



Marine & Offshore

Certificate number: 25744/B1 BV

File number: ACE2/28/19

Product code: 2671H

*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*

**Siemens AG - GWA**

Amberg - GERMANY

*for the type of product*

**ELECTRICAL MOTOR STARTERS**

Load Feeders: SIRIUS 3RA21, 3RA22 and accessories

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31

IEC 60947-4-1:2009+A1:2012 Edition 3.1

*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: 15 Oct 2023**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 22 Sep 2020,

Dirk Hoepfner



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 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**SIRIUS 3RA21, 3RA22** series are load feeders composed of circuit breaker 3RV2, contactor(s) 3RT2 and accessories of type: **3RA19, 3RA29, 3RV19, 3RV29** and **8US1**.

Main characteristics Type **3RA21** and **3RA22**:

Rated operational voltage and frequency:  $U_e = 690V$  AC- 50/60Hz

Rated insulation voltage for sizes S00~S2  $U_i = 690V$

Rated insulation voltage for size S3  $U_i = 1000V$

Degree of protection: IP20

Type: **3RA2 a b c - dd e ff - g hhh**

**a = Function**

- 1 Direct Starter
- 2 Reversing Starter

**b = Size**

- 1 S00
- 2 S0
- 3 S2 (standard short circuit breaking capacity)
- 4 S3 (standard short circuit breaking capacity)
- 5 S2 (higher short circuit breaking capacity)
- 6 S3 (higher short circuit breaking capacity)

**c = Aux.-contacts of Circuit Breaker**

- 0 without
- 1 1 NO + 1 NC, side-mounted
- 2 2 NO, side-mounted
- 3 2 NC, side-mounted
- 4 1 change over, top mounted
- 5 1 NO + 1 NC, top mounted
- 6 1 NO + 1 NC with spring terminals, top mounted (only for versions A, B and D according VI of the Nomenclature Breakdown)

<b>dd = Setting Ranges</b>		<b>400VAC</b>	<b>690V AC</b>	
		<b>I<sub>q</sub> [kA]</b>	<b>I<sub>q</sub> [kA]</b>	<b>Size</b>
0A	0.11 to 0.16 A	150	100	S00, S0
0B	0.14 to 0.2A	150	100	S00, S0
0C	0.18 to 0.25A	150	100	S00, S0
0D	0.22 to 0.32A	150	100	S00, S0
0E	0.28 to 0.4A	150	100	S00, S0
0F	0.35 to 0.5A	150	100	S00, S0
0G	0.45 to 0.63A	150	100	S00, S0
0H	0.55 to 0.8A	150	100	S00, S0
0J	0.7 to 1A	150	100	S00, S0
0K	0.9 to 1.25A	150	100	S00, S0
1A	1.1 to 1.6A	150	100	S00, S0
1B	1.4 to 2A	150	100	S00, S0
1C	1.8 to 2.5A	150	100*	S00, S0
1D	2.2 to 3.2A	150	100*	S00, S0
1E	2.8 to 4A	150	100*	S00, S0
1F	3.5 to 5A	150	100*	S00, S0
1G	4.5 to 6.3A	150	100*	S00, S0
1H	5.5 to 8A	150	100*	S00, S0
1J	7 to 10A	150	100*	S00, S0
1K	9 to 12.5A	150	20* or 100*	S00, S0
4S	9.5 to 14A	100 or 150	50 or 100	S2
4A	11 to 16A	150	20* or 100*	S00, S0
4T	12 to 17A	100 or 150	70 or 100	S2
4B	14 to 20A	150, 100 or 150	20* or 100*, 70 or 100	S0, S2
4C	16 to 22A	100	20* or 100*	S0



**2. DOCUMENTS AND DRAWINGS:**

- Catalogue: IC 10 2011
- Drawings: A5E02173301A, A5E02173602A, A5E02180893A, A5E02184337A, A5E02191173A, A5E02191810A, A5E02192149A, A5E02192411A, A5E02192462A, A5E02192507A, A5E02196610A, A5E02198488A, A5E02198565A, A5E02198632A, A5E02198833A, A5E02200652A, A5E02200722A, A5E02200967A, A5E02200975A, A5E02200979A, A5E02201069A, A5E02201092A, A5E02202066A
- Operating Instructions: 4NEB4300056-10DS01, 4NEB4300054-10DS01, A5E0241007600A-01, A5E0241008800A-01, A5E0241008900A-02, A5E0207943300A-01, A5E0207945900A-01, A5E0207945100A-01

For version B1:

- Catalogue: IC 10 2020 E86060-K1010-A101-B1-7600
- Specifications: SN27095:Edition 2006-09 ; List of used plastic material - Load feeders 3RA21/22 dated 2017/07/31
- Equipment under Test: 16sr15 version 3.0
- Declaration of conformity: 2954.05 dated 2016-04-20; A0212.01 dated 2017/09/15
- Manuals: A5E03656507520A/RS-AB/003 dated 09/2016; A8E56203880102A/RS-AB/006 dated 09/2017
- Operating Instructions: A5E35676816001A/RS-AA/001 dated 02/08/2016

**3. TEST REPORTS:**

Siemens:

- 09056TMs dated 2010-07-27
- Test Certificate: 2956b dated 2011-01-27

For Version B0:

- Test Certificate: 2956c dated 2013-01-03; 3292a dated 2016-01-29
- Test Report No. 21243674-001 dated Jan 21, 2016; 21243674-002 dated Jan 08, 2016
- Test Report No. 14028PMV06 dated 2016-04-01; 13059ENV04 dated 2016-04-22

For version B1:

- Test Report No. 15058ED04 dated 2018/04/25
- Test Report No. 16038ED02 dated 2018/05/18

**4. APPLICATION / LIMITATION:**

- 4.1 - According to Bureau Veritas 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 - Equipment is to comply with the IEC 60947 editions currently in force at the date of contract for construction. Acceptance of previous versions of the standards is subject to acceptance on a case by case basis

**5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 The above products are to be supplied by **SIEMENS AG- GWA** 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 **Siemens AG- GWA** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

**Siemens AG-GWA**  
**Werner-von-Siemens-Str. 48**  
**92220 AMBERG, GERMANY**

**6. MARKING OF PRODUCT:**

According to IEC 60947 specifications.

**7. OTHERS:**

- 7.1- It is the responsibility of **Siemens AG- GWA** 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° 25744/B0 BV issued on 15 Oct 2018 by the Society.

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