



MARINE DIVISION

Certificate number: 09826/C0 BV

File number: ACE 02/034/12

Product code: 2634H

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

ABB AB, Cewe-Control
Västerås - SWEDEN

for the type of product

CONTACTORS (LOW VOLTAGE)

Type: A145, A185, A210, A260, A300.

Requirements:

BV Rules for the Classification of Steel Ships.
IEC 60947-4-1 and IEC 60947-1

This certificate is issued to attest that BUREAU VERITAS 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 Nov 2016

For BUREAU VERITAS,

At BV GOTHENBURG, on 14 Nov 2011,

Magne MOLLER



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. 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 Division 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 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 SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

CONTACTORS

Product type	Number of poles	Rated voltage (V)	Rated operational current (A)	Utilization category	Remarks
A145	3	400	145	AC-3	$\theta \leq 55^{\circ}\text{C}$
		415	145	AC-3	"
		440	145	AC-3	"
		500	145	AC-3	"
		690	120	AC-3	"
		690	230	AC-1	"
A185	3	400	185	AC-3	$\theta \leq 55^{\circ}\text{C}$
		415	185	AC-3	"
		440	185	AC-3	"
		500	170	AC-3	"
		690	170	AC-3	"
		690	250	AC-1	"
A210	3	400	210	AC-3	$\theta \leq 55^{\circ}\text{C}$
		415	210	AC-3	"
		440	210	AC-3	"
		500	210	AC-3	"
		690	210	AC-3	"
		690	300	AC-1	"
A260	3	400	260	AC-3	$\theta \leq 55^{\circ}\text{C}$
		415	260	AC-3	"
		440	240	AC-3	"
		500	240	AC-3	"
		690	220	AC-3	"
		690	350	AC-1	"
A300	3	400	305	AC-3	$\theta \leq 55^{\circ}\text{C}$
		415	300	AC-3	"
		440	280	AC-3	"
		500	280	AC-3	"
		690	280	AC-3	"
		690	400	AC-1	"

where: θ - air temperature around the contactor.

Frequency: 50 - 60 Hz.

2. DOCUMENTS AND DRAWINGS:

ABB Building Technologies Short Form Catalogue N° 1 SBC 0094 00 R1001.

ABB Automation Technologies AB, Catalogue N° 1SBC 100 122 C 0202.

3. TEST REPORTS:

Test Reports:

- Reference N° 0035100/1 - Performance and Environmental tests on ABB contactors A145-30 and A185-30, issued by SEMKO AB on 22 September 2000.

- Reference N° 0035100/2 - Performance and Environmental tests on ABB contactors A210-30, issued by SEMKO AB on 19 September 2000.

Test Reports:

- N° 0003001 - tests of ABB contactor A145 in accordance with IEC 60947-4-1, issued by SEMKO AB on 24.01.2000.

- N° 0003002 - tests of ABB contactor A185 in accordance with IEC 60947-4-1, issued by SEMKO AB on 25.01.2000.

- N° 0003003 - tests of ABB contactor A210 in accordance with IEC 60947-4-1, issued by SEMKO AB on 25.01.2000.

- N° 0003004 - tests of ABB contactor A260 in accordance with IEC 60947-4-1, issued by SEMKO AB on 26.01.2000.

- N° 0003005-2 - tests of ABB contactor A300 in accordance with IEC 60947-4-1, issued by SEMKO AB on 09.03.2000.

4. APPLICATION / LIMITATION:

Bureau Veritas Rules for Classification of Steel Ships
IEC 60947-1

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be manufactured, examined and tested by **ABB AB, Cewe-Control** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **ABB AB, Cewe-Control** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **ABB AB, Cewe-Control** has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production site:

**ABB XINHUI LOW VOLTAGE SWITCHGEAR CO LTD
JINGUZHOU INDUSTRIAL DEVELOPMENT ZONE
XINHUI
GUANGDONG 529100 CHINA**

6. MARKING OF PRODUCT:

According to IEC 60947-4-1 specifications.

7. OTHERS:

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the contactors at any time, and that **ABB AB, Cewe-Control, Västeras - SWEDEN**, will accept the responsibility for informing shipbuilders or their sub-contractors of the proper methods of use and general maintenance of the contactors and of the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate N° 09826/B0 BV issued on 14/11/2006 by the Society.

*** END OF CERTIFICATE ***