ABB INDUSTRIAL DRIVES

ACS880-01..., ACS880-04..., ACS880-11..., ACS880-31..., ACS880-14... and ACS880-34... +C132 marine type-approved drives

ACS880-01..., ACS880-04..., ACS880-11..., ACS880-31..., ACS880-14... and ACS880-34... +C132 marine type-approved drives

Supplement

3AXD50000010521 Rev F
EN
Original instructions
EFFECTIVE: 2025-04-17

Table of contents

Further information

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Introduction to this supplement

Contents of this supplement

The supplement contains additional instructions and information to the hardware manual on the marine type-approved ACS880-01, ACS880-04, ACS880-11, ACS880-31, ACS880-14 and ACS880-34.

Safety instructions

Obey all safety instructions of the drive. Read the safety instructions before you install, start up or use the drive. Refer to the applicable hardware manual.

Applicability

The supplement is applicable to these drives and drive modules:

- ACS880-01…+C132 all frames, IP21 (UL Type 1) and IP55 (UL Type 12)
- ACS880-11…+C132 frame R8, IP21 (UL Type 1) and IP55 (UL Type 12)
- ACS880-31…+C132 frame R8, IP21 (UL Type 1) and IP55 (UL Type 12)
- ACS880-04…+C132 frame R10 and frame R11
- ACS880-14… +C132 frame R11
- ACS880-34…+C132 frame R11.

Target audience

This manual is intended for people who plan the installation, install, commission, and do maintenance work on the drive, or create instructions for the end user of the drive concerning the installation and maintenance of the drive.

Read the manual before you do work on the drive. You are expected to know the fundamentals of electricity, wiring, electrical components, and electrical schematic symbols.

Related documents

The codes and links below open an online listing of the manuals applicable to the product.

For more documentation, go to www.abb.com/drives/documents.

ACS880-01 manuals

ACS880-11 manuals

ACS880-31 manuals

ACS880-04 manuals

ACS880-14 manuals

ACS880-34 manuals

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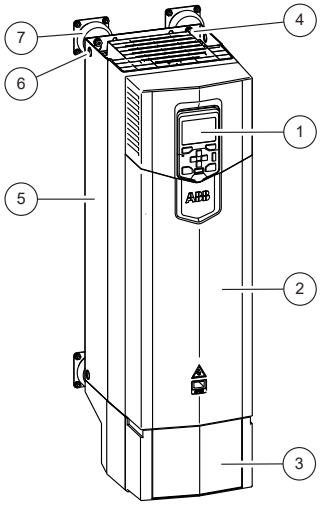
Product overview

The drive with option +C132 is a marine type-approved drive or drive module. Option +C132 covers all common input voltages that are used in the marine environment, including the marine spesific 440 V voltage. Some classification agencies require use of a common mode filter (option +E208).

Refer to the hardware manual for the option codes of the marine product certifications.

ACS880-01...+C132

The components of the standard IP21 marine type-approved drive are shown below (view of ACS880-01 frame R5).

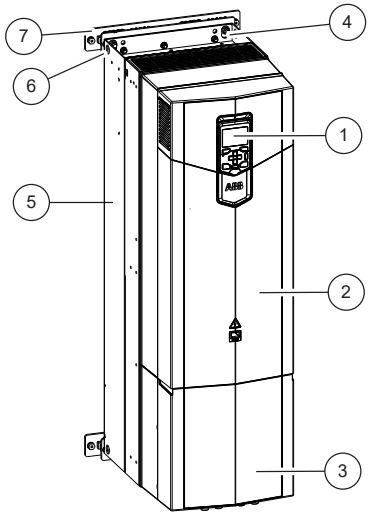


1	Control panel
2	Front cover
3	Cable box
4	Four fastening points at the back of the drive
5	Heatsink
6	Lifting eyes
7	Four vibration dampers

Code	Description
+C131	Vibration dampers for frames R4 to R9 in wall installations. Vibration dampers are not needed in cabinet installations.
+C132	Marine type-approved drive. Includes common mode filter in frames R6 to R9. Requires option +C131 in wall installations for frames R4 to R9.

ACS880-11...and ACS880-31...+C132

The components of the standard IP21 marine type-approved R8 drive are shown below.



1	Control panel
2	Front cover
3	Cable box
4	Four fastening points at the back of the drive
5	Heatsink
6	Lifting eyes
7	Two vibration dampers

Code	Description
+C131	Vibration dampers for frame R8 in wall installations. Vibration dampers are not needed in cabinet installations.
+C132	Marine type-approved drive. Requires option +E208.
+E208	Common mode filter

ACS880-04..., ACS880-14... and ACS880-34...+C132

Code	Description
+C132	Marine type-approved drive. Requires option +E208.
+E208	Common mode filter

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Mechanical installation

Wall installation

ACS880-01 frames R1…R3

Install the drive on the wall as described in the hardware manual.

ACS880-01 frames R4…R9, ACS880-11 and ACS880-31

Install the drive on the wall as described in the applicable instruction:

- Vibration dampers (option +C131) for ACS880-01 frames R4 and R5 installation instructions (3AXD50000010497 [English])
- Vibration dampers (option +C131) for ACS880-01 frames R6…R9 installation instructions (3AXD50000013389 [English])
- Vibration dampers (option +C131) for ACS880-11 and ACS880-31 frame R8 drives installation instructions (3AXD50000956265 [English]).

Cabinet installation

You can install the marine-approved ACS880 drives and drive modules into a cabinet without vibration dampers.

ABB recommends the following accessories and features in all marine cabinet constructions:

- reinforced mechanics
- grab railings
- door flush bolt which allows the door to open 90 degrees and prevents it from slamming close

- self-extinctive materials
- flat bars at base of the cabinet for attaching
- Attaching brackets at the top of the cabinet.

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Electrical installation

Connection diagram

Refer to the hardware manual.

Connection procedure – ACS880-01, ACS880-11 and ACS880-31

1. Install the common mode filter to the cable box. If the cable box is not used (option +P940), hang the common mode filter on the cabinet structure. Refer to the applicable installation instructions:

Common mode filter kit for ACS880-01 frame R6 (option +E208) installation instructions	3AXD50000015178
Common mode filter kit for ACS880-01 frame R7, and for ACS880-11, ACS880-31, ACH580-31 and ACQ580-31 frame R8 installation instructions	3AXD50000015179
Common mode filter kit for ACS880-01 drives (frame R8, option +E208) installation instructions	3AXD50000015180
Common mode filter kit for ACS880-01 drives (frame R9, option +E208) installation instructions	3AXD50000015201
Input side common mode filter kit for ACS880-01-490A-3, -477A-5 and -453A-4 (option +E202) and for ACS580-01, ACH580-01 and ACQ580-01 -490A-4 and -477A-4 Installation instructions	3AXD50001192297

2. Route the motor cable through the common mode filter as shown in the installation instructions.
3. Install the input power cable (and brake resistor cable, if present) as shown in the hardware manual.

Connection procedure – ACS880-04, ACS880-14 and ACS880-34

Refer to the hardware manual.

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Technical data

Ratings – ACS880-01...+C132

The nominal ratings for marine type-approved ACS880-01 drives with 50 Hz and 60 Hz supply at an ambient temperature of 45 °C (113 °F) are given below. The symbols are described in Definitions (page 32).

IEC RATINGS – ACS880-01...+C132									
ACS880-01-...	Frame size	Input rating	Max. current	Output ratings					
				Nominal use		Light-overload use		Heavy-duty use	
		I_1	I_{max}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	kW	A	kW	A	kW
U_n = 230 V									
04A6-2	R1	4.4	6.3	4.4	0.75	4.2	0.75	3.5	0.55
06A6-2	R1	6.3	7.8	6.3	1.1	6.0	1.1	4.4	0.75
07A5-2	R1	7.1	11.2	7.1	1.5	6.8	1.5	6.3	1.1
10A6-2	R1	10.1	12.8	10.1	2.2	9.6	2.2	7.1	1.5
16A8-2	R2	16.0	18.0	16.0	3.0	15.2	3.0	10.1	2.2
24A3-2	R2	23	28.6	23	5.5	21.9	5.5	16.0	4.0
031A-2	R3	29	41	29	7.5	27.8	7.5	23	5.5
046A-2	R4	44	64	44	11	42	11	36	7.5

IEC RATINGS – ACS880-01...+C132									
ACS880-01-...	Frame size	Input rating	Max. current	Output ratings					
				Nominal use		Light-overload use		Heavy-duty use	
		I_1	I_{max}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	kW	A	kW	A	kW
061A-2	R4	58	76	58	15	55	15	43	11
075A-2	R5	71	104	71	18.5	68	18.5	58	15
087A-2	R5	83	122	83	22	79	22	68	18.5
115A-2	R6	109	148	109	30	104	30	83	22
145A-2	R6	138	178	138	37	131	37	100	30
170A-2	R7	162	247	162	45	153	45	138	37
206A-2	R7	196	287	196	55	186	55	161	45
274A-2	R8	260	362	260	75	247	75	202	55
U_n = 400 V									
02A4-3	R1	2.3	3.1	2.3	0.75	2.2	0.55	1.7	0.55
03A3-3	R1	3.1	4.1	3.1	1.1	3.0	1.1	2.3	0.75
04A0-3	R1	3.8	5.6	3.8	1.5	3.6	1.5	3.1	1.1
05A6-3	R1	5.3	6.8	5.3	2.2	5.1	2.2	3.8	1.5
07A2-3	R1	7.6	9.5	7.6	3.0	7.2	3.0	5.3	2.2
09A4-3	R1	9.5	12.2	9.5	4.0	9.0	4.0	7.6	3.0
12A6-3	R1	12.3	16.0	12.3	5.5	11.4	5.5	9.5	4.0
017A-3	R2	16	21	16	7.5	15	7.5	12	5.5
025A-3	R2	24	29	24	11	23	11	16	7.5
032A-3	R3	30	42	30	15	29	15	23	11
038A-3	R3	36	54	36	18.5	34	15	30	15
045A-3	R4	43	64	43	22	41	18.5	36	18.5
061A-3	R4	58	76	58	30	55	22	42	22
072A-3	R5	68	104	68	30	65	30	58	30
087A-3	R5	83	122	83	45	79	37	68	30
105A-3	R6	100	148	100	55	95	45	83	45
145A-3	R6	138	178	138	55	131	55	100	55

IEC RATINGS – ACS880-01...+C132									
ACS880-01-...	Frame size	Input rating	Max. current	Output ratings					
				Nominal use		Light-overload use		Heavy-duty use	
		I_1	I_{max}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	kW	A	kW	A	kW
169A-3	R7	161	247	161	75	153	75	138	55
206A-3	R7	196	287	196	90	186	90	161	75
246A-3	R8	234	350	234	110	222	110	196	90
293A-3	R8	278	418	278	132	264	132	234	110
363A-3	R9	345	498	345	160	328	160	278	132
430A-3	R9	409	545	409	200	380	200	345**	160
490A-3	R9	428	600	466	250	456*	250	366****	200
U_n = 500 V									
02A1-5	R1	2.0	3.1	2.0	0.75	2.0	0.55	1.6	0.55
03A0-5	R1	2.9	4.1	2.9	1.1	2.8	1.1	2.0	0.75
03A4-5	R1	3.2	5.6	3.2	1.1	3.2	1.1	2.9	1.1
04A8-5	R1	4.6	6.8	4.6	1.5	4.6	1.5	3.2	1.1
05A2-5	R1	4.9	9.5	4.9	2.2	5.0	2.2	4.6	1.5
07A6-5	R1	7.2	12.2	7.2	3.0	7.2	3.0	5.0	2.2
11A0-5	R1	10.5	16.0	10.5	4.0	10.4	4.0	7.2	3.0
014A-5	R2	13	21	13	5.5	13	5.5	10	4.0
021A-5	R2	20	29	20	7.5	19	7.5	13	5.5
027A-5	R3	26	42	26	11	26	11	20	7.5
034A-5	R3	32	54	32	15	32	15.0	26	11
040A-5	R4	38	64	38	18.5	38	18.5	32	15
052A-5	R4	49	76	49	22	49	22	38	18.5
065A-5	R5	62	104	62	30	62	30	49	22
077A-5	R5	73	122	73	37	73	37	62	30
096A-5	R6	91	148	91	45	91	45	73	37
124A-5	R6	118	178	118	55	118	55	91	45
156A-5	R7	148	247	148	75	148	75	118	55

IEC RATINGS – ACS880-01...+C132									
ACS880-01-...	Frame size	Input rating	Max. current	Output ratings					
				Nominal use		Light-overload use		Heavy-duty use	
		I_1	I_{max}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	kW	A	kW	A	kW
180A-5	R7	171	287	171	90	171	90	148	75
240A-5	R8	228	350	228	110	228	110	171	90
260A-5	R8	247	418	247	132	247	132	240*	110
361A-5	R9	343	542	343	160	343	160	287	160
414A-5	R9	393	542	393	200	393	200	361**	200
477A-5	R9	428	600	453	250	432*	250	366***	200
U_n = 690 V									
07A4-7	R3	7.0	12.2	7.0	4.0	6.7	4.0	5.3	4.0
09A9-7	R3	9.4	18	9.4	7.5	8.9	7.5	7.0	5.5
14A3-7	R3	13.6	22	13.6	11	12.9	11	9.4	7.5
019A-7	R3	18	29	18	11	17	11	13.6	11
023A-7	R3	22	38	22	18.5	21	15	18	15
027A-7	R3	26	46	26	22	24	18.5	22	18.5
035A-7	R5	33	64	33	30	32	22	25	22
042A-7	R5	40	70	40	30	38	30	33	30
049A-7	R5	47	71	47	37	44	37	40	30
061A-7	R6	58	104	58	55	55	45	47	37
084A-7	R6	80	124	80	55	76	55	58	55
098A-7	R7	93	168	93	75	88	75	80	55
119A-7	R7	113	198	113	90	107	90	93	75
142A-7	R8	135	250	135	110	128	110	113	90
174A-7	R8	165	274	165	132	157	132	135	110
210A-7	R9	200	384	200	160	190	160	165	132
271A-7	R9	257	411	257	200	245	200	200	160

UL (NEC) RATINGS – ACS880-01...+C132									
ACS880-01-...	Frame size	Input rating	Max. current	Output ratings					
				Light-overload use			Heavy-duty use		
		I_1	I_{max}	I_{Ld}	P_{Ld}		I_{Hd}	P_{Hd}	
		A	A	A	kW	hp	A	kW	hp
U_n = 440 V									
02A0-4	R1	2.0	3.1	2.0	0.75	1	1.6	0.55	0.75
02A8-4	R1	2.8	4.1	2.8	1.1	1.5	2	0.75	1
03A2-4	R1	3.2	5.6	3.2	1.5	2	2.9	1.1	1.5
04A6-4	R1	4.6	6.8	4.6	2.2	3	3.2	1.5	2
04A9-4	R1	4.9	9.5	4.9	3	4	4.6	1.5	2
07A2-4	R1	7.2	12.2	7.2	4	5	4.9	2.2	3
10A4-4	R1	10.4	16	10.4	5.5	7.5	7.2	4.0	5
013A-4	R2	13	21	13	7.5	10	10	5.5	7.5
019A-4	R2	19	29	19	11	15	13	7.5	10
026A-4	R3	26	42	26	15	20	20	11	15
032A-4	R3	32	54	32	18.5	25	26	15	20
038A-4	R4	38	64	38	22	30	32	19	25
049A-4	R4	49	76	49	30	40	38	22	30
062A-4	R5	62	104	62	37	50	49	30	40
073A-4	R5	73	122	73	45	60	62	37	50
091A-4	R6	91	148	91	55	75	73	45	60
118A-4	R6	118	178	118	75	100	91	55	75
148A-4	R7	148	247	148	90	125	118	75	100
171A-4	R7	171	287	171	110	150	148	90	125
228A-4	R8	228	350	228	132	200	171	110	150
247A-4	R8	247	418	247	160	215	228*	110	150
343A-4	R9	343	542	343	200	300	287	160	214
393A-4	R9	393	542	393	250	350	343**	200	300
453A-4	R9	453	600	453*	250	350	393****	200	300
U_n = 480 V									
02A1-5	R1	2.0	3.1	2.0	0.75	1.00	1.6	0.55	0.75

UL (NEC) RATINGS – ACS880-01...+C132									
ACS880-01-...	Frame size	Input rating	Max. current	Output ratings					
				Light-overload use			Heavy-duty use		
		I_1	I_{max}	I_{Ld}	P_{Ld}		I_{Hd}	P_{Hd}	
		A	A	A	kW	hp	A	kW	hp
03A0-5	R1	2.9	4.1	2.9	1.1	1.5	2.0	0.75	1.00
03A4-5	R1	3.2	5.6	3.2	1.5	2.0	2.9	1.1	1.5
04A8-5	R1	4.6	6.8	4.6	2.2	3.0	3.2	1.5	2.0
05A2-5	R1	4.9	9.5	4.9	3.0	3.0	4.6	1.5	2.0
07A6-5	R1	7.2	12.2	7.2	4.0	5.0	4.9	2.2	3.0
11A0-5	R1	10	16.0	10	5.5	7.5	7.2	4.0	5.0
014A-5	R2	13	21	13	7.5	10.0	10	5.5	7.5
021A-5	R2	20	29	20	11	15	13	7.5	10.0
027A-5	R3	26	42	26	15	20	20	11.0	15.0
034A-5	R3	32	54	32	18.5	25	26	15	20.0
040A-5	R4	38	64	38	22	30	32	19	25
052A-5	R4	49	76	49	30	40	38	22	30
065A-5	R5	62	104	62	37	50	49	30	40
077A-5	R5	73	122	73	45	60	62	37	50
096A-5	R6	91	148	91	55	75	73	45	60
124A-5	R6	118	178	118	75	100	91	55	75
156A-5	R7	148	247	148	90	125	118	75	100
180A-5	R7	171	287	171	110	150	148	90	125
240A-5	R8	228	350	228	132	200	171	110	150
260A-5	R8	247	418	247	160	215	228*	110	150
302A-5	R9	287	498	287	200	250	247	132	200
361A-5	R9	343	542	343	200	300	287	160	214
414A-5	R9	393	542	393	250	350	343**	200	300
477A-5	R9	428	600	432*	250	350	366***	200	350
U_n = 575 V									
07A4-7	R3	6.7	12.2	6.7	4.0	5.0	5.3	3.0	3.0
09A9-7	R3	8.9	18	8.9	5.5	7.5	7.0	4.0	5.0

UL (NEC) RATINGS – ACS880-01...+C132									
ACS880-01-...	Frame size	Input rating	Max. current	Output ratings					
				Light-overload use			Heavy-duty use		
		I_1	I_{max}	I_{Ld}	P_{Ld}		I_{Hd}	P_{Hd}	
		A	A	A	kW	hp	A	kW	hp
14A3-7	R3	12.9	22	12.9	7.5	10	9.4	5.5	7.5
019A-7	R3	17	29	17	11	15	13.6	7.5	10
023A-7	R3	21	38	21	15	20	18	11	15
027A-7	R3	26	46	26	18.5	25	22	15	20
035A-7	R5	39	64	39	30	40	30	22	30
042A-7	R5	49	70	49	37	50	39	30	40
049A-7	R5	49	71	49	37	50	39	30	40
061A-7	R6	59	104	59	45	60	49	37	50
084A-7	R6	73	124	73	55	75	59	45	60
098A-7	R7	94	168	94	75	100	73	55	75
119A-7	R7	119	198	119	90	125	94	75	100
142A-7	R8	137	250	137	110	150	119	90	125
174A-7	R8	171	274	171	132	200	137	110	150
210A-7	R9	230	384	230	160	250	182	132	200
271A-7	R9	257	411	257	200	250	230	160	250

IEC fuses – ACS880-01...+C132

Refer to the hardware manual.

UL fuses – ACS880-01...+C132

The UL Listed fuses in this manual are required for branch circuit protection and required per NEC. The drives are suitable for use on a circuit capable of delivering not more than 100 kA symmetrical amperes (rms) at 440 V maximum when protected by the fuses described below. For UL fuses of other voltage ranges, refer to the hardware manual.

ABB recommends Class T fuses listed below. Refer to notes below the table.

ACS880-01-...	Input current (A)	UL (one fuse per phase)			
		A	V	Bussmann type	UL class
U_n = 440 V					
02A0-4	2.0	3	600	JJS-3	T
02A8-4	2.8	6	600	JJS-6	T
03A2-4	3.2	6	600	JJS-6	T
04A6-4	4.6	10	600	JJS-10	T
04A9-4	4.9	10	600	JJS-10	T
07A2-4	7.2	15	600	JJS-15	T
10A4-4	10.4	20	600	JJS-20	T
013A-4	13	25	600	JJS-25	T
019A-4	19	35	600	JJS-35	T
026A-4	26	40	600	JJS-40	T
032A-4	32	50	600	JJS-50	T
038A-4	38	60	600	JJS-60	T
049A-4	49	80	600	JJS-80	T
062A-4	62	90	600	JJS-90	T
073A-4	73	110	600	JJS-110	T
091A-4	91	150	600	JJS-150	T
118A-4	118	200	600	JJS-200	T

ACS880-01-...	Input current (A)	UL (one fuse per phase)			
		A	V	Bussmann type	UL class
148A-4	148	225	600	JJS-225	T
171A-4	171	300	600	JJS-300	T
228A-4	228	350	600	JJS-350	T
247A-4	247	400	600	JJS-400	T
343A-4	343	500	600	JJS-500	T
393A-4	393	600	600	JJS-600	T
453A-4	427	600	600	JJS-600	T

1. Fuses are required as part of the installation, are not included in the base drive configuration and must be provided by others.
2. Fuses with a higher current rating than specified must not be used.
3. The UL listed fuses recommended by ABB are the required branch circuit protection per NEC. Circuit breakers listed in the hardware manual's section Circuit breakers (UL) are also acceptable as branch circuit protection.
4. The recommended size or smaller UL listed 248 fast acting, time delay, or high speed fuses must be used to maintain the UL listing of the drive. Additional protection can be used. Refer to local codes and regulations.
5. A fuse of a different class can be used at the high fault rating where the I_{peak} and I^2t of the new fuse is not greater than that of the specified fuse.
6. UL listed 248 fast acting, time delay, or high speed fuses from other manufacturers can be used if they meet the same class and rating requirements specified in the rules above.
7. When installing a drive, always follow ABB installation instructions, NEC requirements and local codes.
8. In multicable installations, install only one fuse per phase (not one fuse per conductor).

Ratings – ACS880-11...and ACS880-31...+C132

The nominal ratings for marine type-approved ACS880-11 and ACS880-31 frame R8 drives with 50 Hz and 60 Hz supply at an ambient temperature of 45 °C (113 °F) are given below. The symbols are described in Definitions (page 32).

IEC RATINGS – ACS880-11...and ACS880-31...+C132									
ACS880-11/31-...	Frame size	Input rating	Max. current	Output ratings					
				Nominal use		Light-overload use		Heavy-duty use	
		I_1	I_{max}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	kW	A	kW	A	kW
U_n = 400 V									
105A-3	R8	84	148	100	52	95	52	83	43
145A-3	R8	114	178	138	71	131	71	100	52
169A-3	R8	137	247	161	86	153	86	138	71
206A-3	R8	168	287	196	105	186	105	161	66
U_n = 500 V									
101A-5	R8	67	148	96	52	86	52	73	43
124A-5	R8	91	178	118	71	112	71	91	52
156A-5	R8	110	247	148	86	141	86	118	71
180A-5	R8	134	287	171	105	162	105	148	86

UL (NEC) RATINGS – ACS880-11...and ACS880-31...+C132							
ACS880-11/31-...	Frame size	Input rating	Max. current	Light-overload use		Heavy-duty use	
		I_1	I_{max}	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	hp	A	hp
U_n = 480 V							
101A-5	R8	70	148	91	71	73	57
124A-5	R8	95	178	118	95	91	71
156A-5	R8	114	247	148	119	118	95
180A-5	R8	140	287	171	143	148	119

Ratings – ACS880-04...+C132

The nominal ratings for marine type-approved ACS880-04 drive modules with 50 Hz and 60 Hz supply at an ambient temperature of 45 °C (113 °F) are given below. The symbols are described in Definitions (page 32).

IEC RATINGS – ACS880-04...+C132										
ACS880-04-...	Frame size	Input rating	Max. current		Output ratings					
					Nominal use		Light-over-load use		Heavy-duty use	
		I_1	I_{max}	I_{max_start}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	A	kW	A	kW	A	kW
U_n = 400 V										
505A-3	R10	480	560	671	480	250	461	250	343	160
585A-3	R10	556	730	828	556	315	551	315	408	200
650A-3	R10	621	730	954	621	355	602	315	453	250
725A-3	R11	689	1020	1100	689	355	679	355	538	250
820A-3	R11	779	1020	1100	779	400	770	400	594	315
880A-3	R11	836	1100	1100	836	450	822	450	689*	355
U_n = 500 V										
460A-5	R10	437	560	671	437	250	428	250	314	200
503A-5	R10	478	560	671	478	315	459	315	343	200
583A-5	R10	554	730	828	554	355	544	355	393	250
635A-5	R10	603	730	954	603	400	592	400	453	315
715A-5	R11	679	850	1100	679	450	670	450	538	355
820A-5	R11	779	1020	1100	779	500	767	500	594	400
880A-5	R11	836	1100	1100	836	560	814	560	662**	450
U_n = 690 V										
330A-7	R10	314	480	510	314	250	304	250	242	200
370A-7	R10	352	520	650	352	315	342	315	309	250
430A-7	R10	409	540	720	409	400	399	355	342**	315
425A-7	R11	404	520	720	409	400	399	355	342	315
470A-7	R11	447	655	830	447	400	432	400	394	355
522A-7	R11	496	685	910	496	450	480	450	432	400
590A-7	R11	561	800	1010	516	500	542	500	480	450

IEC RATINGS – ACS880-04…+C132										
ACS880-04-…	Frame size	Input rating	Max. current		Output ratings					
					Nominal use		Light-over-load use		Heavy-duty use	
		I_1	I_{max}	I_{max_start}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	A	kW	A	kW	A	kW
650A-7	R11	618	820	1100	618	560	599	560	542**	500
721A-7	R11	685	825	1100	685	630	670	630	542**	500

UL (NEC) RATINGS – ACS880-04…+C132										
ACS880-04-…	Frame size	Input rating	Max. current		Light-overload use			Heavy-duty use		
		I_1	I_{max}	I_{max_start}	I_{Ld}	P_{Ld}		I_{Hd}	P_{Hd}	
		A	A	A	A	kW	hp	A	kW	hp
U_n = 480 V										
503A-5	R10	478	560	671	459	315	400	343	200	300
583A-5	R10	554	730	828	544	355	450	395	250	350
635A-5	R10	603	730	954	592	400	500	453	315	400
715A-5	R11	679	850	1100	670	450	550	538	355	450
820A-5	R11	779	1020	1100	767	500	600	594	400	500
880A-5	R11	836	1100	1100	814	560	700	645	450	550
U_n = 575 V										
330A-7	R10	314	480	510	304	250	300	242	200	250
370A-7	R10	352	520	650	342	315	350	309	250	300
430A-7	R10	409	540	720	399	355	400	342**	315	350
425A-7	R11	404	520	720	394	355	400	342	315	350
470A-7	R11	447	655	830	432	400	450	394	355	400
522A-7	R11	496	685	910	480	450	500	432	400	450
590A-7	R11	561	800	1010	542	500	550	480	450	500
650A-7	R11	618	820	1100	599	560	600	542**	500	600
721A-7	R11	685	825	1100	670	630	700	542**	500	600

Ratings – ACS880-14...and ACS880-34...+C132

The nominal ratings for marine type-approved ACS880-14 and ACS880-34 drive modules with 50 Hz and 60 Hz supply at an ambient temperature of 45 °C (113 °F) are given below. The symbols are described in Definitions (page 32).

IEC RATINGS – ACS880-14... and ACS880-34...+C132									
ACS880-14/34-...	Frame size	Input rating	Max. current	Output ratings					
				Nominal use		Light-duty use		Heavy-duty use	
		I_1	I_{max}	I_2	P_n	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	A	A	kW	A	kW	A	kW
U_n = 400 V									
246A-3	R11	201	333	234	125	222	125	196	105
293A-3	R11	244	397	278	152	264	152	234	125
363A-3	R11	305	473	345	190	328	190	278	152
442A-3	R11	381	590	420	238	399	238	345	190
505A-3	R11	381	599	480	238	456	238	345	190
585A-3	R11	480	713	556	299	528	299	420	238
650A-3	R11	541	816	618	337	587	337	480	238
U_n = 500 V									
240A-5	R11	161	333	228	125	217	125	171	105
260A-5	R11	195	397	247	152	235	152	228	125
361A-5	R11	244	515	343	190	326	190	247	152
414A-5	R11	305	583	393	238	373	238	343	190
460A-5	R11	384	627	437	299	428	299	393	238
503A-5	R11	433	689	478	337	467	337	437	299
U_n = 690 V									
142A-7	R11	117	250	135	125	128	125	113	105
174A-7	R11	142	274	165	152	157	152	135	125
210A-7	R11	177	384	200	190	190	190	165	152
271A-7	R11	220	411	257	238	244	238	200	190
330A-7	R11	278	480	314	299	304	299	257	238
370A-7	R11	314	520	352	337	342	337	314	299
430A-7	R11	356	555	409	380	399	380	352	337

UL (NEC) RATINGS – ACS880-14... and ACS880-34...+C132							
ACS880-14/34-...	**Frame size**	**Input rating[1)]**	**Max. current**	**Light-duty use**		**Heavy-duty use**	
		I_1	I_{max}	I_{Ld}	P_{Ld}	I_{Hd}	P_{Hd}
		A	**A**	**A**	**hp**	**A**	**hp**
U_n = 480 V							
240A-5	R11	161	333	228	190	217	143
260A-5	R11	195	397	247	190	228	190
302A-5	R11	227	473	287	238	247	190
361A-5	R11	244	515	343	285	287	238
414A-5	R11	305	583	393	333	343	285
460A-5	R11	384	627	428	333	393	333
503A-5	R11	433	689	467	380	459	380
U_n = 575 V							
142A-7	R11	117	250	137	143	119	119
174A-7	R11	142	274	160	166	137	143
210A-7	R11	177	384	182	190	160	166
271A-7	R11	220	411	230	238	182	190
330A-7	R11	278	480	275	285	230	238
370A-7	R11	314	520	319	333	275	285
430A-7	R11	356	555	391	428	319	333

Definitions

U_n Nominal voltage of the drive. For the input voltage range, refer to Electrical power network specification in the drive hardware manual.

I_1 Nominal rms input current

I_2 Nominal output current (available continuously with no over-loading)

P_n Typical motor power in no-overload use

I_{Ld} Continuous rms output current allowing 10% overload for 1 minute every 5 minutes

ACS880-01: *Continuous rms output current allowing 10% overload for 50 seconds every 5 minutes (IP55 drives only)

P_{Ld} Typical motor power in light-overload use

I_{max} Maximum output current. Available for 10 seconds at start, then as long as allowed by drive temperature.

I_{Hd} Continuous rms output current allowing 50% overload for 1 minute every 5 minutes.

ACS880-01: * Continuous rms output current allowing 30% overload for 1 minute every 5 minutes.

ACS880-04: * Continuous rms output current allowing 40% overload for 1 minute every 5 minutes

ACS880-01: ** Continuous rms output current allowing 25% overload for 1 minute every 5 minutes.

ACS880-04: ** Continuous rms output current allowing 44% overload for 1 minute every 5 minutes.

ACS880-01: *** Continuous rms output current allowing 40% overload for 1 minute every 5 minutes.

ACS880-01: **** Continuous rms output current allowing 45% overload for 1 minute every 5 minutes.

P_{Hd} Typical motor power in heavy-duty use

Note 1: The ratings apply at an ambient temperature of 45 °C (113 °F).

Note 2: To achieve the rated motor power given in the table, the rated current of the drive must be higher than or equal to the rated motor current.

ABB recommends the DriveSize dimensioning tool for selecting the drive, motor and gear combination.

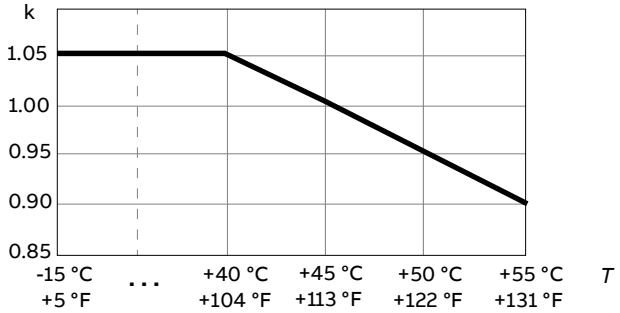
Surrounding air temperature derating

The output current given in the ratings tables is derated when the temperature is above 45 °C. The output current is greater when the temperature is below 45 °C. Refer to the figures below.

ACS880-01 IP21 (UL Type 1) drives, IP55 (UL Type 12) frames R1…R7 and R9

In the temperature range +40…55 °C (+104…131 °F), the rated output current is derated by 1% for every added 1 °C (1.8 °F).

To calculate the output current, multiply the current in the ratings table by the derating factor (k):

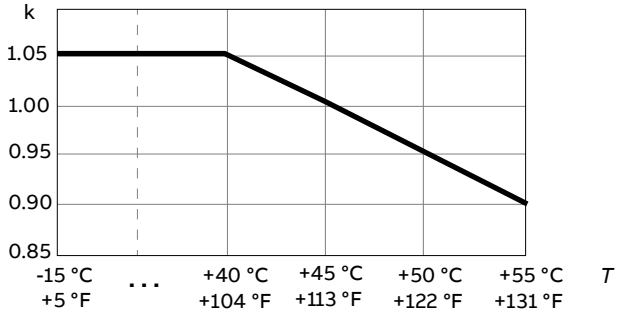


For frame R8 surrounding air temperature derating, refer to the hardware manual.

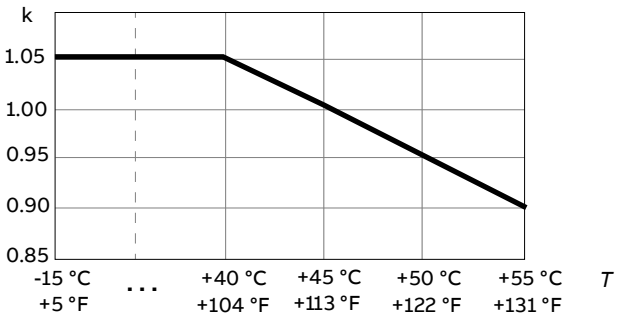
ACS880-04 drive modules

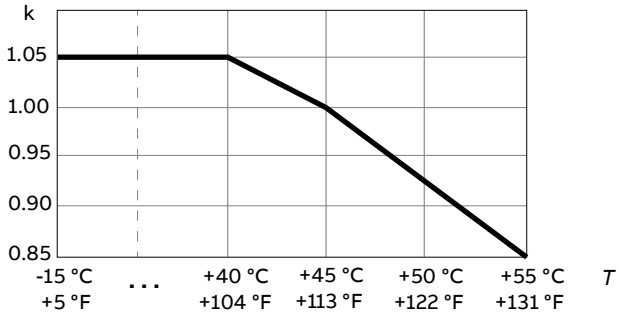
In the temperature range +40…55 °C (+104…131 °F), the rated output current is derated by 1% for every added 1 °C (1.8 °F).

To calculate the output current, multiply the current in the ratings table by the derating factor (k):



■ ACS880-11 and ACS880-31 frame R8 IP21 (UL Type 1) and IP55 (UL Type 12)

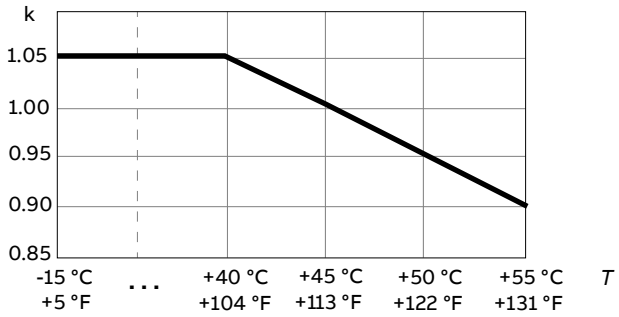
Temperature range	Derating
All drives except IP55 (UL Type 12) drive type -206A-3	
up to +40 °C up to +104 °F	No derating
+40…+55 °C +104…+131 °F	Derate 1% for every 1 °C (1.8 °F): Calculate the output by multiplying the current given in the rating table by the derating factor (k, in the diagram below). 

Temperature range	Derating
IP55 (UL Type 12) drive type -206A-3	
up to +40 °C up to +104 °F	No derating
+40 … +55 °C +104 … +131 °F	In the temperature range +40 … +45 °C, derate 1% for every added 1 °C (1.8 °F). In the temperature range +45 … +55 °C, derate 1.5% for every added 1 °C (1.8 °F). Calculate the output by multiplying the current given in the rating table by the derating factor (*k*, in the diagram below). 

ACS880-14 and ACS880-34 drives

In the temperature range +40…55 °C (+104…131 °F), the rated output current is derated by 1% for every added 1 °C (1.8 °F).

To calculate the output current, multiply the current in the ratings table by the derating factor (k):



Vibration in operation

Max. 1.0 mm (2…13.2 Hz), max. 7 m/s^2 (0.7 g) (13.2 …100 Hz) sinusoidal.

ACS880-11, ACS880-31, ACS880-14 and ACS880-34 marine EMC level compliance in grounded TN systems

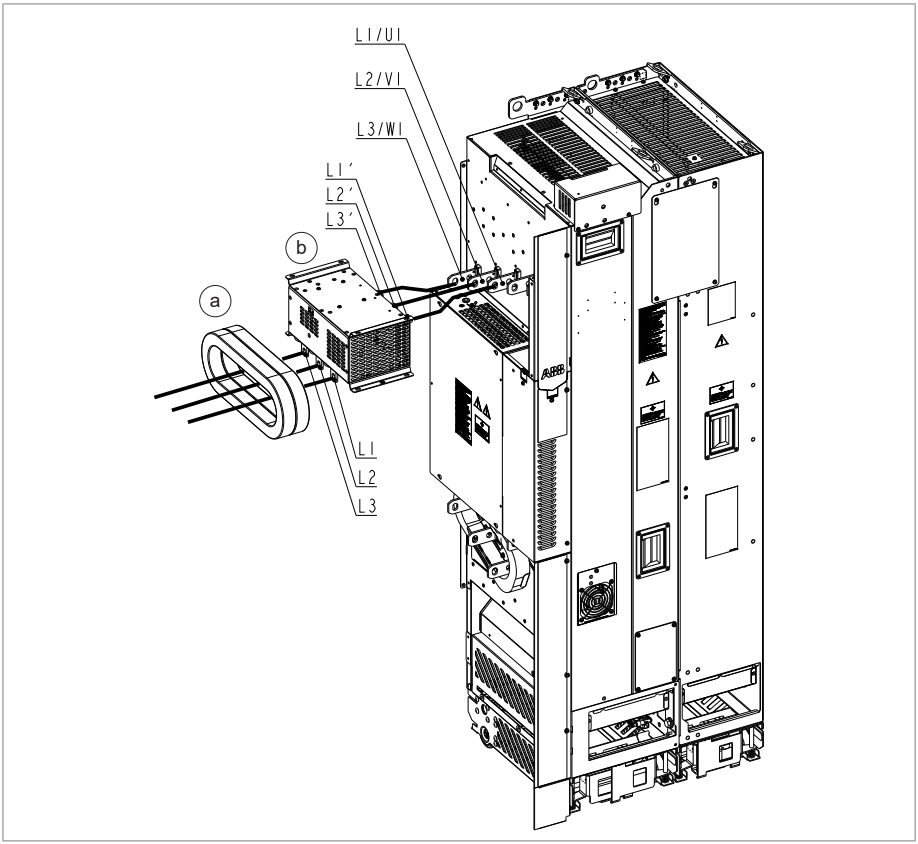
Marine EMC level compliance in a grounded TN system requires:

- For frame R8: +E202 and +E208
- For frame R11: +E202 (ARFI-10), +E208 and input side common mode ferrite rings (2 pcs).

Installing input common mode filter - ACS880-14 and ACS880-34

Follow the order of components shown in the image below. Install the input side common mode ferrite rings (a) as close to the ARFI-10 EMC filter (b) as possible. Ground the ARFI-10 EMC filter to the drive module.

The customer is responsible for the mechanical installation design of the ARFI-10 EMC filter and input side common mode ferrite rings.



Input side common mode ferrite ring specifications:

- Permeability: >40 kμ
- Ring dimensioning must be sufficient for the cables or busbars used in the installation. For maximum cable sizes, refer to the hardware manual.

Example manufacturer MRC Components, type code NO300250-MRC056.

Marine type approval certificates

You can find the marine type approval certificates on the Internet. Go to www.abb.com/drives and enter "marine type approval certificates" in the search field or go to www.new.abb.com/drives/segments/marine/marine-type-approvals.

Further information

Product and service inquiries

Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to new.abb.com/contact-centers.

Product training

For information on ABB product training, navigate to new.abb.com/service/training.

Providing feedback on ABB manuals

Your comments on our manuals are welcome. Navigate to forms.abb.com/form-26567.

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