MARINE DIVISION

Certificate number: 09048/D0 BV
File number: AP 3040
Product code: 4501H

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 - I IA AS

Amberg - GERMANY

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS

SIMATIC S7-300 / M7-300 / C7

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

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 is a renewal of certificate N° 09048/C2 BV, which expires on 18/03/2014

This certificate will expire on: 25 Apr 2019

For BUREAU VERITAS,

At BV HAMBURG, on 25 Apr 2014,

Dirk Hoepfner

BUREAU VERITAS SURVEYORS AT PARIS 1828 HAMBURG INTERNATIONAL REGISTER

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

SIMATIC S7-300 / M7-300 / C7 series are Programmable Logic Controller modules.

1.1 - Modules of series: S7-300 - Programmable Logic Controller:

Type	Designation
Power Supply	PS 307
Interface Modules	IM 178, IM 360, IM 361, IM 365, IM 174
Controllers	CPU 312, CPU 313, CPU 314, CPU 315, CPU 316, CPU 317, CPU 318, CPU 614, CPU 319, EC31 with EM-PCI-104 Box and/or EM-PC
Simulator Module	SM 374
Dummy Module	DM 370
Signal Modules	SM 321, SM 322, SM 323, SM 326, SM 327, SM 331, SM 332, SM 334, SM 335, SM 336, SM 338
Function Modules	FM 350, FM 351, FM 352, FM 353, FM 354, FM 355, FM 357
Communication Processors	CP 340, CP 341, CP 342, CP 343.
Y-Coupler	6ES7197-...
Modules with Ex marking:	6ES7 321-7RD00-0AB0; 6ES7 326-1RF00-0AB0; 6ES7 322-5SD00-0AB0; 6ES7 322-5RD00-0AB0; 6ES7 331-7SF00-0AB0; 6ES7 331-7RD00-0AB0; 6ES7 331-7TB00-0AB0; 6ES7 332-5RD00-0AB0; 6ES7 332-5TB00-0AB0; 6ES7 157-0AD81-0XA0; 6ES7 157-0AD82-0XA0

1.2 - Modules of series: M7-300 - Modular Automation Computer:

Type	Designation
Controller	CPU 388
Function Module	FM 356
Expansion Module	EXM 378
Mass Storage Module	MSM 378
Interface Sub-modules	IF 961, IF 962, IF 964
Memory Cards	MC 951, MC 952

1.3 - Modules of series: C7 - Control systems:

Type	Designation
Controller	C7-623, C7-624, C7-626, C7-633, C7-634, C7-621, C7-613, C7-635, C7-636
I/O Expansion modules	6ES7 623 and 6ES7 630

2. DOCUMENTS AND DRAWINGS:

- Catalogue CA 01 04 / 00 SED; Specification data sheets Siemens ST 70.2003; Catalogues ST 70-1999 and CA 01 - 10/2003;
- Data Sheets: C7-636, CPU 317-2DP and SM 327, DI 8/DX 8x24V/0.5A; Extract from manual, 01/2006 edition: CPU-319

Note: Documents filed in AP 3040.

- Operating Instructions 07/2008, A5E01716600-01; Operating Instructions 10/2006, A5E00193841-16;
- Product Information 06/2007, A5E01062667-02, A5E01183584-02; Manual 06/2006, A5E00859729-01

3. TEST REPORTS:

Siemens AG:

- Specification for type tests and test report: A&D AS E423-0102 dated 28.05.2001; A&D AS RD423-0201 dated 08.11.02:
- A&D AS RD ST Type Test-0401 dated 26.03.2004; A&D AS RD ST Type Test-0606 dated 23.06.2006

Note: Documents filed in AP 3040.

- Specification for type tests and test report: I IA AS RD ST Type Test-04/09 dated 28.05.2009.

KEMA Quality B.V.:

- KEMA 99ATEX 2671 X Issue 3 dated 7 December 2009; KEMA 01ATEX 1028 X Amendment 1 dated 12 July 2002

DEKRA Certification B.V.:

- KEMA 97ATEX 3039 X Issue 4 dated 11. Oktober 2013; KEMA 98ATEX 2359 X Issue 4 dated 11 October 2013;
- KEMA 01ATEX 1056 X Issue 5 dated 11. Oktober 2013; KEMA 01ATEX 1057 X Issue 4 dated 11. Oktober 2013;
- KEMA 01ATEX 1059 X Issue 5 dated 11. Oktober 2013; KEMA 01ATEX 1060 X Issue 6 dated 11. Oktober 2013;
- KEMA 01ATEX 1061 X Issue 6 dated 11. Oktober 2013; KEMA 01ATEX 1062 X Issue 6 dated 11 October 2013;
- KEMA 03ATEX 1416 X Issue 3 dated 11. Oktober 2013.

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 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.
4.4 - C7 control systems built in a cabinet fulfil the EMC requirements for installation on the Bridge and Deck Zone. Power lines of panels C7-613, C7-635 and C7-636 are to be fitted with appropriate filter i.e.: I=6A, C=2x 0,47μF + 2x 4700pF, L=4x 4,7mH
4.5 - The other equipment fulfils the EMC requirements for installation in General Power Distribution zone only. Surge protections and / or filters are to be the same as the ones used during EMC tests.
4.6 - S7-300 control system DC power supply lines are to be equipped by lightning protection element (Dehn, Type No. 918402 or equivalent).
4.7 - S7-300 modules SM 321 (64DI) and SM 322 (64DO) are to be built in a RF shielded cabinet to fulfil the EMC requirements for radiated emissions.
4.8 - Bureau Veritas Environmental Category, **EC Code: 31.**
4.9 - The characteristics of the cables laid in the hazardous area must comply with the limitations imposed by the associated Zener barriers.
4.10 - Only Hardware and Firmware / Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.
4.11 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above mentioned products are to be supplied by **SIEMENS AG - I IA AS RD** 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.
5.3 - **SIEMENS AG - I IA AS RD** 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 - I IA AS RD
Werner-von-Siemens-Strasse 50
92224 Amberg
GERMANY

5.4 - Equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT:

- Maker's name or trade mark.
- Equipment type or model identification.
- Date of manufacture and/or serial number.
- Ex marking, as relevant

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 units at any time and that **SIEMENS AG - I IA AS RD - GERMANY**, will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 09048/C2 BV issued on 01 Jun 2011 by the Society.

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