

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Programmable Controller**with type designation(s)
SIMATIC S7-1500 / ET 200MP

Issued to

**Siemens AG DF FA AS SIMATIC Type Test
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.**

Temperature	B
Humidity	B
Vibration	A
EMC	A/B*
Enclosure	Required protection according to the Rules shall be provided upon installation on board.

***Please observe Application/Limitation**Issued at **Hamburg** on **2018-01-31**for **DNV GL**This Certificate is valid until **2019-01-23**.DNV GL local station: **Augsburg**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.



Product description

S7-1500 - Programmable Logic Controller:

- 6ES7 505/507 System Power Supply:
 - PS 25W 24V DC
 - PS 60W 24/48/60V DC
 - PS 60W 120/230V AC/DC

- 6EP1 332/333 Load Power Supply:
 - PM 70W 120/230V AC
 - PM 190W 120/230V AC

- 6ES7 954 Memory Cards:
 - 4MB or higher

- 6ES7 511/512/513/515/516/517/518 Controller:
 - CPU 1511 PN
 - CPU 1513 PN
 - CPU 1511C
 - CPU 1512C
 - CPU 1515 PN
 - CPU 1516 PN/DP
 - CPU 1517-3 PN/DP
 - CPU 1518-4 PN/DP

- 6ES7 521/522/523/531/532/534 Signal Modules:
 - SM 521 DI16 / DI32
 - SM 522 DQ8 / DQ16 / DQ32
 - SM 523 DI / DQ16
 - SM 531 AI8,
 - SM 532 AQ4 / AQ8
 - SM 534 AI/AQ 4

- 6ES7 540/541 Communication Modules: CM PtP RS232 / 422 / 485

- 6ES7 550/551/552: Technology Modules:
 - TM Count 2x24V,
 - TM PosInput 2
 - TM Timer

- 6GK7 542/543 Communication Module/ Processor:
 - CM/CP 1542 Profibus
 - CP 1543 Profinet

- 6ES7 155 Interface Module: IM 155 PN/DP

Firmware Versions: V2.x

Application/Limitation

The equipment fulfils the EMC requirements for installation on Bridge and Deck Zone with filter EPCOS B81413C or equivalent.

Except: PM 70W, PM 190W, TM Count, TM PosInput for installation in Power Distribution Zone.

Surge Immunity: External Protective circuits required for DC systems. See the current System Manual (A5E03461486) for recommendations. Installation as described in manufacturer's instructions.

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 DNVGL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Test Reports: TAA00001MJ - List of Test Reports Revision 01 dated 2018-01-29.

Documents: System Manual S7-1500 A5E03461182-AC, 12/2014; System Manual S7-1500 A5E03461182-01 dated 01/2013; Manual ET 200MP IM 155-5 DP A5E32346748-AA dated 08/2013; Manuel ET 200MP IM 155-5 PN A5E03612323-02 dated 08/2013

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