



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13661**

This is to certify that the  
**Programmable Electronic System**

with type designation(s)  
**SIMATIC S7-1500 / ET 200MP**

Issued to  
**Siemens AG | IA AS R&D ST TT**  
**AMBERG, Germany**

is found to comply with  
**Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**

Application  
**Location classes:**

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

\* See Application/Limitation

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2014-02-12**

DNV local station: **Essen CMC Southern Germany**

Approval Engineer: **Nils Jarem**

for **Det Norske Veritas AS**

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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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

## Product description

S7-1500 / ET 200MP:

System Power Supply:	PS 25W/60W
Load Power Modules:	PM 70W/190W
Memory Cards:	4 Mbyte or higher
Controllers:	CPU 1511, CPU 1513, CPU 1515, CPU 1516
Signal Modules:	SM 521, SM 522, SM 531, SM 532
Communication Processors:	CP 1542, CP 1543
Communication Modules:	CM 1542, CM PtP
Technology Modules:	TM Count, TM PosInput
Interface Modules:	IM 155

## Application/Limitation

The equipment fulfils the EMC requirements for installation on Bridge and Deck Zone with filter EPCOS B814113C or equivalent.

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

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

## 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

System Manual S7-1500 A5E03461182-01 dated 01/2013

Manual ET 200MP IM 155-5 DP A5E32346748-AA dated 08/2013

Manual ET 200MP IM 155-5 PN A5E03612323-02 dated 08/2013

Test Report: I IA AS RD ST Type Test - 2013-03 dated 10-12-2013

DNV Essen initial assessment report, dated 2013-07-25.

## Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

## Marking of product

The products to be marked with model name, manufacturer name and 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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE