2.5	ACS480-04-02A7-4	R1
1.1	3.3	4.7	1.1	3.1	ACS480-04-03A4-4	R1
1.5	4	5.9	1.5	3.8	ACS480-04-04A1-4	R1
2.2	5.6	7.2	2.2	5.3	ACS480-04-05A7-4	R1
3	7.2	10.1	3	6.8	ACS480-04-07A3-4	R1
4	9.4	13.0	4	8.9	ACS480-04-09A5-4	R1
5.5	12.6	16.9	5.5	12	ACS480-04-12A7-4	R2
7.5	17	22.7	7.5	16.2	ACS480-04-018A-4	R3
11	25	30.6	11	23.8	ACS480-04-026A-4	R3

Nominal ratings

I_N Rated current available continuously without overloadability at 50 °C.

P_N Typical motor power in no-overload use.

Maximum output current

I_{\max} Maximum output current. Available for 2 seconds at start, then as long as allowed by drive temperature.

Light-overload use

I_{Ld} Continuous current allowing 110% I_{Ld} for 1 minute every 10 minutes at 50 °C.

P_{Ld} Typical motor power in light-overload use.

The ratings apply at 50 °C ambient temperatures.

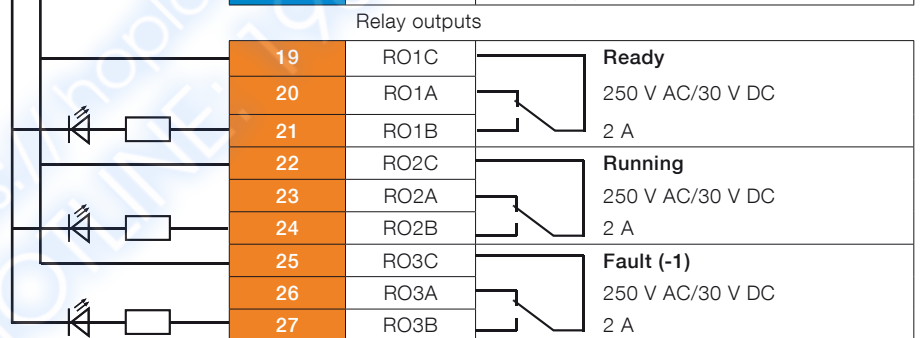
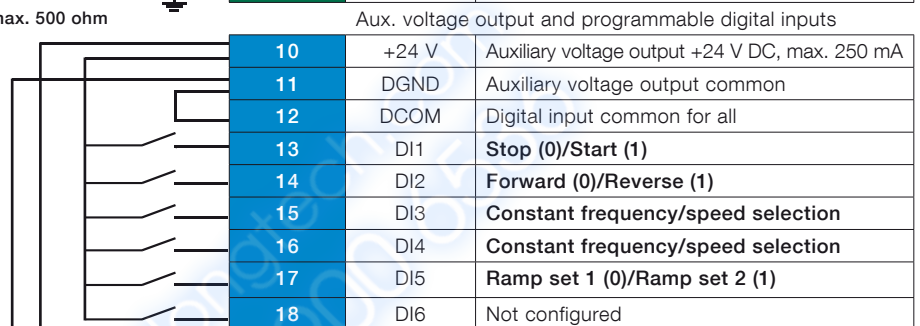
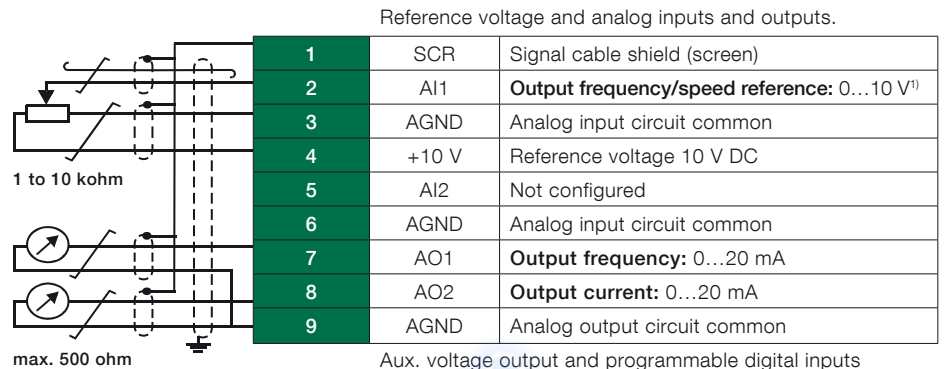
For derating at higher altitudes, temperatures or switching frequencies, see the user's HW manual.

Standard interface and extensions for plug-in connectivity

The ACS480 drive offers a wide range of standard interfaces. In addition, the drive has one slot that can be used for extensions including fieldbus adapters. For further information, please see the ACS480 user manual.

Default I/O connections

Default I/O connections of the ABB Standard macro are shown below.



EIA-485 Modbus RTU

29	B+	Embedded Modbus RTU (EIA-485)
30	A-	
31	DGND	
S100	TERM&BIAS	Serial data link termination switch

Safe torque off

34	SGND	Safe torque off. Factory connection. Both circuits must be closed for the drive to start. See chapter The Safe torque off function in the Hardware manual of the drive.
35	IN1	
36	IN2	
37	OUT1	

42	+24 V	
43	DGND	
44	DCOM	

Optimized pump and fan control

The ACS480 is optimized for pump and fan applications, thus expanding its usability to many industries and locations.

Pump and fan control (PFC) allows the customer to control multiple motors with a single drive, thereby eliminating the need for an external programmable logic controller (PLC). Auxiliary motors are switched on and off depending on the actual capacity requirement.

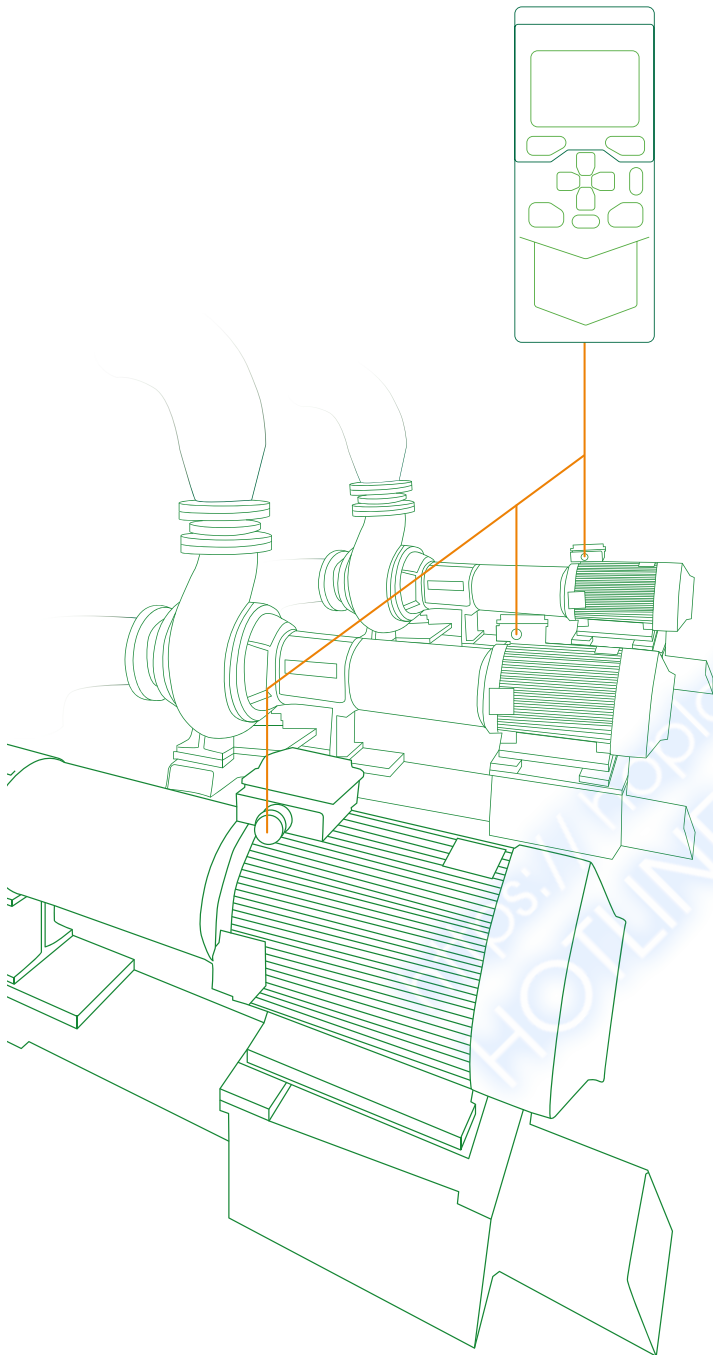
Soft pump and fan control (SPFC) is used for pump and fan alternation applications where lower pressure peaks are desirable when a new auxiliary motor is connected online. It reduces stress on the mains and system, which results in lower maintenance and operation costs.

The Autochange function for SPFC equalizes duty time between multiple motors when auxiliary motors aren't running.

Also in SPFC mode one drive can control several pumps or fans in parallel, so that there is no need for an external programmable logic controller (PLC).

Other benefits include:

- ACS480's integrated functions, such as the drive's PID, mean that pump and fan applications can be easily set up by the drive's parameters. Additionally, using the PID with the sleep mode allows you to save even more energy.
- The Timing function automates tasks and makes it easier for engineers during equipment operation. The switch between different set points based on a schedule eliminates the need to do it manually. This is especially useful during night time operations.
- Reduced audible motor noise, via adjustable switching of the frequency range.



Synchronous reluctance motor-drive packages

Get the best of both worlds

Benefit from the advantages of permanent magnet technology together with the simplicity and service-friendliness of an induction platform. Each motor-drive package combines proven stator technology, an innovative magnet-free rotor design, a state-of-the-art drive and the software features you need to offer a complete, optimized solution.

SynRM advantages

The magnet-free technology reduces material costs and makes service as easy as for induction motors. It allows the motor to stay cool during operation, keeping the bearing temperature very low – an important characteristic since bearing failures cause about 70 percent of unplanned motor outages. Additionally, SynRM motors are extremely compact, giving you the same power with a smaller frame size.



Taking efficiency to a whole new level

ABB's SynRM motor meets the IE4 super premium efficiency class. It offers excellent efficiency performance especially on partial loads, which is particularly beneficial in variable torque applications such as pumps and fans. SynRM motors enable energy savings up to 40 per cent compared to traditional IE2 induction motors, leading to a very short payback time of the investment.



Effortless drive commissioning and use with control panel

Almost anyone can set up and commission the drive using the assistant control panel. You do not need to know any drive parameters as the control panel helps you to set up the essential settings quickly and get the drive into action.

Effortless drive setup

- The primary settings menu with embedded assistants provides a smart and quick way to set up the drive.
- Each setting is clearly named by its function, such as motor, ramp or limit settings.

Effortless process monitoring

- One glance at the control panel's editable home view will show you the status of the drive and process. It offers many data visualizations including bar charts, histograms and trend graphs.
- See how the electrical terminals are configured, what the actual status is, and get a quick access to the related settings from the I/O menu.
- Add information eg, to I/O signals, customize fault and warning messages or give the drive a unique name with the panel's text editor.
- Connect the PC tool to the drive through the USB connector on the control panel.

Effortless drive maintenance

- Faults or warnings are quickly resolved as the help key provides context sensitive guidance and troubleshooting instructions.
- ACS-AP-S is used as standard also with ACS580 product series.
- Powerful manual and automatic backup and restore functions (with name, date and content).

Control panel options

Assistant control panel ACS-AP-S is included as standard in the delivery unless otherwise specified. ACS-AP-S is used as standard also with ACS580 product series.

Option code	Description	Type designation
+J425	Assistant control panel*	ACS-AP-I
+J429	Control panel with Bluetooth interface*	ACS-AP-W
+J404	Basic control panel*	ACS-BP-S
+J424	Blank panel with RJ-45 connector	RDUM-01
3AUA0000108878	Control panel mounting platform (flush mounted requires also control panel converter tool on the drive)	DPMP-01
3AXD50000009374	Control panel mounting platform (surface mounted requires also control panel converter tool on the drive)	DPMP-02

* Also compatible with other ABB all-compatible drives; ACS380, ACS580, and ACS880 series

Effortless drive diagnostics

- Active inhibits view under the Diagnostics menu informs the user of the root-cause if there is an active inhibit preventing the drive from starting. There is also a patent pending for this feature.
- Limit view enables the user to detect the reason if the drive doesn't currently follow the reference or if the drive has not followed the reference for the past 60 seconds.



PC tool for drive monitoring and process tuning capabilities

The Drive composer PC tool offers fast and harmonized setup, commissioning and monitoring for the whole all-compatible drives portfolio. The free version of the tool provides startup and maintenance capabilities and gathers all drive information such as parameter loggers, faults, backups and event lists into a support diagnostics file with a single mouse click. This provides faster fault tracking, shortens downtime and reduces operational and maintenance costs.

The Drive composer tool is connected to the drive using the mini USB connection on the assistant control panel.

Drive composer pro offers extended functionality

Drive composer pro provides additional features such as custom parameter windows, graphical control diagrams of the drive's configuration and improved monitoring and diagnostics. The control diagrams save users from browsing long lists of parameters and help set the drive's logic quickly and easily. The tool has fast monitoring capabilities of multiple signals from several drives in the panel bus. Full backup and restore functions are also included.



Safe configuration for unpowered drives

Cold configuration adapter CCA-01 provides a serial communication interface for unpowered ACS480 drives, among other selected drives. With the adapter, safety isolation of both serial communication and control board power supply is possible. The power supply is taken from a PC USB port.



Ordering code	Description	Type designation
3AXD50000019865	Cold configurator adapter, packed kit	CCA-01

Connectivity to most common automation networks

A fieldbus enables communication between drives and PLC systems, I/O devices and the process. Fieldbus communication reduces wiring costs when compared with traditional hard wired input/output connections. Fieldbus systems also offer the ability to gather large amounts of data.

The general purpose drives are compatible with a wide range of fieldbus protocols. The drive comes with Modbus RTU fieldbus interface as standard. The optional fieldbus adapters can easily be mounted inside the drive.

Drive monitoring

A set of drive parameters and/or actual signals, such as torque, speed, current, etc., can be selected for cyclic data transfer, providing fast data access.

Drive diagnostics

Accurate and reliable diagnostic information can be obtained through the alarm, limit and fault words, giving easy interfacing with plantwide HMIs.

Cabling

Substituting the large amount of conventional drive control cabling and wiring with a single cable reduces costs and increases system reliability and flexibility.

Design

The use of fieldbus control reduces engineering time at installation due to the modular structure of the hardware and software and the simplicity of the connections to the drives.

Commissioning and assembly

The modular machine configuration allows precommissioning of single machine sections and provides easy and fast assembly of the complete installation.

Universal communication with ABB fieldbus adapters

The ACS480 supports the following fieldbus protocols:

Fieldbus adapters

Option code	Fieldbus protocol	Adapter
+K454	PROFIBUS DP, DPV0/DPV1	FPBA-01
+K473	EtherNet/IP™, Modbus TCP, PROFINET IO	FENA-11
+K475	Two port EtherNet/IP™, Modbus TCP, PROFINET IO	FENA-21

EMC – electromagnetic compatibility

Each ACS480 drive is equipped with a built-in filter to reduce high frequency emissions. The EMC product standard (EN 61800-3) category C2 is fulfilled with no external filters.

EMC standards

The EMC product standard (EN 61800-3) covers the specific EMC requirements stated for drives (tested with motor and motor cable) within the EU. EMC standards such as EN 55011 or EN 61000-6-3/4 are applicable to industrial and domestic equipment and systems including components inside the drive. Drive units complying with the requirements of EN 61800-3 are 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 or require a motor to

be connected as a load. The emission limits are comparable to EMC standards according to the table below.

Domestic environments versus public low voltage networks

1st environment includes domestic premises. It also includes establishments directly connected without an intermediate transformer to a low voltage power supply network that supplies buildings used for domestic purposes. 2nd environment includes all establishments directly connected to public low voltage power supply networks.

Comparison of EMC standards

EMC according to EN 61800-3 product standard	EN 61800-3 product standard	EN 55011, product family standard for industrial, scientific and medical (ISM) equipment	EN 61000-6-4, generic emission standard for industrial environments	EN 61000-6-3, generic emission standard for residential, commercial and light-industrial environment
1 st environment, unrestricted distribution	Category C1	Group 1, Class B	Not applicable	Applicable
1 st environment, restricted distribution	Category C2	Group 1, Class A	Applicable	Not applicable
2 nd environment, unrestricted distribution	Category C3	Group 2, Class A	Not applicable	Not applicable
2 nd environment, restricted distribution	Category C4	Not applicable	Not applicable	Not applicable

ABB automation products

AC500

ABB's powerful flagship PLC offering provides wide range of performance levels and scalability within a single simple concept where most competitors require multiple product ranges to deliver similar functionality.



AC500-eCo

Meets the cost-effective demands of the small PLC market while offering total inter-operability with the core AC500 range. Web server, FTP server and Modbus-TCP for all Ethernet versions. A Pulse Train Out-put module is available for multi-axis positioning.



AC500-S

A PLC based modular automation solution that makes it easier than before to mix and match standard and safety I/O modules to expertly meet your safety requirements in all functional safety applications. "Extreme conditions" version is also offered.



AC500-XC

"Extreme conditions" modules with extended operating temperature, immunity to vibration and hazardous gases, for use at high altitudes, in humid conditions, etc. It replaces expensive cabinets with its built-in protection against dirt, water, gases and dust.



Programmability

Automation Builder integrates the engineering and maintenance for PLC, drives, motion, HMI and robotics. It complies with the IEC 61131-3 standard offering all five IEC programming languages for PLC and drive configuration. Automation Builder supports a number of languages and comes with new libraries, FTP functions, SMTP, SNTP, smart diagnostics and debugging capabilities.



Control panels

Our control panels offer a wide range of touchscreen graphical displays from 3.5" up to 15". They are provided with user-friendly configuration software that enables tailor made customized HMI solutions. Rich sets of graphical symbols and the relevant drivers for ABB automation products are provided. Control panels for visualization of AC500 web server applications are available.



AC motors

ABB's low voltage AC motors are designed to save energy, reduce operating costs and enable demanding motor applications to perform reliably and without unscheduled downtime. General performance motors combine convenience and easy handling seamlessly with ABB's engineering expertise. Process performance motors provide the most comprehensive, versatile set of motors for the process industries and heavy-duty applications.



All-compatible drives portfolio

The all-compatible drives share the same architecture; software platform, tools, user interfaces and options. Yet, there is an optimal drive from the smallest water pump to the biggest cement kiln, and everything in the between. When you have learned to use one drive it is easy use the other drives in the portfolio.



Jokab safety products

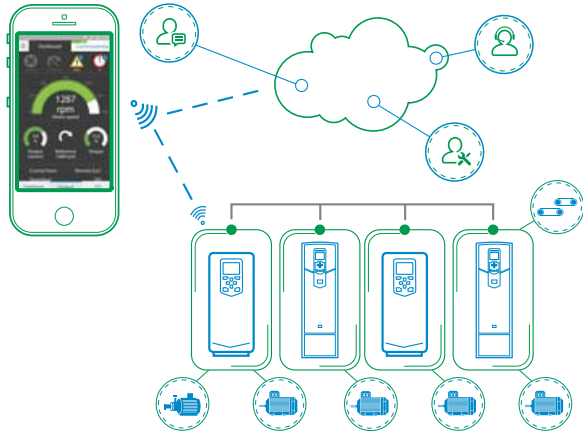
ABB Jokab Safety offers an extensive range of innovative products and solutions for machine safety systems. It is represented in standardization organisations for machine safety and works daily with the practical application of safety requirements in combination with production requirements.



Save time, ease troubleshooting and improve drive performance with ABB smartphone apps

Better connectivity and user experience with Drivetune

Easy and fast access to product information and support

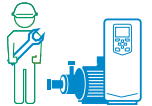


Manage your drives and the process lines and machines they control

Easy access to cloud-based drive and process information from anywhere via online connection



Startup, commission and tune your drive and application



Simplified user guidance with instant access to drive status and configuration



Performance optimization via drive troubleshooting features and fast support



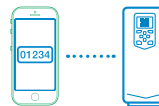
Services and support on the go with Drivebase

Search for support documents and contacts



Maintain and service all your installed drives on one or multiple sites

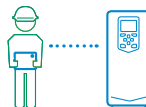
Register your drive with the Drivebase app



Access your product and service information in the cloud from anywhere



Access drive's diagnostics data



Push notifications for critical product and service updates



Access information anywhere

Download the apps via QR codes below or directly from the app stores

Drivetune for commissioning and managing drives



Drivebase for ensured reliability and reduced downtime on production sites



Drives service

Your choice, your future

The future of your drives depends on the service you choose.

Whatever you choose, it should be a well-informed decision. No guesswork. We have the expertise and experience to help you find and implement the right service for your drive equipment. You can start by asking yourself these two critical questions:

- Why should my drive be serviced?
- What would my optimal service options be?

From here, you have our guidance and full support along the course you take, throughout the entire lifetime of your drives.

Your choice, your business efficiency

ABB Drive Care agreement lets you focus on your core business. A selection of predefined service options matching your needs provides optimal, more reliable performance, extended drive lifetime and improved cost control. So you can reduce the risk of unplanned downtime and find it easier to budget for maintenance.

We can help you more by knowing where you are!

Register your drive at www.abb.com/drivereg for extended warranty options and other benefits.



Service to match your needs

Your service needs depend on your operation, life cycle of your equipment and business priorities. We have identified our customers' four most common needs and defined service options to satisfy them. What is your choice to keep your drives at peak performance?

Is uptime your priority?

Keep your drives running with precisely planned and executed maintenance.

Example services include:

- ✓ Life Cycle Assessment
- ✓ Installation and Commissioning
- ✓ Spare Parts
- ✓ Preventive Maintenance
- ✓ Reconditioning
- ✓ ABB Drive Care agreement
- ✓ Drive Exchange

Is rapid response a key consideration?

If your drives require immediate action, our global network is at your service.

Example services include:

- ✓ Technical Support
- ✓ On-site Repair
- ✓ Remote Support
- ✓ Response time agreements
- ✓ Training

Need to extend your assets' lifetime?

Maximize your drive's lifetime with our services.

Example services include:

- ✓ Life Cycle Assessment
- ✓ Upgrades, Retrofits and Modernization
- ✓ Replacement, Disposal and Recycling

Is performance most critical to your operation?

Get optimal performance out of your machinery and systems.

Example services include:

- ✓ Advanced services
- ✓ Engineering and Consulting
- ✓ Inspection and Diagnostics
- ✓ Upgrades, Retrofits and Modernization
- ✓ Workshop Repair
- ✓ Tailored services



Operational efficiency



Rapid response



Life cycle management



Performance improvement

Drives service

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:

		Active	Classic	Limited	Obsolete
		Full range of life cycle services and support		Limited range of life cycle services and support	Replacement and end-of-life services
Product	Services	Product is in active sales and manufacturing phase.	Serial production has ceased. Product may be available for plant extensions, as a spare part or for installed base renewal.	Product is no longer available.	Product is no longer available.
		Full range of life cycle services is available.	Full range of life cycle services is available. Product enhancements may be available through upgrade and retrofit solutions.	Limited range of life cycle services is available. Spare parts availability is limited to available stock.	Replacement and end-of-life services are available.

Keeping you informed

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

Your benefit is clear information about your drives' status and precise 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, availability of product and services, life cycle plan and recommended actions.

Notes

Notes

Contact us

www.abb.com/ACS480
www.abb.com/drives
www.abb.com/drivespartners
www.abb.com/motors&generators

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3AUA00000204668 REV A EN 22.2.2017

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