



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
HB22PTA00004_02

型式认可证书
CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

品牌拥有方/ Licensor

Northrop Grumman Sperry Marine B.V.
Woltmanstrasse 19, D-20097 Hamburg, Germany

授权制造企业/Authorized Manufacturer

Mikrolab GmbH
Dieter-Streng-Str. 1, 90766 Fuerth, Germany

产品名称/Product

操舵装置控制系统
Steering Gear Control System

认可标准/Approval Standard

- 中国船级社《钢质海船入级规范》（2021）及其修改通报第3篇第13章
Chapter 13, Part Three of China Classification Society Rules for Classification of Sea-Going Steel Ships 2021 and its Amendments
- 中国船级社《钢质海船入级规范》（2021）及其修改通报第4篇第2、3章
Chapters 2 and 3, Part Four of China Classification Society Rules for Classification of Sea-Going Steel Ships 2021 and its Amendments
- IEC 60945:2002/COR1:2008《船用航行和无线电通信设备及系统-通用要求-试验方法和试验结果的要求》
IEC 60945:2002/COR1:2008 Maritime Navigation and Radiocommunication Equipment and Systems –General Requirements – Methods of Testing and Required Test Results

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

产品明细/Product Description

操舵装置控制系统/Steering Gear Control System (M0001)

名称/Name	属性(值)/Value	单位/Unit
产品名称/Product Name	Manual Steering System	
型号/Type	NAVIGUIDE 4000	
系统组成/System Component	see additional pages	

证书有效期至/ This Certificate is valid until 2026年01月16日/ Jan. 16,2026

发证机构/ Issued by 中国船级社汉堡分社
CCS Hamburg Branch

签发日期/ Date 2022年04月18日
Apr. 18,2022

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效，本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



Form No: T02.

联系方式/Contact Us, 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)

UTN:P022-35156989

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : NP09A00734

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : see additional pages

试验报告日期/ Test Report Date :

认可后的产品检验方式/ Method of Product Inspection after Approval

认可后的产品检验由制造厂按本社批准的产品检验计划进行，本社在文件审核合格后颁发船用产品证书。

After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society, and the Marine Product Certificate is issued by the Society upon satisfactory documents review.

认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后，如果产品及其重要零部件的设计、所用材料或制造方法有所改变，且影响到产品的主要特性、特征；或产品的性能指标有所更改，且超过认可的范围，则有关图纸和文件应经检验机构审批。并在检验机构认为必要时，经本社检验人员见证有关试验和进行检查，其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行，并且与认可时一致。如果质量管理体系发生改变，应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内，如果出现可能导致本社取消认可的情况，工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.

4. 在认可证书有效期内，本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核，以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 型式认可A证书获得者应接受本社每年一次的定期审核，定期审核日为认可证书期满之日对应的每一周年日，检查工作应在周年日的前后三个月内进行。

Those who have obtained the certificate of type approval A should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

6. 本认可证书的有效期与品牌拥有方和产品制造企业之间的授权协议保持一致，但不得超过4年。

The period of validity of this certificate is consistent with that of the agreement between the licensor and the manufacturer(s), but in no case it can over 4 years.

7. 在本证书有效期内，品牌拥有方和产品制造企业之间的授权协议的失效将自动导致本证书的失效。

During the period of validity, this certificate will automatically be ineffective in case of the invalidity of the authorization agreement between the licensor and the manufacturer(s).

备注/Remarks

1. 本证书由原型式认可证书 (No. HB17T00052_02) 变更并换新。

This certificate is modified and renewed from the previous Type Approval Certificate No. HB17T00052_02.

2. 本社已审核了产品厂无石棉声明，但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。

The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

3. It is Northrop Grumman Sperry Marine B. V's responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

中国船级社汉堡分社
CCS Hamburg Branch

注：本证书含有附页，共1页

Note: The certificate is attached with additional 1 page(s)

Product Description

1. Product Description

The System consisting of:

Product	Type
Steering Mode Selector NFU Tiller with Override contacts	4954
Steering Mode Selector NFU Tiller	
FU Hand Wheel	4944
Syncro Helm FU Hand Wheel / Display Unit	4956
FU Mini-Wheel / Display Unit	
FU Device Interface / Display Unit	4955
Steering Mode Selector	
Steering Mode Selector	4518
Steering Mode Selector	4876
Override Unit	4987
Steering Control Unit for Heading or Steering Control System	4961
Rudder Angle Feedback Unit	4968
Rudder Angle Feedback Unit	4136
Rudder Angle Feedback Unit	4137
Steering Failure Alarm Unit	5013
Rudder angle calibrator	5014
Three-face panorama RAI +/- 35°	60 398
Three-face panorama RAI +/- 45°	60 396
Three-face panorama RAI +/- 70°	60 397
RAI rudder angle indicator +/- 45 192mm housing	60 357
RAI rudder angle indicator +/- 70 192mm housing	60 359
RAI rudder angle indicator +/- 45 144mm housing	60 327
RAI rudder angle indicator +/- 70 144mm housing	60 328
RAI rudder angle indicator +/- 45 192mm	60 352
RAI rudder angle indicator +/- 70 192mm	60 353
RAI rudder angle indicator +/- 45 144mm	60 338
RAI rudder angle indicator +/- 70 144mm	60 339
RAI rudder angle indicator +/- 45 96mm	60 334
RAI rudder angle indicator +/- 70 96mm	60 335
Synchron Amplifier for dual rudder NFU control	4747
Universal NFU-tiller	4930
PCU for 690 VAC/ 24VDC 10 Ampere	47891
PCU for 440 VAC/ 24VDC 3 Ampere	60208
PCU for 220 VAC/ 24VDC 10 Ampere	60272
PCU for 440 VAC/ 24VDC 10 Ampere	60281
PCU for 115 VAC/ 24VDC 10 Ampere	60290
Universal converter/ amplifier	
(+/- 10VDC <-> 0..10VDC <-> 4 ~ 20mA <-> etc.)	47873

2. Approval Test Report

no	Report No.	Date	Test Lab / Address
1	09/8189-2	20090202	EMV Service GmbH / Hauburger Schlostrasse 6-12, 21079 Hamburg, Germany
2	01/1041-1	20010308	
3	6628a/08	20090126	Institut fuer BFSV / Lohbruegger Kirchstrasse 65, 21033 Hamburg, Germany
4	4925/02	20020901	