



Marine &amp; Offshore

Certificate number: 36994/B1 BV

File number: ACE2/14/21

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 FRANCE**

CHASSIEU - FRANCE

*for the type of product*

**CONTACTORS (LOW VOLTAGE)**

CONTACTORS AF40, AF52, AF65, AF80 & AF96.

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

IEC 60947-1 (2011), IEC 60947-4-1 (2018)

*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: 22 Sep 2025**

**For Bureau Veritas Marine & Offshore,**

At BV LYON, on 23 Dec 2022,

Huseyin Ozbulduk

***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.veristarpn.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=vvu5bz2xqy>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

## **THE SCHEDULE OF APPROVAL**

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

**AF contactor relays** for controlling 3-phase motors and power circuits.

**Models:** AF40-22-\*\*-\*\*, AF40-30-\*\*-\*\*, AF40-40-\*\*-\*\*, AF52-30-\*\*-\*\*, AF52-40-\*\*-\*\*, AF65-30-\*\*-\*\*, AF80-22-\*\*-\*\*, AF80-30-\*\*-\*\*, AF80-40-\*\*-\*\*, AF96-30-\*\*-\*\*.

**AFS contactors** are delivered with fixed-mounted auxiliary contact blocks (CA4-22)

**Models:** AFS40-30-22-\*\*, AFS52-30-22-\*\*, AFS65-30-22-\*\*, AFS80-30-22-\*\*, AFS96-30-22-\*\*.

**AFC contactors** for AC control applications.

**Models:** AFC40-22-\*\*-\*\*, AFC40-30-\*\*-\*\*, AFC40-40-\*\*-\*\*, AFC52-30-\*\*-\*\*, AFC52-40-\*\*-\*\*, AFC65-30-\*\*-\*\*, AFC80-22-\*\*-\*\*, AFC80-30-\*\*-\*\*, AFC80-40-\*\*-\*\*, AFC96-30-\*\*-\*\*.

Type key for product covered by this certificate :

AF40	-	30	-	00	-	13
1		2		3		4

1 = Name of series and size of contactor:

AF40, AF52, AF65, AF80 or AF96  
AFS40, AFS52, AFS65, AFS80 or AFS96  
AFC40, AFC52, AFC65, AFC80 or AFC96

2 = Number of main contacts:

22=2 NO and 2 NC contacts  
30=3 NO and 0 NC contacts  
40=4 NO and 0 NC contacts

3 = Number of auxiliary contacts:

00=0 NO and 0 NC contacts  
11=1 NO and 1 NC contacts (side mounted)  
22=2 NO and 2 NC contacts (mounted as 2nd stack on contactor)

4 = Coil configuration for AF and AFS contactors:

11=20-60VDC/24-60VAC  
12=48-130VAC/VDC  
13=100-250VAC/VDC  
14=250-500VAC/VDC  
41=24-60VAC

4 = Coil configuration for AFC contactors:

34 = 175V 50Hz / 208V 60Hz  
42 = 230-240V 50Hz / 277V 60Hz  
51 = 400-415V 50Hz / 480V 60Hz  
80 = 220-230VAC 50Hz / 230-240VAC 60Hz  
81 = 24VAC 50Hz/60Hz  
84 = 110VAC 50Hz / 110-120VAC 60Hz  
85 = 380-400VAC 50Hz / 400-415 VAC 60Hz  
86 = 400-415V 50Hz / 415-440V 60Hz  
88 = 230-240VAC 50Hz / 240- 260VAC 60Hz

Reference	Ith	Utilization category AC-1	Utilization category AC-3					
		690V	240V	400V	440V	500V	690V	1000V
<b>AF40</b> <b>AFS40</b> <b>AFC40</b>	105A	70A	40A	40A	40A	35A	25A	
<b>AF52</b> <b>AFS52</b> <b>AFC52</b>	105A	100A	53A	53A	53A	45A	35A	
<b>AF65</b> <b>AFS65</b> <b>AFC65</b>	105A	105A	65A	65A	65A	55A	39A	
<b>AF80-30</b> <b>AFS80-30</b> <b>AFC80-30</b>	130A	125A	80A	80A	80A	65A	49A	25A
<b>AF80-22</b> <b>AFS80-40</b> <b>AFC80-22</b> <b>AFC80-40</b>	125A	125A	80A	80A	80A	65A	49A	25A
<b>AF96</b> <b>AFS96</b> <b>AFC96</b>	130A	130A	96A	96A	96A	80A	57A	30A

## 2. DOCUMENTS AND DRAWINGS:

- Identification folder No. 1SBC101601S0201 - Rev. A "Product description for contactors relays" dated Oct 20, 2013.
- Intertek confirmation letter conformity with standard IEC 60947-4-1:2009+A1:2012, dated March 25, 2014.
- Catalog N° 1SBC100214C0202, dated Mar 2020.
- Catalog N° 1SBC100219C0201, Rev.B, dated Nov 2022.

## 3. TEST REPORTS:

### - IECEE:

- CB Scheme Certificate n° SE-96554, dated 19 Dec 2019.
- CB Scheme Certificate n° SE-96557, dated 19 Dec 2019.
- CB Scheme Certificate n° SE-107871, dated 25 Apr 2022.
- CB Scheme Certificate n° SE-108580, dated 16 Aug 2022.

### - Intertek:

- EMC test report n° 1210366-1 Ed.3, dated Jan 31, 2013.
- EMC test report n° 1210366-2 Ed.2, dated Jan 30, 2013.
- EMC test report n° 1210366-3 Ed.3, dated Jan 29, 2013.
- EMC test report n° 1210366-5 Ed.1, dated Feb 13, 2013.
- Test report n° 1913941STO-001, dated 12 Dec 2019.
- Test report n° 1913942STO-001, dated 16 Dec 2019.
- Test report n° 2101792STO-001, dated 21 Mar 2022.
- Test report n° 2101799STO-001, dated 01 Jul 2022.

### - ABB accredited laboratory:

- Climatic test report n° 20120546-A dated Dec 03, 2012.
- Vibration test report n° 20120547-A dated Jan 16, 2013.
- Climatic test report n° 20140302-A, dated 10 Jul 2014.
- Vibration test report n° 20160234-A, dated 15 Sep 2016.
- Vibration test report n° 20160234-1A, dated 15 Sep 2016.
- Climatic test report n° 20220005-M, dated 16 Mar 2022.
- EMC test reports n° 20210431-1 to 20210431-10, dated 26 Apr 2022.
- EMC test report n° 20220103, dated 27 Apr 2022.
- EMC test report n° 20220061, dated 29 Apr 2022.
- Vibration test report n° 20220439, dated 29 Sep 2022.
- EMC test report n° 20220475, dated 01 Dec 2022.

**4. APPLICATION / LIMITATION:**

- 4.1 - BV Rules for the Classification of Steel Ships and IEC 60947-5-1
- 4.2 - BUREAU VERITAS Environmental Category, **EC Code: 31/41**
- 4.3 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.4 - The equipment fulfils the EMC requirements for installation on the Power Distribution Zone.
- 4.5 - Equipment 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 above products are to be supplied by **ABB FRANCE** 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 FRANCE** 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 FRANCE** has declared to Bureau Veritas the following production sites:

**ABB FRANCE**  
**11 Rue d'Arsonval**  
**69680 CHASSIEU**  
**FRANCE**

**ABB Xinhui Low Voltage Switchgear Co., Ltd.**  
**Jinguzhou Industrial Development Zone**  
**Xinhui District, Jiangmen City**  
**Guangdong 529100**  
**China**  
**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 FRANCE**'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° 36994/B0 BV issued on 22 Sep 2020 by the Society.

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