Low voltage AC drives

ABB general purpose drives
ACS580
0.75 to 250 kW
Catalog

Power and productivity
for a better world™

What does all-compatible mean for you?

The idea behind all-compatible is simple: the better a drive fits to your processes, users and business and environmental goals, the faster you start enjoying the benefits it brings. ACS580 is the first all-compatible general purpose drive with other drives complementing the offering. The drives share the same architecture and user interfaces, yet there is an optimal drive for virtually any application.

During drive selection you save time as the drives have many built-in features simplifying the selection process. A broad range of options provides easy extension to drive's functionality. The simplicity carries on to the drive set up and commissioning. With a state of the art user interface and drive design, installation and set up is made easy and optimal.

Total cost of ownership and your impact on the environment is lower with the drives ensuring your processes run efficiently and reliably. The user interfaces and tools enable you to monitor and analyse the drives. As a result you can fine-tune them to get more out of the drives and process using less energy.

Once you have used one all-compatible drive, you can use them all. With each new installation your knowledge accumulates, which translates to more efficient processes and business.

That's it. In short, all-compatibility means better business sense.

Contents

The all-compatible ACS580 general purpose drives

ACS580 is the first all-compatible ABB general purpose drive. It turns complicated to simple and difficult to easy.

The drive controls a wide range of applications in different industries, and yet it requires very little setting up or commissioning. The straightforward settings menu and assistants help you to commission the drive quickly and get it into action. All the essential features are built-in as a standard, which reduces the need for additional hardware and simplifies drive selection. The drive is virtually plug-in-ready to control pumps, fans, conveyors, mixers and many other variable and constant torque applications.

What if you require even more sophisticated features? You can upgrade to the next member of the all-compatible drives portfolio. The drives share the same user interfaces and options, enabling you to use the knowledge you have gained with the ACS580 drives. Along the way you keep saving time, and time is money in business.

Simple is beautiful. Now simple is also profitable.


ABB
Remote
ACS580
47.4 Hz
Output frequency
Hz
46.03
Motor current
A
15.60
Output power
kW
5.2
Options
01:33
Menu
?
Stop
Loc/Rem
Start

Buy it, plug it in and run it

Simple to select, install and use
Built-in features such as EMC filter, swinging choke, Modbus fieldbus interface, safe torque-off function simplify drive selection, installation and use.

Simplicity at your fingertips
The control panel's simplified settings menu and assistants help you setup the drive quickly and effectively.

Boosting energy efficiency
Energy optimizer and energy efficiency information help you monitor and save the energy used in your process.

The ACS580 series general purpose drives are part of ABB's all-compatible drives portfolio. They promise you simplicity and efficiency throughout their whole life cycle.

The drive practically guides you to set itself up. With built-in assistant functionality the user simply answers some questions in his own language to set up the drive, and then the drive is fully operational.

After commissioning, the next time you will remember you own the drive is when you take a look at your new, lower energy bill.

Startup and maintenance tool
Drive composer PC tool for start up, configuration, monitoring and process tuning. PC tool is connected to the drive via USB or Ethernet interface.

Communication with all major automation networks
Fieldbus adapters enable connectivity with all major automation networks.

Input/output extensions
In addition to the standard interfaces the drive has built-in slots for additional input/output extension modules. The extension module also allows external 24V supply to be used.

Remote monitoring
With a built-in web server NETA-21 enables worldwide access to drives.

Human all-compatible

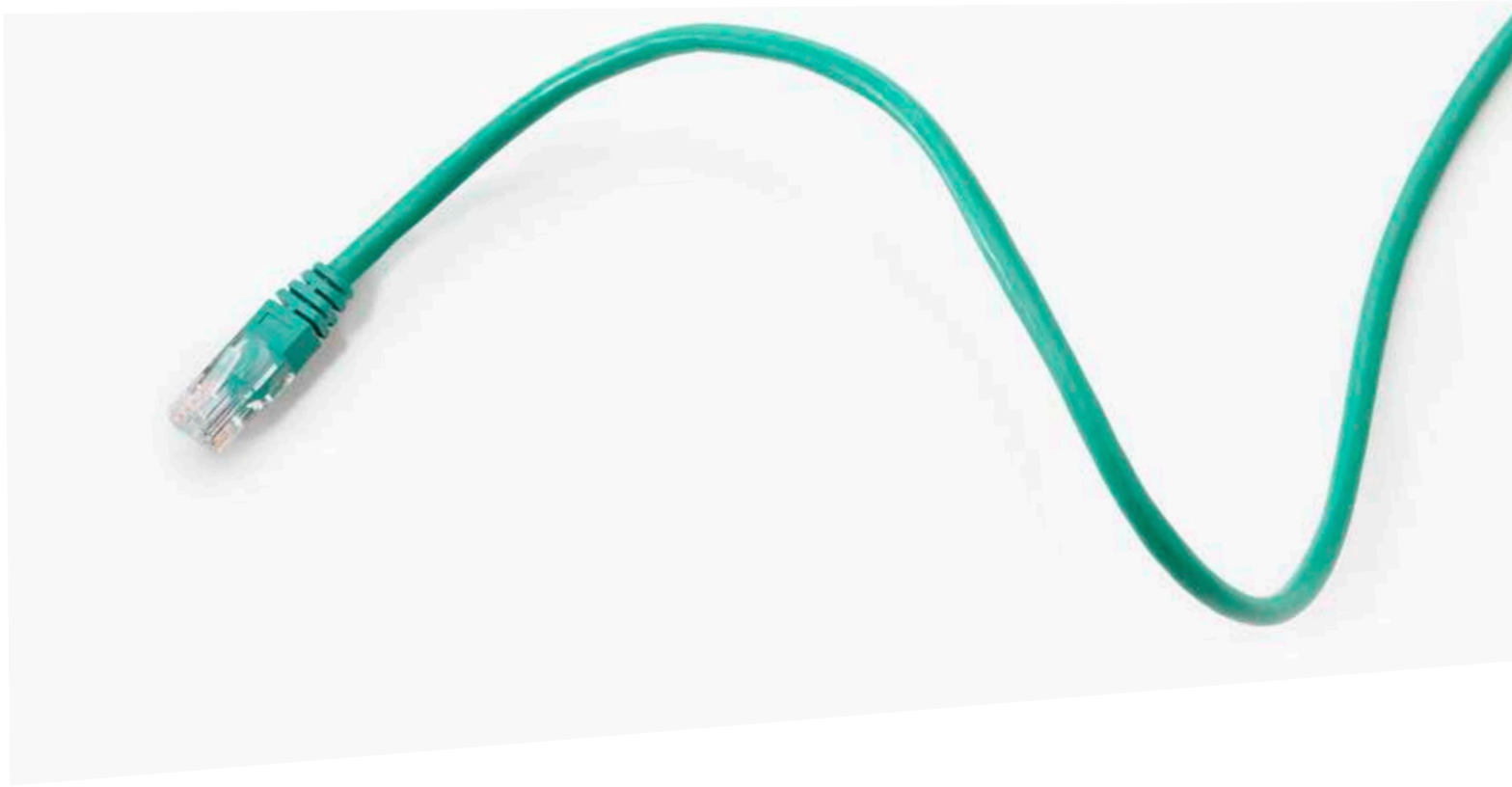
When using an all-compatible drive, you don’t have to know all the parameters or use any programming language. Your own mother tongue and common sense is enough. Simplified settings menu and assistants help you set up the drive quickly.

The Drive composer PC tool provides extensive drive monitoring and process tuning capabilities.

Integrated and certified safe torque-off feature means safety for machine operators.

If your process requirements grow, your next all-compatible drive will also have the same interface, look & feel and have the options, providing you with scalability without adding complexity.

What do we mean by plug-in-ready compatibility? Exactly what it says. Buy it, plug it in and run it.



Process all-compatible

The ACS580 drives are ready for a broad range of standard drive applications, and all essential features for general purpose speed and torque control applications are built-in as standard.

The power range reaches up to 250 kW covering a wide range of applications. The wide range of fieldbus adapter options allow communication with all of the major industrial automation networks.

If the application requires more than a highly developed general purpose drive, the common drives architecture enables the smooth transition to other all-compatible drives in the ABB portfolio, such as the ACS880 industrial drive.

The greenest energy is the energy that you do not use. That is what ACS580 allows you to do.

Environment all-compatible

With ABB and the all-compatible drives you are not only optimizing the energy consumption of an electric motor, but also your whole process.

The drive itself helps you to use only the exact amount of energy needed to run your motor. The energy optimizer feature ensures maximum torque per ampere, reducing energy drawn from the supply, and the built-in energy efficiency calculators help you to analyse and optimize processes. With the help of our life cycle services you will be able to keep you process running reliably and efficiently throughout the life cycle of the drives.

But you can go even further, and use our six step energy appraisal process, that provides you an easy way to investigate the energy saving potential in all selected applications.

Business all-compatible

Usually any drive is a justified investment that gives a short payback time by lowering energy consumption and helping improve productivity of the processes.

But when you choose an all-compatible drive, you get more than just a drive.

You get our wide range of products and services to support your business, including our decades of experience in various industries, ABB's local offices are in over 90 countries and our global value provider network members will be near to you.

New technology inside, the whole ABB outside, designed to support your business.

Wall-mounted ACS580 drives

The wall-mounted ABB general purpose drive ACS580 is designed to control a broad range of variable and constant torque applications such as pumps, fans, conveyors and mixers as well as for process control in different industries. The drive is equipped with built-in features that simplify ordering and delivery and reduces commissioning costs since everything is provided in a single, compact package.

The drive features a new 2nd generation swinging choke technology which, together with the drive's design, provides superior mitigation of harmonics at reduced motor load in a smaller and lighter design. Other built-in features include built-in C2 category EMC filter, brake chopper up to frame R3, Modbus fieldbus interface and dual channel SIL3 safe torque-off (STO). The drive and all options have coated boards as standard improving durability in harsh environmental conditions.

The control panel and PC tool provide straightforward drive set up, commissioning and maintenance. The control panel's simplified settings menu and many built-in assistants speed up commissioning, while the Drive composer PC tool offers extensive drive monitoring and process tuning capabilities.

The built-in energy efficiency calculators, including used and saved kWh, CO_2 reduction and money saved, help users fine-tune processes to ensure optimal energy use. The energy optimizer control mode ensures the maximum torque per ampere, reducing energy drawn from the supply.

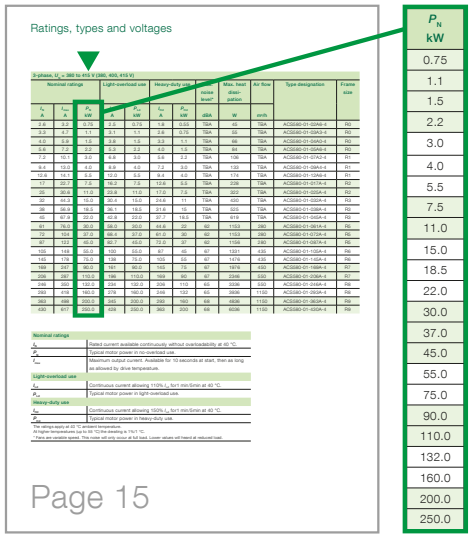
How to select a drive

It is very easy to select the right drive.

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

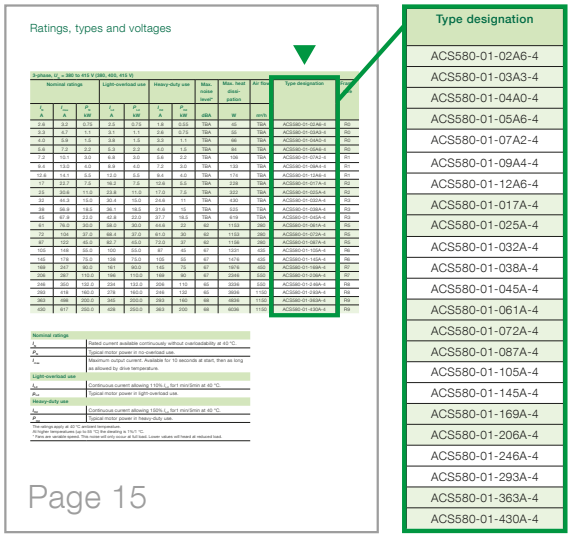
1 **Start with identifying your supply voltage.** This tells you what rating table to use. Currently ACS580 supports 3-phase 400 V supply. That means there is only one rating table to be used, on page 15.

2 **Choose your motor's nominal power rating** from the ratings table on page 15.



P_N kW
0.75
1.1
1.5
2.2
3.0
4.0
5.5
7.5
11.0
15.0
18.5
22.0
30.0
37.0
45.0
55.0
75.0
90.0
110.0
132.0
160.0
200.0
250.0

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



Type designation
ACS580-01-02A6-4
ACS580-01-03A3-4
ACS580-01-04A0-4
ACS580-01-05A6-4
ACS580-01-07A2-4
ACS580-01-09A4-4
ACS580-01-12A6-4
ACS580-01-017A-4
ACS580-01-025A-4
ACS580-01-032A-4
ACS580-01-038A-4
ACS580-01-045A-4
ACS580-01-061A-4
ACS580-01-072A-4
ACS580-01-087A-4
ACS580-01-105A-4
ACS580-01-145A-4
ACS580-01-169A-4
ACS580-01-206A-4
ACS580-01-246A-4
ACS580-01-293A-4
ACS580-01-363A-4
ACS580-01-430A-4

4 **Choose your options** on pages 19, 21, 23 and 26 and **add the option codes to drive's ordering code.** Remember to use "+" mark before each option code.

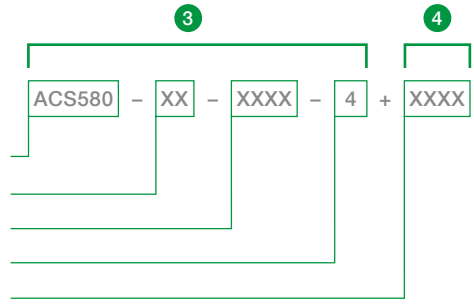
Control panel options

Option code	Description	Type designation
+J424	Blank control panel cover (no control panel)	-
+J404	Basic control panel	ACS-BP-S
+J400*	Assistant control panel	ACS-AP-S
+J425	Extended assistant control panel	ACS-AP-I

* Assistant control panel included as standard in the delivery unless otherwise specified.

Pages 19, 21, 23 and 26

Type designation:



Technical data

Mains connection	
Voltage and power range	3-phase, U_{N2} = 208 to 240 V, +10%/-15% 3-phase, U_{N4} = 380 to 480 V, +10%/-15% 3-phase, U_{N6} = 500 to 600 V, +10%/-15% 0.75 to 250 kW
Frequency	50/60 Hz ±5%
Power factor	cos Φ = 0.98
Efficiency (at nominal power)	97.5%
Motor connection	
Voltage	3-phase output voltage 0 to UN2 / UN4 / UN6
Frequency	0 to ± 500 Hz
Motor control	Scalar control and vector control
Torque control	Torque step rise time: <10 ms with nominal torque Non-linearity: ± 5% with nominal torque
Speed control	Static accuracy: 20% of motor nominal slip Dynamic accuracy: 1.0% seconds with 100% torque step

Product compliance

CE
Low Voltage Directive 2006/95/EC
Machinery Directive 2006/42/EC
EMC Directive 2004/108/EC
Quality assurance system ISO 9001 and Environmental system ISO 14001
Waste electrical and electronic equipment directive (WEEE) 2002/96/EC
RoHS directive 2002/95/EC
UL*, GOST R*: cUL 508A or 508C* and CSA C22.2 NO.14-95*,
C-Tick Functional safety*: STO TÜV Nord certificate*

EMC according to EN 61800-3 (2004)

Category C2 as standard

Environmental limits	
Ambient temperature	
Transport	-40 to +70 °C
Storage	-40 to +70 °C
Operation	
Air-cooled	-15 to +50 °C, no frost allowed R0 to R3 up to +50 °C no derate R4 to R9 +40 to 50 °C derate 1% per 1 °C Note! Side by side mounting may require further derate. See the user's manual for more information.
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	IP21 as standard, IP55 as an option
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)
Functional safety	Safe torque off (STO according EN 61800-5-2) IEC 61508 ed2: SIL 3, IEC 61511: SIL 3, IEC 62061: SIL CL 3, EN ISO 13849-1: PL e

C = chemically active substances
S = mechanically active substances
* Pending

Dimensions

Frames IP21	H*		W		D		Weight	
	mm	in	mm	in	mm	in	kg	lb
R0	303.0	11.9	125.0	4.9	210.0	8.3	4.5	9.9
R1	303.0	11.9	125.0	4.9	223.0	8.8	4.6	10
R2	394.0	15.5	125.0	4.9	227.0	8.9	7.5	16.6
R3	454.0	17.9	203.0	8.0	228.0	9.0	14.9	32.8
R5	726.0	28.6	203.0	8.0	283.0	11.1	23.0	50.7
R6	726.0	28.6	252.0	9.9	369.0	14.5	45.0	99.2
R7	880.0	34.6	284.0	11.2	370.0	14.6	55.0	121.3
R8	965.0	38.0	300.0	11.8	393.0	15.5	70.0	154.4
R9	955.0	37.6	380.0	15.0	418.0	16.5	98.0	216.1

* Front height of the drive with glandbox

Ratings, types and voltages

3-phase, U_N = 380 to 415 V (380, 400, 415 V)											
Nominal ratings			Light-overload use		Heavy-duty use		Max. noise level*	Max. heat dissipation	Air flow	Type designation	Frame size
I_N A	I_{max} A	P_N kW	I_{Ld} A	P_{Ld} kW	I_{Hd} A	P_{Hd} kW	dBA	W	m³/h		
2.6	3.2	0.75	2.5	0.75	1.8	0.55	TBA	45	TBA	ACS580-01-02A6-4	R0
3.3	4.7	1.1	3.1	1.1	2.6	0.75	TBA	55	TBA	ACS580-01-03A3-4	R0
4.0	5.9	1.5	3.8	1.5	3.3	1.1	TBA	66	TBA	ACS580-01-04A0-4	R0
5.6	7.2	2.2	5.3	2.2	4.0	1.5	TBA	84	TBA	ACS580-01-05A6-4	R0
7.2	10.1	3.0	6.8	3.0	5.6	2.2	TBA	106	TBA	ACS580-01-07A2-4	R1
9.4	13.0	4.0	8.9	4.0	7.2	3.0	TBA	133	TBA	ACS580-01-09A4-4	R1
12.6	14.1	5.5	12.0	5.5	9.4	4.0	TBA	174	TBA	ACS580-01-12A6-4	R1
17	22.7	7.5	16.2	7.5	12.6	5.5	TBA	228	TBA	ACS580-01-017A-4	R2
25	30.6	11.0	23.8	11.0	17.0	7.5	TBA	322	TBA	ACS580-01-025A-4	R2
32	44.3	15.0	30.4	15.0	24.6	11	TBA	430	TBA	ACS580-01-032A-4	R3
38	56.9	18.5	36.1	18.5	31.6	15	TBA	525	TBA	ACS580-01-038A-4	R3
45	67.9	22.0	42.8	22.0	37.7	18.5	TBA	619	TBA	ACS580-01-045A-4	R3
61	76.0	30.0	58.0	30.0	44.6	22	62	1153	280	ACS580-01-061A-4	R5
72	104	37.0	68.4	37.0	61.0	30	62	1153	280	ACS580-01-072A-4	R5
87	122	45.0	82.7	45.0	72.0	37	62	1156	280	ACS580-01-087A-4	R5
105	148	55.0	100	55.0	87	45	67	1331	435	ACS580-01-105A-4	R6
145	178	75.0	138	75.0	105	55	67	1476	435	ACS580-01-145A-4	R6
169	247	90.0	161	90.0	145	75	67	1976	450	ACS580-01-169A-4	R7
206	287	110.0	196	110.0	169	90	67	2346	550	ACS580-01-206A-4	R7
246	350	132.0	234	132.0	206	110	65	3336	550	ACS580-01-246A-4	R8
293	418	160.0	278	160.0	246	132	65	3936	1150	ACS580-01-293A-4	R8
363	498	200.0	345	200.0	293	160	68	4836	1150	ACS580-01-363A-4	R9
430	617	250.0	428	250.0	363	200	68	6036	1150	ACS580-01-430A-4	R9

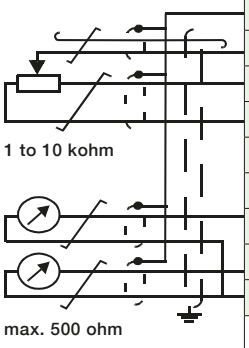
Nominal ratings	
I_N	Rated current available continuously without ovarloadability at 40 °C.
P_N	Typical motor power in no-overload use.
I_{max}	Maximum output current. Available for 10 seconds at start, then as long as allowed by drive temperature.
Light-overload use	
I_{Ld}	Continuous current allowing 110% I_{Ld} for1 min/5min at 40 °C.
p_{Ld}	Typical motor power in light-overload use.
Heavy-duty use	
I_{Hd}	Continuous current allowing 150% I_{Ld} for1 min/5min at 40 °C.
P_{Hd}	Typical motor power in heavy-duty use.

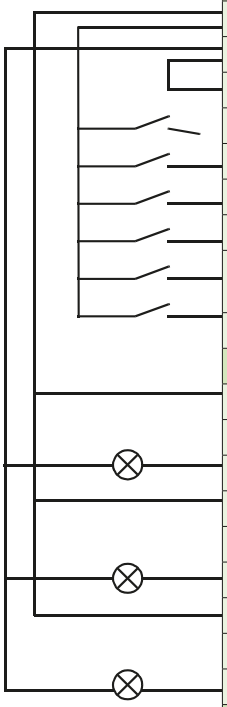
The ratings apply at 40 °C ambient temperature.
At higher temperatures (up to 55 °C) the derating is 1%/1 °C.
* Fans are variable speed. This noise will only occur at full load. Lower values will heard at reduced load.

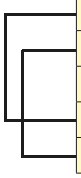
Standard interface and extensions for plug-in connectivity

The ACS580 drives offer a wide range of standard interfaces. In addition the drive has three option slots that can be used for extensions including fieldbus adapter modules and input/output extension modules that allow external +24 V supply.

Default factory I/O connection diagram







Terminal	Meaning	Default macro connections
S1	AI1 U/I	Voltage/Current selection for analog input
S2	AI2 U/I	Voltage/Current selection for analog input
XI	**Reference voltage and analog inputs and outputs**	
1	SCR	Signal cable shield (screen)
2	AI1	External frequency reference 1: 0 to 10 V
3	AGND	Analog input circuit common
4	+10V	Reference voltage 10 V DC
5	AI2	Not used
6	AGND	Analog input circuit common
7	AO1	Output frequency: 0 to 20 mA
8	AO2	Output current: 0 to 20 mA
9	AGND	Analog output circuit common
S3	AO1 I/U	Voltage/Current selection for analog output
X2 & X3	**Aux. voltage output and programmable digital inputs**	
10	+24V	Auxiliary voltage output +24 V DC
11	DGND	Auxiliary voltage output common
12	DCOM	Digital input common for all DI
13	DI1	Start/Stop: Activate to start
14	DI2	Fwd/Rev: Activate to reverse rotation dir.
15	DI3	Constant speed selection
16	DI4	Constant speed selection
17	DI5	Ramp pair selection: Activate to select 2nd pair
18	DI6	Not used
X6, X7, X8	**Relay outputs**	
19	RO1C	**Ready**
20	RO1A	250 V AC / 30 V DC
21	RO1B	2 A
22	RO2C	**Running**
23	RO2A	250 V AC / 30 V DC
24	RO2B	2 A
25	RO3C	**Fault (-1)**
26	RO3A	250 V AC / 30 V DC
27	RO3B	2 A
X5	**EIA-485 Modbus RTU**	
29	B+	Built-in Modbus
30	A-	
31	DGND	
S4	TERM	Serial data link termination switch
S5	BIAS	Serial data link bias resistors switch
X4	**Safe torque off**	
34	OUT1	Safe torque off. Both circuits must be closed for the drive to start.
35	OUT2	
36	SGND	
37	IN1	
38	IN2	

Standard software with everything figured out for you

Commissioning easier than ever before
The drive's assistant control panel has a clear, intuitive and visually advanced interface as well as different assistants to make the drive simple to set up and use. This saves on commissioning and learning time.

Sophisticated process control
The ACS580 drives offer sophisticated process control in scalar and vector control modes. The drive supports a wide range of motors including induction and permanent magnet motors. Many embedded protection and other features improve performance of the motor and process.

Flying start
Flying start is available for both scalar and vector control modes. Drive catches a running motor which is often required in applications with long freewheeling times, such as in fan applications.

Flux braking
Flux braking comes with two different levels – light and heavy braking. This allows you to choose how aggressively the motor is heated in braking situations. In addition, DC hold can be used with both vector and scalar control. It locks the rotor magnetically and keeps the motor still.

Load profile
The load profile feature collects drive values such as current to a log. The log shows how the drive is operating and enables you to analyze and optimize the application.

Motor heating
When the drive is not operating, the motor can be heated by DC current. This prevents condensation and increases motor's life time by keeping it dry in humid or cold conditions.

Adaptive motor noise
The drive reduces motor noise by spreading the switching frequencies over a user specified range. User can define an allowed range of used switching frequency. As a result the drive maximizes the actual used frequency based on thermal measurement, which reduces motor noise at low load without limiting full current at maximum load.

PID built-in
Built-in and stand-alone PID makes the ACS580 a self-governing unit that requires no external logic input from the control room, only an external process measurement is needed. The sleep function with boost functionality elevates the required level of operation momentarily e.g. level or pressure of fluid, just before turning to sleep mode. This prolongs the time spend in sleep mode and saves energy.

Optimizing energy use
The ACS580 drives come with features that help you save and manage energy. The energy optimizer feature operates both in scalar and vector control modes ensuring maximum torque per ampere, reducing energy drawn from the supply. You can monitor the hourly, daily and cumulative energy consumption via kWh counters. When the drive replaces a direct-online motor, you can follow the saved energy, CO_2 emissions or money, and see how fast the drive brings you a return on investment.

Easy diagnostics for trouble-free operation
The control panel's diagnostics menu enables you to effectively analyze and resolve issues. You can quickly analyze why the drive is performing as it is; running, stopped or running at the present speed. Active faults, warnings and event logs are shown in the menu. The menu shows if there are any active limitations to the drive operation and gives instructions on how to resolve them. Drive composer PC tool offers more detailed diagnose and signal monitoring. The entry level PC tool is available for free via the ABB website.

Easy drive commissioning and use with intuitive control panel

Almost anyone can set up and commission the ACS580 drive using the assistant control panel. Simplified settings menu and embedded assistants reduce time needed for drive commissioning.

The menus are clearly named by function, such as motor, ramp and limit settings. The assistants ask only the essential questions and help you set up and start the drive quickly.

The control panel is equipped with a high resolution display, context-sensitive soft keys and four-direction navigation enabling you to quickly browse and adjust the drive settings. Many flexible data visualizations including bar charts, histograms and trend graphs help you analyze the process.

With the panel's text editor, you can add information e.g. to I/O signals or customize fault and warning messages. You can also label the drive with a unique name.

Powerful backup and restore functions (with name, date and content) are supported as well as different language versions. Faults or warnings are quickly resolved as the help key provides context sensitive guidance and troubleshooting instructions.

The I/O menu shows how the electrical terminals are configured. The menu gives you a quick access the related settings of the terminals e.g. filtering, scaling, delay or source selections. You can quickly identify if a single terminal is used for multiple functions and what the actual I/O status is.

One control panel can be connected to several drives simultaneously using the panel network feature. You can select the drive to be operated in the panel network. The PC tool is easily connected to the drive through the USB connector on the control panel.

Control panel options

Option code	Description	Type designation
+J400*	Assistant control panel	ACS-AP-S
+J404	Basic control panel	ACS-BP-S
+J425	Extended assistant control panel	ACS-AP-I
+J424	Blank control panel cover (no control panel)	-

* Assistant control panel included as standard in the delivery unless otherwise specified.

PC tool for extensive drive monitoring and process tuning capabilities

The Drive composer PC tool offers fast and harmonized setup, commissioning and monitoring for the whole drives portfolio. The free version of the tool provides startup and maintenance capabilities, while the professional version provides additional features such as custom parameter windows, control diagrams of the drive's configuration and improved monitoring and diagnostics.

The Drive composer tool is connected to the drive using the USB connection on the assistant control panel or an Ethernet connection on the drive. All drive information such as parameter loggers, faults, backups and event lists are gathered into a support diagnostics file with a single mouse click. This provides faster fault tracking, shortens downtime and minimizes operational and maintenance costs.

Drive composer pro offers extended functionality

Drive composer pro provides the same standard functionality as the free version, including parameter settings, downloading and uploading files and search parameters. Advanced features such as graphical control diagrams and various displays are also available.

The control diagrams save users from browsing long lists of parameters and help to set the drive's logic quickly and easily. The tool has fast monitoring capabilities of multiple signals from several drives in a PC tool network. Full backup and restore functions are also included. Safety settings can be configured with Drive composer pro.

Flexible connectivity to automation networks

A fieldbus enables communication between drives, PLC systems, I/O devices and 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 plug-in fieldbus adapter modules can easily be mounted inside the drive.

The benefits of fieldbus communication are described below.

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 plant wide HMIs.

Drive parameter handling
The Ethernet fieldbus adapter module allows users to build an Ethernet network for drive monitoring and diagnostic and parameter handling purposes.

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

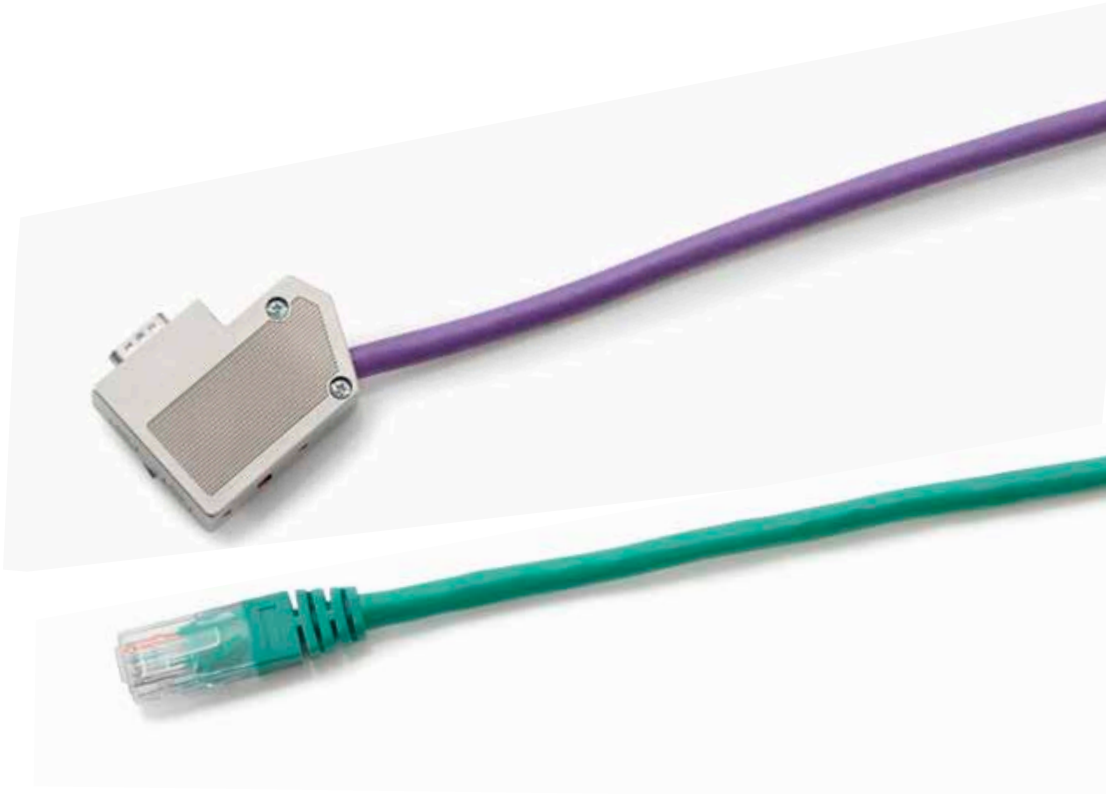
Design
The use of fieldbus control reduces engineering time at installation due to the modular structure of the hardware and software and the simplicity of the connections to the drives.

Commissioning and assembly
The modular machine configuration allows pre-commissioning of single machine sections and provides easy and fast assembly of the complete installation.

Universal communication with ABB fieldbus adapters
The ACS580 supports the following fieldbus protocols:

Fieldbus adapter modules

Option	Option code	Fieldbus protocol
FPBA-01	+K454	PROFIBUS DP, DPV0/DPV1
FCAN-01	+K457	CANopen®
FDNA-01	+K451	DeviceNet™
FENA-11	+K473	EtherNet/IP™, Modbus TCP, PROFINET IO
FECA-01	+K469	EtherCAT®
FSCA-01	+K458	Modbus RTU
FEPL-02	+K470	PowerLink
FCNA-01	+K462	ControlNet



Remote monitoring access worldwide

The remote monitoring tool, NETA-21, gives easy access to the drive via the Internet or local Ethernet network. NETA-21 comes with a built-in web server. Being compatible with standard web browsers it ensures easy access to a web based user interface. Through the web interface the user can configure drive parameters, monitor drive log data, load levels, run time, energy consumption, I/O data and bearing temperatures of the motor connected to the drive.

The user can access the NETA-21 web page using a 3G modem from anywhere with a standard PC, tablet or a mobile phone. The remote monitoring tool helps to reduce cost when personnel are able to monitor or perform maintenance for unmanned or manned applications in a range of industries, reducing the need to visit the drive. It is also very useful when more than one user needs to access the drive from several locations.

Enhanced monitoring functions

The remote monitoring tool supports process and drive data logging. Values of process variables or drives actual values can be logged to NETA-21´s SD memory card or sent forward to a centralized database via email. NETA-21 does not need an external database as it is able to store valuable data for the drive during its entire lifetime.

Unmanned monitoring of processes or devices is ensured by the built-in alarm functions that notify maintenance personnel if a safety level is reached. Alarm history with true time stamps are stored internally to the memory card when a problem is logged. The relevant technical data (speed, current etc.) is also recorded for troubleshooting purposes. True time stamps are also used with drives that don’t have a real time clock as standard, thus ensuring events of all connected drives are synchronized together.

Input/output extension modules for increased connectivity

Standard input and output can be extended by using optional analog and digital input/output extension modules. The modules are easily installed in the extension slots located on the drive.

These options also enable connection to an external +24 V supply, which allows the control board, fieldbus and I/O to stay on when mains supply is cut off. With the external supply, drive diagnosis and fault finding can still be carried out.

I/O options

Option code	Description	Type designation
+L501	External 24 V and digital I/O extension	CMOD-01
+L523	External 24 V and PTC interface	CMOD-02
+L512	115/230 V digital input	CHDI-01

Brake options

Brake chopper

The brake chopper is built-in as standard for the ACS580 frames up to R3. Braking control is integrated into the ACS580 drives. It not only controls braking, but also supervises system status and detects failures such as brake resistor and resistor cable short-circuits, chopper short-circuit, and calculated resistor over-temperature.

Brake resistor

The brake resistors are separately available for ACS580. Resistors other than the standard option resistors may be used, provided that the specified resistance value is not decreased and that the heat dissipation capacity of the resistor is sufficient for the drive application. No separate fuses in the brake circuit are required if the conditions for eg. the mains cable is protected with fuses and no mains cable/ fuse overrating takes place.

EMC – electromagnetic compatibility

Each ACS580 drive is equipped with a built-in filter to reduce high frequency emissions. The drive complies with C2 as standard.

EMC standards

The EMC product standard (EN 61800-3 (2004)) covers the specific EMC requirements stated for drives (tested with motor and 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.

1st environment versus 2nd environment

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 other than those directly connected to a low voltage power supply network that supplies buildings used for domestic purposes.

EMC standards

EMC according to EN 61800-3 (2004) 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
1st environment, unrestricted distribution	Category C1	Group 1, Class B	Not applicable	Applicable
1st environment, restricted distribution	Category C2	Group 1, Class A	Applicable	Not applicable
2nd environment, unrestricted distribution	Category C3	Group 2, Class A	Not applicable	Not applicable
2nd environment, restricted distribution	Category C4	Not applicable	Not applicable	Not applicable

Cooling and fuses

Cooling

ACS580 drives are fitted with cooling air fans. The cooling air must be free from corrosive materials and not above the maximum ambient temperature of 40°C (50°C with derating).

Fuse connections

Standard fuses can be used with ABB general purpose drives. For input fuses see tables below.

Cooling air flow 380 to 415 V units

Type designation	Frame size	Heat dissipation		Air flow	
		W	BTU/Hr	m3/h	ft3/min
ACS580-01-02A6-4	R0	45	155	TBA	TBA
ACS580-01-03A3-4	R0	55	187	TBA	TBA
ACS580-01-04A0-4	R0	66	224	TBA	TBA
ACS580-01-05A6-4	R0	84	288	TBA	TBA
ACS580-01-07A2-4	R1	106	362	TBA	TBA
ACS580-01-09A4-4	R1	133	454	TBA	TBA
ACS580-01-12A6-4	R1	174	593	TBA	TBA
ACS580-01-017A-4	R2	228	777	TBA	TBA
ACS580-01-025A-4	R2	322	1100	TBA	TBA
ACS580-01-032A-4	R3	430	1469	TBA	TBA
ACS580-01-038A-4	R3	525	1791	TBA	TBA
ACS580-01-045A-4	R3	619	2114	TBA	TBA
ACS580-01-061A-4	R5	1153	3938	280	165
ACS580-01-072A-4	R5	1153	3938	280	165
ACS580-01-087A-4	R5	1156	3948	280	165
ACS580-01-105A-4	R6	1331	4546	435	256
ACS580-01-145A-4	R6	1476	5041	435	256
ACS580-01-169A-4	R7	1976	6748	450	265
ACS580-01-206A-4	R7	2346	8012	550	324
ACS580-01-246A-4	R8	3336	11393	550	324
ACS580-01-293A-4	R8	3936	13442	1150	677
ACS580-01-363A-4	R9	4836	16516	1150	677
ACS580-01-430A-4	R9	6036	20614	1150	677

Recommended input protection fuses for 380 to 415 V units*

Type designation	Frame size	IEC fuses A	Fuse type	UL fuses A	Fuse type
ACS580-01-02A6-4	R0	4	gG	6	UL Class T
ACS580-01-03A3-4	R0	6	gG	6	UL Class T
ACS580-01-04A0-4	R0	6	gG	6	UL Class T
ACS580-01-05A6-4	R0	10	gG	10	UL Class T
ACS580-01-07A2-4	R1	10	gG	10	UL Class T
ACS580-01-09A4-4	R1	16	gG	15	UL Class T
ACS580-01-12A6-4	R1	16	gG	15	UL Class T
ACS580-01-017A-4	R2	25	gG	20	UL Class T
ACS580-01-025A-4	R2	32	gG	30	UL Class T
ACS580-01-032A-4	R3	40	gG	35	UL Class T
ACS580-01-038A-4	R3	50	gG	45	UL Class T
ACS580-01-045A-4	R3	63	gG	50	UL Class T
ACS580-01-061A-4	R5	80	gG	80	UL Class T
ACS580-01-072A-4	R5	100	gG	90	UL Class T
ACS580-01-087A-4	R5	100	gG	110	UL Class T
ACS580-01-105A-4	R6	160	AK	150	UL Class T
ACS580-01-145A-4	R6	200	AK	200	UL Class T
ACS580-01-169A-4	R7	315	AK	225	UL Class T
ACS580-01-206A-4	R7	315	AK	300	UL Class T
ACS580-01-246A-4	R8	350	AK	350	UL Class T
ACS580-01-293A-4	R8	400	AK	400	UL Class T
ACS580-01-363A-4	R9	550	AK	500	UL Class T
ACS580-01-430A-4	R9	630	AK	600	UL Class T

* For detailed fuse sizes and types, please see ACS580 user's manual.

Caring of your drives, caring of your business

Whether a drive is a part of the product you sell or component in your production process, reliable and efficient drive operation is a key. Our global life cycle services are designed to ensure that the drives keep running exactly as you expect, wherever they are.

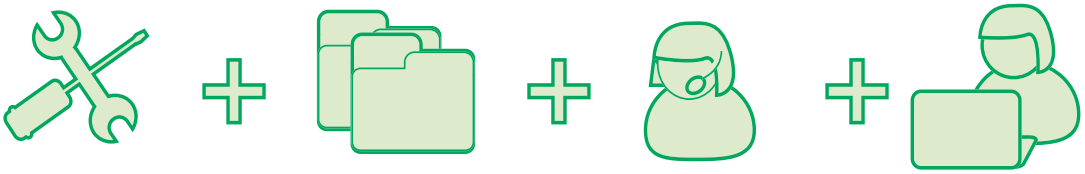
Installation and commissioning
We offer accurate advice and timely support before and during installation. ABB certified engineers or authorized value providers can adjust the drive parameters to meet the precise demands of the application.

We can help you better when we know where you are!
Register your drive at **www.abb.com/drivereg** for extended warranty options and other benefits.

Extended warranty
Three or five years warranty options are available to reduce risks associated with drives failure and to allow drives' users to recover from equipment failures as quick as possible. Services are provided at a fixed cost and standard warranty terms and conditions applied.

Extended warranty	Option code
Warranty 3 years	+P931
Warranty 5 years	+P932

When registering a drive you get:



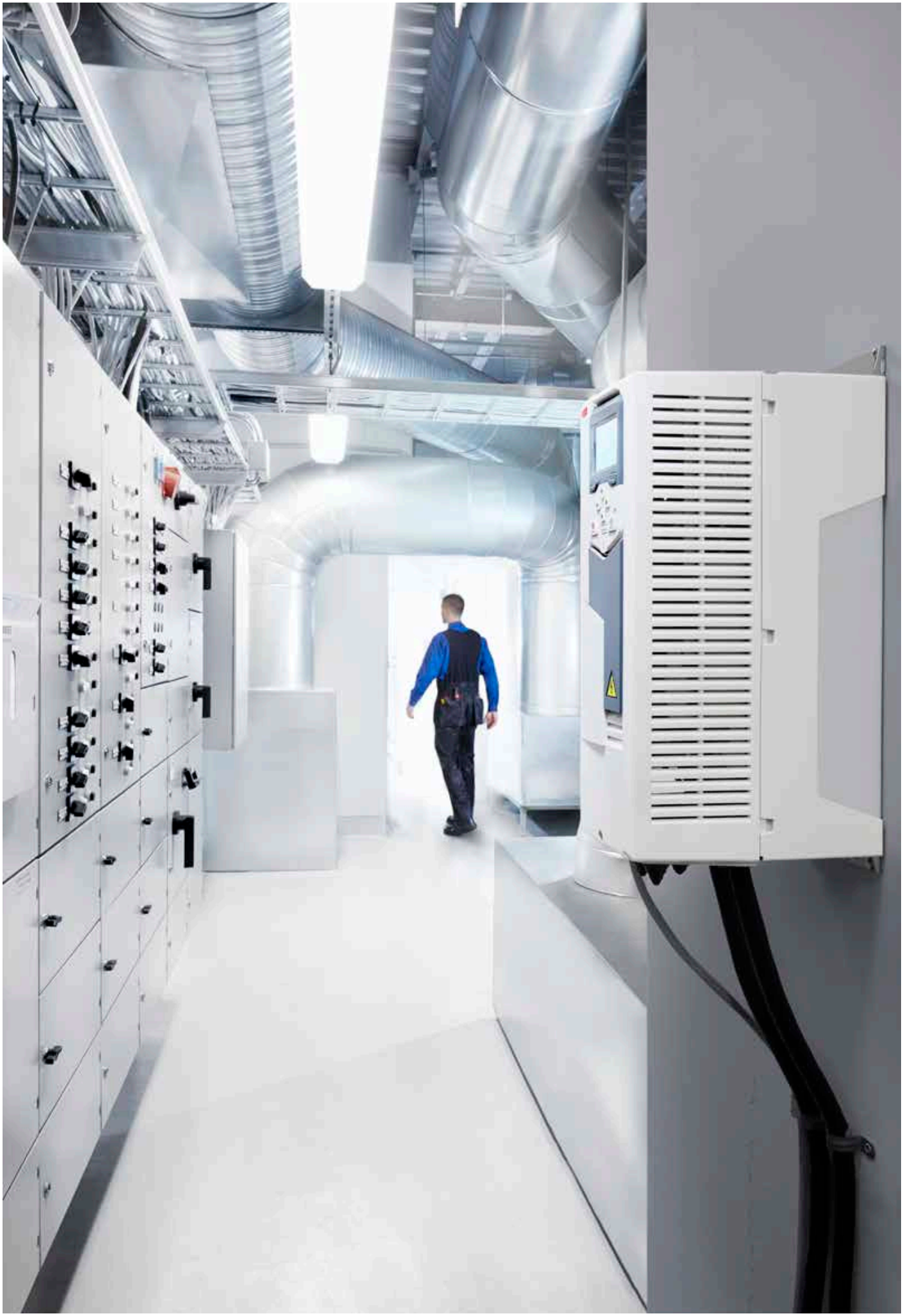
Drive repairs or replacements

On-line access to product manuals

Premium technical support

Free e-learning material

www.abb.com/drivereg



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