DNV·GL

Certificate No:
TAA0000225

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Electronic System

with type designation(s)
SIMATIC S7/ M7-300

Issued to
Siemens AG
AMBERG, Germany

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.
Location classes:

Temperature	**D**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**Required protection according to DNV GL Rules shall be provided upon installation on board**

Issued at **Hamburg** on **2018-10-22**
This Certificate is valid until **2023-10-21**.
DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Heinz Scheffler**

Joannis Papanuskas
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.

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Job Id: **262.1-001747-10**
Certificate No: **TAA0000225**

Product description

SIMATIC S7/ M7-300 - Programmable Logic Controller 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

Application/limitation

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.

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

Ex-certification is not covered by this certificate. Application in hazardous area 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.

Certified safe modules **Ex II 3 (2) G EEx nA [ib] IIC T4** according to following Ex-certificates:
KEMA 99ATEX2671 X (Digital input: 6ES7 326-1RF01-0AB0)

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of 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 DNVGL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

Test reports: TAA0000225 List of Test Report, Rev.01
Documents: Manual A5E00105504-07; Manual A5E00048969-11; Internal Drawing No. A5E46063256A, Rev.001

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE