DNV·GL

Certificate No:
TAA00000J7

TYPE APPROVAL CERTIFICATE

This is to certify:

That the General Control System

with type designation(s)
CAESAR

Issued to
Kwant Controls B.V.
Sneek, Netherlands

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

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

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

Issued at **Høvik** on **2016-07-05**

for **DNV GL**

DNV GL local station: **Rotterdam**

Approval Engineer: **Ståle Sneen**

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.

Product description

CAESAR control system is the system controlling propulsion and steering devices on the ship consisting of the following units:
- Bus Interface Module CUBI
- Bus Interface Module CUBIx
- Control Panel Joystick
- Control Cabinet CAESAR

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to relevant Type Approval Certificates, at least this
- Functional description
- System block diagram
- User interface description
- Power supply arrangement (may be part of the System block diagram)
- List of control and monitored points
- Test program for certification test

The Type Approval covers hardware listed under Product description.

Product certificate
Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1.
The Certification of Application Functions is to be performed before the system is shipped to the yard, typically at the manufacturer of the application system but other alternative locations such as at the maker of the propulsion control system may be chosen if agreed and adequate knowledge and test facilities exist there. 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.
A Certification of Application Functions may be required for the particular vessel.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

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