

LOW VOLTAGE AC DRIVES

ABB INDUSTRIAL DRIVES

ACS880, single drives
0.55 to 6000 kW

Uncompromised productivity.
ACS880 series.

ABB INDUSTRIAL DRIVES

ACS880 single drives

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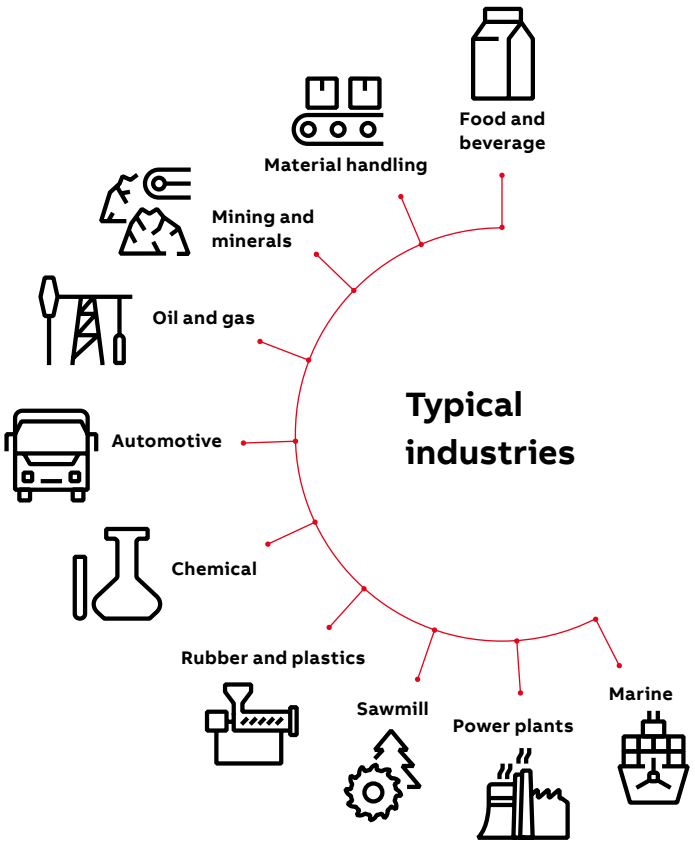
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THE ALL-COMPATIBLE ACS880 SERIES

Uncompromised productivity

ABB's benchmark of performance, expertise and quality designed to tackle any of your motor-driven applications, in any industry, whatever the power range. The ACS880 is an all-compatible ABB industrial drive, offered in a range of wall-mounted drives, drive modules and cabinet-built drives.



ABB's all-compatible drives are designed to provide customers across industries and applications with unprecedented levels of compatibility and flexibility. They are customized to meet the particular needs of specific industries such as oil and gas, mining, metals, chemicals, cement, power plants, material handling, pulp and paper, sawmills, marine, water and wastewater, food and beverage, and automotive. They can control a wide range of applications, including cranes, winches, winders, conveyors, mixers, compressors, centrifuges, test benches, elevators, extruders, pumps and fans.

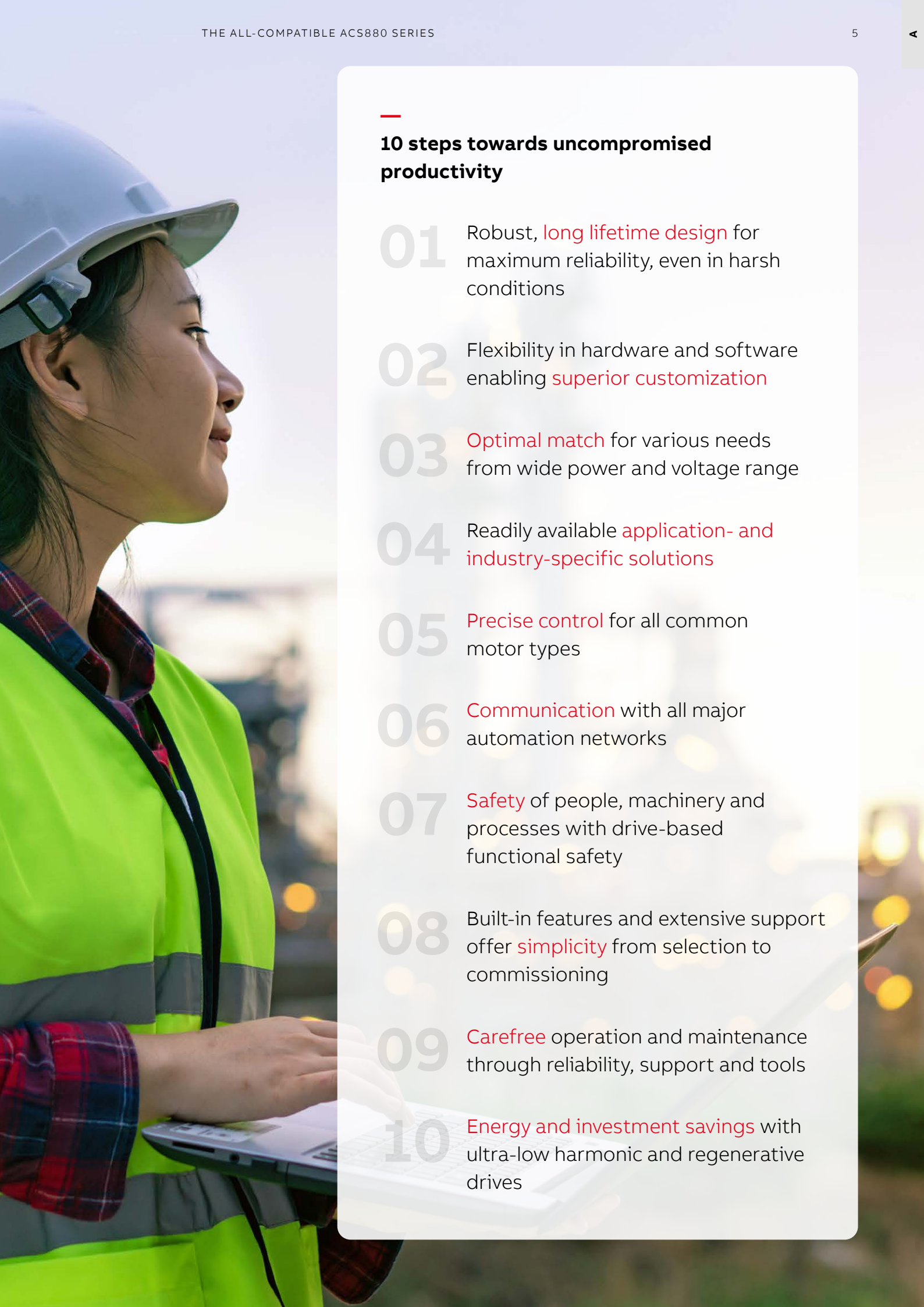
High quality

Reliability and consistent high quality
ACS880 drives are designed for customers who value high quality and robustness in their applications. They have features such as coated boards, nickel plated busbars as standard and high enclosure classes, making ACS880 suitable for harsh conditions. Additionally, every ACS880 drive is factory-tested at full load to ensure maximum reliability. The tests include performance and all protective functions.

High performance, safety and configurability
ACS880 offers the highest level of performance. The drives are equipped with ABB's signature direct torque control (DTC), which provides precise speed and torque control for all applications and supports virtually any type of motor.

The extensive ACS880 offering includes wall-mounted drives, drive modules and cabinet-built drives, as well as low harmonic and regenerative variants.

ACS880 has all the essential features built in, reducing the time required for engineering, installation and commissioning. A wide range of options is also available to optimize the drive for different requirements, including certified, integrated safety features.



10 steps towards uncompromised productivity

01 Robust, long lifetime design for maximum reliability, even in harsh conditions

02 Flexibility in hardware and software enabling superior customization

03 Optimal match for various needs from wide power and voltage range

04 Readily available application- and industry-specific solutions

05 Precise control for all common motor types

06 Communication with all major automation networks

07 Safety of people, machinery and processes with drive-based functional safety

08 Built-in features and extensive support offer simplicity from selection to commissioning

09 Carefree operation and maintenance through reliability, support and tools

10 Energy and investment savings with ultra-low harmonic and regenerative drives

SIMPLICITY AND COMPATIBILITY FOR BOTH WALL AND CABINET MOUNTING WITH ACS880 SINGLE DRIVES

Wall-mounted and cabinet-built stand-alone drives for single motor applications in a compact and ready-to-use unit. ACS880 drives are designed for customers who value high quality and robustness. They offer the highest level of performance for a wide range of industrial applications.

01
Wall-mounted ACS880-01 IP21 drive

02
Wall-mounted ACS880-01 IP55 drive

03
Wall-mounted ACS880-11 regenerative drive

04
Wall-mounted ACS880-31 ultra-low harmonic drive

05
Cabinet-built ACS880-07 drive

06
Liquid-cooled ACS880-07LC drive

Wall-mounted ACS880-01 IP21 drives, standard
Wall-mounted IP21 drives are available in a power and voltage range from 0.55 to 250 kW and from 230 to 690 V. ACS880-01 has all the necessary parts, including an EMC filter, a reactor for harmonics mitigation and even a braking chopper *) built into the drive, and therefore offers a compact and cost-effective solution for cabinet-free installation.

*) Option in most of the frame sizes.



01

Wall-mounted ACS880-01 IP55 drives, +B056
The IP55 drive is designed for applications with exposure to dust, moisture and other harsh environments. The IP55 drives can usually be installed next to the motor instead of installation in an electrical room. They have almost the same dimensions as the IP21 drives, resulting in a very compact, cost-effective and robust package.
The power and voltage ranges of the IP55 and IP21 drives are identical.



02

Wall-mounted ACS880-11 and cabinet-built ACS880-17 regenerative drives
ACS880-11/17 is a compact and complete regenerative drive solution with everything you need for regenerative operation in cyclic or continuous braking applications. With regenerative functionality, the braking energy of the motor is returned to the drive and distributed to the supply network so that it can be utilized by other equipment.

ACS880 regenerative drives are also ultra-low harmonic drives, and they therefore include all the benefits of ABB ULH drives. The ACS880 regenerative single drives are available in a power and voltage range from 2.2 to 3200 kW and from 400 to 690 V.



03

Wall-mounted ACS880-31 and cabinet-built ACS880-37 ultra-low harmonic drives
ACS880-31/17 ultra-low harmonic drives are completely integrated, almost harmonic-free drives that are easy to install and use. No additional filters or special transformers are needed. This compact, cost-effective solution meets the strictest harmonic recommendations.

ACS880 ultra-low harmonic single drives are available in a power and voltage range from 2.2 to 3200 kW and from 400 to 690 V.



04

ACS880-07 cabinet-built drives, IP22, IP42 (+B054) and IP54 (+B055)
Cabinet-built drives are available with IP22 protection class as standard and IP42 and IP54 as options. The drives have a unique cooling arrangement even for harsh environments and a global cabinet design with a high quality standard. The power range is from 45 kW to 2800 kW, and the voltage range is 400–690 V.



05

ACS880-07LC, -07CLC, -17LC and -37LC liquid-cooled drives, IP42 and IP54 (+B055)
The compact and robust liquid-cooled cabinet drives are an ultimate solution for various applications where space savings, silent operation or durability in harsh environments is a must.

Single drives with a diode supply unit consist of extremely compact diode supply and inverter units with parallel connected modules. The small footprint enables a significant space and weight reduction.

ACS880-07CLC has an extremely compact design that focuses on marine use. It is available in 6-, 12- or 24-pulse diode solutions.



06

READILY AVAILABLE APPLICATION- AND INDUSTRY-SPECIFIC SOLUTIONS

Expertise in tailored application control by working closely with customers

Cranes (EOT cranes), +N5050
- Mechanical brake control
- Slow down and end limit logic
- Antisway
- Hoist speed optimization
- Shaft synchro

Tower cranes, +N5650
- Slew control
- Mechanical brake control
- Mobile access via Bluetooth

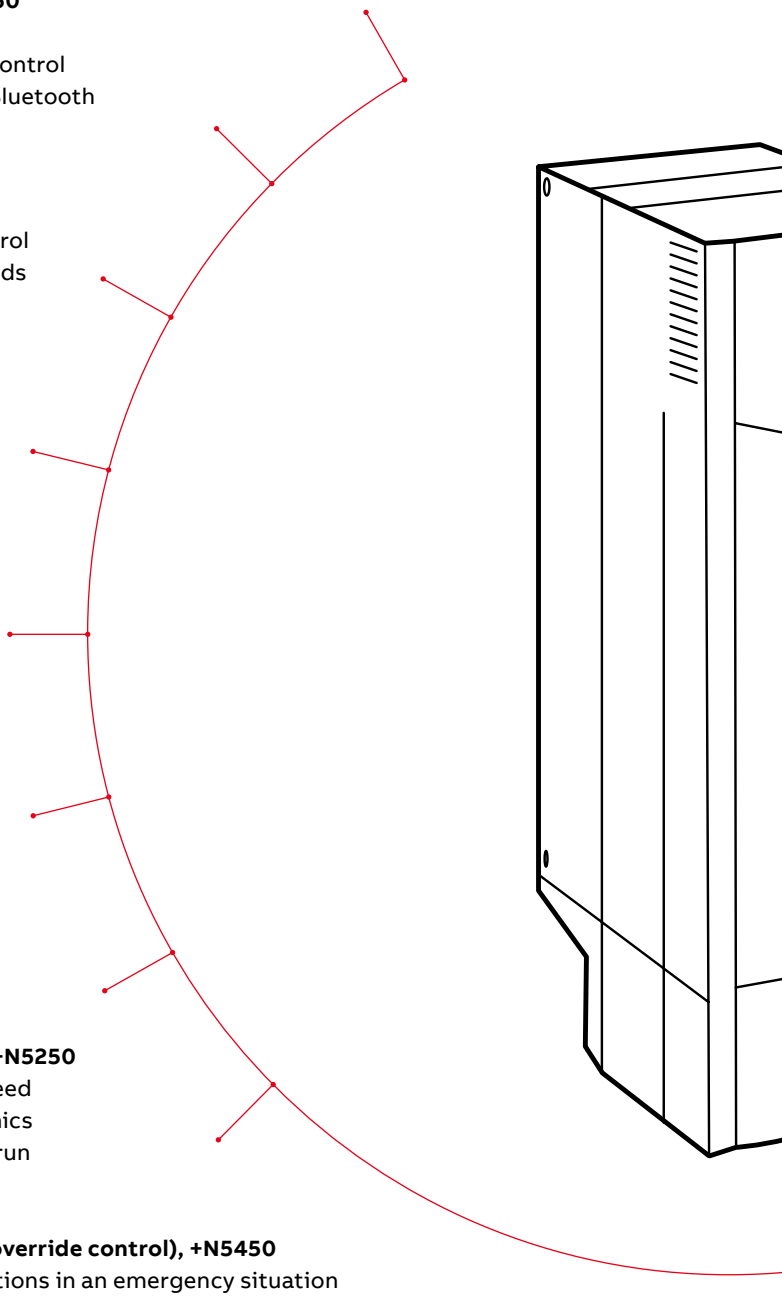
Winches, +N5100
- Mooring
- Anchor control
- Accurate open-loop speed & torque control
- Winch interface for multiple control stands

Winders, +N5000
- Roll diameter calculation
- Tension control
- Dancer and load cell control
- Inertia and friction compensation

Artificial oil lifting, ESP, +N5600
- Submersible motor control (induction and PM motors)
- Motor temperature minimization
- Backspin speed observer
- Rocking start
- Flow calculation

Artificial oil lifting, PCP +N5200
- Backspin control
- Automatic pump speed control
- Induction and PM motor control
- Protections for pump mechanics

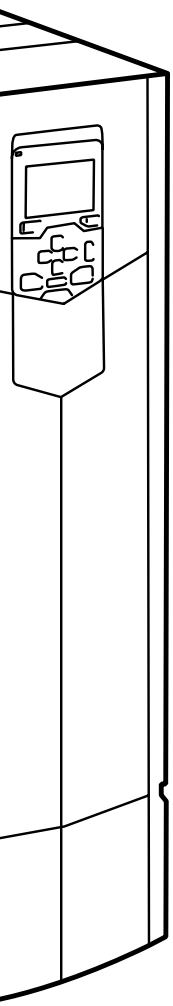
Artificial oil lifting, rod pump +N5250
- Optimization of the pump speed
- Protections for pump mechanics
- Pump and well identification run



Tunnel ventilation (override control), +N5450
- Override of protections in an emergency situation
- Built-in PID control
- Energy optimizer for maximum motor efficiency

By working closely with customers over many years, ABB has developed application control programs and specific software features for specific applications and industries. This results in programs and features that include lessons learned from many customers, and that are designed to give you the flexibility to adapt the programs to your specific needs.

Advantages:
- Enhanced application usability
- Lower energy consumption
- Increased safety
- Reduced need for PLCs
- Protected machinery
- Optimized application productivity
- Optimized time usage and lower operating costs



Anti-cavitation, +N5900
- Extends the pump lifetime and secures the process
- Detects cavitation and ensures optimal pump speed to remove it

Position control, +N5700
- Ready-made motion control functions
- IEC 61131 programming with PLCopen motion blocks
- Synchronized drive-to-drive link

Textile (spinning), +N5500
- Wobbulation function
- Manual / auto off function
- Production history

Test bench, +N5300
- Fast communication
- High torque accuracy and linearity
- Acceleration damping
- Minimized motor noise

Centrifuge, decanter, +N5150
- Accurate speed and torque control, even without an encoder
- Speed difference control of scroll drives for decanters

Cooling tower, +N5350
- Support for slow, high-torque cooling tower motors
- Trickle current to keep the motor warm and dry, preventing condensation
- Anti-windmill function

High-speed control, +N7500
- Application-specific option for high-speed applications
- Optimized performance in a compact frame size
- Pre-sales support with drive type and sine filter recommendations

Chemical industry
- Direct torque control with sine filters
- Nine-year maintenance interval
- Functionality that conforms with NAMUR requirements

Explosive atmospheres
- Ex-approved Safe Torque Off, STO (+Q971) and thermistor protection module (+L537)

Marine
- Type approval from various key classification bodies (+C132)
- Product certification process (+C20X)
- 440 V for basic marine applications



As part of ABB's sustainability strategy, the company will provide Environmental Product Declarations for relevant products, contributing to transparent and environmentally conscious business practices.

Environmental Product Declarations (EPDs) are standardized, third-party verified, documents that provide information about the environmental performance of a product throughout its life cycle. They are based on Life Cycle Assessment (LCA) data and provide information on a range of environmental impacts such as carbon footprint, energy consumption, and resource use. EPDs are part of ABB's commitment to transparency and environmental sustainability.

ABB Drives EPDs include:

1. Raw materials extraction and processing:
   Information about the materials used in the product.
2. Manufacturing process:
   Details about the manufacturing process, energy consumption, and emissions during production.
3. Transportation:
   Information on the transportation of raw materials to the manufacturing site, and the transportation of the finished product to the end-user.
4. Installation:
   Environmental impacts associated with the installation process, including energy use and emissions.
5. Use phase:
   Energy consumption during the operation of the frequency converter based on its efficiency rating.
6. Maintenance:
   Information about the environmental impact of maintaining and servicing the frequency converter during its operational life.
7. End of life:
   Details about the recyclability of the product and the environmental impact of its disposal.

Environmental impact categories:
EPDs include information on a range of environmental impact categories, such as global warming potential, ozone depletion, acidification, eutrophication, and others.

Declaration of Global Warming Potential (GWP):
Information about the product's contribution to climate change, expressed in terms of carbon dioxide equivalent (CO_2-eq).

ABB Group EPDs follow the ISO 14025 standard.

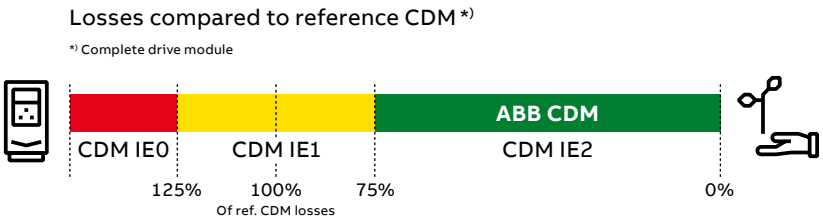
The ABB EPDs can be found here:
Environmental Product Declarations – ABB Group (global.abb)

ABB AC DRIVES COMPLY WITH THE EU ECODESIGN REQUIREMENTS

The Ecodesign regulation (EU) 2019/1781 is the legislative framework that sets minimum energy efficiency requirements for low voltage induction motors and variable speed drives. AC drives and power drive systems are classified according to their power losses. From July 2021, the minimum requirement for non-regenerative AC drives in EU is IE2.

ABB's AC drives (machinery, general, industrial and industrial specific drives) comply with the strictest requirements of the standard for energy efficiency and are classified as IE2.

Energy efficiency classes for a Complete Drive Module (CDM)



Markings on the ABB LV AC drives

Unique identifier QR code for Ecodesign information

IE class and % loss of rated apparent power 50 Hz, 400 V

IE2 (90;100) 2.3 %

Unique QR codes are located on the rating plate and/or the front of the drive.

Web-based ABB EcoDesign Tool



- Calculates absolute and relative losses and efficiency data at standard and user-defined operating points according to EU regulation 2019/1781 for complete drive module (CDM), LV motors with VSD supply, and power drive system (PDS)
- Losses and efficiency data at operating points in graphical and table format
- Printable efficiency report with possibility to customize title and additional details
- Calculates PDS energy consumption, energy cost and CO_2 emission based on given load profile

The regulation was implemented in two steps:

Step 1: July 1, 2021

- Power range: from 0.12 to 1000 kW
- 3-phase LV AC drives with diode rectifier
- Drive manufacturers must declare power losses as a percentage of the rated apparent output power at 8 different operating points, as well as standby losses. The international IE level is given at the nominal point. Drives fulfilling the requirements are CE-marked.

Out of scope of the regulation:

- All drives without CE marking
- The following low voltage AC drives: regenerative drives, low-harmonic drives (THD < 10%), multiple AC-output drives and single-phase drives.
- Medium-voltage drives, DC drives and traction drives
- Drive cabinets that already have conformity-assessed modules

Step 2: July 1, 2023

No changes for AC drives

For more information, see: ecodesign.drivesmotors.abb.com

TECHNICAL DATA

C

Mains connection	
Voltage and power range	3-phase, U_{N2} 208 to 240 V, +10%/-15% (-01) 3-phase, U_{N3} 380 to 415 V, +10%/-15% (-01, -11, -31), ±10% (-07,-17-37) 3-phase, U_{N5} 380 to 500 V, +10%/-15% (-01, -11, -31), ±10% (-07,-17-37) 3-phase, U_{N7} 525 to 690 V, +10%/-15% (-01), ±10% (-07,-17,-37, -07CLC, -17/37LC) 0.55 to 250 kW (-01) 2.2 to 110 kW (-11, -31) 45 to 2800 kW (-07) 45 to 3200 kW (-17, -37) 250 to 6000 kW (-07CLC, -17/37LC)
Frequency	50/60 Hz ±5%
Power factor	
ACS880-01, -07, -07CLC	cosφ = 0.98 (fundamental) cosφ = 0.93 to 0.95 (total)
ACS880-11, -31, -17, -37, -17/37LC	cosφ = 1 (fundamental)
Efficiency (at nominal power)	ACS880-01, -07, -07CLC, -17/37LC: 98% ACS880-11, -31, -17, -37: 97%
Motor connection	
Voltage	3-phase output voltage 0 to U_{N2} / U_{N3} / U_{N5} / U_{N7}
Frequency	0 to ±598 Hz [1]
Motor control	Direct torque control (DTC)
Torque control	Torque step rise time:
Open loop	<5 ms with nominal torque
Closed loop	<5 ms with nominal torque
	Non-linearity:
Open loop	± 4% with nominal torque
Closed loop	± 3% with nominal torque
Speed control	Static accuracy:
Open loop	10% of motor nominal slip
Closed loop	0.01% of nominal speed
	Dynamic accuracy:
Open loop	0.3 to 0.4% seconds with 100% torque step
Closed loop	0.1 to 0.2% seconds with 100% torque step

Product compliance
CE, UKCA Low Voltage Directive 2014/35/EU according to EN 61800-5-1:2007+A1:2017+A11:2021 SGS Certificate of Conformity according to IEC 61800-5-1 Machinery Directive 2006/42/EC EMC Directive 2014/30/EU ATEX Directive 2014/34/EU, EN 50495 Quality assurance system ISO 9001 Environmental system ISO 14001 Energy management system ISO 50001 Ecodesign Directive 2009/125/EC and its implementation regulation 2019/1781/EU fulfill IE2 according to EcoDesign standard IEC61800-9-2 RoHS 2011/65/EU and Delegated Directive (EU) 2015/836 RCM, EAC [4] TÜV Nord certification for functional safety [3] Ex-certified safe disconnection function and thermistor and PT100 protection functions, Ex II (2) GD [2] [7] UKEX Type Examination certificates for safe disconnection function and thermistor and PT100 protection functions, Ex II (2) GD [2] [7] Marine type approvals: ABS, BV, CCS, ClassNK, DNV GL, KR, LR, RINA For product specific availability, see: https://new.abb.com/drives/segments/marine/marine-type-approvals UL, CSA: -01: cULus listed according to UL 61800-5-1, UL 508C and CSA C22.2 No. 274, CSA certified according to CSA C22.2 No. 274. -11, -31: cULus listed according to UL 61800-5-1 and CSA C22.2 No. 274 -07, -17, -37, -07LC, -17LC, -37LC: cULus listed according to UL 508A and CSA C22.2 No. 14, CSA certified according to CSA C22.2 No. 286 [8]

EMC according to EN 61800-3: 2004 + A1: 2012. See pages 46-47.
Category C3 and C2 with internal option or as standard.

Environmental limits	
Ambient temperature	
Transportation	-40 to +70 °C
Storage	-40 to +70 °C
Operation area	-15 to +40 °C as standard (-01, -11, -31)
(air-cooled)	0 to +40 °C as standard (-07, -17, -37) +40 to +55 °C with derating of 1%/1 °C (-01, -11, -31) +40 to +50 °C with derating of 1%/1 °C (-07,-17,-37)
(liquid-cooled)	0 to +45 °C as standard (-07CLC, -17/37LC) +45 to 55 °C with derating of 0.5%/1 °C (-07CLC, -17/37LC)
Cooling method	
Air-cooled	Dry clean air
Liquid-cooled -07CLC, -17/37LC	Direct liquid cooling, Antifrogen® L
Without liquid-cooling unit	Incoming coolant temperature 0 to +40 °C as standard +40 to +45 °C with derating of 2%/1 °C +45 to +50 °C with derating of 2%/1 °C or 6%/1 °C [5]
With liquid-cooling unit	Incoming coolant temperature 0 to +36 °C as standard +36 to +46 °C with derating of 2%/1 °C
Altitude	
0 to 1,000 m	Without derating
1,000 to 4,000 m	With derating of 1% / 100 m [6]
Relative humidity	5 to 95%, no condensation allowed
Degree of protection	
IP20	Option (-01, -11, -31)
IP21	Standard (-01, -11, -31)
IP22	Standard (-07, -17, -37)
IP42	Standard (-07CLC, -17/37LC). Option (-07, -17, -37)
IP54	Option (-07, -17, -37, -07CLC, -17/37LC)
IP55	Option (-01, -11, -31)
Paint color	RAL 9017/9002 (-01, -11, -31), RAL 9017/7035 (-07, -17, -37, -07CLC, -17/37LC)
Pollution degree	PD 2
Contamination levels	No conductive dust allowed
Storage	IEC 60721-3-1:1997, IEC 60721-3-1, Class 1C2 (chemical gases), Class 1S2 (solid particles) *)
Operation	IEC60721-3-3:2019: C3 IP21 drives, C4 IP55 drives. ANSI-ISA71.04: G2 IP21 drives, G3/GX with IP55 drives **)
Transportation	IEC 60721-3-2:1997, IEC 60721-3-2, Class 2C2 (chemical gases), Class 2S2 (solid particles) *)

Built-in functional safety. See pages 88-89.	
For Safe Torque Off (STO) and safety functions modules	EN/IEC 61800-5-2: SIL3, IEC 61508: SIL3, IEC 61511: SIL3, EN/IEC 62061: SIL3 EN ISO 13849-1: PL e - TÜV Nord certified
Safety over fieldbus	PROFIsafe over PROFINET and CIP Safety™ over Ethernet IP, certified.

*) C = Chemically active substances. S = Mechanically active substances.
**) G3/GX up to 2300 Å/30d corrosivity

1) Operation above 120 Hz may require type-specific derating. For higher output frequencies, please contact your local ABB office. Output filters may limit the output frequency. See product-specific hardware manual for details.
2) Safe disconnection function (+Q971), Thermistor protection function (+L537+Q971), FPTC-02, PTC/PT100 thermal motor protection for -07/17/37/-07LC/17LC/37LC (+L513/L514+Q971)
3) For available certificates, see https://new.abb.com/drives/functional-safety
4) EAC directives: TR CU 020/2011 (EMC directive); TR CU 004/2011 (Low voltage directive)
5) See product-specific hardware manual for detailed derating rules
6) Derating reduced by lower than 40 °C ambient temperature
7) Not applicable for -07CLC
8) For cabinet-build single drives (x7, x7LC), the applicable UL and CSA standards limit the ambient temperature during operation to 0 ... 40 °C.

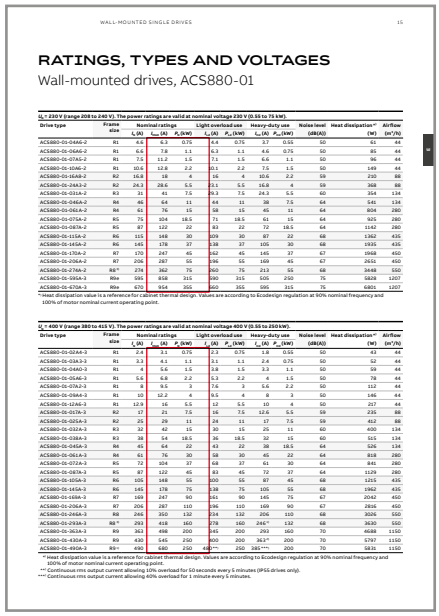
HOW TO SELECT A DRIVE

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

Start by identifying your supply voltage and select the related rating table. Or use ABB's DriveSize dimensioning tool.

Select your drive's order code (drive type) from the rating table based on the load current, or, if it is unknown, select the drive based on your motor's power and current ratings.

Choose your options and add the option codes to the drive's order code. Remember to use a "+" sign before each option code.



WALL-MOUNTED SINGLE DRIVES 15

RATINGS, TYPES AND VOLTAGES

Wall-mounted drives, ACS880-01

U_N = 230 V (range 208 to 240 V). The power ratings are valid at nominal voltage 230 V (0.55 to 75 kW).

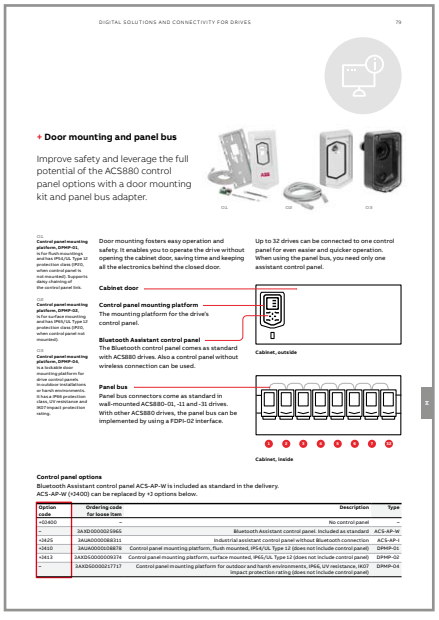
Drive type	Frame size	Nominal ratings I_{2N} (A)	I_{max} (A)	P_N (kW)	Light overload use I_{Ld} (A)	P_{Ld} (kW)	Heavy-duty use I_{Hd} (A)	P_{Hd} (kW)	Noise level (dB(A))	Heat dissipation* (W)	Airflow (m³/h)
ACS880-01-04A6-2	R1	4.6	6.3	0.75	4.4	0.75	3.7	0.55	50	61	44
ACS880-01-06A6-2	R1	6.6	7.8	1.1	6.3	1.1	4.6	0.75	50	85	44
ACS880-01-07A5-2	R1	7.5	11.2	1.5	7.1	1.5	6.6	1.1	50	96	44
ACS880-01-10A6-2	R1	10.6	12.8	2.2	10.1	2.2	7.5	1.5	50	149	44
ACS880-01-16A8-2	R2	16.8	18	4	16	4	10.6	2.2	59	210	88
ACS880-01-24A3-2	R2	24.3	28.6	5.5	23.1	5.5	16.8	4	59	368	88
ACS880-01-31A-2	R3	31	41	7.5	29.3	7.5	24.3	5.5	60	354	134
ACS880-01-46A8-2	R4	46	64	11	44	11	38	7.5	64	541	134
ACS880-01-61A-2	R4	61	76	15	58	15	45	11	64	804	280
ACS880-01-75A4-2	R5	75	104	18.5	71	18.5	61	15	64	925	280
ACS880-01-87A-2	R5	87	122	22	83	22	72	18.5	64	1162	280
ACS880-01-115A-2	R6	115	148	30	109	30	87	22	68	1362	435
ACS880-01-145A-2	R6	145	178	37	138	37	105	30	68	1935	435
ACS880-01-170A-2	R7	170	247	45	162	45	145	37	67	1968	450
ACS880-01-206A-2	R7	206	287	55	196	55	169	45	67	2651	450
ACS880-01-274A-2	R8*	274	362	75	260	75	213	55	68	3448	550
ACS880-01-595A-3	R9w	595	858	315	590	315	505	250	75	5828	1207
ACS880-01-670A-3	R9w	670	954	355	660	355	595	315	75	6801	1207

* Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (0.55 to 250 kW).

Drive type	Frame size	Nominal ratings I_{2N} (A)	I_{max} (A)	P_N (kW)	Light overload use I_{Ld} (A)	P_{Ld} (kW)	Heavy-duty use I_{Hd} (A)	P_{Hd} (kW)	Noise level (dB(A))	Heat dissipation* (W)	Airflow (m³/h)
ACS880-01-03A4-3	R1	2.4	3.1	0.75	2.3	0.75	1.8	0.55	50	43	44
ACS880-01-03A3-3	R1	3.3	4.1	1.1	3.1	1.1	2.4	0.75	50	52	44
ACS880-01-04A0-3	R1	4	5.6	1.5	3.8	1.5	3.3	1.1	50	59	44
ACS880-01-05A6-3	R1	5.6	6.8	2.2	5.3	2.2	4	1.5	50	78	44
ACS880-01-07A2-3	R1	8	9.5	3	7.6	3	5.6	2.2	50	112	44
ACS880-01-09A4-3	R1	10	12.2	4	9.5	4	8	3	50	146	44
ACS880-01-12A6-3	R1	12.9	16	5.5	12	5.5	10	4	50	217	44
ACS880-01-018A-3	R2	17	21	7.5	16	7.5	12.6	5.5	59	235	88
ACS880-01-025A-3	R2	25	29	11	24	11	17	7.5	59	412	88
ACS880-01-032A-3	R3	32	42	15	30	15	25	11	60	600	134
ACS880-01-038A-3	R3	38	54	18.5	36	18.5	32	15	60	515	134
ACS880-01-045A-3	R4	45	64	22	43	22	38	18.5	64	526	134
ACS880-01-062A-3	R4	61	76	30	58	30	45	22	64	818	280
ACS880-01-072A-3	R5	72	104	37	68	37	61	30	64	841	280
ACS880-01-087A-3	R5	87	122	45	83	45	72	37	64	1129	280
ACS880-01-145A-3	R6	145	178	75	138	75	105	55	68	1962	435
ACS880-01-169A-3	R7	169	247	90	161	90	145	75	67	2042	450
ACS880-01-206A-3	R8	246	287	110	196	110	169	90	67	2836	450
ACS880-01-293A-3	R8*	293	418	160	278	160	246*	132	68	3630	550
ACS880-01-363A-3	R9	363	498	200	345	200	293	160	70	4688	1150
ACS880-01-430A-3	R9	430	545	250	400	250	363*	200	70	5797	1150
ACS880-01-490A-3	R9+	490	680	250	480**	250	385***;	200	70	5831	1150

* Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.
** Continuous rms output current allowing 10% overload for 50 seconds every 5 minutes (IP55 drives only).
*** Continuous rms output current allowing 40% overload for 1 minute every 5 minutes.



DIGITAL SOLUTIONS AND CONNECTIVITY FOR DRIVES 79

+ Door mounting and panel bus

Improve safety and leverage the full potential of the ACS880 control panel options with a door mounting kit and panel bus adapter.

Door mounting fosters easy operation and safety. It enables you to operate the drive without opening the cabinet door, saving time and keeping all the electronics behind the closed door.

Up to 32 drives can be connected to one control panel For even easier and quicker operation. When using the panel bus, you need only one assistant control panel.

Cabinet door

Control panel mounting platform
The mounting platform for the drive's control panel.

Bluetooth Assistant control panel
The Bluetooth control panel comes as standard with ACS880 drives. Also a control panel without wireless connection can be used.

Panel bus
Panel bus connectors come as standard in wall-mounted ACS880-01, -11 and -31 drives. With other ACS880 drives, the panel bus can be implemented by using a FDPI-02 interface.

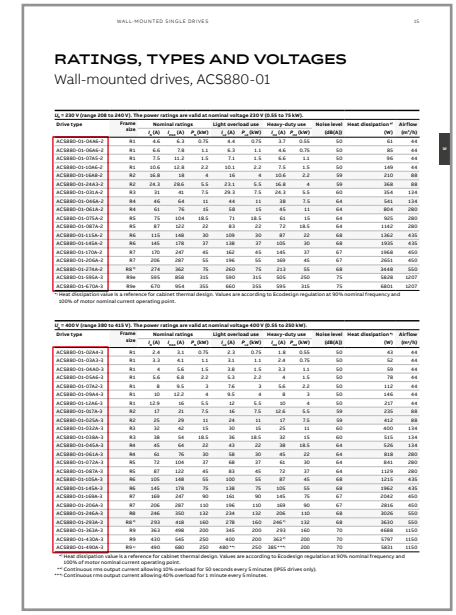
Cabinet, outside

Cabinet, inside

Control panel options

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

Option code	Ordering code for loose item	Description	Type
+J0400	–	No control panel	–
–	3AXD50000021965	Bluetooth Assistant control panel. Included as standard	ACS-AP-W
+J625	3AUA0000088311	Industrial assistant control panel without Bluetooth connection	ACS-AP-I
+J410	3AUA0000108878	Control panel mounting platform, flush mounted, IP54/UL Type 12 (does not include control panel)	DPMP-01
+J413	3AXD50000009374	Control panel mounting platform, surface mounted, IP65/UL Type 12 (does not include control panel)	DPMP-02
–	3AXD50000217717	Control panel mounting platform for outdoor and harsh environments, IP66, UV resistance, IK07 impact protection rating (does not include control panel)	DPMP-04



WALL-MOUNTED SINGLE DRIVES 15

RATINGS, TYPES AND VOLTAGES

Wall-mounted drives, ACS880-01

U_N = 230 V (range 208 to 240 V). The power ratings are valid at nominal voltage 230 V (0.55 to 75 kW).

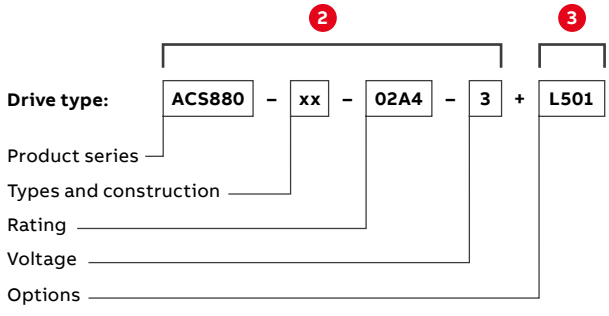
Drive type	Frame size	Nominal ratings I_{2N} (A)	I_{max} (A)	P_N (kW)	Light overload use I_{Ld} (A)	P_{Ld} (kW)	Heavy-duty use I_{Hd} (A)	P_{Hd} (kW)	Noise level (dB(A))	Heat dissipation* (W)	Airflow (m³/h)
ACS880-01-04A6-2	R1	4.6	6.3	0.75	4.4	0.75	3.7	0.55	50	61	44
ACS880-01-06A6-2	R1	6.6	7.8	1.1	6.3	1.1	4.6	0.75	50	85	44
ACS880-01-07A5-2	R1	7.5	11.2	1.5	7.1	1.5	6.6	1.1	50	96	44
ACS880-01-10A6-2	R1	10.6	12.8	2.2	10.1	2.2	7.5	1.5	50	149	44
ACS880-01-16A8-2	R2	16.8	18	4	16	4	10.6	2.2	59	210	88
ACS880-01-24A3-2	R2	24.3	28.6	5.5	23.1	5.5	16.8	4	59	368	88
ACS880-01-31A-2	R3	31	41	7.5	29.3	7.5	24.3	5.5	60	354	134
ACS880-01-46A8-2	R4	46	64	11	44	11	38	7.5	64	541	134
ACS880-01-61A-2	R4	61	76	15	58	15	45	11	64	804	280
ACS880-01-75A4-2	R5	75	104	18.5	71	18.5	61	15	64	925	280
ACS880-01-87A-2	R5	87	122	22	83	22	72	18.5	64	1162	280
ACS880-01-115A-2	R6	115	148	30	109	30	87	22	68	1362	435
ACS880-01-145A-2	R6	145	178	37	138	37	105	30	68	1935	435
ACS880-01-170A-2	R7	170	247	45	162	45	145	37	67	1968	450
ACS880-01-206A-2	R7	206	287	55	196	55	169	45	67	2651	450
ACS880-01-274A-2	R8*	274	362	75	260	75	213	55	68	3448	550
ACS880-01-595A-3	R9w	595	858	315	590	315	505	250	75	5828	1207
ACS880-01-670A-3	R9w	670	954	355	660	355	595	315	75	6801	1207

* Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (0.55 to 250 kW).

Drive type	Frame size	Nominal ratings I_{2N} (A)	I_{max} (A)	P_N (kW)	Light overload use I_{Ld} (A)	P_{Ld} (kW)	Heavy-duty use I_{Hd} (A)	P_{Hd} (kW)	Noise level (dB(A))	Heat dissipation* (W)	Airflow (m³/h)
ACS880-01-03A4-3	R1	2.4	3.1	0.75	2.3	0.75	1.8	0.55	50	43	44
ACS880-01-03A3-3	R1	3.3	4.1	1.1	3.1	1.1	2.4	0.75	50	52	44
ACS880-01-04A0-3	R1	4	5.6	1.5	3.8	1.5	3.3	1.1	50	59	44
ACS880-01-05A6-3	R1	5.6	6.8	2.2	5.3	2.2	4	1.5	50	78	44
ACS880-01-07A2-3	R1	8	9.5	3	7.6	3	5.6	2.2	50	112	44
ACS880-01-09A4-3	R1	10	12.2	4	9.5	4	8	3	50	146	44
ACS880-01-12A6-3	R1	12.9	16	5.5	12	5.5	10	4	50	217	44
ACS880-01-018A-3	R2	17	21	7.5	16	7.5	12.6	5.5	59	235	88
ACS880-01-025A-3	R2	25	29	11	24	11	17	7.5	59	412	88
ACS880-01-032A-3	R3	32	42	15	30	15	25	11	60	600	134
ACS880-01-038A-3	R3	38	54	18.5	36	18.5	32	15	60	515	134
ACS880-01-045A-3	R4	45	64	22	43	22	38	18.5	64	526	134
ACS880-01-062A-3	R4	61	76	30	58	30	45	22	64	818	280
ACS880-01-072A-3	R5	72	104	37	68	37	61	30	64	841	280
ACS880-01-087A-3	R5	87	122	45	83	45	72	37	64	1129	280
ACS880-01-145A-3	R6	145	178	75	138	75	105	55	68	1962	435
ACS880-01-169A-3	R7	169	247	90	161	90	145	75	67	2042	450
ACS880-01-206A-3	R8	246	287	110	196	110	169	90	67	2836	450
ACS880-01-293A-3	R8*	293	418	160	278	160	246*	132	68	3630	550
ACS880-01-363A-3	R9	363	498	200	345	200	293	160	70	4688	1150
ACS880-01-430A-3	R9	430	545	250	400	250	363*	200	70	5797	1150
ACS880-01-490A-3	R9+	490	680	250	480**	250	385***;	200	70	5831	1150

* Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.
** Continuous rms output current allowing 10% overload for 50 seconds every 5 minutes (IP55 drives only).
*** Continuous rms output current allowing 40% overload for 1 minute every 5 minutes.



WALL-MOUNTED SINGLE DRIVES
ACS880-01

01
ACS880-01
frame size R1, IP21

02
ACS880-01
frame size R5, IP55



01



02

Compact package for simple installation
ACS880-01 comes in one compact package for easy installation and commissioning. The drive supports wall mounting as standard and cabinet mounting as an option. The drive offering includes enclosure classes up to IP55, making it suitable for most environments and installations.

ACS880-01 drives have all the essential features built-in. These features include a choke for harmonic filtering as standard, as well as options like a brake chopper, EMC filter and communication protocol adapter, functional safety, and I/O extension modules. The extensive range of options also includes external output filters and brake resistors.

ACS880-01 is also available with marine type approval from various key classification bodies.

ACS880-01 corrosion-resistant variant
The ACS880-01 is available in a special corrosion-resistant version designed for environments with high sulfur content, such as those found in the rubber industry. This variant features an optimized design for harsh conditions and has undergone rigorous testing to ensure reliability.

Wall-mounted ACS880-01 drives
- Power ratings: 0.55 to 250 kW
- Enclosure classes: IP20 for cabinet mounting, IP21 (as standard) for wall mounting and IP55 for dusty and wet environments

Main options:
- C2 and C3 EMC filters, see page 46
- Brake chopper (as standard in frames R1 to R4), see page 56
- Brake resistor, see page 56
- Marine type approval from various key classification bodies
- I/O extension modules, see page 83
- Communication protocol adapters, see page 83
- Speed feedback interfaces, see page 85
- Functional safety modules, see page 87
- Remote monitoring tool
- Application-specific software, see page 8
- Du/dt filters, see page 64
- Sine filters, see page 50
- Flange (push-through) mounting

The drives have an extensive selection of built-in features and options. See page 98.

Highlights
- Wide power range supporting wall mounting, 0.55 to 250 kW
- Enclosure classes up to IP55
- Compact, single package with all the essential features built in
- Easy installation for different environments
- Robust and reliable design
- Optional marine type approved version

RATINGS, TYPES AND VOLTAGES

Wall-mounted drives, ACS880-01

U_N = 230 V (range 208 to 240 V). The power ratings are valid at nominal voltage 230 V (0.55 to 75 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation *)	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-01-04A6-2	R1	4.6	6.3	0.75	4.4	0.75	3.7	0.55	50	61	44
ACS880-01-06A6-2	R1	6.6	7.8	1.1	6.3	1.1	4.6	0.75	50	85	44
ACS880-01-07A5-2	R1	7.5	11.2	1.5	7.1	1.5	6.6	1.1	50	96	44
ACS880-01-10A6-2	R1	10.6	12.8	2.2	10.1	2.2	7.5	1.5	50	149	44
ACS880-01-16A8-2	R2	16.8	18	4	16	4	10.6	2.2	59	210	88
ACS880-01-24A3-2	R2	24.3	28.6	5.5	23.1	5.5	16.8	4	59	368	88
ACS880-01-031A-2	R3	31	41	7.5	29.3	7.5	24.3	5.5	60	354	134
ACS880-01-046A-2	R4	46	64	11	44	11	38	7.5	64	541	134
ACS880-01-061A-2	R4	61	76	15	58	15	45	11	64	804	280
ACS880-01-075A-2	R5	75	104	18.5	71	18.5	61	15	64	925	280
ACS880-01-087A-2	R5	87	122	22	83	22	72	18.5	64	1142	280
ACS880-01-115A-2	R6	115	148	30	109	30	87	22	68	1362	435
ACS880-01-145A-2	R6	145	178	37	138	37	105	30	68	1935	435
ACS880-01-170A-2	R7	170	247	45	162	45	145	37	67	1968	450
ACS880-01-206A-2	R7	206	287	55	196	55	169	45	67	2651	450
ACS880-01-274A-2	R8 3)	274	362	75	260	75	213	55	68	3448	550

*) Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (0.55 to 250 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation *)	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-01-02A4-3	R1	2.4	3.1	0.75	2.3	0.75	1.8	0.55	50	43	44
ACS880-01-03A3-3	R1	3.3	4.1	1.1	3.1	1.1	2.4	0.75	50	52	44
ACS880-01-04A0-3	R1	4	5.6	1.5	3.8	1.5	3.3	1.1	50	59	44
ACS880-01-05A6-3	R1	5.6	6.8	2.2	5.3	2.2	4	1.5	50	78	44
ACS880-01-07A2-3	R1	8	9.5	3	7.6	3	5.6	2.2	50	112	44
ACS880-01-09A4-3	R1	10	12.2	4	9.5	4	8	3	50	146	44
ACS880-01-12A6-3	R1	12.9	16	5.5	12	5.5	10	4	50	217	44
ACS880-01-017A-3	R2	17	21	7.5	16	7.5	12.6	5.5	59	235	88
ACS880-01-025A-3	R2	25	29	11	24	11	17	7.5	59	412	88
ACS880-01-032A-3	R3	32	42	15	30	15	25	11	60	400	134
ACS880-01-038A-3	R3	38	54	18.5	36	18.5	32	15	60	515	134
ACS880-01-045A-3	R4	45	64	22	43	22	38	18.5	64	526	134
ACS880-01-061A-3	R4	61	76	30	58	30	45	22	64	818	280
ACS880-01-072A-3	R5	72	104	37	68	37	61	30	64	841	280
ACS880-01-087A-3	R5	87	122	45	83	45	72	37	64	1129	280
ACS880-01-105A-3	R6	105	148	55	100	55	87	45	68	1215	435
ACS880-01-145A-3	R6	145	178	75	138	75	105	55	68	1962	435
ACS880-01-169A-3	R7	169	247	90	161	90	145	75	67	2042	450
ACS880-01-206A-3	R7	206	287	110	196	110	169	90	67	2816	450
ACS880-01-246A-3	R8	246	350	132	234	132	206	110	68	3026	550
ACS880-01-293A-3	R8 3)	293	418	160	278	160	246 1)	132	68	3630	550
ACS880-01-363A-3	R9	363	498	200	345	200	293	160	70	4688	1150
ACS880-01-430A-3	R9	430	545	250	400	200	363 2)	200	70	5797	1150
ACS880-01-490A-3	R9 1)	490	680	250	480 **)	250	385 ***)	200	70	5831	1150
ACS880-01-595A-3	R9e	595	858	315	590	315	505	250	75	5828	1207
ACS880-01-670A-3	R9e	670	954	355	660	355	595	315	75	6801	1207

*) Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.

**) Continuous rms output current allowing 10% overload for 50 seconds every 5 minutes (IP55 drives only).

***) Continuous rms output current allowing 40% overload for 1 minute every 5 minutes.

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (0.55 to 250 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation *)	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m^3/h)
ACS880-01-02A1-5	R1	2.1	3.1	0.75	2	0.75	1.7	0.55	50	42	44
ACS880-01-03A0-5	R1	3	4.1	1.1	2.8	1.1	2.1	0.75	50	50	44
ACS880-01-03A4-5	R1	3.4	5.6	1.5	3.2	1.5	3	1.1	50	55	44
ACS880-01-04A8-5	R1	4.8	6.8	2.2	4.6	2.2	3.4	1.5	50	71	44
ACS880-01-05A2-5	R1	5.2	9.5	3	4.9	3	4.8	2.2	50	76	44
ACS880-01-07A6-5	R1	7.6	12.2	4	7.2	4	5.2	3	50	110	44
ACS880-01-11A0-5	R1	11	16	5.5	10.4	5.5	7.6	4	50	180	44
ACS880-01-014A-5	R2	14	21	7.5	13	7.5	11	5.5	59	191	88
ACS880-01-021A-5	R2	21	29	11	19	11	14	7.5	59	330	88
ACS880-01-027A-5	R3	27	42	15	26	15	21	11	60	326	134
ACS880-01-034A-5	R3	34	54	18.5	32	18.5	27	15	60	454	134
ACS880-01-040A-5	R4	40	64	22	38	22	34	19	64	424	134
ACS880-01-052A-5	R4	52	76	30	49	30	40	22	64	600	280
ACS880-01-065A-5	R5	65	104	37	62	37	52	30	64	715	280
ACS880-01-077A-5	R5	77	122	45	73	45	65	37	64	916	280
ACS880-01-096A-5	R6	96	148	55	91	55	77	45	68	1157	435
ACS880-01-124A-5	R6	124	178	75	118	75	96	55	68	1673	435
ACS880-01-156A-5	R7	156	247	90	148	90	124	75	67	1840	450
ACS880-01-180A-5	R7	180	287	110	171	110	156	90	67	2281	450
ACS880-01-240A-5	R8 [4)]	240	350	132	228	132	180	110	68	2912	550
ACS880-01-260A-5	R8 [3)]	260	418	160	247	160	240 [1)]	132	68	3325	550
ACS880-01-361A-5	R9	361	542	200	343	200	302	200	70	4781	1150
ACS880-01-414A-5	R9	414	542	250	393	250	361 [2)]	200	70	5672	1150
ACS880-01-477A-5	R9 [1), **)]	477	600	250	454	250	385	200	70	5598	1150
ACS880-01-585A-5	R9e	423	858	315	575	315	505	250	75	5600	1207
ACS880-01-635A-5	R9e	477	954	355	625	355	585	315	75	6400	1207

*) Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.

**) For high-speed variant (+N7500) availability, contact ABB.

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (4 to 250 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation *)	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m^3/h)
ACS880-01-07A4-7	R3	7.4	12.2	5.5	7	5.5	5.6	4	60	101	134
ACS880-01-09A9-7	R3	9.9	18	7.5	9.4	7.5	7.4	5.5	60	128	134
ACS880-01-14A3-7	R3	14.3	22	11	13.6	11	9.9	7.5	60	189	134
ACS880-01-019A-7	R3	19	28.9	15	18.1	15	14.3	11	60	271	134
ACS880-01-023A-7	R3	23	38	18.5	21.9	18.5	19	15	60	338	134
ACS880-01-027A-7	R3	27	46	22	25.7	22	23	18.5	60	426	134
ACS880-01-035A-7	R5	35	64	30	33	30	26	22	64	416	280
ACS880-01-042A-7	R5	42	70	37	40	37	35	30	64	524	280
ACS880-01-049A-7	R5	49	71	45	47	45	42	37	64	650	280
ACS880-01-061A-7	R6	61	104	55	58	55	49	45	68	852	435
ACS880-01-084A-7	R6	84	124	75	80	75	61	55	68	1303	435
ACS880-01-098A-7	R7	98	168	90	93	90	84	75	67	1416	450
ACS880-01-119A-7	R7	119	198	110	113	110	98	90	67	1881	450
ACS880-01-142A-7	R8	142	250	132	135	132	119	110	68	1970	550
ACS880-01-174A-7	R8 [3)]	174	274	160	165	160	142	132	68	2670	550
ACS880-01-210A-7	R9	210	384	200	200	200	174	160	70	2903	1150
ACS880-01-271A-7	R9	271	411	250	257	250	210	200	70	4182	1150

*) Heat dissipation value is a reference for cabinet thermal design. Values are according to Ecodesign regulation at 90% nominal frequency and 100% of motor nominal current operating point.

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 10 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 5 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 5 minutes 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.

[1] 130% overload
[2] 125% overload
[3] For drives with enclosure class IP55, the ratings apply at 40 °C ambient temperature .
At higher temperatures, the derating is from 40 to 45 °C 1%/1 °C and 45 to 55 °C 2.5%/1 °C.
[4] For drives with enclosure class IP55, the ratings apply at 40 °C ambient temperature.
At higher temperatures, the derating is from 40 to 50 °C 1%/1 °C and 50 to 55 °C 2.5%/1 °C.

CABINET-BUILT SINGLE DRIVES
ACS880-07

01
ACS880-07
frame size R6 to R8, IP22

02
ACS880-07
frame size R9, IP22



01



02

Our cabinet-built single drives are built to order, meeting your needs regardless of the technical challenges. The drive configuration includes a rectifier, DC link, inverter, fuses, line choke and a main switch, all built into a compact cabinet for easy assembly and commissioning.

ACS880-07 offers a wide variety of standardized configurations for different application requirements, from line contactors to preventing unexpected motor starts. If the application requires more, ABB's Order-Based Engineering services can add special features to the standard product, such as an additional cabinet for customer-specific devices.

Drives up to frame size R11 are based on a compact single module, including a rectifier and inverter. Larger drives consist of a separate rectifier and inverter modules, providing redundancy with parallel connected units. If one module needs to be disconnected, the drive can continue running at reduced power.

The robust design and enclosures up to IP54 make ACS880-07 suitable for even very harsh environments.

Cabinet-built ACS880-07 drives
- Power ratings: 45 to 2800 kW
- Enclosure classes IP22 (as standard), IP42 and IP54 for different environments, with option of air intake through the bottom of the cabinet and channeled air outlet on the top of the cabinet

Main options:
- Cabling solutions for bottom and top entry and exit
- Functional safety modules, see page 87
- I/O extension modules, see page 83
- Communication protocol adapters, see page 83
- Speed feedback interfaces, see page 85
- Brake option inside the module or cabinet, see page 56
- C2 and C3 EMC filters, see page 46
- Du/dt and common mode filter options for motor protection, see page 64
- Marine construction option
- Cabinet light and heater option

The drives have an extensive selection of built-in features and options. See page 98.

Highlights
- Compact package for easy assembly and commissioning
- Available as an engineered, customer-specific solution
- All essential features built in
- Robust design verified by various standards

RATINGS, TYPES AND VOLTAGES

Cabinet-built drives, ACS880-07

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (45 to 1400 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
6-pulse diode											
ACS880-07-0105A-3	R6	105	148	55	100	55	87	45	67	1795	1750
ACS880-07-0145A-3	R6	145	178	75	138	75	105	55	67	1940	1750
ACS880-07-0169A-3	R7	169	247	90	161	90	145	75	67	2440	1750
ACS880-07-0206A-3	R7	206	287	110	196	110	169	90	67	2810	1750
ACS880-07-0246A-3	R8	246	350	132	234	132	206	110	65	3800	1750
ACS880-07-0293A-3	R8	293	418	160	278	160	246 [1)]	132	65	4400	1750
ACS880-07-0363A-3	R9	363	498	200	345	200	293	160	68	5300	1150
ACS880-07-0430A-3	R9	430	545	250	400	200	363 [2)]	200	68	6500	1150
ACS880-07-0505A-3	R10	505	560	250	485	250	361	200	72	6102	2950
ACS880-07-0585A-3	R10	585	730	315	575	315	429	250	72	6909	2950
ACS880-07-0650A-3	R10	650	730	355	634	355	477	250	72	8622	2950
ACS880-07-0725A-3	R11	725	1020	400	715	400	566	315	72	9264	2950
ACS880-07-0820A-3	R11	820	1020	450	810	450	625	355	72	10362	2950
ACS880-07-0880A-3	R11	880	1100	500	865	500	725 [3)]	400	71	11078	3170
ACS880-07-1140A-3	D8T + 2×R8i	1140	1490	630	1072	560	787	450	73	18000	4290
ACS880-07-1250A-3	2×D8T + 2×R8i	1250	1630	710	1200	630	935	500	74	21000	5720
ACS880-07-1480A-3	2×D8T + 2×R8i	1480	1930	800	1421	800	1107	630	74	25000	5720
ACS880-07-1760A-3	2×D8T + 2×R8i	1760	2120	1000	1690	900	1316	710	74	29000	5720
ACS880-07-2210A-3	3×D8T + 3×R8i	2210	2880	1200	2122	1200	1653	900	76	37000	8580
ACS880-07-2610A-3	3×D8T + 3×R8i	2610	3140	1400	2506	1400	1952	1000	76	44000	8580
12-pulse diode											
ACS880-07-0990A-3+A004	2×D7T + 2×R8i	990	1290	560	950	500	741	400	73	15000	5720
ACS880-07-1140A-3+A004	2×D8T + 2×R8i	1140	1490	630	1094	560	853	450	74	19000	5720
ACS880-07-1250A-3+A004	2×D8T + 2×R8i	1250	1630	710	1200	630	935	500	74	21000	5720
ACS880-07-1480A-3+A004	2×D8T + 2×R8i	1480	1930	800	1421	800	1107	630	74	25000	5720
ACS880-07-1760A-3+A004	2×D8T + 2×R8i	1760	2120	1000	1690	900	1316	710	74	29000	5720
ACS880-07-2210A-3+A004	4×D8T + 3×R8i	2210	2880	1200	2122	1200	1653	900	76	35000	10010
ACS880-07-2610A-3+A004	4×D8T + 3×R8i	2610	3140	1400	2506	1400	1952	1000	76	44000	10010

[1)] = 130% overload
[2)] = 125% overload
[3)] = 140% overload

F

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (45 to 1400 kW).											
Drive type	**Frame size**	**Nominal ratings**			**Light overload use**		**Heavy-duty use**		**Noise level**	**Heat dissipation**	**Airflow**
		I_N (A)	**I_{MAX} (A)**	**P_N (kW)**	**I_{Ld} (A)**	**P_{Ld} (kW)**	**I_{Hd} (A)**	**P_{Hd} (kW)**	**(dB(A))**	**(W)**	**(m³/h)**
6-pulse diode											
ACS880-07-0096A-5	R6	96	148	55	91	55	77	45	67	1795	1750
ACS880-07-0124A-5	R6	124	178	75	118	75	96	55	67	1940	1750
ACS880-07-0156A-5	R7	156	247	90	148	90	124	75	67	2440	1750
ACS880-07-0180A-5	R7	180	287	110	171	110	156	90	67	2810	1750
ACS880-07-0240A-5	R8	240	350	132	228	132	180	110	65	3800	1750
ACS880-07-0260A-5	R8	260	418	160	247	160	240 [1]	132	65	4400	1750
ACS880-07-0361A-5	R9	361	542	200	343	200	302	200	68	5300	1150
ACS880-07-0414A-5	R9	414	542	250	393	250	361 [2]	200	68	6500	1150
ACS880-07-0460A-5	R10	460	560	315	450	315	330	200	72	4903	2950
ACS880-07-0503A-5	R10	503	560	355	483	315	361	250	72	6102	2950
ACS880-07-0583A-5	R10	583	730	400	573	400	414	250	72	6909	2950
ACS880-07-0635A-5	R10	635	730	450	623	450	477	315	72	8622	2950
ACS880-07-0715A-5	R11	715	850	500	705	500	566	400	72	9264	2950
ACS880-07-0820A-5	R11	820	1020	560	807	560	625	450	71	10362	2950
ACS880-07-0880A-5	R11	880	1100	630	857	560	697	500	71	11078	2950
ACS880-07-1070A-5	D8T + 2×R8i	1070	1400	710	1027	710	800	560	73	18000	4290
ACS880-07-1320A-5	2×D8T + 2×R8i	1320	1720	900	1267	900	987	710	74	22000	5720
ACS880-07-1450A-5	2xD8T + 2xR8i	1450	1890	1000	1392	900	1085	710	74	25800	5720
ACS880-07-1580A-5	2×D8T + 2×R8i	1580	2060	1100	1517	1000	1182	800	74	27000	5720
ACS880-07-1800A-5	2×D8T + 3×R8i	1800	2340	1250	1728	1200	1346	900	75	32000	7150
ACS880-07-1980A-5	2×D8T + 3×R8i	1980	2580	1400	1901	1300	1481	1000	75	36000	7150
12-pulse diode											
ACS880-07-0990A-5+A004	2×D7T + 2×R8i	990	1290	710	950	630	741	500	73	16000	5720
ACS880-07-1320A-5+A004	2×D8T + 2×R8i	1320	1720	900	1267	900	987	710	74	22000	5720
ACS880-07-1450A-5+A004	2×D8T + 2×R8i	1450	1890	1000	1392	900	1085	710	74	25000	5720
ACS880-07-1580A-5+A004	2×D8T + 2×R8i	1580	2060	1100	1517	1000	1182	800	74	27000	5720
ACS880-07-1800A-5+A004	2×D8T + 3×R8i	1800	2340	1250	1728	1200	1346	900	75	32000	7150
ACS880-07-1980A-5+A004	2×D8T + 3×R8i	1980	2580	1400	1901	1300	1481	1000	75	36000	7150

[1] =130% overload
[2] = 125% overload

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (45 to 2800 kW).											
Drive type	**Frame size**	**Nominal ratings**			**Light overload use**		**Heavy-duty use**		**Noise level**	**Heat dissipation**	**Airflow**
		I_N (A)	**I_{MAX} (A)**	**P_N (kW)**	**I_{Ld} (A)**	**P_{Ld} (kW)**	**I_{Hd} (A)**	**P_{Hd} (kW)**	**(dB(A))**	**(W)**	**(m³/h)**
6-pulse diode											
ACS880-07-0061A-7	R6	61	104	55	58	55	49	45	67	1795	1750
ACS880-07-0084A-7	R6	84	124	75	80	75	61	55	67	1940	1750
ACS880-07-0098A-7	R7	98	168	90	93	90	84	75	67	2440	1750
ACS880-07-0119A-7	R7	119	198	110	113	110	98	90	67	2810	1750
ACS880-07-0142A-7	R8	142	250	132	135	132	119	110	65	3800	1750
ACS880-07-0174A-7	R8	174	274	160	165	160	142	132	65	4400	1750
ACS880-07-0210A-7	R9	210	384	200	200	200	174	160	68	4700	1150
ACS880-07-0271A-7	R9	271	411	250	257	250	210	200	68	5300	1150
ACS880-07-0330A-7	R10	330	480	315	320	315	255	250	72	5640	2950
ACS880-07-0370A-7	R10	370	520	355	360	355	325	315	72	6371	2950
ACS880-07-0430A-7	R10	430	520	400	420	400	360 [4)]	355	72	7570	2950
ACS880-07-0470A-7	R11	470	655	450	455	450	415	400	72	6611	2950
ACS880-07-0522A-7	R11	522	685	500	505	500	455	450	72	7388	2950
ACS880-07-0590A-7	R11	590	800	560	571	560	505	500	71	8971	2950
ACS880-07-0650A-7	R11	650	820	630	630	630	571 [4)]	560	71	9980	3170
ACS880-07-0721A-7	R11	721	820	710	705	630	571 [4)]	560	71	11177	3170
ACS880-07-0800A-7	D8T + 2×R8i	800	1200	800	768	710	598	560	73	16000	4290
ACS880-07-0900A-7	D8T + 2×R8i	900	1350	900	864	800	673	630	74	20000	4290
ACS880-07-1160A-7	2×D8T + 2×R8i	1160	1740	1100	1114	1100	868	800	74	26000	5720
ACS880-07-1450A-7	2×D8T + 3×R8i	1450	2180	1400	1392	1250	1085	1000	75	32000	7150
ACS880-07-1650A-7	2×D8T + 3×R8i	1650	2480	1600	1584	1500	1234	1200	75	36500	7150
ACS880-07-1950A-7	3×D8T + 4×R8i	1950	2930	1900	1872	1800	1459	1400	76	44000	10010
ACS880-07-2300A-7	3×D8T + 4×R8i	2300	3450	2200	2208	2000	1720	1600	76	52000	10010
ACS880-07-2600A-7	4×D8T + 5×R8i	2600	3900	2500	2496	2400	1945	1900	78	58000	12870
ACS880-07-2860A-7	4×D8T + 5×R8i	2860	4290	2800	2746	2600	2139	2000	78	65000	12870
12-pulse diode											
ACS880-07-0800A-7+A004	2×D7T + 2×R8i	800	1200	800	768	710	598	560	73	16000	5720
ACS880-07-0950A-7+A004	2×D8T + 2×R8i	950	1430	900	912	800	711	630	74	20000	5720
ACS880-07-1160A-7+A004	2×D8T + 2×R8i	1160	1740	1100	1114	1100	868	800	74	26000	5720
ACS880-07-1450A-7+A004	2×D8T + 3×R8i	1450	2180	1400	1392	1250	1085	1000	75	32000	7150
ACS880-07-1650A-7+A004	2×D8T + 3×R8i	1650	2480	1600	1584	1500	1234	1200	75	36500	7150
ACS880-07-1950A-7+A004	4×D8T + 4×R8i	1950	2930	1900	1872	1800	1459	1400	77	44000	11440
ACS880-07-2300A-7+A004	4×D8T + 4×R8i	2300	3450	2200	2208	2000	1720	1600	77	52000	11440
ACS880-07-2600A-7+A004	4×D8T + 5×R8i	2600	3900	2500	2496	2400	1945	1900	78	58000	12870
ACS880-07-2860A-7+A004	4×D8T + 5×R8i	2860	4290	2800	2746	2600	2139	2000	78	65000	12870

[4)] = 144% overload

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 10 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 5 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 5 minutes 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 50 °C), the derating is 1%/1 °C.
Operation above 150 Hz may require type specific derating.

REGENERATIVE DRIVES
ACS880-11 and ACS880-17

01
Speed and power curves in cyclic operation

Energy savings
ACS880-11/17 regenerative drives are a compact and complete regenerative drive solution, with everything you need for regenerative operation in cyclic or continuous braking applications. Such applications include cranes, elevators, centrifuges, downhill conveyors and test benches. With regenerative functionality, the braking energy of the motor is returned to the drive and distributed to the supply network so that it can be utilized by other equipment. Compared to mechanical or resistor braking, where braking energy is wasted as heat, regenerative drive operation offers significant energy consumption and cooling savings.

ACS880 regenerative drives achieve a unity power factor, indicating that electrical energy is being used efficiently. It is possible to increase system efficiency even further with common DC solutions by sharing braking energy between multiple drives through a DC link.

—

Possibility to regenerate 100% of power continuously

Minimized downtime
The ACS880 regenerative drive offers immunity to network disturbances. The drive will not interrupt the process or affect its quality in unstable supply network conditions. The drive's active supply unit can boost the output voltage to enable full motor voltage, even when the supply voltage is below nominal. This ensures reliable operation in weak networks. This voltage boost capability can also be utilized to overcome voltage drops caused by long supply or motor cables.

Optimized cost and space
Everything needed for regenerative operation, such as an active supply unit and a low harmonic line filter are integrated into the drive, and no external braking devices are needed.

Advantages:
- Quick, easy drive installation
- Small installation footprint
- No need to add cooling to handle the heat generated by mechanical or resistor braking
- Simplified wiring
- Fewer spare parts needed

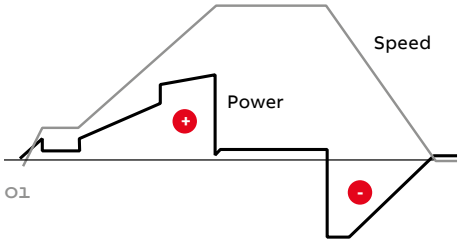
The "all inside" design helps cut engineering and assembly time, as well as reduce equipment costs and the risk of errors.

The drive's voltage boost capability can be an advantage in motor dimensioning. With a higher motor voltage, the same power is achieved with less current, which improves motor efficiency and may allow a smaller motor to be used.

The drive offers a possibility of network power factor correction to compensate for the low power factors of equipment connected to the same network. It reduces the need for additional power factor correction equipment such as filters and large capacitor banks. It can also help avoid penalty charges from electrical utilities for poor power factors.

Maximized motor performance and efficiency
The drive can provide full motor voltage, even if the supply voltage fluctuates. Regeneration can occur for as long as necessary and as often as needed.

The drive features direct torque control (DTC) as standard, making it suitable for very demanding applications as well. DTC provides precise speed and torque control for maximum motor performance and motor efficiency.



01

Clean supply network
The drive produces exceptionally low harmonic content and exceeds the requirements of harmonic guidance/standards such as IEEE 519, IEC61000-3-2, IEC61000-3-12, IEC61000-3-4 and G5/4. Compared to a conventional drive, the harmonic content is reduced by up to 97%. The total harmonic current distortion is typically <3% in a nominal situation and an undistorted network.

For more information, visit https://new.abb.com/drives/regenerativedrives.





Wall-mounted regenerative drives, ACS880-11
- Power ratings: 2.2 to 110 kW
- Enclosure classes: IP20 for cabinet mounting, IP21 (as standard) for wall mounting and IP55 for dusty and wet environments

Main options:
- Flange (push-through) mounting
- C2 and C3 EMC filters, see page 46
- I/O extension modules, see page 83
- Communication protocol adapters, see page 83
- Speed feedback interfaces, see page 85
- Functional safety modules, see page 87
- Remote monitoring tool
- Application-specific software, see page 8
- Du/dt filters, see page 64
- Sine filters, see page 50

Cabinet-built regenerative drives, ACS880-17
- Power ratings: 45 to 3200 kW
- Enclosure classes: IP22 (as standard), IP42 and IP54 for different environments, with option of air intake through bottom of the cabinet and channeled air outlet on the top of the cabinet

Main options:
- EMC filters, see page 65 (as standard for nxR8i)
- Cabling solutions for bottom and top entry and exit
- Functional safety modules, see page 87
- I/O extension modules, see page 63
- Communication protocol adapters, see page 83
- Speed feedback interfaces, see page 85
- Du/dt and common mode filter options for motor protection, see page 64
- Marine construction option
- Cabinet light and heater option

The drives have an extensive selection of built-in features and options. See page 98.

Highlights
- Everything for regenerative operation in one compact package. Designed for easy installation
- Possibility to regenerate 100% of the power continuously
- The total harmonic current distortion is typically <3% in a nominal situation and an undistorted network
- Significant energy savings compared to other braking methods
- Reduced cost of ownership
- Unity power factor. Possibility also of network power factor correction
- Stable output voltage in all load conditions, even with fluctuating supply voltage
- DC voltage boost to compensate for a voltage drop caused by an output filter or long motor cables, and to ensure full motor supply voltage
- Increased system efficiency with common DC solutions



RATINGS, TYPES AND VOLTAGES

Wall-mounted regenerative drives, ACS880-11

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (3 to 110 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-11-09A4-3	R3	10	13.6	4	9.5	4	8	3	57	226	361
ACS880-11-12A6-3	R3	12.9	17	5.5	12	5.5	10	4	57	329	361
ACS880-11-017A-3	R3	17	21.9	7.5	16	7.5	12.9	5.4	57	395	361
ACS880-11-025A-3	R3	25	28.8	11	24	11	17	7.5	57	579	361
ACS880-11-032A-3	R6	32	42.5	15	30	15	25	11	71	625	550
ACS880-11-038A-3	R6	38	54.4	18.5	36	18.5	32	15	71	751	550
ACS880-11-045A-3	R6	45	64.6	22	43	22	38	18.5	71	912	550
ACS880-11-061A-3	R6	61	76.5	30	58	30	45	22	71	1088	550
ACS880-11-072A-3	R6	72	103.7	37	68	37	61	30	71	1502	550
ACS880-11-087A-3	R6	87	122.4	45	83	45	72	37	71	1904	550
ACS880-11-105A-3	R8	105	148	55	100	55	87	45	68	1877	860/913 *)
ACS880-11-145A-3	R8	145	178	75	138	75	105	55	68	2963	860/913 *)
ACS880-11-169A-3	R8	169	247	90	161	90	145	75	68	3168	860/913 *)
ACS880-11-206A-3	R8	206	287	110	196	110	169	90	68	3990	860/913 *)

*) (IP2X/IP55)

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (2.2 to 110 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-11-07A6-5	R3	7.6	9.5	4	7.2	4	5.2	2.2	57	219	361
ACS880-11-11A0-5	R3	11	13.8	5.5	10.4	5.5	7.6	4	57	278	361
ACS880-11-014A-5	R3	14	18.7	7.5	13	7.5	11	5.5	57	321	361
ACS880-11-021A-5	R3	21	26.3	11	19	11	14	7.5	57	473	361
ACS880-11-027A-5	R6	27	35.7	15	26	15	21	11	71	625	550
ACS880-11-034A-5	R6	34	45.9	18.5	32	18.5	27	15	71	711	550
ACS880-11-040A-5	R6	40	57.8	22	38	22	34	18.5	71	807	550
ACS880-11-052A-5	R6	52	68	30	49	30	40	22	71	960	550
ACS880-11-065A-5	R6	65	88.4	37	62	37	52	30	71	1223	550
ACS880-11-077A-5	R6	77	110.5	45	73	45	65	37	71	1560	550
ACS880-11-101A-5	R8	101	148	55	91	55	77	45	68	1995	860/913 *)
ACS880-11-124A-5	R8	124	178	75	118	75	96	55	68	2800	860/913 *)
ACS880-11-156A-5	R8	156	247	90	148	90	124	75	68	3168	860/913 *)
ACS880-11-180A-5	R8	180	287	110	171	110	156	90	68	3872	860/913 *)

*) (IP2X/IP55)

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 10 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 5 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 5 minutes 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.

RATINGS, TYPES AND VOLTAGES

Cabinet-built regenerative drives, ACS880-17

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (45 to 1400 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-17-0105A-3	R8	105	148	55	100	55	87	45	70	2200	860
ACS880-17-0145A-3	R8	145	178	75	138	75	105	55	70	3300	860
ACS880-17-0169A-3	R8	169	247	90	161	90	145	75	70	3570	860
ACS880-17-0206A-3	R8	206	287	110	196	110	169	90	70	4440	860
ACS880-17-0220A-3	R6i + R6i	220	290	132	211	110	165	90	77	5320	2200
ACS880-17-0290A-3	R7i + R7i	290	380	160	278	132	217	110	77	7420	2780
ACS880-17-0293A-3	R11	293	418	160	278	160	246	132	77	6900	2100
ACS880-17-0363A-3	R11	363	498	200	345	200	293	160	77	8500	2100
ACS880-17-0442A-3	R11	442	621	250	420	250	363	200	77	10500	2100
ACS880-17-0450A-3	R8i + R8i	450	590	250	432	200	337	160	75	11000	3760
ACS880-17-0505A-3	R11	505	631	250	480	250	363	200	77	10600	2100
ACS880-17-0585A-3	R11	585	751	315	556	315	442	250	77	13200	2100
ACS880-17-0620A-3	R8i + R8i	620	810	355	595	315	464	250	75	15000	3760
ACS880-17-0650A-3	R11	650	859	355	618	355	505	250	77	14800	2100
ACS880-17-0730A-3	R8i + R8i	730	950	400	701	355	546	250	75	18000	3760
ACS880-17-0800A-3	R8i + R8i	800	1040	450	758	400	598	315	75	20000	3760
ACS880-17-0870A-3	R8i + R8i	870	1050	500	835	450	651	355	75	23000	3760
ACS880-17-1110A-3	2×R8i + 2×R8i	1110	1450	630	1066	560	830	450	77	27000	7220
ACS880-17-1210A-3	2×R8i + 2×R8i	1210	1580	710	1162	630	905	500	77	29000	7220
ACS880-17-1430A-3	2×R8i + 2×R8i	1430	1860	800	1373	710	1070	560	77	34000	7220
ACS880-17-1700A-3	2×R8i + 2×R8i	1700	2040	1000	1632	900	1272	710	77	45000	7220
ACS880-17-2060A-3	3×R8i + 3×R8i	2060	2680	1200	1978	1100	1541	800	78	56000	11580
ACS880-17-2530A-3	3×R8i + 3×R8i	2530	3040	1400	2429	1200	1892	1000	78	68000	11580

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (45 to 1600 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-17-0101A-5	R8	101	148	55	91	55	77	45	70	2300	860
ACS880-17-0124A-5	R8	124	178	75	118	75	96	55	70	3100	860
ACS880-17-0156A-5	R8	156	247	90	148	90	124	75	70	3500	860
ACS880-17-0180A-5	R8	180	287	110	171	110	156	90	70	4300	860
ACS880-17-0190A-5	R6i + R6i	190	250	132	182	110	142	90	77	5710	2200
ACS880-17-0220A-5	R6i + R6i	220	290	160	211	132	165	110	77	5730	2200
ACS880-17-0260A-5	R11	260	418	160	247	160	240	132	77	6900	2100
ACS880-17-0280A-5	R7i + R7i	280	370	200	269	160	209	132	77	7500	2780
ACS880-17-0361A-5	R11	361	542	200	343	200	260	160	77	8500	2100
ACS880-17-0414A-5	R11	414	614	250	393	250	361	200	77	10500	2100
ACS880-17-0420A-5	R8i + R8i	420	550	250	403	250	314	200	75	11000	3760
ACS880-17-0460A-5	R11	460	660	315	450	315	414	250	77	13100	2100
ACS880-17-0503A-5	R11	503	725	355	492	355	460	315	77	14800	2100
ACS880-17-0570A-5	R8i + R8i	570	750	400	547	355	426	250	75	15000	3760
ACS880-17-0640A-5	R8i + R8i	640	840	450	614	400	479	315	75	15000	3760
ACS880-17-0710A-5	R8i + R8i	710	930	500	682	450	531	355	75	18000	3760
ACS880-17-0780A-5	R8i + R8i	780	1020	560	749	500	583	400	75	21000	3760
ACS880-17-1010A-5	2×R8i + 2×R8i	1010	1320	710	970	630	755	500	77	27000	7220
ACS880-17-1110A-5	2×R8i + 2×R8i	1110	1450	800	1066	710	830	560	77	28000	7220
ACS880-17-1530A-5	2×R8i + 2×R8i	1530	1990	1100	1469	1000	1144	800	77	41000	7220
ACS880-17-1980A-5	3×R8i + 3×R8i	1980	2580	1400	1901	1300	1481	1000	78	51000	11580
ACS880-17-2270A-5	3×R8i + 3×R8i	2270	2960	1600	2179	1500	1698	1200	78	60000	11580

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (132 to 3200 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m^3/h)
ACS880-17-0100A-7	R6i + R6i	100	150	90	96	75	75	55	77	5190	2200
ACS880-17-0120A-7	R6i + R6i	120	180	110	115	90	90	75	77	5290	2200
ACS880-17-0150A-7	R6i + R6i	150	230	132	144	110	112	90	77	5380	2200
ACS880-17-0174A-7	R11	174	274	160	165	160	142	132	77	6900	2100
ACS880-17-0180A-7	R7i + R7i	180	270	160	173	132	135	110	77	6400	2780
ACS880-17-0190A-7	R7i + R7i	190	290	200	182	160	142	132	77	6600	2780
ACS880-17-0210A-7	R11	210	384	200	200	200	174	160	77	8500	2100
ACS880-17-0271A-7	R11	271	411	250	257	250	210	200	77	10500	2100
ACS880-17-0320A-7	R8i + R8i	320	480	315	307	250	239	200	75	13000	3760
ACS880-17-0330A-7	R11	330	480	315	320	315	271	250	77	13000	2100
ACS880-17-0370A-7	R11	370	520	355	360	355	330	315	77	14700	2100
ACS880-17-0390A-7	R8i + R8i	390	590	355	374	355	292	250	75	15000	3760
ACS880-17-0430A-7	R11	430	555	400	420	400	370	355	77	16500	2100
ACS880-17-0460A-7	R8i + R8i	460	690	450	442	400	344	315	75	17000	3760
ACS880-17-0510A-7	R8i + R8i	510	770	500	490	450	381	355	75	19000	3760
ACS880-17-0580A-7	R8i + R8i	580	870	560	557	500	434	400	75	23000	3760
ACS880-17-0660A-7	2×R8i + 2×R8i	660	990	630	634	560	494	450	77	26000	7220
ACS880-17-0770A-7	2×R8i + 2×R8i	770	1160	710	739	710	576	560	77	29000	7220
ACS880-17-0950A-7	2×R8i + 2×R8i	950	1430	900	912	800	711	710	77	38000	7220
ACS880-17-1130A-7	2×R8i + 2×R8i	1130	1700	1100	1085	1000	845	800	77	44000	7220
ACS880-17-1450A-7	3×R8i + 3×R8i	1450	2180	1400	1392	1300	1085	1000	78	54000	11580
ACS880-17-1680A-7	3×R8i + 3×R8i	1680	2520	1600	1613	1500	1257	1200	78	64000	11580
ACS880-17-1950A-7	4×R8i + 4×R8i	1950	2930	1900	1872	1800	1459	1400	79	80000	14440
ACS880-17-2230A-7	4×R8i + 4×R8i	2230	3350	2200	2141	2000	1668	1600	79	88000	14440
ACS880-17-2770A-7	6×R8i + 5×R8i	2770	4160	2700	2659	2600	2072	2000	79	113000	18800
ACS880-17-3310A-7	6×R8i + 6×R8i	3310	4970	3200	3178	3000	2476	2400	79	132000	21660

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 10 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 5 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 5 minutes at 40 °C.
P_{Hd}	Typical motor power in heavy-duty use.

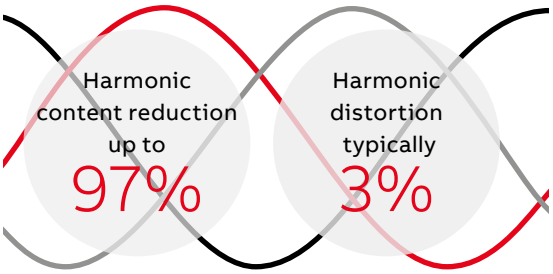
The ratings apply at 40 °C ambient temperature.
At higher temperatures (up to 50 °C), the derating is 1%/1 °C.
Operation above 150 Hz may require type-specific derating.

ULTRA-LOW HARMONIC DRIVES

ACS880-31 and ACS880-37

Harmonic distortions can disturb or even damage sensitive equipment connected in the same environment. Harmonics also cause additional losses in the network.

Clean supply network
The drive produces exceptionally low harmonic content and exceeds the requirements of harmonic guidance/standards such as IEEE 519, IEC61000-3-2, IEC61000-3-12, IEC61000-3-4 and G5/4. Compared to a conventional drive, the harmonic content is reduced by up to 97%.
The total harmonic current distortion is typically <3% in a nominal situation and an undistorted network. A common DC solution introduces a cost-efficient way of keeping the supply network clean in an installation of multiple drives.



—

Keeps the network clean

Minimized downtime
The ACS880 ultra-low harmonic drive offers immunity to network disturbances. The drive will not interrupt the process or affect its quality in unstable supply network conditions. The drive's active supply unit can boost the output voltage to enable full motor voltage, even when the supply voltage is below nominal. This ensures reliable operation in weak networks. This voltage boost capability can also be utilized to overcome voltage drops caused by long supply or motor cables. The possibility to stabilize the output voltage of the drive is an advantage compared to alternative low harmonic solutions where voltage cannot be boosted.

Optimized cost and space
The compact drive features built in harmonics mitigation. This includes an active supply unit and a low harmonic line filter. As there is no need for external filters, multi-pulse arrangements or special transformers, the simple installation offers significant space, time and cost savings.

As there is less risk of overheating with lower harmonic currents, there is no need to over-dimension equipment such as transformers and cables. The drive's voltage boost capability can be an advantage in motor dimensioning. With a higher motor voltage, the same power is achieved with a lower current, which improves motor efficiency and may allow a smaller motor to be used.

Maximized motor performance and efficiency
The drive can provide full motor voltage, even if the supply voltage fluctuates. It features direct torque control (DTC) as standard, making it suitable for very demanding applications as well. DTC provides precise speed and torque control for maximum motor performance and motor efficiency.

—

Reduces the total cost of ownership

Efficient energy utilization
The ACS880 ultra-low harmonic drives achieve a unity power factor, indicating that electrical energy is being used efficiently.

The drive offers the possibility of network power factor correction to compensate for the low power factors of equipment connected to the same network. It can help avoid penalty charges set by electrical utilities for poor power factors.

Lower harmonics and full motor voltage at all times mean reduced system losses and better overall system efficiency.

For more information, visit http://new.abb.com/drives/harmonics.





Wall-mounted ultra-low harmonic drives, ACS880-31

- Power ratings: 2.2 to 110 kW
- Enclosure classes: IP20 for cabinet mounting, IP21 (as standard) for wall mounting and IP55 for dusty and wet environments

Main options:

- Flange mounting
- C2 and C3 EMC filters, see page 46
- I/O extension modules, see page 83
- Communication protocol adapters, see page 83
- Speed feedback interfaces, see page 85
- Functional safety modules, see page 87
- Remote monitoring tool
- Application-specific software, see page 8
- Du/dt filters, see page 64
- Sine filters, see page 50

Cabinet-built ultra-low harmonic drives, ACS880-37

- Power ratings: 45 to 3200 kW
- Enclosure classes: IP22 (as standard), IP42 and IP54 for different environments, with option of air intake through bottom of the cabinet and channeled air outlet on the top of the cabinet

Main options:

- EMC filters, see page 46 (as standard for nxR8i)
- Cabling solutions for bottom and top entry and exit
- Functional safety modules, see page 87
- I/O extension modules, see page 83
- Communication protocol adapters, see page 83
- Speed feedback interfaces, see page 85
- Du/dt and common mode filter options for motor protection, see page 64
- Marine construction option
- Cabinet light and heater option

The drives have an extensive selection of built-in features and options. See page 98.

Highlights

- The total harmonic current distortion is typically <3% in a nominal situation and undistorted network. Low harmonic content also in partial loads
- “All inside” design: no need for external filters, multi-pulse arrangements or special transformers
- Simple and cost-effective installation
- Unity power factor. Possibility of network power factor correction
- Small installation footprint
- Output voltage stabilization secures operation in weak networks
- DC voltage boost to compensate for a voltage drop caused by an output filter or long motor cables, and to ensure full motor supply voltage
- Increased system efficiency with lower component losses due to very low level of harmonics


Local
ACS880
Save money
Save energy
Save nerves
Save all
1400.0 Rpm
Exit
Select
Stop
Loc/Rem
?
Start

RATINGS, TYPES AND VOLTAGES

Wall-mounted ultra-low harmonic drives, ACS880-31

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (3 to 110 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-31-09A4-3	R3	10	13.6	4	9.5	4	8	3	57	226	361
ACS880-31-12A6-3	R3	12.9	17	5.5	12	5.5	10	4	57	329	361
ACS880-31-017A-3	R3	17	21.9	7.5	16	7.5	12.9	5.4	57	395	361
ACS880-31-025A-3	R3	25	28.8	11	24	11	17	7.5	57	579	361
ACS880-31-032A-3	R6	32	42.5	15	30	15	25	11	71	625	550
ACS880-31-038A-3	R6	38	54.4	18.5	36	18.5	32	15	71	751	550
ACS880-31-045A-3	R6	45	64.6	22	43	22	38	18.5	71	912	550
ACS880-31-061A-3	R6	61	76.5	30	58	30	45	22	71	1088	550
ACS880-31-072A-3	R6	72	103.7	37	68	37	61	30	71	1502	550
ACS880-31-087A-3	R6	87	122.4	45	83	45	72	37	71	1904	550
ACS880-31-105A-3	R8	105	148	55	100	55	87	45	68	1877	860/913 *)
ACS880-31-145A-3	R8	145	178.3	75	138	75	105	55	68	2963	860/913 *)
ACS880-31-169A-3	R8	169	246.5	90	161	90	145	75	68	3168	860/913 *)
ACS880-31-206A-3	R8	206	287.3	110	196	110	169	90	68	3990	860/913 *)

*) (IP2X/IP55)

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (2.2 to 110 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-31-07A6-5	R3	7.6	9.5	4	7.2	4	5.2	2.2	57	219	361
ACS880-31-11A0-5	R3	11	13.8	5.5	10.4	5.5	7.6	4	57	278	361
ACS880-31-014A-5	R3	14	18.7	7.5	13	7.5	11	5.5	57	321	361
ACS880-31-021A-5	R3	21	26.3	11	19	11	14	7.5	57	473	361
ACS880-31-027A-5	R6	27	35.7	15	26	15	21	11	71	625	550
ACS880-31-034A-5	R6	34	45.9	18.5	32	18.5	27	15	71	711	550
ACS880-31-040A-5	R6	40	57.8	22	38	22	34	18.5	71	807	550
ACS880-31-052A-5	R6	52	68	30	49	30	40	22	71	960	550
ACS880-31-065A-5	R6	65	88.4	37	62	37	52	30	71	1223	550
ACS880-31-077A-5	R6	77	110.5	45	73	45	65	37	71	1560	550
ACS880-31-101A-5	R8	101	148	55	91	55	77	45	68	1995	860/913 *)
ACS880-31-124A-5	R8	124	178	75	118	75	96	55	68	2800	860/913 *)
ACS880-31-156A-5	R8	156	247	90	148	90	124	75	68	3168	860/913 *)
ACS880-31-180A-5	R8	180	287	110	171	110	156	90	68	3872	860/913 *)

*) (IP2X/IP55)

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 10 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 5 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 5 minutes 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.

H

RATINGS, TYPES AND VOLTAGES

Cabinet-built ultra-low harmonic drives, ACS880-37

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (45 to 1400 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-37-0105A-3	R8	105	148	55	100	55	87	45	70	2200	860
ACS880-37-0145A-3	R8	145	178	75	138	75	105	55	70	3300	860
ACS880-37-0169A-3	R8	169	247	90	161	90	145	75	70	3570	860
ACS880-37-0206A-3	R8	206	287	110	196	110	169	90	70	4440	860
ACS880-37-0220A-3	R6i + R6i	220	290	132	211	110	165	90	77	5320	2200
ACS880-37-0290A-3	R7i + R7i	290	380	160	278	132	217	110	77	7420	2780
ACS880-37-0293A-3	R11	293	418	160	278	160	246	132	77	6900	2100
ACS880-37-0363A-3	R11	363	498	200	345	200	293	160	77	8500	2100
ACS880-37-0450A-3	R8i + R8i	450	590	250	432	200	337	160	75	11000	3760
ACS880-37-0442A-3	R11	442	621	250	420	250	363	200	77	10500	2100
ACS880-37-0505A-3	R11	505	631	250	480	250	363	200	77	10600	2100
ACS880-37-0585A-3	R11	585	751	315	556	315	442	250	77	13200	2100
ACS880-37-0650A-3	R11	650	859	355	618	355	505	250	77	14800	2100
ACS880-37-0620A-3	R8i + R8i	620	810	355	595	315	464	250	75	15000	3760
ACS880-37-0730A-3	R8i + R8i	730	950	400	701	355	546	250	75	18000	3760
ACS880-37-0800A-3	R8i + R8i	800	1040	450	758	400	598	315	75	20000	3760
ACS880-37-0870A-3	R8i + R8i	870	1050	500	835	450	651	355	75	23000	3760
ACS880-37-1110A-3	2×R8i + 2×R8i	1110	1450	630	1066	560	830	450	77	27000	7220
ACS880-37-1210A-3	2×R8i + 2×R8i	1210	1580	710	1162	630	905	500	77	29000	7220
ACS880-37-1430A-3	2×R8i + 2×R8i	1430	1860	800	1373	710	1070	560	77	34000	7220
ACS880-37-1700A-3	2×R8i + 2×R8i	1700	2040	1000	1632	900	1272	710	77	45000	7220
ACS880-37-2060A-3	3×R8i + 3×R8i	2060	2680	1200	1978	1100	1541	800	78	56000	11580
ACS880-37-2530A-3	3×R8i + 3×R8i	2530	3040	1400	2429	1200	1892	1000	78	68000	11580

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (45 to 1600 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m³/h)
ACS880-37-0101A-5	R8	101	148	55	91	55	77	45	70	2300	860
ACS880-37-0124A-5	R8	124	178	75	118	75	96	55	70	3100	860
ACS880-37-0156A-5	R8	156	247	90	148	90	124	75	70	3500	860
ACS880-37-0180A-5	R8	180	287	110	171	110	156	90	70	4300	860
ACS880-37-0220A-5	R6i + R6i	220	290	160	211	132	165	110	77	5730	2200
ACS880-37-0260A-5	R11	260	418	160	247	160	240	132	77	6900	2100
ACS880-37-0280A-5	R7i + R7i	280	370	200	269	160	209	132	77	7500	2780
ACS880-37-0361A-5	R11	361	542	200	343	200	260	160	77	8500	2100
ACS880-37-0414A-5	R11	414	614	250	393	250	361	200	77	10500	2100
ACS880-37-0420A-5	R8i + R8i	420	550	250	403	250	314	200	75	11000	3760
ACS880-37-0460A-5	R11	460	660	315	450	315	414	250	77	13100	2100
ACS880-37-0503A-5	R11	503	725	355	492	355	460	315	77	14800	2100
ACS880-37-0570A-5	R8i + R8i	570	750	400	547	355	426	250	75	15000	3760
ACS880-37-0640A-5	R8i + R8i	640	840	450	614	400	479	315	75	15000	3760
ACS880-37-0710A-5	R8i + R8i	710	930	500	682	450	531	355	75	18000	3760
ACS880-37-0780A-5	R8i + R8i	780	1020	560	749	500	583	400	75	21000	3760
ACS880-37-1010A-5	2×R8i + 2×R8i	1010	1320	710	970	630	755	500	77	27000	7220
ACS880-37-1110A-5	2×R8i + 2×R8i	1110	1450	800	1066	710	830	560	77	28000	7220
ACS880-37-1530A-5	2×R8i + 2×R8i	1530	1990	1100	1469	1000	1144	800	77	41000	7220
ACS880-37-1980A-5	3×R8i + 3×R8i	1980	2580	1400	1901	1300	1481	1000	78	51000	11580
ACS880-37-2270A-5	3×R8i + 3×R8i	2270	2960	1600	2179	1500	1698	1200	78	60000	11580

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (132 to 3200 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Heat dissipation	Airflow
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(W)	(m^3/h)
ACS880-37-0100A-7	R6i + R6i	100	150	90	96	75	75	55	77	5190	2200
ACS880-37-0120A-7	R6i + R6i	120	180	110	115	90	90	75	77	5290	2200
ACS880-37-0150A-7	R6i + R6i	150	230	132	144	110	112	90	77	5380	2200
ACS880-37-0174A-7	R11	174	274	160	165	160	142	132	77	6900	2100
ACS880-37-0180A-7	R7i + R7i	180	270	160	173	132	135	110	77	6400	2780
ACS880-37-0190A-7	R7i + R7i	190	290	200	182	160	142	132	77	6600	2780
ACS880-37-0210A-7	R11	210	384	200	200	200	174	160	77	8500	2100
ACS880-37-0271A-7	R11	271	411	250	257	250	210	200	77	10500	2100
ACS880-37-0320A-7	R8i + R8i	320	480	315	307	250	239	200	75	13000	3760
ACS880-37-0330A-7	R11	330	480	315	320	315	271	250	77	13000	2100
ACS880-37-0370A-7	R11	370	520	355	360	355	330	315	77	14700	2100
ACS880-37-0390A-7	R8i + R8i	390	590	355	374	355	292	250	75	15000	3760
ACS880-37-0430A-7	R11	430	555	400	420	400	370	355	77	16500	2100
ACS880-37-0460A-7	R8i + R8i	460	690	450	442	400	344	315	75	17000	3760
ACS880-37-0510A-7	R8i + R8i	510	770	500	490	450	381	355	75	19000	3760
ACS880-37-0580A-7	R8i + R8i	580	870	560	557	500	434	400	75	23000	3760
ACS880-37-0660A-7	2×R8i + 2×R8i	660	990	630	634	560	494	450	77	26000	7220
ACS880-37-0770A-7	2×R8i + 2×R8i	770	1160	710	739	710	576	560	77	29000	7220
ACS880-37-0950A-7	2×R8i + 2×R8i	950	1430	900	912	800	711	710	77	38000	7220
ACS880-37-1130A-7	2×R8i + 2×R8i	1130	1700	1100	1085	1000	845	800	77	44000	7220
ACS880-37-1450A-7	3×R8i + 3×R8i	1450	2180	1400	1392	1300	1085	1000	78	54000	11580
ACS880-37-1680A-7	3×R8i + 3×R8i	1680	2520	1600	1613	1500	1257	1200	78	64000	11580
ACS880-37-1950A-7	4×R8i + 4×R8i	1950	2930	1900	1872	1800	1459	1400	79	80000	14440
ACS880-37-2230A-7	4×R8i + 4×R8i	2230	3350	2200	2141	2000	1668	1600	79	88000	14440
ACS880-37-2770A-7	6×R8i + 5×R8i	2770	4160	2700	2659	2600	2072	2000	79	113000	18800
ACS880-37-3310A-7	6×R8i + 6×R8i	3310	4970	3200	3178	3000	2476	2400	79	132000	21660

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 10 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 5 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 5 minutes 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 50 °C), the derating is 1%/1 °C. Operation above 150 Hz may require type-specific derating.
[1] Values to be confirmed upon full sales release of the product. Please contact ABB for further information.

LIQUID-COOLED DRIVES

ACS880-07LC, ACS880-07CLC, ACS880-17LC, ACS880-37LC

The compact and robust liquid-cooled cabinet drives are an ultimate solution for various applications where space savings, silent operation or durability in harsh environments is a must.

The single drives with diode supply unit consist of extremely compact supply and inverter units with parallel connected modules. The small footprint enables significant space and weight reduction.

In addition to the single drives with diode supply units, the extensive ACS880 liquid-cooled offering includes low harmonic and regenerative variants.

Built-in redundancy through parallel connected modules enables higher drive availability and greater process uptime. If one of the modules is not operating or is being maintained, the drive will continue to operate at partial load.

Advanced liquid cooling and optimal design
Direct liquid cooling offers easy heat transfer without air filtering problems. As the coolant takes care of 98% of the heat losses, no additional filtered air cooling is needed. This increases the total efficiency of the drive installation.

For harsh environmental conditions

Robust solution for different environments
The totally enclosed cabinet structure makes the ACS880 liquid-cooled drives perfect for harsh environmental conditions.

The offering fulfills marine and offshore requirements, and the drives have marine type approvals from various key classification bodies.

As the direct liquid cooling enables silent operation, the ACS880 liquid-cooled drives are suitable for applications where noise levels are an important environmental factor.

Robust, reliable and compact

Simple and cost-effective installation
Highly efficient liquid cooling removes the need for air conditioning in the installation rooms, bringing installation and operating costs down. As there is no need for additional air-conditioning devices or air ducts, the installation is significantly simplified.

The used coolant type is Antifrogen® L, by Clariant International Ltd, a cooling liquid with glycol and inhibitor. It is a ready-made, commercially available mix, which enables easy commissioning and maximized process uptime.





Liquid-cooled ACS880-07LC and ACS880-07CLC drives
- Power ratings: 250 to 6000 kW
- Enclosure classes: IP42 (as standard) and IP54

Main options:
- Optional liquid cooling unit (LCU) for single, redundant and tandem pump versions
- I/O extension modules, see page 83
- Communication protocol adapters, see page 83
- Emergency stop category 0 with opening main contactor/breaker
- Earth fault monitoring, unearthed mains (IT)

ACS880-07LC:
- Designed for industrial use
- 6- or 12-pulse solution
- Internal charging circuit for the drive

ACS880-07CLC:
- Extremely compact design focused on marine use
- 6-, 12- or 24-pulse solution

Liquid-cooled regenerative ACS880-17LC and ultra-low harmonic ACS880-37LC drives
- Power ratings: 250 to 6000 kW
- Enclosure classes: IP42 (as standard) and IP54

Main options:
- Optional liquid cooling unit (LCU) for single, redundant and tandem pump versions
- Cabling solutions for bottom and top entry and exit
- I/O extension modules, see page 83
- Communication protocol adapters, see page 83

For more information about regenerative functionality, see page 22, and on harmonics, see page 28.

The drives have an extensive selection of built-in features and options. See page 102.

Highlights
- Advanced liquid cooling which reduces the need for air cooling in installation rooms
- High power density with compact and robust design
- Commercially available coolant mix, Antifrogen L
- Redundancy through parallel connected modules prevents unwanted process interruptions
- Low harmonic and regenerative variants
- Silent operation
- Suitable for harsh environments
- Marine approvals from various key classification bodies.

RATINGS, TYPES AND VOLTAGES

Liquid-cooled drives, ACS880-07LC

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (366 to 5446 kVA).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Coolant heat dissipation	Coolant volume	Coolant flow rate
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	P_{loss} (kW)	(l)	(l/min)
Liquid-cooled diode supply units (DSU), ACS880-304LC												
6-pulse diode												
ACS880-07LC-0390A-7	D8T + R8i	390	585	355	374	355	292	250	67	10	15	52
ACS880-07LC-0430A-7	D8T + R8i	430	645	400	413	355	322	250	67	11	15	52
ACS880-07LC-0480A-7	D8T + R8i	480	720	450	461	400	359	315	67	12	15	52
ACS880-07LC-0530A-7	D8T + R8i	530	795	500	509	450	396	355	67	13	15	52
ACS880-07LC-0600A-7	D8T + R8i	600	900	560	576	560	449	400	67	14	15	52
ACS880-07LC-0670A-7	D8T + R8i	670	1005	630	643	630	501	450	67	16	15	52
ACS880-07LC-0750A-7	D8T + R8i	750	1125	710	720	710	561	500	67	18	15	52
ACS880-07LC-0850A-7	D8T + R8i	850	1275	800	816	800	636	560	67	20	15	52
ACS880-07LC-1030A-7	D8T + 2×R8i	1030	1545	1000	989	900	770	710	69	23	18	68
ACS880-07LC-1170A-7	D8T + 2×R8i	1170	1755	1100	1123	1100	875	800	69	27	18	68
ACS880-07LC-1310A-7	2×D8T + 2×R8i	1310	1965	1200	1258	1200	980	900	69	30	19	82
ACS880-07LC-1470A-7	2×D8T + 2×R8i	1470	2205	1400	1411	1200	1100	1000	69	34	19	82
ACS880-07LC-1660A-7	2×D8T + 2×R8i	1660	2490	1600	1594	1400	1242	1200	69	39	19	82
ACS880-07LC-1940A-7	2×D8T + 3×R8i	1940	2910	1800	1862	1800	1451	1400	71	43	22	98
ACS880-07LC-2180A-7	2×D8T + 3×R8i	2180	3270	2000	2093	2000	1631	1400	71	49	22	98
ACS880-07LC-2470A-7	3×D8T + 3×R8i	2470	3705	2300	2371	2300	1848	1800	71	56	26	118
ACS880-07LC-2880A-7	3×D8T + 4×R8i	2880	4320	2700	2765	2700	2154	2000	72	65	29	134
ACS880-07LC-3260A-7	3×D8T + 4×R8i	3260	4890	3000	3130	3000	2438	2300	72	75	29	134
ACS880-07LC-3580A-7	4×D8T + 5×R8i	3580	5370	3400	3437	3200	2678	2600	73	81	37	172
ACS880-07LC-4050A-7	4×D8T + 5×R8i	4050	6075	3800	3888	3800	3029	2800	74	94	37	172
ACS880-07LC-4840A-7	5×D8T + 6×R8i	4840	7260	4400	4646	4400	3620	3500	74	115	44	208
ACS880-07LC-5650A-7	6×D8T + 7×R8i	5650	8475	5200	5424	5200	4226	4000	75	129	49	238
ACS880-07LC-6460A-7	6×D8T + 8×R8i	6460	9690	6000	6202	6000	4832	4700	75	147	52	254
12-pulse diode [1]												
ACS880-07LC-0530A-7+A004	2×D8T + R8i	530	795	500	509	450	474	355	67	13	19	74
ACS880-07LC-0600A-7+A004	2×D8T + R8i	600	900	560	576	560	536	400	67	15	19	74
ACS880-07LC-0670A-7+A004	2×D8T + R8i	670	1005	630	643	630	599	450	67	16	19	74
ACS880-07LC-0750A-7+A004	2×D8T + R8i	750	1125	710	720	710	670	500	67	19	19	74
ACS880-07LC-0850A-7+A004	2×D8T + R8i	850	1275	800	816	800	760	560	67	21	19	74
ACS880-07LC-1030A-7+A004	2×D8T + 2×R8i	1030	1545	1000	989	900	921	710	69	23	23	90
ACS880-07LC-1170A-7+A004	2×D8T + 2×R8i	1170	1755	1100	1123	1100	1046	800	69	26	23	90
ACS880-07LC-1310A-7+A004	2×D8T + 2×R8i	1310	1965	1200	1258	1200	1171	900	69	30	23	90
ACS880-07LC-1470A-7+A004	2×D8T + 2×R8i	1470	2205	1400	1411	1200	1314	1000	69	34	23	90
ACS880-07LC-1660A-7+A004	2×D8T + 2×R8i	1660	2490	1600	1594	1400	1484	1200	69	39	23	90
ACS880-07LC-1940A-7+A004	2×D8T + 3×R8i	1940	2910	1800	1862	1800	1734	1400	71	43	26	106
ACS880-07LC-2180A-7+A004	2×D8T + 3×R8i	2180	3270	2000	2093	2000	1949	1400	71	49	26	106
ACS880-07LC-2470A-7+A004	4×D8T + 3×R8i	2470	3705	2300	2371	2300	2208	1800	71	57	30	140
ACS880-07LC-2880A-7+A004	4×D8T + 4×R8i	2880	4320	2700	2765	2700	2575	2000	72	65	34	156
ACS880-07LC-3260A-7+A004	4×D8T + 4×R8i	3260	4890	3000	3130	3000	2914	2300	72	76	34	156
ACS880-07LC-3580A-7+A004	4×D8T + 5×R8i	3580	5370	3400	3437	3200	3200	2600	73	81	37	172
ACS880-07LC-4050A-7+A004	4×D8T + 5×R8i	4050	6075	3800	3888	3800	3620	2800	74	94	37	172
ACS880-07LC-4840A-7+A004	6×D8T + 6×R8i	4840	7260	4400	4646	4400	4327	3500	74	111	45	222
ACS880-07LC-5650A-7+A004	6×D8T + 7×R8i	5650	8475	5200	5424	5200	5051	4000	75	129	49	238
ACS880-07LC-6460A-7+A004	6×D8T + 8×R8i	6460	9690	6000	6202	6000	5775	4700	75	147	52	254

[1] +A004 is option code for 12-pulse half-controlled rectifier bridge

RATINGS, TYPES AND VOLTAGES

Liquid-cooled drives, ACS880-07CLC

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (250 to 6000 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	Coolant heat dissipation	Coolant volume	Coolant flow rate
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	P_{loss} (kW)	(l)	(l/min)
6-pulse diode												
ACS880-07CLC-0390A-7	D8D + R8i	390	585	355	374	355	292	250	66	9.7	7.1	28
ACS880-07CLC-0430A-7	D8D + R8i	430	645	400	413	355	322	250	66	10	7.1	28
ACS880-07CLC-0480A-7	D8D + R8i	480	720	450	461	400	359	315	66	12	7.1	28
ACS880-07CLC-0530A-7	D8D + R8i	530	795	500	509	450	396	355	66	13	7.1	28
ACS880-07CLC-0600A-7	D8D + R8i	600	900	560	576	560	449	400	66	14	7.1	28
ACS880-07CLC-0670A-7	D8D + R8i	670	1005	630	643	630	501	450	66	16	7.1	28
ACS880-07CLC-0750A-7	D8D + R8i	750	1125	710	720	710	561	500	66	17	7.1	28
ACS880-07CLC-0850A-7	D8D + R8i	850	1275	800	816	800	636	560	66	20	7.1	28
ACS880-07CLC-1030A-7	2×D8D + 2×R8i	1030	1545	1000	989	900	770	710	68	25	10.8	54
ACS880-07CLC-1170A-7	2×D8D + 2×R8i	1170	1755	1100	1123	1100	875	800	68	27	10.8	54
ACS880-07CLC-1310A-7	2×D8D + 2×R8i	1310	1965	1200	1258	1200	980	900	68	31	10.8	54
ACS880-07CLC-1470A-7	2×D8D + 2×R8i	1470	2205	1400	1411	1200	1100	1000	68	34	10.8	54
ACS880-07CLC-1660A-7	2×D8D + 2×R8i	1660	2490	1600	1594	1400	1242	1200	68	39	10.8	54
ACS880-07CLC-1940A-7	3×D8D + 3×R8i	1940	2910	1800	1862	1800	1451	1400	69	45	14.6	72
ACS880-07CLC-2180A-7	3×D8D + 3×R8i	2180	3270	2000	2093	2000	1631	1400	69	51	14.6	72
ACS880-07CLC-2470A-7	3×D8D + 3×R8i	2470	3705	2300	2371	2300	1848	1800	69	58	14.6	72
ACS880-07CLC-2880A-7	4×D8D + 4×R8i	2880	4320	2700	2765	2700	2154	2000	70	67	22.5	98
ACS880-07CLC-3260A-7	4×D8D + 4×R8i	3260	4890	3000	3130	3000	2438	2300	70	77	22.5	98
12-pulse diode												
ACS880-07CLC-0530A-7+A004	2×D8D + 1×R8i	530	795	500	509	450	396	355	66	13	7.6	38
ACS880-07CLC-0600A-7+A004	2×D8D + 1×R8i	600	900	560	576	560	449	400	66	14	7.6	38
ACS880-07CLC-0670A-7+A004	2×D8D + 1×R8i	670	1005	630	643	630	501	450	66	16	7.6	38
ACS880-07CLC-0750A-7+A004	2×D8D + 1×R8i	750	1125	710	720	710	561	500	66	17	7.6	38
ACS880-07CLC-0850A-7+A004	2×D8D + 1×R8i	850	1275	800	816	800	636	560	66	20	7.6	38
ACS880-07CLC-1030A-7+A004	2×D8D + 2×R8i	1030	1545	1000	989	900	770	710	68	25	10.8	54
ACS880-07CLC-1170A-7+A004	2×D8D + 2×R8i	1170	1755	1100	1123	1100	875	800	68	27	10.8	54
ACS880-07CLC-1310A-7+A004	2×D8D + 2×R8i	1310	1965	1200	1258	1200	980	900	68	31	10.8	54
ACS880-07CLC-1470A-7+A004	2×D8D + 2×R8i	1470	2205	1400	1411	1200	1100	1000	68	34	10.8	54
ACS880-07CLC-1660A-7+A004	2×D8D + 2×R8i	1660	2490	1600	1594	1400	1242	1200	68	39	10.8	54
ACS880-07CLC-1940A-7+A004	4×D8D + 3×R8i	1940	2910	1800	1862	1800	1451	1400	69	45	15	82
ACS880-07CLC-2180A-7+A004	4×D8D + 3×R8i	2180	3270	2000	2093	2000	1631	1400	69	51	15	82
ACS880-07CLC-2470A-7+A004	4×D8D + 3×R8i	2470	3705	2300	2371	2300	1848	1800	69	58	15	82
ACS880-07CLC-2880A-7+A004	4×D8D + 4×R8i	2880	4320	2700	2765	2700	2154	2000	70	67	22.5	98
ACS880-07CLC-3260A-7+A004	4×D8D + 4×R8i	3260	4890	3000	3130	3000	2438	2300	70	77	22.5	98
ACS880-07CLC-3580A-7+A004	6×D8D + 5×R8i	3580	5370	3400	3437	3200	2678	2600	72	84	25.8	126
ACS880-07CLC-4050A-7+A004	6×D8D + 5×R8i	4050	6075	3800	3888	3800	3029	2800	72	95	25.8	126
ACS880-07CLC-4840A-7+A004	6×D8D + 6×R8i	4840	7260	4400	4646	4400	3620	3500	72	114	29.1	142
ACS880-07CLC-5650A-7+A004	8×D8D + 7×R8i	5650	8475	5200	5424	5200	4226	4000	73	133	33.9	170
ACS880-07CLC-6460A-7+A004	8×D8D + 8×R8i	6460	9690	6000	6202	6000	4832	4700	73	152	37.2	186
24-pulse diode												
ACS880-07CLC-2470A-7+A006	4×D8D + 3×R8i	2470	3705	2300	2371	2300	1848	1800	69	58	15	82
ACS880-07CLC-3260A-7+A006	4×D8D + 4×R8i	3260	4890	3000	3130	3000	2438	2300	70	77	22.5	98
ACS880-07CLC-4840A-7+A006	8×D8D + 6×R8i	4840	7260	4400	4646	4400	3620	3500	72	114	30	154
ACS880-07CLC-5650A-7+A006	8×D8D + 7×R8i	5650	8475	5200	5424	5200	4226	4000	73	133	33.9	170
ACS880-07CLC-6460A-7+A006	8×D8D + 8×R8i	6460	9690	6000	6202	6000	4832	4700	73	152	37.2	186

RATINGS, TYPES AND VOLTAGES

Liquid-cooled regenerative drives, ACS880-17LC

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (250 to 6000 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	$P_{loss\ coolant}$	Coolant volume	Coolant flow rate
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(kW)	(l)	(l/min)
ACS880-17LC-0390A-7	R8i + R8i	390	590	355	374	355	292	250	68	15	12	68
ACS880-17LC-0430A-7	R8i + R8i	430	650	400	413	355	322	250	68	17	12	68
ACS880-17LC-0480A-7	R8i + R8i	480	720	450	461	400	359	315	68	19	12	68
ACS880-17LC-0520A-7	R8i + R8i	520	780	500	499	450	389	355	68	21	12	68
ACS880-17LC-0600A-7	R8i + R8i	600	900	560	576	500	449	400	68	24	12	68
ACS880-17LC-0670A-7	R8i + R8i	670	1010	630	643	560	501	450	68	27	12	68
ACS880-17LC-0750A-7	R8i + R8i	750	1130	710	720	630	561	500	68	31	12	68
ACS880-17LC-0830A-7	R8i + R8i	830	1250	800	797	710	621	560	68	35	12	68
ACS880-17LC-1000A-7	2×R8i + 2×R8i	1000	1500	1000	960	900	748	710	70	38	19	120
ACS880-17LC-1170A-7	2×R8i + 2×R8i	1170	1760	1100	1123	1000	875	800	70	44	19	120
ACS880-17LC-1270A-7	2×R8i + 2×R8i	1270	1910	1200	1219	1200	950	900	70	50	19	120
ACS880-17LC-1470A-7	2×R8i + 2×R8i	1470	2210	1400	1411	1200	1100	1000	70	55	19	120
ACS880-17LC-1620A-7	2×R8i + 2×R8i	1620	2430	1600	1555	1400	1212	1200	70	63	19	120
ACS880-17LC-1940A-7	3×R8i + 3×R8i	1940	2910	1800	1862	1800	1451	1400	72	70	29	192
ACS880-17LC-2180A-7	3×R8i + 3×R8i	2180	3270	2000	2093	2000	1631	1600	72	81	29	192
ACS880-17LC-2390A-7	3×R8i + 3×R8i	2390	3590	2300	2294	2200	1788	1800	72	93	29	192
ACS880-17LC-2880A-7	4×R8i + 4×R8i	2880	4320	2700	2765	2600	2154	2000	73	105	38	224
ACS880-17LC-3160A-7	4×R8i + 4×R8i	3160	4740	3000	3034	2900	2364	2300	73	121	38	224
ACS880-17LC-3580A-7	5×R8i + 5×R8i	3580	5370	3400	3437	3200	2678	2500	74	132	48	296
ACS880-17LC-4050A-7	6×R8i + 5×R8i	4050	6080	3800	3888	3600	3029	2800	75	151	52	360
ACS880-17LC-4700A-7	6×R8i + 6×R8i	4700	7050	4400	4512	4400	3516	3400	75	182	58	376
ACS880-17LC-5650A-7	8×R8i + 7×R8i	5650	8480	5200	5424	5000	4226	4000	76	208	68	424
ACS880-17LC-6260A-7	8×R8i + 8×R8i	6260	9390	6000	6010	6000	4682	4500	76	286	75	504

RATINGS, TYPES AND VOLTAGES

Liquid-cooled ultra-low harmonic drives, ACS880-37LC

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V (250 to 6000 kW).

Drive type	Frame size	Nominal ratings			Light overload use		Heavy-duty use		Noise level	$P_{loss\ coolant}$	Coolant volume	Coolant flow rate
		I_N (A)	I_{MAX} (A)	P_N (kW)	I_{Ld} (A)	P_{Ld} (kW)	I_{Hd} (A)	P_{Hd} (kW)	(dB(A))	(kW)	(l)	(l/min)
ACS880-37LC-0390A-7	R8i + R8i	390	590	355	374	355	292	250	68	15	12	68
ACS880-37LC-0430A-7	R8i + R8i	430	650	400	413	355	322	250	68	17	12	68
ACS880-37LC-0480A-7	R8i + R8i	480	720	450	461	400	359	315	68	19	12	68
ACS880-37LC-0520A-7	R8i + R8i	520	780	500	499	450	389	355	68	21	12	68
ACS880-37LC-0600A-7	R8i + R8i	600	900	560	576	500	449	400	68	24	12	68
ACS880-37LC-0670A-7	R8i + R8i	670	1010	630	643	560	501	450	68	27	12	68
ACS880-37LC-0750A-7	R8i + R8i	750	1130	710	720	630	561	500	68	31	12	68
ACS880-37LC-0830A-7	R8i + R8i	830	1250	800	797	710	621	560	68	35	12	68
ACS880-37LC-1000A-7	2×R8i + 2×R8i	1000	1500	1000	960	900	748	710	70	38	19	120
ACS880-37LC-1170A-7	2×R8i + 2×R8i	1170	1760	1100	1123	1000	875	800	70	44	19	120
ACS880-37LC-1270A-7	2×R8i + 2×R8i	1270	1910	1200	1219	1200	950	900	70	50	19	120
ACS880-37LC-1470A-7	2×R8i + 2×R8i	1470	2210	1400	1411	1200	1100	1000	70	55	19	120
ACS880-37LC-1620A-7	2×R8i + 2×R8i	1620	2430	1600	1555	1400	1212	1200	70	63	19	120
ACS880-37LC-1940A-7	3×R8i + 3×R8i	1940	2910	1800	1862	1800	1451	1400	72	70	29	192
ACS880-37LC-2180A-7	3×R8i + 3×R8i	2180	3270	2000	2093	2000	1631	1600	72	81	29	192
ACS880-37LC-2390A-7	3×R8i + 3×R8i	2390	3590	2300	2294	2200	1788	1800	72	93	29	192
ACS880-37LC-2880A-7	4×R8i + 4×R8i	2880	4320	2700	2765	2600	2154	2000	73	105	38	224
ACS880-37LC-3160A-7	4×R8i + 4×R8i	3160	4740	3000	3034	2900	2364	2300	73	121	38	224
ACS880-37LC-3580A-7	5×R8i + 5×R8i	3580	5370	3400	3437	3200	2678	2500	74	132	48	296
ACS880-37LC-4050A-7	6×R8i + 5×R8i	4050	6080	3800	3888	3600	3029	2800	75	151	52	360
ACS880-37LC-4700A-7	6×R8i + 6×R8i	4700	7050	4400	4512	4400	3516	3400	75	182	58	376
ACS880-37LC-5650A-7	8×R8i + 7×R8i	5650	8480	5200	5424	5000	4226	4000	76	208	68	424
ACS880-37LC-6260A-7	8×R8i + 8×R8i	6260	9390	6000	6010	6000	4682	4500	76	286	75	504

Nominal ratings	
I_N	Rated current available continuously without overloadability at 45 °C.
P_N	Typical motor power in no-overload use.
P_{max}	Maximum nominal cooling power.
Internal flow	Nominal coolant flow rate from the liquid cooling unit to the drive modules.
External flow	Nominal coolant flow rate to the liquid cooling unit from an external cooling circuit.
Maximum output current	
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} for 1 minute every 5 minutes at 45 °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 5 minutes at 45 °C.
P_{Hd}	Typical motor power in heavy-duty use.
Losses	
$P_{loss\ total}$	Power loss conducted to coolant and emitted to air.
$P_{loss\ coolant}$	Power loss conducted to coolant.
$P_{loss\ air}$	Power loss emitted to air (ambient room).
P_{drop}	Pressure loss in external cooling circuit.

The ratings apply at 45 °C ambient temperature. At higher temperatures (up to 55 °C), the derating is 1%/1 °C.
Operation above 150 Hz may require type-specific derating.

RATINGS, TYPES AND VOLTAGES

Liquid-cooling unit, ACS880-1007LC

Range 380 to 690 V

Liquid cooling unit type	Nominal ratings			Noise level	Losses				Internal flow [1]	External flow [2]
		Internal coolant volume	External coolant volume							
	P_{max} (kW)	(l)	(l)	(dB(A))	$P_{loss\ total}$ (kW)	$P_{loss\ coolant}$ (kW)	$P_{loss\ air}$ (kW)	P_{drop} (kPa)	(l/min)	(l/min)
ACS880-1007LC-0070 [3]	70	17	3	55	0.4	0.3	0.1	150	81/107	120
ACS880-1007LC-0195+C140 [3]/C141 [4]	195	31/35	8	55	1.3	1	0.3	150	270/355	467
ACS880-1007LC-0195+C213 [5]	195	35	8	57	2.1	1.8	0.3	150	310/415	467

[1] 120 kPa, Antifrogen® L 25%, 40 °C, 50/60 Hz
[2] 36 °C water
[3] Single pump
[4] Redundant, one pump running
[5] Two pumps running

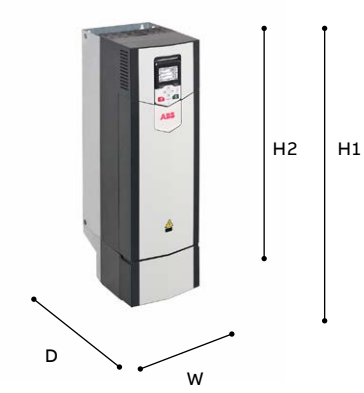
DIMENSIONS

ACS880

ACS880-01, IP21

Frame size	Height		Width	Depth	Weight
	H1 (mm)	H2 (mm)	(mm)	(mm)	(kg)
R1	409	370	155	226	7
R2	409	370	155	249	8.4
R3	475	420	172	261	10.8
R4	576	490	203	274	18.6
R5	730	596	203	274	22.8
R6	726	569	251	357	42.2
R7	880	600	284	365	53
R8	963	681	300	386	68
R9	955	680	380	413	95/98 [1]
R9e	1130	–	444	516	188

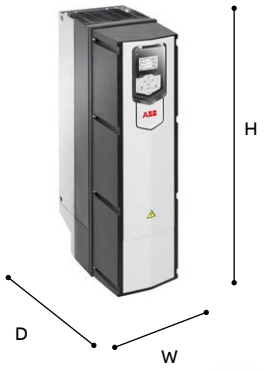
H1 = Height with cable entry box. H2 = Height without cable entry box.
Width and depth with cable entry box.
Dimensions of the IP20 version are in the ACS880 drive modules catalog.
[1] For types -490A-3, -477A-5: 98 kg



ACS880-01, IP55

Frame size	Height	Width	Depth	Weight
	(mm)	(mm)	(mm)	(kg)
R1	450	162	292	8.1
R2	450	162	315	9.5
R3	525	180	327	12
R4	576	203	344	19.1
R5	730	203	344	23.4
R6	726	251	421	42.9
R7	880	284	423	54
R8	963	300	452	74
R9	955	380	477/517 [2]	102/108 [1]
R9e	1130	444	540	191

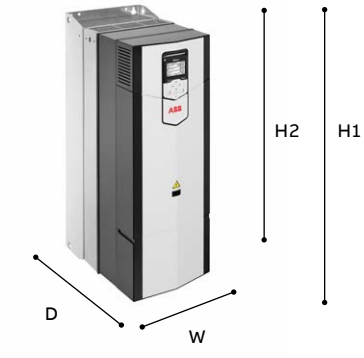
[1] For types -490A-3, -477A-5: 108 kg
[2] For types -490A-3, -477A-5: 517 mm



ACS880-11/31, IP21

Frame size	Height		Width	Depth	Weight
	H1 (mm)	H2 (mm)	(mm)	(mm)	(kg)
R3	495	490	205	356	21.3
R6	771	771	252	382	61
R8	965	965	300	430	103/118 [1]

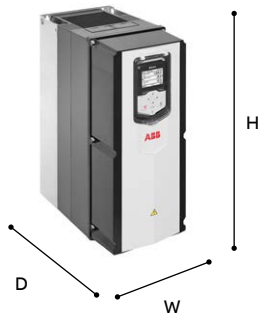
H1 = Height with cable entry box. H2 = Height without cable entry box.
Width and depth with cable entry box.
[1] For types -105A-3, 145A-3, -101A-5, -124A-5: 103 kg
For types -169A-3, 206A-3, -156A-5, -180A-5: 118 kg



ACS880-11/31, IP55

Frame size	Height	Width	Depth	Weight
	(mm)	(mm)	(mm)	(kg)
R3	495	205	360	23.3
R6	771	252	445	63
R8	966	300	496	109/124 [1]

[1] For types -105A-3, 145A-3, -101A-5, -124A-5: 109 kg
For types -169A-3, 206A-3, -156A-5, -180A-5: 124 kg



ACS880-07, IP22/42/54 *)

Frame size	Height		Width	Depth	Weight
	IP22/42 (mm)	IP54 (mm)	(mm)	(mm)	(kg)
R6	2145	2315	430	673/698 [1)]	240
R7	2145	2315	430	673/698 [1)]	250
R8	2145	2315	430	673/698 [1)]	265
R9	2145	2315	830	698	375
R10	2145	2315	830	698	530
R11	2145	2315	830	698	580

[1)] 698 mm for IP54



ACS880-07, IP22/42/54 *)

Frame size	Height		Width		Depth	Weight	
	IP22/42 (mm)	IP54 (mm)	6-pulse (mm)	12-pulse (mm)	(mm)	6-pulse (kg)	12-pulse (kg)
D8T+2×R8i	2145	2315	1830	–	698	1470	–
2×D7T+2×R8i	2145	2315	–	2030	698	–	1710
2×D8T+2×R8i [1)]	2145	2315	2030	–	698	1650	–
2×D8T+2×R8i	2145	2315	2230	2230	698	1770	1870
2×D8T+3×R8i	2145	2315	2430	2430	698	1920	2020
3×D8T+3×R8i	2145	2315	2630	–	698	2230	–
3×D8T+4×R8i	2145	2315	3030	–	698	2590	–
4×D8T+3×R8i	2145	2315	–	3030	698	–	2600
4×D8T+4×R8i	2145	2315	–	3430	698	–	2960
4×D8T+5×R8i	2145	2315	3630	4230	698	3030	3110

[1)] ACS880-07-1160A-7

ACS880-17/37, IP22/42/54 *)

Frame size	Height		Width	Depth	Weight
	IP22/42 (mm)	IP54 (mm)	(mm)	(mm)	(kg)
R8	2145	2315	430	673/698 [1)]	320
R11	2145	2315	1230	698	750
R6i+R6i	2145	2315	830	698	540
R7i+R7i	2145	2315	830	698	540
R8i+R8i	2145	2315	1230	698	1180
2xR8i+2xR8i	2145	2315	2230/2430 [2)]	698	1970/2090 [2)]
3xR8i+3xR8i	2145	2315	3230	698/738 [3)]	2730/2930 [3)]
4xR8i+4xR8i	2145	2315	3830	738	3700
6xR8i+5xR8i	2145	2315	5030	738	4830
6xR8i+6xR8i	2145	2315	5330	738	4980

[1)] 698 mm for IP54
[2)] 2430mm/2090 kg for -1210A-3, -1430A-3, -1700A-3, -1530A-5.
[3)] 738mm/2930kg for -2060A-3, -2530A-3, -1980A-5, -2270A-5.



*) Dimensions are for standard configuration, including measures for door-installed components.
Plus code options can affect dimensions. For more information, please see dimensional drawings in hardware manual.

ACS880-07LC, IP42/54

Frame size	Height	Width		Depth	Weight	
	(mm)	6-pulse (mm)	12-pulse (mm)	(mm)	6-pulse (kg)	12-pulse (kg)
1xD8T + 1xR8i	2002	1700	–	644	1480	–
1xD8T + 2xR8i	2002	1900	–	644	1610	–
2xD8T + 1xR8i	2002	–	2300	644	–	2230
2xD8T + 2xR8i	2002	1900	2500	644	1760	2360
2xD8T + 3xR8i	2002	2100	2700	644	1930	2530
3xD8T + 3xR8i	2002	2500	–	644	2230	–
3xD8T + 4xR8i	2002	2800	–	644	2490	–
4xD8T + 3xR8i	2002	–	3240	644	–	2980
4xD8T + 4xR8i	2002	–	3400	644	–	3240
4xD8T + 5xR8i	2002	3600	3600	644	3410	3410
5xD8T + 6xR8i	2002	4500	–	644	3410	–
6xD8T + 6xR8i	2002	–	4200	644	–	4030
6xD8T + 7xR8i	2002	4800	4800	644	4470	4470
6xD8T + 8xR8i	2002	5000	5000	644	4640	4640



ACS880-07CLC, IP42/54

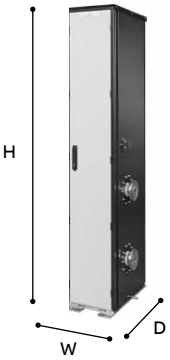
Frame size	Height	Width	Depth	Weight
	(mm)	(mm)	(mm)	(kg)
1xD8D+1xR8i	2002	700	636	580
2xD8D+1xR8i	2002	700	636	580
2xD8D+2xR8i	2002	900	636	710
3xD8D+3xR8i	2002	1200	636	1030
4xD8D+3xR8i	2002	1200	636	1030
4xD8D+4xR8i	2002	1500	636	1290
6xD8D+5xR8i	2002	2200	636	1890
6xD8D+6xR8i	2002	2400	636	2060
8xD8D+7xR8i	2002	2700	636	2290
8xD8D+12xR8i	2002	2900	636	2520



ACS880-1007LC, liquid-cooling unit

Unit type	Height	Width [1]	Depth	Weight
	(mm)	(mm)	(mm)	(kg)
ACS880-1007LC-0070	2002	300/330	636	200
ACS880-1007LC-0195+C140	2002	600/630	636	310
ACS880-1007LC-0195+C141	2002	600/630	636	366
ACS880-1007LC-0195+C213	2002	600/630	636	373

[1] The first values are for a line-up connected unit, and the latter values for a stand-alone unit.



ACS880-17/37LC, IP42/54

Frame size	Height	Width	Depth	Weight
	(mm)	(mm)	(mm)	(kg)
1xR8i+1xR8i	2002	2000	644	2040
2xR8i+2xR8i	2002	2400/2500 [1]	644	5070/5400 [2]
3xR8i+3xR8i	2002	3200	644	7250
4xR8i+4xR8i	2002	4000	644	9060
5xR8i+5xR8i	2002	4600	644	10470
6xR8i+5xR8i	2002	5800	644	13600
6xR8i+6xR8i	2002	6000	644	13980
8xR8i+7xR8i	2002	7300	644	17020
8xR8i+8xR8i	2002	7600	644	17590

[1] 2400 mm for -1000A-7, - 1170A-7 and -1270A-7. 2500 mm for -1470A-7 and -1620A-7.
[2] 5070 kg for -1000A-7, - 1170A-7 and -1270A-7. 5400 kg for -1470A-7 and -1620A-7.



STANDARD INTERFACE AND EXTENSIONS FOR PLUG-IN CONNECTIVITY

01
Control unit ZCU

02
Example of a typical single drives input/output connection diagram. Variations may be possible. For further information, please see the ACS880 user manual.

ACS880 has a wide range of standard interfaces, including an extensive selection of I/O connections, Safe Torque Off (STO) and a galvanically isolated RS485 link that can be configured as either a Modbus RTU or a high-speed drive-to-drive link.

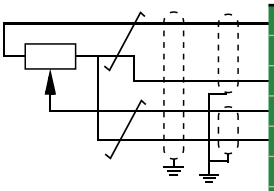
In addition, the drive control units (ZCU, BCU and UCU) have three option slots that can be used for extensions, including communication protocol adapters, input/output extension modules, feedback modules, and a safety functions module. For I/O extensions, see page 83.

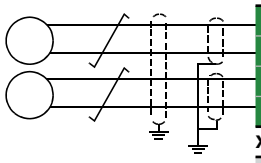


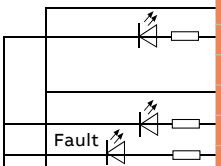
01

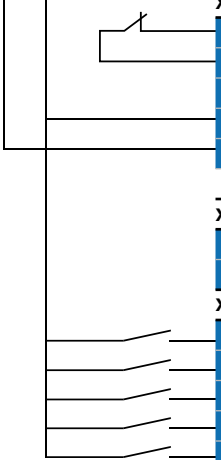
Control connections	Description
2 analog inputs (XAI)	Current input: -20 to 20 mA, R_{in}: 100 ohm Voltage input: -10 to 10 V, R_{in} > 200 kohm Resolution: 11 bit + sign bit
2 analog outputs (XAO)	0 to 20 mA, R_{load} < 500 ohm Frequency range: 0 to 300 Hz Resolution: 11 bit + sign bit
6 digital inputs (XDI)	Input type: NPN/PNP (DI1 to DI5), NPN (DI6) DI6 (XDI:6) can alternatively be used as an input for a PTC thermistor.
Digital input interlock (DIIL)	Input type: NPN/PNP
2 digital inputs/outputs (XDIO)	As input: 24 V logic levels: “0” < 5 V, “1” > 15 V R_{in}: 2 kohm Filtering: 0.25 ms As output: Total output current from 24 V DC is limited to 200 mA Can be set as pulse train input and output
3 relay outputs (XRO1, XRO2, XRO3)	250 V AC/30 V DC, 2 A
Safe Torque Off (XSTO)	For the drive to start, both connections must be closed
Drive-to-drive link (XD2D)	Physical layer: EIA-485
Built-in Modbus	EIA-485
Assistant control panel/PC tool connection	Connector: RJ-45

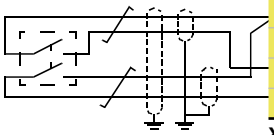
02











XPOW		**External power input**
1	+24VI	24 V DC, 2 A
2	GND	
XAI		**Reference voltage and analog inputs**
1	+VREF	10 V DC, R_L 1 to 10 kohm
2	-VREF	-10 V DC, R_L 1 to 10 kohm
3	AGND	Ground
4	AI1+	Speed reference
5	AI1-	0(2) to 10 V, R_{in} > 200 kohm
6	AI2+	By default not in use.
7	AI2-	0(4) to 20 mA, R_{in} > 100 ohm
J1	J1	AI1 current/voltage selection jumper
J2	J2	AI2 current/voltage selection jumper
XAO		**Analog outputs**
1	AO1	Motor speed rpm 0 to 20 mA, R_L < 500 ohm
2	AGND	
3	AO2	Motor current 0 to 20 mA, R_L < 500 ohm
4	AGND	
XD2D		**Drive-to-drive link**
1	B	Drive-to-drive link or built-in Modbus
2	A	
3	BGND	
J3	J3	Drive-to-drive link termination switch
XRO1, XRO2, XRO3		**Relay outputs**
11	NC	Ready
12	COM	250 V AC/30 V DC
13	NO	2 A
21	NC	Running
22	COM	250 V AC/30 V DC
23	NO	2 A
31	NC	Faulted (-1)
32	COM	250 V AC/30 V DC
33	NO	2 A
XD24		**Digital interlock**
1	DIIL	Digital interlock
2	+24VD	+24 V DC 200 mA
3	DICOM	Digital input ground
4	+24VD	+24 V DC 200 mA
5	DIOGND	Digital input/output ground
J6		Ground selection switch
XDIO		**Digital input/outputs**
1	DIO1	Output: Ready
2	DIO2	Output: Running
XDI		Digital inputs
1	DI1	Stop (0)/Start (1)
2	DI2	Forward (0)/Reverse (1)
3	DI3	Reset
4	DI4	Acceleration and deceleration select
5	DI5	Constant speed 1 (1=On)
6	DI6	Not in use by default
XSTO		**Safe Torque Off**
1	OUT1	Safe Torque Off
2	SGND	
3	IN1	
4	IN2	
X12		**Safety functions module connection**
X13		**Control panel connection**
X205		**Memory unit connection**

K

EMC – ELECTROMAGNETIC COMPATIBILITY

Each ACS880 model can be equipped with a built-in filter to reduce high-frequency emissions.

What is EMC?
EMC stands for electromagnetic compatibility. It is the ability of electrical/electronic equipment to operate without problems in an electromagnetic environment.

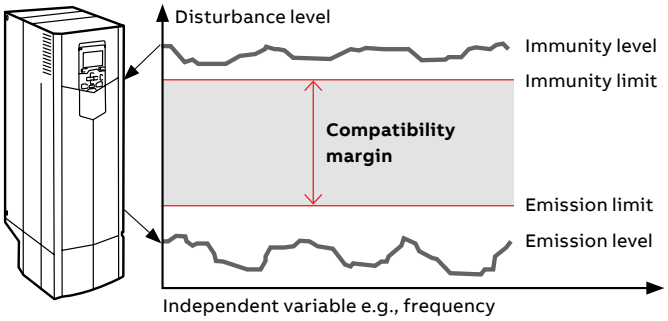
Likewise, the equipment must not disturb or interfere with any other product or system in its locality. This is a legal requirement for all equipment in service within the European Economic Area (EEA).

Installation environments
A power drive system (PDS) can be connected to either industrial or public power distribution networks. The environment class depends on how the PDS is connected to the power supply.

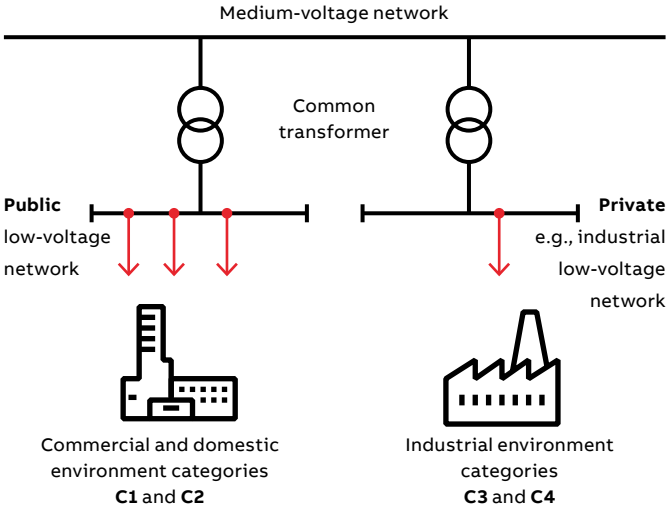
The **1st environment** includes domestic premises. It also includes establishments directly connected without an intermediate transformer to a low-voltage power supply network that supplies buildings used for domestic purposes.

The **2nd environment** includes all establishments directly connected to public low-voltage power supply networks.

IMMUNITY AND EMISSION COMPATIBILITY



INSTALLATION ENVIRONMENTS



The product standard EN 61800-3 divides PDSs into four categories according to the intended use

C1 – 1st environment
- Household appliances
- Usually plug connectable to any wall outlet
- Anyone can connect these to the network
- Examples: washing machines, TV sets, computers, microwave ovens, etc.

C2 – 1st environment
- Fixed household and public appliances
- Need to be installed or operated by a professional
- Examples: elevators, rooftop fans, residential booster pumps, gates and barriers, supermarket freezers, etc.

C3 – 2nd environment
- Professional equipment
- Needs to be installed or operated by a professional
- In some rare cases, may also be pluggable
- Examples: any equipment for industrial use only, such as conveyors, mixers, etc.

C4 – 2nd environment
- Professional equipment
- Needs to be fixed installation and operated by a professional
- Examples: paper machines, rolling mills, etc.

Comparison of EMC standards

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 environments
Category C1	1st environment, unrestricted distribution	Group 1. Class B	Not applicable	Applicable
Category C2	1st environment, restricted distribution	Group 1. Class A	Applicable	Not applicable
Category C3	2nd environment, unrestricted distribution	Group 2. Class A	Not applicable	Not applicable
Category C4	2nd environment, restricted distribution	Not applicable	Not applicable	Not applicable

Selecting an EMC filter

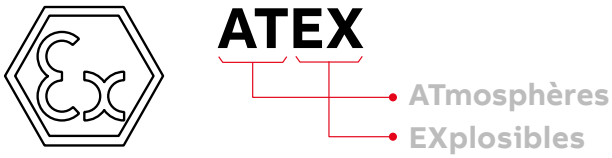
Drive type	Voltage (V)	Frame sizes	1st environment, restricted distribution, C2, grounded network (TN) Option code	2nd environment, C3, grounded network (TN) Option code	2nd environment, C3, ungrounded network (IT) Option code	2nd environment, C4, grounded network (TN) [2]
ACS880-01	208 to 240	R1 to R8	+E202	+E200	+E201	–
ACS880-01	380 to 500	R1 to R9	+E202	+E200	+E201 [1]	As standard
ACS880-01	525 to 690	R3 to R9	–	+E200	+E201 [1]	As standard
ACS880-11	380 to 500	R3 to R8	+E202 [5]	+E200	+E201	As standard
ACS880-31	380 to 500	R3 to R8	+E202 [5]	+E200	+E201	As standard
ACS880-07	380 to 500	R6 to R9	+E202	+E200	+E201	As standard
ACS880-07	525 to 690	R6 to R9	–	+E200	+E201 [1]	As standard
ACS880-07	380 to 500	R10 to R11	+E202	+E200	+E201	As standard
ACS880-07	525 to 690	R10 to R11	–	+E200	+E201	As standard
ACS880-07	380 to 690	n×R8i	+E202 (only for 1140A-3 and 1070A-5)	As standard	As standard	–
ACS880-17	380 to 500	R8	+E202	+E200	+E201	As standard
ACS880-17	380 to 690	R11	+E202 (not for 690 V)	As standard	As standard [3]	–
ACS880-17	380 to 690	n×R8i	+E202 (not for 690 V, only for 1xR8i)	As standard	As standard	–
ACS880-17	380 to 690	R6i+R6i , R7i+R7i	+E202 (not for 690 V)	As standard	As standard	–
ACS880-37	380 to 500	R8	+E202	+E200	+E201	As standard
ACS880-37	380 to 690	R11	+E202 (not for 690 V)	As standard	As standard [3]	–
ACS880-37	380 to 690	n×R8i	+E202 (not for 690 V, only for 1xR8i)	As standard	As standard	–
ACS880-37	380 to 690	R6i+R6i , R7i+R7i	+E202 (not for 690 V)	As standard	As standard	–
ACS880-07CLC	525 to 690	n×R8i	–	As standard [4]	As standard [4]	As standard
ACS880-17LC	525 to 690	n×R8i	–	As standard [4]	As standard [4]	As standard
ACS880-37LC	525 to 690	n×R8i	–	As standard [4]	As standard [4]	As standard

[1] 2nd environment, C4: ACS880-01, 380 to 500 V, frame sizes R1 to R5. ACS880-01, 690 V, frame sizes R3 to R6. ACS880-07, 690 V, frame size R6.
[2] EMC plan required.
[3] Please contact your local ABB.
[4] Radiated emission and immunity (cabinet construction).
[5] Not available for R6.

FOR POTENTIALLY EXPLOSIVE ATMOSPHERE

ATEX-certified

What is a potentially explosive atmosphere, and where can it be?
Explosive atmospheres occur when flammable gases, mist, vapors or dust are mixed with air, which creates a risk of explosion. A potentially explosive area is defined as a location where there is a risk of flammable mixes. These atmospheres can be found across industries, from **chemical, pharmaceutical** and **food**, to **power** and **wood processing**. The electrical equipment that is installed in such locations must be designed and tested to endure these conditions and guarantee a safe function.

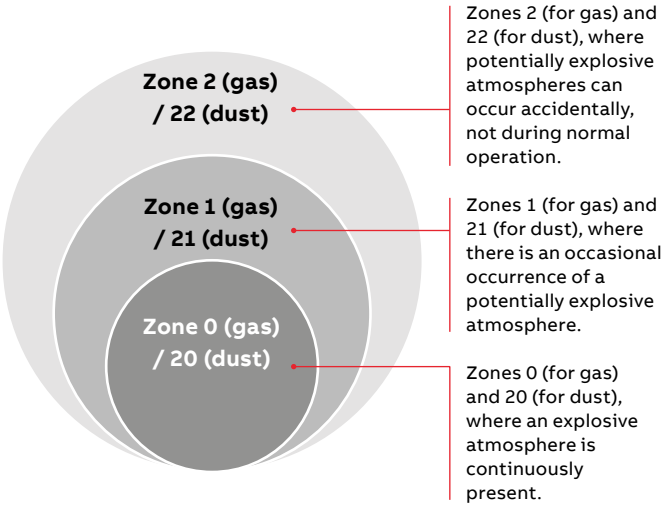


What does ATEX mean?
The term ATEX comes from the French words “ATmosphères EXplosibles,” and it is a combination of two EU directives: the Worker Protection Directive 1999/92/EC; and the Product Directive 2014/34/EU. **The ATEX Directives are designed to protect employees, the public and the environment from accidents resulting from explosive atmospheres.**

ATEX provides similar guidelines to the IECEx System, with a few exceptions, and with certification of protective devices (e.g., drive-integrated safety functions).

How to ensure safe operation?
With ABB’s Ex-certified offering and services, safe operation can be ensured.
Motors are directly connected to the machines in potentially explosive atmospheres, and certain issues need to be considered when selecting a motor and a drive. Drives themselves are not to be used in potentially explosive atmospheres. These atmospheres have a defined zone classification, and the zone defines the minimum requirements (category) the motors must comply with. The category defines the permitted motor protection types.

Potentially explosive atmosphere zones
Within industries, all potentially explosive atmospheres are required to have an area classification called Zones. Globally, a Zone system is used to classify potentially explosive areas. The Worker Protection Directive 1999/92/EC and the EU standards IEC 60079-10-x, EN 60079-10-x define these zones. In all cases, the owner of the site where the potentially explosive atmosphere exists has the responsibility to define the zones according to the requirements.



Safe motor temperature



Whenever drives are connected to motors, it is essential to use Ex-certified temperature protection. ACS880's Ex-certified thermistor protection module, Ex II (2) GD, FPTC-02, can be integrated into the drive if the motor is operating in a potentially explosive environment. **The purpose of the safety function is to disconnect the motor from the power supply before the motor overheats and causes a risk of explosion in an ATEX environment.**

Correct dimensioning

Correct dimensioning is important. **Correctly sized motors and drives reduce motor frame heating**. They also help reduce energy use.

Insulation and drive filters

ABB's offering for correct insulation and filters **protects the motor** from voltage phenomena, bearing currents and motor overheating. The insulation and filters must be selected according to voltage and frame size.

Easy drive upgrades

With the drive upgrades below, the ATEX certification stays valid from the old to the new generation models. This means that there is no need for new ATEX certification during the upgrade. This saves you time and money.

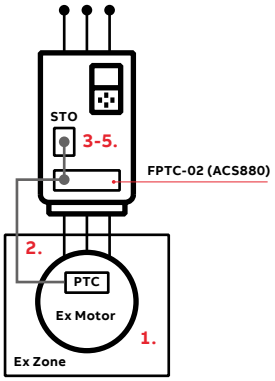
ATEX certification approved – old generation model	Comparable converter upgrade	ATEX certification stays valid – new generation model
ACS600, ACS800	→	ACS880

Global service and support network

ABB's global network of certified service providers is trained and experienced to help you with motors and drives for applications in explosive atmospheres.

The support network ensures that your ABB Declaration of Conformity is retained.

ABB's Ex-certified thermistor protection module, Ex II (2) GD, FPTC-02



With option +L537 +Q971:

1. Motor temperature rises above the PTC sensor limit temperature.
2. The sensor resistance increases very sharply and indicates overheating to the Ex-certified module, Ex II (2) GD.
3. The module switches the STO (Safe Torque Off) circuit off, which activates the STO function.
4. The STO function disables the control voltage in the power semiconductors of the drive output stage.
5. The drive is prevented from generating the required torque to rotate the motor.

▸ **The safe state is guaranteed**

Note:
The FPTC-02 module can be managed as a loose option and can also be retrofitted to the drive; in this case, to be compliant with regulations, the customer must ensure the following requirements:
- that the serial number of the drive/inverter module starts with 1, 4, 7, 8 or Y
- that the drive and option serial number is paired in a DIB (Drive Installed Base) portal
- that the included ATEX label for the SMT (Safe Motor Temperature) function is attached to the drive/inverter module to ensure the Ex compliance of the safety circuit
- that the option module is installed in an option slot of the drive control unit, and the applicable drive parameters are set
- that the PTC temperature sensors of the motor are connected to the PTC inputs of the option module.

* For further information, please contact local ABB

ABB's ATEX-certified thermistor protection module

Option code	Ordering code	Description
+L537 +Q971	3AXD50000024924	Ex-certified thermistor protection module FPTC-02 , Ex II (2) GD

L

SINE FILTERS

Combined with a sine filter, ACS880 drives offer smooth motor operation in both DTC and scalar modes. The sine filter suppresses the high-frequency components of the motor's output voltage, creating almost a sinusoidal voltage waveform for the motor. The filter offers an optimized LC design that takes into account the switching frequency, voltage drop and filtering characteristics.

The ACS880 inverter and sine filter solution can be used with a variety of requirements for products and components:

- For motors without adequate insulation for the role
- Where the total motor cable length is long as a result of a number of parallel motors
- For step-up applications, e.g., where a medium-voltage motor needs to be driven
- For submersible pumps with long motor cables, e.g., in the oil industry
- When the motor noise needs to be reduced
- When there are industry-specific requirements for peak voltage level and voltage rise time

Sine filter for wall-mounted single drives, ACS880-01

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V.

I_N	P_N [1]	Noise level [2]	Heat dissi-pation [2]	Drive type	Filter type	Degree of protection	Filter width		Filter depth		Filter height		Filter weight		Frame size
							IP00	IP21	IP00	IP21	IP00	IP21	IP00	IP21	
(A)	(kW)	(dB)	(W)				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(kg)	
2.3	0.75	72	60	ACS880-01-02A4-3	B84143V0004R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
3.1	1.1	72	60	ACS880-01-03A3-3	B84143V0004R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
3.8	1.5	72	60	ACS880-01-04A0-3	B84143V0004R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
5.3	2.2	72	100	ACS880-01-05A6-3	B84143V0006R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
7.2	3	72	90	ACS880-01-07A2-3	B84143V0011R229	IP00/IP21	235	384	110	152	200	246	7	14.4	R1
9.2	4	72	90	ACS880-01-09A4-3	B84143V0011R229	IP00/IP21	235	384	110	152	200	246	7	14.4	R1
12.1	5.5	72	80	ACS880-01-12A6-3	B84143V0016R229	IP00/IP21	275	420	122	200	235	290	12	24.4	R1
16	7.5	75	140	ACS880-01-017A-3	B84143V0025R229	IP00/IP21	355	500	120	200	285	360	20	36	R2
24	11	75	140	ACS880-01-025A-3	B84143V0025R229	IP00/IP21	355	500	120	200	285	360	20	36	R2
31	15	75	160	ACS880-01-032A-3	B84143V0033R229	IP00/IP21	355	500	120	200	285	360	24	36	R3
37	18.5	78	220	ACS880-01-038A-3	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	41	90.3	R3
43	22	78	220	ACS880-01-045A-3	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	41	90.3	R4
58	30	78	250	ACS880-01-061A-3	B84143V0066R229	IP00/IP21	400	650	147	350	360	460	43	90.3	R4
64	30	79	310	ACS880-01-072A-3	B84143V0075R229	IP00/IP21	400	650	173	350	360	460	62	90.3	R5
77	37	79	400	ACS880-01-087A-3	B84143V0095R229	IP00/IP21	440	700	164	350	500	580	70	132	R5
91	45	80	600	ACS880-01-105A-3	B84143V0130S230	IP00/IP21	560	850	300	480	420	500	110	192	R6
126	55	80	550	ACS880-01-145A-3	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	112	129.9	R6
153	75	80	550	ACS880-01-169A-3	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	112	129.9	R7
187	90	80	900	ACS880-01-206A-3	B84143V0230S229	IP00/IP21	570	850	285	480	430	500	120	192	R7
209	110	80	900	ACS880-01-246A-3	B84143V0230S229	IP00/IP21	570	850	285	480	430	500	120	192	R8
249	132	80	1570	ACS880-01-293A-3	B84143V0390S229	IP00/IP21	555	850	328	550	580	610	212	268.4	R8
297	160	80	1570	ACS880-01-363A-3	B84143V0390S229	IP00/IP21	555	850	328	550	580	610	212	268.4	R9
352	160	80	1570	ACS880-01-430A-3	B84143V0390S229	IP00/IP21	555	850	328	550	580	610	212	268.4	R9

Nominal ratings	
I_N	Rated current of the drive-filter combination available continuously without overload at 40 °C.
P_N	Typical motor power

[1] Please note that sine filters cause a voltage drop, reducing the available shaft power from the motor.
[2] Noise level is a combined value for the drive and the filter. Heat dissipation is a value for the filter.
For further information, please contact your local ABB office.

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V.

I_N	P_N [1]	Noise level [2]	Heat dissipation [2]	Drive type	Filter type	Degree of protection	Filter width		Filter depth		Filter height		Filter weight		Frame size
							IP00	IP21	IP00	IP21	IP00	IP21	IP00	IP21	
(A)	(kW)	(dB)	(W)				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(kg)	
1.9	0.8	72	60	ACS880-01-02A1-5	B84143V0004R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
2.8	1.1	72	60	ACS880-01-03A0-5	B84143V0004R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
3.1	1.5	72	60	ACS880-01-03A4-5	B84143V0004R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
4.4	2.2	72	100	ACS880-01-04A8-5	B84143V0006R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
4.8	3	72	100	ACS880-01-05A2-5	B84143V0006R229	IP00/IP21	235	384	95	152	200	246	5	14.4	R1
7	4	72	90	ACS880-01-07A6-5	B84143V0011R229	IP00/IP21	235	384	110	152	200	246	7	14.4	R1
10.2	5.5	72	90	ACS880-01-11A0-5	B84143V0011R229	IP00/IP21	235	384	110	152	200	246	7	14.4	R1
13	7.5	70	80	ACS880-01-014A-5	B84143V0016R229	IP00/IP21	275	420	122	200	235	290	12	24.4	R2
20	11	75	140	ACS880-01-021A-5	B84143V0025R229	IP00/IP21	355	500	120	200	285	360	20	36	R2
25	15	75	160	ACS880-01-027A-5	B84143V0033R229	IP00/IP21	355	500	120	200	285	360	24	36	R3
32	18.5	78	220	ACS880-01-034A-5	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	41	90.3	R3
35	22	78	220	ACS880-01-040A-5	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	41	90.3	R4
44	30	78	250	ACS880-01-052A-5	B84143V0066R229	IP00/IP21	400	650	147	350	360	460	43	90.3	R4
52	37	78	250	ACS880-01-065A-5	B84143V0066R229	IP00/IP21	400	650	147	350	360	460	43	90.3	R5
61	37	78	310	ACS880-01-077A-5	B84143V0075R229	IP00/IP21	400	650	173	350	360	460	62	132	R5
80	55	80	630	ACS880-01-096A-5	B84143V0130S230	IP00/IP21	565	850	300	480	420	500	110	192	R6
104	55	80	630	ACS880-01-124A-5	B84143V0130S230	IP00/IP21	565	850	300	480	420	500	110	192	R6
140	90	80	550	ACS880-01-156A-5	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	112	129.9	R7
161	110	80	550	ACS880-01-180A-5	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	112	129.9	R7
205	132	80	900	ACS880-01-240A-5	B84143V0230S229	IP00/IP21	570	850	285	480	430	500	120	192	R8
221	132	80	900	ACS880-01-260A-5	B84143V0230S229	IP00/IP21	570	850	285	480	430	500	120	192	R8
289	200	80	1570	ACS880-01-361A-5	B84143V0390S229	IP00/IP21	555	850	328	550	580	610	212	268.4	R9
332	200	80	1570	ACS880-01-414A-5	B84143V0390S229	IP00/IP21	555	850	328	550	580	610	212	268.4	R9
477	–	70	–	ACS880-01-477A-5	B84143V0390S229	IP00/IP21	555	850	328	550	580	610	212	268.4	R9
							IP22 (mm)		IP22 (mm)		IP22 (mm)		IP22 (mm)		
585	–	75	–	ACS880-01-585A-5	NSIN900-6	IP22	2145		1000		646		840		R9e
635	–	75	–	ACS880-01-635A-5	NSIN900-6	IP22	2145		1000		646		840		R9e

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V.

I_N	P_N [1]	Noise level [2]	Heat dissipation [2]	Drive type	Filter type	Degree of protection	Filter width		Filter depth		Filter height		Filter weight		Frame size
							IP00	IP21	IP00	IP21	IP00	IP21	IP00	IP21	
(A)	(kW)	(dB)	(W)				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(kg)	
7.3	5.5	72	90	ACS880-01-07A4-7	B84143V0010R230	IP00/IP21	380	500	110	200	290	360	15	36	R3
9.3	7.5	72	90	ACS880-01-09A9-7	B84143V0010R230	IP00/IP21	380	500	110	200	290	360	15	36	R3
13.5	11	72	130	ACS880-01-14A3-7	B84143V0018R230	IP00/IP21	380	500	121	200	290	360	19	36	R3
17.1	15	72	130	ACS880-01-019A-7	B84143V0018R230	IP00/IP21	380	500	121	200	290	360	19	36	R3
21	18.5	72	160	ACS880-01-023A-7	B84143V0026R230	IP00/IP21	380	500	141	200	290	360	30	68	R3
25	22	72	160	ACS880-01-027A-7	B84143V0026R230	IP00/IP21	380	500	141	200	290	360	30	68	R3
33	30	75	250	ACS880-01-035A-7	B84143V0040R230	IP00/IP21	440	650	147	350	355	430	49	90.3	R5
40	37	75	250	ACS880-01-042A-7	B84143V0040R230	IP00/IP21	440	650	147	350	355	430	49	90.3	R5
48	45	78	290	ACS880-01-049A-7	B84143V0056R230	IP00/IP21	440	650	162	350	355	430	52	90.3	R5
56	55	78	290	ACS880-01-061A-7	B84143V0056R230	IP00/IP21	440	600	162	350	355	430	52	90.3	R6
78	75	79	610	ACS880-01-084A-7	B84143V0092R230	IP00/IP21	500	700	193	350	490	580	85	132	R6
92	90	79	610	ACS880-01-098A-7	B84143V0092R230	IP00/IP21	500	700	193	350	490	580	85	132	R7
112	110	80	630	ACS880-01-119A-7	B84143V0130S230	IP00/IP21	565	850	300	480	420	500	110	192	R7
112	110	80	630	ACS880-01-142A-7	B84143V0130S230	IP00/IP21	560	850	230	480	569	500	110	192	R8
138	132	80	930	ACS880-01-174A-7	B84143V0207S230	IP00/IP21	560	850	279	550	570	610	185	268.4	R8
161	132	80	930	ACS880-01-210A-7	B84143V0207S230	IP00/IP21	560	850	279	550	570	610	185	268.4	R9
208	200	80	930	ACS880-01-271A-7	B84143V0207S230	IP00/IP21	560	850	279	550	570	610	185	268.4	R9

Sine filters for wall-mounted regenerative and ultra-low harmonic drives, ACS880-11 and ACS880-31

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V.

I_N	P_N [1]	Noise level [2]	Heat dissipation [2]	Drive type	Filter type	Degree of protection	Filter width		Filter depth		Filter height		Filter weight		Frame size
							IP00	IP21	IP00	IP21	IP00	IP21	IP00	IP21	
(A)	(kW)	(dB)	(W)				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(kg)	
9.2	4	72	90	ACS880-11/31-09A4-3	B84143V0011R229	IP00/IP21	235	384	110	152	200	246	5.2	14.4	R3
12.1	5.5	72	80	ACS880-11/31-12A6-3	B84143V0016R229	IP00/IP21	275	420	122	200	235	290	7.9	24.4	R3
16	7.5	75	140	ACS880-11/31-017A-3	B84143V0025R229	IP00/IP21	355	500	120	200	285	360	12.1	36	R3
24	11	75	140	ACS880-11/31-025A-3	B84143V0025R229	IP00/IP21	355	500	120	200	285	360	12.1	36	R3
31	15	75	160	ACS880-11/31-032A-3	B84143V0033R229	IP00/IP21	355	500	120	200	285	360	12.1	36	R6
37	18.5	78	220	ACS880-11/31-038A-3	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	20.2	104.7	R6
43	22	78	220	ACS880-11/31-045A-3	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	20.2	104.7	R6
58	30	78	250	ACS880-11/31-061A-3	B84143V0066R229	IP00/IP21	400	650	147	350	360	460	21.2	104.7	R6
64	37	79	310	ACS880-11/31-072A-3	B84143V0075R229	IP00/IP21	400	650	173	350	360	460	24.9	104.7	R6
77	45	79	400	ACS880-11/31-087A-3	B84143V0095R229	IP00/IP21	440	700	164	350	500	580	36.1	142.1	R6
91	55	80	600	ACS880-11/31-105A-3	B84143V0130S230	IP00/IP21	565	850	300	480	420	500	71.2	204	R8
126	75	80	550	ACS880-11/31-145A-3	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	57	125.6	R8
153	90	80	550	ACS880-11/31-169A-3	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	57	125.6	R8
187	110	80	900	ACS880-11/31-206A-3	B84143V0230S229	IP00/IP21	570	850	285	480	430	500	69.9	204	R8

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V.

I_N	P_N [1]	Noise level [2]	Heat dissipation [2]	Drive type	Filter type	Degree of protection	Filter width		Filter depth		Filter height		Filter weight		Frame size
							IP00	IP21	IP00	IP21	IP00	IP21	IP00	IP21	
(A)	(kW)	(dB)	(W)				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(kg)	
7	4	72	90	ACS880-11/31-07A6-5	B84143V0011R229	IP00/IP21	235	384	110	152	200	246	5.2	14.4	R3
10.2	5.5	72	90	ACS880-11/31-11A0-5	B84143V0011R229	IP00/IP21	235	384	110	152	200	246	5.2	14.4	R3
13	75	70	80	ACS880-11/31-014A-5	B84143V0016R229	IP00/IP21	275	420	122	200	235	290	7.9	24.4	R3
20	11	75	140	ACS880-11/31-021A-5	B84143V0025R229	IP00/IP21	355	500	120	200	285	360	12.1	36	R3
25	15	75	160	ACS880-11/31-027A-5	B84143V0033R229	IP00/IP21	355	500	120	200	285	360	12.1	36	R6
32	18.5	78	220	ACS880-11/31-034A-5	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	20.2	104.7	R6
35	22	78	220	ACS880-11/31-040A-5	B84143V0050R229	IP00/IP21	400	650	140	350	360	460	20.2	104.7	R6
44	30	78	250	ACS880-11/31-052A-5	B84143V0066R229	IP00/IP21	400	650	147	350	360	460	21.2	104.7	R6
52	37	78	250	ACS880-11/31-065A-5	B84143V0066R229	IP00/IP21	400	650	147	350	360	460	21.2	104.7	R6
61	37	78	310	ACS880-11/31-077A-5	B84143V0075R229	IP00/IP21	400	650	173	350	360	460	24.9	104.7	R6
80	55	80	630	ACS880-11/31-101A-5	B84143V0130S230	IP00/IP21	565	850	300	480	420	500	71.2	204	R8
104	55	80	630	ACS880-11/31-124A-5	B84143V0130S230	IP00/IP21	565	850	300	480	420	500	71.2	204	R8
140	90	80	550	ACS880-11/31-156A-5	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	57	125.6	R8
161	110	80	550	ACS880-11/31-180A-5	B84143V0162S229	IP00/IP21	500	730	300	400	380	430	57	125.6	R8

Nominal ratings	
I_N	Rated current of the drive-filter combination available continuously without overload at 40 °C.
P_N	Typical motor power

[1] Please note that sine filters cause a voltage drop, reducing the available shaft power from the motor.
[2] Noise level is a combined value for the drive and the filter. Heat dissipation is a value for the filter.
For further information, please contact your local ABB office.

Sine filters for cabinet-built single drives, ACS880-07

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V. [3]

I_N (A)	P_N [1] (kW)	Noise level [2] (dB)	Heat dissipation [2] (kW)	Airflow (m^3/h)	Drive type	Filter type	Degree of protection	Filter height mm	Filter width mm	Filter depth mm	Filter weight kg	Frame size
6-pulse diode												
91	45	80	2.4	1750	ACS880-07-0105A-3	B84143V0130S229	IP22	2145	600	646	330	R6
126	55	80	2.5	1750	ACS880-07-0145A-3	B84143V0162S229	IP22	2145	600	646	330	R6
153	75	80	3	1750	ACS880-07-0169A-3	B84143V0162S229	IP22	2145	600	646	330	R7
187	90	80	3.7	1750	ACS880-07-0206A-3	B84143V0230S229	IP22	2145	600	646	340	R7
209	110	80	4.7	1750	ACS880-07-0246A-3	B84143V0230S229	IP22	2145	600	646	340	R8
249	132	80	6	1750	ACS880-07-0293A-3	B84143V0390S229	IP22	2145	600	646	430	R8
297	160	80	6.9	1150	ACS880-07-0363A-3	B84143V0390S229	IP22	2145	600	646	430	R9
352	160	80	8.1	1150	ACS880-07-0430A-3	B84143V0390S229	IP22	2145	600	646	430	R9
470	250	80	11.1	4950	ACS880-07-0505A-3	NSIN0900-6	IP22	2145	1000	646	840	R10
540	250	80	11.9	4950	ACS880-07-0585A-3	NSIN0900-6	IP22	2145	1000	646	840	R10
600	315	80	13.6	4950	ACS880-07-0650A-3	NSIN0900-6	IP22	2145	1000	646	840	R10
647	355	80	14.3	4950	ACS880-07-0725A-3	NSIN0900-6	IP22	2145	1000	646	840	R11
731	400	80	15.4	4950	ACS880-07-0820A-3	NSIN0900-6	IP22	2145	1000	646	840	R11
785	450	80	16.1	5170	ACS880-07-0880A-3	NSIN0900-6	IP22	2145	1000	646	840	R11
1140	630	81	25	6290	ACS880-07-1140A-3	NSIN1380-6	IP22	2145	1000	646	960	D8T+2×R8i
12-pulse diode												
990	560	81	22	7720	ACS880-07-0990A-3+A004	NSIN1380-6	IP22	2145	1000	646	960	2×D7T+2×R8i
1140	630	81	26	7720	ACS880-07-1140A-3+A004	NSIN1380-6	IP22	2145	1000	646	960	2×D8T+2×R8i

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V. [3]

I_N (A)	P_N [1] (kW)	Noise level [2] (dB)	Heat dissipation [2] (kW)	Airflow (m^3/h)	Drive type	Filter type	Degree of protection	Filter height mm	Filter width mm	Filter depth mm	Filter weight kg	Frame size
6-pulse diode												
80	55	80	2.4	1750	ACS880-07-0096A-5	B84143V0130S229	IP22	2145	600	646	330	R6
104	55	80	2.6	1750	ACS880-07-0124A-5	B84143V0130S229	IP22	2145	600	646	330	R6
140	90	80	3	1750	ACS880-07-0156A-5	B84143V0162S229	IP22	2145	600	646	330	R7
162	110	80	3.4	1750	ACS880-07-0180A-5	B84143V0162S229	IP22	2145	600	646	330	R7
205	132	80	4.7	1750	ACS880-07-0240A-5	B84143V0230S229	IP22	2145	600	646	340	R8
221	132	80	5.3	1750	ACS880-07-0260A-5	B84143V0230S229	IP22	2145	600	646	340	R8
289	200	80	6.9	1150	ACS880-07-0361A-5	B84143V0390S229	IP22	2145	600	646	430	R9
332	200	80	8.1	1150	ACS880-07-0414A-5	B84143V0390S229	IP22	2145	600	646	430	R9
430	250	80	7.4	3650	ACS880-07-0460A-5	NSIN0485-6	IP22	2145	400	646	340	R10
470	315	80	12.1	4950	ACS880-07-0503A-5	NSIN0900-6	IP22	2145	1000	646	840	R10
514	355	80	12.9	4950	ACS880-07-0583A-5	NSIN0900-6	IP22	2145	1000	646	840	R10
560	400	80	14.6	4950	ACS880-07-0635A-5	NSIN0900-6	IP22	2145	1000	646	840	R10
637	450	80	15.3	4950	ACS880-07-0715A-5	NSIN0900-6	IP22	2145	1000	646	840	R11
730	500	80	16.4	4950	ACS880-07-0820A-5	NSIN0900-6	IP22	2145	1000	646	840	R11
730	500	80	17.1	4950	ACS880-07-0880A-5	NSIN0900-6	IP22	2145	1000	646	840	R11
1170	710	81	26	6290	ACS880-07-1070A-5	NSIN1380-6	IP22	2145	1000	646	960	D8T+2×R8i
12-pulse diode												
990	710	81	24	7720	ACS880-07-0990A-5+A004	NSIN1380-6	IP22	2145	1000	646	960	2×D7T+2×R8i

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V. [3]

I_N (A)	P_N [1] (kW)	Noise level [2] (dB)	Heat dissipation [2] (kW)	Airflow (m^3/h)	Drive type	Filter type	Degree of protection	Filter height (mm)	Filter width (mm)	Filter depth (mm)	Filter weight (kg)	Frame size
6-pulse diode												
56	55	78	2.1	1750	ACS880-07-0061A-7	B84143V0056R230	IP22	2145	600	646	280	R6
78	75	79	2.6	1750	ACS880-07-0084A-7	B84143V0092R230	IP22	2145	600	646	310	R6
92	90	79	3.1	1750	ACS880-07-0098A-7	B84143V0092R230	IP22	2145	600	646	310	R7
112	110	80	3.4	1750	ACS880-07-0119A-7	B84143V0130S230	IP22	2145	600	646	330	R7
112	110	80	4.4	1750	ACS880-07-0142A-7	B84143V0130S230	IP22	2145	600	646	330	R8
138	132	80	5.3	1750	ACS880-07-0174A-7	B84143V0207S230	IP22	2145	600	646	410	R8
161	132	80	5.6	1150	ACS880-07-0210A-7	B84143V0207S230	IP22	2145	600	646	410	R9
208	200	80	6.2	1150	ACS880-07-0271A-7	B84143V0207S230	IP22	2145	600	646	410	R9
303	250	80	7.9	3650	ACS880-07-0330A-7	NSIN0485-6	IP22	2145	400	646	340	R10
340	315	80	9.1	3650	ACS880-07-0370A-7	NSIN0485-6	IP22	2145	400	646	340	R10
356	351	80	9.9	3650	ACS880-07-0430A-7	NSIN0485-6	IP22	2145	400	646	340	R10
360	355	80	11.6	3650	ACS880-07-0470A-7	NSIN0485-6	IP22	2145	400	646	340	R11
400	355	80	12.3	3650	ACS880-07-0522A-7	NSIN0485-6	IP22	2145	400	646	340	R11
450	400	80	13	4950	ACS880-07-0590A-7	NSIN0900-6	IP22	2145	1000	646	840	R11
550	500	80	18.1	5170	ACS880-07-0650A-7	NSIN0900-6	IP22	2145	1000	646	840	R11
550	500	80	18.1	5170	ACS880-07-0721A-7	NSIN0900-6	IP22	2145	1000	646	840	R11
800	800	80	23	6290	ACS880-07-0800A-7	NSIN0900-6	IP22	2145	1000	646	840	D8T+2×R8i
900	900	81	29	6290	ACS880-07-0900A-7	NSIN1380-6	IP22	2145	1000	646	960	D8T+2×R8i
1160	1100	81	35	7720	ACS880-07-1160A-7	NSIN1380-6	IP22	2145	1000	646	960	2×D8T+2×R8i
12-pulse diode												
800	800	80	23	7720	ACS880-07-0800A-7+A004	NSIN0900-6	IP22	2145	1000	646	840	2×D7T+2×R8i
950	900	81	29	7720	ACS880-07-0950A-7+A004	NSIN1380-6	IP22	2145	1000	646	960	2×D8T+2×R8i
1160	1100	81	35	7720	ACS880-07-1160A-7+A004	NSIN1380-6	IP22	2145	1000	646	960	2×D8T+2×R8i

[1] Please note that sine filters cause a voltage drop, reducing the available shaft power from the motor.
[2] Heat dissipation and noise level are combined values for the drive and the filter.
[3] Higher power available as application engineered (+P902).
For further information, please contact your local ABB office.

Sine filters for cabinet-built regenerative and ultra-low harmonic drives, ACS880-17 and ACS880-37

U_N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V. [4]

I_N (A)	P_N [1] (kW)	Noise level [2] (dB)	Heat dissipation [3] (kW)	Airflow (m^3/h)	Drive type	Filter type	Degree of protection	Filter height (mm)	Filter width (mm)	Filter depth (mm)	Filter weight (kg)	Frame size
91	55	70	0.6	700	ACS880-17/37-0105A-3	B84143V0130R230	IP22	2145	600	646	330	R8
126	75	70	0.55	700	ACS880-17/37-0145A-3	B84143V0162S229	IP22	2145	600	646	330	R8
153	90	70	0.55	700	ACS880-17/37-0169A-3	B84143V0162S229	IP22	2145	600	646	330	R8
187	110	70	0.9	805	ACS880-17/37-0206A-3	B84143V0230S229	IP22	2145	600	646	330	R8
230	160	77	1.6	2100	ACS880-17/37-0220A-3	B84143V0390S229	IP22	2145	600	646	430	1×R6i+1×R6i
230	160	77	1.6	2100	ACS880-17/37-0220A-3	B84143V0390S229	IP22	2145	600	646	430	1×R7i+1×R7i
264	160	77	1.6	2100	ACS880-17/37-0293A-3	B84143V0390S229	IP22	2145	600	646	430	R11
327	200	77	1.6	2100	ACS880-17/37-0363A-3	B84143V0390S229	IP22	2145	600	646	430	R11
398	250	77	1.7	2100	ACS880-17/37-0442A-3	B84143V0390S229	IP22	2145	600	646	430	R11
455	250	80	3	2000	ACS880-17/37-0505A-3	NSIN0900-6	IP22	2145	1000	646	840	R11
527	315	80	3.4	2000	ACS880-17/37-0585A-3	NSIN0900-6	IP22	2145	1000	646	840	R11
585	355	80	3.8	2000	ACS880-17/37-0650A-3	NSIN0900-6	IP22	2145	1000	646	840	R11
450	250	80	16	700	ACS880-17/37-0450A-3	NSIN0485-6	IP22	2145	400	636	340	1×R8i+1×R8i
620	355	80	20	2000	ACS880-17/37-0620A-3	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
730	400	80	23	2000	ACS880-17/37-0730A-3	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
800	450	81	27	2000	ACS880-17/37-0800A-3	NSIN1380-6	IP22	2145	1000	636	960	1×R8i+1×R8i
870	500	81	32	2000	ACS880-17/37-0870A-3	NSIN1380-6	IP22	2145	1000	636	960	1×R8i+1×R8i
1110	630	81	38	2000	ACS880-17/37-1110A-3	NSIN1380-6	IP22	2145	1000	636	960	2×R8i+2×R8i
1210	710	81	41	2000	ACS880-17/37-1210A-3	NSIN1380-6	IP22	2145	1000	636	960	2×R8i+2×R8i

U_N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V. [4]

I_N (A)	P_N [1] (kW)	Noise level [2] (dB)	Heat dissipation [3] (kW)	Airflow (m^3/h)	Drive type	Filter type	Degree of protection	Filter height (mm)	Filter width (mm)	Filter depth (mm)	Filter weight (kg)	Frame size
80	45	70	0.6	700	ACS880-17/37-0101A-5	B84143V0130S230	IP22	2145	600	646	330	R8
104	55	70	0.6	700	ACS880-17/37-0124A-5	B84143V0130S230	IP22	2145	600	646	330	R8
140	75	70	0.6	700	ACS880-17/37-0156A-5	B84143V0162S229	IP22	2145	600	646	330	R8
230	160	77	1.6	2100	ACS880-17/37-0190A-5	B84143V0390S229	IP22	2145	600	646	430	1×R6i+1×R6i
230	160	77	1.6	2100	ACS880-17/37-0220A-5	B84143V0390S229	IP22	2145	600	646	430	1×R6i+1×R6i
390	160	77	1.6	2100	ACS880-17/37-0280A-5	B84143V0390S229	IP22	2145	600	646	430	1×R7i+1×R7i
325	200	77	1.6	2100	ACS880-17/37-0361A-5	B84143V0390S229	IP22	2145	600	646	430	R11
373	250	77	1.6	2100	ACS880-17/37-0414A-5	B84143V0390S229	IP22	2145	600	646	430	R11
414	315	80	3.3	2000	ACS880-17/37-0460A-5	NSIN0900-6	IP22	2145	1000	646	840	R11
453	355	80	3.6	2000	ACS880-17/37-0503A-5	NSIN0900-6	IP22	2145	1000	646	840	R11
420	250	80	15	700	ACS880-17/37-0420A-5	NSIN0485-6	IP22	2145	400	636	340	1×R8i+1×R8i
570	400	80	21	2000	ACS880-17/37-0570A-5	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
640	450	80	21	2000	ACS880-17/37-0640A-5	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
710	500	81	24	2000	ACS880-17/37-0710A-5	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
780	560	80	30	2000	ACS880-17/37-0780A-5	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
1010	710	81	39	2000	ACS880-17/37-1010A-5	NSIN1380-6	IP22	2145	1000	636	960	2×R8i+2×R8i
1110	800	81	40	2000	ACS880-17/37-1110A-5	NSIN1380-6	IP22	2145	1000	636	960	2×R8i+2×R8i

U_N = 690 V (range 525 to 690 V). The power ratings are valid at nominal voltage 690 V. [4]

I_N (A)	P_N [1] (kW)	Noise level [2] (dB)	Heat dissipation [3] (kW)	Airflow (m^3/h)	Drive type	Filter type	Degree of protection	Filter height (mm)	Filter width (mm)	Filter depth (mm)	Filter weight (kg)	Frame size
92	160	77	1.6	2100	ACS880-17/37-0100A-7,	B84143V0390S229	IP22	2145	600	646	430	1×R6i+1×R6i
130	160	77	1.6	2100	ACS880-17/37-0120A-7	B84143V0390S229	IP22	2145	600	646	430	1×R6i+1×R6i
207	160	77	1.6	2100	ACS880-17/37-0150A-7	B84143V0390S229	IP22	2145	600	646	430	1×R6i+1×R6i
157	160	77	0.9	2100	ACS880-17/37-0174A-7	B84143V0207S230	IP22	2145	600	646	410	R11
189	200	77	0.9	2100	ACS880-17/37-0210A-7	B84143V0207S230	IP22	2145	600	646	410	R11
207	160	77	1.6	2100	ACS880-17/37-0180A-7	B84143V0390S229	IP22	2145	600	646	430	1xR7i+1xR7i
244	250	77	0.9	2100	ACS880-17/37-0271A-7	B84143V0207S230	IP22	2145	600	646	410	R11
297	315	80	2.2	700	ACS880-17/37-0330A-7	NSIN0485-6	IP22	2145	400	646	340	R11
333	355	80	2.3	700	ACS880-17/37-0370A-7	NSIN0485-6	IP22	2145	400	646	340	R11
387	400	80	2.4	700	ACS880-17/37-0430A-7	NSIN0485-6	IP22	2145	400	646	340	R11
320	315	80	18	700	ACS880-17/37-0320A-7	NSIN0485-6	IP22	2145	400	636	340	1×R8i+1×R8i
390	355	80	21	700	ACS880-17/37-0390A-7	NSIN0485-6	IP22	2145	400	636	340	1×R8i+1×R8i
460	450	80	20	700	ACS880-17/37-0460A-7,	NSIN0485-6	IP22	2145	400	636	340	1×R8i+1×R8i
510	500	80	25	2000	ACS880-17/37-0510A-5	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
580	560	80	30	2000	ACS880-17/37-0580A-7	NSIN0900-6	IP22	2145	1000	636	840	1×R8i+1×R8i
660	630	80	35	2000	ACS880-17/37-0660A-7	NSIN0900-6	IP22	2145	1000	636	840	2×R8i+2×R8i
770	710	80	41	2000	ACS880-17/37-0770A-7	NSIN0900-6	IP22	2145	1000	636	840	2×R8i+2×R8i
950	900	81	47	2000	ACS880-17/37-0950A-7	NSIN1380-6	IP22	2145	1000	636	960	2×R8i+2×R8i
1130	1100	81	57	2000	ACS880-17/37-1130A-7	NSIN1380-6	IP22	2145	1000	636	960	2×R8i+2×R8i

[1] Please note that sine filters cause a voltage drop, reducing the available shaft power from the motor.
[2] Noise level is a combined value for the drive and the filter.
[3] Heat dissipation is a combined value for the drive and the filter, except for frame sizes R8 and R11, whose heat dissipation value is for the filter only.
[4] Higher power available as application-engineered (+P902).
Sine filters for larger types are available as a customized option.
For further information, please contact your local ABB office.

BRAKE OPTIONS

O1
Brake resistor, SACE15RE13

Brake chopper
The brake chopper is built in as standard for ACS880-01 frame sizes R1 to R4. For other constructions and frames, a brake chopper is a selectable internal option (except for ACS880-11 and ACS880-31, where the chopper is an external option*). Braking control is integrated into ACS880 single 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 circuits, and calculated resistor overtemperature.

Brake resistor
The brake resistors are separately available for ACS880-x1 and built in for the cabinet-built ACS880-x7. 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 e.g., the mains cable is protected with fuses, and no mains cable/fuse overrating takes place.

*) For more information, please contact your local ABB office.



O1

Brake resistor	Height	Width	Depth	Weight
	mm	mm	mm	kg
JBR-03	124	340	77	0.8
SACE08RE44	365	290	131	6.1
SACE15RE22	365	290	131	6.1
SACE15RE13	365	290	131	6.8
SAFUR80F500	600	300	345	14
SAFUR90F575	600	300	345	12
SAFUR125F500	1320	300	345	25
SAFUR200F500	1320	300	345	30

Brake options, ACS880-01

U_N = 230 V (range 208 to 240 V)

Braking power		Brake resistor(s)				Drive type	Frame size
P_{brcont} (kW)	R_{min} (ohm)	Type	R (ohm)	E_r (kJ)	P_{rcont} (kW)		
0.75	65	JBR-03	80	40	0.14	ACS880-01-04A6-2	R1
1.1	65	JBR-03	80	40	0.14	ACS880-01-06A6-2	R1
1.5	65	JBR-03	80	40	0.14	ACS880-01-07A5-2	R1
2.2	65	JBR-03	80	40	0.14	ACS880-01-10A6-2	R1
4	18	SACE15RE22	22	420	2	ACS880-01-16A8-2	R2
5.5	18	SACE15RE22	22	420	2	ACS880-01-24A3-2	R2
7.5	13	SACE15RE13	13	435	2	ACS880-01-031A-2	R3
11	12	SACE15RE13	13	435	2	ACS880-01-046A-2	R4
11	12	SACE15RE13	13	435	2	ACS880-01-061A-2	R4
18.5	6	SAFUR90F575	8	1800	4.5	ACS880-01-075A-2+D150	R5
22	6	SAFUR90F575	8	1800	4.5	ACS880-01-087A-2+D150	R5
30	3.5	SAFUR125F500	4	3600	9	ACS880-01-115A-2+D150	R6
37	3.5	SAFUR125F500	4	3600	9	ACS880-01-145A-2+D150	R6
45	2.4	SAFUR200F500	2.7	5400	13.5	ACS880-01-170A-2+D150	R7
55	2.4	SAFUR200F500	2.7	5400	13.5	ACS880-01-206A-2+D150	R7
75	1.8	SAFUR200F500	2.7	5400	13.5	ACS880-01-274A-2+D150	R8

U_N = 400 V (range 380 to 415 V)

Braking power		Brake resistor(s)				Drive type	Frame size
P_{brcont} (kW)	R_{min} (ohm)	Type	R (ohm)	E_r (kJ)	P_{rcont} (kW)		
0.75	78	JBR-03	80	40	0.14	ACS880-01-02A4-3	R1
1.1	78	JBR-03	80	40	0.14	ACS880-01-03A3-3	R1
1.5	78	JBR-03	80	40	0.14	ACS880-01-04A0-3	R1
2.2	78	JBR-03	80	40	0.14	ACS880-01-05A6-3	R1
3	78	JBR-03	80	40	0.14	ACS880-01-07A2-3	R1
4	78	JBR-03	80	40	0.14	ACS880-01-09A4-3	R1
5.5	78	JBR-03	80	40	0.14	ACS880-01-12A6-3	R1
7.5	39	SACE08RE44	44	210	1	ACS880-01-017A-3	R2
11	39	SACE08RE44	44	210	1	ACS880-01-025A-3	R2
15	19	SACE15RE22	22	420	2	ACS880-01-032A-3	R3
18.5	19	SACE15RE22	22	420	2	ACS880-01-038A-3	R3
22	13	SACE15RE13	13	435	2	ACS880-01-045A-3	R4
22	13	SACE15RE13	13	435	2	ACS880-01-061A-3	R4
37	8	SAFUR90F575	8	1800	4.5	ACS880-01-072A-3+D150	R5
45	8	SAFUR90F575	8	1800	4.5	ACS880-01-087A-3+D150	R5
55	5.4	SAFUR80F500	6	2400	6	ACS880-01-105A-3+D150	R6
75	5.4	SAFUR80F500	6	2400	6	ACS880-01-145A-3+D150	R6
90	3.3	SAFUR125F500	4	3600	9	ACS880-01-169A-3+D150	R7
110	3.3	SAFUR125F500	4	3600	9	ACS880-01-206A-3+D150	R7
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-01-246A-3+D150	R8
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-01-293A-3+D150	R8
160	2	SAFUR200F500	2.7	5400	13.5	ACS880-01-363A-3+D150	R9
160	2	SAFUR200F500	2.7	5400	13.5	ACS880-01-430A-3+D150	R9
200	1.5	SAFUR200F500	2.7	5400	13.5	ACS880-01-490A-3+D150	R9
160	1	2×SAFUR180F460	1.2	12000	30	ACS880-01-595A-3 +D150	R9e
160	1	2×SAFUR180F460	1.2	12000	30	ACS880-01-670A-3 +D150	R9e

U_N = 500 V (range 380 to 500 V)

Braking power		Brake resistor(s)				Drive type	Frame size
P_{brcont} (kW)	R_{min} (ohm)	Type	R (ohm)	E_r (kJ)	P_{rcont} (kW)		
0.75	78	JBR-03	80	40	0.14	ACS880-01-02A1-5	R1
1.1	78	JBR-03	80	40	0.14	ACS880-01-03A0-5	R1
1.5	78	JBR-03	80	40	0.14	ACS880-01-03A4-5	R1
2.2	78	JBR-03	80	40	0.14	ACS880-01-04A8-5	R1
3	78	JBR-03	80	40	0.14	ACS880-01-05A2-5	R1
4	78	JBR-03	80	40	0.14	ACS880-01-07A6-5	R1
5.5	78	JBR-03	80	40	0.14	ACS880-01-11A0-5	R1
7.5	39	SACE08RE44	44	210	1	ACS880-01-014A-5	R2
11	39	SACE08RE44	44	210	1	ACS880-01-021A-5	R2
15	19	SACE15RE22	22	420	2	ACS880-01-027A-5	R3
18.5	19	SACE15RE22	22	420	2	ACS880-01-034A-5	R3
22	13	SACE15RE13	13	435	2	ACS880-01-040A-5	R4
22	13	SACE15RE13	13	435	2	ACS880-01-052A-5	R4
37	8	SAFUR90F575	8	1800	4.5	ACS880-01-065A-5+D150	R5
45	8	SAFUR90F575	8	1800	4.5	ACS880-01-077A-5+D150	R5
55	5.4	SAFUR80F500	6	2400	6	ACS880-01-096A-5+D150	R6
75	5.4	SAFUR80F500	6	2400	6	ACS880-01-124A-5+D150	R6
90	3.3	SAFUR125F500	4	3600	9	ACS880-01-156A-5+D150	R7
110	3.3	SAFUR125F500	4	3600	9	ACS880-01-180A-5+D150	R7
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-01-240A-5+D150	R8
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-01-260A-5+D150	R8
160	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-01-361A-5+D150	R9
160	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-01-414A-5+D150	R9
200	1.5	SAFUR200F500	2.7	5400	13.5	ACS880-01-477A-5+D150	R9
160	1	2×SAFUR180F460	1.2	12000	30	ACS880-01-585A-5 +D150	R9e
160	1	2×SAFUR180F460	1.2	12000	30	ACS880-01-635A-5 +D150	R9e

U_N = 690 V (range 525 to 690 V)

Braking power		Brake resistor(s)				Drive type	Frame size
P_{brcont} (kW)	R_{min} (ohm)	Type	R (ohm)	E_r (kJ)	P_{rcont} (kW)		
5.5	44	SACE08RE44	44	210	1	ACS880-01-07A4-7	R3
7.5	44	SACE08RE44	44	210	1	ACS880-01-09A9-7	R3
11	44	SACE08RE44	44	210	1	ACS880-01-14A3-7	R3
15	44	SACE08RE44	44	210	1	ACS880-01-019A-7	R3
18.5	44	SACE08RE44	44	210	1	ACS880-01-023A-7	R3
22	44	SACE08RE44	44	210	1	ACS880-01-027A-7	R3
33	18	SACE15RE22	22	420	2	ACS880-01-035A-7+D150	R5
45	18	SACE15RE22	22	420	2	ACS880-01-042A-7+D150	R5
45	18	SACE15RE22	22	420	2	ACS880-01-049A-7+D150	R5
55	13	SACE15RE13	13	435	2	ACS880-01-061A-7+D150	R6
65	13	SACE15RE13	13	435	2	ACS880-01-084A-7+D150	R6
90	8	SAFUR90F575	8	1800	4.5	ACS880-01-098A-7+D150	R7
110	8	SAFUR90F575	8	1800	4.5	ACS880-01-119A-7+D150	R7
132	6	SAFUR80F500	6	2400	6	ACS880-01-142A-7+D150	R8
160	6	SAFUR80F500	6	2400	6	ACS880-01-174A-7+D150	R8
200	4	SAFUR125F500	4	3600	9	ACS880-01-210A-7+D150	R9
200	4	SAFUR125F500	4	3600	9	ACS880-01-271A-7+D150	R9

All brake resistors are to be installed outside the converter module. The JBR brake resistors are built in to an IP20 metal housing.
The SACE brake resistors are built in to an IP21 metal housing. The SAFUR brake resistors are built in to an IP00 metal frame.

Ratings

P_{brcont}	Continuous brake chopper power. The value applies to the minimum resistance value. With a higher resistance value, the P_{brcont} may increase in some ACS880 units.
R	Resistance value for the listed resistor type.
R_{min}	Minimum allowable resistance value for the brake resistor.
E_r	Energy pulse that the resistor assembly will withstand (400 s duty cycle). This energy will heat the resistor element from 40 °C to the maximum allowable temperature.
P_{rcont}	Continuous power (heat) dissipation of the resistor when placed correctly. Energy E_r dissipates in 400 seconds.

Brake options, ACS880-07

U_N = 400 V (range 380 to 415 V)							
Braking power		Brake resistor(s)				Drive type	Frame size
P_{brmax} (kW)	R_{min} (ohm)	Type	R (ohm)	E_r (kJ)	P_{rcont} (kW)		
55	5.4	SAFUR80F500	6	2400	6	ACS880-07-0105A-3+D150 [2)]	R6
75	5.4	SAFUR80F500	6	2400	6	ACS880-07-0145A-3+D150 [2)]	R6
90	3.3	SAFUR125F500	4	3600	9	ACS880-07-0169A-3+D150 [2)]	R7
110	3.3	SAFUR125F500	4	3600	9	ACS880-07-0206A-3+D150 [2)]	R7
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-07-0246A-3+D150 [2)]	R8
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-07-0293A-3+D150 [2)]	R8
160	2	SAFUR200F500	2.7	5400	13.5	ACS880-07-0363A-3+D150 [2)]	R9
160	2	SAFUR200F500	2.7	5400	13.5	ACS880-07-0430A-3+D150 [2)]	R9
250	2	2×SAFUR125F500	2	7200	18	ACS880-07-0505A-3+D150 [2)]	R10
315	1.3	2×SAFUR200F500	1.35	10800	27	ACS880-07-0585A-3+D150 [2)]	R10
315	1.3	2×SAFUR200F500	1.35	10800	27	ACS880-07-0650A-3+D150 [2)]	R10
400	0.7	3×SAFUR200F500	0.9	16200	40	ACS880-07-0725A-3+D150 [2)]	R11
400	0.7	3×SAFUR200F500	0.9	16200	40	ACS880-07-0820A-3+D150 [2)]	R11
400	0.7	3×SAFUR200F500	0.9	16200	40	ACS880-07-0880A-3+D150 [2)]	R11

U_N = 400 V (range 380 to 415 V)													
Nominal ratings					Duty cycle (1min/ 5min)		Duty cycle (10s/ 60s)		Brake chopper type	Brake resistor type		Drive type	Frame size
P_{brmax} (kW)	R (ohm)	I_{max} (A)	I_{rms} (A)	P_{cont} (kW)	P_{br} (kW)	I_{rms} (A)	P_{br} (kW)	I_{rms} (A)			E_r (kJ)		
6-pulse diode													
706	0.6	1090	168	108	333	514	575	888	2xNBRA659	2 x (2 x SAFUR180F460)	24000	ACS880-07-1140A-3+D150 [2)]	D8T+2×R8i
1058	0.4	1635	252	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-07-1250A-3+D150 [2)]	2×D8T+2×R8i
1058	0.4	1635	252	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-07-1480A-3+D150 [2)]	2×D8T+2×R8i
1058	0.4	1635	252	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-07-1760A-3+D150 [2)]	2×D8T+2×R8i
12-pulse diode													
706	0.6	1090	168	108	333	514	575	888	2xNBRA659	2 x (2 x SAFUR180F460)	24000	ACS880-07-0990A-3+A004+D150 [2)]	2×D7T+2×R8i
706	0.6	1090	168	108	333	514	575	888	2xNBRA659	2 x (2 x SAFUR180F460)	24000	ACS880-07-1140A-3+A004+D150 [2)]	2×D8T+2×R8i
1058	0.4	1635	252	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-07-1250A-3+A004+D150 [2)]	2×D8T+2×R8i
1058	0.4	1635	252	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-07-1480A-3+A004+D150 [2)]	2×D8T+2×R8i
1058	0.4	1635	251	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-07-1760A-3+A004+D150 [2)]	2×D8T+2×R8i

U_N = 500 V (range 380 to 500 V)

Braking power		Brake resistor(s)				Drive type	Frame size
P_{brmax} (kW)	R_{min} (ohm)	Type	R (ohm)	E_r (kJ)	P_{rcont} (kW)		
55	5.4	SAFUR80F500	6	2400	6	ACS880-07-0096A-5+D150 [2)]	R6
75	5.4	SAFUR80F500	6	2400	6	ACS880-07-0124A-5+D150 [2)]	R6
90	3.3	SAFUR125F500	4	3600	9	ACS880-07-0156A-5+D150 [2)]	R7
110	3.3	SAFUR125F500	4	3600	9	ACS880-07-0180A-5+D150 [2)]	R7
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-07-0240A-5+D150 [2)]	R8
132	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-07-0260A-5+D150 [2)]	R8
160	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-07-0361A-5+D150 [2)]	R9
160	2.3	SAFUR200F500	2.7	5400	13.5	ACS880-07-0414A-5+D150 [2)]	R9
250	2	2×SAFUR125F500	2	7200	18	ACS880-07-0460A-5+D150 [2)]	R10
250	2	2×SAFUR125F500	2	7200	18	ACS880-07-0503A-5+D150 [2)]	R10
315	1.3	2×SAFUR200F500	1.35	10800	27	ACS880-07-0583A-5+D150 [2)]	R10
315	1.3	2×SAFUR200F500	1.35	10800	27	ACS880-07-0635A-5+D150 [2)]	R10
400	0.7	3×SAFUR200F500	0.9	16200	40	ACS880-07-0715A-5+D150 [2)]	R11
400	0.7	3×SAFUR200F500	0.9	16200	40	ACS880-07-0820A-5+D150 [2)]	R11
400	0.7	3×SAFUR200F500	0.9	16200	40	ACS880-07-0880A-5+D150 [2)]	R11

U_N = 500 V (range 380 to 500 V)

Nominal ratings					Duty cycle (1min/ 5min)		Duty cycle (10s/ 60s)		Brake chopper type	Brake resistor type		Drive type	Frame size
P_{brcont} (kW)	R (ohm)	I_{max} (A)	I_{rms} (A)	P_{cont} (kW)	P_{br} (kW)	I_{rms} (A)	P_{br} (kW)	I_{rms} (A)			E_r (kJ)		
6-pulse diode													
806	0.68	1210	134	108	333	412	575	710	2xNBRA-659	2 x (2 x SAFUR200F500)	21600	ACS880-07-1070A-5+D150 [2)]	D8T+2×R8i
1208	0.45	1815	201	162	500	618	862	1065	3xNBRA-659	3 x (2 x SAFUR200F500)	32400	ACS880-07-1320A-5+D150 [2)]	2×D8T+2×R8i
1208	0.45	1815	201	162	500	618	862	1065	3xNBRA-659	3 x (2 x SAFUR180F460)	32400	ACS880-07-1450A-5+D150 [2)]	2×D8T+2×R8i
1208	0.45	1815	201	162	500	618	862	1065	3xNBRA-659	3 x (2 x SAFUR200F500)	32400	ACS880-07-1580A-5+D150 [2)]	2×D8T+2×R8i
12-pulse diode													
806	0.68	1210	134	108	333	412	575	710	2xNBRA-659	2 x (2 x SAFUR200F500)	21600	ACS880-07-0990A-5+A004+D150 [2)]	2×D7T+2×R8i
1208	0.45	1815	201	162	500	618	862	1065	3xNBRA-659	3 x (2 x SAFUR200F500)	32400	ACS880-07-1320A-5+A004+D150 [2)]	2×D8T+2×R8i
1208	0.45	1815	201	162	500	618	862	1065	3xNBRA-659	3 x (2 x SAFUR180F460)	32400	ACS880-07-1450A-5+A004+D150 [2)]	2×D8T+2×R8i
1208	0.45	1815	201	162	500	618	862	1065	3xNBRA-659	3 x (2 x SAFUR200F500)	32400	ACS880-07-1580A-5+A004+D150 [2)]	2×D8T+2×R8i

U_N = 690 V (range 525 to 690 V)

Braking power		Brake resistor(s)				Drive type	
P_{brmax} (kW)	R_{min} (ohm)	Type	R (ohm)	E_r (kJ)	P_{rcont} (kW)		
55	13	SACE15RE13	13	435	2	ACS880-07-0061A-7+D150 [2)]	R6
65	13	SACE15RE13	13	435	2	ACS880-07-0084A-7+D150 [2)]	R6
90	8	SAFUR90F575	8	1800	4.5	ACS880-07-0098A-7+D150 [2)]	R7
110	8	SAFUR90F575	8	1800	4.5	ACS880-07-0119A-7+D150 [2)]	R7
132	6	SAFUR80F500	6	2400	6	ACS880-07-0142A-7+D150 [2)]	R8
160	6	SAFUR80F500	6	2400	6	ACS880-07-0174A-7+D150 [2)]	R8
200	4	SAFUR125F500	4	3600	9	ACS880-07-0210A-7+D150 [2)]	R9
200	4	SAFUR125F500	4	3600	9	ACS880-07-0271A-7+D150 [2)]	R9
285	2.2	SAFUR200F500	2.7	3600	13	ACS880-07-0330A-7+D150 [2)]	R10
285	2.2	SAFUR200F500	2.7	3600	13	ACS880-07-0370A-7+D150 [2)]	R10
285	2.2	SAFUR200F500	2.7	3600	13	ACS880-07-0430A-7+D150 [2)]	R10
350	2	2×SAFUR125F500	2	7200	18	ACS880-07-0470A-7+D150 [2)]	R11
350	2	2×SAFUR125F500	2	7200	18	ACS880-07-0522A-7+D150 [2)]	R11
400	1.8	2×SAFUR125F500	2	7200	18	ACS880-07-0590A-7+D150 [2)]	R11
400	1.8	2×SAFUR125F500	2	7200	18	ACS880-07-0650A-7+D150 [2)]	R11
400	1.8	2×SAFUR125F500	2	7200	18	ACS880-07-0721A-7+D150 [2)]	R11

[2)] = +D150+D151 if resistor is ordered

U_N = 690 V (range 525 to 690 V)

Nominal ratings					Duty cycle (1min/ 5min)		Duty cycle (10s/ 60s)		Brake chopper type	Brake resistor type		Drive type	Frame size
P_{brmax} (kW)	R (ohm)	I_{max} (A)	I_{rms} (A)	P_{cont} (kW)	P_{br} (kW)	I_{rms} (A)	P_{br} (kW)	I_{rms} (A)			E_r (kJ)		
6-pulse diode													
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-07-0800A-7+D150 [2)]	D8T+2×R8i
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-07-0900A-7+D150 [2)]	D8T+2×R8i
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-07-1160A-7+D150 [2)]	2×D8T+2×R8i
12-pulse diode													
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-07-0800A-7+A004+D150 [2)]	2×D7T+2×R8i
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-07-0950A-7+A004+D150 [2)]	2×D8T+2×R8i
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-07-1160A-7+A004+D150 [2)]	2×D8T+2×R8i

Brake choppers and resistors for larger types are available as customized option.

Ratings	
P_{brmax}	Maximum braking power of ACS880 equipped with the standard chopper and resistor.
R	Resistance value for the listed resistor type.
R_{min}	Minimum allowable resistance value for the brake resistor.
E_r	Energy pulse that the resistor assembly will withstand (400 s duty cycle). This energy will heat the resistor element from 40 °C to the maximum allowable temperature.
P_{cont}	Maximum continuous braking power
I_{max}	Maximum peak current during braking. Current is achieved with recommended resistor resistance.
I_{rms}	Corresponding rms current during load cycle.
P_{rcont}	Continuous power (heat) dissipation of the resistor when placed correctly. Energy E_r dissipates in 400 seconds.

Additional width for ACS880-07	
Brake quantity	**Width (mm)**
1xSAFUR	400
2xSAFUR	800

Brake options, ACS880-37

U_N = 400 V (range 380 to 415 V)

Nominal ratings					Duty cycle (1min/ 5min)		Duty cycle (10s/ 60s)		Brake chopper type	Brake resistor type		Drive type	Frame size
P_{brmax} (kW)	R (ohm)	I_{max} (A)	I_{rms} (A)	P_{cont} (kW)	P_{br} (kW)	I_{rms} (A)	P_{br} (kW)	I_{rms} (A)			E_r (kJ)		
230	1.7	345	65	42	130	195	224	336	NBRA658	2 x SAFUR210F575	16800	ACS880-37-0105A-3+D150 [2]	R8
230	1.7	345	65	42	130	195	224	336	NBRA658	2 x SAFUR210F575	16800	ACS880-37-0145A-3+D150 [2]	R8
230	1.7	345	65	42	130	195	224	336	NBRA658	2 x SAFUR210F575	16800	ACS880-37-0169A-3+D150 [2]	R8
230	1.7	345	65	42	130	195	224	336	NBRA658	2 x SAFUR210F575	16800	ACS880-37-0206A-3+D150 [2]	R8
355	1.2	532	84	60	167	250	287	430	NBRA659	2 x SAFUR180F460	24000	ACS880-37-0293A-3+D150 [2]	R11
355	1.2	532	84	60	167	250	287	430	NBRA659	2 x SAFUR180F460	24000	ACS880-37-0363A-3+D150 [2]	R11
355	1.2	532	84	60	167	250	287	430	NBRA659	2 x SAFUR180F460	24000	ACS880-37-0442A-3+D150 [2]	R11
355	1.2	532	84	60	167	250	287	430	NBRA659	2 x SAFUR180F460	24000	ACS880-37-0505A-3+D150 [2]	R11
355	1.2	532	84	60	167	250	287	430	NBRA659	2 x SAFUR180F460	24000	ACS880-37-0585A-3+D150 [2]	R11
355	1.2	532	84	60	167	250	287	430	NBRA659	2 x SAFUR180F460	24000	ACS880-37-0650A-3+D150 [2]	R11
353	1.2	545	84	54	167	444	287	444	NBRA659	2 x SAFUR180F460	12000	ACS880-37-0450A-3+D150 [2]	R8i+R8i
353	1.2	545	84	54	167	444	287	444	NBRA659	2 x SAFUR180F460	12000	ACS880-37-0620A-3+D150 [2]	R8i+R8i
706	0.6	1090	168	108	333	514	575	888	2xNBRA659	2 x (2 x SAFUR180F460)	24000	ACS880-37-0870A-3+D150 [2]	R8i+R8i
706	0.6	1090	168	108	333	514	575	888	2xNBRA659	2 x (2 x SAFUR180F460)	24000	ACS880-37-1110A-3+D150 [2]	2×R8i+2×R8i
706	0.6	1090	168	108	333	514	575	888	2xNBRA659	2 x (2 x SAFUR180F460)	24000	ACS880-37-1210A-3+D150 [2]	2×R8i+2×R8i
1058	0.4	1635	252	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-37-1430A-3+D150 [2]	2×R8i+2×R8i
1058	0.4	1635	252	162	500	771	862	1332	3xNBRA659	3 x (2 x SAFUR180F460)	36000	ACS880-37-1700A-3+D150 [2]	2×R8i+2×R8i

U_N = 500 V (range 380 to 500 V)

Nominal ratings					Duty cycle (1min/ 5min)		Duty cycle (10s/ 60s)		Brake chopper type	Brake resistor type		Drive type	Frame size
P_{brmax} (kW)	R (ohm)	I_{max} (A)	I_{rms} (A)	P_{cont} (kW)	P_{br} (kW)	I_{rms} (A)	P_{br} (kW)	I_{rms} (A)			E_r (kJ)		
268	2	334	45	36	111	138	192	239	NBRA658	2 x SAFUR125F500	14400	ACS880-37-0101A-5+D150 [2]	R8
268	2	334	45	36	111	138	192	239	NBRA658	2 x SAFUR125F500	14400	ACS880-37-0124A-5+D150 [2]	R8
268	2	334	45	36	111	138	192	239	NBRA658	2 x SAFUR125F500	14400	ACS880-37-0156A-5+D150 [2]	R8
268	2	334	45	36	111	138	192	239	NBRA658	2 x SAFUR125F500	14400	ACS880-37-0180A-5+D150 [2]	R8
403	1.35	502	67	54	167	208	287	357	NBRA659	2 x SAFUR200F500	21600	ACS880-37-0260A-5+D150 [2]	R11
403	1.35	502	67	54	167	208	287	357	NBRA659	2 x SAFUR200F500	21600	ACS880-37-0361A-5+D150 [2]	R11
403	1.35	502	67	54	167	208	287	357	NBRA659	2 x SAFUR200F500	21600	ACS880-37-0414A-5+D150 [2]	R11
403	1.35	502	67	54	167	208	287	357	NBRA659	2 x SAFUR200F500	21600	ACS880-37-0460A-5+D150 [2]	R11
403	1.35	502	67	54	167	208	287	357	NBRA659	2 x SAFUR200F500	21600	ACS880-37-0503A-5+D150 [2]	R11
403	1.35	605	67	54	167	206	287	355	NBRA659	2 x SAFUR200F500	10800	ACS880-37-0420A-5+D150 [2]	R8i+R8i
403	1.35	605	67	54	167	206	287	355	NBRA659	2 x SAFUR200F500	10800	ACS880-37-0570A-5+D150 [2]	R8i+R8i
806	0.68	1210	134	108	333	412	575	710	2xNBRA659	2 x (2 x SAFUR200F500)	21600	ACS880-37-0780A-5+D150 [2]	R8i+R8i
806	0.68	1210	134	108	333	412	575	710	2xNBRA659	2 x (2 x SAFUR180F460)	21600	ACS880-37-1010A-5+D150 [2]	2×R8i+2×R8i
806	0.68	1210	134	108	333	412	575	710	2xNBRA659	2 x (2 x SAFUR200F500)	21600	ACS880-37-1110A-5+D150 [2]	2×R8i+2×R8i
1208	0.45	2815	201	162	500	618	862	1065	3xNBRA659	3 x (2 x SAFUR200F500)	32400	ACS880-37-1530A-5+D150 [2]	2×R8i+2×R8i

U_N = 690 V (range 525 to 690 V)

Nominal ratings					Duty cycle (1min/ 5min)		Duty cycle (10s/ 60s)		Brake chopper type	Brake resistor type		Drive type	Frame size
P_{brmax} (kW)	R (ohm)	I_{max} (A)	I_{rms} (A)	P_{cont} (kW)	P_{br} (kW)	I_{rms} (A)	P_{br} (kW)	I_{rms} (A)			E_r (kJ)		
403	1.35	364	97	54	167	151	287	259	NBRA669	2 x SAFUR200F500		ACS880-37-0174A-7+D150 [2)]	R11
403	1.35	364	97	54	167	151	287	259	NBRA669	2 x SAFUR200F500		ACS880-37-0210A-7+D150 [2)]	R11
403	1.35	364	97	54	167	151	287	259	NBRA669	2 x SAFUR200F500		ACS880-37-0271A-7+D150 [2)]	R11
403	1.35	364	97	54	167	151	287	259	NBRA669	2 x SAFUR200F500		ACS880-37-0330A-7+D150 [2)]	R11
403	1.35	364	97	54	167	151	287	259	NBRA669	2 x SAFUR200F500		ACS880-37-0370A-7+D150 [2)]	R11
403	1.35	364	97	54	167	151	287	259	NBRA669	2 x SAFUR200F500		ACS880-37-0430A-7+D150 [2)]	R11
404	1.35	835	97	54	167	149	287	257	NBRA669	2 x SAFUR200F500	10800	ACS880-37-0320A-7+D150 [2)]	R8i+R8i
404	1.35	835	97	54	167	149	287	257	NBRA669	2 x SAFUR200F500	10800	ACS880-37-0390A-7+D150 [2)]	R8i+R8i
807	0.68	1670	194	108	333	298	575	514	2xNBRA669	2 x (2 x SAFUR200F500)	21600	ACS880-37-0580A-7+D150 [2)]	R8i+R8i
807	0.68	1670	194	108	333	298	575	514	2xNBRA669	2 x (2 x SAFUR200F500)	21600	ACS880-37-0660A-7+D150 [2)]	2×R8i+2×R8i
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-37-0770A-7+D150 [2)]	2×R8i+2×R8i
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-37-0950A-7+D150 [2)]	2×R8i+2×R8i
1211	0.45	2505	291	162	500	447	862	771	3xNBRA-669	3 x (2 x SAFUR200F500)	32400	ACS880-37-1130A-7+D150 [2)]	2×R8i+2×R8i

Brake choppers and resistors for larger types are available as a customized option.
[2)] = +D150+D151 if resistor is ordered

Ratings	
P_{brmax}	Maximum braking power of ACS880 equipped with the standard chopper and resistor.
R	Resistance value for the listed resistor type.
R_{min}	Minimum allowable resistance value for the brake resistor.
E_r	Energy pulse that the resistor assembly will withstand (400 s duty cycle). This energy will heat the resistor element from 40 °C to the maximum allowable temperature.
P_{cont}	Maximum continuous braking power
I_{max}	Maximum peak current during braking. Current is achieved with recommended resistor resistance.
I_{rms}	Corresponding rms current during load cycle.
P_{rcont}	Continuous power (heat) dissipation of the resistor when placed correctly. Energy E_r dissipates in 400 seconds.

Brake options, ACS880-07CLC, ACS880-17LC and ACS880-37LC

For liquid-cooled cabinet drives, ACS880-07CLC, -17LC and -37LC, brake options are available as engineered variants.

DU/DT FILTERS

Du/dt filtering suppresses inverter output voltage spikes and rapid voltage changes that stress motor insulation. Additionally, du/dt filtering reduces capacitive leakage currents and high-frequency emissions from the motor cable, as well as high-frequency losses and bearing currents in the motor. The need for du/dt filtering depends on the motor insulation. For information about the construction of the motor insulation, consult the manufacturer.

If the motor does not meet the following requirements, the lifetime of the motor may decrease. Insulated N-end (non-driven end) bearings and/or common mode filters are also required for motor bearing currents with motors bigger than 100 kW. For more information, please see the ACS880 hardware manuals.

Please see below for information about how to select a filter according to the motor.

Filter selection table for ACS880

Motor type	Nominal AC supply voltage	Requirements for			
		Motor insulation system	ABB du/dt and common mode filters, insulated N-end motor bearings		
			P_N < 100 kW and frame size < IEC 315	100 kW ≤ P_N < 350 kW or IEC 315 ≤ frame size < IEC 400	P_N ≥ 350 kW or frame size ≥ IEC 400
			P_N < 134 hp and frame size < NEMA 500	134 hp ≤ P_N < 469 hp or NEMA 500 ≤ frame size ≤ NEMA 580	P_N ≥ 469 hp or frame size ≥ NEMA 580
ABB motors					
Random-wound M2__, M3__ and M4__	U_N ≤ 500 V	Standard	–	+ N	+ N + CMF
	500 V < U_N ≤ 600 V	Standard	+ du/dt	+ du/dt + N	+ du/dt + N + CMF
		Reinforced	–	+ N	+ N + CMF
	600 V < U_N ≤ 690 V (cable length ≤ 150 m)	Reinforced	+ du/dt	+ du/dt + N	+ du/dt + N + CMF
	600 V < U_N ≤ 690 V (cable length > 150 m)	Reinforced	–	+ N	+ N + CMF
Form-wound HX__ and AM__	380 V < U_N ≤ 690 V	Standard	n/a	+ N + CMF	P_N < 500 kW: + N + CMF P_N ≥ 500 kW: + du/dt + N + CMF
Old [1] form-wound HX__ and modular	380 V < U_N ≤ 690 V	Check with the motor manufacturer	+ du/dt with voltages over 500 V + N + CMF	+ du/dt with voltages over 500 V + N + CMF	+ du/dt with voltages over 500 V + N + CMF
Random-wound HX__ and AM__ [2]	0 V < U_N ≤ 500 V	Enameled wire with fiber glass taping	+ N + CMF	+ N + CMF	+ N + CMF
	500 V < U_N ≤ 690 V		+ du/dt + N + CMF	+ du/dt + N + CMF	+ du/dt + N + CMF
HPD	Consult the motor manufacturer.				

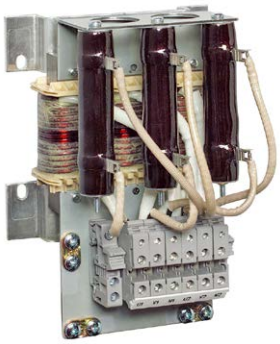
[1] Manufactured before 1.1.1998.
[2] For motors manufactured before 1.1.1998, check for additional instructions with the motor manufacturer.

Non-ABB motors					
Random-wound and form-wound	U_N ≤ 420 V	Standard: $\hat{U}_{LL}$ = 1300 V	–	+ N or CMF	+ N + CMF
	420 V < U_N ≤ 500 V	Standard: $\hat{U}_{LL}$ = 1300 V	+ du/dt	+ du/dt + N or + du/dt + CMF	+ du/dt + N + CMF
		Reinforced: $\hat{U}_{LL}$ = 1600 V, 0.2 microsecond rise time	–	+ N or CMF	+ N + CMF
	500 V < U_N ≤ 600 V	Reinforced: $\hat{U}_{LL}$ = 1600 V	+ du/dt	+ du/dt + N or + du/dt + CMF	+ du/dt + N + CMF
		Reinforced: $\hat{U}_{LL}$ = 1800 V	–	+ N or CMF	+ N + CMF
	600 V < U_N ≤ 690 V	Reinforced: $\hat{U}_{LL}$ = 1800 V	+ du/dt	+ du/dt + N	+ du/dt + N + CMF
		Reinforced: $\hat{U}_{LL}$ = 2000 V, 0.3 microsecond rise time [3]	–	+ N + CMF	+ N + CMF

[3] If the intermediate DC circuit voltage of the drive is increased from the nominal level due to long term resistor braking cycles, check with the motor manufacturer if additional output filters are needed in the applied drive operation range.

The abbreviations used in the table are defined below

Abbr.	Definition
U_N	Nominal AC line voltage.
$\hat{U}_{LL}$	Peak line-to-line voltage at motor terminals which the motor insulation must withstand.
P_N	Motor nominal power.
du/dt	du/dt filter at the output of the drive. Available from ABB as an optional add-on kit.
CMF	Common mode filter. Depending on the drive type, CMF is available from ABB as a factory-installed option (+208) or as an optional add-on kit.
N	N-end bearing: insulated motor non-drive end bearing.
n/a	Motors of this power range are not available as standard units. Consult the motor manufacturer.



NOCH0016-60



NOCH0016-62



NOCH0016-65



FOCH0610-70

External du/dt filter for ACS880-01, ACS880-11 and ACS880-31

			du/dt filter type *) 3 filters included, dimensions apply to one filter.															
			Unprotected (IP00)						Protected to IP22						Protected to IP54			
400 V	500 V	690 V	NOCH0016-60	NOCH0030-60	NOCH0070-60	NOCH0120-60*)	FOCH0260-70	FOCH0320-50	FOCH0610-7X	NOCH0016-62	NOCH0030-62	NOCH0070-62	NOCH0120-62	FOCH0260-72	FOCH0320-52	NOCH0016-65	NOCH0030-65	NOCH0070-65	NOCH0120-65
02A4-3	02A1-5		●							●						●			
03A3-3	03A0-5		●							●						●			
	03A4-5		●							●						●			
04A0-3	04A8-5		●							●						●			
05A6-3	05A2-5	07A4-7	●							●						●			
07A2-3	07A6-5		●							●						●			
09A4-3		09A9-7	●							●						●			
12A6-3	11A0-5		●							●						●			
		14A3-7	●							●						●			
	014A-5			●							●						●		
017A-3		019A-7		●							●						●		
	021A-5			●							●						●		
		023A-7		●							●						●		
025A-3				●							●						●		
		027A-7		●							●						●		
	027A-5				●							●						●	
032A-3	034A-5	035A-7			●							●						●	
038A-3	040A-5	042A-7			●							●						●	
045A-3	052A-5	049A-7			●							●						●	
061A-3					●							●						●	
	065A-5	061A-7				●							●						●
072A-3	077A-5					●							●						●
087A-3		084A-7				●							●						●
105A-3	096A-5	098A-7				●							●						●
	124A-5	119A-7					●							●					
145A-3	156A-5	142A-7					●							●					
169A-3	180A-5	174A-7					●							●					
206A-3	240A-5	210A-7					●							●					
246A-3	260A-5	271A-7					●							●					
293A-3							●							●					
363A-3	361A-5							●							●				
430A-3	414A-5							●							●				
	477A-5								●										
490-3									●										
595A-3	585A-5								●										
670A-3	635A-5								●										

Applicability

Separate du/dt filters are available for ACS880-01, -11 and -31. Unprotected IP00 filters must be placed in an enclosure that provides an adequate degree of protection.

Factory-installed du/dt filters are available for ACS880-07. They are installed inside the drive cabinet.

Dimensions and weights of the du/dt filters

du/dt filter	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
NOCH0016-60	195	140	115	2.4
NOCH0016-62/65	323	199	154	6
NOCH0030-60	215	165	130	4.7
NOCH0030-62/65	348	249	172	9
NOCH0070-60	261	180	150	9.5
NOCH0070-62/65	433	279	202	15.5
NOCH0120-60*	200	154	106	7
NOCH0120-62/65	765	308	256	45
FOCH0260-70	382	340	254	47
FOCH0260-72	772	396	376	74
FOCH0320-50	662	319	293	65
FOCH0320-52	1092	396	413	100
FOCH0610-70	662	319	293	65

DIGITAL SOLUTIONS AND CONNECTIVITY FOR DRIVES, MOTORS, PLCs AND HMIs

ABB digital tools and connectivity for drives, motors, PLCs and HMIs, enhance the performance, reliability, and efficiency of the whole system throughout the entire life cycle, which gives end users a new level of trust.



Plan – Tools for smooth selection journey

- **ABB GoSelect**
- **DriveSize**
- **EcoDesign tool**
- **EnergySave calculator**
- **LV Drives Configurator**
- **Removable memory unit**

Design – Engineering tools for advanced customization

- **ABB Ability™ Virtual Commissioning for drives**
- **Drive Application Builder**

Build and maintain – User tools for superior drive management

- **Drive Composer**
- **ABB Crealizer™**
- **ABB Ability™ Mobile Connect for drives**
- **Drivetune mobile tool**
- **Drivetune – Motor QR code feature**
- **ABB Access**
- **Drive Assistant Control panels**
- **Door mounting and panel bus**
- **Communication and connectivity**
- **Fieldbus and Industrial Ethernet solutions**
- **PROFINET S2 system redundancy for ABB drives**
- **Connectivity to automation systems**
- **ABB drives and OPC UA**
- **Feedback interface and DDCS communication options**
- **Functional safety offering**
- **Certified safety built-in with ACS880 drives**

+ ABB GoSelect web-based tool

Build the optimal solution for your application quickly and easily online

ABB GoSelect is a web-based selection and dimensioning tool for drives, motors, PLCs and HMIs. Build the optimal solution for your application and efficiently create, collect, and manage documentation and reports – all in one place.

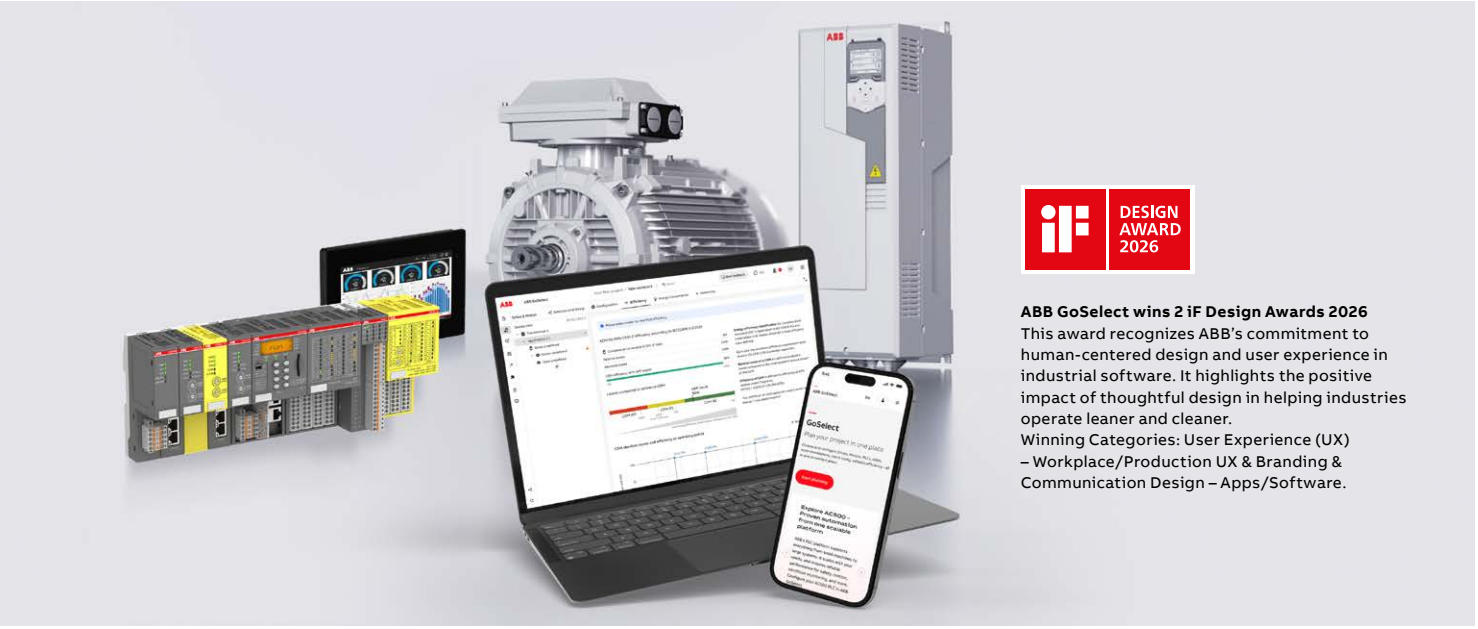


ABB GoSelect wins 2 iF Design Awards 2026
This award recognizes ABB's commitment to human-centered design and user experience in industrial software. It highlights the positive impact of thoughtful design in helping industries operate leaner and cleaner.
Winning Categories: User Experience (UX) – Workplace/Production UX & Branding & Communication Design – Apps/Software.

01 Improved productivity

- Modern, easy-to-navigate user interface
- No need to duplicate input data across multiple tools
- No additional software needed
- Can do quick check without logging in
- Support Chinese, German, and Spanish along with English

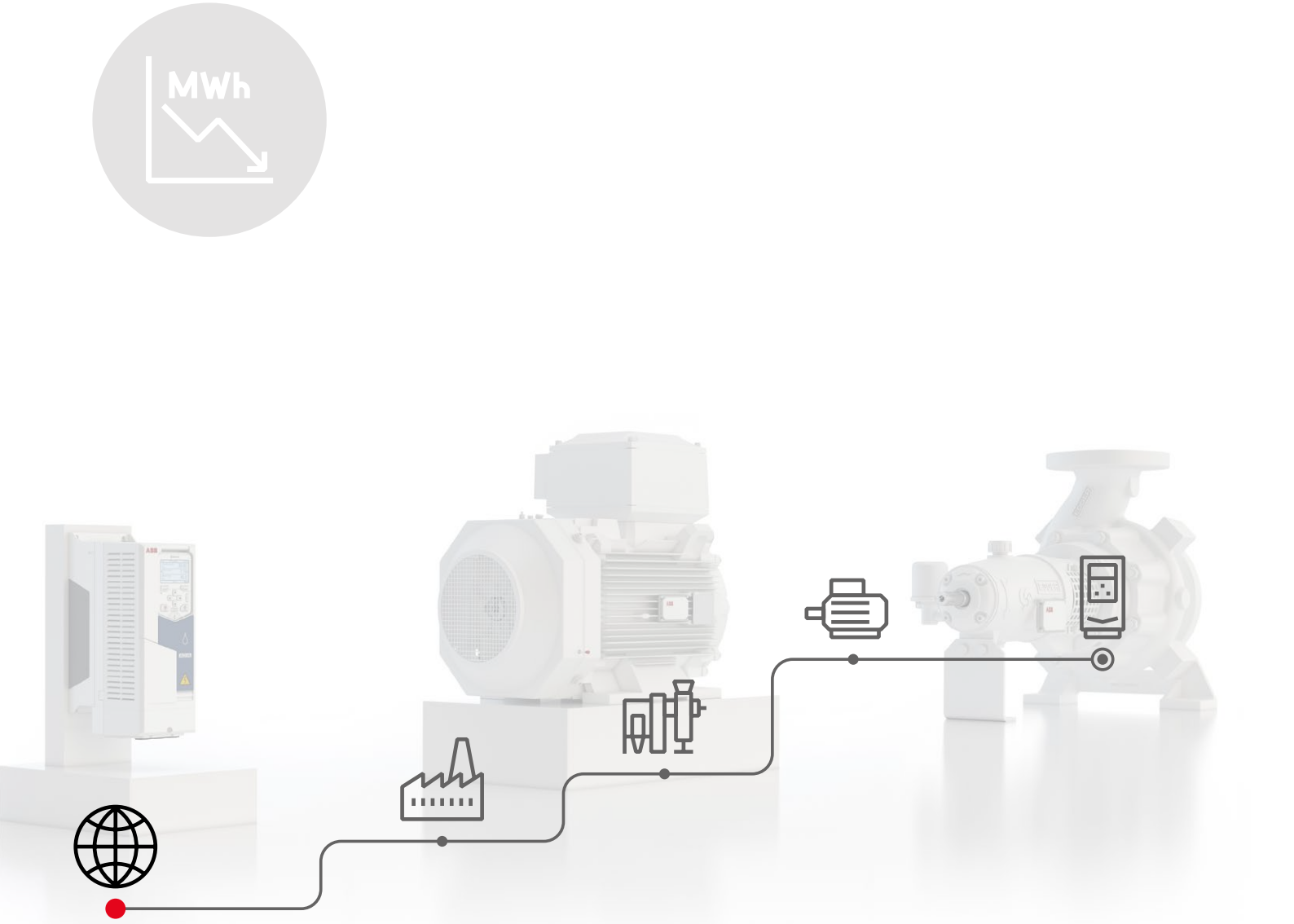
02 All in one place

- One place for all selection tools
- One place for entering to different user journey
- Collect project documentation and reports in one place
- Easy to use regardless of experience level with ABB products

03 Efficient collaboration

- Store different alternatives under one project for easy comparison
- Share projects without the hassle of exchanging files via email
- Collaborate on the same project within a group of people
- Contact ABB and send feedback directly from GoSelect

For more information, see:
goselect.motion.abb.com



+ DriveSize

DriveSize helps you select an optimal motor, drive, and transformer, and contains current versions of our motor and drive catalog. DriveSize can compute network harmonics and create dimensioning documents.

new.abb.com/drives/software-tools/drivesize

+ EnergySave calculator

Calculate how much energy and money you could save by using ABB drives while also deriving other benefits such as soft starting and stopping, an improved power factor, and connection into process automation.

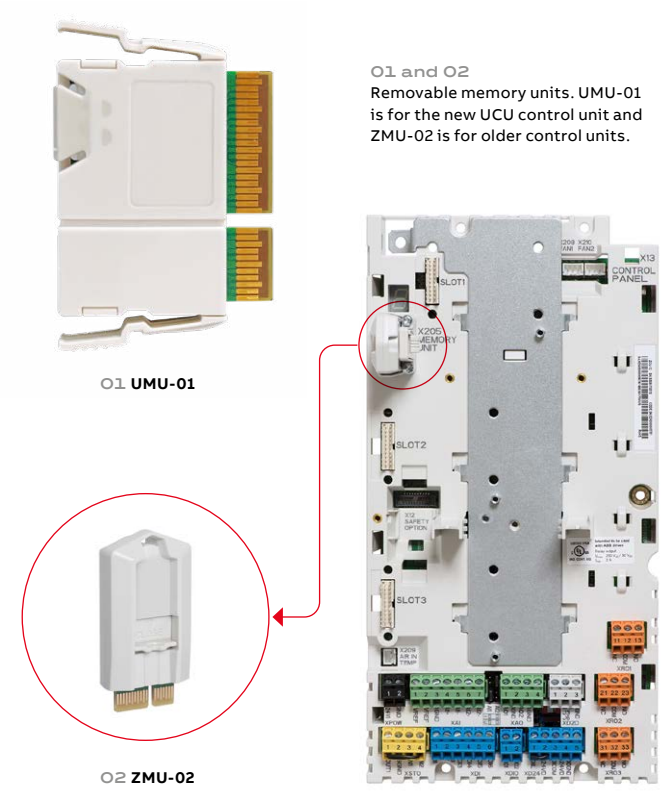
new.abb.com/drives/software-tools/energysave-calculator

+ Removable memory unit

The ACS880 drives feature a removable memory unit that plays a crucial role in storing essential software and settings, including motor data. This unit can be switched from one drive to another, allowing simple and rapid drive replacement without any special equipment, software loading, parameter settings, or other adjustments in the drive or automation system. It also eliminates the risk of software incompatibility. The new drive is ready to run as soon as the memory unit is plugged in.

Memory unit contains the following key components:

- Drive's firmware
  - The core software that controls the drive's operations
- Communication settings
  - Configurations for how the drive communicates with other devices
- Encoder settings
  - Information related to the encoder used in the drive
- I/O extension options
  - Configurations for input/output extensions
- Parameter setup
  - User-defined settings for the drive's operation
- Application program
  - This includes any customizations made by the user
- Custom IEC programs
  - If applicable, these are user-defined programs following the IEC standard
- Motor identification
  - Information that helps in identifying the motor connected to the drive



01 **UMU-01**

02 **ZMU-02**

01 and 02
Removable memory units. UMU-01 is for the new UCU control unit and ZMU-02 is for older control units.

Additionally, the memory unit is secured with embedded data encryption to protect proprietary information and prevent unauthorized modifications. Each new ACS880 drive is supplied with a memory module, and replacement modules can be obtained through ABB's Drive Services or Warranty Services.



+ ABB Ability™ Virtual Commissioning for drives

Virtual engineering and commissioning allow machine builders and system integrators to develop and simulate entire industrial processing lines and machines, including ACS880 drives, without actually running the hardware. This gives valuable benefits in the phases of designing, commissioning and operating machines.

Design safely and efficiently
Engineers can start configuring and programming drives well before receiving them from ABB production line, since the same software tools like Drive Composer Pro can be used with virtual and real drives. Virtualization can also cover the kinematical and physical behavior of the machine and the overriding automation. Virtual drives can also be used with the Drive Application Builder and ABB Automation Builder programming tools to build more complete virtual machines and processing lines.

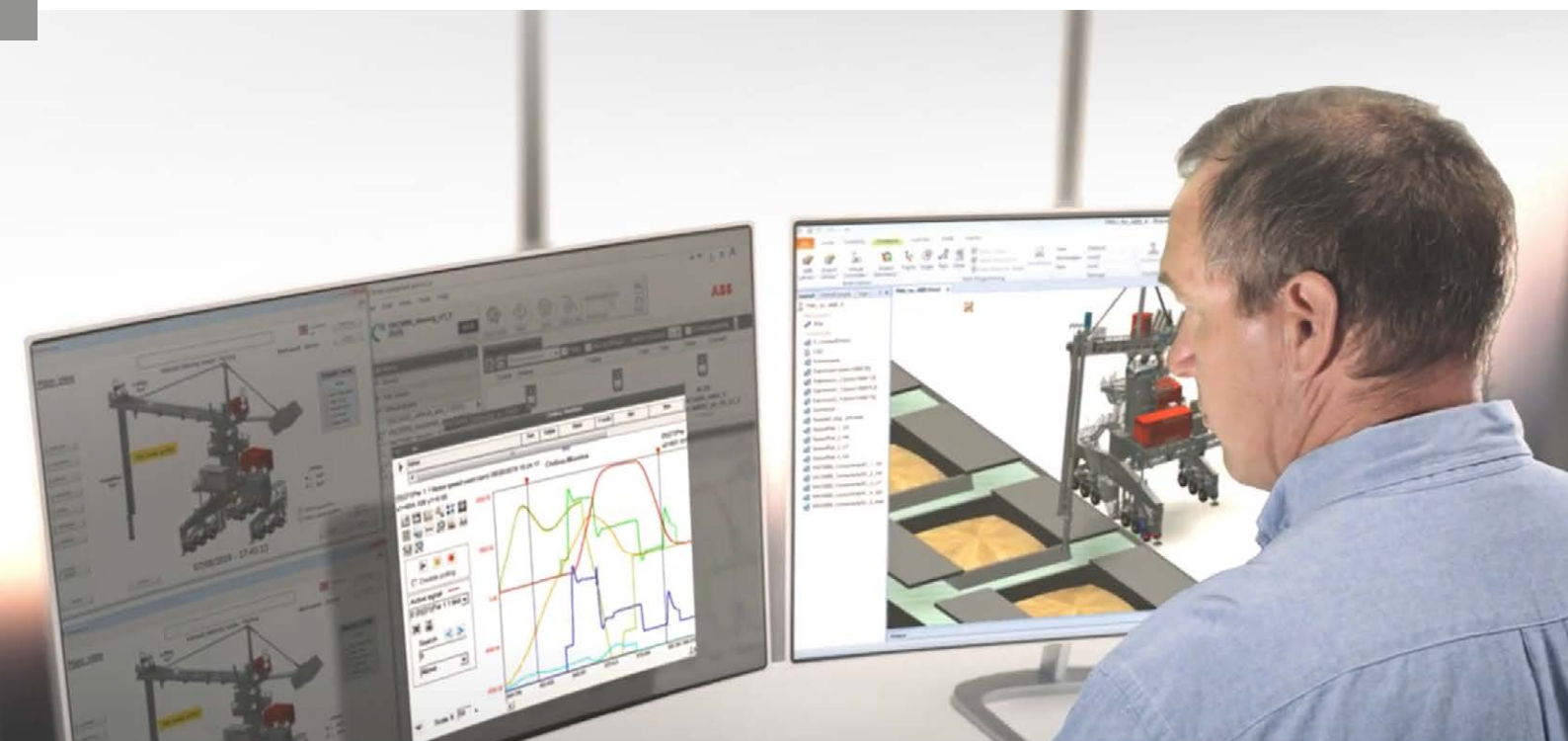
After deploying the virtual machine in use on-site, any future improvements can be virtually tested before implementing them in the process. This all supports safety and quality in the engineering process.

Benefits
Throughout the value chain from sales, marketing, and training to field engineering and product development, virtual commissioning makes drive applications more easily understood and helps to:

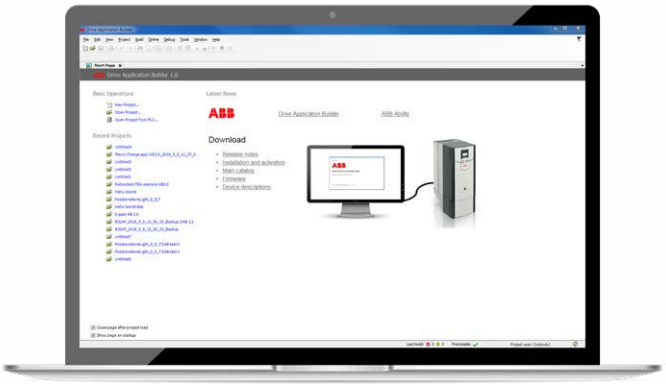
- Design, test and learn drive applications virtually with the same software tools as for the actual hardware
- Train users and engineers with application simulation
- Tune up drive parameters easily off-site before going into more demanding on-site testing
- Find and solve potential problems earlier
- Save time and money due to faster drive commissioning
- Assist the dimensioning and energy optimization of electromechanical drive systems

Save time, reduce risk, and increase engineering productivity

For more information, please see new.abb.com/drives/software-tools/virtual-commissioning-for-drives



+ Drive Application Builder



Drive application programming lets you create cutting-edge advantages in your machines, thanks to the built-in PLC functionality of ACS880 drives. The application program runs on top of the drive's standard drive firmware.
This allows seamless implementation of custom control algorithms in addition to the standard drive functionality, access to the drive peripheral I/O and customization of the drive user interface.

—

Combine your application knowledge with the world's number one electrical drives

Drive application programming is accomplished with the Drive Application Builder tool and based on the well-known IEC 61131-3 standard. This standard allows to start a program development with minimal training and to transfer customized programs to other platforms.

Benefits and Features of Drive Application Programming include:

- Cost savings and higher reliability, due to fewer system components and simpler installation work because no external PLC is needed
- Compact solution requires less cabinet space, as the PLC is inside the drive enclosure, with the same IP class
- Performance and productivity improvements, since decentralized machine control enables faster control loops
- No need for a separate HMI, as a drive control panel can be used instead in some applications
- Creation of intelligent applications with several drives, using the drive-to-drive communication

Drive Application Builder is a tool for developing IEC 61131-3 programs in a drive-embedded PLC.

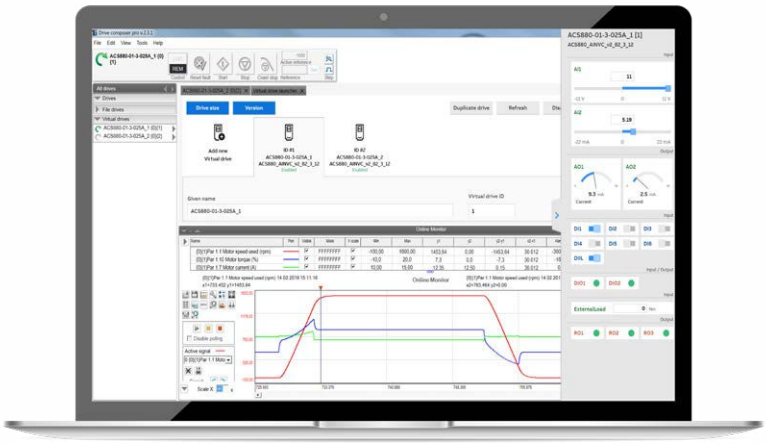
Standard features:

- IEC 61131-3 programming
- 160KB of program memory
- Running application program in parallel drive FW in three configurable tasks (1ms-1000ms)
- Interface to standard drive parameters
- Adding customer parameters
- Adding customer events
- Drive I/O programming
- Drive-to-drive communication

Ordering code	Description	PC tool
3AXD50000342389	Standard version of the Drive Application Builder for IEC 61131-3 programming, DABS-STANDARD	Licenses for Drive Application Builder [1]
3AXD50000343027	Software development productivity add-ons for Drive Application Builder, version control and static analysis extensions to improve software engineering productivity, single workstation, DABX-PRODUCTIVITY-ADD-ONS	
+N8010	License key for drive application programming based on IEC 61131-3 using Drive Application Builder	IEC programming

[1] For IEC programming, a license key is needed for the ACS880 drive (+N8010).

For more information, please see new.abb.com/drives/software-tools/drive-application-programming



+ Drive Composer

Drive Composer is an easy-to-use, reliable, and secure tool for commissioning, monitoring, and troubleshooting ABB all-compatible drives.

The **entry** version of Drive Composer provides basic functionality for setting parameters, basic monitoring, taking local control of the drive from the PC, and event logger handling. The entry version is available for free and can be downloaded from below.

Drive Composer **pro** is the full-fledged commissioning and troubleshooting tool. Order Drive Composer pro through ABB sales channels. Existing license holders can upgrade to latest version of Drive Composer pro by downloading the installation package from below.

Link/MRP codes	Description	Type designation
new.abb.com/drives/software-tools/drive-composer	Link to download free Drive Composer entry	–
9AKK105408A3415	Drive Composer entry PC tool (document)	–
3AUA0000108087	Drive Composer pro PC tool (single-user license)	DCPT-01
3AUA0000145150	Drive Composer pro PC tool (10-user license)	DCPT-01
3AUA0000145151	Drive Composer pro PC tool (20-user license)	DCPT-01

—

Download

Drive Composer entry
https://search.abb.com/library/Download.aspx?DocumentID=9AKK105408A3415&LanguageCode=en&DocumentPartId=1&Action=Launch

Drive Composer pro
https://search.abb.com/library/Download.aspx?DocumentID=9AKK105713A1935&LanguageCode=en&DocumentPartId=&Action=Launch

Drive Composer software Features	Entry version (FREE)	Pro version (DCPT-01)
Connectivity		
Online, offline and demo modes available	●	●
Use the USB port of an Assistant control panel for PC tool communication	●	●
Use Ethernet-based fieldbus adapter module or Panel bus network connection	–	●
Control, monitor and display status of the connected drive	●	●
Work simultaneously with multiple drives (networked drives)	–	●
Parameters Management		
Management of connected drive parameters (Display & modification)	●	●
Edit parameter files in offline mode	–	●
Copy/download parameters to a drive	●	●
Customization of parameter windows	●	●
Save and export parameters to a parameter file	●	●
Compare parameters between parameter lists or drives	–	●
Drive parameter conversion tool (for ACS800/ACS600)	–	●
User parameter set functionality (only ACS880 drives)	–	●
Monitoring		
Monitor signals in numerical and graphical format	Max 8 signals	Max 26 signals
Monitor signals simultaneously from multiple drives connected	–	●
Save and Export monitored data to a computer	●	●
Open and analyze the saved or monitored files	●	●
Additional features		
Adaptive programming feature (Create and edit programs)	●	●
Control diagrams for parameter setting and diagnostic purposes	–	●
Creation, configuration and execution of Macro scripts	–	●
Configure the optional safety functions modules (FSO)	–	●
Firmware loader (Update drive, FSO safety module)	–	●
Drive text editor (manage user editable texts in a drive)	–	●
Create EDS export files of a connected drive	–	●
Display contents of an event logger (faults and warnings)	Partly	●
Display and analyze of data logged in a drive	–	●
Maintenance		
Display of System info (basic information about the drive and its options)	●	●
Connect to Drive installed base (DIB) service portal (register, search, report)	●	●
Backup/restore functions	●	●
Advance restore (restore a set of components/parameter settings)	–	●
Create backup of all connected drives in a computer network	–	●
User interface available in different languages	●	●
Virtual drive launcher available	–	●
Use an OPC-based commissioning and maintenance tool	–	●

+ ABB Crealizer™

Optimize performance
Crealizer™ is a new open software platform integrated into ABB drives operating system to empower you to create, validate and realize customized solutions specific to the needs of your business.

Crealizer™ performs and measures in real time so you have instant access to faster data collection, higher accuracy, rapid prototyping and validation.

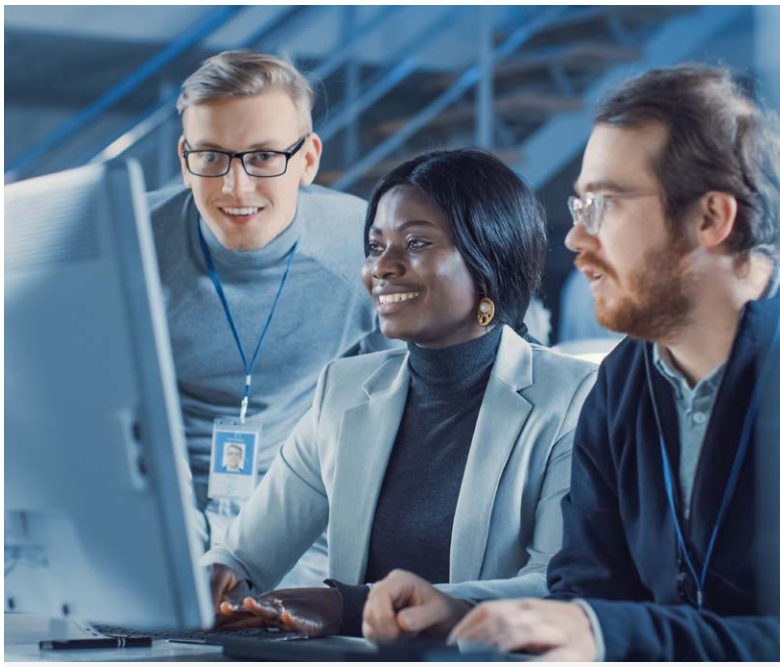
Shorter time to market
Independence to feature development and firmware release cycles of drive vendor.

Lower system cost
Reduce the amount of overriding controllers.

Risk reduction
Reduction through straightforward quality testing and prototyping to fast deployment.

Co-creation with ecosystem
Enables co-creation with other domain experts to solve challenging system level problems or a marketplace with pre-built applications from ABB and the ecosystem partners which extends the capabilities of the drive.

Cyber security
Guarantees equipment and data security by authentication of the signed app.



CREATE
- Create or co-create new solutions or benefit from existing ones
- The possibilities are endless using either PLC standard IEC 61131, high-level language C++, or model-based coding from Matlab/Simulink

VALIDATE
- Validate your new application through simulation options to mitigate risk and enable fast implementation
- Software-based validation allows for full optimization for real hardware conditions

REALIZE
- Realize your new solution within your Drive or fleet
- Discover existing solutions on our dedicated online platform and reuse it for your Drive
- Make your solution available for others and publish it on our webpage

For more information, see:
new.abb.com/drives/digital-offering

+ ABB Ability™ Mobile Connect for drives

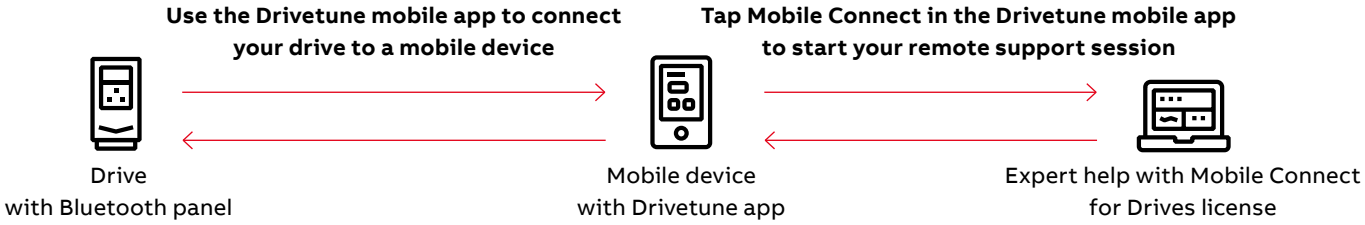
Easy access to remote support
ABB Ability™ Mobile Connect for drives is a platform for remote drive support consisting of the Mobile Connect web portal and the Drivetune mobile app.

The platform allows ABB service partners to provide remote commissioning and troubleshooting support for personnel on-site without any complex connectivity infrastructure. Chats, sharing images and backups, viewing parameters online and sending support packages are all possible, making your technical support process quick and efficient.

All that is needed is the Bluetooth control panel and a mobile device.

The platform is available for ABB partners and OEMs under a renewable subscription-based agreement.

ABB Ability™ Mobile Connect for drives support portal



+ Drivetune mobile app for managing drives via an intuitive interface

Drivetune mobile app is a powerful tool for performing basic drive startup and troubleshooting tasks. It is possible to connect with drives and access data available in the Internet at the same time. The wireless Bluetooth connectivity means that users won't need to enter hazardous or difficult-to-reach work areas to access information necessary to help them commission and tune the drive.



- **Startup, commission and tune your drive and application with full parameter access**
- **Optimize performance via drive troubleshooting features**
- **Create and share backups and support packages**
- **Keep track of drives installed base**

Download Drivetune mobile app



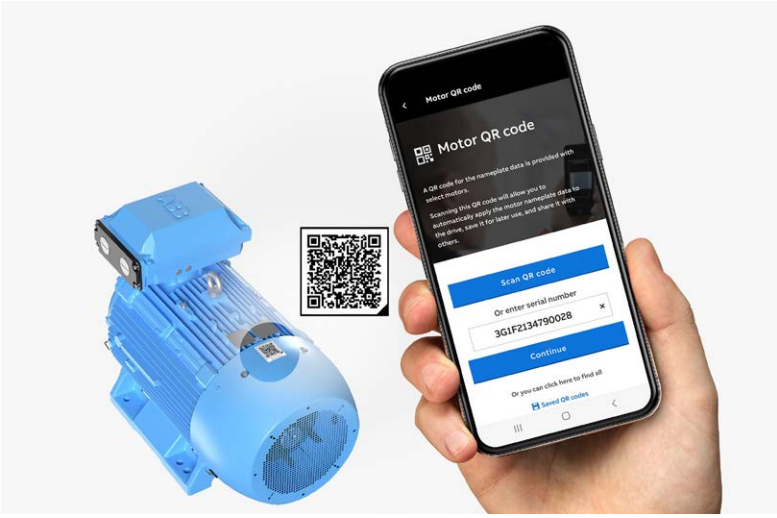
Google play

Available on the App Store

+ Drivetune – Motor QR code feature

Motor QR code reader for quick and reliable motor parameter setting with ABB Drive-Motor package

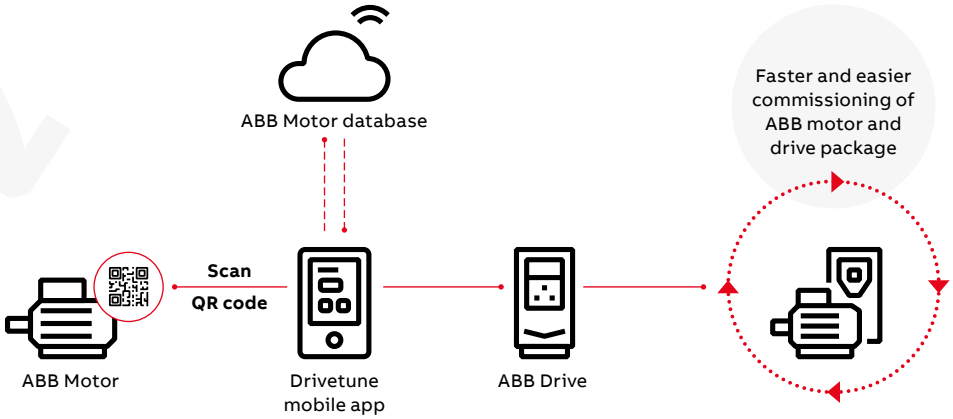
Drivetune mobile app with motor QR code reader quickly and easily transfers ABB motor* data to drive parameters.



Faster and easier commissioning
- Quick and reliable motor parameter setup
- Scan the QR code or enter the motor serial number to get the data for parameters
- Less manual work and reduced risk of error when commissioning motors
- Drivetune helps to filter motor configurations

Easy to use
- Same motor QR code for ABB Access and Drivetune
- Share motor nameplate file between users/devices
- Add descriptive name and comments to motor nameplate file

ABB motors and drives are designed to complement each other, allowing you to optimize your machine speed and reduce energy consumption.



Download free from the Apple App Store or Google Play.

Available on the App Store

Google play

* Drivetune does not currently support all ABB motors. We are working to expand the range of supported motors. If you receive a message saying **'data not available'** when scanning a QR code, you will need to enter the data manually.

More information about the Drivetune app can be found on the ABB website.

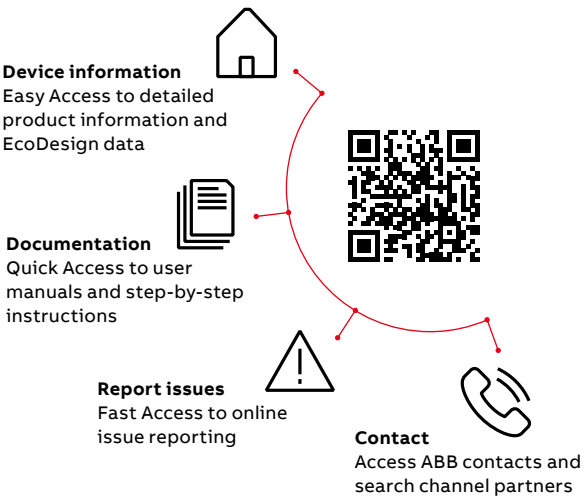
+ ABB Access

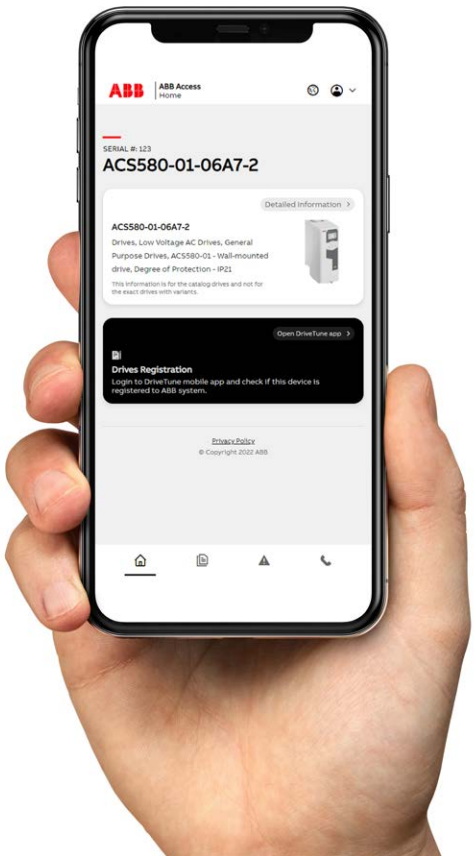
Scan the QR code to access 24/7 self-services for ABB drives, motors and PLCs

With ABB Access, you can unlock all aspects of your drives, motors or PLCs, from one central location: the palm of your hand.



Simply scan the QR code on the ABB product to get started
ABB Access, helps you easily find up-to-date product online data. It also provides easy access to documentation and manuals. If you happen to experience issues with your ABB product, this can be quickly and easily reported online to reach expert support from ABB.







+ Drive Assistant Control panels

Easy commissioning and operation

ABB has a wide range of drive HMI options with different value proposition for customers – from the low-cost, easy-to-use Basic control panel to the Drive Connectivity panel which is a plug-and-play solution for the ABB Ability™ Digital Powertrain for remote condition monitoring and expert support.



Bluetooth control panel
The control panel with built-in Bluetooth enables easy and secure wireless connection with the Drivetune mobile app. With the entry version of Drive Composer software tool, you can startup, commission, maintain, and get remote support of ABB all-compatible drives.



Assistant control panel
ACS-AP-I control panel works with all ABB drives, making it easy to use one panel with different products. Enhanced usability, intuitive and appealing interface, easy navigation.



Drive Connectivity Panel
Control panel variant with built-in Bluetooth and mobile radio. It offers easy remote condition monitoring, plug, and play installation with secure and reliable wireless connection to the ABB Ability™ Digital Powertrain, the cloud-based condition monitoring portal for ABB Drives. Possible to connect with the Drivetune mobile app and Drive Composer Entry PC tool as well. Available with a renewable subscription to the ABB Ability™ Digital Powertrain.

For more information, please see new.abb.com/drives/connectivity/user-interface-options/assistant-control-panels

+ Door mounting and panel bus

Improve safety and leverage the full potential of the ACS880 control panel options with a door mounting kit and panel bus adapter.



01 02 03

01
Control panel mounting platform, DPMP-01, is for flush mountings and has IP54/UL Type 12 protection class (IP20, when control panel is not mounted). Supports daisy chaining of the control panel link.

02
Control panel mounting platform, DPMP-02, is for surface mounting and has IP65/UL Type 12 protection class (IP20, when control panel not mounted).

03
Control panel mounting platform, DPMP-04, is a lockable door mounting platform for drive control panels in outdoor installations or harsh environments. It has a IP66 protection class, UV resistance and IK07 impact protection rating.

Door mounting fosters easy operation and safety. It enables you to operate the drive without opening the cabinet door, saving time and keeping all the electronics behind the closed door.

Cabinet door

Control panel mounting platform
The mounting platform for the drive's control panel.

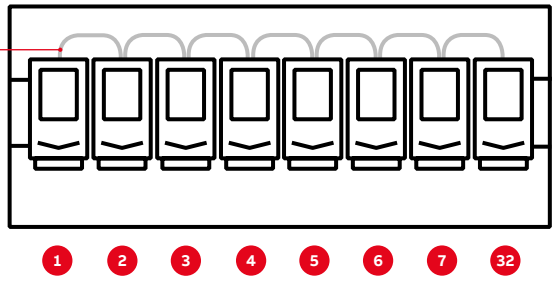
Bluetooth Assistant control panel
The Bluetooth control panel comes as standard with ACS880 drives. Also a control panel without wireless connection can be used.

Panel bus
Panel bus connectors come as standard in wall-mounted ACS880-01, -11 and -31 drives. With other ACS880 drives, the panel bus can be implemented by using a FDPI-02 interface.

Up to 32 drives can be connected to one control panel for even easier and quicker operation. When using the panel bus, you need only one assistant control panel.



Cabinet, outside



Cabinet, inside

Control panel options

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

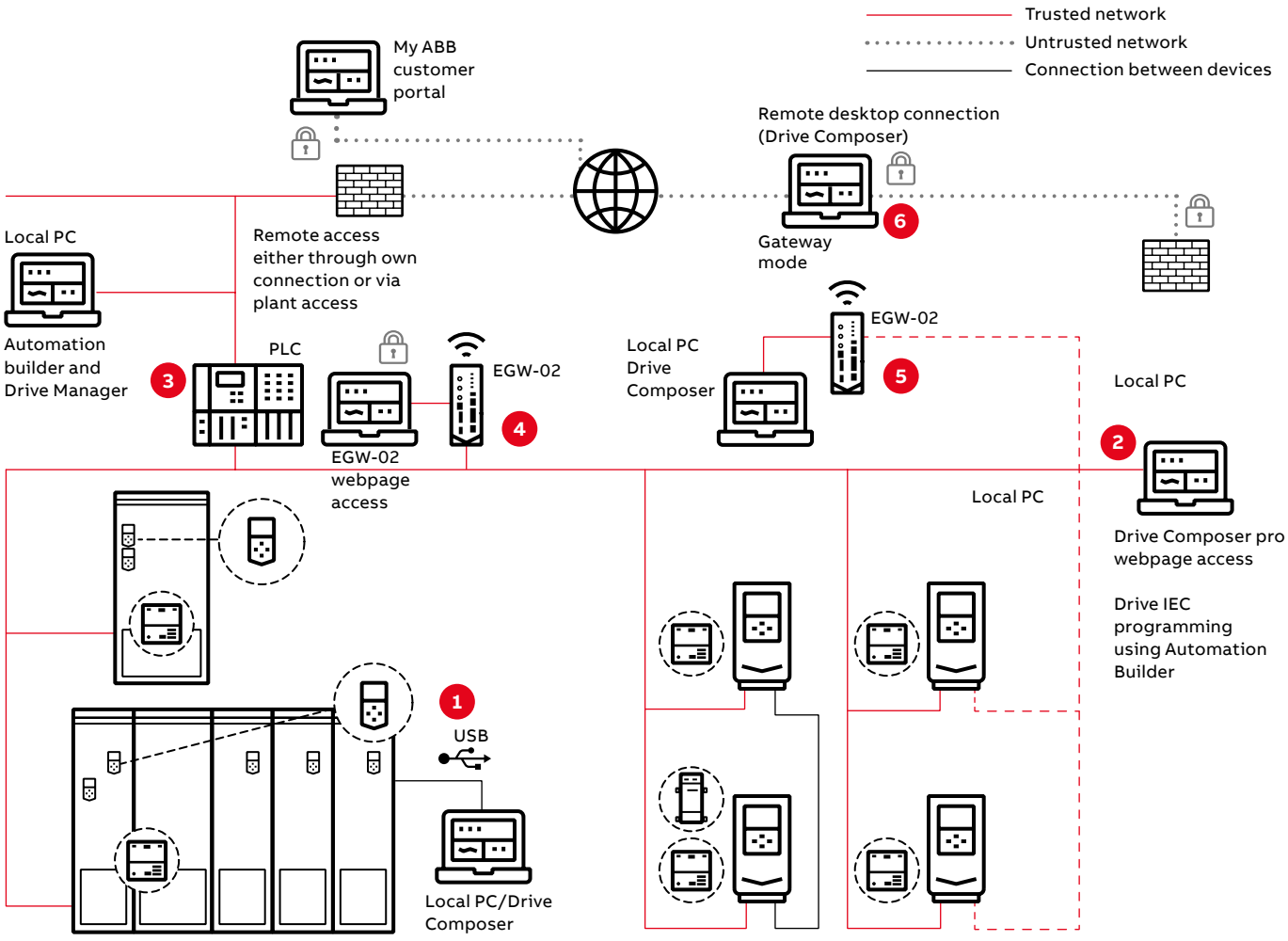
Option code	Ordering code for loose item	Description	Type
+0J400	–	No control panel	–
–	3AXD0000025965	Bluetooth Assistant control panel. Included as standard	ACS-AP-W
+J425	3AUA0000088311	Industrial assistant control panel without Bluetooth connection	ACS-AP-I
+J410	3AUA0000108878	Control panel mounting platform, flush mounted, IP54/UL Type 12 (does not include control panel)	DPMP-01
+J413	3AXD50000009374	Control panel mounting platform, surface mounted, IP65/UL Type 12 (does not include control panel)	DPMP-02
–	3AXD50000217717	Control panel mounting platform for outdoor and harsh environments, IP66, UV resistance, IK07 impact protection rating (does not include control panel)	DPMP-04

+ Communication and connectivity

Fast and reliable communication

- Reduces mechanical and electrical cost
- Decreases downtime
- Increases productivity
- Reduces startup costs
- Lower maintenance and diagnostic costs
- Quick access to networked drives with PC-based startup and maintenance software tools
- Reduces wiring costs compared to traditional I/O connections

Industrial automation plant – different network possibilities and their secure deployment



1. Local connections (point-to-point serial communication, e.g., USB) or
2. Shared (with control) upper-level physical fieldbus network (e.g., PROFINET) using Ethernet tool communication and/or
3. Also communication through PLC system using Drive Manager device tool or
4. EGW-02 remote monitoring tool web interface or
5. EGW-02 acting as a gateway between or
6. Third-party remote desktop connection.

+ Fieldbus and Industrial Ethernet solutions

Easy, secure, and reliable integration with the leading automation ecosystems

ABB is a technology leader in digital automation communication networks. We provide device integration, wireless and wired products, and systems that help you to make the Industrial Internet of Things a reality.

A wide variety of fieldbus solutions are available and all major fieldbus protocols are supported by ABB drives, giving you the flexibility, compatibility, and security, you need. So, whatever your preferred communication networks and automation systems, we have a suitable solution.

Thanks to embedded protocols and a wide range of **F-series fieldbus interface modules**, ABB drives provide reliable connectivity with your automation systems, with a simplified interface to control and manage all your ABB drives in low to medium voltage ranges.



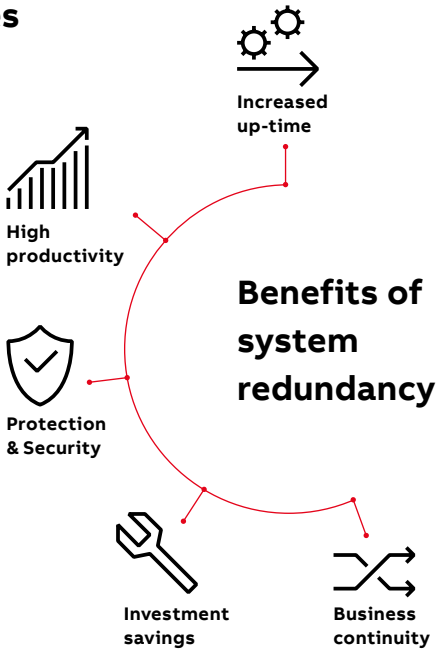
OPC UA
PROFIBUS
PROFINET
Modbus
EtherCAT
EtherNet/IP
ETHERNET POWERLINK
CANopen
BACnet

M

+ PROFINET S2 system redundancy for ABB drives

System redundancy is a high-priority requirement in process industry and infrastructure installations where the system must be operational even during component breakdowns and malfunctioning. The interruption of a continuous production process has the potential to lead to large financial losses or safety hazards. Thanks to the new PROFINET S2 system redundancy of ABB drives, unwanted downtime can be minimized. This leads to better process control, with improved productivity.

PROFINET system redundancy S2 is now available for ABB drives with the optional PROFINET interface module FPNO-21. It allows the drive to establish a connection with two control PLCs in a redundant manner.



PROFINET IO
2-port interface module.
Certified according to
Conformance Class B (CC-B)

SNTP Time synchronization



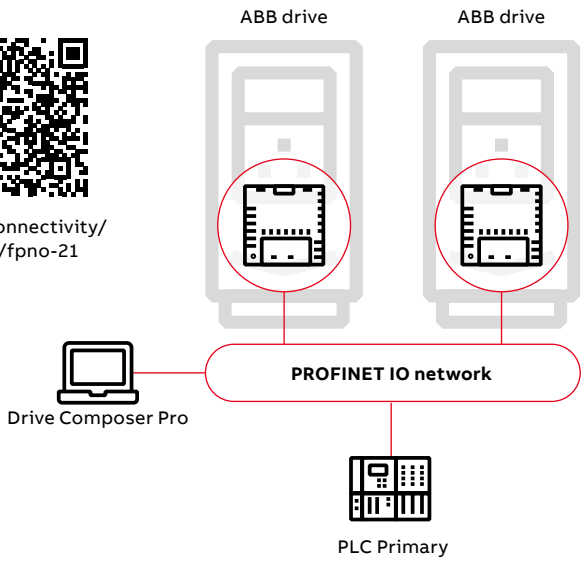
Ethernet tool network
PROFINET IO at the same time
with Drive Composer pro

PROFINET Shared Device
PROFIsafe support with FSO-12/-21
safety functions module

For all-compatible drives portfolio

PROFINET S2 system redundancy

https://new.abb.com/drives/connectivity/fieldbus-connectivity/profinet/fpno-21



+ Connectivity to automation systems

Communication protocol adapters
ACS880 industrial drives are compatible with a wide range of communication protocols. The drive comes with a Modbus RTU fieldbus interface as standard.

ACS880 supports two different communication connections simultaneously and offers the possibility of redundant communication. PROFIsafe (functional safety over PROFINET) and CIP Safety™ over Ethernet IP are also supported.

COMMUNICATION PROTOCOL ADAPTERS

Option code	Ordering code for loose item	Communication protocol	Adapter
+K451	68469341	DeviceNet™	FDNA-01
+K454	68469325	PROFIBUS DP. DPV0/DPV1	FPBA-01
+K457	68469376	CANopen®	FCAN-01
+K458	3AUA0000031336	Modbus RTU	FSCA-01
+K469	3AUA0000072069	EtherCAT®	FECA-01
+K470	3AXD5000019239	POWERLINK	FEPL-02
+K491	3AXD50000049964	Modbus/TCP	FMBT-21
+K492	3AXD50000192779	PROFINET IO	FPNO-21 [1)]
+K490	3AXD50000192786	EtherNet/IP	FEIP-21
+Q986	3AXD50000112821	PROFIsafe safety functions module	FSPS-21
+Q989	3AXD50001021061	CIP Safety™ functions module	FSCS-21

[1)] For the PROFIsafe to work, the PROFINET adapter module (FPNO-21) and the safety functions module FSO-12 (+Q973) or FSO-21 (+Q972) are required. The FPNO-21 adapter module enables PROFINET system redundancy S2, allowing the drive to establish a connection with two control PLCs in a redundant manner.



—
ACS880 is compatible with many communication protocols.



—
Input/output extension modules.

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.

If there are insufficient I/O extension slots in the drive, the FEA-03 module can increase the number of slots. The FEA-03 has two option slots for digital I/O extensions and speed feedback interface modules. The connection to the control unit is via an optical fiber link, and the adapter can be mounted on a DIN rail (35 × 7.5 mm).

ANALOG AND DIGITAL INPUT/OUTPUT EXTENSION MODULES

Option code	Ordering code for loose item	Description	I/O module
+L501	68805368	4×DI/O, 2×RO	FIO-01
+L500	68805384	3×AI (mA/V), 1×AO (mA), 2×DI/O	FIO-11
+L515	3AUA0000108669	2×F-type option extension slots	FEA-03
+L525	3AUA0000141436	2×AI (mA/V), 2×AO (mA)	FAIO-01
+L526	3AUA0000141438	3×DI (up to 250 V DC or 230 V AC), 2×RO	FDIO-01

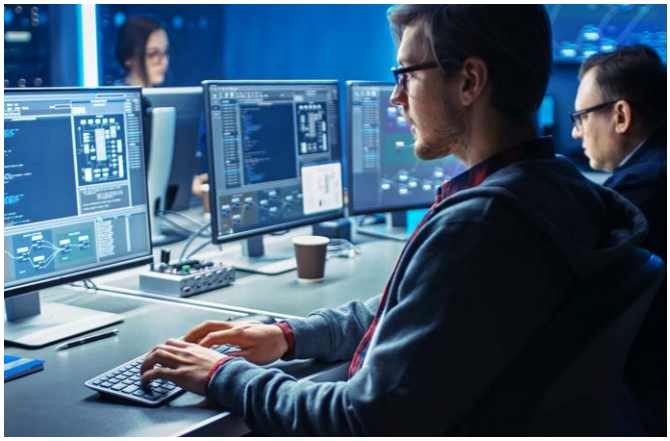
+ ABB drives and OPC UA

A future proof and effective solution for data and asset management

Security, ease of use and interoperability are all features of OPC UA. ABB drives support OPC UA for data collection which means that ABB drives are equipped with OPC UA Server.

Any OPC UA Client can be connected to ABB drives and start collecting data for their purposes. By this way for example active faults, event history, active value such as power, torque and current can be accessed by OPC UA Clients securely.

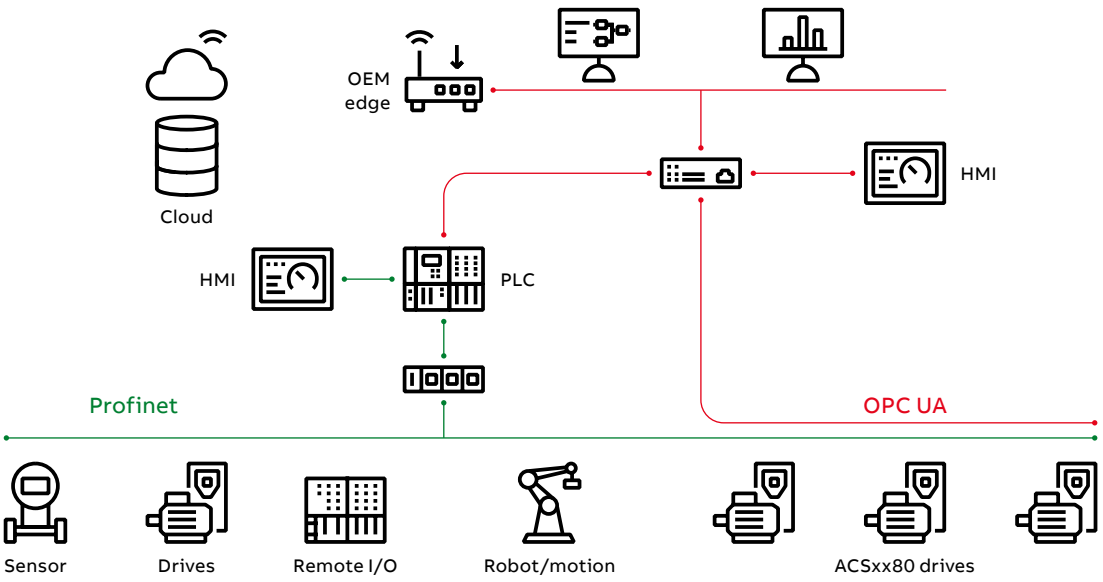
This data can be used in process monitoring, asset management and for centralized event management on site, edge or in cloud via a gateway.



Benefits

- Provide a secure connection
- Server-client based connection between devices
- Event logger visibility
- A harmonized information model is provided across drive portfolio
- Utilizes single wire connection to the drive, Ethernet based protocol
- ABB or a third-party OPC UA Client can fetch the data from the drive
- OPC UA Server is embedded into the PROFINET, Modbus TCP and EtherNet/IP fieldbus adapters

OPC UA is a communication protocol for interoperability and data exchange between different devices, systems and applications



https://new.abb.com/drives/connectivity/opc-ua-for-drives

+ Feedback interface and DDCS communication options

01
FEN-01 TTL encoder interface module

02
FDCO-01 DDCS communication module

Speed feedback interfaces for precise process control
ACS880 drives can be connected to various feedback devices such as HTL pulse encoders, TTL pulse encoders, absolute encoders and resolvers. The optional feedback module is installed in the option slot on the drive. It is possible to use two feedback modules at the same time, either of the same type or different types *).

*) Excluding FSE-31.



01

FEEDBACK INTERFACE MODULES

Option code	Ordering code for loose item	Description	Feedback module
+L517	68805422	2 inputs (TTL pulse encoder), 1 output	FEN-01
+L518	68805830	2 inputs (SinCos absolute, TTL pulse encoder), 1 output	FEN-11
+L516	68805848	2 inputs (Resolver, TTL pulse encoder), 1 output	FEN-21
+L502	68978955	1 input (HTL pulse encoder), 1 output	FEN-31
+L521	3AXD50000023272	Pulse encoder interface for functional safety (for more details, see section “Safety options”)	FSE-31

DDCS communication option modules
The FDCO-0X optical DDCS communication options are add-on modules on the ACS880 industrial drive’s control unit. The modules include connectors for two fiber optic DDCS channels. The FDCO-0X modules make it possible to perform master-follower and AC800 M communication. An alternative drive-to-drive communication method is to use the standard RS485 connection.



02

OPTICAL COMMUNICATION MODULES

Option code	Ordering code for loose item	Description	Module
+L503	3AUA0000107392	Optical DDCS (10 Mbd/10 Mbd)	FDCO-01
+L508	3AUA0000107393	Optical DDCS (5 Mbd/10 Mbd)	FDCO-02



+ Functional Safety offering

Ensure the safety of your machinery and processes with drive-based functional safety

ABB offers various safety devices and tools for designing safer machines and processes while utilizing drives. Our drive-based functional safety offering includes drives that come with integrated safety features and extended safety functionality all in one package. Safe connection between drive and PLC is established using safety communication protocols PROFIsafe or CIP Safety™ or connectivity. ABB's functional safety design tool speeds up the design process when building safety solutions.

ABB all-compatible drives have Safe Torque Off (STO) as the standard. A wide range of functional safety modules are available as options:

FSO-12 and FSO-21 provide an easy way to extend safety functions in the ACS880 and DCS880 series drives. These plug-in modules are installed and cabled inside the drive, enabling different safety functions and diagnostics in one compact and reliable module.

FSO-12 and FSO-21 offer several safety functions including:
- Safe Stop 1 (SS1, as SS1-r and SS1-t implementations),
- Safe Stop Emergency (SSE)
- Safe Brake Control (SBC)
- Safely Limited Speed (SLS)
- Safe Maximum Speed (SMS)
- Prevention Of Unexpected Start-up (POUS)

FSO-21 featuring two additional functions:
- Safe Direction (SDI)
- Safe Speed Monitoring (SSM) (requires the pulse encoder interface module (FSE-31)

Both safety function modules are capable of monitoring safe speed in encoder less mode (in open loop). This is made possible when monitoring is based on a pre-set motor profile, speed profile and speed estimation of the safety functions module.

CIP Safety™ functions module, FSCS-21 and PROFIsafe safety functions module, FSPS-21, are easy to use, cost-efficient and compact modules that helps you to connect drives seamlessly to a safety PLC. Modules are easy to install and configure and is suitable for ensuring the safety of equipment that reduces the risk of accidents for people working with a variety of applications.

- Compatible drives: ACS380, ACS580, ACS880
- Safety functions: Safe Torque Off (STO), Safe Stop 1 (SS1-t)
- The highest safety levels: SIL 3/PL e (Safety Integrity Level/Performance level)



For more information, please see new.abb.com/drives/functional-safety

Functional safety design tool

The functional safety design tool (FSDT-01) helps you design and calculate safety integrity levels (SIL)/performance levels (PL) for safety functions and generate safety calculation reports. It is a Windows application, which is a support tool for performing functional safety modeling, design, calculations, and verification for machine functional safety. The tool is aimed to simplify the process of safety function design and verification and to generate documentation to support compliance to the required machinery safety standards and the European Machinery Directive for safety.

For more information, please see new.abb.com/drives/functional-safety/functional-safety-design-tool

M

+ Certified safety built-in with ACS880 drives



ACS880 drive with FSO-21, FSE-31 and FPNO-21.

Integrated safety
Integrated safety reduces the need for external safety components, simplifying configuration and reducing installation space. The safety functionality is a built-in feature of ACS880, with Safe Torque Off (STO) as standard. The STO function corresponds to an uncontrolled stop in accordance with stop category 0 of EN 60204-1. Additional safety functions can be commissioned with the optional and compact safety functions module. ACS880 drives offer functional safety, with or without an encoder. The drive's functional safety is designed in accordance with EN/IEC 61800-5-2 and complies with the requirements of the European Union Machinery Directive (2006/42/EC).

The safety functions are certified by TÜV Nord and comply with the highest performance requirements (SIL3/PL e) in machinery safety. [1)]

The safety functions module can also be ordered separately and installed afterwards to the drive.

PROFIsafe safety functions module, FSPS-21, CIP Safety™ functions module, FSCS-21,
support STO and SS1-t safety functions. As the functions are automatically configured, no additional safety settings are required in the drive.

Safety functions modules, FSO-12 and FSO-21,
support a wide range of safety functions. The functions are configured with the Drive Composer pro PC tool, which provides an easy-to-use graphical user interface. Larger safety systems can be built using PROFIsafe over a PROFINET connection between a safety PLC (such as AC500-S) and the ACS880 drive. The connection is achieved by adding a PROFINET adapter, FPNO-21, to the drive.

Supported safety functions:
- Encoderless: SS1-t, SS1-r, SLS, SBC, SMS, SSE, POUS, STO
- With encoder (requires FSO-21 + FSE-31): SDI, SSM, SS1-t, SS1-r, SLS, SBC, SMS, SSE, POUS, STO

Pulse encoder interface module, FSE-31,
provides safe encoder data to the safety functions module FSO-21 and can simultaneously be used as a feedback device for the drive. FSE-31 requires an FSO-21 safety functions module and supports HTL safety encoders.

Thermistor protection modules, FPTC-01 and FPTC-02
Safe Motor Temperature (SMT) can be achieved by using FPTC thermistor protection modules. [1)]

SAFETY FUNCTION MODULES

Option code [2)]	Ordering code for loose item	Description	Safety module
+Q973	3AXD50000016771	Safety functions module	FSO-12
+Q972+L521	3AXD50000023987 + 3AXD50000023272	Safety functions module FSO-21 and encoder FSE-31	FSO-21+FSE-31
+Q971	–	Ex-certified safe disconnection function, EX II (2) GD	
+Q982	–	PROFIsafe safety communication to be used with FSO-12 or FSO-21: forces the selection of a functional safety module and PROFINET adapter, FPNO-21	FSO-12 or FSO-21 +FPNO-21
+Q986	3AXD50000112821	PROFIsafe safety functions module	FSPS-21
+Q989	3AXD50001021061	CIP Safety™ functions module	FSCS-21
+L536	3AXD50000024934	Thermistor protection module [1)]	FPTC-01
+L537+Q971	3AXD50000024924	Ex-certified thermistor protection module FPTC-02 , Ex II (2) GD [1)]	FPTC-02

[1)] Thermistor modules comply with SIL2/PLc. [2)] Plus codes are valid for ACS880-01/11/31/04/04F and -14/34 frame R11.

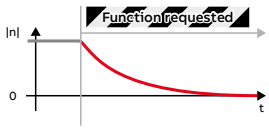
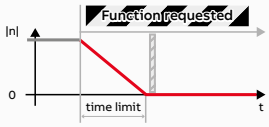
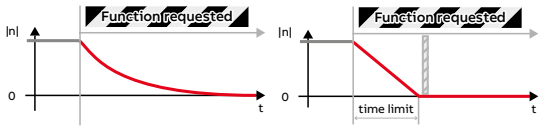
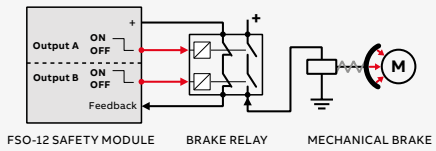
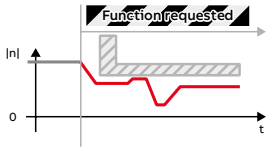
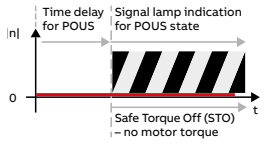
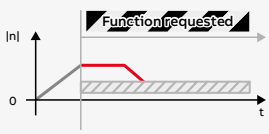
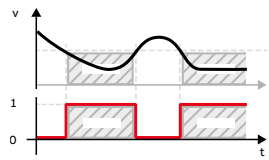
Safety function	Description	Supported functions			
		FSPS-21 FSCS-21	FSO-12 without encoder	FSO-21 + FSE-31 + HTL encoder	
Safe Torque Off STO	Brings the drive safely to a no-torque state, i.e., switches off the drive output to the motor, motor speed then coasts to a stop. ACS880 has Safe Torque Off as standard.	x	x	x	
Safe Stop 1 SS1-t SS1-r	Brings the machine to a stop using a monitored deceleration ramp. It is typically used in applications where the machinery motion needs to be brought to a stop (stop category 1) in a controlled way before switching over to the no-torque (STO) state	x (SS1-t)	x (SS1-t) (SS1-r)	x (SS1-t) (SS1-r)	
Safe Stop Emergency SSE	On request, can be configured to either activate STO instantly (category 0 stop) or first initiate motor deceleration and then, once the motor has stopped, activate the STO (category 1 stop).		x	x	
Safe Brake Control SBC	Provides a safe output for controlling the motor's external (mechanical) brakes, with STO.		x	x	
Safely Limited Speed SLS	Ensures that the specified speed limit of the motor is not exceeded. This allows machine interaction to be performed at slow speed without stopping the drive. The safety function module comes with four individual SLS settings for speed monitoring.		x	x	
Safe Maximum Speed SMS	Monitors the speed of the motor to ensure that it does not exceed the configured maximum speed limit.		x	x	
Prevention Of Unexpected Start-up POUS	Ensures that the machine remains stopped when people are in the danger area.		x	x	
Safe Direction SDI	Ensures that rotation is allowed only in the selected direction. (Use only FSO-21 when HTL encoder is not needed. If HTL encoder is needed, both FSO-21 and FSE-31 must be used.)			x	
Safe Speed Monitor SSM	Provides a safe output signal to indicate whether the motor speed is between user-defined limits (available only with FSO-21).			x	

ABB ABILITY™ DIGITAL POWERTRAIN

Condition monitoring for drives and rotating equipment

Accurate, real-time information about powertrain events. When you have the facts, you can make the right decisions.



ABB Ability™ Digital Powertrain
The ABB Ability Digital Powertrain enables you to remotely monitor the health and performance of entire powertrains including drives, motors and applications, such as pumps. The data collected from the connected equipment can be accessed and analyzed remotely, providing a better understanding of the health and energy efficiency of the entire process.

The service can be tailored to fit your needs
Our standard package gives you industry leading monitoring capabilities – whether you want to view the drive status through ABB's Internet portal or integrate this data with your existing monitoring systems.

The standard package includes the following services:
- Self-service condition monitoring
- Alarm Management
- Asset Health
- Team Support
- Backup Management

The standard package can be supplemented with optional services:
- Condition-Based Maintenance *)
- Offline Data Collection
- Expert Reports
- Remote Assistance
- Monitoring Service
- Plug & Play Connectivity

*) Not available for all drives

Key benefits

Solid fact-based decision making
Get the facts, and the history, to help run your operations better and more safely.

Always stay one step ahead of problems
Recognize early signs of possible failures and assess the risks before they turn into serious operational issues.

Find the root cause of process issues
Remotely access data from ABB drives built-in sensors to track the cause of problems. Get back to smooth operation quickly with data back-ups.

Remotely analyze and optimize drives
Get critical drive information anywhere anytime – even in difficult to access sites, or when a site visit is impossible.

Customers can configure powertrains and customize the digital service plan

1 **Choose one or more assets you want to protect**

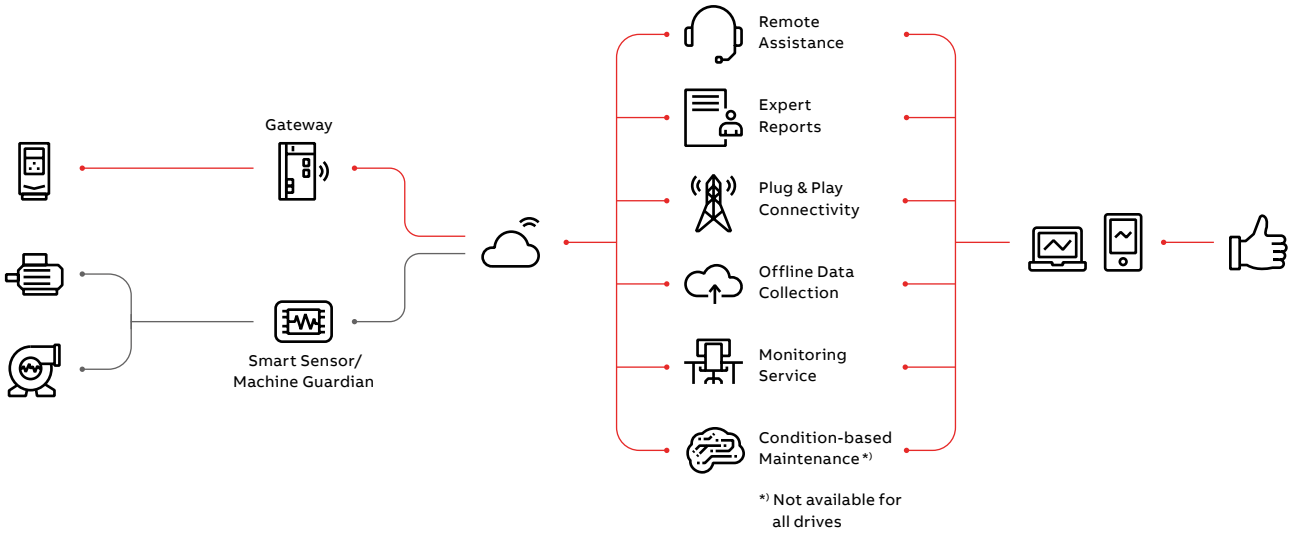
2 **Install the connectivity device**

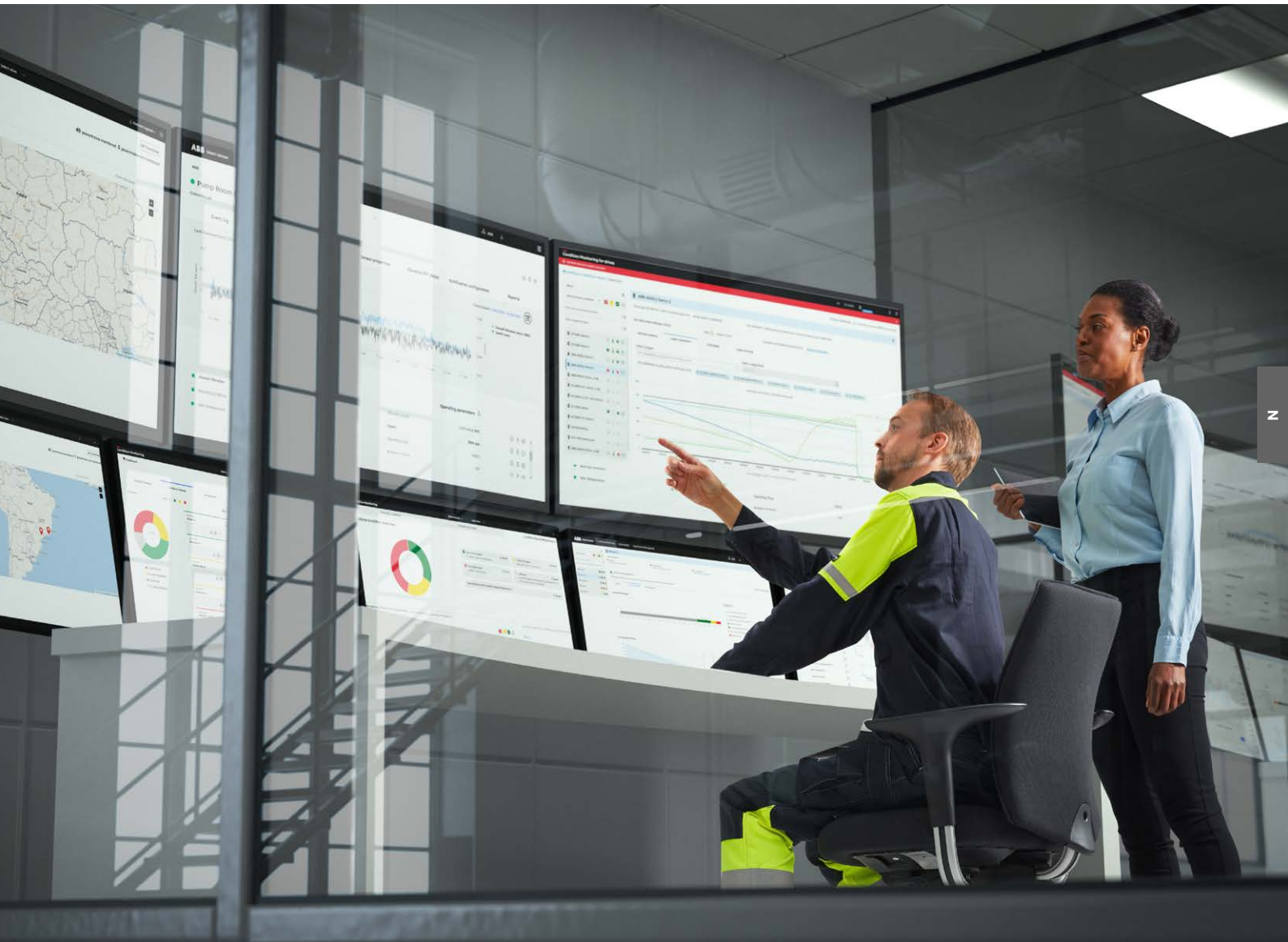
3 **Activate access to the Condition Monitoring basic feature**

4 **Pick optional features and customize**

5 **Start monitoring**

6 **Enjoy the customized service**





CONNECTIVITY DEVICES
enabling remote condition monitoring of drives

EGW-02

The Connectivity Edge Gateway – EGW-02 is a compact IoT gateway device connecting multiple drives and environmental sensors for remote drive condition monitoring.

The EGW-02 collects, shares and processes drive data, building the foundation for the digital offering for drives.

Key Benefits
- Drive data collection and sharing through industry standard interfaces
- Flexible cloud access through inbuilt LTE modem or wired connectivity
- Enables on-premise drive data sharing and analytics for new digital offerings like predictive maintenance
- Enables cloud services like ABB Ability™ Digital Powertrain cloud service and cloud analytics
- Certified for IEC 62443-4-2 SL cyber security standard

EGW-02	Option code *)	Description
	+K500	Wired remote monitoring. Without antennas.
	+K501	Wireless remote monitoring. With LTE antenna.

*) Options available for ACS880-07, -17, -377



Connectivity Panel *)

Connectivity Panel offers easy plug & play installation and commissioning with built-in connectivity.

- Built-in NB-IoT wireless module with strong signal penetration even if drive is underground or in cabinet
- High efficiency antenna for reliable connection
- Industrial SIM for best reliability including mobile data plan *)
- Bluetooth® enables use of Mobile apps and PC tools

*) Not available in all countries and for all drives. Please check availability of panel and services with your local ABB representative.



ACS880 DRIVES ARE COMPATIBLE
with the extensive ABB product offering



Programmable Logic Controllers PLCs
The AC500, AC500-eCo, AC500-S and AC500-XC scalable PLC ranges provide solutions for small, medium and high-end applications. Our AC500 PLC platform offers different performance levels and is the ideal choice for high availability, extreme environments, condition monitoring, motion control or safety solutions, and applications where the highest level of security is mandatory.



All-compatible drives portfolio
The all-compatible drives share the same architecture: software platform; tools; user interfaces; and options. However, there is an optimal drive, from the smallest water pump to the biggest cement kiln, and everything in between.



AC motors
ABB's low-voltage AC motors are designed to save energy, reduce operating costs and minimize unscheduled downtime. General performance motors ensure convenience, while process performance motors provide a broad set of motors for the process industries and heavy-duty applications.



Safety products
ABB safety products help machine builders create production-friendly and safe work environments for operators. We deliver machine safety solutions for single machines or entire production lines. Our long experience of helping customers making solutions for demanding environments has made us experts in combining production demands with safety demands for production-friendly solutions.



Control panels
CP600-eCo, CP600, CP600-C and CP600-Pro control panels offer a wide range of features and functionalities for maximum operability. ABB control panels are distinguished by their robustness and easy usability, providing all the relevant information from production plants and machines at a single touch. Also, includes ABB's internal drive communication protocol – for seamless integration with ABB drives, enabling efficient parameter read/write access and real-time monitoring and visualization.

BEST-IN-CLASS PERFORMANCE, ENERGY EFFICIENCY AND RELIABILITY WITH ABB MOTOR AND DRIVE PACKAGE

High Dynamic Performance (HDP) motors with ACS880 drives
ABB's HDP motors are offered in frame sizes 80 to 400 up to megawatt-class, with water-cooled and high-speed variants available in selected frame sizes. ABB's HDP motors have a very high power density, which means that they provide more power to the machine applications than conventional machine motors. ABB's HDP motors are the optimal solution for high-torque machine applications such as extruders, cranes, test benches, etc.

ABB HDP motors are always used with a drive. To make full use of ABB's VSDs – including flexibility to optimize processes and control, reliability to reduce downtime, and efficiency to reduce energy use and carbon emissions – the motor's technology solution must be up to the challenge. ABB's HDP motors are designed to enable fast motion control and high maneuvering precision due to their low inertia and high overload capacity.

Induction motors and ACS880: a reliable combination
Induction motors are used throughout industry in applications that demand robust and high-enclosure motor and drive solutions. ACS880 drives fit perfectly with this type of motor by providing comprehensive functionality, yet simple operation. The drives are ideal for environments that require a high degree of protection and a small footprint. ACS880 drives come with DTC as standard, ensuring high-speed accuracy. Our motors and drives provide the perfect foundation for energy efficiency while delivering capabilities such as exceeding the nominal motor speed when maximum power is needed.

ABB drives can also be used with non-ABB Ex motors with Ex-certified thermistor protection. It is also important to verify that the motor can be used with ABB variable speed drives.

Permanent magnet motors and ACS880: smooth operation
Permanent magnet technology is used for improved motor characteristics in terms of energy efficiency and compactness. This technology is particularly suitable for low-speed control applications, as in some cases it eliminates the need to use gearboxes. The actual characteristics of different permanent magnet motors can vary considerably. Even without speed or rotor position sensors, ACS880 drives with DTC can control most types of permanent magnet motors.

Externally excited synchronous machines
ACS880 externally excited synchronous machine control is an option for the ACS880 multidrive inverter unit offering in R8i-based frames. The main difference between ACS880 externally excited synchronous machine control and other machine control modes is the rotor current, which in ACS880 externally excited synchronous machine control, is supplied to the rotor from the excitation unit (EXU) through brushes.

Variable speed synchronous motors are often used in demanding applications where variable speed delivers significant benefits. Rolling mills, mine hoists, pumps, extruders, compressors and the main propulsion system in ships are typical examples of variable speed applications. The ACS880 inverter unit has ordering option (+N8052) for the excitation unit, which monitors and controls the excitation of the synchronous motor.

IE5 Synchronous reluctance motors and ACS880: optimized energy efficiency
Combining ACS880's control technology with our Synchronous reluctance (SynRM) motors provides an IE5 motor and drive package that ensures high energy efficiency, reduces motor temperatures and provides a significant reduction in motor noise. A lower temperature results in better motor reliability and longer motor life.



SYNCHRONOUS RELUCTANCE MOTORS

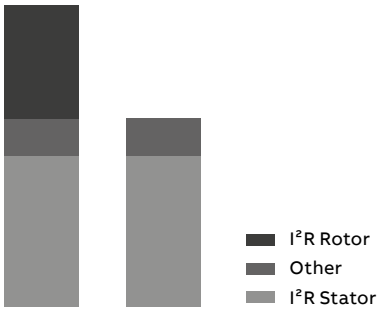
Ultimate efficiency and reliability to optimize your cost of ownership



Traditional induction motor



IE5 SynRM motor



Losses IM vs. SynRM

Innovation inside
The idea is simple. Take a proven conventional stator technology and an innovative rotor design. Then combine them with an ABB machinery drive loaded with software with versatile features. Finally, optimize the whole package for applications such as compressors, conveyors, pumps, extruders, fans, and many other variable and constant torque applications.

Magnet-free design
Synchronous reluctance technology combines the performance of a permanent magnet motor with the simplicity and service-friendliness of an induction motor. The new rotor has neither magnets nor windings and suffers virtually no power losses. And because there are no magnetic forces in the rotor, maintenance is as straightforward as with induction motors.

Superior reliability to minimize the cost of not running
International Efficiency class IE5 Synchronous reluctance motors (SynRM) have very low winding temperatures, which increases the reliability and lifetime of the winding. More importantly, a cool synchronous reluctance rotor means significantly lower bearing temperatures – an important factor because bearing failures cause about 70 percent of unplanned motor outages.

Perfect for retrofits
The SynRM package is a perfect solution for motor retrofits. The IE5 SynRM is the same size as an IE3 induction motor, eliminating the need for mechanical modifications. Meanwhile, the increased efficiency will reduce the payback time of the investment.

Full motor control, down to zero speed
Many processes require accurate speed control. SynRM always runs at the reference speed with practically no error, without an encoder. Even the best slip compensation systems in an induction motor inverter will never match the precision of SynRM. Sometimes your application may require you to run your motor at slow speeds. If you are using SynRM, and your drive cannot provide the necessary torque, it may trip. ABB drives provide full control and torque down to zero speed, even without speed sensors.

For all applications
This is important if you are planning to use the motor with applications other than quadratic torque applications like pumps and fans. Our drives provide full SynRM motor control for constant torque applications such as extruders, conveyors and wire drawing machines.

Certified safety with IE5 SynRM Increased safety motors and Drives in hazardous areas
ABB is the first manufacturer in the world to offer the combination of IE5 ultra-premium efficiency and Increased safety. ABB IE5 SynRM increased safety motors for Zones 1 and 2 are fully tested and certified for explosive atmospheres with drives. Increased Safety SynRM motors provide all the benefits of SynRM motors such as ultra-premium efficiency, higher reliability and reduced maintenance.

SynRM technology	Benefit
Higher efficiency IE5	Lowest energy consumption
No rare earth metals	Environmental sustainability
Magnet-free rotor	Easy service
Lower winding and bearing temperatures	Longer lifetime, extended service intervals
Better controllability	Accurate speed and torque control
Lower noise level	Better working and living environment
Same size with IE3	Perfect for retrofits

ABB MOTION SERVICES

ABB Motion Services helps customers around the globe by maximizing uptime, extending product life cycle, and enhancing the performance and energy efficiency of electrical motion solutions. We enable innovation and success through digitalization by securely connecting and monitoring our customers' motors and drives, increasing operational uptime, and improving efficiency. We make the difference for our customers and partners every day by keeping their operations running profitably, safely and reliably.



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:



	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 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 modernizations	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.

The benefit for you is clear information about the status of your drives and the exact 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, the availability of product and services, the life-cycle plan, and recommended actions.

SUMMARY OF FEATURES AND OPTIONS

ACS880 AIR-COOLED SINGLE DRIVES

	Option code	ACS880-01 R1 to R9	ACS880-11/31 R3 to R8	ACS880-07 R6 to R11	ACS880-07 nxR8i	ACS880-17/37 R6 to R11	ACS880-17/37 nxR8i[8]
Mounting							
Wall mounting		●	●	–	–	–	–
For cabinet mounting	+P940	□	□	–	–	–	–
	+P944	□	–	–	–	–	–
Cabinet-built		–	–	●	●	●	●
Vibration dampers	+C131	□	–	–	–	–	–
Flange mounting	+C135	□[14]	□[14]	–	–	–	–
Cabling							
Bottom entry and exit		●	●	●	●	●	●
Top entry and exit	+H351, +H353	–	–	□	□	□	□
Degree of protection							
IP20 (UL open type)	+P940	□	□	–	–	–	–
	+P944	□	–	–	–	–	–
IP21 (UL type 1)		●	●	–	–	–	–
IP22 (UL type 1)		–	–	●	●	●	●
IP42 (UL type 1)	+B054	–	–	□	□	□	□
IP54 (UL type 12)	+B055	–	–	□	□	□	□
IP55 (UL type 12)	+B056	□	□	–	–	–	–
Corrosion resistance	+P968	□	–	–	–	–	–
Motor control							
DTC motor control		●	●	●	●	●	●
Control panel							
Intuitive control panel		●[1]	●[1]	●	●	●	●
Integrated control panel holder in the drive		●	●	●	●	●	●
Control panel mounting platform DPMP-01 (flush)/DPMP-02 (surface)		■	■	●	●	●	●
EMC filters							
EMC 1st environment, restricted distribution, C2, grounded network (TN)	+E202	□[2]	□	□[2]	□[15]	□[18]	□[21]
EMC 2nd environment, C3, grounded network (TN)	+E200	□[3]	□	□[3]	●	□[19]	●
EMC 2nd environment, C3, ungrounded network (IT)	+E201	□[4]	□	□[4]	●	□[22]	●
Line filter							
AC or DC choke		●	–	●	●	–	–
Advanced line harmonic filter (LCL)		–	●	–	–	●	●
Output filter							
Common mode filter	+E208	□	□	□	●	□[27]	●
du/dt filters	+E205	■	■	□	●	□	●
Braking (see braking unit table)							
Brake chopper	+D150	□[5]	■[8]	□	□[6]	□	□
Brake resistor	+D151	■	■[8]	□	□[6]	□	□

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code

ACS880 AIR-COOLED SINGLE DRIVES

	Option code	ACS880-01 R1 to R9	ACS880-11/31 R3 to R8	ACS880-07 R6 to R11	ACS880-07 nxR8i	ACS880-17/37 R6 to R11	ACS880-17/37 nxR8i[8]
Software							
Primary control program		●	●	●	●	●	●
Drive application programming based on IEC 61131-3 using Drive Application Builder (available for primary control program)	+N8010	□	□	□	□	□	□
Application control program for winder	+N5000	□	□	□	□	□	□
Application control program for crane	+N5050	□	□	□	□	□	□
Application control program for winch	+N5100	□	□	□	□	□	□
Application control program for centrifuge/decanter	+N5150	□	□	□	□	□	□
Application control program for PCP pump	+N5200	□	□	□	□	□	□
Application control program for rod pump	+N5250	□	□	–	–	–	–
Application control program for test bench	+N5300	□	□	□	□	□	□
Application control program for cooling tower direct drive	+N5350	□	□	□	□	□	□
Application control program for override control	+N5450	□	□	□	□	–	□
Application control program for spinning and traverse	+N5500	□	[16]	–	–	□	–
Application control program for chemical industry process control	+N5550	□	[16]	–	–	–	–
Application control program for ESP pumps	+N5600	□	□	□	□	□	□
Application control program for tower cranes	+N5650	□	□	–	–	–	–
Application control program for position control	+N5700	□	□	□	□	□	□
Application control program for anti-cavitation	+N5900	□	□	–	–	–	–
Support for asynchronous motor		●	●	●	●	●	●
Support for permanent magnet motor		●	●	●	●	●	●
Support for Synchronous reluctance motor (SynRM)	+N7502	□	□	□	□	□	□
High-speed operation up to 598 Hz output frequency. Operation above 598 Hz also requires +N8200.	+N7500	□[28]	–	–	–	–	–
High-speed license. Allows high-speed operation above 598 Hz output frequency.	+N8200	□[23]	□[23]	□[23]	□[23]	□[23]	□[23]
Rectifier bridge							
12-pulse	+A004	–	–	–	□	–	–
Line side apparatus							
aR line fuses		–	–	●	●	●	●
Main switch		–	–	●	●	●	●
Line contactor	+F250	–	–	□	□[9]	●	●[10]
Air circuit breaker	+F255	–	–	–	□[7]	–	●[11]
Earthing switch	+F259	–	–	–	□	–	□
Cabinet options							
Cabinet heater (ext. supply)	+G300	–	–	□	□	□	□
Output for motor heater (ext. supply)	+G313	–	–	□	□	□	□
Customized options	+P902	–	–	□	□	□	□

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code

ACS880 AIR-COOLED SINGLE DRIVES

	Option code	ACS880-01 R1 to R9	ACS880-11/31 R3 to R8	ACS880-07 R6 to R11	ACS880-07 nxR8i	ACS880-17/37 R6 to R11	ACS880-17/37 nxR8i [8]
Safety functions [17]							
Safe Torque Off (STO)		●	●	●	●	●	●
Safety functions module, FSO-12, without encoder, configurable functions: - Safe Stop 1 (SS1-t, SS1-r), - Safely Limited Speed (SLS) - Safe Brake Control (SBC) - Safe Maximum Speed (SMS) - Safe Stop Emergency (SSE) - Prevention Of Unexpected Start-up (POUS) - Safe Torque Off (STO)	+Q973	□	□	□	□	□	□
Safety functions module, FSO-21, with encoder support, configurable functions: - Safe Stop 1 (SS1-t, SS1-r) - Safely Limited Speed (SLS) - Safe Brake Control (SBC) - Safe Maximum Speed (SMS) - Safe Stop Emergency (SSE) - Prevention Of Unexpected Start-up (POUS) - Safe Direction (SDI), requires encoder feedback, FSE-31 - Safe Speed Monitoring (SSM) - Safe Torque Off (STO)	+Q972	□	□	□	□	□	□
Pulse encoder interface module, FSE-31	+L521	□	□	□	□	□	□
PROFIsafe over PROFINET	+Q982	□	□	□	□	□	□
PROFIsafe safety functions module, FSPS-21	+Q986	□	□	□	□	□	□
CIP Safety™ functions module, FSCS-21	+Q989	□	□	□	□	□	□
Prevention Of Unexpected Start-up with safety relay (preconfigured)	+Q957	–	–	□	□	□	□
Prevention Of Unexpected Start-up with FSO-12 and -21 (preconfigured)	+Q950	–	–	□	□	□	□
Emergency stop, category 0 with opening the main contactor/breaker, with safety relay (preconfigured)	+Q951	–	–	□	□	□	□
Emergency stop, category 1 with opening the main contactor/breaker, with safety relay (preconfigured)	+Q952	–	–	□	□	□	□
Emergency stop, category 0 with STO, with safety relay (preconfigured)	+Q963	–	–	□	□	□	□
Emergency stop, category 1 with STO, with safety relay (preconfigured)	+Q964	–	–	□	□	□	□
Emergency stop, configurable category 0 or 1 with opening the main contactor/breaker, with FSO-12 and -21 (preconfigured)	+Q978	–	–	□	□	□	□
Emergency stop, configurable category 0 or 1 with STO and FSO-12 and -21 (preconfigured)	+Q979	–	–	□	□	□	□
Safely Limited Speed with encoder, with FSO-21 and FSE-31 (preconfigured)	+Q965	–	–	□	□	□	□
Ex-certified thermistor protection module, FPTC-02, Ex II (2) GD	+L537 +Q971	□	□	□	□	□	□
Ex thermal motor protection PTC/PT100, Ex II (2) GD	+L513/+L514 +Q971	–	–	□	□	□	□
Earth fault protection							
Earth fault monitoring, earthed mains		●	●	●	●	●	●
Earth fault monitoring, unearthed mains	+Q954	–	–	□	□	□	□

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code

ACS880 AIR-COOLED SINGLE DRIVES

	Option code	ACS880-01 R1 to R9	ACS880-11/31 R3 to R8	ACS880-07 R6 to R11	ACS880-07 nxR8i	ACS880-17/37 R8 to R11	ACS880-17/37 R6i to nxR8i [8]
Control connections (I/O) and communications							
2 pcs analog inputs, programmable, galvanically isolated		●	●	●	●	●	●
2 pcs analog outputs, programmable		●	●	●	●	●	●
6 pcs digital inputs, programmable, galvanically isolated – can be divided into two groups		●	●	●	●	●	●
2 pcs digital inputs/outputs		●	●	●	●	●	●
1 pcs digital input interlock		●	●	●	●	●	●
3 pcs relay outputs programmable		●	●	●	●	●	●
Drive-to-drive link/Built-in Modbus		●	●	●	●	●	●
Assistant control panel/PC tool connection		●	●	●	●	●	●
Possibility of external power supply for control unit		●	●	●	●	●	●
Built-in I/O extension and speed feedback modules: for more details, see sections: “Input/output extension modules,” “Speed feedback interfaces for precise process control” and “DDCS communication option modules” [24]		□	□	□	□	□	□
Built-in adapters for several communication protocols: for more details, see section “Communication protocol adapters” [25]		□	□	□	□	□	□
Approvals							
CE, UKCA		●	●	●	●	●	●
UL, cUL	+C129	●	●	□	□	□	□
CSA	+C134	●	●	□	□	□	□
EAC		●	●	●	●	●	●
RoHS		●	●	●	●	●	●
RCM		●	●	●	●	●	●
Marine type approvals [12]	+C132	□ [12]	□ [12]	□ [12]	□ [12]	□ [31]	□ [12]
Marine construction	+C121	–	–	□	□	□	□
Marine product certification for essential applications		□ [8]	□ [8]	□ [8]	□ [8]	□ [8]	□ [8]
TÜV nord certificate for safety functions		●	●	●	●	●	●
Ex-certified safe disconnection function, Ex II (2) GD (notified body: Eurofins)	+Q971	□	□	□	□	□	□
SEMI F47		●	●	●	●	●	●

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code
– Not available

[1] Without control panel, +0J400
[2] For frame sizes R1 to R9, 380 to 500 V (-01). For frame sizes R6 to R11, 380 to 500 V (-07).
[3] For frame sizes R1 to R9, 380 to 500 V, and frame sizes R3 to R9, 690 V (-01). For frame sizes R6 to R11, 380 to 690 V (-07).
[4] For frame sizes R6 to R9, 380 to 500 V, and frame sizes R7 to R9, 690 V (-01). For frame sizes R6 to R9, 380 to 500 V and frame size R6, 690 V and frame sizes R10 to R11, 380 to 690 V (-07).
2nd environment C4 for frame sizes R1 to R5, 380 to 500 V, and frame sizes R3 to R6, 690 V (-01).
[5] Frame sizes R1 to R4 built in and R5 to R9 as selectable option
[6] 2×R8i
[7] 2×D8T to 4×D8T
[8] Check availability from local ABB
[9] D8T, 2×D7T and 2×D8T
[10] R8i to 2×R8i, 400 to 500 V. R8i to 3×R8i, 690 V
[11] 3×R8i, 400 to 500 V. 4×R8i and 6×R8i, 690 V
[12] ACS880 marine type approvals and type approved drives are listed at https://new.abb.com/drives/segments/marine/marine-type-approvals.
[13] For cabinet-built drives (-07)
[14] Available only with IP20 (+P940 or +P944)
[15] For 1140A-3 and 1070A-5 (-07 nxR8i).
[16] Pending
[17] Three option slots are available for I/O extension, speed feedback, communication protocol and functional safety options. FSO-xx can also be mounted on a DIN rail by using a separate installation kit. DIN rail mounting does not consume the drive’s option slots. With frames R6 to R11, it is possible to mount the FSO-xx inside the drive without using the drive’s option slots.
[18] For frame sizes R8 and R11, 380 to 500 V (-17, -37).
[19] For frame size R8, 380 to 500 V (-17,-37). As standard for R11, 380 to 690 V.
[20] Only for frame size R11
[21] Only for frame size 1xR8i, 380 to 500 V (-17,-37).
[22] For frame size R8, 380 to 500 V (-17,-37). For R11, 380 to 690 V, please contact your local ABB.
[23] For availability and further information, please contact your local ABB office.
[24] Three option slots are available for I/O extension, speed feedback, communication protocol and functional safety options. The slot number for I/O and encoder options can be extended with the FEA-03 option. Please note that functional safety and communication protocol adapters cannot be used with FEA-03.
[25] Three option slots are available for I/O extension, speed feedback, communication protocol and functional safety options.
[26] For ACS880-37LC
[27] Common mode filter (+E208) is standard for 690 V devices.
[28] Available for voltages from 380 to 500 V. For frame sizes R7 to R9, 525 to 690 V.
[29] Frames R5–R9
[30] Marin type approvals pending for R6 and R7

ACS880 LIQUID-COOLED SINGLE DRIVES

	Option code	ACS880-07LC nxR8i	ACS880-07CLC nxR8i	ACS880-17/37LC nxR8i
Mounting				
Wall mounting		–	–	–
For cabinet mounting	+P940	–	–	–
	+P944	–	–	–
Cabinet-built		●	●	●
Flange mounting	+C135	–	–	–
Cabling				
Bottom entry and exit		●	●	●
Top entry and exit		□	–	□
Degree of protection				
IP20 (UL open type)	+P940	–	–	–
	+P944	–	–	–
IP21 (UL type 1)		–	–	–
IP22 (UL type 1)		–	–	–
IP42 (UL type 1)	+B054	●	●	●
IP54 (UL type 12)	+B055	□	□	□
IP55 (UL type 12)	+B056	–	–	–
Motor control				
DTC motor control		●	●	●
Control panel				
Intuitive control panel		●	●	●
Integrated control panel holder in the drive		–	–	–
Control panel mounting platform DPMP-01 (flush)/DPMP-02 (surface)		–	–	–
EMC filters				
EMC 1st environment, restricted distribution, C2, grounded network (TN)	+E202	–	–	–
EMC 2nd environment, C3, grounded network (TN)	+E200	–	–	–
EMC 2nd environment, C3, ungrounded network (IT)	+E201	–	–	–
EMC 2nd environment, C3, grounded (TN) and ungrounded (IT)	+E210	●	●	●
Line filter				
AC or DC choke		●	–	–
Advanced line harmonic filter (LCL)		–	–	●
Output filter				
Common mode filter	+E208	●	●	●
du/dt filters	+E205	●	●	●
Braking (see braking unit table)				
Brake chopper	+D150	□	□	□[26)]
Brake resistor	+D151	□	□	□[26)]

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code

ACS880 LIQUID-COOLED SINGLE DRIVES

	Option code	ACS880-07LC nxR8i	ACS880-07CLC nxR8i	ACS880-17/37LC nxR8i
Software				
Primary control program		●	●	●
Drive application programming based on IEC 61131-3 using Drive Application Builder (available for primary control program)	+N8010	□	□	□
Application control program for winder	+N5000	□	–	□
Application control program for crane	+N5050	□	□	□
Application control program for winch	+N5100	□	□	□
Application control program for centrifuge/decanter	+N5150	□	□	□
Application control program for PCP pump	+N5200	□	□	□
Application control program for Rod pump	+N5250	□	–	□
Application control program for test bench	+N5300	□	–	□
Application control program for cooling tower direct drive	+N5350	–	–	–
Application control program for override control	+N5450	□	–	□
Application control program for spinning and traverse	+N5500	–	–	–
Application control program for chemical industry process control	+N5550	–	–	–
Application control program for ESP pumps	+N5600	□	□	□
Application control program for tower cranes	+N5650	–	–	–
Application control program for position control	+N5700	□[23)]	□[23)]	□[23)]
Support for asynchronous motor		●	●	●
Support for permanent magnet motor		●	●	●
Support for Synchronous reluctance motor (SynRM)	+N7502	□	□	□
High-speed license. Allows high-speed operation above 598 Hz output frequency.	+N8200	□[23)]	□[23)]	□[23)]
Rectifier bridge				
12-pulse	+A004	□	□	–
24-pulse		–	□	–
Line side apparatus				
aR line fuses		●	●	●
Main switch		–	–	–
Line contactor	+F250	–	–	–
Air circuit breaker	+F255	●	–	●
Earthing switch	+F259	□	–	□
Cabinet options				
Cabinet heater (ext. supply)	+G300	□	□	□
Output for motor heater (ext. supply)	+G313	□	□	□
Customized options	+P902	●	●	●

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code

ACS880 LIQUID-COOLED SINGLE DRIVES

	Option code	ACS880-07LC nxR8i	ACS880-07CLC nxR8i	ACS880-17/37LC nxR8i
Safety functions [17)]				
Safe Torque Off (STO)		●	●	●
Safety functions module, FSO-12, without encoder, configurable functions: - Safe Stop 1 (SS1-t, SS1-r), - Safely Limited Speed (SLS) - Safe Brake Control (SBC) - Safe Maximum Speed (SMS) - Safe Stop Emergency (SSE) - Prevention Of Unexpected Start-up (POUS) - Safe Torque Off (STO)	+Q973	□	–	□
Safety functions module, FSO-21, with encoder support, configurable functions: - Safe Stop 1 (SS1-t, SS1-r) - Safely Limited Speed (SLS) - Safe Brake Control (SBC) - Safe Maximum Speed (SMS) - Safe Stop Emergency (SSE) - Prevention Of Unexpected Start-up (POUS) - Safe Direction (SDI), requires encoder feedback, FSE-31 - Safe Speed Monitoring (SSM) - Safe Torque Off (STO)	+Q972	□	–	□
Pulse encoder interface module, FSE-31	+L521	□	–	□
PROFIsafe over PROFINET	+Q982	□	–	□
PROFIsafe safety functions module, FSPS-21	+Q986	□	–	□
CIP Safety™ functions module, FSCS-21	+Q989	□	–	□
Prevention Of Unexpected Start-up with safety relay (preconfigured)	+Q957	□	–	□
Prevention Of Unexpected Start-up with FSO-12 and -21 (preconfigured)	+Q950	□	–	□
Emergency stop, category 0 with opening the main contactor/breaker, with safety relay (preconfigured)	+Q951	□	□	□
Emergency stop, category 1 with opening the main contactor/breaker, with safety relay (preconfigured)	+Q952	□	–	□
Emergency stop, category 0 with STO, with safety relay (preconfigured)	+Q963	□	–	□
Emergency stop, category 1 with STO, with safety relay (preconfigured)	+Q964	□	–	□
Emergency stop, configurable category 0 or 1 with opening the main contactor/breaker, with FSO-12 and -21 (preconfigured)	+Q978	□	–	□
Emergency stop, configurable category 0 or 1 with STO and FSO-12 and -21 (preconfigured)	+Q979	□	–	□
Safely Limited Speed with encoder, with FSO-21 and FSE-31 (preconfigured)	+Q965	□	–	□
Ex-certified thermistor protection module, FPTC-02, Ex II (2) GD	+L537 +Q971	□	–	□
Ex thermal motor protection PTC/PT100, Ex II (2) GD	+L513/+L514 +Q971	□	–	□
Earth fault protection				
Earth fault monitoring, earthed mains		●	●	●
Earth fault monitoring, unearthed mains	+Q954	□	□	□

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code

ACS880 LIQUID-COOLED SINGLE DRIVES

	Option code	ACS880-07LC nxR8i	ACS880-07CLC nxR8i	ACS880-17/37LC nxR8i
Control connections (I/O) and communications				
2 pcs analog inputs, programmable, galvanically isolated		●	●	●
2 pcs analog outputs, programmable		●	●	●
6 pcs digital inputs, programmable, galvanically isolated – can be divided into two groups		●	●	●
2 pcs digital inputs/outputs		●	●	●
1 pcs digital input interlock		●	●	●
3 pcs relay outputs programmable		●	●	●
Drive-to-drive link/Built-in Modbus		●	●	●
Assistant control panel/PC tool connection		●	●	●
Possibility of external power supply for control unit		●	●	●
Built-in I/O extension and speed feedback modules: for more details, see sections: “Input/output extension modules,” “Speed feedback interfaces for precise process control” and “DDCS communication option modules” [24]		□	□	□
Built-in adapters for several communication protocols: for more details, see section “Communication protocol adapters” [25]		□	□	□
Approvals				
CE, UKCA		●	●	●
UL, cUL	+C129	□	–	□
CSA	+C134	□	–	□
EAC		●	●	●
RoHS		●	●	●
RCM		●	●	●
Marine type approvals [12]	+C132	□	□	□
Marine construction	+C121	□	□	□
Marine product certification for essential applications		□[8]	□[8]	□[8]
TÜV nord certificate for safety functions		●	●	●
Ex-certified safe disconnection function, Ex II (2) GD (notified body: Eurofins)	+Q971	–	–	–
SEMI F47		●	●	●

● Standard
□ Selectable option, with plus code
■ Selectable option, external, no plus code
– Not available

[1] Without control panel, +0J400
[2] For frame sizes R1 to R9, 380 to 500 V (-01). For frame sizes R6 to R11, 380 to 500 V (-07).
[3] For frame sizes R1 to R9, 380 to 500 V, and frame sizes R3 to R9, 690 V (-01). For frame sizes R6 to R11, 380 to 690 V (-07).
[4] For frame sizes R6 to R9, 380 to 500 V, and frame sizes R7 to R9, 690 V (-01). For frame sizes R6 to R9, 380 to 500 V and frame size R6, 690 V and frame sizes R10 to R11, 380 to 690 V (-07).
2nd environment C4 for frame sizes R1 to R5, 380 to 500 V, and frame sizes R3 to R6, 690 V (-01).
[5] Frame sizes R1 to R4 built-in and R5 to R9 as selectable option
[6] 2×R8i
[7] 2×D8T to 4×D8T
[8] Check availability from local ABB
[9] D8T, 2×D7T and 2×D8T
[10] R8i to 2×R8i, 400 to 500 V. R8i to 3×R8i, 690 V
[11] 3×R8i, 400 to 500 V. 4×R8i and 6×R8i, 690 V
[12] ACS880 marine type approvals and type approved drives are listed at https://new.abb.com/drives/segments/marine/marine-type-approvals.
[13] For cabinet-built drives (-07)
[14] Available only with IP20 (+P940 or +P944)
[15] For 1140A-3 and 1070A-5 (-07 nxR8i).
[16] Pending
[17] Three option slots are available for I/O extension, speed feedback, communication protocol and functional safety options. FSO-xx can also be mounted on a DIN rail by using a separate installation kit. DIN rail mounting does not consume the drive's option slots. With frames R6 to R11, it is possible to mount the FSO-xx inside the drive without using the drive’s option slots.
[18] For frame sizes R8 and R11, 380 to 500 V (-17, -37).
[19] For frame size R8, 380 to 500 V (-17,-37). As standard for R11, 380 to 690 V.
[20] Only for frame size R11.
[21] Only for frame size 1xR8i, 380 to 500 V (-17,-37).
[22] For frame size R8, 380 to 500 V (-17,-37). For R11, 380 to 690 V, please contact your local ABB.
[23] For availability and further information, please contact your local ABB office.
[24] Three option slots are available for I/O extension, speed feedback, communication protocol and functional safety options. The slot number for I/O and encoder options can be extended with the FEA-03 option. Please note that functional safety and communication protocol adapters cannot be used with FEA-03.
[25] Three option slots are available for I/O extension, speed feedback, communication protocol and functional safety options.
[26] For ACS880-37LC.
[27] Common mode filter (+E208) is standard for 690 V devices.

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Video playlist:
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