

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Programmable Electronic System**with type designation(s)
ET200SP

Issued to

**Siemens AG DF FA AS SIMATIC Type Test
Amberg, Bayern, 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*, B****Enclosure Required protection according to DNV GL Rules shall be provided upon installation on board***** see Application/Limitation**Issued at **Hamburg** on **2018-10-22**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.



Product description

SIMATIC ET200SP - Programmable Logic Controller:

- CPU Modules:
 - 6ES7 510- CPU 1510SP
 - 6ES7 512- CPU 1512SP
- Digital Modules
 - 6ES7 131- DI 8/16x24VDC / DI4 x 120 - 230V AC
 - 6ES7 132- DO DQ 4/8/16x24VDC...230VAC/0,5/2A
 - Relay 4x24VDC/120VDC...230VAC/2A/5A
- Analog Modules
 - 6ES7134 AI2/4/8 Energy Meter
 - 6ES7 135- AO 2/4
- Communication Modules
 - 6ES7 137- CM IO-Link/CM PTP
 - 6ES7 545- CM DP
- Interface Modules
 - 6ES7 155- IM155-6 PN/DP
- Bus Adapter / Base Units / Server Modules
 - 6ES7 193- BA / BU / Server module
- Technology Modules:
 - 6ES7 138- TM Timer, PosInput, Count
- Power supply: 24 V DC

Application/Limitation

Location classes:

EMC class A: Energy Meter 6ES7 134

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.

Job Id: **262.1-029868-1**
Certificate No: **TAA0000227**

Type Approval documentation

Test reports: TAA0000227 List of Test Reports Rev01

Documents: System Manual A5E03576849-02; Internal Drawing No. A5E46059371A, 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