DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13225**

This is to certify that the
Programmable Electronic System

with type designation(s)
SIMATIC NET

Manufactured by
Siemens AG I 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:

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

This Certificate is valid until **2014-12-31**.

Issued at **Høvik** on **2013-05-08**

DNV local station: **Essen**

Approval Engineer: **Ståle Sneen**

for **Det Norske Veritas AS**
Digitally Signed By: Nesvåg, Odd Magne
Location: DNV Høvik, Norway
Signing Date: 2013-05-13

Odd Magne Nesvåg
Head of Section

Product description

SIMATIC NET
Containing the following modules:

-	OBT:	6GK1 500
-	BT	
-	OSM	
-	ESM	
-	OLM:	6GK1 503
-	Scalance:	6GK5 005
		6GK5 101
		6GK5 104-2
		6GK5 106-1
		6GK5 108
		6GK5 112
		6GK5 116
		6GK5 124
		6GK5 202-2 IRT
		6GK5 204
		6GK5 206
		6GK5 208
		6GK5 212
		6GK5 216
		6GK5 224
		6GK5 302
		6GK5 306
		6GK5 307
		6GK5 308
		6GK5 310
		6GK5 320
		6GK5 324
		6GK5 408
		6GK5 414
		6GK5 491
		6GK5 492
		6GK5 495
		6GK5 496
		6GK5 528
-	Media Module:	6GK5 991
		6GK5 992
		6GK5 993
-	Security:	6GK5 602
		6GK5 612
		6GK5 613
-	Power supply (PS):	6GK5 791
-	Modular outlet:	6GK1 901
-	IE/PB Link:	6GK1 411
-	S7 1200 CM:	6GK7 242
		6GK7 243
-	CSM Module:	6GK7 277
		6GK7 377

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. 6GK5 408 to be mounted using S7-300 profile rail or 35mm mounting rail.
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=2x0.47µF+2x4700pF, L=4x4.7mH

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

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

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.

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)
- Operating instructions, 11/07, A2B00073499E (S7-300 Compact Switch Module CSM377)
- Operating instructions, 10/2010, A5E01113043-10 (Industrial Ethernet Switches SCALANCE X-300)

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.
- A&D I IA AS RD ST Type test of dielectric withstand test 2008-K035-HV-01…04
- I IA AS RD ST Type Test – 2011-02 dated 2012-09-06

A-11244 retention survey report, DNV Essen 2010-12-28.

Tests carried out

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

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