

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Programmable Electronic System**

with type designation(s)

SIMATIC S7/ M7-300, C7-620/630

Issued to

**Siemens AG I IA AS R&D ST TT
AMBERG, Germany**

is found to comply with

Det Norske Veritas' Rules for Classification of Ships and High Speed and Light Craft**Det Norske Veritas' Offshore Standards****Application :****Location classes:**

Temperature	D
Humidity	B
Vibration	A
EMC	A (B for C7-613, C7-635, C7-636)
Enclosure	Required protection according to DNV Rules shall be provided upon installation on board

This Certificate is valid until **2018-12-31**.Issued at **Høvik** on **2015-01-23**for **DNV GL**DNV GL local station: **Augsburg**Approval Engineer: **Ståle Sneen**

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Odd Magne Nesvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Certificate No: **A-14131**
File No: **862.50**
Job Id: **262.1-001747-8**

Product description

Programmable Logic Controller SIMATIC S7/ M7-300, C7-620/630 including:

S7-300:

1.	PS 307
2.	IM 174/178/360/361/365
3.	CPU 312/313/314/315/316/317/318*/319/614/677
4.	SM 374
5.	DM 370
6.	SM 321**/322**/323/326/327/331/332/334/335/336/338
7.	FM 350/351/352/353/354/355/357
8.	CP 340/341/342/343
9.	MC 951/952
10.	Y-Coupler
*	: Tested for undervoltage 20% (others 25%)
**	: Shielded enclosure needed. Ref. limitation below.

M7-300:

1.	CPU 388
2.	FM 356
3.	EXM 378
4.	MSM 378
5.	IF 961/962/964
6.	MC 951/952

C7-620/630:

C7-613/621/623/624/626/633/634/635/636
Extension module C7-623, C7-630

Place of manufacture

Siemens Elektronikwerk Amberg
Siemens Elektronikwerk Karlsruhe

Application/limitation

24V power supply lines are to be protected by Dehn Blitzductor order No. 918 402 (tested) or equivalent.

S7-300 Modules SM 321 (64 DI) and SM 322 (64 DO) are to be installed in an RF shielded enclosure with minimum 30 dB shielding in the range 156 – 165 MHz to satisfy the EMC requirements for radiated emissions.

Ex installations to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV.

Certified safe modules **Ex II 3 (2) G EEx nA [ib] IIC T4** according to following Ex-certificates:

KEMA 97ATEX3039 X, KEMA 98ATEX2359 X, KEMA 99ATEX2671 X,
KEMA 01ATEX1056 X, KEMA 01ATEX1057 X, KEMA 01ATEX1059 X,
KEMA 01ATEX1060 X, KEMA 01ATEX1061 X, KEMA 01ATEX1062 X
Ex- Digital input: SM 321-7RD00-0AB0, SM 326-1RF00-0AB0
Ex- Digital output: SM 322-5SD00-0AB0, SM 322-5RD00-0AB0
Ex- Analogue input: SM 331-7SF00-0AB0, SM 331-7RD00-0AB0, SM 331-7TB00-0AB0
Ex- Analogue output: SM 332-5RD00-0AB0, SM 332-5TB00-0AB0

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Coupler DP/PA: 157-0AD81-0XA0; ref. **Ex II 3 (1) G EEx nA [ia] IIC T4** KEMA 01 ATEX 1028X
" " 157-0AD82-0XA0; ref. **Ex II 3 (1) GD EEx nA [ia] IIC T4** KEMA 03 ATEX 1416X

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

TA documentation ring binder containing:

Specifications for Type Tests and Test Report of Marine Electrical Equipment	AUT7-B8.4P-9603	Issued: 1996-12-11 Acceptance: March.1997
EC-Conformity Declaration	S7-300 / V1 / 01.2014	2014-01-21
Siemens Test Certificate	03/96/ AUT E147	1997-02-04
Catalog	ST70-97	

Documentation at renewal 2001:

Katalog CA 01 04/00SE D

Test report (w. enclosures) A&D AS E423-0102 dated 2001-05-28

Documentation at renewal/extension 2003:

Test reports:

Siemens/DAR 03/2002, 08/2002, 27/2002, 022654-1.

A&D ATS 6/02-M168A, /02-M257, /02-M179, /03-M032B, /03-M032C

Documentation at renewal/extension 2004:

Ring binder A&D AS RD ST / Type Test, dated 2004-04-16.

Documentation at extension 2005:

EMC test report: A&D ATS 6 / 04-M0601254-A1, dated 2004-02-27.

Documentation at extension 2006:

Ring binder A&D AS RD ST Type Test – 0606, dated 2006-07-03.

Documentation at extension 2009:

Ring binder I IA AS R&D ST Type Test - 04/09, dated 2009-05-28.

Type approval periodical assessment report for A-12149, DNV GL Augsburg 2014-12-05.

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Tests carried out

Applicable tests according to Certification Note 2.4

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE