



Marine & Offshore

Certificate number: 70291/A0 BV

File number: MPA2200421

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)

ACS 880-11/14/31/34 series

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships & Offshore Units.
IEC 61800-5-1 (2007) + AMD1 (2016)

EC Code: 21C

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: 10 Oct 2027

For Bureau Veritas Marine & Offshore,

At BV TURKU (ABO), on 10 Oct 2022,

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 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

- Product model or type designation:

ACS 880-11/31, ACS880-14/34

- Product description:

Cabinet-built or wall mounted R8 frames frequency drives, and cabinet-built R11 frames frequency drivers for normal, light or heavy loads. Type code + C132 for Marine & Offshore applications.

1.1 - Approval range:

Single Drive	Type	Frame Size	Rated voltage	Rated power
ACS880-11/31	-105A-3, -145A-3, -169A-3, -206A-3	R8	400V (380 to 415V)	55 to 110 kW
ACS880-11/31	-101A-5, -124A-5, -156A-5, -180A-5	R8	500V (380 to 500V)	55 to 110 kW
ACS880-14/34	-246A-3, -293A-3, -363A-3, -442A-3, -505A-3, -585A-3, -650A-3	R11	400V (380 to 415V)	132 to 355 kW
ACS880-14/34	-240A-5, -260A-5, -302A-5, -361A-5, -414A-5, -460A-5, -503A-5	R11	500V (380 to 500V)	132 to 355 kW
ACS880-14/34	-142A-7, -174A-7, -210A-7, -271A-7, -330A-7, -370A-7, -430A-7	R11	690V (525 to 690V)	132 to 400 kW

2. DOCUMENTS AND DRAWINGS :

ABB Oy Drives:

- ACS880 drive module catalog, No. 3AUA0000115038 Rev.L, dated 14-12-2020.
- ACS880-11 drives Hardware manual, No. 3AXD50000045932 Rev.G, dated 23-11-2021.
- ACS880-14 drives Hardware manual, No. 3AXD50000035160 Rev.D, dated 13-01-2021.
- ACS880-31 drives Hardware manual, No. 3AXD50000045933 Rev.G, dated 23-11-2021.
- ACS880-34 drives Hardware manual, No. 3AXD50000035191 Rev.D, dated 13-01-2021.
- Main Circuit Diagram Frame R8, No. 3AXD10000452287 Rev.D, dated 12-01-2021.
- Main Circuit Diagram Frame R11, No. 3AXD10000452339 Rev.H, dated 22-12-2021.

3. TEST REPORTS :

SGS Fimko:

- 3AXD10001281979 - Test Report IEC 61800-5-1 No. 299881-1, dated 18-05-2018.
- 3AXD10001398076 - Test Report IEC 61800-5-1 No. HELES2102000142-1, dated 18-05-2018.
- 3AXD10000648696 - EMC Test Report No. 286901-2, dated 24-08-2017.
- 3AXD10000531543 - EMC Test Report No. 284747-1, dated 27-07-2016.
- 3AXD10001470376 - EMC Test Report No. HELEM2109000390-2, dated 08-10-2021.
- 3AXD10001404041 - EMC Test Report No. HELEM2105000214-2, dated 01-06-2021.
- 3AXD10001470374 - EMC Test Report No. HELEM2109000390-1, dated 08-10-2021.
- 3AXD10000838477 - EMC Test Report No. 294625-1-2, dated 23-11-2018.
- 3AXD10000613765 - EMC Test Report No. 288297-1-2, dated 22-03-2017.
- 3AXD10001526634 - EMC Test Report No. HELEM2103000066-3, dated 20-01-2022.
- 3AXD10001452027 - EMC Test Report No. HELEM2103000066-2, dated 12-03-2021.
- 3AXD10000839616 - Statement of test result, No. STRL2564, dated 28-10-2021.
- 3AXD10001398098 - Statement of test result, No. STRL2560, dated 26-05-2021.

VTT:

- 3AXD10000637156 - Sine Vibration Test Report No. VTT-S-04131-17, daetd 08-08-2017.
- 3AXD10000561141 - Sine Vibration Test Report No. VTT-S-00283-17, daetd 17-01-2017.
- 3AXD10000567764 - Damp Heat Test Report No. VTT-S-04776-16, dated 10-11-2016.

eurofins:

- 3AXD10000821089 - Cold Test Report No. S-05696-18, dated 12-11-2018.
- 3AXD10001593278 - Vibration Test Report No. EUFI29-22001674-T1, dated 28-04-2022.
- 3AXD10001623824 - Damp Heat Test Report No. EUFI29-22002599-T1, dated 17-06-2022.

3. TEST REPORTS (continued) :**ABB:**

- 3AXD10000716919 - R8 ISU IEC 61800-3 Test Report, dated 11-08-2018.
- 3AXD10000685667 - R11 ISU IEC 61800-3 Test Report, dated 24-01-2018.
- 3AXD10000685247 - R8 Efficiency and THD Test Report, dated 23-01-2018.
- 3AXD10000691579 - R11 Efficiency and THD Test Report, dated 18-02-2019.
- 3AXD10001202411 - Type Test Report, dated 21-10-2020.
- 3AXD10000645123 - R8 Damp Heat Test Report, dated 22-10-2020.
- 3AXD10001606497 - R11 Dry Heat Type Test Report, dated 17-05-2022.
- 3AXD10000501106 - R11 Temperature Rise Test Report, dated 23-05-2017.
- 3AXD10001594276 - R8 Marine Cold Test Report, dated 28-04-2022.
- 3AXD10001543654 - R8 Type Test Report, dated 14-02-2022.
- 3AXD10001569915 - R8 Type Test Report, dated 28-03-2022.

4. APPLICATION / LIMITATION :

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - BUREAU VERITAS Environmental Category, **EC Code: 21 C**

4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zone.

4.5 - The above products use a derating factor as follows: +40 to +50 °C with derating of 1%/1 °C.

4.6 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

4.7 - The equipment should be installed at "Air condition areas".

4.8 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev8.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The ACS 880-11/31/14/34 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

6. MARKING OF PRODUCT :

- Trade name.
- Date of manufacture and serial number.
- Equipment type or model identification under which it was type-tested.
-  or  conformity marking, as relevant.

7. OTHERS :

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.

*** END OF CERTIFICATE ***