

TYPE APPROVAL CERTIFICATE

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

Issued to

Siemens AG
Amberg, Bayern, Germanyis 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 B****Humidity B****Vibration A****EMC A, B*****Enclosure Required protection according to the DNV GL Rules shall be provided upon installation on board.*****see Application/Limitation**Issued at **Hamburg** on **2019-05-10**for **DNV GL**This Certificate is valid until **2023-10-21**.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.



Job Id: **262.1-028160-3**
Certificate No: **TAA00001MN**
Revision No: **2**

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
 - CPU 1518-4PN/DP MFP
 - CPU 1517H-3PN
 - CPU 1515R-2PN
 - CPU 1513R-1PN

- 6ES7 521/522/523/531/532/534 Signal Modules:
 - SM 521 DI16 / DI32
 - SM 522 DQ8 / DQ16 / DQ32
 - SM 523 DI / DQ16
 - SM 531 AI4 / 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

Job Id: **262.1-028160-3**
Certificate No: **TAA00001MN**
Revision No: **2**

Application/Limitation

Location classes:

EMC class A: 6EP1 332/333, 6ES7 550/551

EMC class B: Only with filter type Epcos B84113C or equivalent. Tested with: I=3A,

C=2x0,47uF+2x4700pF, L=4x4,7mH

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

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 DNV GL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

Test reports: TAA00001MN List of Test Reports Rev02

Documents: System Manual S7-1500, ET200MP A5E03461182-AE, 12/2017; System Manual S7-1500 A5E03461182-01; Manual ET 200MP IM 155-5 DP A5E32346748-AA; Manuel ET 200MP IM 155-5 PN A5E03612323-02., Internal Drawing No. A5E46063654A, 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

Job Id: **262.1-028160-3**
Certificate No: **TAA00001MN**
Revision No: **2**

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