DNV·GL

Certificate No:
TAA00001WH

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Safety System

with type designation(s)
Syberg Autopilot Safety System (SASS)

Issued to
SYBERG AS
Oslo, Norway

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

Application :

DNV Rules for Ships Pt.6 Ch.3 Sec.3 (2018)

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

Temperature	**A**
Humidity	**A**
Vibration	**A**
EMC	**B**
Enclosure	**A**

Issued at **Høvik** on **2018-06-14**
This Certificate is valid until **2023-06-13**.
DNV GL local station: **Oslo Maritime and CAP**

Approval Engineer: **Olaf Gundersrud**

for **DNV GL**

Jan Tore Grimsrud
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.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Job Id: **262.1-016854-2**
Certificate No: **TAA00001WH**

Product description

The AP Safety System – SASS consists of the following items :

- 1 x PLC ILC 150 ETH
- 2 x Analog Isolating Amplifier MINI MCR, or
  1 x MINI MCR and 1 x WAS4 Analog isolating Amplifiers
- 1 x ACT20 Pro DC/DC or 1 x WAS4
- Change-over relays

Application/Limitation

- The equipment shall be installed and commissioned according to description in Operation and Installation Manual issued by Syberg Maritime AS.
- Approved with Raytheon Anschutz NP2000/NP5000 series autopilot. For other brands of heading control systems a case-by-case approval of the installation is required.

Type Approval documentation

NPS No.	Drawing no.	Rev.	Title
43		7	SASS Operation and Installation Manual
35	Test report 1401	jan.14	Test for Syberg Autopilot Safety System
23	EL2311	-	Test report MINI MCR AP1/AP2
21	U50342	-	MINI-MCR-module: Vibration, humidity, isolation
20	S41129	-	MINI-MCR-module: environmental tests
18	S41129	-	MINI-MCR: High-voltage test
16	U081692E1	-	Interface Modules: Vibration Test report
13	U092625E1	-	MACX MCR environmental tests
12	U110212E1	-	MACX-MCR: Dry heat
11	E090348E2	2	MACX MCR: EMC Test report -
4	AP Safety SYS-C3	7	Wiring diagram SASS
3	AP Safety SYS-C2	7	Circuit Diagram Syberg AP safety system
2	AP Safety SYS-C1	7	Block Diagram Syberg AP safety system

Tests carried out

Class guideline. DNVGL-CG-339, 2016
Rules for classification: Ships Pt.6 Ch.3 Sec.3 HCS safety system

Marking of product

The name and contact address of the manufacturer and type designation of the product shall be affixed to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, power consumption and/or supply voltage (*alt.: this may be stated in the operation/installation manual).*

Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. Additionally, a renewal assessment is to be performed at renewal of the certificate.
The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.

END OF CERTIFICATE