Low voltage AC drives

ABB industrial drives
ACS800, multidrives
1.1 to 5600 kW
Catalog

Power and productivity
for a better world™

ABB

Selecting and ordering your drive

Build up your own ordering code using the type code
key below or contact your local ABB drives sales
office and let them know what you want. Use page 3
as a reference section for more information.

Type code: ACS800 - X07 - XXXX - X + XXXX

Product series

Types and
construction

Ratings

Voltages

Options

Contents
ABB industrial drives, ACS800, multidrives

ABB industrial drives

ACS800	-	X07	-	XXXX	-	X	+	XXXX

ABB industrial drives

ABB industrial drives are designed for industrial applications, and especially for applications in process industries such as the pulp & paper, metals, mining, cement, power, chemical, and oil & gas industries. ABB industrial drives are highly flexible AC drives that can be configured to meet the precise needs of these applications, and hence order-based configuration is an integral part of the offering. These drives cover a wide range of powers and voltages, including voltages up to 690 V. ABB industrial drives come with a wide range of built-in options. A key feature of these drives is programmability, which makes adaptation to different applications easy.

Industrial design

ABB industrial drives are designed with current ratings to be used in industrial environments for applications requiring high overloadability. The heart of the drive is DTC, direct torque control, that provides high performance and significant benefits: e.g. accurate static and dynamic speed and torque control, high starting torque and long motor cables. Built-in drive options make the installation work fast and easy.

One of the most significant design criteria of ABB industrial drives has been the long lifetime. Wearing parts such as fans and capacitors have been selected accordingly. Together with the extensive protection features this results in excellent reliability in the demanding industrial market.

Type code

This is the unique reference number that clearly identifies your drive by construction, power rating voltage and selected options. Using the type code you can specify your drives from the wide range of options available, customer specific options are added to the type code using the corresponding + code.

Functional safety

The ABB functional safety solution complies with the requirements of the European Union Machinery Directive 2006/42/EC. This directive is associated with standards like EN 62061 (IEC, defining SIL - Safety Integrity Level) and EN ISO 13849-1 (defining PL - Performance Level). Both standards require a documented and proven safety performance and life cycle approach to safety. Safe torque-off is a certified solution offering SIL2 and PL d (Cat.2) safety levels.

ABB drives can be provided, as an option, with the safe torque-off function. Safe torque-off can be used for the prevention of unexpected start-up and represents a cost-effective and certified solution for basic safety. Other safety functions include safe stop 1 (SS1) and safely-limited speed (SLS), which can be used to achieve SIL2 or PL d (Cat.2) safety levels.

Other products:
Please also see the separate technical catalogs
ACS800, single drives code, 3AFE68375126 EN.
ACS800, drive modules code, 3AFE68404592 EN.

Multidrives

The multidrive principle is based on a standard DC bus arrangement enabling single power entry and common braking resources for several drives. There are several possibilities on the supply side starting from a simple diode supply unit up to highly sophisticated active IGBT supply units.
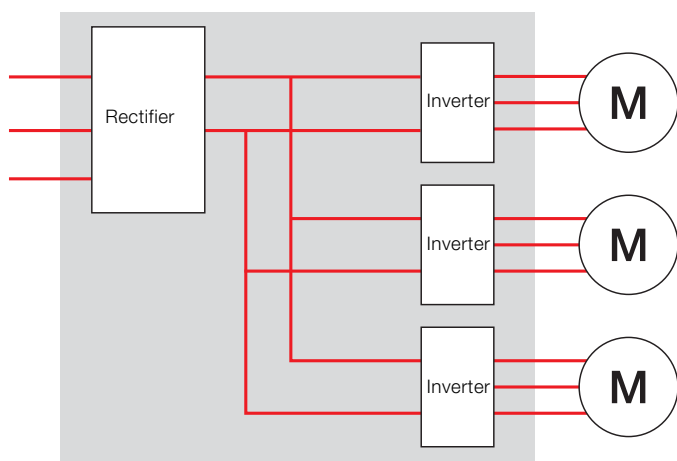
The multidrive construction simplifies the total installation and provides many advantages such as:

– savings in cabling, installation and maintenance costs
– space savings
– reduced component count and increased reliability
– reduced line currents and simpler braking arrangements
– energy circulation over the common DC busbar, which can be used for motor-to-motor braking without the need for a braking chopper or regenerative supply unit.
– The common supply of the multidrive enables the implementation of overall safety and control functions.

Where are multidrives used

Generally speaking, multidrives can be used wherever several drives form part of a single process. The common supply of the multidrive enables the implementation of overall safety and control functions. The shafts of the individual drive motors can be more or less tightly coupled. In tight coupling, for example in a paper machine, the individual ABB drive modules provide fast communication of torque and speed signals between the drives, for controlling the tension in the paper web. But also in those cases where the shafts of the individual drive motors are not tightly coupled, for example in sugar centrifuges, each drive module can be programmed with a speed profile in order to minimize overall energy consumption. These two examples merely demonstrate the range of applications where multidrives offer substantial benefits over other types of drive constructions.

Multidrive promises
– Flexibility
– Compact design
– A wide range of options
– Adaptive programming
– Reduced installation costs

ABB industrial drives

Overview of the construction
A multidrive is made up of several different units (see figure below). These sections are called multidrive units and the most important units are:

– drive units
– diode supply units
– IGBT supply units
– thyristor supply units
– dynamic braking units
– control units (optional)

Drive units
Inverters have built-in capacitors for smoothing the voltage of the DC busbars. The electrical connection to the common DC busbar is fuse protected. However, an optional fuse switch with a capacitor charging device can be selected to disconnect the whole drive unit. Each inverter has a

drive control unit (DCU) which contains the RMIO board and optional I/O modules. Several different I/O extension modules for different functions such as control, monitoring and measurement purposes are available. A separate pulse encoder inter-face module is also possible. Other optional features include the prevention of unexpected start-up for the inverters to provide a safe interlock for the system.

Diode supply unit (DSU)
A diode supply unit is used in non-regenerative drive systems to convert three-phase AC voltage to DC voltage. A 12-pulse bridge configuration can be implemented with the unit supplied by a three-winding transformer with a thirty degree phase shift between secondary windings. A diode supply unit is controlled by an RMIO board similar to drive units and IGBT supply units. This allows parameter setting, monitoring and diagnostic with CDP312R control panel, DriveWindow and fieldbuses.
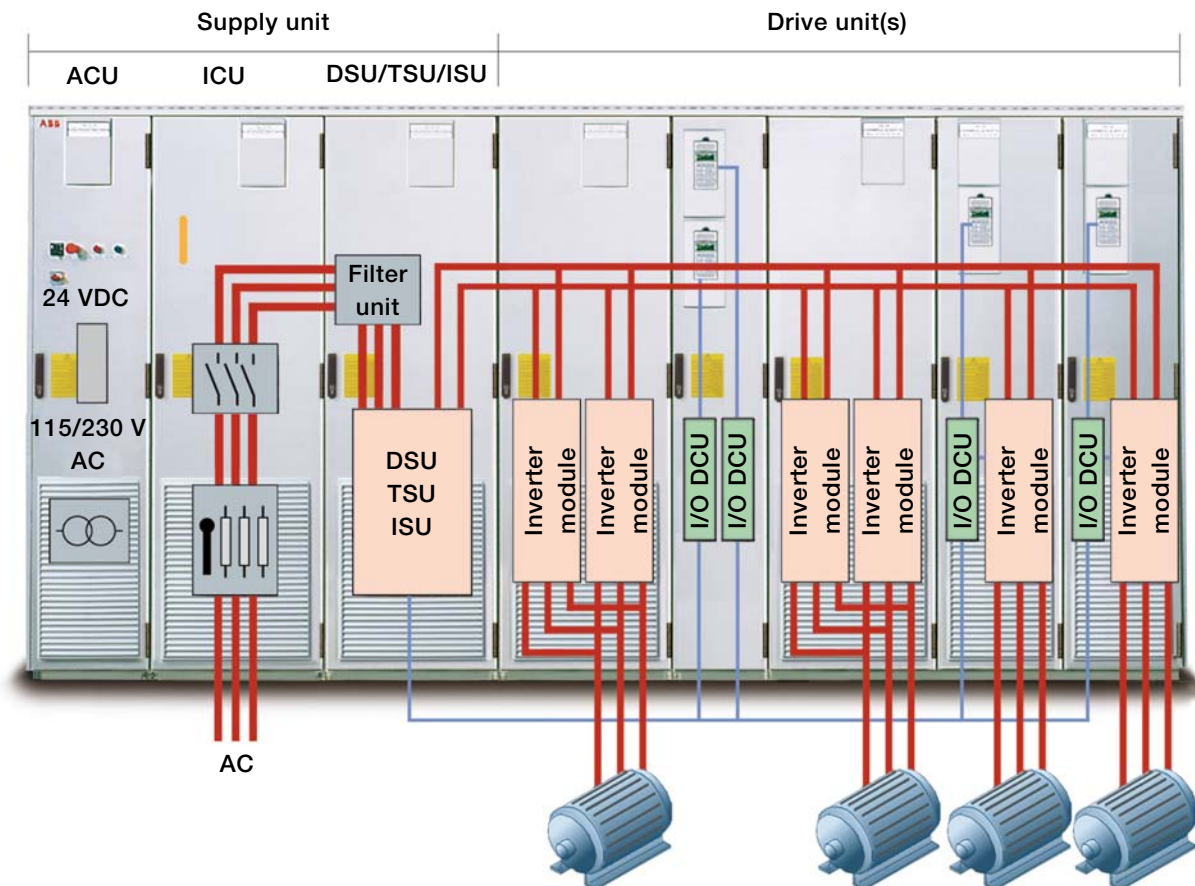
IGBT supply unit (ISU)

An IGBT supply unit is used in regenerative drive systems to convert three-phase AC voltage to DC voltage. In power control it gives the same firm but gentle performance as DTC gives in motor control.

The main circuit consists of a main switch, a filter and a converter. The converter is hardware compatible with drive units. The converter can operate in both motoring and generating modes. The DC voltage constant and the line current sinusoidal. The control also provides a near unity power factor. The control performance is excellent due to the ultra-fast control technology, the same as in DTC.

A fully regenerative IGBT supply unit with power factor 1 requires no power compensation. The unit can also boost DC voltage e.g. when line voltage is low. Harmonic content remains extremely low due to DTC control and LCL filtering.

Thyristor supply unit (TSU)

A thyristor supply unit is used in regenerative drive systems to convert three-phase AC voltage to DC voltage. The thyristor supply unit contains two 6-pulse thyristor bridges in antiparallel connection. It has the ability to regenerate back to the mains, providing considerable energy savings with applications having excessive braking powers. A 12-pulse bridge configuration can be implemented with two thyristor supply units supplied by a three-winding transformer. This configuration reduces harmonics in the supply network.

Parallel connected supply units

It is possible to connect two supply units in parallel to the same DC bus to get higher power or redundancy. These two units will be located at the rear ends of the drive DC bus. This possibility concerns parallel connection of two diode supply units (DSU+DSU), two IGBT supply units (ISU+ISU), or a DSU and an ISU to the same DC bus.

Higher power is needed, for example, in high power applications where it gives more drive flexibility to connect drive units to the same DC bus, or for high overload requirements.

Redundancy is needed in critical processes and also when maintenance intervals are long.

Using DSU+ISU connected in parallel is a solution for when the need for braking power is much lower than for motoring power. ISU is dimensioned for braking power and operates continuously, while DSU is dimensioned for motor power minus ISU power.

Brake unit

In resistor braking whenever the voltage in the intermediate circuit of a frequency converter exceeds a certain limit, a braking chopper connects the circuit to a braking resistor.

Standard braking resistors are separately available in their own cabinets. Non-standard resistors can be used providing that the specified resistance value is not decreased and that the heat dissipation capacity of the resistor is sufficient for the drive application.

AC800M control unit (optional)

The multidrive concept also includes the control unit for the AC800M and S800 I/O. The control unit is equipped with communication interfaces, power supplies and the front-devices necessary for the automation equipment.

Multidrive main features

Features	Benefits	Notes
Compact and complete		
Integration and compact size	Small size Options inside the drive	The inverter modules are dramatically smaller. The average length of the multidrive line-up has now been cut to half the previous size.
Construction simpler	Modular and redundant Fewer spare parts Innovative design	Power modules are available in 7 different sizes (R2i-R5i, R7i, R8i) starting from 3 kVA for motor inverters and 70 kVA for line supply. All the powers from about 210 to 6900 kVA are different configurations of R8i units, single or in parallel. Only four types of diode rectifier units cover the power range of 200 to 4540 kVA. The modules have a plug-in connector, meaning very easy assembling. The modules are also equipped with wheels, which enables fast maintenance. The modules can be freely connected in parallel for higher output current. This means a limited number of different module sizes and fewer spare parts.
Wide range of options available	Standard solutions available from ABB that meets the customer needs.	Custom made solutions are available for the whole product range.
Common ABB drive technology	Industrial drive platform	Common control platform Software Same spare parts Less training
User interface		
User-friendly customer interface	Easy and fast commissioning and operation.	Easy to use PC tools available for commissioning, maintenance, monitoring and programming. Control panel has clear, alphanumeric display.
Versatile connections and communications	Standard I/O covers most requirements. Connectable to commonly used fieldbuses.	Extensive standard and optional I/O. I/O fulfils PELV (EN 50178).
Extensive programmability	Flexibility. Possible to replace relays or even PLC in some applications.	Two levels of programmability: 1. Parameter programming (standard) 2. Adaptive programming (free block programming) - Standard feature - More blocks available as options - All I/Os are programmable

Features	Benefits	Notes
Industrial design		
Wide power and voltage range	One product series suits everywhere meaning less training and fewer spare parts, and a standardised interface to drives.	
Wide range of robust enclosures available	Suitable solutions available for different environments.	IP21 - IP54, except braking resistor cabinet IP21
Robust main circuit design	Suitable for heavy industrial use. Reliable.	Components dimensioned for heavy duty and long lifetime. Advanced thermal model allows high overloadability.
Extensive protections	Enhanced reliability, fewer process interruptions. Possibility to also protect motors and process.	Several adjustable limits to protect other equipment also.
Galvanic isolation of I/O	Safe and reliable operation without separate isolators and relays.	Isolated input signals and relay outputs as standard.
All terminals designed for industrial use	Adequate size even for large aluminium cables. No need for special tools in I/O cabling.	
Worldwide approvals: CE, UL, cUL, CSA, C-Tick, GOST R	Safe products that can be used everywhere in the world.	
Right performance for every application		
DTC, accurate dynamic and static speed and torque control	Excellent process control even without pulse encoder - improved product quality, productivity, reliability and lower investment cost.	
DTC - allows high overload-ability and gives high starting torque	Reliable, smooth start without overdimensioning the drive.	
DTC, fast control	No unnecessary trips and process interruptions.	Fast reaction to load or voltage variations prevents tripping. Rides through power interruptions by using kinetic energy of the load. Optimal flux in the motor reduces losses.
DTC, flux optimisation and sophisticated motor model	Excellent motor and drive efficiency - cost savings.	
DTC, mechanics friendly	Less stress for mechanics improves reliability.	No shock torques. No torque ripple - minimised risk for torsional vibration. Active oscillation damping. Applies for ACS800-207.
DTC, line supply control	High performance and robust control in active supply unit.	
Made in ABB		
Global market leader in AC drives. Long experience.	Well proven, safe and reliable solutions. Application know-how.	
World wide service and support network	Professional support is available around the world.	

ACS800, multidrives

Air-cooled

IGBT supply unit

Drive units

LCL filter

Incoming unit (ICU)

Auxiliary control unit (ACU)

Liquid-cooled

3-phase
High power brake unit

Diode supply unit

Drive units

Technical data

ACS800 - X07(LC) - XXXX - X + XXXX

Mains connection

Voltage and power range	3-phase, U_{3IN} = 380 to 415 V, ± 10% 3-phase, U_{5IN} = 380 to 500 V, ± 10% 3-phase, U_{7IN} = 525 to 690 V, ± 10% (600 V UL, CSA)
Frequency	48 to 63 Hz
Power factor DSU	$\cos\varphi_1$ = 0.98 (fundamental) $\cos\varphi$ = 0.93 to 0.95 (total)
Power factor ISU	$\cos\varphi_1$ = 1 (fundamental) $\cos\varphi_1$ = 0.99 (total)
TDHI (total harmonic distortion of current) ISU	< 5%
Efficiency (at nominal power)	98% 97% with ISU

Motor connection

Voltage for >500 V units	3-phase output voltage 0 to $U_{3IN}/U_{5IN}/U_{7IN}$ please see "Filter selection table for ACS800" under the du/dt filters on page 29
Frequency	0 to ± 300 Hz, also with built-in du/dt filters in R8i module 0 to ± 120 Hz with external du/dt filters in R2i-R7i
Field weakening point	8 to 300 Hz
Motor control software	ABB's direct torque control (DTC)
Torque control Open loop Closed loop Open loop Closed loop	Torque step rise time: <5 ms with nominal torque <5 ms with nominal torque Non-linearity: ± 4% with nominal torque ± 3% with nominal torque
Speed control Open loop Closed loop Open loop Closed loop	Static accuracy: 10% of motor slip 0.01% of nominal speed Dynamic accuracy: 0.3 to 0.4%sec. with 100% torque step 0.1 to 0.2%sec. with 100% torque step

Environmental limits

Ambient temperature Transport Storage Operation Air-cooled Liquid-cooled	 -40 to +70 °C -40 to +70 °C 0 to +50 °C, no frost allowed 40 to 50 °C at reduced output current (1% / 1 °C) 0 to 55 °C, no frost allowed 45 to 55 °C at reduced output current (0.5% / 1 °C)
Cooling method Air-cooled Liquid-cooled	 Dry clean air Direct liquid-cooling Inlet water temperature with liquid cooling-unit (optional): +45 °C max. customer circuit, fresh water or sea water +38 °C to +45 °C at reduced output current 1% / 1 °C Inlet water temperature without liquid-cooling unit: +48 °C max converter circuit, fresh water +42 to +48 °C at reduced output current 1% / 1 °C

Altitude 0 to 1000 m 1000 to 4000 m	 without derating with derating ~ (1% / 100 m) (690 V units 1000 to 2000 m with derating)
Relative humidity	5 to 95%, no condensation allowed
Degree of protection As option ACS800-xxxLC As option	IP21 IP22, IP22R, IP42, IP42R, IP54 and IP54R IP42 IP54
Paint colour	cabinet RAL 7035, modules: NCS 1502-Y, RAL 9002, PMS 420 C
Contamination levels Storage Transportation Operation	No conductive dust allowed IEC 60721-3-1, Class 1C2 (chemical gases), Class 1S2 (solid particles) IEC 60721-3-2, Class 2C2 (chemical gases), Class 2S2 (solid particles) IEC 60721-3-3, Class 3C2 (chemical gases), Class 3S2 (solid particles without airinlet filters)
Vibration	IEC 60068-2-6, 10 to 58 Hz 0.075 mm displacement amplitude 58 to150 Hz 10m/s² (1 g)
Vibration marine classification	2 to 13.2 Hz: ± 1.0 mm amplitude (peak) 13.2 to 100 Hz: 0.7g acceleration

C = chemically active substances
S = mechanically active substances

Product compliance

CE
Low Voltage Directive 2006/95/EC
Machinery Directive 2006/42/EC
EMC Directive 2006/108/EC
Quality assurance system ISO 9001 and
Environmental system ISO 14001
UL, cUL 508A and 508C and CSA C22.2 NO.14-95, for some types available later.
C-Tick
GOST R
Marine type approvals for ACS800-xxxLC: ABS, DNV, Lloyd´s Register

EMC according to EN 61800-3

2nd environment, unrestricted distribution category C3 as option
1st environment, restricted distribution category C2 as option up to 1000 A input current

Multidrive ratings, types and voltages
Drive unit, U_N = 400 V

ACS800	-	107	-	XXXX	-	3	+	XXXX

Nominal ratings		No-overload use	Light-overload use		Heavy-duty use		Heat dissipation	Type code	Frame size
$I_{cont.\,max}$ A (AC)	I_{max} A	$P_{cont.\,max}$ kW	I_N A	P_N kW	I_{hd} A	P_{hd} kW	kW		
U_N = 400 V (Range 380 to 415 V)									
5.1	6.5	1.5	4.7	1.5	3.4	1.1	0.1	ACS800-107-0003-3	R2i
6.5	8.2	2.2	5.9	2.2	4.3	1.5	0.1	ACS800-107-0004-3	R2i
8.5	10.8	3	7.7	3	5.7	2.2	0.1	ACS800-107-0005-3	R2i
10.9	13.8	4	10.2	4	7.5	3	0.1	ACS800-107-0006-3	R2i
13.9	17.6	5.5	12.7	5.5	9.3	4	0.2	ACS800-107-0009-3	R2i
19	24	7.5	18	7.5	14	5.5	0.3	ACS800-107-0011-3	R3i
25	32	11	24	11	19	7.5	0.3	ACS800-107-0016-3	R3i
34	46	15	31	15	23	11	0.4	ACS800-107-0020-3	R3i
44	62	22	41	18.5	32	15	0.5	ACS800-107-0025-3	R4i
55	72	30	50	22	37	18.5	0.6	ACS800-107-0030-3	R4i
72	86	37	69	30	49	22	0.8	ACS800-107-0040-3	R5i
86	112	45	80	37	60	30	1	ACS800-107-0050-3	R5i
103	138	55	94	45	69	37	1.2	ACS800-107-0060-3	R5i
147	220	75	141	75	110	55	1.4	ACS800-107-0105-3	R7i
178	252	90	171	90	133	55	1.7	ACS800-107-0125-3	R7i
208	312	110	200	110	156	75	1.9	ACS800-107-0145-3	R7i
250	374	132	240	132	187	90	2.1	ACS800-107-0175-3	R7i
292	400	160	280	160	218	110	2.7	ACS800-107-0210-3	R8i
370	506	200	355	200	277	132	3.7	ACS800-107-0260-3	R8i
469	642	250	450	250	351	200	4.9	ACS800-107-0320-3	R8i
565	773	315	542	315	423	250	6.1	ACS800-107-0390-3	R8i
741	1014	400	711	400	554	315	8	ACS800-107-0510-3	R8i
1111	1521	630	1067	630	831	450	12	ACS800-107-0770-3	2xR8i
1452	1988	800	1394	800	1086	630	15	ACS800-107-1030-3	2xR8i
2156	2951	1200	2070	1200	1613	900	23	ACS800-107-1540-3	3xR8i
2845	3894	1600	2731	1600	2128	1120	30	ACS800-107-2050-3	4xR8i
3537	4842	2000	3396	2000	2646	1400	37	ACS800-107-2570-3	5xR8i
4223	5780	2400	4054	2400	3159	1600	44	ACS800-107-3080-3	6xR8i

Standard options:
- Cable top exit
- DC switch with capacitor charging circuits
- Ground fault protection with current transformer(s)
- Output du/dt filter, standard for parallel connected inverters
- Common motor connection terminals with parallel connected inverters

Dimensions

Frame size	Height mm	Width mm	Width with top exit mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A)[5]	Air flow m³/h
R2i	2130[1]	400[2]	-	644	180	62	-	35
R3i	2130[1]	400[2]	-	644	180	62	-	69
R4i	2130[1]	400[2]	-	644	180	62	-	103
R5i	2130[1]	400[2]	-	644	180	65	-	168
R7i	2130[1]	400	600[4]	644[6]	200	72	-	800
R8i	2130[1]	400[3]	700[3)4]	644[6]	320	72	60	1280
2xR8i	2130[1]	600[3]	900[3)4]	644[6]	510	74	62	2560
3xR8i	2130[1]	800[3]	1200[3)4]	644[6]	660	76	64	3840
4xR8i	2130[1]	1200[3]	1600[3)4]	644[6]	1020	76	64	5120
5xR8i	2130[1]	1400[3]	1800[3)4]	644[6]	1170	77	65	6400
6xR8i	2130[1]	1600[3]	2200[3)4]	644[6]	1320	78	66	7680

[1] Cabinet height is 2315 mm for IP54 classification and for IPXXR 2051 mm. An additional 10 mm is required for marine supports.
[2] 1-3 x R2i, 1-3 x R3i, 1-2 x R4i, 1-2 x R5i.
[3] 300 mm is required for Drive Control Unit (DCU). One DCU can be used for two drive units.
[4] Delivered with additional cabinet(s), when top exit or common motor output connection is required.
[5] Average noise level with controlled cooling fan.
[6] Alternative for top exit with additional cabinet: Backpack, depth is an additional 120 mm.

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max}: maximum output current. Available for 10 s at start, otherwise as long as allowed by drive temperature.

Typical ratings:
No-overload use
$P_{cont.max}$: typical motor power in no-overload use.

Light-overload use
I_N: continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N: typical motor power in light-overload use.

Heavy-duty use
I_{hd}: continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd}: typical motor power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature.
In lower temperatures the ratings are higher (except I_{max}).

Dimensioning has to be checked with DriveSize.

The rated current of the ACS800 must be higher than or equal to the rated motor current to achieve the rated motor power given in the table.

Multidrive ratings, types and voltages
Supply unit, U_N = 400 V

| ACS800 | - | X07 | - | XXXX | - | 3 | + | XXXX |

Nominal ratings				No-over-load use	Light-overload use		Heavy-duty use		Heat dissipation	Type code	Frame size
$I_{cont.max}$ A (AC)	$I_{cont.max}$ A (DC)	I_{max} A (DC)	S_N kVA	$P_{cont.max}$ kW (DC)	I_N A (DC)	P_N kW (DC)	I_{hd} A (DC)	P_{hd} kW (DC)	kW		
U_N = 400 V (Range 380 to 415 V)											
IGBT supply unit (ISU)											
182	221	330	131	130	212	124	165	97	3.8	ACS800-207-0135-3	R7i
224	272	406	161	159	261	153	203	119	4.2	ACS800-207-0155-3	R7i
284	344	471	204	202	331	194	258	151	5.9	ACS800-207-0200-3	R8i
378	458	627	272	269	440	258	343	201	8	ACS800-207-0260-3	R8i
473	573	784	340	336	550	323	429	252	10	ACS800-207-0330-3	R8i
630	764	1046	453	448	733	430	571	335	15	ACS800-207-0440-3	R8i
945	1146	1568	679	672	1100	646	857	503	21	ACS800-207-0660-3	2xR8i
1235	1497	2049	888	879	1437	844	1120	657	28	ACS800-207-0860-3	2xR8i
1833	2223	3042	1318	1304	2134	1252	1662	976	42	ACS800-207-1270-3	3xR8i
2419	2933	4015	1739	1722	2816	1653	2194	1288	55	ACS800-207-1680-3	4xR8i
3591	4354	5960	2581	2555	4180	2453	3257	1911	81	ACS800-207-2490-3	6xR8i
6-pulse diode (DSU)											
286	350	462	198	183	335	175	280	147	1.5	ACS800-307-0200-3	D3
408	500	700	283	262	480	251	400	210	2.4	ACS800-307-0280-3	D3
571	700	924	396	367	670	351	560	293	3.8	ACS800-307-0400-3	D4
816	1000	1400	566	524	960	503	800	419	5	ACS800-307-0570-3	D4
1143	1400	1848	792	733	1340	702	1120	587	7.6	ACS800-307-0790-3	2xD4
1518	1860	2604	1052	974	1790	938	1490	780	10	ACS800-307-1050-3	2xD4
2278	2790	3906	1578	1461	2685	1406	2230	1168	15	ACS800-307-1580-3	3xD4
3037	3720	5208	2104	1949	3580	1875	2980	1561	20	ACS800-307-2100-3	4xD4
3796	4650	6510	2630	2436	4475	2344	3720	1949	25	ACS800-307-2630-3	5xD4
6-pulse regenerative (TSU)											
981	1202	1947	680	639	1136	604	880	468	6.3	ACS800-407-0680-3	B4
1617	1980	3208	1120	1053	1872	995	1450	771	10	ACS800-407-1120-3	B4
2449	3000	4860	1697	1595	2838	1509	2244	1193	17	ACS800-407-1700-3	B5
2858	3500	5670	1980	1861	3311	1760	2618	1392	21	ACS800-407-2100-3	B5
12-pulse diode (DSU)											
571	700	924	396	367	670	351	560	293	3.8	ACS800-507-0400-3	D4
816	1000	1400	566	524	960	503	800	419	5	ACS800-507-0570-3	D4
1143	1400	1848	792	733	1340	702	1120	587	76	ACS800-507-0790-3	2xD4
1518	1860	2604	1052	974	1790	938	1490	780	10	ACS800-507-1050-3	2xD4
2278	2790	3906	1578	1461	2685	1406	2230	1168	15	ACS800-507-1580-3	3xD4
3037	3720	5208	2104	1949	3580	1875	2980	1561	20	ACS800-507-2100-3	4xD4
3796	4650	6510	2630	2436	4475	2344	3720	1949	25	ACS800-507-2630-3	5xD4
12-pulse regenerative (TSU)											
1865	2285	3700	1292	1215	2161	1149	1665	885	13	ACS800-807-1290-3	B4
3072	3763	6094	2128	2010	3555	1890	2741	1457	20	ACS800-807-2130-3	B4
4654	5701	9234	3224	3031	5393	2867	4260	2265	33	ACS800-807-3220-3	B5

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max}: maximum output current.

Typical ratings:
No-overload use
$P_{cont.max}$: power in no-overload use.

Light-overload use
I_N: continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N: power in light-overload use.

Heavy-duty use
I_{hd}: continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd}: power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature. In lower temperatures the ratings are higher (except I_{max}).

Dimensions (for ACU, ICU and ISU/DSU/TSU)

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	dB(A)[4]	Air flow m³/h
IGBT supply unit (ISU)							
R7i	2130[1]	1000	644	350	72	-	1300
R8i	2130[1]	1400[2]	644	950	74	62	1880
2xR8i	2130[1]	2000[3]	644	1750	76	64	3840
3xR8i	2130[1]	2600[3]	644	2400	78	66	6400
4xR8i	2130[1]	2800[3]	644	2580	78	66	7680
6xR8i	2130[1]	3600[3]	644	3600	80	68	11520
6-pulse diode (DSU)							
D3	2130[1]	1200	644	840	65	55	720
D4	2130[1]	1200	644	840	65	55	720
2xD4	2130[1]	1800	644	1060	67	57	1440
3xD4	2130[1]	2000[3]	644	1330	68	58	2160
4xD4	2130[1]	2400[3]	644	1900	69	59	2880
5xD4	2130[1]	3000[3]	644	2170	70	60	3600

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	dB(A)[4]	Air flow m³/h
6-pulse regenerative (TSU)							
B4	2130[1]	2800	644	1690	72	-	2500
B5	2130[1]	644		2090	75	-	4500
12-pulse diode (DSU)							
D4	2130[1]	1300	644	840	65	55	720
2xD4	2130[1]	1700	644	1060	67	57	1440
3xD4	2130[1]	2600[3]	644	1330	68	58	2160
4xD4	2130[1]	3000[3]	644	1900	69	59	2880
5xD4	2130[1]	3200[3]	644	2170	70	60	3600
12-pulse regenerative (TSU)							
B4	2130	5200	644	3290	74	-	5000
B5	2130	5200	644	3290	77	-	9000

[1] Cabinet height is 2315 mm for IP54 classification and for IPXXR 2051 mm. An additional 10 mm is required for marine supports.
[2] Width 1600 mm if UL or CSA approved
[3] An additional 300 mm cabinet is required when top connection of supply cables is needed.
[4] Average noise level with controlled cooling fan.

Multidrive ratings, types and voltages
Drive unit, U_N = 500 V

ACS800	-	107	-	XXXX	-	5	+	XXXX

Nominal ratings			No-overload use	Light-overload use		Heavy-duty use		Heat dissipation	Type code	Frame size
$I_{cont.max}$ A (AC)	I_{max} A	$P_{cont.max}$ kW	I_N A	P_N kW	I_{hd} A	P_{hd} kW	kW			
U_N = 500 V (Range 380 to 500 V)										
4.9	7	2.2	4.5	2.2	3.4	1.5	0.1	ACS800-107-0004-5	R2i
6.2	8	3	5.6	3	4.2	2.2	0.1	ACS800-107-0005-5	R2i
8.1	11	4	7.7	4	5.6	3	0.2	ACS800-107-0006-5	R2i
11	14	5.5	10	5.5	7.5	4	0.2	ACS800-107-0009-5	R2i
13	18	7.5	12	7.5	9.2	5.5	0.3	ACS800-107-0011-5	R2i
19	24	11	18	11	13	7.5	0.3	ACS800-107-0016-5	R3i
25	32	15	23	15	18	11	0.4	ACS800-107-0020-5	R3i
34	46	18.5	31	18.5	23	15	0.5	ACS800-107-0025-5	R3i
42	62	22	39	22	32	18.5	0.6	ACS800-107-0030-5	R4i
48	72	30	44	30	36	22	0.8	ACS800-107-0040-5	R4i
65	86	37	61	37	50	30	1	ACS800-107-0050-5	R5i
79	112	45	75	45	60	37	1.2	ACS800-107-0060-5	R5i
96	138	55	88	55	69	45	1.4	ACS800-107-0070-5	R5i
115	172	75	110	55	86	55	1.1	ACS800-107-0105-5	R7i
135	202	90	130	90	101	55	1.3	ACS800-107-0125-5	R7i
166	248	110	159	110	124	75	1.7	ACS800-107-0145-5	R7i
208	312	132	200	132	156	90	2	ACS800-107-0175-5	R7i
250	374	160	240	160	187	110	2.2	ACS800-107-0215-5	R7i
315	457	200	302	200	236	132	3.2	ACS800-107-0260-5	R8i
365	530	250	350	250	273	160	4	ACS800-107-0320-5	R8i
455	660	315	437	315	340	200	5.4	ACS800-107-0400-5	R8i
525	762	355	504	355	393	250	5.9	ACS800-107-0460-5	R8i
700	1016	500	672	500	524	355	7.8	ACS800-107-0610-5	R8i
1050	1524	710	1008	710	785	560	12	ACS800-107-0910-5	2xR8i
1372	1991	1000	1317	1000	1026	710	15	ACS800-107-1210-5	2xR8i
2037	2956	1450	1956	1450	1524	1120	22	ACS800-107-1820-5	3xR8i
2688	3901	2000	2580	1850	2011	1400	29	ACS800-107-2430-5	4xR8i
3343	4850	2400	3209	2400	2500	1600	36	ACS800-107-3030-5	5xR8i
3990	5790	2900	3830	2900	2985	2000	43	ACS800-107-3640-5	6xR8i

Standard options:
- Cable top exit
- DC switch with capacitor charging circuits
- Ground fault protection with current transformer(s)
- Output du/dt filter, standard for parallel connected inverters
- Common motor connection terminals with parallel connected inverters

Dimensions

Frame size	Height mm	Width mm	Width with top exit mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A)[5]	Air flow m³/h
R2i	2130[1]	400[2]	-	644	180	62	-	35
R3i	2130[1]	400[2]	-	644	180	62	-	69
R4i	2130[1]	400[2]	-	644	180	62	-	103
R5i	2130[1]	400[2]	-	644	180	65	-	168
R7i	2130[1]	400	600[4]	644[6]	200	72	-	800
R8i	2130[1]	400[3]	700[3)(4]	644[6]	320	72	60	1280
2xR8i	2130[1]	600[3]	900[3)(4]	644[6]	510	74	62	2560
3xR8i	2130[1]	800[3]	1200[3)(4]	644[6]	660	76	64	3840
4xR8i	2130[1]	1200[3]	1600[3)(4]	644[6]	1020	76	64	5120
5xR8i	2130[1]	1400[3]	1800[3)(4]	644[6]	1170	77	65	6400
6xR8i	2130[1]	1600[3]	2200[3)(4]	644[6]	1320	78	66	7680

[1] Cabinet height is 2315 mm for IP54 classification and for IPXXR 2051 mm. An additional 10 mm is required for marine supports.

[2] 1-3 x R2i, 1-3 x R3i, 1-2 x R4i, 1-2 x R5i.

[3] 300 mm is required for Drive Control Unit (DCU). One DCU can be used for two drive units.

[4] Delivered with additional cabinet(s), when top exit or common motor output connection is required.

[5] Average noise level with controlled cooling fan.

[6] Alternative for top exit with additional cabinet: Backpack, depth is an additional 120 mm.

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max}: maximum output current. Available for 10 s at start, otherwise as long as allowed by drive temperature.

Typical ratings:
No-overload use
$P_{cont.max}$: typical motor power in no-overload use.

Light-overload use
I_N: continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N: typical motor power in light-overload use.

Heavy-duty use
I_{hd}: continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd}: typical motor power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature.
In lower temperatures the ratings are higher (except I_{max}).

Dimensioning has to be checked with DriveSize.

The rated current of the ACS800 must be higher than or equal to the rated motor current to achieve the rated motor power given in the table.

Multidrive ratings, types and voltages
Supply unit, U_N = 500 V

ACS800	-	X07	-	XXXX	-	5	+	XXXX

Nominal ratings				No-overload use	Light-overload use		Heavy-duty use		Heat dissipation	Type code	Frame size
$I_{cont.max}$ A (AC)	$I_{cont.max}$ A (DC)	I_{max} A (DC)	S_N kVA	$P_{cont.max}$ kW (DC)	I_N A (DC)	P_N kW (DC)	I_{hd} A (DC)	P_{hd} kW (DC)	kW		
U_N = 500 V (Range 380 to 500 V)											
IGBT supply unit (ISU)											
180	218	327	156	154	210	148	163	115	4	ACS800-207-0165-5	R7i
220	267	394	191	189	256	181	200	141	4.4	ACS800-207-0195-5	R7i
270	327	475	220	231	314	222	245	173	6.2	ACS800-207-0230-5	R8i
360	436	633	312	309	419	296	327	231	8.4	ACS800-207-0310-5	R8i
450	546	792	390	386	524	370	408	289	11	ACS800-207-0390-5	R8i
600	727	1056	520	514	698	494	544	385	15	ACS800-207-0520-5	R8i
900	1091	1584	779	772	1048	741	816	577	21	ACS800-207-0780-5	2xR8i
1176	1426	2069	1018	1008	1369	968	1067	754	29	ACS800-207-1020-5	2xR8i
1746	2117	3072	1512	1497	2032	1437	1584	1120	43	ACS800-207-1510-5	3xR8i
2304	2794	4054	1995	1975	2682	1896	2090	1478	56	ACS800-207-2000-5	4xR8i
3420	4147	6017	2962	2932	3981	2815	3102	2193	83	ACS800-207-2960-5	6xR8i
6-pulse diode (DSU)											
286	350	462	247	229	335	219	280	183	1.5	ACS800-307-0250-5	D3
408	500	700	353	327	480	314	400	262	2.4	ACS800-307-0350-5	D3
571	700	924	495	458	670	439	560	367	3.8	ACS800-307-0490-5	D4
816	1000	1400	707	655	960	629	800	524	5	ACS800-307-0710-5	D4
1143	1400	1848	990	917	1340	877	1120	733	7.6	ACS800-307-0990-5	2xD4
1518	1860	2604	1315	1218	1790	1172	1490	976	10	ACS800-307-1310-5	2xD4
2278	2790	3906	1972	1827	2685	1758	2230	1460	15	ACS800-307-1970-5	3xD4
3037	3720	5208	2630	2436	3580	2344	2980	1951	20	ACS800-307-2630-5	4xD4
3796	4650	6510	3287	3045	4475	2930	3720	2436	25	ACS800-307-3290-5	5xD4
6-pulse regenerative (TSU)											
981	1202	1947	850	792	1137	749	881	580	6.3	ACS800-407-0850-5	B4
1617	1980	3208	1400	1304	1872	1233	1450	955	10	ACS800-407-1400-5	B4
2449	3000	4860	2120	1976	2838	1869	2244	1478	17	ACS800-407-2120-5	B5
2858	3500	5670	2475	2305	3310	2180	2618	1724	21	ACS800-407-2600-5	B5
12-pulse diode (DSU)											
571	700	924	495	458	670	439	560	367	3.8	ACS800-507-0490-5	D4
816	1000	1400	707	655	960	629	800	524	5	ACS800-507-0710-5	D4
1143	1400	1848	990	917	1340	877	1120	733	7.6	ACS800-507-0990-5	2xD4
1518	1860	2604	1315	1218	1790	1172	1490	976	10	ACS800-507-1310-5	2xD4
2278	2790	3906	1972	1827	2685	1758	2230	1460	15	ACS800-507-1970-5	3xD4
3037	3720	5208	2630	2436	3580	2344	2980	1951	20	ACS800-507-2630-5	4xD4
3796	4650	6510	3287	3045	4475	2930	3720	2436	25	ACS800-507-3290-5	5xD4
12-pulse regenerative (TSU)											
1864	2283	3700	1614	1504	2161	1423	1672	1101	13	ACS800-807-1615-5	B4
3072	3764	6094	2661	2479	3556	2342	2758	1816	20	ACS800-807-2660-5	B4
4653	5700	9234	4030	3754	5392	3551	4252	2800	33	ACS800-807-4030-5	B5
5430	6652	10773	4703	4381	6293	4144	4976	3277	42	ACS800-807-4700-5	B5

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max}: maximum output current.

Typical ratings:
No-overload use
$P_{cont.max}$: power in no-overload use.

Light-overload use
I_N: continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N: power in light-overload use.

Heavy-duty use
I_{hd}: continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd}: power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature. In lower temperatures the ratings are higher (except I_{max}).

Dimensions (for ACU, ICU and ISU/DSU/TSU)

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	dB(A)[4]	Air flow m³/h
IGBT supply unit (ISU)							
R7i	2130[1]	1000	644	350	72	-	1300
R8i	2130[1]	1400[2]	644	950	74	62	1880
2xR8i	2130[1]	2000[3]	644	1750	76	64	3840
3xR8i	2130[1]	2600[3]	644	2400	78	66	6400
4xR8i	2130[1]	2800[3]	644	2580	78	66	7680
6xR8i	2130[1]	3600[3]	644	3600	80	68	11520
6-pulse diode (DSU)							
D3	2130[1]	1200	644	840	65	55	720
D4	2130[1]	1200	644	840	65	55	720
2xD4	2130[1]	1800	644	1060	67	57	1440
3xD4	2130[1]	2000[3]	644	1330	68	58	2160
4xD4	2130[1]	2400[3]	644	1900	69	59	2880
5xD4	2130[1]	3000[3]	644	2170	70	60	3600

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	dB(A)[4]	Air flow m³/h
6-pulse regenerative (TSU)							
B4	2130[1]	2800	644	1690	72	-	2500
B5	2130[1]	2800	644	2090	75	-	4500
12-pulse diode (DSU)							
D4	2130[1]	1300	644	840	65	55	720
2xD4	2130[1]	1700	644	1060	67	57	1440
3xD4	2130[1]	2600[3]	644	1330	68	58	2160
4xD4	2130[1]	3000[3]	644	1900	69	59	2880
5xD4	2130[1]	3200[3]	644	2170	70	60	3600
12-pulse regenerative (TSU)							
B4	2130	5200	644	3290	74	-	5000
B5	2130	5200	644	3290	77	-	9000

[1] Cabinet height is 2315 mm for IP54 classification and for IPXXR 2051 mm. An additional 10 mm is required for marine supports.
[2] Width 1600 mm if UL or CSA approved
[3] An additional 300 mm cabinet is required when top connection of supply cables is needed.
[4] Average noise level with controlled cooling fan.

Multidrive ratings, types and voltages
Drive unit, U_N = 690 V

ACS800	-	107	-	XXXX	-	7	+	XXXX

Nominal ratings		No-overload use	Light-overload use		Heavy-duty use		Heat dissipation	Type code	Frame size
$I_{cont.max}$ A (AC)	I_{max} A	$P_{cont.max}$ kW	I_N A	P_N kW	I_{hd} A	P_{hd} kW	kW		
U_N = 690 V (Range 525 to 690 V)									
13	14	11	12	7.5	8.5	5.5	0.3	ACS800-107-0011-7	R4i
17	19	15	16	11	11	7.5	0.3	ACS800-107-0016-7	R4i
22	28	18.5	21	15	15	11	0.4	ACS800-107-0020-7	R4i
25	38	22	24	18.5	19	15	0.5	ACS800-107-0025-7	R4i
33	44	30	32	22	22	18.5	0.6	ACS800-107-0030-7	R4i
36	54	30	35	30	27	22	0.7	ACS800-107-0040-7	R4i
51	68	45	49	37	34	30	0.8	ACS800-107-0050-7	R5i
57	84	55	55	45	42	37	1	ACS800-107-0060-7	R5i
69	104	55	66	55	52	45	1.1	ACS800-107-0075-7	R7i
88	132	75	84	75	66	55	1.3	ACS800-107-0105-7	R7i
105	158	90	101	90	79	75	1.6	ACS800-107-0125-7	R7i
132	198	110	127	110	99	90	2	ACS800-107-0145-7	R7i
150	224	132	144	132	112	90	2.3	ACS800-107-0175-7	R7i
170	254	160	163	160	127	110	2.6	A CS800-107-0215-7	R7i
215	322	200	206	200	161	160	3.6	ACS800-107-0260-7	R8i
289	432	250	277	250	216	200	4.8	ACS800-107-0320-7	R8i
336	503	315	323	315	251	240	6.1	ACS800-107-0400-7	R8i
382	571	355	367	355	286	270	7	ACS800-107-0440-7	R8i
486	727	450	467	450	364	355	7.5	ACS800-107-0580-7	R8i
729	1091	710	700	710	545	500	13	ACS800-107-0870-7	2xR8i
953	1425	900	914	900	713	710	15	ACS800-107-1160-7	2xR8i
1414	2116	1400	1358	1400	1058	1000	22	ACS800-107-1740-7	3xR8i
1866	2792	1900	1792	1800	1396	1400	29	ACS800-107-2320-7	4xR8i
2321	3472	2300	2228	2200	1736	1600	35	ACS800-107-2900-7	5xR8i
2770	4144	2800	2659	2700	2072	2000	42	ACS800-107-3490-7	6xR8i
3232	4835	3200	3103	3100	2417	2400	49	ACS800-107-4070-7	7xR8i
3694	5526	3700	3546	3600	2763	2800	56	ACS800-107-4650-7	8xR8i
4155	6216	4200	3989	4000	3108	3100	63	ACS800-107-5230-7	9xR8i
4617	6907	4600	4432	4500	3454	3500	70	ACS800-107-5810-7	10xR8i
5079	7598	5100	4876	4900	3799	3800	77	ACS800-107-6390-7	11xR8i
5540	8288	5600	5319	5400	4144	4200	84	ACS800-107-6970-7	12xR8i

Standard options:
- Cable top exit
- DC switch with capacitor charging circuits
- Ground fault protection with current transformer(s)
- Output du/dt filter, standard for parallel connected inverters
- Common motor connection terminals with parallel connected inverters

Dimensions

Frame size	Height mm	Width mm	Width with top exit mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A)[5]	Air flow m³/h
R4i	2130[1]	400[2]	-	644	180	62	-	103
R5i	2130[1]	400[2]	-	644	180	65	-	168
R7i	2130[1]	400	600[4]	644[6]	200	72	-	800
R8i	2130[1]	400[3]	700[3)4)]	644[6]	320	72	60	1280
2xR8i	2130[1]	600[3]	900[3)4)]	644[6]	510	74	62	2560
3xR8i	2130[1]	800[3]	1200[3)4)]	644[6]	660	76	64	3840
4xR8i	2130[1]	1200[3]	1600[3)4)]	644[6]	1020	76	64	5120
5xR8i	2130[1]	1400[3]	1800[3)4)]	644[6]	1170	77	65	6400
6xR8i	2130[1]	1600[3]	2200[4]	644[6]	1320	78	66	7680
7xR8i	2130[1]	2000[3]	2600[4]	644[6]	1680	78	66	8960
8xR8i	2130[1]	2200[3)]	3000[4]	644[6]	1830	79	67	10240
9x8Ri	2130[1]	2400[3]	3200[4]	644[6]	1980	79	67	11520
10xR8i	2130[1]	2800[3]	3800[4]	644[6]	2340	79	67	12800
11xR8i	2130[1]	3000[3]	4200[4]	644[6]	2490	79	67	14080
12xR8i	2130[1]	3200[3]	4400[4]	644[6]	2640	79	67	15360

[1] Cabinet height is 2315 mm for IP54 classification and for IPXXR 2051 mm. An additional 10 mm is required for marine supports.
[2] 1-3 x R2i, 1-3 x R3i, 1-2 x R4i, 1-2 x R5i.
[3] 300 mm is required for Drive Control Unit (DCU). One DCU can be used for two drive units.
[4] Delivered with additional cabinet(s), when top exit or common motor output connection is required.
[5] Average noise level with controlled cooling fan.
[6] Alternative for top exit with additional cabinet: Backpack, depth is an additional 120 mm.

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max}: maximum output current. Available for 10 s at start, otherwise as long as allowed by drive temperature.

Typical ratings:
No-overload use
$P_{cont.max}$: typical motor power in no-overload use.

Light-overload use
I_N: continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N: typical motor power in light-overload use.

Heavy-duty use
I_{hd}: continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd}: typical motor power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature.
In lower temperatures the ratings are higher (except I_{max}).

Dimensioning has to be checked with DriveSize.

The rated current of the ACS800 must be higher than or equal to the rated motor current to achieve the rated motor power given in the table.

Multidrive ratings, types and voltages
Supply unit, U_N = 690 V

| ACS800 | - | X07 | - | XXXX | - | 7 | + | XXXX |

Nominal ratings				No-over-load use	Light-overload use		Heavy-duty use		Heat dissipation	Type code	Frame size
$I_{cont.\ max}$ A (AC)	$I_{cont.\ max}$ A (DC)	I_{max} A (DC)	S_N kVA	$P_{cont.max}$ kW (DC)	I_N A (DC)	P_N kW (DC)	I_{hd} A (DC)	P_{hd} kW (DC)	kW		
U_N = 690 V (Range 525 to 690 V)											
IGBT supply unit (ISU)											
119	144	216	142	141	139	135	108	105	4.6	ACS800-207-0155-7	R7i
135	164	245	161	160	157	153	122	119	5.2	ACS800-207-0175-7	R7i
180	218	327	215	213	210	204	163	159	8.3	ACS800-207-0220-7	R8i
250	303	453	299	296	291	284	227	221	9.4	ACS800-207-0300-7	R8i
300	364	544	359	355	349	341	272	266	13	ACS800-207-0360-7	R8i
400	485	726	478	473	466	454	363	354	15	ACS800-207-0480-7	R8i
600	727	1088	717	710	698	682	544	531	27	ACS800-207-0720-7	2xR8i
784	951	1422	937	928	913	890	711	694	29	ACS800-207-0940-7	2xR8i
1164	1411	2111	1391	1377	1355	1322	1056	1030	42	ACS800-207-1390-7	3xR8i
1536	1862	2786	1836	1817	1788	1745	1393	1359	56	ACS800-207-1840-7	4xR8i
2280	2764	4136	2725	2698	2654	2590	2068	2018	83	ACS800-207-2730-7	6xR8i
3040	3686	5514	3633	3597	3539	3453	2757	2690	110	ACS800-207-3630-7	8xR8i
3800	4607	6893	4541	4496	4423	4316	3446	3363	138	ACS800-207-4550-7	10xR8i
4560	5529	8271	5450	5395	5308	5179	4136	4036	165	ACS800-207-5450-7	12xR8i
6-pulse diode (DSU)											
286	350	462	341	316	335	303	280	253	1.5	ACS800-307-0340-7	D3
408	500	700	488	452	480	434	400	361	2.4	ACS800-307-0490-7	D3
571	700	924	683	632	670	605	560	506	3.8	ACS800-307-0680-7	D4
816	1000	1400	976	904	960	867	800	723	5	ACS800-307-0980-7	D4
1143	1400	1848	1366	1265	1340	1211	1120	1012	7.6	ACS800-307-1370-7	2xD4
1518	1860	2604	1815	1681	1790	1617	1490	1346	10	ACS800-307-1810-7	2xD4
2278	2790	3906	2722	2521	2685	2426	2230	2015	15	ACS800-307-2720-7	3xD4
3037	3720	5208	3629	3361	3580	3235	2980	2693	20	ACS800-307-3630-7	4xD4
3796	4650	6510	4537	4202	4475	4043	3720	3361	25	ACS800-307-4540-7	5xD4
6-pulse regenerative (TSU)											
711	871	1411	850	784	824	742	637	574	6.3	ACS800-407-0850-7	B4
1171	1435	2325	1400	1292	1353	1219	1050	946	10	ACS800-407-1400-7	B4
2176	2664	4316	2600	2399	2519	2269	1993	1795	17	ACS800-407-2600-7	B5
2858	3500	5670	3415	3152	3311	2982	2618	2358	21	ACS800-407-3600-7	B5
12-pulse diode (DSU)											
571	700	924	683	632	670	605	560	506	3.8	ACS800-507-0680-7	D4
816	1000	1400	976	904	960	867	800	723	5	ACS800-507-0980-7	D4
1143	1400	1848	1366	1265	1340	1211	1120	1012	7.6	ACS800-507-1370-7	2xD4
1518	1860	2604	1815	1681	1790	1617	1490	1346	10	ACS800-507-1810-7	2xD4
2278	2790	3906	2722	2521	2685	2426	2230	2015	15	ACS800-507-2720-7	3xD4
3037	3720	5208	3629	3361	3580	3235	2980	2693	20	ACS800-507-3630-7	4xD4
3796	4650	6510	4537	4202	4475	4043	3720	3361	25	ACS800-507-4540-7	5xD4
12-pulse regenerative (TSU)											
1351	1655	2681	1614	1490	1564	1409	1211	1091	13	ACS800-807-1615-7	B4
2225	2726	4417	2659	2455	2576	2320	1996	1798	20	ACS800-807-2660-7	B4
4134	5065	8200	4941	4561	4790	4314	3788	3412	33	ACS800-807-4950-7	B5
5430	6652	10773	6490	5991	6292	5667	4975	4481	42	ACS800-807-6500-7	B5

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max}: maximum output current.

Typical ratings:
No-overload use
$P_{cont.max}$: power in no-overload use.

Light-overload use
I_N: continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N: power in light-overload use.

Heavy-duty use
I_{hd}: continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd}: power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature. In lower temperatures the ratings are higher (except I_{max}).

Dimensions (for ACU, ICU and ISU/DSU/TSU)

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	dB(A)[4]	Air flow m³/h
IGBT supply unit (ISU)							
R7i	2130[1]	1000	644	350	72	-	1300
R8i	2130[1]	1400[2]	644	950	74	62	1880
2xR8i	2130[1]	2000[3]	644	1750	76	64	3840
3xR8i	2130[1]	2600[3]	644	2400	78	66	6400
4xR8i	2130[1]	2800[3]	644	2580	78	66	7680
6xR8i	2130[1]	3600[3]	644	3400	80	68	11520
8xR8i	2130[1]	4400[3]	644	4250	81	69	15360
10xR8i	2130[1]	5600[3]	644	5280	81	69	19200
12xR8i	2130[1]	6400[3]	644	6100	81	69	23040
6-pulse diode (DSU)							
D3	2130[1]	1200	644	840	65	55	720
D4	2130[1]	1200	644	840	65	55	720
2xD4	2130[1]	1800	644	1060	67	57	1440
3xD4	2130[1]	2000[3]	644	1330	68	58	2160
4xD4	2130[1]	2400[3]	644	1900	69	59	2880
5xD4	2130[1]	3000[3]	644	2170	70	60	3600

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	dB(A)[4]	Air flow m³/h
6-pulse regenerative (TSU)							
B4	2130[1]	2800	644	1690	72	-	2500
B5	2130[1]	2800	644	2090	75	-	4500
12-pulse diode (DSU)							
D4	2130[1]	1300	644	840	65	55	720
2xD4	2130[1]	1700	644	1060	67	57	1440
3xD4	2130[1]	2600[3]	644	1330	68	58	2160
4xD4	2130[1]	3000[3]	644	1900	69	59	2880
5xD4	2130[1]	3200[3]	644	2170	70	60	3600
12-pulse regenerative (TSU)							
B4	2130	5200	644	3290	74	-	5000
B5	2130	5200	644	3290	77	-	9000

[1] Cabinet height is 2315 mm for IP54 classification and for IPXXR 2051 mm. An additional 10 mm is required for marine supports.
[2] Width 1600 mm if UL or CSA approved
[3] An additional 300 mm cabinet is required when top connection of supply cables is needed.
[4] Average noise level with controlled cooling fan.

ACS800 liquid-cooled multidrives
ACS800-X07LC, 1.1 to 5600 kW

| ACS800 | - | X07LC | - | XXXX | - | X | + | XXXX |

Advanced liquid cooling

The ACS800 liquid-cooled multidrive with direct liquid cooling and robust design is an ultimate solution for various applications where space savings and silent operation is a must.

Since the coolant takes care of 98% of the heat losses, no additional filtered air-cooling is needed. This decreases the noise level and increases the total efficiency of the converter installation. The high-efficiency liquid cooling removes the need for air-conditioning in the installation rooms, bringing the installation and operation costs down. The totally enclosed cabinet structure makes the ACS800 liquid-cooled multidrives perfect for harsh environmental conditions.

The ACS800 liquid-cooled multidrives are available from 1.1 kW up to 5600 kW at 380 to 690V supply voltage.

Customer specific design

The modular hardware design and advanced software features of the liquid-cooled multidrive enable the most sophisticated drive solutions for both induction and permanent magnet motors. Our customized solutions provide the optimum customer benefits.

The design meets the international standards and marine classification requirements. ABB's extensive application and product know-how is at your service.

Intelligence and high availability

The ABB ACS800 liquid-cooled series has a number of unique features as standard, and which are not available in previous generations of ABB drives, nor in existing competitors' drives. These include:

– Built-in redundancy through parallel connected modules - each module is a complete three-phase inverter.
– Ability to run with partial load even when one of the modules is not operating- enabling higher drive availability and greater process uptime.

With ABB drives, you get more than the most reliable equipment and systems. ABB drives are backed by our full service and support network, which covers field service and training as well as spare parts. This ensures reliable and economic operation under all conditions.

"Compact and easy" – are the watchwords to describe the entire ACS800 liquid-cooled drive range. They demonstrate how technology enables ABB to add more and more features into a shrinking space – and still give the benefits of easy installation, access and use.

ACS800 liquid-cooled multidrives
Ratings, types and voltages
Drive unit, U_N = 400 V

| ACS800 | - | X07LC | - | XXXX | - | X | + | XXXX |

Nominal ratings		No-over-load use	Light-overload use		Heavy-duty use		Noise level	Dissipation to liquid	Massflow	Liquid Qty	Type code	Frame size
$I_{cont.max}$ A (AC)	I_{max} A (AC)	$P_{cont.max}$ kW	I_N A	P_N kW	I_{hd} A	P_{hd} kW	dB(A)	kW	l/min	l		size
U_N = 400 V (Range 380 to 415 V)												
5.1	6.5	1.5	4.7	1.5	3.4	1.1	60	0.1	6 [1]	2.3 [1]	ACS800-107LC-0003-3	R2i
6.5	8.2	2.2	5.9	2.2	4.3	1.5	60	0.1	6 [1]	2.3 [1]	ACS800-107LC-0004-3	R2i
8.5	10.8	3	7.7	3	5.7	2.2	60	0.1	6 [1]	2.3 [1]	ACS800-107LC-0005-3	R2i
11	13.8	4	10	4	7.5	3	60	0.1	6 [1]	2.3 [1]	ACS800-107LC-0006-3	R2i
14	17.6	5.5	13	5.5	9.3	4	60	0.2	6 [1]	2.3 [1]	ACS800-107LC-0009-3	R2i
19	24	7.5	18	7.5	14	5.5	60	0.3	6 [1]	2.3 [1]	ACS800-107LC-0011-3	R3i
25	32	11	24	11	19	7.5	60	0.3	6 [1]	2.3 [1]	ACS800-107LC-0016-3	R3i
34	46	15	31	15	23	11	60	0.4	6 [1]	2.3 [1]	ACS800-107LC-0020-3	R3i
44	62	22	41	18.5	32	15	60	0.5	6 [1]	2.3 [1]	ACS800-107LC-0025-3	R4i
55	72	30	50	22	37	18.5	60	0.6	6 [1]	2.3 [1]	ACS800-107LC-0030-3	R4i
72	86	37	69	30	49	22	63	0.8	6 [1]	2.3 [1]	ACS800-107LC-0040-3	R5i
86	112	45	80	37	60	30	63	1	6 [1]	2.3 [1]	ACS800-107LC-0050-3	R5i
103	138	55	94	45	69	37	63	1.2	6 [1]	2.3 [1]	ACS800-107LC-0060-3	R5i
176	251	90	169	90	132	55	53	1.6	13	2.3	ACS800-107LC-0120-3	R7i
214	251	110	205	110	160	75	53	2	13	2.3	ACS800-107LC-0150-3	R7i
250	335	132	240	132	187	90	53	2.3	13	2.3	ACS800-107LC-0170-3	R7i
300	448	160	288	160	224	110	53	2.5	13	2.3	ACS800-107LC-0210-3	R7i
350	524	200	336	200	262	132	53	3.7	13	2.5	ACS800-107LC-0240-3	R8i
444	558	250	426	250	332	160	53	4.9	13	2.5	ACS800-107LC-0310-3	R8i
563	674	315	540	315	421	200	53	5.8	13	2.5	ACS800-107LC-0390-3	R8i
678	837	355	651	355	507	250	53	7.1	13	2.5	ACS800-107LC-0470-3	R8i
889	1037	500	853	400	665	355	53	9	13	2.5	ACS800-107LC-0620-3	R8i
1103	1279	630	1059	560	825	450	55	11.2	26	5	ACS800-107LC-0760-3	2xR8i
1329	1590	710	1276	710	994	500	55	13.9	26	5	ACS800-107LC-0920-3	2xR8i
1742	1994	900	1673	900	1303	710	55	17.5	26	5	ACS800-107LC-1210-3	2xR8i
1973	2347	1120	1894	1120	1476	900	57	20.5	39	7.5	ACS800-107LC-1370-3	3xR8i
2587	2941	1400	2484	1400	1935	1120	57	26	39	7.5	ACS800-107LC-1790-3	3xR8i
3414	3906	2000	3277	2000	2553	1400	58	34.1	52	10	ACS800-107LC-2370-3	4xR8i
4245	4858	2500	4075	2240	3175	1800	59	42.4	65	12.5	ACS800-107LC-2940-3	5xR8i
5067	5799	2800	4865	2800	3790	2000	59	50.4	78	15	ACS800-107LC-3510-3	6xR8i

[1] Massflow and liquid quantity per 400 mm cabinet (see also [4] below)

Dimensions
Inverter units

Frame size	Height [2] [3] mm	Width mm	Depth [1] mm	Weight kg
R2i	2003	400 [4]	644	180
R3i	2003	400 [4]	644	180
R4i	2003	400 [4]	644	180
R5i	2003	400 [4]	644	180
R7i	2003	300 [5]	644	220
R8i	2003	300 [5]	644	300
2xR8i	2003	500	644	450
3xR8i	2003	700	644	600
4xR8i	2003	1000	644	900
5xR8i	2003	1200	644	1100
6xR8i	2003	1400	644	1300

[2] Total height with marine supports is 2088 mm and depth with marine handles 718 mm.
[3] Pressure release lids require an additional 400 mm.
[4] R2i+R2i to R3i+R5i fit in one 400 mm cabinet, R4i+R4i to R5i+R5i need two 400 mm cabinets.
[5] Width with DC-switch is 400 mm.

2xR8i inverter unit

ACS800 liquid-cooled multidrives
Ratings, types and voltages
Supply unit, $U_N = 400$ V

| ACS800 | - | X07LC | - | XXXX | - | X | + | XXXX |

Nominal ratings				No over-load use	Light overload use		Heavy-duty use		Noise level	Dissipation to liquid	Massflow	Liquid Qty	Type code	Frame size
$I_{contmax}$	$I_{contmax}$	I_{max}	S_N	$P_{contmax}$	I_n	P_N	I_{hd}	P_{hd}						
A (AC)	A (DC)	A (DC)	kVA	kW (DC)	A (DC)	kW	A (DC)	kW	dB(A)	kW	l/min	l		
U_N = 400 V (Range 380 to 415 V)														
IGBT supply unit														
341	413	471	245	243	397	233	309	181	57	7.2	32	7.8	ACS800-207LC-0240-3	R8i
454	550	627	326	323	528	310	411	241	57	8.5	32	7.8	ACS800-207LC-0330-3	R8i
567	687	784	408	403	660	387	514	302	57	9.9	32	7.8	ACS800-207LC-0410-3	R8i
756	917	1046	543	538	880	516	686	402	57	12.6	32	7.8	ACS800-207LC-0540-3	R8i
1134	1375	1568	815	807	1320	775	1028	604	59	18.7	53	11.1	ACS800-207LC-0820-3	2xR8i
1482	1797	2049	1065	1054	1725	1012	1344	789	59	24.8	53	11.1	ACS800-207LC-1070-3	2xR8i
2200	2667	3042	1581	1565	2560	1503	1995	1171	61	37	77	14.6	ACS800-207LC-1580-3	3xR8i
2903	3520	4015	2087	2066	3379	1983	2633	1545	62	48.7	100	18.9	ACS800-207LC-2090-3	4xR8i
4309	5225	5960	3097	3066	5016	2944	3908	2294	64	72.4	148	25.9	ACS800-207LC-3100-3	6xR8i
Diode supply unit														
6-pulse diode (DSU)														
572	700	980	396	378	672	363	560	303	56	2.2	19	2.2	ACS800-307LC-0400-3	D3
898	1100	1540	622	594	1056	570	880	475	56	3.5	19	2.2	ACS800-307LC-0620-3	D3
1143	1400	1960	792	756	1344	726	1120	605	56	4.4	19	2.3	ACS800-307LC-0790-3	D4
1796	2200	3080	1245	1188	2112	1141	1760	951	56	7	19	2.3	ACS800-307LC-1240-3	D4
2126	2604	3646	1473	1407	2500	1350	2083	1125	58	8.3	38	4.6	ACS800-307LC-1470-3	2xD4
3200	3919	5487	2217	2117	3762	2032	3135	1694	58	12.4	38	4.6	ACS800-307LC-2220-3	2xD4
5000	6124	8574	3464	3308	5879	3176	4899	2646	60	19.5	57	6.9	ACS800-307LC-3460-3	3xD4
12-pulse diode (DSU)														
1143	1400	1960	792	756	1344	726	1120	605	56	4.4	19	2.3	ACS800-507LC-0790-3	D4
1796	2200	3080	1245	1188	2112	1141	1760	951	56	7	19	2.3	ACS800-507LC-1240-3	D4
2126	2604	3646	1473	1407	2500	1350	2083	1125	58	8.3	38	4.6	ACS800-507LC-1470-3	2xD4
3200	3919	5487	2217	2117	3762	2032	3135	1694	58	12.4	38	4.6	ACS800-507LC-2220-3	2xD4
5000	6124	8574	3464	3308	5879	3176	4899	2646	60	19.5	57	6.9	ACS800-507LC-3460-3	3xD4
18-pulse diode (DSU)														
1595	1953	2734	1105	1055	1875	1013	1562	844	58	6.2	38	4.5	ACS800-1107LC-1100-3	D3+D4
2506	3069	4297	1736	1658	2946	1592	2455	1326	58	9.7	38	4.5	ACS800-1107LC-1740-3	D3+D4
3189	3906	5468	2210	2110	3750	2026	3125	1688	60	12.4	57	6.9	ACS800-1107LC-2210-3	3xD4
5000	6124	8574	3464	3308	5879	3176	4899	2646	60	19.5	57	6.9	ACS800-1107LC-3460-3	3xD4
24-pulse diode (DSU)														
2126	2604	3646	1473	1407	2500	1350	2083	1125	58	8.3	38	4.6	ACS800-1207LC-1470-3	2xD4
3200	3919	5487	2217	2117	3762	2032	3135	1694	58	12.4	38	4.6	ACS800-1207LC-2220-3	2xD4

Supply units

Frame size	Height [1][2]	Width	Width with main breaker	Depth [1]	Weight
	mm	mm	mm	mm	kg
IGBT supply unit					
R8i	2003	-	1000/1200 [3]	644	850/1150 [3]
2xR8i	2003	-	1400	644	1500
3xR8i	2003	-	2400	644	2350
4xR8i	2003	-	2200	644	2450
6xR8i	2003	-	3400	644	3650
6-pulse diode (DSU)					
D3	2003	400	800/1000 [4]	644	920/1120 [4]
D4	2003	400	1000	644	1120
2xD4	2003	800	1400	644	1540
3xD4	2003	1200	2200	644	2160
12-pulse diode (DSU)					
D4	2003	400	1200	644	1420
D4	2003	400	1600	644	1820
2xD4	2003	800	2000	644	2240
3xD4	2003	1200	2400	644	2660
18-pulse diode (DSU)					
D3+D4	2003	800	2000	644	2340
D3+D4	2003	800	2600	644	2940
3xD4	2003	1200	3000	644	3360
24-pulse diode (DSU)					
2xD4	2003	800	2400	644	2840
2xD4	2003	800	3200	644	3640

[1] Total height with marine supports is 2088 mm and depth with marine handles 718 mm.
[2] Pressure release lids require an additional 400 mm.
[3] The latter values only for type 0540-3.
[4] The latter values only for type 0620-3.

ACS800 liquid-cooled multidrives
Ratings, types and voltages
Drive unit, U_N = 500 V

ACS800	-	X07LC	-	XXXX	-	X	+	XXXX

Nominal ratings		No-over-load use	Light-overload use		Heavy-duty use		Noise level	Dissipation to liquid	Massflow	Liquid Qty	Type code	Frame size
$I_{cont.max}$ A (AC)	I_{max} A (AC)	$P_{cont.max}$ kW	I_N A	P_N kW	I_{hd} A	P_{hd} kW	dB(A)	kW	l/min	l		
U_N = 500 V (Range 380 to 500 V)												
4.9	6.5	2.2	4.5	2.2	3.4	1.5	60	0.1	6 [1]	2.3 [1]	ACS800-107LC-0004-5	R2i
6.2	8.2	3	5.6	3	4.2	2.2	60	0.1	6 [1]	2.3 [1]	ACS800-107LC-0005-5	R2i
8.1	10.8	4	7.7	4	5.6	3	60	0.2	6 [1]	2.3 [1]	ACS800-107LC-0006-5	R2i
11	14	5.5	10	5.5	7.5	4	60	0.2	6 [1]	2.3 [1]	ACS800-107LC-0009-5	R2i
13	18	7.5	12	7.5	9.2	5.5	60	0.3	6 [1]	2.3 [1]	ACS800-107LC-0011-5	R2i
19	24	11	18	11	13	7.5	60	0.3	6 [1]	2.3 [1]	ACS800-107LC-0016-5	R3i
25	32	15	23	15	18	11	60	0.4	6 [1]	2.3 [1]	ACS800-107LC-0020-5	R3i
34	46	18.5	31	18.5	23	15	60	0.5	6 [1]	2.3 [1]	ACS800-107LC-0025-5	R3i
42	62	22	39	22	32	18.5	60	0.6	6 [1]	2.3 [1]	ACS800-107LC-0030-5	R4i
48	72	30	44	30	36	22	60	0.8	6 [1]	2.3 [1]	ACS800-107LC-0040-5	R4i
65	86	37	61	37	50	30	63	1	6 [1]	2.3 [1]	ACS800-107LC-0050-5	R5i
79	112	45	75	45	60	37	63	1.2	6 [1]	2.3 [1]	ACS800-107LC-0060-5	R5i
96	138	55	88	55	69	45	63	1.4	6 [1]	2.3 [1]	ACS800-107LC-0070-5	R5i
138	206	90	132	90	103	55	53	1.3	13	2.3	ACS800-107LC-0120-5	R7i
162	242	110	156	110	121	75	53	1.5	13	2.3	ACS800-107LC-0140-5	R7i
199	252	132	191	132	149	90	53	2	13	2.3	ACS800-107LC-0170-5	R7i
250	335	160	240	160	187	110	53	2.4	13	2.3	ACS800-107LC-0220-5	R7i
300	448	200	288	200	224	160	53	2.6	13	2.3	ACS800-107LC-0260-5	R7i
378	558	250	363	250	283	200	53	4.3	13	2.5	ACS800-107LC-0330-5	R8i
438	558	315	420	315	328	250	53	5.1	13	2.5	ACS800-107LC-0380-5	R8i
546	673	355	524	355	408	315	53	5.9	13	2.5	ACS800-107LC-0470-5	R8i
630	838	400	605	400	471	355	53	6.9	13	2.5	ACS800-107LC-0550-5	R8i
840	1042	560	806	560	628	400	53	8.8	13	2.5	ACS800-107LC-0730-5	R8i
1070	1280	710	1027	710	800	560	55	11.3	26	5	ACS800-107LC-0930-5	2xR8i
1235	1589	900	1185	900	924	630	55	13.3	26	5	ACS800-107LC-1070-5	2xR8i
1646	1996	1120	1581	1120	1232	710	55	17	26	5	ACS800-107LC-1430-5	2xR8i
1833	2344	1250	1760	1250	1371	900	57	19.7	39	7.5	ACS800-107LC-1590-5	3xR8i
2444	2943	1600	2347	1600	1828	1250	57	25.4	39	7.5	ACS800-107LC-2120-5	3xR8i
3226	3885	2240	3097	2240	2413	1600	58	33.2	52	10	ACS800-107LC-2790-5	4xR8i
4011	4830	2800	3851	2800	3000	2000	59	41.3	65	12.5	ACS800-107LC-3470-5	5xR8i
4788	5801	3360	4596	3200	3581	2500	59	49	78	15	ACS800-107LC-4150-5	6xR8i

[1] Massflow and liquid quantity per 400 mm cabinet (see also [4] below)

Dimensions
Inverter units

Frame size	Height [2] [3] mm	Width mm	Depth[1] mm	Weight kg
R2i	2003	400[4]	644	180
R3i	2003	400[4]	644	180
R4i	2003	400[4]	644	180
R5i	2003	400[4]	644	180
R7i	2003	300[5]	644	220
R8i	2003	300[5]	644	300
2xR8i	2003	500	644	450
3xR8i	2003	700	644	600
4xR8i	2003	1000	644	900
5xR8i	2003	1200	644	1100
6xR8i	2003	1400	644	1300

[2] Total height with marine supports is 2088 mm and depth with marine handles 718 mm.
[3] Pressure release lids require an additional 400 mm.
[4] R2i+R2i to R3i+R5i fit in one 400 mm cabinet, R4i+R4i to R5i+R5i need two 400 mm cabinets.
[5] Width with DC-switch is 400 mm.

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max} : maximum output current. Available for 10 s at start, otherwise as long as allowed by drive temperature.

Typical ratings:
No-overload use
$P_{cont.max}$: typical motor power in no-overload use.

Light-overload use
I_N : continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N : typical motor power in light-overload use.

Heavy-duty use
I_{hd} : continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd} : typical motor power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature.
In lower temperatures the ratings are higher (except I_{max}).

The rated current of the ACS800 must be higher than or equal to the rated motor current to achieve the rated motor power given in the table.

ACS800 liquid-cooled multidrives
Ratings, types and voltages
Supply unit, U_N = 500 V

ACS800	-	X07LC	-	XXXX	-	X	+	XXXX

Nominal ratings				No over-load use	Light overload use		Heavy-duty use		Noise level	Dissipation to liquid	Massflow	Liquid Qty	Type code	Frame size
$I_{contmax}$ A (AC)	$I_{contmax}$ A (DC)	I_{max} A (DC)	S_N kVA	$P_{contmax}$ kW (DC)	I_n A (DC)	P_N kW	I_{hd} A (DC)	P_{hd} kW	dB(A)	kW	l/min	l		
U_N = 500 V (Range 380 to 500 V)														
IGBT supply unit														
324	393	475	281	278	377	267	294	208	57	7.3	32	7.8	ACS800-207LC-0280-5	R8i
432	524	633	374	370	503	356	392	277	57	8.6	32	7.8	ACS800-207LC-0370-5	R8i
540	655	792	468	463	629	444	490	346	57	10	32	7.8	ACS800-207LC-0470-5	R8i
720	873	1056	624	617	838	593	653	462	57	12.8	32	7.8	ACS800-207LC-0620-5	R8i
1080	1309	1584	935	926	1257	889	980	693	59	18.9	53	11.1	ACS800-207LC-0940-5	2xR8i
1411	1711	2069	1222	1210	1643	1162	1280	905	59	25	53	11.1	ACS800-207LC-1220-5	2xR8i
2095	2540	3072	1814	1796	2439	1724	1900	1344	61	37.4	77	14.6	ACS800-207LC-1810-5	3xR8i
2765	3352	4054	2394	2370	3218	2276	2508	1773	62	49.2	100	18.9	ACS800-207LC-2390-5	4xR8i
4104	4976	6017	3554	3519	4777	3378	3722	2632	64	73.1	148	25.9	ACS800-207LC-3550-5	6xR8i
Diode supply unit														
6-pulse diode (DSU)														
572	700	980	495	473	672	454	560	378	56	2.8	19	2.2	ACS800-307LC-0490-5	D3
898	1100	1540	778	743	1056	713	880	594	56	4.4	19	2.2	ACS800-307LC-0780-5	D3
1143	1400	1960	990	945	1344	908	1120	756	56	5.6	19	2.3	ACS800-307LC-0990-5	D4
1796	2200	3080	1556	1486	2112	1426	1760	1188	56	8.7	19	2.3	ACS800-307LC-1560-5	D4
2126	2604	3646	1841	1758	2500	1688	2083	1407	58	10.3	38	4.6	ACS800-307LC-1840-5	2xD4
3200	3919	5487	2771	2646	3762	2540	3135	2117	58	15.6	38	4.6	ACS800-307LC-2770-5	2xD4
5000	6124	8574	4330	4135	5879	3970	4899	3308	60	24.3	57	6.9	ACS800-307LC-4330-5	3xD4
12-pulse diode (DSU)														
1143	1400	1960	990	945	1344	908	1120	756	56	5.6	19	2.3	ACS800-507LC-0990-5	D4
1796	2200	3080	1556	1486	2112	1426	1760	1188	56	8.7	19	2.3	ACS800-507LC-1560-5	D4
2126	2604	3646	1841	1758	2500	1688	2083	1407	58	10.3	38	4.6	ACS800-507LC-1840-5	2xD4
3200	3919	5487	2771	2646	3762	2540	3135	2117	58	15.6	38	4.6	ACS800-507LC-2770-5	2xD4
5000	6124	8574	4330	4135	5879	3970	4899	3308	60	24.3	57	6.9	ACS800-507LC-4330-5	3xD4
18-pulse diode (DSU)														
1595	1953	2734	1381	1319	1875	1266	1562	1055	58	7.8	38	4.5	ACS800-1107LC-1380-5	D3+D4
2506	3069	4297	2170	2072	2946	1989	2455	1658	58	12.2	38	4.5	ACS800-1107LC-2170-5	D3+D4
3189	3906	5468	2762	2637	3750	2532	3125	2110	60	15.5	57	6.9	ACS800-1107LC-2760-5	3xD4
5000	6124	8574	4330	4135	5879	3970	4899	3308	60	24.3	57	6.9	ACS800-1107LC-4330-5	3xD4
24-pulse diode (DSU)														
2126	2604	3646	1841	1758	2500	1688	2083	1407	58	10.3	38	4.6	ACS800-1207LC-1840-5	2xD4
3200	3919	5487	2771	2646	3762	2540	3135	2117	58	15.6	38	4.6	ACS800-1207LC-2770-5	2xD4

Supply units

D3/D4
diode supply unit

Frame size	Height [1][2] mm	Width mm	Width with main breaker mm	Depth [1] mm	Weight kg
IGBT supply unit					
R8i	2003	-	1000/1200 [3]	644	850/1150 [3]
2xR8i	2003	-	1400	644	1500
3xR8i	2003	-	2400	644	2350
4xR8i	2003	-	2200	644	2450
6xR8i	2003	-	3400	644	3650
6-pulse diode (DSU)					
D3	2003	400	800/1000 [4]	644	920/1120 [4]
D4	2003	400	1000	644	1120
2xD4	2003	800	1400	644	1540
3xD4	2003	1200	2200	644	2160
12-pulse diode (DSU)					
D4	2003	400	1200	644	1420
D4	2003	400	1600	644	1820
2xD4	2003	800	2000	644	2240
3xD4	2003	1200	2400	644	2660
18-pulse diode (DSU)					
D3+D4	2003	800	2000	644	2340
D3+D4	2003	800	2600	644	2940
3xD4	2003	1200	3000	644	3360
24-pulse diode (DSU)					
2xD4	2003	800	2400	644	2840
2xD4	2003	800	3200	644	3640

1) Total height with marine supports is 2088 mm and depth with marine handles 718 mm.
2) Pressure release lids require an additional 400 mm.
3) The latter values only for type 0620-5.
4) The latter values only for type 0780-5.

ACS800 liquid-cooled multidrives
Ratings, types and voltages
Drive unit, U_N = 690 V

ACS800	-	X07LC	-	XXXX	-	X	+	XXXX

Nominal ratings		No-over-load use	Light-overload use		Heavy-duty use		Noise level	Dissipa-tion to liquid	Massflow	Liquid Qty	Type code	Frame size
$I_{cont.max}$ A (AC)	I_{max} A (AC)	$P_{cont.max}$ kW	I_N A	P_N kW	I_{hd} A	P_{hd} kW	dB(A)	kW	l/min	l		
U_N = 690 V (Range 525 to 690 V)												
13	14	11	12	7.5	8.5	5.5	60	0.3	6 [1]	2.3 [1]	ACS800-107LC-0011-7	R4i
17	19	15	16	11	11	7.5	60	0.3	6 [1]	2.3 [1]	ACS800-107LC-0016-7	R4i
22	28	18.5	21	15	15	11	60	0.4	6 [1]	2.3 [1]	ACS800-107LC-0020-7	R4i
25	38	22	24	18.5	19	15	60	0.5	6 [1]	2.3 [1]	ACS800-107LC-0025-7	R4i
33	44	30	32	22	22	18.5	60	0.6	6 [1]	2.3 [1]	ACS800-107LC-0030-7	R4i
36	54	30	35	30	27	22	60	0.7	6 [1]	2.3 [1]	ACS800-107LC-0040-7	R4i
51	68	45	49	37	34	30	63	0.8	6 [1]	2.3 [1]	ACS800-107LC-0050-7	R5i
57	84	55	55	45	42	37	63	1	6 [1]	2.3 [1]	ACS800-107LC-0060-7	R5i
83	124	75	79	55	62	55	53	1.2	13	2.3	ACS800-107LC-0100-7	R7i
106	158	90	101	90	79	75	53	1.5	13	2.3	ACS800-107LC-0130-7	R7i
126	188	110	121	110	94	90	53	1.8	13	2.3	ACS800-107LC-0150-7	R7i
158	236	132	152	132	118	110	53	2.3	13	2.3	ACS800-107LC-0190-7	R7i
180	270	160	173	160	135	132	53	2.7	13	2.3	ACS800-107LC-0220-7	R7i
204	306	200	196	200	153	160	53	3.4	13	2.3	ACS800-107LC-0240-7	R7i
258	386	250	248	250	193	200	53	4.7	13	2.5	ACS800-107LC-0310-7	R8i
347	518	315	333	315	259	250	53	5.3	13	2.5	ACS800-107LC-0410-7	R8i
403	604	355	387	355	302	315	53	6.3	13	2.5	ACS800-107LC-0480-7	R8i
458	686	450	440	400	343	355	53	8	13	2.5	ACS800-107LC-0550-7	R8i
583	872	560	560	500	436	400	53	8.7	13	2.5	ACS800-107LC-0700-7	R8i
790	1182	710	759	710	591	560	55	12.4	26	5	ACS800-107LC-0940-7	2xR8i
898	1344	900	863	900	672	630	55	15.6	26	5	ACS800-107LC-1070-7	2xR8i
1143	1710	1120	1097	1120	855	710	55	17.1	26	5	ACS800-107LC-1370-7	2xR8i
1334	1996	1250	1281	1250	998	900	57	23.5	39	7.5	ACS800-107LC-1590-7	3xR8i
1697	2538	1600	1629	1600	1269	1250	57	25.3	39	7.5	ACS800-107LC-2030-7	3xR8i
2239	3350	2240	2150	2000	1675	1600	58	33.6	52	10	ACS800-107LC-2680-7	4xR8i
2785	4166	2800	2673	2500	2083	2000	59	41.6	65	12.5	ACS800-107LC-3330-7	5xR8i
3324	4974	3200	3191	3200	2487	2500	59	49.3	78	15	ACS800-107LC-3970-7	6xR8i
3878	5802	3750	3723	3600	2901	2800	60	58.1	91	17.5	ACS800-107LC-4630-7	7xR8i
4432	6630	4480	4255	4200	3315	3200	60	66	104	20	ACS800-107LC-5300-7	8xR8i
4986	7460	5000	4787	4800	3730	3600	61	74	117	22.5	ACS800-107LC-5960-7	9xR8i
5540	8288	5600	5319	5300	4144	4200	61	82	130	25	ACS800-107LC-6620-7	10xR8i

[1] Massflow and liquid quantity per 400 mm cabinet (see also [4] below)

Dimensions
Inverter units

Frame size	Height [2] [3] mm	Width mm	Depth[1] mm	Weight kg
R4i	2003	400[4]	644	180
R5i	2003	400[4]	644	180
R7i	2003	300[5]	644	220
R8i	2003	300[5]	644	300
2xR8i	2003	500	644	450
3xR8i	2003	700	644	600
4xR8i	2003	1000	644	900
5xR8i	2003	1200	644	1100
6xR8i	2003	1400	644	1300
7xR8i	2003	1700	644	1550
8xR8i	2003	1900	644	1750
9xR8i	2003	2100	644	1950
10xR8i	2003	2400	644	2200

[2] Total height with marine supports is 2088 mm and depth with marine handles 718 mm.
[3] Pressure release lids require an additional 400 mm.
[4] R2i+R2i to R3i+R5i fit in one 400 mm cabinet, R4i+R4i to R5i+R5i need two 400 mm cabinets.
[5] Width with DC-switch is 400 mm.

Nominal ratings:
$I_{cont.max}$: rated current available continuously without overloadability at 40 °C.
I_{max} : maximum output current. Available for 10 s at start, otherwise as long as allowed by drive temperature.

Typical ratings:
No-overload use
$P_{cont.max}$: typical motor power in no-overload use.

Light-overload use
I_N : continuous current allowing 110% I_N for 1min / 5 min at 40 °C.
P_N : typical motor power in light-overload use.

Heavy-duty use
I_{hd} : continuous current allowing 150% I_{hd} for 1min / 5 min at 40 °C.
P_{hd} : typical motor power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40 °C ambient temperature.
In lower temperatures the ratings are higher (except I_{max}).

The rated current of the ACS800 must be higher than or equal to the rated motor current to achieve the rated motor power given in the table.

ACS800 liquid-cooled multidrives
Ratings, types and voltages
Supply unit, U_N = 690 V

| ACS800 | - | X07LC | - | XXXX | - | X | + | XXXX |

Nominal ratings				No over-load use	Light overload use		Heavy-duty use		Noise level	Dissipation to liquid	Massflow	Liquid Qty	Type code	Frame size
$I_{contmax}$	$I_{contmax}$	I_{max}	S_N	$P_{contmax}$	I_n	P_N	I_{hd}	P_{hd}						
A (AC)	A (DC)	A (DC)	kVA	kW (DC)	A (DC)	kW	A (DC)	kW	dB(A)	kW	l/min	l		
U_N = 690 V (Range 525 to 690 V)														
IGBT supply unit														
216	262	327	258	256	251	245	196	191	57	7.4	32	7.8	ACS800-207LC-0260-7	R8i
300	364	453	359	355	349	341	272	266	57	8.5	32	7.8	ACS800-207LC-0360-7	R8i
360	436	544	430	426	419	409	327	319	57	10.8	32	7.8	ACS800-207LC-0430-7	R8i
480	582	726	574	568	559	545	435	425	57	11.8	32	7.8	ACS800-207LC-0570-7	R8i
720	873	1088	860	852	838	818	653	637	59	19.2	53	11.1	ACS800-207LC-0860-7	2xR8i
941	1141	1422	1124	1113	1095	1069	853	833	59	22.5	53	11.1	ACS800-207LC-1120-7	2xR8i
1397	1694	2111	1669	1653	1626	1587	1267	1236	61	30.8	77	14.6	ACS800-207LC-1670-7	3xR8i
1843	2235	2786	2203	2181	2145	2094	1672	1631	62	44.3	100	18.9	ACS800-207LC-2200-7	4xR8i
2736	3317	4136	3270	3237	3185	3108	2481	2421	64	60.7	148	25.9	ACS800-207LC-3270-7	6xR8i
3648	4423	5514	4360	4316	4246	4144	3309	3228	65	87.9	200	37	ACS800-207LC-4360-7	8xR8i
4104	4976	6204	4905	4856	4777	4661	3722	3632	66	91	225	39.7	ACS800-207LC-4900-7	9xR8i
4560	5529	6893	5450	5395	5308	5179	4136	4036	67	109.9	247	44.8	ACS800-207LC-5450-7	10xR8i
6-pulse diode (DSU)														
572	700	980	683	652	672	626	560	522	56	3.8	19	2.2	ACS800-307LC-0680-7	D3
898	1100	1540	1073	1025	1056	984	880	820	56	6	19	2.2	ACS800-307LC-1070-7	D3
1143	1400	1960	1366	1305	1344	1252	1120	1044	56	7.7	19	2.3	ACS800-307LC-1370-7	D4
1796	2200	3080	2147	2050	2112	1968	1760	1640	56	12.1	19	2.3	ACS800-307LC-2150-7	D4
2126	2604	3646	2541	2426	2500	2329	2083	1941	58	14.3	38	4.6	ACS800-307LC-2540-7	2xD4
3200	3919	5487	3824	3652	3762	3506	3135	2921	58	21.5	38	4.6	ACS800-307LC-3820-7	2xD4
5000	6124	8574	5976	5707	5879	5478	4899	4565	60	33.6	57	6.9	ACS800-307LC-5980-7	3xD4
12-pulse diode (DSU)														
1143	1400	1960	1366	1305	1344	1252	1120	1044	56	7.7	19	2.3	ACS800-507LC-1370-7	D4
1796	2200	3080	2147	2050	2112	1968	1760	1640	56	12.1	19	2.3	ACS800-507LC-2150-7	D4
2126	2604	3646	2541	2426	2500	2329	2083	1941	58	14.3	38	4.6	ACS800-507LC-2540-7	2xD4
3200	3919	5487	3824	3625	3762	3506	3135	2921	58	21.5	38	4.6	ACS800-507LC-3820-7	2xD4
5000	6124	8574	5976	5707	5879	5478	4899	4565	60	33.6	57	6.9	ACS800-507LC-5980-7	3xD4
18-pulse diode (DSU)														
1595	1953	2734	1906	1820	1875	1747	1562	1456	58	10.7	38	4.5	ACS800-1107LC-1910-7	D3+D4
2506	3069	4297	2995	2860	2946	2745	2455	2288	58	16.8	38	4.5	ACS800-1107LC-2990-7	D3+D4
3189	3906	5468	3812	3640	3750	3494	3125	2912	60	21.4	57	6.9	ACS800-1107LC-3810-7	3xD4
5000	6124	8574	5976	5707	5879	5478	4899	4565	60	33.6	57	6.9	ACS800-1107LC-5980-7	3xD4
24-pulse diode (DSU)														
2126	2604	3646	2541	2426	2500	2329	2083	1941	58	14.3	38	4.6	ACS800-1207LC-2540-7	2xD4
3200	3919	5487	3824	3652	3762	3506	3135	2921	58	21.5	38	4.6	ACS800-1207LC-3820-7	2xD4

Supply units

Frame size	Height [1)2)]	Width	Width with main breaker	Depth [1)]	Weight [3)]
	mm	mm	mm	mm	kg
IGBT supply unit					
R8i	2003	-	1000	644	850
2xR8i	2003	-	1400	644	1500
3xR8i	2003	-	1700	644	1750
4xR8i	2003	-	2200	644	2450
6xR8i	2003	-	2800	644	2950
8xR8i	2003	-	4200	644	4600
9xR8i	2003	-	4300	644	4250
10xR8i	2003	-	5000	644	5550
6-pulse diode (DSU)					
D3	2003	400	800/1000 [4)]	644	920/1120 [4)]
D4	2003	400	1000	644	1120
2xD4	2003	800	1400	644	1540
3xD4	2003	1200	2200	644	2160

12-pulse diode (DSU)					
D4	2003	400	1200	644	1420
D4	2003	400	1600	644	1820
2xD4	2003	800	2000	644	2240
3xD4	2003	1200	2400	644	2660
18-pulse diode (DSU)					
D3+D4	2003	800	2000	644	2340
D3+D4	2003	800	2600	644	2940
3xD4	2003	1200	3000	644	3360
24-pulse diode (DSU)					
2xD4	2003	800	2400	644	2840
2xD4	2003	800	3200	644	3640

[1)] Total height with marine supports is 2088 mm and depth with marine handles 718 mm.
[2)] Pressure release lids require an additional 400 mm.
[3)] Weight includes main breaker.
[4)] The latter values only for type 1070-7.

195 kW liquid cooling unit

Liquid cooling unit

Nominal ratings				Noise level	Losses			Cooling media		Type code	Frame size
Max dissipated losses	Internal massflow at 120 kPa	External massflow	External pressure loss		Ploss	Ploss coolant	Ploss air	Internal liquid Qty	External liquid Qty		
kW	l/min	l/min	kPa	dB(A)	kW	kW	kW	l	l		
Range 380 to 690 V											
70	100	103	125	51	0.4	0.3	0.1	8	3	ACS800-1007LC-0070	70
195	300	380	130	53	0.9	0.7	0.2	28	8	ACS800-1007LC-0195	195

Frame size	Height mm	Depth mm	Width [1)] mm	Weight kg
70	2003	644	300/-	200
195	2003	644	600/630	400

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

Brake option
Multidrive brake units

ACS800 - [607] - [XXXX] - [3 / 5 / 7] + [XXXX]

Nominal ratings					Duty cycle (1min/5min)		Duty cycle (10s/60s)		Height[2]	Width[1][3]	Weight	Noise	Air flow	Type code	Module type
$P_{br.max}$ kW	R ohm	I_{max} A	I_{rms} A	$P_{cont.}$ kW	P_{br} kW	I_{rms} A	P_{br} kW	I_{rms} A	mm	mm	kg	dB(A)	m³/h		
U_N = 400 V (Range 380 to 415 V)															
353	1.2	545	149	96	303	468	353	545	2130	400	110	64	660	ACS800-607-0320-3	NBRA659
706	2 x 1.2	1090	298	192	606	936	706	1090	2130	800	220	67	1320	ACS800-607-0640-3	2 x NBRA659
1411	4 x 1.2	2180	596	384	1212	1872	1412	2180	2130	1600	440	69	2640	ACS800-607-1280-3	4 x NBRA659
1764	5 x 1.2	2725	745	480	1515	2340	1765	2725	2130	2000	550	70	3300	ACS800-607-1600-3	5 x NBRA659
2117	6 x 1.2	3270	894	576	1818	2808	2118	3270	2130	2400	660	71	3960	ACS800-607-1920-3	6 x NBRA659
353	1.2	545	84	54	167	257	287	444	2130	1200	340	66	2500	ACS800-607-0320-3+D151	NBRA659
706	2 x 1.2	1090	168	108	333	514	575	888	2130	2400	680	69	5000	ACS800-607-0640-3+D151	2 x NBRA659
1058	3 x 1.2	1635	252	162	500	771	862	1332	2130	3600	1020	70	7500	ACS800-607-0960-3+D151	3 x NBRA659
1411	4 x 1.2	2180	336	216	667	1028	1150	1776	2130	4800[1]	1360	71	10000	ACS800-607-1280-3+D151	4 x NBRA659
1764	5 x 1.2	2725	420	270	833	1285	1437	2220	2130	6000[1]	1700	72	12500	ACS800-607-1600-3+D151	5 x NBRA659
2117	6 x 1.2	3270	504	324	1000	1542	1724	2664	2130	7200[1]	2040	73	15000	ACS800-607-1920-3+D151	6 x NBRA659
U_N = 500 V (Range 380 to 500 V)															
403	1.43	571	136	109	317	391	403	498	2130	400	110	64	660	ACS800-607-0400-5	NBRA659
806	2 x 1.43	1142	272	218	634	782	806	996	2130	800	220	67	1320	ACS800-607-0800-5	2 x NBRA659
1208	3 x 1.43	1713	408	327	951	1173	1209	1494	2130	1200	330	68	1980	ACS800-607-1200-5	3 x NBRA659
1611	4 x 1.43	2284	544	436	1268	1564	1612	1992	2130	1600	440	69	2640	ACS800-607-1600-5	4 x NBRA659
2014	5 x 1.43	2855	680	545	1585	1955	2015	2490	2130	2000	550	70	3300	ACS800-607-2000-5	5 x NBRA659
2417	6 x 1.43	3426	816	654	1902	2346	2418	2988	2130	2400	660	71	3960	ACS800-607-2400-5	6 x NBRA659
403	1.35	605	67	54	167	206	287	355	2130	1200	340	66	2500	ACS800-607-0400-5+D151	NBRA659
806	2 x 1.35	1210	134	108	333	412	575	710	2130	2400	680	69	5000	ACS800-607-0800-5+D151	2 x NBRA659
1208	3 x 1.35	1815	201	162	500	618	862	1065	2130	3600	1020	70	7500	ACS800-607-1200-5+D151	3 x NBRA659
1611	4 x 1.35	2420	268	216	667	824	1150	1420	2130	4800[1]	1360	71	10000	ACS800-607-1600-5+D151	4 x NBRA659
2014	5 x 1.35	3025	335	270	833	1030	1437	1775	2130	6000[1]	1700	72	12500	ACS800-607-2000-5+D151	5 x NBRA659
2417	6 x 1.35	3630	402	324	1000	1236	1724	2130	2130	7200[1]	2040	73	15000	ACS800-607-2400-5+D151	6 x NBRA659
U_N = 690 V (Range 525 to 690 V)															
404	2.72	414	107	119	298	267	404	361	2130	400	110	64	660	ACS800-607-0400-7	NBRA669
807	2 x 2.72	828	214	238	596	534	808	722	2130	800	220	67	660	ACS800-607-0800-7	2 x NBRA669
1211	3 x 2.72	1242	321	357	894	801	1212	1083	2130	1200	330	68	1320	ACS800-607-1200-7	3 x NBRA669
1615	4 x 2.72	1656	428	476	1192	1068	1616	1444	2130	1600	440	69	1980	ACS800-607-1600-7	4 x NBRA669
2019	5 x 2.72	2070	535	595	1490	1335	2020	1805	2130	2000	550	70	2640	ACS800-607-2000-7	5 x NBRA669
2422	6 x 2.72	2484	642	714	1788	1602	2424	2166	2130	2400	660	71	3300	ACS800-607-2400-7	6 x NBRA669
404	1.35	835	97	54	167	149	287	257	2130	1200	340	66	2500	ACS800-607-0400-7+D151*)	NBRA669
807	2 x 1.35	1670	194	108	333	298	575	514	2130	2400	680	69	5000	ACS800-607-0800-7+D151*)	2 x NBRA669
1211	3 x 1.35	2505	291	162	500	447	862	771	2130	3600	1020	70	7500	ACS800-607-1200-7+D151*)	3 x NBRA669
1615	4 x 1.35	3340	388	216	667	596	1150	1028	2130	4800[1]	1360	71	10000	ACS800-607-1600-7+D151*)	4 x NBRA669
2019	5 x 1.35	4175	485	270	833	745	1437	1285	2130	6000[1]	1700	72	12500	ACS800-607-2000-7+D151*)	5 xNBRA669
2422	6 x 1.35	5010	582	324	1000	894	1724	1542	2130	7200[1]	2040	73	15000	ACS800-607-2400-7+D151*)	6 x NBRA669

E_r = Energy pulse that the resistor assembly will withstand with the 400 seconds duty cycle. This energy will heat the resistor element from 40 °C to the maximum allowable temperature.

$P_{br,max}$ = Maximum braking power of the NBRA-6xx chopper and SAFUR resistor combination.

Note: The braking energy transmitted to the resistor during any period shorter than 400 seconds may not exceed E_r.

Thus, the standard resistor withstands continuous braking of P_{br}, max typically 20 to 40 seconds (t = E_r / $P_{br,max}$).

R = Recommended braking resistor resistance. Also nominal resistance of corresponding SAFUR resistor. Dedicated resistor for each brake chopper.

I_{max} = Maximum peak current per chopper during braking. Current is achieved with minimum resistor resistance.

I_{rms} = Corresponding rms current per chopper during load cycle.

Heat loss of brake chopper is 1% of braking power.
Heat loss of section with brake resistors is the same as braking power.

[1] Additional 200 mm junction section needed.
[2] 2130 mm + additional 10 mm is required for marine supports.
[3] Total width of the line-up is the sum of widths of the sections + 30 mm for the end plates.

*) D151 = braking resistor, degree of protection IP21

Multidrive 3-phase high power brake units

Resistors values		Ratings R_{min}							Ratings R_{max}							Type code	Frame size
		No-overload use				Cycle load (1min/5min)			No-overload use				Cycle load (1min/5min)				
R_{min}	R_{max}	I_{dc}	I_{rms}	$P_{contmax}$	I_{max}	I_{dc}	I_{rms}—R_{min}	P_{br}—R_{min}	I_{dc}	I_{rms}	$P_{contmax}$	I_{max}	I_{dc}	I_{rms}—R_{max}	P_{br}—R_{max}		
Ohm	Ohm	A DC	A DC	kW	A DC	A DC	A DC	kW	A DC	A DC	kW	A DC	A DC	A DC	kW		
U_N = 400 V (Range 380 to 415 V)																	
3.5	4.1	390	155	250	185	500	176	320	390	143	250	156	422	148	270	ACS800-607-0250-3	R7i
1.7	2.1	781	310	500	370	999	351	640	781	282	500	312	827	291	530	ACS800-607-0500-3	R8i
1.2	1.4	1171	465	750	555	1499	527	960	1171	424	750	468	1241	436	800	ACS800-607-0750-3	R8i
1.7	2.1	1562	621	1000	740	1998	702	1290	1562	565	1000	625	1655	581	1060	ACS800-607-1000-3	2xR8i
1.2	1.4	2342	931	1510	1110	2997	1053	1930	2342	847	1510	937	2482	872	1600	ACS800-607-1510-3	2xR8i
1.2	1.4	3514	1396	2260	1665	4496	1580	2890	3514	1271	2260	1405	3723	1308	2400	ACS800-607-2260-3	3xR8i
1.2	1.4	4685	1862	3010	2220	5994	2106	3860	4685	1694	3010	1874	4964	1744	3190	ACS800-607-3010-3	4xR8i
1.2	1.4	5856	2327	3770	2775	7493	2633	4820	5856	2118	3770	2342	6205	2180	3990	ACS800-607-3770-3	5xR8i
U_N = 500 V (Range 380 to 500 V)																	
4.3	5.2	390	155	310	185	500	176	400	390	143	310	156	422	148	340	ACS800-607-0310-5	R7i
2.2	2.6	781	310	630	370	999	351	800	781	284	630	312	835	293	670	ACS800-607-0630-5	R8i
1.4	1.7	1171	465	940	555	1499	527	1210	1171	430	940	468	1277	449	1030	ACS800-607-0940-5	R8i
2.2	2.6	1562	621	1260	740	1998	702	1610	1562	568	1260	625	1671	587	1340	ACS800-607-1260-5	2xR8i
1.4	1.7	2342	931	1880	1110	2997	1053	2410	2342	860	1880	937	2555	898	2060	ACS800-607-1880-5	2xR8i
1.4	1.7	3514	1396	2830	1665	4496	1580	3620	3514	1289	2830	1405	3832	1347	3080	ACS800-607-2830-5	3xR8i
1.4	1.7	4685	1862	3770	2220	5994	2106	4820	4685	1719	3770	1874	5110	1795	4110	ACS800-607-3770-5	4xR8i
1.4	1.7	5856	2327	4710	2775	7493	2633	6030	5856	2149	4710	2342	6387	2244	5140	ACS800-607-4710-5	5xR8i
U_N = 690 V (Range 525 to 690 V)																	
6	7.1	390	155	430	185	500	176	550	390	143	430	156	422	148	470	ACS800-607-0430-7	R7i
3	3.6	781	310	870	370	999	351	1110	781	283	870	312	833	293	920	ACS800-607-0870-7	R8i
2	2.4	1171	465	1300	555	1499	527	1660	1171	425	1300	468	1249	439	1390	ACS800-607-1300-7	R8i
3	3.6	1562	621	1730	740	1998	702	2220	1562	567	1730	625	1665	585	1850	ACS800-607-1730-7	2xR8i
2	2.4	2342	931	2600	1110	2997	1053	3330	2342	850	2600	937	2498	878	2770	ACS800-607-2600-7	2xR8i
2	2.4	3514	1396	3900	1665	4496	1580	4990	3514	1275	3900	1405	3746	1316	4160	ACS800-607-3900-7	3xR8i
2	2.4	4685	1862	5200	2220	5994	2106	6650	4685	1700	5200	1874	4995	1755	5540	ACS800-607-5200-7	4xR8i
2	2.4	5856	2327	6500	2775	7493	2633	8320	5856	2125	6500	2342	6244	2194	6930	ACS800-607-6500-7	5xR8i

Frame size	Dimensions				Noise level		Cooling media
	Height [1]	Width bottom entry	Width top exit	Depth 1			Air flow
	mm	mm	mm	mm	dB(A)	dB(A)[2]	m³/h
R7i	2003	400	400	644	72	-	800
R8i	2130	500	700	644	72	60	1280
R8i	2130	500	700	644	72	60	1280
2xR8i	2130	1000	1400	644	74	62	2560
2xR8i	2130	1000	1400	644	74	62	2560
3xR8i	2130	1500	2100	644	76	64	3840
4xR8i	2130	2000	2800	644	76	64	5120
5xR8i	2130	2500	3500	644	77	65	6400

[1] IP21 and IP42. IP54 additional 190 mm to the height of each R8i cabinet.
[2] Average noise level with controlled cooling fan.

Note: 400 mm free space needed above cabinet.

Resistor
R_{min} = Minimum allowed resistance value of the brake resistor for one phase of the brake module.
R_{max} = Resistance value of the brake resistor for one phase of the brake module corresponding to the maximum achieved continuous braking power.

Note: Connect one resistor per brake module phase. For example, a brake unit of frame size 2xR8i including two brake modules –> 2 x 3 resistors are needed.

Typical ratings for no-overload use
I_{dc} = Total input DC current of brake unit.
I_{rms} = Total rms DC output phase current of brake unit.
I_{max} = Peak brake current (DC) per chopper module phase.
$P_{cont.max}$ = Maximum continuous braking power per brake unit.

Cyclic load (1 min / 5 min)
I_{dc} = Total input DC current of brake unit during a period of 1 minute with braking power P_{br}.
I_{rms} = Total rms DC current per brake unit phase during a period of 1 minute with braking power P_{br}.
P_{br} = Short term braking power per brake unit allowed for one minute every 5 minutes.

Liquid-cooled multidrive 3-phase high power brake units

Resistor data		Nominal ratings		No-overload use	Cycle load* (1min/5min)			Noise level	Dissipation to liquid			Dynamic Braking Unit	Frame
R_{min}	R_{max}	$I_{dc\ peak}$	I_{rms}	$P_{contmax}$	$I_{dc\ peak}$	I_{rms}	P_{br}		(chopper)	Massflow	Liquid Qty	Type	INU
Ohm	Ohm	A DC	A DC	kW	A DC	A DC	kW	dB(A)	kW	l/min	l		
U_N = 400 V (Range 380 to 415 V)													
3 x 3.5 Ohm	3 x 4.1 Ohm	390	155	250	500	176	320	53	2.5	13	3	ACS800-607LC-0250-3	R7i
3 x 1.7 Ohm	3 x 2.1 Ohm	781	310	500	999	351	640	53	7.1	13	3	ACS800-607LC-0500-3	R8i
3 x 1.2 Ohm	3 x 1.4 Ohm	1171	465	750	1499	527	960	53	9	13	3	ACS800-607LC-0750-3	R8i
2 x (3 x 1.7) Ohm	2 x (3 x 2.1) Ohm	1562	621	1000	1998	702	1290	55	13.9	26	6	ACS800-607LC-1000-3	2xR8i
2 x (3 x 1.2) Ohm	2 x (3 x 1.4) Ohm	2342	931	1510	2997	1053	1930	55	17.5	26	6	ACS800-607LC-1510-3	2xR8i
3 x (3 x 1.2) Ohm	3 x (3 x 1.4) Ohm	3514	1396	2260	4496	1580	2890	57	26	39	9	ACS800-607LC-2260-3	3xR8i
4 x (3 x 1.2) Ohm	4 x (3 x 1.4) Ohm	4685	1862	3010	5994	2106	3860	58	34.1	52	12	ACS800-607LC-3010-3	4xR8i
5 x (3 x 1.2) Ohm	5 x (3 x 1.4) Ohm	5856	2327	3770	7493	2633	4820	59	42.4	65	15	ACS800-607LC-3770-3	5xR8i
U_N = 500 V (Range 380 to 500 V)													
3 x 4.3 Ohm	3 x 5.2 Ohm	390	155	310	500	176	400	53	2.6	13	3	ACS800-607LC-0310-5	R7i
3 x 2.2 Ohm	3 x 2.6 Ohm	781	310	630	999	351	800	53	6.9	13	3	ACS800-607LC-0630-5	R8i
3 x 1.4 Ohm	3 x 1.7 Ohm	1171	465	940	1499	527	1210	53	8.8	13	3	ACS800-607LC-0940-5	R8i
2 x (3 x 2.2) Ohm	2 x (3 x 2.6) Ohm	1562	621	1260	1998	702	1610	55	13.3	26	6	ACS800-607LC-1260-5	2xR8i
2 x (3 x 1.4) Ohm	2 x (3 x 1.7) Ohm	2342	931	1880	2997	1053	2410	55	17	26	6	ACS800-607LC-1880-5	2xR8i
3 x (3 x 1.4) Ohm	3 x (3 x 1.7) Ohm	3514	1396	2830	4496	1580	3620	57	25.4	39	9	ACS800-607LC-2830-5	3xR8i
4 x (3 x 1.4) Ohm	4 x (3 x 1.7) Ohm	4685	1862	3770	5994	2106	4820	58	33.2	52	12	ACS800-607LC-3770-5	4xR8i
5 x (3 x 1.4) Ohm	5 x (3 x 1.7) Ohm	5856	2327	4710	7493	2633	6030	59	41.3	65	15	ACS800-607LC-4710-5	5xR8i
U_N = 690 V (Range 525 to 690 V)													
3 x 6 Ohm	3 x 7.1 Ohm	390	155	430	500	176	550	53	2.4	13	3	ACS800-607LC-0430-7	R7i
3 x 3 Ohm	3 x 3.6 Ohm	781	310	870	999	351	1110	53	8	13	3	ACS800-607LC-0870-7	R8i
3 x 2 Ohm	3 x 2.4 Ohm	1171	465	1300	1499	527	1660	53	8.7	13	3	ACS800-607LC-1300-7	R8i
2 x (3 x 3) Ohm	2 x (3 x 3.6) Ohm	1562	621	1730	1998	702	2220	55	15.6	26	6	ACS800-607LC-1730-7	2xR8i
2 x (3 x 2) Ohm	2 x (3 x 2.4) Ohm	2342	931	2600	2997	1053	3330	55	17.1	26	6	ACS800-607LC-2600-7	2xR8i
3 x (3 x 2) Ohm	3 x (3 x 2.4) Ohm	3514	1396	3900	4496	1580	4990	57	25.3	39	9	ACS800-607LC-3900-7	3xR8i
4 x (3 x 2) Ohm	4 x (3 x 2.4) Ohm	4685	1862	5200	5994	2106	6650	58	33.6	52	12	ACS800-607LC-5200-7	4xR8i
5 x (3 x 2) Ohm	5 x (3 x 2.4) Ohm	5856	2327	6500	7493	2633	8320	59	41.6	65	15	ACS800-607LC-6500-7	5xR8i

Dimensions

Frame	Dimensions			
Size	Height[1] [2]	Width[3]	Depth[1]	Weight
	mm	mm	mm	kg
R7i	2003	400/700	644	300
R8i	2003	400/700	644	300
2xR8i	2003	800/1400	644	600
3xR8i	2003	1200/2100	644	900
4xR8i	2003	1600/2800	644	1200
5xR8i	2003	2000/3500	644	1500

[1] Total height with marine supports is 2088 mm and depth with marine handles 718 mm.
[2] Pressure release lids require an additional 400 mm.
[3] First values for bottom exit and latter values for top exit.

Resistor

R_{min} = Minimum allowed resistance value of the brake resistor for one phase of the brake module.

R_{max} = Resistance value of the brake resistor for one phase of the brake module corresponding to the maximum achieved continuous braking power.

Note: Connect one resistor per brake module phase. For example, a brake unit of frame size 2xR8i including two brake modules –> 2 x 3 resistors are needed.

Typical ratings for no-overload use

I_{dc} = Total input DC current of brake unit.
I_{rms} = Total rms DC output phase current of brake unit.
I_{max} = Peak brake current (DC) per chopper module phase.
$P_{cont.max}$ = Maximum continuous braking power per brake unit.

Cyclic load (1 min / 5 min)

I_{dc} = Total input DC current of brake unit during a period of 1 minute with braking power P_{br}.
I_{rms} = Total rms DC current per brake unit phase during a period of 1 minute with braking power P_{br}.
P_{br} = Short term braking power per brake unit allowed for one minute every 5 minutes.

Brake chopper options for ACS800-07LC, -17LC and -37LC

Nominal ratings					Duty cycle (1 min / 5 min)		Duty cycle (10 s / 60 s)		Height	Width	Weight	Noise	Dissipation to liquid	Mass-flow	Liquid qty	Module type
$P_{br.\ max}$	R	I_{max}	I_{rms}	$P_{cont.}$	$P_{br.}$	I_{rms}	$P_{br.}$	I_{rms}								
kW	ohm	A	A	kW	kW	A	kW	A	mm	mm	kg	dB(A)	kW	kg/h	l	
U_N = 690 V (Range 525 to 690 V)																
404	2.72	414	107	119	298	267	404	361	2003	400	200	45	1.9	2	3.1	NBRW669
807	2.72	414	107	238	596	533	808	361	2003	800	400	48	3.8	4	6.2	2 x NBRW669
1211	2.72	414	107	357	894	533	1212	361	2003	1200	600	50	5.6	6	9.3	3 x NBRW669
1615	2.72	414	107	476	1192	533	1616	361	2003	1600	800	51	7.5	8	12.4	4 x NBRW669
2019	2.72	414	107	595	1490	533	2020	361	2003	2000	1000	51	9.4	10	15.5	5 x NBRW669
2422	2.72	414	107	714	1788	533	2424	361	2003	2400	1200	52	11.3	12	18.6	6 x NBRW669

EMC filters

1st environment vs 2nd environment

1st environment (category C1 & C2)

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

2nd environment (category C3 & C4)

"2nd environment includes all establishments other than those directly connected to a low voltage power supply network which supplies buildings used for domestic purposes."

EMC - Electromagnetic compatibility and ACS800

The electrical/electronic equipment must be able to operate without problems within an electromagnetic environment. This is called immunity. The ACS800 is designed to have adequate immunity against interference from other equipment. Likewise, the equipment must not disturb or interfere with any other product or system within its locality. This is called emission. Each ACS800 model can be equipped with an built-in filter to reduce high frequency emission.

All declarations concerning CE marking can be found on the www.abb.com/drives website.

EMC standards

The EMC product standard (EN 61800-3 + Amendment A11 (2000)) covers the specific EMC requirements stated for drives (tested with motor and cable) within the EU.

EMC standards such as EN 55011 or EN 61000-6-3/4 apply to industrial and household equipment and systems containing a drive component. Drive units complying with requirements of EN 61800-3 are always compliant with the comparable categories in EN 55011 and EN 61000-6-3/4, but not necessarily vice versa. EN 55011 and EN 61000-6-3/4 do not specify cable length nor require a motor to be connected as a load. The emission limits are comparable according to the following table showing EMC standards.

Selecting an EMC filter

The following table gives the correct filter selection.

EMC standards

EN61800-3 (2004) product standard	EN 55011, product family standard for industrial, scientific and medical (ISM) equipment	EN61000-6-4, generic emission standard for industrial environments	EN61000-6-3, generic emission standard for residential, commercial and light-industrial environment
Category C1 (1st environment)	Group 1 Class B	Not applicable	Applicable
Category C2 (1st environment)	Group 1 Class A	Applicable	Not applicable
Category C3 (2nd environment)	Group 2 Class A	Not applicable	Not applicable
Category C4 (2nd environment)	Not applicable	Not applicable	Not applicable

Type	Voltage	Frame sizes	1st environment, restricted distribution, C2, grounded network (TN) up to 1000A	2nd environment, C3, grounded network (TN)
ACS800-207	400 to 500	R7i-nxR8i	+E202	Standard
ACS800-207LC	690		-	Standard
ACS800-307	400 to 500	D3-nxD4	+E202	Standard
ACS800-307LC	690		-	Standard

Du/dt filters

As with all frequency converters employing the most modern IGBT inverter technology, the ACS800 output comprises - regardless of output frequency - pulses of approximately 1.35 times the mains network voltage with a very short rise time. The voltage can be almost double at the motor terminals, depending on motor cable properties.

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 emission of the motor cable as well as high frequency losses and bearing currents in the motor.

When is it needed? The need for du/dt filtering depends on the motor insulation. For information on the construction of the motor insulation, consult the manufacturer. If the motor does not fulfil the following requirements, the lifetime of the motor might shorten.

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 see the ACS800 hardware manuals.

Filter selection table for ACS800

Motor type	Nominal mains voltage (UN)	Motor insulation requirement
ABB M2 and M3 motors	$U_N \leq 500$ V	Standard insulation system.
	$500 V < U_N \leq 600$ V	Standard insulation system in conjunction with du/dt filtering or reinforced insulation.
	$600 V < U_N \leq 690$ V	Reinforced insulation system in conjunction with du/dt filtering.
ABB form-wound HXR and AM motors	$380 V < U_N \leq 690$ V	Standard insulation system.
ABB random-wound HXR and AM motors	$380 V < U_N \leq 690$ V	Check motor insulation system with the motor manufacturer. du/dt filtering with voltages over 500 V.
Non-ABB Random-wound and Form-wound	$U_N \leq 420$ V	Insulation system must withstand $\hat{U}_{LL}=1300$ V.
	$420 V < U_N \leq 500$ V	If the insulation system withstands $\hat{U}_{LL}=1600$ V and $\Delta t=0.2$ µs, du/dt filtering is not required. With du/dt filtering, the insulation system must withstand $\hat{U}_{LL}=1300$ V.
	$500 V < U_N \leq 600$ V	If the insulation system withstands $\hat{U}_{LL}=1800$ V, du/dt filtering is not required. With du/dt filtering, the insulation system must withstand $\hat{U}_{LL}=1600$ V.
	$600 V < U_N \leq 690$ V	If the motor insulation system withstands $\hat{U}_{LL}=2000$ V and $\Delta t=0.3$ µs, du/dt filtering is not required. With du/dt filtering, the insulation system must withstand $\hat{U}_{LL}=1800$ V.

Symbol	Explanation
U_N	Nominal mains voltage.
$\hat{U}_{LL}$	Peak line to line voltage at motor terminals.
Δt	Rise time, i.e. interval during which line to line voltage at motor terminals changes from 10% to 90% of full voltage range.

Standard user interface
Standard I/O

Analog and digital I/O channels are used for different functions such as control, monitoring and measurement purposes (e.g. motor temperature). In addition, optional I/O extension modules are available providing additional analog or digital I/O connections.

Below are the standard drive control I/O of the ABB industrial drive with factory macro. For other ACS800 application macros the functions may be different.

Standard I/O on RMIO-11 and RMIO-12 board

- R2i - R5i: RMIO-11 at 400 V and 500 V
- R7i, R8i -nxR8i and all 690 V units: RMIO-12
- 3 analog inputs: differential, common mode voltage ± 15 V, galvanically isolated as a group
  - One ± 0(2) to 10 V, resolution 11 bits
  - Two 0(4) to 20 mA, resolution 11 bits
- 2 analog outputs:
  - 0(4) to 20 mA, resolution 10 bits
- 7 digital inputs: galvanically isolated as a group (can be split in two groups)
  - Input voltage 24 V DC
  - Filtering (HW) time 1 ms
- 3 digital (relay) outputs:
  - Changeover contact
  - 24 V DC or 115/230 V AC
  - Max. continuous current 2 A
- Reference voltage output:
  - ± 10 V ± 0.5%, max. 10 mA
- Auxiliary power supply output:
  - +24 V ± 10%, max. 250 mA

X20		
1	VREF-	Reference voltage -10 V DC,
2	AGND	$R_L \geq 1$ kohm

X21		
1	VREF+	Reference voltage 10 V DC,
2	AGND	$R_L \geq 1$ kohm
3	AI1+	Speed reference 0(2) to 10 V,
4	AI1-	$R_{in} > 200$ kohm
5	AI2+	By default, not in use. 0(4) to 20 mA,
6	AI2-	$R_{in} = 100$ ohm
7	AI3+	By default, not in use. 0(4) to 20 mA,
8	AI3-	$R_{in} = 100$ ohm
9	AO1+	Motor speed 0(4) to 20 mA ≙ 0...motor
10	AO1-	nom. speed, $R_L \leq 700$ ohm
11	AO2+	Output current 0(4) to 20 mA ≙ 0...motor
12	AO2-	nom. current, $R_L \leq 700$ ohm

X22		
1	DI1	Stop/Start
2	DI2	Forward/Reverse
3	DI3	By default, not in use.
4	DI4	Acceleration & deceleration select
5	DI5	Constant speed select
6	DI6	Constant speed select
7	+24 VD	+24 V DC max. 100 mA
8	+24 VD	
9	DGND1	Digital ground
10	DGND2	Digital ground
11	DIIL	Start interlock (0 = stop)

X23		Power supply
1	+24 V	Auxiliary power supply output,
2	GND	non-isolated, 24 V DC 250 mA

X25		
1	RO11	Relay output 1: ready
2	RO12	
3	RO13	

X26		
1	RO21	Relay output 2: running
2	RO22	
3	RO23	

X27		
1	RO31	Relay output 3: fault (-1)
2	RO32	
3	RO33	

Drive control unit RDCU-12C (motor control unit RMIO-12 is inside the RDCU).

Options
Control panel
Control panel mounting platforms

The industrial drive control panel (+J400) has a multilingual alphanumeric display (4 lines x 20 characters) with plain text messages in 14 languages.

The control panel is removable and can be mounted on the drive enclosure or remotely.

```
1 L ->        1242.0 RPM I
SPEED         1242.0 RPM
CURRENT        76.00 A
TORQUE         86.00 %
```

Start-up assistant

Easy commissioning with the start-up assistant in standard control program. The start-up assistant actively guides you through the commissioning procedure step by step. It also has a unique on-line help function.

```
MOTOR SETUP 4/10
MOTOR NOM CURRENT ?
[75.5 A]
ENTER: OK   RESET: BACK
```

Actual value display

The control panel can display three separate actual values simultaneously.

Examples of these are:

– Motor speed
– Frequency
– Current
– Torque
– Power
– References
– DC bus voltage
– Output voltage
– Heatsink temperature
– Operating hours
– Kilowatt hours

Fault memory

An built-in fault memory stores information relating to the latest 64 faults, each with a time stamp.

```
1 L->        1242.0 RPM I
2 LAST FAULT
OVERVOLTAGE
          1121 H  1 MIN
```

Parameter copying

The parameter copy feature allows all drive parameters to be copied from one frequency converter to another to simplify commissioning.

```
1 L->        1242.0 RPM I
UPLOAD       <= <=
DOWNLOAD     => =>
CONTRAST   4
```

Centralised control

One panel can control up to 31 drives.

```
   ->  ->  <-  ->
   I   21  40  100
   ->
   111
```

Easy programming

Parameters are organised into groups for easy programming.

```
1 L ->   1242.0 RPM I
11 REFERENCE SELECT
3 EXT REF 1 SELECT
AI1
```

Control panel mounting platforms (+J410 and +J413)

On the reverse of the control panel are screw holes from where the control panel can be fixed to a cabinet door. Panel-mounting platforms, which allow the panel to be removed, are also available. There are two variants of the panel-mounting platform:

RPMP-11 (+J410) for door mounting
RPMP-21 (+J413) for panel mounting inside the cabinet

Options
Optional I/O

Standard I/O can be extended by using analog and digital extension modules or pulse encoder interface modules which are mounted in the slots on the ACS800 control board. The control board has two slots available for extension modules. More extension modules can be added with the I/O extension adapter which has three slots. The available number and combination of I/O's depends on the control software used. The standard application software supports 1 analog and 3 digital extension modules.

Optional I/O

Analog I/O extension module RAIO-01 (+L500)
– 2 analog inputs: galvanically isolated from 24 V
   supply and ground
   – ± 0(2) to 10 V, 0(4) to 20 mA or ± 0 to 2 V,
      resolution 12 bits
– 2 analog outputs: galvanically isolated from 24 V supply
   and ground
   – 0(4) to 20 mA, resolution 12 bits

Digital I/O extension module RDIO-01 (+L501)
– 3 digital inputs: individually galvanically isolated
   – Signal level 24 to 250 V or 115/230 V AC
– 2 relay (digital) outputs:
   – Changeover contact
   – 24 V DC or 115/230 V AC
   – Max. 2 A

Pulse encoder interface module RTAC-01 (+L502)
– 1 incremental encoder input
– Channels A, B and Z (zero pulse)
– Signal level and power supply for the encoder is 24 or 15 V
– Single ended or differential inputs
– Maximum input frequency 200 kHz

I/O extension adapter AIMA-01
– Three slots for I/O extension modules
– Connection to the ACS800 control board through optic link
– Dimensions: 78 × 325 × 28 mm
– Mounting: onto 35 × 7.5 mm DIN rail
– External power supply connection
– Supply voltage: 24 V DC ± 10%
– Current consumption: depends on connected I/O extension
   modules

Analog I/O extension module
RAIO-01

Pulse encoder interface module
RTAC-01

I/O extension adapter
AIMA-01

Options
Fieldbus control

ABB industrial drives have connectivity to major automation systems. This is achieved with a dedicated gateway concept between the fieldbus systems and ABB drives.

The fieldbus gateway module can easily be mounted inside the drive. The wide selection of fieldbus gateway modules enable drive integration with today's automation systems.

Manufacturing flexibility

Drive control
The drive control word (16 bit) provides a wide variety of functions from start, stop and reset to ramp generator control. Typical setpoint values such as speed, torque and position can be transmitted to the drive with 15 bit accuracy.

Drive monitoring
A set of drive parameters and/or actual signals, such as torque, speed, position, current etc., can be selected for cyclic data transfer providing fast data for operators and the manufacturing process.

Drive diagnostics
Accurate and reliable diagnostic information can be obtained via the alarm, limit and fault words, reducing the drive downtime and therefore also the downtime of the manufacturing process.

Drive parameter handling
Total integration of the drives in the production process is achieved by single parameter read/write up to complete parameter set-up or download.

Reduced installation and engineering effort

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

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

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

Currently available gateways

Fieldbus	Protocol	Device profile	Baud rate
PROFIBUS (+K454)	DP, DPV1	PROFIdrive ABB Drives*)	9.6 kbit/s - 12 Mbit/s
DeviceNet (+K451)	-	AC/DC drive ABB Drives*)	125 kbit/s - 500 kbit/s
CANopen (+K457)	-	Drives and motion control ABB Drives*)	10 kbit/s - 1 Mbit/s
ControlNet (+K462)	-	AC/DC drive ABB Drives*)	5 Mbit/s
Modbus (+K458)	RTU	ABB Drives*)	600 bit/s - 19.2 kbit/s
Ethernet (+K466)	Ethernet IP Modbus/TCP	ABB Drives*), AC/DC drive ABB Drives*)	10 Mbit/s / 100 Mbit/s
Ethernet (+K467)	PROFINET IO Modbus/TCP	PROFIdrive ABB Drives*)	10 Mbit/s / 100 Mbit/s
InterBUS-S (+K453)	I/O, PCP	ABB Drives*)	500 kbit/s
Lon Works® (+K452)	LonTalk®	Variable speed motor drive	78 kbit/s
EtherCAT® (+K469)	EtherCAT®	Drive and motion control ABB Drives *)	100 Mbit/s
EthernetPOWERLINK (+K470)	EthernetPOWERLINK	Drive and motion control ABB Drives *)	100 Mbit/s

*) Vendor specific profile

Options
Remote monitoring and diagnostics tool

Browser-based, user-friendly

The intelligent ethernet NETA-01 module gives simple access to the drive via the internet, communicating via a standard web browser. The user can set up a virtual monitoring room wherever there is a PC with an Internet connection or via a simple dial-up modem connection. This enables remote monitoring, configuration, diagnostics and, when needed, control. The drive can also provide process related information, such as load level, run time, energy consumption and I/O data, the bearing temperature of the driven machine, for instance.

This opens up new possibilities for the monitoring and maintenance of unmanned applications across a range of industries, for instance water, wind power, building services and oil & gas, as well as any application where the user needs access to the drives from more than one location. It also provides an opportunity for OEMs and system integrators to support their installed base globally.

No PC needed at local end

The intelligent ethernet module has an embedded server with the necessary software for the user interface, communication and data storage. This gives ease of access, realtime information and the possibility for two-way communication with the drive, enabling immediate response and actions, saving time and money. This is possible without using a PC at the local end, as required by other remote solutions.

Powerful and versatile

Up to nine drives can be connected to the intelligent ethernet module via fiber optic links. It is available as an option for new drives, as well as an upgrade for existing systems. Access to the module is secured by user ID and passwords.

With an additional Modbus TCP/OPC server the information provided by NETA-01 can be integrated with the monitoring systems.

Features

– Virtual monitoring room for
  – Monitoring
  – Configuration of parameters
  – Diagnostics
  – Control, if needed
– Browser-based access via
  – Intra-/extra-/internet or
  – Simple dial-up modem connection
– No PC needed at the local end
– Can be used as a Modbus/TCP bridge for process control
– Supports integration with SCADA systems

Standard control programs

System Control Program

Based on Direct torque control technology, the ACS800 offers highly advanced features as standard. The ACS800 system control program provides solutions to virtually all AC drives applications.

The software is targeted for multi-motor machines producing or processing metal, paper, plastics, textiles, rubber and cement, and for numerous other demanding applications. The basic control modes are speed control and torque control. Fast communication with the overriding controller can exchange operative data (references, command words) and support data (configuration data, diagnostics). Proprietary (DDCS, Drive bus) and generic (PROFIBUS, InterBus, DeviceNet) protocols enable the drives to be linked to controllers, PLC and PCs.

The major features are the soft changeover between the speed and torque control modes, drooping in speed control, fast and versatile configurable master-follower link between two or more drives, and inertia compensation.

In addition to parameters, industrial drives have the possibility for function block programming as standard. Adaptive programming with 26 programmable function blocks in 2 execution time levels makes it possible to replace, for example, relays or even a PLC in some applications. Adaptive programming can be done either by the standard control panel or DriveAP2, a user-friendly PC tool.

Benefits with system control

- Extended communication capability, 24 data words available for both directions between the drive and overriding system.
- Two different torsional oscillation damping functions available to damp mechanical oscillations.
- PT100 or PTC measurement (max. 2 motors)
- Thermal model for motor cable protection
- Motor fan control with diagnostics
- Freely programmable outputs: analog (max. 4) and digital (max. 5)
- Speed control gain as a function of output on low speed or as a function of motor frequency for torque controlled application
- Extended internal communication between the line supply unit and inverter unit

Control features

A complete set of standard software features offers premium functionality and flexibility.

- Accurate speed control
- Accurate torque control without speed feedback
- Adaptive programming
- Controlled torque at zero speed
- DC hold
- DC magnetizing
- Diagnostics
- Reduced run function with parallel connected inverter modules
- Hand/Auto function for local and remote operation selection
- Flux braking
- Flux optimization
- IR compensation
- Motor identification
- Parameter lock
- Power loss ride-through
- Process PID control
- Programmable I/O
- Scalar control
- Speed controller tuning
- User-selectable acceleration and deceleration ramps
- User Macro 1&2 for user's own parameter settings
- Master-Follower applications with several control alternatives:
  - torque-controlled followers
  - speed-controlled followers
  - speed-controlled followers with load share function
  - on-line changeable process master(s) with CACP control program (separate RDCU unit)
  - diagnostics and interlocking to master from 1…3 follower in M/F link. E.g. follower's status can be interlocked for master.

Standard control programs

Pre-programmed protection functions

A wide range of features provides protection for the drive, motor and the process.

- Ambient temperature
- DC overvoltage
- DC undervoltage
- Drive temperature
- Input phase loss
- Overcurrent
- Power limits
- Short circuit

Programmable protection functions

- Adjustable power limits
- Control signal supervision
- Critical frequencies lock-out
- Current and torque limits
- Earth fault protection
- External fault
- Motor phase loss
- Motor stall protection
- Motor thermal protection
- Motor underload protection
- Panel loss

Safety related functions

- Integrated emergency stop
- Supports functionality of prevention of unexpected start-up

Standard Control Program

Based on Direct Torque Control technology, the ACS800 offers highly advanced features as standard. The ACS800 standard control program provides solutions to virtually all AC drives applications.

Adaptive programming

In addition to parameters, industrial drives have the possibility for function block programming as standard.

Adaptive programming with 15 programmable function blocks makes it possible to replace, for example, relays or even a PLC in some applications. Adaptive programming can be done either by the standard control panel or DriveAP, a user-friendly PC tool.

Standard control macros

The ACS800 features built-in, pre-programmed application macros for configuration of such parameters as inputs, outputs and signal processing.

- FACTORY SETTINGS for basic industrial applications
- HAND/AUTO CONTROL for local and remote operation
- PID CONTROL for closed loop processes
- SEQUENTIAL CONTROL for repetitive cycles
- TORQUE CONTROL for processes where torque control is required
- USER MACRO 1 & 2 for user's own parameter settings

Optional control programs
Control solutions for different applications

ABB provides a set of ready-made control solutions for specific industrial drive applications. Such software adds application-dedicated features and protection without an external PLC - improving productivity and reducing costs. Function blocks are easy to program using the DriveAP PC tool.

Main advantages of ABB's control solutions
– Application-dedicated features
– Improved production
– No external PLC
– User-friendly
– Easy to use
– Energy savings
– Smooth power loss ride-through
– Reduced costs
– Adaptive protection

Multiblock control program
The multiblock control program has been specially designed for system integrators and local engineering because of its flexibility, easy programming, large number of I/O, master-follower link and fieldbus interfaces. Integrated into the drive control board there are over 200 function blocks on 3 time levels: 20 ms, 100 ms and 500 ms. These benefits mean that it is not always necessary to have separate PLC for drive and process control. Function blocks are easy to program using the DriveAP PC tool.

Extended I/O
An analog and digital I/O extension is typically installed on the AIMA-01 I/O extension adapters. Three extension modules can be installed on each I/O extension adapter. The maximum number of I/O connections is 62.

Motion control program
The motion control program is a cost-effective solution for precision positioning and synchronization. Intelligent integrated motion control functions and versatile controllability eliminate the need for an external motion controller, even in the most demanding applications, such as materials handling, packaging, printing and the plastics industry.

Motion control has four operating modes – speed, torque, positioning and synchronization – and also provides the possibility for switching online between two selected modes.

Pump control program
Incorporating all functions commonly required at pumping facilities, pump control program eliminates the need for an external PLC and can help to save energy, reduce downtime, and prevent pump jamming and pipeline blocking. It is easy-to-use software, designed to meet the needs of water and waste utilities, industrial plants and other pump users.

Application programming template
The application programming template is a simple, ready-made application that can easily be modified using a special function block programming tool. The application engineer can easily modify the time levels and insert new functions to control the I/O, start/stop commands, and references etc. This is the most flexible software product for tailor-made customer applications.

Winder and inline control
Winder and inline software products utilize the accurate speed and torque control of the drive in controlling product tension within a process by adjusting the speed or torque, based on the dancer or tension feedback. This precise control ensures high-quality handling of web material. The result is a straightforward, cost-effective solution in web handling applications. Winder control software supports adaptive programming with 15 blocks.

Optional control programs
Control solutions for different applications

Rod pump and PCP/ESP pump control programs
These pump control program products have been specially developed in close cooperation with the oil industry for artificial oil lifting applications. The products not only increase the production and pump efficiency, but also reduce the stress on the complete pump system. The benefits provided include enhanced equipment protection, optimised fluid production, and overall improvement of system performance.

Permanent magnet synchronous motor (PMSM) control program
This control program is available with standard and system control programs. The motor control program is specially made for permanent magnet low-speed – high-torque motors. This offers precise and reliable control at low speed without speed feedback. Permanent magnet control program supports adaptive programming with 15 blocks using standard program and 26 with the system program.

Centrifuge control
Practical programmable sequences for conventional centrifuges. Integrated decanter control for the accurate speed difference control of two shafts, where direct communication via the fibre optic link between bowl and scroll is used.

Crane control program
This control program is designed for different kinds of crane motions - mainly for hoist, trolley and long travel motions.

The ABB crane control program is a flexible control platform, which enables a wide range of connectivity for start, stop and reference logic. Adaptive programming with 15 blocks gives additional flexibility for tailor-made modifications outside the ready-made parameter structure. This is like having a small PLC inside the drive.

Reliable, integrated brake control logic for smooth open and close logic without jerks improves operational safety and performance. Brake acknowledge, torque memory and pre-magnetisations are the key software elements that ensure reliable control.

Different functions as standard increase the safety level of the crane. These include integrated speed match, speed monitor, fast stop, slowdown and end limit logic.

The master-follower logic for up to five motors enables common drum or separate motors with load sharing, or with separate drums and separate motors with shaft synchro

control. Fast switchover logic between stand-alone and master-follower logic increases the operational productivity. Internal homing control logic for position-controlled cranes can also be done with ready-made parameters. The position measurement enables position actual signals in millimeters for further logic.

The load speed control enables optimization of the hoist speed for different loads.

The integrated service counters for maintenance logic enable the different counters to provide information.

An easy-to-use, ready-made solution specifically for cranes.

Crane drive control program
A crane drive control with optimal operational safety and performance built into the drive.

– A fixed, standard and ready-made crane application for different crane applications such as harbor cranes.
– Optimal operational safety and performance built into the drive.
– Ready-to-use with proven crane functionality.
– Available as single-drive or multi-drive with dynamic and regenerative braking.
– Standard, ready-to-use crane solution.

Master/follower control program
Reliable control via the fibre optic link of several drives controlled by one master. This is needed if the motor shafts are coupled together, for example. The master/follower function enables the load to be evenly distributed between the drives.

DriveSize

Dimensioning tool

DriveSize is designed to help select the optimal motor, drive and transformer for the application. Based on user supplied data, the tool calculates and suggests which drive and motors to use. Additionally, the tool can be used to compute currents, network harmonics, and to create documents about dimensioning based on the load data provided. DriveSize uses the technical specifications contained in the ABB motor and drive catalogs.

DriveSize provides default values that can be changed by the user, and provides different options for drive selection. Shortcut keys can be used to quickly navigate around the tool.

Motors, drives, and transformers

DriveSize can accommodate technical information for the following:

– 3-phase standard, customized, EX, and user defined motors
– ABB low voltage AC drives
– Transformers

Highlights

– Select optimal motor, drive, and transformer
– Calculate network harmonics for a single supply unit, or the whole system
– Import user defined motor database
– View dimensioning results graphically and numerically
– Print and save results

DriveSize can be downloaded free from www.abb.com/drives. Follow the PC Tools link.

DriveWindow

Start-up and maintenance tool

A tool for the entire life cycle DriveWindow is designed to support the daily operation of ABB low voltage industrial drives. The tool provides users with capabilities to view, edit, and set drive parameters, as well as advanced functions like drive backup and data logger views. DriveWindow connects to drives using a disturbance free high speed fiber optic network.

Drive startup and maintenance

DriveWindow is used to configure drive parameters during drive commissioning. Drive parameter configuration files can be saved and used to commission new drives or kept as backups. DriveWindow provides a complete listing of the drive parameters and their corresponding values allowing users to view and edit individual parameters. Using the built-in data and fault loggers, users are able to monitor signals and real-time status of the drive. This data can be used for graphical trending of the drive's performance. The data and fault loggers come with functions allowing users to process the data.

PC based drive control

DriveWindow provides a built-in drive control panel allowing users to start, stop, set the direction, speed, and torque reference values of the connected drive.

High speed data access

High speed connections between DriveWindow and drives via the DDCS fiber optic network can be made. The fast access enables oscilloscope-like functionality in the data logger view, where drive information can be viewed graphically and also saved to file.

OPC server

DriveWindow includes DriveOPC, an OPC server for the DDCS network. This can be used as an OPC based commissioning and maintenance interface where OPC networks are used.

Highlights

– View and set drive parameters
– Monitor drive signals, graphically and numerically
– Use high speed data connection to the drive
– Save and compare drive configuration files
– Control the drive using the built-in control panel
– Tune the drives performance
– OPC server
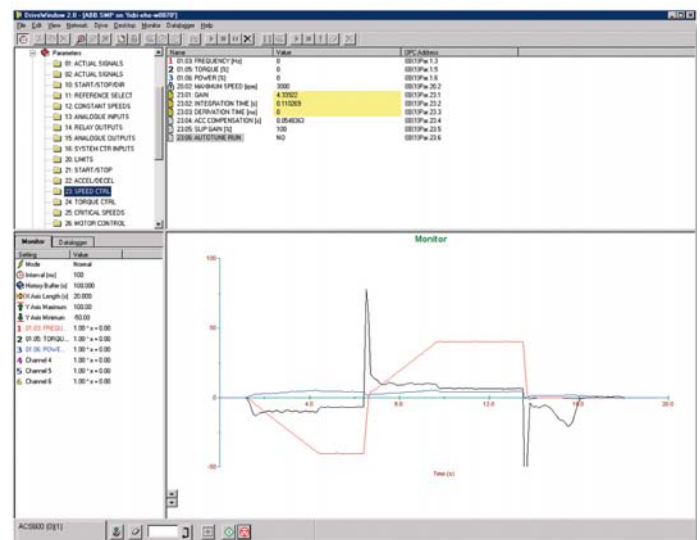
DriveAP

Programming tool

DriveAP is a programming tool for creating, editing and documenting adaptive and multi-block programs. Fifteen function blocks are available for adaptive programming, and over 200 function blocks as well as PROFIBUS and drives I/O blocks may be edited using multi-block programming.

DriveAP supports IEC 61131 and only requires users to have a basic knowledge of block programming in order to use the tool. No special programming knowledge is needed.

Adaptive programs are easy to document either as printed copies or as stored files on the PC.

Operating modes

Stand-alone mode, DriveAP is not connected to a drive. The adaptive programming and multi-block programming can be done in the office and later downloaded to the drive.

Off-line mode, DriveAP is connected to a drive. The adaptive programming and multi-block programming can be carried out in batch mode.

On-line mode, DriveAP is connected to a drive. Changes to the adaptive or multi-block programs are written immediately to the drive and the actual values are shown on the screen in real-time.

DriveAP featues

– Create and modify adaptive programs
– Create and modify multi-block programs
– Document programs
– Read existing program from the drive
– Stand-alone mode
– Off-line mode
– On-line mode
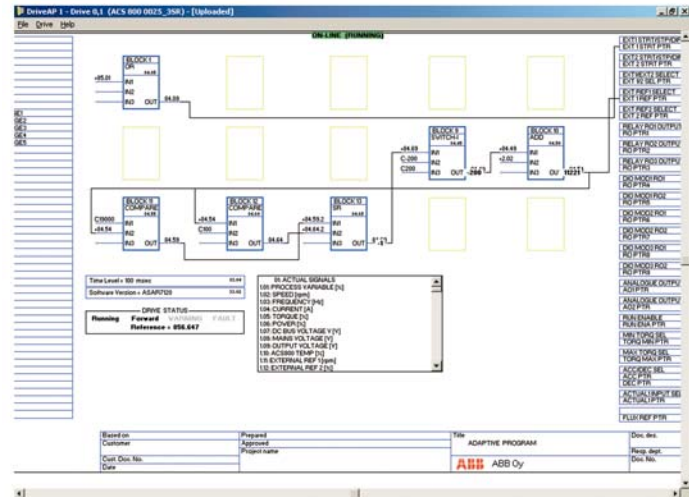
DriveAP with adaptive program of standard application.
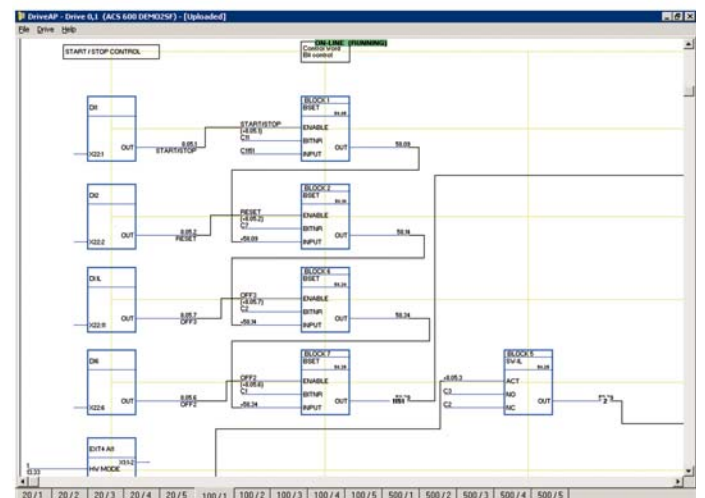
DriveAP with multiblock programming application.

DriveAnalyzer

Start-up and maintenance tool

DriveAnalyzer is a PC tool designed to perform analysis on ABB industrial single drive's performance. The results of the analysis can be used to help tune the drive to achieve better efficiencies and performance of the driven process.

Motor mechanical loads and performance data is recorded by DriveAnalyzer as the basis for the analysis. The tool is not a fault diagnosis tool, it is designed to work with operational drives using the standard control or system control programs. Drive data is collected over time enabling duration graphing and longer run time analysis.

DriveAnlayzer connects to multiple drives collecting data on the network supply which can be used by engineers to ensure the power supply network is optimized for the driven process.

DriveAnalyzer collects data on mechanical power, torque, rotational speed, energy use (kWh), currents, frequency, electrical power, temperatures, the status word, peak value logger information and amplitude logger information.

Highlights
– Motor and drive utilization
– Motor shaft load shape and duration plots
– Machine load behavior analysis
– Power supply and network analysis
– Energy savings analysis
– Read and show peak values
– Read and show amplitude logger registers
– Export results and reports to spreadsheets

Energy conservation report — ABB

Test_one_full_da	
Measurement started	August 06 2007 05:34:50 PM
Measurement ended	August 07 2007 10:12:42 AM
Total length of measurement	**16 hr 37 min 52 sec**

Drives included:
ACS 800 0025_3SR

Energy cost:		
Day Time	0,06	EUR/kWh
Night Time	0,03	EUR/kWh

ACS 800 0025_3SR

Actual Energy Consumed		
Energy consumed at day time	21206,77	kWh
Energy consumed at night time	10587,31	kWh
Energy Total	31794,08	kWh
Energy cost day	1272,41	EUR
Energy cost night	317,62	EUR
Energy cost total	1590,03	EUR

Estimated Energy Consumed in Throttle control		
Energy consumed at day time	75960,13	kWh
Energy consumed at night time	70405,88	kWh
Energy Total	146366,01	kWh
Energy cost day	4557,61	EUR
Energy cost night	2112,18	EUR
Energy cost total	**6669,78**	**EUR**

DriveAnalyzer energy conservation report

DriveOPC

Integration tool

DriveOPC is a software package which allows OLE for Process Control (OPC) communication between Windows applications and ABB industrial drives. It allows Object Linking and Embedding (OLE) for Process Control (OPC) communication. This OPC server is an ideal tool for integrating ABB industrial drives and commercial PC software, and creating PC based control and monitoring systems.

Remote monitoring

DriveOPC enables remote connection over LAN (local area networks). The remote PC can be connected through its IP address (e.g. "164.12.43.33") or by the DNS name (e.g. "Gitas213").

OPC based software

OPC is an industry standard created in cooperation with Microsoft. It is an open architecture interface design, managed by the international OPC foundation. OPC is meant for different kinds of factory automation. DriveOPC is based on the OPC foundation data access standard 1.0A and Microsoft COM/DCOM technology. DriveOPC has full access to all drives, even when remote connection over LAN is used.

High speed communication

DriveOPC uses the DDCS communication protocol on a high-speed fibre optic network, enabling very fast communication between the PC and drives. The fibre optic network is safe and highly immune to external disturbances. The fibre optic network is connected to the PC using either a USB or communication card adapter.

DriveOPC features

DriveOPC supports OPC's data access 1.0A.
Read access to:

– Drive status: local, running, direction, fault, warning, reference
– Signals and parameters
– Fault logger contents
– Event logger contents
– General drive information
– Data logger settings, status and contents

Write access to:

– Drive control: local, start, stop, forward, reverse, coast stop, reset fault, home, teach-in, contactor on/off, reference
– Parameters
– Fault logger clear
– Data logger init, start, trig, clear

Summary of features and options

|	Ordering Code	107 inverters	207 (ISU) regenerative supply unit	307 and 507 (6 p & 12 p DSU supply units)	407 & 807 (6 p & 12 p TSU supply units)	107LC (inverters)	207LC (ISU)	307LC - 1207LC (6p - 24 p DSU supply units)	607 / 607LC (3-phase brake units)
		Frame sizes R2i - 12xR8i	Frame sizes R7i - 12xR8i	Frame sizes D3 - 5xD4	Frame sizes B4-B5	Frame sizes R2i-10xR8i	Frame sizes R8i-10xR8i	Frame sizes D3 - 3xD4	Frame sizes R7i - 5xR8i
Mounting									
Free-standing		●	●	●		●	●	●	●
Cabling									
Supply bottom entry	H350	-	●	●	●	-	●	●	-
Supply top entry	H351	-	□	□	□	-	□	□	-
Inverter bottom exit	H352	●	-	-	-	●	-	-	●
Inverter top exit	H353	□	-	-	-	□	-	-	□
Degree of protection									
IP21 (UL type 1)		●	●	●	●	-	-	-	●/-
IP22 (UL type 1)	B053	□	□	□	□	-	-	-	□/-
IP42 (UL type 1)	B054	□	□	□	□	●	●	●	□/●
IP54 (UL type 12)	B055	□	□	□	□	□	□	□	□/□
IPXXR air outlet duct connection	C130	□	□	□	□	-	-	-	□/-
Motor control									
DTC		●	●	-	-	●	●	-	-
Software									
Start-up assistant		● 1)	-	-	-	● 1)	-	-	-
Adaptive programming with Drive AP		●	-	-	-	●	-	-	-
Multiblock programming application		●	-	-	-	●	-	-	-
Reduced run (redundancy) for parallel connected inverters		●	●	-	-	●	●	-	●
Optional sofware optimised for different applications or for enhanced programmability: for more details see section "Application software and programming"		□	-	-	-	□	-	-	-
Control panel									
Alphanumeric 4*20 charachter control panel	J400	□	□	-	-	□	□	□	□
Control panel mounting platform	J410 or J413	□	□	-	-	□	□	□	□
LED monitoring display LMD	J401	□	□	-	-	□	□	□	□
Control connections (I/O) and communications									
3 pcs analog inputs, programmable, galvanically isolated		●	● 2)	● 2)	● 2)	●	● 2)	● 2)	●
2 pcs analog outputs, programmable		●	● 2)	● 2)	● 2)	●	● 2)	● 2)	●
7 pcs digital inputs, programmable, galvanically isolated - can be divided into two groups		●	● 2)	● 2)	● 2)	●	● 2)	● 2)	●
3 pcs relay outputs, programmable		●	● 2)	● 2)	● 2)	●	● 2)	● 2)	●
UPS external control voltage	G307	□	□	□	□	□	□	□	□
Built-in I/O extension and speed feedback modules: for more details see section "control connections and communications"		□	-	-	-	□	-	-	-
Adapters for several fieldbuses: for more details see section "Control connections and communications"		□	□	-	-	□	□	□	□

Summary of features and options

	Ordering Code	107 inverters	207 (ISU) regenerative supply unit	307 and 507 (6 p & 12 p DSU supply units)	407 & 807 (6 p & 12 p TSU supply units)	107LC (inverters)	207LC (ISU)	307LC - 1207LC (6p - 24 p DSU supply units)	607 / 607LC (3-phase brake units)
		Frame sizes R2i - 12xR8i	Frame sizes R7i - 12xR8i	Frame sizes D3 - 5xD4	Frame sizes B4-B5	Frame sizes R2i-10xR8i	Frame sizes R8i-10xR8i	Frame sizes D3 - 3xD4	Frame sizes R7i - 5xR8i
EMC filters									
EMC 1st environment (Category C2)	E202	-	□ 3)	□ 3)	-	-	□ 3)	□ 3)	-
EMC 2nd environment (Category C3) (can be used also in IT-networks)	E210	□	□ 4)	□ 4)	-	-	□ 4)	□ 4)	□
Line filter									
AC or DC choke and filter		-	-	● 5)	● 6)	-	-	● 5)	-
LCL		-	●	-	-	-	●	-	-
Output filters									
Common mode filter	E208	● 7)	● 7)	-	-	● 7)	● 7)	-	-
du/dt filter	E205	● 8)	-	-	-	● 9)	●	-	● 14)
Braking (see braking unit table)									
Incoming unit apparatus									
Disconnector and contactor for single supply units	F253 F250	-	● 10)	● 10)	-	-	● 11)	● 11)	-
Air circuit breaker	F255	-	● 12)	● 12)	●	-	● 11)	● 11)	-
Drive units									
DC switch	F266	●	-	-	-	●	-	-	-
Safety options									
Prevention of unexpected start-up without /with safety relay	Q950 Q957	□	-	-	-	□	-	-	-
Safe torque-off without/ with safety relay	Q967 Q968	□	-	-	-	□	-	-	-
Emergency stop, category 0/1 with opening the main contactor/breaker	Q951 Q952	-	□	□	□	-	□	□	-
Emergency stop, category 0/1 without opening the main contactor/breaker	Q963 Q964	-	□	□	□	-	□	□	-
Earth fault monitoring, earthed network	Q953	●	●	●	□	●	●	●	●
Earth fault monitoring, unearthed mains	Q954	-	□	□	-	-	□	□	-
Approvals									
CE		● 13)	● 13)	● 13)	● 13)	● 13)	● 13)	● 13)	● 13)
UL, cUL, CSA		□ 13)	□ 13)	□ 13)	□ 13)	□ 13)	□ 13)	□ 13)	□ 13)
GOST R		● 13)	● 13)	● 13)	● 13)	● 13)	● 13)	● 13)	● 13)
C-Tick		●	●	●	●	pending	pending	pending	● 15)

- ● Standard
- □ Option with ordering code
- - Not available

1) Only in standard control program
2) Fixed I/O in ISU, DSU and TSU
3) Option for nxR8i and D4 6-pulse only, 400 V/500 V max 1000 A, only in grounded networks
4) Conducted emission and immunity are fulfilled with standard filtering. Radiated emission and immunity are as option (cabinet construction)
5) In AC side
6) In DC side
7) Standard only in frame sizes R7i-12xR8i
8) Optional in frame sizes R2i-R8i and 400 V/500 V
9) Optional in frame sizes R2i-R7i 400 V/500 V
10) Frame sizes R7i and 1xR8i, D3, 1xD4
11) Contactor for ≤ 600 A line current, air circuit breaker for > 600 A
12) Frame sizes ≥ 2xR8i and ≥ 2xD4 (DSU 12 p contactor 2xD4)
13) Partly available please check with local ABB representative
14) Optional in frame sizes R7i - R8i 400 V/500 V for ACS800-607 and optional for 400 V/500 V for ACS800-607LC
15) ACS800-607LC pending

Services
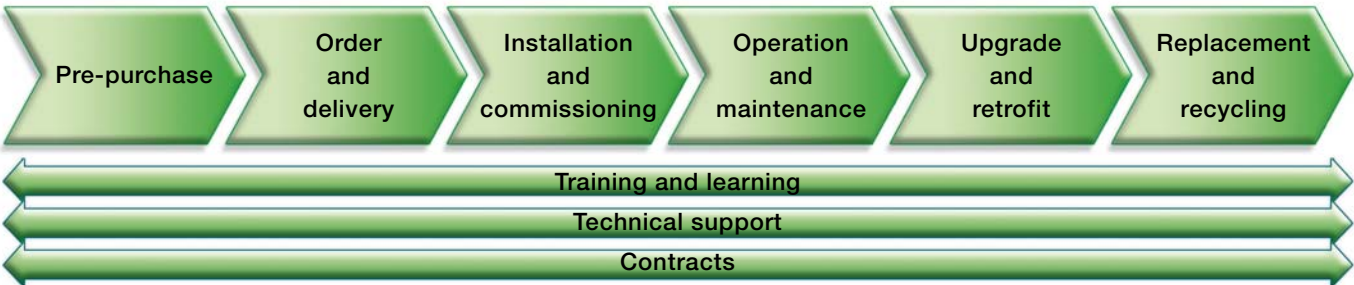
All industries face a common goal: to maximize their production output at the lowest possible cost, while maintaining the highest quality end products. One of ABB's key objectives is to maximize the uptime of its customers' processes by ensuring optimum lifetime of all ABB products in a predictable, safe and low cost manner.

The services offered for ABB low voltage drives span the entire value chain, from the moment a customer makes the first enquiry through to disposal and recycling of the drive. Throughout the value chain, ABB provides training and learning, technical support and contracts. All of this is supported by one of the most extensive global drive sales and service networks.

Maximizing return on investment

At the heart of ABB's services is its drive life cycle management model. All services available for ABB low voltage drives are planned according to this model. For customers it is easy to see which services are available at which phase.

Drive specific maintenance schedules are also based on this four-phase model. Thus, a customer knows precisely the

timing of the part replacements plus all other maintenance related actions. The model also helps the customer when deciding about upgrades, retrofits and replacements.

Professional management of the drive's life cycle maximizes the return on any investment in ABB low voltage drives.

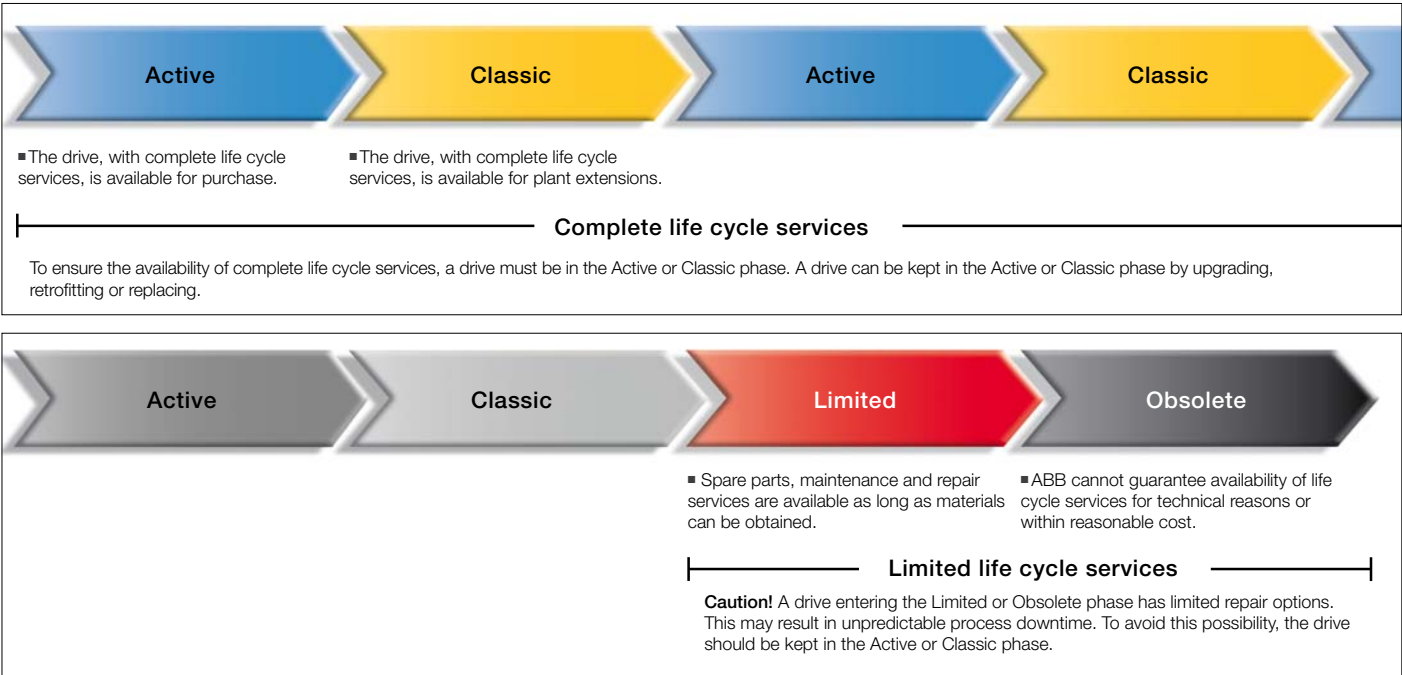## ABB drive life cycle management model

ABB follows a four-phase model for managing drive life cycles, which brings enhanced customer support and improved efficiency.

Examples of life cycle services are: selection and dimensioning, installation and commissioning, preventive and corrective maintenance, remote services, spare part services, training and learning, technical support, upgrade and retrofit, replacement and recycling.

Notes

Contact us

www.abb.com/drives
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