**DNV**

DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-10777
This Certificate consists of 5 pages

This is to certify that the
Programmable Electronic System

with type designation
SIMATIC NET

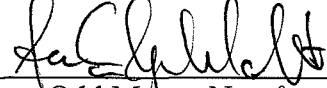
Manufactured by
Siemens AG A&D AS
AMBERG, Germany

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:

Type	SIMATIC NET
Temperature	D
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules to be provided upon installation on board

Place and date
Høvik, 2008-05-28
for DET NORSKE VERITAS AS

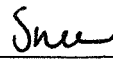

for Odd Magne Nesvåg

Head of Section



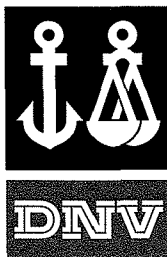
Local Office
DNV Essen

This Certificate is valid until
2010-12-31

 
Kjell Myhrsveen
Surveyor

Notice: 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.



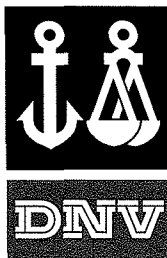
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File No.: 862.50
Job ID: 262.1-004384-1

Product description

SIMATIC NET

Containing following modules:

- OBT
- BT
- OSM
- ESM
- OLM
- Scalance:
 - 6GK1 503
 - 6GK5 101
 - 6GK5 104-2
 - 6GK5 106-1
 - 6GK5 108
 - 6GK5 202-2 IRT
 - 6GK5 204-2
 - 6GK5 204 IRT
 - 6GK5 206-1
 - 6GK5 208
 - 6GK5 408
 - 6GK5 414
 - 6GK5 491
 - 6GK5 492
 - 6GK5 495
 - 6GK5 496
- Security:
 - 6GK5 602
 - 6GK5 612
 - 6GK5 613
- Power supply (PS): 6GK5 791
- Modular outlet: 6GK1 901
- IE/PB Link: 6GK1 411



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Place of manufacture:

Siemens Elektronikwerk Amberg
Siemens Elektronikwerk Karlsruhe

Application/Limitation

OSM/ESM:	To be mounted using S7-300 profile rail or direct wall mounting.
Scalance:	To be mounted using S7-300 profile rail, 35mm mounting rail or direct wall mounting.
Modular Outlet:	To be mounted using 35mm mounting rail or direct wall mounting.
IE/PB Link:	Only to be mounted using S7-300 profile rail.
Power supply (PS):	To be mounted using S7-300 profile rail, 35mm mounting rail or direct wall mounting.
OLM:	To be mounted using 35mm mounting rail.

Where Scalance models 6GK5 1xx or 6GK5 2xx, Power supply(PS), Modular Outlet and IE/PB LINK are used on bridge or open deck, these modules are to be equipped with a filter with the following characteristics: $I=3A$, $C=2 \times 0.47\mu F + 2 \times 4700pF$, $L=4 \times 4.7mH$

Security modules 6GK5 602/612/613 are only to be used with Ferrit 24V DC
Type: 742 712 22 (Würth)

24V power supply lines are to be protected by Dehn Blitzductor order No. 918 402.

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

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system according to an approved test program before the system is shipped to the yard. 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.



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Type Approval documentation

Technical datasheets/equipment manuals:

- Catalogue CA 01 04/00SE D
- Industrial Ethernet OMC, release 8/2001
- PS791-1PRO, release 11/2004
- Scalance X-100 and Scalance X-200, 12/2004 A5E00349864 release 2
- Scalance X-400, release 11/2004
- Operation manual, 01/2007, A2B00065774D, Edition V1.0 (OLM)
- Comm.manual, 04/2006, A200051521A, Product Version 02 (Scalance X-101)
- Operation instructions, 04, C79000-G8976-C186 (Scalance X-408)

Test reports:

- A&D AS E423-0102 dated 2001-05-28 (w. enclosures)
- A&D AS RD ST Type Test-02/05 dated 2005-03-15
- A&D ATS 6/05-M0601798-A1 dated 2005-02-18
- A&D ATS 6/05-M0601893-A1 dated 2005-03-14
- Test report no. 05009WZs dated 2005-03-08
- A&D AS RD ST Type Test-11/2005 dated 2005-11-24
- A&D AS RD ST Type Test-06/06 dated 2006-07-03
- A&D AS RD ST Type Test – 08/07 dated 2008-01-15.

Tests carried out

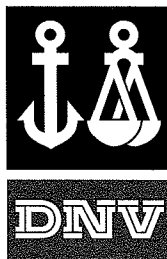
Applicable tests according to Standard for Certification No. 2.4

Certificate retention survey

The scope of the retention/renewal survey 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 survey 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



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- 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE