



Marine &amp; Offshore

Certificate number: 38553/B2 BV

File number: AP 4517

Product code: 2592I

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**ABB Oy Drives**

Helsinki - FINLAND

*for the type of product*

**FREQUENCY CONVERTERS (Power 50kW and over)**

ACS880-01/04

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships  
IEC 61800-5-1 (2007) AMD1: 2016

EC Code: 31

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 30 Sep 2024**

**For Bureau Veritas Marine & Offshore,**

At BV TURKU (ABO), on 06 Mar 2024,

Miika KOKKO

***This certificate was created electronically and is valid without signature***



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 5 page(s)

## **THE SCHEDULE OF APPROVAL**

### **1. PRODUCT DESCRIPTION:**

ACS880-01\*/04\*\* wall or cabinet mounted industrial single drive Frequency Converter.

#### **1.1. Output data for input voltage 230 V (range 208 to 240 V)**

Type designation	Frame size	Nominal ratings	
ACS880-01/04-		I N (A)	P (kW)
206A-2	R7	196	55
274A-2	R8	260	75

#### **1.2. Output data for input voltage 400 V (range 380 to 415 V)**

Type designation	Frame size	Nominal ratings	
ACS880-01/04-		I N (A)	P (kW)
105A-3	R6	100	55
145A-3	R6	138	55
169A-3	R7	161	75
206A-3	R7	196	90
246A-3	R8	234	110
293A-3	R8	278	132
363A-3	R9	345	160
430A-3	R9	409	200

#### **1.3. Output data for input voltage 500 V (range 380 to 500 V)**

Type designation	Frame size	Nominal ratings	
ACS880-01/04-		I N (A)	P (kW)
124A-5	R6	118	55
156A-5	R7	148	75
180A-5	R7	171	90
240A-5	R8	228	110
260A-5	R8	247	132
302A-5	R9	287	160
361A-5	R9	343	160
414A-5	R9	393	200

#### **1.4. Output data for input voltage 690 V (range 660 to 690 V)**

Type designation	Frame size	Nominal ratings	
ACS880-01/04-		I N (A)	P (kW)
061A-7	R6	58	55
084A-7	R6	80	55
098A-7	R7	93	75
119A-7	R7	113	90
142A-7	R8	135	110
174A-7	R8	165	132
210A-7	R9	200	160
271A-7	R9	257	200

#### **1.5. Output data for input voltage 440 V (range 440 to 480 V)**

Type designation	Frame size	Light-overload use	
ACS880-01/04-		ILd (A)	PLd (kW)
091A-4	R6	91	55
118A-4	R6	118	75
148A-4	R7	148	90
171A-4	R7	171	110
228A-4	R8	228	132

247A-4	R8	247	160
343A-4	R9	343	200
393A-4	R9	393	250

Note: Values above are NEMA ratings.

#### Input data:

- voltage	U2in = 208 to 240 V +10%...-15% U3in = 380 to 415 V +10%...-15% U4in = 440 to 480 V +10%...-15% U5in = 380 to 500 V +10%...-15% U7in = 525 to 690 V +10%...-15%.
- frequency:	50/60 Hz $\pm$ 5%
- power factor:	0.98

#### Output data:

- voltage:	0 to U2in/U3in/U4in/U5in/U7in.
- frequency control:	0 to $\pm$ 500 Hz

Enclosure protection:	IP 21 (standard)
	IP 55 (option)
	IP 20 (option)

Obligatory option:	+C132
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*01	wall mounted IP21/IP55/IP20
**04	IP00/IP20 for enclosure assembly

## 2. DOCUMENTS AND DRAWINGS:

ACS880-01 HW-Manual	3AUA0000078093, Rev.N	2019-01-08
Marine supplement	3AXD50000010521, Rev.D	2018-11-07
ACS880-01 Catalog	3AUA0000098111, Rev.N	2018-04-17
Vibration dampers installation guide	3AXD50000010497, Rev.B 3AXD50000013389, Rev.A	2014-03-17 2014-03-17
CM-filter installation guide	3AXD50000015178 3AXD50000015179 3AXD50000015180 3AXD50000015201	
Routine test spec for LAC Modules	3AXD00000596052	2013-10-28
Nemko 3rd party Statement	R1...R9: 3AXD10000080707  R5...R9: 3AXD10000295204	
SoDePro Rev D	3AFE 002242	2014-03-10
ABB Oy Drives and ABB Oy Power Conversion Quality Manual	3AFE 001509	2013-04-19
ISO 9001 certificate	ISO 9001_2008.pdf	
Enviromental Test cases-document	3AXD10000114570	2014-04-23
Recognition_BV_MODE_II_ACS800_01	3AXD10000111548	
Block Diagram	3AXD10000027212	2011-11-28
ACS880 primary control program guide	3AUA0000098062	

#### For modification A2 version:

- Supplement ACS880-01/04 +C132 marine type-approved drives Ref.: 3AXD50000010521 Rev C (EN), dated Dec 2015.
- Cover letter Ref: Certificate update regarding new ACS880 drive type codes, dated Sep 23, 2015
- ZINT-X92 replacements dated 2023-06-13
- ZINT-X94\_ZINT-X95 PCBAs short presentation dated June 19 2023
- Drawing No. 3AXD10000540977 rev.A dated 2023-03-17

**3. TEST REPORTS:****ABB Oy :**

- Type Test document list ACS880-01 No. 3AXD10000114572, dated 2014-05-08

**NEMKO :**

- Test reports according to IEC 61800-5-1 No. 166547 S1, dated 2012-03-22
- Test reports according to IEC 61800-5-1 No. 166547 S2, dated 2012-03-22
- Test reports according to IEC 61800-5-1 No. 166547 S3, dated 2012-03-22
- Test reports according to IEC 61800-5-1 No. 166547 S4 A, dated 2012-11-05
- Test reports according to IEC 61800-5-1 No. 166547 S5, dated 2012-08-16
- Test reports according to IEC 61800-5-1 No. 166547 S6, dated 2012-07-02
- Test reports according to IEC 61800-5-1 No. 166547 S7, dated 2012-07-09
- Test reports according to IEC 61800-5-1 No. 166547 S8, dated 2012-07-09
- Test reports according to IEC 61800-5-1 No. 166547 S9, dated 2012-08-17
- Test reports according to IEC 61800-5-1 No. 203997 R6, dated 2013-12-11
- Test reports according to IEC 61800-5-1 No. 203997 R7, dated 2013-10-01
- Test reports according to IEC 61800-5-1 No. 203997 R8, dated 2013-11-01

**SGS :**

- Test reports according to IEC 61800-5-1 No. 203997 R5, dated 2014-02-13
- Test reports according to IEC 61800-5-1 No. 203997 R9, dated 2014-02-25

- Test Report No. 3AXD10001965987 rev.A dated 28.07.2023
- Test Report No. 3AXD10001965979 rev.A dated 28.07.2023
- Test Report No. 3AXD10001965984 rev.A dated 28.07.2023
- Test Report No. 3AXD10001965989 rev.A dated 28.07.2023
- Test Report No. 3AXD10001718455 dated 21.10.2022
- Test Report No. HELEM2306000274-1 dated 22 June 2023
- Test Report No. HELEM2211000470-6 dated 21 November 2022
- Test Report No. HELEM2306000274-2 dated 22 June 2023
- Test Report No. HELEM2306000270-3 dated 18 November 2022
- Test Report No. 3AXD10001996455 dated 28.08.2023
- Test Report No. 3AXD10001996457 dated 28.08.2023
- Test Report No. 3AXD10001788723 dated 27.02.2023
- Test Report No. 3AXD10001996457 dated 28.08.2023
- Test Report No. 3AXD10001788715 dated 25.08.2023
- Test Report No. 3AXD10001806227 dated 11.04.2023
- Test Report No. 3AXD10001727287 dated 09.11.2022
- Test Report No. 3AXD10001788723 dated 16.01.2023
- Test Report No. HELEM2212000516-4 dated 28 Dec 2022
- Test Report No. HELEM2212000516-5 dated 28 Dec 2022
- Test Report No. HELEM2211000470-2 dated 21 Nov 2022
- Test Report No. HELEM2212000516-1 dated 28 Dec 2022
- Test Report No. 3AXD10001770838 dated 21.12.2022
- Test Report No. 3AXD10001733749 dated 20.12.2022
- Test Report No. 3AXD10001733763 rev.B dated 15.11.2022
- Test Report No. 3AXD10001888353 dated 28.04.2023
- Test Report No. 3AXD10001770847 dated 20.12.2022
- Test Report No. HELEM2211000470-1 dated 21 November 2022
- Test Report No. HELEM2211000470-3 dated 21 November 2022
- Test Report No. HELES2210001095-1 dated 2023-04-26
- Test Report No. HELES2210001095-2 dated 2023-04-26
- Test Report No. EUFI29-24000186-T2, dated 13.2.2024

**4. APPLICATION / LIMITATION:**

- 4.1 - According to BV Rules for the Classification of Steel Ships.
- 4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 31**
- 4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zone.
- 4.5 - For marine application option code +C132 is to be selected.
- 4.6 - ACS880-01 690V are covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 8.

**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The FREQUENCY CONVERTERS (Power 50kW and over) are to be supplied by **ABB Oy Drives** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

5.4 - For information, **ABB Oy Drives** has declared to Bureau Veritas the following production site(s):

**ABB Oy Drives**  
**Hiomotie 13**  
**00380 Helsinki**  
**FINLAND**

**ABB Beijing Drive Systems Co., Ltd.**  
**No. 1, Block D,**  
**A-10 Jiuxianqiao Beilu,**  
**Chaoyang District**  
**Beijing, CHINA**

**6. MARKING OF PRODUCT:**

- Maker's name or trade mark,
- Serial number of the units,
- Equipment type number or model identification under which it was type-tested,
- ⧻ or ⧻ conformity marking, as relevant.

**7. OTHERS:**

7.1 - It is **ABB Oy Drives**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate No. 38553/B1 BV issued on 13 July 2022 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*