



Marine & Offshore

Certificate number: 42833/B0 BV

File number: ACE2/166/2

Product code: 2634H

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 Electrification Sweden AB
Västerås - SWEDEN

for the type of product

CONTACTORS (LOW VOLTAGE)
AF series.

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships for the Classification of Steel Ships.

EC Code: 31.

IEC 60947-1:2007+A1:2010+A2:2014, IEC 60947-4-1:2009+A1:2012.

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: 14 Aug 2028

For Bureau Veritas Marine & Offshore,

At BV GOTHENBURG, on 14 Aug 2023,

Torbjorn Ygesjo

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.

The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=ka3jfpn69n>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

The AF series are low voltage contactors for Marine and Offshore applications.

1.1 - Approval range:

Contactor type		AF400-30			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	600			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	500	1000
Rated operational current (Ie)	A	155	350	400	600

Contactor type		AF460-30			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	700			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	500	1000
Rated operational current (Ie)	A	200	400	460	700

Contactor type		AF580-30			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	800			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	500	1000
Rated operational current (Ie)	A	250	500	580	800

Contactor type		AF750-30				
Rated insulation voltage (Ui)	V	1000				
Rated Frequency	Hz	50/60				
Rated thermal current (Ith)	A	1050				
Utilization category		AC-3			AC-1	
Ambient temperature	°C	55	55	55	40	40
Rated operational voltage (Ue)	V	1000	690	500	1000	690
Rated operational current (Ie)	A	300	650	750	1000	1050

Contactor type		AF1250-30				
Rated insulation voltage (Ui)	V	1000				
Rated Frequency	Hz	50/60				
Rated thermal current (Ith)	A	1260				
Utilization category		AC-3			AC-1	
Ambient temperature	°C	-	-	55	40	40
Rated operational voltage (Ue)	V	-	-	440	1000	1000
Rated operational current (Ie)	A	-	-	800	1000	1260

Contactor type		AF1350-30			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	1350			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	440	1000
Rated operational current (Ie)	A	375	800	860	1350

Contactor type		AF1650-30			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	1650			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	440	1000
Rated operational current (Ie)	A	400	970	1060	1650

Contactor type		AF2050-30			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	2050			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	440	1000
Rated operational current (Ie)	A	425	970	1060	2050

Contactor type		AF2650			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	2650			
Utilization category		-			AC-1
Ambient temperature	°C	-	-	-	40
Rated operational voltage (Ue)	V	-	-	-	1000
Rated operational current (Ie)	A	-	-	-	2650

Contactor type		AF2850			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	2850			
Utilization category		-			AC-1
Ambient temperature	°C	-	-	-	40
Rated operational voltage (Ue)	V	-	-	-	1000
Rated operational current (Ie)	A	-	-	-	2850

2. DOCUMENTS AND DRAWINGS :

- Catalog 2020 1SBC100214C0202
- Deviations for AF400-AF2850 2CMT2016-005581 rev A dated 2021-10-12
- Drawings 53540919-59 revA, 53540919-60 revA, 53540930-7 rev C, 1SFB535001D1010 revB, 1SFB535001G1035 revB, 1SFB535001G1045 revB
- Technical Documentation for XLA-contactors 2CMT2020-006131 rev A dated 2020-10-14
- Technical Documentation for AF-contactors 2MCT2020-006130 rev A dated 2020-10-14

3. TEST REPORTS :

IECEE:

- CB Scheme N°SE-82316M2 dated 2017-12-20
- CB Scheme N°SE-82863M1 dated 2017-12-20
- CB Scheme N°SE-74013M2 dated 2017-12-20
- CB Scheme N°SE-90984 dated 2018-06-05

Delta:

- Tests report N°REC-E702531_6/_5/_4/_3/_2/_1, dated 08.Feb.2010.
- Test report 620-20237-10-R0 dated 20 Oct 2020
- Test report REC-E704027 dated 25 nov 2014
- Test report REC-E704196 12 March 2015

Intertek:

- Tests report N°1120418-3 Rev.B, dated 31.Oct.2011.
- Tests report N°1013773, dated 26.Apr.2010.
- Tests report N°816028-1, dated 08.Jan.2009.
- Tests reports N°316185-2/-3/-4, dated Dec.2013.
- Test report 1712331STO-001 dated 2017-09-29
- Test report 1714760STO-001 dated 2017-12-20
- Test report 1714761STO-001 dated 2017-12-20
- Test report 1714763STO-001 dated 2017-12-20
- Test report 1810655VAS-001 dated 2018-05-31

4. APPLICATION / LIMITATION :

- 4.1 - BUREAU VERITAS Rules and Regulations 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: 31.**
- 4.4 - 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 AF Series are to be supplied by **ABB Electrification Sweden AB** 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 Electrification Sweden AB** 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 Electrification Sweden AB** has declared to Bureau Veritas the following production sites :

ABB Electrification Sweden AB
Motorgränd 20
Västeras
SE-721 32 Västeras
SWEDEN

ABB INDIA LIMITED
Sy. No. 88/3 to 88/6
Kasaba Hobli, Basavanahalli Village
Bangalore
INDIA

ABB XINHUI LOW VOLTAGE
SWITCHGEAR CO., LTD.
Jinguzhou Industrial Development Zone
Xinhui District, Jiangmen City
Guangdong 529100
Xinhui
CHINA

6. MARKING OF PRODUCT :

- 6.1 - Trade name.
- 6.2 - Date of manufacture and serial number.
- 6.3 - Equipment type or model identification under which it was type-tested.

7. OTHERS :

- 7.1 - It is **ABB Electrification Sweden AB** 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. 42833/A0 BV issued on 28 Sep 2015 by the Society.

*** END OF CERTIFICATE ***