



Marine & Offshore

Certificate number: 55547/B0 BV

File number: AP 4517

Product code: 2592H

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 below 50kW)

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: 04 Dec 2029

For Bureau Veritas Marine & Offshore,

At BV TURKU (ABO), on 04 Dec 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. 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 7 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)
04A6-2	R1	4.4	0.75
06A6-2	R1	6.3	1.1
07A5-2	R1	7.1	1.5
10A6-2	R1	10.1	2.2
16A8-2	R2	16.0	3.0
24A3-2	R2	23	5.5
031A-2	R3	29	7.5
046A-2	R4	44	11
061A-2	R4	58	15
075A-2	R5	71	18.5
087A-2	R5	83	22
115A-2	R6	109	30
145A-2	R6	138	37
170A-2	R7	162	45

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)
02A4-3	R1	2.3	0.75
03A3-3	R1	3.1	1.1
04A0-3	R1	3.8	1.5
05A6-3	R1	5.3	2.2
07A2-3	R1	7.6	3.0
09A4-3	R1	9.5	4.0
12A6-3	R1	12.3	5.5
017A-3	R2	16	7.5
025A-3	R2	24	11
032A-3	R3	30	15
038A-3	R3	36	18.5
045A-3	R4	43	22
061A-3	R4	58	30
072A-3	R5	68	30
087A-3	R5	83	45

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

Type designation	Frame size	Nominal ratings	
		I N (A)	P (kW)
ACS880-01/04-			
02A1-5	R1	2	0.75
03A0-5	R1	2.9	1.1
03A4-5	R1	3.2	1.1
04A8-5	R1	4.6	1.5
05A2-5	R1	4.9	2.2
07A6-5	R1	7.2	3
11A0-5	R1	10.5	4
014A-5	R2	13	5.5
021A-5	R2	20	7.5
027A-5	R3	26	11
034A-5	R3	32	15
040A-5	R4	38	18.5
052A-5	R4	49	22
065A-5	R5	62	30
077A-5	R5	73	37
096A-5	R6	91	45

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

Type designation	Frame size	Nominal ratings	
		I N (A)	P (kW)
ACS880-01/04-			
07A4-7	R3	7.4	5.5
09A9-7	R3	9.9	7.5
14A3-7	R3	14.3	11
019A-7	R3	19	15
023A-7	R3	23	18.5
027-A7	R3	27	22
07A3-7	R5	6.9	4
09A8-7	R5	9.3	7.5
14A2-7	R5	13.5	11
018A-7	R5	17	11
022A-7	R5	21	18.5
026A-7	R5	25	22
035A-7	R5	33	30
042A-7	R5	40	30
049A-7	R5	47	37

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

Type designation	Frame size	Light-overload use	
		ILd (A)	PLd (kW)
ACS880-01/04-			
02A0-4	R1	2.0	0.75
02A8-4	R1	2.8	1.1
03A2-4	R1	3.2	1.5
04A6-4	R1	4.6	2.2
04A9-4	R1	4.9	3
07A2-4	R1	7.2	4
10A4-4	R1	10.4	5.5
013A-4	R2	13	7.5
019A-4	R2	19	11
026A-4	R3	26	15
032A-4	R3	32	18.5
038A-4	R4	38	22
049A-4	R4	49	30
062A-4	R5	62	37
073A-4	R5	73	45

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	2014-02-14
Marine supplement	3AXD50000010521 Rev.A	2014-04-30
ACS880-01 Catalog	3AUA0000098111 Rev.I	2014-02-06
Vibration dampers installation guide	3AXD50000010497 Rev.B	2014-03-17
	3AXD50000013389 Rev.A	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	
Supplement ACS880-01/04 +C132 marine type-approved drives	3AXD50000010521 Rev C (EN)	Dec 2015
Cover letter	Certificate update regarding new ACS880 drive type codes	2015-09-23

- Manufacturer's Statement, dated 09 October 2024
- ZINT-552 Main Circuit Interface PCB Specification, No. 3AXD10001490276 dated 19.08.2024

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. HELEM2310000413-6 dated 20 October 2023
- Test Report No. HELEM2312000499-3 dated 04 January 2024
- Test Report No. 293119-1-3 dated 22 May 2018
- Test Report No. HELEM2205000230-3 dated 01 June 2022
- Test Report No. 293119-1-1 dated 22 May 2018
- Test Report No. 293119-1-2 dated 22 May 2018
- Test Report No. 293119-1-3 dated 22 May 2018
- Test Report No. 299863-2-4 dated 05 August 2020
- Test Report No. 299863-1-2 dated 18 June 2020
- Test Report No. 299863-1-3 dated 18 June 2020

- Statement of Test Results, No. STR L2569 2022-05-18
- Radiated Emission, Test Report No. HELEM2312000499-5 dated 05 Jan 2024

- IEC 61800-5-1 based Test Report No. HELES2210001095-3 dated 2023-11-13
- Conducted Emission, Test Report No. 3AXD10000579453 dated 05.02.2024
- Temperature rise test, No. 3AXD10001960803 dated 20.07.2023
- Dry Heat, Test Report No. 3AXD10001954482 dated 14.07.2023
- EM,CR Test Report No. HELEM2310000413-6 dated 20 Oct 2023
- Damp Heat, Test Report No. 3AXD10002010154 dated 08.09.2023
- ED, Burst, Surge Test Report No. 3AXD10002085708 dated 09.01.2024
- ACS880 R3 Low Temperature test, No. 3AXD10000367645 dated 17.10.2014

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 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev.9

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The FREQUENCY CONVERTERS (Power below 50kW) are to be supplied by **ABB Oy Drives** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **ABB Oy Drives** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 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,

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 N° 55547/A0 BV issued on 23 May 2019 by the Society.

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