

ABB industrial drive

ACS800 multidrive, 1.5 kW - 5600 kW

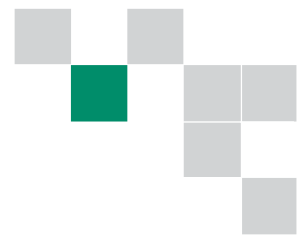
ACS800 multidrive modules, 1.5 kW - 2000 kW

Technical catalogue

Drive^{IT} Low Voltage AC Drive



Type code structure



Type code

ACS800 -
 X07 -
 0003 -
 3 +
 XXXX
 available options

1	Product series
2	Multidrive Ratings and types Voltages Dimensions
	Multidrive modules Ratings and types Voltages Dimensions
3	Filter options
4	Communication options
5	Control solutions
6	PC tools
7	Control panel options Start-up Assistant Adaptive Programming
	Service products
	Contact and web information

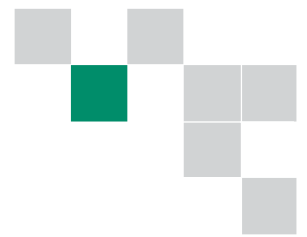
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ABB industrial drive



ACS800

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What is an ABB industrial drive?

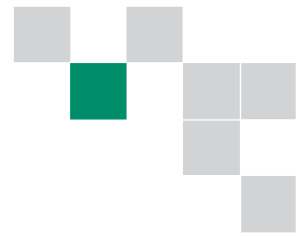
ABB industrial drives are highly flexible AC drives that can be customized to meet the precise needs of your application. The majority of ABB industrial drives are sold to system integrators, OEMs and end-users. These drives cover a wide range of powers and voltages, including industrial voltages up to 690 V.

ABB industrial drives come with a wide range of built in options. A key feature of these drives is its programmability; and order-based customization is an integral part of the offering.

What is an ABB multidrive?

A multidrive is a type of industrial drive, built from industrial drive modules that are connected to a common DC busbar. The common DC busbar is used to supply the drive modules with DC power. The DC power is derived from a single supply unit that is built into the same installation. This construction simplifies the total installation and results in many benefits: savings in cabling, installation and maintenance costs; 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; reduced component count and increased reliability; space savings.





What are ABB multidrive modules?

ABB industrial drive module products are meant for system integrators and/or OEMs who are making their own applications which include the cabinet structure as well as the software features needed.

Standardized, high-technology multidrive modules together with the specific expertise of system integrators and/or OEMs in their particular applications provide dual benefits for end-users.

With their compact and modular design and wide range of powers, voltages and options ABB multidrive modules offer optimized and simple cabinet installation. The flexibility and programmability of the multidrive modules makes them very viable for various application needs in different industry areas.

Space savings, easy maintenance and genuine tailor-made solutions are benefits that end-users really appreciate.

Where can ABB multidrives be used?

Generally speaking, ABB 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 ABB multidrives offer substantial benefits over other types of drive constructions.

ABB multidrive promises

- flexibility
- compact design
- a wide range of options
- adaptive programming
- reduced installation costs





Overview of the construction

An ABB 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)

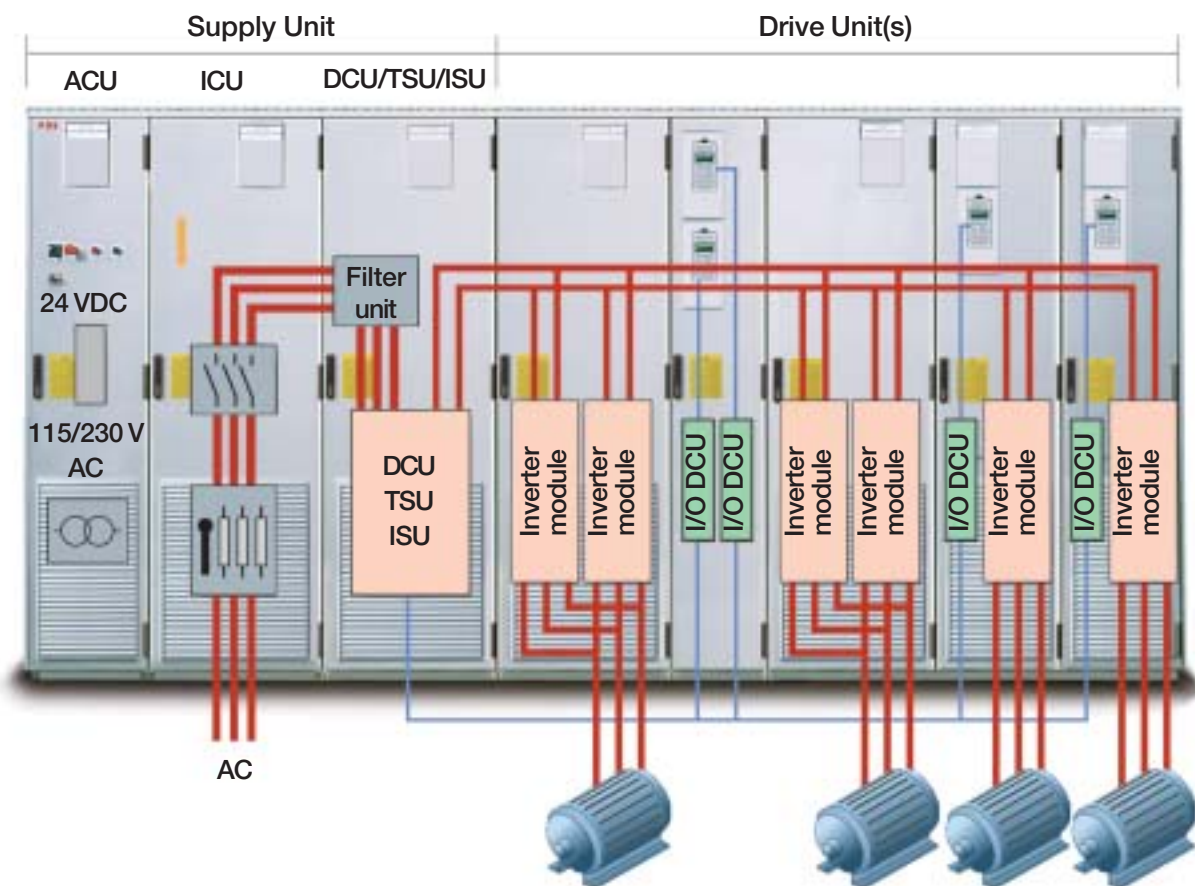
Drive Units

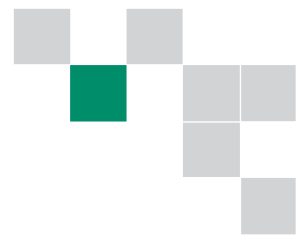
Inverters have built-in capacitors for smoothing the voltage of the DC busbars. The electrical connection to the common DC busbar is fuse protected. However, an optional fuse switch with a capacitor charging device can be selected to disconnect the whole drive unit.

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 interface 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.





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. In the passive mode the converter operates as the rectifier. In the active mode the IGBTs are controlled to keep 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 motor voltage 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.

Dynamic Braking Unit (DBU)

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.

Technical specification



ACS800 - X07 X04 - 0003 - 3 + XXXX

Mains connection

Voltage and power range	3-phase, $U_{3IN} = 380$ to 415 V, $\pm 10\%$ 3-phase, $U_{5IN} = 380$ to 500 V, $\pm 10\%$ 3-phase, $U_{7IN} = 525$ to 690 V, $\pm 10\%$ (600 V UL, CSA)
Frequency	48 to 63 Hz
Power factor	$\cos\phi_1 = 0.98$ (fundamental) $\cos\phi = 0.93\text{...}0.95$ (total) ISU: $\cos\phi_1 = 1$ (fundamental) ISU: $= 0.99$ (total)
Efficiency	98 % 97 % with IGBT supply unit

Motor connection

Voltage	3-Phase output voltage $0\text{...}U_{3IN}/U_{5IN}/U_{7IN}$
Frequency	$0\text{...}\pm 300$ Hz, $0\text{...}\pm 100$ Hz with du/dt filters
Field weakening point	$8\text{...}300$ Hz
Motor control software	ABB's Direct Torque Control (DTC)
Torque control:	Torque step rise time:
Open loop	<5 ms with nominal torque
Closed loop	<5 ms with nominal torque
	Non-linearity:
Open loop	$\pm 4\%$ with nominal torque
Closed loop	$\pm 1\%$ with nominal torque
Speed control:	Static accuracy:
Open loop	10% of motor slip
Closed loop	0.01% of nominal speed
	Dynamic accuracy:
Open loop	0.3...0.4%sec. with 100% torque step
Closed loop	0.1...0.2%sec. with 100% torque step

Environmental limits

Ambient temperature	
Transport	-40...+70°C
Storage	-40...+70°C
Operation	0...+50°C, no frost allowed 40...50°C at reduced output current (1%/1°C)
Cooling method:	Dry clean air
Altitude 0...1000 m	without derating
1000...4000 m	with derating (690 V units 1000...2000 m with derating)
Relative humidity	5 to 95%, no condensation allowed
Protection class (cabinet)	IP21 (Standard) IP22, IP42 and IP54 *)
Protection class (modules)	IP00 R2i-R5i IP00 R6i - n x R8i *) as option R = all outlet air duct connection
Paint colour	cabinet RAL 7035, modules: NCS 1502-Y, RAL 90021, PMS 420 C.
Contamination levels	No conductive dust allowed
Storage	IEC60721-3-1, class 1C2 (chemical gases), Class 1S2 (solid particles)
Transportation	IEC60721-3-2, Class 2C2 (chemical gases), Class 2S2 (solid particles)
Operation	IEC60721-3-3, Class 3C2 (chemical gases), Class 3S2 (solid particles without airinlet filters)
Vibration	IEC60068-2-6, 10...58 Hz 0.075 mm displacement amplitude 58...150 Hz 10m/s ² (1 g)
Vibration Marine Classification	3...13.8 Hz 1.0 mm 13.8...100 Hz 7m/s ² (0.7g) displacement amplitude
C = chemically active substances S = mechanically active substances	

Product compliance


CE
Low Voltage Directive 73/23/EEC with amendment 93/68/EEC
Machinery Directive 98/37/EC
EMC Directive 89/336/EEC with amendment 93/68/EEC
Quality assurance system ISO 9001 and
Environmental system ISO 14001
UL, cUL 508A and 508C and CSA C22.2 NO.14-95, available later
C-Tick, available later
GOST R

EMC (according to EN61800-3)

2nd environment unrestricted distribution as standard
1st environment restricted distribution as options up to 1000 A input current

Multidrive main features



Benefits	Features	Note
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, R6i, R7i, R8i) starting from 3 kVA for motor inverters and 70 kVA for line supply. All the powers from about 170...5800 kVA are different configurations of R8i units, single or in parallel. Only four types of diode rectifier units cover the power range of 200...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.
Global product	Global feasibility Standards, product approvals	Worldwide service
Common ABB drive technology	Industrial drive platform	Common control platform Software Same spare parts Less training
Premium Technology	DTC -Direct Torque Control	The heart of the multidrive is DTC - Direct Torque Control, its first class motor control system. The consistently excellent performance of the multidrive guarantees that the drive is not the limiting factor in your process. DTC technology is well proven in various applications and demanding environments guaranteeing the high reliability of the drive.
Industrial^{IT} for drives	As a key element of its business strategy, ABB has committed to a broad program of product development and positioning under the Industrial ^{IT} umbrella. This initiative is geared towards increasing standardization of ABB products as the "building blocks" of larger solutions, while building in functionality that will allow multiple products to interact seamlessly as components of real-time automation and information systems.	

Multidrive ratings, types and voltages

Drive unit, $U_N = 400\text{ V}$



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No-overload use	Nominal ratings		Light-overload use		Heavy-duty use		Heat dissipation kW	Type code	Frame size
	$P_{\text{cont.max}}$ kW	$I_{\text{cont.max}}$ A (AC)	I_{max} A	P_N kW	I_N A	P_{hd} kW			
$U_N = 400\text{ V}$ (Range 380-415 V)									
1.5	5.1	7	1.5	4.7	1.1	3.4	0.1	ACS800-107-0003-3	R2i
2.2	6.5	8	2.2	5.9	1.5	4.3	0.1	ACS800-107-0004-3	R2i
3	8.5	11	3.0	7.7	2.2	5.7	0.1	ACS800-107-0005-3	R2i
4	11	14	4.0	10.2	3.0	7.5	0.1	ACS800-107-0006-3	R2i
5.5	14	18	5.5	12.7	4.0	9.3	0.2	ACS800-107-0009-3	R2i
7.5	19	24	7.5	18	5.5	14	0.3	ACS800-107-0011-3	R3i
11	25	32	11	24	7.5	19	0.3	ACS800-107-0016-3	R3i
15	34	46	15	31	11	23	0.4	ACS800-107-0020-3	R3i
22	44	62	18.5	41	15	32	0.5	ACS800-107-0025-3	R4i
30	55	72	22	50	18.5	37	0.6	ACS800-107-0030-3	R4i
37	72	86	30	69	22	49	0.8	ACS800-107-0040-3	R5i
45	86	112	37	80	30	60	1	ACS800-107-0050-3	R5i
55	103	138	45	94	37	69	1.2	ACS800-107-0060-3	R5i
75	147	224	75	141	55	112	1.5	ACS800-107-0100-3	R7i
90	178	294	90	171	75	147	1.8	ACS800-107-0120-3	R7i
132	250	342	132	240	90	187	2.2	ACS800-107-0170-3	R8i
160	292	400	160	280	110	218	2.7	ACS800-107-0210-3	R8i
200	370	506	200	355	132	277	3.7	ACS800-107-0260-3	R8i
250	469	642	250	450	200	351	4.5	ACS800-107-0320-3	R8i
315	565	773	315	542	250	423	5.8	ACS800-107-0390-3	R8i
400	741	1014	400	711	315	554	7.9	ACS800-107-0510-3	R8i
630	1111	1521	630	1067	450	831	11	ACS800-107-0770-3	2xR8i
800	1452	1988	800	1394	630	1086	15	ACS800-107-1030-3	2xR8i
1200	2156	2951	1200	2070	900	1613	23	ACS800-107-1540-3	3xR8i
1600	2845	3894	1600	2731	1120	2128	30	ACS800-107-2050-3	4xR8i
2000	3537	4842	2000	3396	1400	2646	37	ACS800-107-2570-3	5xR8i
2400	4223	5780	2400	4054	1600	3159	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 mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ⁶⁾	Air flow m ³ /h
R2i	2130 ¹⁾	400 ²⁾	-	644	140	62	-	35
R3i	2130 ¹⁾	400 ²⁾	-	644	145	62	-	69
R4i	2130 ¹⁾	400 ²⁾	-	644	150	62	-	103
R5i	2130 ¹⁾	400 ²⁾	-	644	160	65	-	168
R7i	2130 ¹⁾	400	600 ⁴⁾	644 ⁵⁾	200	64	-	480
R8i	2130 ¹⁾	400 ³⁾	700 ^{3/4)}	644 ⁵⁾	320	72	60	1280
2xR8i	2130 ¹⁾	600 ³⁾	900 ^{3/4)}	644 ⁵⁾	510	74	62	2560
3xR8i	2130 ¹⁾	800 ³⁾	1200 ^{3/4)}	644 ⁵⁾	660	76	64	3840
4xR8i	2130 ¹⁾	1200 ³⁾	1600 ^{3/4)}	644 ⁵⁾	1020	76	64	5120
5xR8i	2130 ¹⁾	1400 ³⁾	1800 ^{3/4)}	644 ⁵⁾	1170	77	65	6400
6xR8i	2130 ¹⁾	1600 ³⁾	2200 ^{3/4)}	644 ⁵⁾	1320	78	66	7680

- 1) Cabinet height is 2315 mm for IP 54 classification and for IP XXR 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) Delivered with the back pack, the depth is an additional 120 mm.
- 6) Average noise level with controlled cooling fan.

Nominal Ratings:

$I_{\text{cont.max}}$: 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

$P_{\text{cont.max}}$: 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, $U_N = 400\text{ V}$



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No-overload use	Nominal ratings					Light-overload use		Heavy-duty use		Heat dissipation kW	Type code	Frame size
	$P_{\text{cont,max}}$ kW (DC)	$I_{\text{cont,max}}$ A (AC)	$I_{\text{cont,max}}$ A (DC)	I_{max} A (DC)	S_N kVA	P_N kW (DC)	I_N A (DC)	P_{hd} kW (DC)	I_{hd} A (DC)			
$U_N = 400\text{ V}$ (Range 380-415 V)												
IGBT supply unit (ISU)												
105	147	178	244	106	100	171	78	133	3	ACS800-207-0100-3	R7i	
127	178	216	295	128	122	207	95	161	3.6	ACS800-207-0120-3	R7i	
202	284	344	471	204	194	331	151	258	5.9	ACS800-207-0200-3	R8i	
269	378	458	627	272	258	440	201	343	8	ACS800-207-0260-3	R8i	
336	473	573	784	340	323	550	252	429	10	ACS800-207-0330-3	R8i	
448	630	764	1046	453	430	733	335	571	15	ACS800-207-0440-3	R8i	
672	945	1146	1568	679	646	1100	503	857	21	ACS800-207-0660-3	2xR8i	
879	1235	1497	2049	888	844	1437	657	1120	28	ACS800-207-0860-3	2xR8i	
1304	1833	2223	3042	1318	1252	2134	976	1662	42	ACS800-207-1270-3	3xR8i	
1722	2419	2933	4015	1739	1653	2816	1288	2194	55	ACS800-207-1680-3	4xR8i	
2555	3591	4354	5960	2581	2453	4180	1911	3257	81	ACS800-207-2490-3	6xR8i	
6-pulse diode (DSU)												
183	286	350	462	198	175	335	147	280	1.5	ACS800-307-0200-3	D3	
262	408	500	700	283	251	480	210	400	2.4	ACS800-307-0280-3	D3	
367	571	700	924	396	351	670	293	560	3.8	ACS800-307-0400-3	D4	
524	816	1000	1400	566	503	960	419	800	5	ACS800-307-0570-3	D4	
733	1143	1400	1848	792	702	1340	587	1120	7.6	ACS800-307-0790-3	2xD4	
974	1518	1860	2604	1052	938	1790	780	1490	10	ACS800-307-1050-3	2xD4	
1461	2278	2790	3906	1578	1406	2685	1168	2230	15	ACS800-307-1580-3	3xD4	
1949	3037	3720	5208	2104	1875	3580	1561	2980	20	ACS800-307-2100-3	4xD4	
2436	3796	4650	6510	2630	2344	4475	1949	3720	25	ACS800-307-2630-3	5xD4	
6-pulse regenerative (TSU)												
639	981	1202	1947	680	604	1154	378	721	6.3	ACS800-407-0680-3	B4	
1053	1617	1980	3208	1120	996	1901	622	1188	10	ACS800-407-1120-3	B4	
1595	2449	3000	4860	1697	1509	2880	943	1800	17	ACS800-407-1700-3	B5	
1861	2858	3500	5670	1980	1760	3360	1100	2100	21	ACS800-407-2100-3	B5	
12-pulse diode (DSU)												
367	571	700	924	396	351	670	293	560	3.8	ACS800-507-0400-3	D4	
524	816	1000	1400	566	503	960	419	800	5	ACS800-507-0570-3	D4	
733	1143	1400	1848	792	702	1340	587	1120	7.6	ACS800-507-0790-3	2xD4	
974	1518	1860	2604	1052	938	1790	780	1490	10	ACS800-507-1050-3	2xD4	
1461	2278	2790	3906	1578	1406	2685	1168	2230	15	ACS800-507-1580-3	3xD4	
1949	3037	3720	5208	2104	1875	3580	1561	2980	20	ACS800-507-2100-3	4xD4	
2436	3796	4650	6510	2630	2344	4475	1949	3720	25	ACS800-507-2630-3	5xD4	
12-pulse regenerative (TSU)												
1233	1865	2285	3700	1292	1149	2194	718	1370	13	ACS800-807-1290-3	B4	
2030	3072	3763	6094	2128	1892	3612	1182	2257	20	ACS800-807-2130-3	B4	
3076	4654	5701	9234	3224	2867	5473	1791	3420	33	ACS800-807-3220-3	B5	

Nominal Ratings:

$I_{\text{cont,max}}$: rated current available continuously without overloadability at 40°C.

I_{max} : maximum output current.

Typical Ratings:

No-overload use

$P_{\text{cont,max}}$: 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

Frame size	Height mm	Width mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ³⁾	Air flow m ³ /h
IGBT supply unit (ISU)								
R7i	2130 ¹⁾	1100	-	644 ⁴⁾	700	64	-	960
R8i	2130 ¹⁾	1400	-	644 ⁴⁾	950	74	62	1880
2xR8i	2130 ¹⁾	2000 ²⁾	-	644 ⁴⁾	1750	76	64	3840
3xR8i	2130 ¹⁾	2600 ²⁾	-	644 ⁴⁾	2400	78	66	6400
4xR8i	2130 ¹⁾	2800 ²⁾	-	644 ⁴⁾	2580	78	66	7680
6xR8i	2130 ¹⁾	4000 ²⁾	-	644 ⁴⁾	3600	80	68	11520
6-pulse diode (DSU)								
D3	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
D4	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
2xD4	2130 ¹⁾	1600	1200 ³⁾	644 ⁴⁾	1020	67	57	1440
3xD4	2130 ¹⁾	2000	1400 ³⁾	644 ⁴⁾	1210	68	58	2160
4xD4	2130 ¹⁾	2600	1800 ³⁾	644 ⁴⁾	1720	69	59	2880
5xD4	2130 ¹⁾	3000	2000 ³⁾	644 ⁴⁾	1960	70	60	3600

Frame size	Height mm	Width mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ³⁾	Air flow m ³ /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⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
2xD4	2130 ¹⁾	1600	1200 ³⁾	644 ⁴⁾	1020	67	57	1440
3xD4	2130 ¹⁾	2000	1400 ³⁾	644 ⁴⁾	1210	68	58	2160
4xD4	2130 ¹⁾	2600	1800 ³⁾	644 ⁴⁾	1720	69	59	2880
5xD4	2130 ¹⁾	3000	2000 ³⁾	644 ⁴⁾	1960	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 IP 54 classification and for IP XXR 2051 mm.

An additional 10 mm is required for marine supports.

²⁾ An additional 300 mm cabinet is required when top connection of supply cables is needed.

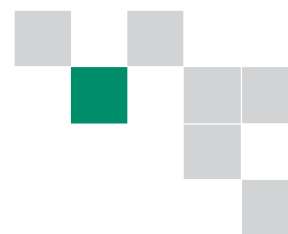
³⁾ When incoming line fuses are not needed.

⁴⁾ Delivered with the back pack, the depth is an additional 120mm.

⁵⁾ Average noise level with controlled cooling fan.

Multidrive ratings, types and voltages

Drive unit, $U_N = 500$



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No-overload use	Nominal ratings		Light-overload use		Heavy-duty use		Heat dissipation kW	Type code	Frame size
	$P_{cont,max}$ kW	$I_{cont,max}$ A (AC)	I_{max} A	P_N kW	I_N A	P_{hd} kW			
$U_N = 500$ V (Range 380-500 V)									
2.2	4.9	7	2.2	4.5	1.5	3.4	0.1	ACS800-107-0004-5	R2i
3	6.2	8	3.0	5.6	2.2	4.2	0.1	ACS800-107-0005-5	R2i
4	8.1	11	4.0	7.7	3.0	5.6	0.2	ACS800-107-0006-5	R2i
5.5	11	14	5.5	10	4.0	7.5	0.2	ACS800-107-0009-5	R2i
7.5	13	18	7.5	12	5.5	9.2	0.3	ACS800-107-0011-5	R2i
11	19	24	11	18	7.5	13	0.3	ACS800-107-0016-5	R3i
15	25	32	15	23	11	18	0.4	ACS800-107-0020-5	R3i
19	34	46	18.5	31	15	23	0.5	ACS800-107-0025-5	R3i
22	42	62	22	39	18.5	32	0.6	ACS800-107-0030-5	R4i
30	48	72	30	44	22	36	0.8	ACS800-107-0040-5	R4i
37	65	86	37	61	30	50	1	ACS800-107-0050-5	R5i
45	79	112	45	75	37	60	1.2	ACS800-107-0060-5	R5i
55	96	138	55	88	45	69	1.4	ACS800-107-0070-5	R5i
75	112	168	75	108	55	84	1.5	ACS800-107-0100-5	R6i
90	135	224	90	130	75	112	1.8	ACS800-107-0120-5	R7i
110	164	270	110	157	90	135	2.1	ACS800-107-0140-5	R7i
160	250	363	160	240	110	187	2.5	ACS800-107-0210-5	R8i
200	315	457	200	302	132	236	3.3	ACS800-107-0260-5	R8i
250	365	530	250	350	160	273	3.9	ACS800-107-0320-5	R8i
315	455	660	315	437	200	340	4.7	ACS800-107-0400-5	R8i
355	525	762	355	504	250	393	5.7	ACS800-107-0460-5	R8i
500	700	1016	500	672	355	524	7.7	ACS800-107-0610-5	R8i
710	1050	1524	710	1008	560	785	11	ACS800-107-0910-5	2xR8i
1000	1372	1991	1000	1317	710	1026	15	ACS800-107-1210-5	2xR8i
1450	2037	2956	1450	1956	1120	1524	22	ACS800-107-1820-5	3xR8i
2000	2688	3901	1850	2580	1400	2011	29	ACS800-107-2430-5	4xR8i
2400	3343	4850	2400	3209	1600	2500	36	ACS800-107-3030-5	5xR8i
2900	3990	5790	2900	3830	2000	2985	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	Width	Width	Depth	Weight	Noise level dB(A)	Noise level dB(A) ⁹⁾	Air flow m ³ /h
	mm	mm	mm	mm	kg			
R2i	2130 ¹⁾	400 ²⁾	-	644	140	62	-	35
R3i	2130 ¹⁾	400 ²⁾	-	644	145	62	-	69
R4i	2130 ¹⁾	400 ²⁾	-	644	150	62	-	103
R5i	2130 ¹⁾	400 ²⁾	-	644	160	65	-	168
R6i	2130 ¹⁾	400	600 ⁴⁾	644 ⁵⁾	200	64	-	480
R7i	2130 ¹⁾	400	600 ⁴⁾	644 ⁵⁾	200	64	-	480
R8i	2130 ¹⁾	400 ³⁾	700 ^{3,4)}	644 ⁵⁾	320	72	60	1280
2xR8i	2130 ¹⁾	600 ³⁾	900 ^{3,4)}	644 ⁵⁾	510	74	62	2560
3xR8i	2130 ¹⁾	800 ³⁾	1200 ^{3,4)}	644 ⁵⁾	660	76	64	3840
4xR8i	2130 ¹⁾	1200 ³⁾	1600 ^{3,4)}	644 ⁵⁾	1020	76	64	5120
5xR8i	2130 ¹⁾	1400 ³⁾	1800 ^{3,4)}	644 ⁵⁾	1170	77	65	6400
6xR8i	2130 ¹⁾	1600 ³⁾	2200 ^{3,4)}	644 ⁵⁾	1320	78	66	7680

¹⁾ Cabinet height is 2315 mm for IP 54 classification and for IP XXR 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⁾ Delivered with the back pack, the depth is an additional 120 mm.

⁹⁾ Average noise level with controlled cooling fan.

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.

Multidrive ratings, types and voltages

Supply unit, $U_N = 500\text{ V}$



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No-overload use	Nominal ratings					Light-overload use		Heavy-duty use		Heat dissipation kW	Type code	Frame size
	$P_{cont,max}$ kW (DC)	$I_{cont,max}$ A (AC)	$I_{cont,max}$ A (DC)	I_{max} A (DC)	S_N kVA	P_N kW (DC)	I_N A (DC)	P_{hd} kW (DC)	I_{hd} A (DC)			
$U_N = 500\text{ V}$ (Range 380-500 V)												
IGBT supply unit (ISU)												
96	112	136	197	97	92	130	72	102	3	ACS800-207-0100-5	R6i	
116	135	164	238	117	111	157	87	122	3.6	ACS800-207-0120-5	R7i	
141	164	199	289	142	135	191	105	149	4.2	ACS800-207-0140-5	R7i	
231	270	327	475	234	222	314	173	245	6.2	ACS800-207-0230-5	R8i	
309	360	436	633	312	296	419	231	327	8.4	ACS800-207-0310-5	R8i	
386	450	546	792	390	370	524	289	408	11	ACS800-207-0390-5	R8i	
514	600	727	1056	520	494	698	385	544	15	ACS800-207-0520-5	R8i	
772	900	1091	1584	779	741	1048	577	816	21	ACS800-207-0780-5	2xR8i	
1008	1176	1426	2069	1018	968	1369	754	1067	29	ACS800-207-1020-5	2xR8i	
1497	1746	2117	3072	1512	1437	2032	1120	1584	43	ACS800-207-1510-5	3xR8i	
1975	2304	2794	4054	1995	1896	2682	1478	2090	56	ACS800-207-2000-5	4xR8i	
2932	3420	4147	6017	2962	2815	3981	2193	3102	83	ACS800-207-2960-5	6xR8i	
6-pulse diode (DSU)												
229	286	350	462	247	219	335	183	280	1.5	ACS800-307-0250-5	D3	
327	408	500	700	353	314	480	262	400	2.4	ACS800-307-0350-5	D3	
458	571	700	924	495	439	670	367	560	3.8	ACS800-307-0490-5	D4	
655	816	1000	1400	707	629	960	524	800	5	ACS800-307-0710-5	D4	
917	1143	1400	1848	990	877	1340	733	1120	7.6	ACS800-307-0990-5	2xD4	
1218	1518	1860	2604	1315	1172	1790	976	1490	10	ACS800-307-1310-5	2xD4	
1827	2278	2790	3906	1972	1758	2685	1460	2230	15	ACS800-307-1970-5	3xD4	
2436	3037	3720	5208	2630	2344	3580	1951	2980	20	ACS800-307-2630-5	4xD4	
3045	3796	4650	6510	3287	2930	4475	2436	3720	25	ACS800-307-3290-5	5xD4	
6-pulse regenerative (TSU)												
792	981	1202	1947	850	604	1154	472	721	6.3	ACS800-407-0850-5	B4	
1304	1617	1980	3208	1400	996	1901	778	1188	10	ACS800-407-1400-5	B4	
1976	2449	3000	4860	2120	1509	2880	1179	1800	17	ACS800-407-2120-5	B5	
2305	2858	3500	5670	2475	1760	3360	1375	2100	21	ACS800-407-2600-5	B5	
12-pulse diode (DSU)												
458	571	700	924	495	439	670	367	560	3.8	ACS800-507-0490-5	D4	
655	816	1000	1400	707	629	960	524	800	5	ACS800-507-0710-5	D4	
917	1143	1400	1848	990	877	1340	733	1120	7.6	ACS800-507-0990-5	2xD4	
1218	1518	1860	2604	1315	1172	1790	976	1490	10	ACS800-507-1310-5	2xD4	
1827	2278	2790	3906	1972	1758	2685	1460	2230	15	ACS800-507-1970-5	3xD4	
2436	3037	3720	5208	2630	2344	3580	1951	2980	20	ACS800-507-2630-5	4xD4	
3045	3796	4650	6510	3287	2930	4475	2436	3720	25	ACS800-507-3290-5	5xD4	
12-pulse regenerative (TSU)												
1504	1864	2283	3700	1614	1148	2192	897	1370	13	ACS800-807-1615-5	B4	
2479	3072	3764	6094	2661	1893	3613	1478	2257	20	ACS800-807-2660-5	B4	
3475	4653	5700	9234	4030	2866	5472	2239	3420	33	ACS800-807-4030-5	B5	
4381	5430	6652	10773	4703	3345	6386	2612	3990	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

Frame size	Height mm	Width mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ³⁾	Air flow m ³ /h
IGBT supply unit (ISU)								
R6i	2130 ¹⁾	1100	-	644 ⁴⁾	700	64	-	960
R7i	2130 ¹⁾	1100	-	644 ⁴⁾	700	64	-	960
R8i	2130 ¹⁾	1400	-	644 ⁴⁾	950	74	62	1880
2xR8i	2130 ¹⁾	2000 ³⁾	-	644 ⁴⁾	1750	76	64	3840
3xR8i	2130 ¹⁾	2600 ³⁾	-	644 ⁴⁾	2400	78	66	6400
4xR8i	2130 ¹⁾	2800 ³⁾	-	644 ⁴⁾	2580	78	66	7680
6xR8i	2130 ¹⁾	4000 ³⁾	-	644 ⁴⁾	3610	80	68	11520
6-pulse diode (DSU)								
D3	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
D4	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
2xD4	2130 ¹⁾	1600	1200 ³⁾	644 ⁴⁾	1020	67	57	1440
3xD4	2130 ¹⁾	2000	1400 ³⁾	644 ⁴⁾	1210	68	58	2160
4xD4	2130 ¹⁾	2600	1800 ³⁾	644 ⁴⁾	1720	69	59	2880
5xD4	2130 ¹⁾	3000	2000 ³⁾	644 ⁴⁾	1960	70	60	3600
12-pulse regenerative (TSU)								
B4	2130	5200	-	644	3290	74	-	5000
B5	2130	5200	-	644	3290	77	-	9000

Frame size	Height mm	Width mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ³⁾	Air flow m ³ /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)								
D3	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
D4	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
2xD4	2130 ¹⁾	1600	1200 ³⁾	644 ⁴⁾	1020	67	57	1440
3xD4	2130 ¹⁾	2000	1400 ³⁾	644 ⁴⁾	1210	68	58	2160
4xD4	2130 ¹⁾	2600	1800 ³⁾	644 ⁴⁾	1720	69	59	2880
5xD4	2130 ¹⁾	3000	2000 ³⁾	644 ⁴⁾	1960	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 IP 54 classification and for IP XXR 2051 mm.

An additional 10 mm is required for marine supports.

²⁾ An additional 300 mm cabinet is required when top connection of supply cables is needed.

³⁾ When incoming line fuses are not needed.

⁴⁾ Delivered with the back pack, the depth is an additional 120mm.

⁵⁾ Average noise level with controlled cooling fan.

Multidrive ratings, types and voltages

Drive unit, $U_N = 690\text{ V}$



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No-overload use	Nominal ratings		Light-overload use		Heavy-duty use		Heat dissipation kW	Type code	Frame size
	$P_{cont,max}$ kW	$I_{cont,max}$ A (AC)	I_{max} A	P_N kW	I_N A	P_{hd} kW			
$U_N = 690\text{ V}$ (Range 525-690 V)									
8	13	14	7.5	12	5.5	8.5	0.3	ACS800-107-0011-7	R4i
11	17	19	11	16	7.5	11	0.3	ACS800-107-0016-7	R4i
15	22	28	15	21	11	15	0.4	ACS800-107-0020-7	R4i
19	25	38	18.5	24	15	19	0.5	ACS800-107-0025-7	R4i
22	33	44	22	32	18.5	22	0.6	ACS800-107-0030-7	R4i
30	36	54	30	35	22	27	0.7	ACS800-107-0040-7	R4i
37	51	68	37	49	30	34	0.8	ACS800-107-0050-7	R5i
45	57	84	45	55	30	34	1	ACS800-107-0060-7	R5i
55	65	104	55	62	45	52	1.1	ACS800-107-0070-7	R6i
75	88	130	75	84	55	65	1.5	ACS800-107-0100-7	R7i
90	105	176	90	101	75	88	1.8	ACS800-107-0120-7	R7i
160	170	254	160	163	110	127	3.3	ACS800-107-0210-7	R8i
200	215	322	200	206	160	161	4	ACS800-107-0260-7	R8i
250	289	432	250	277	200	216	4.6	ACS800-107-0320-7	R8i
315	336	503	315	323	240	251	5.2	ACS800-107-0400-7	R8i
355	382	571	355	367	270	286	6.8	ACS800-107-0440-7	R8i
450	486	727	450	467	355	364	7.4	ACS800-107-0580-7	R8i
710	729	1091	710	700	500	545	13	ACS800-107-0870-7	2xR8i
900	953	1425	900	914	710	713	14	ACS800-107-1160-7	2xR8i
1400	1414	2116	1400	1358	1000	1058	21	ACS800-107-1740-7	3xR8i
1900	1866	2792	1800	1792	1400	1396	28	ACS800-107-2320-7	4xR8i
2300	2321	3472	2200	2228	1600	1736	35	ACS800-107-2900-7	5xR8i
2800	2770	4144	2700	2659	2000	2072	42	ACS800-107-3490-7	6xR8i
3200	3232	4835	3100	3103	2400	2417	49	ACS800-107-4070-7	7xR8i
3700	3694	5526	3600	3546	2800	2763	55	ACS800-107-4650-7	8xR8i
4200	4155	6216	4000	3989	3100	3108	62	ACS800-107-5230-7	9xR8i
4600	4617	6907	4500	4432	3500	3454	69	ACS800-107-5810-7	10xR8i
5100	5079	7598	5500	4876	3800	3799	76	ACS800-107-6390-7	11xR8i
5600	5540	8288	6000	5319	4200	4144	83	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 mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ⁹⁾	Air flow m ³ /h
R4i	2130 ¹⁾	400 ²⁾	-	600 ³⁾	180	62	-	103
R5i	2130 ¹⁾	400 ²⁾	-	600 ³⁾	180	65	-	168
R6i	2130 ¹⁾	400	600 ³⁾	600 ³⁾	200	64	-	480
R7i	2130 ¹⁾	400	600 ⁴⁾	600 ³⁾	200	64	-	480
R8i	2130 ¹⁾	400 ³⁾	700 ^{3/4)}	600 ³⁾	320	72	60	1280
2xR8i	2130 ¹⁾	600 ³⁾	900 ^{3/4)}	600 ³⁾	510	74	62	2560
3xR8i	2130 ¹⁾	800 ³⁾	1200 ^{3/4)}	600 ³⁾	660	76	64	3840
4xR8i	2130 ¹⁾	1200 ³⁾	1600 ^{3/4)}	600 ³⁾	1020	76	64	5120
5xR8i	2130 ¹⁾	1400 ³⁾	1800 ^{3/4)}	600 ³⁾	1170	77	65	6400
6xR8i	2130 ¹⁾	1600 ³⁾	2200 ⁴⁾	600 ³⁾	1320	78	66	7680
7xR8i	2130 ¹⁾	2000 ³⁾	2600 ⁴⁾	600 ³⁾	1680	78	66	8960
8xR8i	2130 ¹⁾	2200 ³⁾	3000 ⁴⁾	600 ³⁾	1830	79	67	10240
9x8Ri	2130 ¹⁾	2400 ³⁾	3200 ⁴⁾	600 ³⁾	1980	79	67	11520
10xR8i	2130 ¹⁾	2800 ³⁾	3800 ⁴⁾	600 ³⁾	2340	79	67	12800
11xR8i	2130 ¹⁾	3000 ³⁾	4200 ⁴⁾	600 ³⁾	2490	79	67	14080
12xR8i	2130 ¹⁾	3200 ³⁾	4400 ⁴⁾	600 ³⁾	2640	79	67	15360

- 1) Cabinet height is 2315 mm for IP 54 classification and for IP XXR 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) Delivered with the back pack, the depth is an additional 120 mm.
- 6) Average noise level with controlled cooling fan.

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.

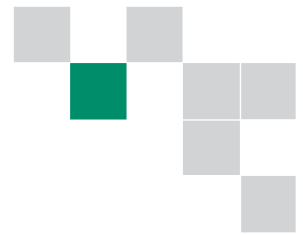
The current ratings are the same regardless of the supply voltage within one voltage range.

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.

Multidrive ratings, types and voltages

Supply unit, $U_N = 690\text{ V}$



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No-overload use	Nominal ratings					Light-overload use		Heavy-duty use		Heat dissipation kW	Type code	Frame size
	$P_{cont,max}$ kW (DC)	$I_{cont,max}$ A (AC)	$I_{cont,max}$ A (DC)	I_{max} A (DC)	S_N kVA	P_N kW (DC)	I_N A (DC)	P_{hd} kW (DC)	I_{hd} A (DC)			
$U_N = 690\text{ V}$ (Range 525-690 V)												
IGBT supply unit (ISU)												
77	65	79	118	78	74	76	58	59	2.1	ACS800-207-0070-7	R6i	
104	88	107	160	105	100	102	78	80	3	ACS800-207-0100-7	R7i	
124	105	127	190	125	119	122	93	95	3.6	ACS800-207-0120-7	R7i	
213	180	218	327	215	204	210	159	163	8.3	ACS800-207-0220-7	R8i	
296	250	303	453	299	284	291	221	227	9.4	ACS800-207-0300-7	R8i	
355	300	364	544	359	341	349	266	272	13	ACS800-207-0360-7	R8i	
473	400	485	726	478	454	466	354	363	15	ACS800-207-0480-7	R8i	
710	600	727	1088	717	682	698	531	544	27	ACS800-207-0720-7	2xR8i	
928	784	951	1422	937	890	913	694	711	29	ACS800-207-0940-7	2xR8i	
1377	1164	1411	2111	1391	1322	1355	1030	1056	42	ACS800-207-1390-7	3xR8i	
1817	1536	1862	2786	1836	1745	1788	1359	1393	56	ACS800-207-1840-7	4xR8i	
2698	2280	2764	4136	2725	2590	2654	2018	2068	83	ACS800-207-2730-7	6xR8i	
3597	3040	3686	5514	3633	3453	3539	2690	2757	110	ACS800-207-3630-7	8xR8i	
4496	3800	4607	6893	4541	4316	4423	3363	3446	138	ACS800-207-4550-7	10xR8i	
5395	4560	5529	8271	5450	5179	5308	4036	4136	165	ACS800-207-5450-7	12xR8i	
6-pulse diode (DSU)												
316	286	350	462	341	303	335	253	280	1.5	ACS800-307-0340-7	D3	
452	408	500	700	488	434	480	361	400	2.4	ACS800-307-0490-7	D3	
632	571	700	924	683	605	670	506	560	3.8	ACS800-307-0680-7	D4	
904	816	1000	1400	976	867	960	723	800	5	ACS800-307-0980-7	D4	
1265	1143	1400	1848	1366	1211	1340	1012	1120	7.6	ACS800-307-1370-7	2xD4	
1681	1518	1860	2604	1815	1617	1790	1346	1490	10	ACS800-307-1810-7	2xD4	
2521	2278	2790	3906	2722	2426	2685	2015	2230	15	ACS800-307-2720-7	3xD4	
3361	3037	3720	5208	3629	3235	3580	2693	2980	20	ACS800-307-3630-7	4xD4	
4202	3796	4650	6510	4537	4043	4475	3361	3720	25	ACS800-307-4540-7	5xD4	
6-pulse regenerative (TSU)												
784	711	871	1411	850	438	836	472	523	6.3	ACS800-407-0850-7	B4	
1292	1171	1435	2325	1400	722	1378	778	861	10	ACS800-407-1400-7	B4	
2399	2176	2664	4316	2600	1340	2557	1444	1598	17	ACS800-407-2600-7	B5	
3152	2858	3500	5670	3415	1760	3360	1897	2100	21	ACS800-407-3600-7	B5	
12-pulse diode (DSU)												
632	571	700	924	683	605	670	506	560	3.8	ACS800-507-0680-7	D4	
904	816	1000	1400	976	867	960	723	800	5	ACS800-507-0980-7	D4	
1265	1143	1400	1848	1366	1211	1340	1012	1120	7.6	ACS800-507-1370-7	2xD4	
1681	1518	1860	2604	1815	1617	1790	1346	1490	10	ACS800-507-1810-7	2xD4	
2521	2278	2790	3906	2722	2426	2685	2015	2230	15	ACS800-507-2720-7	3xD4	
3361	3037	3720	5208	3629	3235	3580	2693	2980	20	ACS800-507-3630-7	4xD4	
4202	3796	4650	6510	4537	4043	4475	3361	3720	25	ACS800-507-4540-7	5xD4	
5042	4555	5580	7812	5444	4852	5370	4039	4470	30	ACS800-704-0910-7	6xD4	
12-pulse regenerative (TSU)												
1490	1351	1655	2681	1614	832	1589	897	993	13	ACS800-807-1615-7	B4	
2455	2225	2726	4417	2659	1371	2617	1478	1636	20	ACS800-807-2660-7	B4	
4561	4134	5065	8200	4941	2547	4862	2744	3037	33	ACS800-807-4950-7	B5	
5991	5430	6652	10773	6490	3345	6386	3605	3990	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

Frame size	Height mm	Width mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ³⁾	Air flow m ³ /h
IGBT supply unit (ISU)								
R6i	2130 ¹⁾	1100	-	644 ⁴⁾	700	64	-	960
R7i	2130 ¹⁾	1100	-	644 ⁴⁾	700	64	-	960
R8i	2130 ¹⁾	1400	-	644 ⁴⁾	950	74	62	1880
2xR8i	2130 ¹⁾	2000 ³⁾	-	644 ⁴⁾	1750	76	64	3840
3xR8i	2130 ¹⁾	2600 ³⁾	-	644 ⁴⁾	2400	78	66	6400
4xR8i	2130 ¹⁾	2800 ³⁾	-	644 ⁴⁾	2580	78	66	7680
6xR8i	2130 ¹⁾	3600 ³⁾	-	644 ⁴⁾	3400	80	68	11520
8xR8i	2130 ¹⁾	4400 ³⁾	-	644 ⁴⁾	4250	81	69	15360
10xR8i	2130 ¹⁾	5600 ³⁾	-	644 ⁴⁾	5280	81	69	19200
12xR8i	2130 ¹⁾	6400 ³⁾	-	644 ⁴⁾	6100	81	69	23040
6-pulse diode (DSU)								
D3	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
D4	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
2xD4	2130 ¹⁾	1600	1200 ³⁾	644 ⁴⁾	1020	67	57	1440
3xD4	2130 ¹⁾	2000	1400 ³⁾	644 ⁴⁾	1210	68	58	2160
4xD4	2130 ¹⁾	2600	1800 ³⁾	644 ⁴⁾	1720	69	59	2880
5xD4	2130 ¹⁾	3000	2000 ³⁾	644 ⁴⁾	1960	70	60	3600
6xD4	2130 ¹⁾	-	-	-	-	70	60	4320
12-pulse regenerative (TSU)								
B4	2130	5200	-	644	3290	74	-	5000
B5	2130	5200	-	644	3290	77	-	9000

Frame size	Height mm	Width mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Noise level dB(A) ³⁾	Air flow m ³ /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)								
D3	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
D4	2130 ¹⁾	1200	800 ³⁾	644 ⁴⁾	740	65	55	720
2xD4	2130 ¹⁾	1600	1200 ³⁾	644 ⁴⁾	1020	67	57	1440
3xD4	2130 ¹⁾	2000	1400 ³⁾	644 ⁴⁾	1210	68	58	2160
4xD4	2130 ¹⁾	2600	1800 ³⁾	644 ⁴⁾	1720	69	59	2880
5xD4	2130 ¹⁾	3000	2000 ³⁾	644 ⁴⁾	1960	70	60	3600
6xD4	2130 ¹⁾	-	-	-	-	70	60	4320
12-pulse regenerative (TSU)								
B4	2130	5200	-	644	3290	74	-	5000
B5	2130	5200	-	644	3290	77	-	9000

- Cabinet height is 2315 mm for IP 54 classification and for IP XXR 2051 mm. An additional 10 mm is required for marine supports.
- An additional 300 mm cabinet is required when top connection of supply cables is needed.
- When incoming line fuses are not needed.
- Delivered with the back pack, the depth is an additional 120mm.
- Average noise level with controlled cooling fan.

Multidrive ratings, types and voltages

Braking unit



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Module type	Nominal ratings					Duty cycle (1min/5min)		Duty cycle (10s/60s)		Height ²⁾	Width ¹⁾³⁾	Weight	Noise	Air flow	Type code
	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)	m ³ /h	
U_N = 400 V (Range 380 - 500 V)															
NBRA659	353	1.20	545	149	96	303	468	353	545	2130	400	110	64	660	ACS800-607-0320-3
2 x NBRA659	706	0.60	1090	298	192	606	936	706	1090	2130	800	220	67	1320	ACS800-607-0640-3
3 x NBRA659	1058	0.40	1635	447	288	909	1404	1059	1635	2130	1200	330	68	1980	ACS800-607-0960-3
4 x NBRA659	1411	0.30	2180	596	384	1212	1872	1412	2180	2130	1600	440	69	2640	ACS800-607-1280-3
5 x NBRA659	1764	0.24	2725	745	480	1515	2340	1765	2725	2130	2000	550	70	3300	ACS800-607-1600-3
6 x NBRA659	2117	0.20	3270	894	576	1818	2808	2118	3270	2130	2400	660	71	3960	ACS800-607-1920-3
NBRA659	353	1.20	545	84	54	167	257	287	444	2130	1200	340	66	2500	ACS800-607-0320-3+D151
2 x NBRA6591	706	0.60	1090	168	108	333	514	575	888	2130	2400	680	69	5000	ACS800-607-0640-3+D151
3 x NBRA659	1058	0.40	1635	252	162	500	771	862	1332	2130	3600	1020	70	7500	ACS800-607-0960-3+D151
4 x NBRA659	1411	0.30	2180	336	216	667	1028	1150	1776	2130	4800 ¹⁾	1360	71	10000	ACS800-607-1280-3+D151
5 x NBRA659	1764	0.24	2725	420	270	833	1285	1437	2220	2130	6000 ¹⁾	1700	72	12500	ACS800-607-1600-3+D151
6 x NBRA659	2117	0.20	3270	504	324	1000	1542	1724	2664	2130	7200 ¹⁾	2040	73	15000	ACS800-607-1920-3+D151
U_N = 500 V (Range 380 - 415 V)															
NBRA659	403	1.43	571	136	109	317	391	403	498	2130	400	110	64	660	ACS800-607-0400-5
2 x NBRA659	806	0.72	1142	272	218	634	782	806	996	2130	800	220	67	1320	ACS800-607-0800-5
3 x NBRA659	1208	0.48	1713	408	327	951	1173	1209	1494	2130	1200	330	68	1980	ACS800-607-1200-5
4 x NBRA659	1611	0.36	2284	544	436	1268	1564	1612	1992	2130	1600	440	69	2640	ACS800-607-1600-5
5 x NBRA659	2014	0.29	2855	680	545	1585	1955	2015	2490	2130	2000	550	70	3300	ACS800-607-2000-5
6 x NBRA659	2417	0.24	3426	816	654	1902	2346	2418	2988	2130	2400	660	71	3960	ACS800-607-2400-5
NBRA659	403	1.35	605	67	54	167	206	287	355	2130	1200	340	66	2500	ACS800-607-0400-5+D151
2 x NBRA659	806	0.68	1210	134	108	333	412	575	710	2130	2400	680	69	5000	ACS800-607-0800-5+D151
3 x NBRA659	1208	0.45	1815	201	162	500	618	862	1065	2130	3600	1020	70	7500	ACS800-607-1200-5+D151
4 x NBRA659	1611	0.34	2420	268	216	667	824	1150	1420	2130	4800 ¹⁾	1360	71	10000	ACS800-607-1600-5+D151
5 x NBRA659	2014	0.27	3025	335	270	833	1030	1437	1775	2130	6000 ¹⁾	1700	72	12500	ACS800-607-2000-5+D151
6 x NBRA659	2417	0.23	3630	402	324	1000	1236	1724	2130	2130	7200 ¹⁾	2040	73	15000	ACS800-607-2400-5+D151
U_N = 690 V (Range 525 - 690 V)															
NBRA669	404	2.72	414	107	119	298	267	404	361	2130	400	110	64	660	ACS800-607-0400-7
2 x NBRA669	807	1.36	828	214	238	596	534	808	722	2130	800	110	67	660	ACS800-607-0800-7
3 x NBRA669	1211	0.91	1242	321	357	894	801	1212	1083	2130	1200	220	68	1320	ACS800-607-1200-7
4 x NBRA669	1615	0.68	1656	428	476	1192	1068	1616	1444	2130	1600	330	69	1980	ACS800-607-1600-7
5 x NBRA669	2019	0.54	2070	535	595	1490	1335	2020	1805	2130	2000	440	70	2640	ACS800-607-2000-7
6 x NBRA669	2422	0.45	2484	642	714	1788	1602	2424	2166	2130	2400	550	71	3300	ACS800-607-2400-7
NBRA669	404	1.35	835	97	54	167	149	287	257	2130	1200	340	66	2500	ACS800-607-0400-7+D151
2 x NBRA669	807	0.68	1670	194	108	333	298	575	514	2130	2400	340	69	5000	ACS800-607-0800-7+D151
3 x NBRA669	1211	0.45	2505	291	162	500	447	862	771	2130	3600	680	70	7500	ACS800-607-1200-7+D151
4 x NBRA669	1615	0.34	3340	388	216	667	596	1150	1028	2130	4800 ¹⁾	1020	71	10000	ACS800-607-1600-7+D151
5 x NBRA6691	2019	0.27	4175	485	270	833	745	1437	1285	2130	6000 ¹⁾	1360	72	12500	ACS800-607-2000-7+D151
6 x NBRA669	2422	0.23	5010	582	324	2000	894	1724	1542	2130	7200 ¹⁾	1700	73	15000	ACS800-607-2400-7+D151

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.
The chopper will withstand this braking power for one minute every ten minutes.

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 brake resistor resistance. Also nominal resistance of corresponding SAFUR resistor.

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.

Multidrive modules main features



Benefits	Features	Note
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, R6i, R7i, R8i) starting from 3 kVA for motor inverters and 70 kVA for line supply. All the powers from about 170...2430 kVA are different configurations of R8i units, single or in parallel. Only four types of diode rectifier units cover the power range of 200...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.
Global product	Global feasibility Standards, product approvals	Worldwide service
Common ABB drive technology	Industrial drive platform	Common control platform Software Same spare parts Less training
Premium Technology	DTC -Direct Torque Control	The heart of the multidrive is DTC - Direct Torque Control, its first class motor control system. The consistently excellent performance of the multidrive guarantees that the drive is not the limiting factor in your process. DTC technology is well proven in various applications and demanding environments guaranteeing the high reliability of the drive.
Industrial^{IT} for drives	As a key element of its business strategy, ABB has committed to a broad program of product development and positioning under the Industrial ^{IT} umbrella. This initiative is geared towards increasing standardization of ABB products as the "building blocks" of larger solutions, while building in functionality that will allow multiple products to interact seamlessly as components of real-time automation and information systems.	

Multidrive modules ratings, types and voltages

Drive module, $U_N = 400\text{ V}$



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No-overload use	Nominal ratings		Light-overload use		Heavy-duty use		Heat dissipation kW	Module type	Frame size
	$P_{cont,max}$ kW	$I_{cont,max}$ A	I_{max} A	P_N kW	I_N A	P_{hd} kW			
$U_N = 400\text{ V}$ (Range 380 - 415 V)									
1.5	5.1	7	1.5	4.7	1.1	3.4	0.1	ACS800-104-0003-3	R2i
2.2	6.5	8	2.2	5.9	1.5	4.3	0.1	ACS800-104-0004-3	R2i
3	8.5	11	3.0	7.7	2.2	5.7	0.1	ACS800-104-0005-3	R2i
4	11	14	4.0	10.2	3.0	7.5	0.1	ACS800-104-0006-3	R2i
5.5	14	18	5.5	12.7	4.0	9.3	0.2	ACS800-104-0009-3	R2i
7.5	19	24	7.5	18	5.5	14	0.3	ACS800-104-0011-3	R3i
11	25	32	11	24	7.5	19	0.3	ACS800-104-0016-3	R3i
15	34	46	15	31	11	23	0.4	ACS800-104-0020-3	R3i
22	44	62	18.5	41	15	32	0.5	ACS800-104-0025-3	R4i
30	55	72	22	50	18.5	37	0.6	ACS800-104-0030-3	R4i
37	72	86	30	69	22	49	0.8	ACS800-104-0040-3	R5i
45	86	112	37	80	30	60	1.0	ACS800-104-0050-3	R5i
55	103	138	45	94	37	69	1.2	ACS800-104-0060-3	R5i
75	147	224	75	141	55	112	1.5	ACS800-104-0100-3	R7i
90	178	294	90	171	75	147	1.8	ACS800-104-0120-3	R7i
132	250	342	110	240	90	187	2.2	ACS800-104-0170-3	R8i
160	292	400	132	280	110	218	2.7	ACS800-104-0210-3	R8i
200	370	506	200	355	132	277	3.7	ACS800-104-0260-3	R8i
250	469	642	250	450	200	351	4.5	ACS800-104-0320-3	R8i
315	565	773	300	542	220	423	5.8	ACS800-104-0390-3	R8i
400	741	1014	400	711	315	554	7.9	ACS800-104-0510-3	R8i
630	1111	1521	560	1067	450	831	11.4	ACS800-104-0770-3	2xR8i
900	1452	1988	710	1394	560	1086	15.3	ACS800-104-1030-3	2xR8i
1250	2156	2951	1120	2070	900	1613	22.5	ACS800-104-1540-3	3xR8i
1600	2845	3894	1600	2731	1120	2128	29.5	ACS800-104-2050-3	4xR8i

Dimensions:

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
R2i	401	165	193 ³⁾	9	62	35
R3i	466	173	232 ³⁾	12	62	69
R4i	525	240	252 ³⁾	15	62	103
R5i	673	265	276 ³⁾	23	65	168
R7i ¹⁾	744	228	367	37	64	480
R8i	1397	235	596	150	72	1280
2xR8i	1397	245 ²⁾	596	300	74	2560
3xR8i	1397	245 ²⁾	596	450	76	3840
4xR8i	1397	245 ²⁾	596	600	76	5120

¹⁾ Dimensions do not include cooling fan.

²⁾ Single module only.

³⁾ The depth is without control panels and options.

Type	Height mm	Width mm	Depth mm
RDCU control unit *)	282	126	41

*) Delivered with every unit.

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.

Multidrive modules ratings, types and voltages

Supply module, $U_N = 400\text{ V}$



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No-overload use	Nominal ratings					Light-overload use		Heavy-duty use		Heat dissipation kW	Module type	Frame size
	$P_{cont,max}$ kW (DC)	$I_{cont,max}$ A (AC)	$I_{cont,max}$ A (DC)	I_{max} A (DC)	S_N kVA	P_N kW (DC)	I_N A (DC)	P_{hd} kW (DC)	I_{hd} A (DC)			
$U_N = 400\text{ V}$ (Range 380 - 415 V)												
IGBT supply module (ISU)												
80	112	136	186	81	77	130	60	102	2.1	ACS800-104-0070-3	R6i + ISU_LCL_5R7	
105	147	178	244	106	100	171	78	133	3	ACS800-104-0100-3	R7i + ISU_LCL_5R7	
127	178	216	295	128	122	207	95	161	3.6	ACS800-104-0120-3	R7i + ISU_LCL_5R7	
202	284	344	471	204	194	331	151	258	5.9	ACS800-104-0260-3	R8i + ALCL-12-5	
269	378	458	627	272	258	440	201	343	8	ACS800-104-0320-3	R8i + ALCL-13-5	
336	473	573	784	340	323	550	252	429	10.3	ACS800-104-0390-3	R8i + ALCL-14-5	
448	630	764	1046	453	430	733	335	571	14.6	ACS800-104-0510-3	R8i + ALCL-15-5	
672	945	1146	1568	679	646	1100	503	857	20.5	ACS800-104-0770-3	2xR8i + ALCL-24-5	
879	1235	1497	2049	888	844	1437	657	1120	28.3	ACS800-104-1030-3	2xR8i + ALCL-25-5	
1304	1833	2223	3042	1318	1252	2134	976	1662	41.7	ACS800-104-1540-3	3xR8i + 2xALCL-24-5	
1722	2419	2933	4015	1739	1653	2816	1288	2194	54.8	ACS800-104-2050-3	4xR8i + 2xALCL-25-5	
6-pulse diode (DSU)												
183	286	350	462	198	175	335	147	280	1.5	ACS800-304-0320-7	D3	
262	408	500	700	283	251	480	210	400	2.4	ACS800-304-0450-7	D3	
367	571	700	924	396	351	670	293	560	3.8	ACS800-704-0640-7	D4	
524	816	1000	1400	566	503	960	419	800	5	ACS800-704-0910-7	D4	
733	1143	1400	1848	792	702	1340	587	1120	7.6	ACS800-704-1370-7	2xD4	
974	1518	1860	2604	1052	938	1790	780	1490	10	ACS800-704-1810-7	2xD4	
1461	2278	2790	3906	1578	1406	2685	1168	2230	15	ACS800-704-2720-7	3xD4	
1949	3037	3720	5208	2104	1875	3580	1561	2980	20	ACS800-704-3630-7	4xD4	
2436	3796	4650	6510	2630	2344	4475	1949	3720	25	ACS800-704-4540-7	5xD4	
6-pulse regenerative (TSU)												
639	981	1202	1947	680	604	1154	378	721	6.3	ACS800-404-0680-3	2xB4 + choke	
1053	1617	1980	3208	1120	996	1901	622	1188	10.2	ACS800-404-1120-3	2xB4 + choke	
1595	2449	3000	4860	1697	1509	2880	943	1800	16.5	ACS800-404-1700-3	2xB5 + choke	
1861	2858	3500	5670	1980	1760	3360	1100	2100	20.8	ACS800-404-2100-3	2xB5 + choke	
12-pulse diode (DSU)												
367	571	700	924	396	351	670	293	560	3.8	ACS800-704-0640-7	D4	
524	816	1000	1400	566	503	960	419	800	5	ACS800-704-0910-7	D4	
733	1143	1400	1848	792	702	1340	587	1120	7.6	ACS800-704-1370-7	2xD4	
974	1518	1860	2604	1052	938	1790	780	1490	10	ACS800-704-1810-7	2xD4	
1461	2278	2790	3906	1578	1406	2685	1168	2230	15	ACS800-704-2720-7	3xD4	
1949	3037	3720	5208	2104	1875	3580	1561	2980	20	ACS800-704-3630-7	4xD4	
2436	3796	4650	6510	2630	2344	4475	1949	3720	25	ACS800-704-4540-7	5xD4	

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:

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
IGBT supply unit (ISU)						
R6i ¹⁾	744	228	367	37	65 ²⁾	480
R7i ¹⁾	744	228	367	37	65 ²⁾	480
R8i	1397	245	596	150	72 ²⁾	1280
2xR8i	1397	245 ²⁾	596	300	74 ²⁾	2560
3xR8i	1397	245 ²⁾	596	450	76 ²⁾	7680
4xR8i	1397	245 ²⁾	596	600	76 ²⁾	5120
LCL-filter for IGBT supply unit (ISU)						
ISU_LCL_XR7	810	304	292	72	-	480
ALCL-1X-X	1397	240	499	180	-	400
ALCL-2X-X	1397	240	573	305	-	1280
6-pulse diode (DSU)						
D3	1480	234	400 ³⁾	130	65	720
D4	1480	234	400 ³⁾	180	65	720
2XD4	1480	234 ²⁾	400 ³⁾	360	67	1440
3XD4	1480	234 ²⁾	400 ³⁾	540	68	2160
4XD4	1480	234 ²⁾	400 ³⁾	720	69	2880
5XD4	1480	234 ²⁾	400 ³⁾	900	70	3600

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
6-pulse regenerative (TSU)						
2XB4	1808	340 ²⁾	430	110 ²⁾	72 ²⁾	2000
2XB5	1808	420 ²⁾	430	150 ²⁾	75 ²⁾	3400
DC chokes for 6-pulse regenerative (TSU)						
choke B4	771	348	449	110	-	600
choke B5	991	348	449	150	-	700
12-pulse diode (DSU)						
D4	1480	234	400 ³⁾	180	65	720
2XD4	1480	234 ²⁾	400 ³⁾	360	67	1440
3XD4	1480	234 ²⁾	400 ³⁾	540	68	2160
4XD4	1480	234 ²⁾	400 ³⁾	720	69	2880
5XD4	1480	234 ²⁾	400 ³⁾	900	70	3600

- 1) R6i and R7i dimensions do not include cooling fan.
- 2) Single module only.
- 3) Cable connections need additional space (about 200 mm) behind the module.
- 4) Supply modules + filters.
- 5) Supply modules + choke.

Multidrive modules ratings, types and voltages

Drive module, $U_N = 500\text{ V}$



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No-overload use	Nominal ratings		Light-overload use		Heavy-duty use		Heat dissipation kW	Module type	Frame size
	$P_{\text{cont.max}}$ kW	$I_{\text{cont.max}}$ A	I_{max} A	P_N kW	I_N A	P_{hd} kW			
$U_N = 500\text{ V}$ (Range 380 - 500 V)									
2.2	4.9	7	2.2	4.5	1.5	3.4	0.1	ACS800-104-0004-5	R2i
3	6.2	8	3.0	5.6	2.2	4.2	0.1	ACS800-104-0005-5	R2i
4	8.1	11	4.0	7.7	3.0	5.6	0.2	ACS800-104-0006-5	R2i
5.5	11	14	5.5	10	4.0	7.5	0.2	ACS800-104-0009-5	R2i
7.5	13	18	7.5	12	5.5	9.2	0.3	ACS800-104-0011-5	R2i
11	19	24	11	18	7.5	13	0.3	ACS800-104-0016-5	R3i
15	25	32	15	23	11	18	0.4	ACS800-104-0020-5	R3i
19	34	46	18.5	31	15	23	0.5	ACS800-104-0025-5	R3i
22	42	62	22	39	18.5	32	0.6	ACS800-104-0030-5	R4i
30	48	72	30	44	22	36	0.8	ACS800-104-0040-5	R4i
37	65	86	37	61	30	50	1.0	ACS800-104-0050-5	R5i
45	79	112	45	75	37	60	1.2	ACS800-104-0060-5	R5i
55	96	138	55	88	45	69	1.4	ACS800-104-0070-5	R5i
75	112	168	75	108	55	84	1.5	ACS800-104-0100-5	R6i
90	135	224	90	130	75	112	1.8	ACS800-104-0120-5	R7i
110	164	270	110	157	90	135	2.1	ACS800-104-0140-5	R7i
160	250	363	160	240	110	187	2.5	ACS800-104-0210-5	R8i
200	315	457	200	302	132	236	3.3	ACS800-104-0260-5	R8i
250	365	530	250	350	160	273	3.9	ACS800-104-0320-5	R8i
315	455	660	315	437	200	340	4.7	ACS800-104-0400-5	R8i
355	525	762	355	504	250	393	5.7	ACS800-104-0460-5	R8i
500	700	1016	450	672	355	524	7.7	ACS800-104-0610-5	R8i
710	1050	1524	710	1008	500	785	11.3	ACS800-104-0910-5	2xR8i
900	1372	1991	900	1317	710	1026	14.9	ACS800-104-1210-5	2xR8i
1400	2037	2956	1400	1956	1120	1524	22.0	ACS800-104-1820-5	3xR8i
2000	2688	3901	1800	2580	1400	2011	28.9	ACS800-104-2430-5	4xR8i

Dimensions:

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
R2i	401	165	193 ³⁾	9	62	35
R3i	466	173	232 ³⁾	12	62	69
R4i	525	240	252 ³⁾	15	62	103
R5i	673	265	276 ³⁾	23	65	168
R6i ¹⁾	744	228	367	37	64	480
R7i ¹⁾	744	228	367	37	64	480
R8i	1397	235	596	150	72	1280
2xR8i	1397	245 ²⁾	596	300	74	2560
3xR8i	1397	245 ²⁾	596	450	76	3840
4xR8i	1397	245 ²⁾	596	600	76	5120

¹⁾ Dimensions do not include cooling fan.

²⁾ Single module only.

³⁾ The depth is without without control panels and options.

Type	Height mm	Width mm	Depth mm
RDCU control unit *)	282	126	41

*) Delivered with every unit.

Nominal Ratings:

$I_{\text{cont.max}}$: 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

$P_{\text{cont.max}}$: 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.

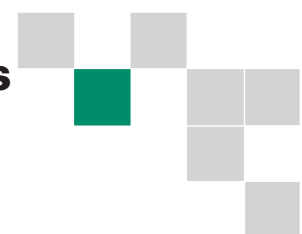
The current ratings are the same regardless of the supply voltage within one voltage range.

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.

Multidrive modules ratings, types and voltages

Supply module, $U_N = 500\text{ V}$



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No-overload use		Nominal ratings					Light-overload use		Heavy-duty use		Heat dissipation kW	Module type	Frame size
$P_{cont,max}$ kW (DC)	$I_{cont,max}$ A (AC)	$I_{cont,max}$ A (DC)	I_{max} A (DC)	S_N kVA	P_N kW (DC)	I_N A (DC)	P_{hd} kW (DC)	I_{hd} A (DC)					
$U_N = 500\text{ V}$ (Range 380 - 500 V)													
IGBT supply module (ISU)													
96	112	136	197	97	92	130	72	102	3	ACS800-104-0100-5	R6i + ISU_LCL_5R7		
116	135	164	238	117	111	157	87	122	3.6	ACS800-104-0120-5	R7i + ISU_LCL_5R7		
141	164	199	289	142	135	191	105	149	4.2	ACS800-104-0140-5	R7i + ISU_LCL_5R7		
231	270	327	475	234	222	314	173	245	6.2	ACS800-104-0320-5	R8i + ALCL-12-5		
309	360	436	633	312	296	419	231	327	8.4	ACS800-104-0400-5	R8i + ALCL-13-5		
386	450	546	792	390	370	524	289	408	10.6	ACS800-104-0460-5	R8i + ALCL-14-5		
514	600	727	1056	520	494	698	385	544	14.9	ACS800-104-0610-5	R8i + ALCL-15-5		
772	900	1091	1584	779	741	1048	577	816	21.2	ACS800-104-0910-5	2xR8i + ALCL-24-5		
1008	1176	1426	2069	1018	968	1369	754	1067	28.9	ACS800-104-1210-5	2xR8i + ALCL-25-5		
1497	1746	2117	3072	1512	1437	2032	1120	1584	42.7	ACS800-104-1820-5	3xR8i + 2xALCL-24-5		
1975	2304	2794	4054	1995	1896	2682	1478	2090	56.1	ACS800-104-2430-5	4xR8i + 2xALCL-25-5		
6-pulse diode (DSU)													
229	286	350	462	247	219	335	183	280	1.5	ACS800-304-0320-7	D3		
327	408	500	700	353	314	480	262	400	2.4	ACS800-304-0450-7	D3		
458	571	700	924	495	439	670	367	560	3.8	ACS800-704-0640-7	D4		
655	816	1000	1400	707	629	960	524	800	5	ACS800-704-0910-7	D4		
917	1143	1400	1848	990	877	1340	733	1120	7.6	ACS800-704-1370-7	2xD4		
1218	1518	1860	2604	1315	1172	1790	976	1490	10	ACS800-704-1810-7	2xD4		
1827	2278	2790	3906	1972	1758	2685	1460	2230	15	ACS800-704-2720-7	3xD4		
2436	3037	3720	5208	2630	2344	3580	1951	2980	20	ACS800-704-3630-7	4xD4		
3045	3796	4650	6510	3287	2930	4475	2436	3720	25	ACS800-704-4540-7	5xD4		
6-pulse regenerative (TSU)													
792	981	1202	1947	850	604	1154	472	721	6.3	ACS800-404-0850-5	2xB4 + choke		
1304	1617	1980	3208	1400	996	1901	778	1188	10.2	ACS800-404-1400-5	2xB4 + choke		
1976	2449	3000	4860	2120	1509	2880	1179	1800	16.5	ACS800-404-2120-5	2xB5 + choke		
2305	2858	3500	5670	2475	1760	3360	1375	2100	20.8	ACS800-404-2600-5	2xB5 + choke		
12-pulse diode (DSU)													
458	571	700	924	495	439	670	367	560	3.8	ACS800-704-0640-7	D4		
655	816	1000	1400	707	629	960	524	800	5	ACS800-704-0910-7	D4		
917	1143	1400	1848	990	877	1340	733	1120	7.6	ACS800-704-1370-7	2xD4		
1218	1518	1860	2604	1315	1172	1790	976	1490	10	ACS800-704-1810-7	2xD4		
1827	2278	2790	3906	1972	1758	2685	1460	2230	15	ACS800-704-2720-7	3xD4		
2436	3037	3720	5208	2630	2344	3580	1951	2980	20	ACS800-704-3630-7	4xD4		
3045	3796	4650	6510	3287	2930	4475	2436	3720	25	ACS800-704-4540-7	5xD4		

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:

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
IGBT supply unit (ISU)						
R6i1)	744	228	367	37	65 ¹⁾	480
R7i1)	744	228	367	37	65 ¹⁾	480
R8i	1397	245	596	150	72 ²⁾	1280
2xR8i	1397	245 ²⁾	596	300	74 ³⁾	2560
3xR8i	1397	245 ²⁾	596	450	76 ⁴⁾	7680
4xR8i	1397	245 ²⁾	596	600	76 ⁴⁾	5120
LCL-filter for IGBT supply unit (ISU)						
ISU_LCL_XR7	810	304	292	72	-	480
ALCL-1X-X	1397	240	499	180	-	400
ALCL-2X-X	1397	240	573	305	-	1280
6-pulse diode (DSU)						
D3	1480	234	400 ³⁾	130	65	720
D4	1480	234	400 ³⁾	180	65	720
2XD4	1480	234 ²⁾	400 ³⁾	360	67	1440
3XD4	1480	234 ²⁾	400 ³⁾	540	68	2160
4XD4	1480	234 ²⁾	400 ³⁾	720	69	2880
5XD4	1480	234 ²⁾	400 ³⁾	900	70	3600

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
6-pulse regenerative (TSU)						
2XB4	1808	340 ²⁾	430	110 ²⁾	72 ²⁾	2000
2XB5	1808	420 ²⁾	430	150 ²⁾	75 ²⁾	3400
DC chokes for 6-pulse regenerative (TSU)						
choke B4	771	348	449	110	-	600
choke B5	991	348	449	150	-	700
12-pulse diode (DSU)						
D4	1480	234	400 ³⁾	180	65	720
2XD4	1480	234 ²⁾	400 ³⁾	360	67	1440
3XD4	1480	234 ²⁾	400 ³⁾	540	68	2160
4XD4	1480	234 ²⁾	400 ³⁾	720	69	2880
5XD4	1480	234 ²⁾	400 ³⁾	900	70	3600

- 1) R6i, R7i dimensions do not include cooling fan.
- 2) Single module only.
- 3) Cable connections need additional space (about 200 mm) behind the module.
- 4) Supply modules + filters.
- 5) Supply modules + choke.

Multidrive modules ratings, types and voltages

Drive module, $U_N = 690\text{ V}$



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No-overload use	Nominal ratings		Light-overload use		Heavy-duty use		Heat dissipation kW	Module type	Frame size
	$P_{\text{cont,max}}$ kW	$I_{\text{cont,max}}$ A	I_{max} A	P_N kW	I_N A	P_{hd} kW			
$U_N = 690\text{ V}$ (Range 525 - 690 V)									
11	13	14	7.5	12	5.5	8.5	0.3	ACS800-104-0011-7	R4i
15	17	19	11	16	7.5	11	0.3	ACS800-104-0016-7	R4i
18.5	22	28	15	21	11	15	0.4	ACS800-104-0020-7	R4i
22	25	38	18.5	24	15	19	0.5	ACS800-104-0025-7	R4i
30	33	44	22	32	18.5	22	0.6	ACS800-104-0030-7	R4i
30	36	54	30	35	22	27	0.7	ACS800-104-0040-7	R4i
45	51	68	37	49	30	34	0.8	ACS800-104-0050-7	R5i
55	57	84	45	55	37	42	1.0	ACS800-104-0060-7	R5i
55	65	104	55	62	45	52	1.1	ACS800-104-0070-7	R6i
75	88	130	75	84	55	65	1.5	ACS800-104-0100-7	R7i
90	105	176	90	101	75	88	1.8	ACS800-104-0120-7	R7i
160	170	254	160	163	90	127	3.3	ACS800-104-0210-7	R8i
200	215	322	200	206	132	161	4.0	ACS800-104-0260-7	R8i
250	289	432	250	277	160	216	4.6	ACS800-104-0320-7	R8i
315	336	503	315	323	200	251	5.2	ACS800-104-0400-7	R8i
355	382	571	355	367	250	286	6.8	ACS800-104-0440-7	R8i
450	486	727	450	467	315	364	7.4	ACS800-104-0580-7	R8i
710	729	1091	710	700	500	545	12.9	ACS800-104-0870-7	2xR8i
900	953	1425	900	914	630	713	14.4	ACS800-104-1160-7	2xR8i
1400	1414	2116	1400	1358	900	1058	21.3	ACS800-104-1740-7	3xR8i
1800	1866	2792	1800	1792	1400	1396	28.1	ACS800-104-2320-7	4xR8i

Dimensions:

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m^3/h
R2i	401	165	193 ³⁾	9	62	35
R3i	466	173	232 ³⁾	12	62	69
R4i	525	240	252 ³⁾	15	62	103
R5i	673	265	276 ³⁾	23	65	168
R6i ¹⁾	744	228	367	37	64	480
R7i ¹⁾	744	228	367	37	64	480
R8i	1397	235	596	150	72	1280
2xR8i	1397	245 ²⁾	596	300	74	2560
3xR8i	1397	245 ²⁾	596	450	76	3840
4xR8i	1397	245 ²⁾	596	600	76	5120

¹⁾ Dimensions do not include cooling fan.

²⁾ Single module only.

³⁾ The depth is without control panels and options.

Type	Height mm	Width mm	Depth mm
RDCU control unit *)	282	126	41

*) Delivered with every unit.

Nominal Ratings:

$I_{\text{cont,max}}$: 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

$P_{\text{cont,max}}$: 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.

Multidrive modules ratings, types and voltages

Supply module, $U_N = 690\text{ V}$



ACS800 - X04 - 0003 - 3 + XXXX

No-overload use		Nominal ratings					Light-overload use		Heavy-duty use		Heat dissipation kW	Module type	Frame size
$P_{cont,max}$ kW (DC)	$I_{cont,max}$ A (AC)	$I_{cont,max}$ A (DC)	I_{max} A (DC)	S_N kVA	P_N kW (DC)	I_N A (DC)	P_{hd} kW (DC)	I_{hd} A (DC)					
$U_N = 690\text{ V}$ (Range 525 - 690 V)													
IGBT supply module (ISU)													
77	65	79	118	78	74	76	58	59	2.1	ACS800-104-0070-7	R6i + ISU_LCL_6R7		
104	88	107	160	105	100	102	78	80	3	ACS800-104-0100-7	R7i + ISU_LCL_6R7		
124	105	127	190	125	119	122	93	95	3.6	ACS800-104-0120-7	R7i + ISU_LCL_6R7		
213	180	218	327	215	204	210	159	163	8.3	ACS800-104-0260-7	R8i + ALCL-12-7		
296	250	303	453	299	284	291	221	227	9.4	ACS800-104-0400-7	R8i + ALCL-13-7		
355	300	364	544	359	341	349	266	272	13.3	ACS800-104-0440-7	R8i + ALCL-14-7		
473	400	485	726	478	454	466	354	363	14.6	ACS800-104-0560-7	R8i + ALCL-15-7		
710	600	727	1088	717	682	698	531	544	26.6	ACS800-104-0870-7	2xR8i + ALCL-24-7		
928	784	951	1422	937	890	913	694	711	28.5	ACS800-104-1160-7	2xR8i + ALCL-25-7		
1377	1164	1411	2111	1391	1322	1355	1030	1056	42.3	ACS800-104-1740-7	3xR8i + 2xALCL-24-5		
1817	1536	1862	2786	1836	1745	1788	1359	1393	55.7	ACS800-104-2320-7	4xR8i + 2xALCL-25-7		
6-pulse diode (DSU)													
316	286	350	462	341	303	335	253	280	1.5	ACS800-304-0320-7	D3		
452	408	500	700	488	434	480	361	400	2.4	ACS800-304-0450-7	D3		
632	571	700	924	683	605	670	506	560	3.8	ACS800-704-0640-7	D4		
904	816	1000	1400	976	867	960	723	800	5	ACS800-704-0910-7	D4		
1265	1143	1400	1848	1366	1211	1340	1012	1120	7.6	ACS800-704-1370-7	2xD4		
1681	1518	1860	2604	1815	1617	1790	1346	1490	10	ACS800-704-1810-7	2xD4		
2521	2278	2790	3906	2722	2426	2685	2015	2230	15	ACS800-704-2720-7	3xD4		
3361	3037	3720	5208	3629	3235	3580	2693	2980	20	ACS800-704-3630-7	4xD4		
4202	3796	4650	6510	4537	4043	4475	3361	3720	25	ACS800-704-4540-7	5xD4		
6-pulse regenerative (TSU)													
784	711	871	1411	850	438	836	472	523	6.3	ACS800-404-0850-7	2xB4 + choke		
1292	1171	1435	2325	1400	722	1378	778	861	10.2	ACS800-404-1400-7	2xB4 + choke		
2399	2176	2664	4316	2600	1340	2557	1444	1598	16.5	ACS800-404-2600-7	2xB5 + choke		
3152	2858	3500	5670	3415	1760	3360	1897	2100	20.8	ACS800-404-3600-7	2xB5 + choke		
12-pulse diode (DSU)													
632	571	700	924	683	605	670	506	560	3.8	ACS800-704-0640-7	D4		
904	816	1000	1400	976	867	960	723	800	5	ACS800-704-0910-7	D4		
1265	1143	1400	1848	1366	1211	1340	1012	1120	7.6	ACS800-704-1370-7	2xD4		
1681	1518	1860	2604	1815	1617	1790	1346	1490	10	ACS800-704-1810-7	2xD4		
2521	2278	2790	3906	2722	2426	2685	2015	2230	15	ACS800-704-2720-7	3xD4		
3361	3037	3720	5208	3629	3235	3580	2693	2980	20	ACS800-704-3630-7	4xD4		
4202	3796	4650	6510	4537	4043	4475	3361	3720	25	ACS800-704-4540-7	5xD4		

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:

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
IGBT supply unit (ISU)						
R6i1)	744	228	367	37	65 ¹⁾	480
R7i1)	744	228	367	37	65 ¹⁾	480
R8i	1397	245	596	150	72 ²⁾	1280
2xR8i	1397	245 ²⁾	596	300	74 ³⁾	2560
3xR8i	1397	245 ²⁾	596	450	76 ⁴⁾	7680
4xR8i	1397	245 ²⁾	596	600	76 ⁴⁾	5120
LCL-filter for IGBT supply unit (ISU)						
ISU_LCL_XR7	810	304	292	72	-	480
ALCL-1X-X	1397	240	499	180	-	400
ALCL-2X-X	1397	240	573	305	-	1280
6-pulse diode (DSU)						
D3	1480	234	400 ³⁾	130	65	720
D4	1480	234	400 ³⁾	180	65	720
2XD4	1480	234 ²⁾	400 ³⁾	360	67	1440
3XD4	1480	234 ²⁾	400 ³⁾	540	68	2160
4XD4	1480	234 ²⁾	400 ³⁾	720	69	2880
5XD4	1480	234 ²⁾	400 ³⁾	900	70	3600

Frame size	Height mm	Width mm	Depth mm	Weight kg	Noise level dB(A)	Air flow m ³ /h
6-pulse regenerative (TSU)						
2XB4	1808	340 ²⁾	430	110 ²⁾	72 ²⁾	2000
2XB5	1808	420 ²⁾	430	150 ²⁾	75 ²⁾	3400
DC chokes for 6-pulse regenerative (TSU)						
choke B4	771	348	449	110	-	600
choke B5	991	348	449	150	-	700
12-pulse diode (DSU)						
D4	1480	234	400 ³⁾	180	65	720
2XD4	1480	234 ²⁾	400 ³⁾	360	67	1440
3XD4	1480	234 ²⁾	400 ³⁾	540	68	2160
4XD4	1480	234 ²⁾	400 ³⁾	720	69	2880
5XD4	1480	234 ²⁾	400 ³⁾	900	70	3600

¹⁾ R6i, R7i dimensions do not include cooling fan.

²⁾ Single module only.

³⁾ Cable connections need additional space (about 200 mm) behind the module.

⁴⁾ Supply modules + filters.

⁵⁾ Supply modules + choke.

Multidrive modules ratings, types and voltages

Braking unit



Module type	Resistor type	Nominal ratings					Duty cycle (1min/5min)		Duty cycle (10s/60s)		Noise	Air flow
		$P_{br,max}$	R	I_{max}	I_{rms}	P_{cont}	P_{br}	I_{rms}	P_{br}	I_{rms}		
		kW	ohm	A	A	kW	kW	A	kW	A		
$U_N = 400\text{ V (Range 380 - 500 V)}$												
NBRA658	-	230	1.7	384	109	70	230	355	230	355	64	660
NBRA659	-	353	1.2	545	149	96	303	468	353	545	64	660
2 x NBRA659	-	706	0.6	1090	298	192	606	936	706	1090	67	1320
3 x NBRA659	-	1058	0.4	1635	447	288	909	1404	1059	1635	68	1980
4 x NBRA659	-	1411	0.3	2180	596	384	1212	1872	1412	2180	69	2640
5 x NBRA659	-	1764	0.24	2725	745	480	1515	2340	1765	2725	70	3300
6 x NBRA659	-	2117	0.2	3270	894	576	1818	2808	2118	3270	71	3960
NBRA658	2 x SAFUR210F575	230	1.7	384	65	42	130	200	224	346	66	2500
NBRA659	2 x SAFUR180F460	353	1.2	545	84	54	167	257	287	444	66	2500
2 x NBRA6591	2 x (2 x SAFUR180F460)	706	0.6	1090	168	108	333	514	575	888	69	5000
3 x NBRA659	3 x (2 x SAFUR180F460)	1058	0.4	1635	252	162	500	771	862	1332	70	7500
4 x NBRA659	4 x (2 x SAFUR180F460)	1411	0.3	2180	336	216	667	1028	1150	1776	71	10000
5 x NBRA659	5 x (2 x SAFUR180F460)	1764	0.24	2725	420	270	833	1285	1437	2220	72	12500
6 x NBRA659	6 x (2 x SAFUR180F460)	2117	0.2	3270	504	324	1000	1542	1724	2664	73	15000
$U_N = 500\text{ V (Range 380 - 415 V)}$												
NBRA658	-	268	2.15	380	101	81	268	331	268	331	64	660
NBRA659	-	403	1.43	571	136	109	317	391	403	498	64	660
2 x NBRA659	-	806	0.72	1142	272	218	634	782	806	996	67	1320
3 x NBRA659	-	1208	0.48	1713	408	327	951	1173	1209	1494	68	1980
4 x NBRA659	-	1611	0.36	2284	544	436	1268	1564	1612	1992	69	2640
5 x NBRA659	-	2014	0.29	2855	680	545	1585	1955	2015	2490	70	3300
6 x NBRA659	-	2417	0.24	3426	816	654	1902	2346	2418	2988	71	3960
NBRA658	2 x SAFUR125F500	268	2.00	408	45	36	111	137	192	237	66	2500
NBRA659	2 x SAFUR200F500	403	1.35	605	67	54	167	206	287	355	66	2500
2 x NBRA659	2 x (2 x SAFUR200F500)	806	0.68	1210	134	108	333	412	575	710	69	5000
3 x NBRA659	3 x (2 x SAFUR200F500)	1208	0.45	1815	201	162	500	618	862	1065	70	7500
4 x NBRA659	4 x (2 x SAFUR200F500)	1611	0.34	2420	268	216	667	824	1150	1420	71	10000
5 x NBRA659	5 x (2 x SAFUR200F500)	2014	0.27	3025	335	270	833	1030	1437	1775	72	12500
6 x NBRA659	6 x (2 x SAFUR200F500)	2417	0.23	3630	402	324	1000	1236	1724	2130	73	15000
$U_N = 690\text{ V (Range 525 - 690 V)}$												
NBRA669	-	404	2.72	414	107	119	298	267	404	361	64	660
2 x NBRA669	-	807	1.36	828	214	238	596	534	808	722	67	660
3 x NBRA669	-	1211	0.91	1242	321	357	894	801	1212	1083	68	1320
4 x NBRA669	-	1615	0.68	1656	428	476	1192	1068	1616	1444	69	1980
5 x NBRA669	-	2019	0.54	2070	535	595	1490	1335	2020	1805	70	2640
6 x NBRA669	-	2422	0.45	2484	642	714	1788	1602	2424	2166	71	3300
NBRA669	2 x SAFUR200F500	404	1.35	835	97	54	167	149	287	257	66	2500
2 x NBRA669	2 x (2 x SAFUR200F500)	807	0.68	1670	194	108	333	298	575	514	69	5000
3 x NBRA669	3 x (2 x SAFUR200F500)	1211	0.45	2505	291	162	500	447	862	771	70	7500
4 x NBRA669	4 x (2 x SAFUR200F500)	1615	0.34	3340	388	216	667	596	1150	1028	71	10000
5 x NBRA6691	5 x (2 x SAFUR200F500)	2019	0.27	4175	485	270	833	745	1437	1285	72	12500
6 x NBRA669	6 x (2 x SAFUR200F500)	2422	0.23	5010	582	324	2000	894	1724	1542	73	15000

$P_{br,max}$ = Maximum braking power of the NBRA-6xx chopper and SAFUR resistor combination.
The chopper will withstand this braking power for one minute every ten minutes.

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

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

R = Recommended brake resistor resistance. Also nominal resistance of corresponding SAFUR resistor.

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.

Frame size	Height	Width	Depth	Weight
Brake Chopper Modules				
NBRA658	584	334	240	26
NBRA659	584	334 ¹⁾	240	26 ¹⁾
SAFUR180F460	1320	300 ¹⁾	345	32 ¹⁾
SAFUR125F500	1320	300 ¹⁾	345	25 ¹⁾
SAFUR200F500	1320	300 ¹⁾	345	30 ¹⁾
SAFUR210F575	1320	300 ¹⁾	345	27 ¹⁾

¹⁾ Single module only.

Output filters

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

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.

Control I/O connections



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-01 Board

- **3 analog inputs:** differential, common mode voltage ± 15 V, galvanically isolated as a group.
 - One $\pm 0(2)\dots 10$ V, resolution 12 bit
 - Two $0(4)\dots 20$ mA, resolution 11 bit
- **2 analog outputs:**
 - $0(4)\dots 20$ mA, resolution 10 bit
- **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 $\pm 0.5\%$, max. 10 mA
- **Auxiliary power supply output:**
 - +24 V $\pm 10\%$, max. 250 mA

Optional I/O

Analog I/O Extension Module RAIO-01

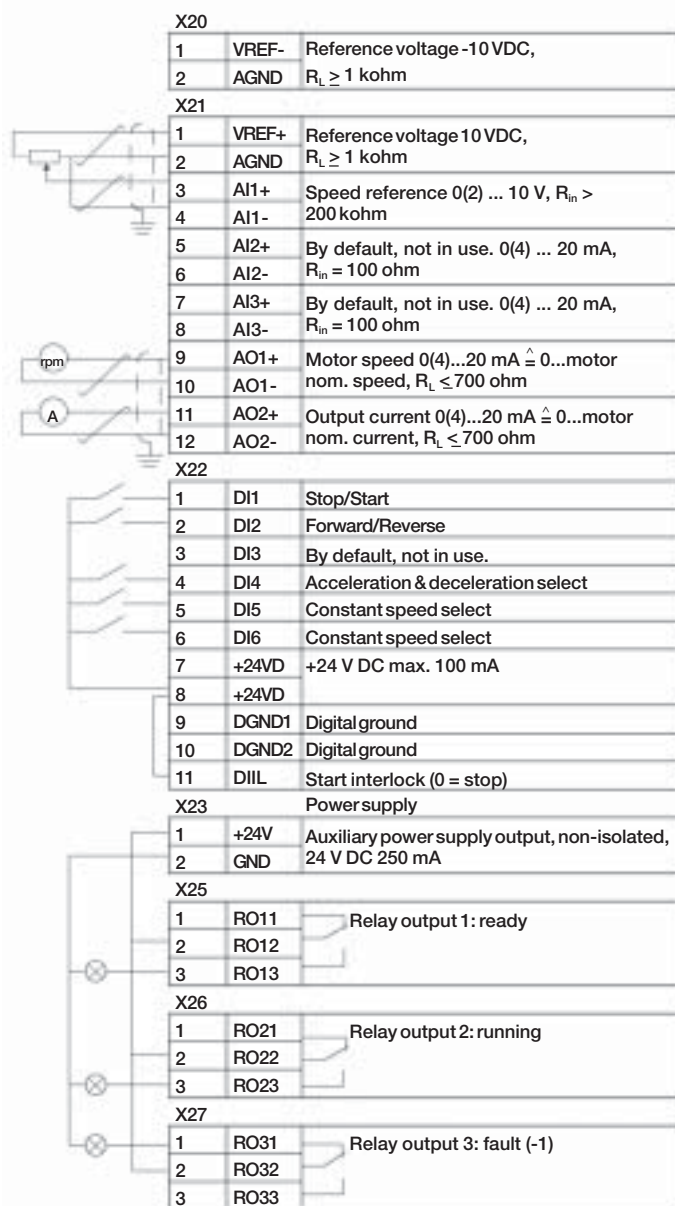
- **2 analog inputs:** galvanically isolated from 24 V supply and ground
 - $\pm 0(2)\dots 10$ V, $0(4)\dots 20$ mA or $\pm 0\dots 2$ V, resolution 12 bit
- **2 analog outputs:** galvanically isolated from 24 V power supply and ground
 - $0(4)\dots 20$ mA, resolution 12 bit

Digital I/O Extension Module RDIO-01

- **3 digital inputs:** individually galvanically isolated
 - Signal level 24...250 V DC or 115/230 V AC
- **2 digital (relay) outputs:**
 - Changeover contact
 - 24 V DC or 115/230 V AC
 - Max. continuous current 2 A

Pulse Encoder Interface Module RTAC-01

- **1 incremental encoder input:**
 - Channels A, B and Z (zero pulse)
 - Signal level and power supply for the encoder 15 or 24 V DC
 - Single ended or differential inputs
 - Maximum input frequency 200 kHz



Fieldbus control

Gateway to your process.

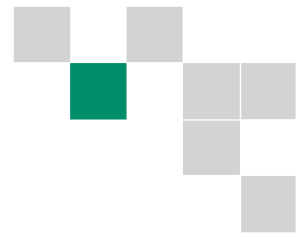


ABB industrial drives have connectivity to major automation systems. This is achieved with a dedicated gateway concept between the fieldbus systems and ABB drives.

The fieldbus gateway module can easily be mounted inside the drive. As a result of the wide range of fieldbus gateways, your choice of automation system is independent of your decision to use first-class ABB AC drives.

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 like 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, like 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 drive 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.

Easy to expand

Serial communication simplifies the latest trend of modular machine design enabling the installation to be expanded at a later stage with low effort.

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

- PROFIBUS-DP
- DeviceNet
- CANopen
- ControlNet
- Modbus
- Ethernet
- InterBus-S



Control solutions

ABB also 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.

The main advantages of ABB's control

- Application-dedicated features
- Improved production
- No external PLC
- User-friendly
- Easy to use
- Energy savings
- Smooth power loss ridethrough
- Reduced costs
- Adaptive protection

Multi Block Programming Application

The Multi Block Programming Application has been specially designed for system integrators and local engineering because of its easy programming, large number of I/O, Master-Follower link and fieldbus interfaces. Integrated into the drive control board 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.

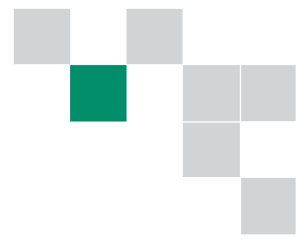
An extension analog and digital I/O is typically installed on the AIMA-01 I/O module adapters. Three extension I/O modules can be installed on each I/O module adapter and an optical link connects the I/O modules to the drive control board.

Function blocks are easy to program using the DriveAP2 PC tool. For example, there are Profibus fieldbus blocks available to help users to understand the block programme connections between the drive and Profibus master. Block programme information, as well as text comments, symbolic names of block outputs and page header information is saved in the flash memory of the drive control board.



RDIO-01 digital extension module installed on the AIMA-01 I/O Module Adapter.

I/O Device	Digital Inputs	Digital Outputs	Analog Inputs	Analog Outputs	Pulse Encoders
RMIO Basic I/O	7	3	3	2	
RDIO DI/O EXT1	3	2			
RDIO DI/O EXT2	3	2			
RDIO DI/O EXT3	3	2			
RDIO DI/O EXT4	3	2			
RDIO DI/O EXT5	3	2			
RAIO AI/O EXT1			2	2	
RAIO AI/O EXT2			2	2	
RAIO AI/O EXT3			2	2	
RAIO AI/O EXT4			2	2	
RAIO AI/O EXT5			2	2	
RTAC Pulse Encoder					ENCODER 1
NTAC-02 Pulse Encoder					ENCODER 1 ENCODER 2
Total	22	13	13	12	2 Encoders



System Application

The software is targeted for multi-motor machines producing or processing metal, paper, plastics, textile, rubber, 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 linking of drives to controllers, PLC and PCs.

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

Benefits with System Application

- Extended communication capability, 24 data words available for both directions between the drive and overriding system.
- Torsional oscillation damping function 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

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.

Extruder Control

High starting torque, accurate speed/torque control without an encoder for demanding extruder applications. The extruder screw and other delicate mechanical parts can be protected against overload.

Pump and Fan Control

Better flow control and cost savings for up to 5 parallel motors in various industrial pump and fan applications. Featuring many important PFC functions, including sleep/ wake up and autochange etc.

Crane Drive Control

Cost-effective crane drive control with optimal operational safety and outstanding performance already built in.

- Easy installation and start-up reduces the total project costs
- Ready to use with proven modular crane functionality
- Accurate and fast torque response increases the operational productivity
- Smooth crane operation reduces maintenance and damage costs
- Available as single drive and multi-drive with dynamic and regenerative braking

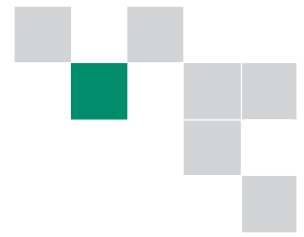
Standard ready-to-use crane drive solution with optimal operational safety and outstanding crane drive performance.

Master/Follower Control

Reliable control via the fibre optic link of several drives when motor shafts are coupled together. Thanks to Master/Follower function the load can be evenly distributed between the drives.

Remote monitoring tool

Ethernet module.



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 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 fibre 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.

It connects to the drive with fibre optic cables. The size of the module is 93 (h) x 35 (w) x 76.5 (d) mm.

The web page of the module is opened like any other web address. The home page shows a general overview of the system with traffic lights and action buttons to guide the user through the different sections.

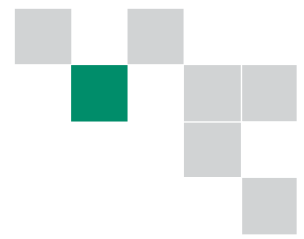
Features

- 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 control purposes



Adaptive programming

DriveAP



Programming tool

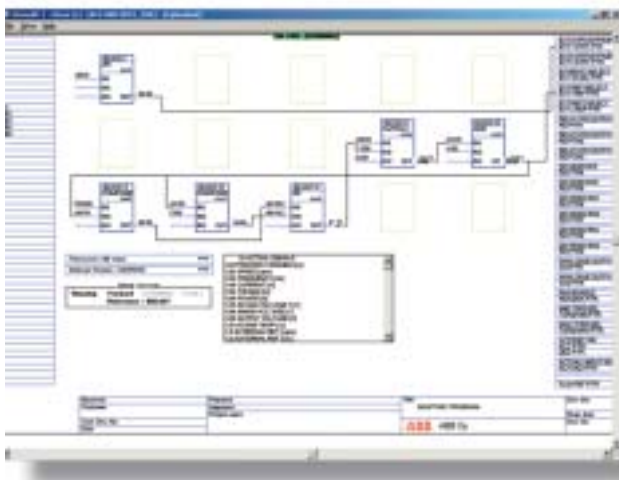
DriveAP is a PC software tool to create, document, edit and download Adaptive Programs and Multi Block Programming application. DriveAP 1.1 supports Adaptive Programming, whereas DriveAP2 supports both Adaptive Programming and Multi Block Programming. Adaptive Program contains 15 function blocks and is available in standard and system application. The Multi Block Programming application contains over 200 function blocks also including Profibus fieldbus - and drive I/O blocks. DriveAP offers a clear and easy way to develop, test and document these programs with a PC. DriveAP 1.1 supports Adaptive Programming, where as DriveAP2 supports both.

It is a user-friendly tool to modify function blocks and their connections. No special programming skills are required, basic knowledge about block programming is enough. DriveAP supports IEC61131.

Adaptive Programs are easy to document as hard copies or store as PC files. The Multi Block Programming application with all related information is saved directly to the drive.

Upload or download

Both program types can be uploaded from connected drives and displayed graphically on a PC screen e.g.



DriveAP with Adaptive Program of standard application.

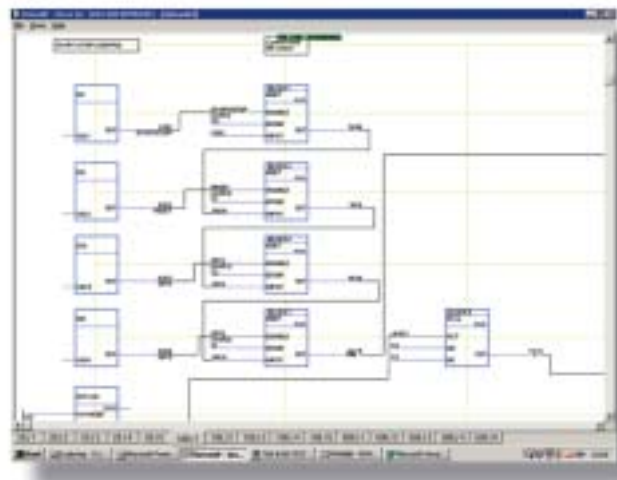
for service or documentation purposes. Adaptive Programs and Multi Block Programming application, that are made off-line can be downloaded to any of the connected drives, that support corresponding programs.

Three operating modes

- Stand Alone Mode - DriveAP is not connected to a drive. Adaptive - and Multi Block Programming can be carried out e.g. in the office and later downloaded to a drive.
- Off-Line Mode - DriveAP is connected to a drive. Adaptive - and Multi Block Programming can be carried out in batch mode.
- On-Line Mode - DriveAP is connected to a drive. Changes to the Adaptive and Multi Block Programs are written immediately to the drive and actual values are shown on the screen in real-time.

DriveAP features

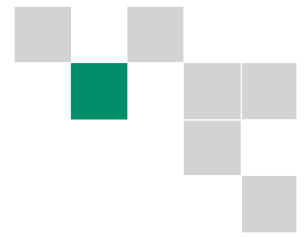
- Easy to use tool, no special skills required
- Create and download new programs
- Document programs
- Upload existing programs from the drive
- Operating modes
 - Stand Alone
 - Off-Line
 - On-Line



DriveAP with Multi Block Programming application

Dimensioning

DriveSize



Quality dimensioning

DriveSize is a PC program for helping the user to select an optimal motor, frequency converter and transformer, especially in those cases where a straight-forward selection from a catalogue is not possible. Additionally it can be used to compute currents, network harmonics and to create documents about the dimensioning based on actual load. DriveSize contains current versions of the ABB motor and frequency converter catalogues.

The default values make DriveSize simple to use, but the user is provided with ample options for drive selection. The shortcut keys make drive selection easy while still honouring the relatively complicated rules. A manual selection mode is also supported.

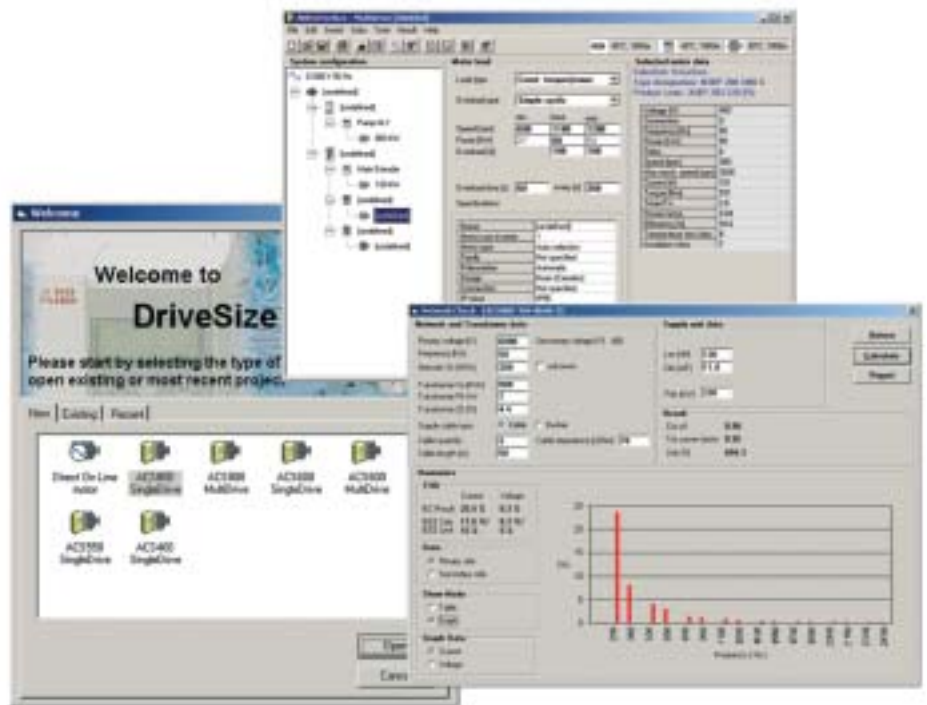
DriveSize is currently used by more than 1000 engineers globally.

DriveSize is for drive system components

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

DriveSize features

- Select an optimal motor, drive unit, supply unit and transformer
- Calculate network harmonics for single supply unit or for the whole system
- Allows importation of own motor database
- Supply dimensioning results in graphical and numerical format
- Print and save the results



Start-up, maintenance and integration

DriveWindow 2



Start-up and maintenance tool

ABB's DriveWindow is an advanced, easy-to-use PC software tool for the start-up and maintenance of ABB industrial drives. Its host of features and clear, graphical presentation of the operation make it a valuable addition to your system providing information necessary for troubleshooting, maintenance and service, as well as training.

With DriveWindow the user is able to follow the co-operation of several drives simultaneously by collecting the actual values from the drives onto a single screen or printout.

Additionally, the client part of DriveWindow may reside on one Local Area Network PC, and the server side on another PC closer to the drives. This enables plant-wide monitoring to be easily accomplished with two PCs.

High speed communication

DriveWindow uses a high-speed fibre optic cable network with DDCS communication protocol. This makes communication between PC and drives very fast. The fibre optic network is safe and extremely immune against external disturbance. The fibre optic communication card is needed inside the computer.

Monitoring drives

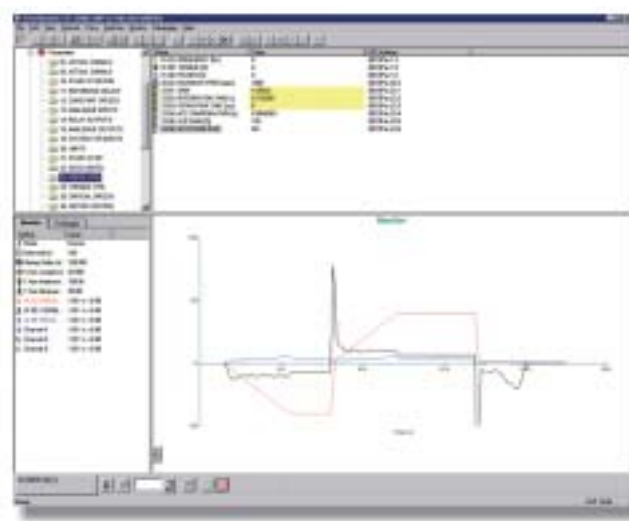
Using DriveWindow you can monitor several drives simultaneously. The history buffer makes it possible to record a large amount of data in the PC's memory. The drive's data logger can be accessed with DriveWindow and viewed in graphical form. The fault logger inside the drive automatically documents every fault, warning and event which occurs. The fault history stored in the drive can be uploaded to your computer.

Versatile back-up functions

Drive parameters can be saved to the PC with DriveWindow, and can easily be downloaded back to the drive whenever needed. The same goes for the software. DriveWindow allows the entire control board software to be saved and restored later, if needed. This makes it possible to use one control board as a spare part for many different sizes of drives.

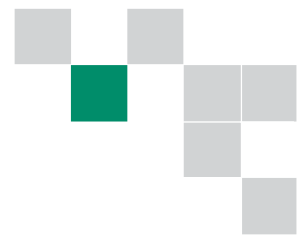
DriveWindow 2 features

- Easy-to-use tool for commissioning and maintenance
- Several drives connected and monitored at the same time
- Monitor, edit or save signals and parameters, clear graphical presentation
- High speed communication between PC and drive
- Versatile back-up functions
- View data collected and stored in the drive
- Fault diagnosis; DriveWindow indicates the status of drives, and also reads fault history data from the drive



Start-up, maintenance and integration

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 controlling and monitoring systems.

Remote monitoring

DriveOPC enables remote connection over LAN (local area networks). The remote PC can be connected by 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 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 a high-speed fibre optic cable network with DDCS communication protocol. This makes communication between PC and drives very fast. The fibre optic network is safe and extremely immune against external disturbance. The fibre optic communication card is needed inside the computer.

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

Control panel

Control panel user-friendly functionality.

The industrial drive control panel provides a great deal of information in plain, easy-to-understand language.

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



Actual value

The control panel can display three separate actual values simultaneously.

Examples of these are:

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

Control Panel

Multilingual alphanumeric display (4 lines x 20 characters) – plain text messages in 14 languages.

Intelligent removable control panel can be mounted on the drive enclosure or remotely.

Local drive operation from control panel, including LOCAL/REMOTE selection, START/STOP, RESET, MOTOR ROTATION DIRECTION and REFERENCE setting.

Fault memory

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

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

Parameter copying

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

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

Centralised control

One panel can control up to 31 drives.

```
-> -> <- ->  
1 21 40 100  
->  
111
```

Simple arrangement

Parameters are organised into groups for easy programming.

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

Start-up Assistant

Easy commissioning with the Start-up Assistant. The Start-up Assistant actively guides you through the commissioning procedure.

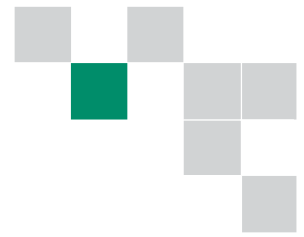
```
MOTOR SETUP 4/10  
MOTOR NOM CURRENT ?  
(75.5 A)  
ENTER: OK RESET: BACK
```

Adaptive Programming

No extra hardware or software required for Adaptive Programming.

```
1 L -> 0.0 RPM 0  
84 ADAPTIVE PROGRAM  
05 BLOCK1  
(MAX)
```

Start-up Assistant



Faster and easier commissioning

The Start-up Assistant serves in industrial drives. It guides you actively through the commissioning procedure either via the control panel or ABB PC tools. It is multilingual, requests data with clear and plain text messages, and sets the required parameters to your needs. It also comes with an online info system with step-by-step reference to printed manuals.

On-line info system

To make it easier and more informative, there is an on-line info system available at each step, helping to set the correct values for each parameter.

Start-up Assistant Features

- Easy and fast commissioning procedure
- Intelligent guide to assist you through the commissioning
- Your own language
- On-line info system always available

The ABB industrial drive offers you all this as standard features.



Adaptive Programming

Optimal adaptability

- Small PLC inside
- Program your drive on-site during commissioning
- Create your own I/O signals, modify speed or torque reference, chain or set a timer
- Do it without any additional hardware or software
- As simple as setting a parameter

There is also a DriveAP PC tool available for Adaptive Programming.



Adaptive Programming Features

- 15 programmable function blocks
- Available functions:
 - Logical: AND, OR and XOR
 - Mathematical: add, mul, div, abs, max and min
 - Other: timer, switch, comparator, filter, SR, PI and user-defined warnings or faults
- Freely definable execution order
- Easy documentation

The ABB industrial drive offers you all this as standard features.

Service products



To reduce the total cost of owning ABB drives and to maximize their availability ABB offers the following services:

Training services

ABB offers dedicated training on ABB drives for your service and operating personnel. Upon successful completion of the training course your personnel will have acquired the skills to use ABB drives correctly and safely, and also to get the best results from their application. The Internet-based training course is broken down into modules that allow for customization of the contents depending on the objectives and skill levels of the participants.

Service product code	Service type	Description
G160e	ACS800 MD, G160e	Internet-based training
G160	ACS800 MD, G160	Startup & Service Hands-on

ABB has a service organization that spans the globe. Contact your local ABB sales office for more information about our services.

On-site spares kits

On-site spares kits contain the most critical spare parts for your AC drives. The contents of the kit can be chosen according to the number of drives in use. Having a spares kit on site reduces the downtime of equipment and increases the availability of critical processes.

Start-up services

Using ABB's start-up services you can trust that your drives are correctly commissioned and well-tuned to their application. ABB employs authorized professionals who have been thoroughly trained for their job.

ABB maintenance services

ABB maintenance services ensure optimal operation of your drives and extend their useful life.



Contact and web information

www.abb.com/motors&drives



ABB's worldwide presence is built on strong local companies working together with the local distributor and channel partner network across borders to achieve a uniform level of services for all our customers. By combining the experience and know-how gained in local and global markets, we ensure that our customers in all industries can gain the full benefit from our products.

For further details about all our variable speed drive products and services please contact your nearest ABB office or visit the ABB website www.abb.com/motors&drives.

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