DNV·GL

Certificate No:
**TAA00002FR**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Peripheral Equipment**

with type designation(s)
**ASI (Actuator Sensor Interface)**

Issued to
**Siemens AG GWA**
**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** | **B** |
| **Humidity** | **B** |
| **Vibration** | **A/B*** |
| **EMC** | **B** |
| **Enclosure** | **Required protection according to the Rules shall be provided upon installation on board.** |

*** see Application/Limitation**

Issued at **Hamburg** on **2019-08-27**
This Certificate is valid until **2024-08-26**.
DNV GL local station: **Augsburg**

for **DNV GL**

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: **262.1-031760-1**
Certificate No: **TAA00002FR**

## Product description

**ASI Bus System Components**

Unshielded two wire bus system up to 100 m long for up to 31 modules.
30 V DC power supply for ASI - bus system

The system may consists of:

- Power supply units:3RX93..., 3RX95...(230 VAC), 6EP16... (24 VDC), 3RK1105-... (24 VDC)
- Required marine kit for 3RX9301; 3RX9303
- Bus master: 6GK1243..., 6GK7342..., 6GK7343..., 6GK1415-...; 6GK1411-...
- Bus slaves: 3RG9..., 3RK1..., 6GK1210..., 3RK1...; 3RK2...; 3SF5500-...
- Switches and indicators: 3SB3..., 3SB4...,
- Enclosure (Pushbutton): 3SB38..- 1 up to 6 entries
- Actuator sensor interface accessories: 3RX9..., 3RK19...
- Gateways: 6GK1415
- Safety Monitor: 3RK1105-... (24 VDC)
- User Module: 3RG9001-0… (2 inputs and 2 electrically isolated outputs)
- Compact Module K20: 3RK.400-1CT30-0A.3 (4DI/4DO-M8); 3RK2200-0CT30-0A.3 (4DI-M8); 3RK2200-0CQ30-0A.3 (4DI-M12); 3RK2400-1BT30-0A.3 (2DI/2DO-M8); 3RK2400-1BQ30-0A.3 (2DI/2DO-M12); 3RK2100-1CT30-0A.3 (4DO-M8)
- SIRIUS AS-Interface base element: 3SF5500-0.A; 3SF5500-0.B; 3SF5500-0.C
- SIRIUS AS-Interface: 3SF5811-.A...; 3SF581.-.D.00; 3SF581.-0AZ; 3SF581.-2AZ
- SIRIUS Signal Columns: 8WD42; 8WD44
- SIMATIC NET AS-Interface Repeater: 6GK1210-0SA01
- SIMATIC NET CP 343-2 / CP 343-2P AS-Interface Master: 6GK7343-2AH01-0XA0; 6GK7343-2AH11-0XA0

Software Versions: SIMATIC NET CP Version V3.1.x dated 24-01-2011; SIMATIC NET DP Version V3.0.x dated 25-02-2009 FW Version V2.2.x dated 01-2012

## Application/Limitation

Specified equipment should be used only in ASI systems.
**Location class Vibration B:** Switches and indicators: 3SB3..., 3SB4...

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 DNVGL 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 DNVGL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

## Type Approval documentation

**Test Reports:** GWA 4NEB 333 0204-10 dated 24-04-2012; 11086ENS dated 28-11-2008
**Documents:** 02-M271 dated 01-10-2002; SIEMENS Cert.-No.: 1517e, 1728a, 1729b, 1730b, 1771 and 1795; Catalog: NSK 97/98(E20002-K1002-A101-A8) -Part 1, 8, 9, 10, 14 Material List for ASI Prolongation dated 2013-01-22 Data sheets: A5E03838338A-01 dated 21-05-2012; GWA 4NEB 333 1218-10 DS 02 dated 20-09-2007; GWA 4NEB 311 0800-10 DS 03 dated 20-10-2011; GWA 4NEB 311 0810-10 DS 02 dated 20-02-2011; GWA 4NEB 333 0781-10 DS 07 dated 13-04-2012; GWA 4NEB 333 0542-70 DS 02 dated 12-01-2009; GWA 4NEB 333 1168-20 DS 02 dated 04-06-2008; GWA 4NEB 333 0338-90 DS 01 dated 21-11-2005; GWA 4NEB 333 0204-10; NEB370021110000/RS-AA/004 and NEB370006010000/RS-AA/003 dated 10-01-2013

## 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