TECHNICAL CATALOG

Low voltage AC drives

ABB general purpose drives
ACS580, 1 to 350 hp

ACS580 series
Easy to use. Reliable.
Good for your bottom line.

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The all-compatible ACS580 series
Effortless energy efficiency

ABB's new ACS580 drives provide the quality, reliability, and energy savings you expect from ABB drives as well as new features, such as the new primary settings menu and Bluetooth connectivity, that will make it easier to use and safer to maintain.

With offices in over 90 countries and a network of global technical partners, you can rely on ABB for technical assistance and local support worldwide.

Save time and money
The ACS580 is simple to install, commission, use, expand, and even upgrade, when the time comes. A compact design makes handling the units easy and with all the essential features built-in, commissioning and setup time is greatly reduced by leveraging the Primary Settings menus and assistants. The assistant control panel, which provides 16 different language options, can be upgraded to an optional Bluetooth control panel to enable wireless commissioning and monitoring.

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The ACS580 is simple to install, commission, use, expand, and even upgrade, when the time comes.

Keep your system running smoothly
ACS580 drives are designed for customers who value reliability, high quality, and robustness in their applications. Product features, such as coated boards and compact UL Type 12 (IP55) enclosure, make the ACS580 suitable for harsh conditions.

Additionally, all ACS580 drives and their protective functions are thoroughly tested for performance at maximum temperature with nominal loads.

Contain costs to improve your bottom line
When you think of VFDs, you likely think of energy savings – and rightly so. Energy savings alone can easily justify the cost of a VFD, even on small applications that traditionally use starters. Just by up-grading from constant to variable speed, you can create energy savings of up to 50%. Add to that the ability to track the savings, in both energy and dollars, so you can evaluate the effectiveness of your system, and adjust accordingly for even more savings.

When your processes runs more efficiently, the result is not only energy savings, but minimized wear and tear on your mechanical equipment, and overall process efficiencies, which results in financial savings.

The ACS580 design helps to contain costs as well. Because all the essential features, including Safe Torque Off (STO), are integrated into the ACS580, the amount of equipment that needs to be installed, commissioned, and maintained is less.

As one of ABB's all-compatible products, fieldbus adapters, flange mounting kit, and PC tools are consistent, to simplify commissioning and minimize your need for training, as well.

Partner with ABB to achieve success
We encourage you to collaborate with ABB's factory and local VFD experts who are available throughout the lifecycle of your system. You have access to this team of experts to assist with developing functional, cost-effective, and easy-to-maintain systems, improving designs to meet specific project requirements, ensuring that you include the latest technologies, and training your staff on appropriate topics. Our goal is to ensure your success.

We also offer preventive maintenance to keep your system in tip-top shape and service plans in the event a machine does go down. You can also count on our free, 24/7/365 technical support to assist whenever you need help.

Switch on simplicity without trading off efficiency

The ACS580 general purpose drive is equipped with built-in features that simplify ordering and delivery, and reduce commissioning costs. Everything is provided in a single, compact and ready-to-use package.

Start-up and maintenance tool
Drive composer PC tool for start-up, configuration, monitoring and process tuning. The PC tool is connected to the drive's control panel via a USB interface.

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

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

Scalable performance
The ACS580 is a perfect match not only for simple applications, but also for applications where sophisticated speed and torque control are needed.

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ACS580 drives are designed for maximum reliability.

Communication with all major automation networks
Optional fieldbus adapters enable connectivity with all major industrial automation networks.

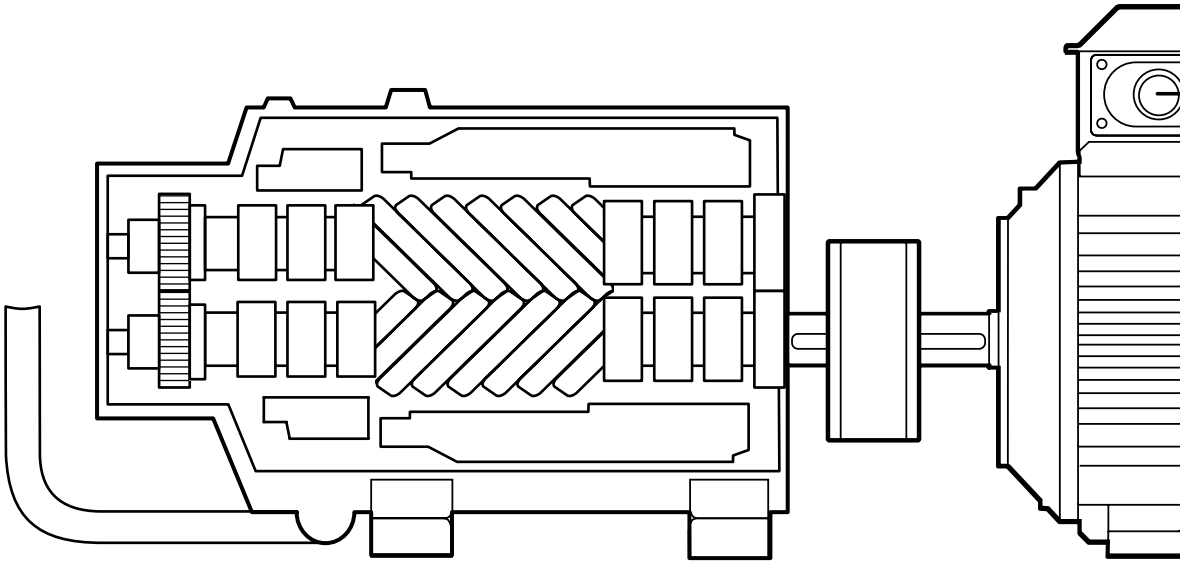
Adaptive programming
Adaptive programming is ideal for creating custom programs for various applications. It does not require expertise in programming.

Designed for maximum reliability
Design features like coated circuit boards, minimized airflow through the control board section, earth fault protection and design for 40 °C ambient temperature make the ACS580 an easy choice.

Remote monitoring
With a built-in web server and stand-alone datalogger, NETA-21 module enables worldwide and secure access to your drives.

What does all-compatible mean for your application?

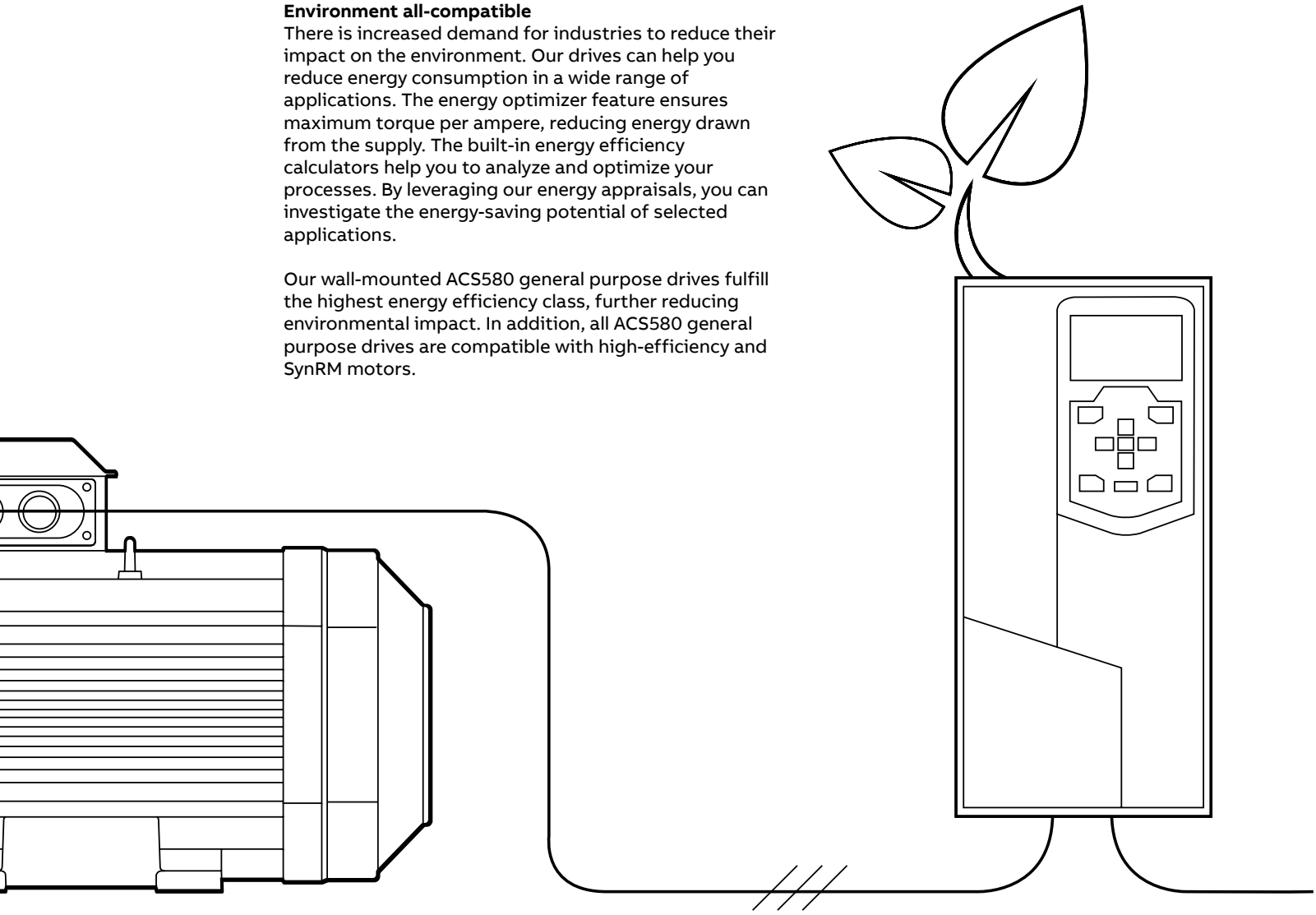
Business all-compatible
The all-compatible drives are not just equipment – they are part of your business strategy. Whether your target is to optimize the productivity of your business or scale it from local to global, all-compatible is there for you. Shared elements throughout the product offering make the transition from one product to another easy. With offices in over 90 countries and a global network of technical partners, we are in a good position to offer technical advice and local support, worldwide.

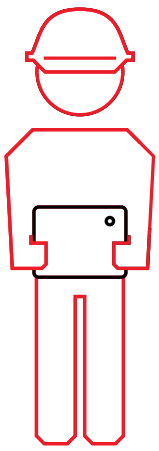


Process all-compatible
The drives are compatible with various processes. They can control virtually any type of AC motor, provide extensive input/output connectivity and support all major fieldbus protocols. The drives cover a wide voltage and power range, and have the flexibility and scalability to enable one drive platform to control almost any application or process, making your drive selection easy.

Environment all-compatible
There is increased demand for industries to reduce their impact on the environment. Our drives can help you reduce energy consumption in a wide range of applications. The energy optimizer feature ensures maximum torque per ampere, reducing energy drawn from the supply. The built-in energy efficiency calculators help you to analyze and optimize your processes. By leveraging our energy appraisals, you can investigate the energy-saving potential of selected applications.

Our wall-mounted ACS580 general purpose drives fulfill the highest energy efficiency class, further reducing environmental impact. In addition, all ACS580 general purpose drives are compatible with high-efficiency and SynRM motors.





Human all-compatible
All our drives share easy-to-use interfaces, saving you time during drive commissioning and maintenance. When you have learned it once, you can use it with all the drives in our all-compatible drives portfolio.

With the PC tool, you get extensive drive monitoring capabilities and quick access to the drive settings. Integrated and certified safety features provide safety for machine operators. To further improve the user experience, we have developed mobile apps that can be utilized in interacting with the drive. These apps give you an easy graphical interface for management, maintenance and servicing of your drives.

The control panel supports 16 languages.

Typical applications

ACS580 drives improve process performance, increase productivity and ensure machine and personnel safety

Pumps

Standard features
- Power range up to 350hp available in different enclosure versions
- Motor cables up to 1,000 ft (300 m)
- Built-in choke in all ACS580 devices for harmonic mitigation in partial loads

Fans

Standard features
- Compact UL Type 12 devices with coated PCBs for stand-alone installation
- EMC level C2 for installation in the 1st environment
- Support for high efficiency, PM and SynRM motors

Compressors

Standard features
- Broad support for different fieldbus protocols
- STO for machinery safety
- Power range up to 350hp

Conveyors

Standard features
- Integrated braking chopper up to 30hp
- Compact UL Type 12 enclosure
- STO for machinery safety
- External +24 V supply (optional on R1-R5 frame) to maintain communication when the mains supply is disconnected.

Mixers

Standard features
- Vector control ensures high starting torque at low speeds
- STO for personnel / machinery safety
- Connectivity: Control panels / IO / Fieldbus options
- Coated control boards

Compact solutions for wall-mounted drives

No matter the frame size or power range, all ACS580 drives bring you ease of use, scalability and quality.

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01 Wall-mounted ACS580 UL Type 1 drive
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02 Wall-mounted ACS580 UL Type 12 drive

Wall-mounted UL Type 1 drives
Wall-mounted UL Type 1 drives are available in a power range of 1 to 350hp at 480V, 1 to 100hp at 230V and 2 to 250hp at 575V. Side-by-side mounting, flange mounting and horizontal mounting are all available for wall-mounted ACS580 drives.

Wall-mounted UL Type 12 drives
The UL Type 12 drive is designed for applications exposed to dust, moisture, vibrations and other harsh environments. It is similar in size to the compact UL Type 1 drives, which provides significant savings in space, maintenance, engineering, and material costs, as well as in setup and commissioning time.

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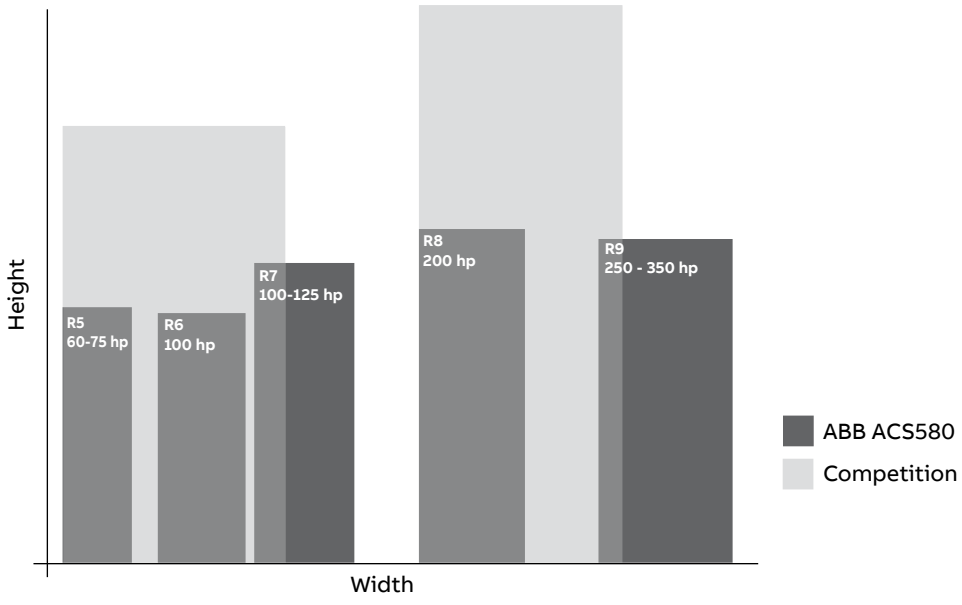
Competitive advantage
The footprint of the ACS580 is significantly smaller when compared to similar horsepower ratings of the competition.



Common features throughout the whole ACS580 product family

Standard ACS580 features

Choke and EMC
- Swinging choke technology to mitigate harmonics
- Fulfills standard the EN61000-3-12 standard
- EMC C2 filter allows installation in first environment

Scalar and vector control for process control
- Scalar control for effortless process control
- Vector control for accurate and energy-efficient speed and torque control in demanding applications
- Support for induction, permanent magnet and synchronous reluctance motors (SynRM)

Extensive I/O connections
- The ACS580 features extensive I/O connections for flexible configuration in various applications
- Colored terminals for easy configuration
- Assistant control panel and primary settings
- The ACS-AP-S assistant control panel speaks 16 different languages
- USB interface for PC and tool connection
- Help button for problem-solving

Integrated safe torque off (STO)
- Safe torque off for implementing safe machinery
- SIL 3, PL e

Brake control
- Braking control is integrated into ACS580 drives. A brake chopper is built-in as standard for ACS580 frames up to R3.

Performance
- The ACS580 is suitable not only for variable torque applications but also for basic constant torque applications

Shared features of the ABB all-compatible drives portfolio

Adaptive programming
- ACS580 firmware includes an easy-to-use and visual adaptive programming feature.
- Adaptive programming can be used to add logical functions and conditions for process fine-tuning.

Same PC tools for ABB all-compatible drives
- Free Drive Composer entry available at www.abb.com.
- Same parameter structure makes the all-compatible platform easy to use.

ATEX-certified PTC thermistor support
- The ACS580 can be equipped with an optional CPTC-02 ATEX-certified PTC sensor.
- The safety integrity level for the CPTC-02 module is SIL 2/PL c.

Connectivity
- The ACS580 supports F-series fieldbus adapters used in the ABB all-compatible platform.
- Mobile phone connectivity via the optional Bluetooth assistant control panel.
- Fieldbus settings are made easy with the redesigned simple settings menu.

Standard ACS580 drives software with versatile features

Save time commissioning and training with the assistant control panel's clear and intuitive user interface and various assistants.

Improve the performance of the motor and process with sophisticated process control in scalar and vector control modes. The drive supports a wide range of motors, including induction and permanent magnet motors.

Analyze and optimize the application with the load profile log, which shows you how the drive is operating.

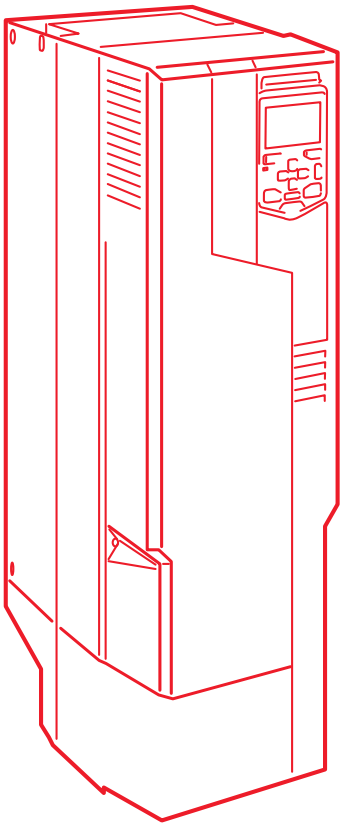
Reduce motor noise by spreading the switching frequencies over a user-specified range.

Reduce costs with the built-in and standalone process PID. It makes the ACS580 a self-governing unit requiring only an external process measurement. No external logic input from the control room is needed.

Customize the drive to your application's requirements with flexible parameter pointers or adaptive programming.

Optimize energy efficiency with features that help you to save and manage energy. You can monitor the hourly, daily and cumulative energy consumption via kWh counters.

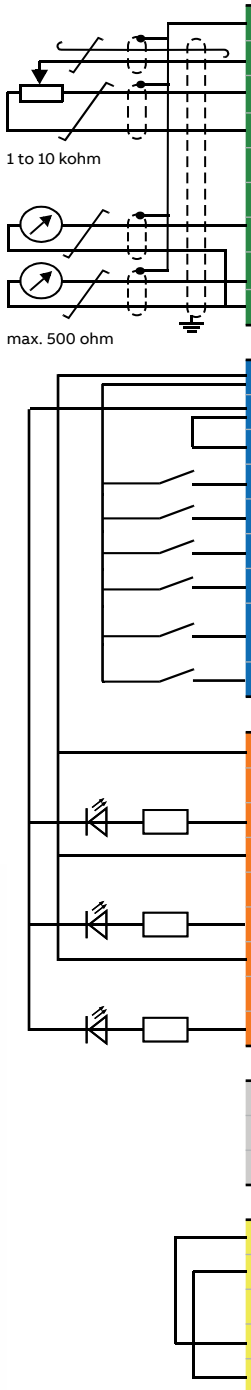
Analyze and resolve issues with the control panel's diagnostics menu. You can quickly analyze why the drive is performing as it is; running, stopped or running at the present speed.



Standard interface and extensions for plug-in connectivity

ACS580 drives offer a wide range of standard interfaces. In addition, the drive has two option slots that can be used for extensions, including fieldbus adapters and input/output extension modules that allow an external +24 V supply for frame sizes R1 to R5. For further information, please see the ACS580 user manual.

Default factory I/O connection diagram



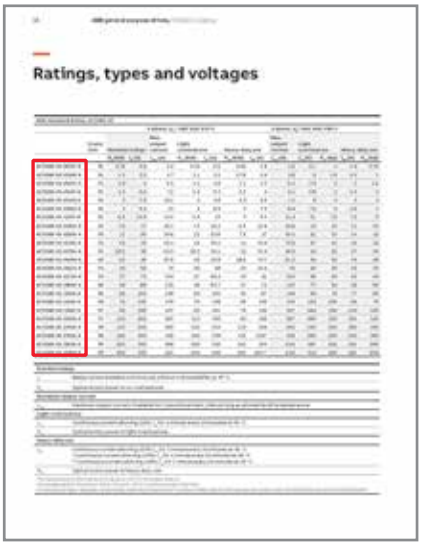
Terminal	Meaning	Default macro connections
XI	**Reference voltage and analog inputs and outputs**	
1	SCR	Signal cable shield (screen)
2	AI1	External frequency reference 1: 0 to 10 V
3	AGND	Analog input circuit common
4	+10 V	Output reference voltage 10 V DC
5	AI2	Not used
6	AGND	Analog input circuit common
7	AO1	Output frequency: 0 to 20 mA
8	AO2	Output current: 0 to 20 mA
9	AGND	Analog output circuit common
X2 & X3	**Aux. voltage output and programmable digital inputs**	
10	+24 V	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 direction
15	DI3	Constant speed selection
16	DI4	Constant speed selection
17	DI5	Ramp pair selection: Activate to select second 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 RTU fieldbus interface
30	A-	
31	DGND	
X4	**Safe torque off**	
34	OUT1	Safe torque off. Both circuits must be closed for the drive to start. The circuits are closed with jumper wires in the standard delivery.
35	OUT2	
36	SGND	
37	IN1	
38	IN2	
X10*	**24 V AC/DC**	
40	24 V	AC/DC-in. Ext. 24 V AC/DC input to power up the control unit when the main supply is disconnected
41	24 V	AC/DC+in.

* The terminals 40-41 are integrated in the frame sizes R6-R11. For the frame sizes R1-R5 I/O options (+L) are needed.

How to select a drive

The right drive is extremely easy to select. The following instructions show you how to order the right drive for your application.

1 Start by identifying your supply voltage. Based on the supply voltage, follow either the right side or the middle section of the rating table. See page 18.



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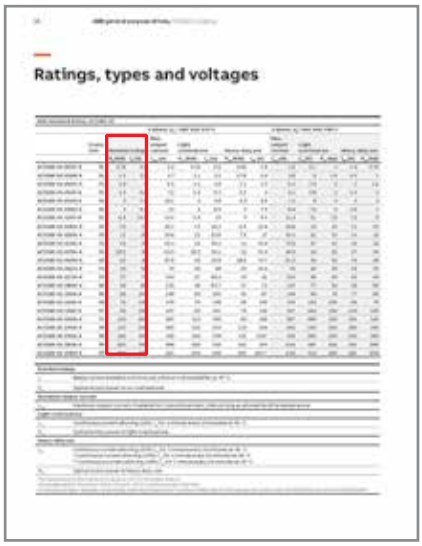
2 Choose your motor's power and current rating from the rating table on page 18.

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



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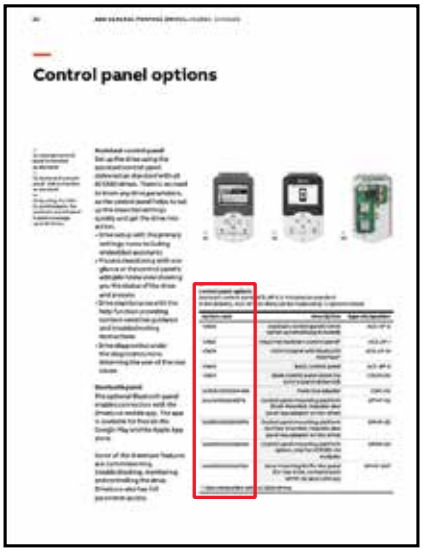
4 Choose your options (on pages 19, 20 and 21) and add the option codes to the drive's order code. Remember to use a "+" mark before each option code.



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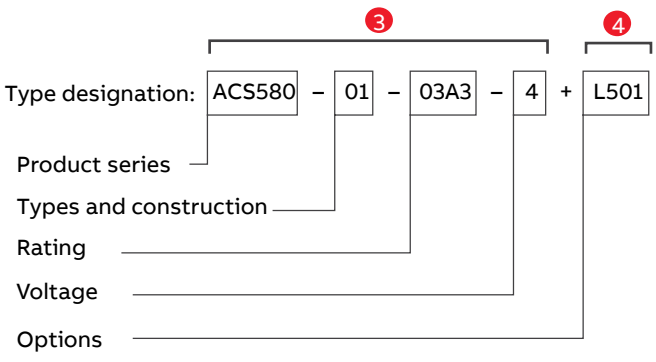


Technical data

Mains connection	
Voltage range/ tolerance	3-phase, U_N 200 to 240V, 380 to 480V, 500 to 600V +10%/-15%
Horsepower	Normal Duty Ratings: 230V = 1 to 100hp, 480V = 1 to 350hp, 575/600V = 2 to 250hp
Frequency	from 48 to 63 Hz
Power factor	cosϕ = 0.98
Efficiency (at nominal power)	98%
Motor connection	
Voltage	0 to U_N, 3-phase
Frequency	0 to 500 Hz
Motor control	Scalar 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% seconds with 100% torque step

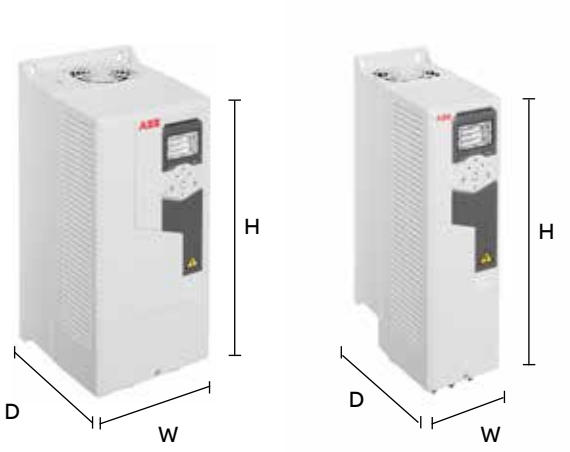
Product compliance
CE Low Voltage Directive 2006/95/EC, EN 61800-5-1: 2007 Machinery Directive 2006/42/EC, EN 61800-5-2: 2007 EMC Directive 2004/108/EC, EN 61800-3: 2004 + A1: 2012 RoHS directive 2011/65/EU Quality assurance system ISO 9001 and Environmental system ISO 14001 Waste electrical and electronic equipment directive (WEEE) 2002/96/EC RoHS directive 2011/65/EU UL, EAC, RCM, UL, cUL

EMC according to EN 61800-3: 2004 + A1: 2012	
Frames R1 to R9 with built-in C2 category filter as standard	
Environmental limits	
Ambient temperature	
Transport **Storage**	-40 to +70 °C -40 to +70 °C
Operation area	ACS580-01: -15 to +50 °C. No frost allowed R1 to R9 from +40 to +50 °C with derating
Cooling method **Air-cooled**	Dry clean air
Altitude **0 to 1 ,000 m** **1,000 to 4,000 m**	 Without derating With derating of 1%/100 m
Relative humidity	5 to 95%, no condensation allowed
Degree of protection	ACS580-01: UL Type 1 (IP21) as standard. UL Type 12 (IP55) as option (frames R1 to R9)
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
Contamination levels	No conductive dust allowed
Storage	IEC 60721-3-1. Class 1C2 (chemical gases). Class 1S2 (solid particles)*
Operation	IEC 60721-3-3. Class 3C2 (chemical gases). Class 3S2 (solid particles)*
Transportation	IEC 60721-3-2. Class 2C2 (chemical gases) Class 2S2 (solid particles)*

*C = chemically active substances
S = mechanically active substances

Dimensions

ACS580-01, wall-mounted UL (NEMA) Type 1								
Dim Ref	Height (H)		Width (W)		Depth (D)		Weight	
	in	mm	in	mm	in	mm	lb	kg
R1	14.69	373	4.92	125	8.78	223	10.1	4.6
R2	18.62	473	4.92	125	9.00	229	14.6	6.6
R3	19.29	490	7.99	203	9.02	229	26.0	11.8
R4	25.04	636	7.99	203	10.12	257	41.9	19.0
R5	28.82	732	7.99	203	11.61	295	62.4	28.3
R6	28.62	727	9.92	252	14.53	369	93.5	42.4
R7	34.65	880	11.18	284	14.57	370	119.1	54.0
R8	37.99	965	11.81	300	15.47	393	152.2	69.0
R9	37.60	955	14.96	380	16.46	418	213.9	97.0



ACS580-01, wall-mounted UL (NEMA) Type 12 (option +B056)												
Dim Ref	Height		Height (H5)		Width (W)		Width (HW)		Depth (D)		Weight	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
R1	15.87	403	17.78	452	5.04	128	5.09	129	9.17	233	10.6	4.8
R2	19.80	503	21.49	546	5.04	128	5.10	130	9.41	239	15.0	6.8
R3	19.29	490	20.93	532	8.11	206	8.16	207	9.33	237	28.7	13.0
R4	25.04	636	27.03	686	7.99	203	8.59	218	10.43	265	44.1	20.0
R5	28.82	732	32.01	813	7.99	203	8.58	218	12.60	320	64.0	29.0
R6	28.62	727	34.81	884	9.92	252	11.46	291	14.96	380	94.8	43.0
R7	34.65	880	40.86	1038	11.18	284	13.00	330	15.00	381	123.5	56.0
R8	37.99	965	44.23	1123	11.81	300	13.80	351	17.80	452	169.8	77.0
R9	37.60	955	46.75	1188	14.96	380	16.95	431	18.78	477	227.1	103.0

Ratings, types and voltages

Wall-mounted drives, ACS580-01						
3-phase, U_N= 240 V (range 208 to 240V)						
		Max. output current	**Light overload use**		**Heavy-duty use**	
Type code	**Frame Size**	I_{max} **(A)**	I_{Ld} **(A)**	P_{Ld} **(hp)**	I_{Hd} **(A)**	P_{Hd} **(hp)**
ACS580-01-04A6-2	R1	6.3	4.6	1	3.5	0.75
ACS580-01-06A6-2	R1	8.9	6.6	1.5	4.6	1
ACS580-01-07A5-2	R1	11.9	7.5	2	6.6	1.5
ACS580-01-10A6-2	R1	14.3	10.6	3	7.5	2
ACS580-01-017A-2	R1	22.6	16.7	5	10.6	3
ACS580-01-024A-2	R2	32.7	24.2	7.5	16.7	5
ACS580-01-031A-2	R2	43.6	30.8	10	24.2	7.5
ACS580-01-046A-2	R3	62.4	46.2	15	30.8	10
ACS580-01-059A-2	R3	83.2	59.4	20	46.2	15
ACS580-01-075A-2	R4	107	74.8	25	59.4	20
ACS580-01-088A-2	R5	135	88	30	74.8	25
ACS580-01-114A-2	R5	158	114	40	88	30
ACS580-01-143A-2	R6	205	143	50	114	40
ACS580-01-169A-2	R7	257	169	60	143	50
ACS580-01-211A-2	R7	304	211	75	169	60
ACS580-01-273A-2	R8	380	100	273	75	211

Nominal ratings	
I_N	Rated current available continuously without overloadability at 40 °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 40 °C.
P_{Ld}	Typical motor power in light-overload use.
Heavy-duty use	
I_{Hd}	Continuous current allowing 150% I_{Hd} for 1 minute every 10 minutes at 40 °C. * Continuous current allowing 130% I_{Hd} for 1 minute every 10 minutes at 40 °C. ** Continuous current allowing 125% I_{Hd} for 1 minute every 10 minutes at 40 °C
P_{Hd}	Typical motor power in heavy-duty use.

The ratings apply for the frames R1 to R9 up to +40 °C. For derating at higher altitudes, temperatures, or switching frequencies, see the HW manuals, document codes: 3AXD50000018826 and 3AXD50000015497

Ratings, types and voltage

Wall-mounted drives, ACS580-01						
3-phase, U_N = 480 V (range 380 to 480 V)						
		Max. output current	**Light overload use**		**Heavy-duty use**	
Type code	**Frame Size**	I_{max} **(A)**	I_{Ld} **(A)**	P_{Ld} **(hp)**	I_{Hd} **(A)**	P_{Hd} **(hp)**
ACS580-01-02A1-4	R1	2.9	2.1	1	1.6	0.75
ACS580-01-03A0-4	R1	3.8	3	1.5	2.1	1
ACS580-01-03A5-4	R1	5.4	3.5	2	3	1.5
ACS580-01-04A8-4	R1	6.1	4.8	3	3.4	2
ACS580-01-06A0-4	R1	7.2	6	3	4	3
ACS580-01-07A6-4	R1	8.6	7.6	5	4.8	3
ACS580-01-012A-4	R1	11.4	12	7.5	7.6	5
ACS580-01-014A-4	R2	19.8	14	10	11	7.5
ACS580-01-023A-4	R2	25.2	23	15	14	10
ACS580-01-027A-4	R3	37.8	27	20	21	15
ACS580-01-034A-4	R3	48.6	34	25	27	20
ACS580-01-044A-4	R3	61.2	44	30	34	25
ACS580-01-052A-4	R4	76	52	40	40	30
ACS580-01-065A-4	R4	104	65	50	52	40
ACS580-01-077A-4	R4	122	77	60	65	50
ACS580-01-078A-4	R5	122	77	60	65	50
ACS580-01-096A-4	R5	148	96	75	77	60
ACS580-01-124A-4	R6	178	124	100	96	75
ACS580-01-156A-4	R7	247	156	125	124	100
ACS580-01-180A-4	R7	287	180	150	156	125
ACS580-01-240A-4	R8	350	240	200	180	150
ACS580-01-260A-4	R8	418	260	200	240*	150
ACS580-01-302A-4	R8	468	302	250	260	200
ACS580-01-361A-4	R9	542	361	300	302	250
ACS580-01-414A-4	R9	542	414	350	361**	300

Nominal ratings	
I_N	Rated current available continuously without overloadability at 40 °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 40 °C.
P_{Ld}	Typical motor power in light-overload use.
Heavy-duty use	
I_{Hd}	Continuous current allowing 150% I_{Hd} for 1 minute every 10 minutes at 40 °C. * Continuous current allowing 130% I_{Hd} for 1 minute every 10 minutes at 40 °C. ** Continuous current allowing 125% I_{Hd} for 1 minute every 10 minutes at 40 °C
P_{Hd}	Typical motor power in heavy-duty use.

The ratings apply for the frames R1 to R9 up to +40 °C. For derating at higher altitudes, temperatures, or switching frequencies, see the HW manuals, document codes: 3AXD50000018826 and 3AXD50000015497

Ratings, types and voltages

Wall-mounted drives, ACS580-01						
3-phase, U_N = 600 V (range 500 to 600 V)						
		Max. output current	**Light overload use**		**Heavy-duty use**	
Type code	**Frame Size**	I_{max} **(A)**	I_{Ld} **(A)**	P_{Ld} **(hp)**	I_{Hd} **(A)**	P_{Hd} **(hp)**
ACS580-01-02A7-6	R2	4.3	2.7	2	2.4	1.5
ACS580-01-03A9-6	R2	5.3	3.9	3	2.7	2
ACS580-01-06A1-6	R2	8.2	6.1	5	3.9	3
ACS580-01-09A0-6	R2	12.2	9	7.5	6.1	5
ACS580-01-011A-6	R2	16.2	11	10	9	7.5
ACS580-01-017A-6	R2	23	17	15	11	10
ACS580-01-022A-6	R3	30.6	22	20	17	15
ACS580-01-027A-6	R3	39.6	27	25	22	20
ACS580-01-032A-6	R3	48.6	32	30	27	25
ACS580-01-041A-6	R5	58	41	40	32	30
ACS580-01-052A-6	R5	74	52	50	41	40
ACS580-01-062A-6	R5	94	62	60	52	50
ACS580-01-077A-6	R5	112	77	75	62	60
ACS580-01-099A-6	R7	139	99	100	77	75
ACS580-01-125A-6	R7	178	125	125	99	100
ACS580-01-144A-6	R8	225	144	150	125	125
ACS580-01-192A-6	R9	259	192	200	144	150
ACS580-01-242A-6	R9	346	242	250	192	200
ACS580-01-271A-6	R9	411	271	250	210	200

Nominal ratings	
I_N	Rated current available continuously without overloadability at 40 °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 40 °C.
P_{Ld}	Typical motor power in light-overload use.
Heavy-duty use	
I_{Hd}	Continuous current allowing 150% I_{Hd} for 1 minute every 10 minutes at 40 °C. * Continuous current allowing 130% I_{Hd} for 1 minute every 10 minutes at 40 °C. ** Continuous current allowing 125% I_{Hd} for 1 minute every 10 minutes at 40 °C
P_{Hd}	Typical motor power in heavy-duty use.

The ratings apply for the frames R1 to R9 up to +40 °C. For derating at higher altitudes, temperatures, or switching frequencies, see the HW manuals, document codes: 3AXD50000018826 and 3AXD50000015497

Control panel options

—
01 Assistant control panel is included as standard.
—
02 Optional Bluetooth panel. USB connection as standard.
—
03 By using the CDPI-01 panel adapter, the assistant control panel is able to manage up to 32 drives.

Assistant control panel
Set up the drive using the assistant control panel delivered as standard with all ACS580 drives. There is no need to know any drive parameters, as the control panel helps to set up the essential settings quickly and get the drive into action.

- Drive setup with the primary settings menu including embedded assistants
- Process monitoring with one glance at the control panel's editable home view showing you the status of the drive and process
- Drive maintenance with the help function providing context-sensitive guidance and troubleshooting instructions
- Drive diagnostics under the diagnostics menu informing the user of the root cause.

Bluetooth panel
The optional Bluetooth panel enables connection with the Drivetune mobile app. The app is available for free on the Google Play and the Apple App store.

Some of the Drivetune features are: commissioning, troubleshooting, monitoring and controlling the drive. Drivetune also has full parameter access.

—
Control panel options
Assistant control panel ACS-AP-S is included as standard in the delivery. ACS-AP-S (+J400) can be replaced by +J options below.

Option code	Description	Type designation
+J400	Assistant control panel (+J400 option automatically included)	ACS-AP-S
+J425	Industrial Assistant control panel*	ACS-AP-I
+J429	Control panel with Bluetooth interface*	ACS-AP-W
+J424	Blank control panel cover (no control panel delivered)	CDUM-01
3AXD50000004419	Panel bus adapter	CDPI-01
3AUA0000108878	Control panel mounting platform (flush mounted, requires also panel bus adapter on the drive)	DPMP-01
3AXD50000010763	Door mounting kit for the panel, surface mounted (for one drive, contains both DPMP-02 and CDPI-01)	DPMP-EXT

* Also compatible with ACS880 drives

Connectivity options

— 07 ACS580 is compatible with many fieldbus protocols
— 08 Input/output extension modules

Fieldbus adapter modules
The ACS580 general purpose drives are compatible with a wide range of fieldbus protocols. The drive comes with Modbus RTU fieldbus interface as standard. Fieldbus communication reduces wiring costs when compared to traditional hard-wired input/output connections.

— 07

Option code	Fieldbus protocol	Adapter
+K451	DeviceNet™	FDNA-01
+K454	PROFIBUS DP. DPV0/DPV1	FPBA-01
+K457	CANopen®	FCAN-01
+K458	Modbus RTU	FSCA-01
+K462	ControlNet	FCNA-01
+K469	EtherCAT®	FECA-01
+K470	POWERLINK	FEPL-02
+K473	EtherNet/IP™, Modbus TCP, PROFINET IO	FENA-11
+K475	Two port EtherNet/IP™, Modbus TCP, PROFINET IO	FENA-21

Input/output extension modules
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.

— 08

I/O options

Option code	Description	Type designation
+L500	Bipolar Analog IO Extension	CBAI-01
+L501	External 24 V AC and DC 2 x RO and 1 x DO	CMOD-01
+L523	External 24 V and isolated PTC interface	CMOD-02
+L512	115/230 V digital input 6 x DI and 2 x RO	CHDI-01
+L537	ATEX certified PTC interface and external 24V	CPTC-02

Additional options

04 Cold configuration adapter CCA-01
—
05 Remote monitoring tool NETA-21
—
06 Drive composer PC tool

Safe configuration for unpowered drives
The CCA-01 cold configuration adapter provides a serial communication interface for unpowered ACS580 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.

Remote monitoring access worldwide
The NETA-21 remote monitoring tool gives easy access to the drive via the Internet or local Ethernet network. NETA-21 comes with a built-in web server. 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, and monitor drive log data, load levels, runtime, energy consumption, I/O data and bearing temperatures of the motor connected to the drive.

PC tools
The Drive composer PC tool offers fast and harmonized setup, commissioning and monitoring for all-compatible drives. The free version of the tool provides start-up and maintenance capabilities and gathers all drive information, such as parameter loggers, faults, backups and lists, into a support diagnostics file. Drive composer pro provides additional features such as custom parameter windows, graphical control diagrams of the drive's configuration, and improved monitoring and diagnostics.

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04


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05


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06

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

—
Remote monitoring option

Ordering code	Description	Type designation
3AUA0000094517	2 x panel bus interface 2 x 32 = max. 64 drives 2 x Ethernet interface SD memory card USB port for WLAN/3G	NETA-21

EMC – electromagnetic compatibility

Every ACS580 drive is equipped with a built-in filter to reduce high-frequency emissions. EMC product standard (EN 61800-3) category C2 is fulfilled in wall-mounted drives.

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 the 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
The first 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. The second 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
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

EMC compliance and maximum cable length of ACS580-01/07 units*

Type	Voltage	Frame sizes	1st environment, restricted distribution, C2, grounded network (TN)	2nd environment, unrestricted distribution, C3, grounded network (TN)	2nd environment, unrestricted distribution, C3, ungrounded network (IT)
ACS580-01	380 - 480 V	R1 - R5	Standard device, cable length 100 m	Standard device, cable length 100 m	-
ACS580-01	380 - 480 V	R6 - R9	Standard device, cable length 150 m	Standard device, cable lenght 150 m	-

* Motor cable operational functionality up to 300 m. See ACS580 hardware manuals 3AXD50000018826, 3AXD50000015497, 3AXD50000045815 and 3AXD50000032622 for frame specific information.

Cooling and fuses

Cooling
ACS580 drives are fitted with variable-speed cooling air fans. The cooling air must be free from corrosive materials and not exceed the maximum ambient temperature of 40°C for frames R1 to R9 (50°C with derating). The speed-controlled fans cool the drive only when needed, which reduces overall noise level and energy consumption.

Fuse connections
Standard fuses can be used with ABB general purpose drives. For input fuses, see the table below.

Wall-mounted drives, ACS580-01

Cooling air flow and recommended input protection fuses for 200 to 240 V units

Type designation	Frame size	Cooling Air Flow 200 to 240 V units					Reccomended UL Input Protection fuses			
		Heat dissipation*		Air flow		Max. noise level**	I_N	Voltage rating	Bussmann type***	UL class
		W	BTU/Hr	m3/h	ft3/min	dBA	A	V		
ACS580-01-04A6-2	R1	45	155	43	25	59	15	600	KTK-R-15 or JJS-15	CC or T
ACS580-01-06A6-2	R1	55	187	43	25	59	15	600	KTK-R-15 or JJS-15	CC or T
ACS580-01-07A5-2	R1	66	224	43	25	59	15	600	KTK-R-15 or JJS-15	CC or T
ACS580-01-10A6-2	R1	84	288	43	25	59	15	600	KTK-R-15 or JJS-15	CC or T
ACS580-01-017A-2	R1	133	454	43	25	59	30	600	KTK-R-30 or JJS-30	CC or T
ACS580-01-024A-2	R2	174	593	101	59	64	40	600	JJS-40	T
ACS580-01-031A-2	R2	228	777	101	59	64	40	600	JJS-40	T
ACS580-01-046A-2	R3	322	1100	179	105	76	80	600	JJS-80	T
ACS580-01-059A-2	R3	430	1469	179	105	76	80	600	JJS-80	T
ACS580-01-075A-2	R4	525	1791	288	170	69	100	600	JJS-100	T
ACS580-01-088A-2	R5	619	2114	139	82	63	150	600	JJS-150	T
ACS580-01-114A-2	R5	835	2852	139	82	63	150	600	JJS-150	T
ACS580-01-143A-2	R6	1035	3535	435	256	67	200	600	JJS-200	T
ACS580-01-169A-2	R7	1251	4272	450	265	67	250	600	JJS-250	T
ACS580-01-211A-2	R7	1521	5194	450	265	67	300	600	JJS-300	T
ACS580-01-273A-2	R8	2061	7039	550	324	65	400	600	JJS-400	T

* Heat dissapation value is a reference for cabinet thermal design
** The maximum noise level is at full fan speed. When the drive is not operating at full load and at maximum ambient temperature the noise level is lower.
***ABB does not require Bussmann brand fuses. Fuses which meet the appropriate UL class type, current rating, and are rated at 600V, 200 kA may be used.

Cooling and fuses

Cooling air flow and recommended input protection fuses for 380 to 480 V units										
Type designation	**Frame size**	**Cooling Air Flow 380 to 480V units**					**Reccomended UL Input Protection fuses**			
		Heat dissipation*		**Air flow**		**Max. noise level****	**I_N**	**Voltage rating**	**Bussmann type*****	**UL class**
		W	**BTU/Hr**	**m3/h**	**ft3/min**	**dBA**	**A**	**V**		
ACS580-01-02A1-4	R1	45	155	34	20	55	15	600	JJS-15	T
ACS580-01-03A0-4	R1	55	187	34	20	55	15	600	JJS-15	T
ACS580-01-03A5-4	R1	66	224	34	20	55	15	600	JJS-15	T
ACS580-01-04A8-4	R1	84	288	34	20	55	15	600	JJS-15	T
ACS580-01-06A0-4	R1	106	362	50	29	55	15	600	JJS-15	T
ACS580-01-07A6-4	R1	133	454	50	29	55	15	600	JJS-15	T
ACS580-01-012A-4	R1	174	593	50	29	55	15	600	JJS-15	T
ACS580-01-014A-4	R2	228	777	128	75	66	30	600	JJS-30	T
ACS580-01-023A-4	R2	322	1100	128	75	66	30	600	JJS-30	T
ACS580-01-027A-4	R3	430	1469	179	105	70	40	600	JJS-40	T
ACS580-01-034A-4	R3	525	1791	179	105	70	60	600	JJS-60	T
ACS580-01-044A-4	R3	619	2114	179	105	70	60	600	JJS-60	T
ACS580-01-052A-4	R4	835	2852	134	79	69	80	600	JJS-80	T
ACS580-01-065A-4	R4	1024	3497	134	79	69	90	600	JJS-90	T
ACS580-01-078A-4	R5	1240	4235	139	82	63	110	600	JJS-110	T
ACS580-01-096A-4	R5	1510	5157	139	82	63	150	600	JJS-150	T
ACS580-01-124A-4	R6	1476	5041	435	256	67	200	600	JJS-200	T
ACS580-01-156A-4	R7	1976	6748	450	265	67	225	600	JJS-225	T
ACS580-01-180A-4	R7	2346	8012	450	265	67	300	600	JJS-300	T
ACS580-01-240A-4	R8	3336	11393	550	324	65	350	600	JJS-350	T
ACS580-01-260A-4	R8	3936	13422	550	324	65	400	600	JJS-400	T
ACS580-01-302A-4	R8	4836	16516	1150	677	68	500	600	JJS-500	T
ACS580-01-361A-4	R9	4836	16516	1150	677	68	500	600	JJS-500	T
ACS580-01-414A-4	R9	6036	20614	1150	677	68	600	600	JJS-600	T

* Heat dissapation value is a reference for cabinet thermal design

** The maximum noise level is at full fan speed. When the drive is not operating at full load and at maximum ambient temperature the noise level is lower.

***ABB does not require Bussmann brand fuses. Fuses which meet the appropriate UL class type, current rating, and are rated at 600V, 200 kA may be used.

Cooling and fuses

Cooling air flow and recommended input protection fuses for 575 to 600 V units										
Type designation	**Frame size**	**Cooling Air Flow 575 to 600 V units**					**Reccomended UL Input Protection fuses**			
		Heat dissipation*		**Air flow**		**Max. noise level****	**I_N**	**Voltage rating**	**Bussmann type*****	**UL class**
		W	**BTU/Hr**	**m3/h**	**ft3/min**	**dBA**	**A**	**V**		
ACS580-01-02A7-6	R2	66	224	101	59	64	15	600	KTK-R-15 or JJS-15	T
ACS580-01-03A9-6	R2	84	288	101	59	64	15	600	KTK-R-15 or JJS-15	T
ACS580-01-06A1-6	R2	133	454	101	59	64	15	600	KTK-R-15 or JJS-15	T
ACS580-01-09A0-6	R2	174	593	101	59	64	15	600	KTK-R-15 or JJS-15	T
ACS580-01-011A-6	R2	228	777	101	59	64	15	600	KTK-R-15 or JJS-15	T
ACS580-01-017A-6	R2	322	1100	101	59	64	30	600	KTK-R-30 or JJS-30	T
ACS580-01-022A-6	R3	430	1469	179	105	75	40	600	JJS-40	T
ACS580-01-027A-6	R3	525	1791	179	105	75	40	600	JJS-40	T
ACS580-01-032A-6	R3	619	2114	179	105	75	40	600	JJS-40	T
ACS580-01-041A-6	R5	835	2852	1139	82	63	100	600	JJS-100	T
ACS580-01-052A-6	R5	1024	3497	139	82	63	100	600	JJS-101	T
ACS580-01-062A-6	R5	1240	4235	139	82	63	100	600	JJS-102	T
ACS580-01-077A-6	R5	1510	5157	139	82	63	100	600	JJS-103	T
ACS580-01-099A-6	R7	2061	7039	450	265	67	150	600	JJS-150	T
ACS580-01-125A-6	R7	2466	8422	450	265	67	200	600	JJS-200	T
ACS580-01-144A-6	R8	3006	10266	550	324	65	250	600	JJS-250	T
ACS580-01-192A-6	R9	4086	13954	1150	677	68	300	600	JJS-300	T
ACS580-01-242A-6	R9	4896	16721	1150	677	68	400	600	JJS-400	T
ACS580-01-271A-6	R9	4896	16721	1150	677	68	400	600	JJS-400	T

* Heat dissapation value is a reference for cabinet thermal design

** The maximum noise level is at full fan speed. When the drive is not operating at full load and at maximum ambient temperature the noise level is lower.

***ABB does not require Bussmann brand fuses. Fuses which meet the appropriate UL class type, current rating, and are rated at 600V, 200 kA may be used.

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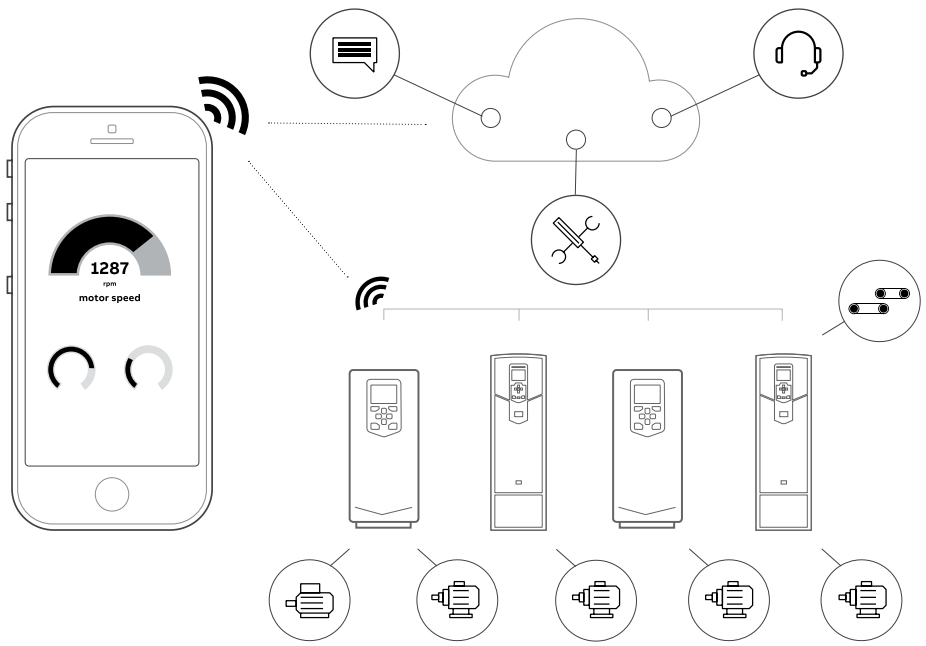

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Drive Services
Your choice, your future

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?

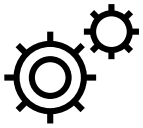
From here, you have our guidance and full support along the course you take, throughout the entire lifetime of your drives.

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?



Operational efficiency

Example services include:
- Drive Care Agreement
- Commissioning
- Spare Parts
- Preventive Maintenance
- Drive Exchange

Rapid response

Example services include:
- Technical Support
- Drive Exchange
- On-Site Repair
- Spare Parts
- Training

Life cycle management

Example services include:
- Preventive Maintenance
- Hardware Upgrades
- Control Upgrades
- Retrofits

Performance improvement

Example services include:
- Drive Care Agreement
- Training
- Preventive Maintenance
- Hardware Upgrades
- Control Upgrades
- Retrofits
- Workshop Repair

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	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.
Services	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.

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

www.abb.com/ACS580
www.abb.com/drives

ABB Inc
16250 W. Glendale Drive
New Berlin, WI 53151

ABB Inc.
800 Hymus Boulevard
Saint-Laurent, Quebec
H4S 0B5

Online manuals
for the ACS580 drives

Video playlist:
ACS580 how-to videos

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